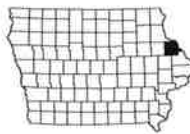


INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
A.2	Project Location Map
A.3 - 6	Project Key Maps
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
8.1 - 29	Roadway Typical Sections & Details
<b>C Sheets</b>	<b>Quantities and General Information</b>
C.1 - 3	Project Description & Estimated Project Quantities
C.4 - 7	Estimate Reference Information
C.7 - 8	Standard Road Plans & Index of Tabulations
C.8	General Notes
C.9 - 10	Pollution Prevention Plan
C.11 - 39	Erosion Control Tabulations
C.40 - 64	Tabulations
<b>CS Sheets</b>	<b>Soils Tabulations</b>
CS.1 - 7	Soil Tabulations
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 10	Mainline Plan & Profile
<b>E Sheets</b>	<b>Side Road Plan and Profile Sheets</b>
* E.1 - 17	Side Road Plan & Profile
<b>F Sheets</b>	<b>Detour Plan and Profile Sheets</b>
* F.1 - 17	Detour Plan & Profile
<b>G Sheets</b>	<b>Survey Sheets</b>
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<b>H Sheets</b>	<b>Right-of-Way Sheets</b>
* H.1 - 4	US 20 Swiss Valley
* HE.1 - 15	Sideroads
<b>J Sheets</b>	<b>Traffic Control and Staging Scrolls</b>
* J.1 - 2	Traffic Control & Staging Notes
* J.3	Staging Legend Sheets
* J.4 - 49	Staging Plan
<b>K Sheets</b>	<b>Interchange Sheets</b>
* K.1 - 2	Interchange Geometric Plan
* K.3 - 4	Interchange Drainage & Site Grading
* K.5 - 8	Ramp A-D Plan & Profile
* K.9 - 12	Ramp Terminal Geometric & Staking
<b>L Sheets</b>	<b>Intersection Geometrics</b>
L.1 - 48	Intersection Geometrics
<b>M Sheets</b>	<b>Storm Sewer Sheets</b>
* M.1	Water Main Estimate Sheet
* M.2 - 10	Water Main Design Sheets
* M.11 - 12	Storm Sewer Tabulations
* M.13	Storm Sewer Legend & Symbol Information
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<b>Q Sheets</b>	<b>Soil Sheets</b>
* Q.1 - 38	Soil Sheets
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* T.1	Earthwork Legend Sheet
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U.19 - 49	Removal Details
U.50 - 55	Fence Layout
U.56 - 72	Pavement Markings
U.73 - 80	Temporary Culvert Plats



## Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

# PRIMARY ROAD SYSTEM DUBUQUE COUNTY PAVEMENT - GRADE AND NEW

FROM 0.2 MILES EAST OF COTTINGHAM ROAD  
TO 1.5 MILES EAST OF SWISS VALLEY ROAD

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



For Project Location Map  
Refer to Sheet A.2

DESIGN DATA URBAN			
2020 AADT	15200	V.P.D.	
2040 AADT	33900	V.P.D.	
2040 DHV	3675	V.P.H.	
TRUCKS	9	%	
Total			
Design ESALs	N/A		

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Chris M. Malmberg	Primary Signature Block
CS.1	Matthew D. Cushman	Geotechnical Design
M.1	Kevin M. Podstawa	Water Main Design
V.12	Aleksander T. Nelson	Structural Design
CULVERT STANDARDS	Norman L. McDonald	Structural Design

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: *Christopher M. Malmberg* Date: 5/21/19

Printed or Typed Name: Christopher M. Malmberg

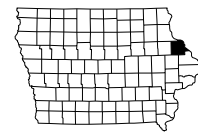
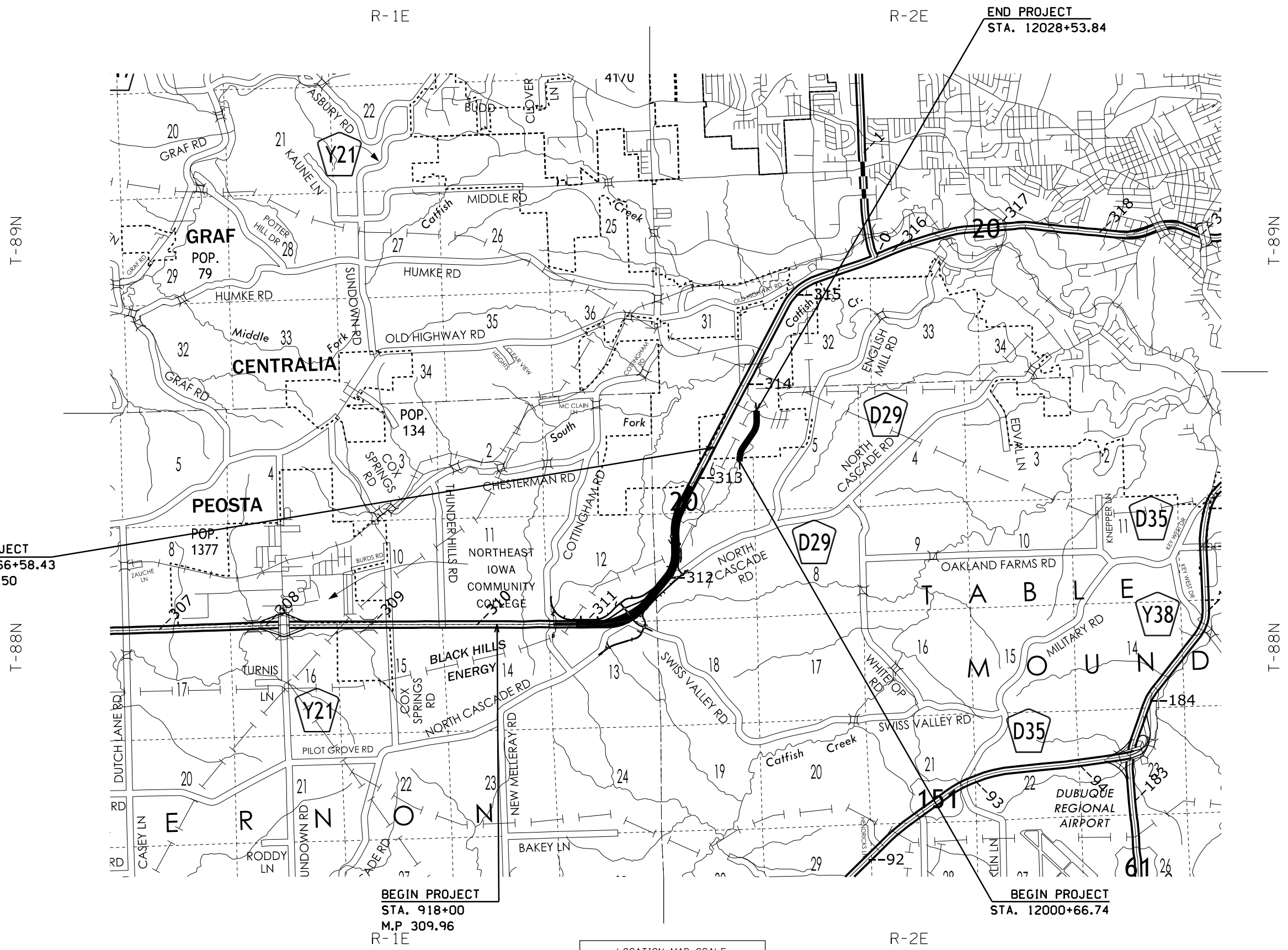
My license renewal date is December 31, 20 20.

Pages or sheets covered by this seal: A.1-A.6, B.1-B.29, C.1-C.64, D.1-D.10, E.1-E.17, F.1-F.14, G.1-G.16, J.1-49, K.1-K.12, L.1-L.48, M.11-M.41, R.1-R.41, U.1-U.80, T.1-T.37, V.1-V.11, V.14, V.15, V.18-V.42, W.1-W.67, X.1-X.333, Y.1-Y.34

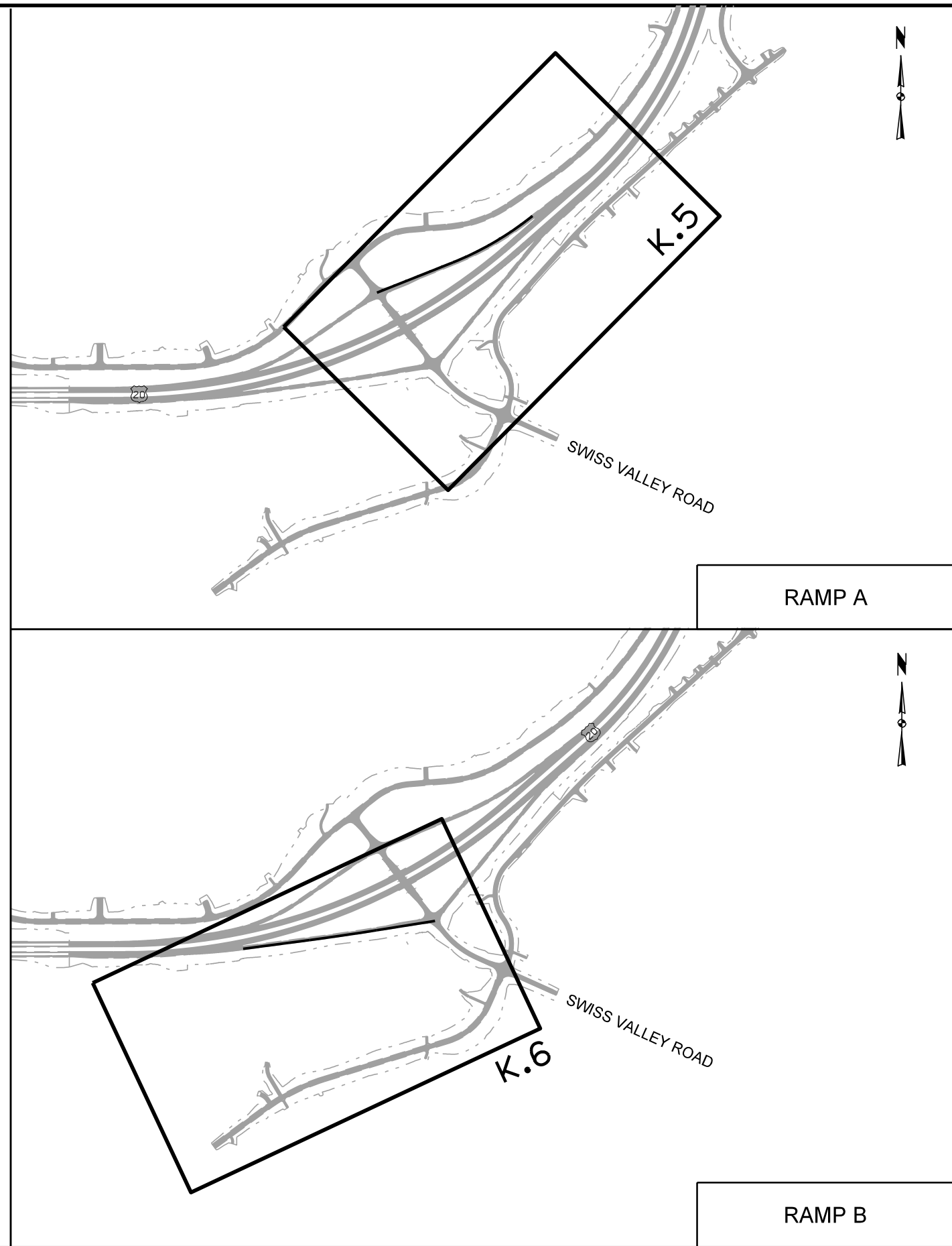
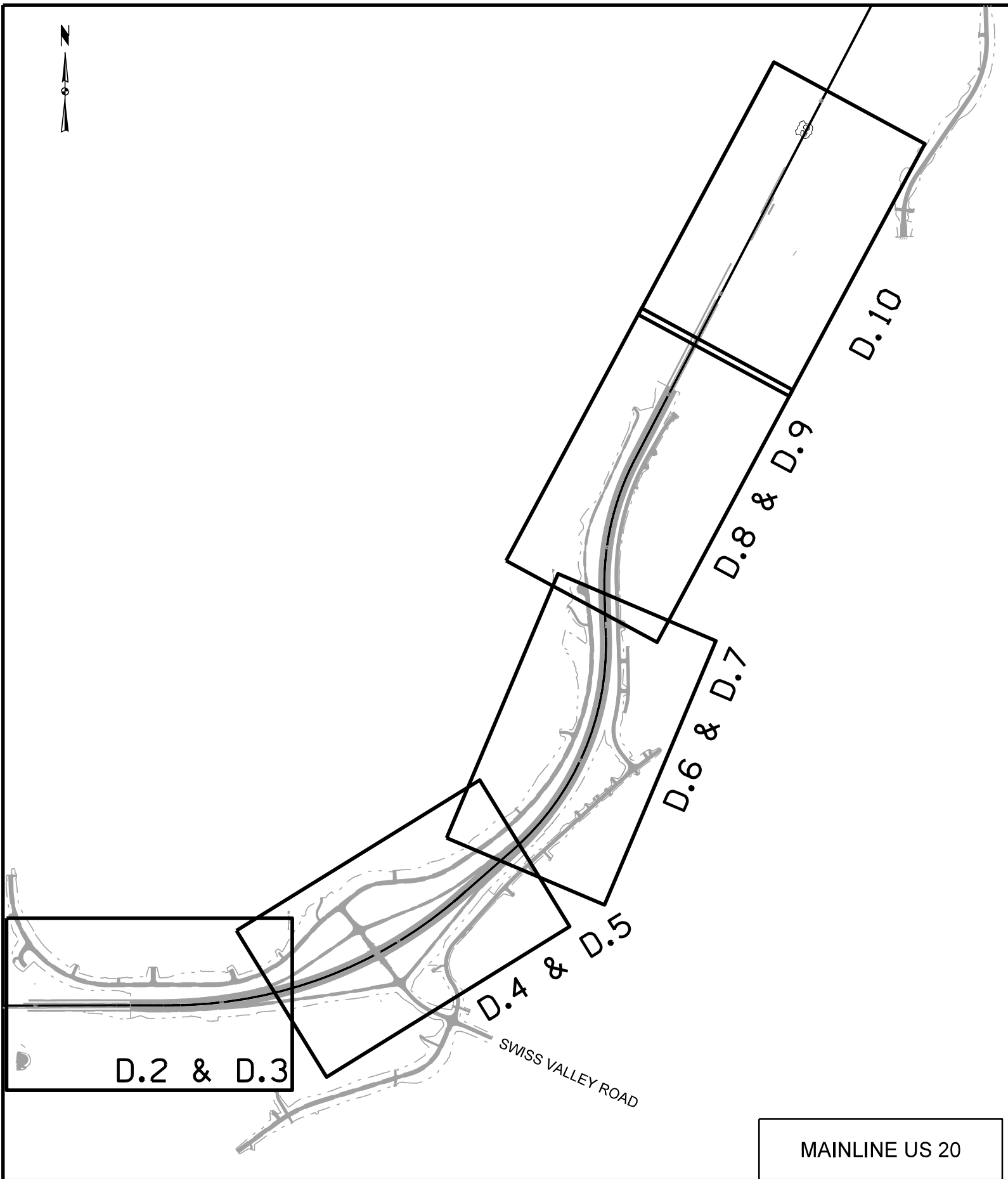
REVISIONS

PROJECT IDENTIFICATION NUMBER	
90-31-020-060	TOTAL 1042
PROJECT NUMBER	
NHSX-020-9(183)--3H-31	
R.O.W. PROJECT NUMBER	
NHSN-020-9(144)--2R-31	

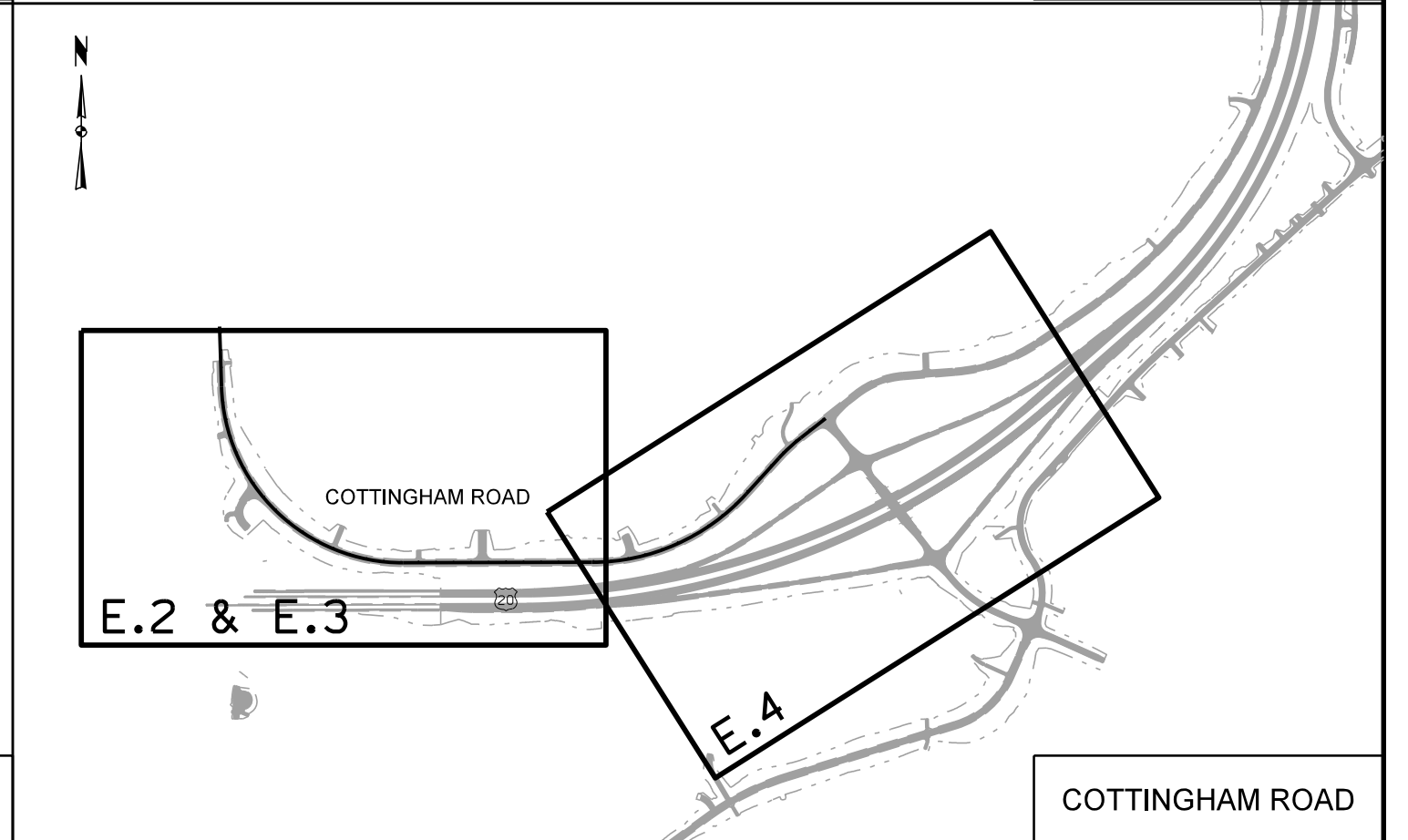
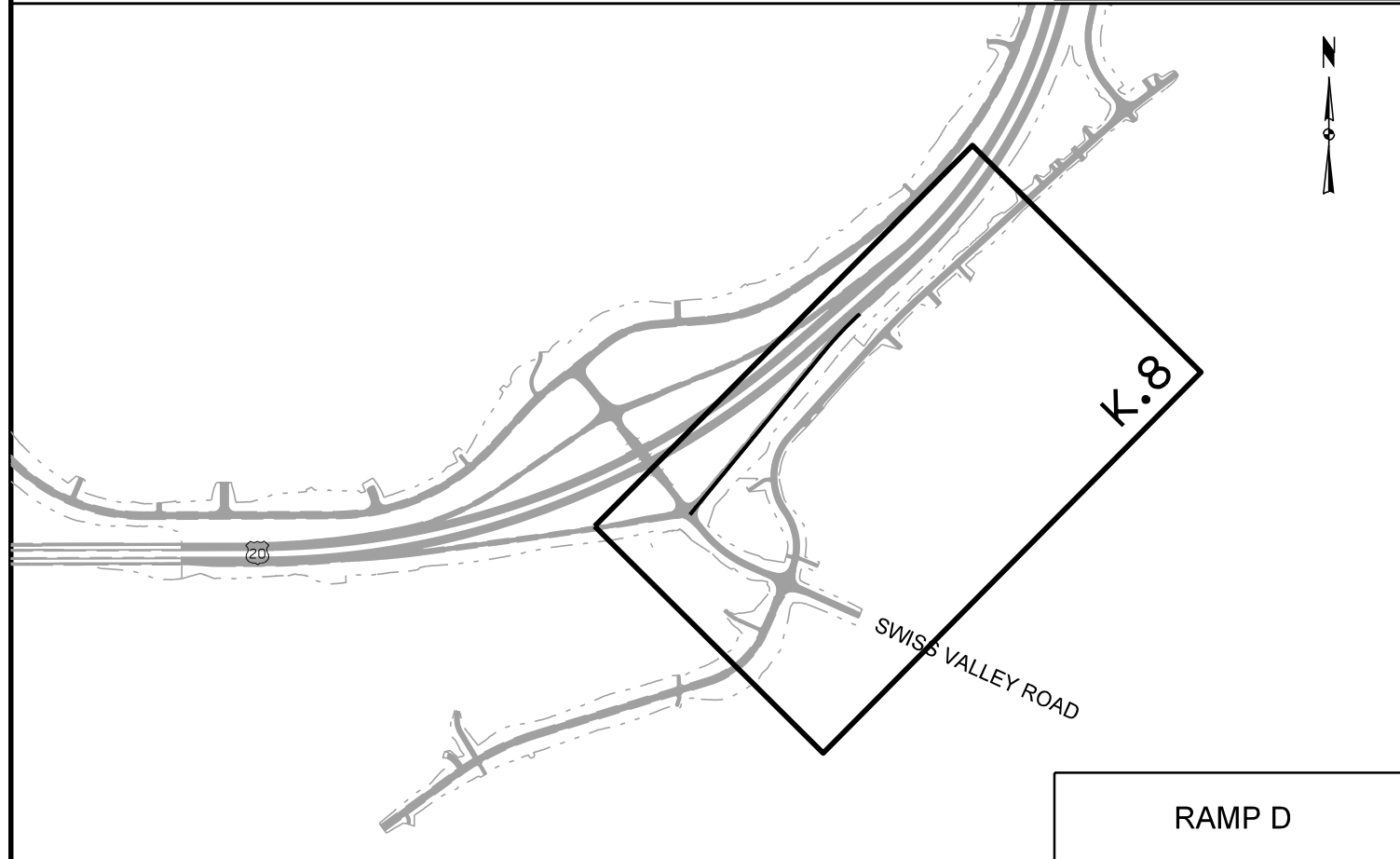
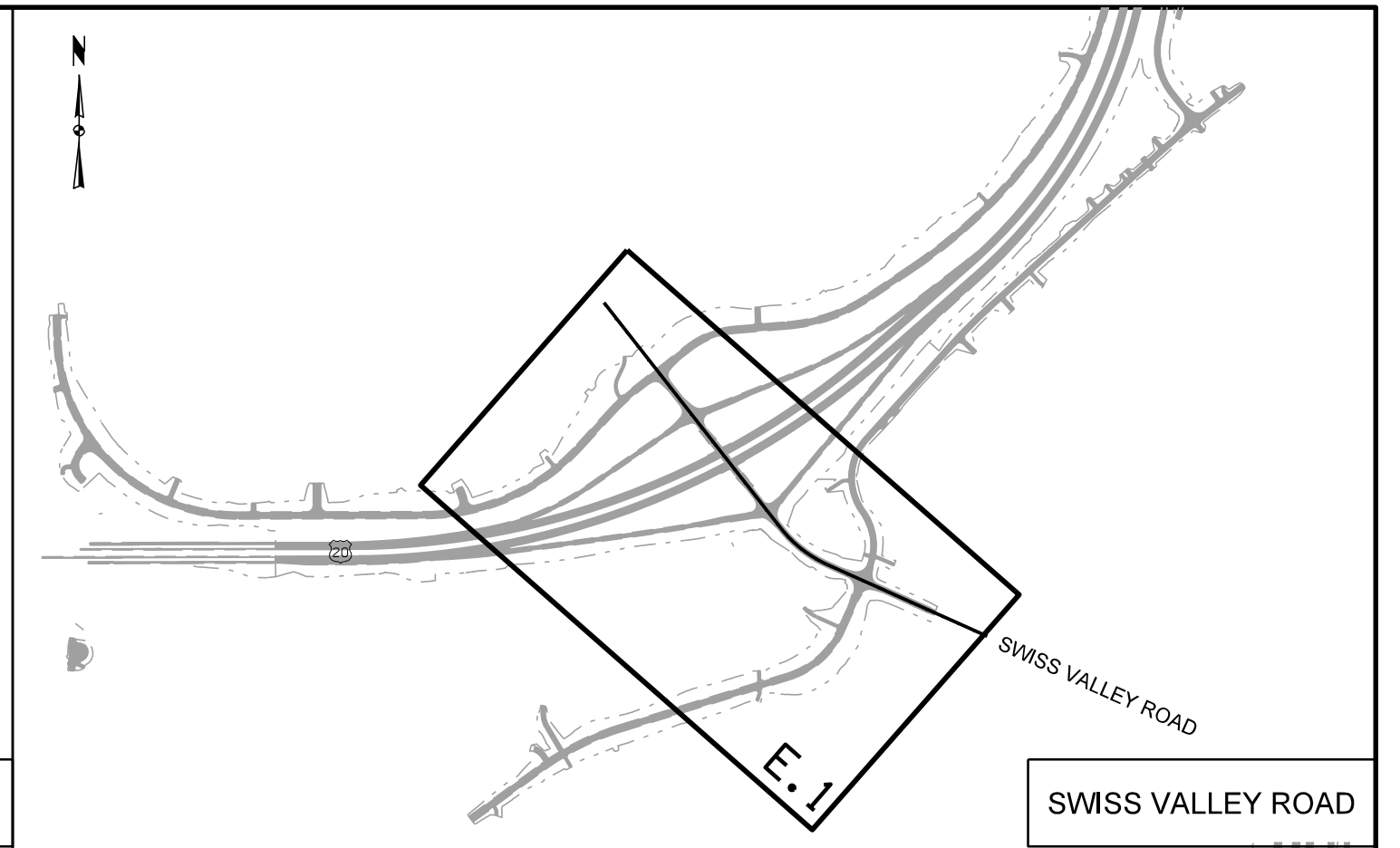
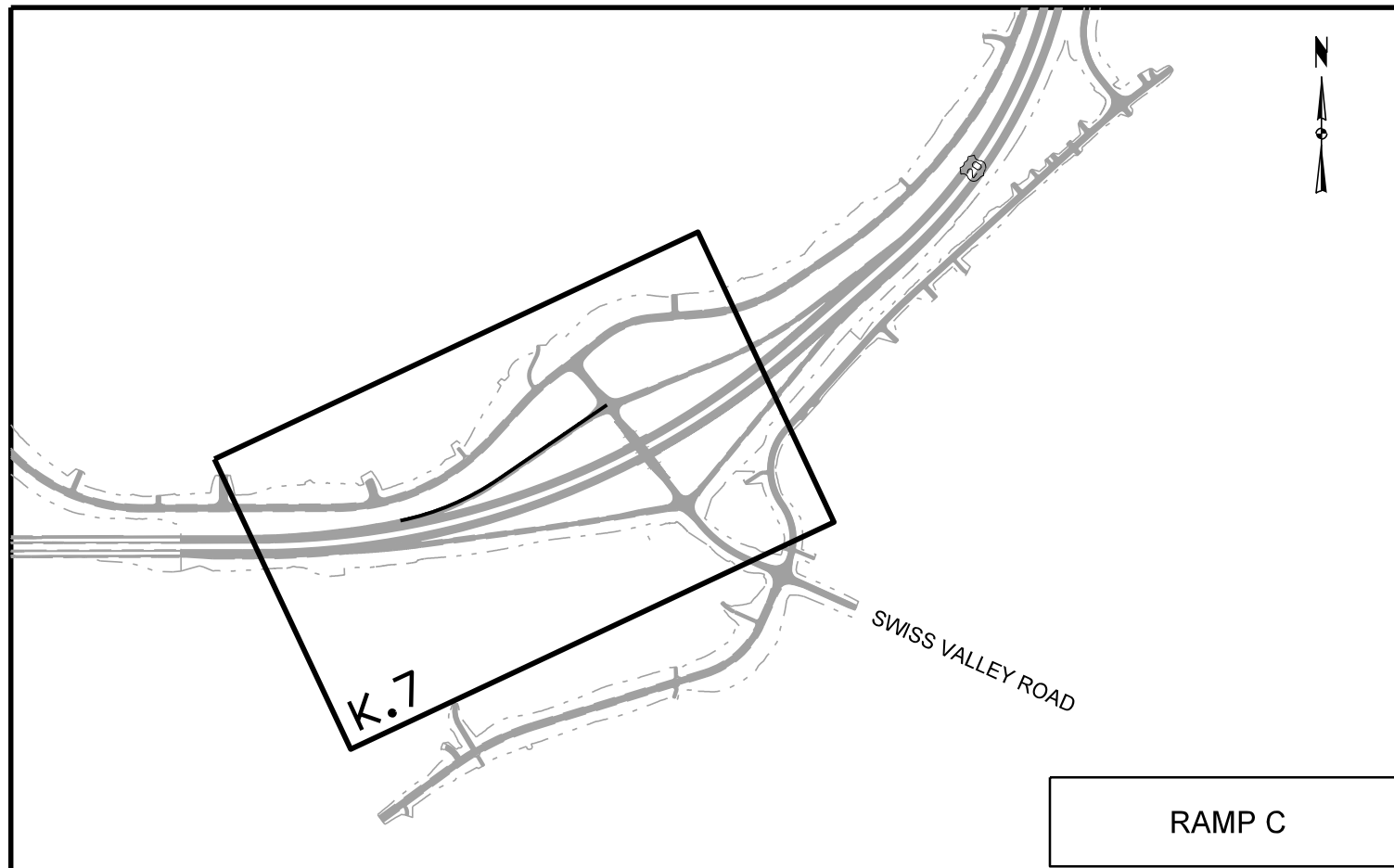
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No.	DESCRIPTION
<b>V Sheets</b>	<b>Bridge and Culvert Situation Plans</b>
* V.1 - 11	Culvert Plats
* V.12	Estimate Sheet - Design 0218
* V.13 - 17	Design 0218
* V.18 - 42	Culvert Plats
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Section Legend & Symbol Information Sheet
W.2 - 67	US 20
<b>X Sheets</b>	<b>Side Road Cross Sections</b>
X.1 - 43	Swiss Valley Road
X.44 - 86	Relocated Cottingham Road
X.87 - 135	North Frontage Road
X.136 - 159	North Cascade Road West
X.160 - 222	North Cascade Road East
X.223 - 275	South Frontage Road
X.276 - 314	Chesterfield Drive
X.315 - 317	Cottingham Road Connector
X.318 - 332	Tower Drive
X.333	Cottingham South
<b>Y Sheets</b>	<b>Ramp Cross Sections</b>
Y.1 - 10	Ramp A
Y.11 - 19	Ramp B
Y.20 - 27	Ramp C
Y.28 - 34	Ramp D
	* Color Plan Sheets





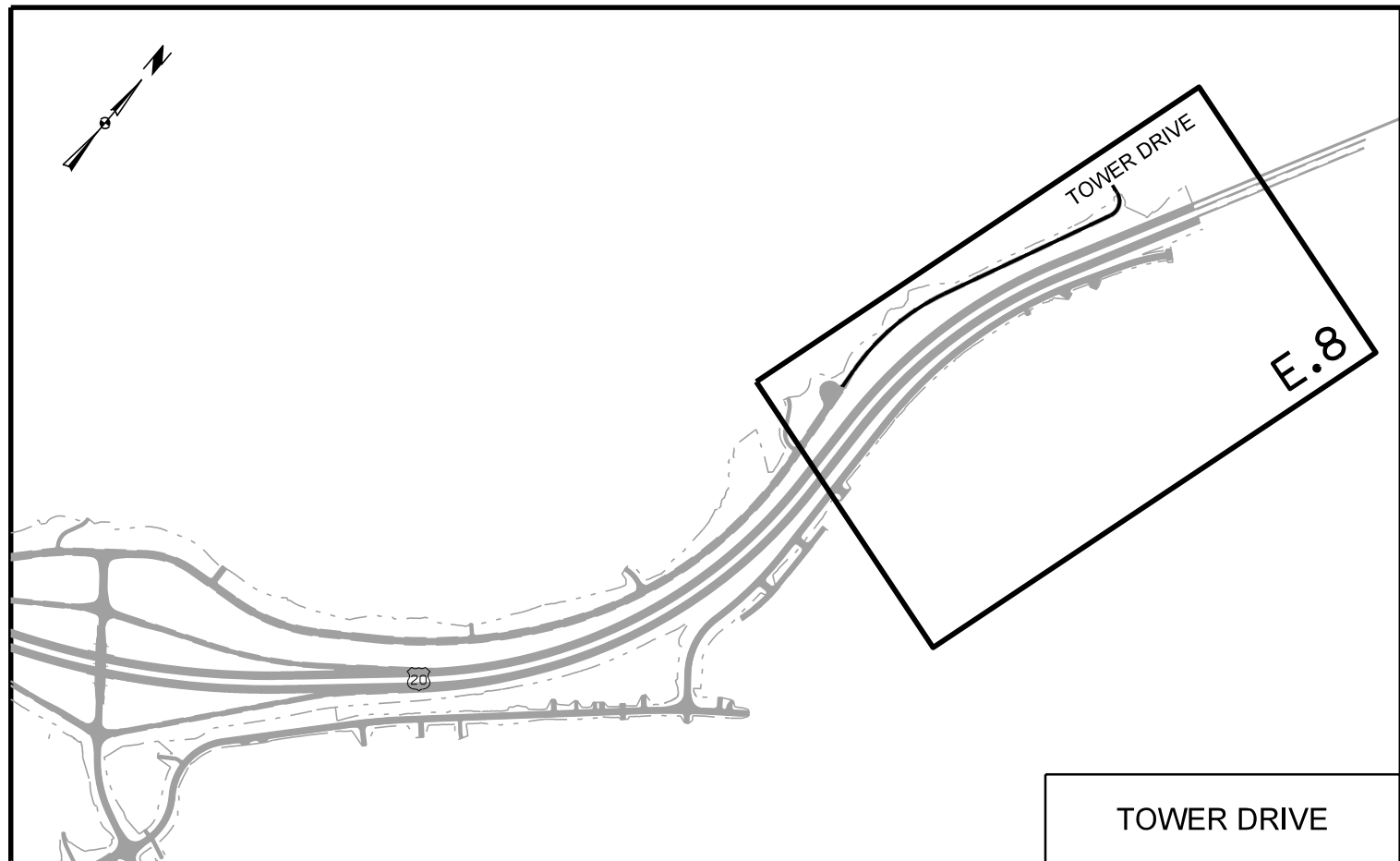


**Project Key Maps**

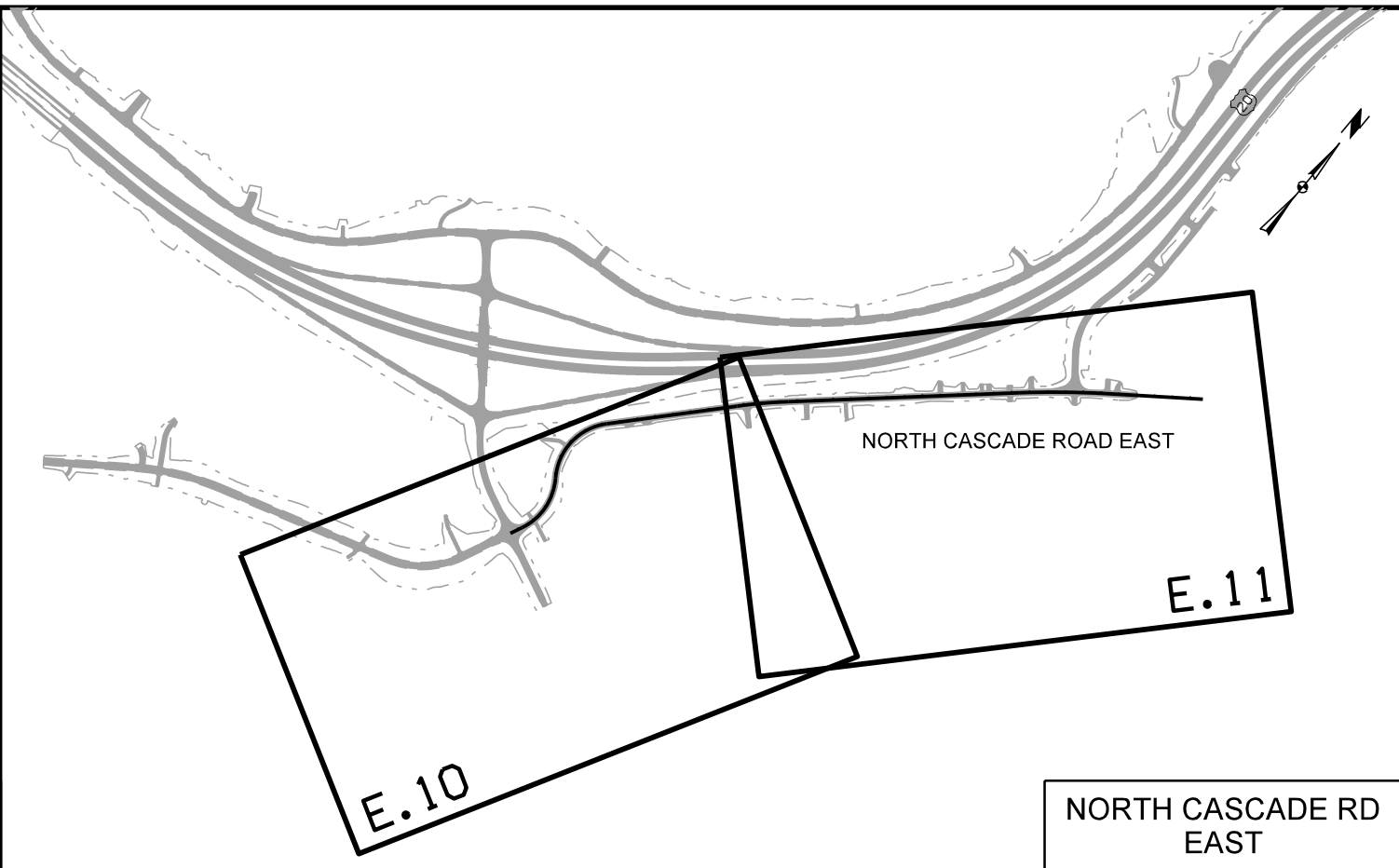


**Project Key Maps**

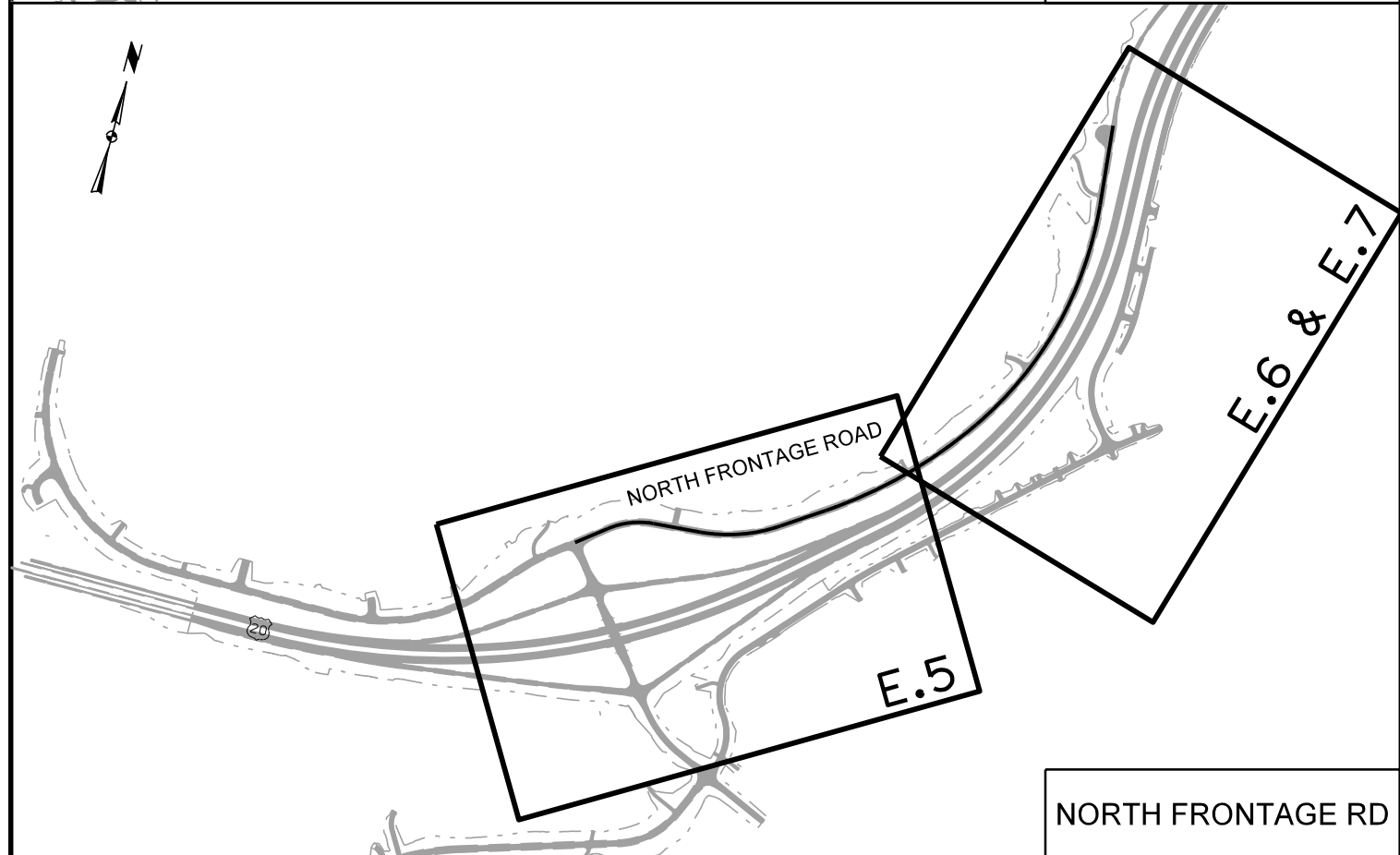




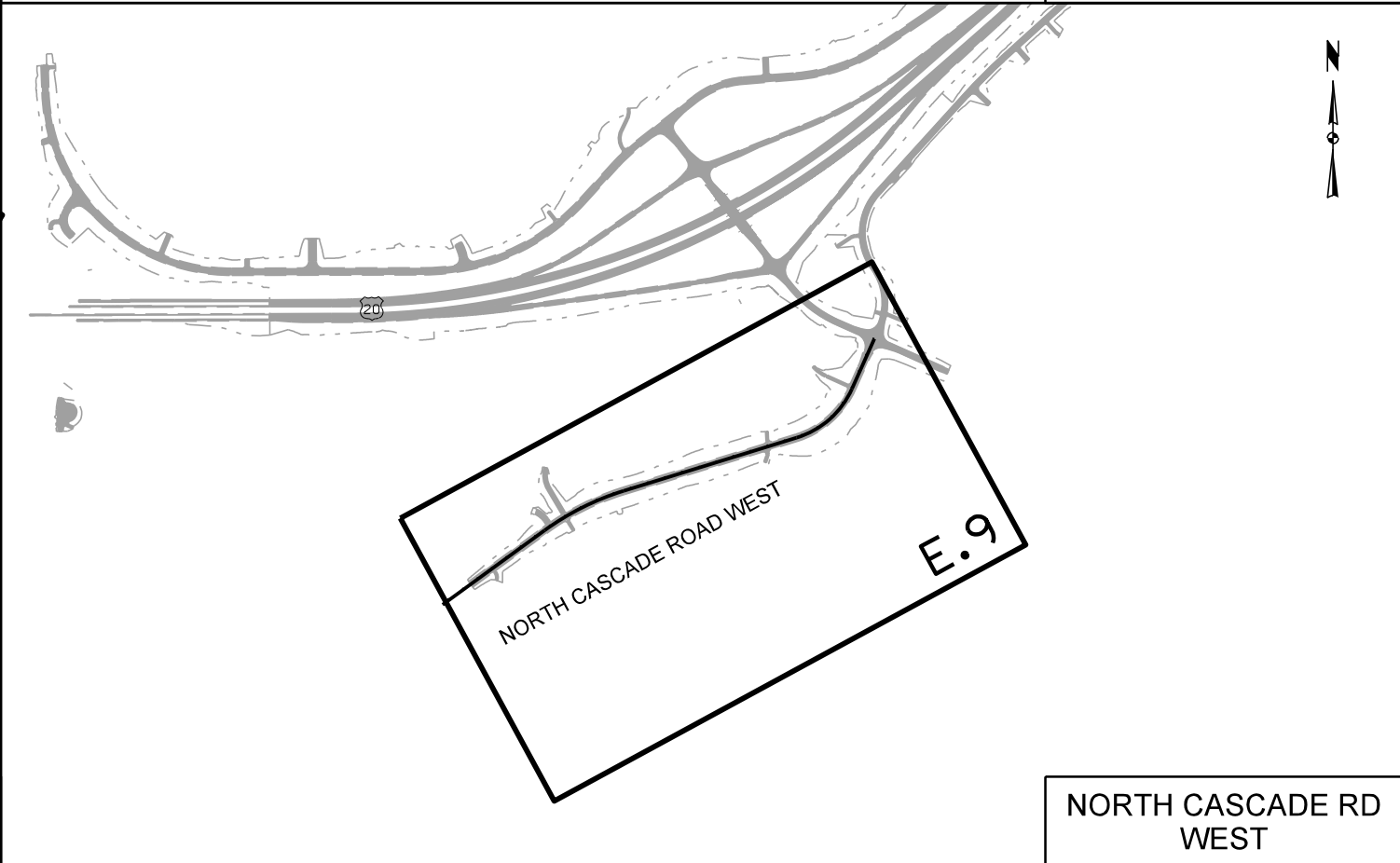
TOWER DRIVE



NORTH CASCADE RD EAST

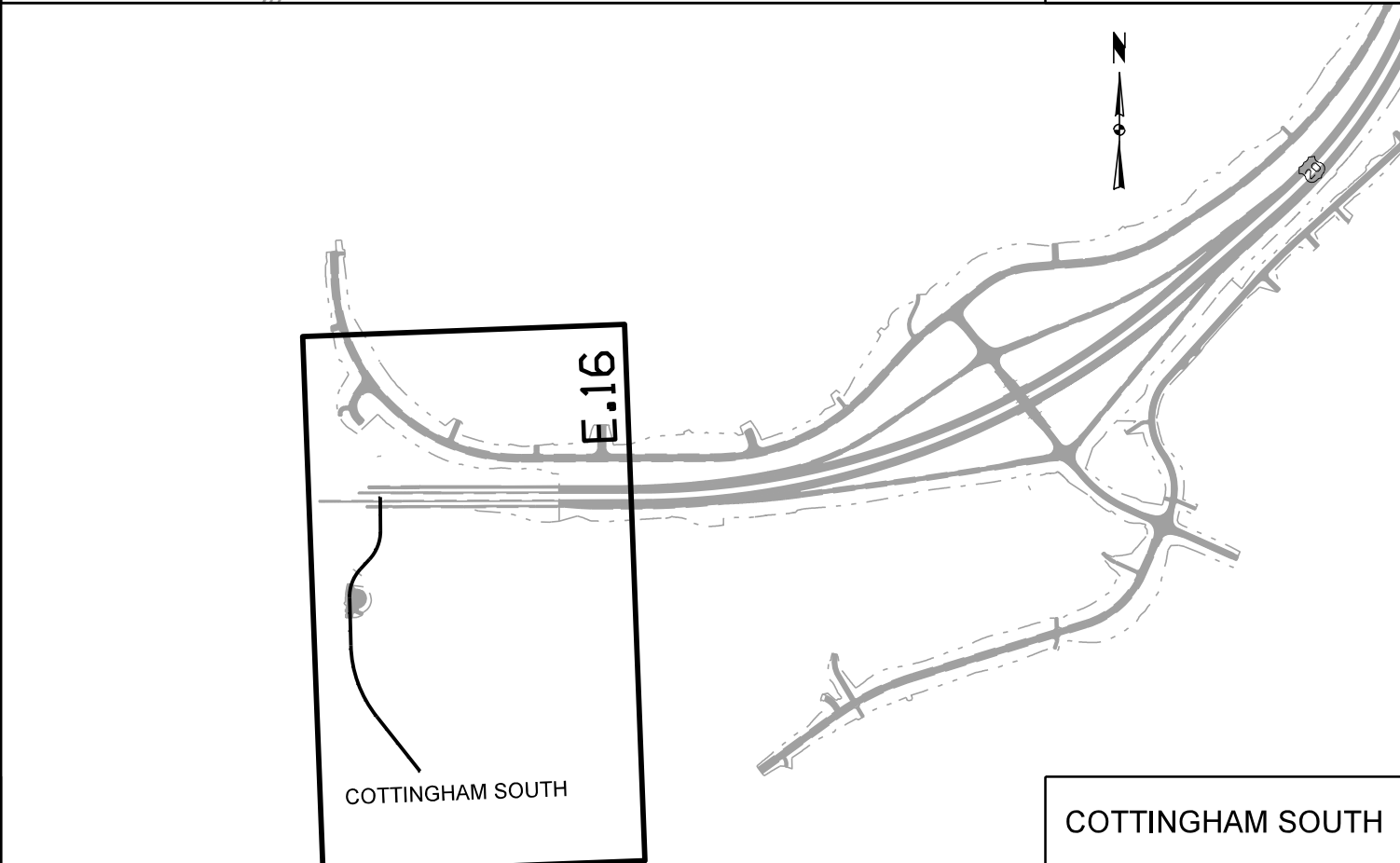
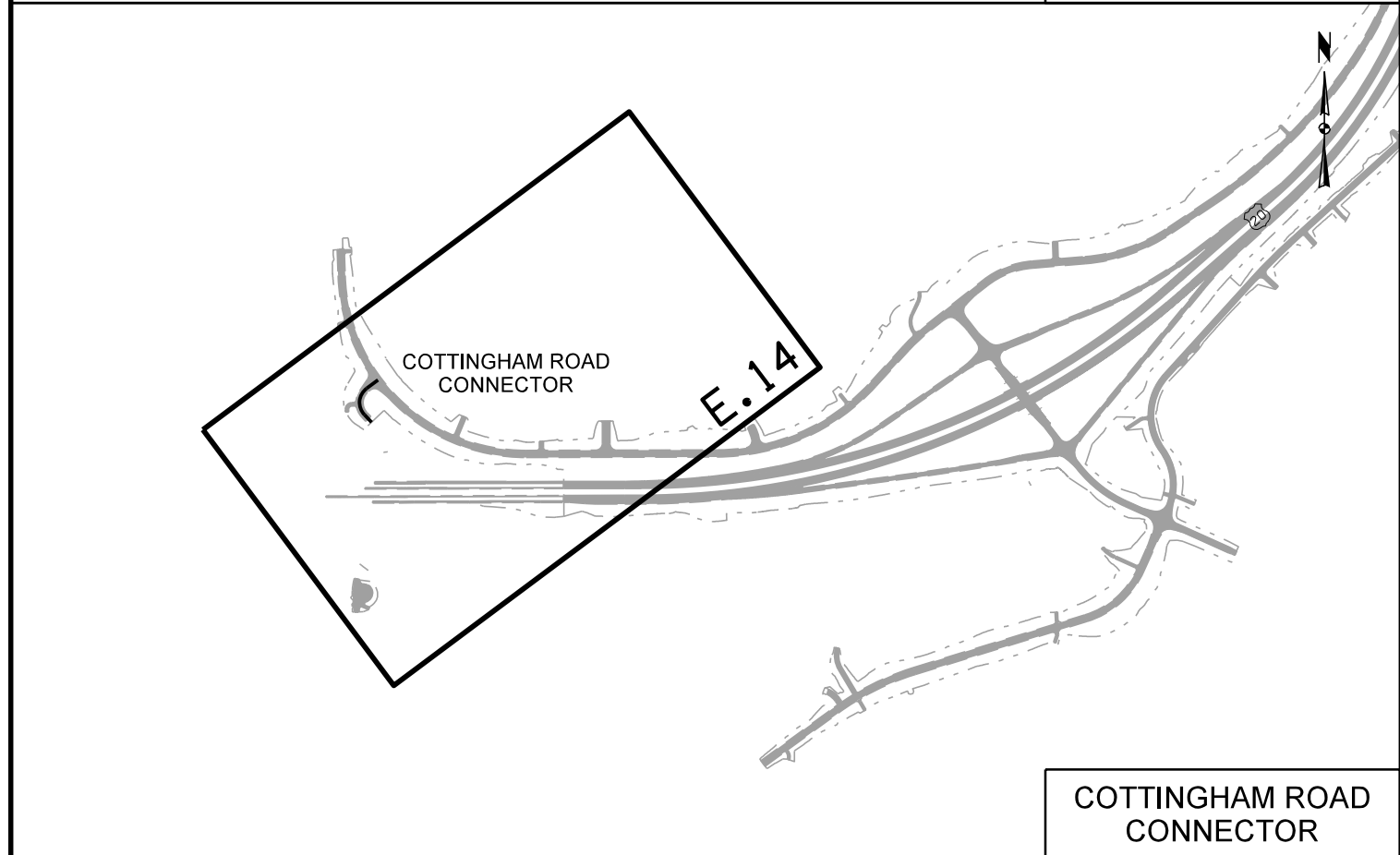
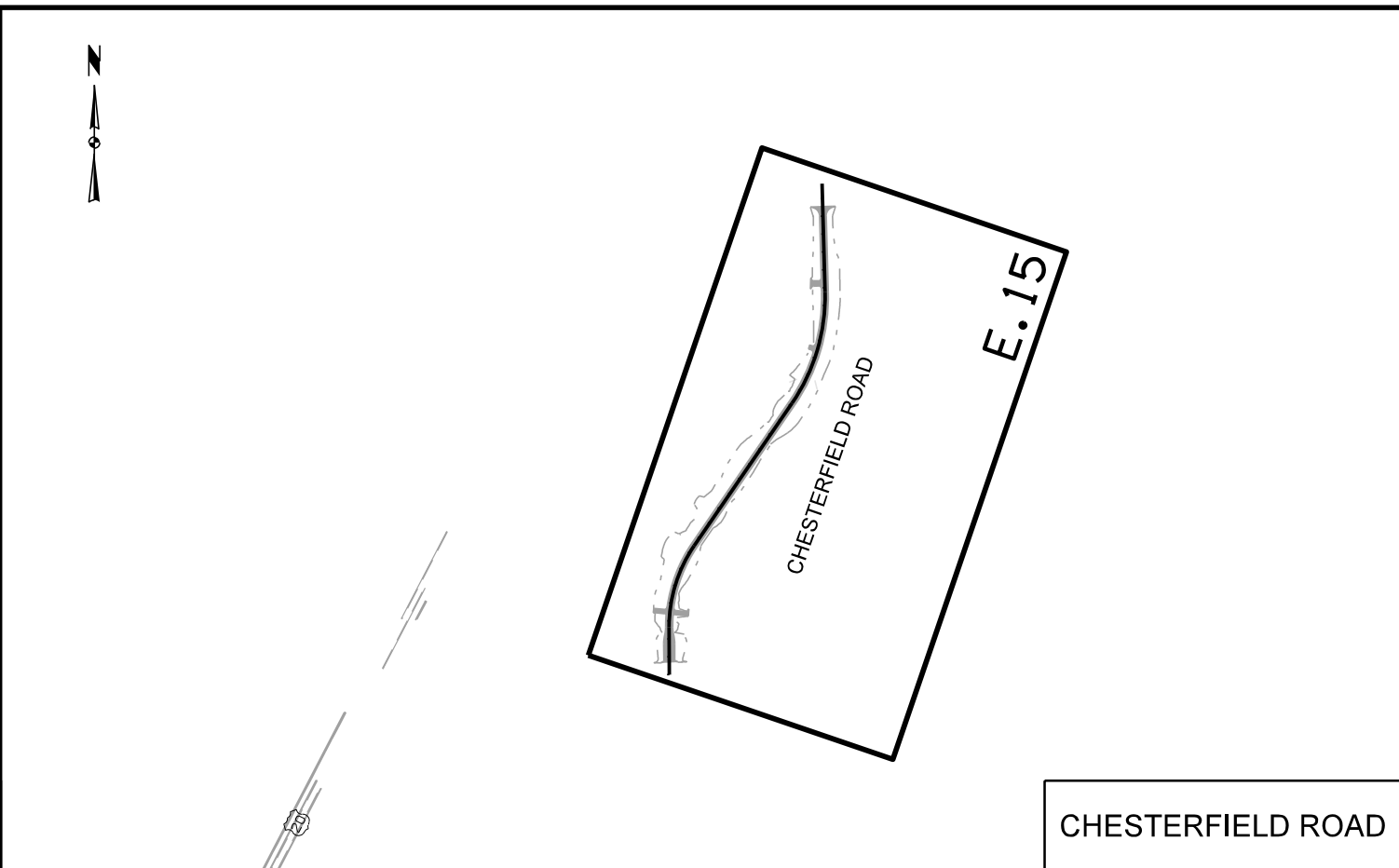
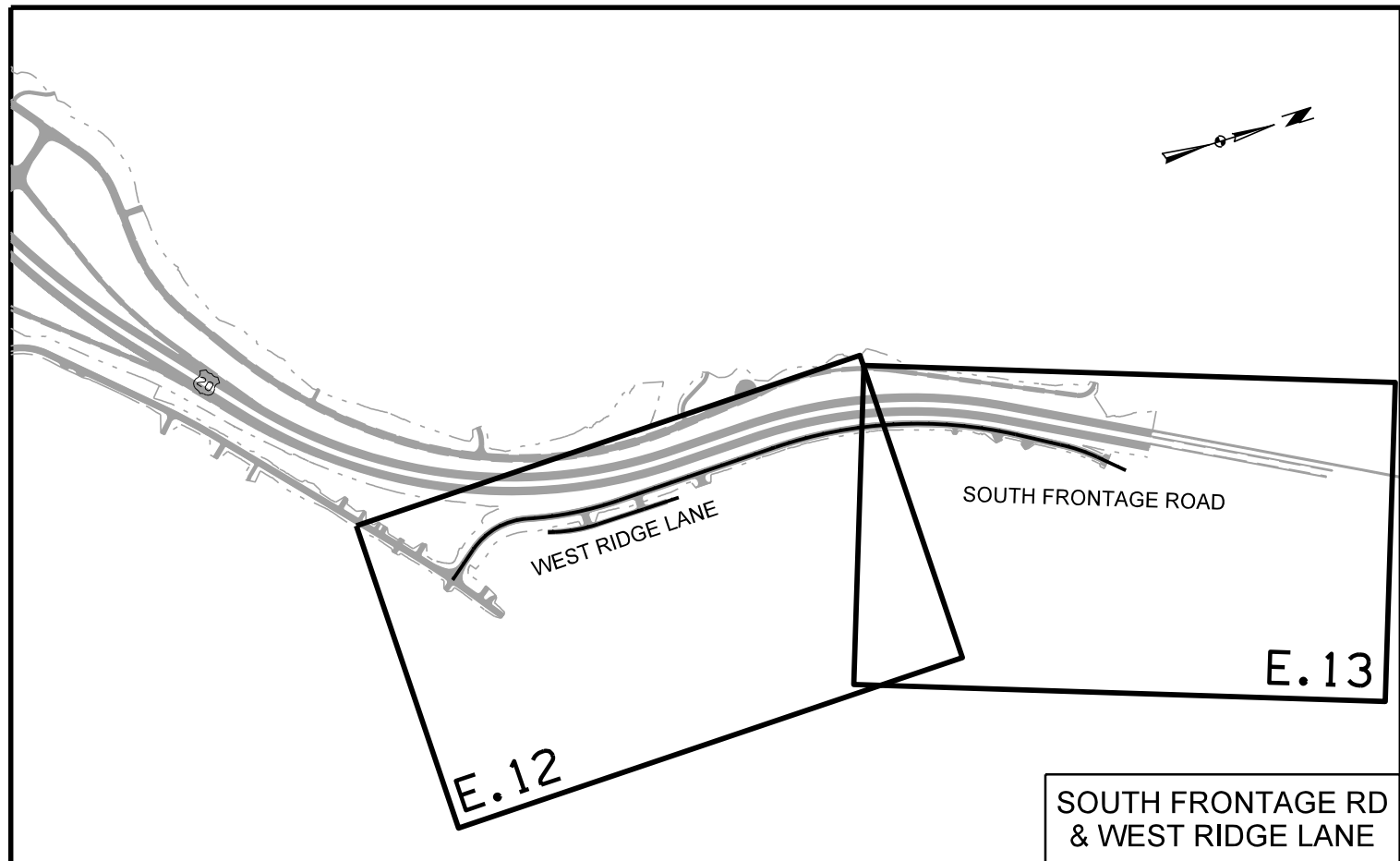


NORTH FRONTAGE RD



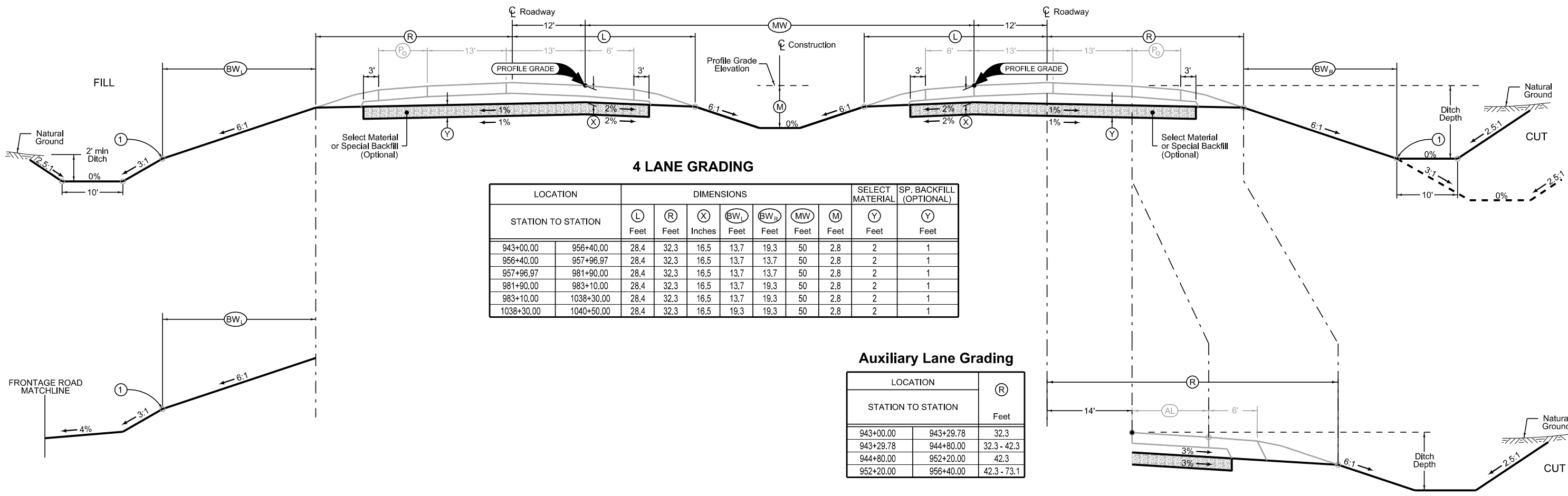
NORTH CASCADE RD WEST

**Project Key Maps**



**Project Key Maps**





**4 LANE GRADING**

LOCATION		DIMENSIONS							SELECT MATERIAL	SP. BACKFILL (OPTIONAL)
STATION TO STATION		L	R	X	BWL	BWR	MW	M	Y	Y
		Feet	Feet	Inches	Feet	Feet	Feet	Feet	Feet	Feet
943+00.00	956+40.00	28.4	32.3	16.5	13.7	19.3	50	2.8	2	1
956+40.00	957+96.97	28.4	32.3	16.5	13.7	13.7	50	2.8	2	1
957+96.97	981+90.00	28.4	32.3	16.5	13.7	13.7	50	2.8	2	1
981+90.00	983+10.00	28.4	32.3	16.5	13.7	19.3	50	2.8	2	1
983+10.00	1038+30.00	28.4	32.3	16.5	13.7	19.3	50	2.8	2	1
1038+30.00	1040+50.00	28.4	32.3	16.5	19.3	19.3	50	2.8	2	1

**Auxiliary Lane Grading**

LOCATION		R
STATION TO STATION		Feet
943+00.00	943+29.78	32.3
943+29.78	944+80.00	32.3 - 42.3
944+80.00	952+20.00	42.3
952+20.00	956+40.00	42.3 - 73.1

- ① Refer to project plan and cross sections for specific location of foreslope change.
- ② Quantity calculations based on Select Soil. Compaction with Moisture Control for Select Soil is incidental and will not be paid for separately. Maintain moisture content within limits specified in Tab 103-6.
- ③ Excavate a portion of subgrade as necessary to provide drainage for the Treatment. The additional excavation and Special Backfill for outlets is incidental and will not be paid for separately.

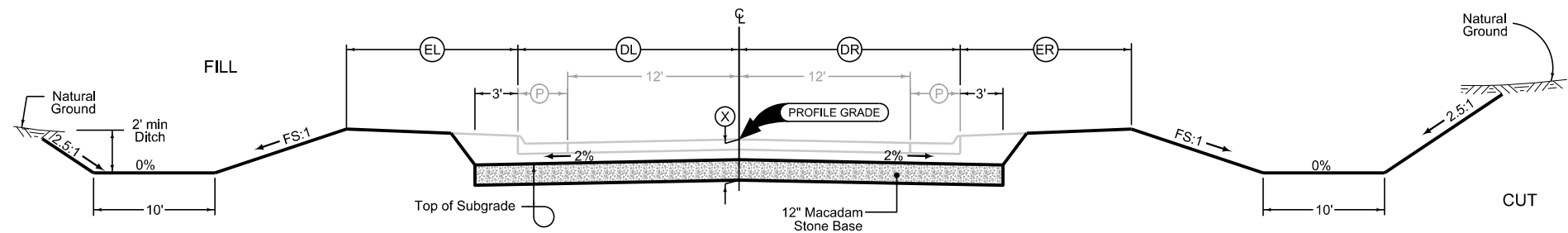
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

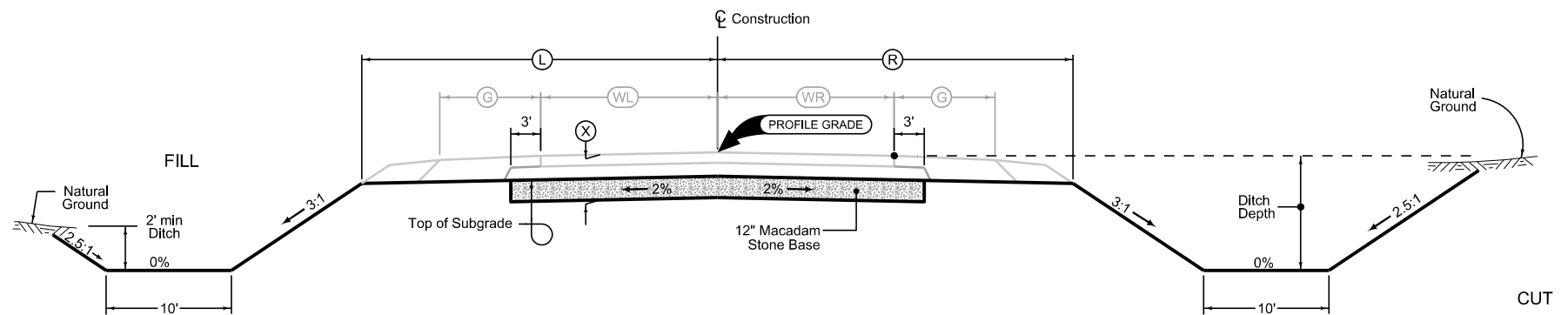
**MAINLINE US 20  
GRADING**

LOCATION		DIMENSIONS					
STATION TO STATION		DL	DR	EL	ER	X	FS
		Feet	Feet	Feet	Feet	Inches	
5954+50.00	5967+48.00	15.5	15.5	12.0	12.0	27	3
5967+48.00	5967+68.00	15.5	15.5 - 17.5	12.0	12.0	27	3
5967+68.00	5968+28.83	15.5 - 21.6	17.5 - 23.6	12.0	12.0	27	3
5968+28.83	5968+48.83	21.6 - 23.6	23.6	12.0	12.0	27	3
5968+48.83	5971+01.04	23.6	23.6	12.0	12.0	27	3
5971+01.04	5971+26.00	23.6	23.6 - 21.1	12.0	12.0	27	3
5971+26.00	5971+81.87	23.6 - 18.0	21.1 - 15.5	12.0	12.0	27	3
5971+81.87	5972+06.83	18.0 - 15.5	15.5	12.0	12.0	27	3
5972+06.83	5973+00.00	15.5	15.5	12.0	12.0	27	3

G\_2\_Grade  
Modified



LOCATION		DIMENSIONS		
STATION TO STATION		L	R	X
		Feet	Feet	Inches
5973+00.00	5976+24.00	26.2	26.2	27



Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

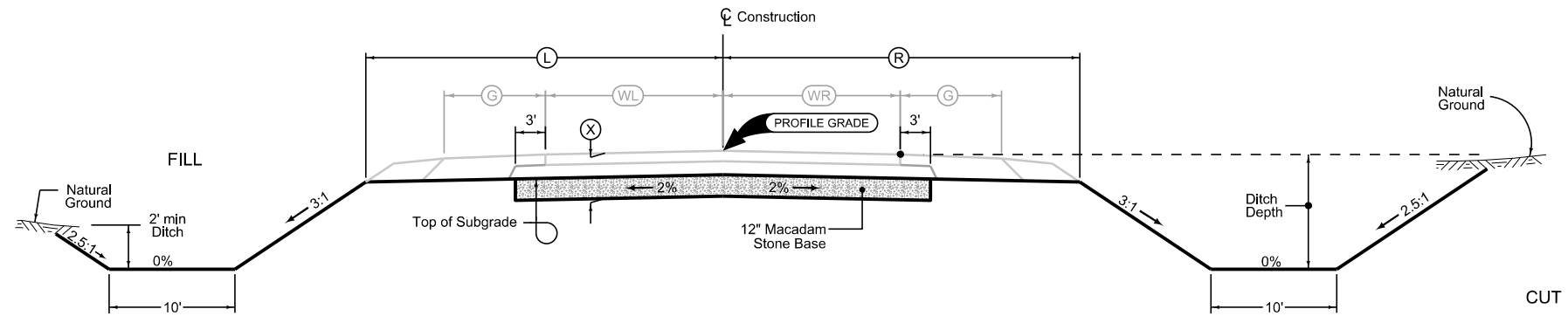
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

**SWISS VALLEY ROAD  
GRADING**



LOCATION		DIMENSIONS		
STATION TO STATION		(L) Feet	(R) Feet	(X) Inches
6931+50.00	6958+84.50	26.2	26.2	26

G\_2\_Grade  
Modified



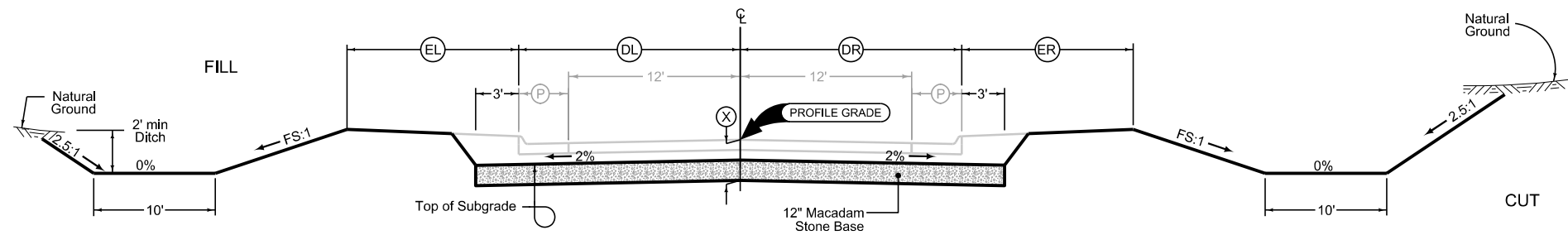
Normal section shown may be modified appropriately in areas of super-elevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

**NORTH CASCADE WEST GRADING**

LOCATION		DIMENSIONS					
STATION TO STATION		(DL) Feet	(DR) Feet	(EL) Feet	(ER) Feet	(X) Inches	FS
7958+66.12	7997+00.00	15.5	15.5	12	12.0	26	3

G\_2\_Grade  
Modified



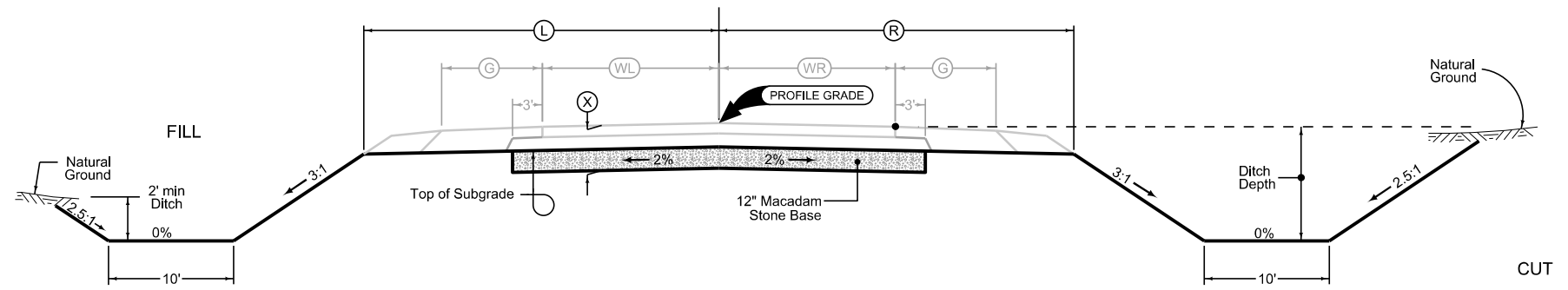
Normal section shown may be modified appropriately in areas of super-elevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

**NORTH CASCADE EAST GRADING**

LOCATION		DIMENSIONS		
STATION TO STATION		(L) Feet	(R) Feet	(X) Inches
8931+65.00	8976+00.00	26.2	26.2	26

G\_2\_Grade  
Modified



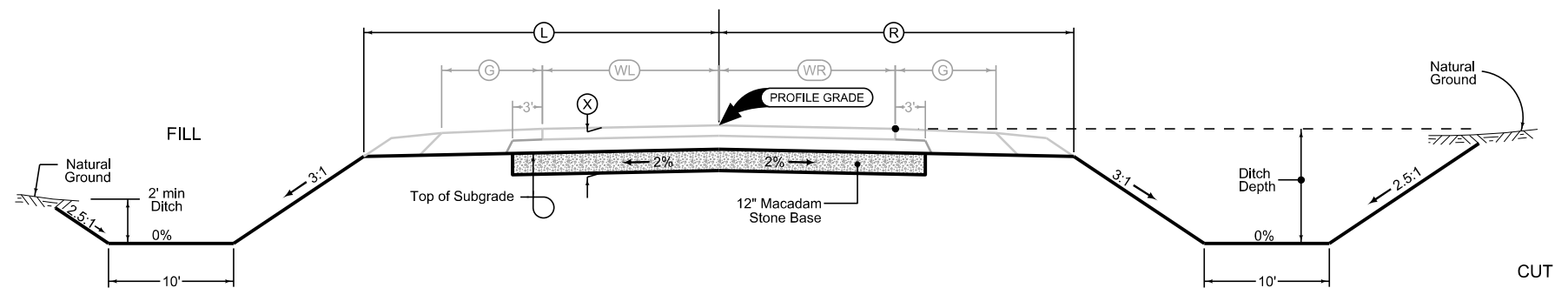
Normal section shown may be modified appropriately in areas of super-elevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

**COTTINGHAM ROAD  
GRADING**

LOCATION		DIMENSIONS		
STATION TO STATION		(L) Feet	(R) Feet	(X) Inches
9976+24.00	10024+44.74	26.2	26.2	26

G\_2\_Grade  
Modified



Normal section shown may be modified appropriately in areas of super-elevated curves or other locations specifically designated by the Engineer.

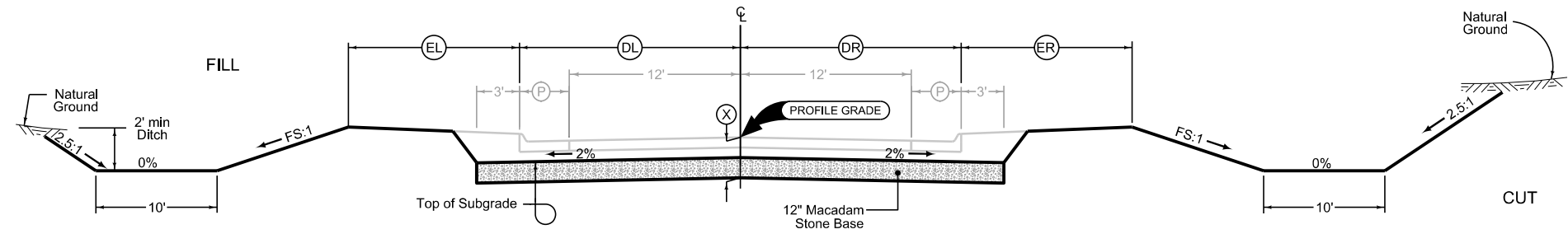
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

**NORTH FRONTAGE ROAD  
GRADING**



LOCATION		DIMENSIONS					
STATION TO STATION		DL Feet	DR Feet	EL Feet	ER Feet	X Inches	FS
1992+02.83	2032+74.92	15.5	15.5	12	12.0	26	3

G\_2\_Grade  
Modified

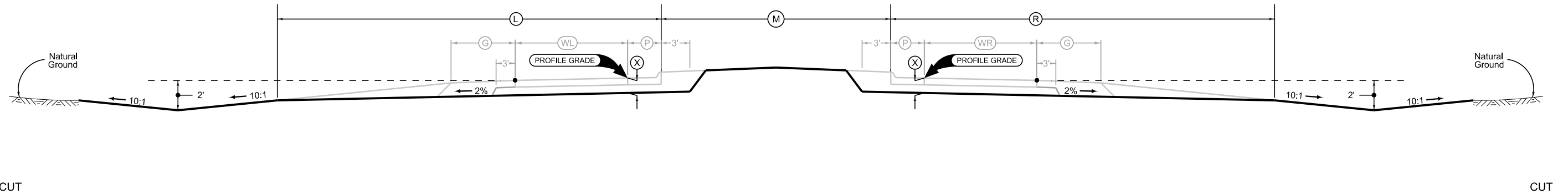


Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

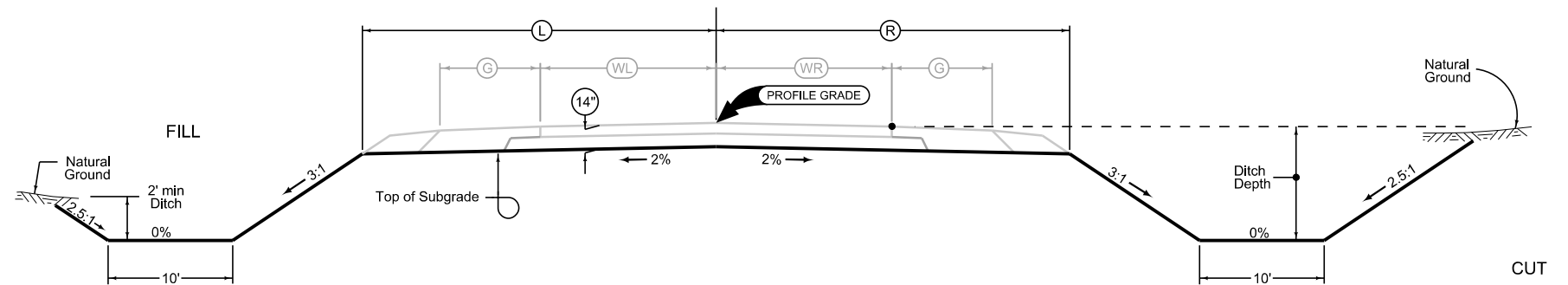
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

**SOUTH FRONTAGE ROAD  
GRADING**

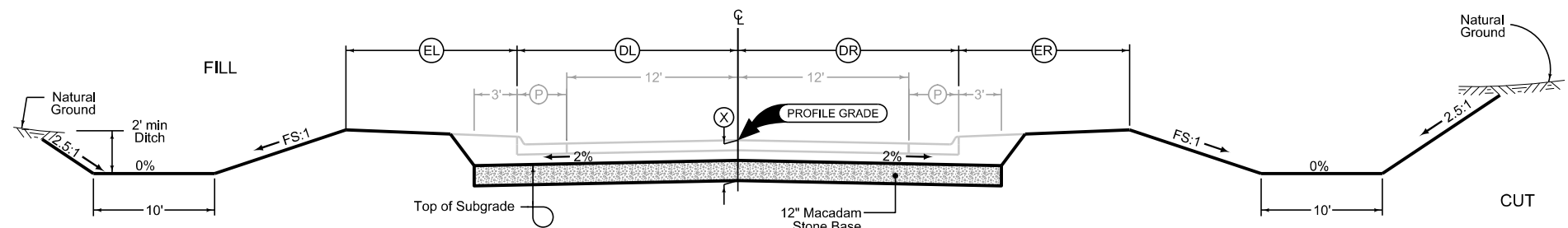
LOCATION		DIMENSIONS			
STATION TO STATION		DL Feet	M Feet	DR Feet	X Inches
12000+66.74	12001+72.07	41.6	20	41.6	14
12001+72.07	12001+82.07	41.6	20-0	41.6	14



LOCATION		DIMENSIONS		
STATION TO STATION		L Feet	R Feet	X Inches
12001+82.07	12002+65.23	37.0-26.2	37.0-26.2	14
12002+65.23	12003+50.00	26.2	26.2	14



LOCATION		DIMENSIONS					
STATION TO STATION		DL Feet	DR Feet	EL Feet	ER Feet	X Inches	FS
12003+50.00	12028+72.68	18.5	18.5	12.0	12.0	26	3



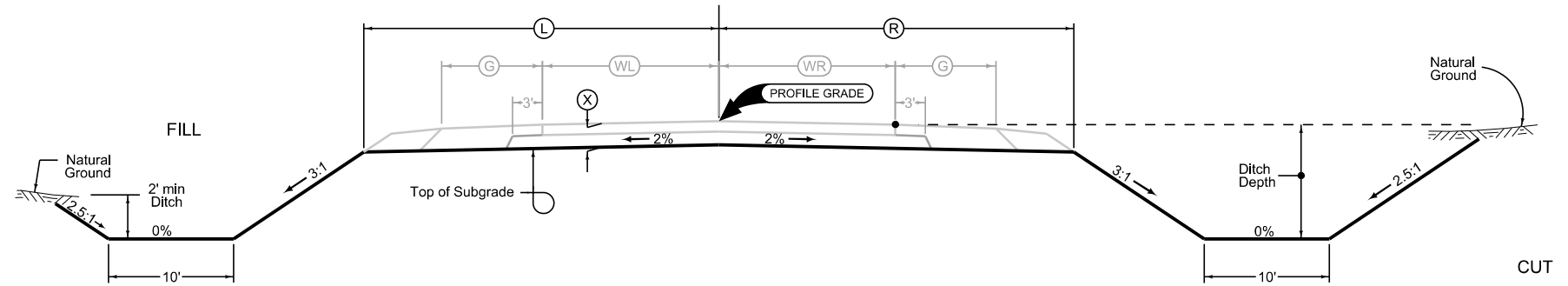
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

**CHESTERFIELD DRIVE  
GRADING**

LOCATION		DIMENSIONS		
STATION TO STATION		(L) Feet	(R) Feet	(X) Inches
13025+75.00	13027+60.00	21.4	21.4	26

G\_2\_Grade  
Modified



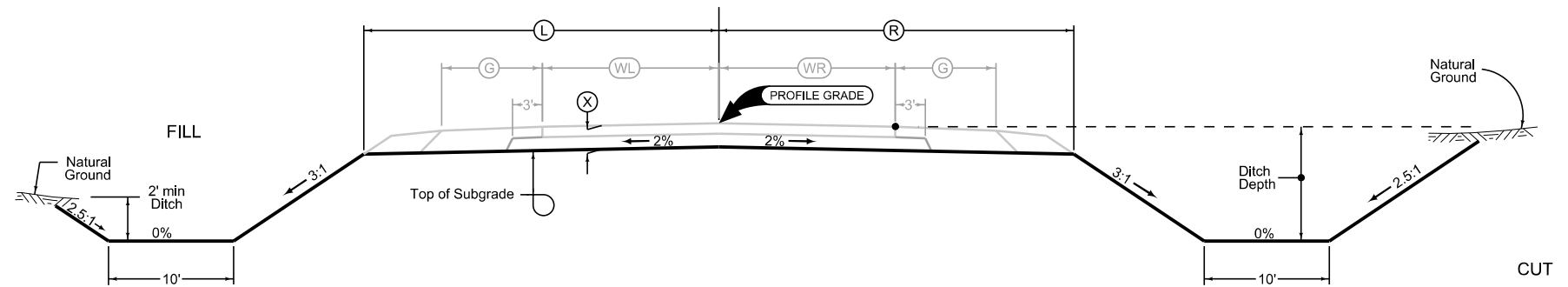
Normal section shown may be modified appropriately in areas of super-elevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

**COTTINGHAM SOUTH GRADING**

LOCATION		DIMENSIONS		
STATION TO STATION		(L) Feet	(R) Feet	(X) Inches
136+65.00	139+33.00	26.2	26.2	26

G\_2\_Grade  
Modified



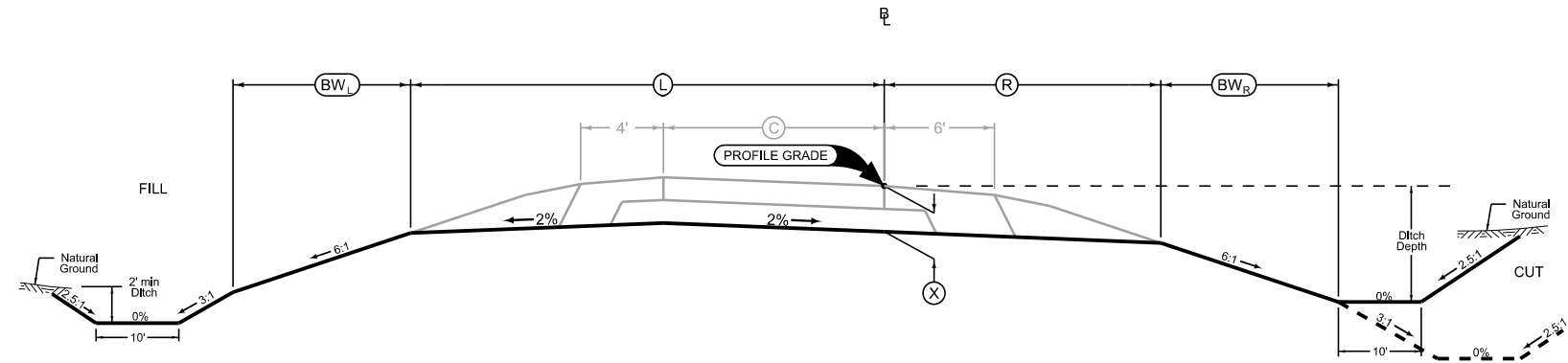
Normal section shown may be modified appropriately in areas of super-elevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

**COTTINGHAM CONNECTOR GRADING**

LOCATION		DIMENSIONS					
STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW <sub>L</sub> ) Feet	(BW <sub>R</sub> ) Feet
1969+70.86	1971+94.74	38.6	16.4	24	22.5	9.5	7.7
1971+94.74	1973+14.73	38.6-30.6	16.4	24 - 16	22.5	9.5	7.7
1973+14.73	1983+10.13	30.6	16.4	16	22.5	9.5	7.7

G\_1R\_Grade  
Modified



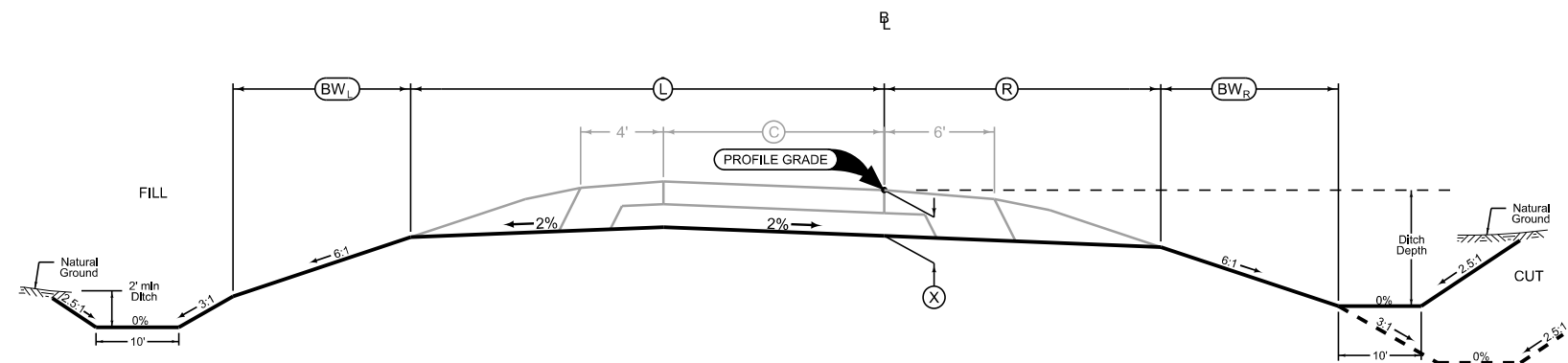
Section view is in direction of traffic.

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.

**SWISS VALLEY ROAD RAMP A  
GRADING**

LOCATION		DIMENSIONS					
STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW <sub>L</sub> ) Feet	(BW <sub>R</sub> ) Feet
2956+40.00	2967+62.30	30.6	16.4	16	22.5	9.5	7.7
2967+62.30	2968+82.30	30.6 - 38.6	16.4	16 - 24	22.5	9.5	7.7
2968+82.30	2971+29.80	38.6	16.4	24	22.5	9.5	7.7

G\_1R\_Grade  
Modified



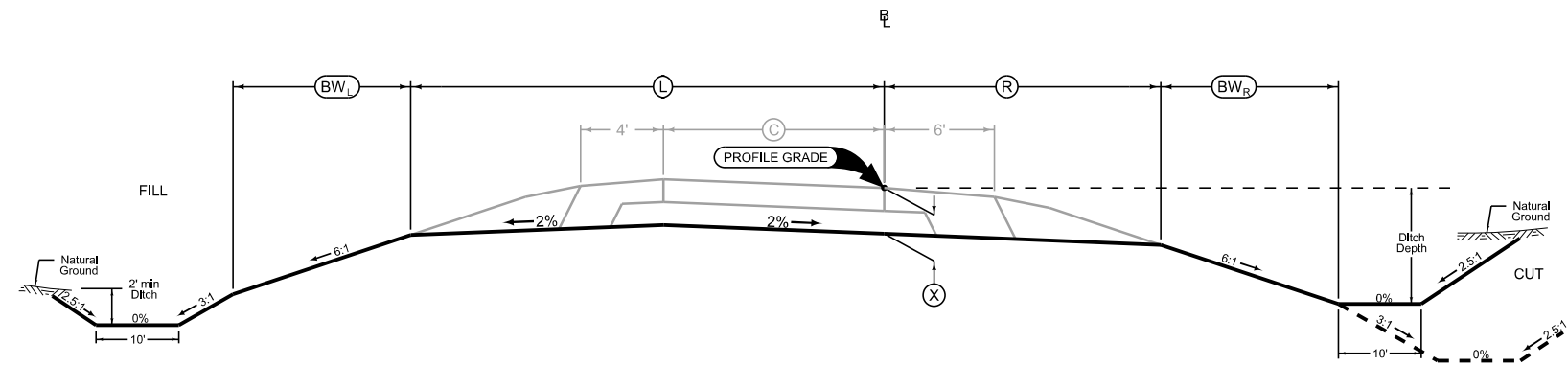
Section view is in direction of traffic.

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.

**SWISS VALLEY ROAD RAMP B  
GRADING**

LOCATION		DIMENSIONS					
STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW <sub>L</sub> ) Feet	(BW <sub>R</sub> ) Feet
3957+91.54	3968+75.26	30.6	16.4	16	22.5	9.5	7.7

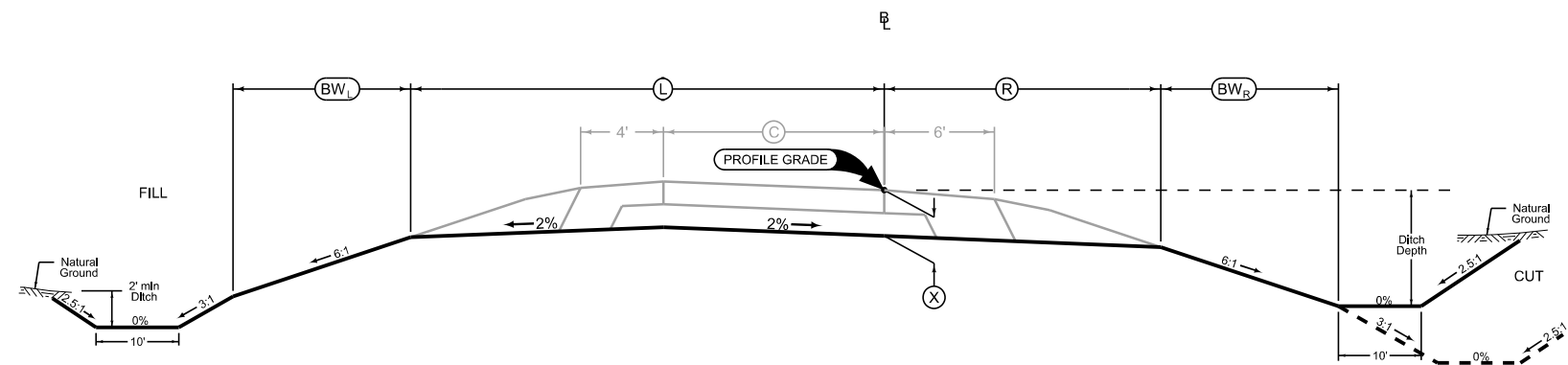
G\_1R\_Grade  
Modified



**SWISS VALLEY ROAD RAMP C  
GRADING**

LOCATION		DIMENSIONS					
STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW <sub>L</sub> ) Feet	(BW <sub>R</sub> ) Feet
4969+65.53	4981+91.34	30.6	16.4	16	22.5	9.5	7.7

G\_1R\_Grade  
Modified

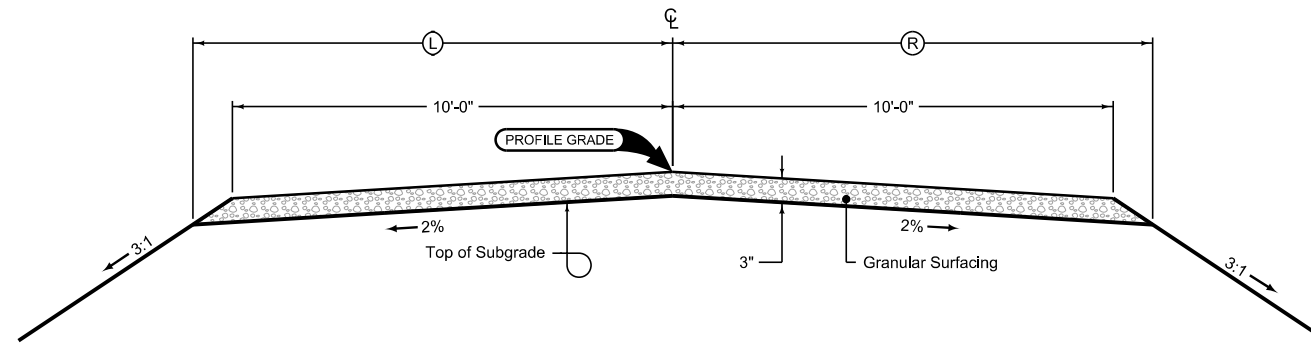


**SWISS VALLEY ROAD RAMP D  
GRADING**

LOCATION		DIMENSIONS	
STATION TO STATION		Ⓛ Feet	Ⓡ Feet
400+00.00	419+60.00	10.8	10.8

2\_GradeGran  
Modified

Place Granular Surfacing as follows:  
Grading and Paving design application rate is  
2330 tons per mile.



Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

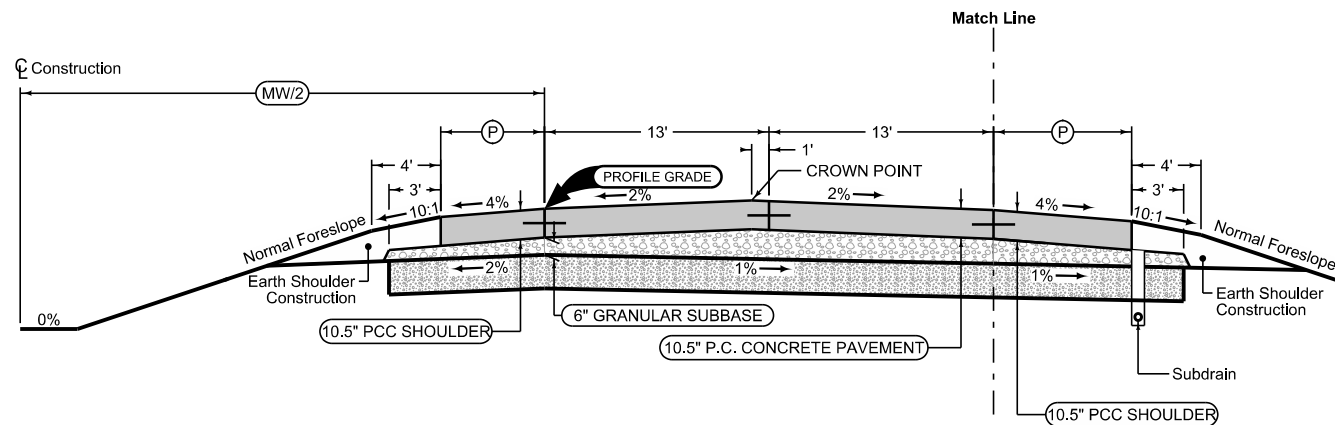
**TOWER DRIVE  
GRADING**



### Full Depth PCC Shoulder

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: Match Mainline

4_P_FullPCC_10-19-10			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
EB	943+00.00	1040+50.00	6
WB	943+00.00	1040+50.00	6



Section shown in the direction of traffic.

Mainline Jointing:  
 Transverse joints: CD at 17' spacing  
 Longitudinal joint: L-2

4DP_10-19-10			
Direction of Travel	BEGIN STATION	END STATION	(MW) Feet
EB	943+00.00	1040+50.00	50
WB	943+00.00	1040+50.00	50

### Full Depth PCC Shoulder

Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: C at 17' spacing

4_P_FullPCC_10-19-10			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
EB	956+40.00	969+14.68	8
EB	970+67.89	981+89.84	8
EB	994+20.00	1040+50.00	8
WB	943+00.00	945+50.00	8
WB	957+96.97	968+90.96	8
WB	970+45.75	983+10.00	8
WB	989+10.00	1040+50.00	8

### Auxiliary Lane Full Depth Shoulder

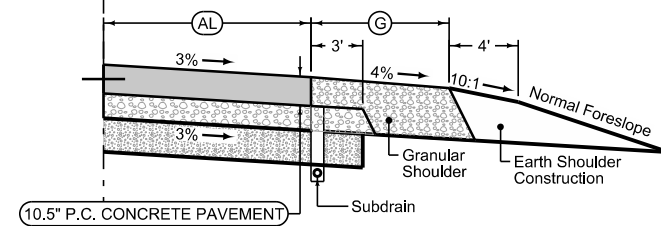
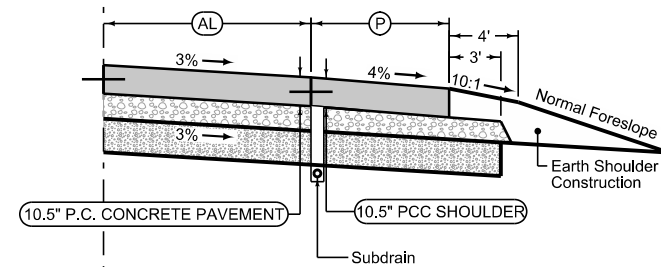
Shoulder Jointing:  
 Longitudinal joint: L-2 or KT-2  
 Transverse joints: Match Mainline

4_AL_Shldr_FullPCC_10-19-10			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
EB	943+00.00	943+30.00	2
EB	943+30.00	944+20.00	2 - 8
EB	990+20.00	993+20.00	8 - 2
EB	993+20.00	994+20.00	2
WB	945+50.00	946+50.00	2
WB	946+50.00	949+50.00	2 - 8
WB	987+90.41	988+80.00	8 - 2
WB	988+80.00	989+10.00	2

### Auxiliary Lane

Longitudinal joint: L or KT  
 Transverse joint: Match Mainline

4_AuxLane_PCC_10-19-10			
Direction of Travel	BEGIN STATION	END STATION	(AL) Feet
EB	943+00.00	943+30.00	2
EB	943+30.00	944+20.00	2 - 8
EB	990+20.00	993+20.00	8 - 2
EB	993+20.00	994+20.00	2
WB	945+50.00	946+50.00	2
WB	946+50.00	949+50.00	2 - 8
WB	987+90.41	988+80.00	8 - 2
WB	988+80.00	989+10.00	2



### Auxiliary Lane

Longitudinal joint: L or KT  
 Transverse joint: Match Mainline

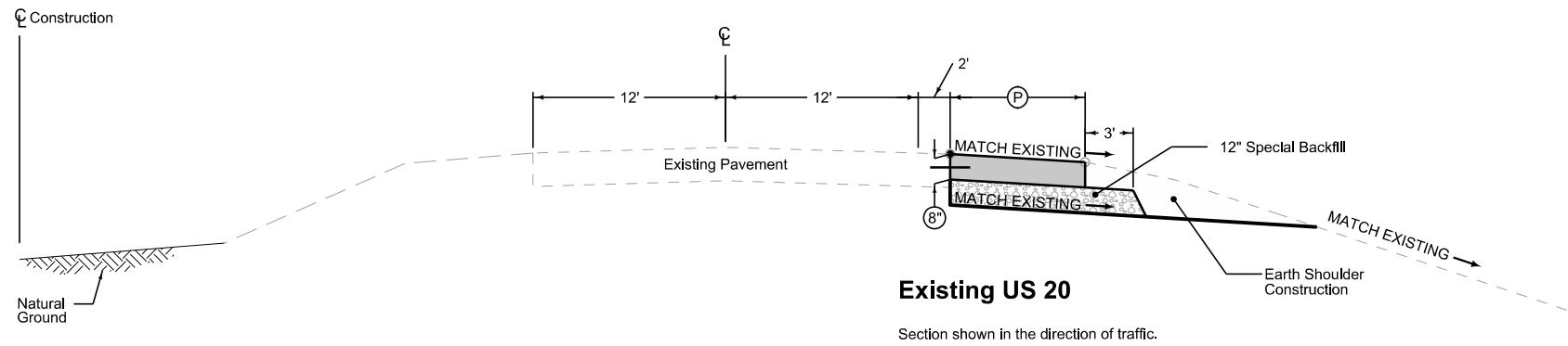
4_AuxLane_PCC_10-19-10			
Direction of Travel	BEGIN STATION	END STATION	(AL) Feet
EB	943+00.00	943+30.00	2
EB	943+30.00	944+80.00	2 - 12
EB	944+80.00	952+20.00	12
EB	952+20.00	956+40.00	12 - 40
EB	981+90.00	984+20.00	37.7 - 20
EB	984+20.00	990+20.00	20 - 8
WB	949+50.00	955+50.00	8 - 20
WB	955+50.00	957+96.97	20 - 37.7
WB	983+10.00	987+90.41	37.7 - 8

### Auxiliary Lane Granular Shoulder

4_AL_Shldr_G_10-19-10			
Direction of Travel	BEGIN STATION	END STATION	(G) Feet
EB	943+00.00	943+30.00	2
EB	943+30.00	944+80.00	2 - 12
EB	944+80.00	952+20.00	12
EB	952+20.00	956+40.00	12 - 40
EB	981+90.00	984+20.00	37.7 - 20
EB	984+20.00	990+20.00	20 - 8
WB	949+50.00	955+50.00	8 - 20
WB	955+50.00	957+96.97	20 - 37.7
WB	983+10.00	987+90.41	37.7 - 8

See Tab 100-24 or 100-25 for pavement quantities.  
 See Tab 112-9 for shoulder quantities.

## MAINLINE US 20



**Existing US 20**

Section shown in the direction of traffic.

**Shoulder Paving**

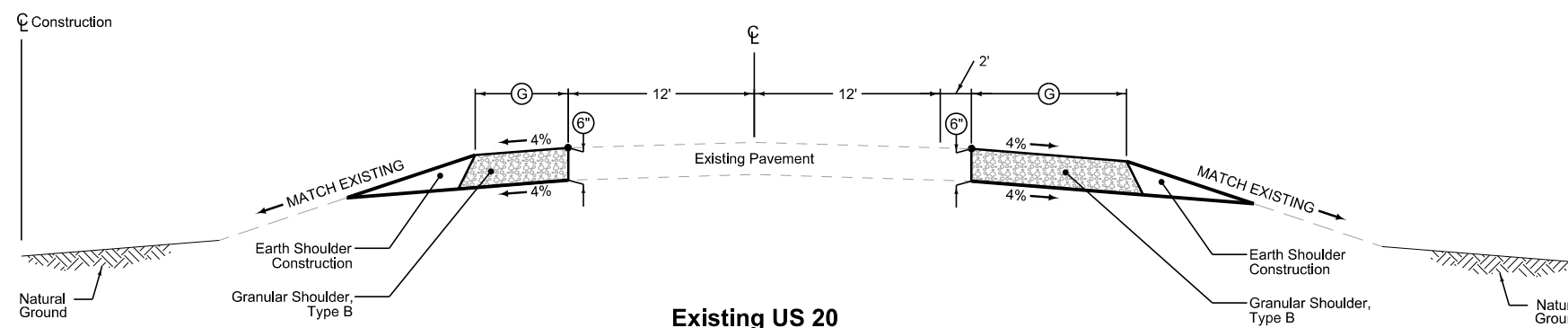
Section shown in the direction of traffic.

Shoulder Jointing:  
 Transverse joints: CD at 17' spacing  
 Longitudinal joint: L-2

Direction of Travel	STATION TO STATION		Ⓟ Feet
WB	935+22.25	943+00.00	10
WB	1040+50.00	1055+00.00	12

**Granular Shoulder**

Direction of Travel	BEGIN STATION	END STATION	Ⓞ Feet
EB	929+57.47	934+22.88	10
EB	1040+50.00	1050+80.89	6
EB	1058+16.63	1063+24.23	6
WB	931+76.45	936+41.59	6
WB	1040+50.00	1050+89.00	6
WB	1061+13.40	1066+58.43	6



**Existing US 20**

Section shown in the direction of traffic.

**Granular Shoulder**

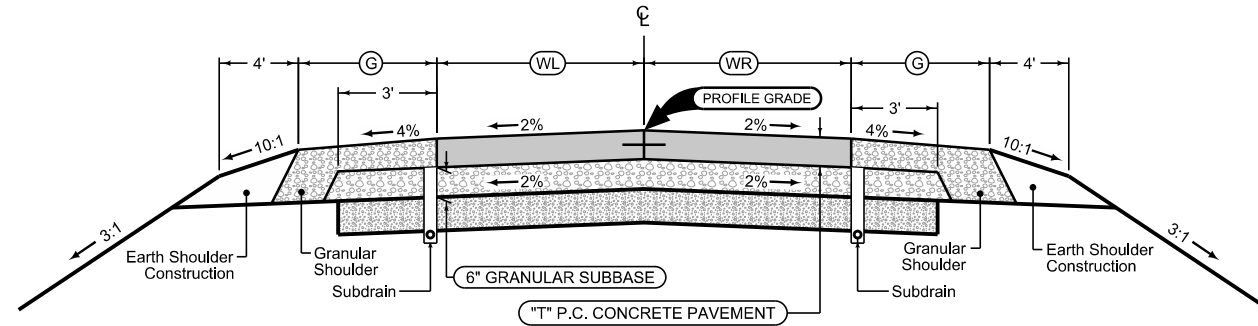
Direction of Travel	BEGIN STATION	END STATION	Ⓞ Feet
EB	932+21.47	943+00.00	10
EB	1061+39.72	1062+59.89	10
WB	932+32.76	935+22.25	12

See Tab 100-24 or 100-25 for pavement quantities.  
 See Tab 112-9 for shoulder quantities.

**MAINLINE US 20**

**Granular Shoulder**

2_G_SR_Mod 02-14-14		
STATION TO STATION		(G) Feet
5954+50.00	5954+85.00	0
5973+81.96	5976+24.00	8



Sideroad Jointing:  
Transverse joints: CD at 20' spacing  
Longitudinal joint: L-2

2P_Mod 02-14-14				
STATION TO STATION		(WL) Feet	(WR) Feet	(T) Inches
5954+50.00	5954+70.00	14.0	14.0	9
5954+70.00	5954+85.00	14-15.5	14-15.5	9
5973+00.00	5976+24.00	12.0	12.0	9

**Granular Shoulder**

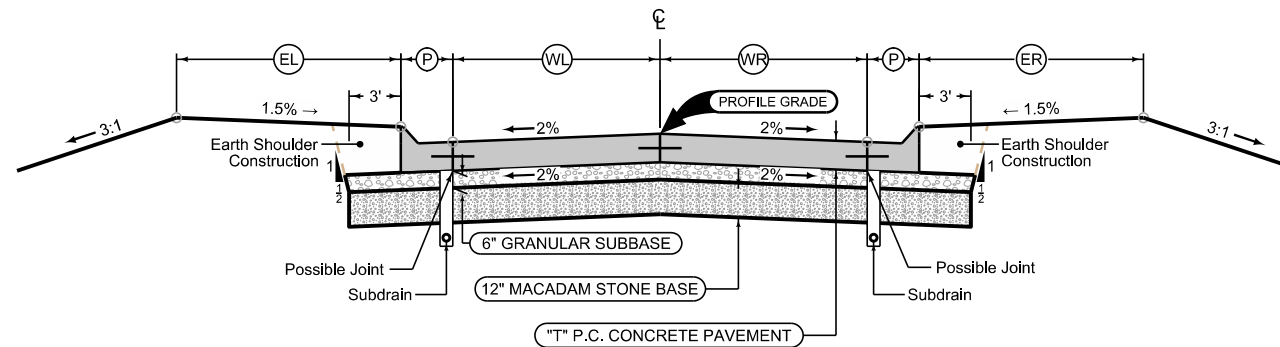
2_G_SR_Mod 02-14-14		
STATION TO STATION		(G) Feet
5954+50.00	5954+85.00	0
5974+15.89	5976+24.00	8

**Curbed Shoulder**

Shoulder Jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2  
Staged: KT-2  
Transverse: C at 15' spacing

2_Curb_MOD 02-14-14				
STATION TO STATION		(P) Feet	Curb Type See PV-102	
5954+85.00	5967+48.00	3.5	6" STANDARD	
5967+48.00	5967+68.00	3.5	6" STANDARD	
5967+68.00	5968+28.83	3.5	6" STANDARD	
5968+28.83	5968+48.83	3.5	6" STANDARD	
5968+48.83	5971+01.04	3.5	6" STANDARD	
5971+01.04	5971+26.00	3.5	6" STANDARD	
5971+26.00	5971+81.87	3.5	6" STANDARD	
5971+81.87	5972+06.83	3.5	6" STANDARD	
5972+06.83	5973+00.00	3.5	6" STANDARD	



Sideroad Jointing:  
Transverse joints: CD at 20' spacing  
Longitudinal joint: L-2

2P_MOD 02-14-14				
STATION TO STATION		(WL) Feet	(WR) Feet	(T) Inches
5954+85.00	5967+48.00	12.0	12.0	9
5967+48.00	5967+68.00	12.0	12.0 - 14.0	9
5967+68.00	5968+28.83	12.0 - 18.1	14.0 - 20.1	9
5968+28.83	5968+48.83	18.1 - 20.1	20.1	9
5968+48.83	5971+01.04	20.1	20.1	9
5971+01.04	5971+26.00	20.1	20.1 - 17.6	9
5971+26.00	5971+81.87	20.1 - 14.5	17.6 - 12.0	9
5971+81.87	5972+06.83	12.8 - 12.0	12.0 - 14.7	9
5972+06.83	5973+00.00	12.0	12.0	9

**Curbed Shoulder**

Shoulder Jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2  
Staged: KT-2  
Transverse: C at 15' spacing

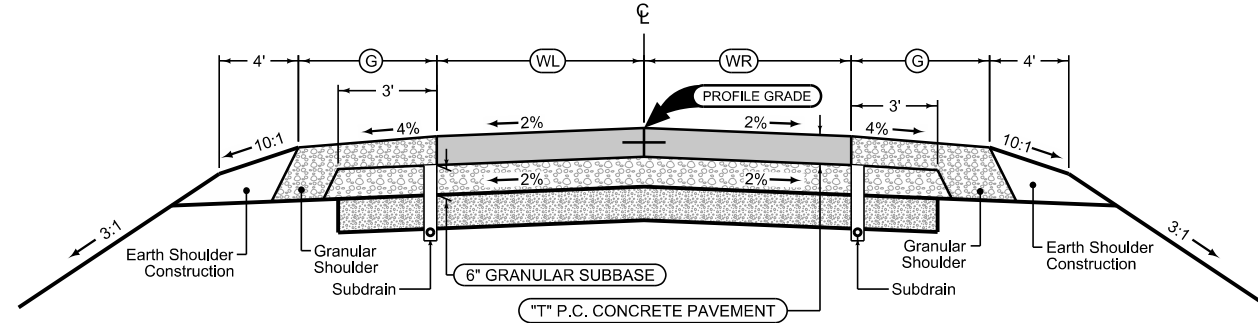
2_Curb_MOD 02-14-14				
STATION TO STATION		(P) Feet	Curb Type See PV-102	
5954+85.00	5967+48.00	3.5	6" STANDARD	
5967+48.00	5967+68.00	3.5	6" STANDARD	
5967+68.00	5968+28.83	3.5	6" STANDARD	
5968+28.83	5968+48.83	3.5	6" STANDARD	
5968+48.83	5971+01.04	3.5	6" STANDARD	
5971+01.04	5971+26.00	3.5	6" STANDARD	
5971+26.00	5971+81.87	3.5	6" STANDARD	
5971+81.87	5972+06.83	3.5	6" STANDARD	
5972+06.83	5973+00.00	3.5	6" STANDARD	

See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**SWISS VALLEY ROAD  
PAVING**

**Granular Shoulder**

2_G_SR_Mod 02-14-14		
STATION TO STATION		(G) Feet
6931+50.00	6958+84.50	8



Sideroad Jointing:  
Transverse joints: CD at 20' spacing  
Longitudinal joint: L-2

2P_Mod 02-14-14				
STATION TO STATION		(WL) Feet	(WR) Feet	(T) Inches
6931+50.00	6958+84.50	12.0	12.0	8

**Granular Shoulder**

2_G_SR_Mod 02-14-14		
STATION TO STATION		(G) Feet
6931+50.00	6958+84.50	8

See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

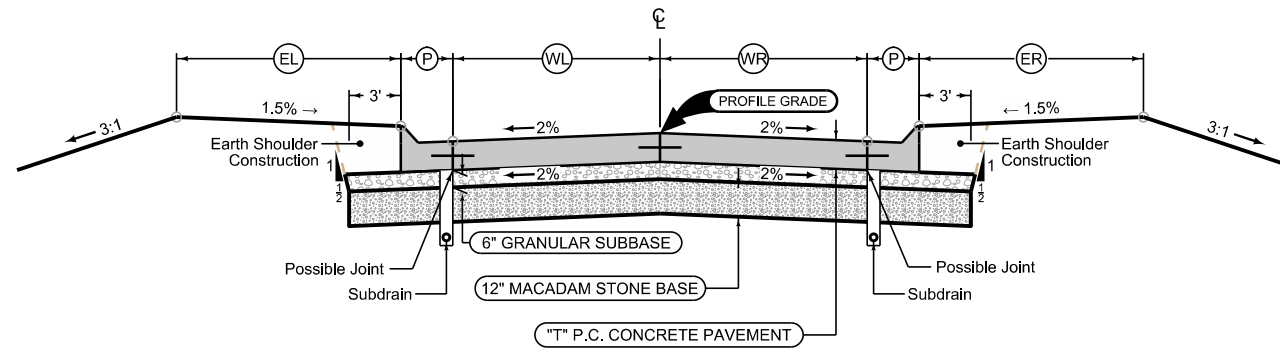
**NORTH CASCADE WEST  
PAVING**

**Curbed Shoulder**

Shoulder Jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2  
Staged : KT-2  
Transverse:C at 15' spacing

2_Curb_MOD 02-14-14			
STATION TO STATION		(P) Feet	Curb Type See PV-102
7958+66.12	7997+50.00	3.5	6" STANDARD



Sideroad Jointing:  
Transverse joints: CD at 20' spacing  
Longitudinal joint: L-2

2P_MOD 02-14-14				
STATION TO STATION		(WL) Feet	(WR) Feet	(T) Inches
7958+66.12	7997+50.00	12.0	12.0	8

**Curbed Shoulder**

Shoulder Jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2  
Staged : KT-2  
Transverse:C at 15' spacing

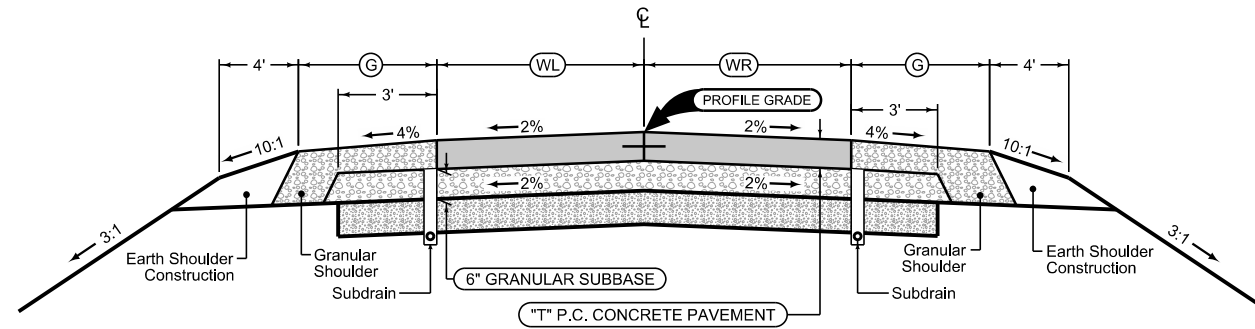
2_Curb_MOD 02-14-14			
STATION TO STATION		(P) Feet	Curb Type See PV-102
7958+66.12	7997+50.00	3.5	6" STANDARD

See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**NORTH CASCADE EAST  
PAVING**

**Granular Shoulder**

2_G_SR_Mod 02-14-14		
STATION TO STATION		(G) Feet
8931+65.00	8976+00.00	8



Sideroad Jointing:  
Transverse joints: CD at 20' spacing  
Longitudinal joint: L-2

2P_Mod 02-14-14				
STATION TO STATION	(WL) Feet	(WR) Feet	(T) Inches	
8931+65.00	8976+00.00	12.0	12.0	8

**Granular Shoulder**

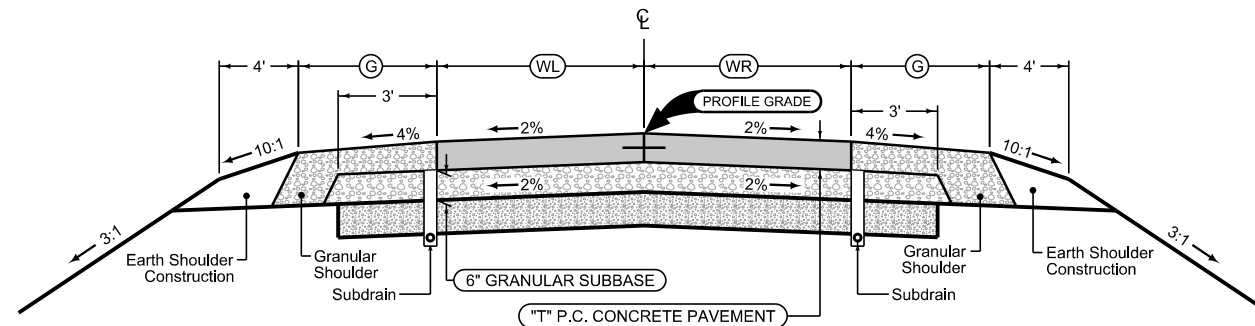
2_G_SR_Mod 02-14-14		
STATION TO STATION		(G) Feet
8931+65.00	8976+00.00	8

See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**COTTINGHAM ROAD  
PAVING**

**Granular Shoulder**

2_G_SR_Mod 02-14-14		
STATION TO STATION		(G) Feet
9976+24.00	10024+44.74	8



Sideroad Jointing:  
Transverse joints: CD at 20' spacing  
Longitudinal joint: L-2

2P_Mod 02-14-14				
STATION TO STATION	(WL) Feet	(WR) Feet	(T) Inches	
9976+24.00	10024+44.74	12.0	12.0	8

**Granular Shoulder**

2_G_SR_Mod 02-14-14		
STATION TO STATION		(G) Feet
9976+24.00	10024+44.74	8

See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

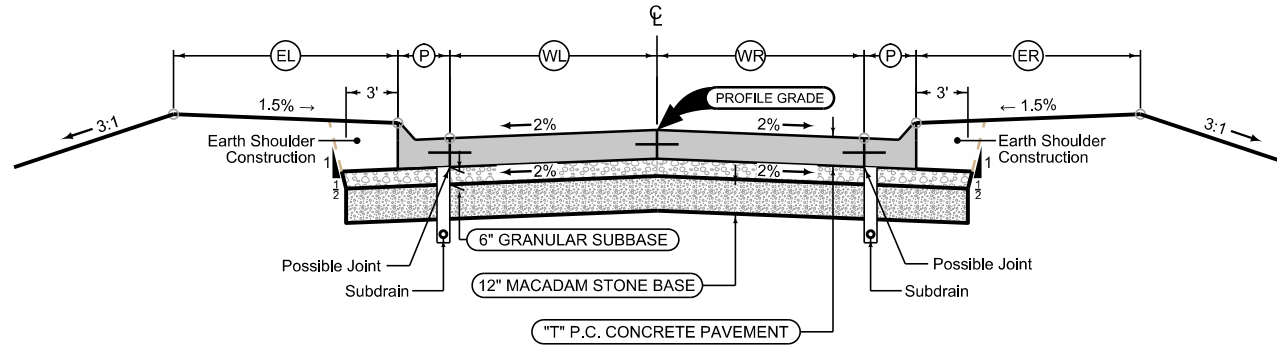
**NORTH FRONTAGE ROAD  
PAVING**

**Curbed Shoulder**

Shoulder Jointing:  
 Longitudinal joint not required when distance from back of  
 curb to nearest joint is less than 15':

Single pour: L-2  
 Staged : KT-2  
 Transverse:C at 15' spacing

STATION TO STATION		(P) Feet	Curb Type See PV-102
1993+02.83	2032+74.92	3.5	6" STANDARD



Sideroad Jointing:  
 Transverse joints: CD at 20' spacing  
 Longitudinal joint: L-2

STATION TO STATION		(WL) Feet	(WR) Feet	(T) Inches
1993+02.83	2032+74.92	12.0	12.0	8

**Curbed Shoulder**

Shoulder Jointing:  
 Longitudinal joint not required when distance from back of  
 curb to nearest joint is less than 15':

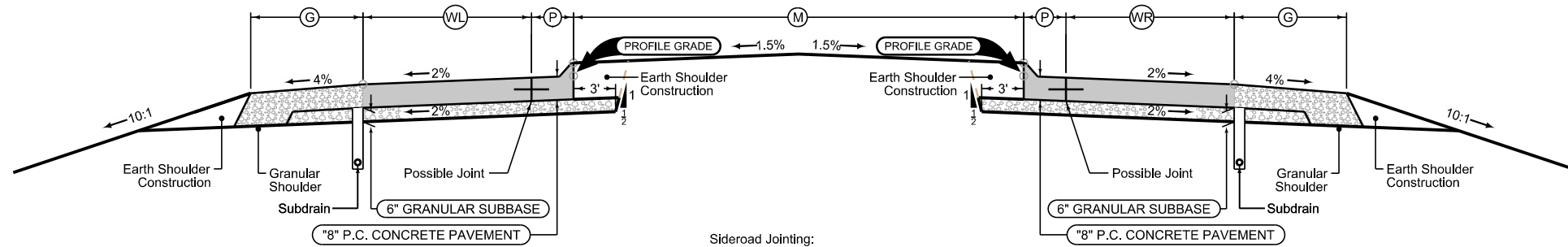
Single pour: L-2  
 Staged : KT-2  
 Transverse:C at 15' spacing

STATION TO STATION		(P) Feet	Curb Type See PV-102
1993+02.83	2023+50.00	3.5	6" STANDARD
2023+50.00	2030+00.00	3.5	6" SLOPED
2030+00.00	2032+74.92	3.5	6" STANDARD

See Tab 100-24 or 100-25 for pavement quantities.  
 See Tab 112-9 for shoulder quantities.

**SOUTH FRONTAGE ROAD  
 PAVING**



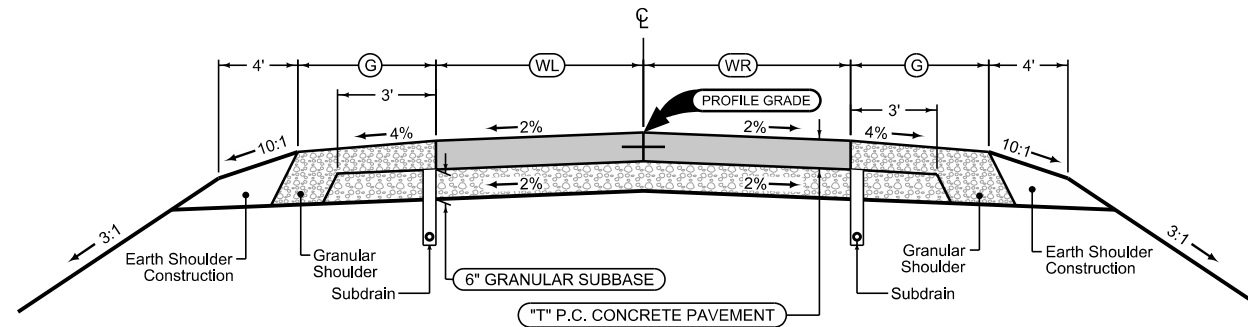


Sideroad Jointing:  
 Transverse joints: CD at 20' spacing  
 Longitudinal joint: L-2

STATION TO STATION		WL Feet	WR Feet	P Feet	M Feet
12000+66.74	12001+72.07	12.0	12.0	1	20
12001+72.07	12001+82.07	12.0-22.75	12.0-22.75	1	20-0

### Granular Shoulder

STATION TO STATION		G Feet
12001+82.07	12003+50.00	8



Sideroad Jointing:  
 Transverse joints: CD at 20' spacing  
 Longitudinal joint: L-2

STATION TO STATION		WL Feet	WR Feet	T Inches
12001+82.07	12002+65.23	22.75-12.0	22.75-12.0	8
12002+65.23	12003+50.00	12.0	12.0	8

### Granular Shoulder

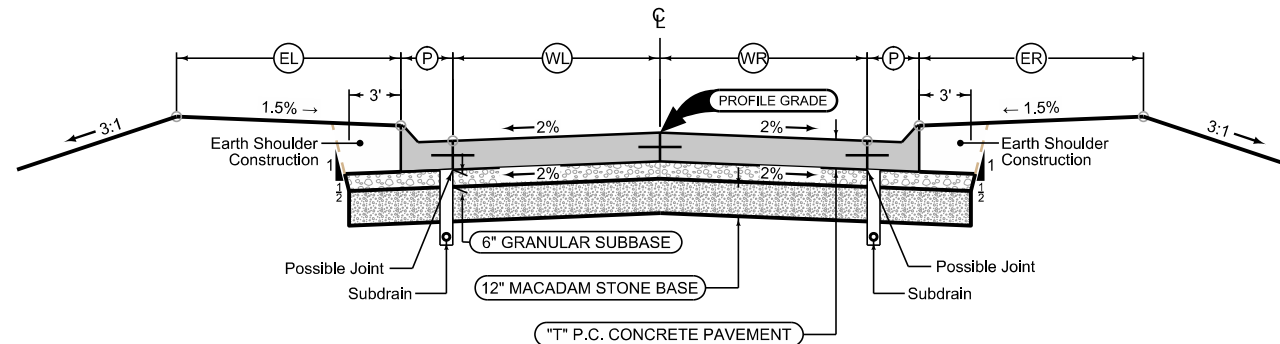
STATION TO STATION		G Feet
12001+82.07	12003+50.00	8

### Curbed Shoulder

Shoulder Jointing:  
 Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2  
 Staged: KT-2  
 Transverse: C at 15' spacing

STATION TO STATION		P Feet	Curb Type See PV-102
12003+50.00	12028+53.84	6.5	6" STANDARD



Sideroad Jointing:  
 Transverse joints: CD at 20' spacing  
 Longitudinal joint: L-2

STATION TO STATION		WL Feet	WR Feet	T Inches
12003+50.00	12028+53.84	12	12	8

### Curbed Shoulder

Shoulder Jointing:  
 Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2  
 Staged: KT-2  
 Transverse: C at 15' spacing

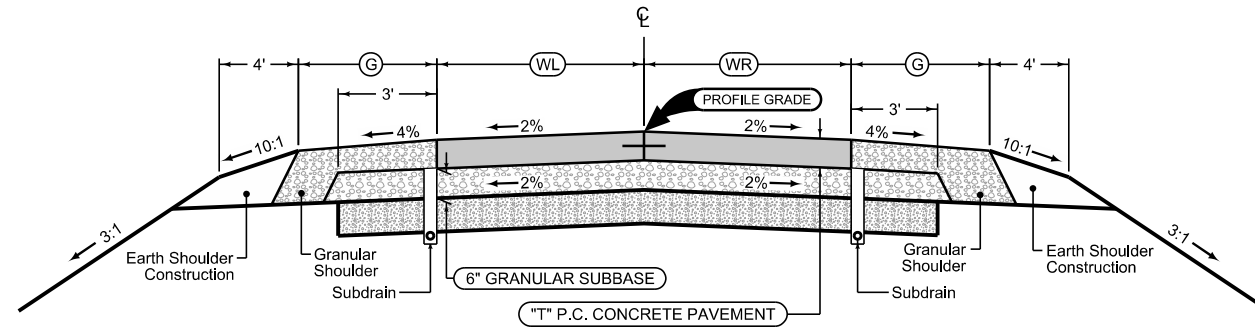
STATION TO STATION		P Feet	Curb Type See PV-102
12003+50.00	12028+53.84	6.5	6" STANDARD

See Tab 100-24 or 100-25 for pavement quantities.  
 See Tab 112-9 for shoulder quantities.

## CHESTERFIELD DRIVE PAVING

**Granular Shoulder**

2_G_SR_Mod 02-14-14		
STATION TO STATION		Ⓞ Feet
13025+75.00	13027+60.00	4



Sideroad Jointing:  
Transverse joints: CD at 20' spacing  
Longitudinal joint: L-2

		2P_Mod 02-14-14		
ROAD IDENTIFICATION	STATION TO STATION	Ⓞ Feet	Ⓜ Feet	Ⓣ Inches
COTTINGHAM SOUTH	13025+75.00   13025+83.92	11.0	11.0	8
COTTINGHAM SOUTH	13025+83.92   13026+81.50	11.0	11-89.1	8
COTTINGHAM SOUTH	13026+81.50   13027+55.31	11.0	89.1-11	8
COTTINGHAM SOUTH	13027+55.31   13027+60.00	11.0	11.0	8

**Granular Shoulder**

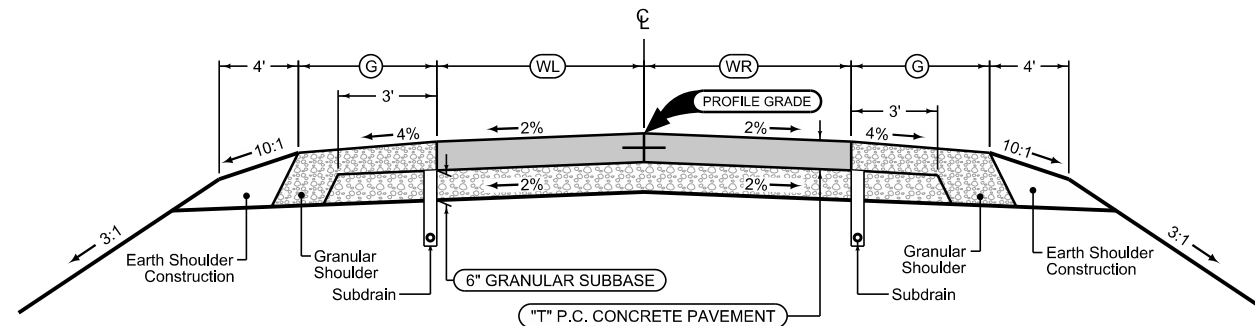
2_G_SR_Mod 02-14-14		
STATION TO STATION		Ⓞ Feet
13025+75.00	13027+60.00	4

See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**COTTINGHAM SOUTH  
PAVING**

**Granular Shoulder**

2_G_SR_Mod 02-14-14		
STATION TO STATION		Ⓞ Feet
136+65.00	139+33.00	8



Sideroad Jointing:  
Transverse joints: CD at 20' spacing  
Longitudinal joint: L-2

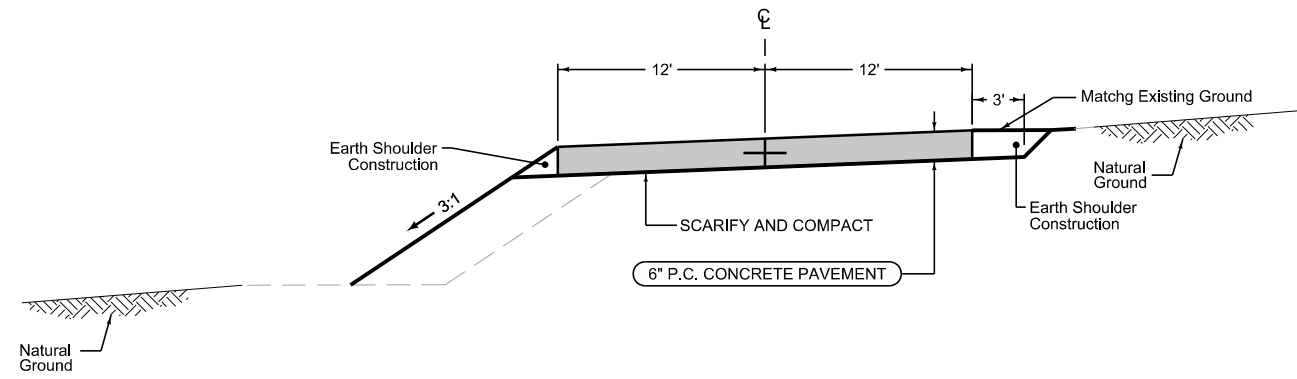
		2P_Mod 02-14-14		
STATION TO STATION	Ⓞ Feet	Ⓜ Feet	Ⓣ Inches	
136+65.00   139+33.00	12.0	12.0	8	

**Granular Shoulder**

2_G_SR_Mod 02-14-14		
STATION TO STATION		Ⓞ Feet
136+65.00	139+33.00	8

See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**COTTINGHAM CONNECTOR  
PAVING**



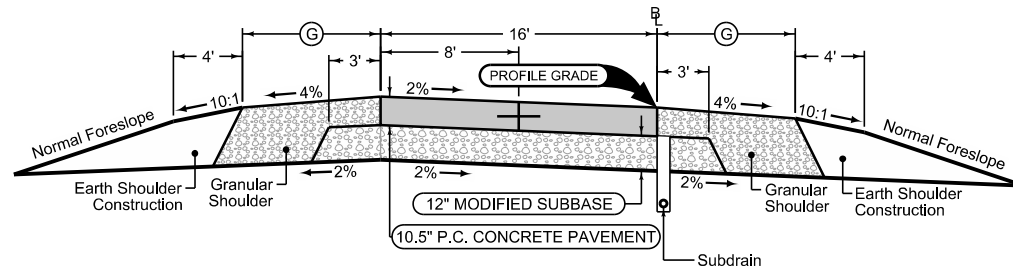
Section shown in the direction of traffic.

Sideroad Jointing:  
 Transverse joints: CD at 20' spacing  
 Longitudinal joint: L-2

STATION TO STATION	
604+71.85	611+69.31

See Tab 100-24 or 100-25 for pavement quantities..

**WEST RIDGE LANE  
 PAVING**



Section shown in the direction of traffic.

Ramp Jointing:  
Transverse joints: CD at 15' spacing.

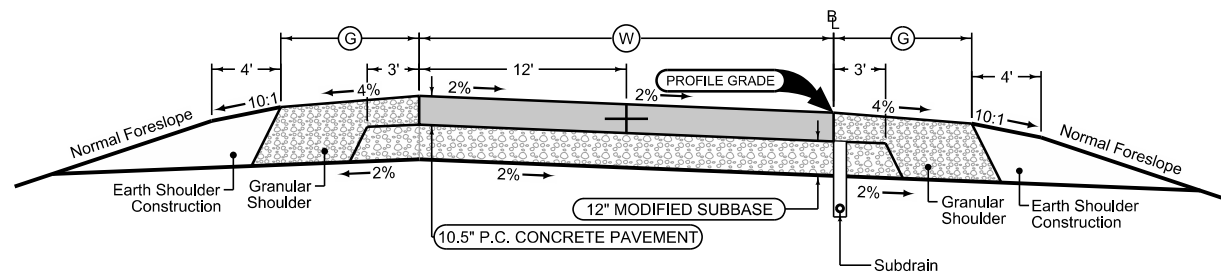
**Granular Shoulder**

1R_G_		
10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
1973+14.74	1983+10.13	4

1RP_		
Modified		
BEGIN STATION	END STATION	Ⓞ Feet
1973+14.74	1983+10.13	

**Granular Shoulder**

1R_G_		
10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
1973+14.74	1983+10.13	6



Section shown in the direction of traffic.

Ramp Jointing:  
Transverse joints: CD at 15' spacing.  
Longitudinal joint: L-2

**Granular Shoulder**

1R_G_		
10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
1969+70.86	1973+14.73	4

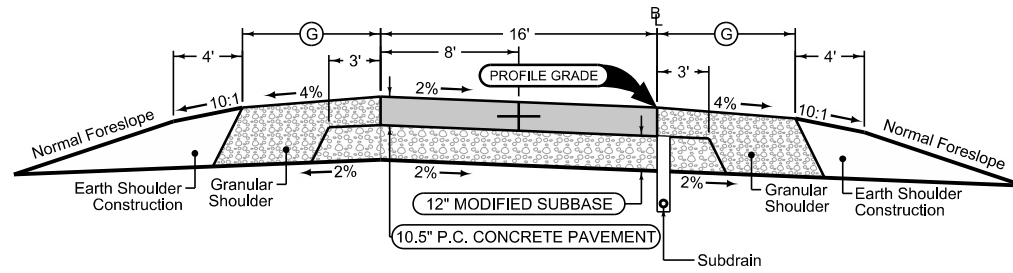
2RP_		
Modified		
BEGIN STATION	END STATION	Ⓞ Feet
1969+70.73	1971+94.74	24

**Granular Shoulder**

1R_G_		
10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
1969+70.86	1973+14.73	6

See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**SWISS VALLEY RAMP A  
PAVING**



Section shown in the direction of traffic.

Ramp Jointing:  
Transverse joints: CD at 15' spacing.

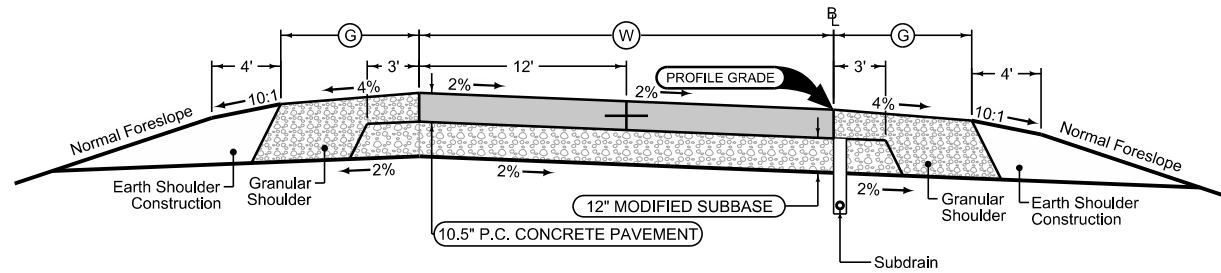
**Granular Shoulder**

1R_G_		
10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
2956+40.00	2967+62.30	4

1RP_		
Modified		
BEGIN STATION	END STATION	
2956+40.00	2967+62.30	

**Granular Shoulder**

1R_G_		
10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
2956+40.00	2967+62.30	6



Section shown in the direction of traffic.

Ramp Jointing:  
Transverse joints: CD at 15' spacing.  
Longitudinal joint: L-2

**Granular Shoulder**

1R_G_		
10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
2967+62.30	2971+29.80	4

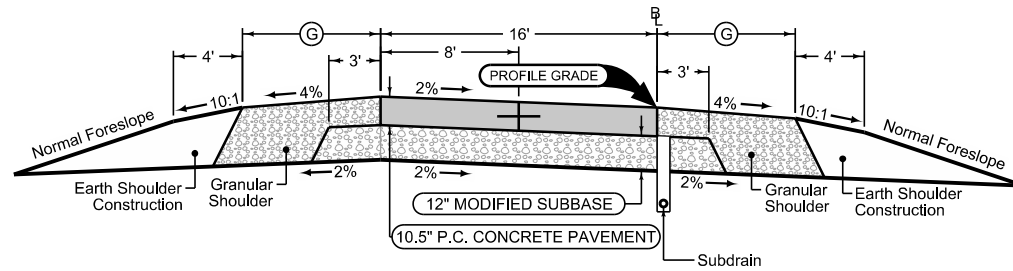
2RP_		
Modified		
BEGIN STATION	END STATION	Ⓞ Feet
2967+62.30	2968+82.30	16 - 24
2968+82.30	2971+29.80	24

**Granular Shoulder**

1R_G_		
10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
2967+62.30	2971+29.80	6

See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**SWISS VALLEY RAMP B  
PAVING**



Section shown in the direction of traffic.

Ramp Jointing:  
Transverse joints: CD at 15' spacing.

**Granular Shoulder**

1R_G_10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
3957+91.86	3968+75.26	4

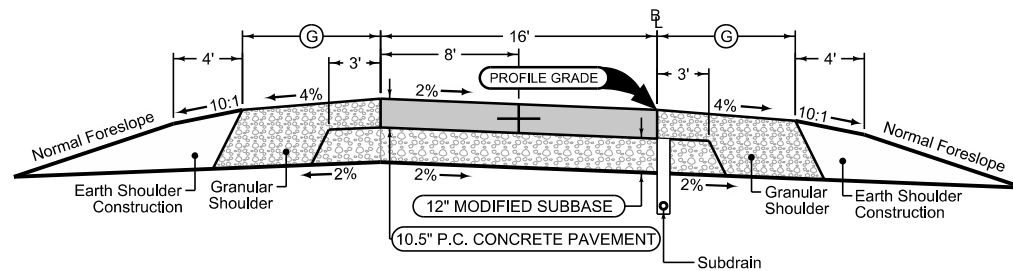
1RP_Modified	
BEGIN STATION	END STATION
3957+91.86	6968+79.09

**Granular Shoulder**

1R_G_10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
3957+91.86	3968+75.26	6

See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

**SWISS VALLEY ROAD RAMP C  
PAVING**



Section shown in the direction of traffic.

Ramp Jointing:  
Transverse joints: CD at 15' spacing.

**Granular Shoulder**

1R_G_10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
4969+65.53	4981+91.34	4

1RP_Modified	
BEGIN STATION	END STATION
4969+61.95	4981+91.34

**Granular Shoulder**

1R_G_10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
4969+65.53	4981+91.34	6

See Tab 100-24 or 100-25 for pavement quantities.  
See Tab 112-9 for shoulder quantities.

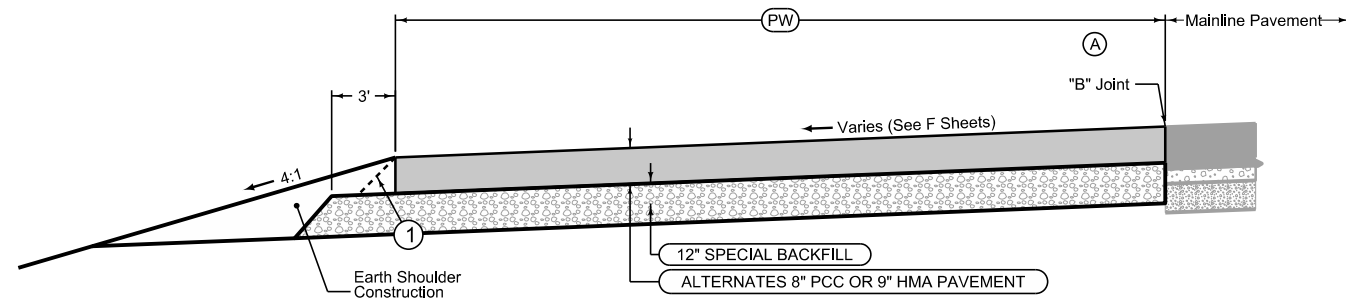
**SWISS VALLEY ROAD RAMP D  
PAVING**

**Detour Pavement**

Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

LOCATION		DIMENSIONS	
ROAD IDENTIFICATION	STATION TO STATION	PW Feet	
EB US 20	978+30.00 979+02.00	6.00	
WB US 20	977+19.96 979+47.55	6.00	
WB US 20	979+47.55 981+37.00	12.00	
WB US 20	981+37.00 982+21.47	12.00-6.00	
WB US 20	982+21.47 983+10.00	6.00	

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.

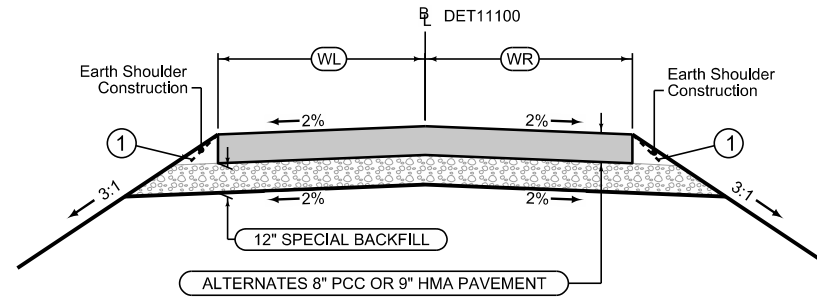


**Detour Pavement**

Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

LOCATION		DIMENSIONS		DIMENSIONS	
ROAD IDENTIFICATION	STATION TO STATION	WL Feet	WR Feet	WL Feet	WR Feet
DET11100	11101+58.74 11102+84.30	18	18	18	18
DET11100	11103+24.30 11103+62.39	18	18	18	18

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.

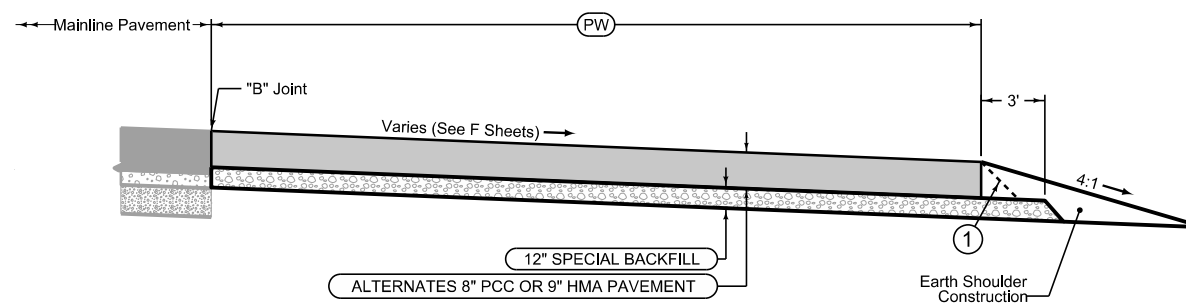


**Detour Pavement**

Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

LOCATION		DIMENSIONS	
ROAD IDENTIFICATION	STATION TO STATION	PW Feet	
EB US 20	974+14.27 975+49.14	8	
EB US 20	975+49.14 976+08.33	8-12	
EB US 20	976+08.33 977+85.89	12	
EB US 20	977+85.89 979+49.24	8	

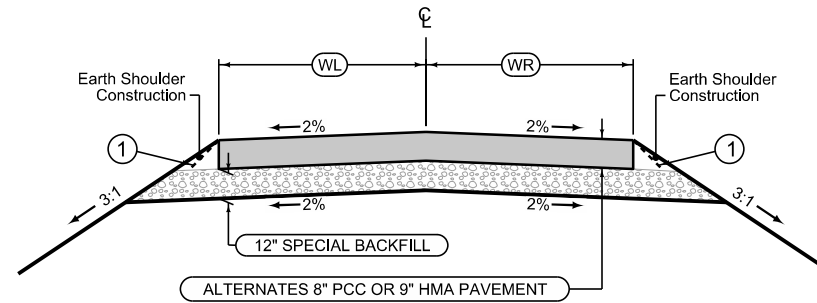
① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.



See Tab 100-24 or 100-25 for pavement quantities.

**STAGE 1B DETOUR  
 PAVING**



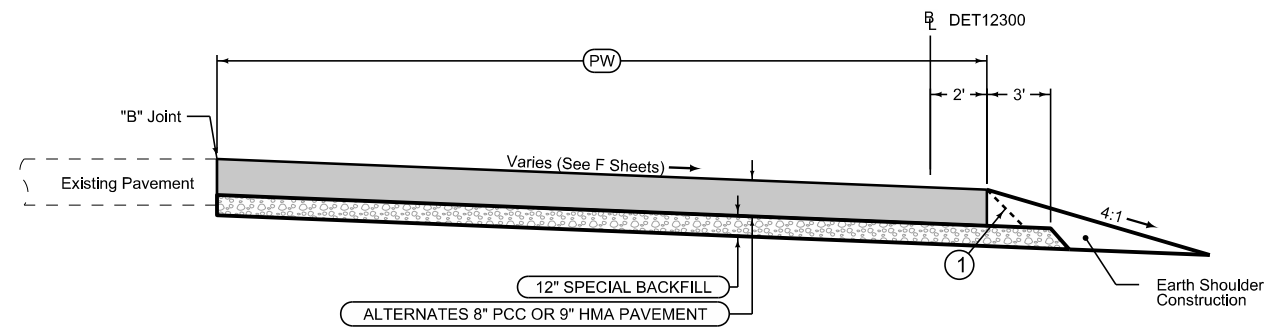


**Detour Pavement**

Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

LOCATION		DIMENSIONS		DIMENSIONS	
ROAD IDENTIFICATION	STATION TO STATION	WL Feet	WR Feet		
SWISS VALLEY ROAD	5960+60.00 5960+85.00	15.50-13	15.50-13		
SWISS VALLEY ROAD	5960+85.00 5961+05.00	13	13		

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.



**Detour Pavement**

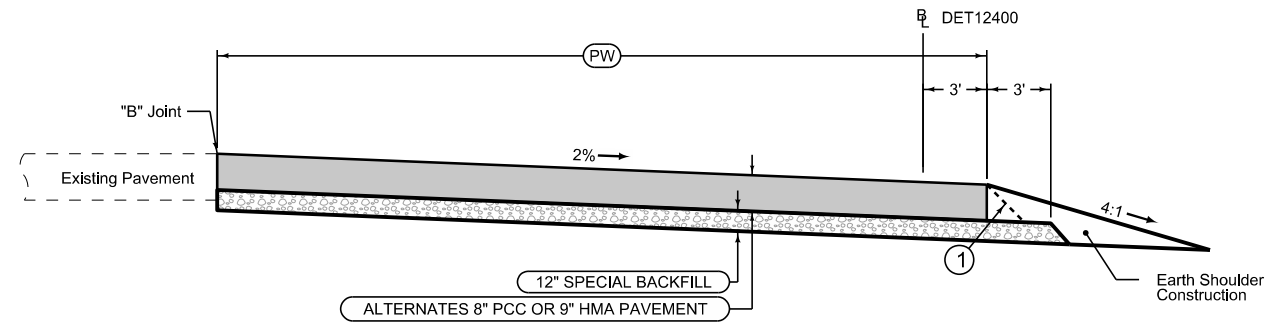
Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

LOCATION		DIMENSIONS	
ROAD IDENTIFICATION	STATION TO STATION	PW Feet	
DET 12300	12330+19.12 12330+83.18	2	
DET 12300	12330+83.18 12334+26.52	2-8.5	
DET 12300	12334+26.52 12340+49.48	8.5	

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.

See Tab 100-24 or 100-25 for pavement quantities.

**STAGE 2A DETOUR  
 PAVING**

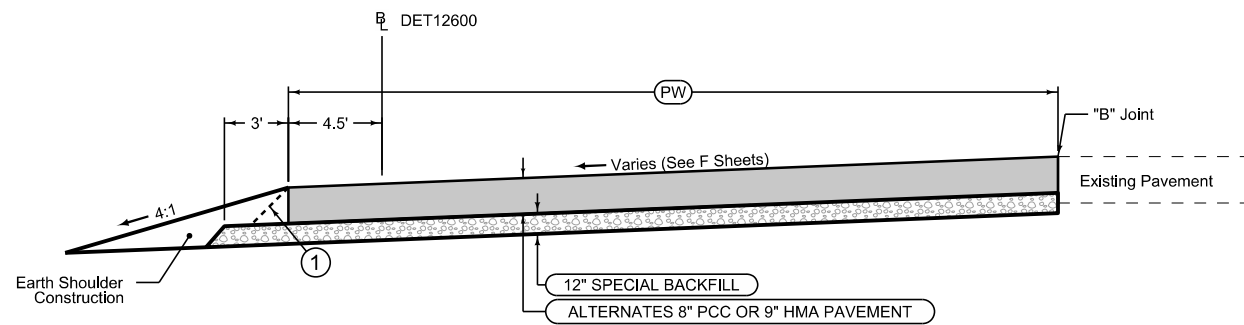


**Detour Pavement**

Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

ROAD IDENTIFICATION	LOCATION		DIMENSIONS
	STATION TO STATION		(PW) Feet
DET 12400	12436+74.03	12444+36.66	3-25
DET 12400	12444+36.66	12447+23.26	25
DET 12400	12447+23.26	12454+84.99	25-3

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.



**Detour Pavement**

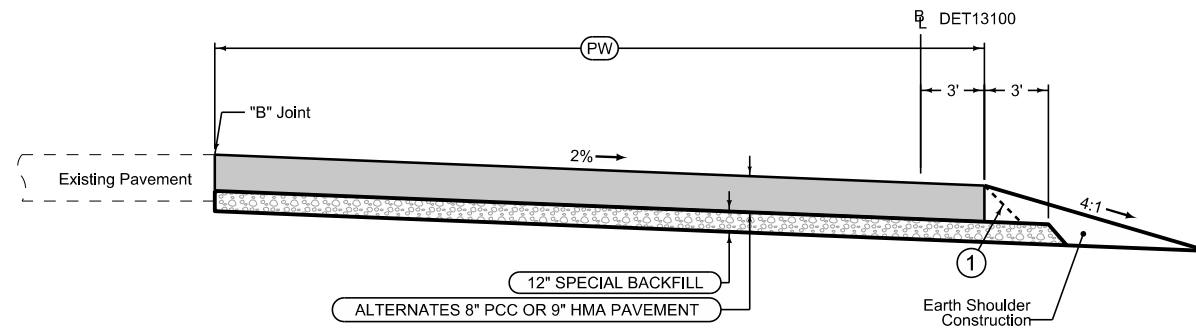
Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

ROAD IDENTIFICATION	LOCATION		DIMENSIONS
	STATION TO STATION		(PW) Feet
DET 12600	12630+65.31	12631+04.86	2
DET 12600	12631+04.86	12631+21.26	2-2.05
DET 12600	12631+21.26	12632+01.76	2.05-3.07
DET 12600	12632+01.76	12632+57.43	3.07-8.09
DET 12600	12632+57.43	12633+13.25	8.09-27.50
DET 12600	12633+13.25	12633+30.51	33.50
DET 12600	12633+30.51	12640+50.00	27.50
DET 12600	12640+50.00	12644+25.20	31.63-24.26
DET 12600	12644+25.20	12650+52.29	24.26-3.29
DET 12600	12650+52.29	12650+89.50	4.5

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.

See Tab 100-24 or 100-25 for pavement quantities.

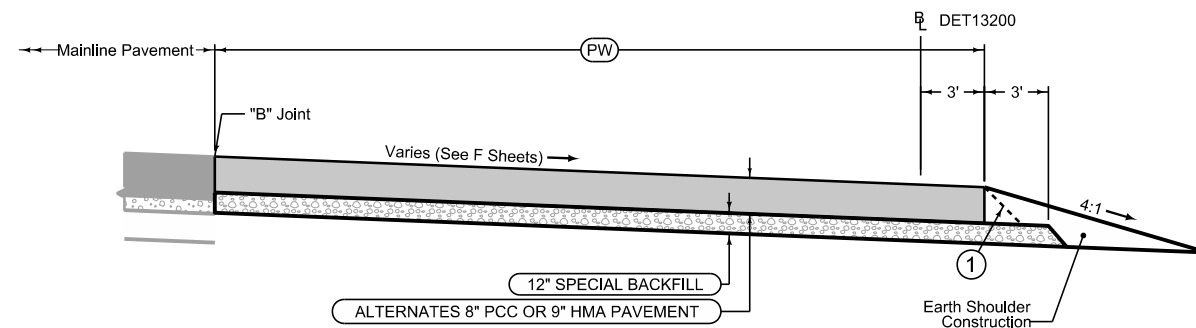
**STAGE 2B DETOUR  
 PAVING**



**Detour Pavement**  
 Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

LOCATION		DIMENSIONS
ROAD IDENTIFICATION	STATION TO STATION	(PW) Feet
DET 13100	13134+56.72   13138+78.36	2-15.67
DET 13100	13138+78.36   13142+98.69	15.67-29.28
DET 13100	13142+98.69   13148+85.09	29.28-29.90
DET 13100	13148+85.09   13150+97.31	29.90-16.10
DET 13100	13150+97.31   13155+55.27	16.10-4.81
DET 13100	13155+55.27   13155+55.57	4.81-2.16
DET 13100	13155+55.57   13155+60.37	2.16-2
DET 13100	13155+60.37   13156+56.16	2

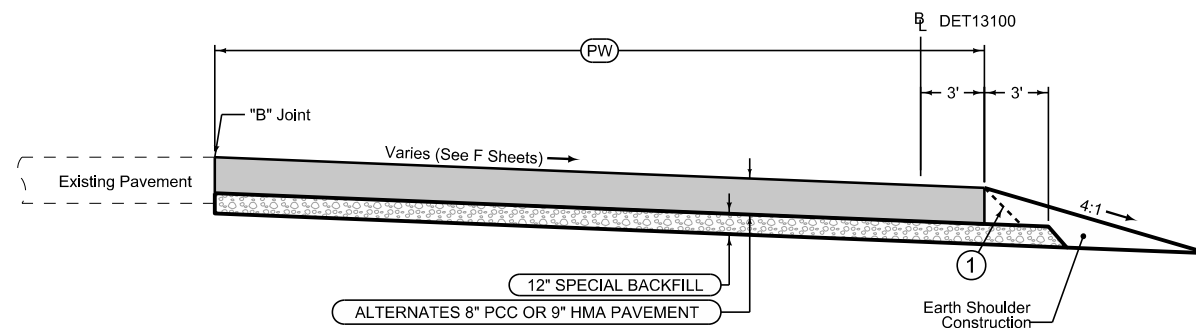
① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.



**Detour Pavement**  
 Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

LOCATION		DIMENSIONS
ROAD IDENTIFICATION	STATION TO STATION	(PW) Feet
DET 13200	13239+77.37   13138+78.36	2-15.67
DET 13200	13138+78.36   13142+98.69	15.67-29.28
DET 13200	13142+98.69   13148+85.09	29.28-29.90
DET 13200	13148+85.09   13150+97.31	29.90-16.10
DET 13200	13150+97.31   13155+55.27	16.10-4.81
DET 13200	13155+55.27   13155+55.57	4.81-2.16
DET 13200	13155+55.57   13155+60.37	2.16-2
DET 13200	13155+60.37   13156+56.16	2

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.



**Detour Pavement**  
 Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

LOCATION		DIMENSIONS
ROAD IDENTIFICATION	STATION TO STATION	(PW) Feet
US 20	990+92.03   997+54.20	7

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.

See Tab 100-24 or 100-25 for pavement quantities.

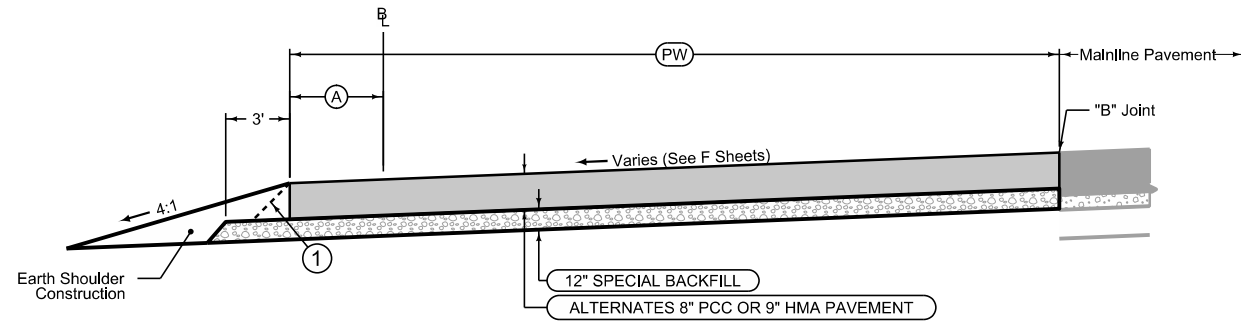
**STAGE 3A DETOUR  
 PAVING**

### Detour Pavement

Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

LOCATION		DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION	PW Feet	A Feet	
DET13300	13336+64.56	13338+22.65	3-10.8	3
DET13300	13338+22.65	13343+00.25	10.8-18.52	3
DET13300	13343+00.25	13351+01.04	12	3
DET13300	13351+01.04	13353+14.55	12-7.06	3
DET13300	13353+14.55	13354+37.14	7.06-2	3
DET13300	13354+37.14	13354+96.25	2	3
DET13400	13402+14.64	13404+58.44	2-9.87	3
DET13400	13404+58.44	13406+25.09	9.87-12	3
DET13400	13406+25.09	13414+40.39	12	3
DET13400	13414+40.39	13415+58.74	12-9.55	3
DET13400	13415+58.74	13417+71.03	9.55-2	3
DET13400	13417+71.03	13418+42.63	2	3
DET13600	13600+42.80	13600+92.15	6	5.67 - 4.5
DET13600	13600+92.15	13601+82.52	6-10.38	4.5
DET13600	13601+82.52	13605+96.49	10.38-33	4.5
DET13600	13627+30.82	13632+15.58	33 - 4.5	4.5
DET13600	13632+15.58	13633+08.72	4.5 - 2	4.5

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.

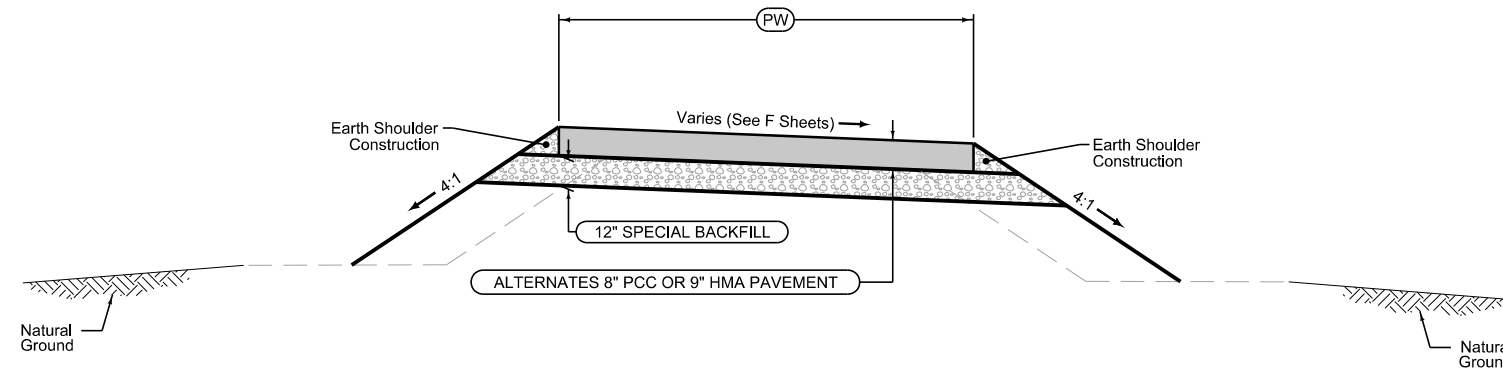


### Detour Pavement

Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

LOCATION		DIMENSIONS	
ROAD IDENTIFICATION	STATION TO STATION	PW Feet	A Feet
DET13600	13605+97.77	13608+30.46	31
DET13600	13624+80.19	13627+30.82	31

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.

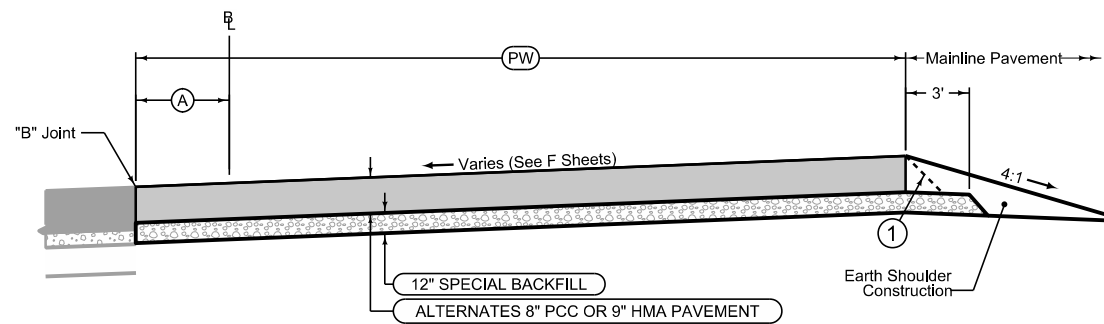


### Detour Pavement

Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

LOCATION		DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION	PW Feet	A Feet	
DET13600	13608+30.46	13610+75.39	33 - 26.5	6.5 - 0
DET13600	13624+65.17	13624+80.19	30.5 - 31	4 - 4.5

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.

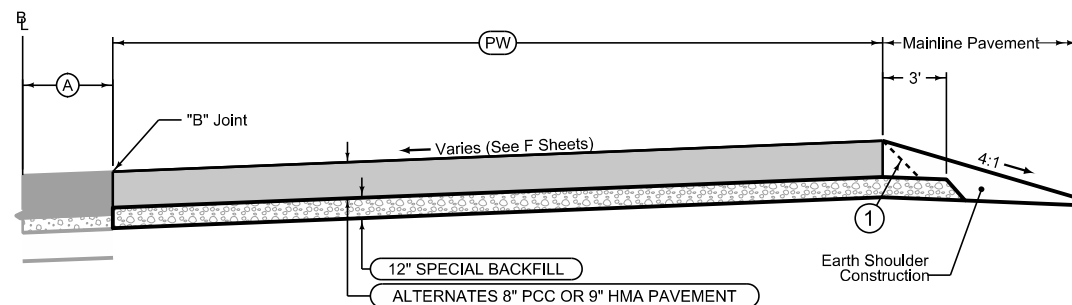


### Detour Pavement

Section shown in the direction of traffic.  
 Jointing for PCC Alt:  
 Longitudinal joint: L-2  
 Transverse joint: CD at 17' spacing  
 \*See F Sheets for details

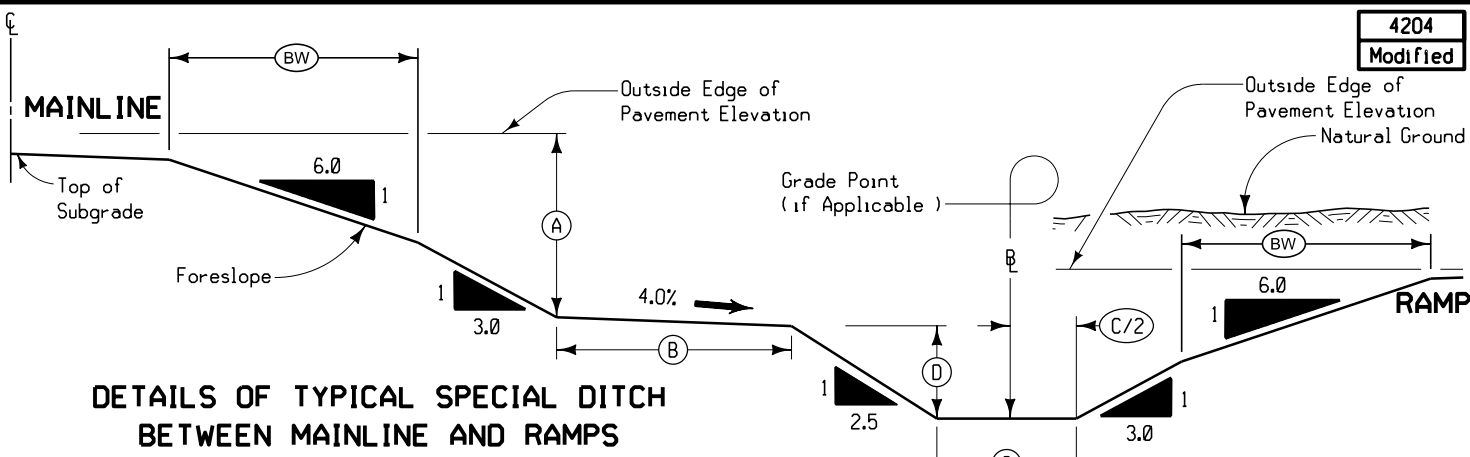
LOCATION		DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION	PW Feet	A Feet	
DET13600	13610+75.39	13614+64.63	26.5 - 22.5	0 - 4
DET13600	13614+64.63	13616+81.79	22.5	4

① Possible HMA 1:1 slope  
 See Tab 100-24 for pavement quantities.



See Tab 100-24 or 100-25 for pavement quantities.

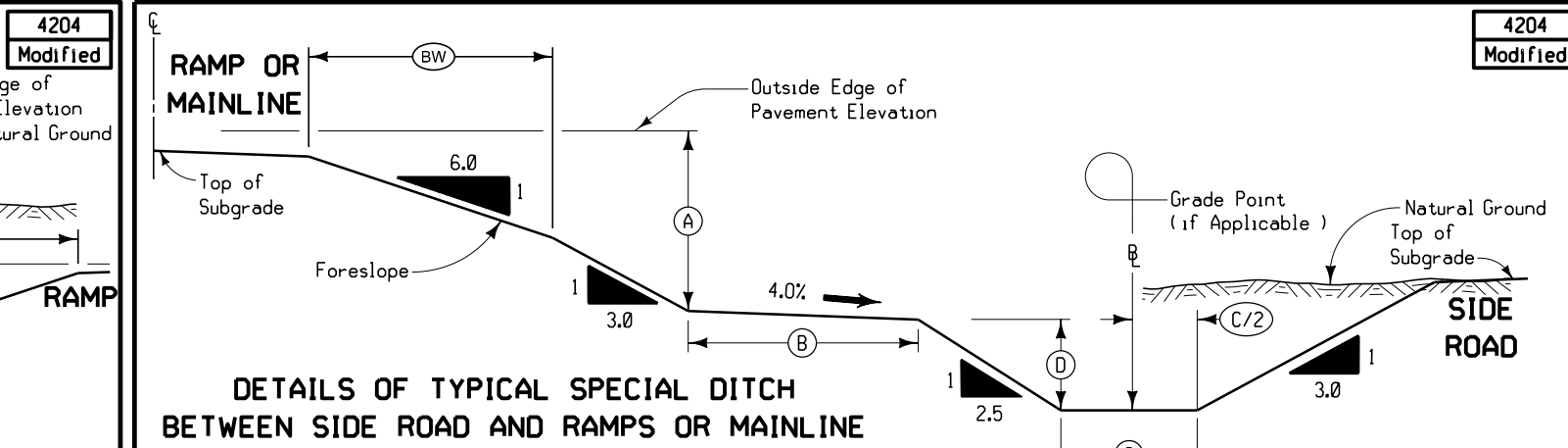
## STAGE 3B DETOUR PAVING



**DETAILS OF TYPICAL SPECIAL DITCH BETWEEN MAINLINE AND RAMPS**

LOCATION		(A)	(B)	(C)	(D)
STATION TO STATION	SIDE	Feet	Feet	Feet	Feet
958+05	963+00	RT	Varies	Varies	0'-10'
963+00	968+96	RT	Varies	Varies	10'
958+50	961+50	LT	Varies	Varies	0'-10'
961+50	968+52	LT	Varies	Varies	10'
970+87	977+75	RT	Varies	Varies	10'
977+75	979+75	RT	Varies	Varies	0'-10'
970+94	978+50	LT	Varies	Varies	10'
978+50	980+00	LT	Varies	Varies	0'-10'

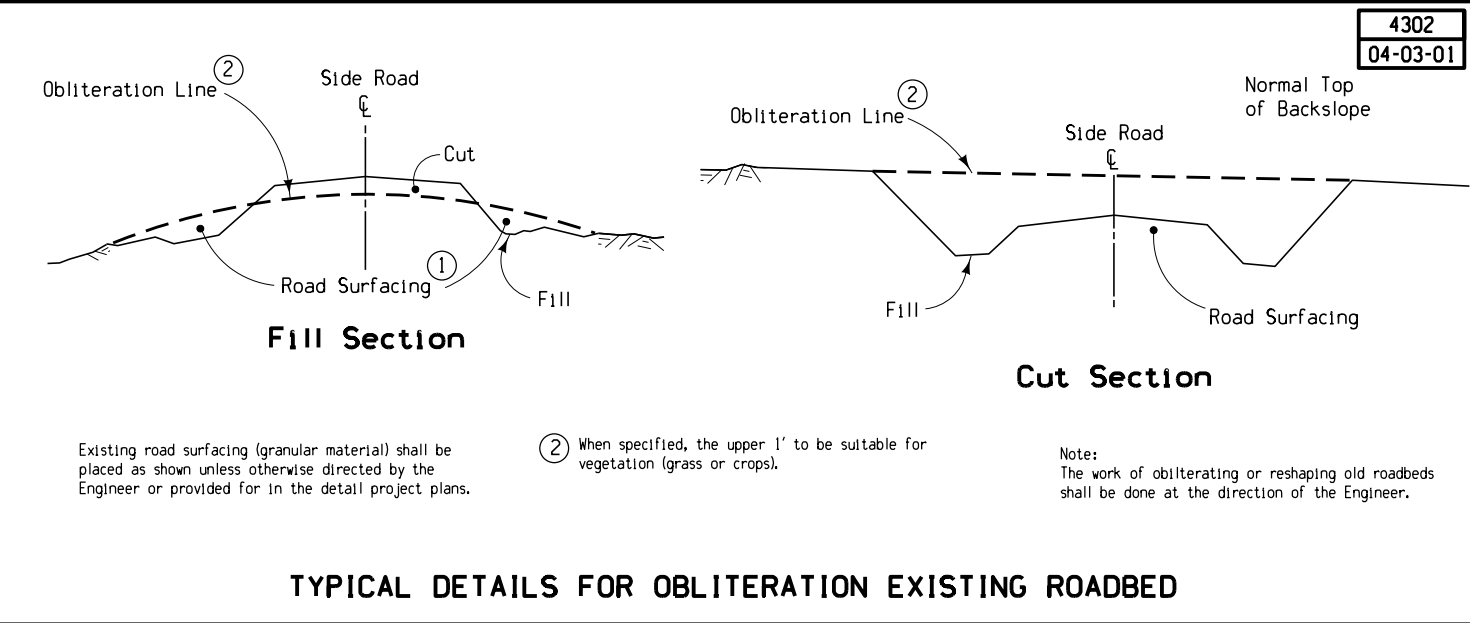
**Notes:**  
 Section view is in direction of traffic.  
 Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.  
 Borrow backslope shall be used at those locations shown on plans or specifically required by the engineer.



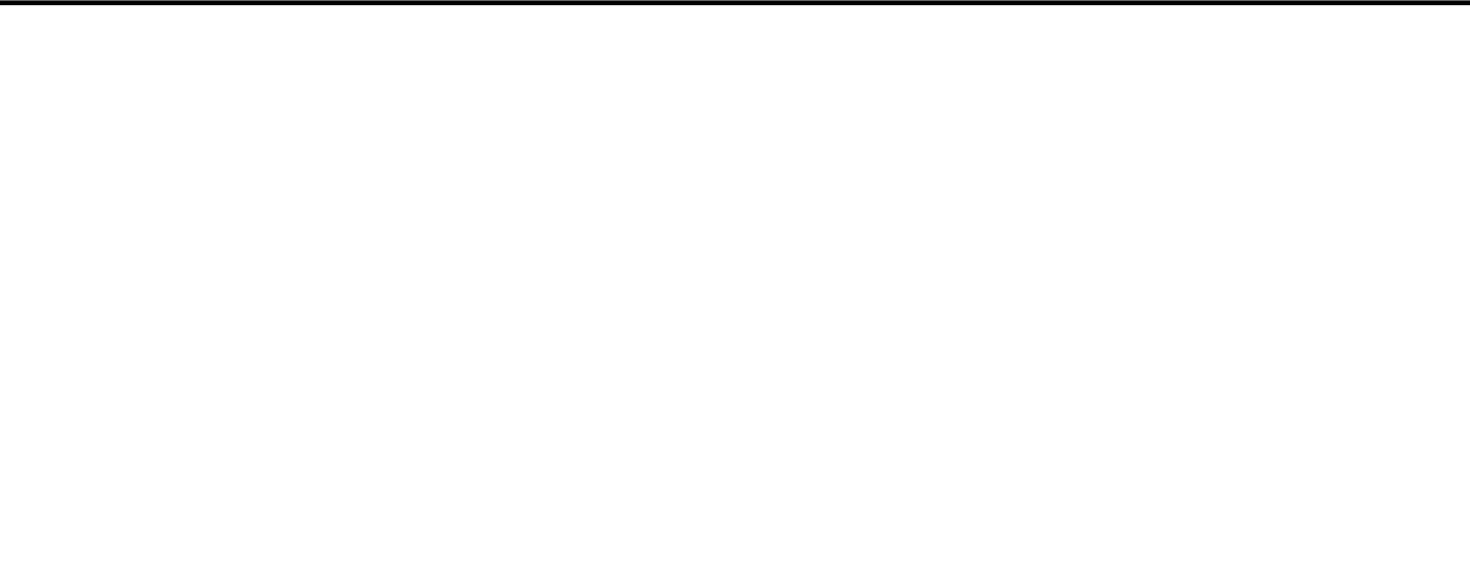
**DETAILS OF TYPICAL SPECIAL DITCH BETWEEN SIDE ROAD AND RAMPS OR MAINLINE**

LOCATION		(A)	(B)	(C)	(D)
STATION TO STATION	SIDE	Feet	Feet	Feet	Feet
943+00	957+95	LT	Varies	Varies	10'
3957+91.5	3967+61	LT	Varies	Varies	10'
1970+09	1983+10	LT	Varies	Varies	10'
983+10	1008+61	LT	Varies	Varies	10'

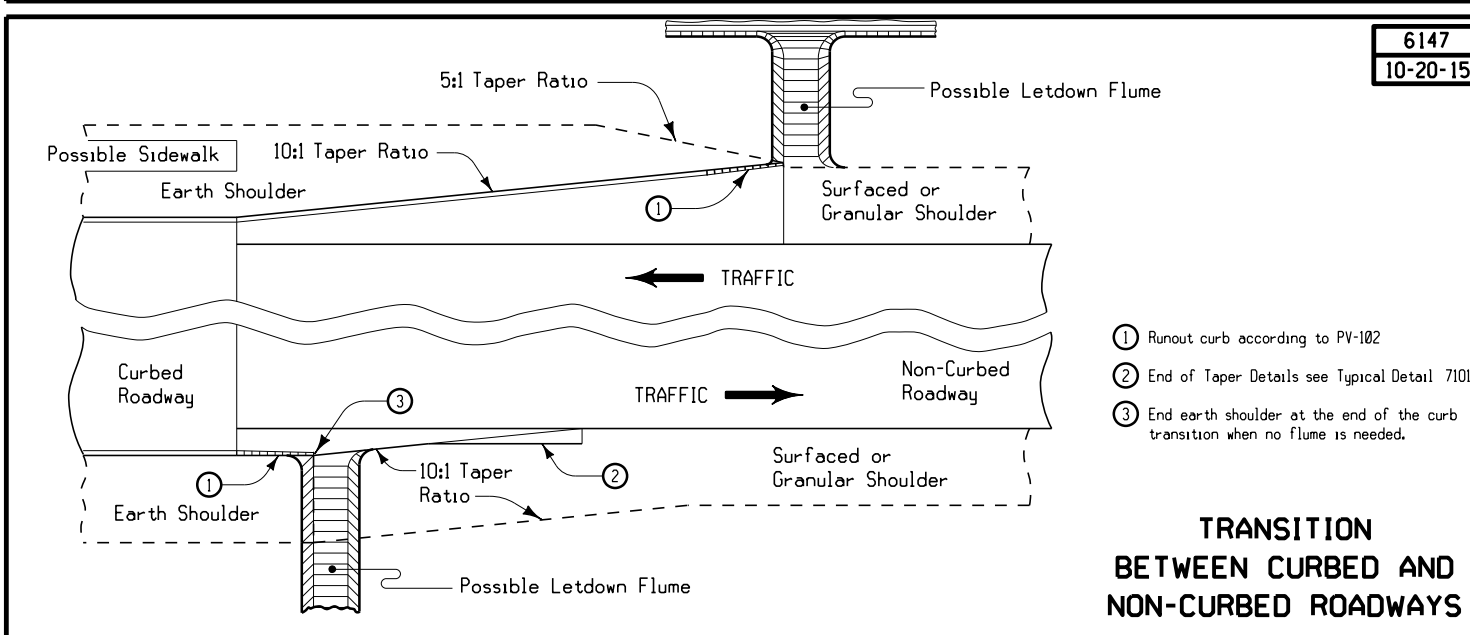
**Notes:**  
 Section view is in direction of traffic.  
 Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.  
 Borrow backslope shall be used at those locations shown on plans or specifically required by the engineer.



**4302**  
**04-03-01**



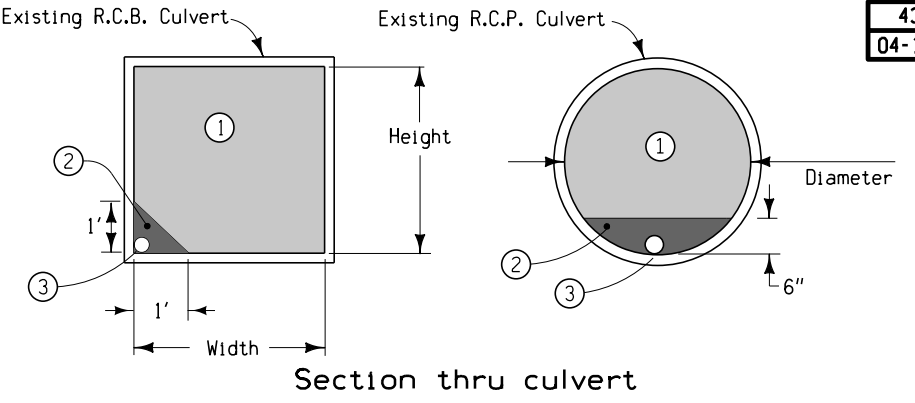
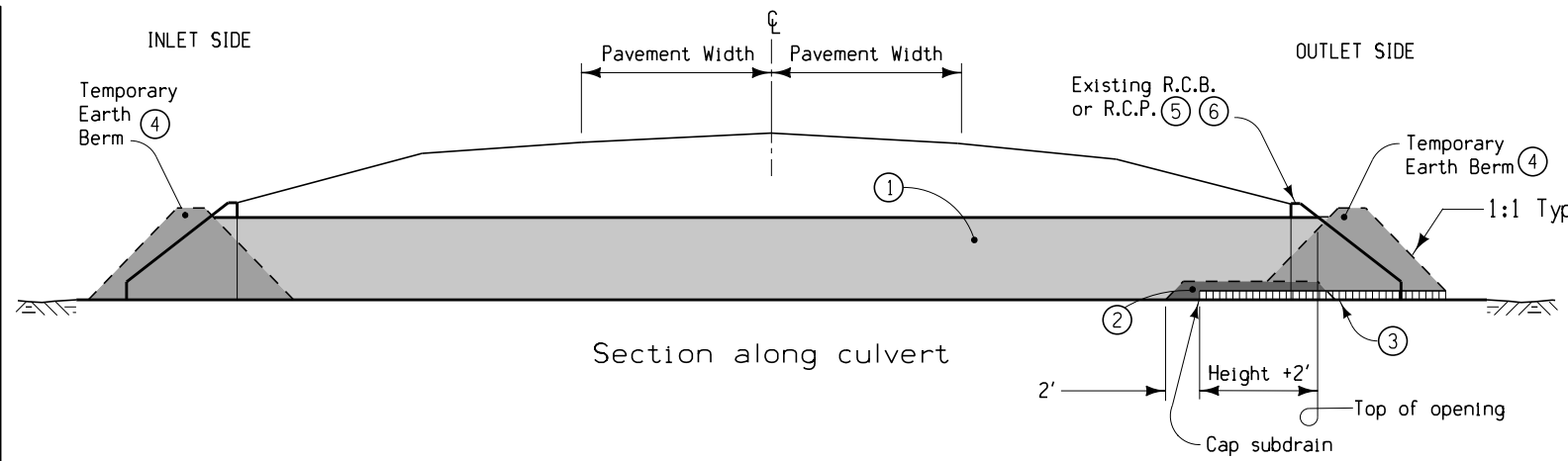
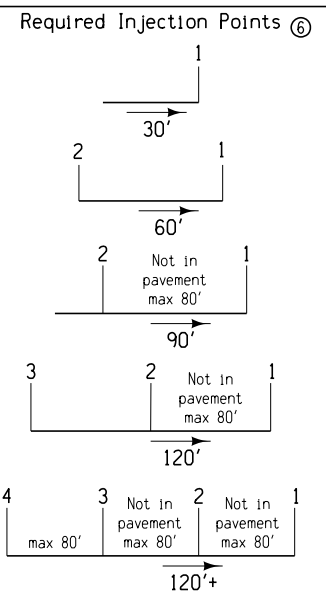
**6147**  
**10-20-15**



- ① Runout curb according to PV-102
- ② End of Taper Details see Typical Detail 7101
- ③ End earth shoulder at the end of the curb transition when no flume is needed.

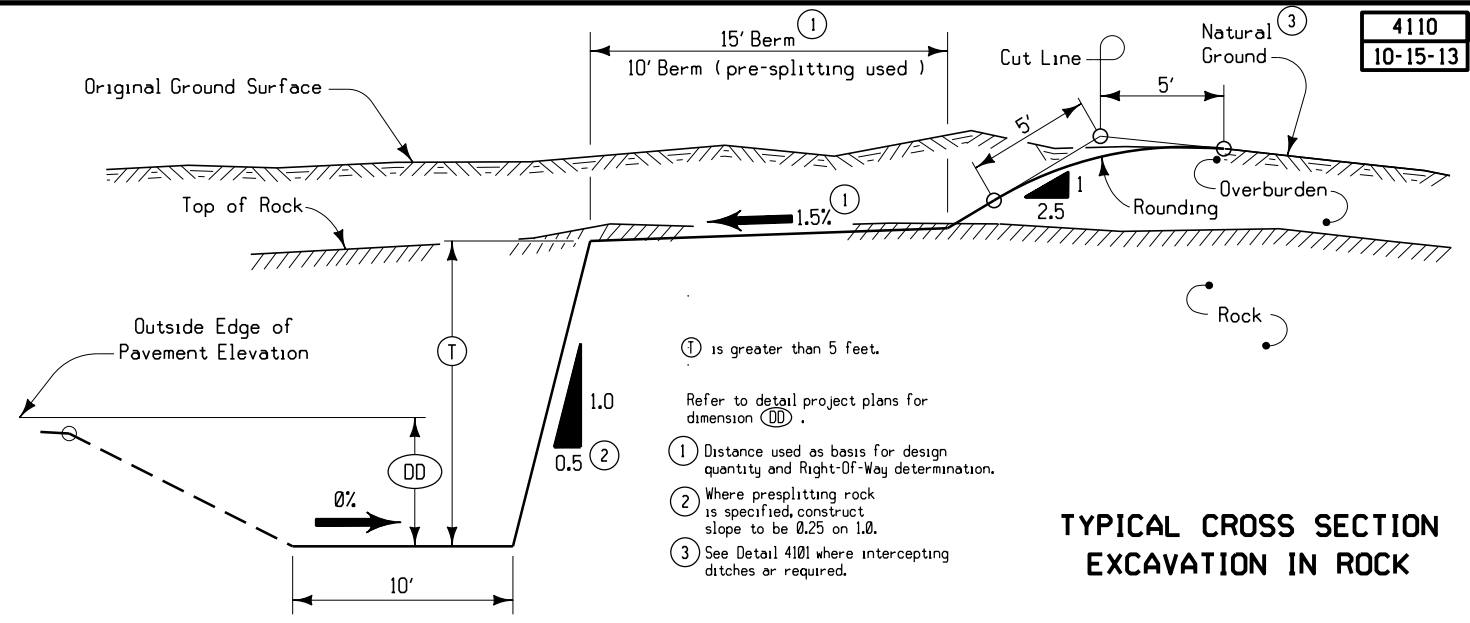
**TRANSITION BETWEEN CURBED AND NON-CURBED ROADWAYS**

**7101**  
**10-19-10**



- ① Flowable Mortar.
- ② Granular Backfill.
- ③ 4" subdrain at flowline elevation of culvert shall be extended into the culvert a distance of 2' plus the height of the culvert. Granular Backfill covers subdrain and extends an additional 2'. Subdrain and granular backfill are incidental to flowable mortar.
- ④ Ends of culvert shall be plugged sufficiently to retain flowable mortar. Temporary earth berms are incidental to flowable mortar.
- ⑤ Removal of headwalls may be required.
- ⑥ Outlet shall be filled first. See injection point detail for additional information.

**DETAILS OF CULVERT ABANDONMENT WITH FLOWABLE MORTAR**  
(Rectangular structures less than 8' in either height or width.  
Circular structures less than 10' Dia.)



100-1D  
10-18-05

**PROJECT DESCRIPTION**

Project includes reconstruction of 1.8 miles of US 20 with a new interchange at Swiss Valley Road, including construction of 7 new and relocated county roads. Traffic and local access will be maintained with staged construction.

100-1C  
04-17-12

**ESTIMATED PROJECT QUANTITIES  
(UP TO A 5 DIVISION PROJECT)**

Division 1: 100% Iowa DOT  
Division 2: 100% City of Dubuque  
Division 3: 73% Iowa DOT and 27% City of Dubuque

Item No.	Item Code	Item	Unit	Quantities											
				Estimated					As Built						
				Division 1	Division 2	Division 3	Division 4	Division 5	Total	Division 1	Division 2	Division 3	Division 4	Division 5	
1	2101-0850001	CLEAR+GRUBB	ACRE	169						169					
2	2102-0425070	SPECIAL BACKFILL	TON	22835.6						22835.6					
3	2102-2624980	CONTRACTOR FURNISHED SELECT TREATMENT	CY	68825						68825					
4	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISH	CY	362998						362998					
5	2102-2710070	EXCAVATION, CL 10, RDWY+BORROW	CY	712347						712347					
6	2102-2710090	EXCAVATION, CL 10, WASTE	CY	103540						103540					
7	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	650						650					
8	2102-2712070	EXCAVATION, CLASS 12, ROADWAY AND BORROW	CY	116368						116368					
9	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	38054						38054					
10	2102-4560000	LOCATING TILE LINES	STA	98						98					
11	2102-5020010	OBLITERATE OLD ROADBED	STA	10						10					
12	2103-0000100	PRESPLITTING OF ROCK CUT	SY	800						800					
13	2105-8425011	TOPSOIL, SPREAD	CY	38487						38487					
14	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	146294						146294					
15	2105-8425020	TOPSOIL, STRIP AND STOCKPILE	CY	38487						38487					
16	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	917168						917168					
17	2111-8174100	GRANULAR SUBBASE	SY	169943						169943					
18	2115-0100000	MODIFIED SUBBASE	CY	14019						14019					
19	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	18713.7						18713.7					
20	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	3011.7						3011.7					
21	2122-5190105	PAVED SHLD, PCC, 10.5"	SY	27271						27271					
22	2123-7450000	SHLD CONSTRUCTION, EARTH	STA	986						986					
23	2210-0475290	MACADAM STONE BASE	TON	9358						9358					
24	2301-1003080	STANDARD OR SLIP-FORM PCC, QM-C, CLASS 3 DURABILITY, 8 IN.	SY	75152						75152					
25	2301-1003090	STANDARD OR SLIP-FORM PCC, QM-C, CLASS 3 DURABILITY, 9 IN.	SY	353						353					
26	2301-1003105	STANDARD OR SLIP-FORM PCC, QM-C, CLASS 3 DURABILITY, 10.5 IN.	SY	74877						74877					
27	2304-0100000	DETOUR PAV'T	SY	30028						30028					
28	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	941						941					
29	2315-8275025	SURF, DRIVEWAY, CL A CR STONE	TON	1614.3						1614.3					
30	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	1						1					
31	2402-0425040	FLOODED BACKFILL	CY	7686						7686					
32	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	12171						12171					
33	2402-2722100	EXCAVATION, CLASS 22, FOR ROADWAY PIPE CULVERT	CY	6050						6050					
34	2416-0100015	APRON, CONC, 15"	EA	8	8					16					
35	2416-0100018	APRON, CONC, 18"	EA	2	1					3					
36	2416-0100024	APRON, CONC, 24"	EA	39						39					
37	2416-0100030	APRON, CONC, 30"	EA	6						6					
38	2416-0100036	APRON, CONC, 36"	EA	6						6					
39	2416-0100042	APRON, CONC, 42"	EA	4						4					
40	2416-0100048	APRON, CONC, 48"	EA	4						4					
41	2416-0100054	APRON, CONC, 54"	EA	5						5					
42	2416-0101136	REMOVE AND REINSTALL CONCRETE PIPE APRONS GREATER THAN 36 IN	EA	1						1					
43	2416-1180024	CULV, CONC RDWY PIPE, 24"	LF	1752						1752					
44	2416-1180030	CULV, CONC RDWY PIPE, 30"	LF	20						20					
45	2416-1180036	CULV, CONC RDWY PIPE, 36"	LF	732						732					
46	2416-1180042	CULV, CONC RDWY PIPE, 42"	LF	112						112					
47	2416-1180048	CULV, CONC RDWY PIPE, 48"	LF	143						143					
48	2416-1180054	CULV, CONC RDWY PIPE, 54"	LF	192						192					
49	2416-1240018	CULVERT, 3000D CONCRETE ROADWAY PIPE, 18 IN. DIA.	LF	144						144					
50	2416-1240024	CULVERT, 3000D CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	350						350					
51	2416-1240030	CULVERT, 3000D CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	248						248					
52	2416-1240042	CULVERT, 3000D CONCRETE ROADWAY PIPE, 42 IN. DIA.	LF	188						188					
53	2416-1245018	CULVERT, 3750D CONCRETE ROADWAY PIPE, 18 IN. DIA.	LF	164						164					
54	2416-1245024	CULVERT, 3750D CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	490						490					
55	2416-1245030	CULVERT, 3750D CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	534						534					
56	2416-1245036	CULVERT, 3750D CONCRETE ROADWAY PIPE, 36 IN. DIA.	LF	368						368					
57	2416-1245042	CULVERT, 3750D CONCRETE ROADWAY PIPE, 42 IN. DIA.	LF	12						12					
58	2416-1245048	CULVERT, 3750D CONCRETE ROADWAY PIPE, 48 IN. DIA.	LF	156						156					
59	2417-0225015	APRONS, METAL, 15 IN. DIA.	EA	2						2					
60	2422-0360018	APRONS, UNCLASSIFIED, 18 IN. DIA.	EA	24						24					
61	2422-0360024	APRONS, UNCLASSIFIED, 24 IN. DIA.	EA	8						8					
62	2422-0360030	APRONS, UNCLASSIFIED, 30 IN. DIA.	EA	2						2					
63	2422-0360036	APRONS, UNCLASSIFIED, 36 IN. DIA.	EA	10						10					
64	2422-1722018	CULV, UNCL ENT PIPE, 18"	LF	517						517					
65	2422-1722024	CULV, UNCL ENT PIPE, 24"	LF	64						64					
66	2422-1722036	CULV, UNCL ENT PIPE, 36"	LF	194						194					
67	2422-1723018	CULVERT, UNCLASSIFIED ROADWAY PIPE, 18 IN. DIA.	LF	586						586					
68	2422-1723024	CULVERT, UNCLASSIFIED ROADWAY PIPE, 24 IN. DIA.	LF	432						432					
69	2422-1723030	CULVERT, UNCLASSIFIED ROADWAY PIPE, 30 IN. DIA.	LF	152						152					
70	2422-1723036	CULVERT, UNCLASSIFIED ROADWAY PIPE, 36 IN. DIA.	LF	294						294					
71	2435-0140160	MANHOLE, STORM SWR, SW-401, 60"	EA	1						1					



**ESTIMATED PROJECT QUANTITIES  
(UP TO A 5 DIVISION PROJECT)**

Division 1: 100% Iowa DOT  
Division 2: 100% City of Dubuque  
Division 3: 73% Iowa DOT and 27% City of Dubuque

Item No.	Item Code	Item	Unit	Estimated						As Built				
				Division 1	Division 2	Division 3	Division 4	Division 5	Total	Division 1	Division 2	Division 3	Division 4	Division 5
72	2435-0250700	INTAKE, SW-507	EA	22	9	1				32				
73	2435-0250900	INTAKE, SW-509	EA	17	19	9				45				
74	2435-0251224	INTAKE, SW-512, 24 IN.	EA	1						1				
75	2435-0251230	INTAKE, SW-512, 30 IN.	EA	1						1				
76	2435-0251300	INTAKE, SW-513	EA	1	2					3				
77	2435-0256200	INTAKE, SW-562	EA	3						3				
78	2501-8400172	TEMPORARY SHORING	LS	1						1				
79	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHLD) 4"	LF	81474						81474				
80	2502-8221303	SUBDRAIN OUTLET, DR-303	EA	137						137				
81	2502-8221306	SUBDRAIN OUTLET, DR-306	EA	266						266				
82	2503-0111015	STORM SWR G-MAIN, TRENCHED, HDPE, 15"	LF	107						107				
83	2503-0114215	STORM SWR G-MAIN, TRENCHED, RCP 2000D, 15"	LF	2487	1110	444				4041				
84	2503-0114218	STORM SWR G-MAIN, TRENCHED, RCP 2000D, 18"	LF	193	287	294				774				
85	2503-0114224	STORM SWR G-MAIN, TRENCHED, RCP 2000D, 24"	LF	154	36	494				684				
86	2503-0114236	STORM SWR G-MAIN, TRENCHED, RCP 2000D, 36"	LF		84					84				
87	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EA	2						2				
88	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EA	2						2				
89	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EA	2						2				
90	2505-6000111	HIGH TENSION CABLE GUARDRAIL	LF	680						680				
91	2505-6000121	HIGH TENSION CABLE GUARDRAIL, END ANCHOR	EA	4						4				
92	2505-6000131	HIGH TENSION CABLE GUARDRAIL, SPARE PARTS KIT	EA	1						1				
93	2506-4984000	FLOWABLE MORTAR	CY	553						553				
94	2507-3250005	ENGINEER FABRIC	SY	16520						16520				
95	2507-6800021	REVTMENT, CLASS B	TON	576						576				
96	2507-6800061	REVTMENT, CLASS E	TON	14847						14847				
97	2507-8029000	EROSION STONE	TON	228						228				
98	2510-6745850	RMVL OF PAV'T	SY	123606						123606				
99	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES	EA	10						10				
100	2515-2475008	DRIVEWAY, PCC, 8"	SY	7889						7889				
101	2518-6891810	PERMANENT ROAD CLOSURE, RURAL, SI-181	LF	46						46				
102	2518-6891820	PERMANENT ROAD CLOSURE, URBAN, SI-182	EA	2						2				
103	2518-6910000	SAFETY CLOSURE	EA	48						48				
104	2519-1002072	FENCE, CHAIN LINK, 72 IN. HEIGHT	LF	28437						28437				
105	2519-2000010	FENCE, CHANNEL CROSSING, TYPE A	LF	120						120				
106	2519-3300600	FENCE, SAFETY	LF	6021.4						6021.4				
107	2520-3350015	FIELD OFFICE	EA	1						1				
108	2526-8285000	CONSTRUCTION SURVEY	LS	1						1				
109	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	2626.87						2626.87				
110	2527-9263112	PAINTED PAVEMENT MARKINGS, HIGH-BUILD WATERBORNE	STA	659.6						659.6				
111	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS	STA	238.34						238.34				
112	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	489.28						489.28				
113	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	24236						24236				
114	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE	EA	14						14				
115	2528-8445110	TRAFFIC CONTROL	LS	1						1				
116	2528-9109020	TEMPORARY LANE SEPARATOR SYSTEM	LF	125						125				
117	2528-9290050	PORTABLE DYNAMIC MESSAGE SIGN (PDMS)	CDAY	14						14				
118	2533-4980005	MOBILIZATION	LS	1						1				
119	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	STA	345.8						0				
120	2551-0000110	TEMP CRASH CUSHION	EA	8						8				
121	2551-0000130	TEMP CRASH CUSHION, SEVERE USE (SU)	EA	7						7				
122	2599-9999009	('LINEAR FEET' ITEM) REMOVAL OF WOODEN GUARDRAIL	LF	1331						1331				
123	2601-2634100	MULCHING	ACRE	295.6						0				
124	2601-2636060	SALT TOLERANT SEEDING	ACRE	15						0				
125	2601-2638352	SLOPE PROTECTION, WOOD EXCELSIOR MAT	SQ	1302						1302				
126	2601-2640350	SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT	SQ	8863						8863				
127	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	132.8						132.8				
128	2601-2643110	WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION	MGAL	2182						2182				
129	2601-2643300	MOBILIZATION FOR WATERING	EA	3						3				
130	2601-2643411	TURF REINFORCEMENT MAT, TYPE 1	SQ	745						745				
131	2602-0000020	SILT FENCE	LF	49400						49400				
132	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	40230						40230				
133	2602-0000050	SILT BASINS	EA	598						598				
134	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	89825						89825				
135	2602-0000080	REMOVAL OF SILT BASINS	EA	598						598				
136	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	8983						8983				
137	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303	LF	1300						1300				
138	2602-0000160	ROCK CHECK DAM	LF	14192						14192				
139	2602-0000170	MAINTENANCE OF ROCK CHECK DAM	EA	2661						2661				
140	2602-0000180	REMOVAL OF ROCK CHECK DAM	EA	946						946				
141	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	55719						55719				
142	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	3230						3230				
143	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	58949						58949				
144	2602-0000400	TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EA	82						82				
145	2602-0000410	MAINTENANCE OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EA	82						82				
146	2602-0000420	REMOVAL OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EA	82						82				
147	2602-0000500	OPEN-THROAT CURB INTAKE SEDIMENT FILTER, EC-602	LF	492						492				
148	2602-0000510	MAINTENANCE OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EA	78						78				
149	2602-0000520	REMOVAL OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EA	78						78				
150	2602-0000530	GRATE INTAKE SEDIMENT FILTER BAG	EA	8						8				
151	2602-0000540	MAINTENANCE OF GRATE INTAKE SEDIMENT FILTER BAG	EA	8						8				

### ESTIMATED PROJECT QUANTITIES (UP TO A 5 DIVISION PROJECT)

Division 1: 100% Iowa DOT  
Division 2: 100% City of Dubuque  
Division 3: 73% Iowa DOT and 27% City of Dubuque

Item No.	Item Code	Item	Unit	Quantities														
				Estimated					As Built									
				Division 1	Division 2	Division 3	Division 4	Division 5	Total	Division 1	Division 2	Division 3	Division 4	Division 5				
152	2602-0000550	REMOVAL OF GRATE INTAKE SEDIMENT FILTER BAG	EA	8						8								
153	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EA	1						1								
154	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EA	1						1								

**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
1	2101-0850001	<b>CLEAR+GRUBB</b> Refer to U sheets and Tab. 110-17 on C sheets for details . Includes approximately 11,802 LF of field fence removal. Restriction period for cutting trees in the Standard Specifications will not apply on this project. -
2	2101-2624980	<b>CONTRACTOR FURNISHED SELECT TREATMENT</b> For subgrade treatment under US 20. Refer to B sheets for details Price bid includes compaction with moisture control -
3	2102-0425070	<b>SPECIAL BACKFILL</b> For detour construction Refer to typicals on B sheets. -
4	2102-2625001	<b>EMBANKMENT-IN-PLACE, CONTRACTOR FURNISH</b> Refer to T sheets. -
5	2102-2710070	<b>EXCAVATION, CL 10, RDWY+BORROW</b> Refer to T sheets. Overhaul is incidental to roadway excavation on this project and will not be paid for separately. Refer to EW-102 for placement of unsuitable soils. Refer to Tab 107-31 on CS sheets for plowing and shaping Item to include scarification and compaction top 9 in. of existing soil below pavement section. Note staged embankment on Chesterfield Drive. Refer to Q sheets for settlement plate locations -
6	2102-2710090	<b>EXCAVATION, CL 10, WASTE</b> Refer to T sheets. -
7	2102-2712015	<b>EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS</b> Refer to Tab. 103-7 on CS sheets. Dispose of excess material according to Article 1106.07 of the current specifications. -
8	2102-2712070	<b>EXCAVATION, CLASS 12, ROADWAY AND BORROW</b> Refer to T-Sheets. Item is for limestone and shale excavation -
9	2102-2713090	<b>EXCAVATION, CLASS 13, WASTE</b> Refer to T-Sheets. -
10	2102-4560000	<b>LOCATING TILE LINES</b> Estimated at one times the project length. -
11	2102-5020010	<b>OBLITERATE OLD ROADBED</b> For obliteration of abandoned roadway. See U sheets for locations. -
12	2103-0000100	<b>PRESPLITTING OF ROCK CUT</b> Refer to Tab 107-25 on CS sheets and Detail 4110 for locations and details. -
13	2105-8425011	<b>TOPSOIL, SPREAD</b> Refer to T-Sheets. -
14	2105-8425015	<b>TOPSOIL, STRIP, SALVAGE AND SPREAD</b> Refer to T-Sheets and Tab. 103-10. -
15	2105-8425020	<b>TOPSOIL, STRIP AND STOCKPILE</b> Refer to T-Sheets. -
16	2107-0875100	<b>COMPACTION WITH MOISTURE CONTROL</b> Refer to Tab. 103-6 on CS sheets. Shrinkage will not be included in quantity. Does not include material for Contractor Furnished Select Treatment. -
17	2111-8174100	<b>GRANULAR SUBBASE</b> Refer to Typicals on B sheets and Tab. 100-24 on C sheets. -
18	2115-0100000	<b>MODIFIED SUBBASE</b> Refer to Typicals on B sheets and Tab. 100-24 on C sheets. -
19	2121-7425010	<b>GRANULAR SHOULDERS, TYPE A</b>
20	2121-7425020	<b>GRANULAR SHOULDERS, TYPE B</b> Refer to Tab. 112-9 on C sheets and refer to D sheet for location. Type B shoulders are for replacement of existing shoulder following detour pavement removal and existing median pavement removal. -
21	2122-5190105	<b>PAVED SHLD, PCC, 10.5"</b> Refer to Tab. 112-9 and 104-9 on C sheets and typicals on B sheets. Refer to Tab 104-9 and EW-204 for paved shoulder details at Swiss Valley Bridge Berm -
22	2123-7450000	<b>SHLD CONSTRUCTION, EARTH</b> Refer to Tab. 112-9 on C sheets and Typicals on B Sheets. Requires approximately CY of Class 10 for Earth Shoulder Fill. No payment for overhaul allowed for this material. -
23	2210-0475290	<b>MACADAM STONE BASE</b>

**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
		Refer to Tab. 100-24 on C sheets and Typicals on B sheets. -
24	2301-1003080	<b>STANDARD OR SLIP FORM PCC PAVEMENT, QM-C, CLASS 3 DURABILITY, 8 IN.</b> Refer to Tab. 100-24 on C sheets and Typicals on B sheets. Includes integral 6" standard curb. -
25	2301-1003090	<b>STANDARD OR SLIP FORM PCC PAVEMENT, QM-C, CLASS 3 DURABILITY, 9 IN.</b> Refer to Tab. 100-24 on C sheets and Typicals on B sheets. Includes integral 6" standard curb and 4" sloped curb. -
26	2301-1003105	<b>STANDARD OR SLIP FORM PCC PAVEMENT, QM-C, CLASS 3 DURABILITY, 10.5 IN.</b> Refer to Tab. 100-24 on C sheets and Typicals on B sheets. -
27	2304-0100000	<b>DETOUR PAV'T</b> Temporary roadway pavement shall be 8" PCC or 9" HMA. Refer to F Sheets, J Sheets, Typicals on B Sheets, and Tab. 100-24 on C Sheets. -
28	2312-8260051	<b>GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE</b> Item is for Tower Road. Refer to typical on B sheets. -
29	2315-8275025	<b>SURFACING, DRIVEWAY, CLASS A CRUSHED STONE</b> Refer to Tab. 102-3 on C sheets. Granular surfacing shall have a minimum uniform thickness of 3 inches. -
30	2401-6745650	<b>REMOVAL OF EXISTING STRUCTURES</b> Refer to Tab. 110-2 on C sheets for locations and details. -
31	2402-0425040	<b>FLOODED BACKFILL</b>
32	2402-2720100	<b>EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT</b> Refer to Tab. 104-3 on C sheets for Culvert locations and details. Refer to Tab. 100-26 on C Sheets.
33	2402-2722100	<b>EXCAVATION, CLASS 22, FOR ROADWAY PIPE CULVERT</b> Refer to Tab. 104-3 on C sheets for Culvert locations and details. -
34	2416-0100015	<b>APRON, CONC, 15"</b> Refer to Tab. 104-5B on M sheets for Culvert and Storm Sewer locations and -
35	2416-0100018	<b>APRON, CONC, 18"</b>
36	2416-0100024	<b>APRON, CONC, 24"</b> Refer to Tab. 104-3 on C sheets and Tab. 104-5B on M sheets for Culvert and Storm Sewer locations and details. -
37	2416-0100030	<b>APRON, CONC, 30"</b>
38	2416-0100036	<b>APRON, CONC, 36"</b>
39	2416-0100042	<b>APRON, CONC, 42"</b>
40	2416-0100048	<b>APRON, CONC, 48"</b>
41	2416-0100054	<b>APRON, CONC, 54"</b>
42	2416-0101136	<b>REMOVE AND REINSTALL CONCRETE PIPE APRONS GREATER THAN 36 IN</b>
43	2416-1180024	<b>CULV, CONC RDWY PIPE, 24"</b>
44	2416-1180030	<b>CULV, CONC RDWY PIPE, 30"</b>
45	2416-1180036	<b>CULV, CONC RDWY PIPE, 36"</b>
46	2416-1180042	<b>CULV, CONC RDWY PIPE, 42"</b>
47	2416-1180048	<b>CULV, CONC RDWY PIPE, 48"</b>
48	2416-1180054	<b>CULV, CONC RDWY PIPE, 54"</b>
49	2416-1240018	<b>CULVERT, 3000D CONCRETE ROADWAY PIPE, 18 IN. DIA.</b>
50	2416-1240024	<b>CULVERT, 3000D CONCRETE ROADWAY PIPE, 24 IN. DIA.</b>
51	2416-1240030	<b>CULVERT, 3000D CONCRETE ROADWAY PIPE, 30 IN. DIA.</b>
52	2416-1240042	<b>CULVERT, 3000D CONCRETE ROADWAY PIPE, 42 IN. DIA.</b>
53	2416-1245018	<b>CULVERT, 3750D CONCRETE ROADWAY PIPE, 18 IN. DIA.</b>
54	2416-1245024	<b>CULVERT, 3750D CONCRETE ROADWAY PIPE, 24 IN. DIA.</b>
55	2416-1245030	<b>CULVERT, 3750D CONCRETE ROADWAY PIPE, 30 IN. DIA.</b>
56	2416-1245036	<b>CULVERT, 3750D CONCRETE ROADWAY PIPE, 36 IN. DIA.</b>
57	2416-1245042	<b>CULVERT, 3750D CONCRETE ROADWAY PIPE, 42 IN. DIA.</b>
58	2416-1245048	<b>CULVERT, 3750D CONCRETE ROADWAY PIPE, 48 IN. DIA.</b> Refer to Tab. 104-3 on C sheets. -
59	2417-0225015	<b>APRONS, METAL, 15 IN. DIA.</b> Refer to Tab. 104-5B on M sheets for Storm Sewer locations and details. -
60	2422-0360018	<b>APRONS, UNCLASSIFIED, 18 IN. DIA.</b> Refer to Tab. 102-3 on C sheets. -
61	2422-0360024	<b>APRONS, UNCLASSIFIED, 24 IN. DIA.</b> Refer to Tab. 104-3 and 102-3 on C sheets. -
62	2422-0360030	<b>APRONS, UNCLASSIFIED, 30 IN. DIA.</b>
63	2422-0360036	<b>APRONS, UNCLASSIFIED, 36 IN. DIA.</b> Refer to Tab. 104-3 on C sheets. -

**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
64	2422-1722018	CULV, UNCL ENT PIPE, 18"
65	2422-1722024	CULV, UNCL ENT PIPE, 24"
66	2422-1722036	CULV, UNCL ENT PIPE, 36" Refer to Tab. 102-3 on C sheets.
67	2422-1723018	CULVERT, UNCLASSIFIED ROADWAY PIPE, 18 IN. DIA.
68	2422-1723024	CULVERT, UNCLASSIFIED ROADWAY PIPE, 24 IN. DIA.
69	2422-1723030	CULVERT, UNCLASSIFIED ROADWAY PIPE, 30 IN. DIA.
70	2422-1723036	CULVERT, UNCLASSIFIED ROADWAY PIPE, 36 IN. DIA. Refer to Tab. 104-3 on C sheets.
71	2435-0140160	MANHOLE, STORM SWR, SW-401, 60"
72	2435-0250700	INTAKE, SW-507
73	2435-0250900	INTAKE, SW-509
74	2435-0251224	INTAKE, SW-512, 24 IN.
75	2435-0251230	INTAKE, SW-512, 30 IN.
76	2435-0251300	INTAKE, SW-513
77	2435-0256200	INTAKE, SW-562 Refer to Tab. 104-5B on M sheets for Storm Sewer locations and details. Refer to Tab. 104-3 on C sheets and Tab 104-5B on M sheets for Culvert intake locations and details.
78	2501-8400172	TEMPORARY SHORING Shoring included for staged culvert and storm sewer construction, and staged removal of gas line. Method of Measurement: Lump Sum Basis of Payment: Full compensation for cost of design, furnishing, installing and removal. All material used for shoring, except as noted to remain, shall remain the property of the Contractor. Shoring is to be removed only after backfilling has been completed. In addition to the requirements noted above, Article 1107.07 of the Standard Specifications still applies.
79	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHLD) 4"
80	2502-8221303	SUBDRAIN OUTLET, DR-303
81	2502-8221306	SUBDRAIN OUTLET, DR-306 Refer to Tab. 104-9 on CS sheets.
82	2503-0111015	STORM SEWER GRAVITY MAIN, TRENCHED, HDPE, 15" Letdown Storm Sewer Pipe. Use corrugated polyethylene pipe meeting the requirements of Section 4146 of the Standard Specifications. Refer to Tab. 104-5B on M sheets for Storm Sewer locations and details.
83	2503-0114215	STORM SWR G-MAIN, TRENCHED, RCP 20000, 15"
84	2503-0114218	STORM SWR G-MAIN, TRENCHED, RCP 20000, 18"
85	2503-0114224	STORM SWR G-MAIN, TRENCHED, RCP 20000, 24"
86	2503-0114236	STORM SWR G-MAIN, TRENCHED, RCP 20000, 36" Refer to Tab. 104-5B on M sheets for Storm Sewer locations and details.
87	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201
88	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED
89	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205 Refer to Tab. 108-8A on C sheets for guardrail locations and details.
90	2505-6000111	HIGH TENSION CABLE GUARDRAIL
91	2505-6000121	HIGH TENSION CABLE GUARDRAIL, END ANCHOR
92	2505-6000131	HIGH TENSION CABLE GUARDRAIL, SPARE PARTS KIT Refer to Tab. 108-9A on C sheets for guardrail locations and details.
93	2506-4984000	FLOWABLE MORTAR Refer to Tab. 104-3 and 110-9 on C sheets, and Detail 4315 on B sheets for locations and details.
94	2507-3250005	ENGINEER FABRIC Refer to Tab. 100-23. Use material specified for embankment erosion control according to Article 4196.01,B,3. Material will be measured in sq. yds. of actual area covered.
95	2507-6800021	REVTMENT, CLASS B
96	2507-6800061	REVTMENT, CLASS E
97	2507-8029000	EROSION STONE Refer to Tab. 100-23.
98	2510-6745850	RMVL OF PAV'T Refer to Tab. 110-1 on C sheets and removal details on U sheets for locations. Includes approximately 11858 LF of full depth sawcut.
99	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES Refer to Tab. 110-15 on C sheets for locations.
100	2515-2475008	DRIVEWAY, PCC, 8" Refer to Tab. 102-3 on C sheets.
101	2518-6891810	PERMANENT ROAD CLOSURE, RURAL, SI-181
102	2518-6891820	PERMANENT ROAD CLOSURE, URBAN, SI-182 Refer to Tab 102-4 on C sheets for locations.

**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
103	2518-6910000	SAFETY CLOSURE Refer to Tab. 108-13A on C sheets and J sheets.
104	2519-1002072	FENCE, CHAIN LINK, 72 IN. HEIGHT
105	2519-2000010	FENCE, CHANNEL CROSSING, TYPE A  Refer to Tab. 100-7 on C sheets and and fence layout plan on U sheets for locations.
106	2519-3300600	FENCE, SAFETY This item shall be for fencing erected to prevent unauthorized access to portions of the construction site and/or prevent unauthorized access to adjacent private property by the Contractor. Refer to J sheets for general locations. Use orange mesh plastic fabric meeting the requirements of Article 1488.03 of the Iowa DOT Standard Specifications. Provide and install driven steel fence posts at maximum of 10 ft. on center. Method of Measurement: Linear Feet of Safety Fence installed, maintained and removed as measured along the fence at the bottom of the fabric. Basis of Payment: Payment will be the contract unit price per linear foot of Safety Fence. Payment is full compensation for furnishing all material and for installation, maintenance, and removal of fence as provided herein, including clean up after the work is complete.
107	2520-3350015	FIELD OFFICE
108	2526-8285000	CONSTRUCTION SURVEY
109	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED
110	2527-9263112	PAINTED PAVEMENT MARKINGS, HIGH-BUILD WATERBORNE Refer to Tab. 108-22 on C sheets and the U sheets for details and locations of permanent markings. Refer to Tab. 108-22T on C sheets and the J sheets for details and locations of temporary markings. Quantity includes tabulated quantities plus 5% allowance. Total quantity is Division 1
111	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS Refer to Tab. 108-22T on C sheets and the J sheets for details and locations of temporary markings. Quantity includes tabulated quantities plus 5% allowance.
112	2527-9263180	PAVEMENT MARKINGS REMOVED Refer to Tab. 108-22R on C sheets. High pressure water blasting shall be used to remove all markings in locations of pavement to remain at the direction of the Engineer.
113	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE Refer to Tab. 108-33 on C sheets.
114	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE Refer to Tab. 108-27 on C sheets.
115	2528-8445110	TRAFFIC CONTROL Refer to Traffic Control Plan on J Sheets.
116	2528-9109020	TEMPORARY LANE SEPARATOR SYSTEM Refer to J sheets and Tab. 108-35 on C sheets.
117	2528-9290050	PORTABLE DYNAMIC MESSAGE SIGN (PDMS) Includes 1 PDMS unit setup in Stage 3B. Refer to J sheets for location. Contractor shall provide, place, maintain, and adjust sign and message as directed by the Engineer.
118	2533-4980005	MOBILIZATION
119	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE Refer to Tab. 112-10 on C sheets.
120	2551-0000110	TEMP CRASH CUSHION Refer to Traffic Control Plans on J Sheets and Tab. 108-30 on C Sheets. Non-redirective crash cushions to remain in place over winter months shall be winterized according to manufacturer's recommendations.
121	2551-0000130	TEMP CRASH CUSHION, SEVERE USE (SU) Refer to Traffic Control Plans on J Sheets and Tab. 108-30 on C Sheets.
122	2599-9999009	('LINEAR FEET' ITEM) REMOVAL OF WOODEN GUARDRAIL This bid item is for the removal of existing wood beam guardrail and posts at Barrington Drive. Method of Measurement: Lineal Feet Basis of Payment: Payment shall be full compensation for furnishing all labor, equipment and material necessary for removal of wooden beam guardrail and posts, and backfilling post holes.
123	2601-2634100	MULCHING Perform mulching according to Article 2601.03,E,2, of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes.  Item is included for areas requiring reshaping and seedbed preparation. Use mulch that is Certified

**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
		Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations.
		Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.
124	2601-2636060	<b>SALT TOLERANT SEEDING</b> All areas eight ft. adjacent to the outside shoulder and median area shall be seeded and fertilized per Article 2601.03,C,9. All seed and fertilizer shall be applied with ground driven equipment. No broadcast seeding will be allowed. Full seedbed preparation will be required.
125	2601-2638352	<b>SLOPE PROTECTION, WOOD EXCELSIOR MAT</b> Refer to Tab. 100-22 on C sheets.
126	2601-2640350	<b>SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT</b> Refer to Tab. 100-22 on C sheets and R sheets. Areas included for slope protection with topsoil over underlying rock surface. Seeding application rates shall be revised as follows: For all areas of special ditch control provide rural stabilizing crop seeding using Table 2601.03; areas 8 ft. adjacent to shoulder provide permanent seeding rural mix using Table 2601.03-3; Areas beyond 8 ft. adjacent to shoulder provide Native Grass seeding mix using Table 2601.03-5
127	2601-2642100	<b>STABILIZING CROP - SEEDING AND FERTILIZING</b> Item is included for disturbed areas. Seed and fertilize all disturbed areas according to Article 2601.03,C,1, of the Standard Specifications. Estimated for two applications.
128	2601-2643110	<b>WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION</b> Estimate for Watering Special Ditch Control, Slope Protection Areas, Turf Reinforcement Mat, or Transition Mat is based on a total of four waterings at a rate of 50 gallons per square for each watering.
129	2601-2643300	<b>MOBILIZATION FOR WATERING</b>
130	2601-2643411	<b>TURF REINFORCEMENT MAT, TYPE 1</b> Refer to Tab. 100-22 on C sheets for locations.
131	2602-000020	<b>SILT FENCE</b> Refer to Tab. 100-17 on C sheets and R sheets for locations. The tabulation includes estimated locations for placement of "Silt Fence" to address erosion encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
132	2602-000030	<b>SILT FENCE FOR DITCH CHECKS</b> Refer to Tab 100-18 on C sheets and R sheets for location. The tabulation includes estimated locations for placement of "Silt Fence for Ditch Checks" to address erosion encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 50% additional quantity for field adjustments and replacements.
133	2602-000050	<b>SILT BASINS</b> Refer to Tab. 100-14 on C sheets and R sheets for location. The tabulation includes estimated locations for placement of "Silt Basins" to address erosion encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 100% additional quantity for field adjustment and maintenance.
134	2602-000071	<b>REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS</b> This item is for silt fence and silt fence for ditch check removal required for staging reasons, removal to allow for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth.
135	2602-000080	<b>REMOVAL OF SILT BASINS</b>
136	2602-000101	<b>MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK</b> This item is for clean-out and repair of the silt fence and silt fence for ditch checks during the project.
137	2602-000150	<b>STABILIZED CONSTRUCTION ENTRANCE, EC-303</b> Quantity based on direct access to US 20 at each end, and to side road or surfaced entrances.
138	2602-000160	<b>ROCK CHECK DAM</b> Refer to tab 100-32 on C Sheets and R sheets for location. Items includes an additional 10% quantity for field adjustment and replacement of silt fence for ditch checks if directed by Engineer.
139	2602-000170	<b>MAINTENANCE OF ROCK CHECK DAM</b> Quantity based on Lin. Ft. of Rock Check Dams divided by 16 to get equivalent number of dams, then times 3 cleanouts for each dam.
140	2602-000180	<b>REMOVAL OF ROCK CHECK DAM</b> Based on equivalent number of Rock Check Dams.

**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
141	2602-0000312	<b>PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.</b> Refer to Tab. 100-19 on C sheets for location. The tabulation includes estimated locations for placement of
		Perimeter and Slope Sediment Control Device, 12 in. dia. to address erosion encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements. Use Perimeter and Slope Sediment Control Devices fabricated using wood excelsior.
142	2602-0000320	<b>PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.</b> Refer to Tab. 100-19 on C sheets for location. The tabulation includes estimated locations for placement of Perimeter and Slope Sediment Control Device, 20 in. dia. to address erosion encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements. Use Perimeter and Slope Sediment Control Devices fabricated using wood excelsior.
143	2602-0000350	<b>REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE</b>
144	2602-0000400	<b>TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY</b> Refer to Tab 100-11 on C Sheets for location. Refer to 570-5 on U Sheets for details.
145	2602-0000410	<b>MAINTENANCE OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY</b>
146	2602-0000420	<b>REMOVAL OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY</b>
147	2602-0000500	<b>OPEN-THROAT CURB INTAKE SEDIMENT FILTER, EC-602</b> Refer to Tab 100-36 on C Sheets for location.
148	2602-0000510	<b>MAINTENANCE OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER</b>
149	2602-0000520	<b>REMOVAL OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER</b>
150	2602-0000530	<b>GRATE INTAKE SEDIMENT FILTER BAG</b> Refer to Tab 100-37 on C Sheets for location. Refer to 570-7 on U Sheets for details.
151	2602-0000540	<b>MAINTENANCE OF GRATE INTAKE SEDIMENT FILTER BAG</b>
152	2602-0000550	<b>REMOVAL OF GRATE INTAKE SEDIMENT FILTER BAG</b>
153	2602-0010010	<b>MOBILIZATIONS, EROSION CONTROL</b>
154	2602-0010020	<b>MOBILIZATIONS, EMERGENCY EROSION CONTROL</b>

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**STANDARD ROAD PLANS**

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-200	04-16-19	Steel Beam Guardrail Components
EC-303	04-16-19	Stabilized Construction Entrance
PV-101	04-16-19	Joints
PV-410	04-16-19	Deceleration Taper for 16' Exit Ramp
SW-102	04-16-19	Rigid Gravity Pipe Trench Bedding
SW-103	04-16-19	Flexible Gravity Pipe Trench Bedding
TC-418	04-16-19	Lane Closure on Divided Highway
TC-421	04-16-19	Lane Closure with TBR
BA-201	04-18-17	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-205	04-19-16	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	10-18-16	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-351	04-20-10	High Tension Cable Guardrail
BA-401	04-16-13	Temporary Barrier Rail (Precast Concrete)
BA-500	04-19-16	Temporary Crash Cushions Sand Barrel
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-121	10-17-17	Connected Pipe Joints
DR-122	10-18-16	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
DR-141	04-18-17	Pipe Bends and Half Pipe
DR-201	10-16-18	Concrete Aprons
DR-203	04-21-15	Metal Pipe Aprons and Beveled Ends
DR-213	10-17-17	Pipe Apron Guard
DR-302	10-20-15	Subdrains Standard (Farm Tile Replacement)
DR-303	10-17-17	Subdrains (Longitudinal)
DR-306	10-16-18	Precast Concrete Headwall for Subdrain Outlets
DR-601	04-18-17	Reinforced Concrete Pipe Culvert
DR-611	04-18-17	Reinforced Concrete Pipe Culvert Letdown Structure
DR-621	04-18-17	Pipe Extension
DR-622	10-17-17	Pipe Extension Horizontal Bend One or Both Ends
DR-625	04-18-17	Pipe Extension Letdown Structure with Metal Apron
DR-626	04-18-17	Pipe Extension - Adding Lanes
DR-627	04-18-17	Pipe Extension Horizontal Bend - Adding Lanes
DR-653	04-18-17	Unclassified Roadway Letdown Pipe with Metal Apron
EC-101	04-19-16	Wood Excelsior Mat for Ditch Protection
EC-103	04-21-15	Wood Excelsior Mat for Slope Protection
EC-104	04-17-18	Turf Reinforced Mat (TRM)
EC-201	10-16-18	Silt Fence
EC-204	04-18-17	Perimeter and Slope Sediment Control Devices
EC-301	10-18-16	Rock Erosion Control (REC)
EC-302	10-16-18	Rock Check Dam
EC-602	10-16-18	Open-Throat Curb Intake Sediment Filter
EW-101	10-17-17	Embankment and Rebuilding Embankments
EW-102	10-20-15	Allowable Placement of Unsuitable Soil in Embankments
EW-103	10-20-15	Embankment Subgrade Treatment, Moisture Density Control and Special Compaction
EW-110	10-20-15	Ditch Blocks and Dikes
EW-204	10-17-17	Bridge Berm Grading with Recoverable Slope (Barnroof Section)
EW-212	10-20-15	Settlement Plate
EW-403	04-18-17	Temporary Erosion Control Measures
EW-501	10-20-15	Rural Entrance
EW-502	04-18-17	Safety Ramp
LI-130	10-17-17	Temporary Floodlighting Luminaires
MI-101	10-20-15	Fencing Layout
MI-102	10-20-15	Chain Link Fence Construction
MI-104	10-17-17	Fence Construction at Channel Crossings, Flood Plains, and Minor Ground Depressions
MI-210	10-20-15	PCC Driveways and Alleys
PM-110	10-16-18	Line Types
PM-111	04-21-15	Symbols and Legends
PM-120	10-21-14	Stop Lines and Islands
PM-310	04-19-16	Entrance and Exit Ramps
PM-420	04-19-11	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
PM-520	04-19-11	Two-Lane Roadway with no Turn Lanes (Two-Way Stop Condition)
PM-562	04-19-11	Divided Multi-Lane Roadway with Left Turn Lanes
PM-760	04-19-11	Divided Multi-Lane Roadway Median
PV-12	04-19-16	Milled Shoulder Rumble Strips
PV-102	10-18-16	PCC Curb Details
PV-301	04-19-11	Superelevation Details Two Lane Roadway
PV-302	04-17-12	Superelevation Details Four Lane Roadway Depressed Median
PV-303	04-19-11	Superelevation Details Ramps
PV-411	10-16-18	Acceleration Taper for 16' Entrance Ramp
SI-173	04-19-16	Object Markers
SI-181	10-18-16	Permanent Road Closure - Rural
SI-182	04-19-16	Permanent Road Closure - Urban
SI-211	10-18-16	Object Marker and Delineator Placement with Guardrail
SW-101	04-17-18	Trench Bedding and Backfill Zones
SW-211	04-17-18	Storm Sewer Pipe Connections
SW-401	04-17-18	Circular Storm Sewer Manhole
SW-501	04-17-18	Single Grate Intake
SW-507	04-17-18	Single Open-Throat Intake, Small Box
SW-508	04-17-18	Single Open-Throat Intake, Large Box
SW-509	04-17-18	Double Open-Throat Curb Intake, Small Box
SW-510	04-17-18	Double Open-Throat Curb Intake, Large Box

**STANDARD ROAD PLANS**

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
SW-511	04-17-18	Rectangular Area Intake
SW-513	04-17-18	Open-Sided Area Intake
SW-545	04-17-18	Single Open-Throat Curb Intake with Extended Opening
SW-562	04-17-18	Vertical Throat Area Intake
SW-602	04-21-15	Castings for Storm Sewer Manholes
SW-603	10-16-18	Castings for Grate Intakes
SW-604	04-17-18	Castings for Area Intakes
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-61	04-17-18	Two-Lane, Two-way Operation
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-252	04-19-16	Routes Closed to Traffic
TC-402	04-21-15	Work Within 15 ft of Traveled Way
TC-432	10-17-17	Shoulder Rumble Strip Operations
TC-433	10-17-17	Pavement Marking Operations

232-10  
04-18-17

**EMERALD ASH BORER**

Any living, dead, cut or fallen material of the ash (*Fraxinus* spp.) including trees, nursery stock, logs, firewood, stumps, roots, branches, and composted or uncomposted ash chips can be freely moved within the yellow areas of the most recent Federal EAB Quarantine & Authorized Transit.

[https://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/emerald\\_ash\\_b/downloads/eab\\_quarantine\\_map.pdf](https://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/downloads/eab_quarantine_map.pdf).

Obtain appropriate Compliance Agreements from USDA APHIS PPQ prior to moving any of the above listed ash articles to areas outside the yellow zone on the map.

For questions, concerns, and general assistance, contact:

USDA APHIS PPQ, Iowa office, 515-414-3295

Or

Iowa Department of Agriculture & Land Stewardship  
515-725-1470  
Entomology@IowaAgriculture.gov

281-1  
10-18-16

**SECTION 404 PERMIT AND CONDITIONS**

Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide, Permit No. 2018-56. A copy of this permit is available from the Iowa DOT website (<http://www.envpermits.iowadot.gov/>). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

262-5  
10-18-05

**UTILITIES  
(POINT 25 PROJECT)**

This is a POINT 25 project and is subject to the provisions of IAC 761-115.25.

100-26  
10-15-13

**INCIDENTAL ITEMS**

Special or unique items where method of measurement / basis of payment is not indicated in the specifications or other contract documents.

No.	Incidental Item	Unit	Quantity	Incidental To		Remarks
				Item Code	Item	
1	Compaction with Moisture Control	CY		2101-2624980	CONTRACTOR FURNISHED SELECT TREATMENT	
2	Removal of Existing Field fence	LF	11802	2101-0850001	CLEAR & GRUBB	
3	Culvert Backfill and Topsoil	CY	20	2402-2720100	EXCAVATION, CL. 20, ROADWAY PIPE CULVERT	[1]
	[1] For culvert at 918+00. Refer to Tab. 104-3 on C Sheets					

**POLLUTION PREVENTION PLAN**

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed per plan revisions or by contract modification, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

**I. ROLES AND RESPONSIBILITIES**

- A. Designer:
  - 1. Prepares Base PPP included in the project plan.
  - 2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
  - 3. Is signature authority on the Base PPP.
- B. Contractor:
  - 1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
  - 2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
  - 3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
  - 4. Installs and maintains appropriate controls. This work may be subcontracted.
  - 5. Supervises and implements good housekeeping practices.
  - 6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
  - 7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
- C. Subcontractors:
  - 1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if responsible for sediment or erosion controls or involved in land disturbing activities. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
  - 2. Implement good housekeeping practices.
- D. RCE/Project Engineer:
  - 1. Is Project Storm Water Manager.
  - 2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
  - 3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
  - 4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
  - 5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
  - 6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
  - 7. Is familiar with the Project PPP and storm water site map.
  - 8. On projects where DOT is Contracting Authority, is responsible for monitoring inspection reports on a monthly basis, to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
  - 9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
  - 10. Is signature authority on Notice of Discontinuation.
- E. Inspector:
  - 1. Updates PPP whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
  - 2. Maintains an up-to-date record that identifies contractors and subcontractors as co-permittees.
  - 3. Makes these plans available to the DNR upon their request.
  - 4. Conducts joint required inspections of the site with the contractor/subcontractor.
  - 5. Completes an inspection report after each inspection.
  - 6. Is signature authority on storm water inspection reports.

**II. PROJECT SITE DESCRIPTION**

- A. This Pollution Prevention Plan (PPP) is for the construction of an interchange at US 20 and Swiss Valley Road including reconstruction of US 20 from 0.2 miles east of Cottingham Road to 1.5 miles east of Swiss Valley Road.
- B. This PPP covers approximately 221.2 acres with an estimated 204 acres being disturbed. The portion of the PPP covered by this contract has 168.4 acres disturbed.
- C. The PPP is located in one area of soil association (Downs-Fayette-Nordness) The estimated weighted average runoff coefficient number for this PPP after completion will be 0.35.
- D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.
- E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries.
- F. Runoff from this work will flow into road ditches to unnamed drainage ditches to South Catfish Creek and Catfish Creek to Mississippi River.

**POLLUTION PREVENTION PLAN**

**III. CONTROLS**

- A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.
  - 1. EROSION AND SEDIMENT CONTROLS
    - a. Stabilization Practices
      - 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
      - 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
        - a) Permanently ceased on any portion of the site, or
        - b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
      - 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
      - 4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map (when included), Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C sheets.
      - 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
      - 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.
    - b. Structural Practices
      - 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
      - 2) Structural practices to be used for this project are located in the storm water site map (when included), Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C sheets.
    - c. Storm Water Management
      - 1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map (when included) and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.
  - 2. OTHER CONTROLS
    - a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
      - 1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
      - 2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
      - 3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
      - 4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
      - 5) Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
      - 6) Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
      - 7) Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
      - 8) Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
      - 9) Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.
      - 10) Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.
- 3. APPROVED STATE OR LOCAL PLANS
  - During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

**IV. MAINTENANCE PROCEDURES**

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.



### POLLUTION PREVENTION PLAN

#### V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the Contractor and the Contracting Authority at least once every seven calendar days. Storm water monitoring inspections will include:
1. Date of the inspection.
  2. Summary of the scope of the inspection.
  3. Name and qualifications of the personnel making the inspection.
  5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
  6. Major observations related to the implementation of the PPP.
  7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water monitoring inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

#### VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

#### VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

#### VIII. DEFINITIONS

- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - May include Plan Revisions or Contract Modifications for new items, storm water monitoring inspection reports, and fieldbook entries made by the inspector.
- C. IDR - Inspector's Daily Report - this contains the inspector's daily diary and bid item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
- E. Signature Authority - Representative authorized to sign various storm water documents.

#### CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

  
Signature

  
Printed or Typed Name

\_\_\_\_\_  
Signature



**ROLLED EROSION CONTROL**

Refer to EC-101, EC-103 and EC-104

Location				L FT	W FT	Turf Reinforcement Mat (TRM) (EC-104)				Slope Protection (EC-103) Squares	Special Ditch Control (EC-101) Squares	Remarks
Road Identification	Begin Station	End Station	Side			Type 1 Squares	Type 2 Squares	Type 3 Squares	Type 4 Squares			
US 20	1001+00.00	1005+00.00	Rt	400	16	64						
Cottingham	8935+00.00	8938+25.00	Lt	325	16	52						
Cottingham	8940+00.00	8944+75.00	Lt	475	16	76						
Cottingham	8945+25.00	8948+50.00	Lt	325	16	52						
Cottingham	8948+50.00	8949+60.00	Lt	110	16	18						
Cottingham	8950+30.00	8951+25.00	Lt	95	16	15						
Cottingham	8948+75.00	8954+20.00	Rt	545	16	87						
Cottingham	8956+00.00	8960+50.00	Rt	450	16	72						
Cottingham	8972+50.00	8975+20.00	Rt	270	16	43						
North Frontage Road	9978+40.00	9980+25.00	Lt	185	16	30						
North Frontage Road	9980+25.00	9982+00.00	Lt	175	16	28						
North Frontage Road	10008+00.00	10018+00.00	Rt	1000	16	160						
North Cascade Road West	6942+00.00	6945+00.00	Lt	300	16	48						
Chesterfield Drive	12005+00.00	12007+00.00	Lt	200	55				110			Backslope
Chesterfield Drive	12007+00.00	12008+50.00	Lt	150	60				90			Backslope
Chesterfield Drive	12008+50.00	12009+50.00	Lt	100	59				59			Backslope
Chesterfield Drive	12009+50.00	12012+00.00	Lt	250	72				180			Backslope
Chesterfield Drive	12012+00.00	12014+50.00	Lt	250	47				118			Backslope
North Cascade Rd West	6943+50.00	6947+00.00	Lt	350	42				147			Backslope
North Cascade Rd West	6947+00.00	6949+50.00	Lt	250	47				118			Backslope
North Cascade Rd West	6950+50.00	6951+00.00	Lt	50	35				18			Backslope
North Cascade Rd West	6951+00.00	6953+50.00	Lt	250	35				88			Backslope
North Cascade Rd West	6942+00.00	6946+50.00	Rt	450	39				176			Backslope
North Cascade Rd West	6946+50.00	6949+00.00	Rt	250	40				100			Backslope
North Cascade Rd West	6951+00.00	6952+50.00	Rt	150	38				57			Backslope
North Cascade Rd West	6952+50.00	6954+00.00	Rt	150	27				41			Backslope
US 20	960+50.00	962+00.00	Med	150	30						45	
US 20	962+50.00	965+60.00	Lt	310	5-22						19	
US 20	962+50.00	965+15.00	Lt	265	9-17						34	
US 20	965+70.00	968+50.00	Lt	280	22-123						245	
US 20	965+75.00	969+20.00	Med	345	30						104	
US 20	970+45.00	972+00.00	Lt	155	101-114						140	
US 20	970+95.00	972+00.00	Lt	105	20						21	
US 20	974+00.00	977+00.00	Rt	300	17-33						78	
US 20	974+00.00	977+00.00	Rt	300	15-68						80	
Cottingham	8943+75.00	8946+50.00	Rt	275	8-30						48	
Cottingham	8943+75.00	8946+50.00	Rt	275	25-43						107	
Cottingham	8945+25.00	8946+95.00	Lt	170	8-21						24	
Cottingham	8945+25.00	8946+95.00	Lt	170	13-28						33	
Cottingham	8949+00.00	8954+20.00	Rt	520	11-22						77	
Cottingham	8950+25.00	8954+20.00	Rt	395	14-35						128	
Cottingham	8949+35.00	8949+88.00	Lt	53	5-13						5	
Cottingham	8949+35.00	8949+88.00	Lt	53	21-26						12	
Cottingham	8950+12.00	8953+20.00	Lt	308	17-43						100	
Cottingham	8950+12.00	8953+40.00	Lt	328	10-18						46	
Cottingham	8955+00.00	8957+00.00	Lt	200	18-31						49	
Cottingham	8955+00.00	8957+00.00	Lt	200	23-66						86	
Cottingham	8955+25.00	8957+00.00	Rt	175	20-26						42	
Cottingham	8955+25.00	8957+00.00	Rt	175	98-89						160	
Cottingham	8959+25.00	8961+15.00	Lt	190	9-35						39	
Cottingham	8959+25.00	8961+15.00	Lt	190	17						30	
Cottingham	8962+75.00	8964+00.00	Lt	125	14-16						18	
Cottingham	8962+75.00	8964+00.00	Lt	125	19-21						24	
Cottingham	8963+00.00	8964+65.00	Rt	165	11-17						26	
Cottingham	8963+00.00	8964+65.00	Rt	165	5						9	
Cottingham	8965+40.00	8966+25.00	Lt	85	4-11						5	
Cottingham	8965+40.00	8966+25.00	Lt	85	23-33						23	
Cottingham	8966+80.00	8975+85.00	Rt	905	8-85						457	
Cottingham	8966+80.00	8975+85.00	Rt	905	5-102						639	
Cottingham	8968+45.00	8971+90.00	Lt	345	8-32						80	
Cottingham	8968+45.00	8971+90.00	Lt	345	15-108						203	
North Frontage Road	9976+35.00	9985+00.00	Rt	865	40-110						584	
North Frontage Road	9976+35.00	9985+05.00	Rt	870	48-245						1289	
North Frontage Road	9980+95.00	9982+50.00	Lt	155	13-27						31	
North Frontage Road	9980+95.00	9982+50.00	Lt	155	49-89						108	
North Frontage Road	9983+40.00	9985+00.00	Lt	160	17-35						38	
North Frontage Road	9983+40.00	9985+00.00	Lt	160	54-71						98	
North Frontage Road	9987+50.00	9990+50.00	Rt	300	15-31						67	
North Frontage Road	9987+50.00	9990+50.00	Rt	300	100-108						321	
North Frontage Road	9989+50.00	9992+80.00	Lt	330	10-16						43	
North Frontage Road	9989+50.00	9992+80.00	Lt	330	49-83						210	
North Frontage Road	9994+25.00	9996+50.00	Lt	225	13-36						51	
North Frontage Road	9994+25.00	9996+50.00	Lt	225	49-81						146	
North Frontage Road	9998+30.00	9999+75.00	Lt	145	0-16						11	
North Frontage Road	9998+30.00	10001+00.00	Lt	270	75-31						151	
North Frontage Road	10002+00.00	10003+00.00	Lt	100	19-25						23	
North Frontage Road	10002+00.00	10003+00.00	Lt	100	63-70						65	
North Frontage Road	10004+00.00	10007+60.00	Lt	360	22-32						90	
North Frontage Road	10004+00.00	10007+60.00	Lt	360	12-55						123	
North Frontage Road	10006+00.00	10008+65.00	Rt	265	10						25	
North Frontage Road	10006+00.00	10008+60.00	Rt	260	26-44						93	

**ROLLED EROSION CONTROL**

Refer to EC-101, EC-103 and EC-104

Location				L FT	W FT	Turf Reinforcement Mat (TRM) (EC-104)				Slope Protection (EC-103) Squares	Special Ditch Control (EC-101) Squares	Remarks
Road Identification	Begin Station	End Station	Side			Type 1 Squares	Type 2 Squares	Type 3 Squares	Type 4 Squares			
North Frontage Road	10015+25.00	10017+85.00	Lt	260	110-250						416	
North Frontage Road	10018+15.00	10019+65.00	Lt	150	0-215						160	
Tower Drive	400+00.00	403+05.00	Lt	305	34-71						148	
Tower Drive	400+10.00	401+30.00	Rt	120	9-15						16	
Tower Drive	400+10.00	401+30.00	Rt	120	89-99						110	
Tower Drive	402+60.00	403+90.00	Rt	130	8-10						12	
Tower Drive	402+60.00	403+90.00	Rt	130	110						143	
Tower Drive	417+50.00	418+25.00	Lt	75	16-24						16	
Tower Drive	417+50.00	418+25.00	Lt	75	15						11	
Tower Drive	418+30.00	418+60.00	Rt	30	15-23						10	
Tower Drive	418+30.00	418+60.00	Rt	30	64						34	
Chesterfield Drive	12004+95.00	12008+00.00	Lt	305	11-123						267	
North Cascade Rd West	6943+50.00	6948+00.00	Lt	450	19-47						169	
North Cascade Rd West	6943+50.00	6948+00.00	Lt	450	17-12						59	
North Cascade Rd West	6942+00.00	6947+50.00	Rt	550	12-29						88	
North Cascade Rd West	6942+00.00	6947+50.00	Rt	550	14-38						158	
North Cascade Rd West	6951+38.00	6953+90.00	Rt	252	39-78						161	
North Cascade Rd West	6951+38.00	6953+75.00	Rt	237	23-34						85	
						Total	745			1302	8863	

**ROCK EROSION CONTROL**

Refer to EC-301 and Detail 570-8

Location				L FT	W FT	Rock Erosion Control (REC)					Material Bid Quantities				Remarks
Road Identification	Begin Station	End Station	Side Lt./Rt.			Type 1 Rock Ditch Check	Type 2 Rock Ditch	Type 3 Rock Flume	Type 4 Rock Scour Hole/ Splash	Type 5 Rock Slope Protection	Eng. Fabric SY	Class B Revetment TON	Class E Revetment TON	Erosion Stone TON	
ML 20	943+00.00	944+00.00	Rt.	100	16			X			180.0		170.0	Ditch	
ML 20	945+00.00		Lt.	16	18				X		34.0		31.7	Scour hole	
ML 20	951+32.19		Lt.	28	31.5				X		103.0		97.2	Scour hole	
ML 20	953+00.00	957+33.86	Rt.	448	16			X			796.0		752.0	Ditch	
ML 20	966+80.00		Lt.	16	18				X		34.0		31.7	Scour hole	
ML 20	971+99.80	975+04.08	Rt.	313	16			X			534.0		504.0	Ditch	
ML 20	975+75.00		Lt.	15	15				X		22.0		20.6	Scour hole	
ML 20	983+50.00		Lt.	16	18				X		34.0		31.7	Scour hole	
ML 20	990+00.00		Lt.	16	18				X		105.0		99.0	Scour hole	
ML 20	1002+50.00		Rt.	16	18				X		34.0		31.7	Scour hole	
ML 20	1010+00.00		Lt.	10	12				X		14.0		13.2	Scour hole	
ML 20	1015+00.00		Lt.	10	12				X		14.0		13.2	Scour hole	
ML 20	1021+00.00		Lt.	16	18				X		34.0		31.7	Scour hole	
RAMP A	1977+16.00		Lt.	28	31.5				X		103.0		97.2	Scour hole	
RAMP C	3965+35.00		Lt.	20	22.5				X		52.0		49.6	Scour hole	
RAMP D	4970+09.01	4974+99.98	Rt.	491	16			X			864.0		816.0	Ditch	
RAMP D	4974+90.00		Lt.	20	22.5				X		52.0		49.6	Scour hole	
SWISS VALLEY	5957+64.31		Lt.	10	10				X		11.0			12.0	Splash Basin
SWISS VALLEY	5961+00.00		Lt.	12	14				X		15.0		14.5		Scour hole
SWISS VALLEY	5963+50.05		Lt.	10	10				X		11.0			12.0	Splash Basin
SWISS VALLEY	5965+31.00		Lt.	10	12				X		14.0		13.2		Scour hole
SWISS VALLEY	5967+11.00		Rt.	10	10				X		11.0			12.0	Splash Basin
SWISS VALLEY	5968+86.00		Rt.	10	12				X		14.0		13.2		Scour hole
SWISS VALLEY	5971+75.00		Lt.	10	10				X		11.0			12.0	Splash Basin
COTTINGHAM	8937+00.00	8940+20.58	Rt.	292	16			X			495.0		467.8		Ditch
COTTINGHAM	8940+90.00		Lt.	28	31				X		102.0		96.6		Scour hole
COTTINGHAM	8948+70.00		Lt.	22.5	27				X		70.0		66.6		Scour hole
COTTINGHAM	8940+70.00		Rt.	22.5	27				X		70.0		66.6		Scour hole
COTTINGHAM	8955+84.98	8958+35.19	Lt.	257	16			X			429.0		405.6		Ditch
COTTINGHAM	8956+00.00		Lt.	10	12				X		14.0		13.2		Scour hole
COTTINGHAM	8958+63.73	8961+48.53	Lt.	288	16			X			493.0		465.7		Ditch
COTTINGHAM	8965+30.00		Lt.	16	18				X		34.0		31.7		Scour hole
COTTINGHAM	8967+99.89	8972+65.17	Rt.	480	VARIES			X			866.0		817.7		Ditch

# ROCK EROSION CONTROL

Refer to EC-301 and Detail 570-8

Location				Rock Erosion Control (REC)							Material Bid Quantities				Remarks
Road Identification	Begin Station	End Station	Side Lt./Rt.	(L)	(W)	Type 1	Type 2	Type 3	Type 4	Type 5	Eng. Fabric	Class B Revetment	Class E Revetment	Erosion Stone	
				FT	FT	Rock Ditch Check	Rock Ditch	Rock Flume	Rock Scour Hole/Splash	Rock Slope Protection					
				SY	TON	TON	TON								
COTTINGHAM	8968+49.98	8972+37.97	Lt.	396	16		X				688.0		650.3	Ditch	
COTTINGHAM	8972+50.00		Lt.	24	27					X	108.0		101.7	Scour hole	
COTTINGHAM	8972+62.35	8972+76.02	Lt.	17	16		X				29.0		27.3	Ditch	
COTTINGHAM CONNECTOR											34.0		31.7	Scour hole	
NORTH FRONTAGE RD										X	35.6		21.0	Scour hole	
NORTH FRONTAGE RD										X	108.0		101.7	Scour hole	
NORTH FRONTAGE RD								X			87.0		82.0	Ditch	
NORTH FRONTAGE RD								X			427.0		403.5	Ditch	
NORTH FRONTAGE RD										X	90.0		85.5	Scour hole	
NORTH FRONTAGE RD								X			590.0		557.2	Ditch	
NORTH FRONTAGE RD								X			262.0		247.0	Ditch	
NORTH FRONTAGE RD										X	14.0		13.2	Scour hole	
NORTH FRONTAGE RD								X			301.0		284.1	Ditch	
NORTH FRONTAGE RD										X	912.0	576.0	496.0	Scour hole	
NORTH FRONTAGE RD								X			247.0		233.4	Ditch	
TOWER RD											14.0		13.2	Scour hole	
TOWER RD											22.0		20.5	Scour hole	
TOWER RD											20.0		10.5	Splash Basin	
N CASCADE W									X		831.0		785.1	Ditch	
N CASCADE W									X		797.0		752.6	Ditch	
N CASCADE W									X		96.0		90.3	Ditch	
N CASCADE W									X		494.0		466.7	Ditch	
N CASCADE W									X		410.0		387.1	Ditch	
N CASCADE W										X	134.0		127.0	Scour hole	
N CASCADE W									X		677.0		640.0	Ditch	
N CASCADE W									X		661.0		624.6	Ditch	
N CASCADE W									X		787.0		743.2	Ditch	
N CASCADE W									X		630.0		595.4	Ditch	
N CASCADE W										X	76.0		71.4	Scour hole	
N CASCADE W									X					Ditch	
N CASCADE E										X	34.0		32.4	Scour hole	
N CASCADE E										X	11.0			12.0	Splash Basin
N CASCADE E										X	11.0			12.0	Splash Basin
N CASCADE E										X	11.0			12.0	Splash Basin
N CASCADE E										X	11.0			12.0	Splash Basin
N CASCADE E										X	11.0			12.0	Splash Basin
SOUTH FRONTAGE RD										X	11.0			12.0	Splash Basin
SOUTH FRONTAGE RD										X	11.0			12.0	Splash Basin
SOUTH FRONTAGE RD										X	11.0			12.0	Splash Basin
SOUTH FRONTAGE RD										X	11.0			12.0	Splash Basin
SOUTH FRONTAGE RD										X	11.0			12.0	Splash Basin
CHESTERFIELD										X	73.0		68.8	Scour hole	
CHESTERFIELD										X	11.0			12.0	Splash Basin
CHESTERFIELD									X		202.3		157.5	Rock Flume	
CHESTERFIELD									X		195.6		147.0	Rock Flume	
CHESTERFIELD									X		202.3		157.5	Rock Flume	
CHESTERFIELD									X		183.4		141.8	Rock Flume	
CHESTERFIELD									X		182.3		136.5	Rock Flume	
CHESTERFIELD										X	11.0			12.0	Splash Basin
CHESTERFIELD										X	31.0		29.6	Scour hole	
CHESTERFIELD										X	11.0			12.0	Splash Basin
CHESTERFIELD										X	11.0			12.0	Splash Basin
Total											16519.5	576.0	14846.8	228.0	

100-36 10-16-18					
OPEN-THROAT CURB INTAKE SEDIMENT FILTER Possible Standard: EC-602					
Location Station	Side	Installation	Maintenance	Removal	Remarks
		LF	EACH	EACH	
SWISS VALLEY					
5957+64.50	LT	8.0	1	1	
5957+64.50	RT	8.0	1	1	
5961+00.00	LT	8.0	1	1	
5961+00.00	RT	8.0	1	1	
5963+50.00	LT	8.0	1	1	
5963+50.00	RT	8.0	1	1	
5967+11.00	LT	8.0	1	1	
5967+11.00	RT	8.0	1	1	
5971+75.14	LT	8.0	1	1	
5971+75.15	RT	8.0	1	1	
N CASCADE E					
7960+25.00	LT	4.0	1	1	
7960+25.00	RT	4.0	1	1	
7962+85.00	LT	8.0	1	1	
7962+85.00	RT	8.0	1	1	
7968+00.00	LT	4.0	1	1	
7968+00.00	RT	4.0	1	1	
7972+50.00	LT	4.0	1	1	
7972+50.00	RT	4.0	1	1	
7975+65.00	LT	4.0	1	1	
7975+65.00	RT	4.0	1	1	
7977+75.00	LT	4.0	1	1	
7977+75.00	RT	4.0	1	1	
7979+35.00	LT	8.0	1	1	
7979+35.00	RT	8.0	1	1	
7980+90.00	LT	4.0	1	1	
7980+90.00	RT	4.0	1	1	
7982+50.00	LT	4.0	1	1	
7982+50.00	RT	4.0	1	1	
7984+00.00	LT	4.0	1	1	
7984+00.00	RT	4.0	1	1	
7985+30.00	LT	4.0	1	1	
7985+30.00	RT	4.0	1	1	
7986+50.00	LT	4.0	1	1	
7986+50.00	RT	4.0	1	1	
7988+00.00	LT	4.0	1	1	
7988+00.00	RT	4.0	1	1	
7991+80.00	LT	4.0	1	1	
7991+80.00	RT	4.0	1	1	
7994+45.00	LT	4.0	1	1	
7994+45.00	RT	4.0	1	1	
S FRONTAGE					
1994+20.00	LT	8.0	1	1	
1994+20.00	RT	4.0	1	1	
1997+50.00	LT	8.0	1	1	
1997+50.00	RT	8.0	1	1	
2001+00.00	LT	8.0	1	1	
2001+00.00	RT	8.0	1	1	
2004+50.00	LT	8.0	1	1	
2004+50.00	RT	8.0	1	1	
2006+75.00	RT	8.0	1	1	
2006+75.00	LT	8.0	1	1	
2015+45.00	LT	8.0	1	1	
2015+45.00	RT	8.0	1	1	
2016+00.00	LT	8.0	1	1	
2016+00.00	RT	4.0	1	1	
2017+50.00	LT	8.0	1	1	
2019+00.00	LT	8.0	1	1	
2019+00.00	RT	4.0	1	1	
2020+50.00	LT	8.0	1	1	
2022+00.00	LT	8.0	1	1	
2022+00.00	RT	4.0	1	1	
2023+50.00	LT	8.0	1	1	
2025+00.00	LT	8.0	1	1	
2025+00.00	RT	4.0	1	1	
2026+75.00	LT	8.0	1	1	
2026+75.00	RT	4.0	1	1	
2028+00.00	LT	4.0	1	1	
2032+27.50	LT	8.0	1	1	
2032+27.50	RT	8.0	1	1	
CHESTERFIELD					
12004+46.85	LT	8.0	1	1	
12004+46.85	RT	8.0	1	1	
12015+00.00	LT	8.0	1	1	
12015+00.00	RT	8.0	1	1	
12019+50.00	LT	8.0	1	1	

100-36 10-16-18					
OPEN-THROAT CURB INTAKE SEDIMENT FILTER Possible Standard: EC-602					
Location Station	Side	Installation	Maintenance	Removal	Remarks
		LF	EACH	EACH	
12019+50.00	RT	8.0	1	1	
12023+75.00	LT	8.0	1	1	
12023+75.00	RT	8.0	1	1	
12027+87.23	LT	8.0	1	1	
12027+87.23	RT	8.0	1	1	
		492.0	78	78	

100-37 04-18-17					
GRATE INTAKE SEDIMENT FILTER BAG Possible Detail: 570-7					
Location Station	Side	Installation	Maintenance	Removal	Remarks
		EACH	EACH	EACH	
1009+00-75'	Rt	1	1	1	
1009+90-200'	Rt	1	1	1	
1012+25-118'	Lt	1	1	1	
1012+25-90'	Rt	1	1	1	
1012+25-172'	Rt	1	1	1	
1015+00.00	Med	1	1	1	
1015+00-83'	Rt	1	1	1	
1020+75.00	Med	1	1	1	
	Total	8	8	8	

**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE**

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
COTTINGHAM						
8931+57.68		LT		22.0		Culvert End Protection
8931+88.68		LT		22.0		Culvert End Protection
8940+10.57		LT		38.0		Culvert End Protection
8941+44.51		RT		38.0		Culvert End Protection
8948+43.75		LT		38.0		Culvert End Protection
8948+88.32		RT		38.0		Culvert End Protection
8949+62.24		LT		22.0		Culvert End Protection
8950+27.92		LT		22.0		Culvert End Protection
8955+99.98		RT		32.0		Culvert End Protection
8956+00.00		LT		32.0		Culvert End Protection
8958+51.31		LT		38.0		Culvert End Protection
8965+30.00		LT		32.0		Culvert End Protection
8965+30.00		RT		32.0		Culvert End Protection
8972+38.59		RT		32.0		Culvert End Protection
8972+50.00		LT		32.0		Culvert End Protection
8972+50.00		RT		32.0		Culvert End Protection
8956+00.00	8961+00.00	Lt		470.0		Slope Protection
8957+25.00	8959+60.00	Lt		225.0		Slope Protection
8969+05.00	8974+45.00	Lt		530.0		Slope Protection
8970+85.00	8973+30.00	Lt		245.0		Slope Protection
8970+95.00	8975+55.00	Rt		430.0		Slope Protection
COTTINGHAM CONN						
137+48.41		LT		22.0		Culvert End Protection
137+82.42		LT		22.0		Culvert End Protection
138+69.58		RT		32.0		Culvert End Protection
138+81.28		LT		32.0		Culvert End Protection
COTTINGHAM S						
13025+88.82		RT		32.0		Culvert End Protection
13026+26.92		RT		32.0		Culvert End Protection
N FRONTAGE RD						
9980+25.00		LT		32.0		Culvert End Protection
9980+25.00		RT		32.0		Culvert End Protection
9985+81.08		RT		32.0		Culvert End Protection
9985+70.69		RT		32.0		Culvert End Protection
9986+91.73		LT		32.0		Culvert End Protection
9993+50.00		RT		32.0		Culvert End Protection
9993+50.00		LT		32.0		Culvert End Protection
1007+50.00		LT		32.0		Culvert End Protection
1007+50.00		RT		32.0		Culvert End Protection
10017+95.65		RT			36.0	Area Inlet Protection
10017+95.73		LT		50.0		Culvert End Protection
10019+80.00		LT		22.0		Culvert End Protection
10020+71.31		LT		22.0		Culvert End Protection
10020+20.00		LT		32.0		Culvert End Protection
9976+69.00	9981+10.00	Rt		400.0		Slope Protection
9977+55.00	9982+15.00	Rt		400.0		Slope Protection
9978+30.00	9981+65.00	Lt		370.0		Slope Protection
9979+30.00	9985+05.00	Lt		600.0		Slope Protection
9985+00.00	9997+75.00	Lt		1180.0		Slope Protection
9999+30.00	10007+80.00	Lt		800.0		Slope Protection
ML US 20						
944+99.96		LT		32.0		Culvert End Protection
944+99.96		LT		32.0		Culvert End Protection
951+21.32		RT		32.0		Culvert End Protection
965+62.04		LT		32.0		Culvert End Protection
966+80.00		LT		32.0		Culvert End Protection
966+80.00		LT		32.0		Culvert End Protection
968+19.49		RT		32.0		Culvert End Protection
970+76.49		RT		32.0		Culvert End Protection
974+96.88		RT		32.0		Culvert End Protection
975+00.45		RT		32.0		Culvert End Protection
983+50.00		LT		32.0		Culvert End Protection
983+50.00		LT		32.0		Culvert End Protection
990+00.00		LT		32.0		Culvert End Protection
990+00.00		LT		32.0		Culvert End Protection
1002+50.00		RT		32.0		Culvert End Protection
1002+50.00		RT		32.0		Culvert End Protection
1012+24.00		RT			36.0	Area Inlet Protection
1021+00.00		LT			36.0	Area Inlet Protection
1021+00.00		LT		32.0		Culvert End Protection
975+55.00	988+05.00	Lt		1200.0		Slope Protection
977+60.00	981+75.00	Lt		400.0		Slope Protection
1015+95.00	1027+45.00	Lt		1145.0		Slope Protection
1018+70.00	1025+30.00	Lt		665.0		Slope Protection
N CASCADE W						
6932+77.38		RT		22.0		Culvert End Protection
6933+22.38		RT		22.0		Culvert End Protection
6936+73.63		LT		22.0		Culvert End Protection
6937+26.76		LT		22.0		Culvert End Protection
6937+68.23		LT		22.0		Culvert End Protection

**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE**

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
6938+46.63		LT		22.0		Culvert End Protection
6937+72.13		RT		22.0		Culvert End Protection
6938+42.84		RT		22.0		Culvert End Protection
6940+99.64		LT		32.0		Culvert End Protection
6941+00.47		RT		32.0		Culvert End Protection
6949+62.02		RT		22.0		Culvert End Protection
6950+07.02		RT		22.0		Culvert End Protection
6949+56.53		LT		22.0		Culvert End Protection
6950+40.53		LT		22.0		Culvert End Protection
6954+85.61		LT		32.0		Culvert End Protection
6954+49.14		RT		32.0		Culvert End Protection
6955+18.30		LT		22.0		Culvert End Protection
6956+43.95		LT		22.0		Culvert End Protection
6939+47.00	6942+05.00	Lt		255.0		Slope Protection
6939+10.00	6942+00.00	Rt		270.0		Slope Protection
6944+50.00	6948+55.00	Lt		400.0		Slope Protection
6944+95.00	6948+45.00	Rt		325.0		Slope Protection
6951+05.00	6952+75.00	Rt		200.0		Slope Protection
6951+75.00	6956+44.00	Rt		500.0		Slope Protection
6952+90.00	6956+50.00	Lt		315.0		Slope Protection
SWISS VALLEY						
5957+64.31		LT		22.0		Culvert End Protection
5957+64.50		LT			34.0	Curb Inlet Protection
5957+64.50		RT			34.0	Curb Inlet Protection
5961+00.00		LT		32.0		Culvert End Protection
5961+00.00		LT			34.0	Curb Inlet Protection
5961+00.00		RT			34.0	Curb Inlet Protection
5961+00.00		RT		32.0		Culvert End Protection
5963+50.00		LT		22.0		Culvert End Protection
5963+50.00		LT			34.0	Curb Inlet Protection
5963+50.00		RT			34.0	Curb Inlet Protection
5965+34.32		LT		32.0		Culvert End Protection
5965+27.39		RT		32.0		Culvert End Protection
5967+11.00		LT			34.0	Curb Inlet Protection
5967+11.00		RT			34.0	Curb Inlet Protection
5967+11.00		RT		22.0		Culvert End Protection
5971+80.03		LT		22.0		Culvert End Protection
5971+75.14		LT			34.0	Curb Inlet Protection
5971+75.15		RT			34.0	Curb Inlet Protection
5954+69.90	5958+81.73	LT		435.0		Curb Sediment Protection
5954+69.90	5958+20.24	RT		505.0		Curb Sediment Protection
5959+20.98	5965+90.48	LT		730.0		Curb Sediment Protection
5959+65.72	5965+82.64	RT		784.0		Curb Sediment Protection
5966+48.48	5968+59.61	LT		261.0		Curb Sediment Protection
5966+18.01	5968+51.85	RT		323.0		Curb Sediment Protection
5971+08.11	5972+86.33	LT		247.0		Curb Sediment Protection
5971+01.09	5972+46.66	RT		187.0		Curb Sediment Protection
5973+90.00	5975+35.00	Lt		150.0		Slope Protection
5970+80.00	5972+25.00	Lt		145.0		Slope Protection
5973+50.00	5975+15.00	Rt		165.0		Slope Protection
5973+85.00	5975+20.00	Rt		135.0		Slope Protection
5970+60.00	5971+85.00	Rt		125.0		Slope Protection
N CASCADE E						
7959+81.56		LT		22.0		Culvert End Protection
7960+18.09		LT		22.0		Culvert End Protection
7060+25.00		LT		22.0		Culvert End Protection
7060+25.00		LT			26.0	Curb Inlet Protection
7060+25.00		RT			26.0	Curb Inlet Protection
7961+62.88		RT		32.0		Culvert End Protection
7961+87.38		LT		32.0		Culvert End Protection
7962+64.40		LT		22.0		Culvert End Protection
7962+85.00		LT			34.0	Curb Inlet Protection
7962+85.00		RT			34.0	Curb Inlet Protection
7968+00.00		LT			26.0	Curb Inlet Protection
7968+00.00		RT			26.0	Curb Inlet Protection
7972+50.00		LT			26.0	Curb Inlet Protection
7972+50.00		RT			26.0	Curb Inlet Protection
7975+65.00		LT			26.0	Curb Inlet Protection
7975+65.00		RT			26.0	Curb Inlet Protection
7977+75.00		LT			26.0	Curb Inlet Protection
7977+75.00		RT			26.0	Curb Inlet Protection
7979+35.00		LT			26.0	Curb Inlet Protection
7979+35.00		RT			26.0	Curb Inlet Protection
7979+35.00		RT		22.0		Culvert End Protection
7980+90.00		LT			26.0	Curb Inlet Protection
7980+90.00		RT			26.0	Curb Inlet Protection
7982+50.00		LT			26.0	Curb Inlet Protection
7982+50.00		RT			26.0	Curb Inlet Protection
7984+00.00		LT		22.0		Culvert End Protection
7984+00.00		LT			26.0	Curb Inlet Protection
7984+00.00		RT			26.0	Curb Inlet Protection

**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE**

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
7984+00.00		RT		22.0		Culvert End Protection
7985+30.00		LT			26.0	Curb Inlet Protection
7985+30.00		RT			26.0	Curb Inlet Protection
7986+50.00		LT			26.0	Curb Inlet Protection
7986+50.00		RT			26.0	Curb Inlet Protection
7988+00.00		LT			26.0	Curb Inlet Protection
7988+00.00		RT			26.0	Curb Inlet Protection
7991+80.00		LT			26.0	Curb Inlet Protection
7991+80.00		RT			26.0	Curb Inlet Protection
7991+80.00		LT		22.0		Culvert End Protection
7994+90.00		LT		22.0		Culvert End Protection
7994+45.00		LT			26.0	Curb Inlet Protection
7994+45.00		RT			26.0	Curb Inlet Protection
7958+78.21	7959+90.90	LT		139.0		Curb Sediment Protection
7958+67.12	7959+92.21	RT		165.0		Curb Sediment Protection
7960+09.16	7954+57.21	LT		456.0		Curb Sediment Protection
7960+07.79	7969+26.52	RT		925.0		Curb Sediment Protection
7964+72.79	7987+20.11	LT		2142.0		Curb Sediment Protection
7969+73.48	7975+01.08	RT		555.0		Curb Sediment Protection
7975+28.20	7978+37.11	RT		331.0		Curb Sediment Protection
7978+62.90	7980+61.60	RT		211.0		Curb Sediment Protection
7980+78.39	7989+77.11	RT		911.0		Curb Sediment Protection
7986+14.89	7987+20.11	LT		117.0		Curb Sediment Protection
7987+37.89	7988+25.11	LT		99.0		Curb Sediment Protection
7988+42.89	7988+61.11	LT		30.0		Curb Sediment Protection
7988+86.89	7989+77.11	LT		102.0		Curb Sediment Protection
7990+02.89	7990+97.18	LT		108.0		Curb Sediment Protection
7990+02.89	7993+38.40	RT		352.0		Curb Sediment Protection
7991+22.82	7992+91.07	LT		179.0		Curb Sediment Protection
7993+81.68	7995+22.00	LT		168.0		Curb Sediment Protection
7995+48.00	7995+78.78	LT		46.0		Curb Sediment Protection
7996+04.00	7996+80.10	LT		87.0		Curb Sediment Protection
7993+65.60	7996+80.10	RT		325.0		Curb Sediment Protection
<b>S FRONTAGE RD</b>						
1994+20.00		LT			34.0	Curb Inlet Protection
1994+20.00		RT			26.0	Curb Inlet Protection
1994+20.00		RT		22.0		Culvert End Protection
1997+50.00		LT			34.0	Curb Inlet Protection
1997+50.00		RT			34.0	Curb Inlet Protection
2001+00.00		LT		22.0		Culvert End Protection
2001+00.00		LT			34.0	Curb Inlet Protection
2001+00.00		RT			34.0	Curb Inlet Protection
2001+46.42		RT		22.0		Culvert End Protection
2002+20.51		RT		22.0		Culvert End Protection
2004+50.00		LT		22.0		Culvert End Protection
2004+50.00		LT			34.0	Curb Inlet Protection
2004+50.00		RT			34.0	Curb Inlet Protection
2004+49.00		RT		22.0		Culvert End Protection
2005+25.27		RT		22.0		Culvert End Protection
2006+75.00		RT			36.0	Area Inlet Protection
2006+75.00		RT			34.0	Curb Inlet Protection
2006+75.00		LT			34.0	Curb Inlet Protection
2006+78.10		LT			36.0	Area Inlet Protection
2009+56.57		RT		32.0		Culvert End Protection
2015+45.00		LT			34.0	Curb Inlet Protection
2015+45.00		RT			34.0	Curb Inlet Protection
2016+00.00		LT			34.0	Curb Inlet Protection
2016+00.00		RT			26.0	Curb Inlet Protection
2017+50.00		LT			34.0	Curb Inlet Protection
2019+00.00		LT			34.0	Curb Inlet Protection
2019+00.00		RT			26.0	Curb Inlet Protection
2020+50.00		LT			34.0	Curb Inlet Protection
2022+00.00		LT			34.0	Curb Inlet Protection
2022+00.00		RT			26.0	Curb Inlet Protection
2023+50.00		LT			34.0	Curb Inlet Protection
2025+00.00		LT			34.0	Curb Inlet Protection
2025+00.00		RT			26.0	Curb Inlet Protection
2026+75.00		LT			34.0	Curb Inlet Protection
2026+75.00		RT			26.0	Curb Inlet Protection
2028+00.00		LT			26.0	Curb Inlet Protection
2032+27.50		LT			34.0	Curb Inlet Protection
2032+27.50		RT			34.0	Curb Inlet Protection
1993+20.18	2032+35.00	LT		3987.0		Curb Sediment Protection
1993+40.76	2001+64.36	RT		821.0		Curb Sediment Protection
2002+01.75	2004+71.10	RT		291.0		Curb Sediment Protection
2005+08.90	2008+44.44	RT		359.0		Curb Sediment Protection
2008+86.44	2023+38.99	RT		1466.0		Curb Sediment Protection
2023+61.01	2025+62.99	RT		210.0		Curb Sediment Protection
2026+23.87	2027+41.53	RT		154.0		Curb Sediment Protection
2028+04.70	2032+35.00	RT		455.0		Curb Sediment Protection
<b>TOWER</b>						

**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE**

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
400+86.24		LT		32.0		Culvert End Protection
401+12.67		RT		32.0		Culvert End Protection
405+05.13		LT		32.0		Culvert End Protection
404+94.81		RT		32.0		Culvert End Protection
417+44.00		LT		32.0		Culvert End Protection
417+46.61		RT		32.0		Culvert End Protection
<b>CHESTERFIELD</b>						
12002+74.02		LT		32.0		Culvert End Protection
12002+85.87		RT		32.0		Culvert End Protection
12003+15.35		LT		22.0		Culvert End Protection
12003+97.73		LT		22.0		Culvert End Protection
12004+46.85		LT		22.0		Culvert End Protection
12004+46.85		LT			34.0	Curb Inlet Protection
12004+46.85		RT			34.0	Curb Inlet Protection
12015+00.00		LT			34.0	Curb Inlet Protection
12015+00.00		RT			34.0	Curb Inlet Protection
12018+50.00		LT		32.0		Culvert End Protection
12018+50.00		RT		32.0		Culvert End Protection
12019+50.00		LT			34.0	Curb Inlet Protection
12019+50.00		RT			34.0	Curb Inlet Protection
12023+75.00		LT			34.0	Curb Inlet Protection
12023+75.00		RT			34.0	Curb Inlet Protection
12027+87.23		LT			34.0	Curb Inlet Protection
12027+87.23		RT			34.0	Curb Inlet Protection
12028+01.84		RT			32.0	Manhole Protection
12027+91.97		RT			22.0	Culvert End Protection
12003+62.73	12020+36.57	LT		1693.0		Curb Sediment Protection
12020+63.43	12024+09.00	LT		356.0		Curb Sediment Protection
12024+41.00	12028+50.47	LT		446.0		Curb Sediment Protection
12003+63.89	12028+49.72	RT		2527.0		Curb Sediment Protection
<b>RAMP C</b>						
3962+35.00	3968+05.00	Lt		550.0		Slope Protection
3963+60.00	3967+15.00	Lt		345.0		Slope Protection
3968+00.00	3968+25.00	Rt		25.0		Slope Protection
<b>RAMP A</b>						
1970+50.00	1973+85.00	Rt		325.0		Slope Protection
1970+35.00	1974+45.00	Lt		400.0		Slope Protection
1970+70.00	1976+85.00	Lt		600.0		Slope Protection
<b>ML US 20</b>						
943+00.00		Med		20.0		Ditch Check
943+50.00		Med		20.0		Ditch Check
944+00.00		Med		20.0		Ditch Check
944+50.00		Med		20.0		Ditch Check
945+00.00		Med		20.0		Ditch Check
945+50.00		Med		20.0		Ditch Check
946+00.00		Med		20.0		Ditch Check
946+50.00		Med		20.0		Ditch Check
947+00.00		Med		20.0		Ditch Check
947+50.00		Med		20.0		Ditch Check
948+00.00		Med		20.0		Ditch Check
948+50.00		Med		20.0		Ditch Check
949+00.00		Med		20.0		Ditch Check
949+50.00		Med		20.0		Ditch Check
950+00.00		Med		20.0		Ditch Check
950+50.00		Med		20.0		Ditch Check
951+00.00		Med		20.0		Ditch Check
951+50.00		Med		20.0		Ditch Check
952+00.00		Med		20.0		Ditch Check
952+50.00		Med		20.0		Ditch Check
953+00.00		Med		20.0		Ditch Check
953+50.00		Med		20.0		Ditch Check
954+00.00		Med		20.0		Ditch Check
962+00.00		Med		20.0		Ditch Check
962+50.00		Med		20.0		Ditch Check
963+00.00		Med		20.0		Ditch Check
963+50.00		Med		20.0		Ditch Check
964+00.00		Med		20.0		Ditch Check
964+50.00		Med		20.0		Ditch Check
965+00.00		Med		20.0		Ditch Check
965+50.00		Med		20.0		Ditch Check
966+00.00		Med		20.0		Ditch Check
966+50.00		Med		20.0		Ditch Check
967+00.00		Med		20.0		Ditch Check
967+50.00		Med		20.0		Ditch Check
968+00.00		Med		20.0		Ditch Check
968+50.00		Med		20.0		Ditch Check
969+00.00		Med		20.0		Ditch Check
969+50.00		Med		20.0		Ditch Check
970+00.00		Med		20.0		Ditch Check
970+50.00		Med		20.0		Ditch Check
971+00.00		Med		20.0		Ditch Check



**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE**

Possible Standards: EC-204

Location		Side	Length of Installation			Remarks
Begin Station	End Station		9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
971+50.00		Med		20.0	Ditch Check	
972+00.00		Med		20.0	Ditch Check	
972+50.00		Med		20.0	Ditch Check	
973+00.00		Med		20.0	Ditch Check	
973+50.00		Med		20.0	Ditch Check	
974+00.00		Med		20.0	Ditch Check	
974+50.00		Med		20.0	Ditch Check	
975+00.00		Med		20.0	Ditch Check	
975+50.00		Med		20.0	Ditch Check	
976+00.00		Med		20.0	Ditch Check	
976+50.00		Med		20.0	Ditch Check	
977+00.00		Med		20.0	Ditch Check	
977+50.00		Med		20.0	Ditch Check	
978+00.00		Med		20.0	Ditch Check	
979+00.00		Med		20.0	Ditch Check	
979+50.00		Med		20.0	Ditch Check	
980+00.00		Med		20.0	Ditch Check	
980+50.00		Med		20.0	Ditch Check	
981+00.00		Med		20.0	Ditch Check	
981+50.00		Med		20.0	Ditch Check	
982+00.00		Med		20.0	Ditch Check	
982+50.00		Med		20.0	Ditch Check	
983+00.00		Med		20.0	Ditch Check	
983+50.00		Med		20.0	Ditch Check	
984+00.00		Med		20.0	Ditch Check	
984+50.00		Med		20.0	Ditch Check	
985+00.00		Med		20.0	Ditch Check	
985+50.00		Med		20.0	Ditch Check	
986+00.00		Med		20.0	Ditch Check	
986+50.00		Med		20.0	Ditch Check	
987+00.00		Med		20.0	Ditch Check	
987+30.00		Med		20.0	Ditch Check	
987+60.00		Med		20.0	Ditch Check	
987+90.00		Med		20.0	Ditch Check	
988+20.00		Med		20.0	Ditch Check	
988+50.00		Med		20.0	Ditch Check	
988+80.00		Med		20.0	Ditch Check	
989+10.00		Med		20.0	Ditch Check	
989+40.00		Med		20.0	Ditch Check	
989+70.00		Med		20.0	Ditch Check	
990+00.00		Med		20.0	Ditch Check	
990+30.00		Med		20.0	Ditch Check	
990+60.00		Med		20.0	Ditch Check	
990+90.00		Med		20.0	Ditch Check	
991+20.00		Med		20.0	Ditch Check	
991+50.00		Med		20.0	Ditch Check	
991+80.00		Med		20.0	Ditch Check	
992+10.00		Med		20.0	Ditch Check	
993+40.00		Med		20.0	Ditch Check	
993+70.00		Med		20.0	Ditch Check	
994+00.00		Med		20.0	Ditch Check	
994+30.00		Med		20.0	Ditch Check	
994+60.00		Med		20.0	Ditch Check	
994+90.00		Med		20.0	Ditch Check	
995+20.00		Med		20.0	Ditch Check	
995+50.00		Med		20.0	Ditch Check	
995+80.00		Med		20.0	Ditch Check	
996+10.00		Med		20.0	Ditch Check	
996+40.00		Med		20.0	Ditch Check	
996+70.00		Med		20.0	Ditch Check	
997+00.00		Med		20.0	Ditch Check	
997+30.00		Med		20.0	Ditch Check	
997+60.00		Med		20.0	Ditch Check	
997+90.00		Med		20.0	Ditch Check	
998+10.00		Med		20.0	Ditch Check	
998+40.00		Med		20.0	Ditch Check	
998+70.00		Med		20.0	Ditch Check	
999+00.00		Med		20.0	Ditch Check	
999+30.00		Med		20.0	Ditch Check	
999+60.00		Med		20.0	Ditch Check	
999+90.00		Med		20.0	Ditch Check	
1000+20.00		Med		20.0	Ditch Check	
1000+50.00		Med		20.0	Ditch Check	
1000+80.00		Med		20.0	Ditch Check	
1001+10.00		Med		20.0	Ditch Check	
1001+40.00		Med		20.0	Ditch Check	
1001+70.00		Med		20.0	Ditch Check	
1002+00.00		Med		20.0	Ditch Check	
1002+30.00		Med		20.0	Ditch Check	
1002+60.00		Med		20.0	Ditch Check	
1002+90.00		Med		20.0	Ditch Check	

**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE**

Possible Standards: EC-204

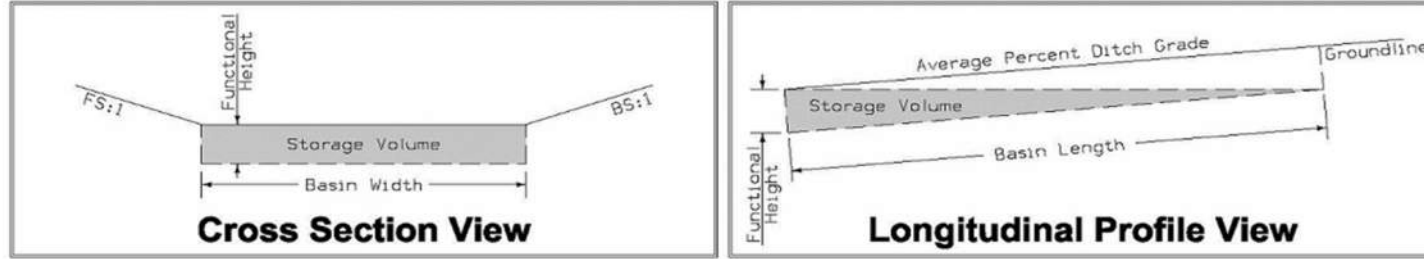
Location		Side	Length of Installation			Remarks
Begin Station	End Station		9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
1003+20.00		Med		20.0	Ditch Check	
1003+50.00		Med		20.0	Ditch Check	
1003+80.00		Med		20.0	Ditch Check	
1004+10.00		Med		20.0	Ditch Check	
1004+40.00		Med		20.0	Ditch Check	
1004+70.00		Med		20.0	Ditch Check	
1005+00.00		Med		20.0	Ditch Check	
1005+30.00		Med		20.0	Ditch Check	
1005+60.00		Med		20.0	Ditch Check	
1005+90.00		Med		20.0	Ditch Check	
1006+20.00		Med		20.0	Ditch Check	
1006+50.00		Med		20.0	Ditch Check	
1006+80.00		Med		20.0	Ditch Check	
1007+10.00		Med		20.0	Ditch Check	
1007+40.00		Med		20.0	Ditch Check	
1007+70.00		Med		20.0	Ditch Check	
1008+00.00		Med		20.0	Ditch Check	
1008+30.00		Med		20.0	Ditch Check	
1008+60.00		Med		20.0	Ditch Check	
1008+90.00		Med		20.0	Ditch Check	
1011+00.00		Med		20.0	Ditch Check	
1012+00.00		Med		20.0	Ditch Check	
1013+00.00		Med		20.0	Ditch Check	
1014+00.00		Med		20.0	Ditch Check	
1015+00.00		Med		20.0	Ditch Check	
1016+00.00		Med		20.0	Ditch Check	
1017+00.00		Med		20.0	Ditch Check	
1018+00.00		Med		20.0	Ditch Check	
1019+00.00		Med		20.0	Ditch Check	
1010+00.00		Med		20.0	Ditch Check	
1021+00.00		Med		20.0	Ditch Check	
1022+00.00		Med		20.0	Ditch Check	
1023+00.00		Med		20.0	Ditch Check	
1024+00.00		Med		20.0	Ditch Check	
1025+00.00		Med		20.0	Ditch Check	
1026+00.00		Med		20.0	Ditch Check	
1027+00.00		Med		20.0	Ditch Check	
1028+00.00		Med		20.0	Ditch Check	
1029+00.00		Med		20.0	Ditch Check	
1030+00.00		Med		20.0	Ditch Check	
1031+00.00		Med		20.0	Ditch Check	
1032+00.00		Med		20.0	Ditch Check	
1033+00.00		Med		20.0	Ditch Check	
1034+00.00		Med		20.0	Ditch Check	
1035+00.00		Med		20.0	Ditch Check	
1036+00.00		Med		20.0	Ditch Check	
1037+00.00		Med		20.0	Ditch Check	
1038+00.00		Med		20.0	Ditch Check	
1039+00.00		Med		20.0	Ditch Check	
1040+00.00		Med		20.0	Ditch Check	
			Total	44575.0	2584.0	







**SILT BASINS**  
Possible Standard: EW-403



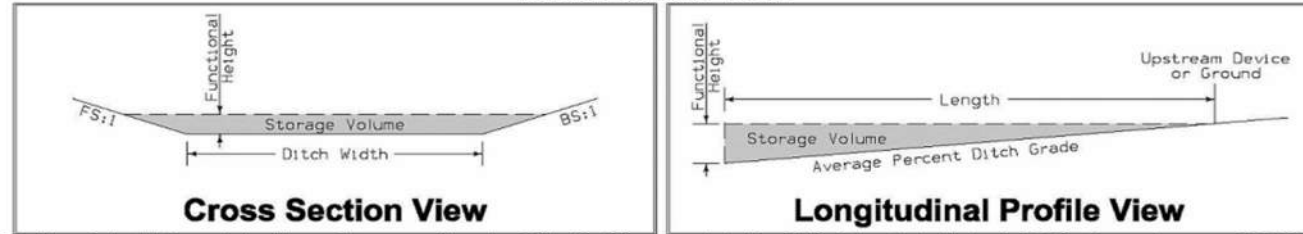
\* The functional height used in the volume equation is 95% of effective height. Effective height is 3 feet as shown in EW-403.  
\* Volume equation:  $(0.5 * Length * (Width * Height + Width * (Height - Length * Avg \% Slope)))$

Basin No.	Location		Bid Items		Stormwater Storage Volume Summary					Remarks
	Station	Side	Installation EACH	Removal EACH	Basin Width FT	Basin Length FT	Height FT	Avg. % Slope	Volume* CF	
9	967+40.00	Rt	1	1	10.0	50.0	2.85	1.5%	1237.5	Stg 1A/1B
9	4974+20.00	Rt	1	1	10.0	50.0	2.85	4.5%	862.5	
9	4975+10.00	Rt	1	1	10.0	50.0	2.85	3.2%	1025.0	
17	5962+30.00	Lt	1	1	10.0	50.0	2.85	3.4%	1000.0	
10	987+60.00	Med	1	1	10.0	50.0	2.85	2.3%	1137.5	Stg 3A/3B
10	988+20.00	Med	1	1	10.0	50.0	2.85	2.3%	1137.5	Stg 3A/3B
10	988+80.00	Med	1	1	10.0	50.0	2.85	2.3%	1137.5	Stg 3A/3B
10	989+40.00	Med	1	1	10.0	50.0	2.85	2.3%	1137.5	Stg 3A/3B
12	4981+40.00	Rt	1	1	10.0	50.0	2.85	2.5%	1112.5	
12	2006+10.00	Rt	1	1	10.0	50.0	2.85	0.4%	1375.0	
12	2000+00.00	Rt	1	1	10.0	50.0	2.85	0.5%	1362.5	
13	1015+15.00	Med	1	1	10.0	50.0	2.35	0.7%	1087.5	Stg 1A/1B
13	1015+75.00	Med	1	1	10.0	50.0	2.35	0.7%	1087.5	Stg 1A/1B
13	1016+30.00	Rt	1	1	16.0	50.0	2.85	0.2%	2240.0	
13	1015+70.00	Rt	1	1	16.0	50.0	2.85	0.2%	2240.0	
14	404+15.00	Rt	1	1	16.0	50.0	2.85	2.1%	1860.0	Stg 1A/1B
25	1041+30.00	Rt	1	1	10.0	50.0	2.85	2.1%	1162.5	
25	1040+60.00	Rt	1	1	10.0	50.0	2.85	2.1%	1162.5	
25	1039+90.00	Rt	1	1	10.0	50.0	2.85	2.1%	1162.5	
25	1053+70.00	Med	1	1	10.0	50.0	2.85	4.3%	887.5	Stg 3A/3B
25	1053+00.00	Med	1	1	10.0	50.0	2.35	4.3%	637.5	Stg 3A/3B
25	1052+30.00	Med	1	1	10.0	50.0	2.35	4.3%	637.5	Stg 3A/3B
25	1051+60.00	Med	1	1	10.0	50.0	2.35	4.3%	637.5	Stg 3A/3B
25	1050+90.00	Med	1	1	10.0	50.0	2.35	4.3%	637.5	Stg 3A/3B
<b>Stage 4</b>										
13	1015+15.00	Med	1	1	10.0	50.0	2.35	0.7%	1087.5	Stg 1A/1B
13	1015+75.00	Med	1	1	10.0	50.0	2.35	0.7%	1087.5	Stg 1A/1B
14	404+15.00	Rt	1	1	16.0	50.0	2.85	2.1%	1860.0	Stg 1A/1B
25	1053+70.00	Med	1	1	10.0	50.0	2.85	4.3%	887.5	Stg 3A/3B
25	1053+00.00	Med	1	1	10.0	50.0	2.35	4.3%	637.5	Stg 3A/3B
25	1052+30.00	Med	1	1	10.0	50.0	2.35	4.3%	637.5	Stg 3A/3B
25	1051+60.00	Med	1	1	10.0	50.0	2.35	4.3%	637.5	Stg 3A/3B
25	1050+90.00	Med	1	1	10.0	50.0	2.35	4.3%	637.5	Stg 3A/3B
26	1059+08.00	Rt	1	1	10.0	50.0	2.85	11.0%	712.5	
26	1059+25.00	Rt	1	1	10.0	50.0	2.85	11.0%	712.5	
26	1059+52.00	Rt	1	1	10.0	50.0	2.85	11.0%	712.5	
		<b>Total</b>	<b>299</b>	<b>299</b>						



### SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201

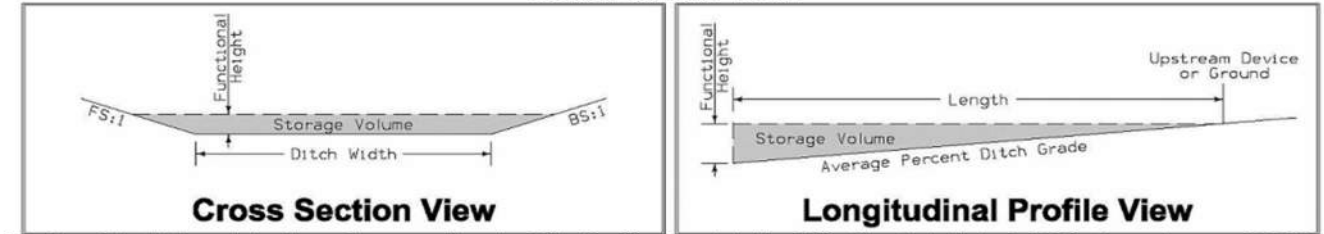


\* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.  
\* Volume equation: [0.5\*Spacing\*(0.5\*H<sup>2</sup>\*FS+DW\*H+0.5\*H<sup>2</sup>\*BS)]

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Volume* CF	Remarks
		Station	Side	Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg.% Slope Ditch Grade			
<b>Stage 1A/1B</b>													
1	1	8931+00.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	1.8%	689.6		
1	1	8932+00.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	0.5%	2666.6		
2	5	8931+65.00	Rt	73.0	73.0	73.0	3.0	0.1	10.0	2.1%	486.8		
2	5	8932+25.00	Rt	73.0	73.0	73.0	3.0	0.1	10.0	2.1%	486.8		
2	1	8932+85.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	3.0%	459.8		
2	1	8933+35.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	3.0%	459.8		
2	1	8933+85.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	3.0%	459.8		
2	1	8934+35.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	3.0%	459.8		
3	1	8935+35.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	4.5%	321.8		
3	1	8935+70.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	4.5%	321.8		
3	1	8936+05.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	4.5%	321.8		
3	1	8936+40.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	4.5%	321.8		
3	1	8936+75.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	4.5%	321.8		
3	1	8937+10.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	4.5%	321.8		
3	1	8937+45.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	4.5%	321.8		
3	1	8937+80.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	4.5%	321.8		
3	5	8939+15.00	Lt	130.0	130.0	130.0	3.0	2.5	10.0	1.2%	919.5		
3	1	8935+85.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	2.0%	689.6		
3	1	8936+60.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	2.0%	689.6		
3	1	8937+35.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	2.0%	689.6		
3	1	8938+10.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	2.0%	689.6		
3	1	8938+75.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8938+90.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8939+05.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8939+30.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	5	8940+25.00	Lt	56.0	56.0	56.0	3.0	0.1	10.0	3.8%	324.5		
3	1	8940+65.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8941+05.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8941+45.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8941+85.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8942+25.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8942+65.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8943+05.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8943+45.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8943+85.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8944+25.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.8%	367.8		
3	1	8941+35.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	0.5%	1287.3		
3	1	8941+60.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	2.7%	459.8		
3	1	8942+10.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	2.7%	459.8		
3	1	8942+60.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	2.7%	459.8		
3	1	8943+10.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	2.7%	459.8		
3	1	8943+60.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	2.7%	459.8		
4	1	8947+00.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.0%	459.8		
4	1	8947+50.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.0%	459.8		
4	1	8948+00.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.0%	459.8		
4	1	8946+60.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.7%	689.6		
4	1	8947+35.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.7%	689.6		
4	1	8948+10.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.7%	689.6		
4	1	8948+85.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.7%	689.6		
4	1	8949+00.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	5.0%	321.8		
4	1	8949+35.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	5.0%	321.8		
5	5	8957+20.00	Rt	66.0	66.0	66.0	3.0	0.5	15.0	3.5%	524.3		
5	5	8957+65.00	Rt	66.0	66.0	66.0	3.0	0.5	15.0	3.5%	524.3		
5	5	8958+10.00	Rt	66.0	66.0	66.0	3.0	0.5	15.0	3.5%	524.3		
5	5	8958+55.00	Rt	66.0	66.0	66.0	3.0	0.5	15.0	3.5%	524.3		
5	5	8959+00.00	Rt	66.0	66.0	66.0	3.0	0.5	15.0	3.5%	524.3		
5	5	8959+45.00	Rt	66.0	66.0	66.0	3.0	0.5	15.0	3.5%	524.3		
5	5	8959+90.00	Rt	66.0	66.0	66.0	3.0	0.5	15.0	3.5%	524.3		
7	5	8968+30.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	4.6%	401.5		
7	5	8968+65.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	4.6%	401.5		
7	5	8969+00.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	4.6%	401.5		
7	5	8969+35.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	4.6%	401.5		
7	5	8969+70.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	4.6%	401.5		
7	5	8970+05.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	4.6%	401.5		
7	5	8970+40.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	4.6%	401.5		
7	5	8970+75.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	4.6%	401.5		
7	5	8971+10.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	4.6%	401.5		

### SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



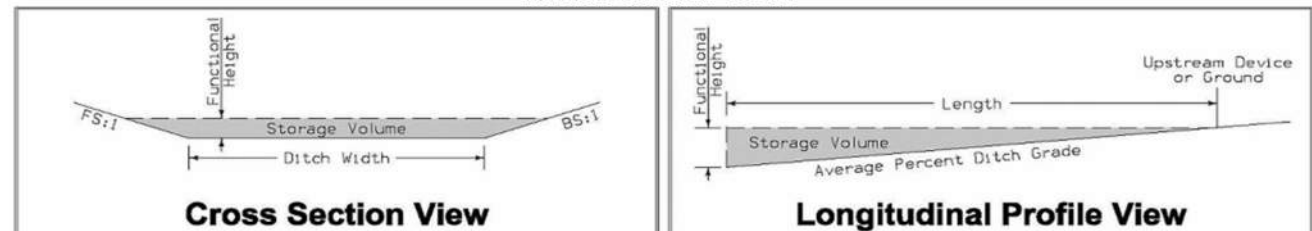
\* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.  
\* Volume equation: [0.5\*Spacing\*(0.5\*H<sup>2</sup>\*FS+DW\*H+0.5\*H<sup>2</sup>\*BS)]

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Volume* CF	Remarks
		Station	Side	Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg.% Slope Ditch Grade			
7	5	8971+45.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	4.6%	401.5		
7	5	8971+80.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	4.6%	401.5		
7	5	8972+65.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	3.4%	516.2		
7	5	8973+10.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	3.4%	516.2		
7	5	8973+55.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	3.4%	516.2		
7	5	8974+00.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	3.4%	516.2		
7	5	8974+45.00	Rt	65.0	65.0	65.0	3.0	0.1	15.0	3.4%	516.2		
8	5	9980+40.00	Rt	300.0	300.0	300.0	0.1	25.0	0.0	0.5%	3033.2		
8	5	9980+55.00	Rt	300.0	300.0	300.0	0.1	25.0	0.0	0.5%	3033.2		
8	5	9980+90.00	Rt	180.0	180.0	180.0	0.1	25.0	0.0	1.0%	1697.7		
8	5	9980+125.00	Rt	180.0	180.0	180.0	0.1	25.0	0.0	1.0%	1697.7		
9	1	960+40.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0		
9	1	961+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0		
9	1	961+50.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0		
9	1	962+65.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0		
9	1	963+40.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0		
9	1	964+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0		
9	1	965+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.5%	1077.3		
9	1	966+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.5%	1077.3		
9	1	967+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.5%	1077.3		
9	1	968+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.5%	1077.3		
9	1	971+75.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.2%	1077.3		
10	1	9993+40.00	Lt	28.0	28.0	28.0	6.0	3.0	10.0	1.0%	1669.8		
10	1	9993+60.00	Lt	28.0	28.0	28.0	6.0	3.0	10.0	1.0%	1669.8		
10	1	9991+90.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.6%	808.0		
10	1	9992+65.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.6%	808.0		
10	1	9993+40.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.6%	808.0		
10	1	9993+60.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	0.4%	2693.3		
10	1	9996+10.00	Rt	28.0	28.0	28.0							



**SILT FENCES FOR DITCH CHECKS**

Possible Standard: EC-201



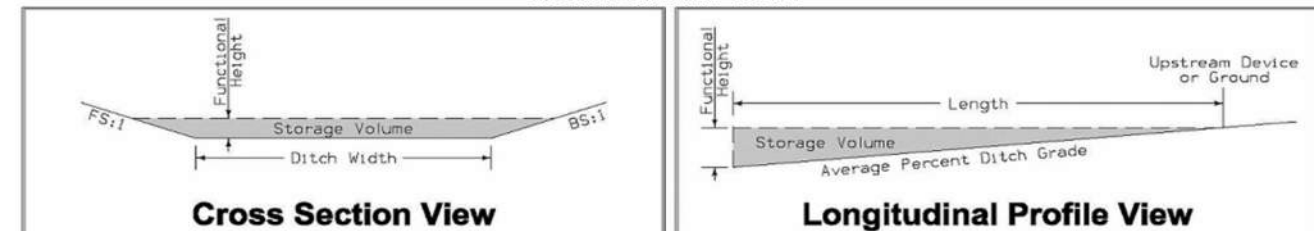
\* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.

\* Volume equation:  $[0.5 * \text{Spacing} * (0.5 * H^2 * FS + DW + H * 0.5 * H^2 * BS)]$

Basin No.	Type	Station	Side	Bid Items			Stormwater Storage Volume Summary					Remarks
				Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope Ditch Grade	Volume* CF	
15	5	1039+70.00	Lt	46.0	46.0	46.0	6.0	0.1	10.0	13.0%	189.3	
15	5	1039+40.00	Lt	46.0	46.0	46.0	6.0	0.1	10.0	13.0%	189.3	
15	5	1039+10.00	Lt	46.0	46.0	46.0	6.0	0.1	10.0	13.0%	189.3	
15	5	1038+80.00	Lt	46.0	46.0	46.0	6.0	0.1	10.0	13.0%	189.3	
15	5	1038+50.00	Lt	116.0	116.0	116.0	6.0	0.1	10.0	1.2%	946.6	
22	1	12002+50.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	4.8%	321.8	
22	5	12005+00.00	Rt	70.0	70.0	70.0	0.1	3.0	8.0	1.5%	677.0	
22	5	12005+50.00	Rt	70.0	70.0	70.0	0.1	3.0	8.0	1.5%	677.0	
22	5	12006+00.00	Rt	70.0	70.0	70.0	0.1	3.0	8.0	3.0%	338.5	
22	5	12006+50.00	Rt	70.0	70.0	70.0	0.1	3.0	8.0	3.0%	338.5	
22	5	12007+00.00	Rt	70.0	70.0	70.0	0.1	3.0	8.0	3.0%	338.5	
23	1	12011+90.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	2.7%	459.8	
23	1	12011+20.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	2.7%	459.8	
23	1	12010+70.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	2.7%	459.8	
23	1	12010+20.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	2.7%	459.8	
23	1	12018+60.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	1.9%	689.6	
23	1	12019+35.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	1.9%	689.6	
23	5	12018+40.00	Rt	68.0	68.0	68.0	3.0	0.1	10.0	2.8%	405.6	
23	5	12017+90.00	Rt	68.0	68.0	68.0	3.0	0.1	10.0	2.8%	405.6	
23	5	12017+40.00	Rt	68.0	68.0	68.0	3.0	0.1	10.0	2.8%	405.6	
23	5	12016+90.00	Rt	68.0	68.0	68.0	3.0	0.1	10.0	2.8%	405.6	
23	5	12016+40.00	Rt	36.0	36.0	36.0	3.0	0.1	10.0	15.0%	162.3	
23	5	12016+20.00	Rt	36.0	36.0	36.0	3.0	0.1	10.0	15.0%	162.3	
23	5	12016+00.00	Rt	36.0	36.0	36.0	3.0	0.1	10.0	15.0%	162.3	
23	5	12015+80.00	Rt	36.0	36.0	36.0	3.0	0.1	10.0	15.0%	162.3	
23	5	12015+60.00	Rt	36.0	36.0	36.0	3.0	0.1	10.0	15.0%	162.3	
23	5	12015+40.00	Rt	36.0	36.0	36.0	3.0	0.1	10.0	15.0%	162.3	
23	5	12015+20.00	Rt	36.0	36.0	36.0	3.0	0.1	10.0	15.0%	162.3	
23	5	12015+00.00	Rt	36.0	36.0	36.0	3.0	0.1	10.0	15.0%	162.3	
24	5	12028+00.00	Lt	80.0	80.0	80.0	3.0	0.1	12.0	2.8%	472.8	
24	5	12027+50.00	Lt	80.0	80.0	80.0	3.0	0.1	12.0	2.8%	472.8	
24	5	12027+00.00	Lt	80.0	80.0	80.0	3.0	0.1	12.0	2.8%	472.8	
24	5	12026+50.00	Lt	80.0	80.0	80.0	3.0	0.1	12.0	2.8%	472.8	
24	5	12026+00.00	Lt	80.0	80.0	80.0	3.0	0.1	12.0	2.8%	472.8	
24	5	12025+50.00	Lt	130.0	130.0	130.0	3.0	0.1	12.0	2.8%	472.8	
24	5	12025+10.00	Rt	120.0	120.0	120.0	3.0	0.1	12.0	1.4%	945.6	
24	5	12024+10.00	Rt	120.0	120.0	120.0	3.0	0.1	12.0	1.4%	945.6	
24	5	12023+10.00	Rt	170.0	170.0	170.0	3.0	0.1	12.0	0.6%	1465.7	
24	5	12021+65.00	Rt	175.0	175.0	175.0	3.0	0.1	12.0	0.6%	1465.7	
24	5	12020+20.00	Rt	95.0	95.0	95.0	3.0	0.1	12.0	1.8%	709.2	
24	5	12019+50.00	Rt	105.0	105.0	105.0	3.0	0.1	12.0	1.8%	709.2	
24	5	12025+15.00	Rt	120.0	120.0	120.0	3.0	0.1	12.0	1.4%	945.6	
24	5	12026+15.00	Rt	120.0	120.0	120.0	3.0	0.1	12.0	1.4%	945.6	
24	5	12027+15.00	Rt	120.0	120.0	120.0	3.0	0.1	12.0	1.4%	945.6	
27	1	918+15.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	11.0%	183.9	
27	1	918+40.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	11.0%	183.9	
<b>Stage 2A/2B</b>												
3	1	935+40.00	Rt	32.0	32.0	32.0	3.0	3.0	10.0	2.2%	565.2	
3	1	935+30.00	Lt	32.0	32.0	32.0	3.0	3.0	10.0	2.6%	471.0	
3	1	935+80.00	Lt	32.0	32.0	32.0	3.0	3.0	10.0	2.6%	471.0	
4	5	941+40.00	Rt	52.0	52.0	52.0	3.0	0.1	10.0	6.5%	162.3	
4	5	941+60.00	Rt	146.0	146.0	146.0	3.0	0.1	10.0	0.8%	1257.5	
4	5	945+10.00	Rt	166.0	166.0	166.0	3.0	0.1	10.0	1.0%	162.3	
4	5	946+60.00	Rt	166.0	166.0	166.0	3.0	0.1	10.0	1.0%	1257.5	
16	1	6934+95.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	4.5%	321.8	
16	1	6934+25.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	4.5%	321.8	
16	1	6933+90.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	4.5%	321.8	
16	1	6933+55.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	4.5%	321.8	
16	1	6932+75.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	4.5%	321.8	
16	1	6932+40.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	4.5%	321.8	
16	1	6932+05.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	4.5%	321.8	
16	1	6935+45.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.5%	321.8	
16	1	6934+75.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.6%	321.8	
16	1	6934+40.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.6%	321.8	
16	1	6934+05.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.6%	321.8	
16	1	6933+70.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.6%	321.8	
16	1	6933+35.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.6%	321.8	
16	1	6933+00.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.6%	321.8	

**SILT FENCES FOR DITCH CHECKS**

Possible Standard: EC-201



\* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.

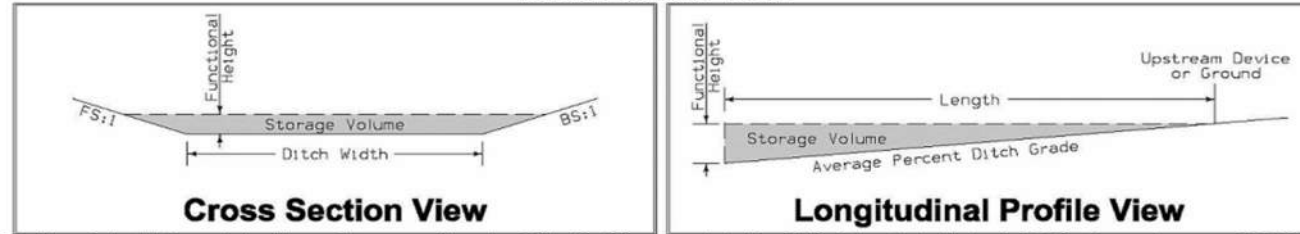
\* Volume equation:  $[0.5 * \text{Spacing} * (0.5 * H^2 * FS + DW + H * 0.5 * H^2 * BS)]$

Basin No.	Type	Station	Side	Bid Items			Stormwater Storage Volume Summary					Remarks
				Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope Ditch Grade	Volume* CF	
16	1	6932+65.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.6%	321.8	
16	1	6932+30.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.6%	321.8	
17	1	6949+50.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	0.4%	2896.4	
17	1	6949+45.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	0.4%	2896.4	
17	5	5960+50.00	Lt	94.0	94.0	94.0	3.0	0.1	10.0	6.0%	162.3	
17	5	5960+80.00	Lt	118.0	118.0	118.0	3.0	0.1	10.0	6.0%	162.3	
17	1	5960+90.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	1.6%	689.6	
17	1	5958+25.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	1.7%	689.6	
17	1	5957+50.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	1.7%	689.6	
17	1	5956+75.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	1.7%	689.6	
17	1	5956+00.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	0.9%	1425.2	
18	1	5959+90.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	3.0%	459.8	
18	1	5959+40.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	3.0%	459.8	
18	5	5956+10.00	Rt	240.0	240.0	240.0	3.0	0.1	5.0	0.5%	1497.9	
18	5	5955+90.00	Rt	165.0	165.0	165.0	3.0	0.1	5.0	1.5%	475.5	
18	5	7961+55.00	Rt	50.0	50.0	50.0	3.0	0.1	10.0	5.3%	243.4	
18	5	7961+25.00	Rt	50.0	50.0	50.0	3.0	0.1	10.0	5.3%	243.4	
18	5	7960+95.00	Rt	50.0	50.0	50.0	3.0	0.1	10.0	5.3%	243.4	
18	5	7960+65.00	Rt	50.0	50.0	50.0	3.0	0.1	10.0	5.3%	243.4	
18	5	7960+35.00	Rt	50.0	50.0	50.0	3.0	0.1	10.0	5.3%	243.4	
18	5	7961+75.00	Rt	65.0	65.0	65.0	3.0	0.1	10.0	3.3%	365.1	
18	5	7962+20.00	Rt	65.0	65.0	65.0	3.0	0.1	10.0	3.3%	365.1	
18	5	7962+65.00	Rt	65.0	65.0	65.0	3.0	0.1	10.0	3.3%	365.1	
18	1	7961+80.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.4%	321.8	
18	1	7961+00.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.4%	321.8	
18	1	7960+65.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	4.4%	321.8	
18	1	7961+90.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	1.4%	919.5	
18	1	7962+90.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	1.4%	919.5	
18	1	7963+90.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	1.4%	919.5	
19	5	7972+10.00	Rt	80.0	80.0	80.0	3.0	0.1	10.0	3.2%	365.1	
19	5	7971+40.00	Rt	17								



### SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201

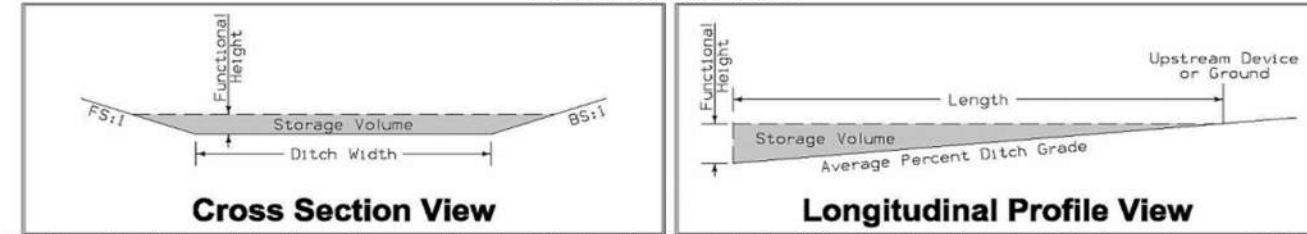


\* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.  
\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW + H * 0.5 * H^2 * BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope Ditch Grade	Volume* CF	
14	5	2023+90.00	Rt	164.0	164.0	164.0	6.0	0.1	2.0	1.4%	409.4	SFR
15	5	1038+80.00	Lt	46.0	46.0	46.0	6.0	0.1	10.0	13.0%	189.3	1A/1B
15	5	1038+50.00	Lt	116.0	116.0	116.0	6.0	0.1	10.0	1.2%	946.6	1A/1B
15	1	1037+75.00	Lt	28.0	28.0	28.0	6.0	3.0	10.0	2.1%	646.4	1A/1B
15	1	1037+10.00	Lt	28.0	28.0	28.0	6.0	3.0	10.0	2.1%	646.4	1A/1B
25	1	1039+80.00	Rt	27.0	27.0	27.0	6.0	6.0	10.0	2.0%	909.4	ML
25	1	1039+05.00	Rt	27.0	27.0	27.0	6.0	6.0	10.0	2.0%	909.4	ML
25	1	1038+30.00	Rt	27.0	27.0	27.0	6.0	6.0	10.0	2.0%	909.4	ML
25	1	1037+55.00	Rt	27.0	27.0	27.0	6.0	6.0	10.0	2.0%	909.4	ML
25	5	1035+80.00	Rt	76.0	76.0	76.0	6.0	6.0	5.0	0.2%	2762.1	
25	1	1054+30.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	
25	1	1053+60.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	
25	1	1052+90.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	
25	1	1052+20.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	
25	1	1051+50.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	
25	1	1050+80.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	298.5	
25	1	1050+45.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	
25	1	1050+10.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	
25	1	1049+75.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	
25	1	1049+40.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	
25	1	1049+05.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	
25	1	1048+70.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	
25	1	1048+35.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	
25	1	1048+00.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	
25	1	1047+65.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	
25	1	1047+30.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	
25	1	1046+95.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	
28	5	932+00.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	4.0%	126.3	
28	5	932+50.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	4.0%	126.3	
28	5	932+90.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	4.0%	126.3	
28	5	933+20.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	4.0%	126.3	
28	5	933+25.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	4.0%	126.3	
28	5	932+05.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	4.0%	126.3	
28	5	932+50.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	4.0%	126.3	
28	5	932+70.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	4.0%	126.3	
28	5	932+75.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	4.0%	126.3	
Stage 3A/3B												
3	1	935+40.00	Rt	32.0	32.0	32.0	3.0	3.0	10.0	2.2%	565.2	2A/1B
3	1	935+30.00	Lt	32.0	32.0	32.0	3.0	3.0	10.0	2.6%	471.0	2A/1B
3	1	935+80.00	Lt	32.0	32.0	32.0	3.0	3.0	10.0	2.6%	471.0	2A/1B
4	5	941+40.00	Rt	52.0	52.0	52.0	3.0	0.1	10.0	6.5%	162.3	2A/2B
4	5	941+60.00	Rt	146.0	146.0	146.0	3.0	0.1	10.0	0.8%	1257.5	2A/2B
4	5	945+10.00	Rt	166.0	166.0	166.0	3.0	0.1	10.0	1.0%	162.3	2A/2B
4	5	946+60.00	Rt	166.0	166.0	166.0	3.0	0.1	10.0	1.0%	1257.5	2A/2B
5	1	951+10.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	6.4%	183.9	
5	1	951+30.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	1.2%	919.5	
5	1	952+30.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	1.2%	919.5	
5	1	953+30.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	1.2%	919.5	
5	1	953+90.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	1.2%	919.5	
5	1	954+50.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	1.2%	919.5	
5	1	955+10.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	4.7%	321.8	
5	1	955+50.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	4.7%	321.8	
5	1	955+90.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	4.7%	321.8	
5	1	956+30.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	4.7%	321.8	
5	1	956+70.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	4.7%	321.8	
5	1	957+10.00	Rt	25.0	25.0	25.0	3.0	2.5	10.0	4.7%	321.8	
10	1	9993+60.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	0.4%	3393.6	1A/1B
19	1	7971+00.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.5%	413.8	2A/2B
19	1	7971+45.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.5%	413.8	2A/2B
19	1	7971+90.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.5%	413.8	2A/2B
19	5	7977+00.00	Lt	72.0	72.0	72.0	6.0	0.1	10.0	2.8%	473.3	
19	5	7977+50.00	Lt	72.0	72.0	72.0	6.0	0.1	10.0	2.8%	473.3	
19	5	7978+00.00	Lt	72.0	72.0	72.0	6.0	0.1	10.0	2.8%	473.3	
19	5	988+00.00	Rt	82.0	82.0	82.0	6.0	0.1	10.0	2.3%	567.9	
19	5	988+60.00	Rt	82.0	82.0	82.0	6.0	0.1	10.0	2.3%	567.9	
19	5	989+20.00	Rt	82.0	82.0	82.0	6.0	0.1	10.0	2.3%	567.9	
19	5	989+80.00	Rt	82.0	82.0	82.0	6.0	0.1	10.0	2.3%	567.9	
19	5	990+40.00	Rt	82.0	82.0	82.0	6.0	0.1	10.0	2.3%	567.9	

### SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



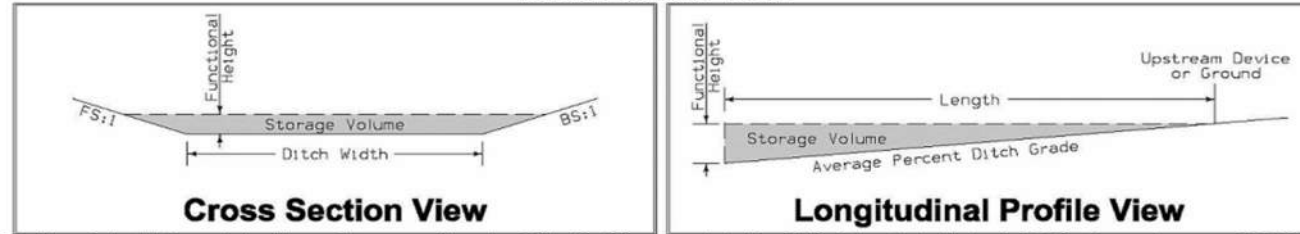
\* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.  
\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW + H * 0.5 * H^2 * BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope Ditch Grade	Volume* CF	
12	5	991+00.00	Rt	82.0	82.0	82.0	6.0	0.1	10.0	2.3%	567.9	
12	5	991+60.00	Rt	82.0	82.0	82.0	6.0	0.1	10.0	2.3%	567.9	
12	1	995+10.00	Rt	25.0	25.0	25.0	4.0	3.0	1.0	0.8%	593.3	
12	1	995+55.00	Rt	23.0	23.0	23.0	6.0	3.0	5.0	3.3%	333.7	
12	1	996+00.00	Rt	23.0	23.0	23.0	6.0	3.0	5.0	3.3%	333.7	
12	1	996+45.00	Rt	23.0	23.0	23.0	6.0	3.0	5.0	3.3%	333.7	
12	1	996+90.00	Rt	23.0	23.0	23.0	6.0	3.0	5.0	3.3%	333.7	
12	1	997+35.00	Rt	23.0	23.0	23.0	6.0	3.0	5.0	3.3%	333.7	
12	1	998+05.00	Rt	23.0	23.0	23.0	6.0	3.0	5.0	2.0%	556.2	
12	1	998+75.00	Rt	23.0	23.0	23.0	6.0	3.0	5.0	2.0%	556.2	
12	1	999+45.00	Rt	23.0	23.0	23.0	6.0	3.0	5.0	2.0%	556.2	
12	1	1000+15.00	Rt	23.0	23.0	23.0	6.0	3.0	5.0	2.0%	556.2	
12	1	1995+65.00	Lt	17.0	17.0	17.0	3.0	3.0	5.0	1.8%	454.7	2A/2B
12	1	1995+00.00	Lt	17.0	17.0	17.0	3.0	3.0	5.0	4.5%	212.2	
12	1	1994+45.00	Lt	17.0	17.0	17.0	3.0	3.0	5.0	4.5%	212.2	
12	1	1994+15.00	Lt	17.0	17.0	17.0	3.0	3.0	5.0	4.5%	212.2	
12	1	1993+85.00	Lt	17.0	17.0	17.0	3.0	3.0	5.0	4.5%	212.2	
12	1	1994+00.00	Rt	22.0	22.0	22.0	3.0	3.0	10.0	5.3%	282.6	
12	1	1994+30.00	Rt	22.0	22.0	22.0	3.0	3.0	10.0	5.3%	282.6	
12	1	1995+70.00	Rt	22.0	22.0	22.0	3.0	3.0	10.0	5.3%	282.6	
12	1	1005+75.00	Rt	22.0	22.0	22.0	3.0	3.0	10.0	2.0%	706.5	2A/2B
12	1	1005+00.00	Rt	22.0	22.0	22.0	3.0	3.0	10.0	2.0%	706.5	2A/2B
12	1	1004+25.00	Rt	22.0	22.0	22.0	3.0	3.0	10.0	2.0%	706.5	2A/2B
12	1	1003+50.00	Rt	22.0	22.0	22.0	3.0	3.0	10.0	2.0%	706.5	2A/2B
14	1	412+75.00	Rt	36.0	36.0	36.0	6.0	3.0	18.0	0.4%	5085.7	1A/1B
15	5	1040+60.00	Lt	46.0	46.0	46.0	6.0	0.1	10.0	13.0%	189.3	1A/1B
15	5	1040+30.00	Lt	46.0	46.0	46.0	6.0	0.1	10.0	13.0%	189.3	1A/1B
15	5	1040+00.00	Lt	46.0	46.0	46.0	6.0	0.1	10.0	13.0%	189.3	1A/1B
15	5	1039+70.00	Lt	46.0	46.0	46.0	6.0	0.1	10.0	13.0%	189.3	1A/1B
15	5	1039+40.00	Lt	46.0	46.0	46.0	6.0	0.1	10.0	13.0%	189.3	1A/1B
15	5	1039+10.00	Lt	46.0	46.0	46.0	6.0	0.1	10.0	13.0%	189.3	1A/1B
15	5	103										



### SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201

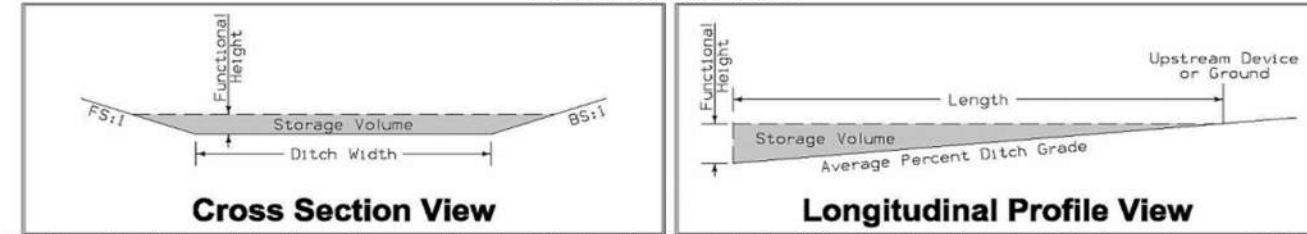


\* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.  
\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg.% Slope Ditch Grade	Volume* CF	
4	1	947+65.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	2.0%	689.6	
4	1	948+40.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	2.0%	689.6	
5	1	951+15.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.1%	321.8	
5	1	950+80.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.1%	321.8	
5	1	950+45.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.1%	321.8	
5	1	950+10.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.1%	321.8	
5	1	949+75.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	5.5%	275.9	
5	1	949+45.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	5.5%	275.9	
5	1	949+15.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	5.5%	275.9	
5	1	951+25.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.1%	919.5	
5	1	952+25.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.1%	919.5	
5	1	953+25.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.7%	321.8	
5	1	953+60.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.7%	321.8	
5	1	953+95.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.7%	321.8	
5	1	954+30.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.7%	321.8	
5	1	954+65.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.7%	321.8	
5	1	955+00.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.7%	321.8	
5	1	955+35.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.7%	321.8	
5	1	955+70.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.7%	321.8	
5	1	956+05.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.7%	321.8	
5	1	956+40.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	4.7%	321.8	
5	1	2956+75.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.2%	919.5	
5	1	2957+75.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.2%	919.5	
5	1	2958+75.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.2%	919.5	
5	1	2959+75.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.2%	919.5	
5	1	2960+75.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.2%	919.5	
5	1	2961+75.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	1.2%	919.5	
9	1	2970+90.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	0.4%	2896.4	
9	1	2968+00.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	0.8%	1425.2	
9	1	2966+35.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	0.8%	1425.2	
9	1	2964+80.00	Rt	21.0	21.0	21.0	3.0	2.5	10.0	0.8%	1425.2	
9	1	5965+25.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.3%	413.8	
9	1	5964+60.00	Lt	21.0	21.0	21.0	3.0	2.5	10.0	3.3%	413.8	
9	1	960+40.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0	
9	1	961+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0	
9	1	961+90.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0	
9	1	962+65.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0	
9	1	963+40.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0	
9	1	964+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.0%	808.0	
9	1	965+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.5%	1077.3	
9	1	966+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.5%	1077.3	
9	1	967+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.5%	1077.3	
9	1	968+15.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.5%	1077.3	
9	1	971+75.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.2%	1077.3	
9	1	4973+65.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	4.5%	369.2	
9	1	4973+30.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	4.5%	369.2	
9	1	4972+95.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	4.5%	369.2	
9	1	4972+60.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	4.5%	369.2	
9	1	4972+25.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	4.5%	369.2	
9	1	4971+90.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	4.5%	369.2	
9	1	4971+55.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	4.5%	369.2	
9	1	4971+20.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	4.5%	369.2	
9	1	4970+85.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	4.5%	369.2	
9	1	4970+50.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	4.5%	369.2	
9	1	4975+00.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	3.2%	474.6	
17	5	5961+20.00	Lt	42.0	42.0	42.0	3.0	0.1	10.0	7.0%	162.3	
17	5	5961+40.00	Lt	42.0	42.0	42.0	3.0	0.1	10.0	7.0%	162.3	
17	5	5961+60.00	Lt	42.0	42.0	42.0	3.0	2.5	10.0	7.0%	183.9	
17	5	5961+80.00	Lt	42.0	42.0	42.0	3.0	0.1	10.0	7.0%	162.3	
17	1	5962+20.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	3.4%	413.8	
17	1	5962+90.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	3.4%	413.8	
17	1	5963+35.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	3.4%	413.8	
17	1	5963+80.00	Lt	36.0	36.0	36.0	3.0	2.5	10.0	3.4%	413.8	
17	1	5961+10.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	3.5%	413.8	
17	1	5961+55.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	3.5%	413.8	
17	1	5962+00.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	3.5%	413.8	
17	1	5962+45.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	3.5%	413.8	
17	1	5962+90.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	3.2%	413.8	

### SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



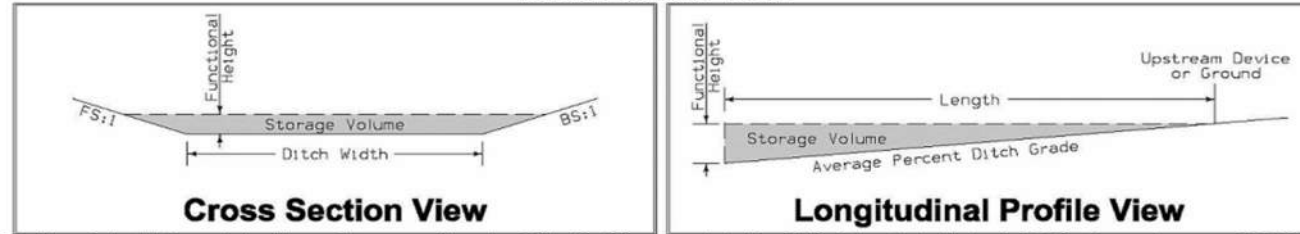
\* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.  
\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg.% Slope Ditch Grade	Volume* CF	
17	1	5963+35.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	3.2%	413.8	
17	1	5963+80.00	Rt	36.0	36.0	36.0	3.0	2.5	10.0	3.2%	413.8	
12	1	4977+00.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.5%	632.9	
12	1	4976+40.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.5%	632.9	
12	1	986+00.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	1.2%	1054.8	
12	1	985+00.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	1.2%	1054.8	
12	1	984+00.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	1.2%	1054.8	
12	1	983+00.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	1.2%	1054.8	
12	1	1001+00.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	998+60.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	998+00.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	997+40.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	996+80.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	996+20.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	995+60.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	995+00.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	994+40.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	993+80.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	5	993+20.00	Rt	87.0	87.0	87.0	6.0	0.1	10.0	2.3%	567.9	
12	5	992+60.00	Rt	87.0	87.0	87.0	6.0	0.1	10.0	2.3%	567.9	
12	5	992+00.00	Rt	87.0	87.0	87.0	6.0	0.1	10.0	2.3%	567.9	
12	5	991+40.00	Rt	87.0	87.0	87.0	6.0	0.1	10.0	2.3%	567.9	
12	5	990+80.00	Rt	87.0	87.0	87.0	6.0	0.1	10.0	2.3%	567.9	
12	5	990+20.00	Rt	87.0	87.0	87.0	6.0	0.1	10.0	2.3%	567.9	
12	5	989+60.00	Rt	87.0	87.0	87.0	6.0	0.1	10.0	2.3%	567.9	
12	5	989+00.00	Rt	87.0	87.0	87.0	6.0	0.1	10.0	2.3%	567.9	
12	1	988+40.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	987+80.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	987+20.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	986+60.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	2.3%	632.9	
12	1	1001+35.00	Rt	27.0	27.0	27.0	6.0	2.5	10.0	4.2%	369.2	
12	1	1001+70.00	Rt	27.0	27.0							



### SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201

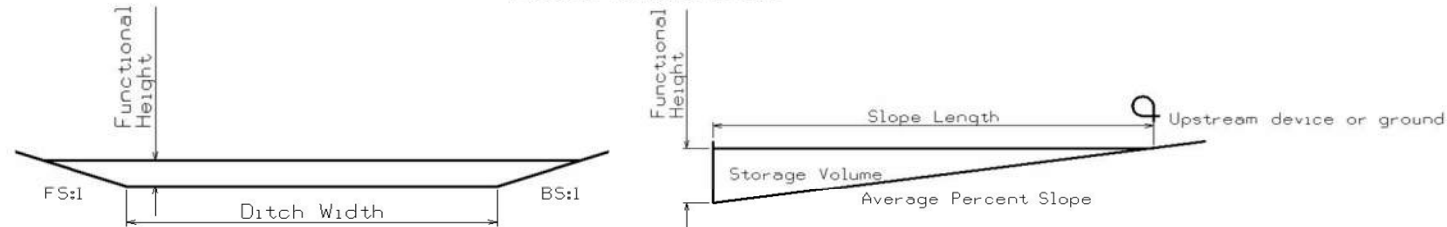


\* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.  
\* Volume equation:  $[0.5 * \text{Spacing} * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary				Volume* CF	Remarks	
		Station	Side	Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope Ditch Grade			
25	1	1040+50.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.1%	646.4		
25	1	1039+80.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.1%	646.4		
25	1	1039+20.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.1%	646.4		
25	1	1038+60.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.1%	646.4		
25	1	1038+00.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.1%	646.4		
25	1	1037+40.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.1%	646.4		
25	1	1036+80.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	2.1%	646.4		
25	1	1036+05.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.6%	808.0		
25	1	1035+30.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.6%	808.0		
25	1	1034+55.00	Rt	28.0	28.0	28.0	6.0	3.0	10.0	1.6%	808.0		
25	1	1054+30.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	3A/3B	
25	1	1053+60.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	3A/3B	
25	1	1052+90.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	3A/3B	
25	1	1052+20.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	3A/3B	
25	1	1051+50.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	3A/3B	
25	1	1050+80.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	298.5	3A/3B	
25	1	1050+45.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1050+10.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1049+75.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1049+40.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1049+05.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1048+70.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1048+35.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1048+00.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1047+65.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1047+30.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1046+95.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
Stage 4													
25	1	1054+30.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	3A/3B	
25	1	1053+60.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	3A/3B	
25	1	1052+90.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	3A/3B	
25	1	1052+20.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	3A/3B	
25	1	1051+50.00	Med	24.0	24.0	24.0	4.0	4.0	8.0	4.3%	314.3	3A/3B	
25	1	1050+80.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	298.5	3A/3B	
25	1	1050+45.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1050+10.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1049+75.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1049+40.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1049+05.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1048+70.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1048+35.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1048+00.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1047+65.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1047+30.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
25	1	1046+95.00	Med	22.0	22.0	22.0	4.0	3.0	8.0	4.3%	110.5	3A/3B	
26	5	1059+05.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	11.0%	63.1		
26	5	1059+20.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	11.0%	63.1		
26	5	1059+45.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	11.0%	63.1		
26	5	1059+80.00	Rt	75.0	75.0	75.0	4.0	3.0	0.0	11.0%	63.1		
26	5	1059+50.00	Rt	60.0	60.0	60.0	4.0	3.0	0.0	11.0%	63.1		
26	5	1059+60.00	Rt	60.0	60.0	60.0	4.0	3.0	0.0	11.0%	63.1		
26	5	1059+80.00	Rt	60.0	60.0	60.0	4.0	3.0	0.0	11.0%	63.1		
26	5	1060+05.00	Rt	60.0	60.0	60.0	4.0	3.0	0.0	11.0%	63.1		
26	5	1060+35.00	Rt	60.0	60.0	60.0	4.0	3.0	0.0	11.0%	63.1		
26	5	1060+75.00	Rt	60.0	60.0	60.0	4.0	3.0	0.0	11.0%	63.1		
26	5	1061+20.00	Rt	60.0	60.0	60.0	4.0	3.0	0.0	11.0%	63.1		
26	5	1061+65.00	Rt	60.0	60.0	60.0	4.0	3.0	0.0	11.0%	63.1		
Total:				26820.0	26820.0	26820.0							

### ROCK CHECK DAM

Possible Standard: EC-302



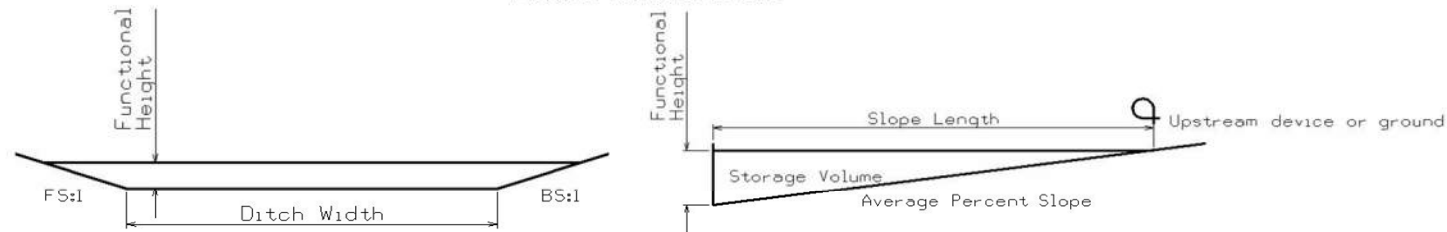
\* The functional height used in the volume equation is 90% of effective height. Effective height is 2 feet as shown in EC-302.

\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Location		Bid Items				Stormwater Storage Volume Summary					Remarks
	Station	Side	Offset FT	Installation LF	Maintenance Each	Removal Each	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope	Volume* CF	
<b>Stage 1A/1B</b>												
3	8944+10.00	Rt	55.0	21.0	21	21	3.0	2.5	10.0	2.7%	874.6	
3	8944+60.00	Rt	50.0	21.0	21	21	3.0	2.5	10.0	2.7%	874.6	
3	8945+10.00	Rt	45.0	21.0	21	21	3.0	2.5	10.0	2.7%	874.6	
3	8945+60.00	Rt	40.0	21.0	21	21	3.0	2.5	10.0	2.7%	874.6	
4	8945+50.00	Lt	40.0	21.0	21	21	3.0	2.5	10.0	3.0%	874.6	
4	8946+00.00	Lt	43.0	21.0	21	21	3.0	2.5	10.0	3.0%	874.6	
4	8946+50.00	Lt	45.0	21.0	21	21	3.0	2.5	10.0	3.0%	874.6	
4	8949+00.00	Rt	50.0	21.0	21	21	3.0	3.0	10.0	2.9%	900.9	
4	8949+75.00	Rt	46.0	21.0	21	21	3.0	3.0	10.0	2.9%	900.9	
4	8950+50.00	Lt	42.0	21.0	21	21	3.0	2.5	10.0	5.0%	538.2	
4	8951+00.00	Lt	40.0	21.0	21	21	3.0	2.5	10.0	2.0%	1345.5	
4	8951+75.00	Lt	40.0	21.0	21	21	3.0	2.5	10.0	2.0%	1345.5	
4	8952+50.00	Lt	40.0	21.0	21	21	3.0	2.5	10.0	2.0%	1345.5	
4	8953+25.00	Lt	40.0	21.0	21	21	3.0	2.5	10.0	2.0%	1345.5	
4	8950+50.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	
4	8951+00.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	
4	8951+50.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	
4	8952+00.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	
4	8952+50.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	
4	8953+00.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	
4	8953+50.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	
5	8955+90.00	Rt	55.0	21.0	21	21	3.0	2.5	10.0	0.4%	5382.0	
5	8956+05.00	Rt	55.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	
5	8957+40.00	Rt	50.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	
5	8957+85.00	Rt	49.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	
5	8958+30.00	Rt	48.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	
5	8958+75.00	Rt	47.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	
5	8959+20.00	Rt	46.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	
5	8959+65.00	Rt	45.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	
5	8960+10.00	Rt	44.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	
5	8960+55.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	1.5%	1749.2	
5	8961+55.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	1.5%	1749.2	
5	8962+55.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	1.5%	1749.2	
5	8954+00.00	Lt	86.0	21.0	21	21	3.0	2.5	10.0	2.7%	874.6	
5	8954+30.00	Lt	39.0	21.0	21	21	3.0	2.5	10.0	2.7%	874.6	
5	8954+85.00	Lt	49.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	
5	8955+40.00	Lt	59.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	
5	8955+95.00	Lt	68.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	
5	8956+25.00	Lt	76.0	21.0	21	21	3.0	2.5	10.0	5.6%	403.7	
5	8956+55.00	Lt	83.0	21.0	21	21	3.0	2.5	10.0	5.6%	403.7	
5	8956+85.00	Lt	91.0	21.0	21	21	3.0	2.5	10.0	5.6%	403.7	
5	8957+15.00	Lt	98.0	21.0	21	21	3.0	2.5	10.0	5.6%	403.7	
5	8957+45.00	Lt	105.0	21.0	21	21	3.0	2.5	10.0	5.6%	403.7	
5	8957+75.00	Lt	112.0	21.0	21	21	3.0	2.5	10.0	5.6%	403.7	
5	8958+05.00	Lt	120.0	21.0	21	21	3.0	2.5	10.0	5.6%	403.7	
5	8958+35.00	Lt	127.0	21.0	21	21	3.0	2.5	10.0	5.6%	403.7	
5	8958+70.00	Lt	130.0	21.0	21	21	3.0	2.5	10.0	3.0%	874.6	
5	8959+35.00	Lt	123.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
5	8959+55.00	Lt	119.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
5	8959+75.00	Lt	115.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
5	8959+95.00	Lt	112.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
5	8960+15.00	Lt	108.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
5	8960+35.00	Lt	104.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
5	8960+55.00	Lt	99.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
5	8960+75.00	Lt	95.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
5	8960+95.00	Lt	91.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
6	8964+20.00	Rt	45.0	21.0	21	21	3.0	2.5	10.0	1.5%	1749.2	
6	8965+20.00	Rt	45.0	21.0	21	21	3.0	2.5	10.0	1.5%	1749.2	
6	8964+20.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
6	8964+55.00	Lt	54.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
6	8964+90.00	Lt	56.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
6	8965+25.00	Lt	60.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
6	8965+40.00	Lt	60.0	21.0	21	21	3.0	2.5	10.0	3.0%	874.6	
6	8966+10.00	Lt	52.0	21.0	21	21	3.0	2.5	10.0	3.0%	874.6	
6	8966+80.00	Lt	45.0	21.0	21	21	3.0	2.5	10.0	3.0%	874.6	
6	8965+40.00	Rt	45.0	21.0	21	21	3.0	2.5	10.0	0.9%	2691.0	
6	8966+90.00	Rt	45.0	21.0	21	21	3.0	2.5	10.0	0.9%	2691.0	

### ROCK CHECK DAM

Possible Standard: EC-302



\* The functional height used in the volume equation is 90% of effective height. Effective height is 2 feet as shown in EC-302.

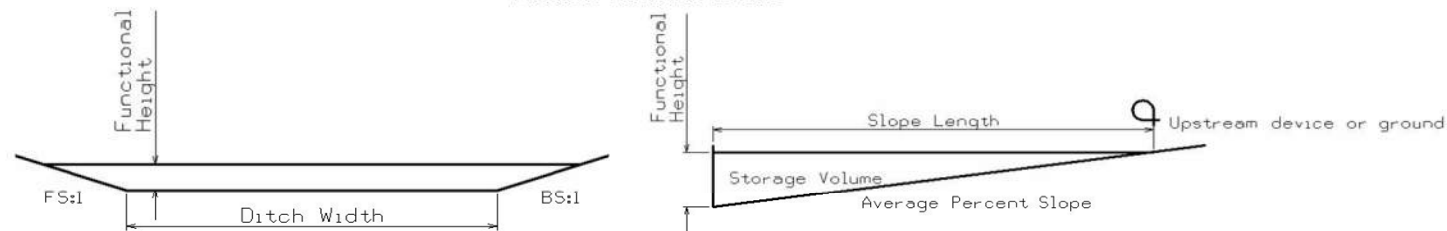
\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Location			Bid Items			Stormwater Storage Volume Summary					Remarks
	Station	Side	Offset FT	Installation LF	Maintenance Each	Removal Each	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope	Volume* CF	
7	8968+60.00	Lt	47.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8968+85.00	Lt	53.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8969+10.00	Lt	59.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8969+35.00	Lt	66.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8969+60.00	Lt	72.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8969+85.00	Lt	79.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8970+10.00	Lt	85.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8970+35.00	Lt	92.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8970+60.00	Lt	99.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8970+85.00	Lt	106.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8971+10.00	Lt	114.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8971+35.00	Lt	121.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8971+60.00	Lt	128.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8971+85.00	Lt	136.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8972+10.00	Lt	143.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8972+35.00	Lt	150.0	21.0	21	21	3.0	2.5	10.0	7.8%	336.4	
7	8968+10.00	Rt	38.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8968+45.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8968+80.00	Rt	47.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8969+15.00	Rt	52.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8969+50.00	Rt	57.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8969+85.00	Rt	63.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8970+20.00	Rt	69.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8970+55.00	Rt	75.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8970+90.00	Rt	82.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8971+25.00	Rt	89.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8971+60.00	Rt	96.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8971+95.00	Rt	103.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8972+30.00	Rt	110.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
7	8972+70.00	Rt	113.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
7	8973+05.00	Rt	111.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
7	8973+50.00	Rt	109.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
7	8973+85.00	Rt	107.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
7	8974+30.00	Rt	106.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
7	960+40.00	Lt	90.0	28.0	28	28	6.0	3.0	10.0	2.5%	1303.2	
7	961+10.00	Lt	90.0	28.0	28	28	6.0	3.0	10.0	2.5%	1303.2	
7	961+80.00	Lt	90.0	28.0	28	28	6.0	3.0	10.0	2.5%	1303.2	
7	962+50.00	Lt	90.0	28.0	28	28	6.0	3.0	10.0	2.5%	1303.2	
7	963+20.00	Lt	90.0	28.0	28	28	6.0	3.0	10.0	2.5%	1303.2	
7	963+90.00	Lt	90.0	28.0	28	28	6.0	3.0	10.0	2.5%	1303.2	
7	964+60.00	Lt	90.0	28.0	28	28	6.0	3.0	10.0	2.5%	1303.2	
7	965+30.00	Lt	90.0	28.0	28	28	6.0	3.0	10.0	2.5%	1303.2	
7	965+90.00	Lt	90.0	28.0	28	28	6.0	3.0	10.0	0.4%	6516.0	
8	9980+20.00	Rt	105.0	28.0	28	28	6.0	3.0	10.0	0.5%	6516.0	
8	9980+40.00	Rt	101.0	28.0	28	28	6.0	3.0	10.0	1.0%	3258.0	
8	9978+60.00	Lt	124.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
8	9978+80.00	Lt	125.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
8	9979+00.00	Lt	127.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
8	9979+20.00	Lt	128.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
8	9979+40.00	Lt	130.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
8	9979+60.00	Lt	132.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
8	9979+80.00	Lt	133.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
8	9980+00.00	Lt	135.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
8	9980+20.00	Lt	136.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
8	9980+30.00	Lt	135.0	21.0	21	21	3.0	2.5	10.0	3.8%	672.8	
8	9980+55.00	Lt	129.0	21.0	21	21	3.0	2.5	10.0	3.8%	672.8	
8	9980+80.00	Lt	122.0	21.0	21	21	3.0	2.5	10.0	3.8%	672.8	
8	9981+05.00	Lt	115.0	21.0	21	21	3.0	2.5	10.0	3.8%	672.8	
8	9981+30.00	Lt	108.0	21.0	21	21	3.0	2.5	10.0	3.8%	672.8	
8	9981+55.00	Lt	101.0	21.0	21	21	3.0	2.5	10.0	3.8%	672.8	
8	9981+80.00	Lt	94.0	21.0	21	21	3.0	2.5	10.0	3.8%	672.8	
8	9982+05.00	Lt	88.0	21.0	21	21	3.0	2.5	10.0	3.8%	672.8	
8	9982+30.00	Lt	81.0	21.0	21	21	3.0	2.5	10.0	3.8%	672.8	
9	9982+90.00	Lt	78.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
9	9983+15.00	Lt	80.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
9	9983+40.00	Lt	82.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
9	9983+65.00	Lt	85.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
9	9983+90.00	Lt	87.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	



### ROCK CHECK DAM

Possible Standard: EC-302



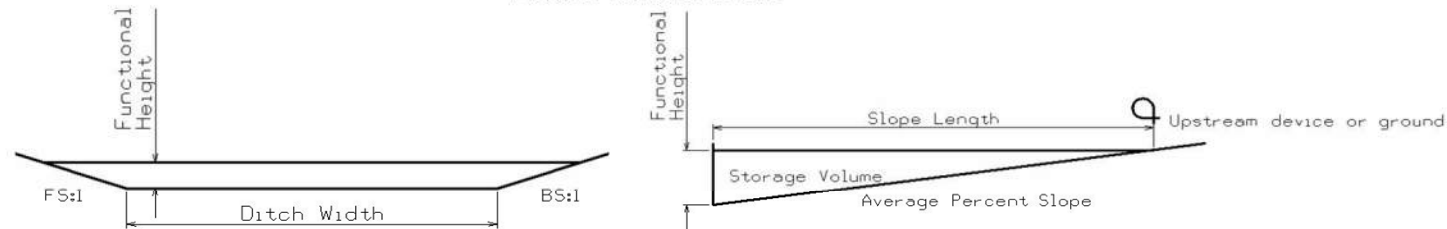
\* The functional height used in the volume equation is 90% of effective height. Effective height is 2 feet as shown in EC-302.

\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Location		Bid Items				Stormwater Storage Volume Summary					Remarks
	Station	Side	Offset FT	Installation LF	Maintenance Each	Removal Each	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope	Volume* CF	
9	9984+15.00	Lt	90.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
9	9984+40.00	Lt	93.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
9	9984+65.00	Lt	95.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
9	9984+90.00	Lt	98.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
9	9985+15.00	Lt	102.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
9	9985+35.00	Lt	105.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
9	9985+55.00	Lt	109.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
9	9985+75.00	Lt	112.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
9	9985+95.00	Lt	116.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
9	9986+15.00	Lt	120.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
9	9986+35.00	Lt	123.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
9	9986+55.00	Lt	127.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
9	9986+75.00	Lt	131.0	21.0	21	21	3.0	2.5	10.0	9.0%	269.1	
9	9982+15.00	Rt	69.0	21.0	21	21	3.0	2.5	10.0	5.2%	470.9	
9	9982+50.00	Rt	69.0	21.0	21	21	3.0	2.5	10.0	5.2%	470.9	
9	9982+85.00	Rt	69.0	21.0	21	21	3.0	2.5	10.0	5.2%	470.9	
9	9983+20.00	Rt	69.0	21.0	21	21	3.0	2.5	10.0	5.2%	470.9	
9	9983+55.00	Rt	69.0	21.0	21	21	3.0	2.5	10.0	5.2%	470.9	
9	9983+90.00	Rt	69.0	21.0	21	21	3.0	2.5	10.0	5.2%	470.9	
9	9984+25.00	Rt	70.0	21.0	21	21	3.0	2.5	10.0	5.2%	470.9	
9	9984+60.00	Rt	71.0	21.0	21	21	3.0	2.5	10.0	5.2%	470.9	
9	9984+95.00	Rt	72.0	21.0	21	21	3.0	2.5	10.0	5.2%	470.9	
9	9985+30.00	Rt	74.0	21.0	21	21	3.0	2.5	10.0	5.2%	470.9	
9	9985+65.00	Rt	76.0	21.0	21	21	3.0	2.5	10.0	5.2%	470.9	
9	9985+90.00	Rt	76.0	21.0	21	21	3.0	2.5	10.0	1.0%	2691.0	
9	9987+90.00	Rt	57.0	21.0	21	21	3.0	2.5	10.0	1.0%	2691.0	
9	9989+90.00	Rt	46.0	21.0	21	21	3.0	2.5	10.0	1.0%	2691.0	
9	9987+25.00	Lt	132.0	21.0	21	21	3.0	2.5	10.0	4.0%	672.8	
9	9988+00.00	Lt	119.0	21.0	21	21	3.0	2.5	10.0	4.0%	672.8	
9	9988+75.00	Lt	108.0	21.0	21	21	3.0	2.5	10.0	4.0%	672.8	
9	9989+50.00	Lt	98.0	21.0	21	21	3.0	2.5	10.0	4.0%	672.8	
9	9990+25.00	Lt	87.0	21.0	21	21	3.0	2.5	10.0	4.0%	672.8	
9	972+20.00	Rt	93.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	
9	972+65.00	Rt	97.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	
9	973+10.00	Rt	102.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	
9	973+55.00	Rt	106.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	
9	974+00.00	Rt	111.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	
9	974+45.00	Rt	115.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	
9	974+90.00	Rt	119.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	
9	972+00.00	Lt	88.0	28.0	28	28	6.0	3.0	10.0	1.2%	2117.7	
9	973+60.00	Lt	94.0	21.0	21	21	3.0	2.5	10.0	3.1%	740.0	
9	974+30.00	Lt	98.0	21.0	21	21	3.0	2.5	10.0	3.1%	740.0	
9	975+00.00	Lt	102.0	21.0	21	21	3.0	2.5	10.0	3.1%	740.0	
9	975+70.00	Lt	106.0	21.0	21	21	3.0	2.5	10.0	3.1%	740.0	
9	976+40.00	Lt	110.0	21.0	21	21	3.0	2.5	10.0	3.1%	740.0	
9	976+75.00	Lt	104.0	21.0	21	21	3.0	2.5	10.0	9.1%	269.1	
9	975+10.00	Rt	120.0	21.0	21	21	3.0	2.5	10.0	1.4%	1749.2	
9	976+40.00	Rt	110.0	21.0	21	21	3.0	2.5	10.0	1.4%	1749.2	
9	977+70.00	Rt	100.0	21.0	21	21	3.0	2.5	10.0	1.4%	1749.2	
10	9991+30.00	Lt	84.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
10	9991+55.00	Lt	90.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
10	9991+80.00	Lt	95.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
10	9992+05.00	Lt	101.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
10	9992+30.00	Lt	107.0	21.0	21	21	3.0	2.5	10.0	8.0%	336.4	
10	9994+70.00	Lt	105.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
10	9995+10.00	Lt	99.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
10	9995+50.00	Lt	93.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
10	9995+90.00	Lt	87.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
10	9996+30.00	Lt	81.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
10	9996+70.00	Lt	74.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
10	9997+10.00	Lt	68.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
10	9997+50.00	Lt	62.0	21.0	21	21	3.0	2.5	10.0	4.6%	538.2	
11	9998+65.00	Lt	67.0	21.0	21	21	3.0	2.5	10.0	7.0%	336.4	
11	9998+90.00	Lt	72.0	21.0	21	21	3.0	2.5	10.0	7.0%	336.4	
11	9999+15.00	Lt	77.0	21.0	21	21	3.0	2.5	10.0	7.0%	336.4	
11	9999+40.00	Lt	82.0	21.0	21	21	3.0	2.5	10.0	7.0%	336.4	
11	9999+65.00	Lt	87.0	21.0	21	21	3.0	2.5	10.0	7.0%	336.4	
11	9999+90.00	Lt	91.0	21.0	21	21	3.0	2.5	10.0	7.0%	336.4	

### ROCK CHECK DAM

Possible Standard: EC-302



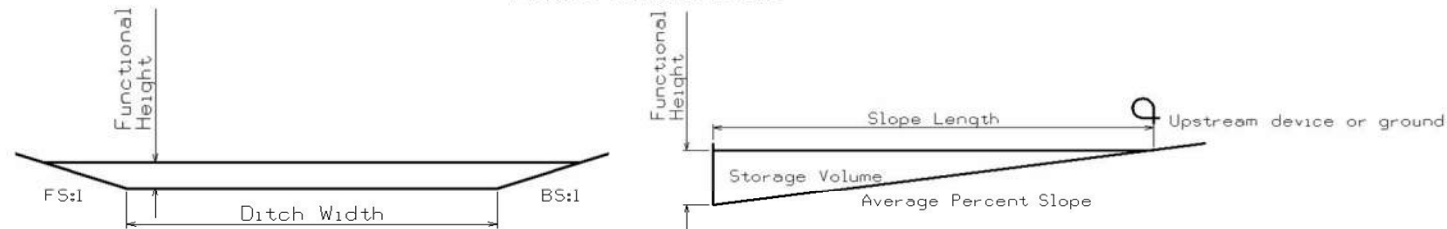
\* The functional height used in the volume equation is 90% of effective height. Effective height is 2 feet as shown in EC-302.

\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Location		Bid Items				Stormwater Storage Volume Summary					Remarks
	Station	Side	Offset FT	Installation LF	Maintenance Each	Removal Each	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope	Volume* CF	
11	1000+15.00	Lt	96.0	21.0	21	21	3.0	2.5	10.0	7.0%	336.4	
11	1000+40.00	Lt	101.0	21.0	21	21	3.0	2.5	10.0	7.0%	336.4	
11	1001+15.00	Lt	105.0	28.0	28	28	6.0	3.0	10.0	1.1%	2117.7	
11	1002+15.00	Lt	95.0	28.0	28	28	6.0	3.0	10.0	1.1%	2117.7	
11	1003+15.00	Lt	85.0	28.0	28	28	6.0	3.0	10.0	1.1%	2117.7	
11	1004+15.00	Lt	75.0	28.0	28	28	6.0	3.0	10.0	1.1%	2117.7	
11	1005+15.00	Lt	67.0	28.0	28	28	6.0	3.0	10.0	1.1%	2117.7	
11	1006+15.00	Lt	60.0	28.0	28	28	6.0	3.0	10.0	1.1%	2117.7	
11	1007+40.00	Rt	39.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
11	1006+70.00	Rt	39.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
11	1006+00.00	Rt	39.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
11	1005+30.00	Rt	39.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
11	1004+60.00	Rt	39.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
12	10012+30.00	Rt	39.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
12	10011+60.00	Rt	39.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
12	10010+90.00	Rt	39.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
12	10010+20.00	Rt	39.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
12	10009+50.00	Rt	39.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
12	10008+80.00	Rt	39.0	21.0	21	21	3.0	2.5	10.0	3.4%	740.0	
12	10017+80.00	Lt	298.0	56.0	56	56	3.0	2.5	45.0	19.1%	899.1	
12	10017+60.00	Lt	287.0	56.0	56	56	3.0	2.5	45.0	19.1%	899.1	
12	10017+40.00	Lt	276.0	56.0	56	56	3.0	2.5	45.0	19.1%	899.1	
12	10017+20.00	Lt	265.0	56.0	56	56	3.0	2.5	45.0	19.1%	899.1	
12	10017+00.00	Lt	251.0	51.0	51	51	3.0	2.5	40.0	19.1%	809.1	
12	10016+80.00	Lt	237.0	46.0	46	46	3.0	2.5	35.0	19.1%	719.1	
12	10016+60.00	Lt	226.0	46.0	46	46	3.0	2.5	35.0	19.1%	719.1	
12	10016+40.00	Lt	210.0	36.0	36	36	3.0	2.5	25.0	19.1%	539.1	
12	10016+20.00	Lt	197.0	31.0	31	31	3.0	2.5	20.0	19.1%	449.1	
12	10016+00.00	Lt	186.0	31.0	31	31	3.0	2.5	20.0	19.1%	449.1	
12	10015+80.00	Lt	176.0	31.0	31	31	3.0	2.5	20.0	19.1%	449.1	
12	10015+60.00	Lt	164.0	26.0	26	26	3.0	2.5	15.0	19.1%	359.1	
12	10015+40.00	Lt	155.0	26.0	26	26	3.0	2.5	15.0	19.1%	359.1	
12	10015+20.00	Lt	147.0	26.0	26	26	3.0	2.5	15.0	19.1%	359.1	
12	10015+00.00	Lt	145.0	26.0	26	26	3.0	2.5	15.0	19.1%	359.1	
12	10014+30.00	Lt	145.0	20.0	20	20	3.0	7.0	0.0	9.3%	162.0	
12	10014+10.00	Lt	138.0	20.0	20	20	3.0	7.0	0.0	9.3%	162.0	
12	10013+90.00	Lt	131.0	20.0	20	20	3.0	7.0	0.0	9.3%	162.0	
12	10013+70.00	Lt	125.0	20.0	20	20	3.0	7.0	0.0	9.3%	162.0	
12	10013+50.00	Lt	117.0	20.0	20	20	3.0	7.0	0.0	9.3%	162.0	
12	10013+30.00	Lt	114.0	20.0	20	20	3.0	7.0	0.0	9.3%	162.0	
12	10013+10.00	Lt	110.0	20.0	20	20	3.0	7.0	0.0	9.3%	162.0	
12	10012+90.00	Lt	107.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10012+70.00	Lt	103.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10012+50.00	Lt	100.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10012+30.00	Lt	98.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10012+10.00	Lt	94.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10011+90.00	Lt	92.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10011+70.00	Lt	87.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10011+50.00	Lt	83.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10011+30.00	Lt	78.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10011+10.00	Lt	78.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10010+90.00	Lt	74.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10010+70.00	Lt	72.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10010+50.00	Lt	70.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10010+30.00	Lt	63.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10010+10.00	Lt	56.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10009+90.00	Lt	48.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10009+70.00	Lt	43.0	20.0	20	20	3.0	7.0	0.0	9.5%	162.0	
12	10009+50.00	Lt	38.0	28.0	28	28	3.0	2.5	10.0	5.0%	538.2	
13	10022+70.00	Lt	160.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	
13	10022+55.00	Lt	148.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	
13	10022+40.00	Lt	136.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	
13	10022+25.00	Lt	124.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	
13	10022+10.00	Lt	113.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	
13	10021+95.00	Lt	101.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	
13	10021+80.00	Lt	89.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	
13	10021+65.00	Lt	77.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	
13	10021+50.00	Lt	65.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	

### ROCK CHECK DAM

Possible Standard: EC-302



\* The functional height used in the volume equation is 90% of effective height. Effective height is 2 feet as shown in EC-302.

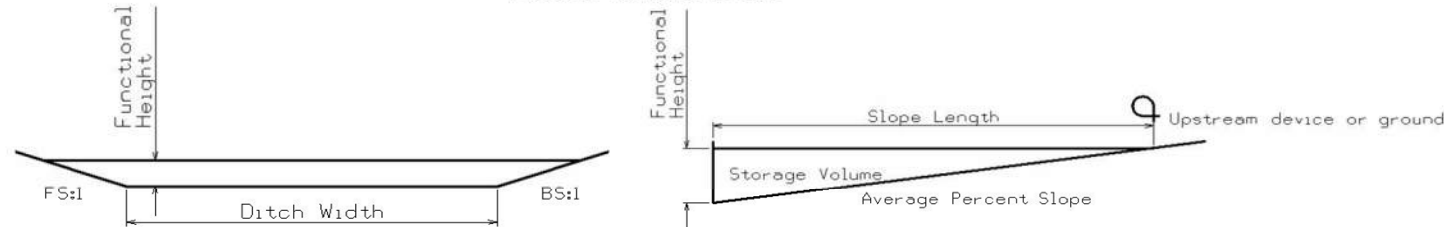
\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Location		Bid Items				Stormwater Storage Volume Summary					Remarks
	Station	Side	Offset FT	Installation LF	Maintenance Each	Removal Each	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope	Volume* CF	
13	10021+35.00	Lt	54.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	
13	10021+20.00	Lt	42.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	
13	400+70.00	Lt	25.0	28.0	28	28	3.0	3.0	10.0	1.8%	1386.0	
13	401+00.00	Lt	25.0	28.0	28	28	3.0	3.0	10.0	1.4%	1801.8	
13	401+05.00	Rt	30.0	28.0	28	28	6.0	3.0	10.0	0.8%	3258.0	
14	404+90.00	Lt	82.0	28.0	28	28	3.0	2.5	10.0	19.5%	269.1	
14	404+70.00	Lt	81.0	28.0	28	28	3.0	2.5	10.0	19.5%	269.1	
14	404+50.00	Lt	72.0	28.0	28	28	3.0	2.5	10.0	19.5%	269.1	
14	404+30.00	Lt	61.0	28.0	28	28	3.0	2.5	10.0	19.5%	269.1	
14	404+10.00	Lt	48.0	28.0	28	28	3.0	2.5	10.0	19.5%	269.1	
14	403+90.00	Lt	34.0	28.0	28	28	3.0	2.5	10.0	19.5%	269.1	
14	403+70.00	Lt	26.0	28.0	28	28	3.0	2.5	10.0	19.5%	269.1	
14	404+80.00	Rt	30.0	28.0	28	28	3.0	2.5	16.0	2.1%	1508.4	
14	404+00.00	Rt	30.0	28.0	28	28	3.0	2.5	23.0	2.1%	2012.4	
14	405+00.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	3.6%	672.8	
14	405+70.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	3.6%	672.8	
14	406+40.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	406+70.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	407+00.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	407+30.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	407+60.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	407+90.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	408+20.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	408+50.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	408+80.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	409+10.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	409+40.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	409+70.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	410+00.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	410+30.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	410+60.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	410+90.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	411+20.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	406+50.00	Lt	102.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	406+70.00	Lt	97.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	406+90.00	Lt	91.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	407+10.00	Lt	85.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	407+30.00	Lt	81.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	407+50.00	Lt	72.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	407+70.00	Lt	64.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	407+90.00	Lt	58.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	408+10.00	Lt	50.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	408+30.00	Lt	42.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	408+50.00	Lt	36.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	408+70.00	Lt	28.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	408+90.00	Lt	26.0	28.0	28	28	3.0	2.5	10.0	15.8%	269.1	
14	409+10.00	Lt	26.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	409+40.00	Lt	26.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	409+70.00	Lt	26.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	410+00.00	Lt	26.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	410+30.00	Lt	26.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	410+60.00	Lt	28.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	410+90.00	Lt	34.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	411+20.00	Lt	33.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	411+50.00	Lt	31.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	411+80.00	Lt	33.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	412+10.00	Lt	35.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
14	412+40.00	Lt	32.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	
15	1037+45.00	Lt	30.0	28.0	28	28	6.0	3.0	10.0	5.3%	570.2	
15	1037+75.00	Lt	135.0	28.0	28	28	6.0	3.0	10.0	2.1%	1303.2	
15	1037+10.00	Lt	135.0	28.0	28	28	6.0	3.0	10.0	2.1%	1303.2	
15	1036+45.00	Lt	135.0	36.0	36	36	6.0	3.0	10.0	2.1%	1303.2	
15	1035+85.00	Lt	105.0	36.0	36	36	6.0	3.0	18.0	0.9%	4698.0	
15	1034+70.00	Lt	90.0	36.0	36	36	6.0	3.0	12.0	0.9%	3618.0	
22	12002+85.00	Lt	58.0	21.0	21	21	3.0	2.5	10.0	2.2%	1076.4	
22	12004+10.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	2.2%	1076.4	
22	12004+80.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	2.5%	538.2	
22	12005+20.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	3.0%	538.2	



### ROCK CHECK DAM

Possible Standard: EC-302



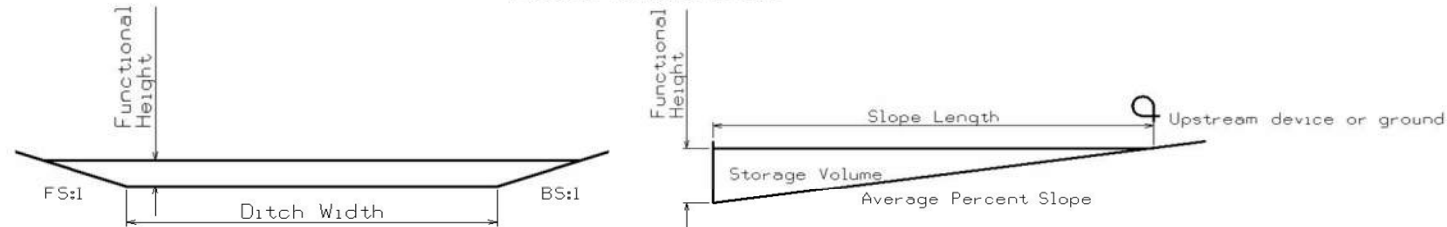
\* The functional height used in the volume equation is 90% of effective height. Effective height is 2 feet as shown in EC-302.

\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Location		Bid Items				Stormwater Storage Volume Summary					Remarks
	Station	Side	Offset FT	Installation LF	Maintenance Each	Removal Each	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope	Volume* CF	
22	12005+60.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	3.0%	538.2	
22	12006+00.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	3.0%	672.8	
22	12006+50.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	3.0%	672.8	
22	12007+00.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	3.0%	672.8	
22	12007+50.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	2.5%	672.8	
22	12008+00.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	1.0%	1345.5	
22	12009+00.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	1.0%	1345.5	
23	12018+40.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.3%	605.5	
23	12017+90.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.3%	605.5	
23	12017+40.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.3%	605.5	
23	12016+90.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.3%	605.5	
23	12016+40.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.3%	605.5	
23	12015+90.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.3%	605.5	
23	12015+50.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.8%	538.2	
23	12015+10.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.8%	538.2	
23	12014+70.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.8%	538.2	
23	12014+30.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.8%	538.2	
23	12013+90.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.8%	538.2	
23	12013+50.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.8%	538.2	
23	12013+10.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.8%	538.2	
23	12012+70.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.8%	538.2	
23	12012+30.00	Lt	50.0	21.0	21	21	3.0	2.5	10.0	4.8%	538.2	
Stage 2A/2B												
16	6940+10.00	Rt	87.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6939+85.00	Rt	85.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6939+60.00	Rt	80.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6939+35.00	Rt	74.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6939+10.00	Rt	69.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6938+85.00	Rt	66.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6938+60.00	Rt	63.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6938+35.00	Rt	60.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6938+10.00	Rt	57.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6937+85.00	Rt	55.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6936+45.00	Rt	45.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6936+20.00	Rt	44.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6935+95.00	Rt	42.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6935+70.00	Rt	42.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6935+45.00	Rt	42.0	28.0	28	28	3.0	2.5	10.0	8.0%	336.4	
16	6940+25.00	Lt	70.0	28.0	28	28	3.0	2.5	10.0	2.0%	1345.5	
16	6939+25.00	Lt	71.0	28.0	28	28	3.0	2.5	10.0	7.5%	336.4	
16	6939+00.00	Lt	68.0	28.0	28	28	3.0	2.5	10.0	7.5%	336.4	
16	6938+75.00	Lt	65.0	28.0	28	28	3.0	2.5	10.0	7.5%	336.4	
16	6936+40.00	Lt	41.0	28.0	28	28	3.0	2.5	10.0	7.5%	336.4	
16	6936+15.00	Lt	39.0	28.0	28	28	3.0	2.5	10.0	7.5%	336.4	
16	6941+80.00	Rt	59.0	28.0	28	28	3.0	2.5	10.0	4.8%	538.2	
16	6942+20.00	Rt	56.0	28.0	28	28	3.0	2.5	10.0	4.8%	538.2	
16	6942+60.00	Rt	52.0	28.0	28	28	3.0	2.5	10.0	4.8%	538.2	
16	6943+05.00	Rt	50.0	36.0	36	36	3.0	2.5	10.0	4.8%	538.2	
16	6943+40.00	Rt	49.0	36.0	36	36	3.0	2.5	10.0	4.8%	538.2	
16	6943+75.00	Rt	48.0	36.0	36	36	3.0	2.5	10.0	4.8%	538.2	
16	6944+10.00	Rt	45.0	36.0	36	36	3.0	2.5	10.0	4.8%	538.2	
16	6944+45.00	Rt	44.0	36.0	36	36	3.0	2.5	10.0	4.8%	538.2	
16	6944+80.00	Rt	42.0	36.0	36	36	3.0	2.5	10.0	4.8%	538.2	
16	6945+10.00	Rt	41.0	36.0	36	36	3.0	2.5	10.0	2.4%	1076.4	
16	6945+90.00	Rt	40.0	36.0	36	36	3.0	2.5	10.0	2.4%	1076.4	
16	6942+40.00	Lt	54.0	28.0	28	28	3.0	2.5	10.0	3.3%	740.0	
16	6943+00.00	Lt	49.0	28.0	28	28	3.0	2.5	10.0	3.3%	740.0	
16	6943+60.00	Lt	45.0	36.0	36	36	3.0	2.5	10.0	3.3%	740.0	
16	6944+05.00	Lt	44.0	36.0	36	36	3.0	2.5	10.0	3.3%	740.0	
16	6944+50.00	Lt	43.0	36.0	36	36	3.0	2.5	10.0	3.3%	740.0	
16	6944+95.00	Lt	42.0	36.0	36	36	3.0	2.5	10.0	2.4%	1076.4	
16	6945+75.00	Lt	41.0	36.0	36	36	3.0	2.5	10.0	2.4%	1076.4	
16	6946+55.00	Lt	40.0	36.0	36	36	3.0	2.5	10.0	2.4%	1076.4	
17	6954+10.00	Rt	111.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6953+85.00	Rt	106.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6953+60.00	Rt	101.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6953+35.00	Rt	97.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6953+10.00	Rt	93.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	

### ROCK CHECK DAM

Possible Standard: EC-302



\* The functional height used in the volume equation is 90% of effective height. Effective height is 2 feet as shown in EC-302.

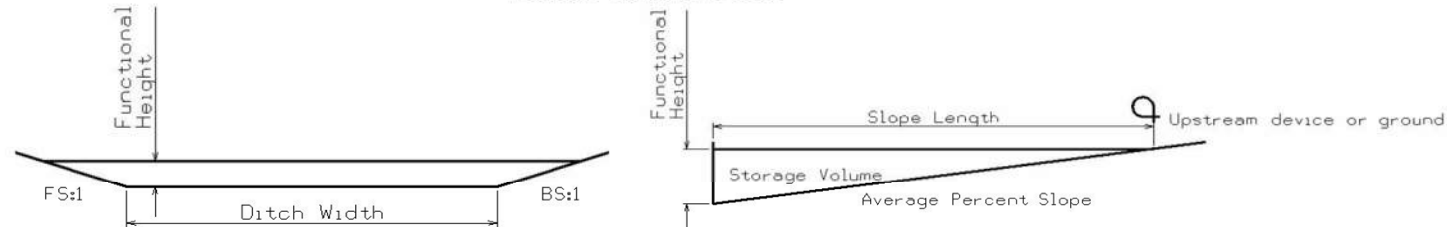
\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Location		Bid Items				Stormwater Storage Volume Summary					Remarks
	Station	Side	Offset FT	Installation LF	Maintenance Each	Removal Each	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope	Volume* CF	
17	6952+85.00	Rt	90.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6952+60.00	Rt	87.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6952+35.00	Rt	83.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6952+10.00	Rt	79.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6951+85.00	Rt	76.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6951+60.00	Rt	71.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6951+35.00	Rt	67.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6951+10.00	Rt	62.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6950+85.00	Rt	57.0	28.0	28	28	3.0	2.5	10.0	6.6%	336.4	
17	6954+75.00	Lt	93.0	28.0	28	28	3.0	2.5	10.0	5.3%	470.9	
17	6954+40.00	Lt	86.0	28.0	28	28	3.0	2.5	10.0	5.3%	470.9	
17	6954+05.00	Lt	80.0	28.0	28	28	3.0	2.5	10.0	5.3%	470.9	
17	6953+70.00	Lt	74.0	28.0	28	28	3.0	2.5	10.0	5.3%	470.9	
17	6953+35.00	Lt	70.0	28.0	28	28	3.0	2.5	10.0	5.3%	470.9	
17	6953+00.00	Lt	66.0	28.0	28	28	3.0	2.5	10.0	5.3%	470.9	
17	6952+65.00	Lt	63.0	28.0	28	28	3.0	2.5	10.0	5.3%	470.9	
17	6952+30.00	Lt	59.0	28.0	28	28	3.0	2.5	10.0	5.3%	470.9	
17	6951+95.00	Lt	56.0	28.0	28	28	3.0	2.5	10.0	5.3%	470.9	
17	6951+60.00	Lt	52.0	28.0	28	28	3.0	2.5	10.0	5.3%	470.9	
17	6954+65.00	Rt	116.0	28.0	28	28	3.0	2.5	10.0	7.0%	336.4	
17	6954+90.00	Rt	111.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6955+10.00	Rt	107.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6955+30.00	Rt	103.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6955+50.00	Rt	99.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6955+70.00	Rt	96.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6955+90.00	Rt	92.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6956+10.00	Rt	89.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6956+30.00	Rt	85.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6956+50.00	Rt	82.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6956+70.00	Rt	79.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6956+90.00	Rt	76.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6957+10.00	Rt	73.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6957+30.00	Rt	69.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6957+50.00	Rt	67.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6957+70.00	Rt	62.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6957+90.00	Rt	57.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6958+10.00	Rt	52.0	28.0	28	28	3.0	2.5	10.0	10.2%	269.1	
17	6954+95.00	Lt	94.0	28.0	28	28	3.0	2.5	10.0	4.7%	269.1	
17	6956+60.00	Lt	81.0	28.0	28	28	3.0	2.5	10.0	11.5%	269.1	
17	6956+80.00	Lt	77.0	28.0	28	28	3.0	2.5	10.0	11.5%	269.1	
17	6957+00.00	Lt	73.0	28.0	28	28	3.0	2.5	10.0	11.5%	269.1	
17	6957+20.00	Lt	69.0	28.0	28	28	3.0	2.5	10.0	11.5%	269.1	
17	6957+40.00	Lt	63.0	28.0	28	28	3.0	2.5	10.0	11.5%	269.1	
17	6957+60.00	Lt	59.0	28.0	28	28	3.0	2.5	10.0	11.5%	269.1	
17	6957+80.00	Lt	56.0	28.0	28	28	3.0	2.5	10.0	11.5%	269.1	
Stage 3A/3B												
4	8949+00.00	Rt	50.0	21.0	21	21	3.0	3.0	10.0	2.9%	900.9	Stg 1A/1B
4	8949+75.00	Rt	46.0	21.0	21	21	3.0	3.0	10.0	2.9%	900.9	Stg 1A/1B
4	8950+50.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	Stg 1A/1B
4	8951+00.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	Stg 1A/1B
4	8951+50.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	Stg 1A/1B
4	8952+00.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	Stg 1A/1B
4	8952+50.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	Stg 1A/1B
4	8953+00.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	Stg 1A/1B
4	8953+50.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	2.9%	874.6	Stg 1A/1B
5	8955+90.00	Rt	55.0	21.0	21	21	3.0	2.5	10.0	0.4%	5382.0	Stg 1A/1B
5	8956+05.00	Rt	55.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	Stg 1A/1B
5	8957+40.00	Rt	50.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	Stg 1A/1B
5	8957+85.00	Rt	49.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	Stg 1A/1B
5	8958+30.00	Rt	48.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	Stg 1A/1B
5	8958+75.00	Rt	47.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	Stg 1A/1B
5	8959+20.00	Rt	46.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	Stg 1A/1B
5	8959+65.00	Rt	45.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	Stg 1A/1B
5	8960+10.00	Rt	44.0	21.0	21	21	3.0	2.5	10.0	3.5%	740.0	Stg 1A/1B
5	8960+55.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	1.5%	1749.2	Stg 1A/1B
5	8961+55.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	1.5%	1749.2	Stg 1A/1B
5	8962+55.00	Rt	42.0	21.0	21	21	3.0	2.5	10.0	1.5%	1749.2	Stg 1A/1B
13	10022+70.00	Lt	160.0	21.0	21	21	3.0	2.5	10.0	28.3%	269.1	Stg 1A/1B



### ROCK CHECK DAM

Possible Standard: EC-302



\* The functional height used in the volume equation is 90% of effective height. Effective height is 2 feet as shown in EC-302.

\* Volume equation:  $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Location		Bid Items				Stormwater Storage Volume Summary					Remarks
	Station	Side	Offset FT	Installation LF	Maintenance Each	Removal Each	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg. % Slope	Volume* CF	
13	10022+55.00	Lt	148.0	21.0	21	21	3.0	2.5	10.0	28.3%	269.1	Stg 1A/1B
13	10022+40.00	Lt	136.0	21.0	21	21	3.0	2.5	10.0	28.3%	269.1	Stg 1A/1B
13	10022+25.00	Lt	124.0	21.0	21	21	3.0	2.5	10.0	28.3%	269.1	Stg 1A/1B
13	10022+10.00	Lt	113.0	21.0	21	21	3.0	2.5	10.0	28.3%	269.1	Stg 1A/1B
13	10021+95.00	Lt	101.0	21.0	21	21	3.0	2.5	10.0	28.3%	269.1	Stg 1A/1B
13	10021+80.00	Lt	89.0	21.0	21	21	3.0	2.5	10.0	28.3%	269.1	Stg 1A/1B
13	10021+65.00	Lt	77.0	21.0	21	21	3.0	2.5	10.0	28.3%	269.1	Stg 1A/1B
13	10021+50.00	Lt	65.0	21.0	21	21	3.0	2.5	10.0	28.3%	269.1	Stg 1A/1B
13	10021+35.00	Lt	54.0	21.0	21	21	3.0	2.5	10.0	28.3%	269.1	Stg 1A/1B
13	10021+20.00	Lt	42.0	28.0	28	28	3.0	2.5	10.0	28.3%	269.1	Stg 1A/1B
14	404+80.00	Rt	30.0	28.0	28	28	3.0	2.5	16.0	2.1%	1508.4	Stg 1A/1B
14	404+00.00	Rt	30.0	34.0	34	34	3.0	2.5	23.0	2.1%	2012.4	Stg 1A/1B
14	405+00.00	Rt	30.0	21.0	21	21	3.0	2.5	10.0	3.6%	672.8	Stg 1A/1B
14	405+70.00	Rt	30.0	21.0	21	21	3.0	2.5	10.0	3.6%	672.8	Stg 1A/1B
14	406+40.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	Stg 1A/1B
14	406+70.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	Stg 1A/1B
14	407+00.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	Stg 1A/1B
14	407+30.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	Stg 1A/1B
14	407+60.00	Rt	30.0	28.0	28	28	3.0	2.5	10.0	6.0%	403.7	Stg 1A/1B
15	1037+75.00	Lt	135.0	28.0	28	28	6.0	3.0	10.0	2.1%	1303.2	Stg 1A/1B
15	1037+10.00	Lt	135.0	28.0	28	28	6.0	3.0	10.0	2.1%	1303.2	Stg 1A/1B
15	1036+45.00	Lt	135.0	36.0	36	36	6.0	3.0	10.0	2.1%	1303.2	Stg 1A/1B
15	1035+85.00	Lt	105.0	36.0	36	36	6.0	3.0	18.0	0.9%	4698.0	Stg 1A/1B
15	1034+70.00	Lt	90.0	36.0	36	36	6.0	3.0	12.0	0.9%	3618.0	Stg 1A/1B
Stage 3C/3D												
9	972+20.00	Rt	93.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	Stg 1A/1B
9	972+65.00	Rt	97.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	Stg 1A/1B
9	973+10.00	Rt	102.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	Stg 1A/1B
9	973+55.00	Rt	106.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	Stg 1A/1B
9	974+00.00	Rt	111.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	Stg 1A/1B
9	974+45.00	Rt	115.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	Stg 1A/1B
9	974+90.00	Rt	119.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	Stg 1A/1B
9	4974+10.00	Rt	63.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	
9	4974+80.00	Rt	64.0	21.0	21	21	3.0	2.5	10.0	4.5%	605.5	
9	975+10.00	Rt	120.0	21.0	21	21	3.0	2.5	10.0	1.4%	1749.2	Stg 1A/1B
9	976+40.00	Rt	110.0	21.0	21	21	3.0	2.5	10.0	1.4%	1749.2	Stg 1A/1B
9	977+70.00	Rt	100.0	21.0	21	21	3.0	2.5	10.0	1.4%	1749.2	Stg 1A/1B
12	1000+40.00	Rt	95.0	27.0	27	27	6.0	2.5	10.0	2.3%	1270.8	
12	999+80.00	Rt	95.0	27.0	27	27	6.0	2.5	10.0	2.3%	1270.8	
12	999+20.00	Rt	95.0	27.0	27	27	6.0	2.5	10.0	2.3%	1270.8	
12	4982+00.00	Rt	45.0	27.0	27	27	6.0	2.5	10.0	2.5%	1270.8	
12	4981+30.00	Rt	45.0	27.0	27	27	6.0	2.5	10.0	2.5%	1270.8	
12	4980+60.00	Rt	45.0	27.0	27	27	6.0	2.5	10.0	2.5%	1270.8	
12	4980+00.00	Rt	45.0	27.0	27	27	6.0	2.5	10.0	2.5%	1270.8	
12	4979+40.00	Rt	45.0	27.0	27	27	6.0	2.5	10.0	2.5%	1270.8	
12	4978+80.00	Rt	45.0	27.0	27	27	6.0	2.5	10.0	2.5%	1270.8	
12	4978+20.00	Rt	45.0	27.0	27	27	6.0	2.5	10.0	2.5%	1270.8	
12	4977+60.00	Rt	45.0	27.0	27	27	6.0	2.5	10.0	2.5%	1270.8	
14	404+80.00	Rt	30.0	28.0	28	28	3.0	2.5	16.0	2.1%	1508.4	Stg 1A/1B
14	404+00.00	Rt	30.0	34.0	34	34	3.0	2.5	23.0	2.1%	2012.4	Stg 1A/1B
Stage 4												
14	404+80.00	Rt	30.0	28.0	28	28	3.0	2.5	16.0	2.1%	1508.4	Stg 1A/1B
14	404+00.00	Rt	30.0	34.0	34	34	3.0	2.5	23.0	2.1%	2012.4	Stg 1A/1B
			Total	12902.0	12902	12902						

### STORMWATER DRAINAGE BASIN AND STORAGE

Refer to EC Standards and 570s Details.

Drainage Basin Location						Summary of Stormwater Storage							Remarks
Basin No.	Station to Station		Side	Discharge Point		Total Disturbed Area	Disturbed Area with Storage Provided	Disturbed Area without Storage Provided	Best Management Practice	Total Storage Volume Provided	Total Storage Volume Required	Storage Volume Met?	
				Station	Side					Acres	Acres	Acres	
Stage 1A/1B													
1	8930+95.00 Cottingham	8935+00.00 Cottingham	Lt	8930+95.00 Cottingham	Lt	0.6	0.6	0.0	Total	3356.0	2160.0	Yes	
									Silt Fence for Ditch Check (EC-201)	3356.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	0.0			
									Silt Basin (EW-403)	0.0			
									Rock Check Dam (EC-302)	0.0			
2	8931+60.00 Cottingham	8935+00.00 Cottingham	Rt	8931+60.00 Cottingham	Rt	0.4	0.4	0.0	Total	2813.0	1440.0	Yes	
									Silt Fence for Ditch Check (EC-201)	1839.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	974.0			
									Silt Basin (EW-403)	0.0			
									Rock Check Dam (EC-302)	0.0			
3	8935+00.00 Cottingham	8946+00.00 Cottingham	Both	8939+62.00 Cottingham	Lt	6.1	6.1	0.0	Total	23810.0	21960.0	Yes	
									Silt Fence for Ditch Check (EC-201)	14068.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	1244.0			
									Silt Basin (EW-403)	5000.0			
									Rock Check Dam (EC-302)	3498.0			
4	8945+00.00 Cottingham	8954+20.00 Cottingham	Both	8948+33.00 Cottingham	Lt	4.3	4.3	0.0	Total	21249.0	15480.0	Yes	
									Silt Fence for Ditch Check (EC-201)	4781.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	0.0			
									Silt Basin (EW-403)	0.0			
									Rock Check Dam (EC-302)	16468.0			
5	8953+65.00 Cottingham	8968+50.00 Cottingham	Both	8958+34.00 Cottingham	Lt	7.5	7.5	0.0	Total	33190.0	27000.0	Yes	
									Silt Fence for Ditch Check (EC-201)	0.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	3670.0			
									Silt Basin (EW-403)	2475.0			
									Rock Check Dam (EC-302)	27045.0			
6	8961+90.00 Cottingham	8968+00.00 Cottingham	Both	8965+30.00 Cottingham	Lt	3.5	3.5	0.0	Total	19620.0	12600.0	Yes	
									Silt Fence for Ditch Check (EC-201)	0.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	0.0			
									Silt Basin (EW-403)	5963.0			
									Rock Check Dam (EC-302)	13657.0			
7	8965+40.00 Cottingham	8976+10.00 Cottingham	Both	8972+71.00 Cottingham	Lt	13.9	13.9	0.0	Total	53680.0	50040.0	Yes	
									Silt Fence for Ditch Check (EC-201)	0.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	6997.0			
									Silt Basin (EW-403)	13663.0			
									Rock Check Dam (EC-302)	33020.0			
8	9976+10.00 NFR	9982+60.00 NFR	Both	9980+16.00 NFR	Lt	6.9	6.9	0.0	Total	28318.0	24840.0	Yes	
									Silt Fence for Ditch Check (EC-201)	0.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	9462.0			
									Silt Basin (EW-403)	0.0			
									Rock Check Dam (EC-302)	18856.0			
9	959+10.00 ML	984+20.00 ML	Both	980+72.00 ML	Lt	24.7	24.7	0.0	Total	91537.0	88920.0	Yes	
									Silt Fence for Ditch Check (EC-201)	10235.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	0.0			
									Silt Basin (EW-403)	43663.0			
									Rock Check Dam (EC-302)	37639.0			
10	9991+00.00 NFR	9998+00.00 NFR	Both	9993+46.00 NFR	Lt	6.2	6.2	0.0	Total	29103.0	22320.0	Yes	
									Silt Fence for Ditch Check (EC-201)	9965.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	0.0			
									Silt Basin (EW-403)	13150.0			
									Rock Check Dam (EC-302)	5988.0			
11	9997+50.00 NFR	10008+15.00 NFR	Both	10000+72.00 NFR	Lt	6.6	6.6	0.0	Total	36909.0	23760.0	Yes	
									Silt Fence for Ditch Check (EC-201)	6787.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	0.0			
									Silt Basin (EW-403)	11025.0			
									Rock Check Dam (EC-302)	19097.0			
12	9997+30.00 NFR	10020+35.00 NFR	Both	10018+17.00 NFR	Lt	12.2	12.2	0.0	Total	52655.0	43920.0	Yes	
									Silt Fence for Ditch Check (EC-201)	5171.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	1939.0			
									Silt Basin (EW-403)	27512.0			
									Rock Check Dam (EC-302)	18033.0			
13	10018+20.00 NFR	401+60.00 Tower	Both	10022+76.00 NFR	Lt	6.4	6.4	0.0	Total	33814.0	23040.0	Yes	
									Silt Fence for Ditch Check (EC-201)	9858.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	0.0			
									Silt Basin (EW-403)	14550.0			
									Rock Check Dam (EC-302)	9406.0			

### STORMWATER DRAINAGE BASIN AND STORAGE

Refer to EC Standards and 570s Details.

Drainage Basin Location						Summary of Stormwater Storage							Remarks
Basin No.	Station to Station		Side	Discharge Point		Total Disturbed Area Acres	Disturbed Area with Storage Provided Acres	Disturbed Area without Storage Provided Acres	Best Management Practice	Total Storage Volume Provided	Total Storage Volume Required	Storage Volume Met?	
				Station	Side					CF	CF	Yes/No	
14	401+15.00 Tower	416+00.00 Tower	Both	406+08.00 Tower	Lt	7.3	7.3	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	41063.0 13739.0 0.0 5370.0 21954.0	26280.0	Yes	
15	1033+75.00 ML	1040+50.00 ML	Lt	1040+50.00 ML	Lt	1.4	1.4	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	18706.0 0.0 2272.0 3638.0 12796.0	5040.0	Yes	
22	12000+60.00 Chesterfield	12009+70.00 Chesterfield	Both	12002+85.00 Chesterfield	Rt	3.4	3.4	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	12990.0 322.0 2369.0 1150.0 9149.0	12240.0	Yes	
23	12009+70.00 Chesterfield	12020+15.00 Chesterfield	Both	12018+50.00 Chesterfield	Rt	3.4	3.4	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	15704.0 3218.0 2921.0 1088.0 8477.0	12240.0	Yes	
24	12018+50.00 Chesterfield	12028+60.00 Chesterfield	Both	12027+85.00 Chesterfield	Rt	3.1	3.1	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	11914.0 0.0 11914.0 0.0 0.0	11160.0	Yes	
27	917+90.00 ML	918+10.00 ML	Lt	918+03.00 ML	Lt	0.1	0.1	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	368.0 368.0 0.0 0.0 0.0	270.0	Yes	
<b>Stage 2A/2B</b>													
3	936+30.00 ML	944+80.00 ML	Both	933+66.00 ML	Lt	1.0	1.0	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	6182.0 1507.0 0.0 4675.0 0.0	3600.0	Yes	
4	940+05.00 ML	956+00.00 ML	Both	940+15.00 ML	Lt	1.1	1.1	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	15265.0 0.0 2840.0 12425.0 0.0	3960.0	Yes	
16	6931+45.00 NCSDW	6948+00.00 NCSDW	Both	6940+90.00 NCSDW	Rt	6.5	6.5	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	35361.0 5149.0 0.0 8213.0 21999.0	23400.0	Yes	
17	6947+00.00 NCSDW	7959+40.00 NCSDE	Both	6954+49.00 NCSDW	Rt	6.5	6.5	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	31347.0 9977.0 325.0 4563.0 16482.0	23400.0	Yes	
18	7958+50.00 NCSDE	7964+90.00 NCSDE	Both	7961+57.00 NCSDE	Rt	2.5	2.5	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	10680.0 4644.0 4286.0 1750.0 0.0	9000.0	Yes	
19	7964+90.00 NCSDE	7983+50.00 NCSDE	Both	7979+56.00 NCSDE	Rt	4.0	4.0	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	22070.0 1150.0 7220.0 13700.0 0.0	14400.0	Yes	
20	7983+50.00 NCSDE	7989+90.00 NCSDE	Both	7984+05.00 NCSDE	Rt	1.3	1.3	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	7738.0 690.0 3073.0 3975.0 0.0	4680.0	Yes	

### STORMWATER DRAINAGE BASIN AND STORAGE

Refer to EC Standards and 570s Details.

Drainage Basin Location						Summary of Stormwater Storage							Remarks
Basin No.	Station to Station		Side	Discharge Point		Total Disturbed Area Acres	Disturbed Area with Storage Provided Acres	Disturbed Area without Storage Provided Acres	Best Management Practice	Total Storage Volume Provided	Total Storage Volume Required	Storage Volume Met?	
				Station	Side					CF	CF	Yes/No	
21	7993+50.00 NCSDE	7997+05.00 NCSDE	Rt	7996+78.00 NCSDE	Rt	0.3	0.3	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	1266.0 1266.0 0.0 0.0	1080.0	Yes	
12	998+20.00 ML	1011+90.00 ML	Rt	1012+32.00 ML	Lt	2.5	2.5	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	13811.0 5436.0 2312.0 6063.0 0.0	9000.0	Yes	
14	1029+70.00 ML	1033+80.00 ML	Both	1024+40.00 ML	Lt	0.5	0.5	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	2909.0 0.0 409.0 2500.0 0.0	1800.0	Yes	
15	1033+75.00 ML	1040+50.00 ML	Lt	1040+50.00 ML	Lt	0.1	0.1	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	2429.0 1293.0 1136.0 0.0 0.0	360.0	Yes	
25	1028+90.00 ML	1050+90.00 ML	Both	1054+66.00 ML	Rt	3.5	3.5	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	14098.0 6723.0 2762.0 4613.0 0.0	12600.0	Yes	
28	931+10.00 ML	933+75.00 ML	Rt	932+67.00 ML	Rt	0.9	0.9	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	3836.0 0.0 1136.0 2700.0 0.0	3240.0	Yes	
<b>Stage 3A/3B</b>													
3	943+00.00 ML	944+85.00 ML	Both	933+66.00 ML	Lt	1.4	1.4	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	6182.0 1507.0 0.0 4675.0 0.0	5040.0	Yes	
4	942+20.00 ML	959+10.00 ML	Both	940+15.00 ML	Lt	5.9	5.9	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	24489.0 0.0 2840.0 13725.0 7924.0	21240.0	Yes	
5	945+90.00 ML	956+40.00 ML	Lt	950+32.00 ML	Lt	5.0	5.0	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	30350.0 6712.0 0.0 7088.0 16550.0	18000.0	Yes	
10	984+20.00 ML	990+25.00 ML	Both	986+47.00 ML	Lt	1.7	1.7	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	7944.0 3394.0 0.0 4550.0 0.0	6120.0	Yes	
19	7968+40.00 NCSDE	7981+00.00 NCSDE	Lt	7979+56.00 NCSDE	Rt	0.9	0.9	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	6576.0 1241.0 4260.0 1075.0 0.0	3240.0	Yes	
12	990+25.00 ML	1005+20.00 ML	Both	1012+32.00 ML	Lt	5.3	5.3	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	28100.0 9464.0 1136.0 17500.0 0.0	19080.0	Yes	
13	1016+40.00 ML	1020+10.00 ML	Both	1016+94.00 ML	Lt	1.1	1.1	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	5135.0 0.0 0.0 2175.0 2960.0	3960.0	Yes	

### STORMWATER DRAINAGE BASIN AND STORAGE

Refer to EC Standards and 570s Details.

Drainage Basin Location						Summary of Stormwater Storage				Remarks			
Basin No.	Station to Station		Side	Discharge Point		Total Disturbed Area Acres	Disturbed Area with Storage Provided Acres	Disturbed Area without Storage Provided Acres	Best Management Practice		Total Storage Volume Provided	Total Storage Volume Required	Storage Volume Met?
				Station	Side						CF	CF	Yes/No
14	1020+10.00 ML	1033+80.00 ML	Lt	1024+40.00 ML	Lt	4.6	4.6	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	17341.0 5086.0 0.0 5370.0 6885.0	16560.0	Yes	
15	1033+80.00 ML	1040+50.00 ML	Lt	1040+50.00 ML	Lt	2.4	2.4	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	18136.0 0.0 2272.0 3638.0 12226.0	8640.0	Yes	
25	1040+50.00 ML	1052+80.00 ML	Both	1054+66.00 ML	Rt	1.3	1.3	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	6523.0 3085.0 0.0 3438.0 0.0	4680.0	Yes	
<b>Stage 3C/3D</b>													
3	935+60.00 ML	940+05.00 ML	Rt	933+66.00 ML	Lt	1.4	1.4	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	5167.0 2517.0 0.0 2650.0 0.0	5040.0	Yes	
4	940+05.00 ML	949+00.00 ML	Rt	940+15.00 ML	Lt	2.4	2.4	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	9936.0 7586.0 0.0 2350.0 0.0	8640.0	Yes	
5	949+00.00 ML	962+80.00 ML	Rt	950+32.00 ML	Lt	5.4	5.4	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	20364.0 12689.0 0.0 7675.0 0.0	19440.0	Yes	
9	959+10.00 ML	983+10.00 ML	Rt	980+72.00 ML	Lt	13.4	13.4	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	50898.0 22401.0 0.0 17800.0 10697.0	48240.0	Yes	
17	5964+35.00 SVLLY	5960+60.00 SVLLY	Both	5957+95.00 SVLLY	Lt	1.1	1.1	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	6223.0 4552.0 671.0 1000.0 0.0	3960.0	Yes	
12	976+20.00 ML	1014+60.00 ML	Rt	1012+32.00 ML	Lt	14.0	14.0	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	62719.0 40346.0 4544.0 3850.0 13979.0	50400.0	Yes	
10	984+20.00 ML	990+25.00 ML	Rt	986+47.00 ML	Rt	0.4	0.4	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	4550.0 0.0 0.0 4550.0 0.0	1440.0	Yes	
13	1014+10.00 ML	1024+50.00 ML	Both	1016+94.00 ML	Lt	3.0	3.0	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	14297.0 7642.0 0.0 6655.0 0.0	10800.0	Yes	
14	1020+10.00 ML	1034+10.00 ML	Rt	1024+40.00 ML	Lt	4.7	4.7	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	21425.0 0.0 16044.0 1860.0 3521.0	16920.0	Yes	
25	1033+80.00 ML	1040+50.00 ML	Rt	1054+66.00 ML	Rt	1.3	1.3	0.0	Total Silt Fence for Ditch Check (EC-201) Silt Fence for Shallow Ditch or No Ditch (EC-201) Silt Basin (EW-403) Rock Check Dam (EC-302)	18252.0 11327.0 0.0 6925.0 0.0	4680.0	Yes	

**STORMWATER DRAINAGE BASIN AND STORAGE**

Refer to EC Standards and 570s Details.

Drainage Basin Location						Summary of Stormwater Storage							Remarks
Basin No.	Station to Station		Side	Discharge Point		Total Disturbed Area	Disturbed Area with Storage Provided	Disturbed Area without Storage Provided	Best Management Practice	Total Storage Volume Provided	Total Storage Volume Required	Storage Volume Met?	
				Station	Side					Acres	CF	CF	
	Acres	Acres	Acres	CF	CF	Yes/No							
<b>Stage 4</b>													
13	1018+00.00 ML	1020+10.00 ML	Rt	1016+94.00 ML	Lt	0.1	0.1	0.0	Total	2175.0	360.0	Yes	
									Silt Fence for Ditch Check (EC-201)	0.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	0.0			
									Silt Basin (EW-403)	2175.0			
									Rock Check Dam (EC-302)	0.0			
14	1020+10.00 ML	1033+81.00 ML	Both	1024+40.00 ML	Lt	1.2	1.2	0.0	Total	5381.0	4320.0	Yes	
									Silt Fence for Ditch Check (EC-201)	0.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	0.0			
									Silt Basin (EW-403)	1860.0			
									Rock Check Dam (EC-302)	3521.0			
25	1033+81.00 ML	1050+61.00 ML	Both	1054+66.00 ML	Rt	1.2	1.2	0.0	Total	6523.0	4320.0	Yes	
									Silt Fence for Ditch Check (EC-201)	3085.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	0.0			
									Silt Basin (EW-403)	3438.0			
									Rock Check Dam (EC-302)	0.0			
26	1058+78.00 ML	1062+63.00 ML	Both	1058+42.00 ML	Rt	0.4	0.4	0.0	Total	2896.0	1440.0	Yes	
									Silt Fence for Ditch Check (EC-201)	0.0			
									Silt Fence for Shallow Ditch or No Ditch (EC-201)	758.0			
									Silt Basin (EW-403)	2138.0			
									Rock Check Dam (EC-302)	0.0			









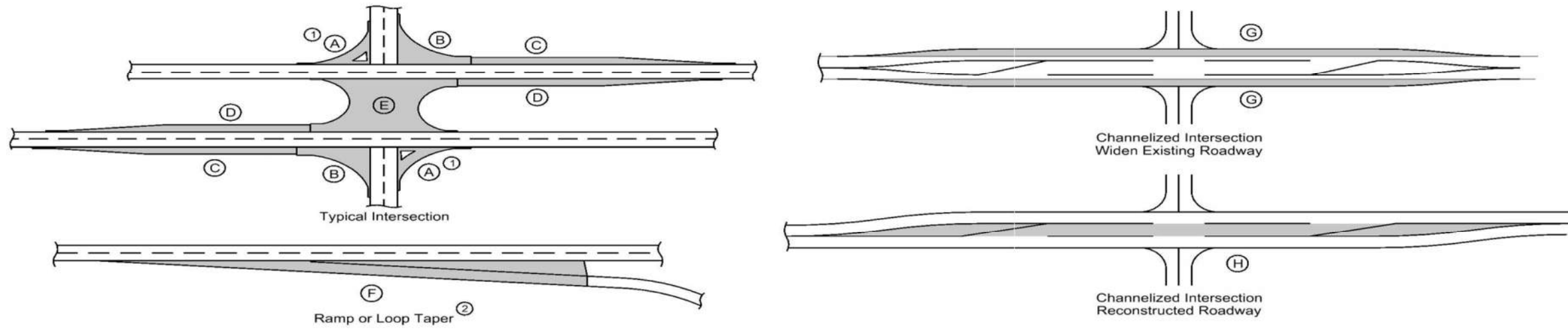
**TOPSOIL STRIPPING AND PLACEMENT**

Road Identification	Location			Topsoil Stripping Thickness IN	Topsoil Placement Thickness IN	Remarks
	Dir. of Traffic	Begin Station	End Station			
Mainline US 20	NB/EB	958+00.00	964+00.00	4.0		
Mainline US 20	NB/EB	964+00.00	972+00.00	12.0		
Mainline US 20	NB/EB	972+00.00	980+00.00	8.0		
Mainline US 20	NB/EB	1002+50.00	1011+00.00	8.0		
Mainline US 20	SB/WB	952+00.00	959+00.00	4.0		
Mainline US 20	SB/WB	959+00.00	972+00.00	12.0		
Mainline US 20	SB/WB	972+00.00	977+00.00	8.0		
Mainline US 20	SB/WB	977+00.00	989+00.00	12.0		
Mainline US 20	SB/WB	989+00.00	1001+00.00	8.0		
Mainline US 20	SB/WB	1001+00.00	1012+00.00	12.0		
Mainline US 20	SB/WB	1017+00.00	1024+00.00	12.0		
Mainline US 20	SB/WB	1024+00.00	1029+00.00	4.0		
Swiss Valley Road	NB/SB	5969+00.00	5976+00.00	12.0		
Swiss Valley Road	NB/SB	5976+00.00	5977+86.00	12.0		
Cottingham Road	EB/WB	8936+00.00	8960+00.00	12.0		
Cottingham Road	EB/WB	8960+00.00	8967+00.00	8.0		
Cottingham Road	EB/WB	8967+00.00	8970+50.00	12.0		
Cottingham Road	EB/WB	8970+50.00	8973+50.00	8.0		
Cottingham Road	EB/WB	8973+50.00	8976+12.00	12.0		
North Frontage Road	EB/WB	9976+12.00	9985+00.00	12.0		
North Frontage Road	EB/WB	9985+00.00	9989+00.00	8.0		
North Frontage Road	EB/WB	9989+00.00	9996+00.00	12.0		
North Frontage Road	EB/WB	9996+00.00	10002+00.00	8.0		
North Frontage Road	EB/WB	10002+00.00	10018+00.00	8.0		
North Frontage Road	EB/WB	10022+00.00	10024+45.00	12.0		
Tower Drive	EB/WB	400+00.00	411+00.00	12.0		
Tower Drive	EB/WB	413+00.00	419+50.00	12.0		
North Cascade Road West	EB/WB	6934+00.00	6958+00.00	12.0		
North Cascade Road East	EB/WB	7959+00.00	7961+50.00	12.0		
Cottingham Road Connector	NB/SB	138+00.00	139+33.00	12.0		
Chesterfield Drive	NB/SB	12003+50.00	12018+00.00	12.0		
Chesterfield Drive	NB/SB	12020+50.00	12028+00.00	12.0		
Ramp A	SB/WB	1969+55.00	1974+00.00	12.0		
Ramp A	SB/WB	1974+00.00	1978+00.00	8.0		
Ramp A	SB/WB	1978+00.00	1983+10.00	12.0		
Ramp C	SB/WB	3957+92.00	3968+91.00	12.0		
Ramp D	NB/EB	4975+00.00	4981+91.00	4.0		

**PROPOSED POSTED SPEED LIMIT**

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
US 20	943+00.00	1040+50.00			X	
Ramp A	1969+55.00	1983+10.00			X	
Ramp B	2956+40.00	2971+48.00			X	
Ramp C	3957+92.00	3968+79.00			X	
Ramp D	4969+50.00	4984+20.00			X	
Swiss Valley Road	5954+50.00	5976+12.00			X	
Cottingham Road	8931+65.00	8976+00.00		X		
North Frontage Road	9976+12.00	10024+45.00		X		
North Cascade Road West	6931+50.00	6959+00.00		X		
North Cascade Road East	7958+51.00	7997+00.00		X		
South Frontage Road	1992+87.00	2032+35.00		X		
Chesterfield Drive	12000+67.00	12028+54.00		X		

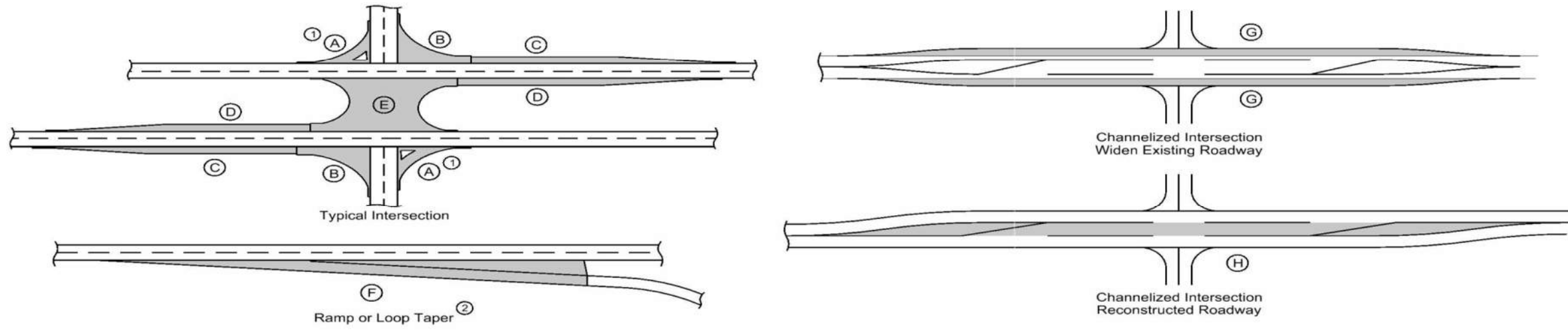
**PCC PAVEMENT**



- ① Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.
- ② Refer to PV-410, PV-411, PV-412, and PV-414.
- ③ Quantity includes Pavement Header.

Road Identification	Location		Mainline			Area ③								Total Area By Pavement Thickness			Macadam Stone TONS	Modified Subbase CY	Granular Subbase SY	Remarks		
	Direction of Travel	Station to Station	Width FT	Length FT	Area SY	A SY	B SY	C SY	D SY	E SY	F SY	G SY	H SY	SY								
														8 IN	9 IN	10% IN						
US 20 MAINLINE	EB	943+00.00	1040+50.00	26.0	9750.0	28166.7									28166.7			34666.7				
US 20 MAINLINE	WB	943+00.00	1040+50.00	26.0	9750.0	28166.7									28166.7			34666.7				
US 20 MAINLINE	EB	943+00.00	956+40.00		1340.0						2348.6				2348.6			2795.3	RAMP GORES			
	EB	981+90.00	994+20.00		1230.0						1812.1				1812.1			2222.1	RAMP GORES			
	WB	945+50.00	957+94.91		1244.9						1829.7				1829.7			2244.7	RAMP GORES			
	WB	983+10.00	989+10.00		600.0						1335.6				1335.6			1535.6	RAMP GORES			
SWISS VALLEY ROAD	NB/SB	5954+50.00	5968+67.73	12-20	1417.7	4973.7											0.0	184.3	945.2	Southside of Bridge		
	NB/SB	5970+92.25	5976+24.00	12-20	531.8	1703.6	175.9	176.9								352.8	69.1	354.5	184.3	Northside of Bridge		
SVR RAMP A	WB	1969+69.27	1983+10.00	16.0	1340.7	2383.5	203.4	228.3					192.2					3007.4	3682.6			
SVR RAMP B	EB	2956+40.00	2971+30.16	16.0	1490.2	2649.2	145.3	280.9					195.4					3270.7	4069.2			
SVR RAMP C	WB	3957+91.86	3968+76.88	16.0	1085.0	1928.9	173.6	257.4										2359.9	2955.7			
SVR RAMP D	EB	4969+64.89	4981+91.34	16.0	1226.5	2180.4	214.1	184.9										2579.3	3311.6			
COTTINGHAM CONNECTOR	NB/SB	136+65.00	139+33.00	24.0	268.0	714.7	119.3	169.2								1003.1				1181.8		
COTTINGHAM ROAD	EB/WB	8931+65.00	8976+00.00	24.0	4435.0	11826.7										11826.7				14783.3		
NORTH FRONTAGE ROAD	EB/WB	9976+24.00	10024+44.74	24.0	4820.7	13697.1										13697.1				16911.0	Includes Cul-de-Sac	
COTTINGHAM SOUTH	NB/SB	13025+75.00	13027+60.00	22.0	185.0	1251.6										1251.6				1374.9	Includes Cul-de-Sac	
NORTH CASCADE ROAD WEST	EB/WB	6931+50.00	6958+84.50	24.0	2734.5	7292.0	212.5	240.0								7744.5				9567.5		
NORTH CASCADE ROAD EAST	EB/WB	7958+66.12	7997+50.00	31.0	3883.9	13377.8	192.1	158.2								13728.1	3181.6			16317.4		
SOUTH FRONTAGE ROAD	EB/WB	1993+02.83	2032+35.00	31.0	3932.2	13646.3	232.9	155.6								14034.9	3247.7			16656.4		
CHESTERFIELD DRIVE	EB/WB	12000+71.89	12028+53.84	37.0	2782.0	11436.9	193.8	234.8								11865.5	2675.2			13720.1		
<b>Total</b>														<b>75151.5</b>	<b>352.8</b>	<b>74876.6</b>	<b>9357.8</b>	<b>14019.0</b>	<b>169942.9</b>			
DETOUR PAVEMENT (REFER TO F SHEETS)																						
STAGE 1A																						
DET 11100	EB	11101+58.65	11102+92.30		133.7	1339.0														8" PCC/9"HMA, 996.8 TONS SPECIAL BACKFILL		
DET 11100	WB	11103+18.30	11103+43.39		25.1	891.8														8" PCC/9"HMA, 689.3 TONS SPECIAL BACKFILL		
STAGE 2A																						
DET 12100	BOTH	5960+60.00	5961+05.00		45.0	137.0														8" PCC/9"HMA, 104.5 TONS SPECIAL BACKFILL		
DET 12200	EB	7967+90.00	7969+00.00		110.0	170.2														8" PCC/9"HMA, 124.1 TONS SPECIAL BACKFILL		
DET 12300	WB	12330+19.12	12340+49.48		1030.4	819.5														8" PCC/9"HMA, 732.7 TONS SPECIAL BACKFILL		
STAGE 2B																						
DET 12400	WB	12436+74.03	12454+84.99		1811.0	3232.9														8" PCC/9"HMA, 2417 TONS SPECIAL BACKFILL		
DET 12500	WB	7968+80.00	7970+20.00		140.0	306.6														8" PCC/9"HMA, 221.3 TONS SPECIAL BACKFILL		
DET 12600	WB	2029+90.00	2031+30.00		140.0	4606.9														8" PCC/9"HMA, 3327.6 TONS SPECIAL BACKFILL		
DET 12700	WB	12630+65.31	12650+89.50		2024.2	278.0														8" PCC/9"HMA, 203.4 TONS SPECIAL BACKFILL		
STAGE 3A																						

PCC PAVEMENT



- ① Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.
- ② Refer to PV-410, PV-411, PV-412, and PV-414.
- ③ Quantity includes Pavement Header.

Road Identification	Location		Mainline			Area ③								Total Area By Pavement Thickness			Macadam Stone	Modified Subbase	Granular Subbase	Remarks
	Direction of Travel	Station to Station	Width	Length	Area	A ①	B	C	D	E	F ②	G	H	SY						
														8 IN	9 IN	10% IN				
DET 13100	EB	13134+56.72 13156+56.16		2199.4	4881.9															8" PCC/9"HMA, 3537.5 TONS SPECIAL BACKFILL
DET 13200	WB	13239+77.24 13249+27.07		949.8	1807.1															8" PCC/9"HMA, 1433.4 TONS SPECIAL BACKFILL
US 20 WIDENING	EB	990+92.02 997+54.21		662.2	515.1															8" PCC/9"HMA, 463.5 TONS SPECIAL BACKFILL
W. RIDGE LANE	BOTH	12600+00.00 12604+71.85		471.9	1026.5															8" PCC/9"HMA, 811.4 TONS SPECIAL BACKFILL
STAGE 3B																				
DET 13300	EB	13336+64.56 13354+96.30		1831.7	2155.3															8" PCC/9"HMA, 1742.3 TONS SPECIAL BACKFILL
DET 13400	EB	13402+14.64 13418+42.96		1628.3	1741.7															8" PCC/9"HMA, 1438.8 TONS SPECIAL BACKFILL
DET 13600	EB	13600+42.80 13616+81.79		1639.0	4309.5															8" PCC/9"HMA, 3106.5 TONS SPECIAL BACKFILL
DET 13600	EB	13618+61.79 13619+21.79		60.0	96.2															8" PCC/9"HMA, 66.6 TONS SPECIAL BACKFILL
DET 13600	EB	13624+65.17 13633+08.72		843.6	1882.8															8" PCC/9"HMA, 1418.9 TONS SPECIAL BACKFILL
				<b>Total</b>	<b>30198.0</b>															<b>22835.6 TON SPECIAL BACKFILL</b>

### SHOULDERS

- ① Lane(s) to which the shoulder is adjacent.
- ② Bid Item
- ③ Applies only for Paved Shoulders constructed on project with existing granular shoulders.
- ④ Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 140, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Road Identification	Direction of Traffic	Location			P Width FT	G Width FT	L Length FT	Quantities														Remarks	
		Station to Station	Side	Class 13 Excavation CY				Hot Mix Asphalt		Binder TONS	Paved Shoulder SY	Reinforced Paved Shoulder SY	Special Backfill				Modified Subbase CY	Granular Shoulder		Earth Shoulder Construction Alternates			
								TON	TON/STA				HMA Alternate		PCC Alternate			TON	TON/STA	STA	HMA		PCC
													TON	TON/STA	CY	CY							
US 20 MAINLINE	EB	943+00.00	1040+50.00	LT	6.0		9750.0											97.5		2275.0			
	EB	943+00.00	943+30.00	RT	6.0		30.0											0.3		7.3			
	EB	943+30.00	944+20.00	RT	6.0		90.0											0.9		22.0			
	EB	944+20.00	944+80.00	RT		6.0	60.0											29.800	49.700	0.6	12.7		
	EB	944+80.00	952+20.00	RT		6.0	740.0											367.800	49.700	7.4	156.2		
	EB	952+20.00	956+40.00	RT		6.0	420.0											208.700	49.700	4.2	88.7		
	EB	956+40.00	969+14.68	RT	8.0		1274.7													12.7	311.6		
	EB	969+14.68	970+67.89	RT	13.0		153.2																
	EB	970+67.89	981+90.00	RT	8.0		1122.1														11.2	274.3	
	EB	981+90.00	990+20.00	RT		6.0	830.0														8.3	202.9	
	EB	990+20.00	994+20.00	RT	6.0		400.0														4.0	97.8	
	EB	994+20.00	1040+50.00	RT	8.0		4630.0														46.3	1131.8	
US 20 MAINLINE	WB	943+00.00	1040+50.00	LT	6.0		9750.0														97.5	2275.0	
	WB	943+00.00	945+50.00	RT	8.0		250.0														2.5	61.1	
	WB	945+50.00	946+50.00	RT	6.0		100.0														1.0	24.4	
	WB	946+50.00	949+50.00	RT	6.0		300.0														3.0	73.3	
	WB	949+50.00	957+96.97	RT		6.0	847.0																
	WB	957+96.97	968+90.96	RT	8.0		1094.0											420.900	49.700		8.5	178.8	
	WB	968+90.96	970+45.75		13.0		154.8														10.9	267.4	
	WB	970+45.75	983+10.00	RT	8.0		1264.3																
	WB	983+10.00	987+90.41	RT		6.0	480.4																
	WB	987+90.41	989+10.00	RT	6.0		119.6																
	WB	989+10.00	1040+50.00	RT	8.0		5140.0																
COTTINGHAM CONNECTOR	NB	136+65.00	139+33.00			8.0	268.0											142.600	53.200		2.7	35.7	
	SB	136+65.00	139+33.00			8.0	268.0											142.600	53.200		2.7	35.7	
COTTINGHAM	EB	8931+65.00	8976+00.00	LT		8.0	4435.0											2359.400	53.200		44.4	591.3	
	WB	8931+65.00	8976+00.00	RT		8.0	4435.0											2359.400	53.200		44.4	591.3	
NORTH CASCADE WEST		6931+50.00	6958+84.50	LT		8.0	2734.5											1454.800	53.200		27.3	364.6	
		6931+50.00	6958+84.50	RT		8.0	2734.5											1454.800	53.200		27.3	364.6	
NORTH FRONTAGE RD		9976+24.00	10024+44.74	LT		8.0	4820.7											2564.600	53.200		48.2	642.8	
		9976+24.00	10024+44.74	RT		8.0	4820.7											2564.600	53.200		48.2	642.8	
COTTINGHAM SOUTH		13025+75.00	13027+60.00	LT		4.0	185.0											98.400	53.200		1.9	24.7	
		13025+75.00	13027+60.00	RT		4.0	185.0											98.400	53.200		1.9	24.7	
RAMP A	WB	1969+70.86	1983+10.13	RT		4.0	1339.3											431.200	32.200		13.4	347.2	
	WB	1969+70.86	1983+10.13	LT		6.0	1339.3											665.600	49.700		13.4	347.2	
RAMP B	EB	2956+40.00	2971+29.80	LT		4.0	1489.8											740.400	49.700		14.9	364.2	
	EB	2956+40.00	2971+29.80	RT		6.0	1489.8											479.700	32.200		14.9	386.2	
RAMP C	WB	3957+91.86	3968+75.26	LT		6.0	1083.4											348.900	32.200		10.8	280.9	
	WB	3957+91.86	3968+75.26	RT		4.0	1083.4											538.400	49.700		10.8	264.8	
RAMP D	EB	4969+65.53	4981+91.34	LT		4.0	1225.8											394.700	32.200		12.3		
	EB	4969+65.53	4981+91.34	RT		6.0	1225.8											609.200	49.700		12.3		
DETOURS																							
STAGE 1A																							
DET 11100	BOTH	11101+58.65	11102+92.30	RT			166.0														1.7	30.1	
DET 11100	BOTH	11101+58.65	11102+92.30	LT			557.0														5.6	100.9	
DET 11100	BOTH	11103+18.30	11103+43.39	RT			448.0														4.5	81.1	
DET 11100	BOTH	11101+58.65	11102+92.30	LT			149.0														1.5	27.0	
STAGE 2A																							
DET 12100	BOTH	5960+60.00	5961+05.00	RT			45.0														0.5	8.2	
DET 12100	BOTH	5960+60.00	5961+05.00	LT			45.0														0.5	8.2	
DET 12200	EB	7967+90.00	7969+00.00	RT			33.0														0.3	6.0	
DET 12200	EB	7967+90.00	7969+00.00	LT			43.0														0.4	7.8	
DET 12300	WB	12330+19.12	12340+49.48	LT			1030.4														10.3	254.2	
STAGE 2B																							
DET 12400	WB	12436+74.03	12454+84.99	LT			1811.0														18.1	446.7	
DET 12500	WB	7968+80.00	7970+20.00	RT			68.0														0.7	12.3	
DET 12500	WB	7968+80.00	7970+20.00	LT			62.0														0.6	11.2	
DET 12600	WB	2029+90.00	2031+30.00	RT			2025.0														20.3	499.5	
DET 12700	WB	12630+65.31	12650+89.50	RT			83.0														0.8	15.0	
DET 12700	WB	12630+65.31	12650+89.50	LT			49.0														0.5	8.9	
STAGE 3A																							
DET 13100	EB	13134+56.72	13156+56.16	RT			2199.4														22.0	542.5	

### SHOULDERS

- ① Lane(s) to which the shoulder is adjacent.
- ② Bid Item
- ③ Applies only for Paved Shoulders constructed on project with existing granular shoulders.
- ④ Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 140, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Road Identification	Direction of Traffic	Location			Quantities													Remarks										
		Station to Station	Side	P Width FT	G Width FT	L Length FT	Class 13 Excavation CY ②	Hot Mix Asphalt		Binder TONS	Paved Shoulder SY ②	Reinforced Paved Shoulder SY ②	Special Backfill				Modified Subbase CY ②		Granular Shoulder		Earth Shoulder Construction Alternates							
								TON	TON/STA				HMA Alternate		PCC Alternate				TON ②	TON/STA	TON ②	TON/STA	CY ②	TON ②	TON/STA	STA ②	HMA CY ④	PCC CY ④
													TON ②	TON/STA	TON ②	TON/STA												
DET 13200	WB	13239+77.24	13249+27.07	LT																	14.0	346.3						
US 20 WIDEN	EB	990+92.02	997+54.21	RT																	6.6	163.3						
W. RIDGE LANE	BOTH	12600+00.00	12604+71.85	RT																	4.6	82.9						
W. RIDGE LANE	BOTH	12600+00.00	12604+71.85	LT																	3.3	59.0						
STAGE 3B																												
DET 13300	EB	13336+64.56	13354+96.30	LT																	18.3	451.8						
DET 13400	EB	13402+14.64	13418+42.96	LT																	16.3	401.7						
DET 13600	EB	13600+42.80	13616+81.79	RT																	10.8	265.2						
DET 13600	EB	13600+42.80	13616+81.79	LT																	7.9	223.8						
DET 13600	EB	13618+61.79	13619+21.79	RT																	0.1	4.6						
DET 13600	EB	13600+42.80	13616+81.79	LT																	0.1	5.2						
DET 13600	EB	13624+65.17	13633+08.72	RT																	2.6	104.5						
DET 13600	EB	13624+65.17	13633+08.72	LT																	8.4	364.3						
<b>TYPE B SHOULDERS</b>																												
US 20 MAINLINE	EB	929+57.47	943+00.00	LT			6.0	1342.5										535.700	39.900		13.4		422.6					
	EB	932+21.47	943+00.00	LT			10.0	1078.5										694.600	64.400		10.8		339.5					
	EB	1061+39.72	1062+59.89	LT			10.0	120.2										77.400	64.400		1.2		37.8					
	EB	1040+50.00	1050+60.69	LT			6.0	1010.7										403.300	39.900		10.1		318.2					
	EB	1058+16.63	1061+13.40	LT			6.0	296.8										118.400	39.900		3.0		93.4					
US 20 MAINLINE	WB	1066+58.43	1063+24.23	LT			6.0	334.2										133.300	39.900		3.3		105.2					
	WB	1050+89.00	1040+50.00	LT			6.0	1039.0										414.600	39.900		10.4		327.1					
	WB	943+00.00	931+76.45	LT			6.0	1123.6										448.300	39.900		11.2		353.7					
	WB	935+21.81	932+32.76	LT			10.0	289.1										186.100	64.400		2.9		91.0					
										27271.3								18713.700	TYPE A		986.1							
																		3011.700	TYPE B									

### MILLED RUMBLE STRIPS

See PV-12 and PV-13.

\* Calculated at 18" width for Shoulder.

Road Identification	Location		Shoulder Pavement Type	Rumble Strip Type (Centerline, Rt or Lt Shoulder)	Length		Fog Seal* (Milled Rumble Strip) Shoulder GAL	Effective Shoulder Width			Remarks
	Station to Station				PCC	HMA		PCC Paved FT	HMA Paved FT	Granular\ Earth FT	
					STA	STA					
US 20	943+00.00	1040+50.00	PCC	Left Shoulder	97.50		0.0	6.0			
US 20	943+00.00	1040+50.00	PCC	Left Shoulder	97.50		0.0	6.0			
US 20	956+40.00	981+90.00	PCC	Right Shoulder	25.50		0.0	8.0			
US 20	994+20.00	1040+50.00	PCC	Right Shoulder	46.30		0.0	8.0			
US 20	943+00.00	945+50.00	PCC	Right Shoulder	2.50		0.0	8.0			
US 20	958+00.00	983+10.00	PCC	Right Shoulder	25.10		0.0	8.0			
US 20	989+10.00	1040+50.00	PCC	Right Shoulder	51.40		0.0	8.0			
<b>Totals</b>											
					PCC	HMA	Fog Seal				
						0.00	0.0				
					345.80						
					0.00	0.00	0.0				
						0.00					
					0.00						
					0.00	0.00					

FENCING

\* Bid Item

Refer to MI-101, MI-102, MI-103, MI-104, 510-3, and 510-5

Location				Side	Chain Link				Deer				Field				Channel Crossing		Remarks
From		To			Fence		Gate		Fence Length*	Brace Panels*	Gate		Fence Length*	Brace Panels*	Gate		Length*	Type	
Station	Offset	Station	Offset		Length*	Type	No.*	Type			No.*	Type			No.*	Type			
					LF		EACH		LF	EACH	EACH		LF	EACH	EACH		LF		
930+43.20	169.4	932+24.61	168.6	LT	181.4													US 20 ML	
932+24.61	168.6	933+53.83	148.9	LT	130.7													US 20 ML	
933+53.83	148.9	939+00.41	126.4	LT	547.1													US 20 ML	
939+00.41	126.4	940+00.21	148.7	LT	102.2													US 20 ML	
932+26.46	136.0	933+63.06	126.5	RT	161.4													US 20 ML	
933+63.06	126.5	934+17.65	126.5	RT											60.0	A		US 20 ML	
934+17.65	126.5	940+05.13	126.6	RT	587.5													US 20 ML	
940+05.13	126.6	941+10.00	154.0	RT	108.4													US 20 ML	
941+10.00	154.0	941+76.85	154.0	RT	66.8													US 20 ML	
941+76.85	154.0	945+99.96	154.0	RT											60.0	A		US 20 ML	
945+99.96	154.0	949+30.30	139.1	RT	370.6													US 20 ML	
949+30.30	139.1	951+00.19	199.0	RT	186.1													US 20 ML	
951+00.19	199.0	953+00.02	214.0	RT	209.3													US 20 ML	
953+00.02	214.0	954+00.29	208.3	RT	105.0													US 20 ML	
954+00.29	208.3	955+19.81	188.2	RT	126.3													US 20 ML	
955+19.81	188.2	959+26.84	274.2	RT	435.9													US 20 ML	
959+26.84	274.2	961+74.97	337.7	RT	272.1													US 20 ML	
961+74.97	337.7	964+02.16	378.6	RT	248.2													US 20 ML	
964+02.16	378.6	965+66.47	399.8	RT	179.5													US 20 ML	
965+66.47	399.8	966+51.14	439.9	RT	100.7													US 20 ML	
966+51.14	439.9	968+10.41	430.9	RT	174.6													US 20 ML	
968+10.41	430.9	969+18.12	482.3	RT	129.1													US 20 ML	
1037+45.32	156.8	1040+49.41	207.0	LT	308.2													US 20 ML	
1040+49.41	207.0	1041+74.06	86.6	LT	173.3													US 20 ML	
1041+74.06	86.6	1056+74.76	87.3	LT	1500.7													US 20 ML	
1056+74.76	87.3	1060+61.42	299.2	LT	440.9													US 20 ML	
1060+61.42	299.2	1062+74.47	280.4	LT	213.9													US 20 ML	
1062+74.47	280.4	1062+79.25	143.4	LT	137.1													US 20 ML	
1062+79.25	143.4	1068+39.74	95.1	LT	562.6													US 20 ML	
1068+39.74	95.1	1070+75.31	143.2	LT	240.4													US 20 ML	
1070+75.31	143.2	1072+50.49	158.2	LT	175.8													US 20 ML	
1072+50.49	158.2	1074+32.78	209.6	LT	189.4													US 20 ML	
1074+32.78	209.6	1082+38.45	95.6	LT	813.7													US 20 ML	
1082+38.45	95.6	1084+38.34	95.6	LT	199.9													US 20 ML	
1084+38.34	95.6	1084+96.38	110.1	LT	59.8													US 20 ML	
1038+18.51	114.4	1043+09.09	183.6	RT	495.4													US 20 ML	
1043+09.09	183.6	1049+31.34	119.6	RT	625.5													US 20 ML	
1049+31.34	119.6	1052+92.18	118.3	RT	360.8													US 20 ML	
8948+31.18	70.0	8950+91.26	62.6	RT	256.6													COTTINGHAM	
8950+91.26	62.6	8950+92.12	94.0	RT	31.4													COTTINGHAM	
8950+92.12	94.0	8954+20.16	89.2	RT	328.1													COTTINGHAM [1]	
8954+20.16	89.2	8954+98.23	96.1	RT	78.4													COTTINGHAM [1]	
8954+98.23	96.1	8956+99.70	72.3	RT	202.9													COTTINGHAM [1]	
8956+99.70	72.3	8959+36.13	65.5	RT	236.5													COTTINGHAM [1]	
8959+36.13	65.5	8960+79.44	62.5	RT	148.0													COTTINGHAM [1]	
8960+79.44	62.5	8962+09.73	62.2	RT	137.0													COTTINGHAM [1]	
8962+09.73	62.2	8964+26.83	64.6	RT	228.3													COTTINGHAM [1]	
8964+26.83	64.6	8967+91.28	122.3	RT	395.5													COTTINGHAM [1]	
8967+91.28	122.3	8972+22.15	143.3	RT	451.2													COTTINGHAM [1]	
8972+22.15	143.3	8972+64.90	150.9	RT	53.6													COTTINGHAM [1]	
8972+64.90	150.9	8975+03.82	182.8	RT	214.9													COTTINGHAM [1]	
5965+17.33	151.0	5963+24.89	59.8	LT	230.0													SWISS VALLEY	
5963+24.89	59.8	5962+70.03	68.8	LT	60.6													SWISS VALLEY	
5962+70.03	68.8	5961+21.80	89.6	LT	165.1													SWISS VALLEY	
5961+21.80	89.6	5960+79.03	91.0	LT	67.1													SWISS VALLEY	
5960+79.03	91.0	5959+67.63	78.8	LT	112.1													SWISS VALLEY	
5959+67.63	78.8	5962+25.00	60.0	RT	193.4													SWISS VALLEY	
5962+25.00	60.0	5964+35.39	50.1	RT	264.7													SWISS VALLEY	
7963+48.85	404.2	7963+98.98	335.6	LT	126.0													N CASCADE E	
7963+98.98	335.6	7964+76.26	138.5	LT	236.1													N CASCADE E	
7964+76.26	138.5	7965+84.43	52.4	LT	162.5													N CASCADE E	
7965+84.43	52.4	7966+92.57	58.2	LT	125.7													N CASCADE E	
7966+92.57	58.2	7976+14.45	87.7	LT	932.5													N CASCADE E	
7976+14.45	87.7	7979+57.44	81.0	LT	346.9													N CASCADE E [1]	
7979+57.44	81.0	7982+90.55	132.4	LT	337.1													N CASCADE E	
7982+90.55	132.4	7989+64.30	194.9	LT	676.7													N CASCADE E	
7989+64.30	194.9	7991+09.89	234.5	LT	153.7													N CASCADE E	
7991+09.89	234.5	7993+41.06	334.8	LT	264.1													N CASCADE E [1]	
1996+14.78	30.8	1997+16.58	26.5	LT	108.9													S FRONTAGE RD	
1997+16.58	26.5	1997+88.56	26.5	LT	76.6													S FRONTAGE RD	
1997+88.56	26.5	1998+41.78	26.5	LT	56.7													S FRONTAGE RD	
1998+41.78	26.5	2000+18.17	26.5	LT	175.3													S FRONTAGE RD	
2000+18.17	26.5	2000+77.30	26.3	LT	58.3													S FRONTAGE RD	
2000+77.30	26.3	2002+12.87	26.6	LT	133.8													S FRONTAGE RD	



### FENCING

\* Bid Item

Refer to MI-101, MI-102, MI-103, MI-104, 510-3, and 510-5

Location				Side	Chain Link				Deer				Field				Channel Crossing		Remarks
From		To			Fence		Gate		Fence Length*	Brace Panels*	Gate		Fence Length*	Brace Panels*	Gate		Length*	Type	
Station	Offset	Station	Offset		Length*	Type	No.*	Type			No.*	Type			No.*	Type			
					LF		EACH		LF	EACH	EACH		LF	EACH	EACH	LF			
2002+12.87	26.6	2003+89.42	25.3	LT	174.3												S FRONTAGE RD		
2003+89.42	25.3	2014+31.14	27.4	LT	1042.9												S FRONTAGE RD		
2014+31.14	27.4	2016+80.00	33.0	LT	251.8												S FRONTAGE RD		
2016+80.00	33.0	2019+44.99	23.8	LT	268.0												S FRONTAGE RD		
2019+44.99	23.8	2020+70.01	23.4	LT	100.9												S FRONTAGE RD		
2020+70.01	23.4	2021+70.00	23.7	LT	100.9												S FRONTAGE RD		
2021+70.00	23.7	2022+75.38	23.5	LT	106.0												S FRONTAGE RD		
2022+75.38	23.5	2024+41.57	23.2	LT	167.7												S FRONTAGE RD		
2024+41.57	23.2	2025+97.99	25.2	LT	157.9												S FRONTAGE RD		
2025+97.99	25.2	2029+63.24	23.3	LT	366.4												S FRONTAGE RD		
2029+63.24	23.3	2030+69.02	26.4	LT	108.3												S FRONTAGE RD		
2030+69.02	26.4	2031+97.50	26.2	LT	131.1												S FRONTAGE RD		
2031+97.50	26.2	2032+09.54	45.3	LT	22.6												S FRONTAGE RD		
9977+73.70	193.7	9978+82.96	212.4	RT	91.0												N FRONTAGE RD [1]		
9978+82.96	212.4	9982+46.59	228.7	RT	255.3												N FRONTAGE RD [1]		
9982+46.59	228.7	9985+49.90	105.0	RT	342.7												N FRONTAGE RD [1]		
9985+49.90	105.0	9985+94.86	90.4	RT	58.0												N FRONTAGE RD [1]		
9985+94.86	90.4	9987+36.07	74.8	RT	153.5												N FRONTAGE RD [1]		
9987+36.07	74.8	9989+43.86	67.6	RT	221.7												N FRONTAGE RD [1]		
9989+43.86	67.6	9991+06.32	69.3	RT	162.5												N FRONTAGE RD [1]		
9991+06.32	69.3	9993+67.07	60.7	RT	263.7												N FRONTAGE RD		
9993+67.07	60.7	9995+88.97	77.7	RT	227.8												N FRONTAGE RD		
9995+88.97	77.7	9996+89.66	83.5	RT	103.6												N FRONTAGE RD		
9996+89.66	83.5	9997+14.63	84.3	RT	37.0												N FRONTAGE RD		
9997+14.63	84.3	9998+45.39	87.8	RT	134.7												N FRONTAGE RD		
9998+45.39	87.8	9999+90.53	89.1	RT	149.6												N FRONTAGE RD		
9999+90.53	89.1	10001+18.25	89.6	RT	131.6												N FRONTAGE RD		
10001+18.25	89.6	10002+82.54	72.3	RT	169.4												N FRONTAGE RD		
10002+82.54	72.3	10005+37.49	65.3	RT	262.7												N FRONTAGE RD		
10005+37.49	65.3	10007+79.45	54.5	RT	248.4												N FRONTAGE RD [1]		
10007+79.45	54.5	10008+91.50	51.5	RT	114.7												N FRONTAGE RD [1]		
10008+91.50	51.5	10010+44.39	50.1	RT	156.2												N FRONTAGE RD [1]		
10010+44.39	50.1	10011+77.24	49.3	RT	135.7												N FRONTAGE RD		
10011+77.24	49.3	10013+64.18	48.5	RT	191.0												N FRONTAGE RD		
10013+64.18	48.5	10015+76.16	46.9	RT	215.3												N FRONTAGE RD		
10015+76.16	46.9	10017+77.69	51.6	RT	206.9												N FRONTAGE RD		
10017+77.69	51.6	10024+44.74	36.7	RT	672.7												N FRONTAGE RD [1]		
400+02.14	34.7	402+19.15	30.8	RT	194.2												TOWER RD		
402+19.15	30.8	402+73.86	26.9	RT	75.5												TOWER RD		
402+73.86	26.9	404+79.77	23.3	RT	221.1												TOWER RD		
404+79.77	23.3	405+10.11	22.7	RT	36.7												TOWER RD [1]		
405+10.11	22.7	406+19.53	18.0	RT	107.8												TOWER RD		
406+19.53	18.0	407+86.36	16.3	RT	164.5												TOWER RD [1]		
407+86.36	16.3	412+36.60	14.7	RT	450.2												TOWER RD [1]		
412+36.60	14.7	415+84.67	24.6	RT	348.2												TOWER RD [1]		
415+84.67	24.6	418+35.52	19.8	RT	253.3												TOWER RD [1]		
418+35.52	19.8	419+07.12	96.3	RT	134.7												TOWER RD [1]		
Total					28437.3														
[1] This fence range is estimated to have a rock layer within 4 ft. of the ground surface																			





### ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of Unclassified Pipe calculated is based on using Corrugated Metal Pipe.

- ① Refer to MI-210
- ② Refer to EW-501.
- ③ Refer to EW-501 or EW-502.

\*Predetermined for access point not constructed with this project.

Location		Type	Length of Opening ①			Pipe Culvert ③			Aprons		Driveway Surface Area		Driveway Surfacing Material	Remarks				
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½"	3"	W	①	②	H	Size	Pipe Length	Lt.	Rt.		No.	HMA	PCC	TON
				1 or 2	LF		LF	FT								FT	FT	
9998+03.95	LT	C	1			15.0	15.0											33.400
10008+01.62	LT	B	1			24.0	45.0										497.4	
10020+00.00	LT	C	1			15.0	15.0			18.0	45.0	27.4	22.8	2		125.0	115.900	
Chesterfield Drive																		
12003+50.00	LT	C	1			24.0	15.0			24.0	64.0	37.4	33.6	2		53.1	29.600	
12003+50.00	RT	C	1			24.0	15.0									54.7	35.800	
12020+50.00	LT	C	1	55.0		24.0	15.0									53.0	7.800	
12024+25.00	LT	B	1	60.0		30.0	15.0									228.2		
Temporary Entrances (REFER TO F SHEETS)																		
9996+30.00	LT	C				20.0		15.0									43.200	North Frontage (Parcel 126)
10007+35.00	LT	C				20.0		50.0									80.300	North Frontage (Parcel 135)
1032+00.00	RT	C				24.0		25.0									140.200	Existing US 20 (Parcel 142)
2030+63.00	LT	C				20.0		20.0									112.800	South Frontage (Parcel 143)
										Pipe	Aprons		Total					
										18"	517.0	18"	20.0					
										24"	64.0	24"	2.0					
										36"	194.0	36"	6.0					

108-13A 08-01-08			
SAFETY CLOSURES			
Refer to Section 2518 of the Standard Specifications			
Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
<b>STAGE 1A</b>			
255+55.00	1		Cypress Drive
12000+70.00	1		Chesterfield Drive
12024+25.00	1		Chesterfield Drive
12028+55.00	1		Chesterfield Drive
<b>STAGE 1B</b>			
8931+45.00	1		Cottingham Road
8954+30.00	1		Cottingham Road
933+05.00	1		Cott. Connector at US20
364+45.00	1		Higley Drive
969+65.00	1		Higley Drive at US20
5971+40.00		1	Swiss Valley Rd
5968+20.00		1	Swiss Valley Rd
5967+30.00	1		Swiss Valley Rd Lt
9996+65.00	1		North Frontage Rd
10007+45.00	1		North Frontage Rd
10021+50.00	1		North Frontage Rd
10022+00.00	1		North Frontage Rd
978+65.00	1		US 20 Rt
1014+00.00	1		US 20 Rt
1029+50.00	1		US 20 Lt
1036+75.00	1		US 20 Lt
<b>STAGE 2A</b>			
5975+93.00	1		Swiss Valley Road
5959+00.00	1		Swiss Valley Road Lt
5959+00.00	1		Swiss Valley Road Rt
5962+35.00	1		Swiss Valley Road
5954+10.00	1		Swiss Valley Road
604+60.00	1		Maple Lane
611+70.00	1		Maple Lane
<b>STAGE 2B</b>			
69330+10.00	1		North Cascade Rd West
6936+73.00	1		North Cascade Rd West
7968+87.00	1		North Cascade Rd East
7969+50.00	1		North Cascade Rd East Lt
7974+75.00	1		North Cascade Rd East
7990+45.00	1		North Cascade Rd East
7992+50.00	1		North Cascade Rd East Lt
7992+50.00	1		North Cascade Rd East Lt
7999+80.00	1		North Cascade Rd East
5965+50.00	1		Swiss Valley Road Lt
<b>STAGE 3A</b>			
1993+30.00	1		South Frontage Road
1994+35.00	1		South Frontage Road Lt
1999+65.00	1		South Frontage Road Rt
7968+50.00	1		North Cascade Road Rt
<b>STAGE 3B</b>			
6967+00.00	1		Swiss Valley Road Lt
6972+35.00	1		Swiss Valley Road
<b>STAGE 4</b>			
933+00.00	1		US 20 Lt
933+00.00	1		US 20 Rt
933+00.00	1		US 20 Rt
1059+20.00	1		US 20 Rt
1061+00.00	1		US 20 Rt
Total	46	2	

102-4 10-18-11					
LOCATIONS OF ROAD CLOSURE					
BARRICADES					
Refer to SI-181 and SI-182.					
Location		W	SI-181	SI-182	Remarks
No.	Station	LF	LF	No.	
1	933+00 Lt	24.0	24		Cottingham North
2	13028+40.00	22.0	22		Cottingham South
3				1	West Maple Lane
4				1	Barrington Lakes
Total		46.0		2	

108-9A 04-20-10										
HIGH TENSION CABLE GUARDRAIL										
Refer to BA-351.										
Location		Dimensions			Bid Items		Remarks			
No.	Direction of Traffic	Station	Side	Offset D <sub>0</sub>	Approach C <sub>A</sub>	Obstacle C <sub>0</sub>	Trailing C <sub>T</sub>	Protection Length (C <sub>A</sub> +C <sub>0</sub> +C <sub>T</sub> )	End Anchor	
				FT	FT	FT	FT	FT	No.	
1	WB	972+16.00	Lt	4.0	210.0	50.0	0.0	260.0	2	
2	EB	965+86.00	Rt	4.0	370.0	50.0	0.0	420.0	2	

108-27 10-17-17				
TEMPORARY FLOODLIGHTING LUMINAIRES				
Possible Standard: LI-130				
No.	Location Station	Offset	Number Lumin.	Remarks
<b>3A</b>				
1	937+00.00	24	1	WB US 20 (TC-253)
2	954+70.00	24	1	WB US 20 (TC-253)
3	1050+70.00	24	1	WB US 20 (TC-253)
<b>3B</b>				
4	937+00.00	24	1	WB US 20 (Stage 3A)
5	934+80.00	24	1	EB US 20 (TC-253)
6	956+10.00	24	1	EB US 20 (TC-253)
7	978+30.00	24	1	TEMP DRIVEWAY TO EB US 20
<b>3C</b>				
8	936+80.00	24	1	EB US 20 (TC-253)
7	978+30.00	24	1	TEMP DRIVE TO EB US20 (Stg3B)
9	1018+20.00	24	1	EB US 20 (TC-253)
10	1037+00.00	24	1	TEMP DRIVEWAY TO EB US 20
11	1050+40.00	24	1	EB US 20 (TC-253)
<b>3D</b>				
12	1018+20.00	24	1	EB US 20 (Stage 3C)
13	1050+40.00	24	1	EB US 20 (Stage 3C)
Total			14	

**CRASH CUSHIONS**

- \* Bid Item
- ① Lane(s) to which the installation is adjacent.
- ② Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500

No.	Direction of Traffic	Location Station	Side	Obstacle Width FT	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Spare Parts Kit (Select One)*		Obstacle Description	Remarks
					Temporary	Temporary Redirective	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10 CY	Embankment in Place CY	Permanent EACH	Permanent Severe Use EACH		
										Length FT	Length FT	Length FT	Length FT	Length FT						
Stage 2B																				
1	EB	1030+43.10	M	1.83																TBR
2	WB	1051+03.60	M	1.83	1															TBR
Stage 3A																				
1	WB	952+35.20	O	1.83																TBR
2	WB	1041+40.10	O	1.83	1															TBR
3	WB	1050+51.80	M	1.83																TBR
Stage 3B																				
1	EB	938+41.70	M	1.83	1															TBR
2	EB	988+17.00	M	1.83	1															TBR
3	EB	1026+61.00	M	1.83	1															TBR
4	WB	948+43.90	M	1.83	1															TBR
5	WB	953+50.50	M	1.83	1															TBR
6	WB	1050+89.00	M	1.83																TBR
Stage 3C																				
1	EB	939+81.80	O	1.83																TBR
2	EB	1018+00.00	M	1.83																TBR
3	EB	1022+49.80	O	1.83	1															TBR
4	EB	1037+48.00	O	1.83																TBR
<b>TOTALS</b>					<b>8</b>															

**TEMPORARY LANE SEPARATOR SYSTEM**

See TC-61

Station to Station	Length LF	Remarks	
			978+18.00

### TEMPORARY BARRIER RAIL

Possible Standards: BA-400, BA-401

\* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.

No.	Station to Station		Length LF	(Select One)		Anchored* (Y/N)	Modular Glare Screen System (Y/N)	Remarks
				Steel BA-400	Concrete BA-401			
Stage 2B								
1	1030+43.10	1046+66.80	1622.0		X	Yes	Yes	EB US-20, Inside
2	1028+86.10	1033+12.80	429.0		X	No	Yes	WB US-20, Inside
3	1033+12.80	1040+87.80	775.1		X	Yes	Yes	WB US-20, Inside
	1040+87.80							Freestanding to Anchored TBR Connection
4	1040+87.80	1051+03.60	1016.2		X	No	Yes	WB US-20, Inside
Stage 3A								
1	942+44.20	952+35.20	988.6		X	No	Yes	WB US-20, Outside
2	1028+69.80	1032+57.40	389.7		X	Yes	Yes	WB US-20, Outside
	1032+57.40							Freestanding to Anchored TBR Connection
3	1032+57.40	1041+40.10	883.1		X	No	Yes	WB US-20, Outside
4	1031+44.90	1050+51.80	1907.2		X	Yes	Yes	WB US-20, Inside
Stage 3B								
1	938+41.70	954+76.40	1647.2		X	No	Yes	EB US-20, Inside
2	988+17.00	994+24.60	620.2		X	No	Yes	EB US-20, Inside
	994+24.60							Freestanding to Anchored TBR Connection
3	994+24.60	996+47.60	228.9		X	Yes	Yes	EB US-20, Inside
4	1026+61.00	1030+17.20	349.7		X	No	Yes	EB US-20, Inside
	1030+17.20							Freestanding to Anchored TBR Connection
5	1030+17.20	1030+43.10	25.6		X	Yes	Yes	EB US-20, Inside
6	1046+66.80	1050+68.40	401.6		X	Yes	Yes	EB US-20, Inside
7	939+47.40	953+50.50	1398.9		X	No	Yes	WB US-20, Inside
8	947+93.00	948+43.90	51.1		X	No	Yes	WB US-20, Inside
9	1022+90.50	1050+89.00	2807.0		X	No	Yes	WB US-20, Inside
Stage 3C								
1	939+81.80	958+06.20	1834.3		X	No	Yes	EB US-20, Outside
2	982+65.30	996+63.20	1411.1		X	No	Yes	EB US-20, Inside
3	1018+00.00	1025+88.00	788.3		X	Yes	Yes	EB US-20, Inside
4	1022+49.80	1023+64.60	115.1		X	No	Yes	EB US-20, Outside
	1023+64.60							Freestanding to Anchored TBR Connection
5	1023+64.60	1034+35.00	1068.2		X	Yes	Yes	EB US-20, Outside
6	1034+35.00	1035+63.00	128.0		X	No	Yes	EB US-20, Outside
7	1037+48.00	1041+32.00	384.0		X	No	Yes	EB US-20, Outside
	1041+32.00							Freestanding to Anchored TBR Connection
8	1041+32.00	1044+82.00	350.4		X	Yes	Yes	EB US-20, Outside
9	1022+90.50	1042+06.50	1924.5		X	No	Yes	EB US-20, Inside
	1042+06.50							Freestanding to Anchored TBR Connection
10	1042+06.50	1048+96.60	691.2		X	Yes	Yes	EB US-20, Inside
<b>TOTALS:</b>			<b>24236.2</b>	<b>Total TBR</b>				
			<b>8248.2</b>	<b>chored TBR</b>				
			<b>24236.2</b>	<b>are Screen</b>				











**TEMPORARY PAVEMENT MARKING LINE TYPES**

See PM-110

\*\*\*MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.

\*\*NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.

BCY4: Broken Centerline (Yellow) @ 0.25      DCY4: Double Centerline (Yellow) @ 2.00      NPY4: No Passing Zone Line (Yellow) @ 1.25      BLW4: Broken Lane Line (White) @ 0.25      ELW4: Edge Line Right (White) @ 1.00  
 ELY4: Edge Line Left (Yellow) @ 1.00      SLW2: Stop Line (White) @ 6.00      CHW8: Channelizing Line (White) @ 2.00      DLW4: Dotted Line (White) @ 0.33      SLW4: Solid Lane Line (White) @ 1.00  
 CHY8: Channelizing Line (Yellow) @ 2.00      RLW4: Ramp Edge Line Right (White) @ 1.00      RLY4: Ramp Edge Line Left (Yellow) @ 1.00      YLW2: Yield Line (White) @ 1.71

Road ID	Station to Station	Dir. of Travel	Marking Type	Side			Length by Line Type (Unfactored)													Remarks		
				L	C	R	BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	SLW2	CHW8	DLW4	SLW4	CHY8	RLW4	RLY4		YLW2	STA
				STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA		STA	STA
<b>STAGE 3D</b>																						
ML020	932+32.76	935+21.81	WB			X																
ML020	931+76.46	936+41.59	WB	X																		
ML020	929+57.47	934+22.88	EB	X																		
ML020	932+21.48	956+40.00	EB			X																
ML020	952+50.12	956+40.00	EB	X											3.90							
ML020	952+50.12	958+06.30	EB			X																
ML020	936+64.56	958+06.30	EB		X																	
ML020	936+64.56	958+06.30	EB	X																		
ML020	984+20.00	987+19.84	EB	X																		
ML020	981+29.24	981+90.00	EB			X																
ML020	981+90.00	987+19.84	EB			X																
ML020	984+20.00	1006+30.00	EB			X																
ML020	981+29.24	1006+30.00	EB		X																	
ML020	981+29.24	1006+30.00	EB	X																		
SVLLYB	2956+40.00	2970+37.68	EB	X																		
SVLLYB	2956+40.00	2970+93.40	EB			X																
SVLLYB	2968+82.30	2971+15.72	EB		X																	
SVLLYB	2971+28.22	2971+28.22	EB	X	X	X																
SVLLY	5967+68.03	5972+06.83	BOTH			X																
SVLLY	5966+55.37	5972+36.95	NB	X																		
SVLLY	5959+12.00	5965+57.94	NB	X																		
SVLLYC	3967+14.66	3967+77.78	WB	X																		
SVLLYA	1970+44.92	1973+14.60	WB	X																		
SVLLYA	1969+81.03	1971+94.60	WB	X																		
SVLLYA	1969+71.38	1969+71.38	WB	X	X	X																
SVLLYD	4970+39.13	4984+20.00	EB			X																
SVLLYD	4970+76.52	4981+91.34	EB	X																		
SVLLYD	4981+91.34	4984+20.00	EB	X																		
DET11100	11100+47.60	11100+87.92	NB			X																
SFR	1993+16.87	2025+60.00	EB	X																		
<b>STAGE 4</b>																						
ML020	999+86.81	1007+64.66	WB	X																		
ML020	1017+56.70	1063+24.23	EB	X																		
ML020	1017+56.70	1063+24.23	EB		X																	
ML020	1017+56.70	1063+24.23	EB			X																
ML020	1061+03.07	1065+58.97	WB	X																		
Factored Total: Waterborne/Solvent Paint							-	530.15	-	85.22	611.11	419.95	35.13	363.51	2.06	10.01	185.80	66.60	52.95	0.31	-	
Factored Total: Wet Retroreflective Removable Tape							-	3.09	-	0.72	2.88	3.84	-	161.93	-	-	54.52	-	-	-	-	
Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based										2362.78	owance =	2480.92										
Bid Quantity: Wet Retroreflective Removable Tape Markings										226.99	owance =	238.34										

**PAVEMENT MARKING LINE TYPES REMOVALS**

See PM-110

\*BCY4 - Place on the same side of the roadway to match existing markings near the project. \*\*\*MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose ar

\*\*NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.

BCY4: Broken Centerline (Yellow) @ 0.25 DCY4: Double Centerline (Yellow) @ 2.00 NPY4: No Passing Zone Line (Yellow) @ 1.25 BLW4: Broken Lane Line (White) @ 0.25 ELW4: Edge Line Right (White) @ 1.00  
 ELY4: Edge Line Left (Yellow) @ 1.00 SLW2: Stop Line (White) @ 6.00 CHW8: Channelizing Line (White) @ 2.00 DLW4: Dotted Line (White) @ 0.33  
 CHY8: Channelizing Line (Yellow) @ 2.00 RLW4: Ramp Edge Line Right (White) @ 1.00 RLY4: Ramp Edge Line Left (Yellow) @ 1.00 YLW2: Yield Line (White) @ 1.71 SLW4: Solid Lane Line (White) @ 1.00

Road ID	Station to Station		Dir. of Travel	Marking Type	Location			Length by Line Type (Unfactored)											Remarks				
					Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	SLW2	CHW8	DLW4	SLW4	CHY8		RLW4	RLY4	YLW2	STA
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA		STA	STA	STA	STA
<b>STAGE 1B</b>																							
ML020	967+33.55	969+32.23	EB	Removal of Paint	X															1.99			
ML020	976+48.01	978+30.81	EB	Removal of Paint	X															1.83			
ML020	988+55.23	990+43.41	EB	Removal of Paint	X															1.88			
ML020	998+35.80	1000+26.23	EB	Removal of Paint	X															1.90			
ML020	1011+56.50	1013+31.26	EB	Removal of Paint	X															1.75			
ML020	1026+87.74	1029+20.93	EB	Removal of Paint	X															2.33			
ML020	1032+61.48	1035+91.11	EB	Removal of Paint	X						3.30												
ML020	1034+17.42	1036+23.83	EB	Removal of Paint	X															2.06			
<b>STAGE 2B</b>																							
ML020	933+24.57	935+20.87	WB	Removal of Paint	X															1.96			
ML020	933+53.34	936+46.41	WB	Removal of Paint	X						2.93												
ML020	1029+70.82	1030+49.58	WB	Removal of Paint	X															0.79			
ML020	1050+89.00	1056+15.00	WB	Removal of Paint	X																		
ML021	1029+39.51	1056+15.00	WB	Removal of Paint		X			26.75														
ML020	1029+39.87	1056+15.00	WB	Removal of Paint			X			26.75													
ML020	975+59.85	975+97.40	EB	Removal of Paint			X			0.38													
ML020	1010+53.43	1013+31.26	EB	Removal of Paint	X															2.78			
ML020	1025+82.59	1035+09.29	EB	Removal of Paint		X			9.27														
ML020	1026+87.74	1029+20.93	EB	Removal of Paint	X															2.33			
ML020	1034+17.42	1036+23.83	EB	Removal of Paint	X															2.06			
ML020	1037+54.43	1046+66.82	EB	Removal of Paint	X						9.12												
<b>STAGE 3A</b>																							
ML020	937+20.86	954+81.49	WB	Removal of Paint	X															17.61			
ML020	936+74.03	943+00.00	WB	Removal of Paint		X				6.26													
ML020	950+71.82	954+83.42	WB	Removal of Paint			X			4.12													
ML020	936+74.04	942+99.99	WB	Removal of Paint				X												6.26			
ML020	952+35.63	954+85.35	WB	Removal of Paint			X													2.50			
ML020	1001+77.95	1003+45.64	WB	Removal of Paint	X															1.68			
ML020	1030+06.57	1032+70.70	WB	Removal of Paint	X															2.64			
ML020	1040+50.00	1050+89.04	WB	Removal of Paint			X				10.39									10.39			
ML020	1040+50.00	1050+89.04	WB	Removal of Paint		X														10.39			
ML020	1040+50.00	1050+89.04	WB	Removal of Paint	X																		
ML020	1050+89.04	1056+15.00	WB	Removal of Removable Tape			X													5.26			
ML020	1050+89.04	1056+15.00	WB	Removal of Removable Tape			X													5.26			
ML020	1050+89.04	1056+15.00	WB	Removal of Removable Tape	X															5.26			
DET12300	12327+36.28	12329+35.22	WB	Removal of Paint		X					1.99												
DET12300	12329+35.22	12330+88.35	WB	Removal of Paint			X													1.53			
DET12300	12329+63.74	12331+18.09	WB	Removal of Paint	X															1.54			
NCSDW	6930+00.00	6931+50.00	BOTH	Removal of Paint			X													3.00			
NCSDW	6930+00.00	6931+50.00	WB	Removal of Paint	X				1.50														
<b>STAGE 3B</b>																							
ML020	936+09.88	936+74.03	WB	Removal of Paint		X					0.64												
ML020	936+09.88	936+74.03	WB	Removal of Paint	X															0.64			
ML020	969+04.22	978+18.08	WB	Removal of Paint		X					9.14												
ML020	934+56.72	943+00.00	EB	Removal of Paint	X															8.43			
ML020	934+56.72	943+00.00	EB	Removal of Paint		X					8.43												
ML020	935+74.65	941+55.13	EB	Removal of Paint			X													5.80			
ML020	954+76.83	957+29.07	EB	Removal of Paint	X															2.52			
ML020	952+94.62	957+26.58	EB	Removal of Paint		X					4.32												
ML020	950+56.13	956+24.27	EB	Removal of Paint			X													5.68			
ML020	988+68.24	996+96.69	EB	Removal of Paint		X					8.28												
ML020	988+69.74	990+63.99	EB	Removal of Paint			X													1.94			
ML020	991+52.68	996+07.35	EB	Removal of Paint			X													4.55			
ML020	1050+90.00	1052+00.00	WB	Removal of Removable Tape			X													1.10			
ML020	1052+00.00	1054+05.52	WB	Removal of Paint			X													2.06			
ML020	1050+90.00	1052+00.00	WB	Removal of Removable Tape			X													1.10			
ML020	1052+00.00	1054+56.97	WB	Removal of Paint		X					2.57												
ML020	1050+90.00	1055+01.59	WB	Removal of Paint	X															4.12			
Cottingham	8975+04.61	8976+12.00	EB	Removal of Paint			X													1.07			
NFR	9976+12.00	9977+64.32	EB	Removal of Paint			X													1.52			
DET12400	12436+94.47	12442+99.98	WB	Removal of Removable Tape			X													6.06			
DET12400	12436+74.03	12440+54.70	WB	Removal of Removable Tape			X													3.81			
DET12400	12436+74.03	12439+48.52	WB	Removal of Paint	X															2.74			
DET12600	12644+40.40	12650+90.50	WB	Removal of Removable Tape			X													6.50			
DET12600	12647+00.00	12650+90.50	WB	Removal of Removable Tape			X													3.91			
DET12600	12649+45.76	12650+91.50	WB	Removal of Removable Tape	X															1.46			

**PAVEMENT MARKING LINE TYPES REMOVALS**

See PM-110

\*BCY4 - Place on the same side of the roadway to match existing markings near the project. \*\*\*MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose ar

\*\*NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.

BCY4: Broken Centerline (Yellow) @ 0.25      DCY4: Double Centerline (Yellow) @ 2.00      NPY4: No Passing Zone Line (Yellow) @ 1.25      BLW4: Broken Lane Line (White) @ 0.25      ELW4: Edge Line Right (White) @ 1.00  
 ELY4: Edge Line Left (Yellow) @ 1.00      SLW2: Stop Line (White) @ 6.00      CHW8: Channelizing Line (White) @ 2.00      DLW4: Dotted Line (White) @ 0.33      SLW4: Solid Lane Line (White) @ 1.00  
 CHY8: Channelizing Line (Yellow) @ 2.00      RLW4: Ramp Edge Line Right (White) @ 1.00      RLY4: Ramp Edge Line Left (Yellow) @ 1.00      YLW2: Yield Line (White) @ 1.71

Road ID	Station to Station	Dir. of Travel	Marking Type	Side			Length by Line Type (Unfactored)														Remarks	
				L	C	R	BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	SLW2	CHW8	DLW4	SLW4	CHY8	RLW4	RLY4	YLW2		STA
				STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA		STA
<b>STAGE 3C</b>																						
ML020	934+22.88	934+56.72	EB	Removal of Paint	X									0.34								
ML020	953+94.30	955+50.00	WB	Removal of Paint		X									1.56							
ML020	953+74.44	955+50.00	WB	Removal of Paint	X														1.76			
ML020	978+65.74	979+49.76	EB	Removal of Paint		X						0.84										
ML020	978+68.02	979+51.78	EB	Removal of Paint			X					0.84										
ML020	1045+28.25	1051+17.62	EB	Removal of Paint	X									5.89								
ML020	1045+28.25	1052+59.83	EB	Removal of Paint		X						7.32										
ML020	1045+28.25	1052+59.83	EB	Removal of Paint			X					7.32										
DET13100	13134+56.72	13140+57.31	EB	Removal of Removable Tape	X														6.01			
DET13100	13134+56.72	13138+51.61	EB	Removal of Removable Tape		X									3.95							
DET13200	13236+94.56	13239+53.82	WB	Removal of Removable Tape			X								2.59							
DET13200	13239+53.82	13239+98.16	WB	Removal of Paint			X								0.44							
DET13200	13249+76.29	13253+52.42	WB	Removal of Paint			X									3.76						
DET13200	13236+09.86	13243+00.36	WB	Removal of Removable Tape		X									6.91							
DET13200	13243+00.36	13253+86.63	WB	Removal of Paint		X									10.86							
DET13200	13237+23.03	13239+53.82	WB	Removal of Removable Tape	X														2.31			
DET13200	13239+53.82	13253+67.05	WB	Removal of Paint	X														14.13			
DET11100	11101+29.27	11101+97.78	NB	Removal of Paint	X														0.69			
DET11100	11101+60.44	11102+13.24	SB	Removal of Paint			X						0.53									
NCSDE	7969+03.01	7969+96.99	EB	Removal of Paint	X							0.94										
<b>STAGE 3D</b>																						
ML020	950+09.85	956+40.00	EB	Removal of Paint			X															
ML020	1003+87.94	1006+30.00	EB	Removal of Paint		X						2.42			6.30							
ML020	1003+87.94	1006+30.00	EB	Removal of Paint			X								2.42							
ML020	1001+55.94	1006+27.23	WB	Removal of Paint	X											4.71						
ML020	1001+55.94	1007+64.66	WB	Removal of Paint	X										6.09							
DET13300	13336+64.56	13358+10.42	EB	Removal of Paint	X														21.46			
DET13300	13336+64.56	13339+80.67	EB	Removal of Removable Tape		X									3.16							
DET13300	13339+80.67	13358+10.42	EB	Removal of Paint		X									18.30							
DET13300	13336+64.56	13343+00.25	EB	Removal of Removable Tape			X								6.36							
DET13300	13343+00.25	13358+10.42	EB	Removal of Paint			X								15.10							
SVLLYC	3967+14.66	3968+91.12	WB	Removal of Paint	X										1.76							
SVLLYA	1969+59.78	1973+14.60	WB	Removal of Paint	X										3.55							
DET11100	11101+22.83	11102+37.01	NB	Removal of Paint			X								1.14							
DET13400	13400+00.00	13422+33.82	EB	Removal of Paint		X							22.34									
DET13400	13400+00.00	13422+33.82	EB	Removal of Paint			X								22.34							
DET13400	13417+68.00	13422+33.82	EB	Removal of Paint	X										4.66							
SFR	1994+70.05	1995+65.64	EB	Removal of Paint		X							0.96									
<b>STAGE 4</b>																						
ML020	1001+55.94	1006+27.23	WB	Removal of Paint	X											4.71						
ML020	1052+44.93	1058+00.45	EB	Removal of Paint	X										5.56							
ML020	1062+50.01	1063+24.23	EB	Removal of Paint	X										0.74							
ML020	1052+44.58	1063+24.23	EB	Removal of Paint			X						10.80									
NCSDE	7969+03.01	7969+03.01	EB	Removal of Paint	X	X	X								0.16							
NCSDE	7969+96.99	7969+96.99	WB	Removal of Paint	X	X	X								0.16							
NCSDE	7969+50.00	7969+50.00	NB	Removal of Paint	X	X	X								0.33							
DET13600	13600+00.43	13602+63.89	EB	Removal of Paint		X													2.63			
DET13600	13600+00.43	13604+60.53	EB	Removal of Paint			X								4.60							
DET13600	13632+12.80	13634+92.68	EB	Removal of Paint	X														2.80			
DET13600	13629+89.41	13634+92.68	EB	Removal of Removable Tape		X									5.03							
DET13600	13628+27.60	13634+92.68	EB	Removal of Removable Tape			X								6.65							
Factored Total: Removal of Paint							-	6.79	-	33.97	112.79	98.33	3.87	110.06	1.25	31.99	90.24	-	-	-		
Factored Total: Removal of Removable Tape							-	-	-	-	-	-	-	135.27	-	-	30.06	-	-	-		
Bid Quantity: Pavement Markings Removed										489.28												
Incidental Removal of Removable Tape										165.33												

**CLEARING AND GRUBBING**

Location		Work and Material Type	Trees, Stumps, and Logs and Down Timber Material Diameters													All Other Materials		Estimated Quantities			Remarks
Station to Station or Ref. Loc. Sign to Ref. Loc. Sign or Description	Direction of Travel		3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Length	Width	Units	Area	Herbicide Application	
			FT	FT	Units	Acres	Each														
US 20 ML																					
933+17.55 to 969+55.44	Both	Trees - Clearing and Grubbing																	7.3		
933+14.16 to 969+24.52	Both	Trees - Clearing and Grubbing																	6.3		
943+00.00 to 969+19.19	Both	Brush - Clearing																	2.0		
957+11.60 to 986+52.05	Both	Trees - Clearing and Grubbing																	30.1		
969+66.09 to 975+99.49	Both	Trees - Clearing and Grubbing																	1.0		
986+52.05 to 990+95.93	Both	Trees - Clearing and Grubbing																	0.3		
991+18.01 to 1001+00.19	Both	Trees - Clearing and Grubbing																	1.9		
1001+66.98 to 1013+87.10	Both	Trees - Clearing and Grubbing																	5.1		
991+21.52 to 1000+59.98	Both	Trees - Clearing and Grubbing																	1.3		
1000+89.59 to 1013+88.71	Both	Trees - Clearing and Grubbing																	1.7		
1014+28.90 to 1014+68.43	Both	Trees - Clearing and Grubbing																	0.0		
1014+19.82 to 1016+03.13	Both	Trees - Clearing and Grubbing																	0.5		
1014+24.10 to 1029+33.21	Both	Trees - Clearing and Grubbing																	6.4		
1020+55.33 to 1036+28.75	Both	Trees - Clearing and Grubbing																	1.4		
1016+74.31 to 1029+01.22	Both	Brush - Clearing																	0.5		
1029+46.24 to 1037+07.92	Both	Trees - Clearing and Grubbing																	1.5		
1029+95.20 to 1036+12.88	Both	Brush - Clearing																	0.3		
1036+97.69 to 1056+74.81	Both	Trees - Clearing and Grubbing																	1.4		
1036+94.06 to 1040+50.00	Both	Brush - Clearing																	0.2		
1036+64.29 to 1040+50.00	Both	Trees - Clearing and Grubbing																	0.5		
COTTINGHAM																					
8931+00.00 to 8964+59.72	Both	Trees - Clearing and Grubbing																	12.5		
8931+65.00 to 8936+60.90	Both	Trees - Clearing and Grubbing																	0.3		
8938+82.95 to 8940+89.03	Both	Trees - Clearing and Grubbing																	0.3		
8962+06.36 to 8976+12.00	Both	Trees - Clearing and Grubbing																	7.1		
COTTINGHAM SOUTH																					
13025+75.00 to 13027+60.00	Both	Trees - Clearing and Grubbing																	0.0		
N FRONTAGE RD /TOWER																					
9976+12.00 to 9997+87.75	Both	Trees - Clearing and Grubbing																	12.4		
9997+99.22 to 10008+35.50	Both	Trees - Clearing and Grubbing																	4.1		
10008+53.63 to 10019+75.37	Both	Trees - Clearing and Grubbing																	4.8		
10020+02.24 to 10021+87.11	Both	Trees - Clearing and Grubbing																	1.0		
10021+91.74 to 410+97.14	Both	Trees - Clearing and Grubbing																	3.3		
411+10.67 to 419+60.51	Both	Trees - Clearing and Grubbing																	1.2		
N CASCADE RD W																					
6931+50.00 to 6958+89.08	Both	Trees - Clearing and Grubbing																	6.3		
6931+50.04 to 6935+50.05	Both	Trees - Clearing and Grubbing																	0.2		
6950+15.52 to 6958+17.46	Both	Trees - Clearing and Grubbing																	4.0		
SWISS VALLEY																					
5965+35.99 to 5954+50.00	Both	Trees - Clearing and Grubbing																	1.3		
5965+74.05 to 5954+50.00	Both	Trees - Clearing and Grubbing																	1.6		
N CASCADE RD E																					
7959+66.28 to 7969+30.01	Both	Trees - Clearing and Grubbing																	2.3		
7969+79.88 to 7993+64.37	Both	Trees - Clearing and Grubbing																	4.5		
7993+86.26 to 7995+97.75	Both	Trees - Clearing and Grubbing																	0.3		
7993+63.47 to 7997+00.00	Both	Trees - Clearing and Grubbing																	0.2		
7996+12.44 to 7997+00.00	Both	Trees - Clearing and Grubbing																	0.1		
S FRONTAGE RD																					
1993+80.29 to 1997+91.17	Both	Brush - Clearing																	0.7		
2027+10.42 to 2032+35.00	Both	Brush - Clearing																	0.2		
CHESTERFIELD																					
12000+68.94 to 12028+51.54	Both	Trees - Clearing and Grubbing																	9.1		
																			147.0		

**EXISTING PAVEMENT**

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks	
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth	Type	Depth	Type	Depth	Type	Depth	Source	Type	Durability Class			Type
1	31	US 20	EB	308.69	312.12	2013	R	NHSN-020-9(223)--2R-31	HMA	1.5					1.5							
1	31	US 20	EB	308.69	312.12	1992		RP-20-9(105)--16-31	ACC	3								Brown Qry.	C.LST			
1	31	US 20	EB	308.69	312.12	1959		F-305(11)	PCC	10								Rose Spur	C.LST.	I		
2	31	US 20	WB	307.39	312.64	1988		F-020-9(72)--20-31	PCC	10	CTB	4						Johns Creek	C.LST.	I		

Note: No existing pavement information available for Swiss Valley Road, Cottingham Road and North Cascade Road

**REMOVAL OF PAVEMENT**

Refer to Tabulation 102-5

\* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area		Saw Cut*	Remarks
				SY	LF		
STAGE 1A							
12000+63.10	12000+70.00	LT	PCC/HMA	208.1	171.0		Existing Chesterfield Road
12028+54.00	12028+53.20	LT/RT	PCC/HMA	48.2	145.0		Existing Chesterfield Road
STAGE 1B							
8931+65.00	8940+66.40	RT	PCC/HMA	2647.6	47.0		Existing Cottingham Road
953+90.90	969+50.30	LT/RT	PCC/HMA	4718.2	65.0		Existing US 20
969+86.40	1002+78.60	RT	PCC/HMA	1880.1	340.0		Existing US 20
STAGE 2A							
5961+05.00	5954+50.00	LT	PCC/HMA	1517.4	44.0		Existing Swiss Valley
977+63.50	978+59.40	RT	PCC/HMA	25.5	105.0		Existing US 20
1036+01.20	1037+22.80	LT	PCC/HMA	24.9	122.0		Existing US 20
1046+18.90	1046+81.60	LT	PCC/HMA	14.1	63.0		Existing US 20
604+71.90	611+69.70	LT	PCC/HMA	1513.1	559.0		Existing West Ridge Lane
STAGE 2B							
932+21.50	933+69.40	RT	PCC/HMA	141.6	148.0		Existing US 20
8944+10.10	8944+30.10	RT	PCC/HMA	185.9	20.0		Existing Cottingham Road
6931+50.00	6936+57.30	LT	PCC/HMA	1417.1	48.0		North Cascade Frontage Road (West)
6936+79.30	6938+30.60	LT	PCC/HMA	651.1	48.0		North Cascade Frontage Road (West)
975+80.10	979+87.80	RT	PCC/HMA	923.1	571.0		Existing US 20
7992+44.20	7997+00.00	RT	PCC/HMA	1922.4	92.0		North Cascade Frontage Road (East)
7991+96.50	7992+72.80	LT	PCC/HMA	232.3	0.0		North Cascade Frontage Road (East)
1033+00.90	1040+50.00	RT/LT	PCC/HMA	1496.0	1184.0		Existing US 20
1046+16.70	1046+71.10	LT	PCC/HMA	25.7	59.0		Existing US 20
2030+22.70	2032+35.00	LT	PCC/HMA	535.3	56.0		South Frontage Road
STAGE 3A							
943+00.00	951+64.90	LT	PCC/HMA	1317.2	879.0		Existing US 20
977+68.90	978+55.40	RT	PCC/HMA	127.4	0.0		Existing US 20
1000+55.80	604+71.90	RT/LT	PCC/HMA	158.2	84.0		Existing US 20
1029+22.00	1040+50.00	LT	PCC/HMA	3200.6	430.0		Existing US 20
STAGE 3B							
936+74.00	957+76.50	RT	PCC/HMA	5980.8	30.0		Existing US 20
943+00.00	953+88.60	LT	PCC/HMA	2154.3	605.0		Existing US 20
985+50.40	999+87.70	RT	PCC/HMA	5884.0	1530.0		Existing US 20
1018+00.00	1034+35.00	RT/LT	PCC/HMA	6346.4	1266.0		Existing US 20
1042+18.50	1050+89.00	LT	PCC/HMA	197.7	870.0		Existing US 20
1046+06.80	1046+66.80	RT	PCC/HMA	23.6	62.0		Existing US 20
STAGE 3C							
939+77.00	949+29.50	LT	PCC/HMA	841.8	0.0		Existing US 20
934+56.70	957+70.60	RT	PCC/HMA	6813.9	0.0		Existing US 20
957+93.40	969+11.10	RT	PCC/HMA	3927.4	0.0		Existing US 20
957+70.60	968+96.60	RT	PCC/HMA	4239.1	0.0		Existing US 20
969+11.60	970+76.00	RT	PCC/HMA	2036.3	0.0		Existing US 20
5966+40.00	5961+05.00	LT	PCC/HMA	2349.7	0.0		Existing Swiss Valley
970+76.30	978+54.40	RT	PCC/HMA	7312.3	0.0		Existing US 20
979+39.60	1001+59.30	RT	PCC/HMA	10949.0	0.0		Existing US 20
1001+59.30	1035+50.00	RT	PCC/HMA	21216.3	0.0		Existing US 20
2029+90.00	2031+30.00	LT	PCC/HMA	425.7	0.0		South Frontage Road
STAGE 3D							
929+57.50	936+41.60	RT	PCC/HMA	1170.1	931.0		Existing US 20
932+32.80	935+22.20	LT	PCC/HMA	1103.0	313.0		Existing US 20
974+14.30	979+49.20	RT	PCC/HMA	1339.0	0.0		Existing US 20
977+20.00	983+10.00	LT	PCC/HMA	891.8	0.0		Existing US 20
978+54.40	979+39.60	RT	PCC/HMA	718.2	0.0		Existing US 20

**REMOVAL OF PAVEMENT**

Refer to Tabulation 102-5

\* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area		Saw Cut*	Remarks
				SY	LF		
978+41.20	979+65.30	RT	PCC/HMA	281.8	0.0		Existing US 20
1994+67.30	1999+12.30	RT	PCC/HMA	926.1	0.0		South Frontage Road
1035+50.00	1040+50.00	RT	PCC/HMA	1704.4	0.0		Existing US 20
2029+90.00	2031+30.00	LT	PCC/HMA	278.0	0.0		South Frontage Road
STAGE 4							
1018+00.00	1034+35.00	RT	PCC/HMA	4309.4	0.0		Existing US 20
1034+35.00	1040+50.00	LT	PCC/HMA	1879.2	0.0		Existing US 20
1040+50.00	1042+18.50	LT	PCC/HMA	584.3	0.0		Existing US 20
1042+18.50	1050+60.70	LT	PCC/HMA	1882.8	0.0		Existing US 20
1058+16.60	1065+76.70	RT/LT	PCC/HMA	1035.4	971.0		Existing US 20
				123733.3	11858.0		

**REMOVAL OF EXISTING STRUCTURES**

Location	Description	Remarks
94150	Remove Ex. Wingwalls to Face of Parapet	Refer to DR-122 for details
95132	Remove Ex. Wingwalls to Face of Parapet	Refer to DR-122 for details
106200	Remove Masonry Wall Structure	Existing Barrington Drive

110-9  
10-18-11

**CULVERT ABANDONMENT**

Refer to Details 4315 and 4316

\* Not a bid item

Location Station	Description	Fill Material		4"	Remarks
		Flowable Mortar	Granular Backfill*	Perforated Subdrain*	
		CY	TON	LF	
999+40.00	15" X 55' RCP	2.5	0.3	7.0	Remove apron & intake
1000+00.00	15" X 170' RCP	7.7	0.3	7.0	Remove apron & intake
1000+80.00	24" X 180' RCP	20.9	0.4	8.0	Remove aprons
1006+06.00	30" x 450' RCP	81.8	0.4	10.0	Remove Aprons; Includes temp ext placed in Stg 1B
1009+00.00	30" X 168' RCP	30.5	0.4	10.0	Remove apron & intake; temp pipe placed in stg 1B
1009+78.00	30" x 480' RCP	87.2	0.4	10.0	Remove apron & intake; temp ext placed in stg 1B
1011+32.00	15" X 215' RCP	9.8	0.3	7.0	Remove apron & intake; temp ext placed in stg 1B
1015+30.00	24" X 450' RCP	52.3	0.4	8.0	Remove Aprons; Includes temp ext placed in Stg 1B
1018+00.00	15" X 250' RCP	11.4	0.3	7.0	Remove apron & intake
1020+25.00	15" X 60' RCP	2.7	0.3	7.0	Remove apron & intake
1026+12.00	24" X 316' RCP	36.7	0.4	8.0	Remove Aprons; Includes temp ext placed in Stg 1B
		343.6	4.1		

110-15  
04-16-13

**REMOVAL OF INTAKES AND UTILITY ACCESSES**

No.	Location/Description	Type	Remarks
1	Sta 973+70-315' Rt	Intakes	Median Curb Intake
2	Sta 978+10-230' Rt	Intakes	Median Curb Intake
3	Sta 999+40-110' Rt	Intakes	Median Curb Intake
4	Sta 1000+00-112' Rt	Intakes	Median Curb Intake
5	Sta 1007+50-150' Rt	Intakes	Ditch Intake
6	Sta 1009+00-75' Rt	Intakes	Ditch Intake placed in Stage 1B
7	Sta 1009+90-200' Rt	Intakes	Ditch Intake
8	Sta 1011+40-115' Rt	Intakes	Median Curb Intake
9	Sta 1018+00-105' Rt	Intakes	Median Curb Intake
10	Sta 1020+25-90' Rt	Intakes	Median Curb Intake

ROW  
Special

**ROW**

At the time of Letting the following Parcels are not expected to be available for the Contractor to access. Refer to the Proposal for dates when the access is expected to be granted.

Parcel No.	Property Owner
119C	Terrance A. Kathleen A. Jason P. McDermott
124	Exodus Two Holdings LLC
124A	Genesis Two Holdings, LLC
142	Thomas P. & Nancy A. Burds
148	Gerald G. & Judith M. Siegert



107-25  
08-01-08

### TABULATION OF ROCK SPLITTING

Location				
No.	Station to Station	Side	Remarks	
<b>US 20 MAINLINE</b>				
1	946+25.00	948+75.00	L	LIMESTONE
2	955+75.00	956+75.00	L	LIMESTONE
3	961+25.00	961+75.00	L	LIMESTONE
4	962+50.00	964+75.00	L	LIMESTONE
5	965+50.00	969+25.00	L	LIMESTONE
6	999+50.00	1001+75.00	L	LIMESTONE
7	1036+50.00	1037+00.00	L	LIMESTONE
8	961+25.00	961+50.00	R	LIMESTONE
9	965+75.00	966+75.00	R	LIMESTONE
10	967+75.00	969+00.00	R	LIMESTONE
11	974+25.00	977+25.00	R	LIMESTONE
12	999+25.00	1000+50.00	R	LIMESTONE
13	1036+00.00	1036+50.00	R	LIMESTONE
<b>SWISS VALLEY ROAD</b>				
1	5971+25.00	5972+25.00	L/R	LIMESTONE
2	5974+25.00	5975+25.00	L/R	LIMESTONE
<b>COTTINGHAM ROAD</b>				
1	8944+25.00	8946+75.00	L/R	LIMESTONE
2	8949+50.00	8957+25.00	L/R	LIMESTONE, POTENTIAL PRE-SPLITTING FROM STA. 8950+75 TO 8953+00 LEFT.
3	8959+75.00	8961+25.00	L	LIMESTONE
4	8963+00.00	8971+50.00	L/R	LIMESTONE, POTENTIAL PRE-SPLITTING FROM STA. 8968+75 TO 8970+50 LEFT.
5	8972+75.00	8975+00.00	R	LIMESTONE
<b>NORTH FRONTAGE ROAD</b>				
1	9977+75.00	9984+75.00	L/R	LIMESTONE, POTENTIAL PRE-SPLITTING FROM STA. 9978+00 TO 9978+75 LEFT.
2	9987+25.00	9989+75.00	R	LIMESTONE
3	9989+75.00	9992+50.00	L/R	LIMESTONE
4	9994+00.00	9996+25.00	L	LIMESTONE
5	9999+50.00	10005+00.00	L	LIMESTONE, POTENTIAL PRE-SPLITTING FROM STA. 10004+00 TO 10005+00
6	10005+00.00	10007+00.00	L/R	LIMESTONE, POTENTIAL PRE-SPLITTING FROM STA. 10005+00 TO 10007+00 LEFT.
7	10008+00.00	10008+50.00	L/R	LIMESTONE
8	10016+75.00	10018+00.00	L	LIMESTONE
9	10020+00.00	10020+50.00	L	LIMESTONE
<b>TOWER ROAD</b>				
1	400+50.00	403+00.00	L/R	LIMESTONE, POTENTIAL PRE-SPLITTING FROM STA. 401+00 TO 401+75 LEFT.
2	406+00.00	406+50.00	L	LIMESTONE
3	416+00.00	417+00.00	L/R	LIMESTONE
<b>NORTH CASCADE ROAD WEST</b>				
1	6942+75.00	6947+50.00	L/R	LIMESTONE
2	6952+75.00	6953+50.00	R	LIMESTONE, POTENTIAL PRE-SPLITTING FROM STA. 6952+75 TO 6953+50
<b>RAMP A</b>				
1	1970+50.00	1977+25.00	L	LIMESTONE
2	1979+50.00	1983+00.00	L	LIMESTONE
<b>RAMP C</b>				
1	3960+50.00	3967+75.00	L	LIMESTONE
<b>RAMP D</b>				
1	4974+50.00	4977+50.00	L	LIMESTONE
2	4977+50.00	4981+25.00	R	LIMESTONE

107-31  
04-19-11

### PLOWING AND SHAPING

Refer to Standard Road Plan EW-101

Station to Station	D		Remarks
	FT		
<b>US 20 Right</b>			
947+75.00	956+25.00	3.0	Refer to W sheets.
973+75.00	974+25.00	5.0	Refer to W sheets.
978+00.00	978+50.00	3.0	Refer to W sheets.
982+00.00	987+25.00	5.0	Refer to W sheets.
998+00.00	1000+75.00	3.0	Refer to W sheets.
1011+50.00	1014+50.00	3.0	Refer to W sheets.
1017+25.00	1022+75.00	5.0	Refer to W sheets.
<b>US 20 Left</b>			
950+50.00	951+25.00	3.0	Refer to W sheets.
951+25.00	955+50.00	5.0	Refer to W sheets.
958+25.00	959+50.00	5.0	Refer to W sheets.
973+75.00	974+00.00	5.0	Refer to W sheets.
978+75.00	980+00.00	4.0	Refer to W sheets.
989+75.00	990+75.00	5.0	Refer to W sheets.
991+50.00	995+75.00	5.0	Refer to W sheets.
995+75.00	998+00.00	3.0	Refer to W sheets.
1027+00.00	1029+00.00	5.0	Refer to W sheets.
1029+75.00	1031+00.00	3.0	Refer to W sheets.
<b>Swiss Valley</b>			
5962+00.00	5963+25.00	3.0	Refer to X sheets.
<b>Cottingham</b>			
8934+00.00	8936+50.00	5.0	Refer to X sheets.
8957+00.00	8957+25.00	5.0	Refer to X sheets.
<b>North Frontage</b>			
9989+00.00	9991+50.00	5.0	Refer to X sheets.
9996+00.00	9996+75.00	3.0	Refer to X sheets.
9999+00.00	10002+00.00	5.0	Refer to X sheets.
10002+00.00	10004+50.00	3.0	Refer to X sheets.
10017+50.00	10018+00.00	5.0	Refer to X sheets.
10024+00.00	10024+00.00	5.0	Refer to X sheets.
<b>North Cascade West</b>			
6937+25.00	6937+50.00	5.0	Refer to X sheets.
6950+00.00	6950+50.00	4.0	Refer to X sheets.
<b>North Cascade East</b>			
7960+50.00	7961+50.00	3.0	Refer to X sheets.
7982+50.00	7983+00.00	3.0	Refer to X sheets.
7993+00.00	7994+50.00	4.0	Refer to X sheets.
<b>South Frontage</b>			
1997+75.00	1999+00.00	5.0	Refer to X sheets.
<b>Chesterfield Drive</b>			
12019+75.00	12020+75.00	5.0	Refer to X sheets.
<b>Cottingham Connector</b>			
137+50.00	137+50.00	5.0	Refer to X sheets.
<b>Ramp B</b>			
2956+40.00	2957+25.00	3.0	Refer to Y sheets.
2960+25.00	2964+75.00	4.0	Refer to Y sheets.
2970+00.00	2970+50.00	3.0	Refer to Y sheets.
<b>Ramp D</b>			
4972+50.00	4976+50.00	4.0	Refer to Y sheets.
4981+50.00	4981+91.34	4.0	Refer to Y sheets.

103-6  
10-17-17

### EMBANKMENT WITH MOISTURE CONTROL


Moisture Control is required for all Class 10 fill placed in all locations and depths. Stability berms placed outside the normal foreslope template and topsoil will not require Moisture Control.

103-7  
08-01-08

### SHRINKAGE DATA

Material	%	Remarks
Template Cut (Soils)	30%	
Topsoil	40%	
Shale	0%	
Broken/Weathered Limestone	0%	
Estimated Boulder Quantity		650 CY

### GEOTECHNICAL DESIGN



I hereby certify that this engineering document was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly licensed Professional Engineers under the laws of the State of Iowa.

*Matthew Cushman* 5/6/19  
Signature Date

**MATTHEW D. CUSHMAN**  
Printed or Typed Name

My license renewal date is December 31, 2020

Pages or sheets covered by this seal: CS.1-CS.7 & Q.1-Q.33

**LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE**

Refer to Soils Sheets

\* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

Line No.	Road or Lane Identification	Location		Side	Longitudinal Subdrain (DR-303)							Subdrain Outlet		Porous* Backfill CY	Class "A"* Crushed Stone CY	Remarks	
		Station to Station	Depth D		Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306					
					Size IN	Length FT	Size IN	Length FT	Standard Road Plan and Type	Size IN	Length FT	Station	Standard Road Plan and Type				
																	IN
001	EB ML20	943+00.00	947+50.00	RT	42.0	4.0	510.0						943+00.00	DR-306	47.2	0.2	Note 2
002	EB ML20	945+50.00	950+50.00	LT	42.0	4.0	560.0						947+50.00	DR-306		0.2	
													945+50.00	DR-306	51.9	0.2	Note 2
													950+50.00	DR-306		0.2	
003	EB ML20	950+50.00	955+50.00	LT	42.0	4.0	560.0						950+50.00	DR-306	51.9	0.2	Note 2
													955+50.00	DR-306		0.2	
004	EB ML20	955+50.00	960+50.00	LT	42.0	4.0	560.0						955+50.00	DR-306	51.9	0.2	Note 2
													960+50.00	DR-306		0.2	
005	EB ML20	960+50.00	965+50.00	LT	42.0	4.0	560.0						960+50.00	DR-306	51.9	0.2	Note 2
													965+50.00	DR-306		0.2	
006	EB ML20	965+50.00	970+50.00	LT	42.0	4.0	560.0						965+50.00	DR-306	51.9	0.2	Note 2
													970+50.00	DR-306		0.2	
007	EB ML20	970+50.00	975+50.00	LT	42.0	4.0	560.0						970+50.00	DR-306	51.9	0.2	Note 2
													975+50.00	DR-306		0.2	
008	EB ML20	975+50.00	980+50.00	LT	42.0	4.0	560.0						975+50.00	DR-306	51.9	0.2	Note 2
													980+50.00	DR-306		0.2	
009	EB ML20	980+50.00	982+30.00	LT	42.0	4.0	240.0						980+50.00	DR-306	22.2	0.2	Note 2
													982+30.00	DR-306		0.2	
010	EB ML20	980+30.00	984+20.00	RT	42.0	4.0	450.0						980+30.00	DR-306	41.7	0.2	Notes 2 & 4
													984+20.00	DR-306		0.2	
011	EB ML20	984+20.00	987+10.00	RT	42.0	4.0	350.0						984+20.00	DR-306	32.4	0.2	Notes 2 & 5
													987+10.00	DR-306		0.2	
012	EB ML20	985+10.00	990+00.00	LT	42.0	4.0	550.0						985+10.00	DR-306	50.9	0.2	Note 2
													990+00.00	DR-306		0.2	
013	EB ML20	990+00.00	995+00.00	LT	42.0	4.0	560.0						990+00.00	DR-306	51.9	0.2	Note 2
													995+00.00	DR-306		0.2	
014	EB ML20	995+00.00	1000+00.00	LT	42.0	4.0	560.0						995+00.00	DR-306	51.9	0.2	Note 2
													1000+00.00	DR-306		0.2	
015	EB ML20	1000+00.00	1002+45.00	LT	42.0	4.0	305.0						1000+00.00	DR-306	28.2	0.2	Note 2
													1002+45.00	DR-306		0.2	
016	EB ML20	1002+55.00	1007+50.00	LT	42.0	4.0	555.0						1002+55.00	DR-306	51.4	0.2	Note 2
													1007+50.00	DR-306		0.2	
017	EB ML20	1007+50.00	1010+00.00	LT	42.0	4.0	310.0						1007+50.00	DR-306	28.7	0.2	Note 2
													1010+00.00	DR-306		0.2	
018	EB ML20	1010+00.00	1013+00.00	LT	42.0	4.0	360.0						1010+00.00	DR-306	33.3	0.2	Note 2
													1013+00.00	DR-306		0.2	
019	EB ML20	1013+00.00	1015+75.00	LT	42.0	4.0	335.0						1013+00.00	DR-306	31.0	0.2	Note 2
													1015+75.00	DR-306		0.2	
020	EB ML20	1013+75.00	1018+75.00	RT	42.0	4.0	560.0						1013+75.00	DR-306	51.9	0.2	Note 2
													1018+75.00	DR-306		0.2	
021	EB ML20	1018+75.00	1023+75.00	RT	42.0	4.0	560.0						1018+75.00	DR-306	51.9	0.2	Note 2
													1023+75.00	DR-306		0.2	
022	EB ML20	1023+75.00	1028+75.00	RT	42.0	4.0	560.0						1023+75.00	DR-306	51.9	0.2	Note 2
													1028+75.00	DR-306		0.2	
023	EB ML20	1028+75.00	1033+75.00	RT	42.0	4.0	560.0						1028+75.00	DR-306	51.9	0.2	Note 2
													1033+75.00	DR-306		0.2	
024	EB ML20	1033+75.00	1038+75.00	RT	42.0	4.0	560.0						1033+75.00	DR-306	51.9	0.2	Note 2
													1038+75.00	DR-306		0.2	
025	EB ML20	1038+75.00	1040+50.00	RT	42.0	4.0	235.0						1038+75.00	DR-306	21.8	0.2	Note 2
													1040+50.00	DR-306		0.2	
026	WB ML20	943+00.00	948+00.00	LT	42.0	4.0	560.0						943+00.00	DR-306	51.9	0.2	Notes 2 & 5
													948+00.00	DR-306		0.2	
027	WB ML20	948+00.00	953+00.00	LT	42.0	4.0	560.0						948+00.00	DR-306	51.9	0.2	Notes 2 & 5
													953+00.00	DR-306		0.2	
028	WB ML20	953+00.00	955+50.00	LT	42.0	4.0	310.0						953+00.00	DR-306	28.7	0.2	Notes 2 & 5
													955+50.00	DR-306		0.2	
029	WB ML20	955+50.00	960+50.00	LT	42.0	4.0	560.0						955+50.00	DR-306	51.9	0.2	Notes 2 & 4
													960+50.00	DR-306		0.2	
030	WB ML20	960+50.00	965+50.00	LT	42.0	4.0	560.0						960+50.00	DR-306	51.9	0.2	Note 2
													965+50.00	DR-306		0.2	
031	WB ML20	965+50.00	966+75.00	LT	42.0	4.0	185.0						965+50.00	DR-306	17.1	0.2	Note 2
													966+75.00	DR-306		0.2	
032	WB ML20	966+85.00	971+50.00	LT	42.0	4.0	525.0						966+85.00	DR-306	48.6	0.2	Note 2
													971+50.00	DR-306		0.2	
033	WB ML20	971+50.00	976+50.00	LT	42.0	4.0	560.0						971+50.00	DR-306	51.9	0.2	Note 2
													976+50.00	DR-306		0.2	
034	WB ML20	976+50.00	981+50.00	LT	42.0	4.0	560.0						976+50.00	DR-306	51.9	0.2	Note 2
													981+50.00	DR-306		0.2	
035	WB ML20	983+45.00	988+00.00	LT	42.0	4.0	515.0						983+45.00	DR-306	47.7	0.2	Notes 2 & 5
													988+00.00	DR-306		0.2	
036	WB ML20	988+00.00	993+00.00	LT	42.0	4.0	560.0						988+00.00	DR-306	51.9	0.2	Note 2
													993+00.00	DR-306		0.2	
037	WB ML20	993+00.00	998+00.00	LT	42.0	4.0	560.0						993+00.00	DR-306	51.9	0.2	Note 2
													998+00.00	DR-306		0.2	
038	WB ML20	998+00.00	1003+00.00	LT	42.0	4.0	560.0						998+00.00	DR-306	51.9	0.2	Note 2
													1003+00.00	DR-306		0.2	
039	WB ML20	1003+00.00	1008+00.00	LT	42.0	4.0	560.0						1003+00.00	DR-306	51.9	0.2	Note 2
													1008+00.00	DR-306		0.2	

**LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE**

Refer to Soils Sheets

\* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

Line No.	Road or Lane Identification	Location		Side	Longitudinal Subdrain (DR-303)								Subdrain Outlet		Porous* Backfill CY	Class "A"* Crushed Stone CY	Remarks
		Station to Station	Depth D		Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306					
					Size IN	Length FT	Size IN	Length FT	Standard Road Plan and Type	Size IN	Length FT	Station	Standard Road Plan and Type				
														IN			
040	WB ML20	1008+00.00	1010+00.00	LT	42.0	4.0	260.0						1008+00.00	DR-306	24.1	0.2	Note 2
041	WB ML20	1010+00.00	1015+00.00	LT	42.0	4.0	560.0						1010+00.00	DR-306	51.9	0.2	Note 2
042	WB ML20	1015+00.00	1017+00.00	LT	42.0	4.0	260.0						1015+00.00	DR-306	24.1	0.2	Note 2
043	WB ML20	1015+00.00	1020+00.00	RT	42.0	4.0	560.0						1015+00.00	DR-306	51.9	0.2	Note 2
044	WB ML20	1020+00.00	1025+00.00	RT	42.0	4.0	560.0						1020+00.00	DR-306	51.9	0.2	Note 2
045	WB ML20	1025+00.00	1030+00.00	RT	42.0	4.0	560.0						1025+00.00	DR-306	51.9	0.2	Note 2
046	WB ML20	1030+00.00	1035+00.00	RT	42.0	4.0	560.0						1030+00.00	DR-306	51.9	0.2	Note 2
047	WB ML20	1033+00.00	1038+00.00	LT	42.0	4.0	560.0						1033+00.00	DR-306	51.9	0.2	Note 2
048	WB ML20	1038+00.00	1040+50.00	LT	42.0	4.0	310.0						1038+00.00	DR-306	28.7	0.2	Note 2
100	Cottingham Conn.	136+65.00	138+50.00	LT	42.0	4.0	245.0						1040+50.00	DR-306	22.7	0.2	Note 2
101	Cottingham Conn.	138+50.00	138+50.00	RT	42.0	4.0	60.0						136+65.00	DR-306	5.6	0.2	Note 2
102	Cottingham	8931+65.00	8936+65.00	RT	42.0	4.0	560.0						138+50.00	DR-306	51.9	0.2	Note 2
103	Cottingham	8936+65.00	8941+65.00	RT	42.0	4.0	560.0						8931+65.00	DR-306	51.9	0.2	Notes 2 & 4
104	Cottingham	8941+65.00	8946+65.00	RT	42.0	4.0	560.0						8936+65.00	DR-306	51.9	0.2	Note 2
105	Cottingham	8946+65.00	8947+50.00	RT	42.0	4.0	145.0						8941+65.00	DR-306	13.4	0.2	Note 2
106	Cottingham	8947+50.00	8948+70.00	RT	42.0	4.0	180.0						8946+65.00	DR-306	16.7	0.2	Note 2
107	Cottingham	8948+80.00	8953+80.00	RT	42.0	4.0	560.0						8947+50.00	DR-306	51.9	0.2	Note 2
108	Cottingham	8953+80.00	8957+00.00	RT	42.0	4.0	380.0						8948+70.00	DR-306	35.2	0.2	Note 2
109	Cottingham	8957+00.00	8959+10.00	RT	42.0	4.0	270.0						8953+80.00	DR-306	25.0	0.2	Note 2
110	Cottingham	8959+30.00	8964+30.00	RT	42.0	4.0	560.0						8957+00.00	DR-306	51.9	0.2	Note 2
111	Cottingham	8964+30.00	8968+50.00	RT	42.0	4.0	480.0						8959+10.00	DR-306	44.4	0.2	Note 2
112	Cottingham	8968+50.00	8972+00.00	RT	42.0	4.0	410.0						8964+30.00	DR-306	38.0	0.2	Note 2
113	Cottingham	8972+00.00	8974+75.00	RT	42.0	4.0	335.0						8968+50.00	DR-306	31.0	0.2	Note 2
114	Cottingham	8974+75.00	8975+75.00	RT	42.0	4.0	510.0						8972+00.00	DR-306	47.2	0.2	Notes 2 & 6
115	Cottingham	8931+65.00	8936+50.00	LT	42.0	4.0	545.0						8974+75.00	DR-306	50.5	0.2	Note 2
116	Cottingham	8936+50.00	8939+50.00	LT	42.0	4.0	360.0						8975+75.00	DR-306	33.3	0.2	Note 2
117	Cottingham	8939+50.00	8941+95.00	LT	42.0	4.0	305.0						8931+65.00	DR-306	28.2	0.2	Note 2
118	Cottingham	8942+05.00	8945+00.00	LT	42.0	4.0	355.0						8936+50.00	DR-306	32.9	0.2	Note 2
119	Cottingham	8945+00.00	8947+50.00	LT	42.0	4.0	310.0						8939+50.00	DR-306	28.7	0.2	Note 2
120	Cottingham	8947+50.00	8952+50.00	LT	42.0	4.0	560.0						8941+95.00	DR-306	51.9	0.2	Note 2
121	Cottingham	8952+50.00	8957+50.00	LT	42.0	4.0	560.0						8942+05.00	DR-306	51.9	0.2	Notes 2 & 4
122	Cottingham	8957+50.00	8958+95.00	LT	42.0	4.0	205.0						8945+00.00	DR-306	19.0	0.2	Note 2
123	Cottingham	8958+95.00	8964+15.00	LT	42.0	4.0	580.0						8947+50.00	DR-306	53.7	0.2	Notes 2 & 4
124	Cottingham	8964+15.00	8968+50.00	LT	42.0	4.0	495.0						8952+50.00	DR-306	45.8	0.2	Notes 2 & 4
125	Cottingham	8968+50.00	8972+00.00	LT	42.0	4.0	410.0						8957+50.00	DR-306	38.0	0.2	Note 2
126	Cottingham	8972+00.00	8974+75.00	LT	42.0	4.0	335.0						8958+95.00	DR-306	31.0	0.2	Note 2
127	Cottingham	8974+75.00	9979+75.00	LT	42.0	4.0	560.0						8964+15.00	DR-306	51.9	0.2	Notes 2 & 7
200	N Frontage	9979+75.00	9984+75.00	LT	42.0	4.0	560.0						8968+50.00	DR-306	51.9	0.2	Notes 2 & 4
201	N Frontage	9984+75.00	9989+75.00	LT	42.0	4.0	560.0						8972+00.00	DR-306	51.9	0.2	Note 2



**LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE**

Refer to Soils Sheets

\* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

Line No.	Road or Lane Identification	Location		Side	Longitudinal Subdrain (DR-303)							Subdrain Outlet		Porous* Backfill CY	Class "A"* Crushed Stone CY	Remarks	
		Station to Station	Depth D		Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306					
					Size IN	Length FT	Size IN	Length FT	Standard Road Plan and Type	Size IN	Length FT	Station	Standard Road Plan and Type				
																	IN
202	N Frontage	9989+75.00	9994+75.00	LT	42.0	4.0	560.0						9989+75.00	DR-306	51.9	0.2	Note 2
203	N Frontage	9994+75.00	9999+75.00	LT	42.0	4.0	560.0						9994+75.00	DR-306	51.9	0.2	Notes 2 & 4
204	N Frontage	9999+75.00	10004+75.00	LT	42.0	4.0	560.0						9999+75.00	DR-306	51.9	0.2	Note 2
205	N Frontage	10004+75.00	10007+45.00	LT	42.0	4.0	330.0						10004+75.00	DR-306	30.6	0.2	Note 2
206	N Frontage	10007+55.00	10012+50.00	LT	42.0	4.0	555.0						10007+55.00	DR-306	51.4	0.2	Notes 2 & 4
207	N Frontage	10012+50.00	10017+50.00	LT	42.0	4.0	560.0						10012+50.00	DR-306	51.9	0.2	Note 2
208	N Frontage	10017+50.00	10020+65.00	LT	42.0	4.0	375.0						10017+50.00	DR-306	34.7	0.2	Note 2
209	N Frontage	10020+75.00	10024+44.00	LT	42.0	4.0	529.0						10020+75.00	DR-306	49.0	0.2	Notes 2, 4, & 8
210	N Frontage	9977+00.00	9982+00.00	RT	42.0	4.0	560.0						9977+00.00	DR-306	51.9	0.2	Note 2
211	N Frontage	9982+00.00	9987+00.00	RT	42.0	4.0	560.0						9982+00.00	DR-306	51.9	0.2	Note 2
212	N Frontage	9987+00.00	9992+00.00	RT	42.0	4.0	560.0						9987+00.00	DR-306	51.9	0.2	Note 2
213	N Frontage	9992+00.00	9997+00.00	RT	42.0	4.0	560.0						9992+00.00	DR-306	51.9	0.2	Note 2
214	N Frontage	9997+00.00	10002+00.00	RT	42.0	4.0	560.0						9997+00.00	DR-306	51.9	0.2	Note 2
215	N Frontage	10002+00.00	10006+00.00	RT	42.0	4.0	460.0						10002+00.00	DR-306	42.6	0.2	Note 2
216	N Frontage	10006+00.00	10007+45.00	RT	42.0	4.0	205.0						10006+00.00	DR-306	19.0	0.2	Note 2
217	N Frontage	10007+55.00	10012+50.00	RT	42.0	4.0	555.0						10007+55.00	DR-306	51.4	0.2	Note 2
218	N Frontage	10012+50.00	10016+50.00	RT	42.0	4.0	460.0						10012+50.00	DR-306	42.6	0.2	Note 2
219	N Frontage	10016+50.00	10017+90.00	RT	42.0	4.0	200.0						10016+50.00	DR-306	18.5	0.2	Note 2
220	N Frontage	10018+00.00	10020+65.00	RT	42.0	4.0	325.0						10018+00.00	DR-306	30.1	0.2	Note 2
221	N Frontage	10020+75.00	10024+44.00	RT	42.0	4.0	429.0						10020+75.00	DR-306	39.7	0.2	Note 2
300	N Cascade West	6931+50.00	6936+50.00	LT	42.0	4.0	560.0						6931+50.00	DR-306	51.9	0.2	Note 2
301	N Cascade West	6936+50.00	6937+50.00	LT	42.0	4.0	160.0						6936+50.00	DR-306	14.8	0.2	Notes 2 & 4
302	N Cascade West	6942+00.00	6947+00.00	LT	42.0	4.0	560.0						6942+00.00	DR-306	51.9	0.2	Note 2
303	N Cascade West	6947+00.00	6952+00.00	LT	42.0	4.0	560.0						6947+00.00	DR-306	51.9	0.2	Notes 2 & 4
304	N Cascade West	6952+00.00	6954+87.00	LT	42.0	4.0	347.0						6952+00.00	DR-306	32.1	0.2	Note 2
305	N Cascade West	6954+87.00	6958+05.00	LT	42.0	4.0	378.0						6954+87.00	DR-306	35.0	0.2	Note 2
306	N Cascade West	6931+50.00	6936+50.00	RT	42.0	4.0	560.0						6931+50.00	DR-306	51.9	0.2	Notes 2 & 4
307	N Cascade West	6936+50.00	6939+00.00	RT	42.0	4.0	310.0						6936+50.00	DR-306	28.7	0.2	Note 2
308	N Cascade West	6939+00.00	6941+70.00	RT	42.0	4.0	330.0						6939+00.00	DR-306	30.6	0.2	Note 2
309	N Cascade West	6942+00.00	6947+00.00	RT	42.0	4.0	560.0						6942+00.00	DR-306	51.9	0.2	Note 2
310	N Cascade West	6947+00.00	6950+50.00	RT	42.0	4.0	410.0						6947+00.00	DR-306	38.0	0.2	Notes 2 & 4
311	N Cascade West	6950+50.00	6952+50.00	RT	42.0	4.0	260.0						6950+50.00	DR-306	24.1	0.2	Note 2
312	N Cascade West	6955+00.00	6958+30.00	RT	42.0	4.0	330.0						6955+00.00	DR-306	30.6	0.2	Note 2
313	N Cascade East	7962+85.00	7968+00.00	LT	24.0	4.0	515.0						7962+85.00	DR-303	23.8	0.2	Notes 3 & 4, Outlet to Intake I-124
314	N Cascade East	7968+00.00	7972+50.00	LT	24.0	4.0	450.0						7968+00.00	DR-303	20.8	0.2	Outlet to Intake I-126
315	N Cascade East	7972+50.00	7975+65.00	LT	24.0	4.0	315.0						7972+50.00	DR-303	14.6	0.2	Note 3, Outlet to Intake I-128
316	N Cascade East	7975+65.00	7977+75.00	LT	24.0	4.0	210.0						7975+65.00	DR-303	9.7	0.2	Outlet to Intake I-130
317	N Cascade East	7977+75.00	7979+35.00	LT	24.0	4.0	160.0						7977+75.00	DR-303	7.4	0.2	Note 3, Outlet to Intake I-132
318	N Cascade East	7979+35.00	7980+90.00	LT	24.0	4.0	155.0						7979+35.00	DR-303	7.2	0.2	Outlet to Intake I-134
													7980+90.00	DR-303		0.2	Note 3, Outlet to Intake I-134

**LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE**

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Line No.	Road or Lane Identification	Location		Side	Longitudinal Subdrain (DR-303)							Subdrain Outlet		Porous* Backfill CY	Class "A"* Crushed Stone CY	Remarks
		Station to Station	Depth D		Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306				
					Size IN	Length FT	Size IN	Length FT	Standard Road Plan and Type	Size IN	Length FT	Station	Standard Road Plan and Type			
319	N Cascade East	7980+90.00	7982+50.00	LT	24.0	4.0	160.0						7980+90.00	DR-303	7.4	Note 3, Outlet to Intake I-137
320	N Cascade East	7982+50.00	7984+00.00	LT	24.0	4.0	150.0						7982+50.00	DR-303	6.9	Outlet to Intake I-139
321	N Cascade East	7984+00.00	7985+70.00	LT	24.0	4.0	170.0						7984+00.00	DR-303	7.9	Note 3, Outlet to Intake I-139
322	N Cascade East	7985+70.00	7987+00.00	LT	24.0	4.0	130.0						7985+70.00	DR-303	6.0	Outlet to Intake I-142
323	N Cascade East	7987+00.00	7988+00.00	LT	24.0	4.0	100.0						7987+00.00	DR-303	4.6	Note 3, Outlet to Intake I-142
324	N Cascade East	7988+00.00	7991+80.00	LT	24.0	4.0	380.0						7988+00.00	DR-303	17.6	Outlet to Intake I-145
325	N Cascade East	7991+80.00	7993+35.00	LT	24.0	4.0	255.0						7991+80.00	DR-303	11.8	Notes 3 & 4, Outlet to Intake I-145
326	N Cascade East	7993+70.00	7994+90.00	LT	24.0	4.0	295.0						7993+70.00	DR-303	13.7	Outlet to Intake I-147
327	N Cascade East	7958+70.00	7960+25.00	RT	24.0	4.0	255.0						7958+70.00	DR-303	11.8	Notes 3 & 4, Outlet to Intake I-147
328	N Cascade East	7960+25.00	7962+85.00	RT	24.0	4.0	260.0						7960+25.00	DR-303	12.0	Outlet to Intake I-148
329	N Cascade East	7962+85.00	7968+00.00	RT	24.0	4.0	515.0						7962+85.00	DR-303	23.8	Notes 3 & 4, Outlet to Intake I-148
330	N Cascade East	7968+00.00	7972+50.00	RT	24.0	4.0	450.0						7968+00.00	DR-303	20.8	Outlet to Intake I-151
331	N Cascade East	7972+50.00	7975+65.00	RT	24.0	4.0	315.0						7972+50.00	DR-303	14.6	Notes 3 & 9, Outlet to Intake I-151
332	N Cascade East	7975+65.00	7977+75.00	RT	24.0	4.0	210.0						7975+65.00	DR-303	9.7	Outlet to Intake I-200
333	N Cascade East	7977+75.00	7979+35.00	RT	24.0	4.0	160.0						7977+75.00	DR-303	7.4	Notes 3 & 10, Outlet to Intake I-201
334	N Cascade East	7979+35.00	7980+90.00	RT	24.0	4.0	155.0						7979+35.00	DR-303	7.2	Outlet to Intake I-154
335	N Cascade East	7980+90.00	7982+50.00	RT	24.0	4.0	160.0						7980+90.00	DR-303	7.4	Notes 3, 4, & 11, Outlet to Intake I-110
336	N Cascade East	7982+50.00	7984+00.00	RT	24.0	4.0	150.0						7982+50.00	DR-303	6.9	Outlet to Intake I-120
337	N Cascade East	7984+00.00	7985+70.00	RT	24.0	4.0	170.0						7984+00.00	DR-303	7.9	Note 3, Outlet to Intake I-120
338	N Cascade East	7985+70.00	7988+00.00	RT	24.0	4.0	230.0						7985+70.00	DR-303	10.6	Outlet to Intake I-123
339	N Cascade East	7988+00.00	7991+80.00	RT	24.0	4.0	380.0						7988+00.00	DR-303	17.6	Note 3, Outlet to Intake I-123
340	N Cascade East	7991+80.00	7994+90.00	RT	24.0	4.0	310.0						7991+80.00	DR-303	14.4	Outlet to Intake I-127
400	S Frontage	1994+20.00	1997+50.00	LT	24.0	4.0	330.0						1994+20.00	DR-303	15.3	Notes 3 & 4, Outlet to Intake I-127
401	S Frontage	1997+50.00	2001+00.00	LT	24.0	4.0	350.0						1997+50.00	DR-303	16.2	Outlet to Intake I-129
402	S Frontage	2001+00.00	2004+50.00	LT	24.0	4.0	350.0						2001+00.00	DR-303	16.2	Notes 3 & 4, Outlet to Intake I-129
403	S Frontage	2004+50.00	2006+75.00	LT	24.0	4.0	225.0						2004+50.00	DR-303	10.4	Outlet to Intake I-131
404	S Frontage	2006+75.00	2010+25.00	LT	24.0	4.0	350.0						2006+75.00	DR-303	16.2	Note 3, Outlet to Intake I-131
405	S Frontage	2010+25.00	2015+45.00	LT	24.0	4.0	520.0						2010+25.00	DR-303	24.1	Outlet to Intake I-133
406	S Frontage	2016+00.00	2017+50.00	LT	24.0	4.0	150.0						2016+00.00	DR-303	6.9	Notes 3 & 4, Outlet to Intake I-133
407	S Frontage	2017+50.00	2019+00.00	LT	24.0	4.0	150.0						2017+50.00	DR-303	6.9	Outlet to Intake I-135
408	S Frontage	2019+00.00	2020+50.00	LT	24.0	4.0	150.0						2019+00.00	DR-303	6.9	Notes 3 & 4, Outlet to Intake I-135
409	S Frontage	2020+50.00	2022+00.00	LT	24.0	4.0	150.0						2020+50.00	DR-303	6.9	Outlet to Intake I-135
410	S Frontage	2022+00.00	2023+50.00	LT	24.0	4.0	150.0						2022+00.00	DR-303	6.9	Notes 3 & 4, Outlet to Intake I-135
411	S Frontage	2023+50.00	2025+00.00	LT	24.0	4.0	150.0						2023+50.00	DR-303	6.9	Outlet to Intake I-135
412	S Frontage	2025+00.00	2026+75.00	LT	24.0	4.0	175.0						2025+00.00	DR-303	8.1	Notes 3 & 4, Outlet to Intake I-135
413	S Frontage	2026+75.00	2028+00.00	LT	24.0	4.0	125.0						2026+75.00	DR-303	5.8	Outlet to Intake I-138
414	S Frontage	2028+00.00	2032+28.00	LT	24.0	4.0	428.0						2028+00.00	DR-303	19.8	Note 3, Outlet to Intake I-138
415	S Frontage	1994+20.00	1997+50.00	RT	24.0	4.0	330.0						1994+20.00	DR-303	15.3	Outlet to Intake I-140
416	S Frontage	1997+50.00	2001+00.00	RT	24.0	4.0	350.0						1997+50.00	DR-303	16.2	Notes 3 & 4, Outlet to Intake I-140

**LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE**

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Line No.	Road or Lane Identification	Location Station to Station		Side	Longitudinal Subdrain (DR-303)							Subdrain Outlet		Porous* Backfill CY	Class "A"* Crushed Stone CY	Remarks	
					Depth D	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306				
						Size IN	Length FT	Size IN	Length FT	Standard Road Plan and Type	Size IN	Length FT	Station				Standard Road Plan and Type
417	S Frontage	2001+00.00	2004+50.00	RT	24.0	4.0	350.0						2001+00.00	DR-303	16.2		Notes 3 & 4, Outlet to Intake I-206
418	S Frontage	2004+50.00	2006+75.00	RT	24.0	4.0	225.0						2004+50.00	DR-303	10.4		Outlet to Intake I-209
419	S Frontage	2006+75.00	2010+25.00	RT	24.0	4.0	350.0						2006+75.00	DR-303	16.2		Notes 3 & 4, Outlet to Intake I-213
420	S Frontage	2010+25.00	2015+45.00	RT	24.0	4.0	520.0						2010+25.00		24.1		Cap at 2010+25
421	S Frontage	2016+00.00	2019+00.00	RT	24.0	4.0	300.0						2016+00.00	DR-303	13.9		Note 3, Cap at 2010+25
422	S Frontage	2019+00.00	2022+00.00	RT	24.0	4.0	300.0						2019+00.00	DR-303	13.9		Outlet to Intake I-218
423	S Frontage	2022+00.00	2025+00.00	RT	24.0	4.0	300.0						2022+00.00	DR-303	13.9		Note 3, Outlet to Intake I-222
424	S Frontage	2025+00.00	2026+75.00	RT	24.0	4.0	175.0						2025+00.00	DR-303	8.1		Outlet to Intake I-225
425	S Frontage	2026+75.00	2029+25.00	RT	24.0	4.0	250.0						2026+75.00	DR-303	11.6		Note 3, Outlet to Intake I-225
500	Swiss Valley	5954+50.00	5957+65.00	LT	24.0	4.0	315.0						2029+25.00				Outlet to Intake I-228
501	Swiss Valley	5957+65.00	5958+80.00	LT	24.0	4.0	220.0						5954+50.00	DR-303	14.6		Notes 3 & 4, Outlet to Intake I-231
502	Swiss Valley	5959+25.00	5961+00.00	LT	24.0	4.0	280.0						5957+65.00	DR-303	10.2	0.2	Outlet to Intake I-233
503	Swiss Valley	5961+00.00	5963+50.00	LT	24.0	4.0	250.0						5958+80.00	DR-306		0.2	Cap at 2029+25
504	Swiss Valley	5963+50.00	5965+85.00	LT	24.0	4.0	265.0						5959+25.00	DR-306	13.0	0.2	Note 3, Cap at 5954+50
505	Swiss Valley	5966+45.00	5967+11.00	LT	24.0	4.0	171.0						5961+00.00	DR-303			Outlet to Intake I-111
506	Swiss Valley	5967+11.00	5967+95.00	LT	24.0	4.0	114.0						5963+50.00	DR-303			Notes 3 & 12, Outlet to Intake I-111
507	Swiss Valley	5971+75.00	5972+85.00	LT	24.0	4.0	240.0						5965+85.00	DR-306	7.9	0.2	Notes 3 & 13
508	Swiss Valley	5954+50.00	5957+65.00	RT	24.0	4.0	315.0						5967+11.00	DR-303			Outlet to Intake I-108
509	Swiss Valley	5959+15.00	5961+00.00	RT	24.0	4.0	340.0						5967+11.00	DR-303	5.3		Note 3, Outlet to Intake I-108
510	Swiss Valley	5961+00.00	5963+50.00	RT	24.0	4.0	250.0						5967+95.00	DR-306		0.2	Outlet to Intake I-104
511	Swiss Valley	5963+50.00	5965+85.00	RT	24.0	4.0	365.0						5971+75.00	DR-303	11.1		Note 3, Outlet to Intake I-104
512	Swiss Valley	5966+15.00	5967+11.00	RT	24.0	4.0	226.0						5972+85.00	DR-306		0.2	Notes 3 & 14
513	Swiss Valley	5967+11.00	5967+95.00	RT	24.0	4.0	114.0						5954+50.00	DR-306	14.6		Outlet to Intake I-100
514	Swiss Valley	5971+75.00	5972+50.00	RT	24.0	4.0	180.0						5957+65.00	DR-303			Note 3, Outlet to Intake I-100
600	Chesterfield	12001+00.00	12004+47.00	LT	24.0	4.0	347.0						5959+15.00	DR-303	15.7		Notes 3 & 15
601	Chesterfield	12004+47.00	12009+70.00	LT	24.0	4.0	553.0						5961+00.00	DR-303			Note 3, Cap at 5954+50
602	Chesterfield	12009+70.00	12015+00.00	LT	24.0	4.0	590.0						5963+50.00	DR-303	11.6		Outlet to Intake I-110
603	Chesterfield	12015+00.00	12018+45.00	LT	24.0	4.0	375.0						5963+50.00	DR-303	15.7		Notes 3, 4, & 16, Outlet to Intake I-121
604	Chesterfield	12019+50.00	12023+75.00	LT	24.0	4.0	425.0						5965+85.00	DR-306		0.2	Outlet to Intake I-107
605	Chesterfield	12023+75.00	12027+92.00	LT	24.0	4.0	417.0						5966+15.00	DR-306	10.5	0.2	Note 3, Outlet to Intake I-107
606	Chesterfield	12001+00.00	12004+47.00	RT	24.0	4.0	377.0						5967+11.00	DR-303	5.3		Outlet to Intake I-103
607	Chesterfield	12004+47.00	12009+00.00	RT	24.0	4.0	453.0						5967+95.00	DR-306		0.2	Note 3, Outlet to Intake I-103
608	Chesterfield	12009+00.00	12015+00.00	RT	24.0	4.0	630.0						5971+75.00	DR-303	11.1		Notes 3 & 17
609	Chesterfield	12015+00.00	12018+45.00	RT	24.0	4.0	375.0						5972+85.00	DR-306		0.2	Outlet to Intake I-101
610	Chesterfield	12019+50.00	12023+75.00	RT	24.0	4.0	425.0						5972+85.00	DR-306		0.2	Note 3, Outlet to Intake I-101
611	Chesterfield	12023+75.00	12027+92.00	RT	24.0	4.0	417.0						5972+85.00	DR-306		0.2	Notes 3 & 18, Outlet to Intake I-160
700	Ramp A	1969+75.00	1971+50.00	LT	42.0	4.0	560.0						5972+85.00	DR-306		0.2	Notes 3 & 15
701	Ramp A	1971+50.00	1976+50.00	LT	42.0	4.0	560.0						5954+50.00	DR-306	14.6		Notes 3 & 15
702	Ramp A	1976+50.00	1981+50.00	LT	42.0	4.0	560.0						5957+65.00	DR-303			Notes 3 & 15

**LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE**

Refer to Soils Sheets

\* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

Line No.	Road or Lane Identification	Location		Side	Longitudinal Subdrain (DR-303)							Subdrain Outlet		Porous* Backfill CY	Class "A"* Crushed Stone CY	Remarks				
		Station to Station	Depth D		Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306								
					Size IN	Length FT	Size IN	Length FT	Standard Road Plan and Type	Size IN	Length FT	Station	Standard Road Plan and Type							
																	IN	FT	IN	FT
703	Ramp A	1981+50.00	1983+10.00	LT	42.0	4.0	220.0						1981+50.00	DR-306	20.4	0.2	Note 2			
704	Ramp B	2953+15.00	2958+15.00	RT	42.0	4.0	560.0						1983+10.00	DR-306		0.2				
													2953+15.00	DR-306	51.9	0.2	Notes 2 & 20			
													2958+15.00	DR-306		0.2				
705	Ramp B	2958+15.00	2963+15.00	RT	42.0	4.0	560.0						2958+15.00	DR-306	51.9	0.2	Note 2			
													2963+15.00	DR-306		0.2				
706	Ramp B	2963+15.00	2967+75.00	RT	42.0	4.0	520.0						2963+15.00	DR-306	48.1	0.2	Note 2			
													2967+75.00	DR-306		0.2				
707	Ramp B	2967+75.00	2970+90.00	RT	42.0	4.0	375.0						2967+75.00	DR-306	34.7	0.2	Note 2			
													2970+90.00	DR-306		0.2				
708	Ramp C	3955+50.00	3960+50.00	LT	42.0	4.0	560.0						3955+50.00	DR-306	51.9	0.2	Note 2			
													3960+50.00	DR-306		0.2				
709	Ramp C	3960+50.00	3963+00.00	LT	42.0	4.0	310.0						3960+50.00	DR-306	28.7	0.2	Note 2			
													3963+00.00	DR-306		0.2				
710	Ramp C	3963+00.00	3968+00.00	LT	42.0	4.0	560.0						3963+00.00	DR-306	51.9	0.2	Note 2			
													3968+00.00	DR-306		0.2				
711	Ramp D	4970+40.00	4975+40.00	RT	42.0	4.0	560.0						4970+40.00	DR-306	51.9	0.2	Note 2			
													4975+40.00	DR-306		0.2				
712	Ramp D	4975+40.00	4980+40.00	RT	42.0	4.0	560.0						4975+40.00	DR-306	51.9	0.2	Note 2			
													4980+40.00	DR-306		0.2				
713	Ramp D	4980+40.00	4984+20.00	RT	42.0	4.0	440.0						4980+40.00	DR-306	40.7	0.2	Notes 2 & 21			
													4984+20.00	DR-306		0.2				
Total length of 4-inch subdrain line = 80970											Total number of DR-303 outlets = 137 Total number of DR-306 outlets = 266									
											Total quantity of Porous Backfill = 6417.1 CY Total quantity of Class 'A' Crushed Stone = 53.2 CY									
<p>Notes:</p> <ol style="list-style-type: none"> <li>There are 155 DR-303 outlets and 260 DR 306 outlets.</li> <li>Use either Type 7 or 8 installation.</li> <li>Use Type 12 installation.</li> <li>Install longitudinal subdrains before surfacing or paving driveways and before paving side roads and gore areas.</li> <li>Install subdrain along auxiliary lane.</li> <li>Continue longitudinal subdrain around corner to Swiss Valley Road and Ramp C.</li> <li>Continue longitudinal subdrain as roadway becomes North Frontage Road. Ending station is on N Frontrage Road.</li> <li>Continue longitudinal subdrain along cul-de-sac.</li> <li>Continue longitudinal subdrain around corner to South Frontage Road.</li> <li>Start longitudinal subdrain around corner on South Frontage Road.</li> <li>Start longitudinal subdrain around corner on Swiss Valley Road.</li> <li>Continue longitudinal subdrain around corner to N Cascade Road West.</li> <li>Start longitudinal subdrain around corner on North Cascade Road West.</li> <li>Start longitudinal subdrain around corner on Ramp B.</li> <li>Continue longitudinal subdrain around corner to Ramp C.</li> <li>Start longitudinal subdrain around corner on North Cascade Road East.</li> <li>Start longitudinal subdrain around corner on Ramp D.</li> <li>Continue longitudinal subdrain around corner to Ramp A.</li> <li>Start longitudinal subdrain around corner on Swiss Valley Rd and N Frontage Rd.</li> <li>Longitudinal subdrain starts 325 feet before ramp stationing.</li> <li>Longitudinal subdrain extends 229 feet beyond end of ramp stationing.</li> </ol>																				



### SURVEY SYMBOLS

○ LUM Luminaire	— UV Underground Utility Vault
□ SIGN SI Sign	- - E1 - - ELA Underground Electric Line Co. 1
■ ROW Right of Way Rail	- - E2 - - ELB Underground Electric Line Co. 2
⚡ PPA Power Pole Co. 1	- - E3 - - ELC Underground Electric Line Co. 3
⚡ PRA Power Riser Co. 1	- - W - - WLA Underground Water Line Co. 1
✱ TEV Evergreen Tree	- - T1 - - TLA Underground Telephone Line Co. 1
🌿 SHR Shrub	- - T2 - - TLB Underground Telephone Line Co. 2
🌳 TDC Tree Deciduous	- - T3 - - TLC Underground Telephone Line Co. 3
🌾 SWAMP	- - G - - GLA Underground Gas Line Co. 1
Ⓛ LP L.P. Tank	- - F0 - - FOA Underground Fiber Optic Co. 1
○ OUT Tile Outlet	- - F02 - - FOB Underground Fiber Optic Co. 2
✱ TSG Traffic Signal	- - S.S. - - STA Storm Sewer Co. 1
☒ IN Storm Sewer Intake	- - S.S.2 - - STB Storm Sewer Co. 2
⊙ INB Storm Sewer Intake Beehive	
⊙ MH Utility Access (Manhole)	
BB BB Billboard	
○ MIS Miscellaneous	
○ FLG Flaggpole	
○ MM Mile Marker Post	
□ SIGN SL Speed Limit Sign	
○ TP TPD Telephone Pedestal	
□ TCB TCB Utilities	
□ EB EB Electrical Box	
○ WV WW Water Valve	
🔥 FHYD Fire Hydrant	
□ UB UB Utility Box	
○ TVP TVP TV Pedestal	
TLN Tree Line	
TIL Tile Line	
FCL Chain Link and Security Fence	
FW Wire Fence	
FWD Wood Fence	
DU Centerline Draw or Stream (Up)	
D Centerline Draw or Stream (Down)	
DIK Centerline of Dike or Dam	
EW Edge of Water	
BNK Stream Bank	
GDL Guard Rail Steel	
RIP Rip-Rap	
RR Centerline of Railroad Tracks	

### UTILITY LEGEND

GENERAL LOCATES: IOWA ONE CALL 800-292-8989

**ELECTRICAL:**

E1 MAQUOKETA VALLEY ELECTIC COOPERATIVE OFFICE 319-462-3541  
P.O. BOX 370 nschulte@mvec.com  
ANAMOSA, IOWA 52205  
ATTN: NIC SCHULTE

E2 ALLIANT ENERGY

E3 PRIVATE ELECTRIC

⚡ CENTRAL IOWA POWER COOPERATIVE (CIPCO)  
P.O. BOX 2517 OFFICE 319-734-4311  
CEDAR RAPIDS, IOWA 52403 scott.mohwinkle@cipco.net  
ATTN: SCOTT MOHWINKLE

**FIBER OPTICS:**

F0 MCI/VERIZON BUSINESS OFFICE 927-729-6322  
2400 NORTH GLENNVILLE DRIVE dean.boyers@verizon.com  
RICHARDSON, TX 75082  
ATTN: DEAN BOYERS

F0-3 CENTURYLINK (WEST COMMUNICATIONS)  
2103 E. UNIVERSITY AVE. OFFICE 515-265-0968  
DES MOINES, IOWA 50317 steven.parker4@centurylink.com  
ATTN: STEVEN PARKER

F0-5 MAQUOKETA VALLEY REC OFFICE 319-462-3542  
P.O. BOX 370 jg@mvec.com  
ANAMOSA, IOWA 52205

F0-6 CENTRAL SCOTT TEL OFFICE 563-285-5836  
ATTN: RICK BILLUPS 563-285-9611, 563-570-0420  
rick@cstech.com

F0-7 IOWA COMMUNICATIONS NETWORK OFFICE 515-725-4741  
400 E. 1ST ST./GRIMES OFFICE BUILDING mike.broderick@iowa.gov  
DES MOINES, IOWA 50319  
ATTN: MIKE BRODERICK

F0-8 MEDIACOM OFFICE 309-743-4750  
ATTN: DENNIS JARDING CELL 563-529-1837  
djarding@mediacomcc.com

**GAS:**

G3 BLACK HILLS ENERGY (AQUILLA, INC.) OFFICE 402-221-2714  
1102 E. 1ST STREET brad.fleming@blackhillscorp.com  
PAPILLION, NE 68046

G THREE RIVERS FS COMPANY (PROPANE) OFFICE 563-588-1250  
14775 NORTH CASCADE ROAD  
DUBUQUE, IOWA 52003  
ATTN: DON ALBRECHT

**GAS (HIGH PRESSURE):**

G2-HP BP AMOCO GAS OFFICE 563-590-0740  
ATTN: DAN PETERMAN

G3-HP BLACK HILLS ENERGY OFFICE 402-221-2714  
1102 E. 1ST STREET brad.fleming@blackhillscorp.com  
PAPILLION, NE 68046  
ATTN: BRAD FLEMING

**SEWER (SANITARY AND STORM):**

Son CITY OF DUBUQUE OFFICE 563-589-4270  
50 WEST 13TH STREET bschiesl@cityofdubuque.org  
DUBUQUE, IOWA 52001  
ATTN: BOB SCHIEISLS

St.S. STORM SEWER (STATE OF IOWA)

St.S.2 STORM SEWER (PRIVATE)

SAN.2 SANITARY SEWER (PRIVATE)

**TELEPHONE:**

T3 CENTURYLINK OFFICE 319-290-9399  
ATTN: MATT PORTER 319-399-7440  
DAVID KIRKABEE matt.porter@centurylink.com

**TELEVISION:**

TV MEDIACOM COMMUNICATIONS OFFICE 815-957-5103  
6925 GARDEN PRAIRIE ROAD cminard@mediacomcc.com  
GARDEN PRAIRIE, IL 61038  
ATTN: CHRIS MINARD

**WATER:**

W CITY OF DUBUQUE OFFICE 563-589-4270  
50 WEST 13TH STREET bschiesl@cityofdubuque.org  
DUBUQUE, IOWA 52001  
ATTN: BOB SCHIEISLS

W2 WATER (PRIVATE)

GRAIN COMMUNICATIONS OFFICE 941-379-1248  
100 NORTH WASHINGTON BLVD. mprosser@grainp.com  
SAROSTA, FL 34236  
ATTN: MELISSA PROSSER

DUBUQUE MAINTENANCE GARAGE OFFICE 563-582-3063  
11000 US 61 SOUTH (P.O. BOX 738) joe.kilburg@dot.iowa.gov  
DUBUQUE, IOWA 52004  
ATTN: JOE KILBURG

### PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING		
Design Color No.		
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Gravel and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading

### PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

**Reference Point**

Station Survey Line

▲ Section Corner

--- Ground Line Intercept

//// Saw Cut

----- Guardrail

==== Trench Drain

----- HighTension Cable Guardrail

~~~~ Sheet Pile

▨ Pavement Removal    ▩ Clearing & Grubbing Area

**Proposed Borrow Elements**

--- Aquisition Outline

--- Conceptual Outline

### RIGHT-OF-WAY LEGEND

▲ Proposed Right-of-Way

△ Existing Right of Way

▲ Existing and Proposed Right-of-Way

▲ Easement and Existing Right-of-Way

○ Easement (Temporary)

⊙ Easement

C/A Access Control

Property Line

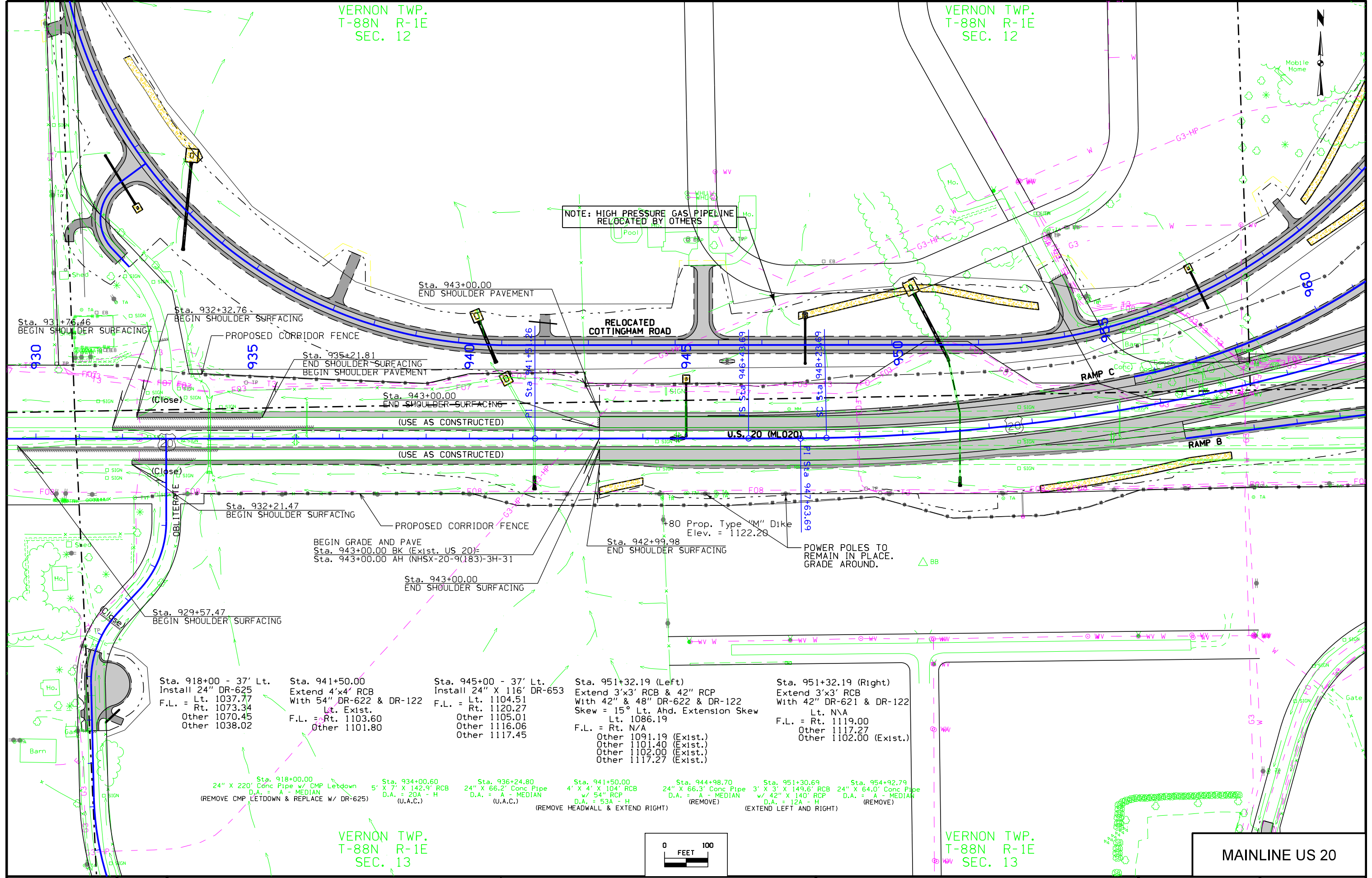
# PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D & E)

VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 12

NOTE: HIGH PRESSURE GAS PIPELINE  
RELOCATED BY OTHERS



Sta. 931+76.46  
BEGIN SHOULDER SURFACING

Sta. 932+32.76  
BEGIN SHOULDER SURFACING

Sta. 943+00.00  
END SHOULDER PAVEMENT

Sta. 935+21.81  
END SHOULDER SURFACING  
BEGIN SHOULDER PAVEMENT

Sta. 943+00.00  
END SHOULDER SURFACING

Sta. 932+21.47  
BEGIN SHOULDER SURFACING

Sta. 942+99.98  
END SHOULDER SURFACING

Sta. 929+57.47  
BEGIN SHOULDER SURFACING

Sta. 918+00 - 37' Lt.  
Install 24" DR-625  
F.L. = Lt. 1037.77  
Rt. 1073.34  
Other 1070.45  
Other 1038.02

Sta. 941+50.00  
Extend 4'x4' RCB  
With 54" DR-622 & DR-122  
Lt. Exst.  
F.L. = Rt. 1103.60  
Other 1101.80

Sta. 945+00 - 37' Lt.  
Install 24" X 116" DR-653  
F.L. = Lt. 1104.51  
Rt. 1120.27  
Other 1105.01  
Other 1116.06  
Other 1117.45

Sta. 951+32.19 (Left)  
Extend 3'x3' RCB & 42" RCP  
With 42" & 48" DR-622 & DR-122  
Skew = 15° Lt. Ahd. Extension Skew  
Lt. 1086.19  
F.L. = Rt. N/A  
Other 1091.19 (Exist.)  
Other 1101.40 (Exist.)  
Other 1102.00 (Exist.)  
Other 1117.27 (Exist.)

Sta. 951+32.19 (Right)  
Extend 3'x3' RCB  
With 42" DR-621 & DR-122  
Lt. N/A  
F.L. = Rt. 1119.00  
Other 1117.27  
Other 1102.00 (Exist.)

Sta. 918+00.00  
24" X 220' Conc Pipe w/ CMP Letdown  
D.A. = A - MEDIAN  
(REMOVE CMP LETDOWN & REPLACE W/ DR-625)

Sta. 934+00.60  
5' X 7' X 142.9' RCB  
D.A. = 20A - H  
(U.A.C.)

Sta. 936+24.80  
24" X 66.2' Conc Pipe  
D.A. = A - MEDIAN  
(U.A.C.)

Sta. 941+50.00  
4' X 4' X 104' RCB  
w/ 54" RCP  
D.A. = 53A - H  
(REMOVE HEADWALL & EXTEND RIGHT)

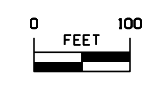
Sta. 944+98.70  
24" X 66.3' Conc Pipe  
D.A. = A - MEDIAN  
(REMOVE)

Sta. 951+30.69  
3' X 3' X 149.6' RCB  
w/ 42" X 140' RCP  
D.A. = 12A - H  
(EXTEND LEFT AND RIGHT)

Sta. 954+92.79  
24" X 64.0' Conc Pipe  
D.A. = A - MEDIAN  
(REMOVE)

VERNON TWP.  
T-88N R-1E  
SEC. 13

VERNON TWP.  
T-88N R-1E  
SEC. 13



MAINLINE US 20





VERNON TWP.  
T-88N R-1E  
SEC. 12

Sta. 966+80 - 37' Lt.  
Install 24" x 80' DR-601 & DR-141  
F.L. = Lt. 1126.27  
Rt. 1132.48  
Other 1131.00

Sta. 975+75  
Install 36" x 252' DR-601  
Skew = 35° Lt. Ahd.  
F.L. = Lt. 1109.80  
Rt. 1111.04

VERNON TWP.  
T-88N R-1E  
SEC. 12

Sta. 983+50 - 37' Lt.  
Install 24" X 182' DR-653  
F.L. = Lt. 1084.70  
Rt. 1111.30  
Other 1084.80  
Other 1108.09  
Other 1108.78

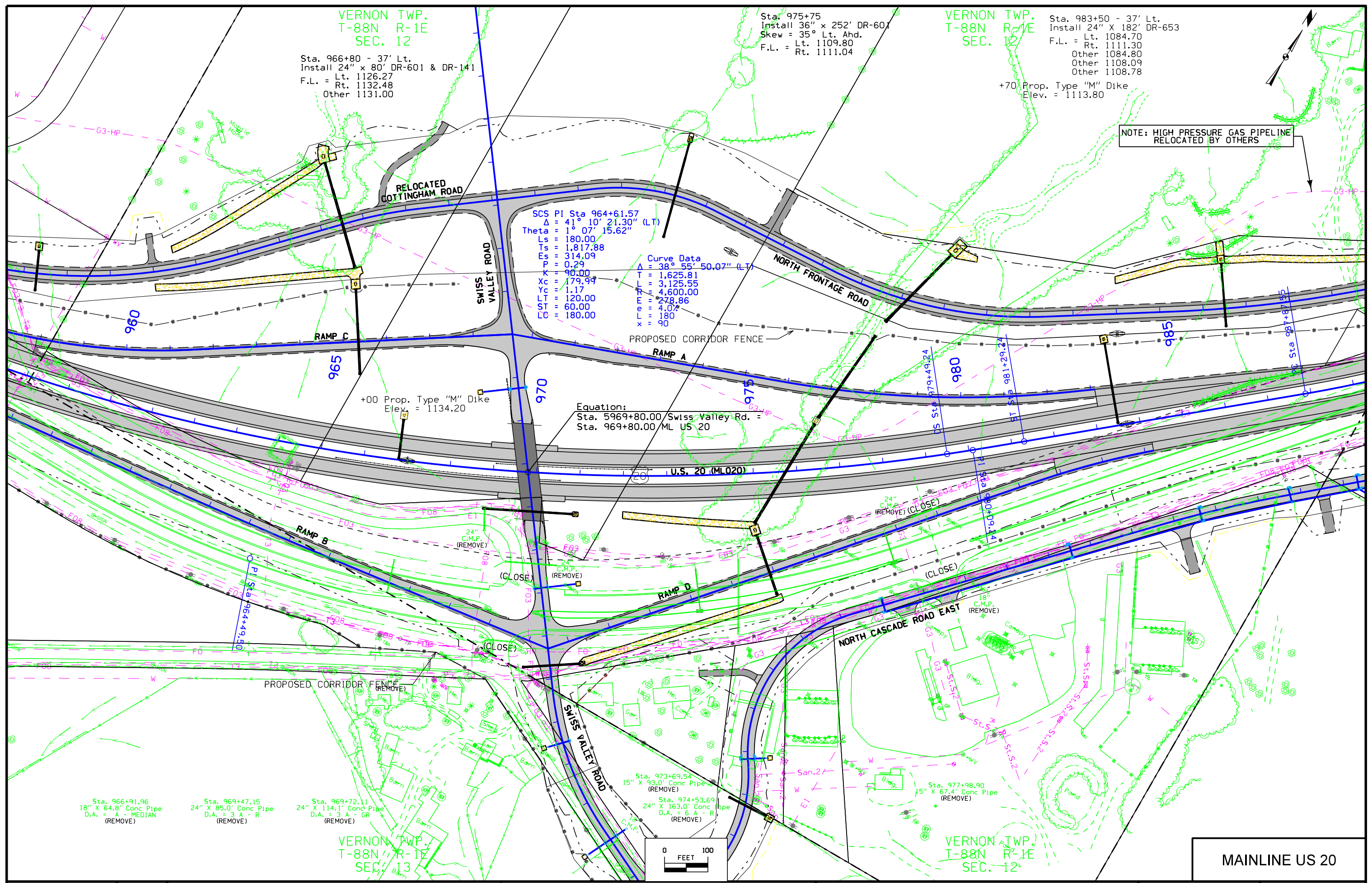
+70' Prop. Type "M" Dike  
Elev. = 1113.80

NOTE: HIGH PRESSURE GAS PIPELINE  
RELOCATED BY OTHERS

SCS PI Sta 964+61.57  
 $\Delta = 41^\circ 10' 21.30''$  (LT)  
Theta =  $1^\circ 07' 15.62''$   
Ls = 180.00  
Ts = 1,817.88  
Es = 314.09  
P = 0.29  
K = 90.00  
Xc = 179.99  
Yc = 1.17  
LT = 120.00  
ST = 60.00  
LC = 180.00

Curve Data  
 $\Delta = 38^\circ 55' 50.07''$  (LT)  
T = 1,625.81  
L = 3,125.55  
E = 4,600.00  
M = 278.86  
L = 180  
x = 90

Equation:  
Sta. 5969+80.00/Swiss Valley Rd. =  
Sta. 969+80.00/ML US 20



Sta. 966+91.96  
18" X 64.8' Conc Pipe  
D.A. = A - MEDIAN  
(REMOVE)

Sta. 969+47.15  
24" X 85.0' Conc Pipe  
D.A. = 3 A - R  
(REMOVE)

Sta. 969+72.11  
24" X 114.1' Conc Pipe  
D.A. = 3 A - GR  
(REMOVE)

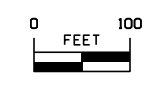
Sta. 973+69.54  
15" X 93.0' Conc Pipe  
(REMOVE)

Sta. 974+53.69  
24" X 163.0' Conc Pipe  
D.A. = 6 A - R  
(REMOVE)

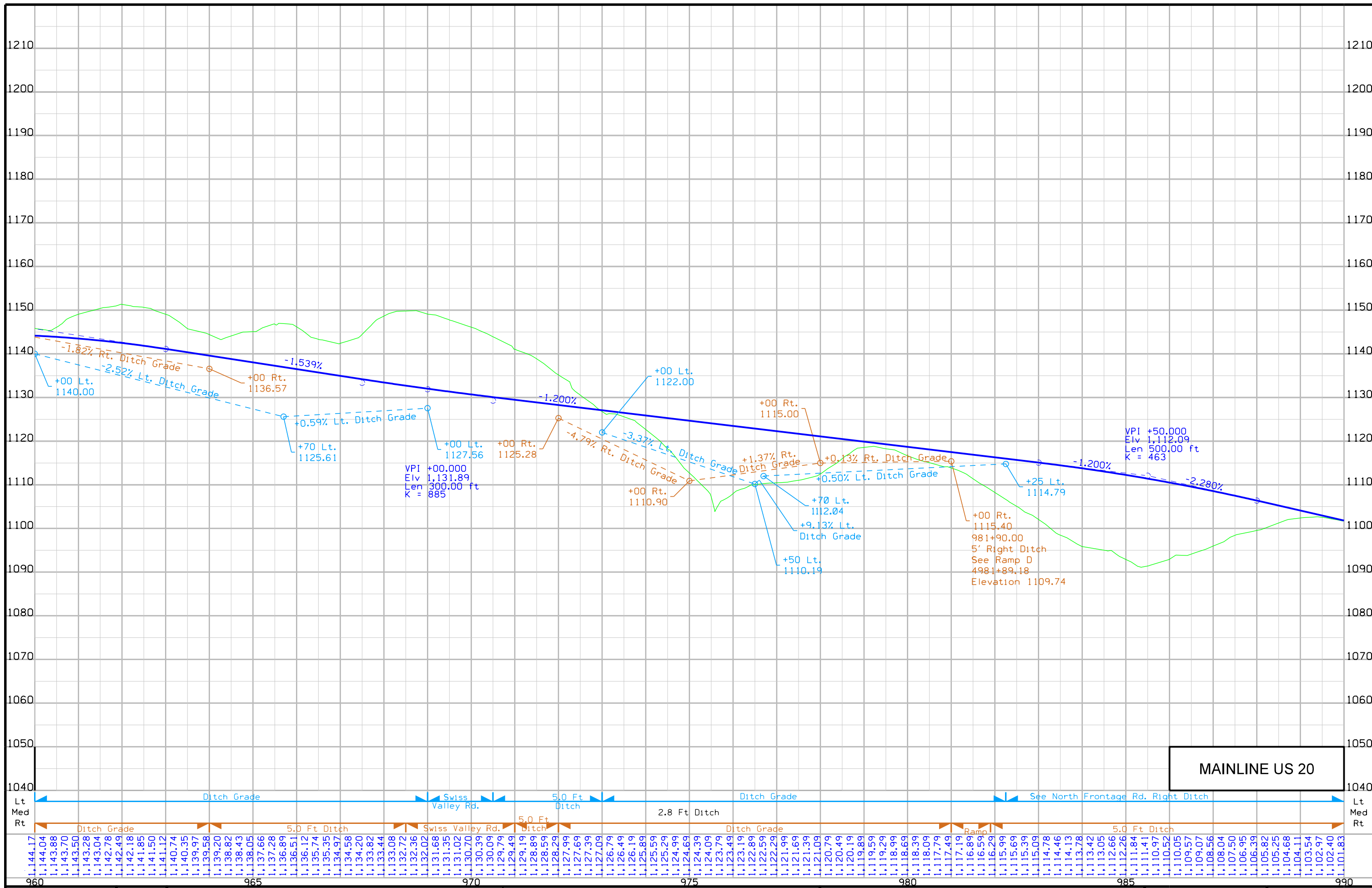
Sta. 977+98.90  
15" X 67.4' Conc Pipe  
(REMOVE)

VERNON TWP.  
T-88N R-1E  
SEC. 13

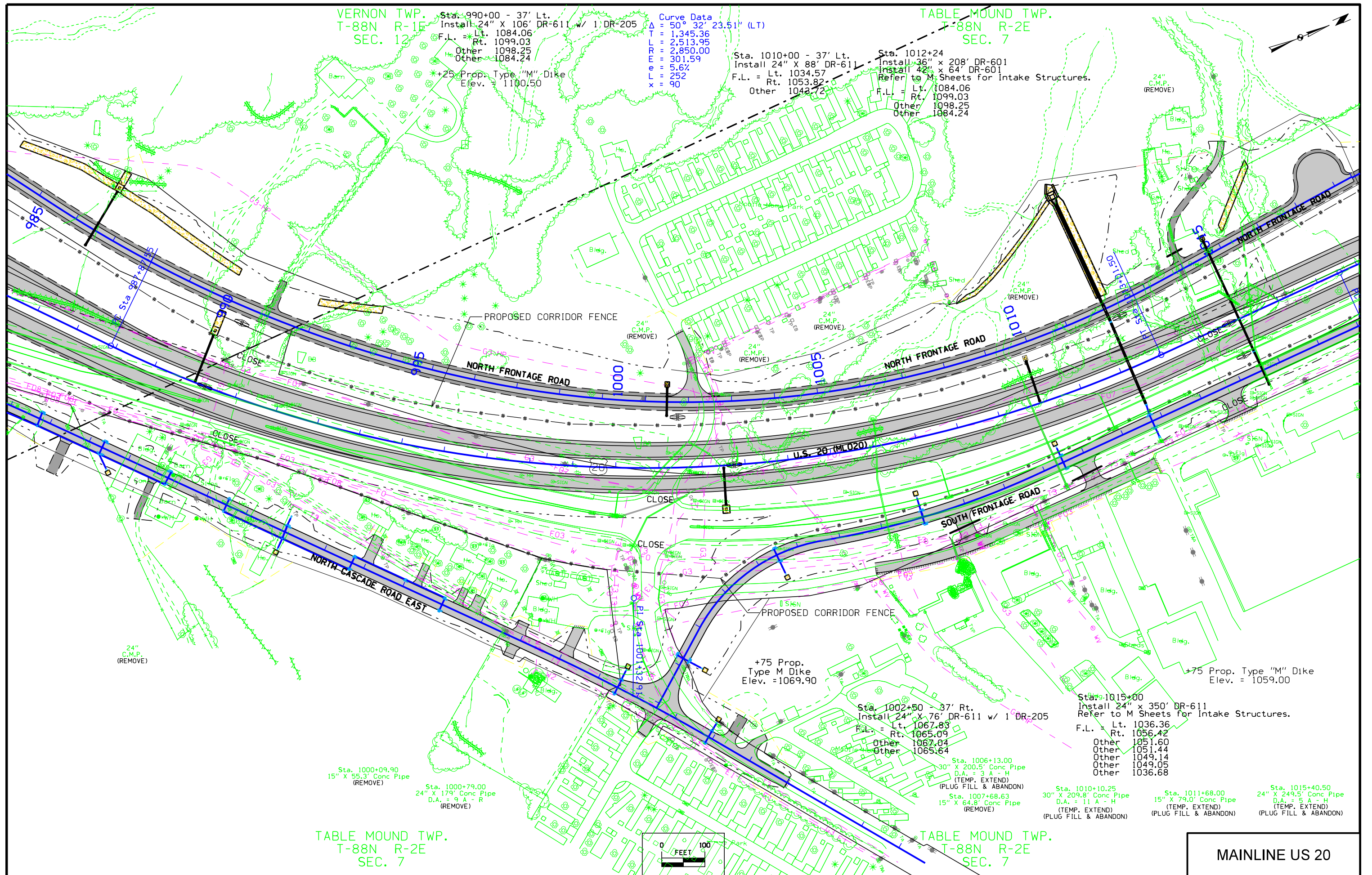
VERNON TWP.  
T-88N R-1E  
SEC. 12



MAINLINE US 20







VERNON TWP. T-88N R-15 SEC. 12  
 Sta. 990+00 - 37' Lt.  
 Install 24" X 106' DR-611 w/ 1 DR-205  
 F.L. = Lt. 1084.06  
 Rt. 1099.03  
 Other 1098.25  
 Other 1084.24  
 \*25' Prop. Type "M" Dike  
 Elev. = 1100.50

TABLE MOUND TWP. T-88N R-2E SEC. 7

Curve Data  
 $\Delta = 50^\circ 32' 23.51" (LT)$   
 $T = 1,345.36$   
 $L = 2,513.95$   
 $E = 2,850.00$   
 $L = 301.59$   
 $L = 252$   
 $x = 90$

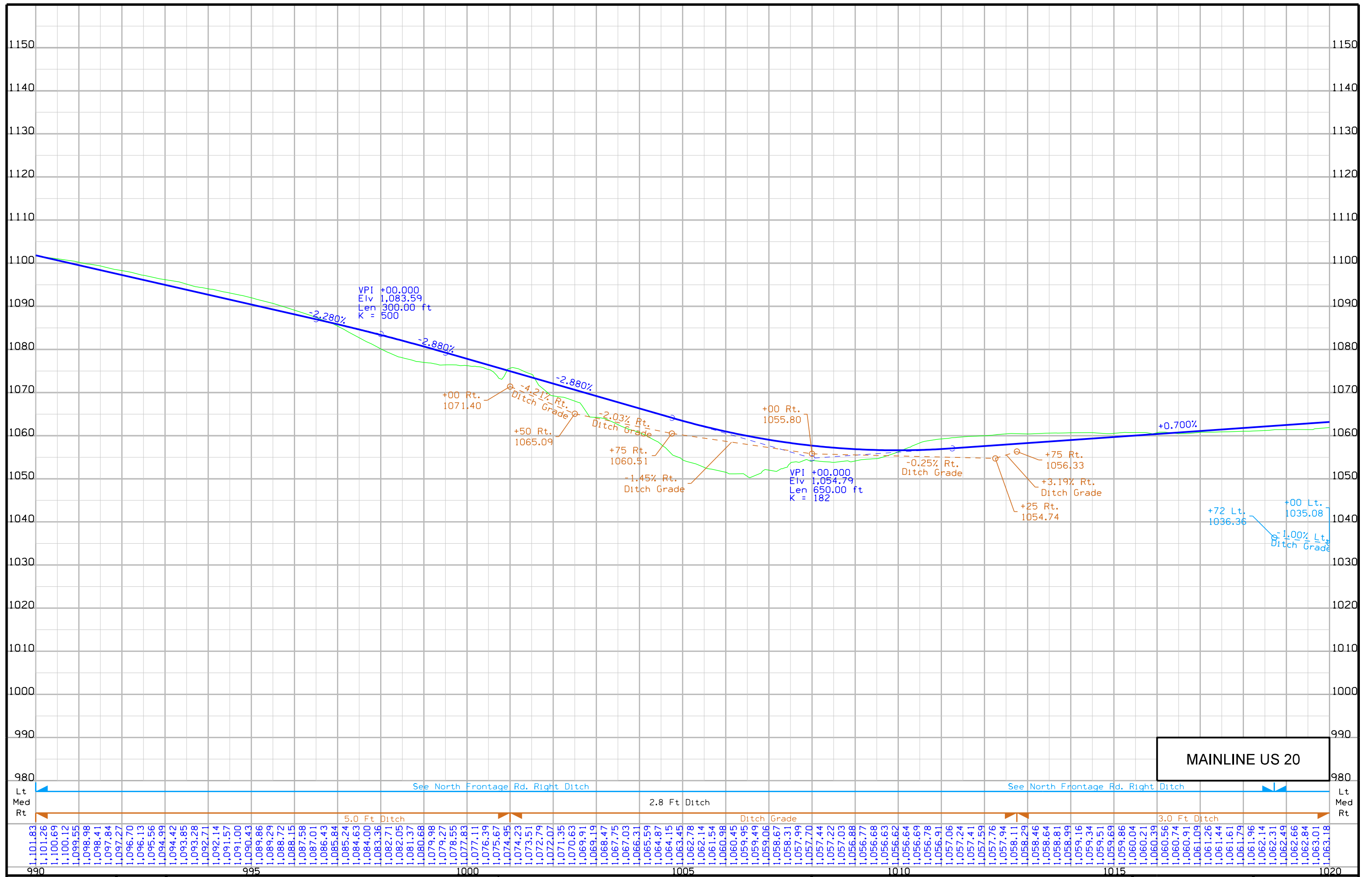
Sta. 1010+00 - 37' Lt.  
 Install 24" X 88' DR-611  
 F.L. = Lt. 1034.57  
 Rt. 1053.82  
 Other 1042.72

Sta. 1012+24  
 Install 36" X 208' DR-601  
 Install 42" X 64' DR-601  
 Refer to M Sheets for Intake Structures.  
 F.L. = Lt. 1084.06  
 Rt. 1099.03  
 Other 1098.25  
 Other 1084.24

TABLE MOUND TWP. T-88N R-2E SEC. 7

TABLE MOUND TWP. T-88N R-2E SEC. 7

MAINLINE US 20



**MAINLINE US 20**

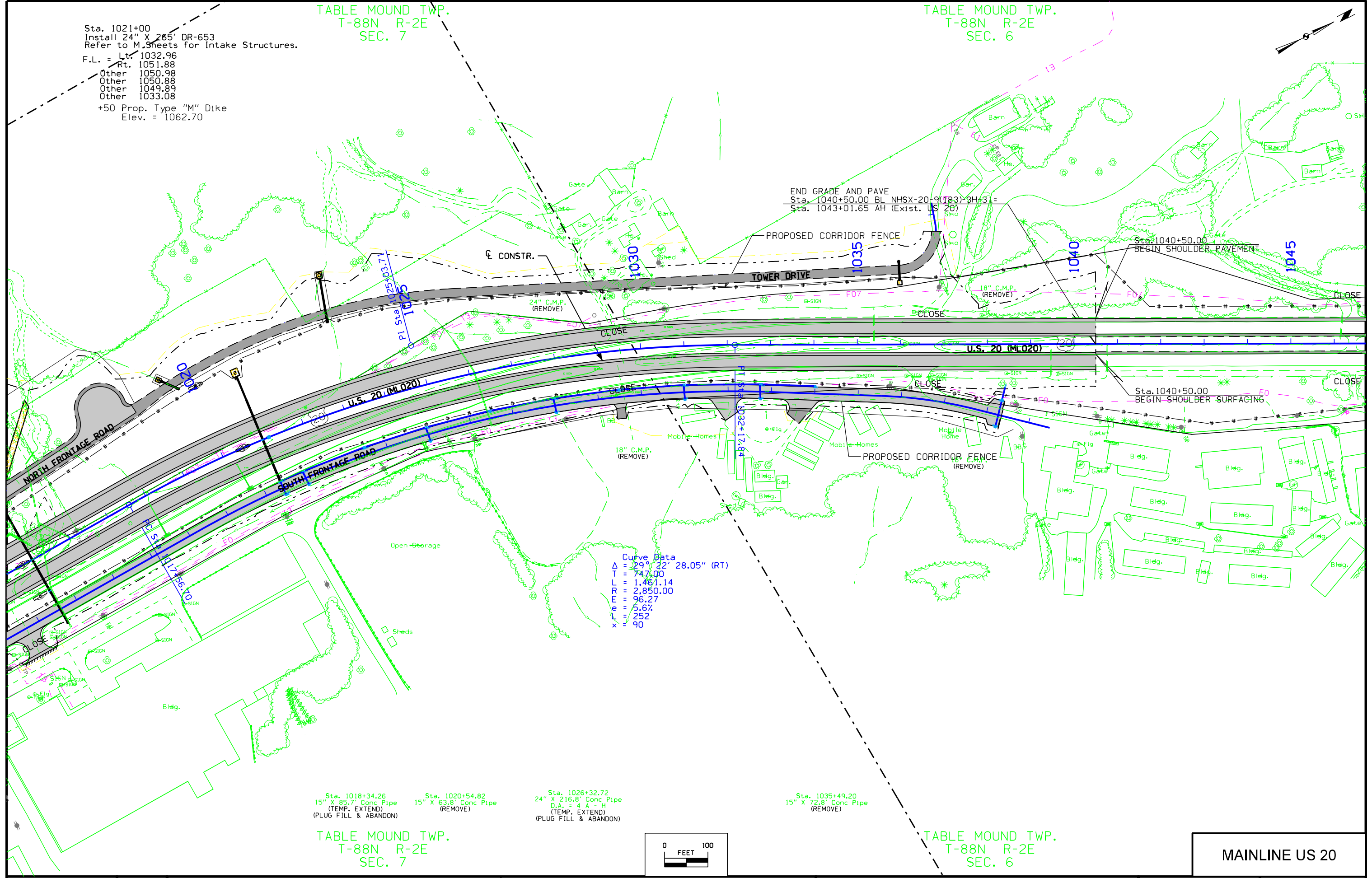
|          |         |             |              |                |                |                        |              |     |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|-----|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | D.7 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|-----|



Sta. 1021+00  
 Install 24" X 265' DR-653  
 Refer to M. Sheets for Intake Structures.  
 F.L. = Lt. 1032.96  
 Rt. 1051.88  
 Other 1050.98  
 Other 1050.88  
 Other 1049.89  
 Other 1033.08  
 +50 Prop. Type "M" Dike  
 Elev. = 1062.70

TABLE MOUND TWP.  
 T-88N R-2E  
 SEC. 7

TABLE MOUND TWP.  
 T-88N R-2E  
 SEC. 6



Curve Data  
 $\Delta = 29^{\circ} 22' 28.05''$  (RT)  
 $T = 747.00$   
 $L = 1,461.14$   
 $RR = 2,850.00$   
 $E = 96.27$   
 $\theta = 5.6\%$   
 $X = 252$   
 $Y = 90$

Sta. 1018+34.26  
 15" X 95.7' Conc Pipe  
 (TEMP. EXTEND)  
 (PLUG FILL & ABANDON)

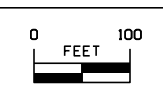
Sta. 1020+54.82  
 15" X 63.8' Conc Pipe  
 (REMOVE)

Sta. 1026+32.72  
 24" X 216.8' Conc Pipe  
 D.A. = 4 A - H  
 (TEMP. EXTEND)  
 (PLUG FILL & ABANDON)

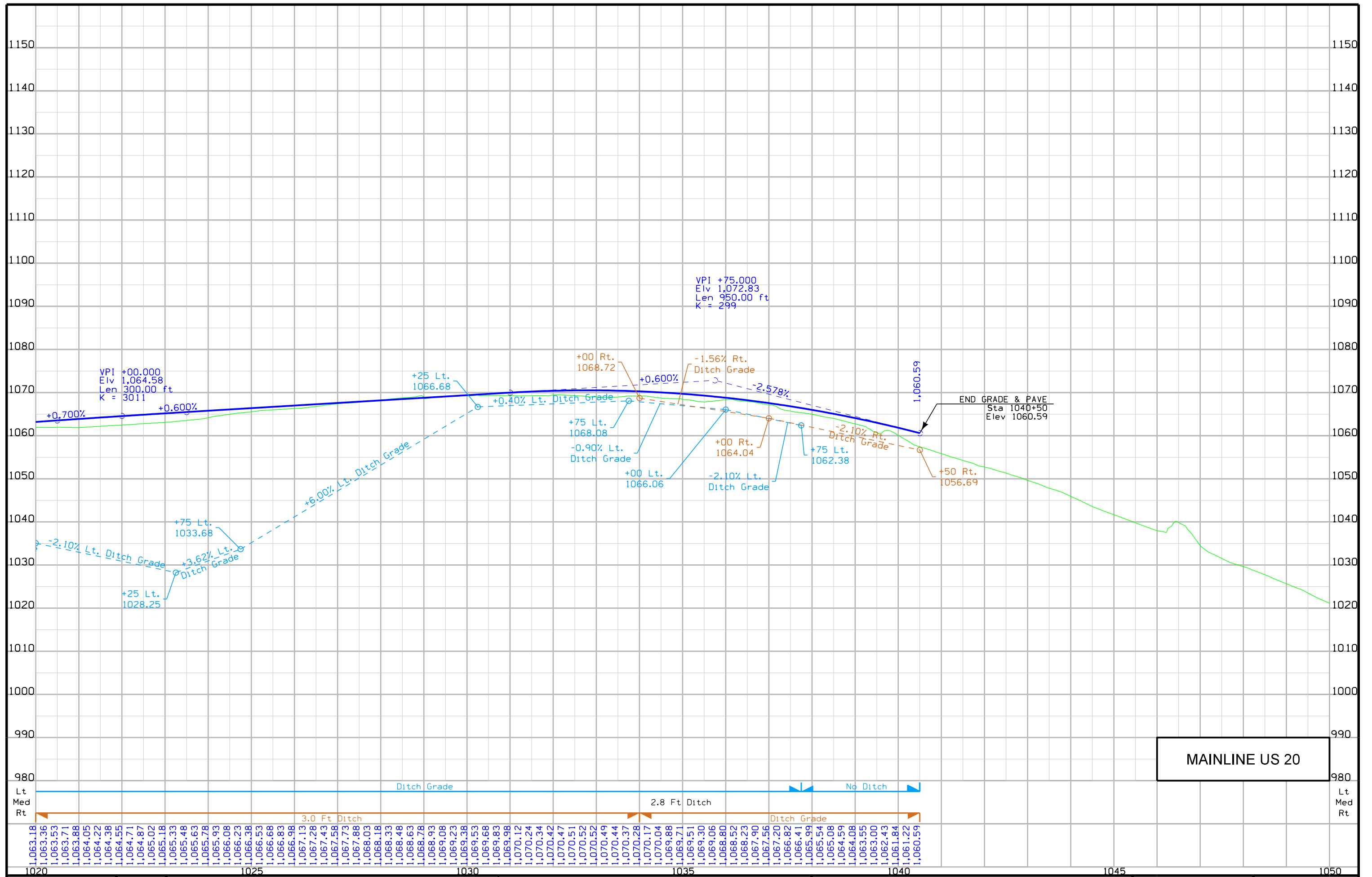
Sta. 1035+49.20  
 15" X 72.8' Conc Pipe  
 (REMOVE)

TABLE MOUND TWP.  
 T-88N R-2E  
 SEC. 7

TABLE MOUND TWP.  
 T-88N R-2E  
 SEC. 6



MAINLINE US 20



MAINLINE US 20

|          |         |             |              |                |                |                        |              |     |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|-----|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | D.9 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|-----|

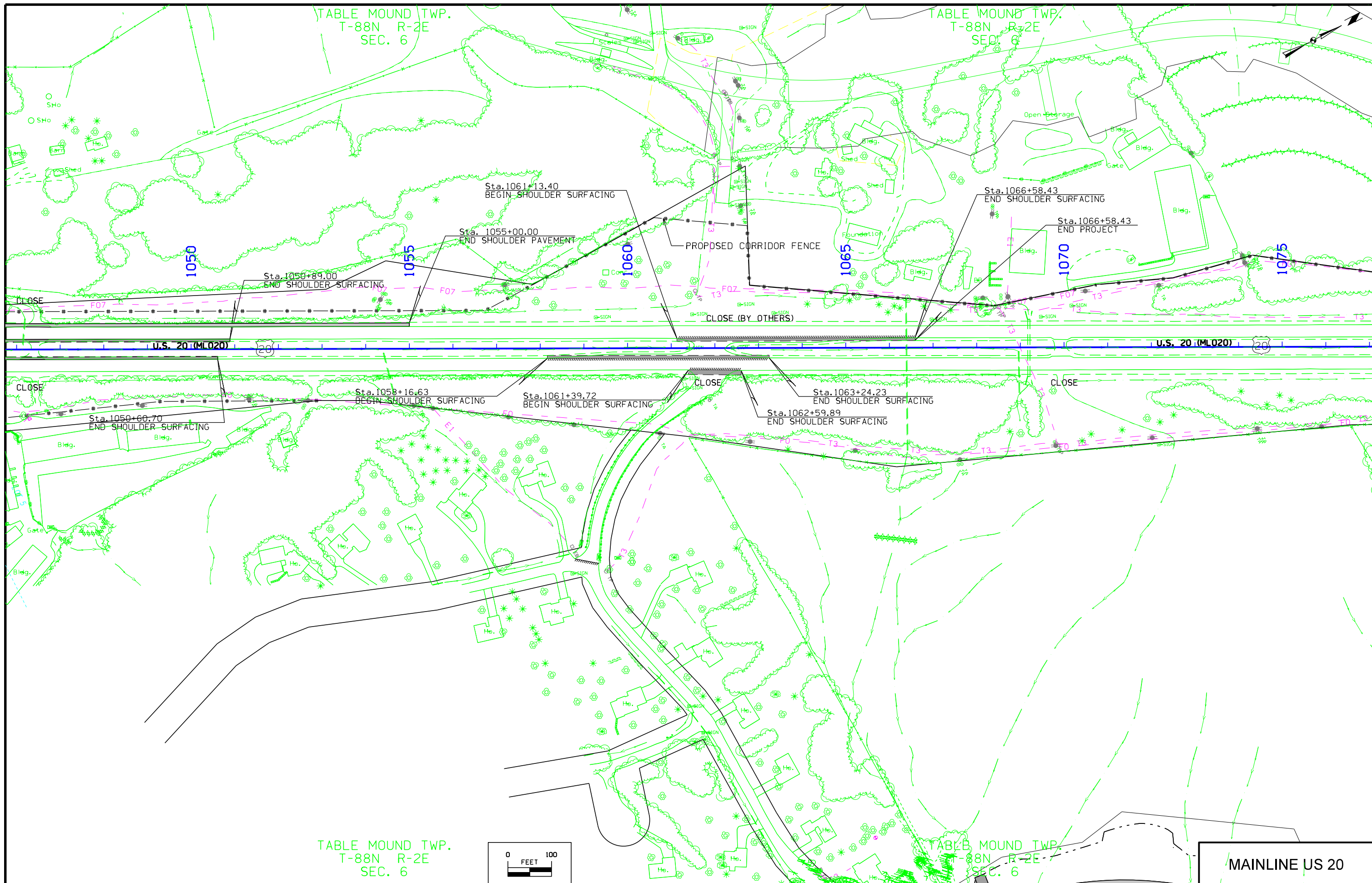


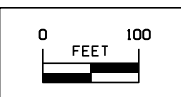
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

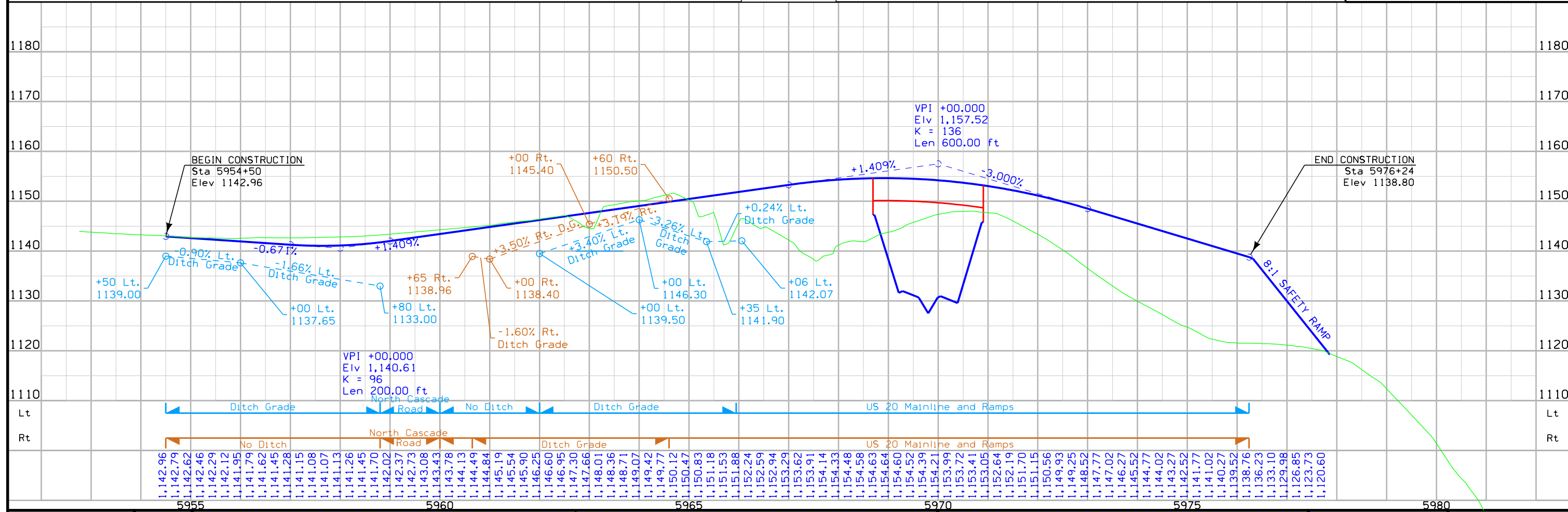
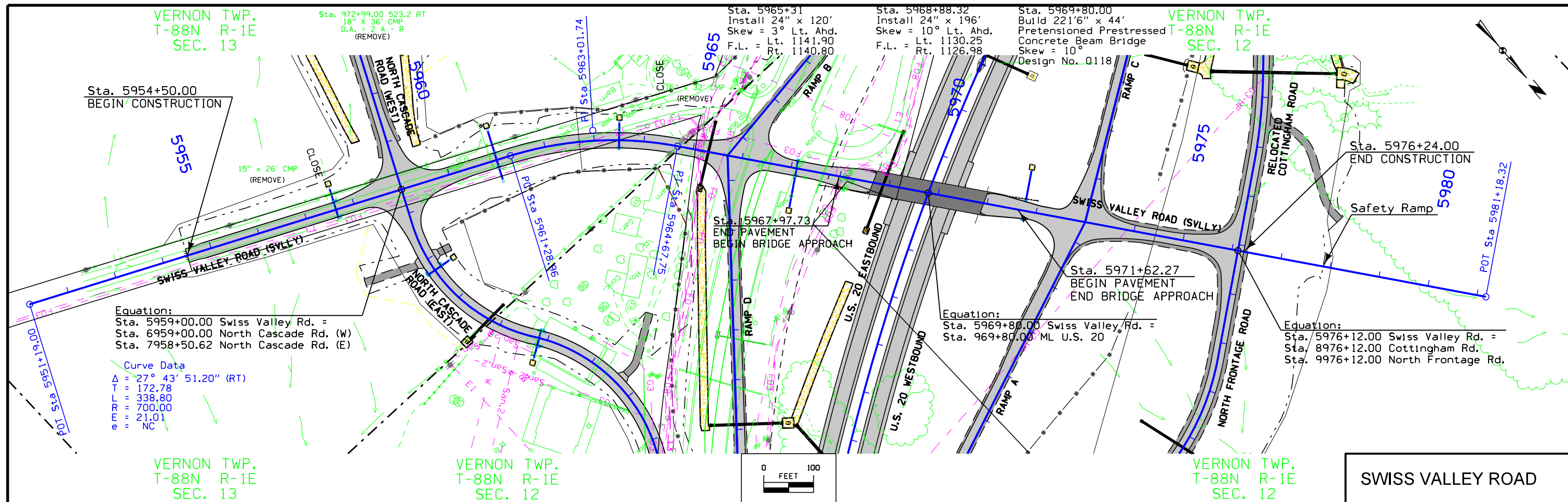
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

MAINLINE US 20

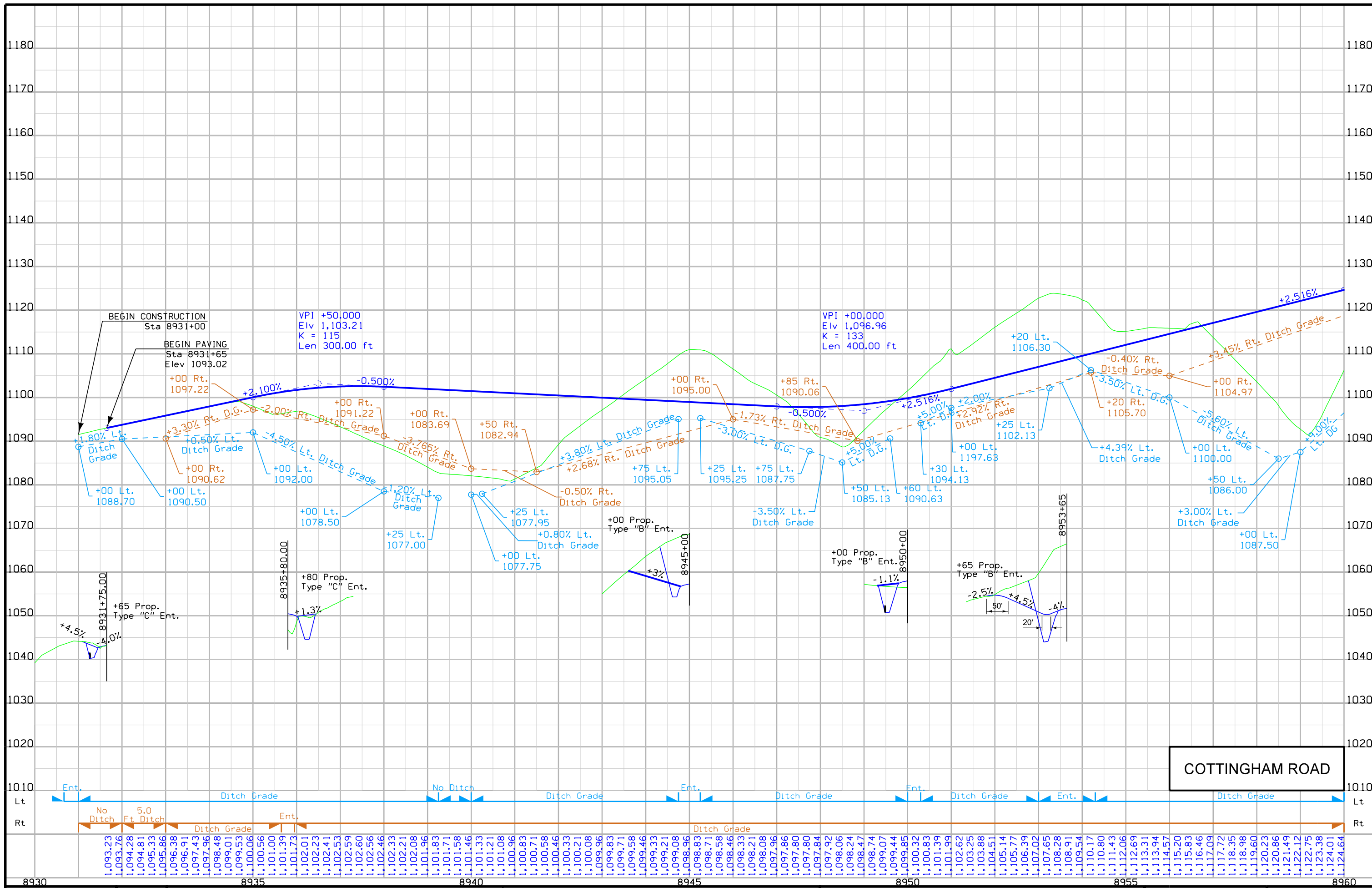






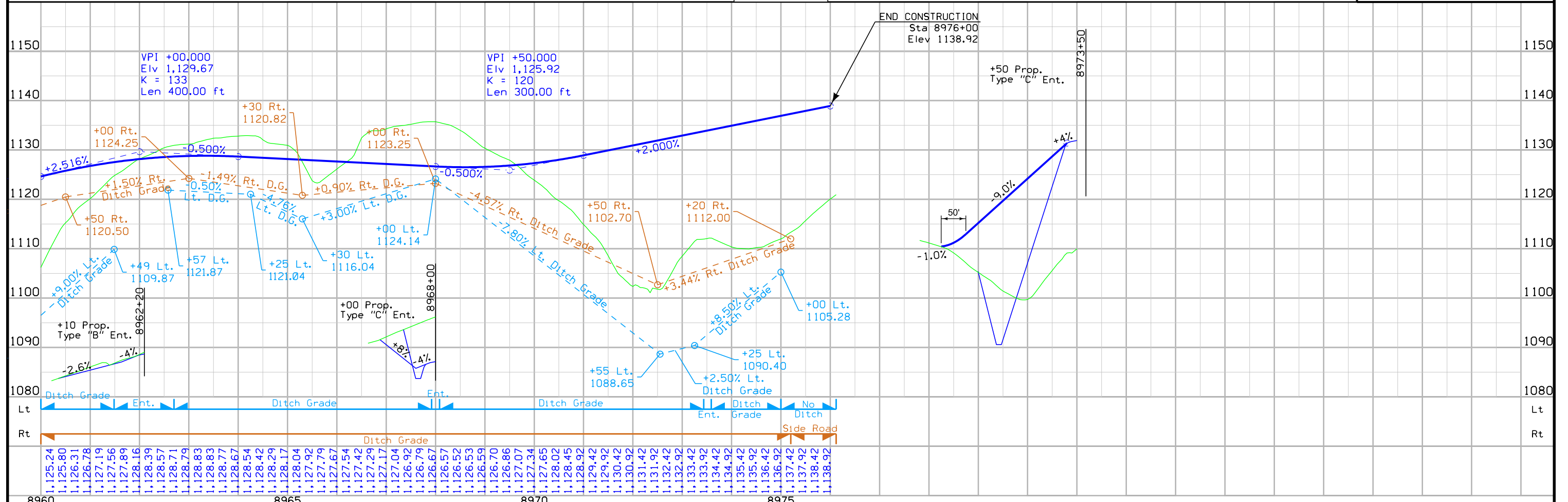
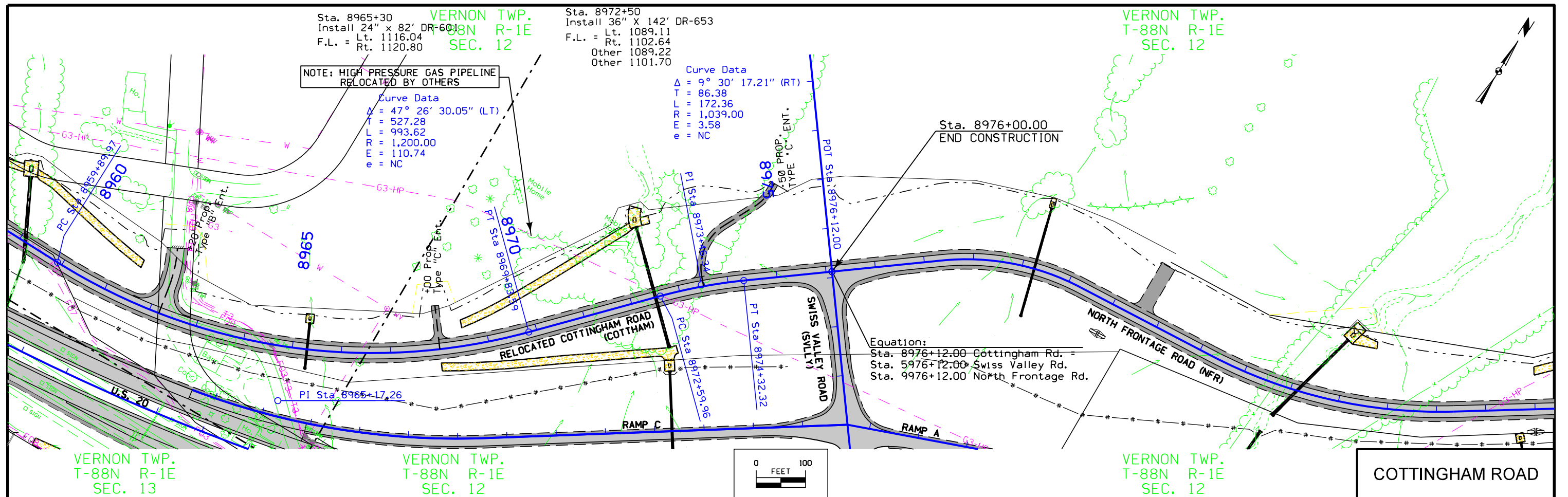
|          |         |             |        |                |              |     |
|----------|---------|-------------|--------|----------------|--------------|-----|
| FILE NO. | ENGLISH | DESIGN TEAM | COUNTY | PROJECT NUMBER | SHEET NUMBER | E.1 |
|----------|---------|-------------|--------|----------------|--------------|-----|





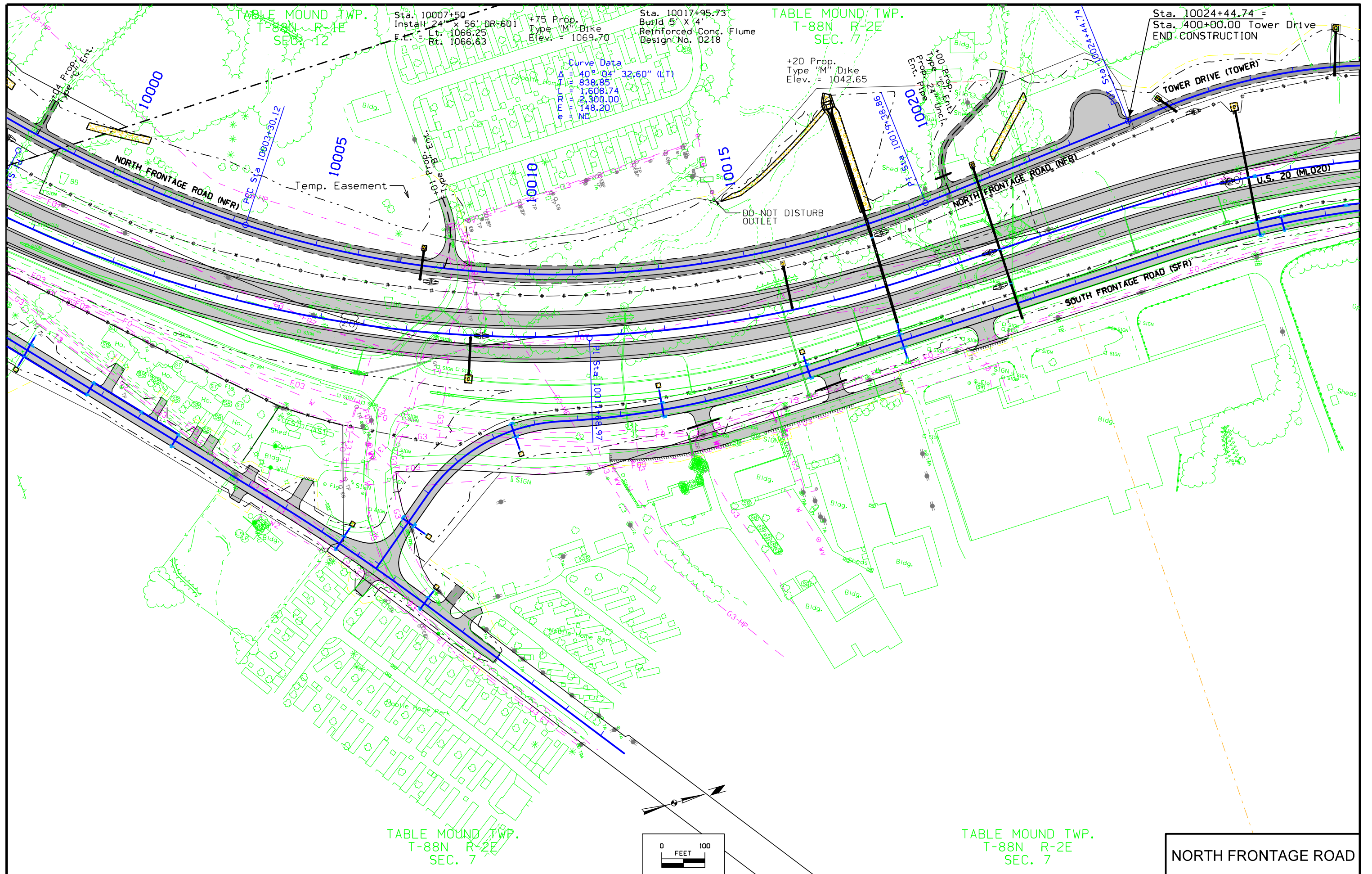
**COTTINGHAM ROAD**

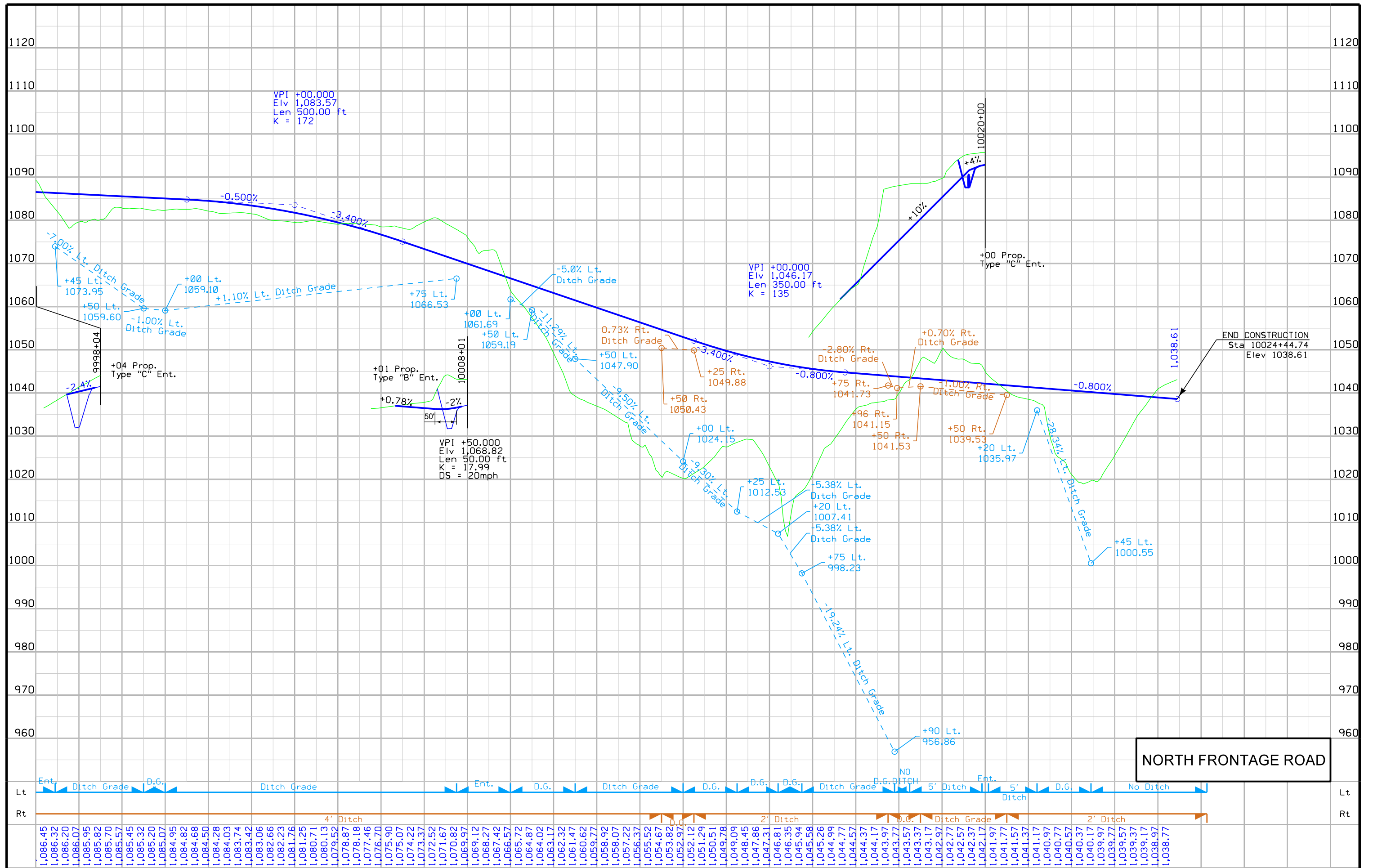








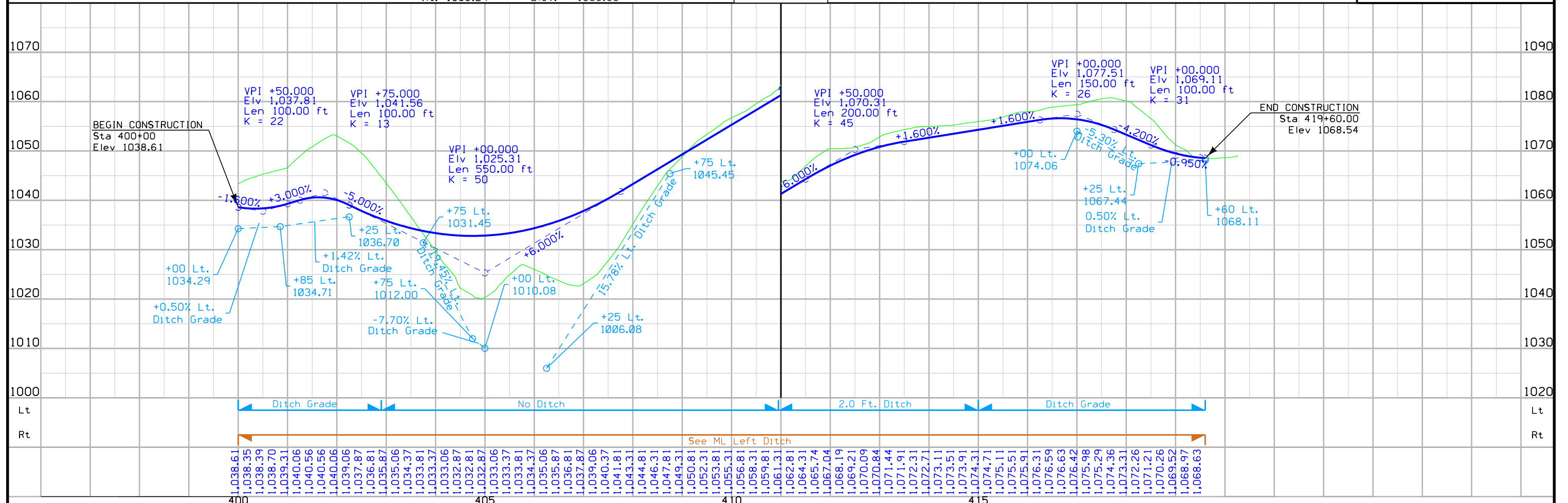
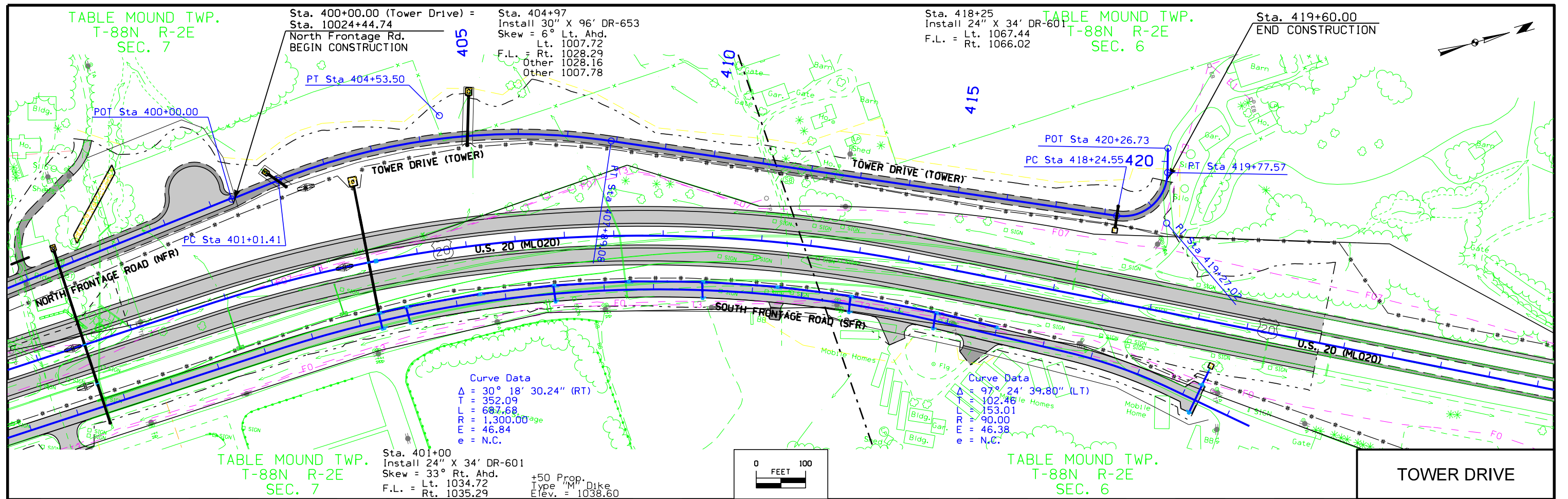


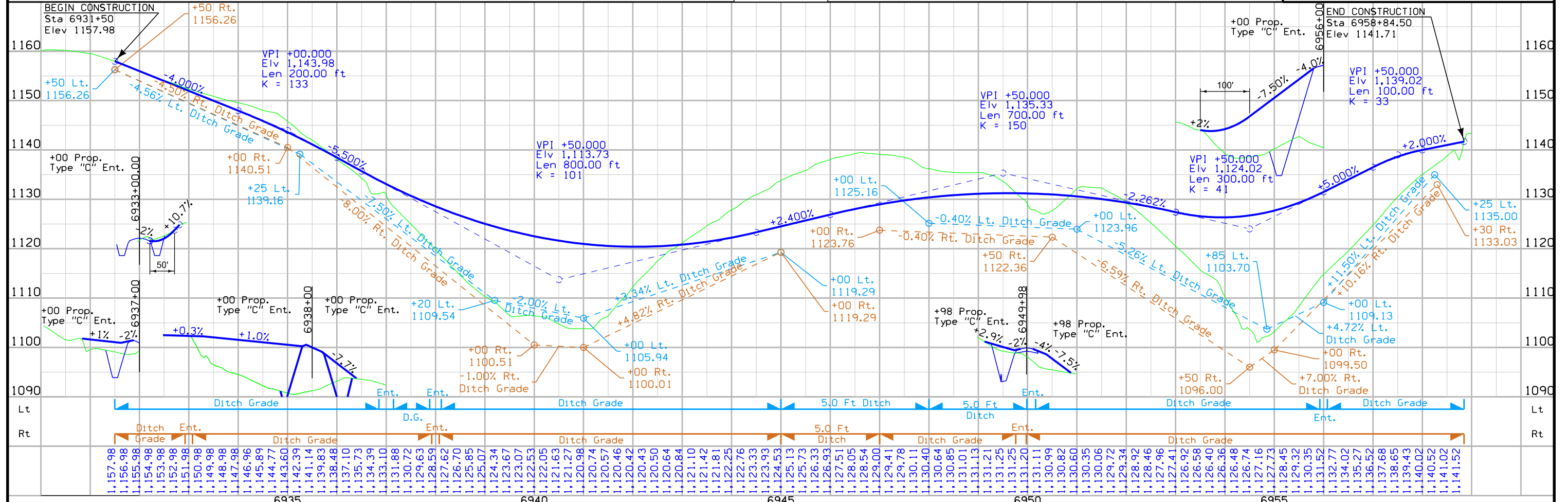
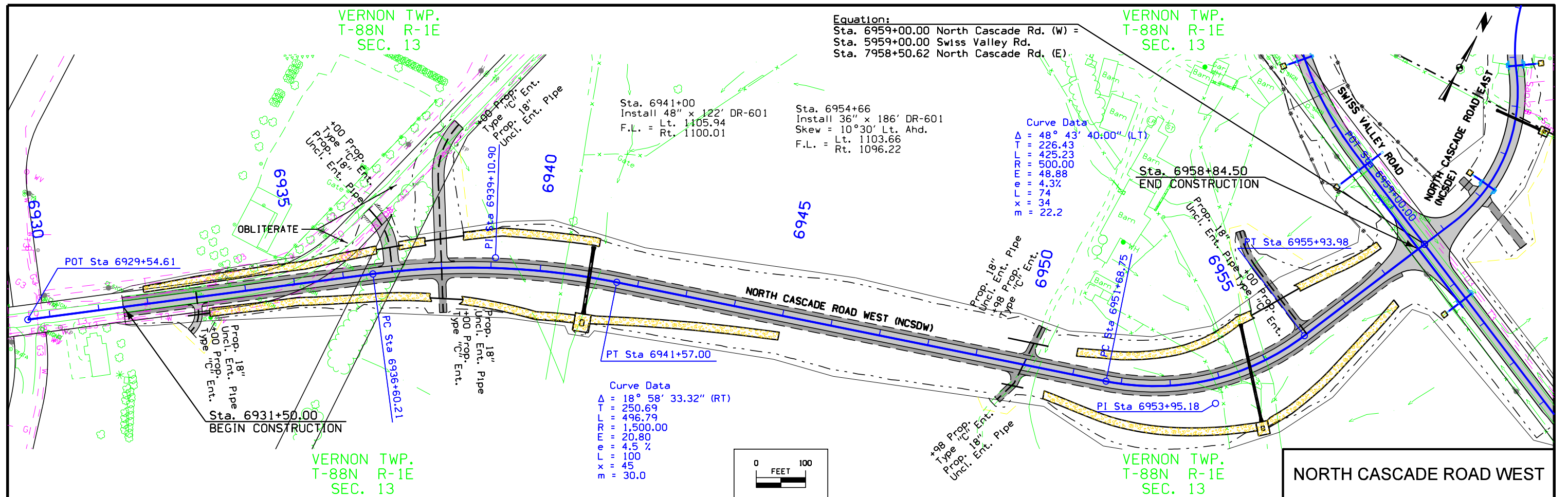


**NORTH FRONTAGE ROAD**

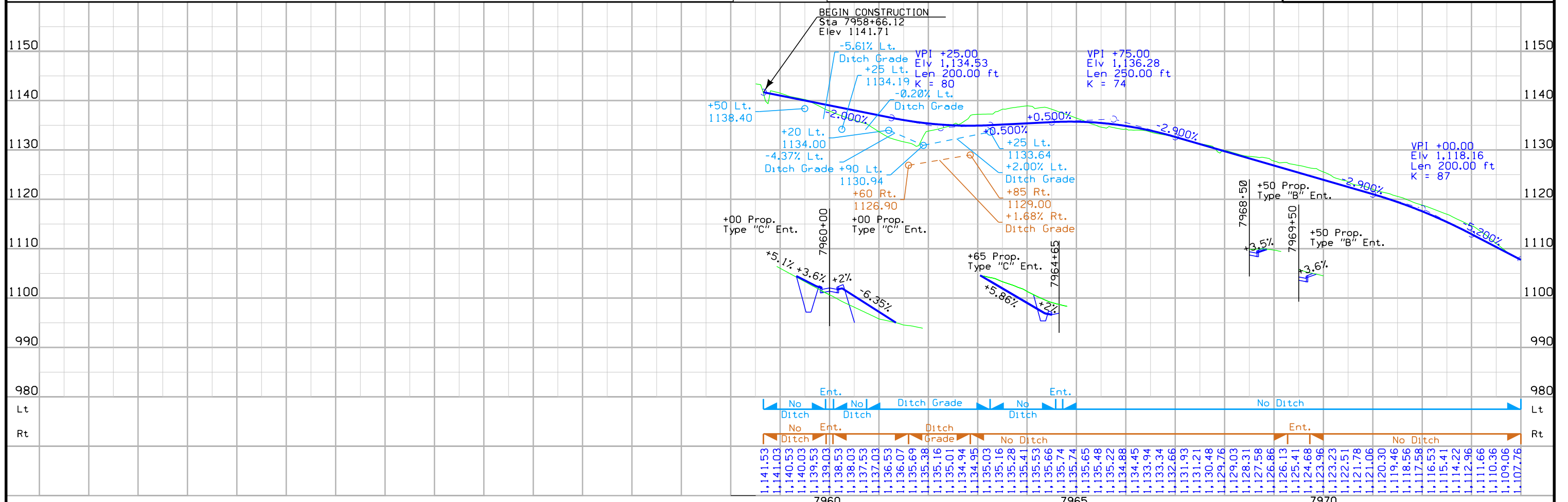
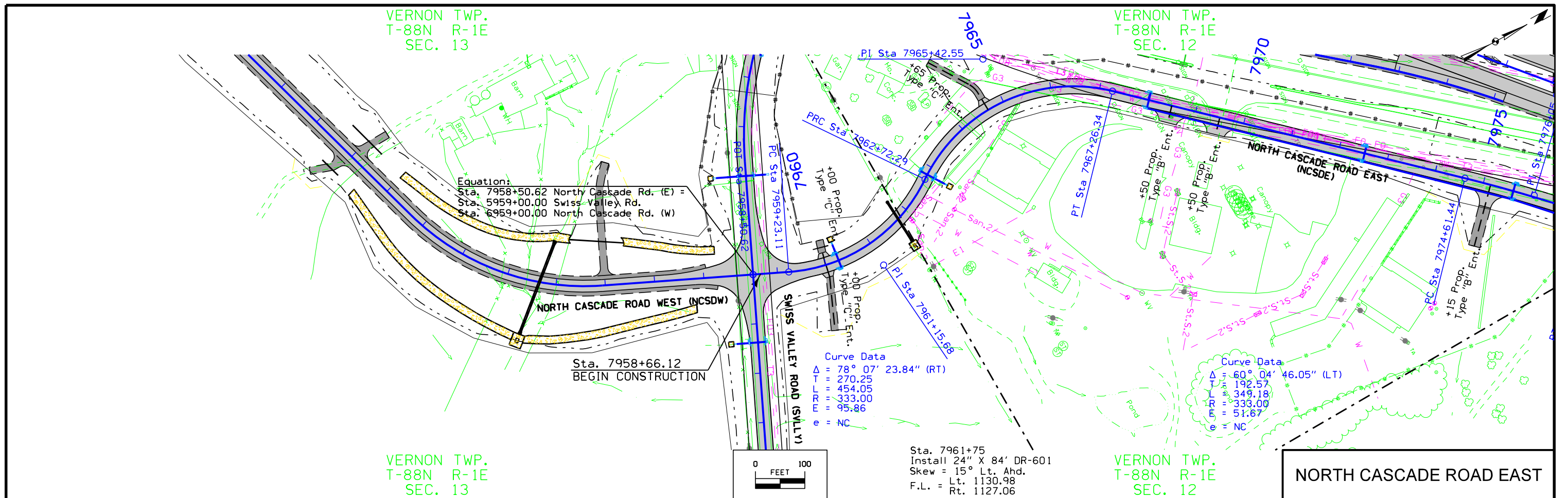
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|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|-----|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | E.7 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|-----|

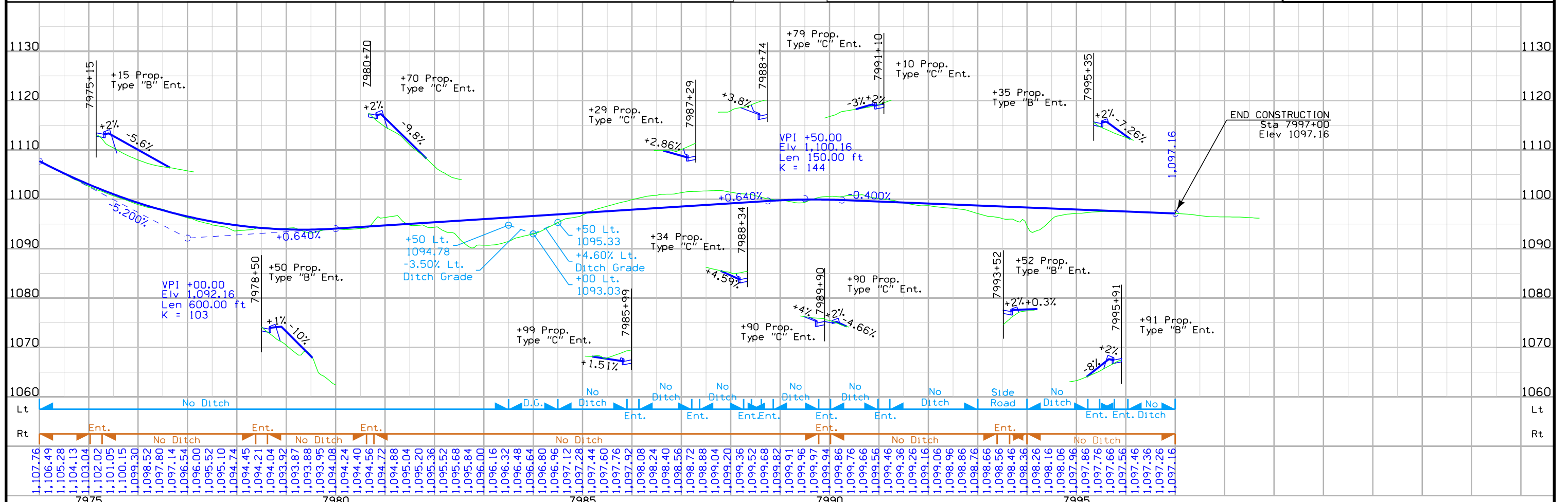
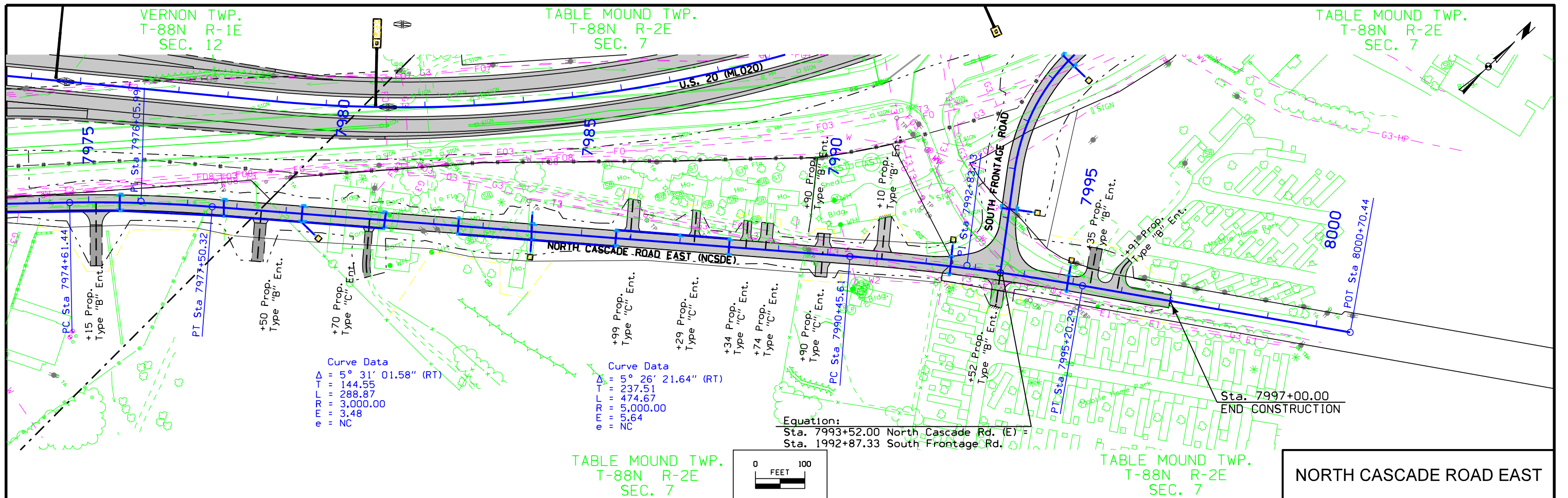




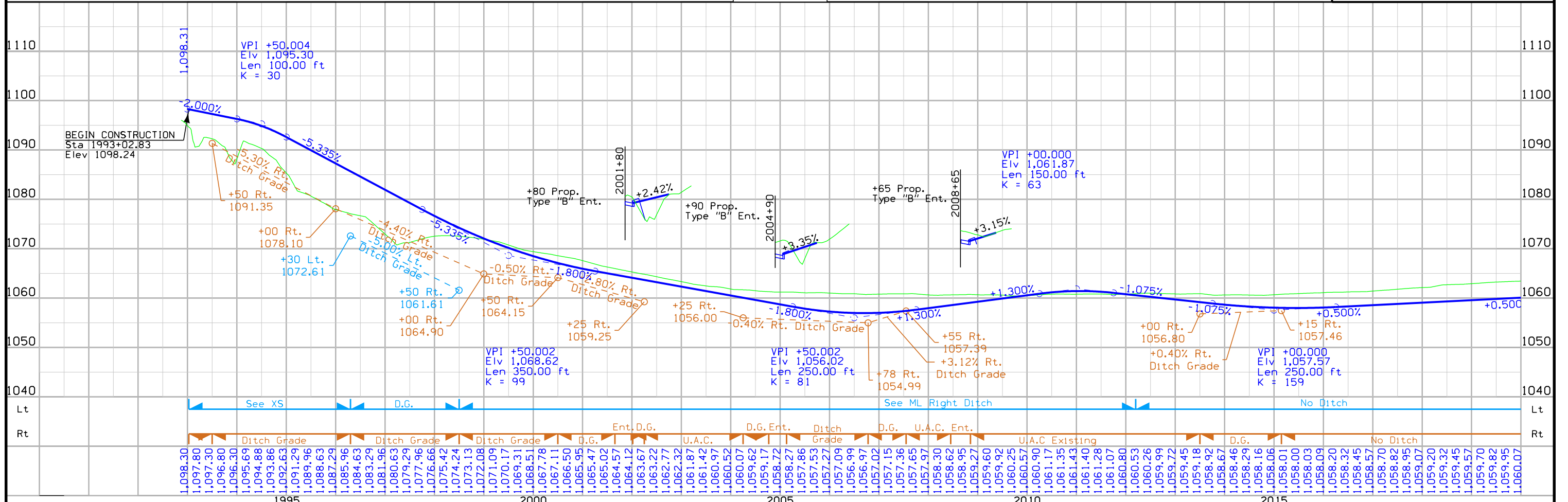
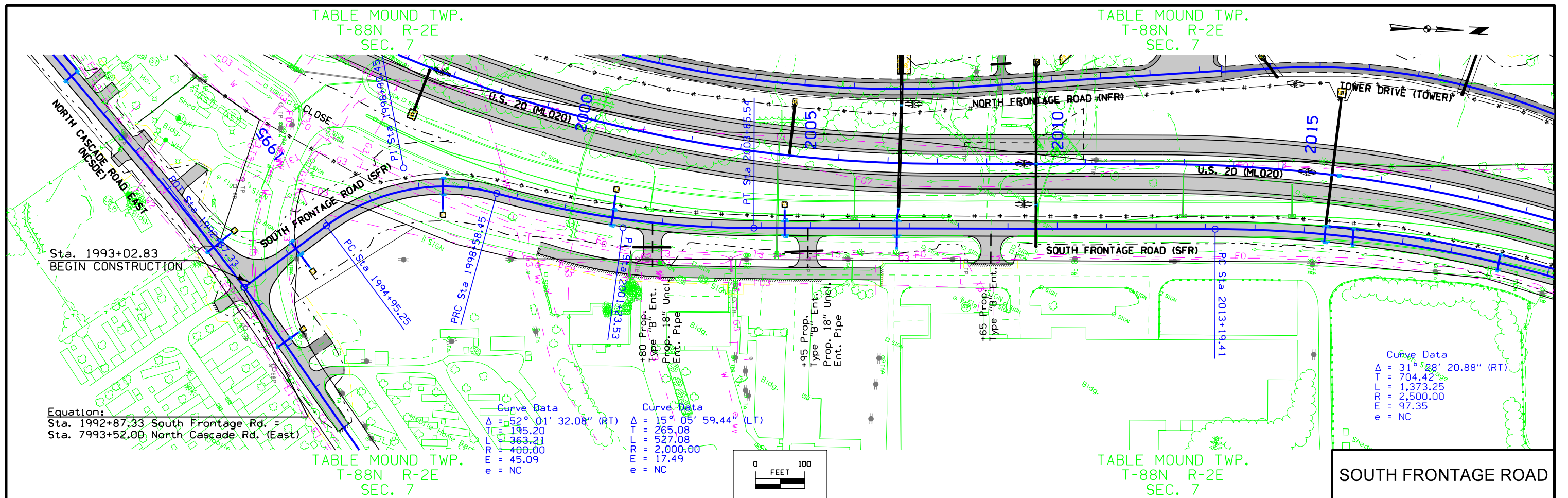


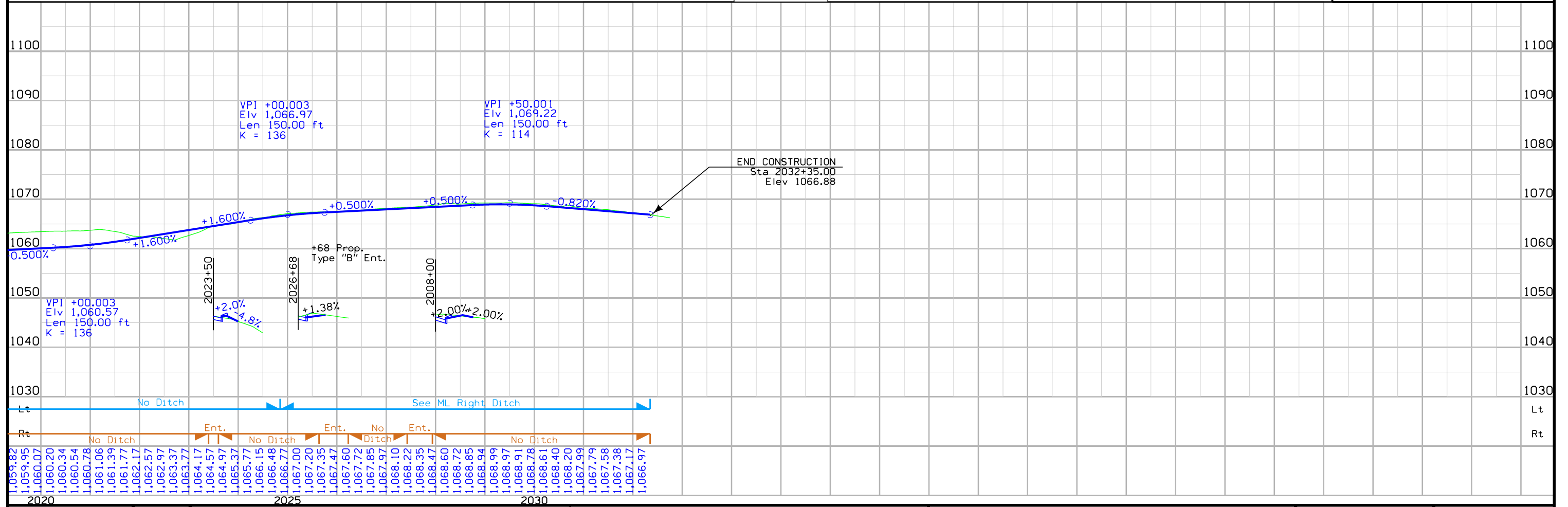
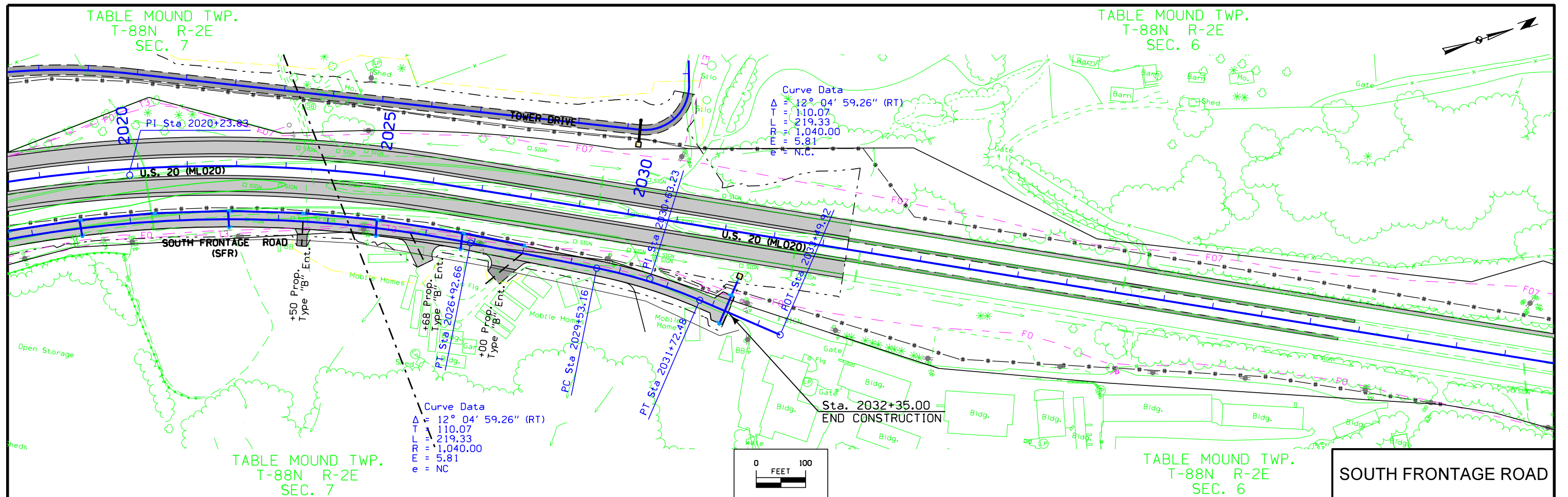












VERNON TWP.  
T-88N R-1E  
SEC. 11

Sta. 138+75  
Install 24" x 128' DR-601  
Skew = 5° Lt. Ahd.  
Lt. 1087.41  
F.L. = Rt. 1085.77

VERNON TWP.  
T-88N R-1E  
SEC. 12

Curve Data  
Δ = 96° 39' 51.00" (RT)  
T = 112.36  
L = 168.71  
R = 100.00  
E = 50.42  
e = N.C.

PI Sta 138+08.52

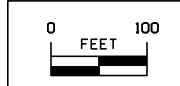
+65 Prop. Ent.  
Type "C"  
Uncl. Ent.

Equation:  
Sta. 139+45.00 Cottingham Road Connector =  
Sta. 8939+45.00 Cottingham Road

Sta. 139+33.00  
END CONSTRUCTION

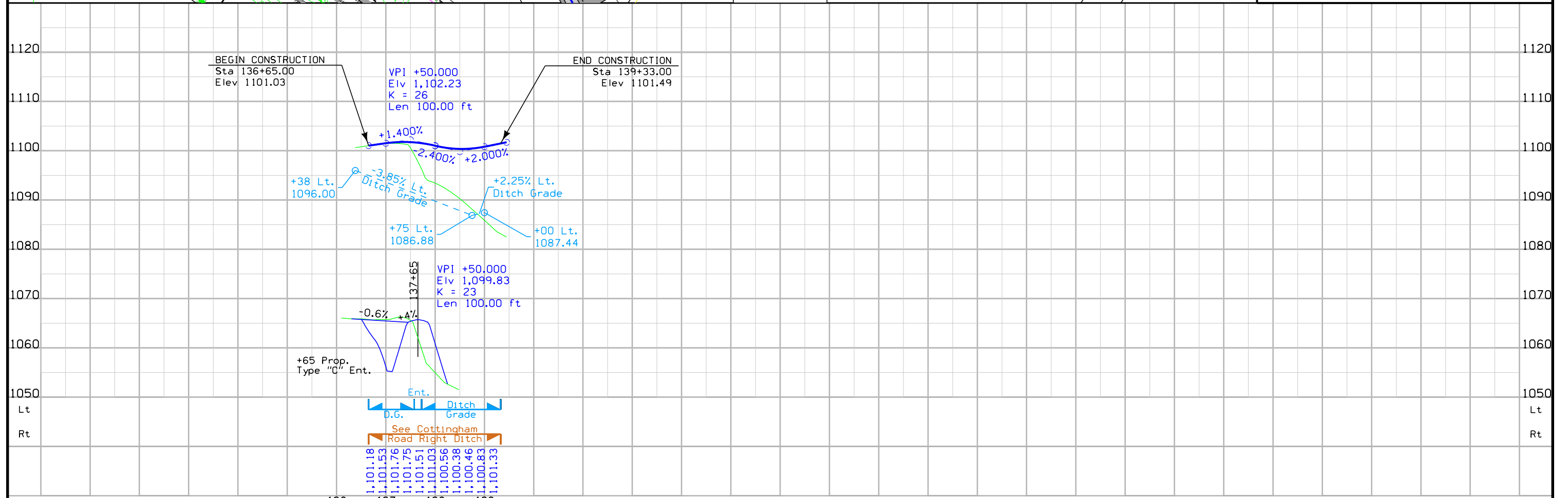
Sta. 136+65.00  
BEGIN CONSTRUCTION

VERNON TWP.  
T-88N R-1E  
SEC. 13



VERNON TWP.  
T-88N R-1E  
SEC. 12

COTTINGHAM ROAD CONNECTOR

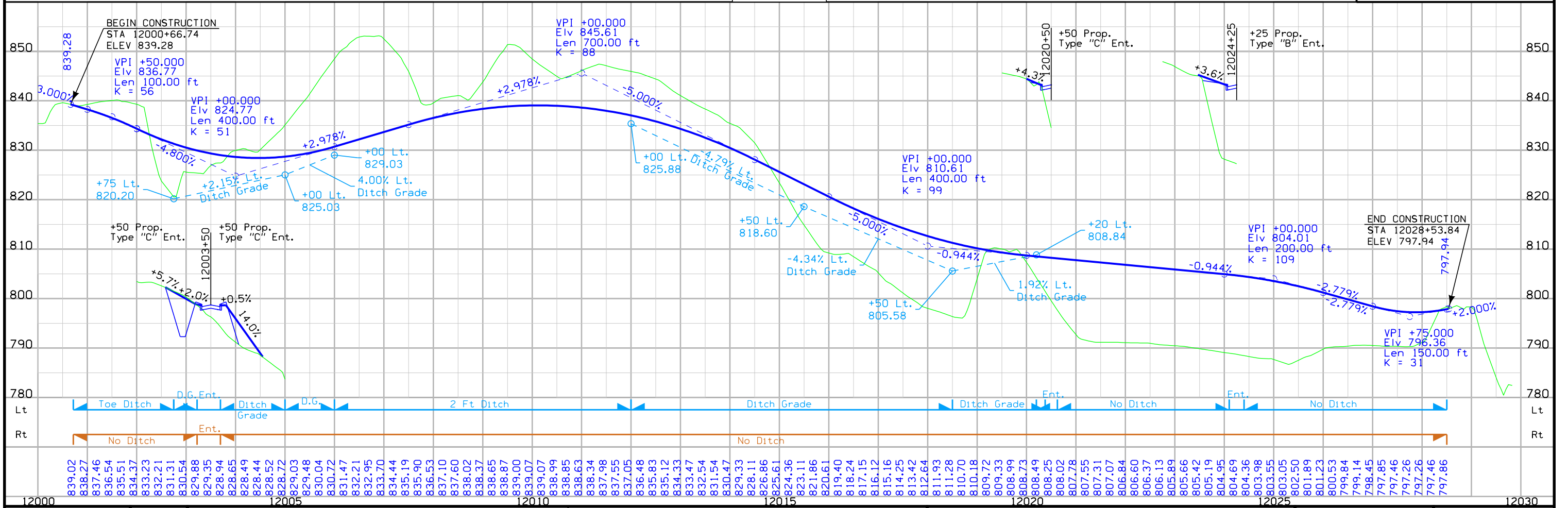
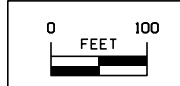
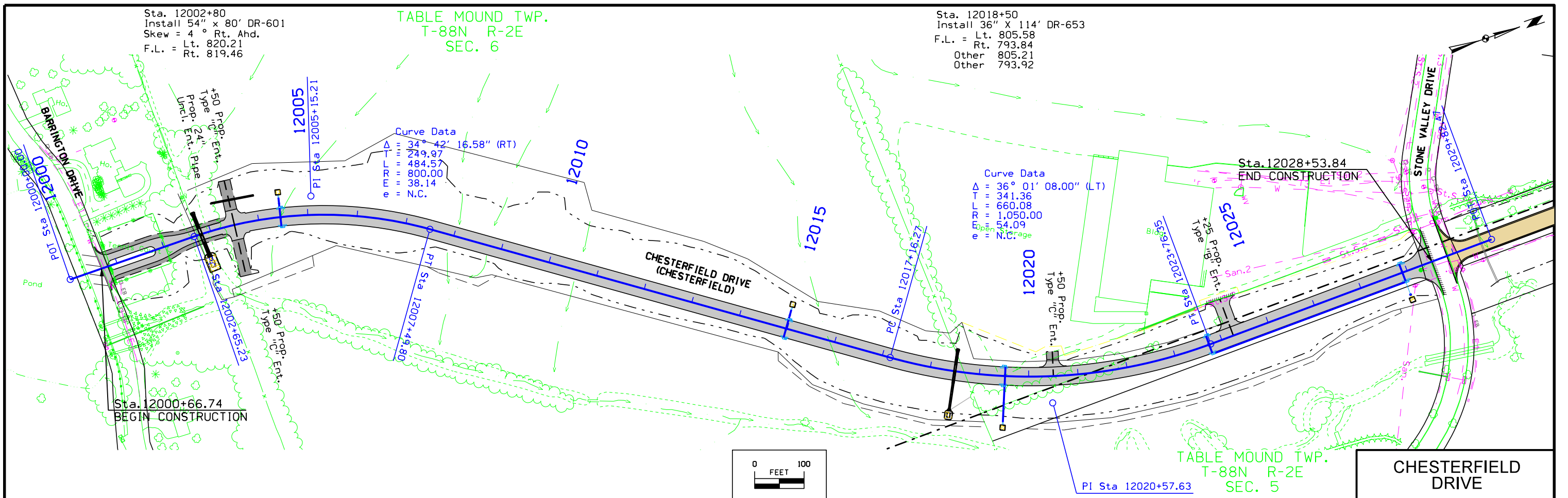




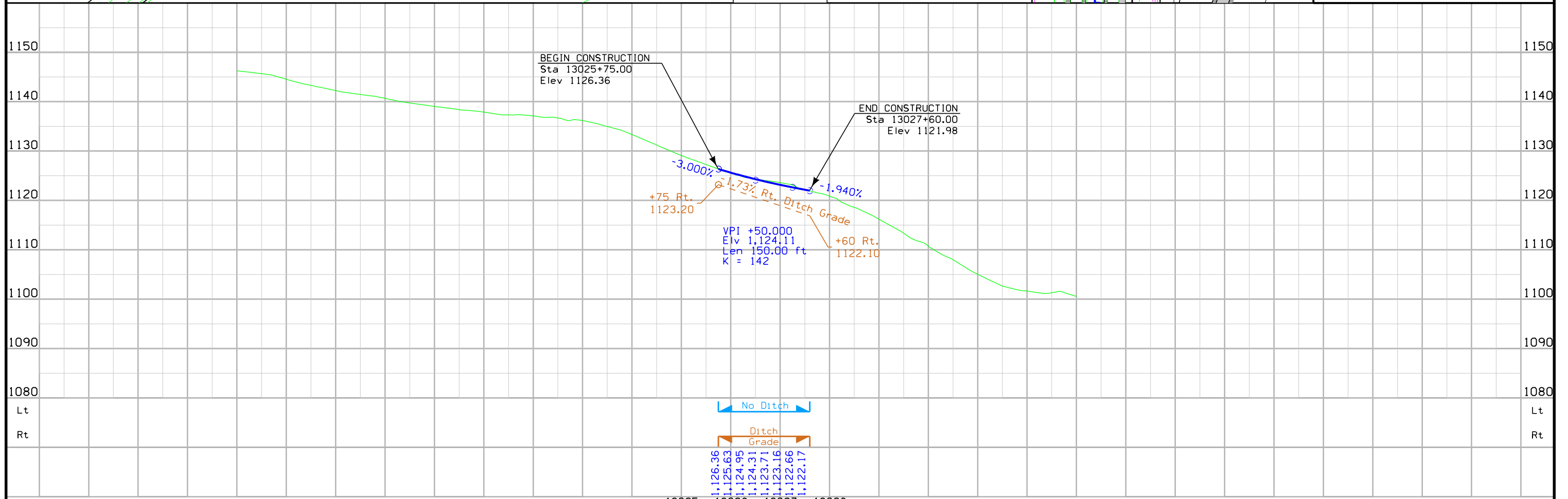
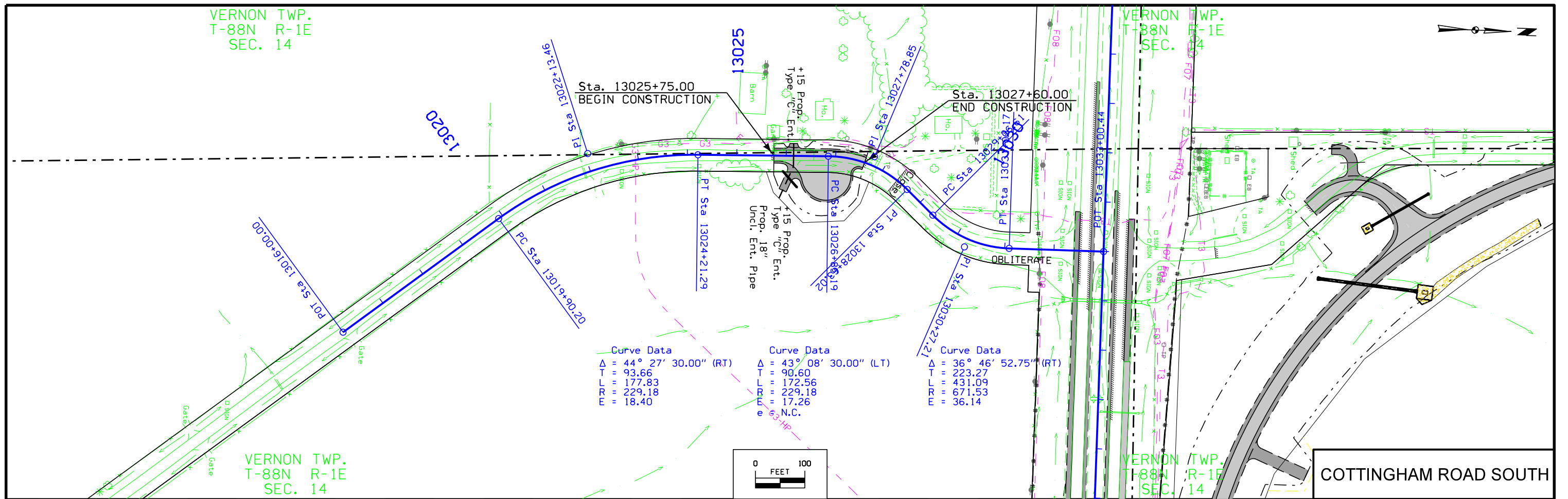
Sta. 12002+80  
 Install 54" x 80' DR-601  
 Skew = 4 ° Rt. Ahd.  
 F.L. = Lt. 820.21  
 F.L. = Rt. 819.46

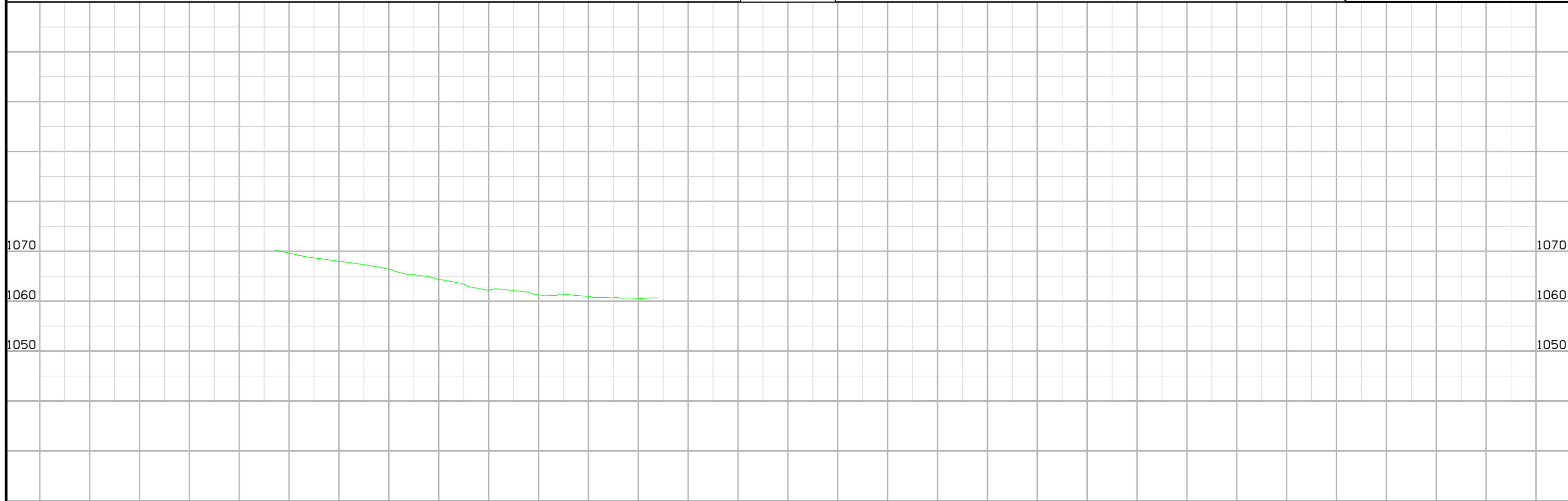
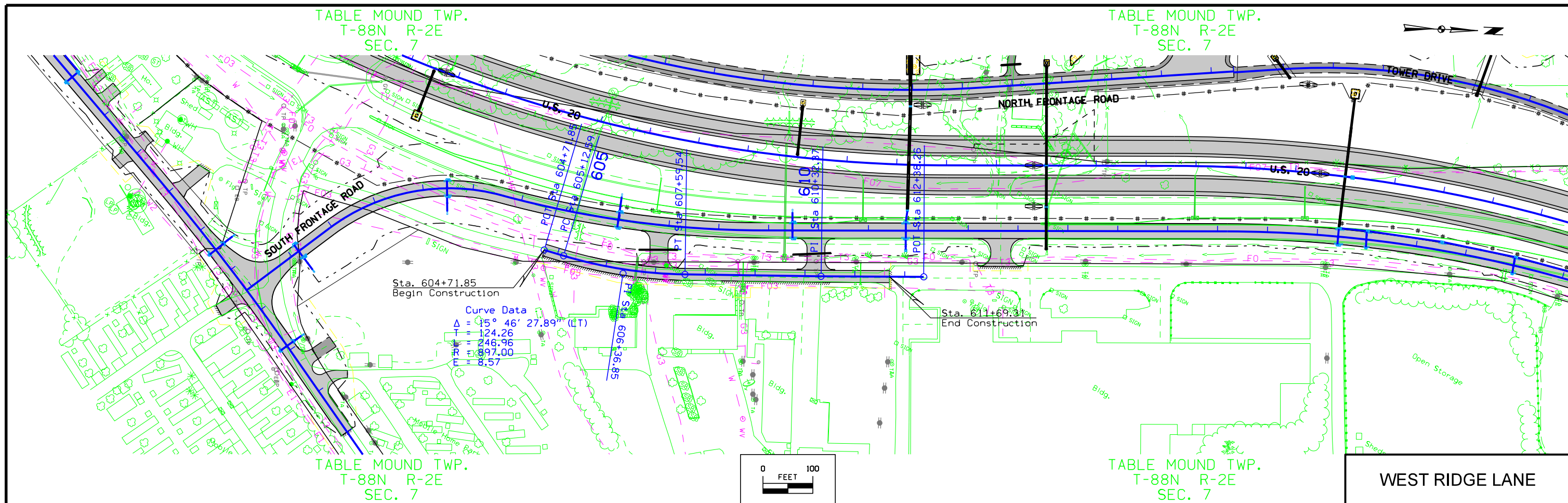
TABLE MOUND TWP.  
 T-88N R-2E  
 SEC. 6

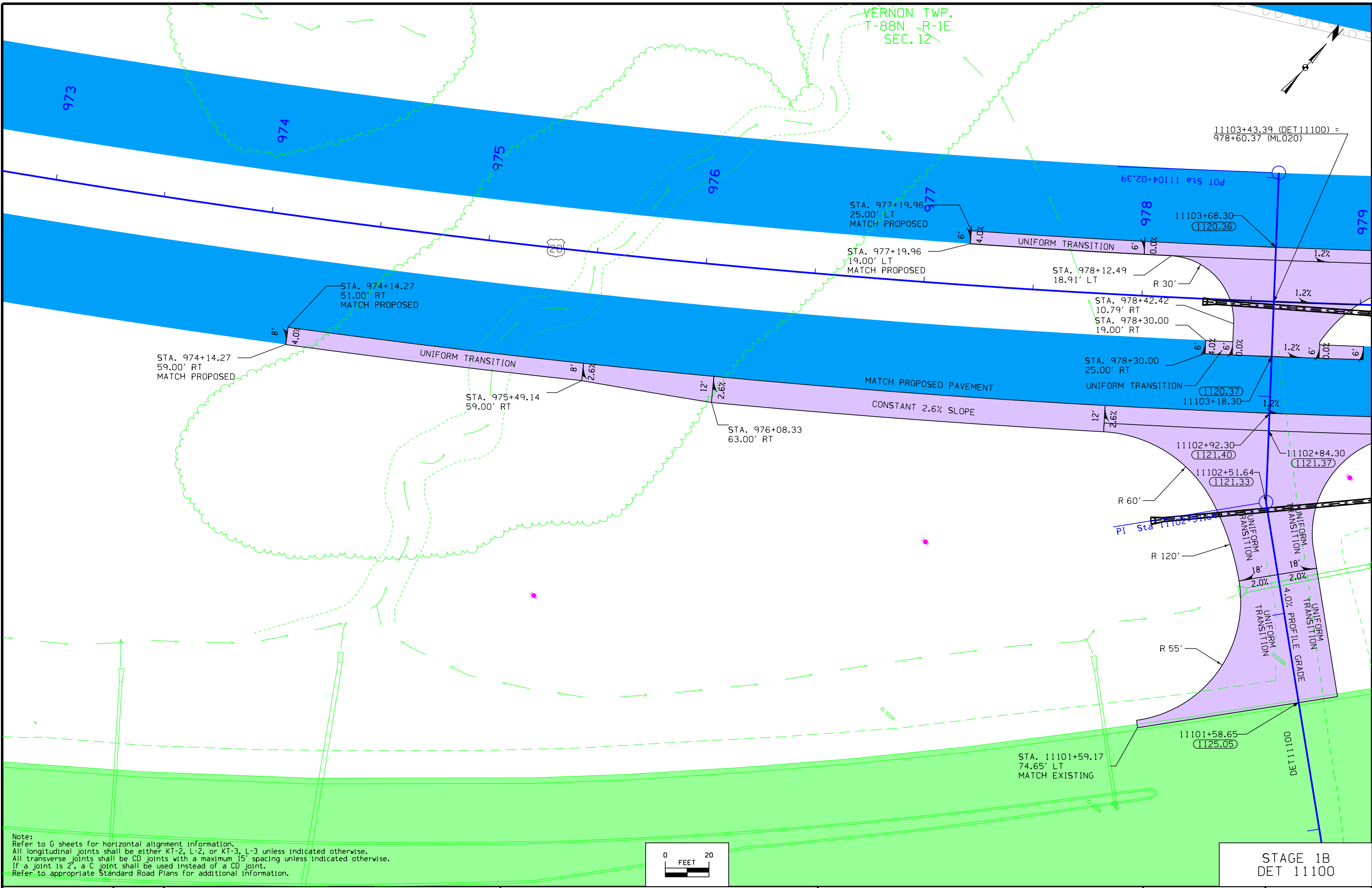
Sta. 12018+50  
 Install 36" X 114' DR-653  
 F.L. = Lt. 805.58  
 F.L. = Rt. 793.84  
 Other 805.21  
 Other 793.92











VERNON TWP.  
T-88N R-1E  
SEC. 12

$$11103+43.39 \text{ (DET 11100)} = 978+60.37 \text{ (ML020)}$$

STA. 974+14.27  
51.00' RT  
MATCH PROPOSED

STA. 974+14.27  
59.00' RT  
MATCH PROPOSED

STA. 977+19.96  
25.00' LT  
MATCH PROPOSED

STA. 977+19.96  
19.00' LT  
MATCH PROPOSED

STA. 978+12.49  
18.91' LT

STA. 978+42.42  
10.79' RT

STA. 978+30.00  
19.00' RT

STA. 978+30.00  
25.00' RT

STA. 975+49.14  
59.00' RT

STA. 976+08.33  
63.00' RT

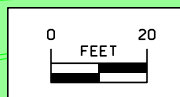
11102+92.30  
(1121.40)

11102+51.64  
(1121.33)

11102+84.30  
(1121.37)

STA. 11101+59.17  
74.65' LT  
MATCH EXISTING

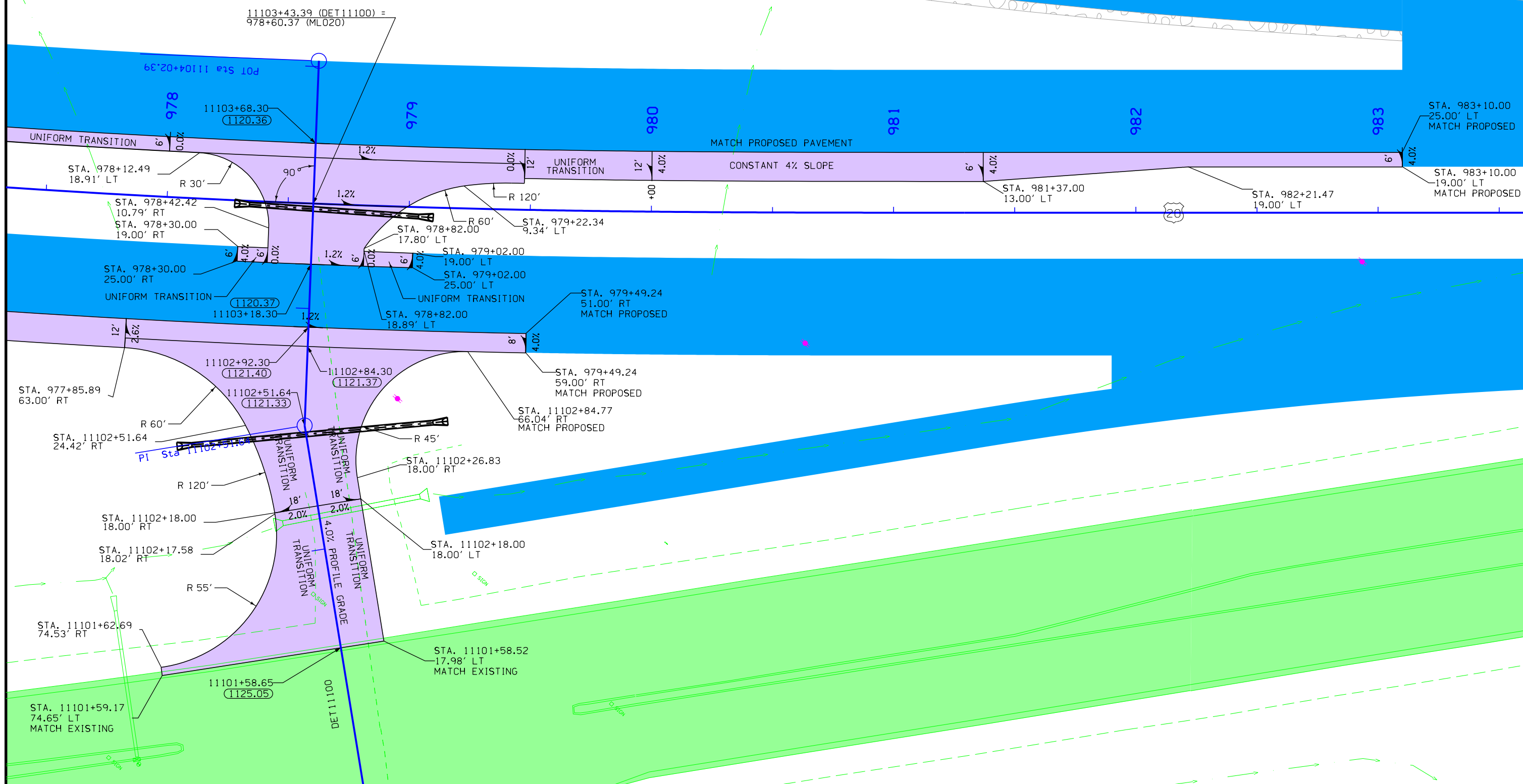
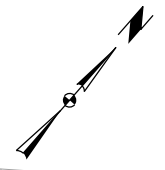
Note:  
Refer to G sheets for horizontal alignment information.  
All longitudinal joints shall be either KT-2, L-2, or KT-3, L-3 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 15' spacing unless indicated otherwise.  
If a joint is 2', a C joint shall be used instead of a CD joint.  
Refer to appropriate Standard Road Plans for additional information.



STAGE 1B  
DET 11100

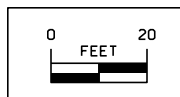
Sta. 11103+41.16  
 Install 18" x 70' DR-651  
 Skew = 2° Lt. Ahd.  
 Lt. 1117.96  
 Rt. 1117.39

VERNON TWP.  
 T-88N R-1E  
 SEC. 12



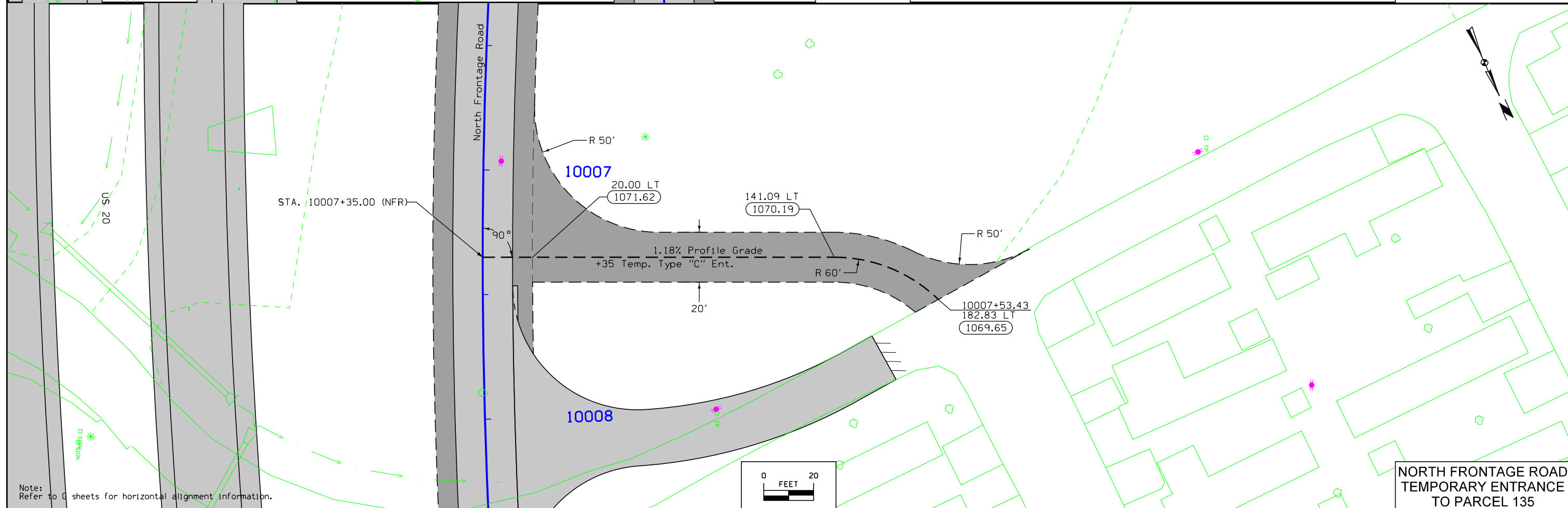
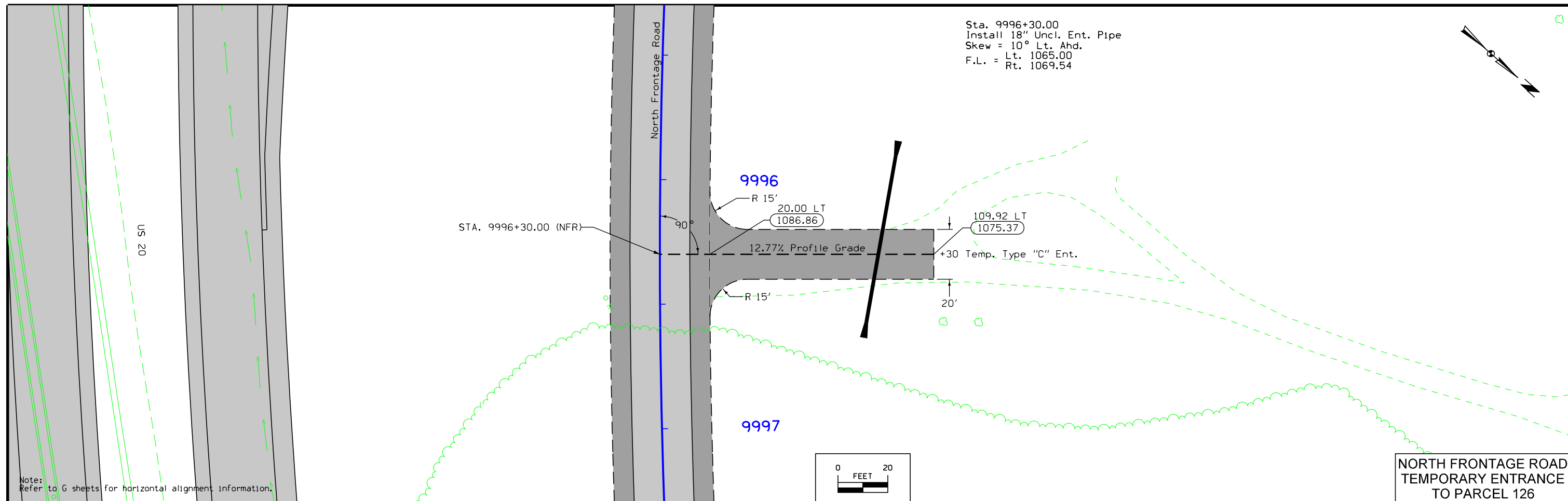
Note:  
 Refer to G sheets for horizontal alignment information.  
 All longitudinal joints shall be either KT-2, L-2, or KT-3, L-3 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 15' spacing unless indicated otherwise.  
 If a joint is 2', a C joint shall be used instead of a CD joint.  
 Refer to appropriate Standard Road Plans for additional information.

Sta. 11102+47.93  
 Install 18" x 100' DR-651  
 Skew = 4° Lt. Ahd.  
 Lt. 1115.01  
 Rt. 1115.16



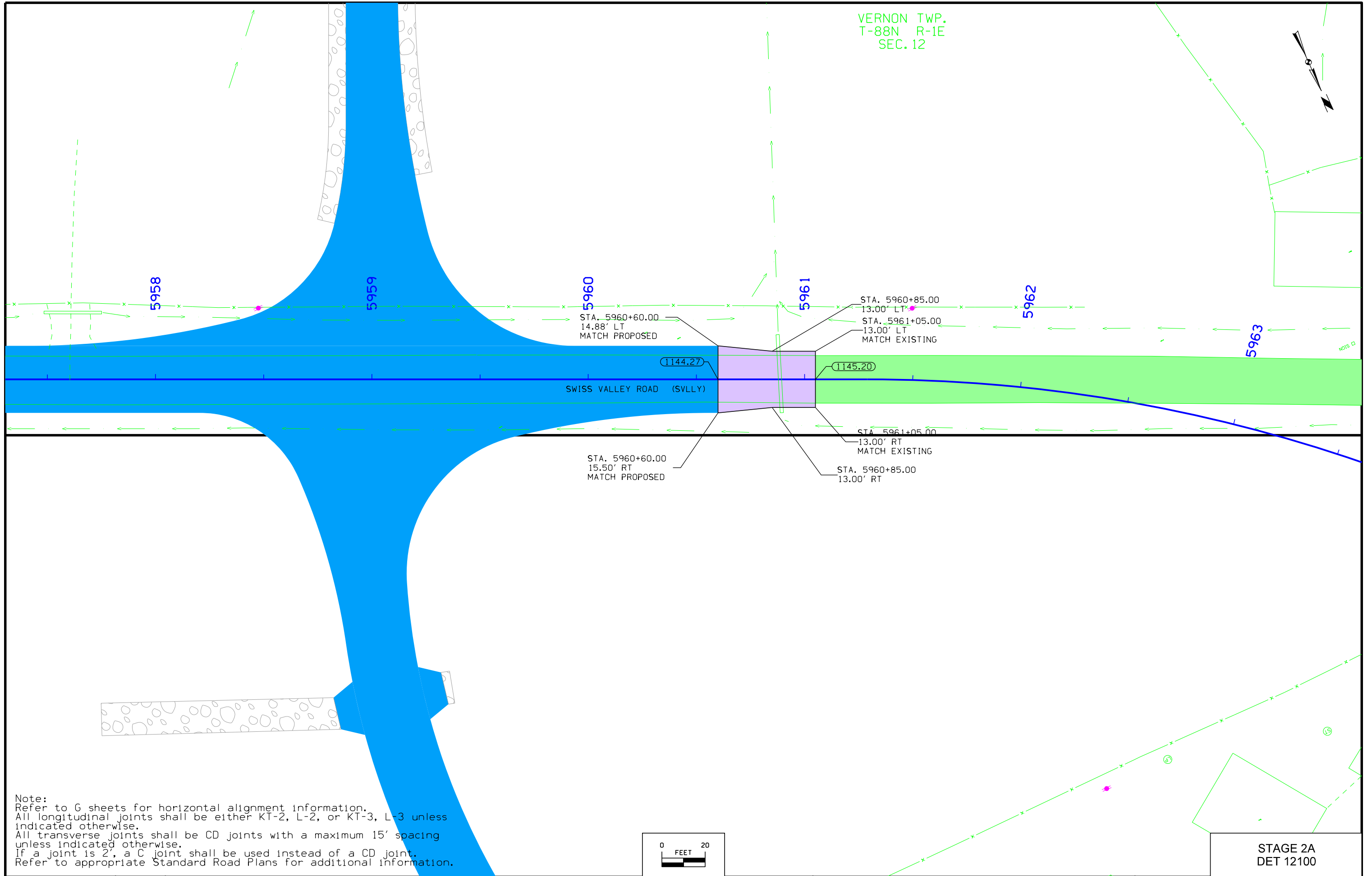
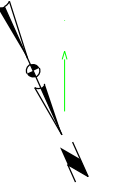
STAGE 1B  
 DET 11100



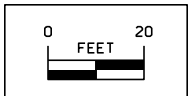




VERNON TWP.  
T-88N R-1E  
SEC. 12



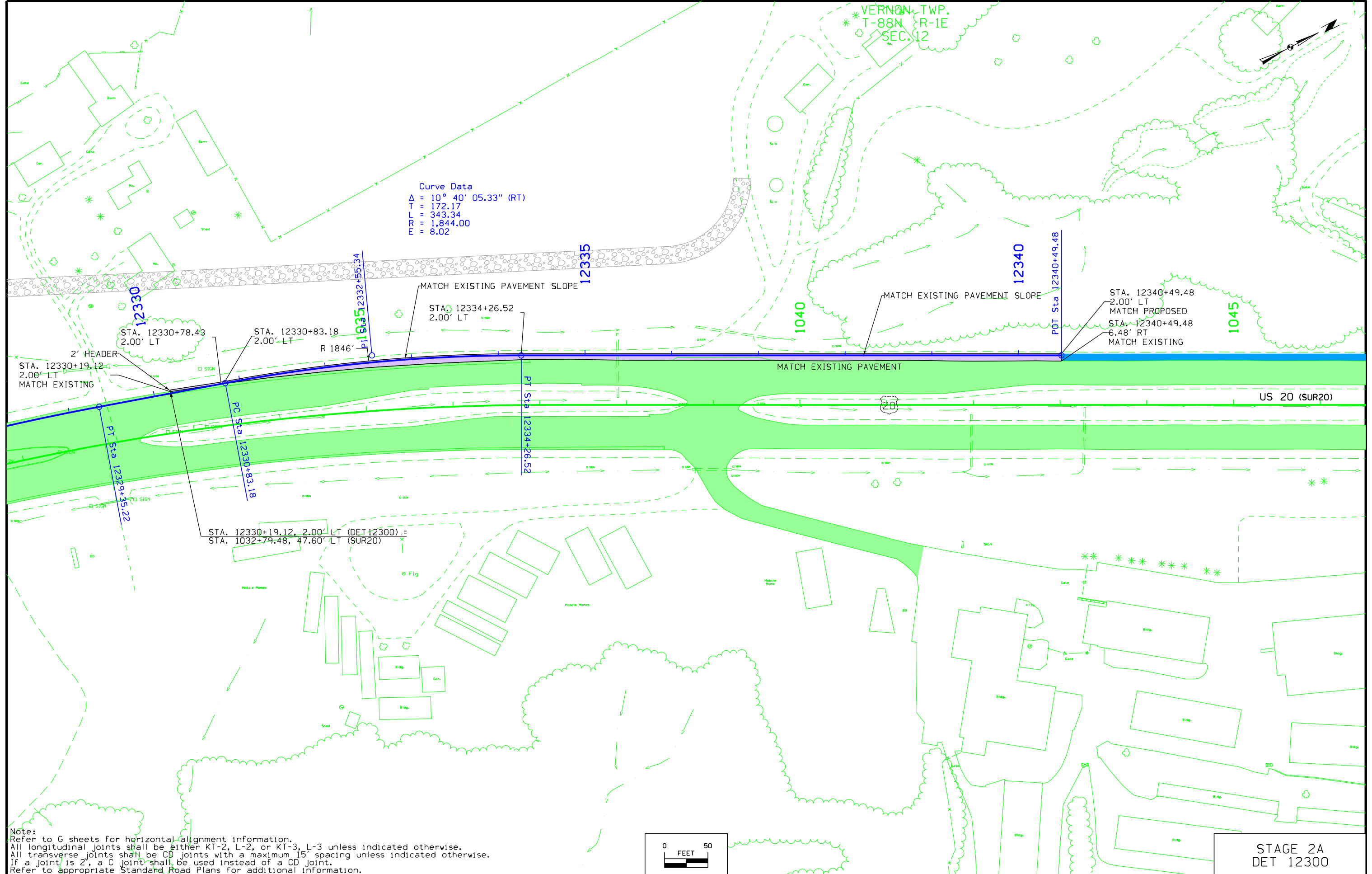
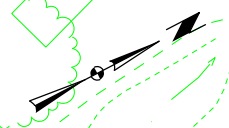
Note:  
Refer to G sheets for horizontal alignment information.  
All longitudinal joints shall be either KT-2, L-2, or KT-3, L-3 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 15' spacing unless indicated otherwise.  
If a joint is 2', a C joint shall be used instead of a CD joint.  
Refer to appropriate Standard Road Plans for additional information.



STAGE 2A  
DET 12100

Curve Data  
 $\Delta = 10^\circ 40' 05.33''$  (RT)  
 T = 172.17  
 L = 343.34  
 R = 1,844.00  
 E = 8.02

VERNON, TWP.  
 T-88N R-1E  
 SEC. 12



STA. 12330+19.12  
 2.00' LT  
 MATCH EXISTING

2' HEADER

STA. 12330+78.43  
 2.00' LT

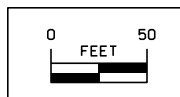
STA. 12330+83.18  
 2.00' LT

STA. 12330+19.12, 2.00' LT (DET12300) =  
 STA. 1032+79.48, 47.60' LT (SUR20)

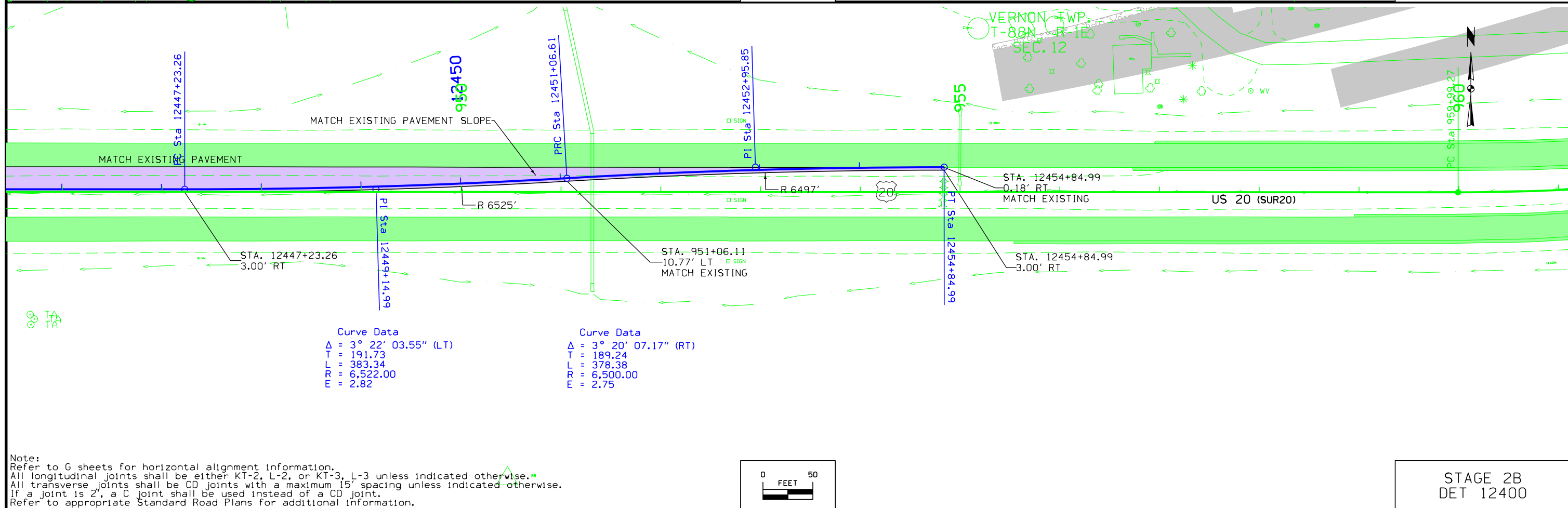
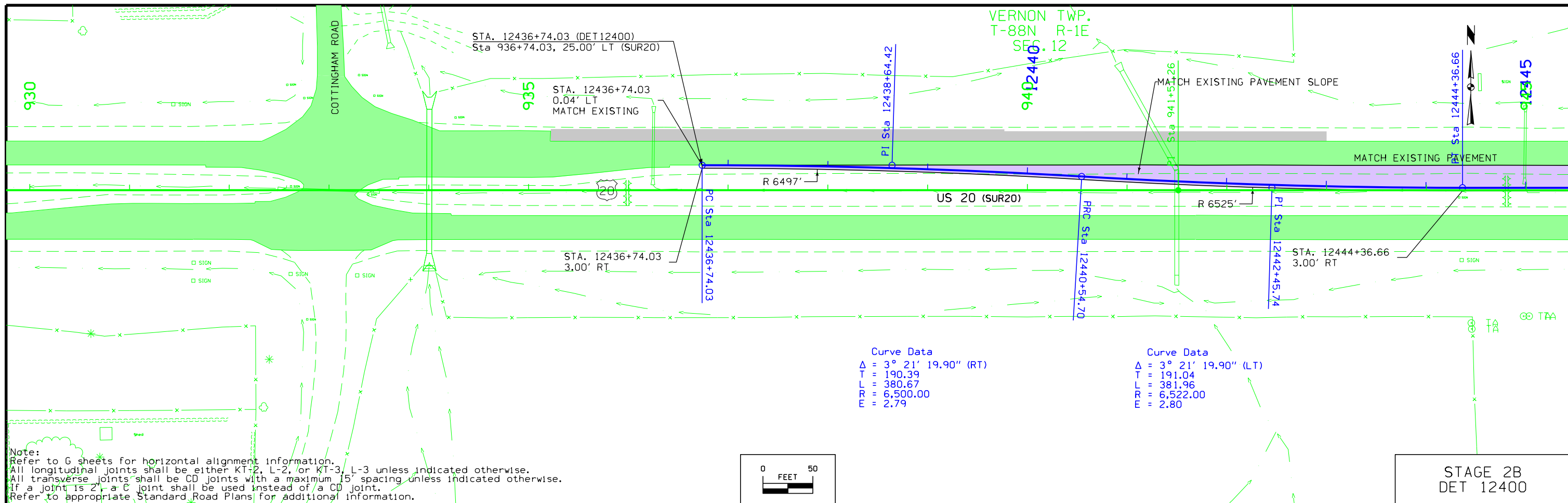
STA. 12340+49.48  
 2.00' LT  
 MATCH PROPOSED

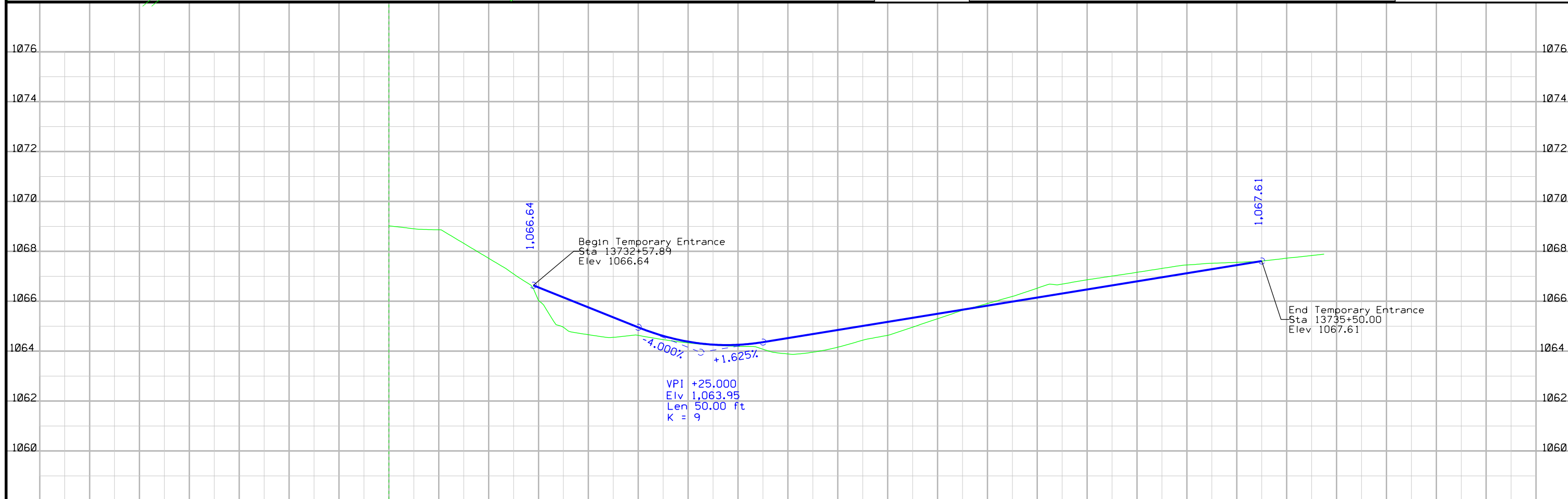
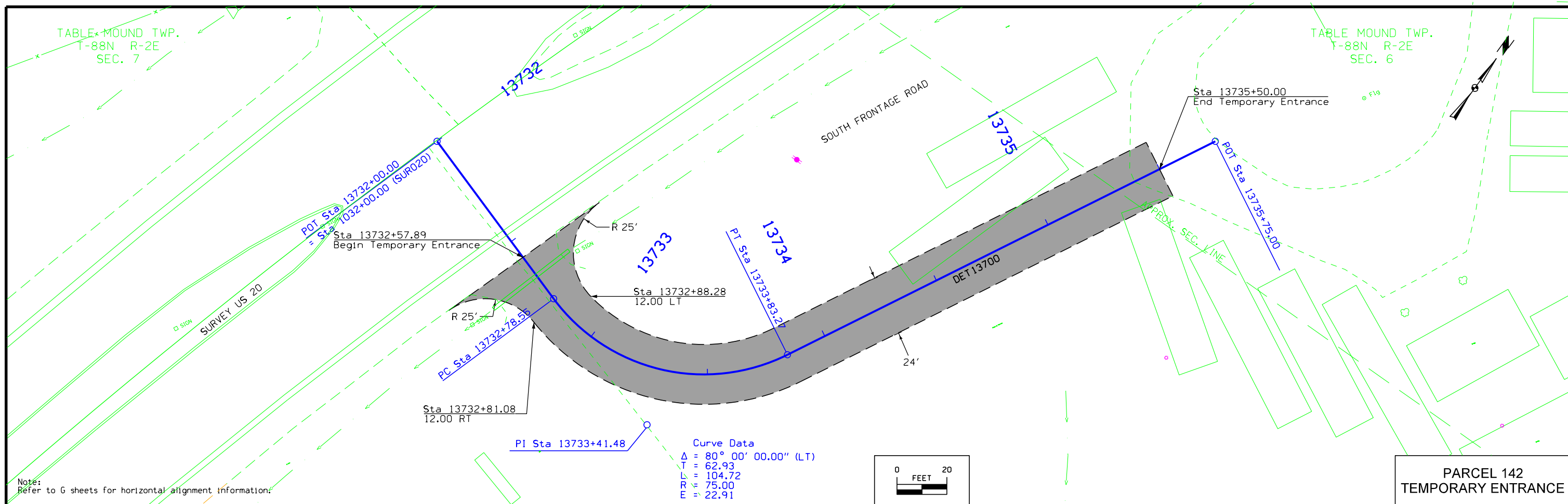
STA. 12340+49.48  
 6.48' RT  
 MATCH EXISTING

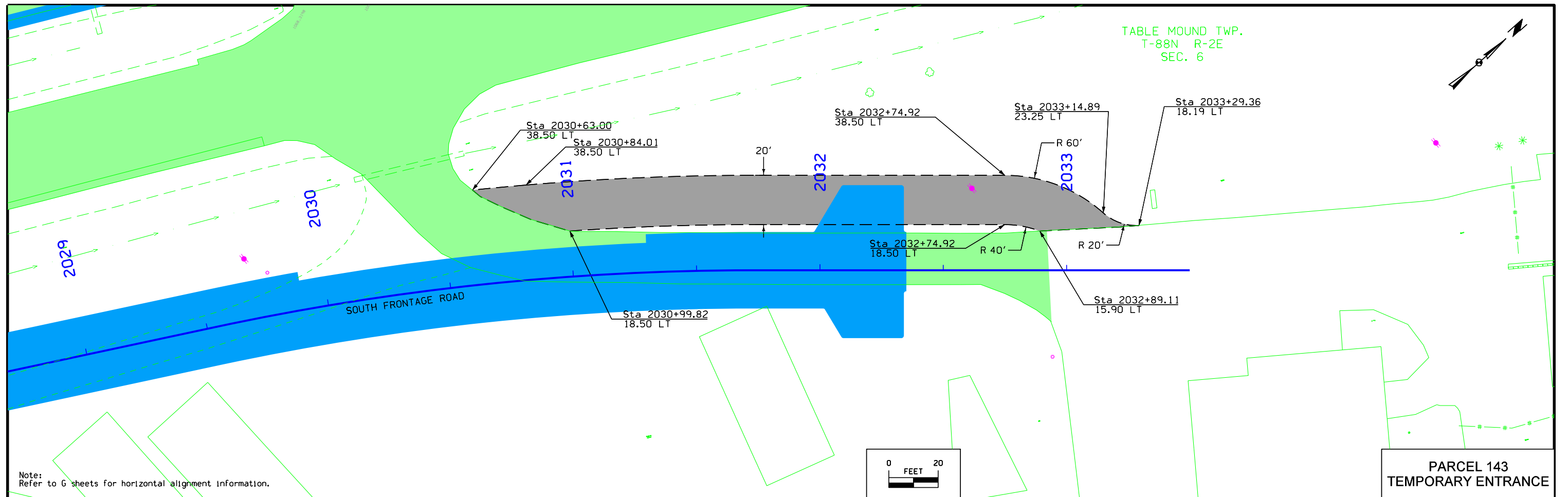
Note:  
 Refer to G sheets for horizontal alignment information.  
 All longitudinal joints shall be either KT-2, L-2, or KT-3, L-3 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 15' spacing unless indicated otherwise.  
 If a joint is 2', a C joint shall be used instead of a CD joint.  
 Refer to appropriate Standard Road Plans for additional information.



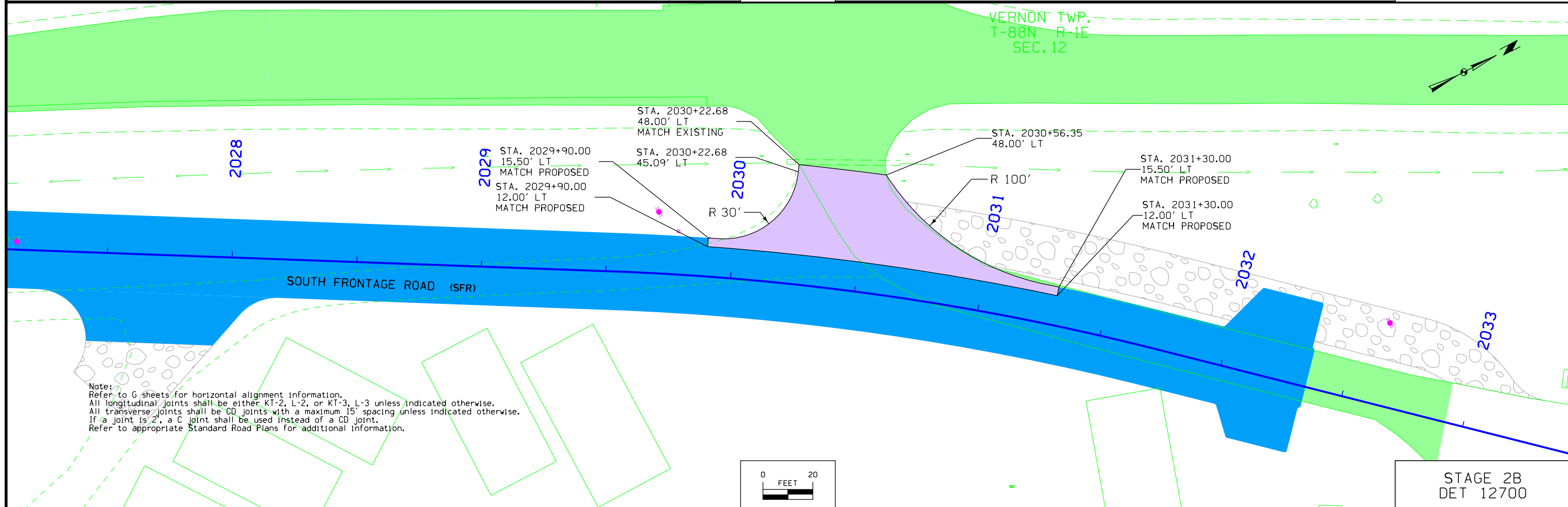
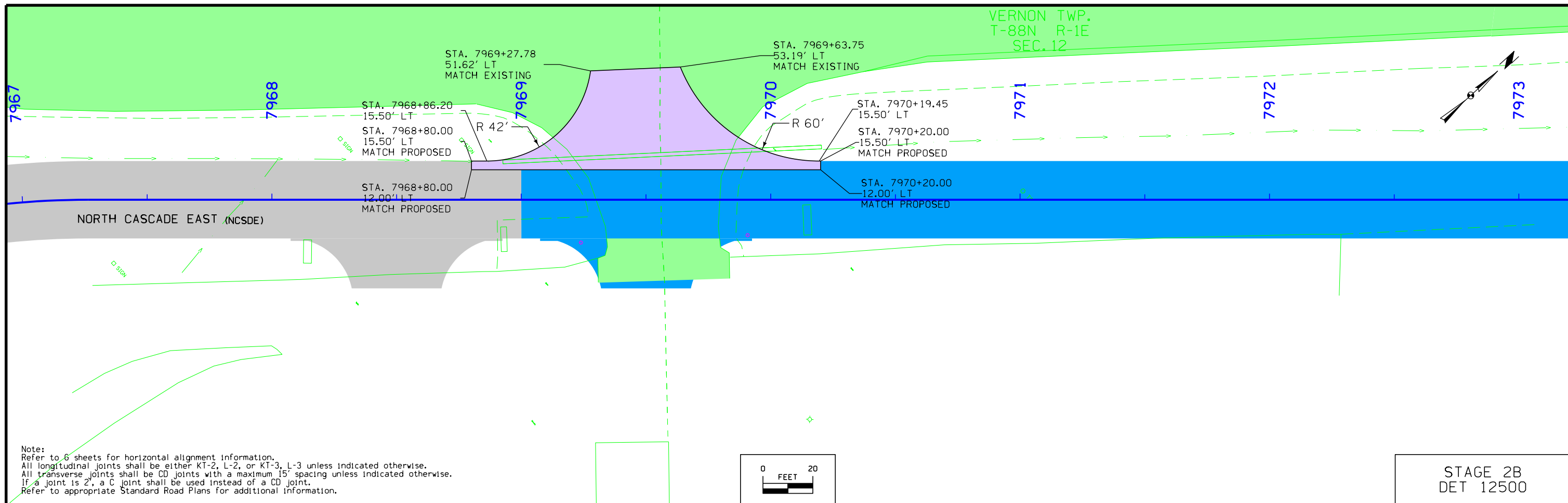
STAGE 2A  
 DET 12300

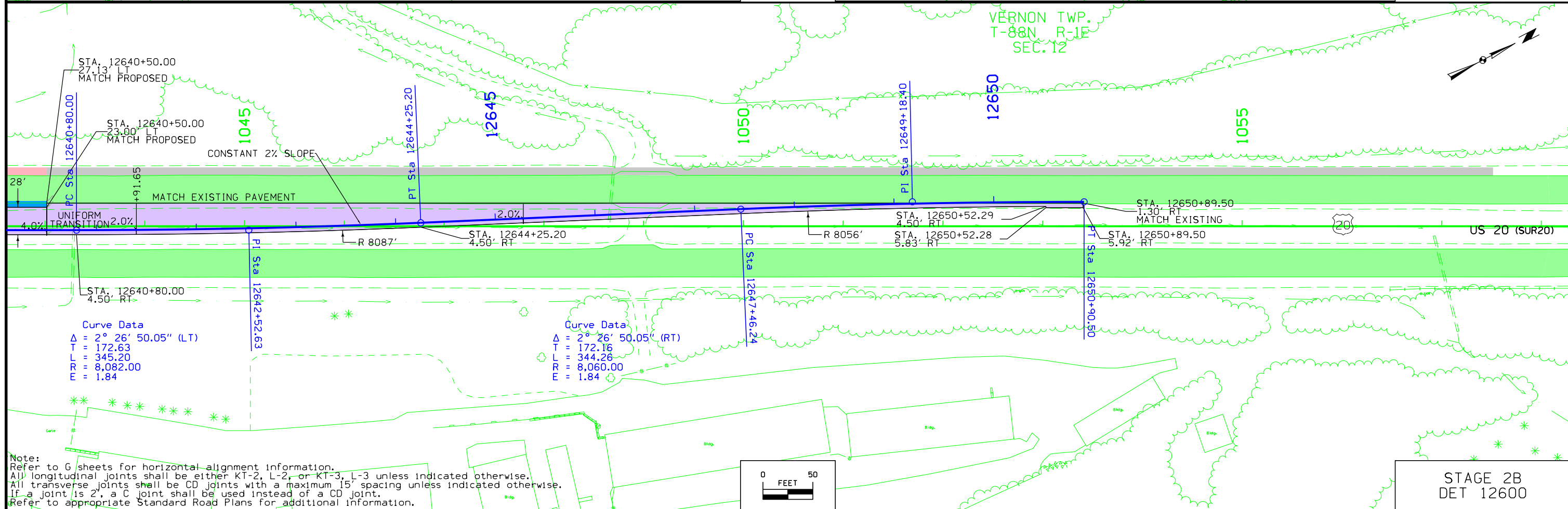
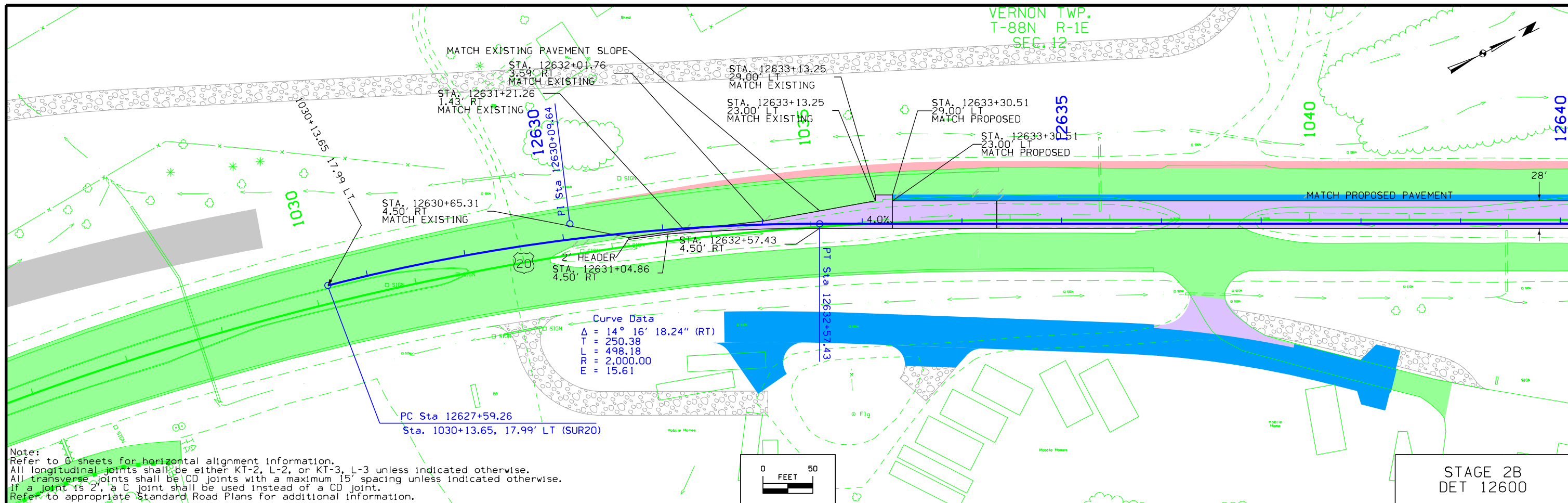


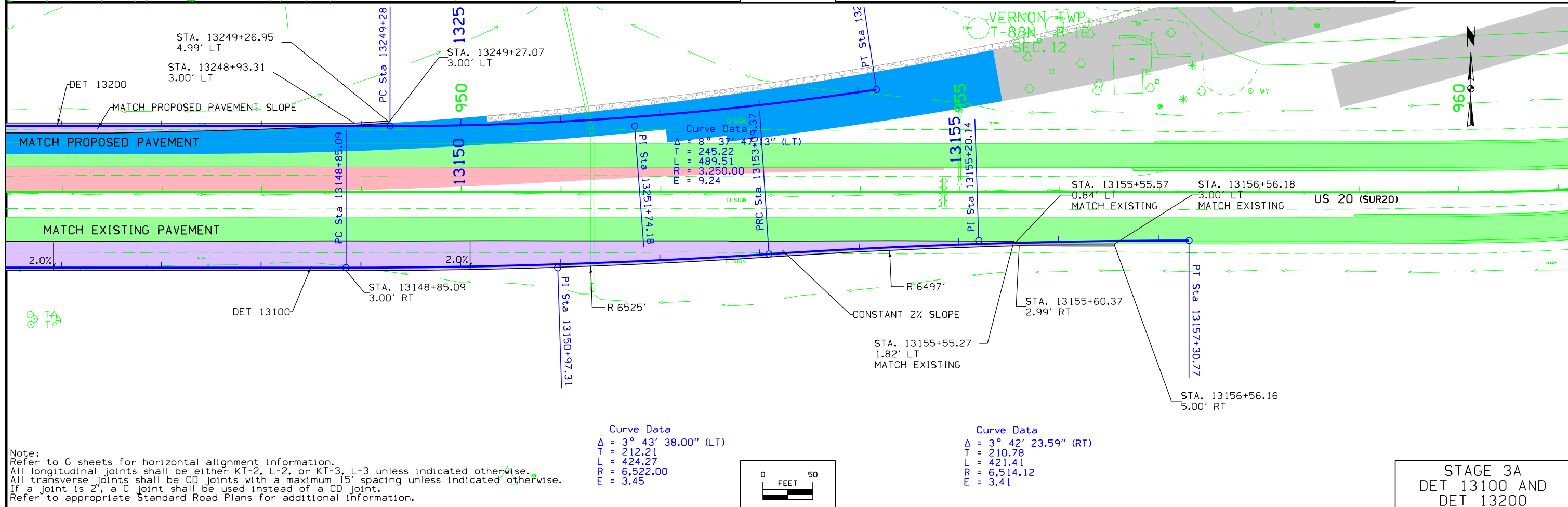
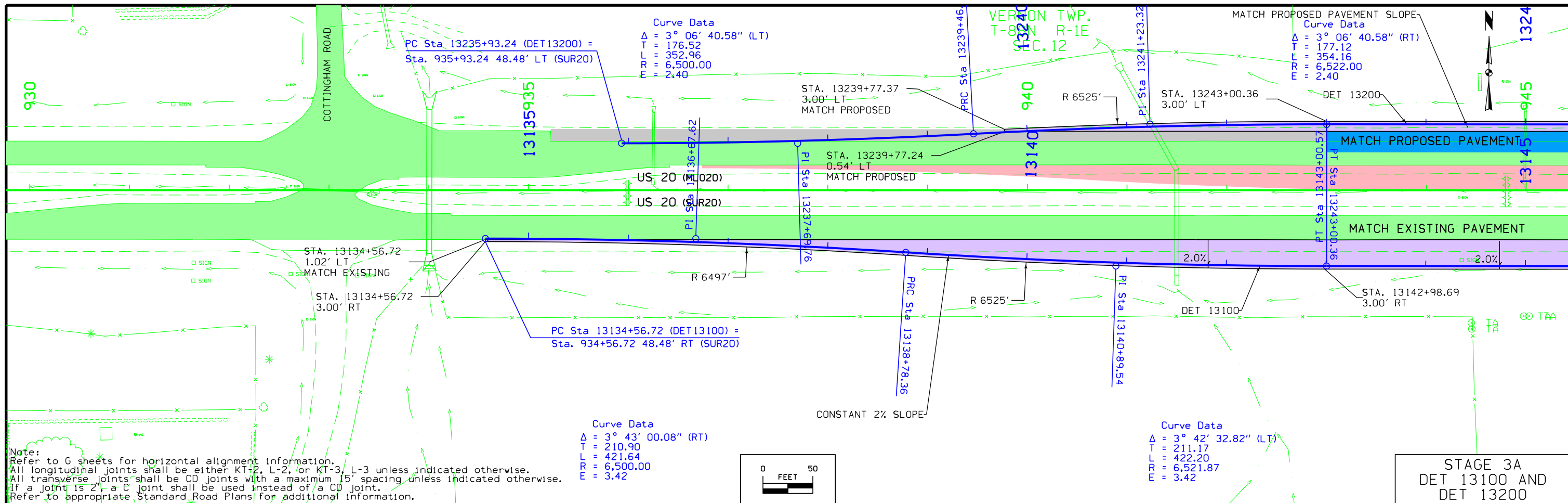


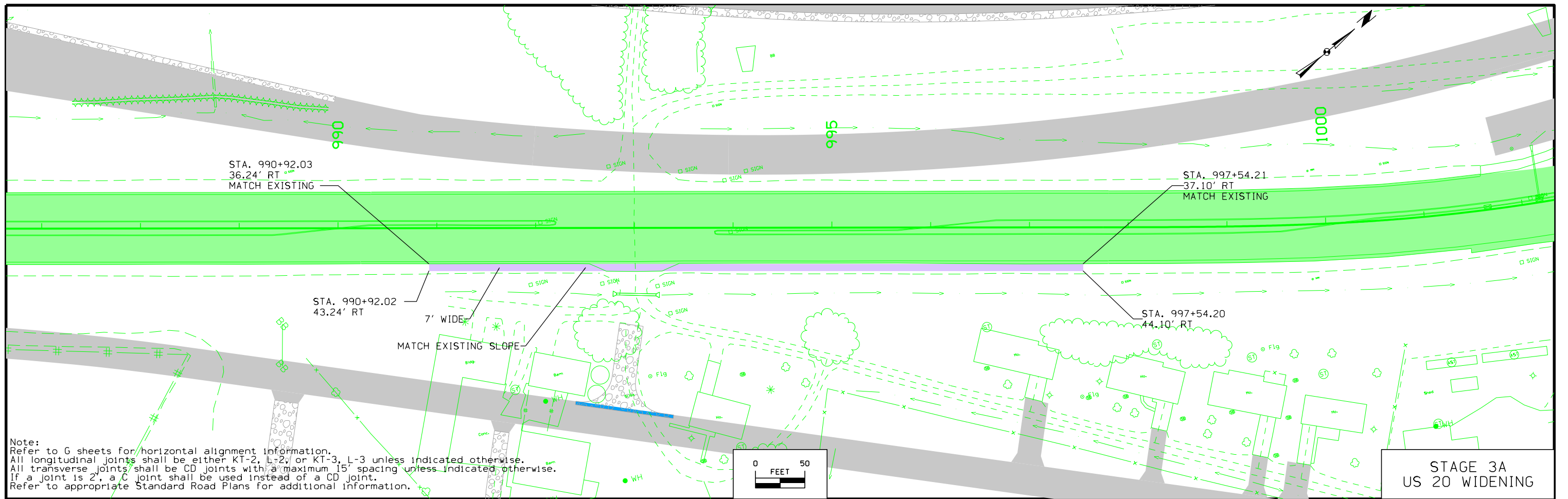








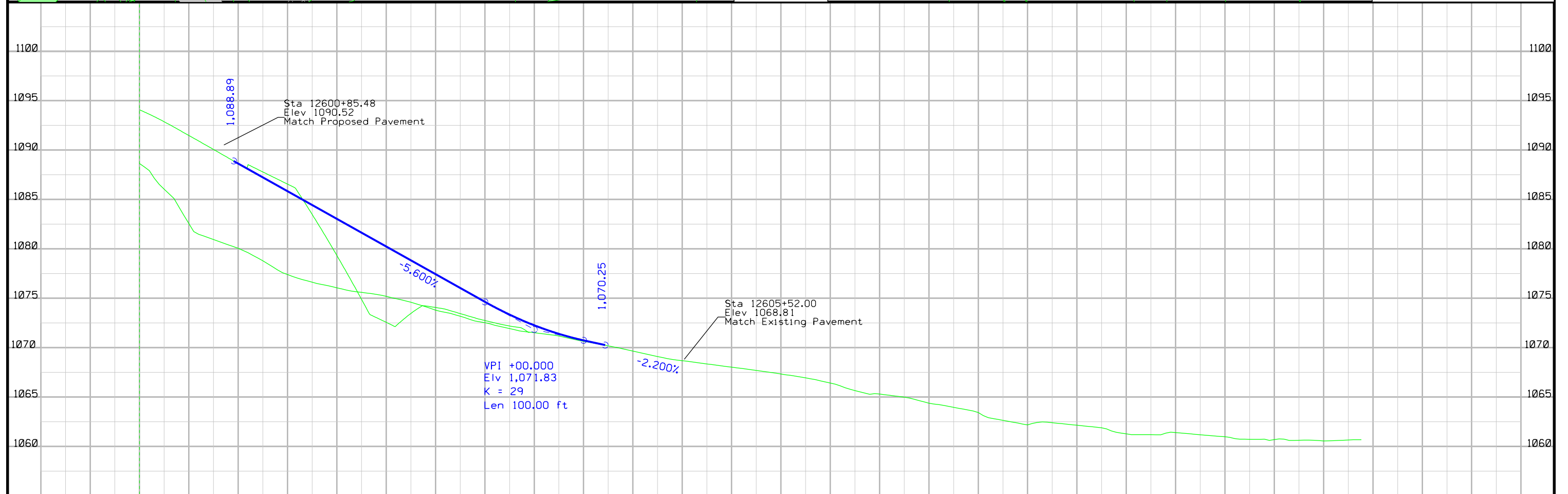
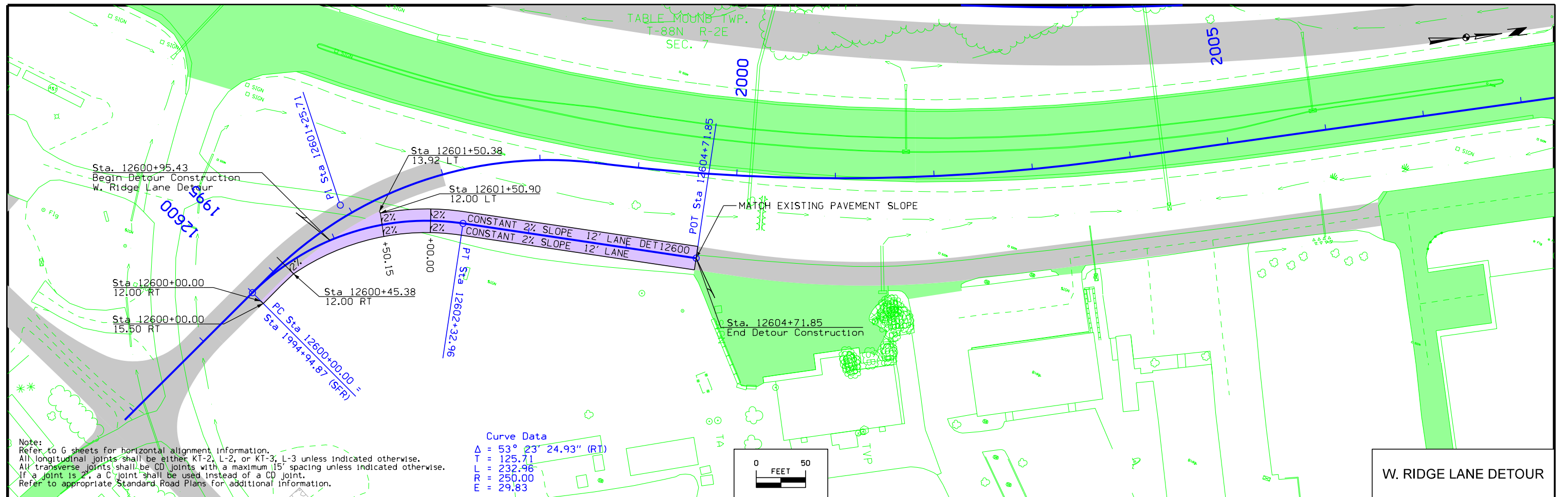




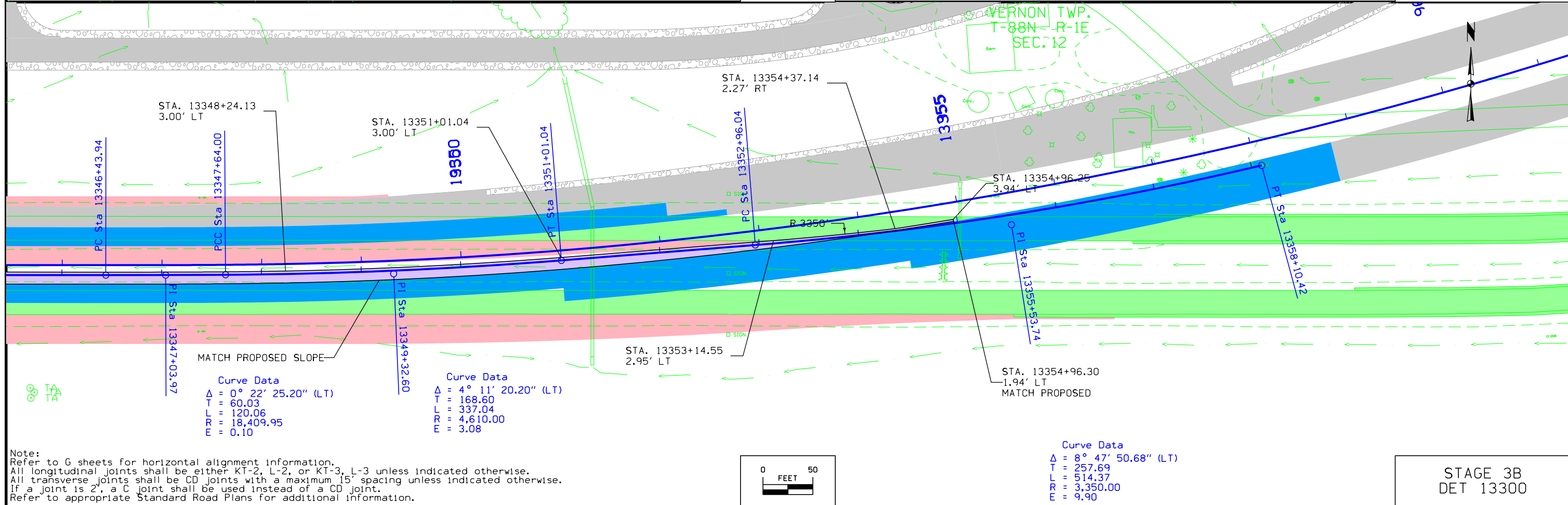
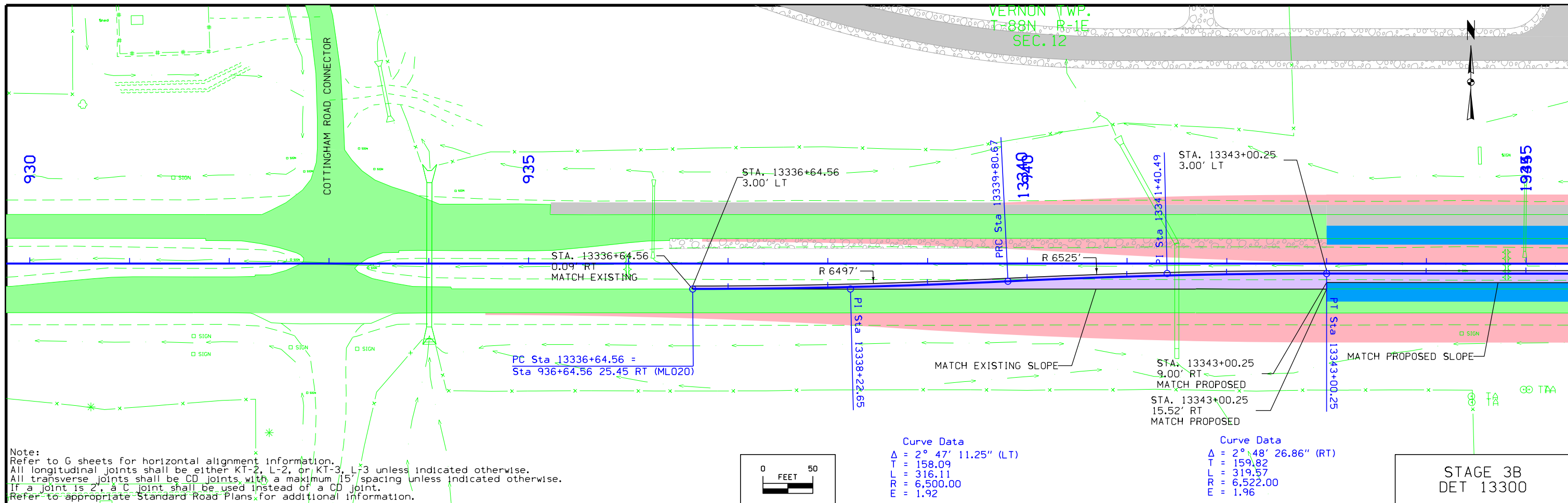
Note:  
 Refer to G sheets for horizontal alignment information.  
 All longitudinal joints shall be either KT-2, L-2, or KT-3, L-3 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 15' spacing unless indicated otherwise.  
 If a joint is 2', a C joint shall be used instead of a CD joint.  
 Refer to appropriate Standard Road Plans for additional information.

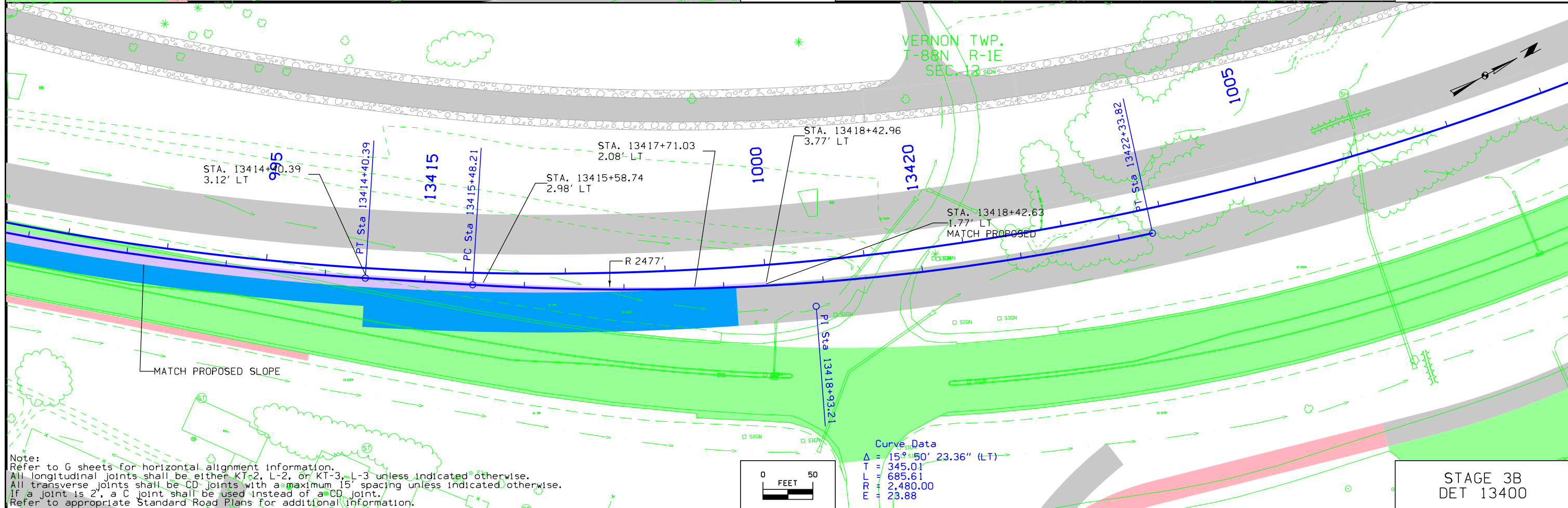
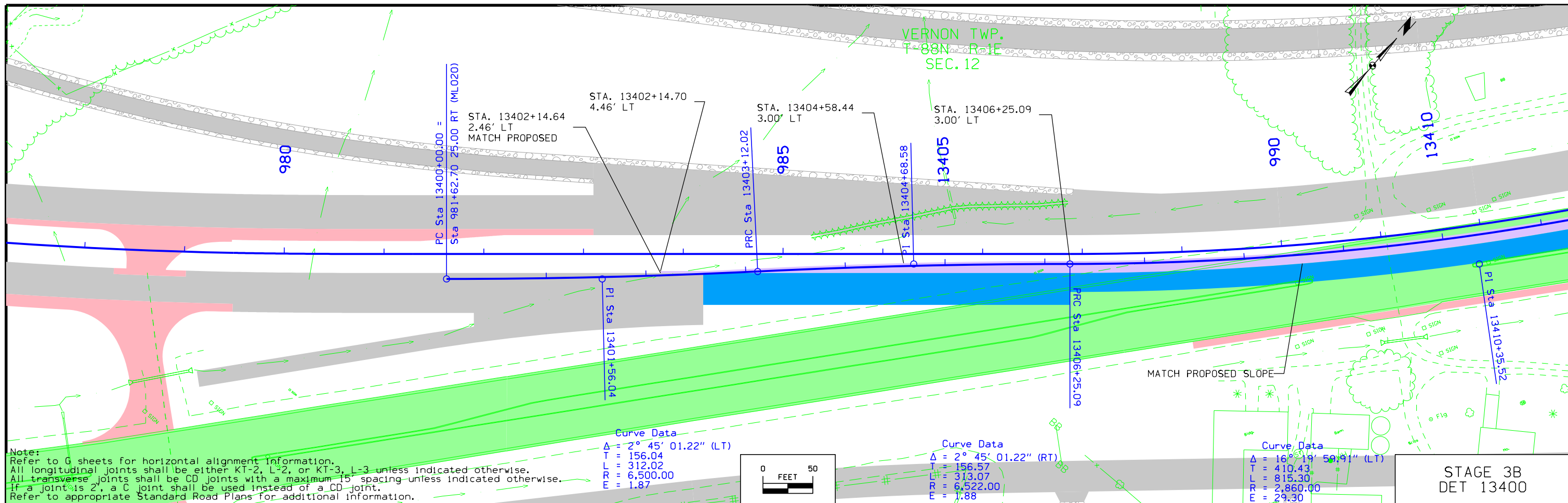
STAGE 3A  
 US 20 WIDENING

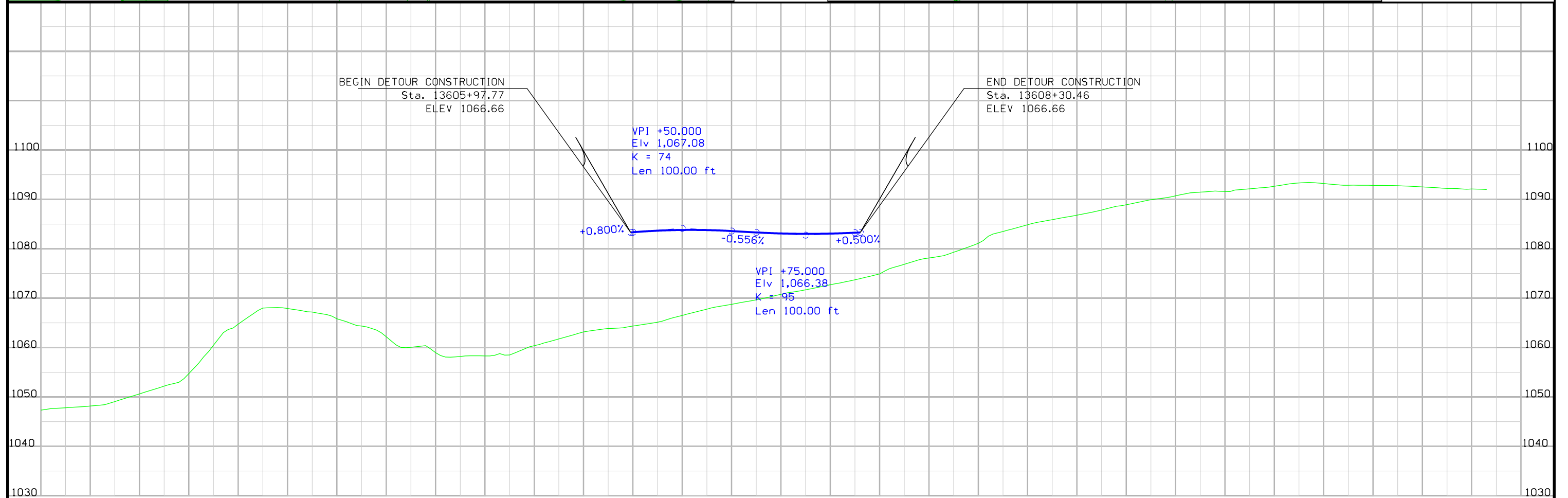
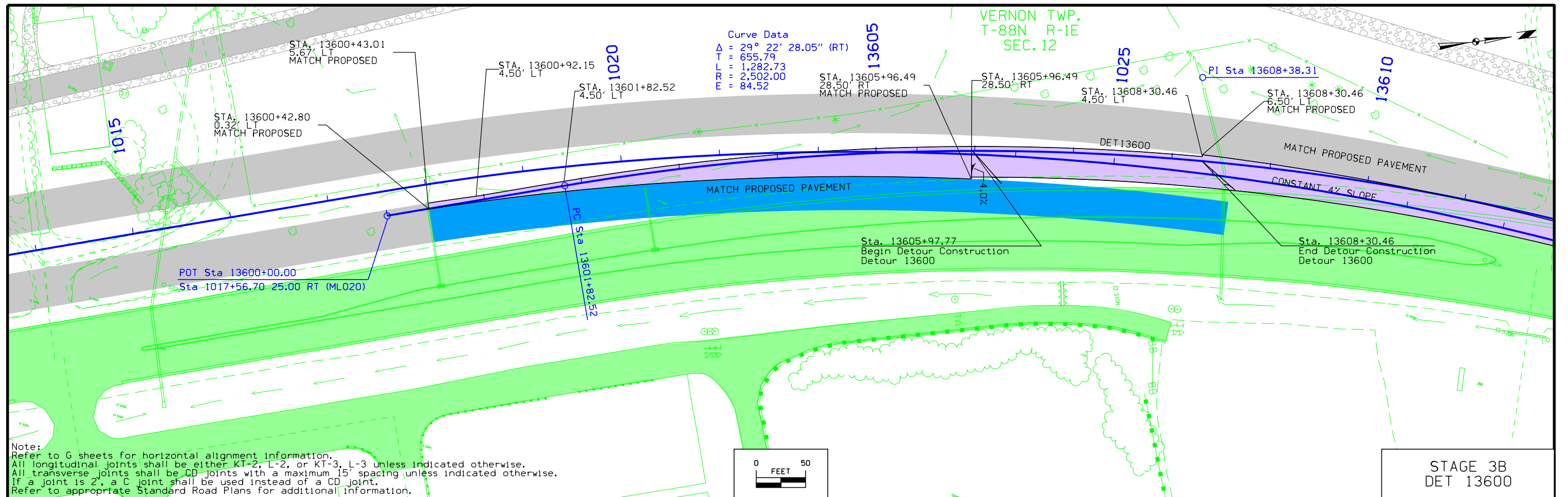




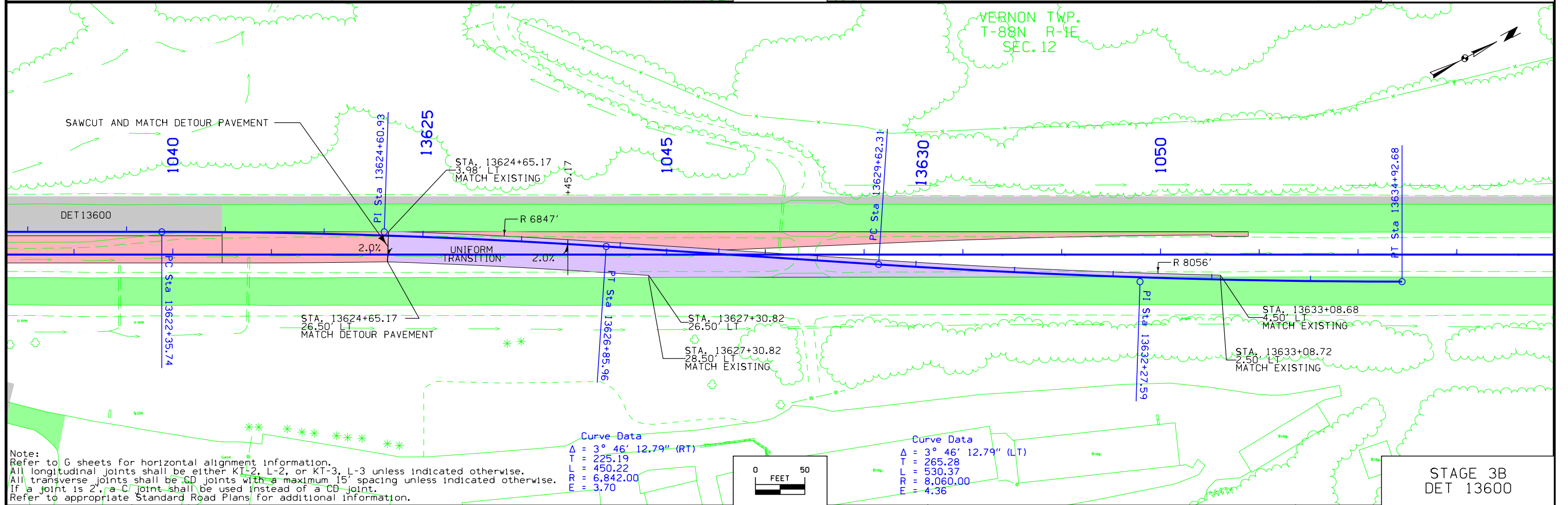
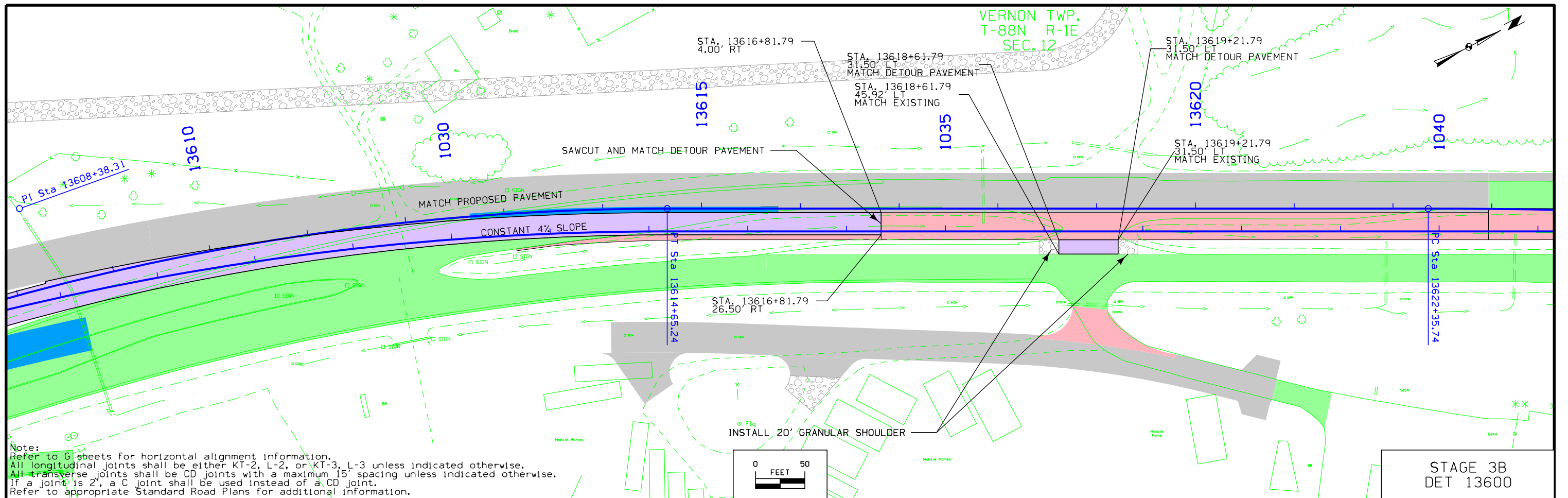












BENCH CONTROL

This survey is relative to the NAVD88 vertical datum. A three wire bench level loop was run from the beginning to the end of the project. An automatic engineer's level and three-section Philadelphia level rod was used. The bench loop originated and closed on project benchmark #501. This is benchmark #501 from the 1994 Iowa DOT US 20 Survey SAP# 331 NHS-20-9(121)--19-31. The elevation of 325.038 meters was converted to 1066.395 feet for this survey.

The bench loop followed the corridor of the 1987 US 20 P.C.C. Paving (Grading) As-built plans F-20-9(72)--20-31 and the 1986 US 20 Grading P.C.C. Paving (& A.C.C Resurfacing) plans F-20-9(65)--20-31.

The datum plane for the above plans is indicated as "U.S.C. & G.S." The bench loop included 11 benchmarks recovered from the 1987 plans with the elevation differences ranging from 11.39 feet to 11.45 feet higher than this survey and averaging 11.43 feet higher than this survey. The bench loop included 2 benchmarks recovered from the 1986 plans with the elevation differences being 0.01 feet higher and 0.04 feet higher than this survey.

Vertical equations to the Project Benchmarks and other benches along this survey are as follows:

|             |                                      |                             |
|-------------|--------------------------------------|-----------------------------|
| BM # 600    | This survey                          | EL=1001.10                  |
| = BM # 106A | 1987 As-Built Plan F-20-9(72)-20-31  | EL=1012.55                  |
| BM # 601    | This survey                          | EL=997.22                   |
| = BM # 107B | 1987 As-Built Plan F-20-9(72)-20-31  | EL=1008.61                  |
| BM # 602    | This survey                          | EL=1051.59                  |
| = BM # 108G | 1987 As-Built Plan F-20-9(72)-20-31  | EL=1062.99                  |
| BM # 603    | This survey                          | EL=1016.48                  |
| = BM # 109B | 1987 As-Built Plan F-20-9(72)-20-31  | EL=1027.98                  |
| BM # 606    | This survey                          | EL=1027.31                  |
| = BM # 112  | 1987 As-Built Plan F-20-9(72)-20-31  | EL=1038.76                  |
| BM # 608    | This survey                          | EL=1044.33                  |
| = BM # 114  | 1987 As-Built Plan F-20-9(72)-20-31  | EL=1055.77                  |
| BM # 611    | This survey                          | EL=1082.32                  |
| = BM # 116B | 1987 As-Built Plan F-20-9(72)-20-31  | EL=1093.71                  |
| BM # 613    | This survey                          | EL=1049.88                  |
| = BM # 118  | 1987 As-Built Plan F-20-9(72)-20-31  | EL=1061.27                  |
| BM # 615    | This survey                          | EL=1102.92                  |
| = BM # 119  | 1987 As-Built Plan F-20-9(72)-20-31  | EL=1114.35                  |
| BM # 616    | This survey                          | EL=1106.82                  |
| = BM # 120  | 1987 As-Built Plan F-20-9(72)-20-31  | EL=1118.26                  |
| BM # 617    | This survey                          | EL=1122.01                  |
| = BM # 121  | 1987 As-Built Plan F-20-9(72)-20-31  | EL=1133.46                  |
| BM # 625    | This survey                          | EL=1060.18                  |
| = BM # 2    | 1986 Paving Plans F-20-9(65)-20-31   | EL=1060.22                  |
| BM # 501    | This survey                          | EL=1066.40                  |
| = BM # 118  | 1986 Paving Plans F-20-9(65)-20-31   | EL=1066.41                  |
| = BM # 501  | 1994 DOT Survey NHS-20-9(121)--19-31 | EL=1066.40 (325.038 meters) |

DENSIFICATION OF PROJECT CONTROL

The purpose of this portion of the survey was to retrace the as-built mainline horizontal alignment of U.S. 20 from the Peosta Iowa interchange to the westerly terminus of the 1994 Iowa DOT US 20 Survey SAP# 331 NHS-20-9(121)--19-31.

This survey is in English units and the horizontal datum is the 2000 Iowa DOT Local Project Plane.

The 1987 US 20 P.C.C. Paving (Grading) As-Built Plans F-20-9(72)--20-31; the 1986 US 20 Grading P.C.C. Paving (& A.C.C Resurfacing) Plans F-20-9(65)--20-31; and information from the 1994 Iowa DOT US 20 Survey SAP# 331 NHS-20-9(121)--19-31 were used.

BOP stationing started at a found 1/2" rod at POT Sta. 759+82.78 of the 1987 plans and carried forward to the EOP.

The alignment was retraced using found 1/2" rods at POT 759+82.78 and PC 792+99.93 of the F-20-9(72)--20-31 As-Built Plans; and found 1/2" rods at POT 941+51.21 (PI this survey) and PC 959+99.14, found cut "x" in centerline of WBL near PT 979+78.83, a found 1/2" rod near PI 1006+40.88, a found cut "x" near ST 1014+43.49, and found 1/2" rods near PC 1022+20.39 and near PI 1029+64.85 of the F-20-9(65)--20-31 As-Built Plans

Horizontal Equations are as follows:

BOP POT Sta 759+82.78 this survey = POT Sta 759+82.78 F-20-9(72)--20-31 As-Built Plans

PC Sta 793+00.05 this survey = PC Sta 792+99.93 F-20-9(72)--20-31 As-Built Plans

PI Sta 798+75.60 this survey = PI Sta 798+75.48 F-20-9(72)--20-31 As-Built Plans

PT Sta 804+51.04 this survey = (not set in field) = PT Sta 804+50.93 F-20-9(72)--20-31 As-Built Plans

PI Sta 941+51.26 this survey = POT Sta 941+51.21 F-20-9(72)--20-31 As-Built Plans = POT Sta 941+51.21 F-20-9(65)--20-31 Plans.

PC Sta 959+99.27 this survey = PC Sta 959+99.14 F-20-9(65)--20-31 Plans.

PI Sta 970+56.50 this survey = PI Sta 970+57.36 F-20-9(65)--20-31 Plans.

PT Sta 979+76.89 this survey = PT Sta 979+78.83 F-20-9(65)--20-31 Plans.

TS Sta 997+73.61 this survey = TS Sta 997+73.34 F-20-9(65)--20-31 Plans.

SC Sta 1000+73.61 this survey = SC Sta 1000+73.34 F-20-9(65)--20-31 Plans.

PI Sta 1006+23.40 this survey = PI Sta 1006+40.88 F-20-9(65)--20-31 Plans.

CS Sta 1011+43.59 this survey = CS Sta 1011+43.49 F-20-9(65)--20-31 Plans.

ST Sta 1014+43.59 this survey = ST Sta 1014+43.49 F-20-9(65)--20-31 Plans. = PI Sta 309+18.604 (metric) NHS-20-9(121)--19-31 Survey

PC Sta 1022+22.35 this survey = PC Sta 1022+20.58 F-20-9(65)--20-31 Plans.

PI Sta 1029+81.67 this survey = PI Sta 1029+79.71 F-20-9(65)--20-31 Plans.

PT Sta 1037+07.49 this survey = PT Sta 1037+05.36 F-20-9(65)--20-31 Plans.

POT Sta 1154+73.68 this survey

BENCHMARKS

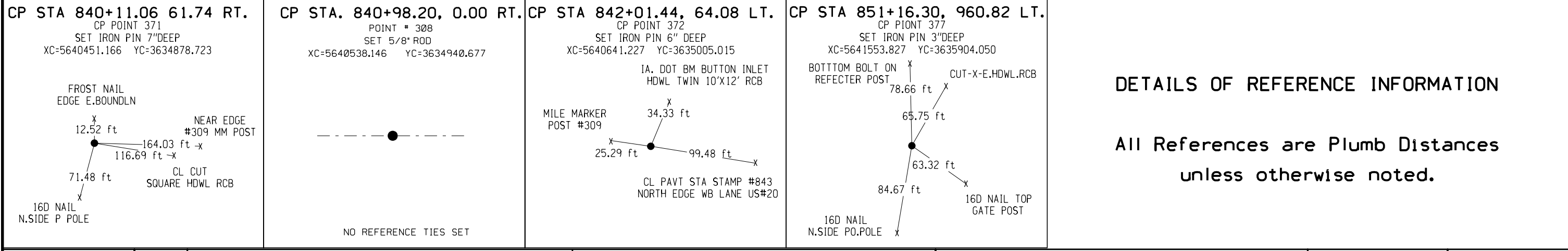
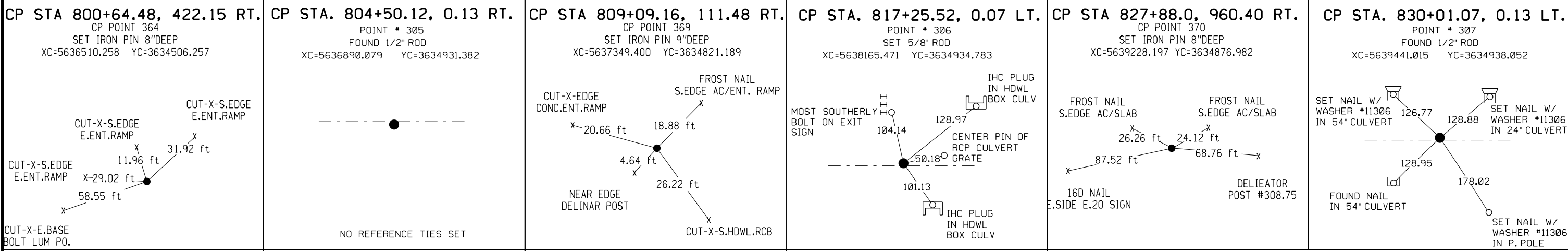
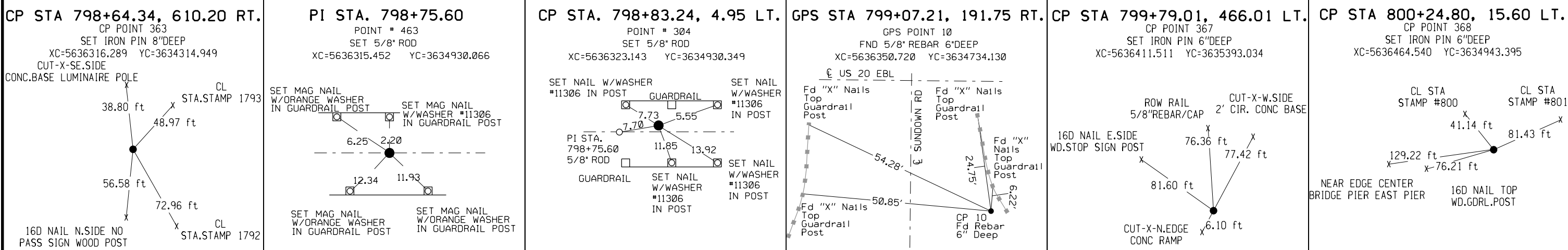
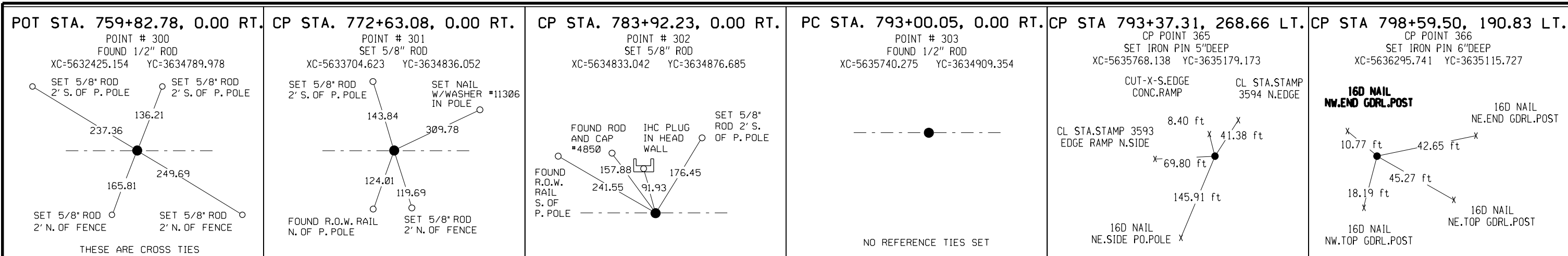
ELEVATION

|         |                  |              |                                                                      |          |
|---------|------------------|--------------|----------------------------------------------------------------------|----------|
| No. 600 | Sta. 772+19.980  | 118.03 Rt.   | FD RR SPK NO.SIDE PO.POLE-----                                       | 1001.095 |
| No. 601 | Sta. 783+69.982  | 86.98 Lt.    | FD DOT PLUG TRIPLE HDWL-----                                         | 997.215  |
| No. 602 | Sta. 798+54.986  | 128.99 Rt.   | FD DOT PLUG SW COR BRIDGE RAIL---                                    | 1051.593 |
| No. 603 | Sta. 809+29.992  | 119.91 Rt.   | FD "X" IN HEADWALL LETDOWN FLUME-                                    | 1016.481 |
| No. 604 | Sta. 817+84.990  | 77.83 Rt.    | FD IHC PLUG IN HDWL RCB-----                                         | 1012.821 |
| No. 605 | Sta. 829+09.987  | 64.73 Rt.    | SET NAIL IN 54" RCP-----                                             | 1011.501 |
| No. 606 | Sta. 841+24.983  | 79.73 Rt.    | FD CUT SQUARE HDWL RCB-----                                          | 1027.311 |
| No. 640 | Sta. 851+49.132  | 1017.74 Lt.  | CUT + INLET HDWL 6'X6'RCB-----                                       | 1028.113 |
| No. 639 | Sta. 851+71.936  | 889.84 Rt.   | SET RR SPK E.SIDE GATE PO-----                                       | 1076.404 |
| No. 638 | Sta. 852+26.020  | 1744.39 Rt.  | CUT + OUTLET 60"CIR CMP-----                                         | 1048.848 |
| No. 607 | Sta. 854+17.981  | 129.74 Rt.   | SET RR SPK N.SIDE PO.POLE-----                                       | 1068.793 |
| No. 608 | Sta. 864+23.978  | 68.73 Rt.    | FD IHC PLUG IN HDWL RCB-----                                         | 1044.329 |
| No. 609 | Sta. 870+24.982  | 83.69 Rt.    | SET RR SPK N.SIDE PO.POLE-----                                       | 1051.187 |
| No. 642 | Sta. 877+73.883  | 1629.38 Lt.  | SET RR SPK W.SIDE PO.POLE-----                                       | 1061.998 |
| No. 641 | Sta. 878+05.215  | 496.79 Lt.   | SET RR SPK W.SIDE PO.POLE-----                                       | 1068.093 |
| No. 610 | Sta. 882+03.986  | 107.63 Rt.   | SET RR SPK N.SIDE PO.POLE-----                                       | 1060.656 |
| No. 611 | Sta. 893+71.982  | 110.57 Rt.   | FD RR SPK N.SIDE PO.POLE-----                                        | 1082.317 |
| No. 612 | Sta. 906+18.979  | 113.54 Rt.   | SET RR SPK N.SIDE PO.POLE-----                                       | 1098.110 |
| No. 613 | Sta. 918+24.977  | 127.52 Rt.   | FD IHC PLUG IN HDWL RCB-----                                         | 1049.876 |
| No. 614 | Sta. 924+77.964  | 109.53 Rt.   | SET RR SPK N.SIDE PO.POLE-----                                       | 1074.472 |
| No. 615 | Sta. 933+99.973  | 67.64 Rt.    | FD IHC PLUG IN HDWL RCB-----                                         | 1102.916 |
| No. 616 | Sta. 941+49.972  | 84.72 Rt.    | FD IHC PLUG IN HDWL RCB-----                                         | 1106.815 |
| No. 617 | Sta. 951+32.970  | 91.80 Rt.    | FD IHC PLUG UPSTREAM HDWL RCB----                                    | 1122.007 |
| No. 631 | Sta. 957+01.410  | 1207.56 Rt.  | SET RR SPK NW SIDE P.POLE-----                                       | 1138.617 |
| No. 618 | Sta. 957+49.983  | 81.15 Lt.    | SET RR SPK S.SIDE PO.POLE-----                                       | 1145.132 |
| No. 630 | Sta. 958+06.699  | 110.01 Rt.   | FD RR SPK N.SIDE POW POLE-----                                       | 1153.942 |
| No. 619 | Sta. 966+30.010  | 92.89 Rt.    | SET RR SPK N.SIDE PO.POLE-----                                       | 1158.221 |
| No. 632 | Sta. 969+97.477  | 98.45 Rt.    | FD RR SPK N.SIDE P. POLE-----                                        | 1151.920 |
| No. 633 | Sta. 975+64.875  | 1282.73 Rt.  | SET RR SPK NE SIDE P.POLE-----                                       | 1144.442 |
| No. 620 | Sta. 976+00.046  | 110.93 Rt.   | TOP OF BOLT AT NW CORNER SIGN----                                    | 1138.111 |
| No. 621 | Sta. 984+30.059  | 101.96 Rt.   | SET RR SPK N.SIDE PO.POLE-----                                       | 1114.297 |
| No. 634 | Sta. 990+16.090  | 86.64 Rt.    | SET RR SPK NW SIDE PP-----                                           | 1102.173 |
| No. 635 | Sta. 993+32.166  | 82.51 Rt.    | FD RR SPK SOUTH SIDE PP-----                                         | 1098.159 |
| No. 622 | Sta. 995+95.058  | 110.99 Rt.   | SET RR SPK E.SIDE PO.POLE-----                                       | 1084.786 |
| No. 636 | Sta. 1002+11.952 | 264.71 Rt.   | CUT + EAST BOLT FLAG POLE-----                                       | 1097.048 |
| No. 637 | Sta. 1003+68.565 | 376.36 Lt.   | SET RR SPK NE SIDE PP-----                                           | 1072.407 |
| No. 623 | Sta. 1007+59.936 | 165.34 Rt.   | SET RR SPK W.SIDE PO.POLE-----                                       | 1072.623 |
| No. 624 | Sta. 1016+09.892 | 77.52 Rt.    | SET RR SPK W.SIDE PO.POLE-----                                       | 1059.135 |
| No. 625 | Sta. 1027+84.942 | 85.39 Rt.    | FD RR SPK W.SIDE PO. POLE-----                                       | 1060.177 |
| No. 627 | Sta. 1037+83.643 | 90.99 Rt.    | FD.RR SPK.W.SIDE PO.POLE-----                                        | 1067.250 |
| No. 501 | Sta. 1041+18.820 | 138.90 Rt.   | FD.RR SPK.W.SIDE PO.POLE-----                                        | 1066.396 |
| No. 542 | Sta. 1169+86.119 | 1286.425 Rt. | Y:3642964.553 X:5658625.768 SET DIMPLE TOP 4TH GUARDRAIL FROM N----- | 848.885  |
| No. 543 | Sta. 1171+81.677 | 1602.182 Rt. | Y:3642991.974 X:5658996.164 SET MAG NAIL CENTER CUL H-----           | 840.134  |
| No. 544 | Sta. 1196+97.158 | 538.368 Rt.  | Y:3645714.306 X:5659215.834 CUT "X" NW BOLT FIRE HYDRANT-----        | 822.480  |
| No. 545 | Sta. 1198+03.051 | 953.922 Rt.  | Y:3645616.082 X:5659633.267 CUT "X" S BOLT FIRE HYDRANT-----         | 803.146  |
| No. 546 | Sta. 1199+00.149 | 1353.028 Rt. | Y:3645517.664 X:5660032.050 CUT "X" SW BOLT FIRE HYDRANT-----        | 796.026  |

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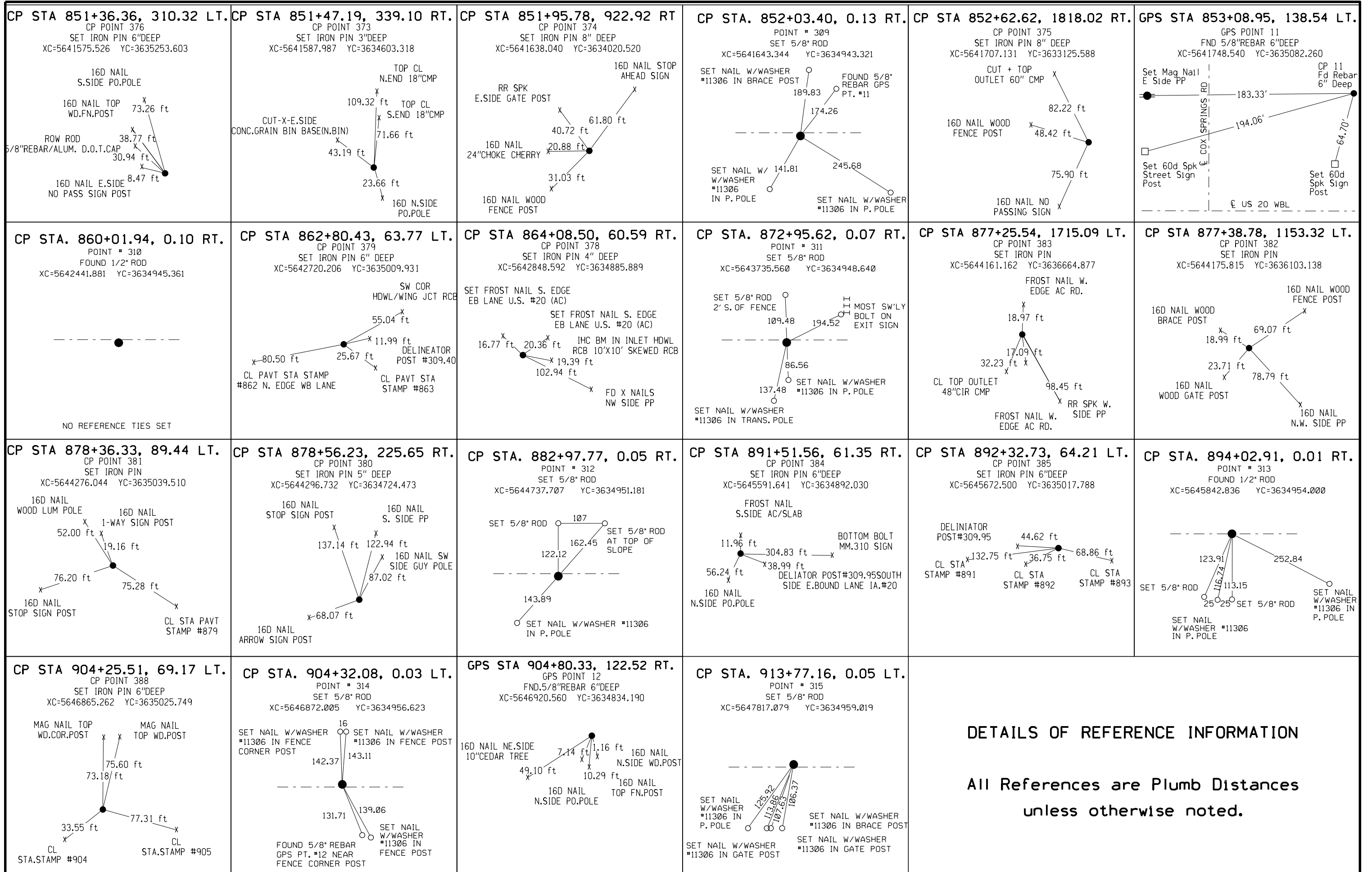
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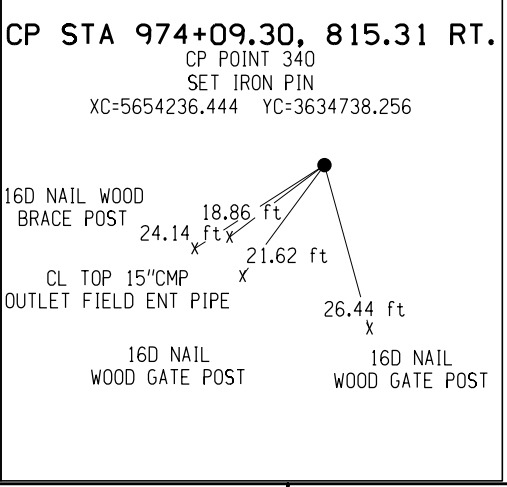
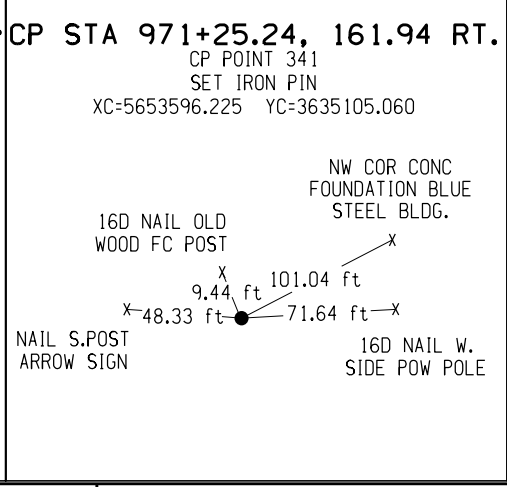
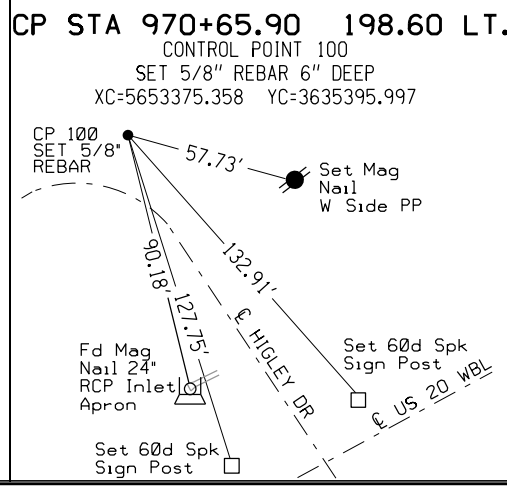
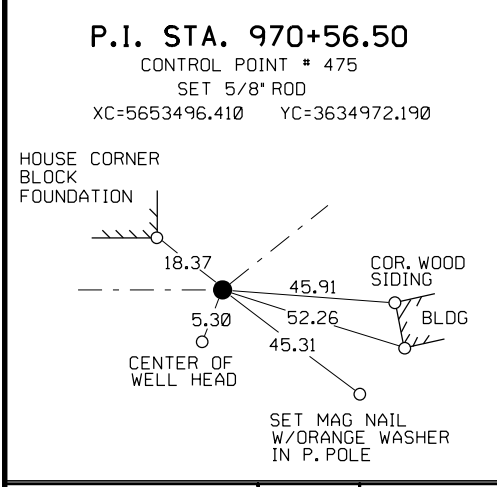
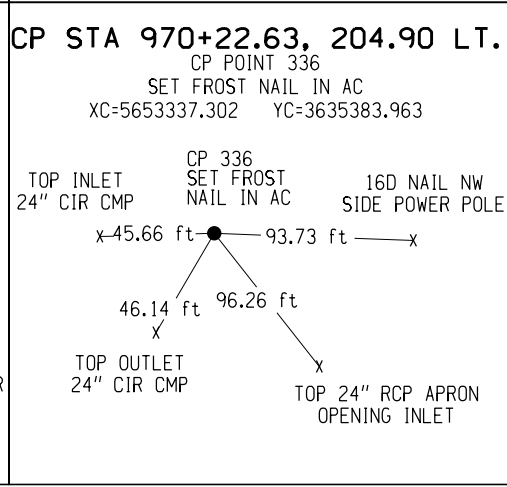
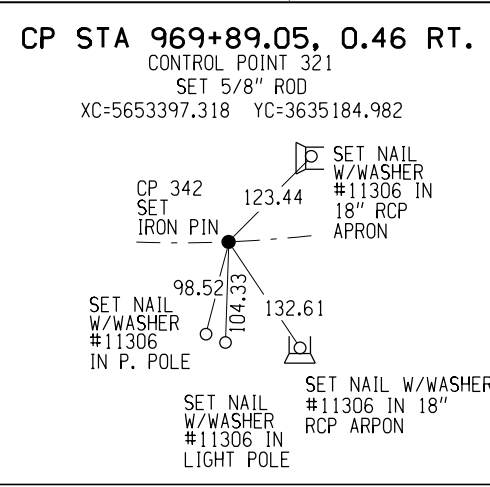
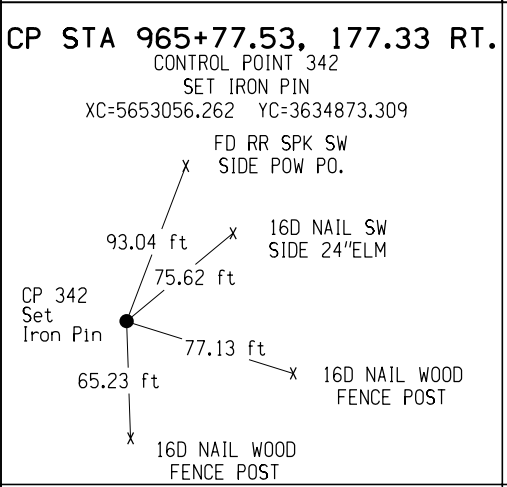
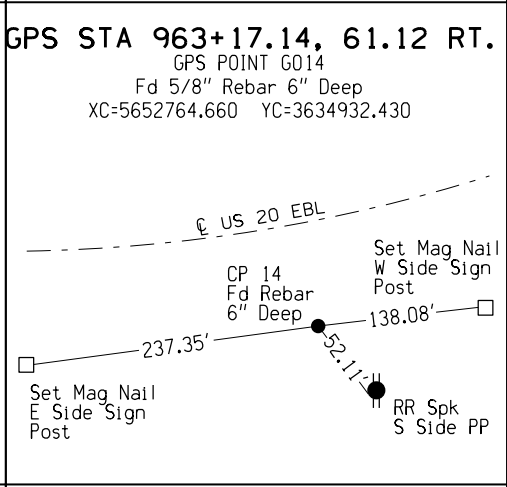
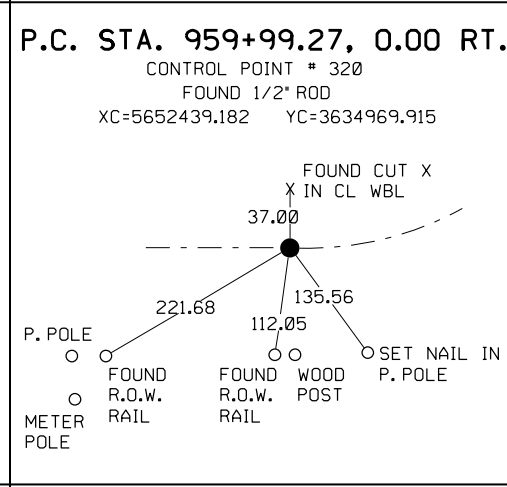
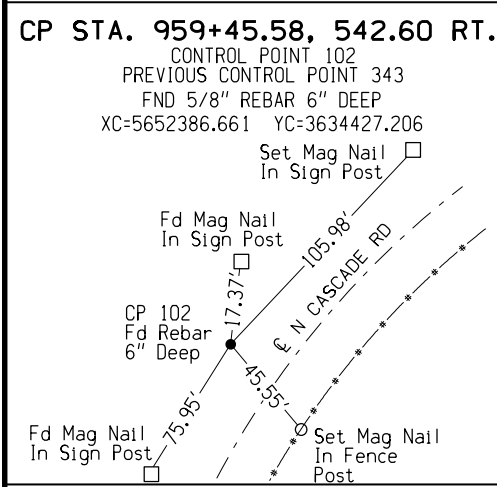
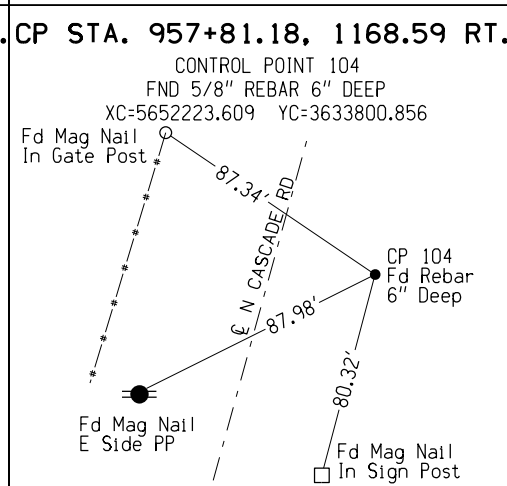
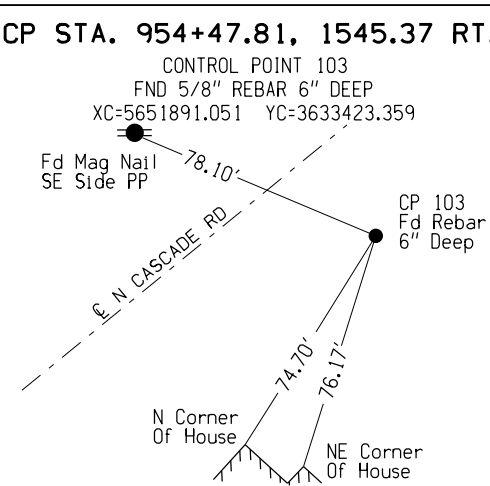
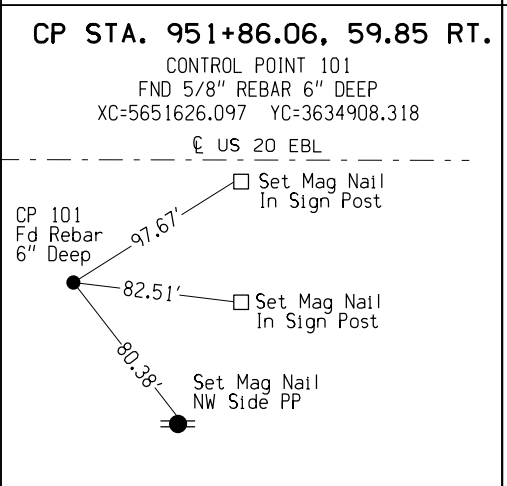
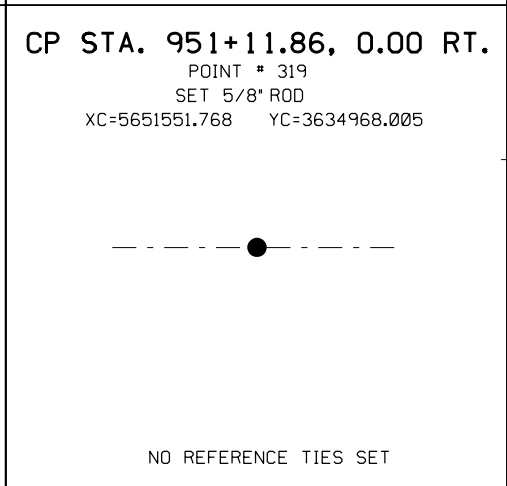
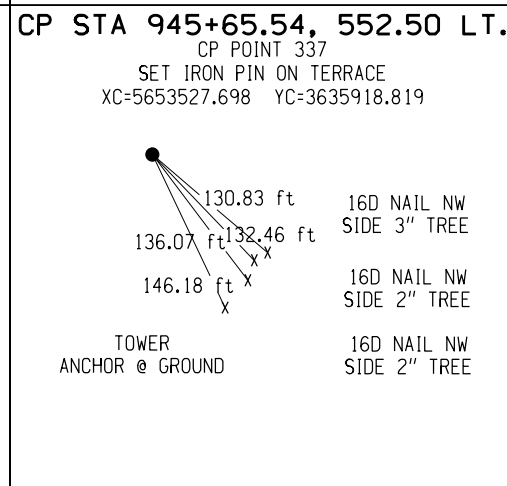
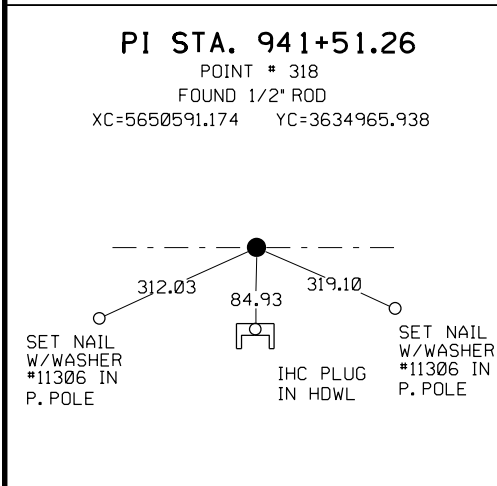
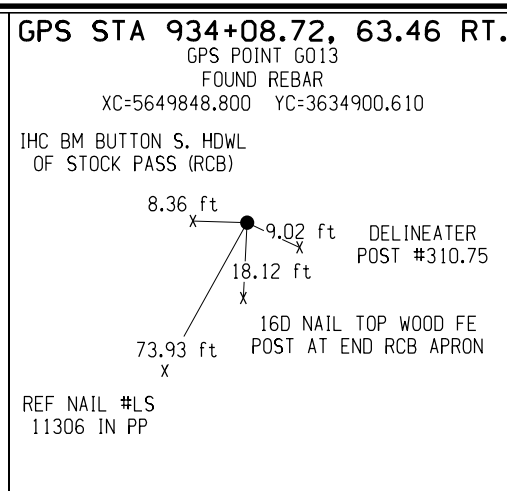
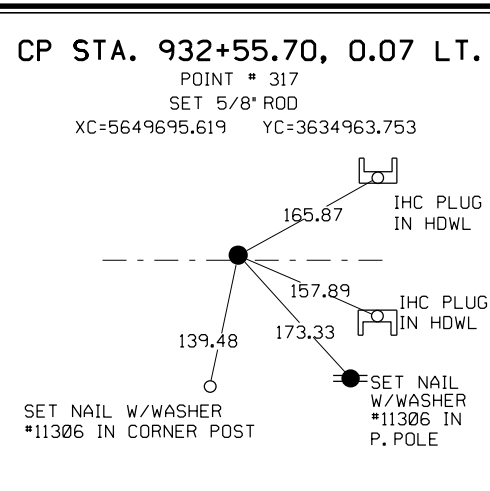
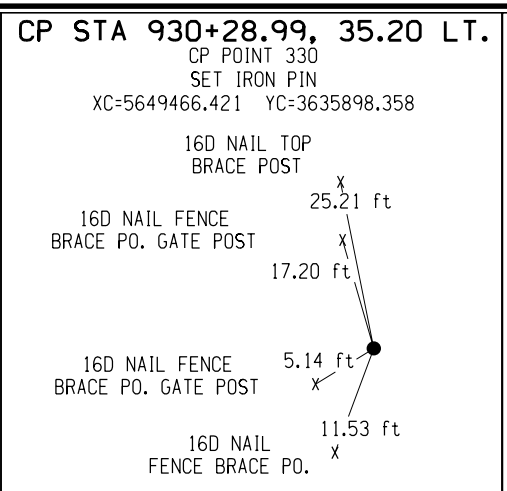
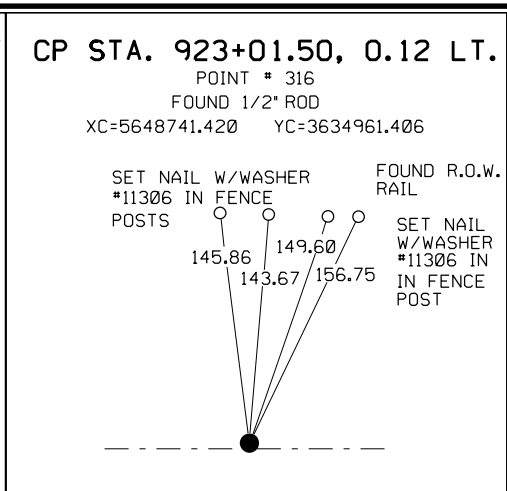
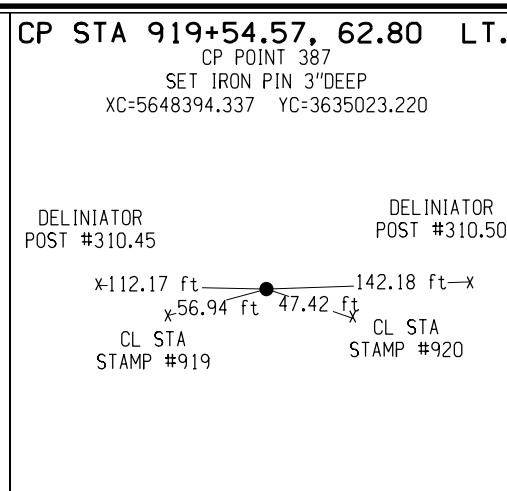
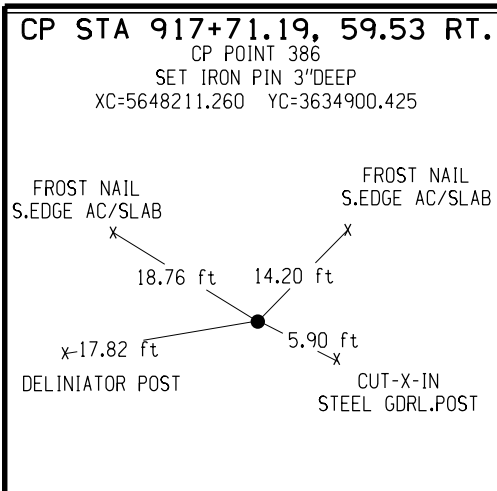
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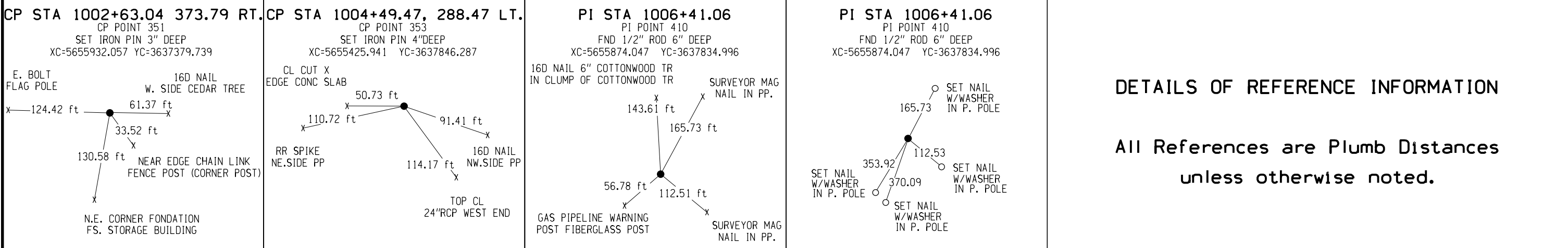
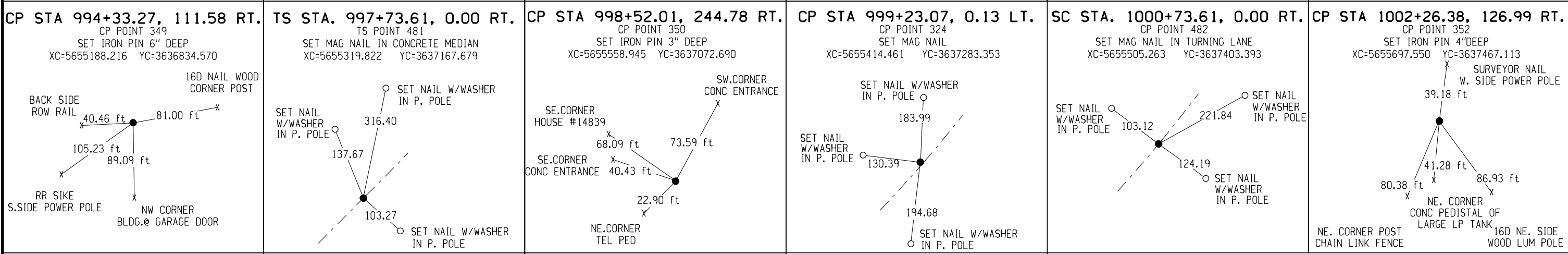
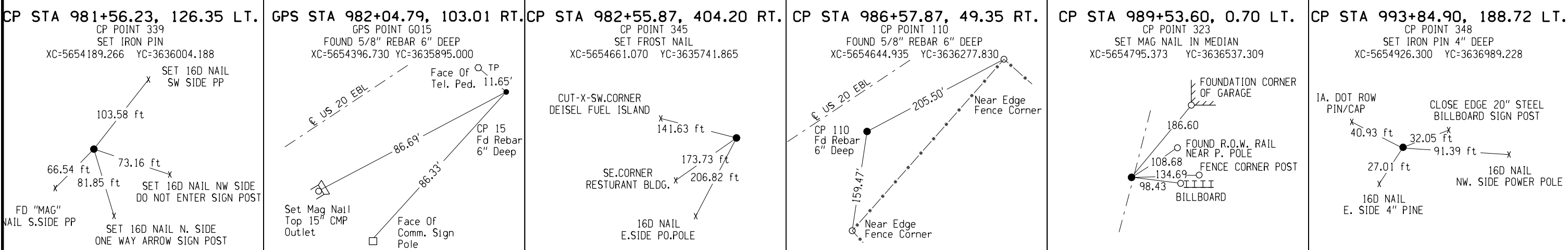
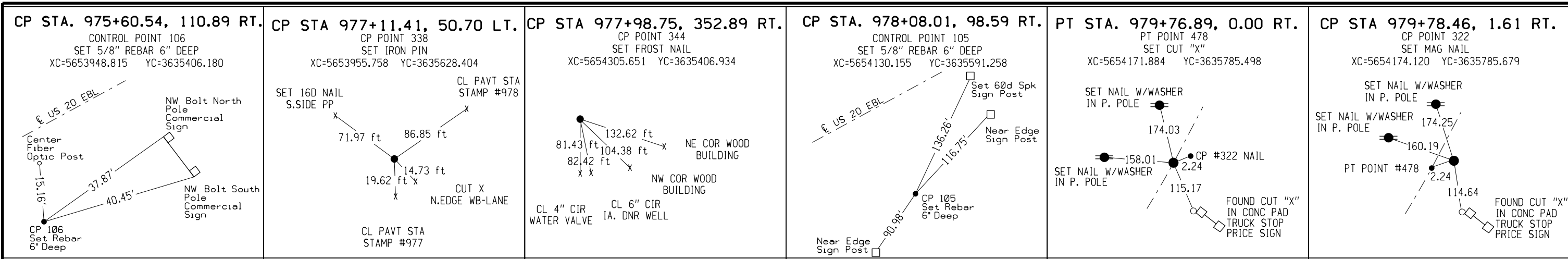
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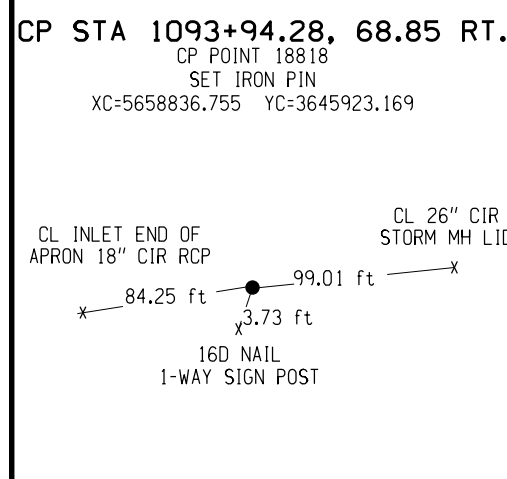
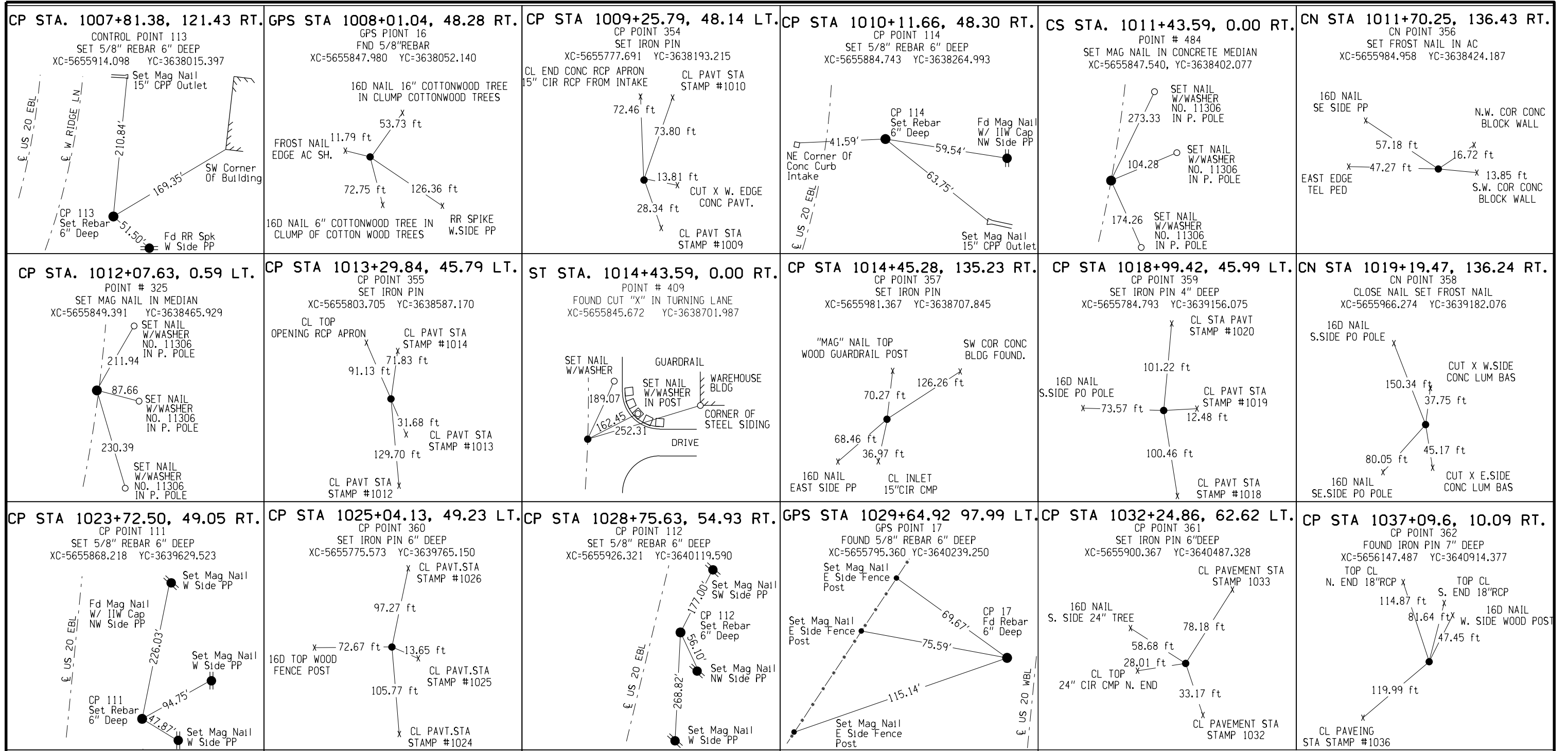
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ALIGNMENT COORDINATES

101-16  
10-20-09

| Name | Location                  | Point on Tangent |              |              | Begin Spiral |              |              | Begin Curve |              |              | Simple Curve PI or Master PI of SCS |              |              | End Curve   |              |              | End Spiral |              |             |
|------|---------------------------|------------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|-------------------------------------|--------------|--------------|-------------|--------------|--------------|------------|--------------|-------------|
|      |                           | Station          | Coordinates  |              | Station      | Coordinates  |              | Station     | Coordinates  |              | Station                             | Coordinates  |              | Station     | Coordinates  |              | Station    | Coordinates  |             |
|      |                           |                  | Y (Northing) | X (Easting)  |              | Y (Northing) | X (Easting)  |             | Y (Northing) | X (Easting)  |                                     | Y (Northing) | X (Easting)  |             | Y (Northing) | X (Easting)  |            | Y (Northing) | X (Easting) |
| 999  | U.S. 20 (Survey)          | 941+51.26        | 3634965.9380 | 5650591.1740 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 1000 | U.S. 20 (Survey)          |                  |              |              |              |              |              | 959+99.27   | 3634969.9150 | 5652439.1820 | 970+56.50                           | 3634972.1902 | 5653496.4096 | 979+76.89   | 3635785.4982 | 5654171.8838 |            |              |             |
| 1001 | U.S. 20 (Survey)          |                  |              |              | 997+74.34    | 3637168.2411 | 5655320.2891 | 1000+74.34  | 3637403.9550 | 5655505.7304 | 1006+23.44                          | 3637852.8830 | 5655821.9142 | 1011+43.04  | 3638401.3635 | 5655847.9471 | 1014+43.04 | 3638701.2747 |             |
| 1002 | U.S. 20 (Survey)          |                  |              |              |              |              |              | 1022+27.73  | 3639485.5602 | 5655821.1450 | 1029+84.57                          | 3640242.0153 | 5655796.9000 | 1037+08.11  | 3640913.1081 | 5656146.8236 |            |              |             |
| 1003 | U.S. 20 (Survey)          | 1148+92.52       | 3650830.3178 | 5661317.8893 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 499  | U.S. 20                   | 941+51.26        | 3634965.9380 | 5650591.1740 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 500  | U.S. 20                   |                  |              |              | 946+43.69    | 3634966.9977 | 5651083.6040 | 948+23.69   | 3634968.5590 | 5651263.5941 | 964+49.50                           | 3635003.8643 | 5652889.0205 | 979+49.24   | 3636052.7112 | 5654131.2674 | 981+29.24  | 3636170.6153 |             |
| 501  | U.S. 20                   |                  |              |              |              |              |              | 987+87.55   | 3636605.0679 | 5654761.8716 | 1001+32.91                          | 3637492.9347 | 5655772.6556 | 1013+01.50  | 3638837.6037 | 5655729.5578 |            |              |             |
| 502  | U.S. 20                   |                  |              |              |              |              |              | 1017+56.70  | 3639292.5733 | 5655714.9757 | 1025+03.71                          | 3640039.1945 | 5655691.0459 | 1032+17.84  | 3640701.5625 | 5656036.4218 |            |              |             |
| 503  | U.S. 20                   | 1152+32.45       | 3651345.6000 | 5661586.5000 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 99   | Swiss Valley Road         | 5951+19.00       | 3634486.5206 | 5654832.3296 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 100  | Swiss Valley Road         |                  |              |              |              |              |              | 5961+28.96  | 3634899.9907 | 5653910.8833 | 5963+01.74                          | 3634970.7274 | 5653753.2418 | 5964+67.75  | 3635106.6930 | 5653646.6218 |            |              |             |
| 101  | Swiss Valley Road         | 5981+18.32       | 3636405.5383 | 5652628.1073 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 109  | Relocated Cottingham Road | 8929+67.19       | 3636531.4723 | 5649475.5203 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 110  | Relocated Cottingham Road |                  |              |              |              |              |              | 8933+11.36  | 3636187.4736 | 5649486.2846 | 8943+21.27                          | 3635178.0560 | 5649517.8709 | 8949+13.92  | 3635180.9740 | 5650527.7784 |            |              |             |
| 111  | Relocated Cottingham Road |                  |              |              |              |              |              | 8959+89.97  | 3635184.0831 | 5651603.8289 | 8965+17.26                          | 3635185.6066 | 5652131.1105 | 8969+83.59  | 3635575.0271 | 5652486.6101 |            |              |             |
| 112  | Relocated Cottingham Road |                  |              |              |              |              |              | 8972+59.96  | 3635779.1413 | 5652672.9448 | 8973+46.34                          | 3635842.9349 | 5652731.1816 | 8974+32.32  | 3635896.2360 | 5652799.1531 |            |              |             |
| 113  | Relocated Cottingham Road | 8976+12.00       | 3636007.1095 | 5652940.5429 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 119  | North Frontage Road       | 9976+12.00       | 3636007.1095 | 5652940.5429 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 120  | North Frontage Road       |                  |              |              |              |              |              | 9978+34.80  | 3636144.5925 | 5653115.8659 | 9979+84.86                          | 3636237.1917 | 5653233.9517 | 9981+26.37  | 3636249.4635 | 5653383.5120 |            |              |             |
| 121  | North Frontage Road       |                  |              |              |              |              |              | 9984+24.59  | 3636273.8513 | 5653680.7362 | 9986+85.55                          | 3636295.1915 | 5653940.8169 | 9989+35.12  | 3636440.8950 | 5654157.3068 |            |              |             |
| 122  | North Frontage Road       |                  |              |              |              |              |              | 9992+35.95  | 3636608.8644 | 5654406.8798 | 9997+89.62                          | 3636918.0040 | 5654866.2071 | 10003+30.12 | 3637374.6211 | 5655179.3359 |            |              |             |
| 123  | North Frontage Road       |                  |              |              |              |              |              | 10003+30.12 | 3637374.6211 | 5655179.3359 | 10011+68.97                         | 3638066.4334 | 5655653.7517 | 10019+38.86 | 3638901.2328 | 5655571.3836 |            |              |             |
| 124  | North Frontage Road       | 10024+44.74      | 3639404.6641 | 5655521.7110 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 126  | Tower Drive               | 400+00.00        | 3639404.8605 | 5655523.7014 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 127  | Tower Drive               |                  |              |              |              |              |              | 401+01.41   | 3639505.7790 | 5655513.7439 | 404+53.50                           | 3639856.1641 | 5655479.1721 | 407+89.08   | 3640176.1059 | 5655513.7439 |            |              |             |
| 128  | Tower Drive               |                  |              |              |              |              |              | 418+24.55   | 3641117.0404 | 5656058.4006 | 419+27.02                           | 3641210.1504 | 5656101.1740 | 419+77.57   | 3641240.5565 | 5656003.3246 |            |              |             |
| 129  | Tower Drive               | 420+26.73        | 3641255.1447 | 5655956.3785 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 130  | North Cascade Road (West) | 6929+54.61       | 3633319.3515 | 5651705.9243 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 131  | North Cascade Road (West) |                  |              |              |              |              |              | 6936+60.21  | 363374.9044  | 5652276.1766 | 6939+10.90                          | 3633882.5446 | 5652478.7793 | 6941+57.00  | 3633956.2808 | 5652276.1766 |            |              |             |
| 132  | North Cascade Road (West) |                  |              |              |              |              |              | 6951+68.75  | 3634253.8717 | 5653685.3803 | 6953+95.18                          | 3634320.4723 | 5653901.7943 | 6955+93.98  | 3634527.0578 | 5653994.4930 |            |              |             |
| 133  | North Cascade Road (West) | 6959+00.00       | 3634806.2571 | 5654119.7750 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 139  | North Cascade Road (East) | 7958+50.62       | 3634806.2571 | 5654119.7750 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 140  | North Cascade Road (East) |                  |              |              |              |              |              | 7959+23.11  | 3634872.3967 | 5654149.4531 | 7961+15.68                          | 3635048.0856 | 5654228.2879 | 7962+72.29  | 3635204.0466 | 5654115.3379 |            |              |             |
| 141  | North Cascade Road (East) |                  |              |              |              |              |              | 7962+72.29  | 3635204.0466 | 5654115.3379 | 7965+42.55                          | 3635422.9260 | 5653956.8211 | 7967+26.34  | 3635623.0966 | 5654138.3915 |            |              |             |
| 142  | North Cascade Road (East) |                  |              |              |              |              |              | 7974+61.44  | 3636167.5723 | 5654632.2737 | 7976+05.99                          | 3636274.6372 | 5654729.3900 | 7977+50.32  | 3636371.8691 | 5654836.3500 |            |              |             |
| 143  | North Cascade Road (East) |                  |              |              |              |              |              | 7990+45.61  | 3637243.1569 | 5655794.8111 | 7992+83.13                          | 3637402.9224 | 5655970.5613 | 7995+20.29  | 3637545.3088 | 5656160.6646 |            |              |             |
| 144  | North Cascade Road (East) | 7998+70.44       | 3637755.2212 | 5656440.9234 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 149  | South Frontage Road       | 1992+87.33       | 3637442.1766 | 5656027.6942 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 150  | South Frontage Road       |                  |              |              |              |              |              | 1994+95.25  | 3637604.3010 | 5655897.5222 | 1996+90.45                          | 3637442.1766 | 5656027.6942 | 1998+58.45  | 3637946.5089 | 5655820.0967 |            |              |             |
| 151  | South Frontage Road       |                  |              |              |              |              |              | 1998+58.45  | 3637946.5089 | 5655820.0967 | 2001+23.53                          | 3638204.5153 | 5655880.9161 | 2003+85.54  | 3638469.4573 | 5655872.4245 |            |              |             |
| 152  | South Frontage Road       |                  |              |              |              |              |              | 2013+19.41  | 3639402.8507 | 5655842.5085 | 2020+23.83                          | 3640106.9137 | 5655819.9427 | 2026+92.66  | 3640719.1842 | 5656168.2799 |            |              |             |
| 153  | South Frontage Road       |                  |              |              |              |              |              | 2029+53.16  | 3640945.6057 | 5656297.0972 | 2030+63.23                          | 3641041.2772 | 5656351.5274 | 2031+72.48  | 3641123.4352 | 5656424.7785 |            |              |             |
| 154  | South Frontage Road       | 2033+49.92       | 3641255.8725 | 5656542.8582 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 159  | Swiss Valley Road Ramp A  | 1969+54.70       | 3635761.5941 | 5653133.0685 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 160  | Swiss Valley Road Ramp A  |                  |              |              |              |              |              | 1975+89.67  | 3635996.5561 | 5653722.9694 | 1979+21.93                          | 3636119.5038 | 5654031.6449 | 1982+50.00  | 3636321.6872 | 5654295.3086 |            |              |             |
| 161  | Swiss Valley Road Ramp A  | 1983+10.13       | 3636358.2788 | 5654343.0271 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 169  | Swiss Valley Road Ramp B  | 2956+40.00       | 3634969.2155 | 5652091.8715 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 170  | Swiss Valley Road Ramp B  |                  |              |              |              |              |              | 2961+64.49  | 3635038.5632 | 5652611.7563 | 2964+27.10                          | 3635073.2860 | 5652872.0653 | 2966+89.69  | 3635114.8317 | 5653131.3728 |            |              |             |
| 171  | Swiss Valley Road Ramp B  | 2971+47.52       | 3635187.2614 | 5653583.4426 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 180  | Swiss Valley Road Ramp C  |                  |              |              |              |              |              | 3955+50.00  | 3635111.3309 | 5651972.7929 | 3958+55.65                          | 3635171.7043 | 5652272.4181 | 3961+53.04  | 3635344.5026 | 5652524.5312 |            |              |             |
| 181  | Swiss Valley Road Ramp C  | 3968+90.79       | 3635761.5941 | 5653133.0685 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 189  | Swiss Valley Road Ramp D  | 4969+49.66       | 3635187.2614 | 5653583.4426 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 190  | Swiss Valley Road Ramp D  |                  |              |              |              |              |              | 4981+37.05  | 3636104.1086 | 5654337.9588 | 4982+78.76                          | 3636213.5296 | 5654428.0064 | 4984+20.00  | 3636309.1606 | 5654532.5829 |            |              |             |
| 199  | Cottingham Road Connector | 136+38.05        | 3635359.5411 | 5649654.9636 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |
| 200  | Cottingham Road Connector |                  |              |              |              |              |              | 136+96.16   | 3635401.7606 | 5649615.0405 | 138+08.52                           | 3635483.4033 | 5649537.8383 | 138+64.87   | 3635550.6092 | 5649627.8887 |            |              |             |
| 201  | Cottingham Road Connector | 139+45.00        | 3635598.5353 | 5649692.1057 |              |              |              |             |              |              |                                     |              |              |             |              |              |            |              |             |

GEOMETRIC DESIGN U.S. 20 MAINLINE AND SIDEROADS

ALIGNMENT COORDINATES

101-16  
10-20-09

| Name            | Location         | Point on Tangent |              |              | Begin Spiral |              |             | Begin Curve |              |              | Simple Curve PI or Master PI of SCS |              |              | End Curve   |              |              | End Spiral |              |             |  |
|-----------------|------------------|------------------|--------------|--------------|--------------|--------------|-------------|-------------|--------------|--------------|-------------------------------------|--------------|--------------|-------------|--------------|--------------|------------|--------------|-------------|--|
|                 |                  | Station          | Coordinates  |              | Station      | Coordinates  |             | Station     | Coordinates  |              | Station                             | Coordinates  |              | Station     | Coordinates  |              | Station    | Coordinates  |             |  |
|                 |                  |                  | Y (Northing) | X (Easting)  |              | Y (Northing) | X (Easting) |             | Y (Northing) | X (Easting)  |                                     | Y (Northing) | X (Easting)  |             | Y (Northing) | X (Easting)  |            | Y (Northing) | X (Easting) |  |
| 19000           | Chesterfield Dr. | 12000+00.00      | 3,642,962.54 | 5,658,856.44 |              |              |             | 12002+65.23 | 3,643,227.77 | 5,658,855.36 | 12005+15.21                         | 3,643,477.74 | 5,658,854.34 | 12007+49.80 | 3,643,683.82 | 5,658,995.83 |            |              |             |  |
| CHESTERFIELD3-1 | Chesterfield Dr. |                  |              |              |              |              |             | 12017+16.27 | 3,644,480.58 | 5,659,542.85 | 12020+57.63                         | 3,644,762.00 | 5,659,736.06 | 12023+76.35 | 3,645,103.23 | 5,659,726.85 |            |              |             |  |
| CHESTERFIELD3-2 | Chesterfield Dr. |                  |              |              |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| 19001           | Chesterfield Dr. | 12029+82.47      | 3,645,709.13 | 5,659,710.48 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| 30010           | Cottigham Rd.    | 13016+00.00      | 3,633,431.17 | 5,649,961.74 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| COTTHAM.SOUTH-1 | Cottigham Rd.    |                  |              |              |              |              |             | 13019+90.20 | 3,633,737.31 | 5,649,719.81 | 13022+13.46                         | 3,633,912.49 | 5,649,581.39 | 13024+21.29 | 3,634,135.68 | 5,649,575.41 |            |              |             |  |
| COTTHAM.SOUTH-2 | Cottigham Rd.    |                  |              |              |              |              |             | 13026+85.19 | 3,634,399.48 | 5,649,568.34 | 13027+78.85                         | 3,634,493.11 | 5,649,565.83 | 13028+63.02 | 3,634,561.70 | 5,649,629.61 |            |              |             |  |
| COTTHAM.SOUTH-3 | Cottigham Rd.    |                  |              |              |              |              |             | 13029+36.61 | 3,634,615.58 | 5,649,679.73 | 13030+27.21                         | 3,634,681.93 | 5,649,741.43 | 13031+09.17 | 3,634,772.53 | 5,649,741.09 |            |              |             |  |
| 30011           | Cottigham Rd.    | 13033+00.44      | 3,634,963.80 | 5,649,740.36 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| 11000           | Detour 11000     | 11000+00.00      | 3,643,429.29 | 5,656,690.48 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| Equation        | Detour 11000     | 11091+21.30=     |              |              |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| Equation        | Detour 11000     | 11052+30.00      |              |              |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| 11001           | Detour 11000     |                  |              |              |              |              |             | 11052+30.00 | 3,634,521.93 | 5,654,726.55 | 11052+75.34                         | 3,634,540.49 | 5,654,685.19 | 11053+20.17 | 3,634,547.90 | 5,654,640.46 |            |              |             |  |
| 11002           | Detour 11000     |                  |              |              |              |              |             | 11053+20.17 | 3,634,547.90 | 5,654,640.46 | 11053+67.07                         | 3,634,555.56 | 5,654,594.20 | 11054+13.44 | 3,634,574.76 | 5,654,551.41 |            |              |             |  |
| 11003           | Detour 11000     |                  |              |              |              |              |             | 11061+00.61 | 3,634,856.08 | 5,653,924.47 | 11061+47.50                         | 3,634,845.28 | 5,653,881.69 | 11061+93.87 | 3,634,904.74 | 5,653,845.21 |            |              |             |  |
| 11004           | Detour 11000     |                  |              |              |              |              |             | 11061+93.87 | 3,634,904.74 | 5,653,845.21 | 11062+39.21                         | 3,634,933.23 | 5,653,809.94 | 11062+84.05 | 3,634,951.79 | 5,653,768.58 |            |              |             |  |
| 11005           | Detour 11000     | 11064+00.00      | 3,634,999.26 | 5,653,662.78 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| 12100           | Detour 12100     | 12100+00.00      | 3,641,450.13 | 5,656,400.66 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| 12101           | Detour 12100     | 12110+39.00      | 3,642,371.41 | 5,656,881.04 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| DET12300-1      | Detour 12300     |                  |              |              |              |              |             | 12318+70.46 | 3,639,402.32 | 5,655,788.95 | 12324+08.65                         | 3,639,939.37 | 5,655,753.91 | 12329+35.22 | 3,640,454.40 | 5,655,910.09 |            |              |             |  |
| DET12300-2      | Detour 12300     |                  |              |              |              |              |             | 12330+83.18 | 3,640,595.99 | 5,655,953.03 | 12332+55.34                         | 3,640,760.75 | 5,656,003.00 | 12334+26.52 | 3,640,913.41 | 5,656,082.61 |            |              |             |  |
| DET12300-2      | Detour 12300     | 12340+49.48      | 3,641,465.79 | 5,656,370.63 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| DET12400-1      | Detour 12400     |                  |              |              |              |              |             | 12318+70.46 | 3,639,402.32 | 5,655,788.95 | 12324+08.65                         | 3,639,939.37 | 5,655,753.91 | 12329+35.22 | 3,640,454.40 | 5,655,910.09 |            |              |             |  |
| DET12400-2      | Detour 12400     |                  |              |              |              |              |             | 12440+54.70 | 3,634,979.41 | 5,650,494.36 | 12442+45.74                         | 3,634,968.64 | 5,650,685.09 | 12444+36.66 | 3,634,969.05 | 5,650,876.13 |            |              |             |  |
| DET12400-3      | Detour 12400     |                  |              |              |              |              |             | 12447+23.26 | 3,634,696.67 | 5,651,162.73 | 12449+14.99                         | 3,634,970.08 | 5,651,354.45 | 12451+06.61 | 3,634,981.76 | 5,651,545.82 |            |              |             |  |
| DET12400-4      | Detour 12400     |                  |              |              |              |              |             | 12451+06.61 | 3,634,981.76 | 5,651,545.82 | 12452+95.85                         | 3,634,993.28 | 5,651,734.71 | 12454+84.99 | 3,634,993.79 | 5,651,923.96 |            |              |             |  |
| DET12300-2      | Detour 12300     | 12340+49.48      | 3,641,465.79 | 5,656,370.63 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| DET12600-1      | Detour 12600     |                  |              |              |              |              |             | 12627+59.26 | 3,640,269.10 | 5,655,885.05 | 12630+09.64                         | 3,640,512.80 | 5,655,942.51 | 12632+57.43 | 3,640,734.82 | 5,655,885.05 |            |              |             |  |
| DET12600-2      | Detour 12600     |                  |              |              |              |              |             | 12640+80.00 | 3,641,464.19 | 5,656,438.59 | 12642+52.63                         | 3,641,617.25 | 5,656,518.40 | 12644+25.20 | 3,641,773.59 | 5,656,591.60 |            |              |             |  |
| DET12600-3      | Detour 12600     |                  |              |              |              |              |             | 12647+46.24 | 3,642,064.34 | 5,656,727.75 | 12649+18.40                         | 3,642,220.25 | 5,656,800.75 | 12650+90.50 | 3,642,372.90 | 5,656,880.35 |            |              |             |  |
| DET13100-1      | Detour 13100     |                  |              |              |              |              |             | 13134+56.72 | 3,634,815.72 | 5,649,896.76 | 13136+67.62                         | 3,634,916.20 | 5,650,107.65 | 13138+78.36 | 3,634,903.01 | 5,650,318.13 |            |              |             |  |
| DET13100-2      | Detour 13100     |                  |              |              |              |              |             | 13138+78.36 | 3,634,903.01 | 5,650,318.13 | 13140+89.54                         | 3,634,889.80 | 5,650,528.90 | 13143+00.57 | 3,634,890.25 | 5,650,740.07 |            |              |             |  |
| DET13100-3      | Detour 13100     |                  |              |              |              |              |             | 13148+85.09 | 3,634,891.51 | 5,651,324.60 | 13150+97.31                         | 3,634,891.97 | 5,651,536.81 | 13153+09.37 | 3,634,906.22 | 5,651,748.54 |            |              |             |  |
| DET13100-4      | Detour 13100     |                  |              |              |              |              |             | 13153+09.37 | 3,634,906.22 | 5,651,748.54 | 13155+20.14                         | 3,634,920.37 | 5,651,958.84 | 13157+30.77 | 3,634,920.90 | 5,652,169.62 |            |              |             |  |
| DET13200-1      | Detour 13200     |                  |              |              |              |              |             | 13235+93.24 | 3,635,011.54 | 5,650,033.43 | 13237+69.76                         | 3,635,011.92 | 5,650,209.57 | 13239+46.20 | 3,635,021.88 | 5,650,385.81 |            |              |             |  |
| DET13200-2      | Detour 13200     |                  |              |              |              |              |             | 13239+46.20 | 3,635,021.88 | 5,650,385.81 | 13241+23.32                         | 3,635,031.18 | 5,650,562.65 | 13243+00.36 | 3,635,032.28 | 5,650,739.77 |            |              |             |  |
| DET13200-3      | Detour 13200     |                  |              |              |              |              |             | 13249+28.96 | 3,635,071.45 | 5,651,368.37 | 13251+74.18                         | 3,635,034.14 | 5,651,613.59 | 13254+18.47 | 3,638,283.60 | 5,651,361.38 |            |              |             |  |
| DET13300-1      | Detour 13300     |                  |              |              |              |              |             | 13336+64.56 | 3,634,939.26 | 5,650,104.54 | 13338+22.65                         | 3,634,939.66 | 5,650,262.63 | 13339+80.67 | 3,634,947.74 | 5,650,104.54 |            |              |             |  |
| DET13300-2      | Detour 13300     |                  |              |              |              |              |             | 13339+80.67 | 3,634,947.74 | 5,650,420.51 | 13341+40.49                         | 3,634,955.91 | 5,650,580.12 | 13343+00.25 | 3,634,956.26 | 5,650,739.94 |            |              |             |  |
| DET13300-3      | Detour 13300     |                  |              |              |              |              |             | 13346+43.94 | 3,634,957.00 | 5,651,083.63 | 13347+03.97                         | 3,634,957.13 | 5,651,143.66 | 13347+64.00 | 3,634,957.65 | 5,651,203.69 |            |              |             |  |
| DET13300-4      | Detour 13300     |                  |              |              |              |              |             | 13347+64.00 | 3,634,957.65 | 5,651,203.69 | 13349+32.60                         | 3,634,959.11 | 5,651,372.28 | 13351+01.04 | 3,634,972.88 | 5,651,540.31 |            |              |             |  |
| DET13300-5      | Detour 13300     |                  |              |              |              |              |             | 13352+96.04 | 3,634,988.81 | 5,651,734.66 | 13355+53.74                         | 3,635,009.87 | 5,651,991.49 | 13358+10.42 | 3,634,069.95 | 5,652,242.08 |            |              |             |  |
| 13400           | Detour 13400     | 13400+00.00      | 3,636,173.92 | 5,654,308.91 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| 13401           | Detour 13400     |                  |              |              |              |              |             | 13400+00.00 | 3,636,173.92 | 5,654,308.92 | 13401+56.04                         | 3,636,276.90 | 5,654,426.15 | 13403+12.02 | 3,636,385.38 | 5,654,538.30 |            |              |             |  |
| 13402           | Detour 13400     |                  |              |              |              |              |             | 13403+12.02 | 3,636,385.38 | 5,654,538.30 | 13404+68.58                         | 3,634,968.64 | 5,654,650.84 | 13406+25.09 | 3,636,597.55 | 5,654,768.47 |            |              |             |  |
| 13403           | Detour 13400     |                  |              |              |              |              |             | 13406+25.09 | 3,636,597.55 | 5,654,768.47 | 13410+35.52                         | 3,636,868.42 | 5,655,076.83 | 13414+40.39 | 3,637,215.07 | 5,655,296.58 |            |              |             |  |
| 13404           | Detour 13400     |                  |              |              |              |              |             | 13415+48.21 | 3,637,306.14 | 5,655,354.31 | 13418+93.21                         | 3,637,597.53 | 5,655,539.02 | 13422+33.82 | 3,637,928.28 | 5,655,637.19 |            |              |             |  |
| 13405           | Detour 13400     | 13422+33.82      | 3,637,928.28 | 5,655,637.19 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| 13500           | Detour 13500     | 13517+56.70      | 3,639,293.76 | 5,655,751.96 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| 13501           | Detour 13500     |                  |              |              |              |              |             | 13518+72.87 | 3,639,409.87 | 5,655,748.24 | 13525+83.71                         | 3,640,120.34 | 5,655,725.46 | 13532+63.27 | 3,640,750.64 | 5,656,054.12 |            |              |             |  |
| 13502           | Detour 13500     |                  |              |              |              |              |             | 13540+73.73 | 3,641,469.27 | 5,656,428.83 | 13542+98.59                         | 3,641,668.66 | 5,656,532.80 | 13545+23.29 | 3,641,860.78 | 5,656,649.65 |            |              |             |  |
| 13503           | Detour 13500     |                  |              |              |              |              |             | 13547+23.53 | 3,642,031.86 | 5,656,753.70 | 13549+89.21                         | 3,642,258.85 | 5,656,891.76 | 13552+54.69 | 3,642,494.42 | 5,657,014.60 |            |              |             |  |
| 13504           | Detour 13500     | 13555+36.90      | 3,642,744.65 | 5,657,145.08 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| 13600           | Detour 13600     | 13600+00.00      | 3,639,293.37 | 5,655,739.96 |              |              |             |             |              |              |                                     |              |              |             |              |              |            |              |             |  |
| DET13600-1      | Detour 13600     |                  |              |              |              |              |             | 13601+82.52 | 3,639,475.80 | 5,655,734.12 | 13608+38.31                         | 3,640,131.25 | 5,655,713.11 | 13614+65.24 |              |              |            |              |             |  |

ALIGNMENT COORDINATES

| Name            | Location      | Point on Tangent |              |              | Begin Spiral |             |              | Begin Curve |              |              | Simple Curve PI or Master PI of SCS |              |              | End Curve   |              |              | End Spiral |             |  |              |
|-----------------|---------------|------------------|--------------|--------------|--------------|-------------|--------------|-------------|--------------|--------------|-------------------------------------|--------------|--------------|-------------|--------------|--------------|------------|-------------|--|--------------|
|                 |               | Station          | Coordinates  |              | Station      | Coordinates |              | Station     | Coordinates  |              | Station                             | Coordinates  |              | Station     | Coordinates  |              | Station    | Coordinates |  |              |
|                 |               |                  | Y (Northing) | X (Easting)  |              |             | Y (Northing) |             | X (Easting)  |              |                                     | Y (Northing) | X (Easting)  |             |              | Y (Northing) |            | X (Easting) |  | Y (Northing) |
| 13700           | DET13700      | 13732+00.00      | 3,640,444.27 | 5,655,952.65 |              |             |              |             |              |              |                                     |              |              |             |              |              |            |             |  |              |
| 13701           | DET13700      |                  |              |              |              |             |              | 13732+78.55 | 3,640,420.71 | 5,656,027.58 | 13733+41.48                         | 3,640,401.83 | 5,656,087.62 | 13733+83.27 | 3,640,457.67 | 5,656,027.58 |            |             |  |              |
| 13702           | DET13700      | 13735+75.00      | 3,640,627.80 | 5,656,205.03 |              |             |              |             |              |              |                                     |              |              |             |              |              |            |             |  |              |
| 13831           | SRCDC_RET_2   | 0+00.00          | 3,635,533.62 | 5,649,595.20 |              |             |              |             |              |              |                                     |              |              |             |              |              |            |             |  |              |
| SURCDC_RET_2-1  | SRCDC_RET_2   |                  |              |              |              |             |              | 0+77.74     | 3,635,597.83 | 5,649,639.03 | 1+01.63                             | 3,635,614.56 | 5,649,652.49 | 1+22.31     | 3,635,640.43 | 5,649,639.03 |            |             |  |              |
| SURCDC_RET_2-2  | SRCDC_RET_2   |                  |              |              |              |             |              | 1+22.31     | 3,635,640.43 | 5,649,645.61 | 1+29.29                             | 3,635,647.11 | 5,649,643.59 | 1+36.18     | 3,635,652.98 | 5,649,639.83 |            |             |  |              |
| SURCDC_RET_3-1  | SRCDC_RET_3   |                  |              |              |              |             |              | 0+00.00     | 3,635,547.43 | 5,649,643.69 | 0+36.19                             | 3,635,569.07 | 5,649,672.69 | 0+62.65     | 3,635,548.28 | 5,649,702.31 |            |             |  |              |
| SURCDC_RET_3-2  | SRCDC_RET_3   |                  |              |              |              |             |              | 0+62.65     | 3,635,548.28 | 5,649,702.31 | 0+85.53                             | 3,635,535.14 | 5,649,721.04 | 1+08.36     | 3,635,519.95 | 5,649,738.15 |            |             |  |              |
| SURCDC_RET_3-3  | SRCDC_RET_3   |                  |              |              |              |             |              | 1+08.36     | 3,635,519.95 | 5,649,738.15 | 1+25.40                             | 3,635,508.64 | 5,649,750.89 | 1+42.42     | 3,635,496.28 | 5,649,762.63 |            |             |  |              |
| COTTHAM_RET_3-1 | COTTHAM_RET_3 |                  |              |              |              |             |              | 0+00.00     | 3,635,931.40 | 5,652,863.44 | 0+23.62                             | 3,365,945.98 | 5,652,882.03 | 0+47.03     | 3,635,931.40 | 5,652,863.44 |            |             |  |              |
| COTTHAM_RET_3-2 | COTTHAM_RET_3 |                  |              |              |              |             |              | 0+47.03     | 3,635,955.82 | 5,652,903.51 | 0+77.37                             | 3,635,968.47 | 5,652,931.09 | 1+01.57     | 3,635,949.84 | 5,652,955.04 |            |             |  |              |
| COTTHAM_RET_3-3 | COTTHAM_RET_3 |                  |              |              |              |             |              | 1+01.57     | 3,635,949.84 | 5,652,955.04 | 1+50.79                             | 3,635,919.63 | 5,652,993.89 | 1+99.51     | 3,635,634.07 | 5,652,709.50 |            |             |  |              |
| NFR_RET_4-1     | NFR_RET_4     |                  |              |              |              |             |              | 0+00.00     | 3,635,941.81 | 5,653,006.99 | 0+20.38                             | 3,635,957.85 | 5,652,994.42 | 0+40.22     | 3,365,977.54 | 5,652,989.12 |            |             |  |              |
| NFR_RET_4-2     | NFR_RET_4     |                  |              |              |              |             |              | 0+40.22     | 3,635,977.54 | 5,652,989.12 | 0+64.97                             | 3,636,001.44 | 5,652,982.69 | 0+86.19     | 3,636,021.05 | 5,652,997.80 |            |             |  |              |
| NFR_RET_4-3     | NFR_RET_4     |                  |              |              |              |             |              | 0+86.19     | 3,636,021.05 | 5,652,997.80 | 1+36.29                             | 3,636,060.74 | 5,653,028.38 | 1+85.88     | 3,636,091.66 | 5,653,067.81 |            |             |  |              |
| 7959            | SRNCSD_RET_1  |                  |              |              |              |             |              | 0+00.00     | 3,634,787.75 | 5,654,198.89 | 0+32.68                             | 3,634,801.13 | 5,654,169.07 | 0+57.90     | 3,634,833.81 | 5,654,169.36 |            |             |  |              |
| 7960            | SRNCSD_RET_1  |                  |              |              |              |             |              | 0+57.90     | 3,634,833.81 | 5,654,169.36 | 0+98.41                             | 3,634,874.32 | 5,654,169.72 | 1+38.44     | 3,634,913.29 | 5,654,180.82 |            |             |  |              |
| 7962            | SRNCSD_RET_2  |                  |              |              |              |             |              | 0+00.00     | 3,634,898.80 | 5,654,143.50 | 0+54.56                             | 3,634,847.61 | 5,654,124.61 | 0+90.78     | 3,634,857.35 | 5,654,070.93 |            |             |  |              |
| 7963            | SRNCSD_RET_2  |                  |              |              |              |             |              | 0+90.78     | 3,634,857.35 | 5,654,070.93 | 1+37.07                             | 3,634,865.60 | 5,654,025.38 | 1+82.91     | 3,634,857.35 | 5,653,983.14 |            |             |  |              |
| 7965            | SRNCSD_RET_3  |                  |              |              |              |             |              | 0+00.00     | 3,634,830.46 | 5,654,027.98 | 0+54.46                             | 3,634,808.16 | 5,654,077.67 | 0+92.57     | 3,634,754.51 | 5,654,068.27 |            |             |  |              |
| 7966            | SRNCSD_RET_3  |                  |              |              |              |             |              | 0+92.57     | 3,634,754.51 | 5,654,068.27 | 1+48.74                             | 3,634,699.19 | 5,654,058.58 | 2+04.33     | 3,634,647.94 | 5,654,035.58 |            |             |  |              |
| 7968            | SRNCSD_RET_4  |                  |              |              |              |             |              | 0+00.00     | 3,634,693.79 | 5,654,082.46 | 0+23.17                             | 3,634,714.94 | 5,654,091.95 | 0+46.14     | 3,634,733.35 | 5,654,106.02 |            |             |  |              |
| 7969            | SRNCSD_RET_4  |                  |              |              |              |             |              | 0+46.14     | 3,634,733.35 | 5,654,106.02 | 0+82.62                             | 3,634,762.33 | 5,654,128.17 | 1+11.69     | 3,634,756.01 | 5,654,164.09 |            |             |  |              |
| 7970            | SRNCSD_RET_4  |                  |              |              |              |             |              | 1+11.69     | 3,634,756.01 | 5,654,164.09 | 1+61.47                             | 3,634,747.38 | 5,654,213.12 | 2+10.74     | 3,634,727.00 | 5,654,258.53 |            |             |  |              |
| SURSF_RET_1-1   | SRNCSD_RET_1  |                  |              |              |              |             |              | 0+00.00     | 3,637,506.30 | 5,656,083.93 | 0+40.33                             | 3,637,481.58 | 5,646,052.06 | 0+71.01     | 3,637,501.75 | 5,646,017.14 |            |             |  |              |
| SURSF_RET_1-2   | SRNCSD_RET_1  |                  |              |              |              |             |              | 0+71.01     | 3,637,501.75 | 5,646,017.14 | 1+08.49                             | 3,637,520.50 | 5,655,984.69 | 1+45.11     | 3,637,549.72 | 5,644,961.22 |            |             |  |              |
| SURSF_RET_2-1   | SRNCSD_RET_2  |                  |              |              |              |             |              | 0+00.00     | 3,637,508.48 | 5,655,954.58 | 0+48.56                             | 3,637,470.62 | 5,655,984.98 | 0+84.91     | 3,637,428.88 | 5,655,960.16 |            |             |  |              |
| SURSF_RET_2-2   | SRNCSD_RET_2  |                  |              |              |              |             |              | 0+84.91     | 3,637,428.88 | 5,655,960.16 | 1+34.34                             | 3,637,386.39 | 5,655,934.90 | 1+82.89     | 3,637,354.25 | 5,655,897.34 |            |             |  |              |
| RAMPA_RET_1-1   | RAMPA_RET_1   |                  |              |              |              |             |              | 0+00.00     | 3,635,809.40 | 5,653,253.09 | 0+27.39                             | 3,635,799.26 | 5,653,227.64 | 0+54.72     | 3,635,791.97 | 5,653,201.25 |            |             |  |              |
| RAMPA_RET_1-2   | RAMPA_RET_1   |                  |              |              |              |             |              | 0+54.72     | 3,635,791.97 | 5,653,201.25 | 0+91.66                             | 3,635,782.13 | 5,653,165.64 | 1+23.38     | 3,635,804.36 | 5,653,136.13 |            |             |  |              |
| RAMPA_RET_1-3   | RAMPA_RET_1   |                  |              |              |              |             |              | 1+23.38     | 3,635,804.36 | 5,653,136.13 | 1+88.74                             | 3,635,843.70 | 5,653,083.93 | 2+53.37     | 3,635,895.14 | 5,653,043.60 |            |             |  |              |
| RAMPC_RET_2-1   | RAMPC_RET_2   |                  |              |              |              |             |              | 0+00.00     | 3,635,840.55 | 5,653,055.90 | 0+26.05                             | 3,635,820.06 | 5,653,071.98 | 0+51.80     | 3,635,796.13 | 5,653,082.26 |            |             |  |              |
| RAMPC_RET_2-2   | RAMPC_RET_2   |                  |              |              |              |             |              | 0+51.80     | 3,635,796.13 | 5,653,082.26 | 0+81.23                             | 3,635,769.09 | 5,653,093.89 | 1+05.00     | 3,635,745.80 | 5,653,075.89 |            |             |  |              |
| RAMPC_RET_2-3   | RAMPC_RET_2   |                  |              |              |              |             |              | 1+05.00     | 3,635,745.80 | 5,653,075.89 | 1+67.90                             | 3,635,696.04 | 5,653,037.42 | 2+29.77     | 3,635,660.48 | 5,652,759.41 |            |             |  |              |
| RAMPC_RET_3-1   | RAMPC_RET_3   |                  |              |              |              |             |              | 0+00.00     | 3,635,648.64 | 5,652,996.56 | 0+31.69                             | 3,635,666.55 | 5,653,022.70 | 0+63.29     | 3,635,681.02 | 5,653,050.89 |            |             |  |              |
| RAMPC_RET_3-2   | RAMPC_RET_3   |                  |              |              |              |             |              | 0+63.29     | 3,635,681.02 | 5,653,050.89 | 1+04.62                             | 3,635,699.90 | 5,653,087.66 | 1+45.77     | 3,635,712.48 | 5,653,127.04 |            |             |  |              |
| RAMPC_RET_3-3   | RAMPC_RET_3   |                  |              |              |              |             |              | 1+45.77     | 3,635,712.48 | 5,653,127.04 | 1+66.63                             | 3,635,718.83 | 5,653,146.90 | 1+82.22     | 3,635,702.42 | 5,653,159.77 |            |             |  |              |
| RAMPA_RET_4-1   | RAMPA_RET_4   |                  |              |              |              |             |              | 0+00.00     | 3,635,682.12 | 5,653,215.09 | 0+22.46                             | 3,635,699.79 | 5,653,201.23 | 0+43.64     | 3,635,722.17 | 5,653,199.36 |            |             |  |              |
| RAMPA_RET_4-2   | RAMPA_RET_4   |                  |              |              |              |             |              | 0+43.64     | 3,635,722.17 | 5,653,199.36 | 0+68.61                             | 3,635,747.06 | 5,653,197.29 | 0+89.23     | 3,635,761.98 | 5,653,217.31 |            |             |  |              |
| RAMPA_RET_4-3   | RAMPA_RET_4   |                  |              |              |              |             |              | 0+89.23     | 3,635,761.98 | 5,653,217.31 | 0+95.37                             | 3,635,765.65 | 5,653,222.23 | 1+01.51     | 3,635,796.01 | 5,653,227.36 |            |             |  |              |
| RAMPD_RET_1-1   | RAMPD_RET_1   |                  |              |              |              |             |              | 0+00.00     | 3,635,344.12 | 5,653,691.81 | 0+31.69                             | 3,635,319.66 | 5,653,671.67 | 0+63.29     | 3,635,297.93 | 5,653,648.61 |            |             |  |              |
| RAMPD_RET_1-2   | RAMPD_RET_1   |                  |              |              |              |             |              | 0+63.29     | 3,635,297.93 | 5,653,648.61 | 0+96.22                             | 3,635,275.34 | 5,653,624.64 | 1+29.06     | 3,635,256.10 | 5,653,597.91 |            |             |  |              |
| RAMPD_RET_1-3   | RAMPD_RET_1   |                  |              |              |              |             |              | 1+29.06     | 3,635,256.10 | 5,653,597.91 | 1+67.49                             | 3,635,233.64 | 5,653,566.73 | 1+90.29     | 3,635,263.90 | 5,653,543.04 |            |             |  |              |
| RAMPB_RET_2-1   | RAMPB_RET_2   |                  |              |              |              |             |              | 0+00.00     | 3,635,280.69 | 5,653,490.48 | 0+19.83                             | 3,635,265.09 | 5,653,502.72 | 0+38.78     | 3,635,245.47 | 5,653,505.64 |            |             |  |              |
| RAMPB_RET_2-2   | RAMPB_RET_2   |                  |              |              |              |             |              | 0+38.78     | 3,635,245.47 | 5,653,505.64 | 0+65.41                             | 3,635,219.13 | 5,653,509.57 | 0+85.77     | 3,635,205.35 | 5,653,486.78 |            |             |  |              |
| RAMPB_RET_2-3   | RAMPB_RET_2   |                  |              |              |              |             |              | 0+85.77     | 3,635,205.35 | 5,653,486.78 | 1+10.14                             | 3,635,192.74 | 5,653,465.93 | 1+33.90     | 3,635,188.89 | 5,653,441.87 |            |             |  |              |
| RAMPB_RET_3-1   | RAMPB_RET_3   |                  |              |              |              |             |              | 0+00.00     | 3,635,169.52 | 5,653,472.72 | 0+25.65                             | 3,635,173.58 | 5,653,498.05 | 0+51.18     | 3,635,173.28 | 5,653,523.71 |            |             |  |              |
| RAMPB_RET_3-2   | RAMPB_RET_3   |                  |              |              |              |             |              | 0+51.18     | 3,635,173.28 | 5,653,523.71 | 0+75.15                             | 3,635,173.00 | 5,653,547.66 | 0+97.57     | 3,635,158.88 | 5,653,567.02 |            |             |  |              |
| RAMPB_RET_3-3   | RAMPB_RET_3   |                  |              |              |              |             |              | 0+97.57     | 3,635,158.88 | 5,653,567.02 | 1+49.63                             | 3,635,128.20 | 5,653,609.08 | 2+01.11     | 3,635,087.78 | 5,653,641.89 |            |             |  |              |
| RAMPD_RET_4-1   | RAMPD_RET_4   |                  |              |              |              |             |              | 0+00.00     | 3,635,143.02 | 5,653,637.83 | 0+45.44                             | 3,635,178.78 | 5,653,609.79 | 0+81.71     | 3,635,220.19 | 5,653,628.50 |            |             |  |              |
| RAMPD_RET_4-2   | RAMPD_RET_4   |                  |              |              |              |             |              | 0+81.71     | 3,635,220.19 | 5,653,628.50 | 0+99.86                             | 3,635,236.73 | 5,653,635.98 | 1+17.99     | 3,635,252.53 | 5,653,644.93 |            |             |  |              |
| RAMPD_RET_4-3   | RAMPD_RET_4   |                  |              |              |              |             |              | 1+17.99     | 3,635,252.53 | 5,653,644.93 | 1+52.77                             | 3,635,282.79 | 5,653,662.06 | 1+87.37     | 3,635,055.46 | 5,653,993.01 |            |             |  |              |

GEOMETRIC DESIGN U.S. 20 MAINLINE AND SIDEROADS

ALIGNMENT COORDINATES

101-16  
10-20-09

| Name            | Location                 | Point on Tangent |              |              | Begin Spiral |              |             | Begin Curve  |              |             | Simple Curve PI or Master PI of SCS |              |             | End Curve    |              |             | End Spiral |              |             |
|-----------------|--------------------------|------------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|-------------|-------------------------------------|--------------|-------------|--------------|--------------|-------------|------------|--------------|-------------|
|                 |                          | Station          | Coordinates  |              | Station      | Coordinates  |             | Station      | Coordinates  |             | Station                             | Coordinates  |             | Station      | Coordinates  |             | Station    | Coordinates  |             |
|                 |                          |                  | Y (Northing) | X (Easting)  |              | Y (Northing) | X (Easting) |              | Y (Northing) | X (Easting) |                                     | Y (Northing) | X (Easting) |              | Y (Northing) | X (Easting) |            | Y (Northing) | X (Easting) |
| 896220          | HIGLEY DRIVE             | 0+00.00          | 3,635,206.72 | 5,651,832.39 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| AP896220-1      | HIGLEY DRIVE             |                  |              |              |              |              | 0+58.41     | 3,635,264.03 | 5,651,821.09 | 0+98.46     | 3,635,303.33                        | 5,651,813.35 | 1+37.84     | 3,635,338.24 | 5,651,793.71 |             |            |              |             |
| 896221          | HIGLEY DRIVE             | 2+00.65          | 3,635,392.98 | 5,651,762.93 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 897350          | COTTINGHAM 8973+50 LT    | 0+00.00          | 3,635,842.93 | 5,652,736.45 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| AP897350-1      | COTTINGHAM 8973+50 LT    |                  |              |              |              |              | 0+20.75     | 3,635,858.19 | 5,652,722.40 | 0+88.47     | 3,635,908.00                        | 5,652,676.52 | 1+39.80     | 3,635,969.09 | 5,652,705.75 |             |            |              |             |
| AP897350-2      | COTTINGHAM 8973+50 LT    |                  |              |              |              |              | 2+12.88     | 3,636,035.01 | 5,652,737.30 | 2+37.17     | 3,636,056.92                        | 5,652,747.78 | 2+60.54     | 3,636,081.20 | 5,652,747.04 |             |            |              |             |
| 897351          | COTTINGHAM 8973+50 LT    | 3+18.67          | 3,636,139.31 | 5,652,745.28 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 998258          | N. FRONTAGE 9982+59 LT   | 0+00.00          | 3,636,260.30 | 5,653,515.54 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 998259          | N. FRONTAGE 9982+59 LT   | 2+00.00          | 3,636,460.17 | 5,653,508.54 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 1000810         | N. FRONTAGE 10008+01 LT  | 0+00.00          | 3,637,795.73 | 5,655,407.63 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| AP1000810-1     | N. FRONTAGE 10008+01 LT  |                  |              |              |              |              | 0+55.20     | 3,637,816.84 | 5,655,356.63 | 1+03.55     | 3,637,835.33                        | 5,655,311.96 | 1+50.07     | 3,637,831.37 | 5,655,263.77 |             |            |              |             |
| 1000811         | N. FRONTAGE 10008+01 LT  | 2+22.64          | 3,637,825.44 | 5,655,191.45 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| AP1000810RET1-1 | 10008+01 LT RETURN 1     |                  |              |              |              |              | 0+00.00     | 3,637,858.01 | 5,655,419.51 | 0+49.51     | 3,637,811.77                        | 5,655,401.83 | 0+78.05     | 3,637,829.00 | 5,655,355.41 |             |            |              |             |
| AP1000810RET2-1 | 10008+01 LT RETURN 2     |                  |              |              |              |              | 0+00.00     | 3,637,809.44 | 5,655,343.69 | 0+52.94     | 3,637,790.65                        | 5,655,393.18 | 0+81.39     | 3,637,742.31 | 5,655,371.59 |             |            |              |             |
| 1002000         | N. FRONTAGE 10020+00 LT  | 0+00.00          | 3,638,962.07 | 5,655,565.38 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| AP1002000-1     | N. FRONTAGE 10020+00 LT  |                  |              |              |              |              | 0+33.36     | 3,638,958.80 | 5,655,532.18 | 0+98.62     | 3,638,952.39                        | 5,655,467.23 | 1+49.01     | 3,639,009.27 | 5,655,435.22 |             |            |              |             |
| AP1002000-2     | N. FRONTAGE 10020+00 LT  |                  |              |              |              |              | 2+70.25     | 3,639,114.93 | 5,655,375.75 | 3+04.54     | 3,639,144.81                        | 5,655,358.93 | 3+36.32     | 3,639,158.08 | 5,655,327.32 |             |            |              |             |
| AP1002000-3     | N. FRONTAGE 10020+00 LT  |                  |              |              |              |              | 3+73.82     | 3,639,172.60 | 5,655,292.74 | 3+99.30     | 3,639,182.46                        | 5,655,269.25 | 4+24.23     | 3,639,183.45 | 5,655,243.79 |             |            |              |             |
| AP1002000-4     | N. FRONTAGE 10020+00 LT  |                  |              |              |              |              | 4+85.64     | 3,639,185.82 | 5,655,182.42 | 5+13.29     | 3,639,186.88                        | 5,655,154.80 | 5+40.06     | 3,639,176.27 | 5,655,129.27 |             |            |              |             |
| AP1002000-5     | N. FRONTAGE 10020+00 LT  |                  |              |              |              |              | 5+91.32     | 3,639,156.60 | 5,655,081.94 | 6+21.34     | 3,639,145.08                        | 5,655,054.22 | 6+50.58     | 3,639,145.08 | 5,655,024.20 |             |            |              |             |
| 693300          | N. CASCADE W. 6933+00 RT | 0+00.00          | 3,633,531.65 | 5,651,978.58 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| AP693300-1      | N. CASCADE W. 6933+00 RT |                  |              |              |              |              | 0+37.22     | 3,633,501.57 | 5,652,000.50 | 0+62.08     | 3,633,481.48                        | 5,652,015.15 | 0+83.36     | 3,633,457.68 | 5,652,007.96 |             |            |              |             |
| 693301          | N. CASCADE W. 6933+00 RT | 1+43.06          | 3,633,400.53 | 5,651,990.72 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 693700          | N. CASCADE W. 6937+00 LT | 0+00.00          | 3,633,748.03 | 5,652,315.45 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| AP693700-1      | N. CASCADE W. 6937+00 LT |                  |              |              |              |              | 0+55.85     | 3,633,794.02 | 5,652,283.76 | 0+96.08     | 3,633,827.15                        | 5,652,260.94 | 1+33.69     | 3,633,840.75 | 5,652,223.09 |             |            |              |             |
| 693701          | N. CASCADE W. 6937+00 LT | 2+06.47          | 3,633,865.36 | 5,652,154.59 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 693800          | N. CASCADE W. 6938+00 LT | 0+00.00          | 3,633,811.85 | 5,652,392.82 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| AP693800L-1     | N. CASCADE W. 6938+00 LT |                  |              |              |              |              | 1+81.35     | 3,633,967.72 | 5,652,300.12 | 2+45.39     | 3,634,022.76                        | 5,652,267.39 | 3+02.40     | 3,634,084.47 | 5,652,284.49 |             |            |              |             |
| 694998          | N. CASCADE W. 6949+98 LT | 0+00.00          | 3,634,203.65 | 5,653,522.18 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 694999          | N. CASCADE W. 6949+98 LT | 1+00.00          | 3,634,303.58 | 5,653,518.51 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 695000          | N. CASCADE W. 6949+98 RT | 0+00.00          | 3,634,203.65 | 5,653,522.18 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 695001          | N. CASCADE W. 6949+98 RT | 0+42.42          | 3,634,161.25 | 5,653,523.74 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 695002          | N. CASCADE W. 6949+98 RT | 1+25.96          | 3,634,081.76 | 5,653,498.07 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 695600          | N. CASCADE W. 6956+00 LT | 0+00.00          | 3,634,532.55 | 5,653,996.96 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 695601          | N. CASCADE W. 6956+00 LT | 3+00.00          | 3,634,409.73 | 5,654,270.66 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 796000          | N. CASCADE E. 7960+00 LT | 0+00.00          | 3,634,942.60 | 5,654,187.81 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 796001          | N. CASCADE E. 7960+00 LT | 0+31.00          | 3,634,948.48 | 5,654,157.37 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 796002          | N. CASCADE E. 7960+00 LT | 0+79.34          | 3,634,960.82 | 5,654,110.63 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 796003          | N. CASCADE E. 7960+00 RT | 0+00.00          | 3,634,948.48 | 5,654,157.37 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 796004          | N. CASCADE E. 7960+00 RT | 0+41.00          | 3,634,940.70 | 5,654,197.63 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 796005          | N. CASCADE E. 7960+00 RT | 2+04.14          | 3,634,877.97 | 5,654,348.22 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 796465          | N. CASCADE E. 7964+65 LT | 0+00.00          | 3,635,384.10 | 5,654,067.91 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| AP796465-1      | N. CASCADE E. 7964+65 LT |                  |              |              |              |              | 0+54.49     | 3,635,381.48 | 5,654,013.48 | 0+68.32     | 3,635,380.82                        | 5,653,999.66 | 0+81.48     | 3,635,373.14 | 5,653,988.15 |             |            |              |             |
| 796466          | N. CASCADE E. 7964+65 LT | 1+75.73          | 3,635,320.87 | 5,653,909.73 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 24043           | N. CASCADE E. 7980+70 RT | 0+00.00          | 3,636,598.37 | 5,655,062.47 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 24044           | N. CASCADE E. 7980+70 RT |                  |              |              |              |              | 1+00.00     | 3,636,524.38 | 5,655,129.74 | 1+46.73     | 3,636,489.80                        | 5,655,161.18 | 1+87.44     | 3,636,491.73 | 5,655,207.87 |             |            |              |             |
| 24085           | N. CASCADE E. 7980+70 RT | 3+03.55          | 3,636,496.53 | 5,655,323.88 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 24053           | N. CASCADE E. 7993+52 RT | 0+00.00          | 3,637,454.26 | 5,656,017.99 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 24054           | N. CASCADE E. 7993+52 RT | 0+78.72          | 3,637,392.88 | 5,656,067.27 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 24055           | N. CASCADE E. 7993+52 RT | 0+97.43          | 3,637,376.78 | 5,656,076.81 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| 799591          | N. CASCADE E. 7995+91 LT | 0+00.00          | 3,637,575.30 | 5,656,226.56 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |
| AP799591-1      | N. CASCADE E. 7995+91 LT |                  |              |              |              |              | 0+46.27     | 3,637,612.33 | 5,656,198.82 | 0+62.29     | 3,637,625.15                        | 5,656,189.22 | 0+77.27     | 3,637,641.16 | 5,656,188.85 |             |            |              |             |
| 799592          | N. CASCADE E. 7995+91 LT | 1+21.98          | 3,637,685.86 | 5,656,187.82 |              |              |             |              |              |             |                                     |              |             |              |              |             |            |              |             |

GEOMETRIC DESIGN U.S. 20 MAINLINE AND SIDEROADS

**ALIGNMENT COORDINATES**

101-16  
10-20-09

| Name      | Location                  | Point on Tangent |              |              | Begin Spiral |              |             | Begin Curve |              |              | Simple Curve PI or Master PI of SCS |              |              | End Curve |              |              | End Spiral |              |             |
|-----------|---------------------------|------------------|--------------|--------------|--------------|--------------|-------------|-------------|--------------|--------------|-------------------------------------|--------------|--------------|-----------|--------------|--------------|------------|--------------|-------------|
|           |                           | Station          | Coordinates  |              | Station      | Coordinates  |             | Station     | Coordinates  |              | Station                             | Coordinates  |              | Station   | Coordinates  |              | Station    | Coordinates  |             |
|           |                           |                  | Y (Northing) | X (Easting)  |              | Y (Northing) | X (Easting) |             | Y (Northing) | X (Easting)  |                                     | Y (Northing) | X (Easting)  |           | Y (Northing) | X (Easting)  |            | Y (Northing) | X (Easting) |
| 200181    | S. FRONTAGE 2001+80 RT    | 0+00.00          | 3,638,263.48 | 5,655,852.87 |              |              |             |             |              |              |                                     |              |              |           |              |              |            |              |             |
| 200182    | S. FRONTAGE 2001+80 RT    | 1+50.00          | 3,638,268.28 | 5,656,002.79 |              |              |             |             |              |              |                                     |              |              |           |              |              |            |              |             |
| 202568    | S. FRONTAGE 2025+68 RT    | 0+00.00          | 3,640,609.78 | 5,656,109.58 |              |              |             |             |              |              |                                     |              |              |           |              |              |            |              |             |
| 202569    | S. FRONTAGE 2025+68 RT    | 0+69.54          | 3,640,618.69 | 5,656,178.55 |              |              |             |             |              |              |                                     |              |              |           |              |              |            |              |             |
| 200800    | S. FRONTAGE 2028+00 RT    | 0+00.00          | 3,640,812.49 | 5,656,221.36 |              |              |             |             |              |              |                                     |              |              |           |              |              |            |              |             |
| 200801    | S. FRONTAGE 2028+00 RT    | 1+00.00          | 3,640,719.19 | 5,656,257.35 |              |              |             |             |              |              |                                     |              |              |           |              |              |            |              |             |
| 13765     | COTTINGHAM CONNECT. ENT.  | 0+00.00          | 3,635,463.57 | 5,649,587.94 |              |              |             |             |              |              |                                     |              |              |           |              |              |            |              |             |
| AP13765-1 | COTTINGHAM CONNECT. ENT.  |                  |              |              |              |              |             | 0+45.70     | 3,635,460.42 | 5,649,542.35 | 0+71.83                             | 3,635,458.61 | 5,649,516.28 | 0+87.74   | 3,635,432.48 | 5,649,516.28 |            |              |             |
| 13766     | COTTINGHAM CONNECT. ENT.  | 1+32.50          | 3,635,387.73 | 5,649,516.28 |              |              |             |             |              |              |                                     |              |              |           |              |              |            |              |             |
| 1302615   | COTTINGHAM S. 13026+15 RT | 0+00.00          | 3,634,329.32 | 5,649,570.22 |              |              |             |             |              |              |                                     |              |              |           |              |              |            |              |             |
| 1302616   | COTTINGHAM S. 13026+15 RT | 0+21.84          | 3,634,329.90 | 5,649,592.05 |              |              |             |             |              |              |                                     |              |              |           |              |              |            |              |             |
| 1302617   | COTTINGHAM S. 13026+15 RT | 0+92.07          | 3,634,303.07 | 5,649,656.96 |              |              |             |             |              |              |                                     |              |              |           |              |              |            |              |             |

**GEOMETRIC DESIGN U.S. 20 MAINLINE AND SIDEROADS**



**SPIRAL OR CIRCULAR CURVE DATA**

101-17  
04-19-11

| Name  | Location                  | Δ <sub>scs</sub> | Horizontal Alignment Data |                |                |                |                |                |            |          |                |                 |           |           | Remarks   |          |  |  |  |
|-------|---------------------------|------------------|---------------------------|----------------|----------------|----------------|----------------|----------------|------------|----------|----------------|-----------------|-----------|-----------|-----------|----------|--|--|--|
|       |                           |                  | Spiral Data               |                |                |                |                |                | Curve Data |          |                |                 |           |           |           |          |  |  |  |
|       |                           |                  | θ <sub>s</sub>            | L <sub>s</sub> | T <sub>s</sub> | E <sub>s</sub> | X <sub>c</sub> | Y <sub>c</sub> | L.T.       | S.T.     | Δ <sub>c</sub> | T               | L         | R         |           | E        |  |  |  |
| 1000  | U.S. 20 (Survey)          |                  |                           |                |                |                |                |                |            |          |                |                 |           |           |           |          |  |  |  |
| 1001  | U.S. 20 (Survey)          | 41° 32' 46.68"   | 4° 33' 11.45"             | 300            |                |                |                |                |            | 200.0662 | 100.0602       | 50° 09' 58.14"  | 1057.2300 | 1977.6209 | 2258.6810 | 235.1865 |  |  |  |
| 1002  | U.S. 20 (Survey)          |                  |                           |                |                |                |                |                |            |          |                | 32° 26' 23.77"  | 549.0980  | 1068.7011 | 1887.5520 | 78.2458  |  |  |  |
|       |                           |                  |                           |                |                |                |                |                |            |          |                | 29° 22' 27.63"  | 756.8435  | 1480.3861 | 2887.5500 | 97.5391  |  |  |  |
| 500   | U.S. 20                   | 41° 10' 21.30"   | 1° 07' 15.62"             | 180            | 1817.8795      | 314.09         | 179.9931       |                |            | 120.0024 | 60.0022        | 38° 55' 50.07"  | 1625.8097 | 3125.5468 | 4600      | 278.8582 |  |  |  |
| 501   | U.S. 20                   |                  |                           |                |                |                |                |                |            |          |                | 50° 32' 23.51"  | 1345.3594 | 2513.9480 | 2850      | 301.5856 |  |  |  |
| 502   | U.S. 20                   |                  |                           |                |                |                |                |                |            |          |                | 29° 22' 28.05"  | 747.0046  | 1461.1409 | 2850      | 96.2715  |  |  |  |
| 100   | Swiss Valley Road         |                  |                           |                |                |                |                |                |            |          |                | 27° 43' 51.20"  | 172.7845  | 338.7967  | 700       | 21.0094  |  |  |  |
| 110   | Relocated Cottingham Road |                  |                           |                |                |                |                |                |            |          |                | 88° 22' 23.73"  | 1009.9117 | 1602.5581 | 1039      | 409.9454 |  |  |  |
| 111   | Relocated Cottingham Road |                  |                           |                |                |                |                |                |            |          |                | 47° 26' 30.05"  | 527.2839  | 993.6163  | 1200      | 110.7358 |  |  |  |
| 112   | Relocated Cottingham Road |                  |                           |                |                |                |                |                |            |          |                | 9° 30' 17.21"   | 86.3779   | 172.3594  | 1039      | 3.5844   |  |  |  |
| 120   | North Frontage Road       |                  |                           |                |                |                |                |                |            |          |                | 33° 24' 42.20"  | 150.0629  | 291.5723  | 500       | 22.0334  |  |  |  |
| 121   | North Frontage Road       |                  |                           |                |                |                |                |                |            |          |                | 29° 15' 03.20"  | 260.9548  | 510.5243  | 1000      | 33.4880  |  |  |  |
| 122   | North Frontage Road       |                  |                           |                |                |                |                |                |            |          |                | 21° 37' 03.67"  | 553.6685  | 1094.1695 | 2900      | 52.3802  |  |  |  |
| 123   | North Frontage Road       |                  |                           |                |                |                |                |                |            |          |                | 40° 04' 32.60"  | 838.8531  | 1608.7426 | 2300      | 148.1982 |  |  |  |
| 127   | Tower Drive               |                  |                           |                |                |                |                |                |            |          |                | 30° 18' 30.24"  | 352.0866  | 687.6758  | 1300      | 46.8352  |  |  |  |
| 128   | Tower Drive               |                  |                           |                |                |                |                |                |            |          |                | 97° 24' 39.80"  | 90.0000   | 153.0129  | 90        | 46.3783  |  |  |  |
| 131   | North Cascade Road (West) |                  |                           |                |                |                |                |                |            |          |                | 18° 58' 33.32"  | 250.6899  | 496.7885  | 1500      | 20.8042  |  |  |  |
| 132   | North Cascade Road (West) |                  |                           |                |                |                |                |                |            |          |                | 48° 43' 40.00"  | 226.4302  | 425.2301  | 500       | 48.8813  |  |  |  |
| 140   | North Cascade Road (East) |                  |                           |                |                |                |                |                |            |          |                | 60° 04' 46.05"  | 192.5656  | 349.1786  | 333       | 51.6694  |  |  |  |
| 141   | North Cascade Road (East) |                  |                           |                |                |                |                |                |            |          |                | 78° 07' 23.84"  | 270.2518  | 454.0484  | 333       | 95.8648  |  |  |  |
| 142   | North Cascade Road (East) |                  |                           |                |                |                |                |                |            |          |                | 5° 31' 01.58"   | 144.5492  | 288.8750  | 3000      | 3.4804   |  |  |  |
| 143   | North Cascade Road (East) |                  |                           |                |                |                |                |                |            |          |                | 5° 26' 21.64"   | 237.5146  | 474.6723  | 5000      | 5.6381   |  |  |  |
| 150   | South Frontage Road       |                  |                           |                |                |                |                |                |            |          |                | 52° 01' 32.08"  | 195.2036  | 363.2071  | 400       | 45.0892  |  |  |  |
| 151   | South Frontage Road       |                  |                           |                |                |                |                |                |            |          |                | 15° 05' 59.44"  | 265.0780  | 527.0840  | 2000      | 17.4901  |  |  |  |
| 152   | South Frontage Road       |                  |                           |                |                |                |                |                |            |          |                | 31° 28' 20.88"  | 704.4245  | 1373.2455 | 2500      | 97.3475  |  |  |  |
| 153   | South Frontage Road       |                  |                           |                |                |                |                |                |            |          |                | 12° 04' 59.26"  | 110.0712  | 219.3260  | 1040      | 5.8086   |  |  |  |
| 160   | Swiss Valley Road Ramp A  |                  |                           |                |                |                |                |                |            |          |                | 15° 45' 50.56"  | 332.2600  | 660.3227  | 2400      | 22.8902  |  |  |  |
| 170   | Swiss Valley Road Ramp B  |                  |                           |                |                |                |                |                |            |          |                | 1° 30' 16.50"   | 262.6146  | 525.1991  | 20000     | 1.7241   |  |  |  |
| 180   | Swiss Valley Road Ramp C  |                  |                           |                |                |                |                |                |            |          |                | 23° 02' 03.79"  | 305.6472  | 603.0388  | 1500      | 30.8234  |  |  |  |
| 190   | Swiss Valley Road Ramp D  |                  |                           |                |                |                |                |                |            |          |                | 8° 06' 20.88"   | 141.7093  | 282.9458  | 2000      | 5.0141   |  |  |  |
| 200   | Cottingham Road Connector |                  |                           |                |                |                |                |                |            |          |                | 96° 39' 51.00"  | 112.3642  | 168.7108  | 100       | 50.4184  |  |  |  |
| 24291 | Ramp A at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 33° 20' 10.98"  | 22.46'    | 43.64'    | 75'       | 3.29'    |  |  |  |
| 24292 | Ramp A at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 58° 03' 05.96"  | 24.97'    | 45.59'    | 45'       | 6.46'    |  |  |  |
| 24293 | Ramp A at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 14° 59' 42.27"  | 26.32'    | 52.34'    | 200'      | 1.72'    |  |  |  |
| 24281 | Ramp A at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 14° 55' 33.15"  | 65.50'    | 130.25'   | 500'      | 4.27'    |  |  |  |
| 24282 | Ramp A at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 52° 25' 37.06"  | 36.93'    | 68.63'    | 75'       | 8.60'    |  |  |  |
| 24283 | Ramp A at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 06° 15' 41.27"  | 27.35'    | 54.64'    | 500'      | 0.75'    |  |  |  |
| 24301 | Ramp B at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 22° 03' 31.07"  | 24.36'    | 48.12'    | 125'      | 2.35'    |  |  |  |
| 24302 | Ramp B at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 64° 01' 55.07"  | 25.01'    | 44.70'    | 40'       | 7.18'    |  |  |  |
| 24303 | Ramp B at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 34° 12' 40.26"  | 23.08'    | 44.78'    | 75'       | 3.47'    |  |  |  |
| 24311 | Ramp B at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 09° 47' 33.28"  | 25.70'    | 51.27'    | 300'      | 1.10'    |  |  |  |
| 24312 | Ramp B at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 34° 23' 46.14"  | 23.21'    | 45.02'    | 75'       | 3.51'    |  |  |  |
| 24313 | Ramp B at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 15° 04' 36.13"  | 52.93'    | 105.26'   | 400'      | 3.49'    |  |  |  |
| 24321 | Ramp C at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 14° 19' 26.20"  | 63.32'    | 125.59'   | 400'      | 4.98'    |  |  |  |
| 24322 | Ramp C at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 114° 35' 29.61" | 29.41'    | 53.17'    | 50'       | 8.01'    |  |  |  |
| 24323 | Ramp C at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 28° 38' 52.40"  | 25.89'    | 51.50'    | 200'      | 1.67'    |  |  |  |
| 24331 | Ramp C at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 11° 27' 32.96"  | 73.41'    | 145.77'   | 500'      | 5.36'    |  |  |  |
| 24332 | Ramp C at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 190° 59' 09.35" | 20.86'    | 36.45'    | 30'       | 6.54'    |  |  |  |
| 24341 | Ramp D at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 87° 39' 16.98"  | 38.40'    | 61.19'    | 40'       | 15.45'   |  |  |  |
| 24342 | Ramp D at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 14° 47' 25.44"  | 64.90'    | 129.07'   | 500'      | 4.19'    |  |  |  |
| 24351 | Ramp D at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 62° 25' 15.96"  | 45.44'    | 81.71'    | 75'       | 12.69'   |  |  |  |
| 24352 | Ramp D at Swiss Valley    |                  |                           |                |                |                |                |                |            |          |                | 15° 08' 03.09"  | 53.14'    | 105.66'   | 400'      | 3.51'    |  |  |  |

**GEOMETRIC DESIGN U.S. 20 MAINLINE AND SIDEROADS**

**SPIRAL OR CIRCULAR CURVE DATA**

101-17  
04-19-11

| Name            | Location                   | Δ <sub>s</sub> | Horizontal Alignment Data |                |                |                |                |                |            |      |                |                |         |           | Remarks    |        |
|-----------------|----------------------------|----------------|---------------------------|----------------|----------------|----------------|----------------|----------------|------------|------|----------------|----------------|---------|-----------|------------|--------|
|                 |                            |                | Spiral Data               |                |                |                |                |                | Curve Data |      |                |                |         |           |            |        |
|                 |                            |                | θ <sub>s</sub>            | L <sub>s</sub> | T <sub>s</sub> | E <sub>s</sub> | X <sub>c</sub> | Y <sub>c</sub> | L.T.       | S.T. | Δ <sub>c</sub> | T              | L       | R         |            | E      |
| 1993            | South Frontage Road at NCS |                |                           |                |                |                |                |                |            |      |                | 11° 44' 18.32" | 30.84'  | 61.46'    | 300'       | 1.58'  |
| 1994            | South Frontage Road at NCS |                |                           |                |                |                |                |                |            |      |                | 70° 48' 35.10" | 49.76'  | 86.51'    | 70'        | 15.88' |
| 1995            | South Frontage Road at NCS |                |                           |                |                |                |                |                |            |      |                | 19° 43' 58.94" | 34.79'  | 68.88'    | 200'       | 3.00'  |
| 1996            | South Frontage Road at NCS |                |                           |                |                |                |                |                |            |      |                | 69° 17' 16.60" | 41.46'  | 72.56'    | 60'        | 12.93' |
| 7959            | North Cascade at SVLLY     |                |                           |                |                |                |                |                |            |      |                | 15° 22' 56.20" | 40.51'  | 80.54'    | 300'       | 2.72'  |
| 7960            | North Cascade at SVLLY     |                |                           |                |                |                |                |                |            |      |                | 66° 20' 39.69" | 32.68'  | 57.90'    | 50'        | 9.74'  |
| 7962            | North Cascade at SVLLY     |                |                           |                |                |                |                |                |            |      |                | 80° 01' 10.34" | 54.56'  | 90.78'    | 65'        | 19.86' |
| 7963            | North Cascade at SVLLY     |                |                           |                |                |                |                |                |            |      |                | 13° 53' 26.67" | 46.29'  | 92.13'    | 380'       | 2.81'  |
| 7965            | North Cascade at SVLLY     |                |                           |                |                |                |                |                |            |      |                | 75° 46' 14.62" | 54.46'  | 92.57'    | 70'        | 18.69' |
| 7966            | North Cascade at SVLLY     |                |                           |                |                |                |                |                |            |      |                | 14° 13' 46.41" | 56.17'  | 111.76'   | 450'       | 3.49'  |
| 7968            | North Cascade at SVLLY     |                |                           |                |                |                |                |                |            |      |                | 13° 13' 06.72" | 23.17'  | 46.14'    | 200'       | 1.34'  |
| 7969            | North Cascade at SVLLY     |                |                           |                |                |                |                |                |            |      |                | 62° 35' 36.18" | 36.48'  | 65.55'    | 60'        | 10.22' |
| 7970            | North Cascade at SVLLY     |                |                           |                |                |                |                |                |            |      |                | 14° 11' 15.42" | 49.78'  | 99.05'    | 400'       | 3.09'  |
| 5975            | North Frontage at SVLLY    |                |                           |                |                |                |                |                |            |      |                | 23° 02' 36.51" | 20.38'  | 40.22'    | 100'       | 10.22' |
| 5976            | North Frontage at SVLLY    |                |                           |                |                |                |                |                |            |      |                | 52° 40' 57.58" | 24.76'  | 45.97'    | 50'        | 3.09'  |
| 5977            | North Frontage at SVLLY    |                |                           |                |                |                |                |                |            |      |                | 14° 16' 44.35" | 50.10'  | 99.69'    | 400'       | 9.74'  |
| 5978            | Cottingham at Swiss Valley |                |                           |                |                |                |                |                |            |      |                | 13° 28' 21.89" | 23.62'  | 47.03'    | 200'       | 3.49'  |
| 5979            | Cottingham at Swiss Valley |                |                           |                |                |                |                |                |            |      |                | 62° 29' 52.80" | 30.34'  | 54.54'    | 50'        | 18.69' |
| 5980            | Cottingham at Swiss Valley |                |                           |                |                |                |                |                |            |      |                | 14° 01' 45.31" | 49.22'  | 97.94'    | 400'       | 1.34'  |
| CHESTERFIELD3-1 | Chesterfield Dr.           |                |                           |                |                |                |                |                |            |      |                | 34° 42' 16.58" | 249.97' | 484.57'   | 800.00'    | 38.14' |
| CHESTERFIELD3-2 | Chesterfield Dr.           |                |                           |                |                |                |                |                |            |      |                | 36° 01' 08.00" | 341.36' | 660.08'   | 1,050.00'  | 54.09' |
| COTTHAM_SOUTH-1 | Cottingham Rd.             |                |                           |                |                |                |                |                |            |      |                | 36° 46' 52.75" | 223.27' | 431.09'   | 671.53'    | 36.14' |
| COTTHAM_SOUTH-2 | Cottingham Rd.             |                |                           |                |                |                |                |                |            |      |                | 44° 27' 30.00" | 93.66'  | 177.83'   | 229.18'    | 18.40' |
| COTTHAM_SOUTH-3 | Cottingham Rd.             |                |                           |                |                |                |                |                |            |      |                | 43° 08' 30.00" | 90.60'  | 172.56'   | 229.18'    | 17.26' |
| 11001           | DET11000                   |                |                           |                |                |                |                |                |            |      |                | 14° 45' 41.75" | 45.34'  | 90.17'    | 350'       | 2.92'  |
| 11002           | DET11000                   |                |                           |                |                |                |                |                |            |      |                | 14° 45' 41.75" | 46.89'  | 93.27'    | 362'       | 3.02'  |
| 10003           | DET11000                   |                |                           |                |                |                |                |                |            |      |                | 14° 45' 41.75" | 46.89'  | 93.27'    | 362'       | 3.02'  |
| 10004           | DET11000                   |                |                           |                |                |                |                |                |            |      |                | 14° 45' 41.75" | 45.3'   | 90.17'    | 350'       | 2.92'  |
| DET12300-1      | DET12300                   |                |                           |                |                |                |                |                |            |      |                | 20° 36' 15.35" | 538.19' | 1,064.76' | 2,960'     | 48.52' |
| DET12300-2      | DET12300                   |                |                           |                |                |                |                |                |            |      |                | 10° 40' 05.33" | 172.17' | 343.43'   | 1,844'     | 8.02'  |
| DET12400-1      | DET12400                   |                |                           |                |                |                |                |                |            |      |                | 3° 21' 19.90"  | 190.39' | 380.67'   | 6,500'     | 2.79'  |
| DET12400-2      | DET12400                   |                |                           |                |                |                |                |                |            |      |                | 3° 21' 19.90"  | 191.04' | 381.96'   | 6,522'     | 2.80'  |
| DET12400-3      | DET12400                   |                |                           |                |                |                |                |                |            |      |                | 3° 22' 03.55"  | 191.73' | 383.34'   | 6,522'     | 2.82'  |
| DET12400-4      | DET12400                   |                |                           |                |                |                |                |                |            |      |                | 3° 20' 07.17"  | 189.24' | 378.38'   | 6,500'     | 2.75'  |
| DET12600-1      | DET12600                   |                |                           |                |                |                |                |                |            |      |                | 14° 16' 18.24" | 250.38' | 498.18'   | 2,000'     | 15.61' |
| DET12600-2      | DET12600                   |                |                           |                |                |                |                |                |            |      |                | 2° 26' 50.05"  | 172.63' | 345.20'   | 8,082'     | 1.84'  |
| DET12600-3      | DET12600                   |                |                           |                |                |                |                |                |            |      |                | 2° 26' 50.05"  | 172.16' | 344.26'   | 8,060'     | 1.84'  |
| DET13100-1      | DET13100                   |                |                           |                |                |                |                |                |            |      |                | 3° 43' 00.08"  | 210.90' | 421.65'   | 6,500'     | 3.42'  |
| DET13100-2      | DET13100                   |                |                           |                |                |                |                |                |            |      |                | 3° 42' 32.82"  | 211.17' | 422.20'   | 6,521.87'  | 3.42'  |
| DET13100-3      | DET13100                   |                |                           |                |                |                |                |                |            |      |                | 3° 43' 38.00"  | 212.21' | 424.27'   | 6,522'     | 3.45'  |
| DET13100-4      | DET13100                   |                |                           |                |                |                |                |                |            |      |                | 3° 42' 23.59"  | 210.78' | 421.41'   | 6,514.12'  | 3.41'  |
| DET13200-1      | DET13200                   |                |                           |                |                |                |                |                |            |      |                | 3° 06' 40.58"  | 176.52' | 352.96'   | 6,500'     | 2.40'  |
| DET13200-2      | DET13200                   |                |                           |                |                |                |                |                |            |      |                | 3° 06' 40.58"  | 177.12' | 354.16'   | 6,522'     | 2.40'  |
| DET13200-3      | DET13200                   |                |                           |                |                |                |                |                |            |      |                | 8° 37' 47.13"  | 245.22' | 489.51'   | 3,250'     | 9.24'  |
| DET13300-1      | DET13300                   |                |                           |                |                |                |                |                |            |      |                | 2° 48' 26.86"  | 158.09' | 316.11'   | 6,500'     | 1.92'  |
| DET13300-2      | DET13300                   |                |                           |                |                |                |                |                |            |      |                | 2° 48' 26.86"  | 159.82' | 319.57'   | 6,522'     | 1.96'  |
| DET13300-3      | DET13300                   |                |                           |                |                |                |                |                |            |      |                | 0° 22' 25.20"  | 60.03'  | 120.06'   | 18,409.95' | 0.10'  |
| DET13300-4      | DET13300                   |                |                           |                |                |                |                |                |            |      |                | 4° 11' 20.20"  | 168.60' | 337.04'   | 4,610'     | 3.08'  |
| DET13300-5      | DET13300                   |                |                           |                |                |                |                |                |            |      |                | 8° 47' 50.68"  | 257.69' | 514.37'   | 3,350'     | 9.90'  |
| 13401           | DET13400                   |                |                           |                |                |                |                |                |            |      |                | 2° 45' 01.22"  | 156.04' | 312.02'   | 6,500'     | 1.87'  |
| 13402           | DET13400                   |                |                           |                |                |                |                |                |            |      |                | 2° 45' 01.22"  | 156.57' | 313.07'   | 6,522'     | 1.88'  |
| 13403           | DET13400                   |                |                           |                |                |                |                |                |            |      |                | 16° 19' 59.91" | 410.43' | 815.30'   | 2,860'     | 29.30' |
| 13404           | DET13400                   |                |                           |                |                |                |                |                |            |      |                | 15° 50' 23.36" | 345.00' | 685.61'   | 2,480'     | 23.88' |
| 13501           | DET13500                   |                |                           |                |                |                |                |                |            |      |                | 29° 22' 28.05" | 710.83' | 1,390.39' | 2,712'     | 91.61' |
| 13502           | DET13500                   |                |                           |                |                |                |                |                |            |      |                | 3° 46' 12.79"  | 224.86' | 449.56'   | 6,832'     | 3.70'  |
| 13503           | DET13500                   |                |                           |                |                |                |                |                |            |      |                | 3° 46' 12.79"  | 265.68' | 531.16'   | 8,072'     | 4.37'  |

**GEOMETRIC DESIGN U.S. 20 MAINLINE AND SIDEROADS**

**SPIRAL OR CIRCULAR CURVE DATA**

101-17  
04-19-11

| Name            | Location      | Δ <sub>scs</sub> | Horizontal Alignment Data |                |                |                |                |                |            |      |                |   |                |         | Remarks   |        |        |  |
|-----------------|---------------|------------------|---------------------------|----------------|----------------|----------------|----------------|----------------|------------|------|----------------|---|----------------|---------|-----------|--------|--------|--|
|                 |               |                  | Spiral Data               |                |                |                |                |                | Curve Data |      |                |   |                |         |           |        |        |  |
|                 |               |                  | θ <sub>s</sub>            | L <sub>s</sub> | T <sub>s</sub> | E <sub>s</sub> | X <sub>c</sub> | Y <sub>c</sub> | L.T.       | S.T. | Δ <sub>c</sub> | T | L              | R       |           | E      |        |  |
| DET13600-1      | DET13600      |                  |                           |                |                |                |                |                |            |      |                |   | 29° 22' 28.05" | 655.79' | 1,282.73' | 2,502' | 84.52' |  |
| DET13600-2      | DET13600      |                  |                           |                |                |                |                |                |            |      |                |   | 3° 46' 12.79"  | 225.19' | 450.22'   | 6,842' | 3.70'  |  |
| DET13600-3      | DET13600      |                  |                           |                |                |                |                |                |            |      |                |   | 3° 46' 12.79"  | 265.28' | 530.37'   | 8,060' | 4.36'  |  |
| 13701           | DET13700      |                  |                           |                |                |                |                |                |            |      |                |   | 80° 00' 00.00" | 62.93'  | 104.72'   | 75'    | 22.91' |  |
| SURCDC_RET_2-1  | SURCDCRET_2   |                  |                           |                |                |                |                |                |            |      |                |   | 51° 04' 15.90" | 23.89'  | 44.57'    | 50'    | 5.41'  |  |
| SURCDC_RET_2-2  | SURCDCRET_2   |                  |                           |                |                |                |                |                |            |      |                |   | 15° 53' 16.56" | 6.98'   | 13.86'    | 50'    | 0.48'  |  |
| SURCDC_RET_3-1  | SURCDCRET_3   |                  |                           |                |                |                |                |                |            |      |                |   | 71° 47' 19.79" | 36.19'  | 62.65'    | 50'    | 11.72' |  |
| SURCDC_RET_3-2  | SURCDCRET_3   |                  |                           |                |                |                |                |                |            |      |                |   | 6° 32' 52.31"  | 22.88'  | 45.71'    | 400'   | 0.65'  |  |
| SURCDC_RET_3-3  | SURCDCRET_3   |                  |                           |                |                |                |                |                |            |      |                |   | 4° 52' 44.89"  | 17.04'  | 34.06'    | 400'   | 0.36'  |  |
| COTTHAM_RET_3-1 | COTTHAM_RET_3 |                  |                           |                |                |                |                |                |            |      |                |   | 13° 28' 21.89" | 23.62'  | 47.03'    | 200'   | 1.39'  |  |
| COTTHAM_RET_3-2 | COTTHAM_RET_3 |                  |                           |                |                |                |                |                |            |      |                |   | 62° 29' 52.80" | 30.34'  | 54.54'    | 50'    | 8.48'  |  |
| COTTHAM_RET_3-3 | COTTHAM_RET_3 |                  |                           |                |                |                |                |                |            |      |                |   | 14° 01' 45.31" | 49.22'  | 97.94'    | 400'   | 3.02'  |  |
| NFR_RET_4-1     | NFR_RET_4     |                  |                           |                |                |                |                |                |            |      |                |   | 23° 02' 33.88" | 20.38'  | 40.22'    | 100'   | 2.06'  |  |
| NFR_RET_4-2     | NFR_RET_4     |                  |                           |                |                |                |                |                |            |      |                |   | 52° 40' 41.05" | 24.75'  | 45.97'    | 50'    | 5.79'  |  |
| NFR_RET_4-3     | NFR_RET_4     |                  |                           |                |                |                |                |                |            |      |                |   | 14° 16' 47.07" | 50.11'  | 99.69'    | 400'   | 3.13'  |  |
| 7959            | SRNCSD_RET_1  |                  |                           |                |                |                |                |                |            |      |                |   | 66° 20' 39.69" | 32.68'  | 57.90'    | 50'    | 9.74'  |  |
| 7960            | SRNCSD_RET_1  |                  |                           |                |                |                |                |                |            |      |                |   | 15° 22' 56.20" | 40.51'  | 80.54'    | 300'   | 2.72'  |  |
| 7962            | SRNCSD_RET_2  |                  |                           |                |                |                |                |                |            |      |                |   | 80° 01' 10.34" | 54.56'  | 90.78'    | 65'    | 19.86' |  |
| 7963            | SRNCSD_RET_2  |                  |                           |                |                |                |                |                |            |      |                |   | 13° 53' 26.67" | 46.29'  | 92.13'    | 380'   | 2.81'  |  |
| 7965            | SRNCSD_RET_3  |                  |                           |                |                |                |                |                |            |      |                |   | 75° 46' 14.62" | 54.46'  | 92.57'    | 70'    | 18.69' |  |
| 7966            | SRNCSD_RET_3  |                  |                           |                |                |                |                |                |            |      |                |   | 14° 13' 46.41" | 56.17'  | 111.76'   | 450'   | 3.49'  |  |
| 7968            | SRNCSD_RET_4  |                  |                           |                |                |                |                |                |            |      |                |   | 13° 13' 06.72" | 23.17'  | 46.14'    | 200'   | 1.34'  |  |
| 7969            | SRNCSD_RET_4  |                  |                           |                |                |                |                |                |            |      |                |   | 62° 35' 36.18" | 36.48'  | 65.55'    | 60'    | 10.22' |  |
| 7970            | SRNCSD_RET_4  |                  |                           |                |                |                |                |                |            |      |                |   | 14° 11' 15.42" | 49.78'  | 99.05'    | 400'   | 3.09'  |  |
| SRNCSD_RET_1-1  | SRNCSD_RET_1  |                  |                           |                |                |                |                |                |            |      |                |   | 67° 48' 49.06" | 40.33'  | 71.01'    | 60'    | 12.29' |  |
| SRNCSD_RET_1-2  | SRNCSD_RET_1  |                  |                           |                |                |                |                |                |            |      |                |   | 21° 13' 36.34" | 37.48'  | 74.10'    | 200'   | 3.48'  |  |
| SRNCSD_RET_2-1  | SRNCSD_RET_2  |                  |                           |                |                |                |                |                |            |      |                |   | 69° 29' 45.80" | 48.56'  | 84.91'    | 70'    | 15.19' |  |
| SRNCSD_RET_2-2  | SRNCSD_RET_2  |                  |                           |                |                |                |                |                |            |      |                |   | 18° 42' 49.36" | 49.43'  | 97.98'    | 300'   | 4.05'  |  |
| RAMPA_RET_1-1   | RAMPA_RET_1   |                  |                           |                |                |                |                |                |            |      |                |   | 6° 16' 13.78"  | 27.39'  | 54.72'    | 500'   | 0.75'  |  |
| RAMPA_RET_1-2   | RAMPA_RET_1   |                  |                           |                |                |                |                |                |            |      |                |   | 52° 26' 55.50" | 36.94'  | 68.66'    | 75'    | 8.61'  |  |
| RAMPA_RET_1-3   | RAMPA_RET_1   |                  |                           |                |                |                |                |                |            |      |                |   | 14° 53' 45.86" | 65.37'  | 129.99'   | 500'   | 4.25'  |  |
| RAMPC_RET_2-1   | RAMPC_RET_2   |                  |                           |                |                |                |                |                |            |      |                |   | 14° 50' 25.96" | 26.05'  | 51.80'    | 200'   | 1.69'  |  |
| RAMPC_RET_2-2   | RAMPC_RET_2   |                  |                           |                |                |                |                |                |            |      |                |   | 60° 57' 50.48" | 29.43'  | 53.20'    | 50'    | 8.02'  |  |
| RAMPC_RET_2-3   | RAMPC_RET_2   |                  |                           |                |                |                |                |                |            |      |                |   | 17° 52' 16.12" | 62.89'  | 124.76'   | 400'   | 4.91'  |  |
| RAMPC_RET_3-1   | RAMPC_RET_3   |                  |                           |                |                |                |                |                |            |      |                |   | 7° 15' 08.09"  | 31.69'  | 63.29'    | 500'   | 1.00'  |  |
| RAMPC_RET_3-2   | RAMPC_RET_3   |                  |                           |                |                |                |                |                |            |      |                |   | 9° 27' 06.46"  | 41.34'  | 82.48'    | 500'   | 1.71'  |  |
| RAMPC_RET_3-3   | RAMPC_RET_3   |                  |                           |                |                |                |                |                |            |      |                |   | 69° 37' 11.46" | 20.86'  | 36.45'    | 30'    | 6.54'  |  |
| RAMPA_RET_4-1   | RAMPA_RET_4   |                  |                           |                |                |                |                |                |            |      |                |   | 33° 20' 22.00" | 22.46'  | 46.64'    | 75'    | 3.29'  |  |
| RAMPA_RET_4-2   | RAMPA_RET_4   |                  |                           |                |                |                |                |                |            |      |                |   | 58° 03' 05.71" | 24.97'  | 45.59'    | 45'    | 6.46'  |  |
| RAMPA_RET_4-3   | RAMPA_RET_4   |                  |                           |                |                |                |                |                |            |      |                |   | 3° 30' 55.11"  | 6.14'   | 12.27'    | 200'   | 0.09'  |  |
| RAMPD_RET_1-1   | RAMPD_RET_1   |                  |                           |                |                |                |                |                |            |      |                |   | 7° 15' 08.09"  | 31.69'  | 63.29'    | 500'   | 1.00'  |  |
| RAMPD_RET_1-2   | RAMPD_RET_1   |                  |                           |                |                |                |                |                |            |      |                |   | 7° 32' 14.13"  | 32.94'  | 65.78'    | 500'   | 1.08'  |  |
| RAMPD_RET_1-3   | RAMPD_RET_1   |                  |                           |                |                |                |                |                |            |      |                |   | 87° 42' 02.50" | 38.43'  | 61.23'    | 40'    | 15.47' |  |
| RAMPB_RET_2-1   | RAMPB_RET_2   |                  |                           |                |                |                |                |                |            |      |                |   | 29° 37' 19.02" | 19.83'  | 38.78'    | 75'    | 2.58'  |  |
| RAMPB_RET_2-2   | RAMPB_RET_2   |                  |                           |                |                |                |                |                |            |      |                |   | 67° 19' 09.91" | 26.64'  | 47.00'    | 40'    | 8.06'  |  |
| RAMPB_RET_2-3   | RAMPB_RET_2   |                  |                           |                |                |                |                |                |            |      |                |   | 22° 03' 31.07" | 24.36'  | 48.12'    | 125'   | 2.35'  |  |
| RAMPB_RET_3-1   | RAMPB_RET_3   |                  |                           |                |                |                |                |                |            |      |                |   | 9° 46' 31.46"  | 25.65'  | 51.18'    | 300'   | 1.09'  |  |
| RAMPB_RET_3-2   | RAMPB_RET_3   |                  |                           |                |                |                |                |                |            |      |                |   | 35° 26' 08.28" | 23.96'  | 46.39'    | 75'    | 3.73'  |  |
| RAMPB_RET_3-3   | RAMPB_RET_3   |                  |                           |                |                |                |                |                |            |      |                |   | 14° 49' 50.44" | 52.06'  | 103.54'   | 400'   | 3.37'  |  |
| RAMPD_RET_4-1   | RAMPD_RET_4   |                  |                           |                |                |                |                |                |            |      |                |   | 62° 25' 16.38" | 45.44'  | 81.71'    | 75'    | 12.69' |  |
| RAMPD_RET_4-2   | RAMPD_RET_4   |                  |                           |                |                |                |                |                |            |      |                |   | 5° 11' 50.99"  | 18.16'  | 36.29'    | 400'   | 0.41'  |  |
| RAMPD_RET_4-3   | RAMPD_RET_4   |                  |                           |                |                |                |                |                |            |      |                |   | 9° 56' 12.52"  | 34.77'  | 69.37'    | 400'   | 1.51'  |  |

**GEOMETRIC DESIGN U.S. 20 MAINLINE AND SIDEROADS**

**SPIRAL OR CIRCULAR CURVE DATA**

101-17  
04-19-11

| Name            | Location                 | Δ <sub>scs</sub> | Horizontal Alignment Data |                |                |                |                |                |            |      |                |   |                   |        | Remarks |         |        |  |
|-----------------|--------------------------|------------------|---------------------------|----------------|----------------|----------------|----------------|----------------|------------|------|----------------|---|-------------------|--------|---------|---------|--------|--|
|                 |                          |                  | Spiral Data               |                |                |                |                |                | Curve Data |      |                |   |                   |        |         |         |        |  |
|                 |                          |                  | θ <sub>s</sub>            | L <sub>s</sub> | T <sub>s</sub> | E <sub>s</sub> | X <sub>c</sub> | Y <sub>c</sub> | L.T.       | S.T. | Δ <sub>c</sub> | T | L                 | R      |         | E       |        |  |
| AP896220-1      | HIGLEY DRIVE             |                  |                           |                |                |                |                |                |            |      |                |   | 18° 12' 18.95" LT | 40.06' | 79.44'  | 250.00' | 3.19'  |  |
| AP897350-1      | COTTINGHAM 8973+50 LT    |                  |                           |                |                |                |                |                |            |      |                |   | 68° 12' 47.50" RT | 67.72' | 119.05' | 100.00' | 20.77' |  |
| AP897350-2      | COTTINGHAM 8973+50 LT    |                  |                           |                |                |                |                |                |            |      |                |   | 27° 18' 27.03" LT | 24.29' | 47.66'  | 100.00' | 2.91'  |  |
| AP1000810-1     | N. FRONTAGE 10008+01 LT  |                  |                           |                |                |                |                |                |            |      |                |   | 27° 10' 46.32" LT | 48.35' | 94.87'  | 200.00' | 5.76'  |  |
| AP1000810RET1-1 | 10008+01 LT RETURN 1     |                  |                           |                |                |                |                |                |            |      |                |   | 89° 26' 11.49" RT | 49.51' | 78.05'  | 50.00'  | 20.37' |  |
| AP1000810RET2-1 | 10008+01 LT RETURN 2     |                  |                           |                |                |                |                |                |            |      |                |   | 93° 16' 13.77" RT | 52.94' | 81.39'  | 50.00'  | 22.82' |  |
| AP1002000-1     | N. FRONTAGE 10020+00 LT  |                  |                           |                |                |                |                |                |            |      |                |   | 66° 15' 45.44" RT | 65.27' | 115.65' | 100.00' | 19.41' |  |
| AP1002000-2     | N. FRONTAGE 10020+00 LT  |                  |                           |                |                |                |                |                |            |      |                |   | 37° 51' 09.50" LT | 34.29' | 66.07'  | 100.00' | 5.72'  |  |
| AP1002000-3     | N. FRONTAGE 10020+00 LT  |                  |                           |                |                |                |                |                |            |      |                |   | 20° 33' 47.77" LT | 25.48' | 50.41'  | 140.45' | 2.29'  |  |
| AP1002000-4     | N. FRONTAGE 10020+00 LT  |                  |                           |                |                |                |                |                |            |      |                |   | 24° 46' 44.63" LT | 27.64' | 54.42'  | 125.83' | 3.00'  |  |
| AP1002000-5     | N. FRONTAGE 10020+00 LT  |                  |                           |                |                |                |                |                |            |      |                |   | 22° 34' 02.56" RT | 30.02' | 59.26'  | 150.46' | 2.97'  |  |
| AP693300-1      | N. CASCADE W. 6933+00 RT |                  |                           |                |                |                |                |                |            |      |                |   | 52° 52' 27.98" RT | 24.86' | 46.14'  | 50.00'  | 5.84'  |  |
| AP693700-1      | N. CASCADE W. 6937+00 LT |                  |                           |                |                |                |                |                |            |      |                |   | 35° 40' 34.45" LT | 40.22' | 77.83'  | 125.00' | 6.31'  |  |
| AP693800L-1     | N. CASCADE W. 6938+00 LT |                  |                           |                |                |                |                |                |            |      |                |   | 46° 14' 12.60" RT | 64.04' | 121.05' | 150.00' | 13.10' |  |
| AP796465-1      | N. CASCADE E. 7964+65 LT |                  |                           |                |                |                |                |                |            |      |                |   | 30° 55' 55.71" LT | 13.83' | 26.99'  | 50.00'  | 1.88'  |  |
| 24044           | N. CASCADE E. 7980+70 RT |                  |                           |                |                |                |                |                |            |      |                |   | 50° 05' 49.90" LT | 46.73' | 87.44'  | 100.00' | 10.38' |  |
| AP799591-1      | N. CASCADE E. 7995+91 LT |                  |                           |                |                |                |                |                |            |      |                |   | 35° 31' 18.57" RT | 16.02' | 31.00'  | 50.00'  | 2.50'  |  |
| AP13765-1       | COTTINGHAM CONNECT. ENT. |                  |                           |                |                |                |                |                |            |      |                |   | 86° 02' 38.04" LT | 26.13' | 42.05'  | 28.00'  | 10.30' |  |

**GEOMETRIC DESIGN U.S. 20 MAINLINE AND SIDEROADS**

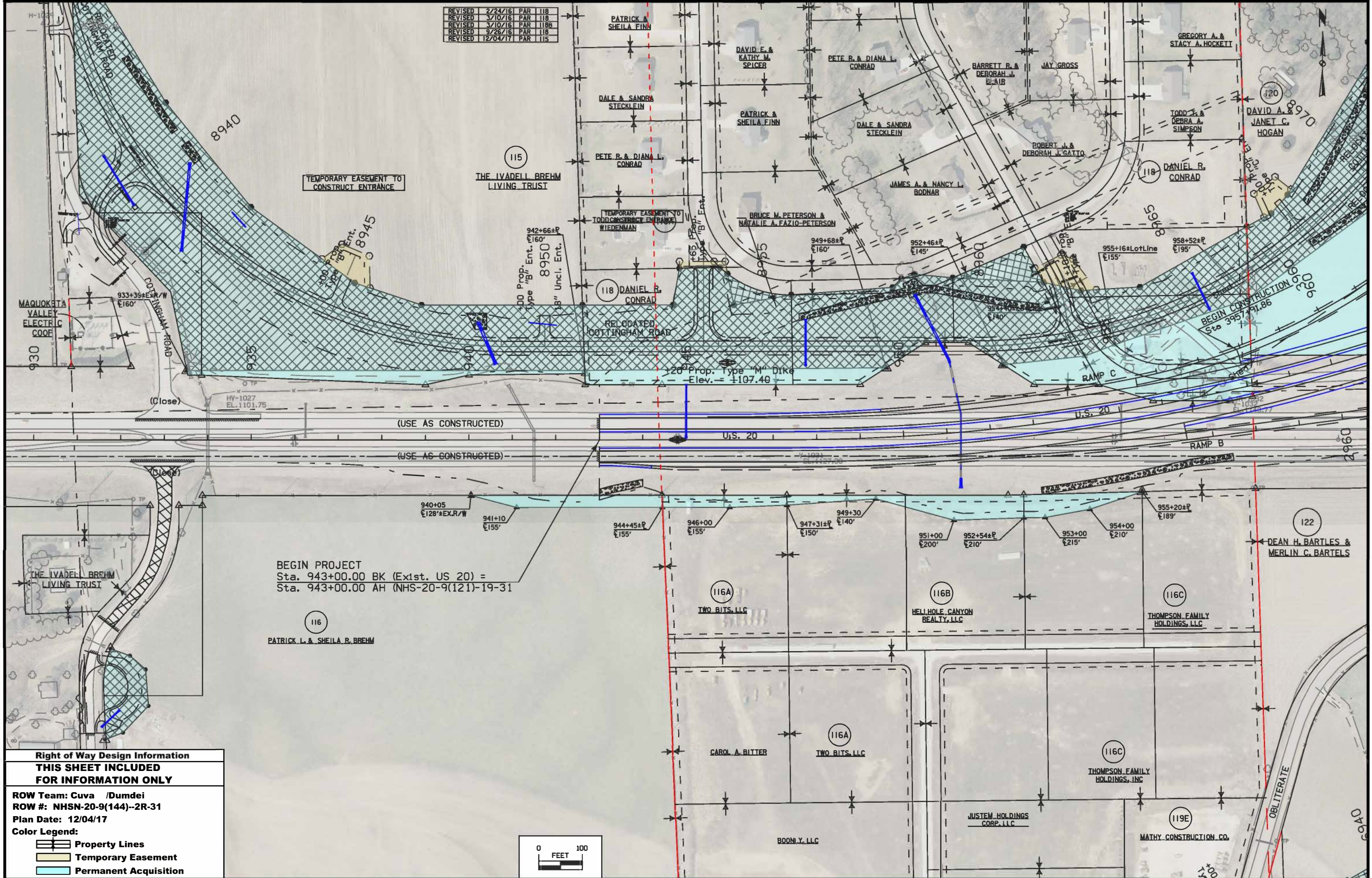
**SUPERELEVATION DATA**

See PV-300 Series

| Road Identification | Circular Curve or Spiral Curve Name | Radius | Superelevation Data |        |    | Standard Road Plan | Section A-A | Section B-B | Section C-C | Section D-D | Section E-E | Section F-F | Case A     | Case B | Case C | Case S     | Case T     | Case U | Remarks |
|---------------------|-------------------------------------|--------|---------------------|--------|----|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|--------|--------|------------|------------|--------|---------|
|                     |                                     |        | e                   | L      | x  |                    |             |             |             |             |             |             |            |        |        |            |            |        |         |
|                     |                                     |        | FT                  | FT     | FT |                    |             |             |             |             |             |             |            |        |        |            |            |        |         |
| US 20               | 21000                               | #####  | 4.0                 | 180    | 90 | PV-302             | 945+53.69   | 946+43.69   | 947+33.69   | 948+23.69   |             |             | 948+23.69  |        |        | 948+23.69  | 948+23.69  |        |         |
|                     |                                     |        |                     |        |    |                    | 982+19.24   | 981+29.24   | 980+39.24   | 979+49.24   |             |             | 979+49.24  |        |        | 979+49.24  | 979+49.24  |        |         |
| US 20               | 1001                                | 3000   | 5.2                 | 240    | 90 | PV-302             | 986+32.39   | 987+22.39   | 988+12.39   | 989+62.39   |             |             | 989+62.39  |        |        | 989+62.39  | 989+62.39  |        |         |
|                     |                                     |        |                     |        |    |                    | 1016+98.65  | 1016+08.65  | 1015+18.65  | 1013+68.65  |             |             | 1013+68.65 |        |        | 1014+24.03 | 1014+24.03 |        |         |
| US 20               | 502                                 | 2800   | 5.5                 | 1186.5 | 90 | PV-302             | 1008+26.31  | 1009+16.31  | 1010+06.31  | 1021+02.81  |             |             | 1021+02.81 |        |        | 1017+79.22 | 1017+79.22 |        |         |
|                     |                                     |        |                     |        |    |                    | 1045+65.82  | 1044+75.82  | 1043+85.82  | 1032+89.32  |             |             | 1032+89.32 |        |        | 1036+12.91 | 1036+12.91 |        |         |
| SVLLYA              | 160                                 | 2400   | 5.0                 | 660.32 | 62 | PV-303             | 1971+89.45  |             | 1975+89.67  | 1977+87.77  |             |             |            |        |        | 1976+55.70 | 1976+55.70 |        |         |
|                     |                                     |        |                     |        |    |                    | 1986+50.22  |             | 1982+50.00  | 1980+51.90  |             |             |            |        |        | 1981+83.97 | 1981+83.97 |        |         |
| SVLLYC              | 180                                 | 1500   | 6.0                 | 603.04 | 62 | PV-303             | 3951+89.87  |             | 3955+50.00  | 3957+30.91  |             |             |            |        |        | 3955+29.90 | 3955+29.90 |        |         |
|                     |                                     |        |                     |        |    |                    | 3965+13.17  |             | 3961+53.04  | 3959+72.13  |             |             |            |        |        | 3961+73.14 | 3961+73.14 |        |         |
| SVLLYD              | 190                                 | 2000   | 5.4                 | 282.95 | 62 | PV-303             | 4980+00.99  |             | 4981+37.05  | 4982+21.94  |             |             |            |        |        | 4981+48.58 | 4981+48.58 |        |         |
|                     |                                     |        |                     |        |    |                    | 4985+56.07  |             | 4984+20.00  | 4983+35.12  |             |             |            |        |        | 4984+08.47 | 4984+08.47 |        |         |
| NCSDW               | 131                                 | 1500   | 4.5                 | 484.66 | 45 | PV-301             | 6932+96.97  | 6933+41.97  | 6933+86.97  | 6938+26.63  |             |             | 6936+81.23 |        |        | 6937+72.78 | 6937+72.78 |        |         |
|                     |                                     |        |                     |        |    |                    | 6945+50.15  | 6945+05.15  | 6944+60.15  | 6940+20.49  |             |             | 6941+65.89 |        |        | 6940+74.34 | 6940+74.34 |        |         |
| NCSDW               | 132                                 | 500    | 4.3                 | 425.23 | 34 | PV-301             | 6948+37.09  | 6948+71.09  | 6949+05.09  | 6952+96.32  |             |             | 6951+68.75 |        |        | 6952+66.65 | 6952+66.65 |        |         |
|                     |                                     |        |                     |        |    |                    | 6959+25.64  | 6958+91.64  | 6958+57.64  | 6954+66.41  |             |             | 6955+93.98 |        |        | 6954+96.08 | 6954+96.08 |        |         |



|         |          |     |      |
|---------|----------|-----|------|
| REVISED | 2/24/16  | PAR | 118  |
| REVISED | 3/10/16  | PAR | 118  |
| REVISED | 3/10/16  | PAR | 118B |
| REVISED | 9/26/16  | PAR | 118  |
| REVISED | 12/04/17 | PAR | 115  |



TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

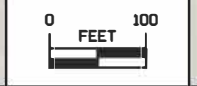
THE IVADLEL BREHM LIVING TRUST

BEGIN PROJECT  
Sta. 943+00.00 BK (Exist. US 20) =  
Sta. 943+00.00 AH (NHS-20-9(121)-19-31)

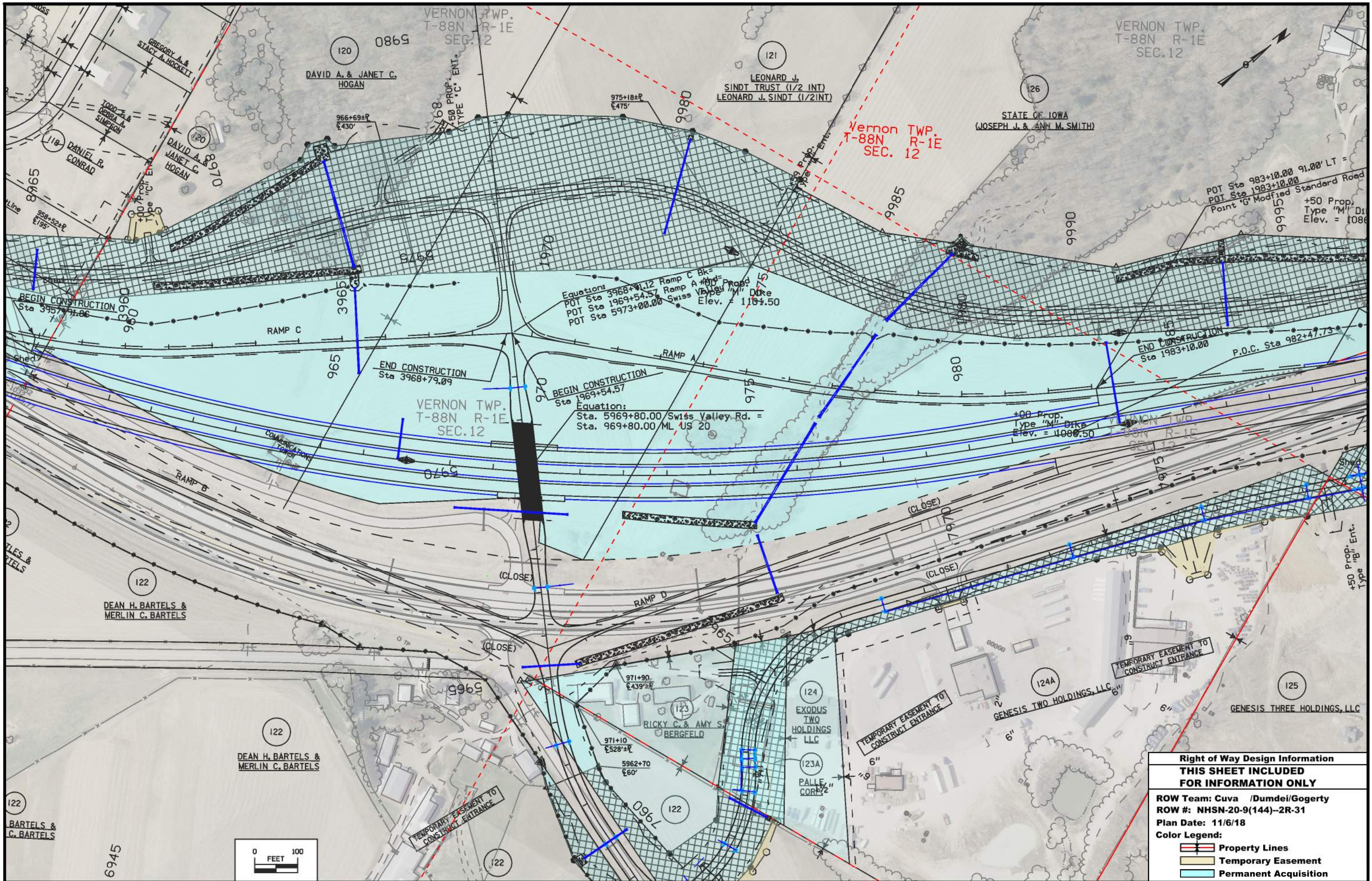
**Right of Way Design Information**  
**THIS SHEET INCLUDED**  
**FOR INFORMATION ONLY**

ROW Team: Cuva /Dumdei  
ROW #: NHSN-20-9(144)-2R-31  
Plan Date: 12/04/17  
Color Legend:

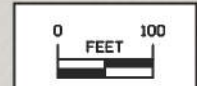
- Property Lines
- Temporary Easement
- Permanent Acquisition



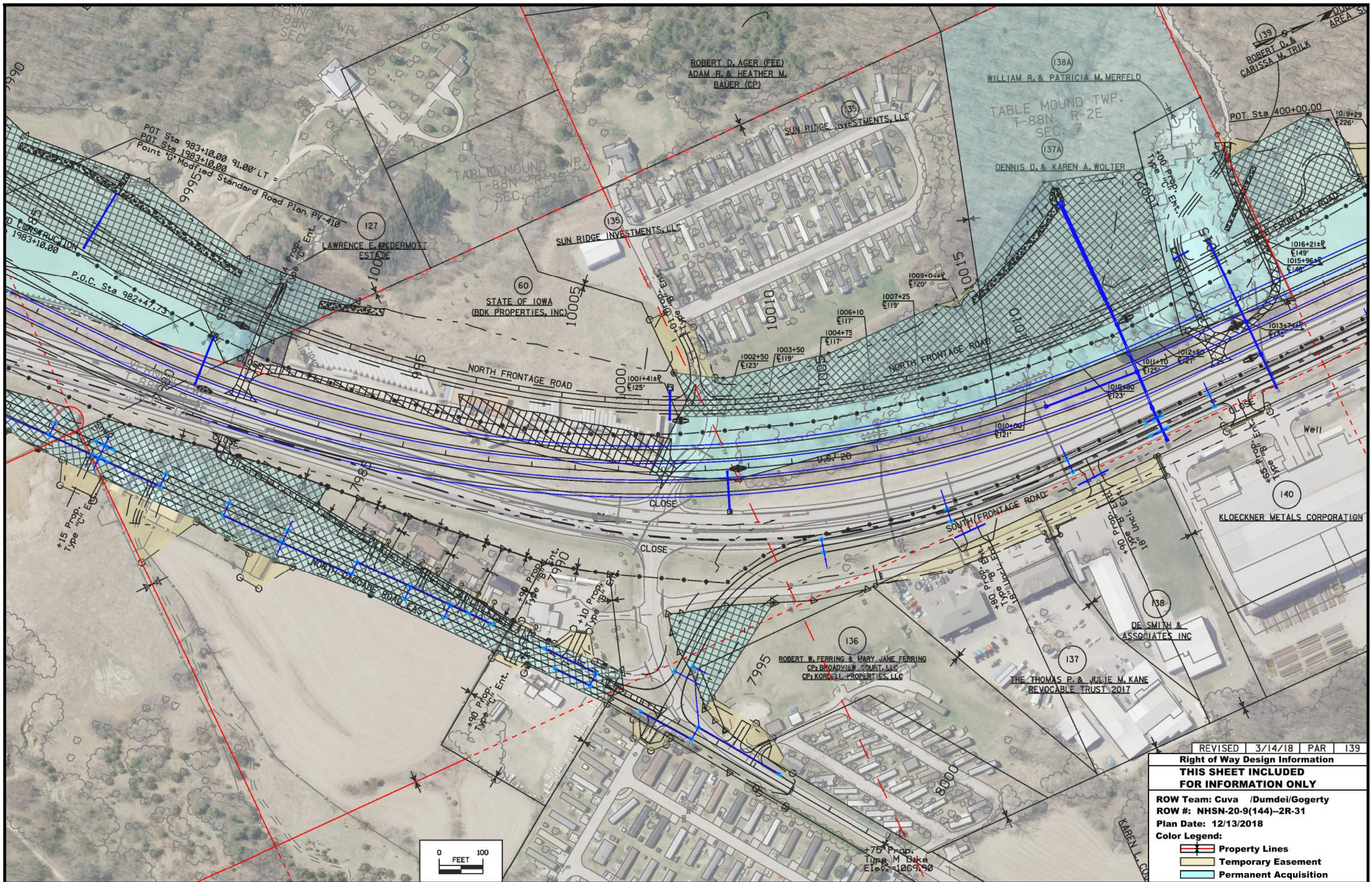




|                                                 |                       |
|-------------------------------------------------|-----------------------|
| <b>Right of Way Design Information</b>          |                       |
| <b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b> |                       |
| ROW Team: Cuva /Dumdei/Gogerty                  |                       |
| ROW #: NHSN-20-9(144)--2R-31                    |                       |
| Plan Date: 11/6/18                              |                       |
| Color Legend:                                   |                       |
|                                                 | Property Lines        |
|                                                 | Temporary Easement    |
|                                                 | Permanent Acquisition |





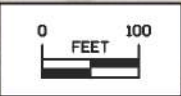


REVISED 3/14/18 PAR 139

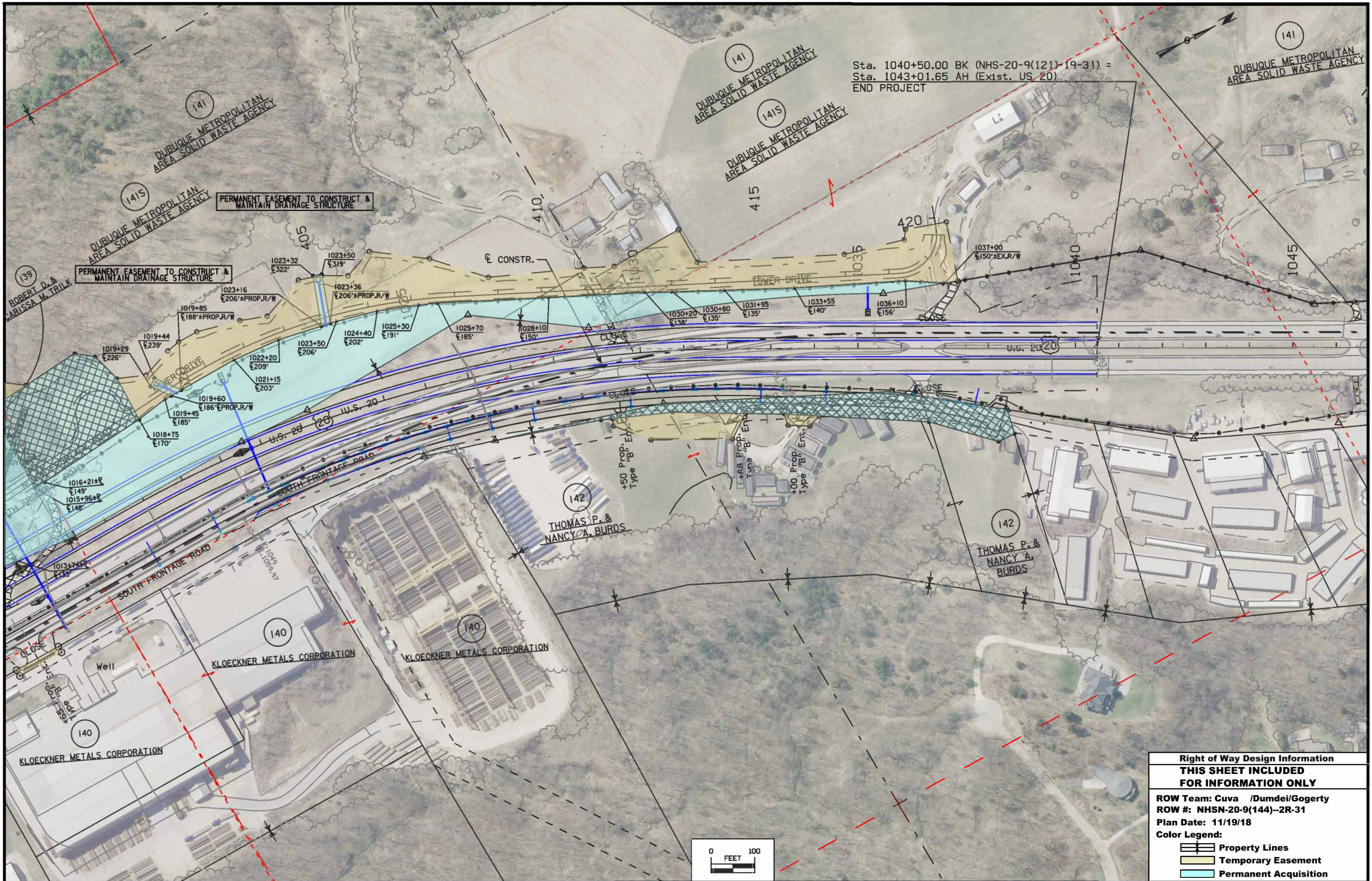
**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**

ROW Team: Cuva /Dumdei/Gogerty  
 ROW #: NHSN-20-9(144)--2R-31  
 Plan Date: 12/13/2018

- Color Legend:**
- Property Lines
  - Temporary Easement
  - Permanent Acquisition







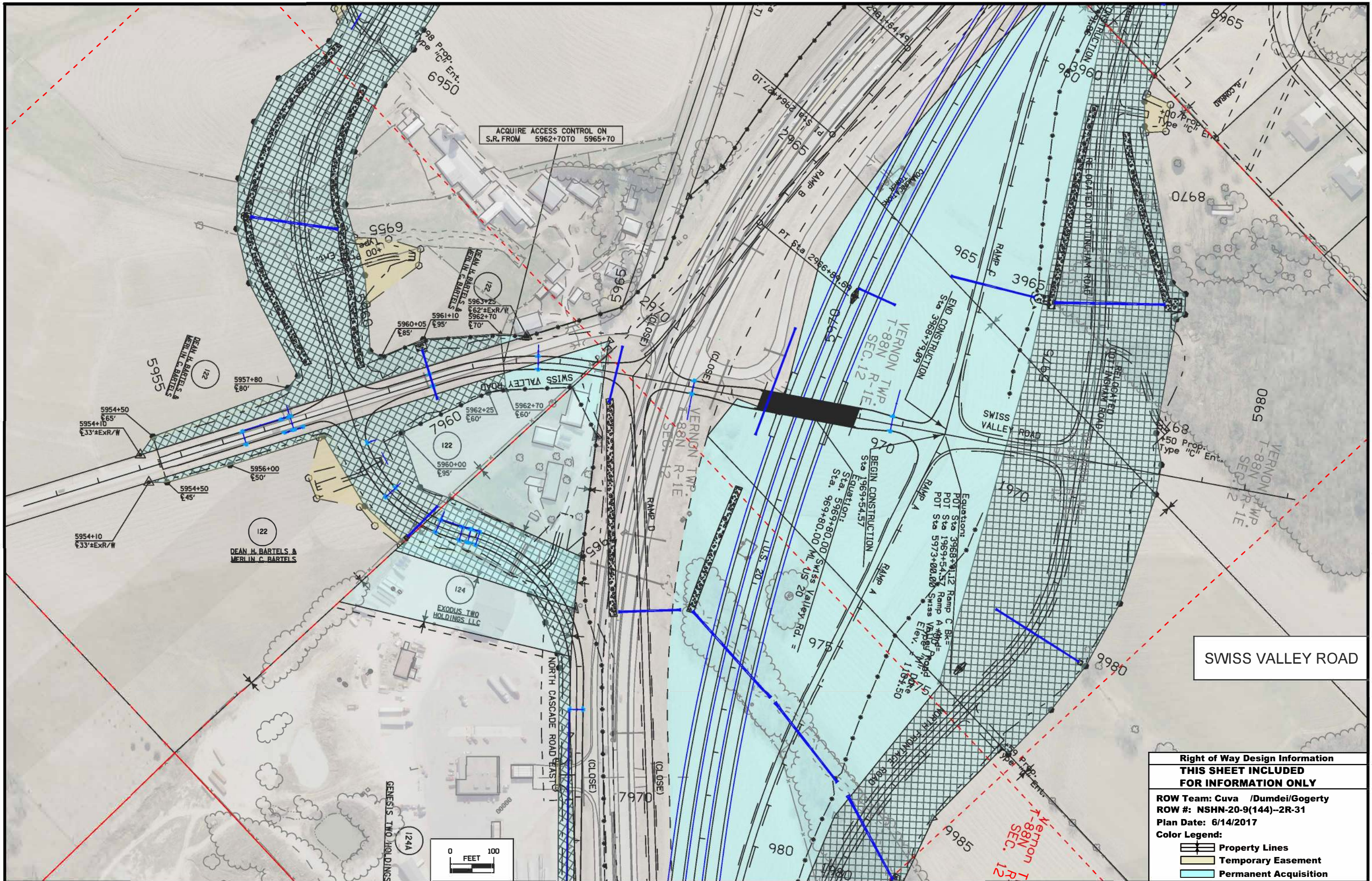
Sta. 1040+50.00 BK (NHS-20-9(121)-19-31) =  
 Sta. 1043+01.65 AH (Ex1st. US 20)  
 END PROJECT

**Right of Way Design Information**  
**THIS SHEET INCLUDED**  
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ROW Team: Cuva /Dumdei/Gogerty  
 ROW #: NHSN-20-9(144)--2R-31  
 Plan Date: 11/19/18

- Color Legend:
- Property Lines
  - Temporary Easement
  - Permanent Acquisition



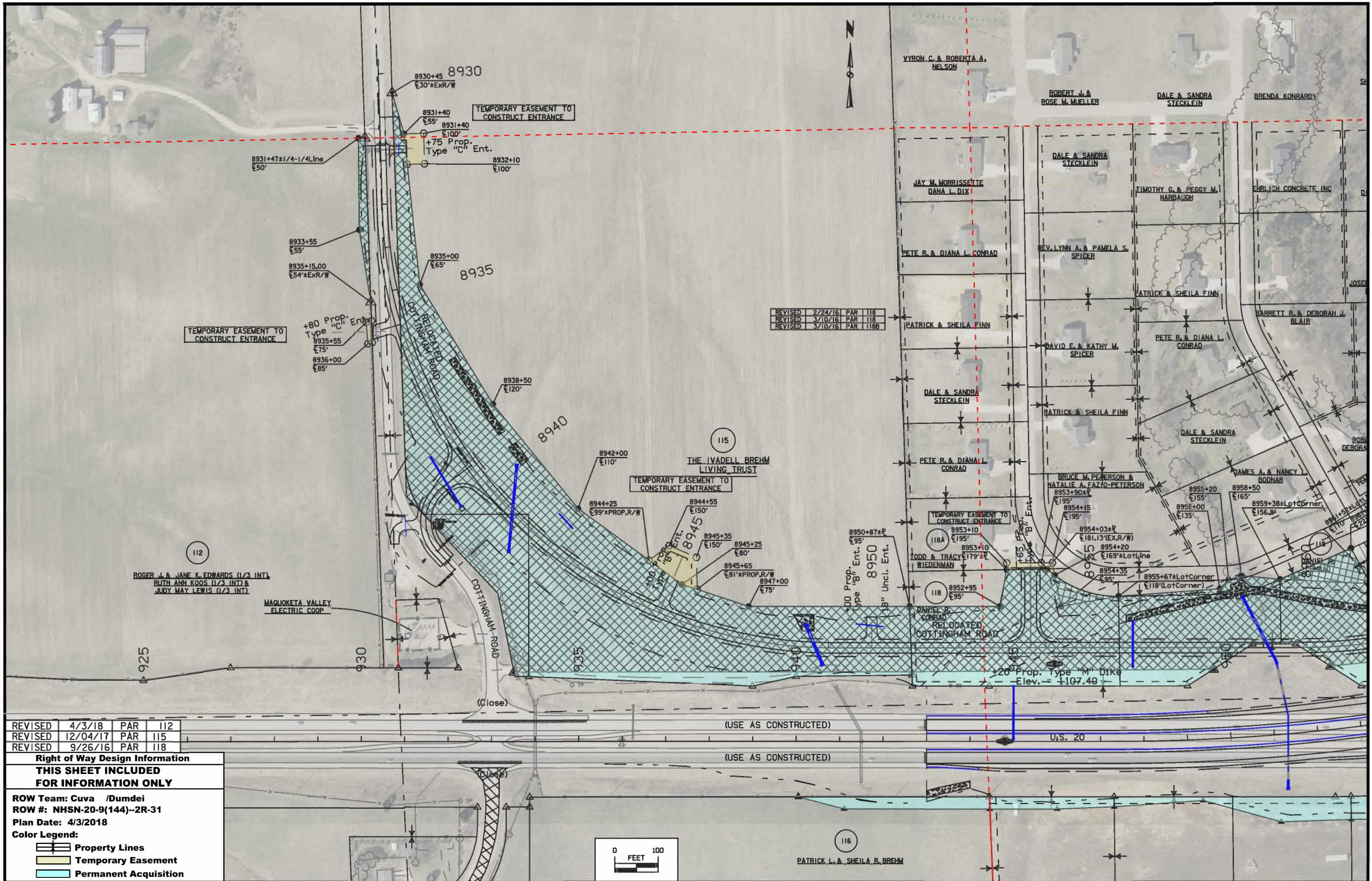


ACQUIRE ACCESS CONTROL ON  
S.R. FROM 5962+70 TO 5965+70

SWISS VALLEY ROAD

|                                                 |                       |
|-------------------------------------------------|-----------------------|
| <b>Right of Way Design Information</b>          |                       |
| <b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b> |                       |
| ROW Team: Cuva /Dumdei/Gogerty                  |                       |
| ROW #: NSHN-20-9(144)-2R-31                     |                       |
| Plan Date: 6/14/2017                            |                       |
| Color Legend:                                   |                       |
|                                                 | Property Lines        |
|                                                 | Temporary Easement    |
|                                                 | Permanent Acquisition |





REVISED 2/24/16 PAR 118  
 REVISED 3/10/16 PAR 118  
 REVISED 3/10/16 PAR 118B

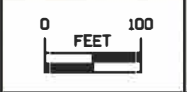
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

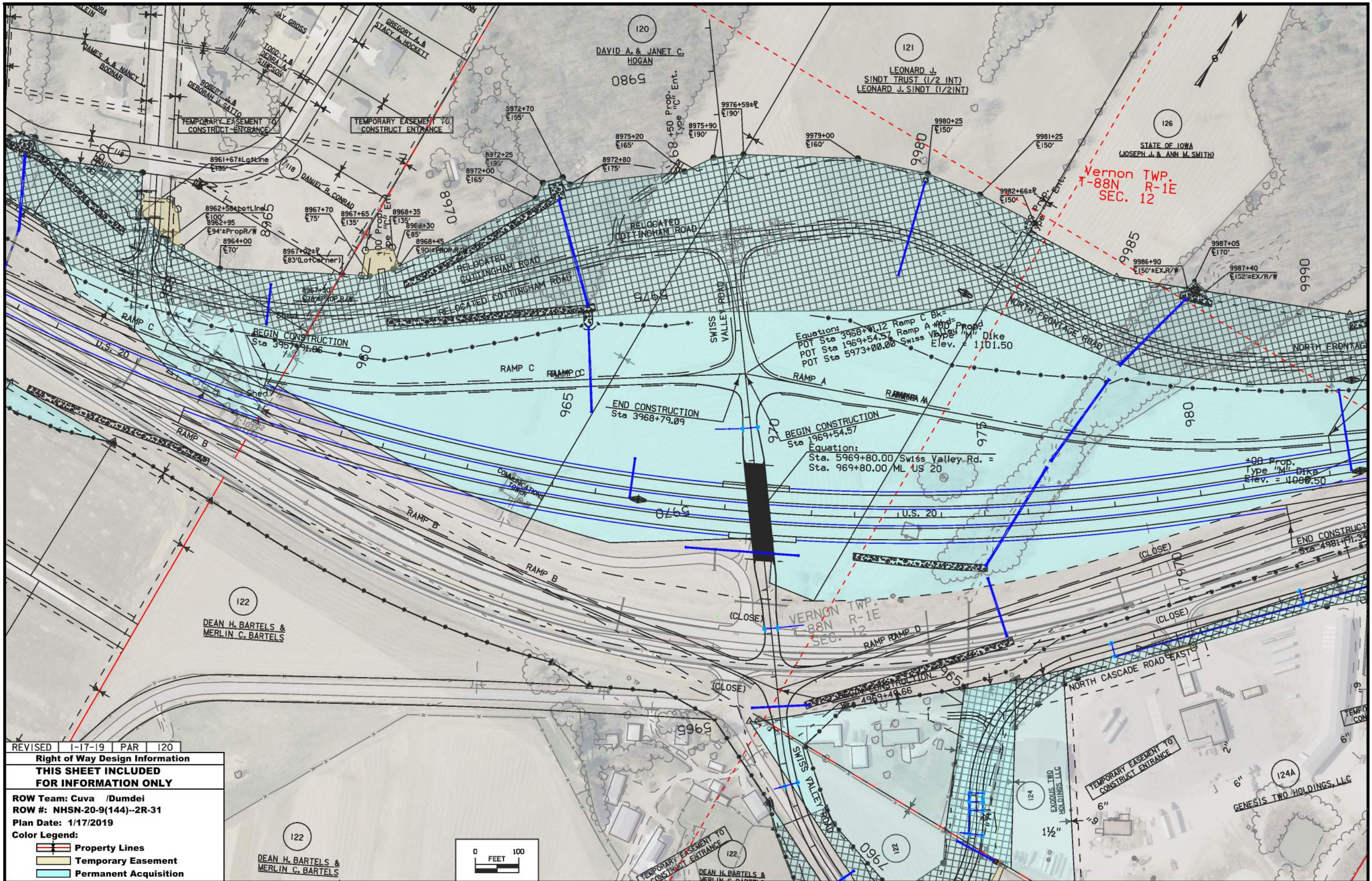
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

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| REVISED | 4/3/18   | PAR | 112 |
| REVISED | 12/04/17 | PAR | 115 |
| REVISED | 9/26/16  | PAR | 118 |

**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**  
 ROW Team: Cuva /Dumdei  
 ROW #: NHSN-20-9(144)--2R-31  
 Plan Date: 4/3/2018  
 Color Legend:  
 Property Lines  
 Temporary Easement  
 Permanent Acquisition







Vernon TWP.  
T-88N R-1E  
SEC. 12

Equations  
 POT Sta 3968+01.12 Ramp C Bk=  
 POT Sta 1969+54.57 Ramp A # of Prop  
 POT Sta 5973+00.00 Swiss Valley Rd. Dike  
 Elev. = 1101.50

BEGIN CONSTRUCTION  
 Sta 1969+54.57  
 Equation:  
 Sta. 5969+80.00 Swiss Valley Rd. =  
 Sta. 969+80.00 ML US 20

END CONSTRUCTION  
 Sta 3968+79.09

+00 Prop.  
 Type "M" Dike  
 Elev. = 1100.50

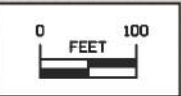
VERNON TWP.  
T-88N R-1E  
SEC. 12

REVISED 1-17-19 PAR 120

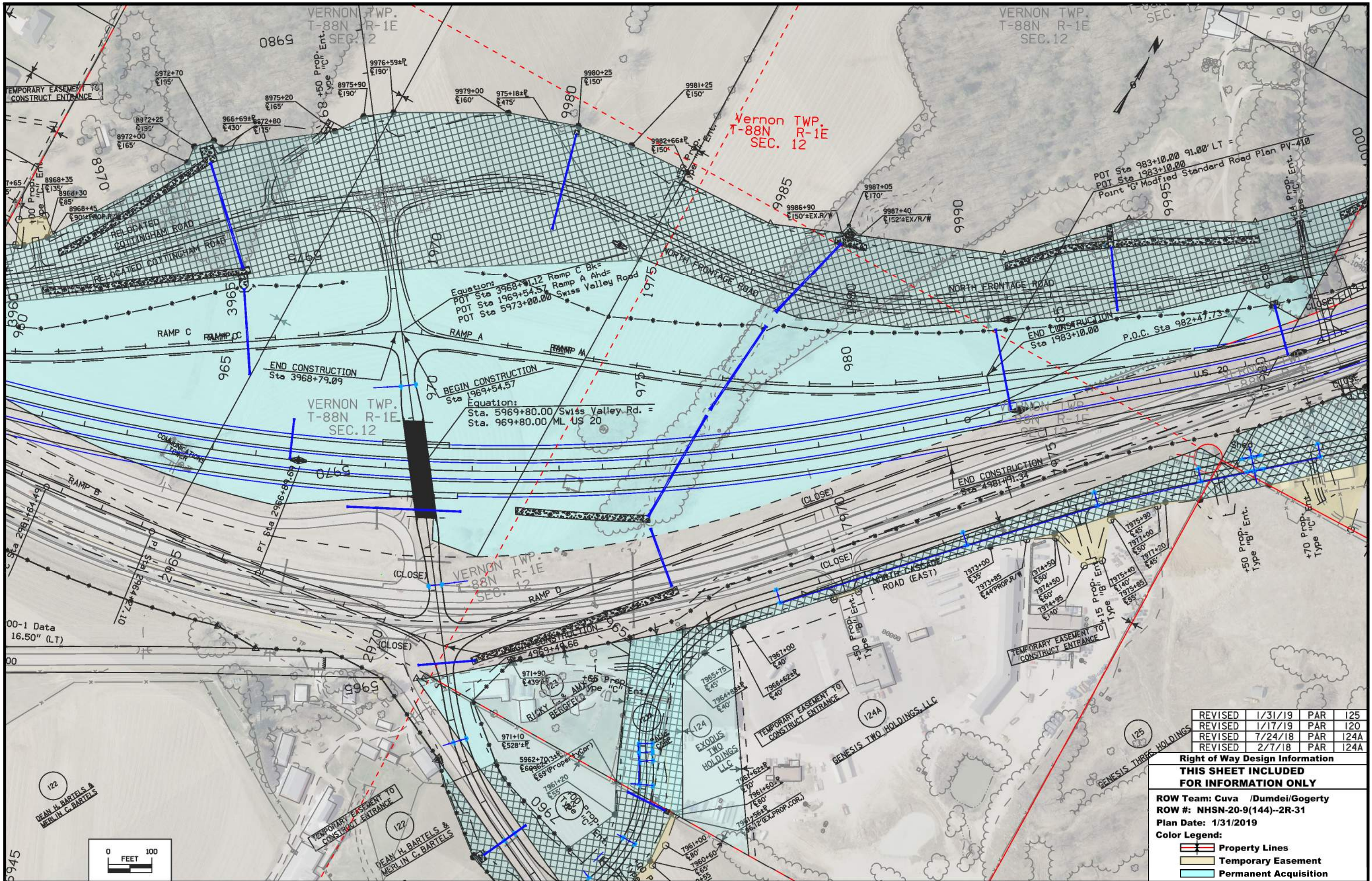
Right of Way Design Information  
**THIS SHEET INCLUDED  
 FOR INFORMATION ONLY**

ROW Team: Cuva /Dumdei  
 ROW #: NHSN-20-9(144)-2R-31  
 Plan Date: 1/17/2019

Color Legend:  
 Property Lines  
 Temporary Easement  
 Permanent Acquisition



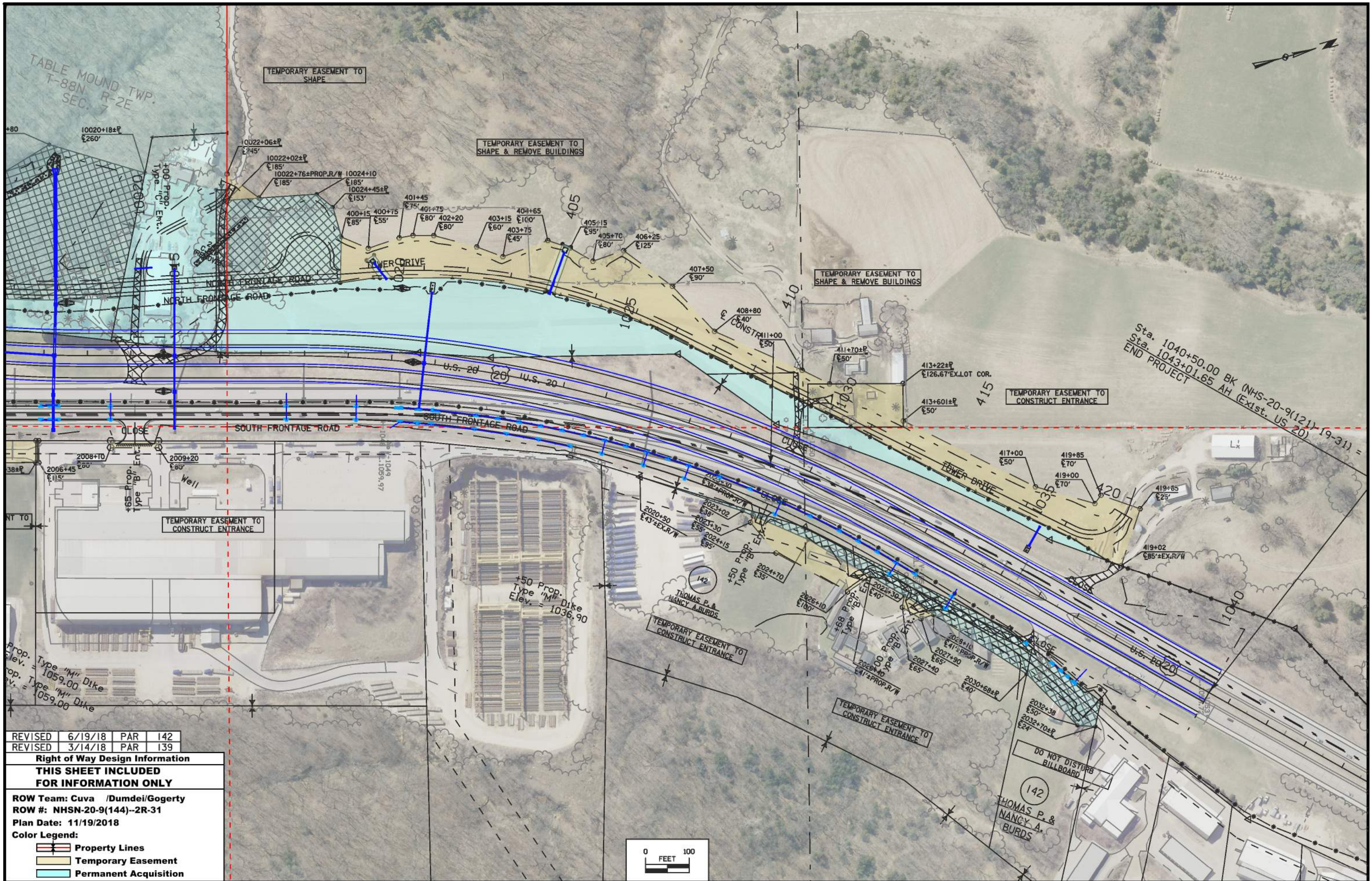




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| REVISED | 1/31/19 | PAR | 125  |
| REVISED | 1/17/19 | PAR | 120  |
| REVISED | 7/24/18 | PAR | 124A |
| REVISED | 2/7/18  | PAR | 124A |

**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**  
 ROW Team: Cuva /Dumdei/Gogerty  
 ROW #: NHSN-20-9(144)--2R-31  
 Plan Date: 1/31/2019  
 Color Legend:  
 - Property Lines  
 - Temporary Easement  
 - Permanent Acquisition





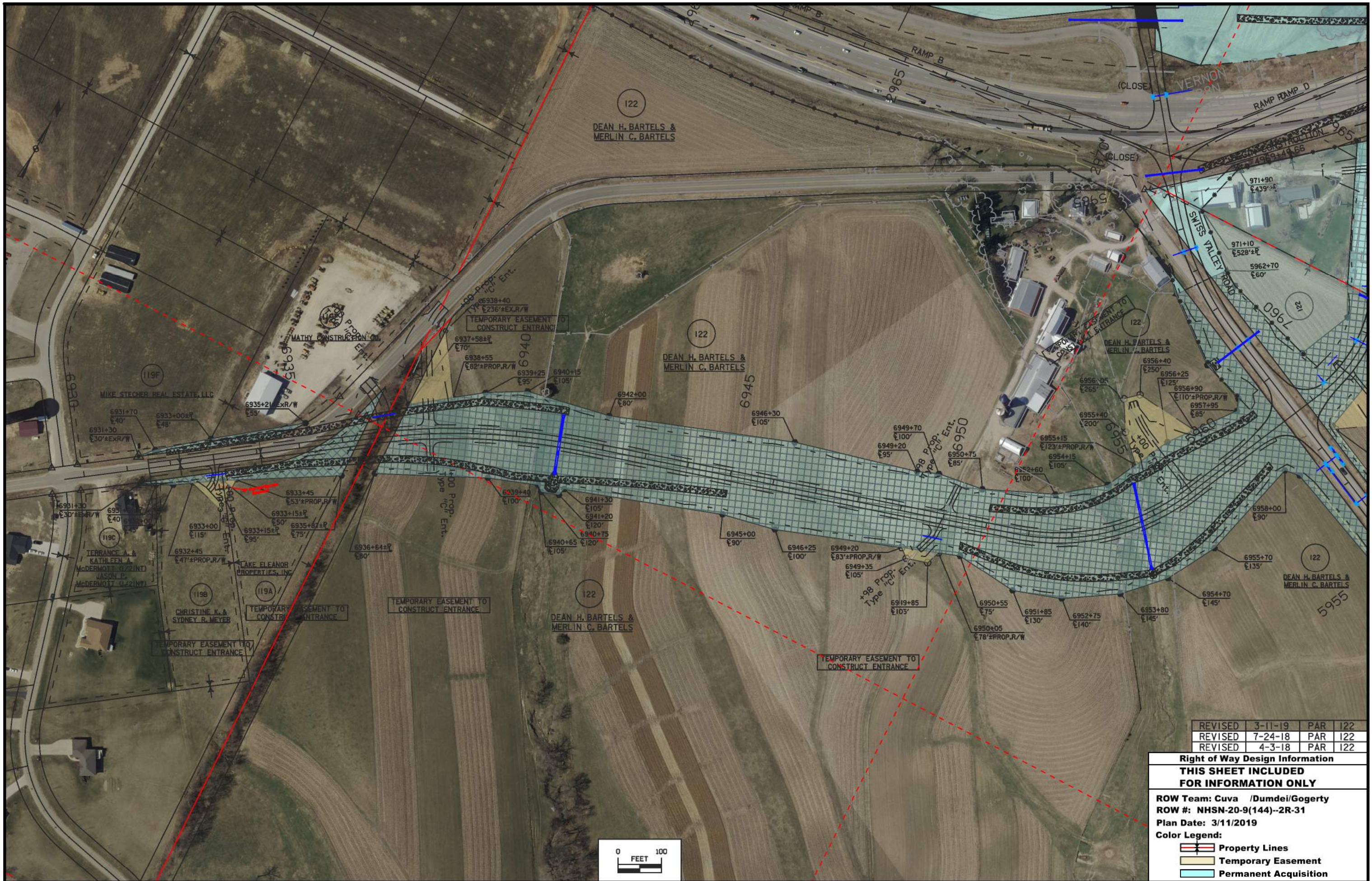
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| REVISED | 6/19/18 | PAR | 142 |
| REVISED | 3/14/18 | PAR | 139 |

**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**

**ROW Team:** Cuva /Dumdei/Gogerty  
**ROW #:** NHSN-20-9(144)--2R-31  
**Plan Date:** 11/19/2018  
**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition





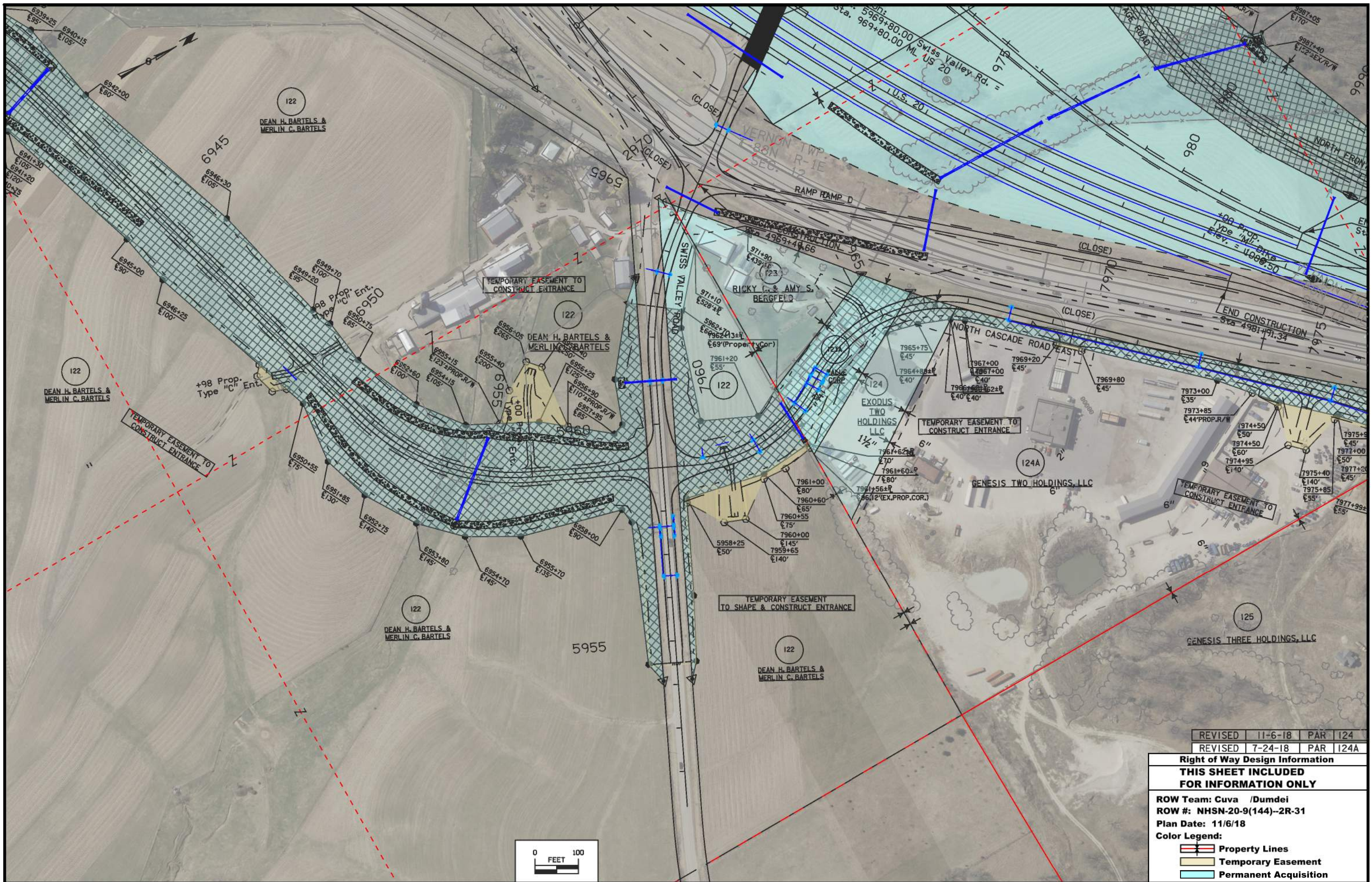
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| REVISED | 3-11-19 | PAR | 122 |
| REVISED | 7-24-18 | PAR | 122 |
| REVISED | 4-3-18  | PAR | 122 |

**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**

ROW Team: Cuva /Dumdei/Gogerty  
 ROW #: NHSN-20-9(144)--2R-31  
 Plan Date: 3/11/2019

- Color Legend:**
- Property Lines
  - Temporary Easement
  - Permanent Acquisition





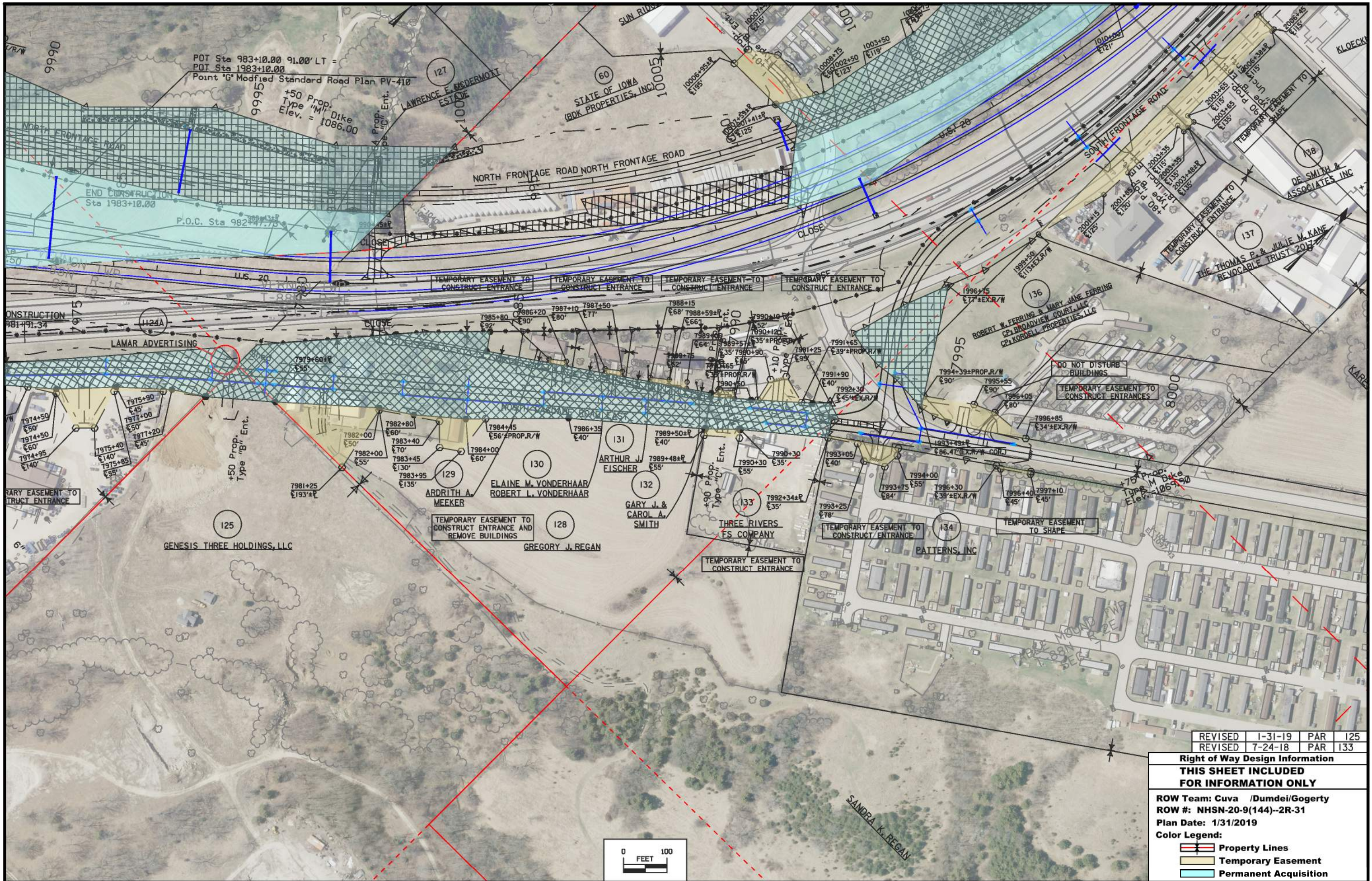
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| REVISED | 11-6-18 | PAR | 124  |
| REVISED | 7-24-18 | PAR | 124A |

**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**

ROW Team: Cuva /Dumdei  
 ROW #: NHSN-20-9(144)--2R-31  
 Plan Date: 11/6/18  
 Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition





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| REVISED | 1-31-19 | PAR | 125 |
| REVISED | 7-24-18 | PAR | 133 |

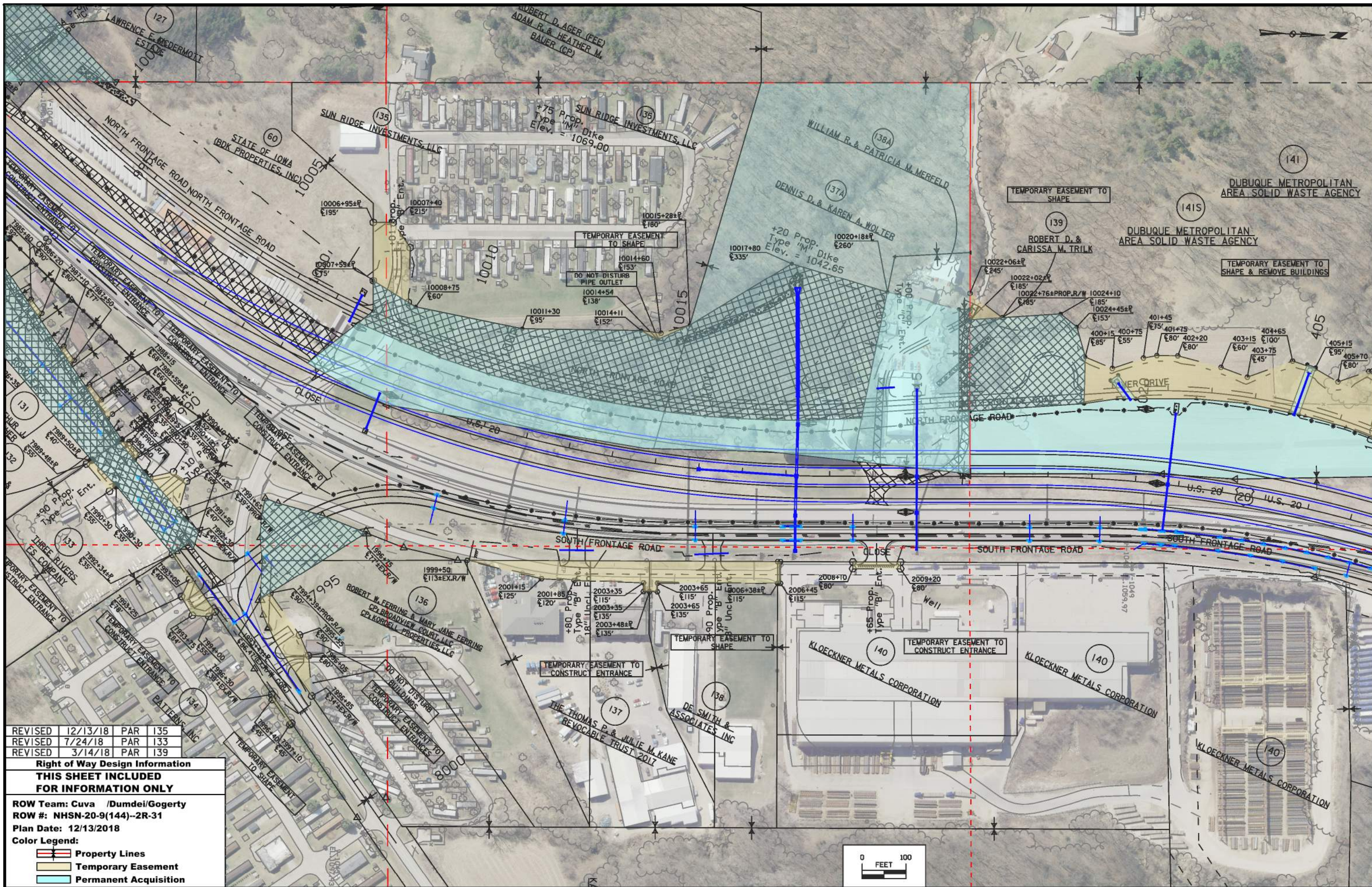
**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**

ROW Team: Cuva /Dumdei/Gogerty  
 ROW #: NHSN-20-9(144)--2R-31  
 Plan Date: 1/31/2019

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition





|         |          |     |     |
|---------|----------|-----|-----|
| REVISED | 12/13/18 | PAR | 135 |
| REVISED | 7/24/18  | PAR | 133 |
| REVISED | 3/14/18  | PAR | 139 |

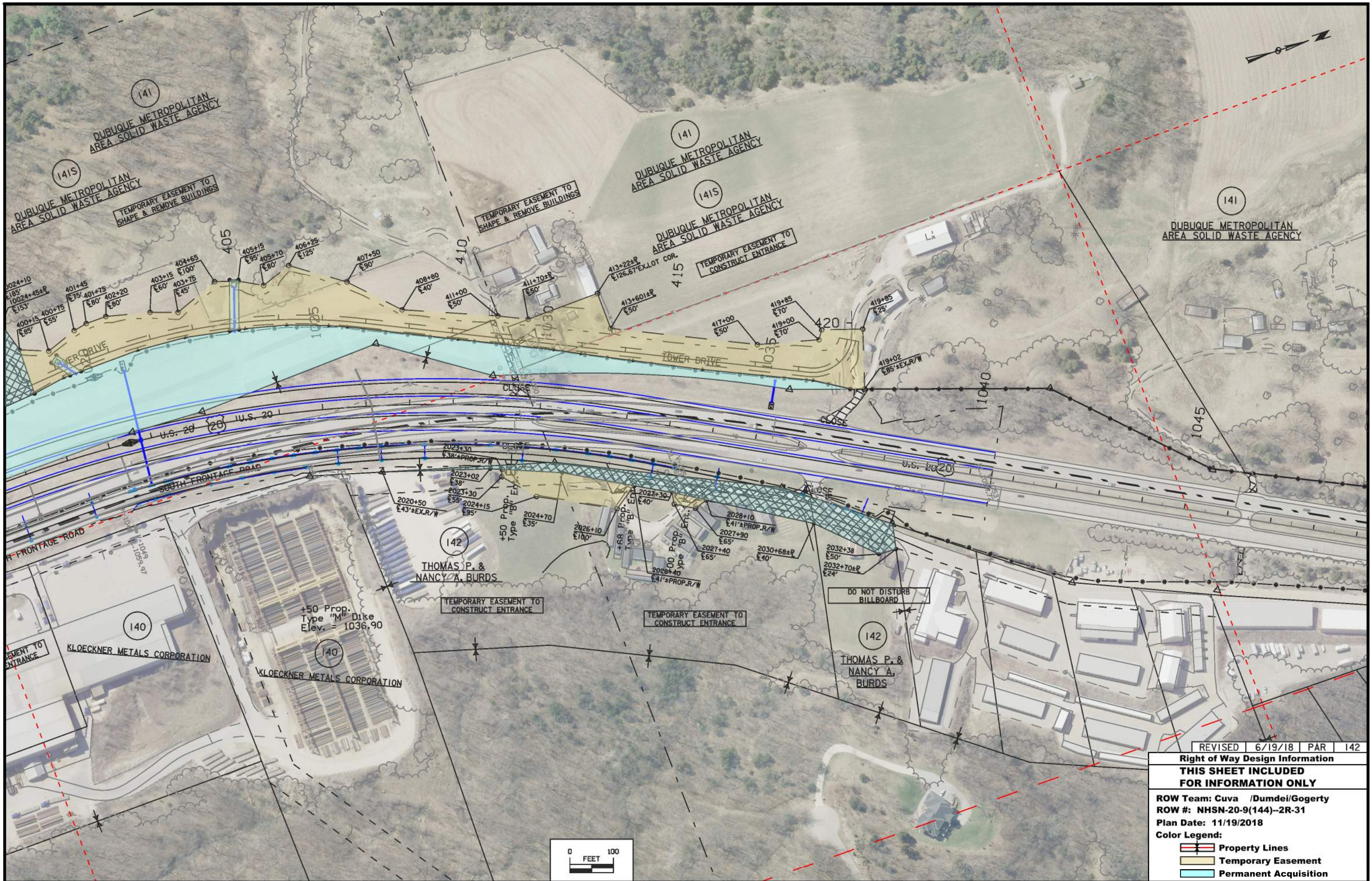
**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**

**ROW Team:** Cova /Dumdei/Gogerty  
**ROW #:** NHSN-20-9(144)--2R-31  
**Plan Date:** 12/13/2018

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition





REVISED 6/19/18 PAR 142

**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**

ROW Team: Cuva /Dumdei/Gogerty  
 ROW #: NHSN-20-9(144)--2R-31  
 Plan Date: 11/19/2018

**Color Legend:**  
 [Red dashed line] Property Lines  
 [Yellow shaded area] Temporary Easement  
 [Blue shaded area] Permanent Acquisition



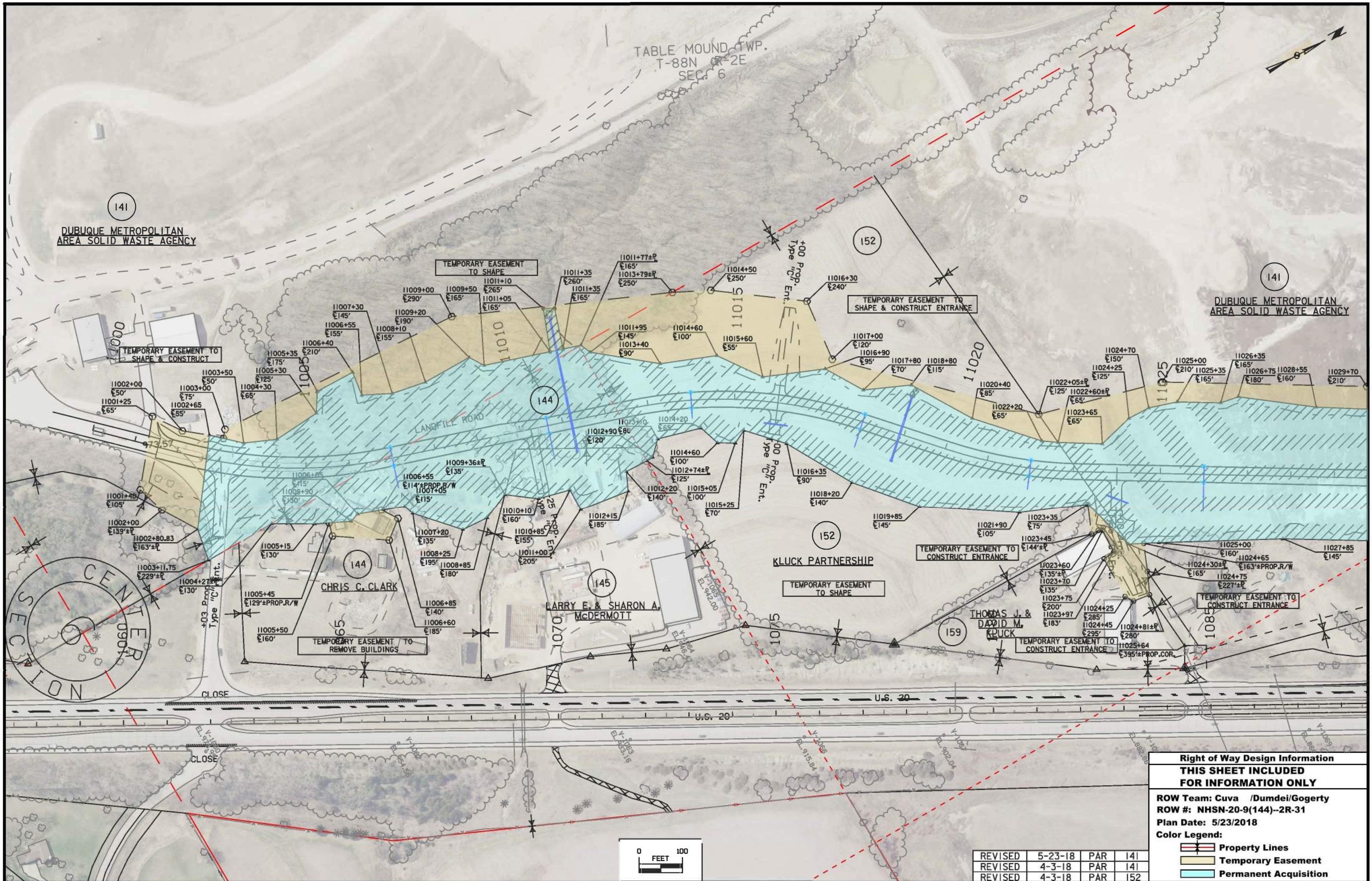


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

141  
DUBUQUE METROPOLITAN  
AREA SOLID WASTE AGENCY

141  
DUBUQUE METROPOLITAN  
AREA SOLID WASTE AGENCY

CENTER  
SECTION

**Right of Way Design Information**  
**THIS SHEET INCLUDED**  
**FOR INFORMATION ONLY**

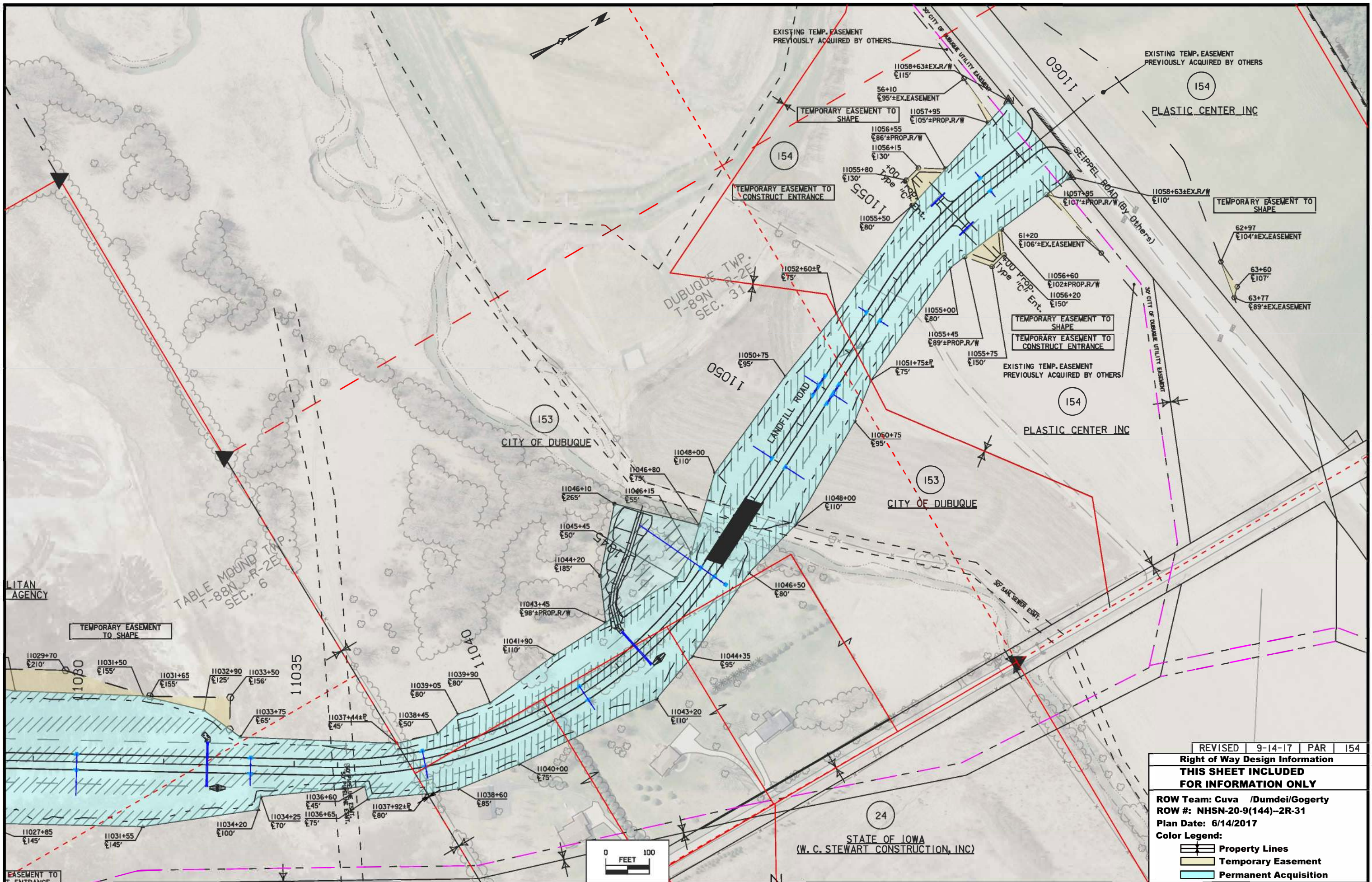
ROW Team: Cuva /Dumdei/Gogerty  
ROW #: NHSN-20-9(144)--2R-31  
Plan Date: 5/23/2018  
Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

|         |         |     |     |
|---------|---------|-----|-----|
| REVISED | 5-23-18 | PAR | 141 |
| REVISED | 4-3-18  | PAR | 141 |
| REVISED | 4-3-18  | PAR | 152 |

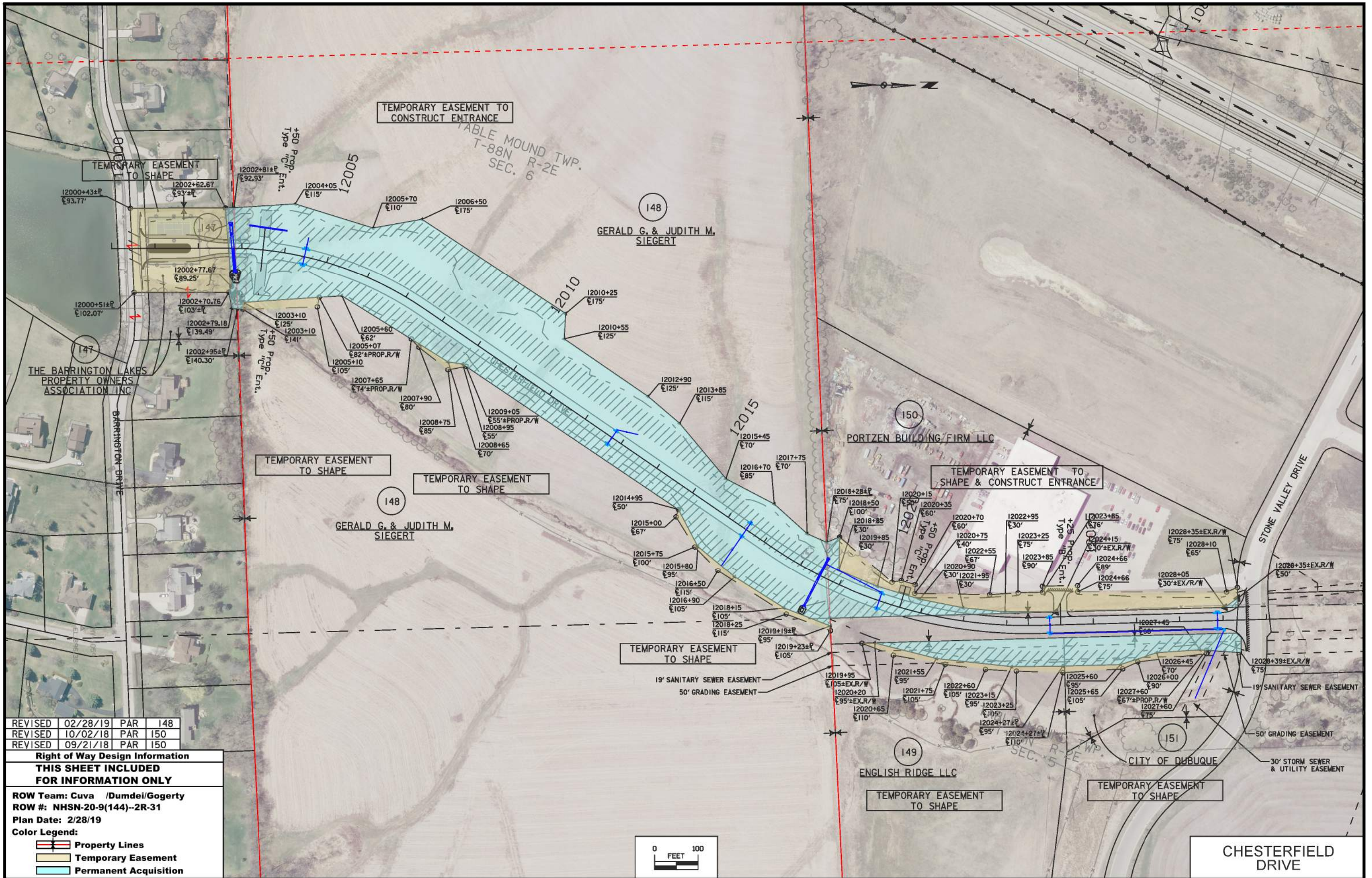






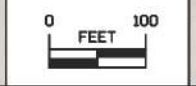
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| REVISED                                         | 9-14-17               | PAR | 154 |
| <b>Right of Way Design Information</b>          |                       |     |     |
| <b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b> |                       |     |     |
| ROW Team: Cuva /Dumdei/Gogerty                  |                       |     |     |
| ROW #: NHSN-20-9(144)--2R-31                    |                       |     |     |
| Plan Date: 6/14/2017                            |                       |     |     |
| Color Legend:                                   |                       |     |     |
|                                                 | Property Lines        |     |     |
|                                                 | Temporary Easement    |     |     |
|                                                 | Permanent Acquisition |     |     |



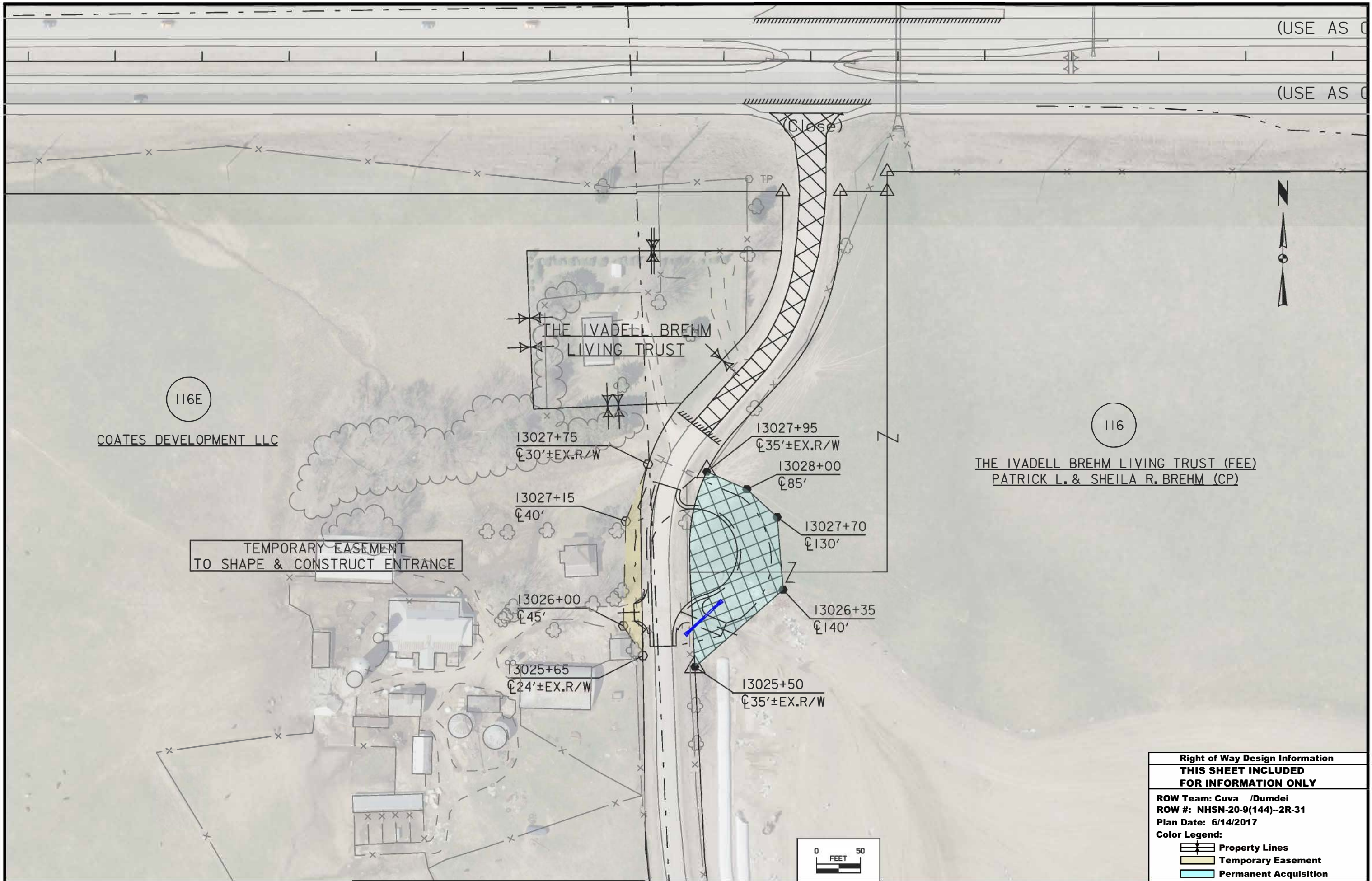


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|---------|----------|-----|-----|
| REVISED | 02/28/19 | PAR | 148 |
| REVISED | 10/02/18 | PAR | 150 |
| REVISED | 09/21/18 | PAR | 150 |

**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**  
 ROW Team: Cuva /Dumdei/Gogerty  
 ROW #: NHSN-20-9(144)--2R-31  
 Plan Date: 2/28/19  
 Color Legend:  
 - Property Lines  
 - Temporary Easement  
 - Permanent Acquisition







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(USE AS C

116E

COATES DEVELOPMENT LLC

TEMPORARY EASEMENT  
TO SHAPE & CONSTRUCT ENTRANCE

THE IVADELL BREHM  
LIVING TRUST

13027+75  
±30'±EX.R/W

13027+15  
±40'

13026+00  
±45'

13025+65  
±24'±EX.R/W

(Close)

13027+95  
±35'±EX.R/W

13028+00  
±85'

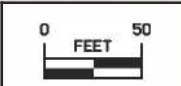
13027+70  
±130'

13026+35  
±140'

13025+50  
±35'±EX.R/W

116

THE IVADELL BREHM LIVING TRUST (FEE)  
PATRICK L. & SHEILA R. BREHM (CP)



|                                                 |                       |
|-------------------------------------------------|-----------------------|
| <b>Right of Way Design Information</b>          |                       |
| <b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b> |                       |
| ROW Team: Cuva /Dumdei                          |                       |
| ROW #: NHSN-20-9(144)-2R-31                     |                       |
| Plan Date: 6/14/2017                            |                       |
| Color Legend:                                   |                       |
|                                                 | Property Lines        |
|                                                 | Temporary Easement    |
|                                                 | Permanent Acquisition |





0901  
 CENTER  
 SECTION  
 10W

CLOSE  
 V-1050  
 EL. 99.99  
 CLOSE

1060+84.13  
 196.23'  
 1060+45.63  
 191.85'

40  
 STATE OF IOWA  
 (DAVID A. & PENELOPE N.  
 SCHMERBACH)

TEMPORARY EASEMENT TO  
 REMOVE ROAD

1060+07.12  
 187.46'

160  
 STACEY J. &  
 SHERRI A. MOORE

TEMPORARY EASEMENT TO  
 REMOVE ROAD

1059+23.64  
 483.50'

1059+70.33  
 547.15'

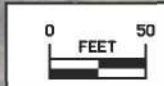
BARRINGTON DRIVE

1058+91.58  
 456.92'

1059+47.56  
 577.66'

147  
 THE BARRINGTON LAKES  
 PROPERTY OWNERS  
 ASSOCIATION INC

V-1056  
 EL. 1005.74



REVISED 6/22/18 PAR 147

Right of Way Design Information  
**THIS SHEET INCLUDED  
 FOR INFORMATION ONLY**

ROW Team: Cuva /Dumdei/Gogerty  
 ROW #: NHSN-20-9(144)-2R-31  
 Plan Date: 6/22/2018

Color Legend:  
 Property Lines  
 Temporary Easement  
 Permanent Acquisition



**TRAFFIC CONTROL PLAN**

Refer to Staging Notes for Traffic Control Plan details.

1. Traffic shall be maintained on US 20 at all times.
2. Closures.
  - A. The time, length, and duration of lane closures shall be as approved by the Engineer. The Department reserves the right to modify these restrictions to accommodate specific contractor activities and unforeseen traffic conditions.
  - B. The Contractor will be allowed to close one lane of US 20 during off-peak hours as follows:
    - Nighttime lane closures may be allowed all days between 9 PM and 7 AM.
    - Daytime lane closures will be allowed all day on Saturday and Sunday.
    - Daytime lane closures will be allowed Monday thru Friday between 9 AM and 3 PM.
  - C. Temporary road closures of Cottingham Road, Higley Drive, Swiss Valley Road, and North Cascade Road will be permitted with detours as provided by the local municipality.
  - D. Maintain a minimum clear width of 14.5 ft at all times for vehicles on route or detour.
3. All signs and posts for the detour sign assemblies shall be furnished, erected, maintained, and removed by the Contractor as shown in the J sheets. Detour signs and posts are property of the Contractor.
4. Installation and removal of special temporary signs shown in the J sheets are incidental to the Traffic Control bid item.
5. Pavement markings shown in the plan sheets include proposed temporary pavement markings and some existing pavement markings as needed for clarity. Refer to Tab. 108-22T in the C sheets for temporary pavement marking quantities.
6. Refer to the M sheets and C sheets Tab 110-14 and Tab 110-15 for information on maintaining existing storm sewer during construction.

**STAGING NOTES**

**Stage 1A**  
Summary:  
Work in this stage includes grading and off-alignment paving that generally does not impact traffic.  
Traffic:  
Maintain traffic on existing US 20 in existing configuration. Maintain existing access to and from US 20.  
Maintain traffic on Barrington Drive and Stone Valley Drive.  
Construction:  
Begin grading in areas not impacting traffic.  
Construct relocated Cottingham Road from Sta. 8937+70.00 to Sta. 8961+48.57 (just west of Higley Drive).  
Construct Cottingham Road Connector clear of existing Cottingham Road.  
Construct Chesterfield Drive and driveways from Barrington Drive to Stone Valley Drive.

**Stage 1B**  
Summary:  
Construct remainder of Cottingham Road, Cottingham Connector and North Frontage Road. Construct Mainline US 20 and Swiss Valley interchange ramps in areas clear of traffic.  
SITE: "STAGE 1B COTTINGHAM CONNECTOR" Construct Cottingham Road pavement Sta. 8931+65 to Sta. 8937+80 and remainder of Cottingham Connector Sta. 136+65 to Sta. 138+25.  
Traffic:  
Maintain traffic on existing US 20, existing Swiss Valley Road, existing North Cascade Road, Barrington Lakes Road and Stone Valley Drive.  
Close Cottingham Road at Sta. 8931+45 and at US 20 (detour by others). Close Higley Drive at proposed Cottingham Road and at US 20 (detour by others). Prioritize opening proposed Cottingham Road between US 20 and Cypress Drive.  
Maintain existing direct local access to properties north of US 20 until new access is provided along proposed North Frontage Road via proposed Cottingham Road and Cottingham Connector.  
Open Chesterfield Drive.  
Construction:  
Construct westbound US 20 shoulder Sta. 935+22.25 to Sta. 943+00.00.  
Stage-construct westbound US 20 Sta. 955+50.00 to Sta. 1027+00.00, maintaining access to properties north of US 20.  
Stage-construct eastbound US 20 Sta. 958+79 to 984+20 and Sta. 999+70 to 1018+00 maintaining access to properties north of US 20.  
Construct westbound Swiss Valley Road entrance and exit ramps (Ramp C and Ramp A).  
Construct proposed Cottingham Road Sta. 8931+65 (begin) to Sta. 8937+80 and Sta. 8961+48.57 to Sta. 8976+00 (end).  
Construct North Frontage Road Sta. 9976+24 (begin) to Sta. 10024+44.74 (end).  
Construct Tower Drive Sta. 400+00 (begin) to Sta. 419+60 (end).  
Construct Swiss Valley Road Sta. 5967+48 to Sta. 5976+24 (end).  
Construct Swiss Valley Road Bridge over proposed US 20.  
Construct detour pavement DET11100 and adjacent detour widening on US 20 (relocated Swiss Valley Rd intersection).

**Stage 2A**  
Summary:  
Construct proposed Swiss Valley Rd intersection with proposed North Cascade Road west and North Cascade Road East and reconstruct West Ridge Lane.  
SITE: "STAGE 2A SWISS VALLEY ROAD CLOSURE" Remove existing pavement and construct Swiss Valley Road pavement Sta. 554+50 to Sta. 5960+60 and detour pavement DET 12100.  
Traffic:  
Maintain traffic on existing US 20, and existing North Cascade Road east and west of Swiss Valley Road.  
Close Swiss Valley Road to thru traffic beyond existing North Cascade Road and Whitetop Road (detour by others).

**STAGING NOTES**

Maintain access to properties on West Ridge Lane from east or west during staged construction.  
Construction:  
Construct westbound US 20 Sta. 1040+50 to Sta. 1055+00.  
Construct temporary widening for westbound US 20, DET12300.  
Construct Swiss Valley Road Sta. 5954+50 (begin) to 5960+00. Construct Swiss Valley Road detour pavement DET12100.  
Construct North Cascade Road West Sta. 6936+00 to Sta. 6958+88 (end).  
Construct North Cascade Road East Sta. 7958+62.62 to Sta. 7968+99.41 and Sta. 7974+70 to Sta. 7990+45.61. Construct temporary driveway to Truck Plaza, DET12200.  
Construct West Ridge Lane Sta. 604+71.85 (begin) to Sta. 611+69.31 (end).

**Stage 2B**  
Summary:  
Work this stage completes remainder of side streets started in Stage 2A and constructs mainline detour pavement to be used in Stage 3.  
SITE: "STAGE 2B NORTH CASCADE ROAD CLOSURE" Construct North Cascade Road East pavement Sta. 7990+40 to Sta. 7997+00.  
Traffic:  
Maintain traffic on existing US 20, with single lane closures as permitted in Tab 108-23A.  
Open Swiss Valley Road to traffic.  
Close existing North Cascade Road connection to Swiss Valley Road at US 20 and at Royal Wood Drive. Provide local access to North Cascade Road between Cottingham Road and Royal Wood Drive.  
At Swiss Valley Road, open North Cascade Road West and North Cascade Road East to local traffic.  
Open North Cascade Road East Sta. 7974+75 to Sta. 7990+20 for local access, with a temporary connection to US 20 at ML020 Sta. 991+10.  
Close access to existing US 20 from truck plaza at Sta. 979+00 +/- and open temporary driveway to North Cascade Road East.  
Maintain local access to properties south of US 20 at Sta. 1029+50+/- and 1036+50+/- via temporary driveways.  
Construction:  
Construct mainline detour pavement DET12400 and DET 12600.  
Remove south approach of Cottingham Road at US 20 and construct cul-de-sac.  
Construct remainder of North Cascade Road West Sta. 6931+50 (begin) to Sta. 6936+00.  
Construct North Cascade Road East Sta. 7968+99.41 to Sta. 7974+70.00 and Sta. 7990+45.61 to Sta. 7997+00.00 (end). Construct DET12500 (detour pavement connection between North Cascade Road East and existing US 20 at ML020 Sta. 979+00 +/-).  
Remove existing truck plaza driveway to US 20 and construct new driveway to North Cascade Road East.  
Construct driveways along North Cascade Road East to properties along Siegert Lane.  
Construct South Frontage Road connection to North Cascade Road East, Sta. 1993+00 (begin) to Sta. 1994+13, and Sta. 2025+60 to 2032+35 (end). Construct temporary driveways to maintain access. Construct DET12700 (detour pavement connection between South Frontage Road and existing eastbound US 20).  
Obliterate portions of existing North Cascade Road at proposed North Cascade Road West tie-in. Construct gravel driveway to proposed North Cascade Road West at Sta. 6938+00.

**Stage 3A**  
Summary:  
Shift westbound traffic on US 20 to the temporary median pavement and construct remainder of westbound US 20 pavement.  
Traffic:  
Maintain eastbound traffic on existing US 20, with single lane closures as permitted in Tab 108-23A. Reduce eastbound posted speed limit to 55 mph starting at Sta. 901+00. Existing eastbound 55 mph speed limit begins at Sta. 952+50 +/-.  
Shift westbound US 20 traffic onto the temporary median pavement at east and west tie-in locations. Reduce posted speed limit to 45 mph at ML020 Sta. 968+20 for westbound traffic.  
Open North Cascade Road West and North Cascade Road East.  
Close existing North Cascade Road at Swiss Valley Road. Close existing North Cascade Road connection to US 20 at Sta. 1001+00 +/-.  
Maintain full access to US 20 for existing South Frontage Road at Sta. 1014+00+/-.  
Maintain right in/right out access to US 20 for existing South Frontage Road at Sta. 1036+50+/- . Remove temporary driveway at Sta. 1029+50 +/- .  
Construction:  
Construct westbound US 20 outside lane and shoulder Sta. 943+00 (begin) to Sta. 952+10.  
Construct westbound US 20 detour pavement widening DET13200.  
Construct westbound US 20 lanes and outside shoulder Sta. 952+10 to Sta. 952+70.  
Construct westbound US 20 lanes and shoulders Sta. 952+70 to Sta. 955+50.  
Construct westbound US 20 lanes and shoulders Sta. 1027+00 to Sta. 1030+20.  
Construct westbound US 20 lanes and outside shoulder Sta. 1030+20 to Sta. 1040+50 (end).  
Construct eastbound US 20 detour pavement DET13100 and DET13600.  
Construct South Frontage Road Sta. 1994+12.81 to Sta. 1997+00.  
Connect detour pavement connecting South Frontage Road to West Ridge Lane, DET12600.

**Stage 3B**  
Summary: Shift westbound US 20 traffic onto proposed westbound US 20 lanes. Continue construction of eastbound US 20 lanes where clear of traffic.  
Traffic:  
Shift westbound US 20 traffic to new westbound lanes. Maintain 55 mph posted speed limit through work area. Open westbound entrance and exit ramps (Ramps C and A) with access to Cottingham Road and North Frontage Road.  
Maintain Eastbound US 20 on existing and shifted to detour pavement in areas. Maintain Stage 3A reduced eastbound posted speed limit to 55 mph starting at Sta. 901+00. Reduce eastbound posted speed limit to 45 mph starting at Sta. 921+00. Resume existing 55 mph posted speed limit at Sta. 1064+72.  
Open temporary Swiss Valley Road offset intersection with proposed westbound US 20 at Sta. 978+50 +/- . Westbound US 20 is closed west of existing Swiss Valley Road and east of Sta. 979+00. Detour traffic to and from Westbound US 20 via temporary intersection and existing westbound US 20 between Swiss Valley Road and Sta. 979+00.  
Open South Frontage Road connection to West Ridge Lane. Maintain eastbound US 20 right in/ right out access for South Frontage Road at Sta. 1014+00 +/- .  
Maintain eastbound US 20 right in/right out access for South Frontage Road at Sta. 1036+50+/- .  
Construction:  
Construct remainder of westbound US 20 pavement Sta. 943+00 (begin) to Sta. 952+70. Construct remainder of westbound inside shoulder Sta. 1030+20 to Sta. 1033+30.51.  
Construct eastbound US 20 Sta. 943+00 (begin) to 958+78.68, Sta. 984+20 to 999+70, and Sta. 1018+00 to Sta. 1026+20.  
Construct eastbound US 20 detour pavement DET13300 in median.  
Construct eastbound US 20 detour pavement DET13400 in median.  
Construct eastbound US 20 detour pavement DET13600 in median.










**Stage 3C**  
Summary:



**CROSS SECTION VIEW COLOR LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**

| SHADING      | Design Color No. |                                                 |
|--------------|------------------|-------------------------------------------------|
| Green, Light | (225)            | Existing Pavement Shading                       |
| Gray, Light  | (48)             | Previously Constructed Pavement Shading         |
| Gray, Med    | (80)             | Previously Constructed Granular Surface Shading |
| Blue, Light  | (230)            | Proposed Pavement Shading                       |
| Lavender     | (9)              | Temporary Pavement Shading                      |
| Brown, Med   | (237)            | Future Proposed Pavement Shading                |

**CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**

|                                                                                   |                           |                                                                                   |                                 |
|-----------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------|---------------------------------|
|  | Pavement Removal          |  | Proposed Granular Shoulder      |
|  | Proposed Granular Subbase |  | Temporary Shoulder              |
|  | Proposed Special Backfill |  | Existing Shoulder Strengthening |
|  | Temporary Barrier Rail    |  | Permanent Barrier Rail          |
|                                                                                   |                           |  | Channelizing Device             |
















**PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS**

| LINEWORK     | Design Color No. |                                                                     |
|--------------|------------------|---------------------------------------------------------------------|
| Green        | (2)              | Existing Topographic Features and Labels                            |
| Magenta      | (5)              | Pavement Marking Call Outs                                          |
| Blue         | (1)              | Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation |
| Yellow       | (4)              | Pavement Markings, Yellow                                           |
| Off White    | (254)            | Pavement Markings, White                                            |
| Violet       | (15)             | Temporary barrier rail, Unpinned                                    |
| Flush Orange | (228)            | Temporary barrier rail, Pinned                                      |

| SHADING                  | Design Color No. |                                                   |
|--------------------------|------------------|---------------------------------------------------|
| Green, Light             | (225)            | Existing Pavement Shading                         |
| Gray, Light              | (48)             | Previously Constructed Pavement Shading           |
| Gray, Med                | (80)             | Proposed Granular Surface Shading                 |
| Gray, Med                | (80)             | Previously Constructed Granular Surface Shading   |
| Blue, Light              | (230)            | Proposed Pavement Shading                         |
| Lavender                 | (9)              | Temporary Pavement Shading                        |
| Brown, Light             | (236)            | Proposed Grading Limits Shading                   |
| Pink, Dark               | (13)             | Proposed MSE or CIP Wall Shading                  |
| Red                      | (3)              | Proposed Bridge Shading and Sign Trusses          |
| Black w/Gray, Light Fill | (0,48)           | Previously Constructed Structure                  |
| Pink, Light              | (11)             | Previously Constructed Temporary Pavement Shading |

**PLAN VIEW PATTERN AND SYMBOL LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**

|                                                                                       |                          |                                                                                       |                              |
|---------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------|------------------------------|
| ●                                                                                     | Channelizing Device      |    | Crash Cushion (Temp or Perm) |
| ✕                                                                                     | Drum                     |    | Traffic Signal               |
| ■                                                                                     | Temporary Lane Separator |    | Flagger                      |
| ◆                                                                                     | Tubular Marker           |    | Temporary Floodlighting      |
| ♦                                                                                     | Channelizer Marker       |   | Traffic Sign                 |
| △                                                                                     | Concrete Barrier Marker  |  | Type III Barricade           |
| <                                                                                     | Delineator               |  | Type A Warning Light         |
|  | Temporary Barrier Rail   |  | Direction of Traffic         |
|  | Pavement Removal         |  | Safety Closure               |
|  | Sand Barrel Layout       |  | Lane Identification          |
|  | Safety Fence             |  | Temporary Shoring            |

NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

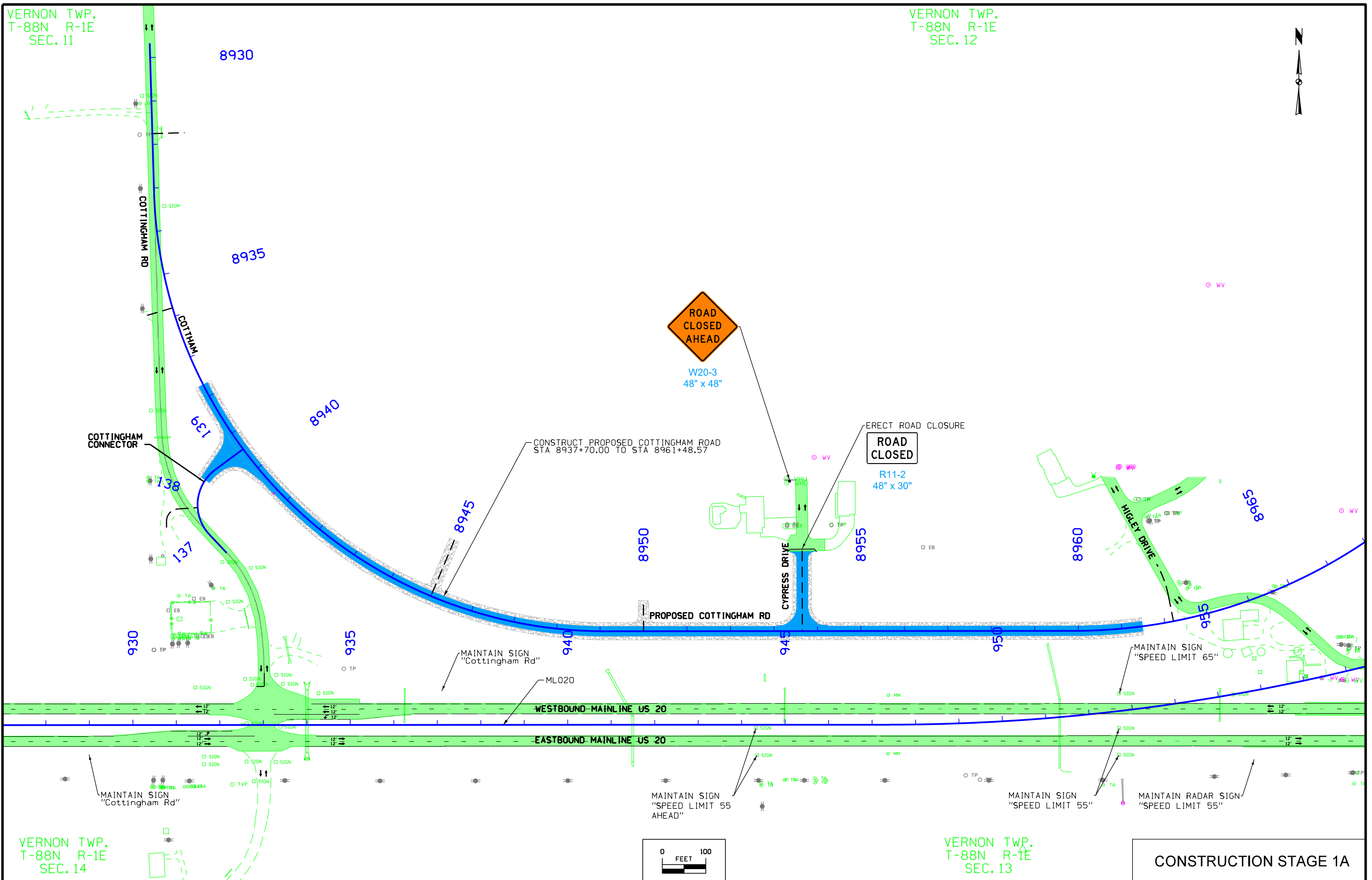
**TRAFFIC CONTROL  
AND  
STAGING  
LEGEND AND SYMBOL  
INFORMATION SHEET**

(COVERS SHEET SERIES J)



VERNON TWP.  
T-88N R-1E  
SEC. 11

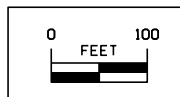
VERNON TWP.  
T-88N R-1E  
SEC. 12

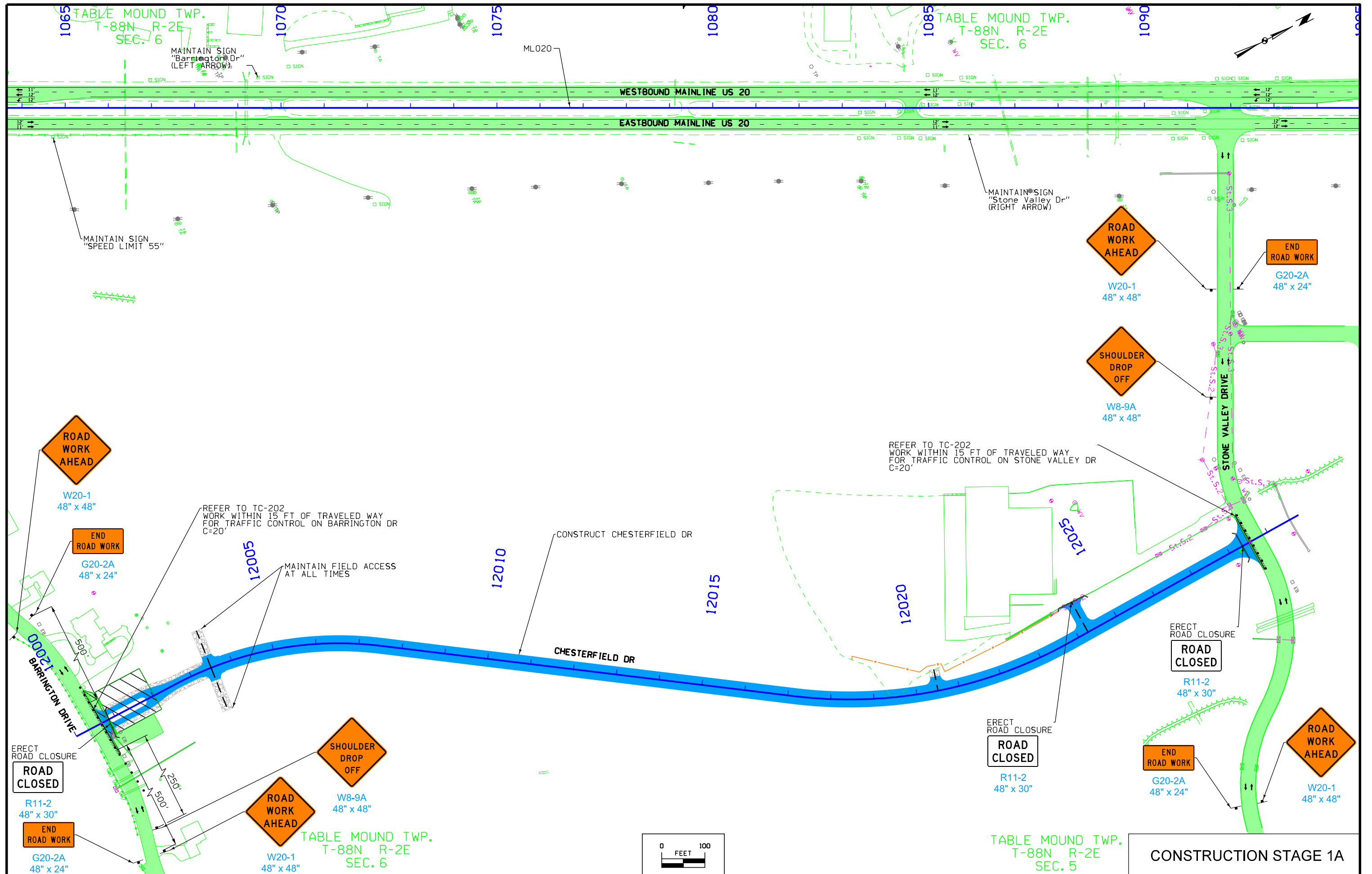


VERNON TWP.  
T-88N R-1E  
SEC. 14

VERNON TWP.  
T-88N R-1E  
SEC. 13

CONSTRUCTION STAGE 1A

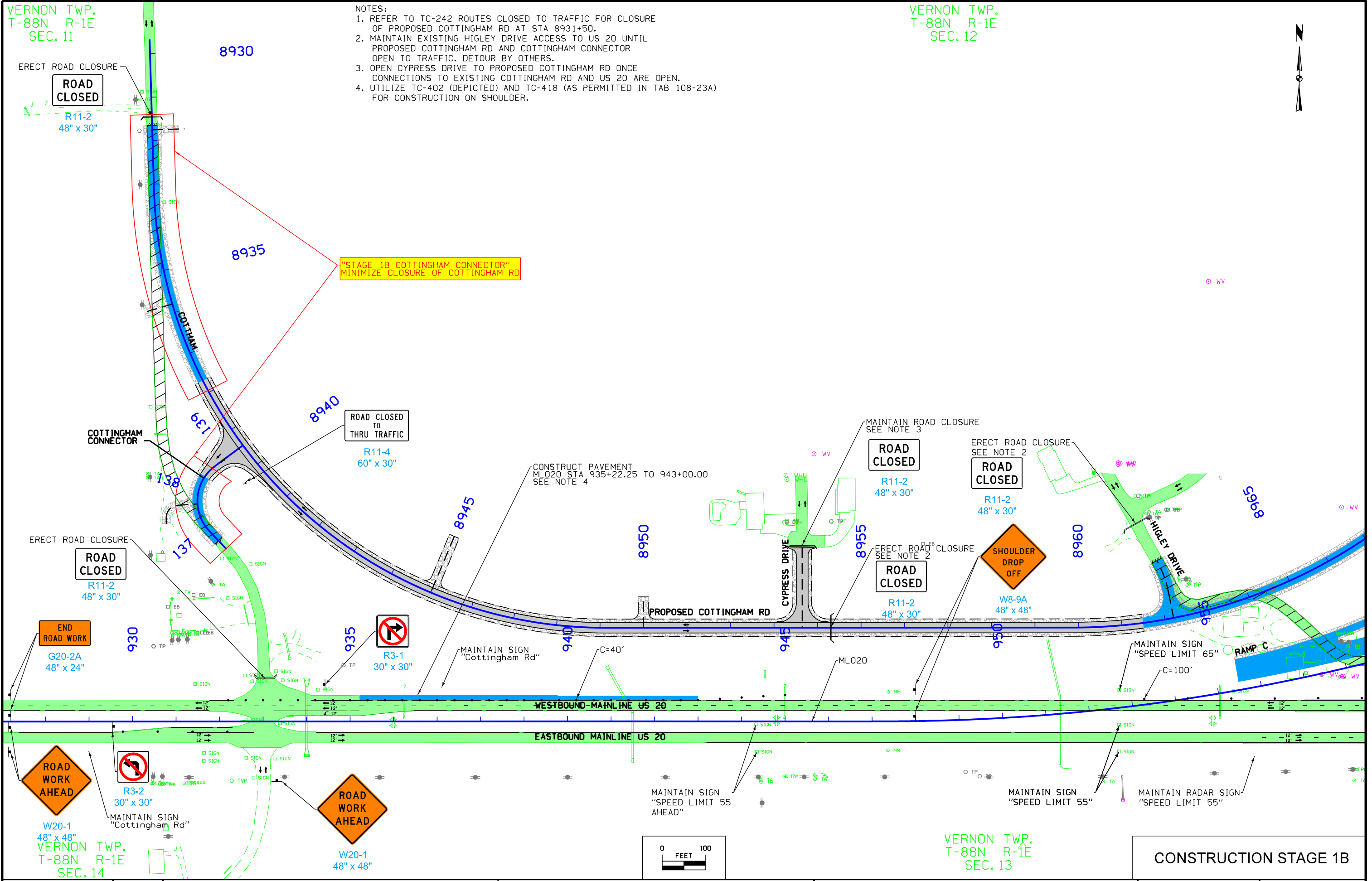




VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12

- NOTES:
1. REFER TO TC-242 ROUTES CLOSED TO TRAFFIC FOR CLOSURE OF PROPOSED COTTINGHAM RD AT STA 8931+50.
  2. MAINTAIN EXISTING HIGLEY DRIVE ACCESS TO US 20 UNTIL PROPOSED COTTINGHAM RD AND COTTINGHAM CONNECTOR OPEN TO TRAFFIC. DETOUR BY OTHERS.
  3. OPEN CYPRESS DRIVE TO PROPOSED COTTINGHAM RD ONCE CONNECTIONS TO EXISTING COTTINGHAM RD AND US 20 ARE OPEN.
  4. UTILIZE TC-402 (DEPICTED) AND TC-418 (AS PERMITTED IN TAB 108-23A) FOR CONSTRUCTION ON SHOULDER.



VERNON TWP.  
T-88N R-1E  
SEC. 13

CONSTRUCTION STAGE 1B





VERNON TWP.  
T-88N R-1E  
SEC. 12

NOTES:  
1. MAINTAIN EXISTING DIRECT ACCESS TO US 20 UNTIL NORTH FRONTAGE ROAD IS OPEN TO PROPOSED COTTINGHAM RD AND COTTINGHAM CONNECTOR. ERECT ROAD CLOSURES ON NORTH FRONTAGE ROAD AND EXISTING DRIVEWAYS AT US 20 AS CONSTRUCTION PROGRESSES AND ACCESS TO US 20 IS PROVIDED VIA NORTH FRONTAGE ROAD.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

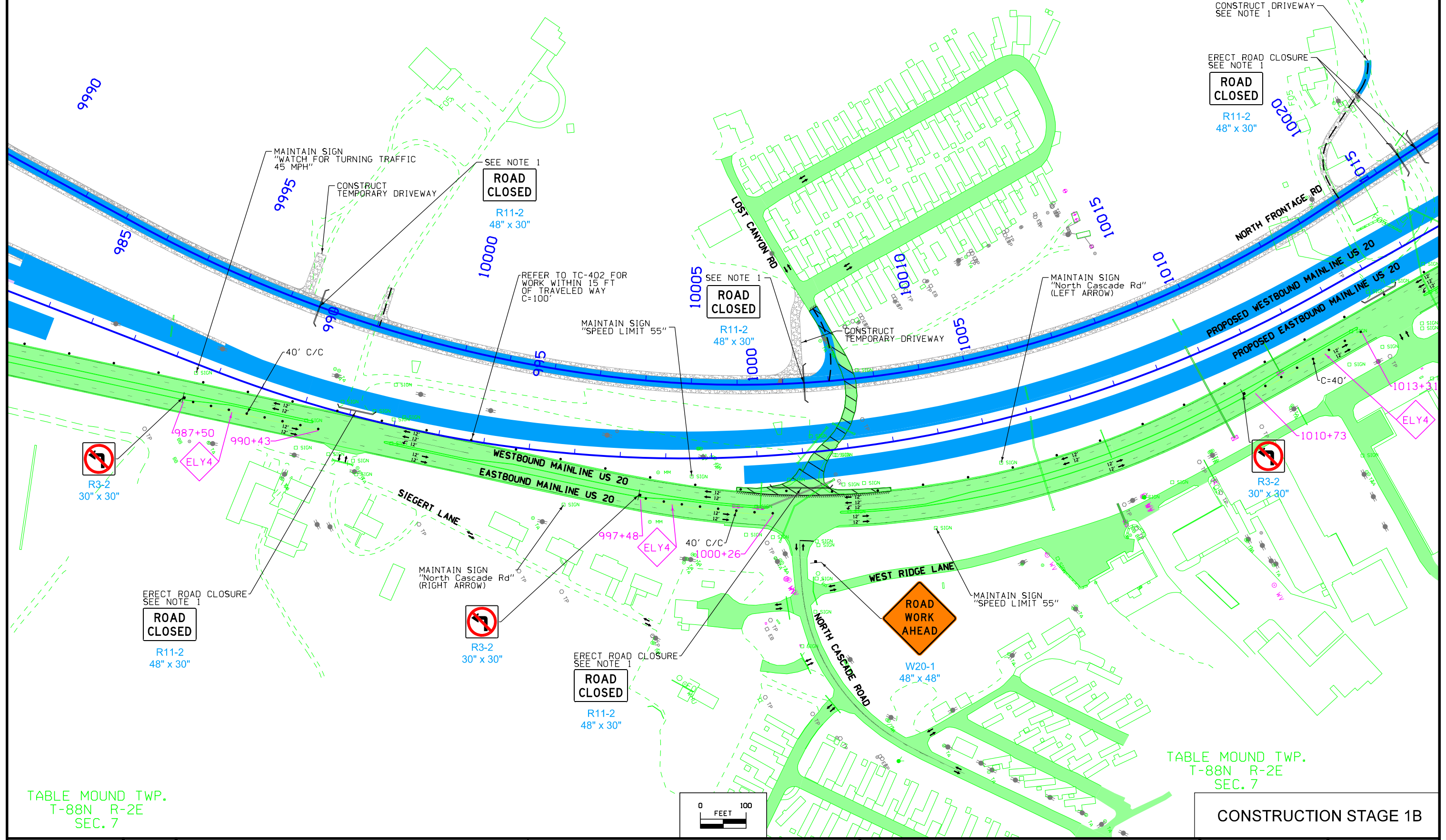
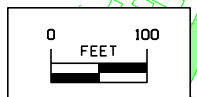


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

CONSTRUCTION STAGE 1B



VERNON TWP.  
T-88N R-1E  
SEC. 12

NOTES:  
1. MAINTAIN EXISTING DIRECT ACCESS TO US 20 UNTIL NORTH FRONTAGE ROAD IS OPEN TO PROPOSED COTTINGHAM RD AND COTTINGHAM CONNECTOR. ERECT ROAD CLOSURES ON NORTH FRONTAGE ROAD AND EXISTING DRIVEWAYS AT US 20 AS CONSTRUCTION PROGRESSES AND ACCESS TO US 20 IS PROVIDED VIA NORTH FRONTAGE ROAD.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

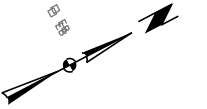


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

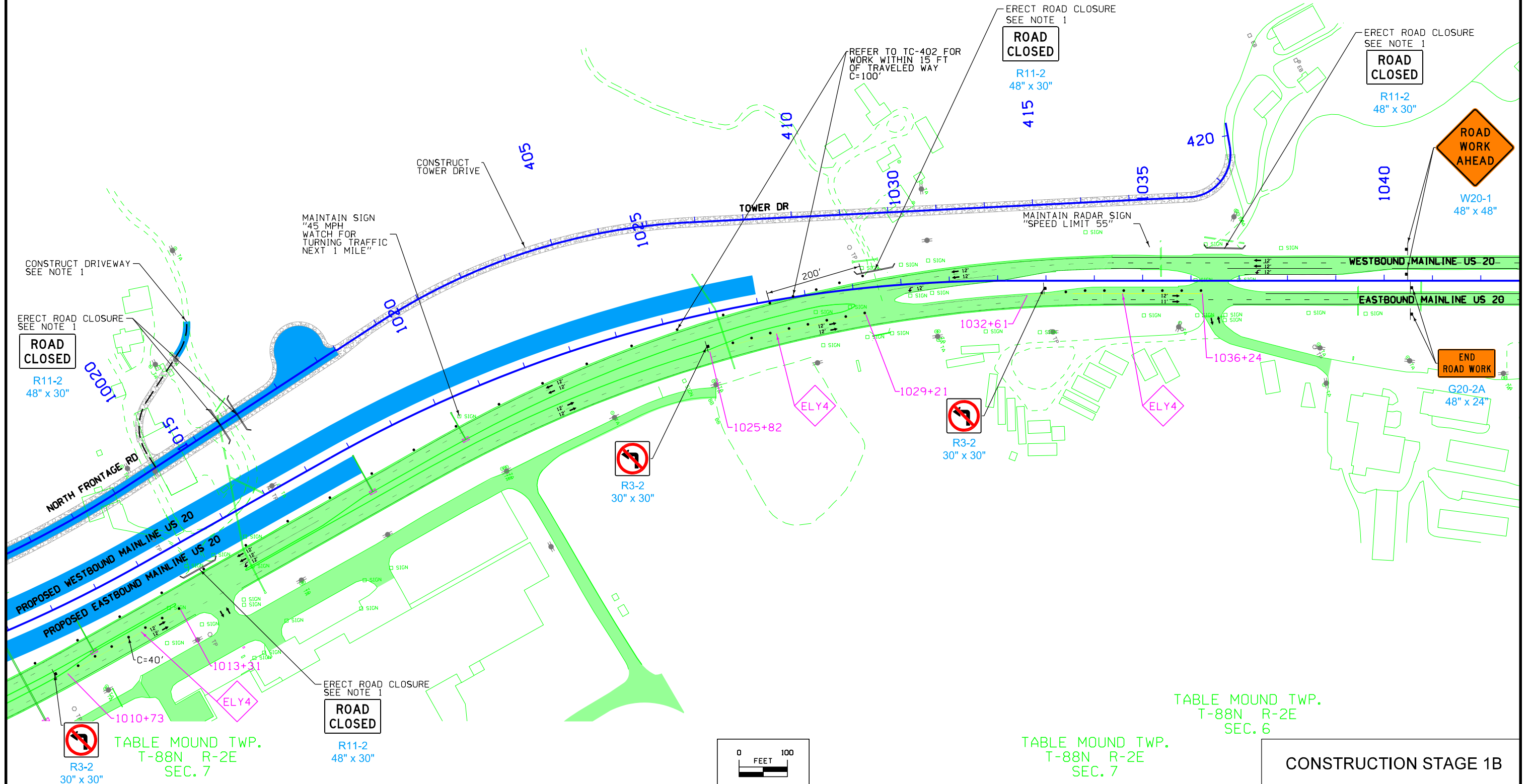


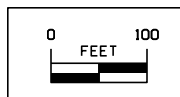
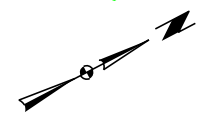
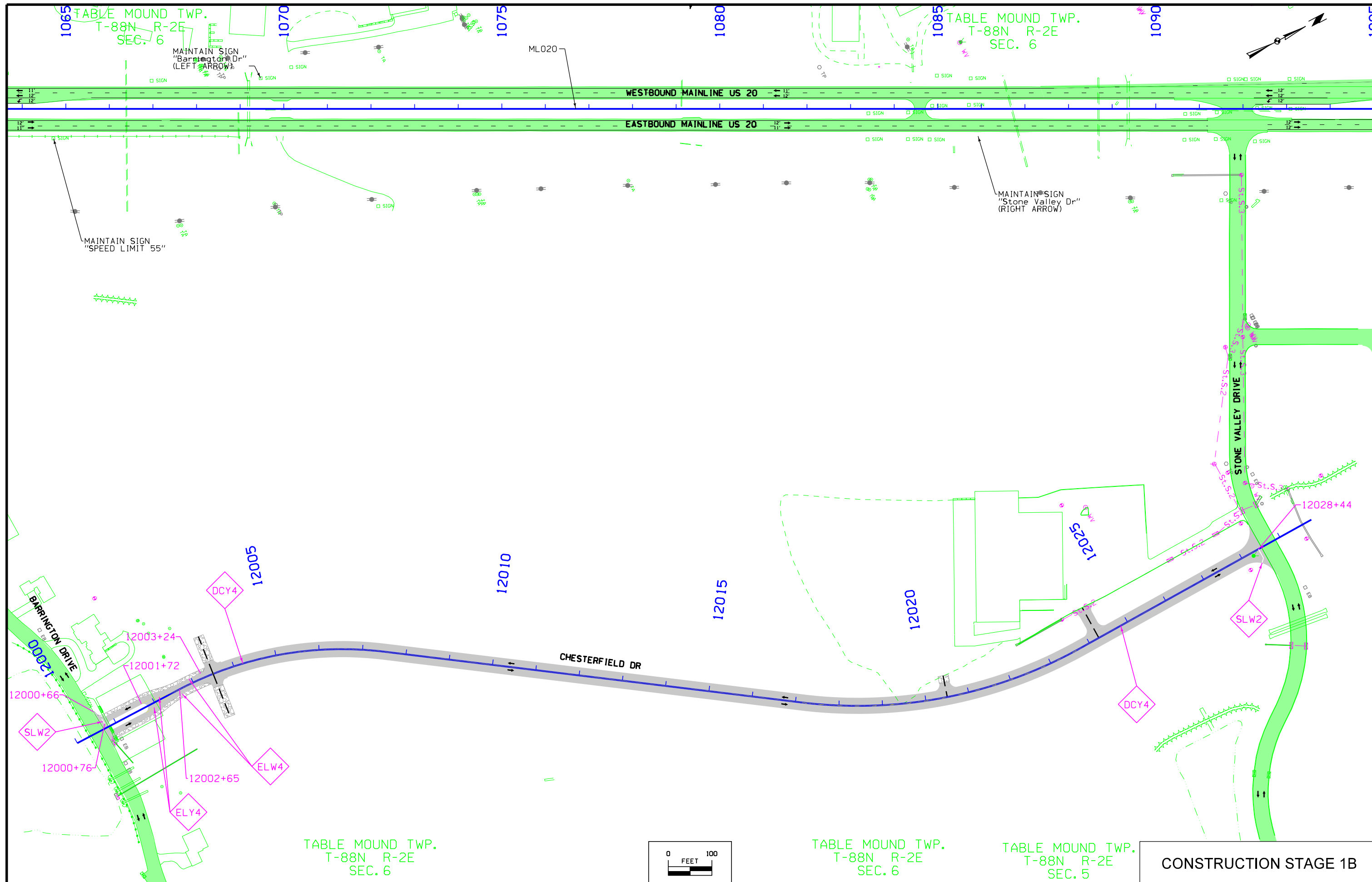
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

CONSTRUCTION STAGE 1B





CONSTRUCTION STAGE 1B

|          |         |                          |                |                |                        |              |      |
|----------|---------|--------------------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | J.10 |
|----------|---------|--------------------------|----------------|----------------|------------------------|--------------|------|

VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12

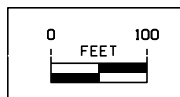
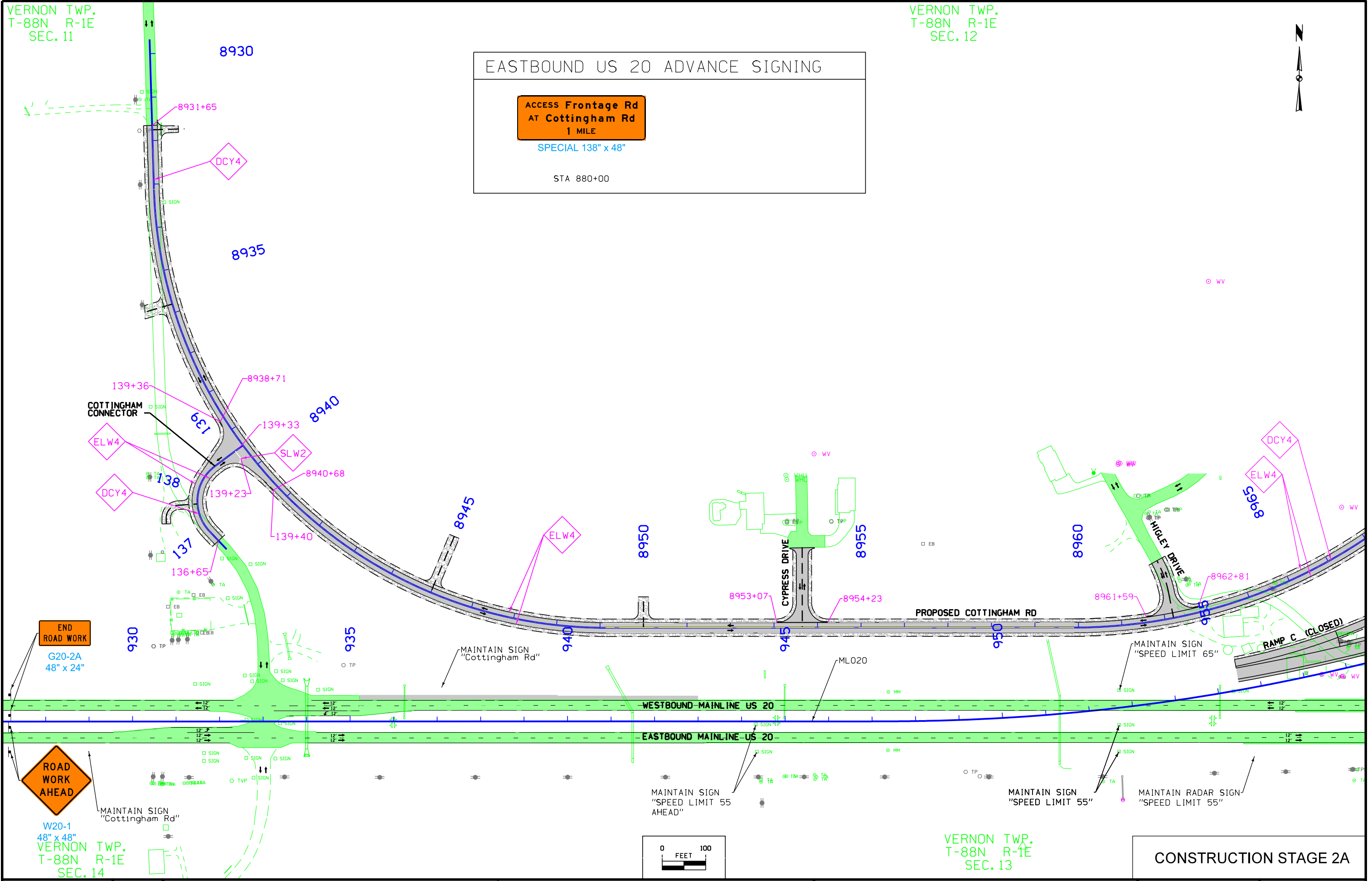


EASTBOUND US 20 ADVANCE SIGNING

**ACCESS Frontage Rd  
AT Cottingham Rd  
1 MILE**

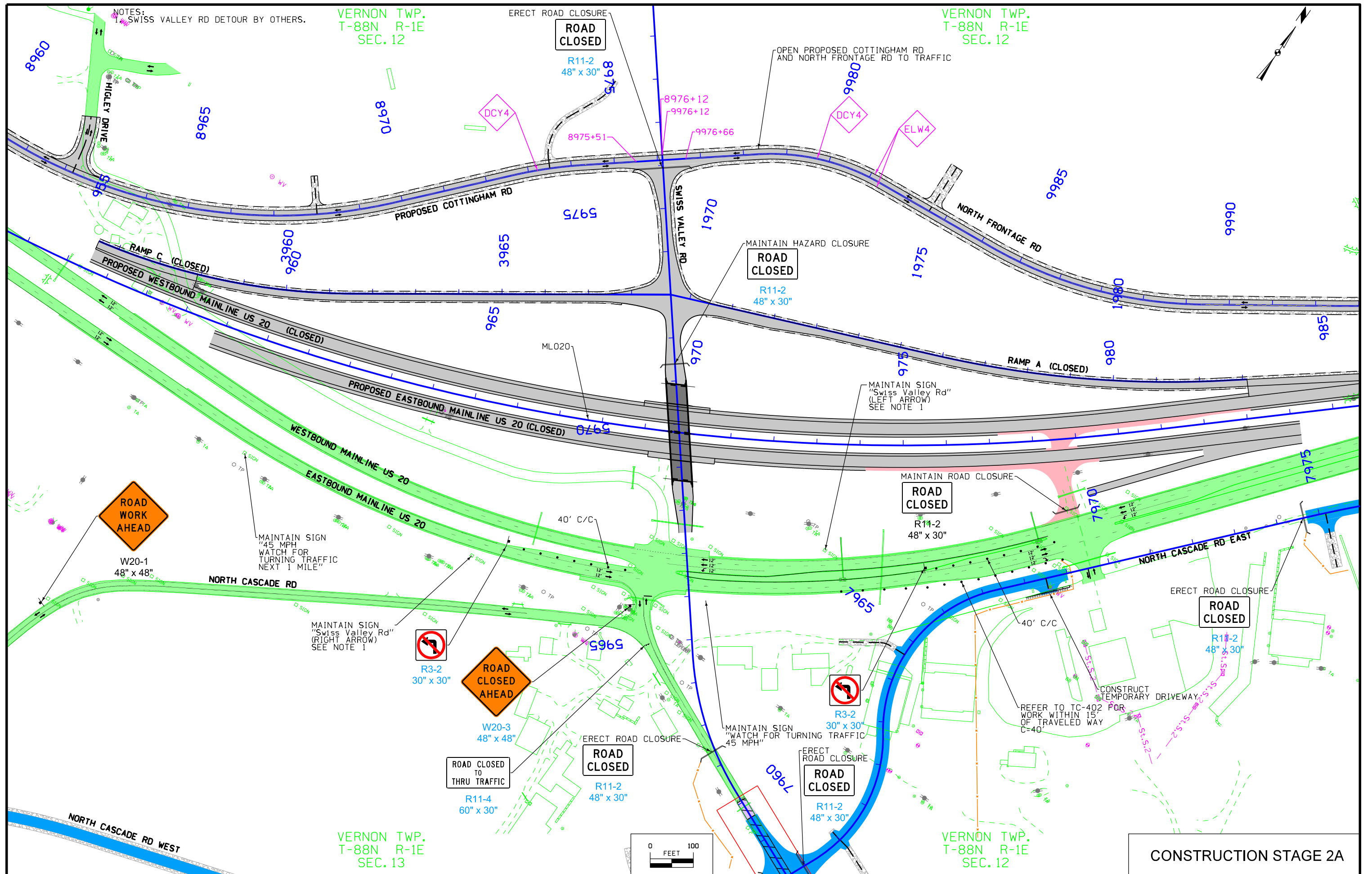
SPECIAL 138" x 48"

STA 880+00



VERNON TWP.  
T-88N R-1E  
SEC. 13

CONSTRUCTION STAGE 2A





VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

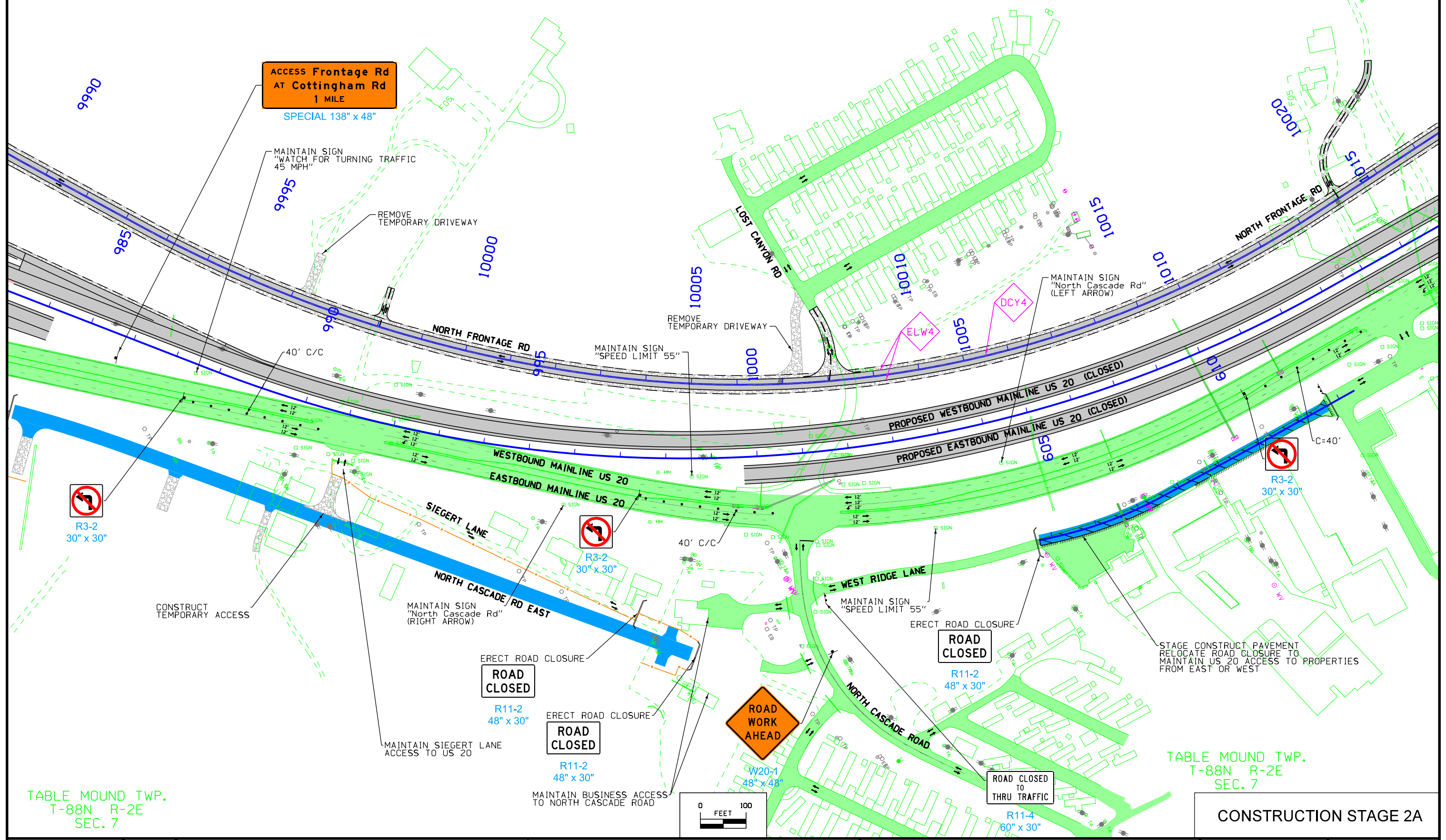
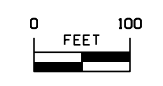


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

CONSTRUCTION STAGE 2A



VERNON TWP.  
T-88N R-1E  
SEC. 12

NOTES:  
1. STAGE CONSTRUCT WEST RIDGE LANE PAVEMENT.  
RELOCATE ROAD CLOSURE TO MAINTAIN US 20 ACCESS  
TO PROPERTIES FROM EAST OR WEST.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

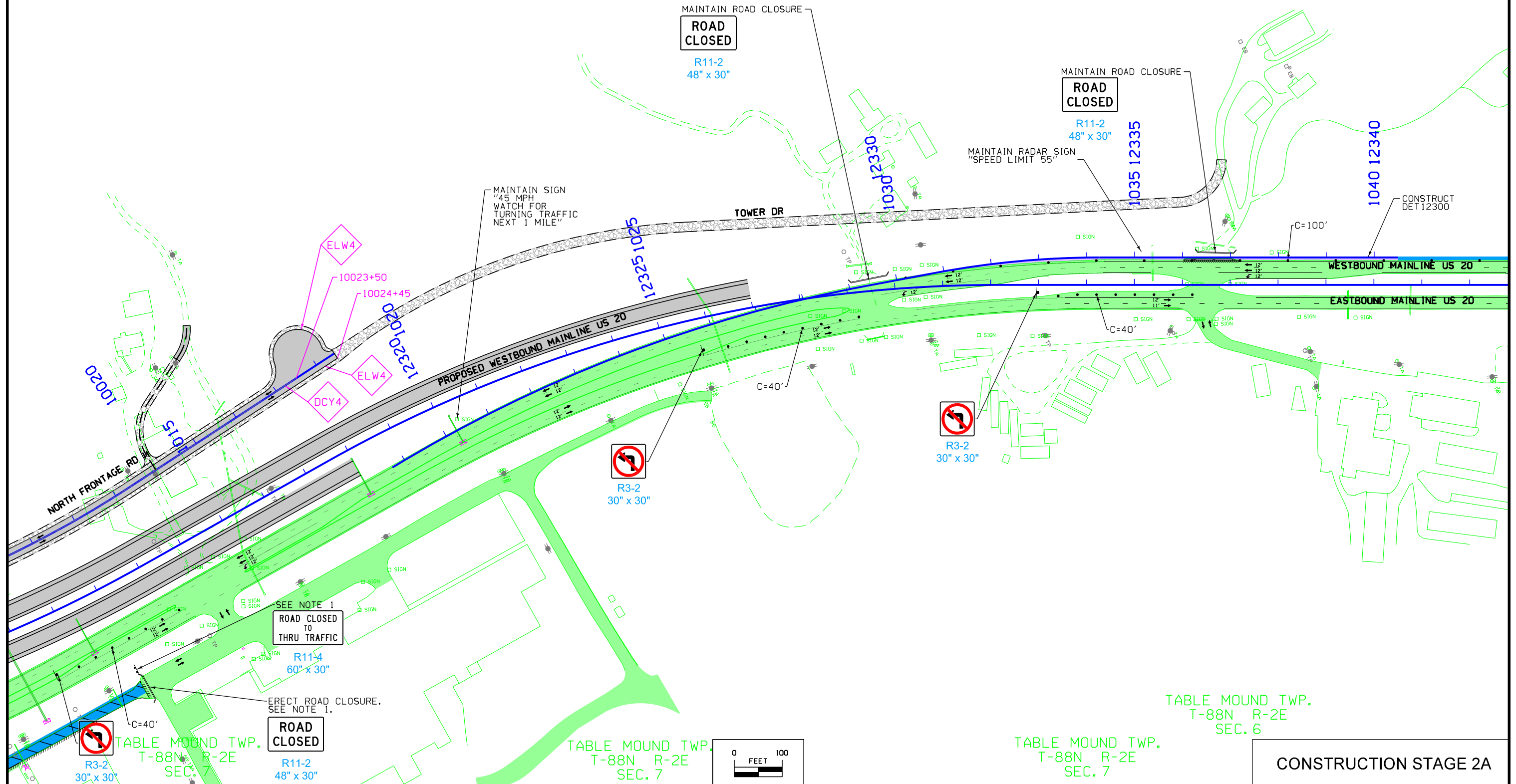
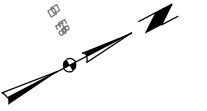


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

NOTES:  
1. UTILIZE TC-402 (DEPICTED) AND TC-418 (AS PERMITTED  
IN TAB 108-23A) FOR CONSTRUCTION ON SHOULDER.

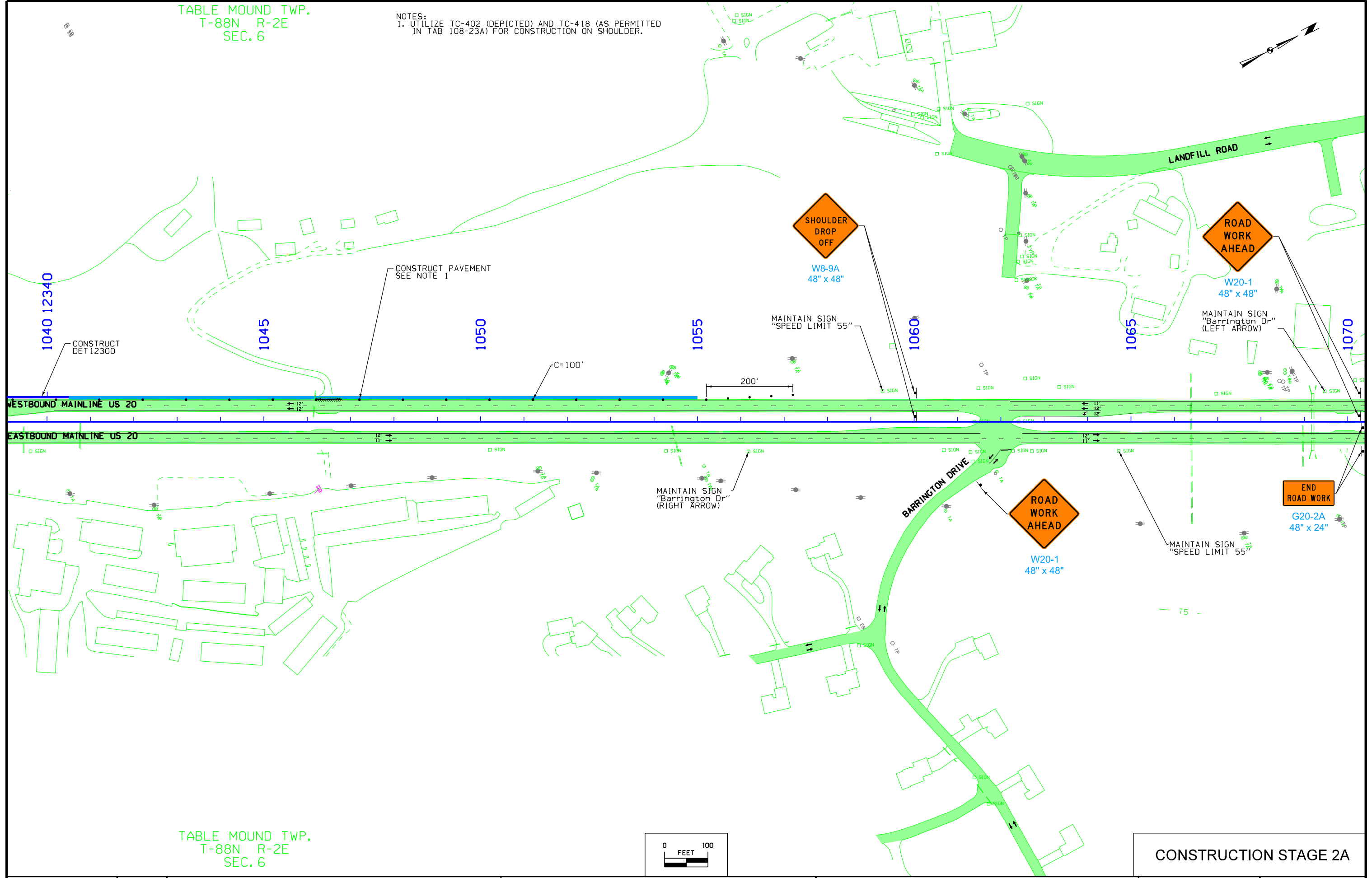
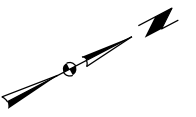
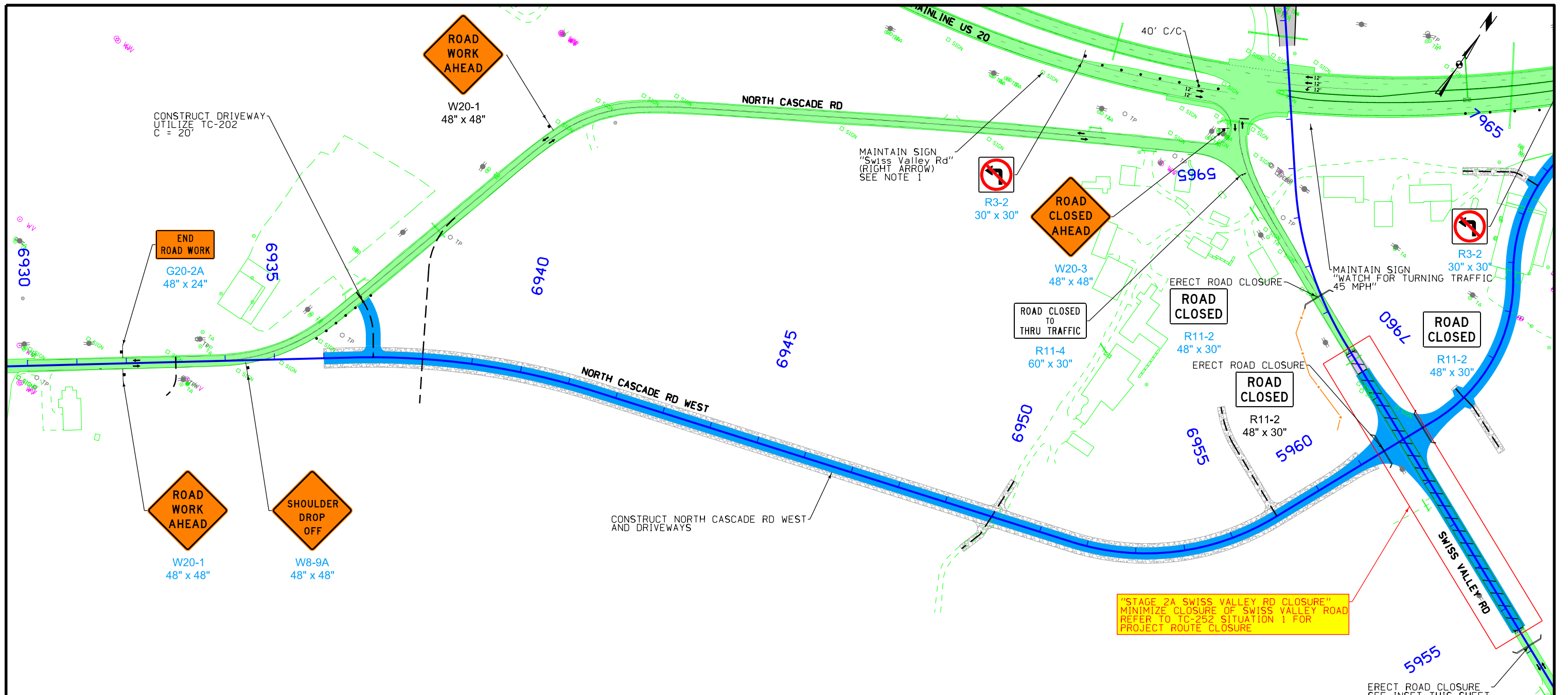


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

CONSTRUCTION STAGE 2A



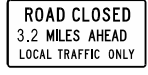






"STAGE 2A SWISS VALLEY RD CLOSURE"  
 MINIMIZE CLOSURE OF SWISS VALLEY ROAD  
 REFER TO TC-252 SITUATION 1 FOR  
 PROJECT ROUTE CLOSURE

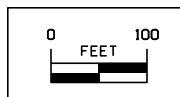
**SWISS VALLEY RD ROAD CLOSURE SIGNING**

**NOTES:**  
 1. SEE TC-252 SITUATION 1 FOR PLACEMENT.  
 2. SEE STAGE 2A SWISS VALLEY RD DETOUR.

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |  |  |
| W20-3<br>48" x 48"                                                                  | W20-3<br>48" x 48"                                                                  | R11-3A<br>60" x 30"                                                                 | W20-3<br>48" x 48"                                                                  | W20-3<br>48" x 48"                                                                   |

PLACE AT WHITETOP ROAD ON TYPE III BARRICADE

VERNON TWP.  
 T-88N R-2E  
 SEC. 13



VERNON TWP.  
 T-88N R-2E  
 SEC. 13

**CONSTRUCTION STAGE 2A**

VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12

- NOTES:
1. MAINTAIN EXISTING COTTINGHAM ROAD ACCESS TO US 20 UNTIL NORTH CASCADE ROAD WEST OPENS TO TRAFFIC. INSTALL PERMANENT ROAD CLOSURE.
  2. UTILIZE TC-402 (DEPICTED) AND TC-418 (AS PERMITTED IN TAB 108-23A) FOR CONSTRUCTION ON SHOULDER.

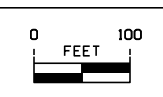
### WESTBOUND US 20 SIGNING

|                                                          |                                                                     |
|----------------------------------------------------------|---------------------------------------------------------------------|
| <b>SPEED LIMIT 65</b><br>R2-1<br>48" x 60"<br>STA 917+00 | <b>END ROAD WORK</b><br>G20-2A<br>48" x 24"<br>(2 EA)<br>STA 927+00 |
|----------------------------------------------------------|---------------------------------------------------------------------|

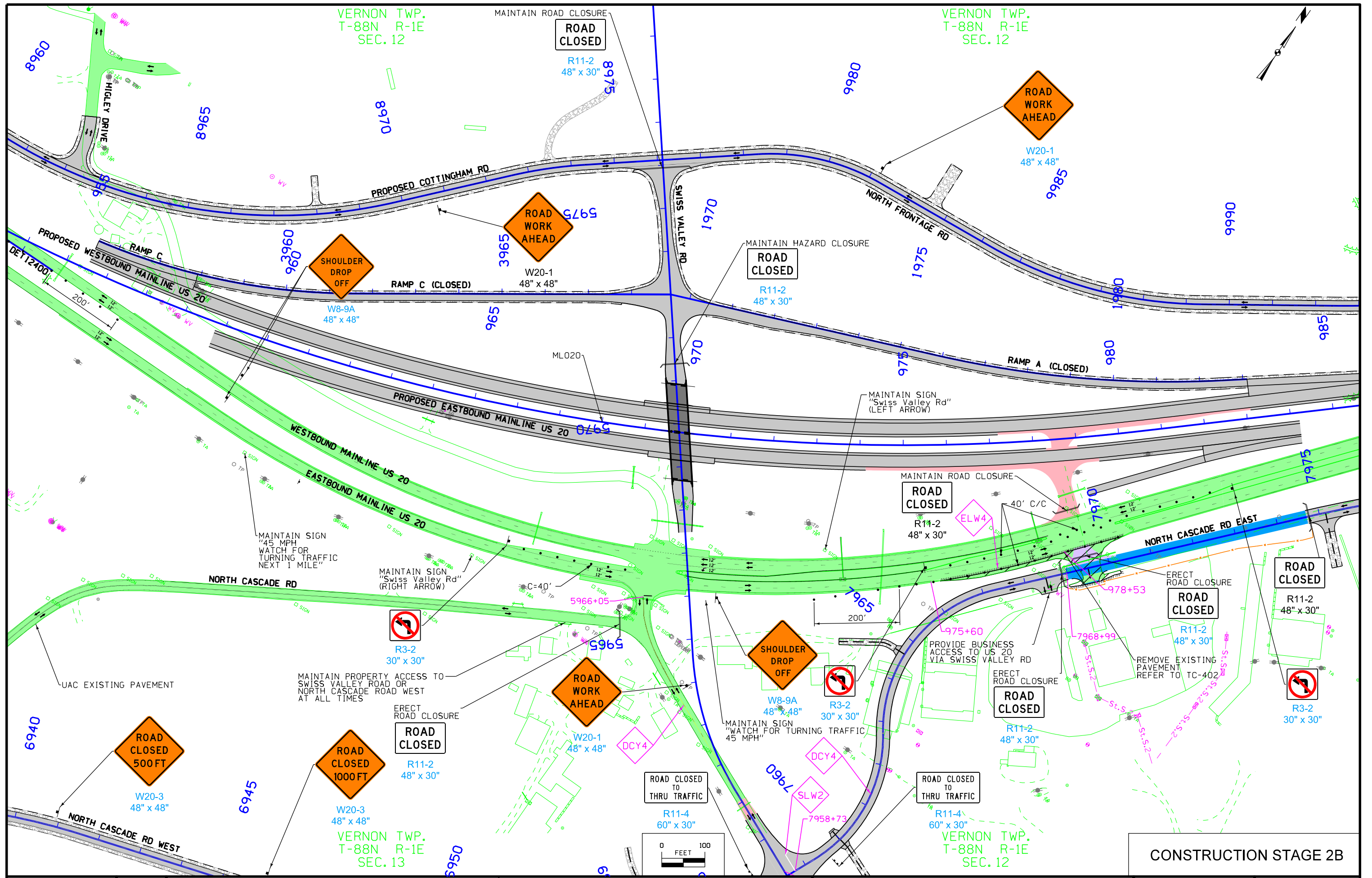
|                                            |
|--------------------------------------------|
| <b>SPEED LIMIT 55</b><br>R2-1<br>48" x 60" |
|--------------------------------------------|

### EASTBOUND US 20 ADVANCE SIGNING

|                                                                                       |                                                                      |                                                                          |                                                                    |                                                                        |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>ACCESS Frontage Rd at Cottingham Rd 1 MILE</b><br>SPECIAL 138" x 48"<br>STA 880+00 | <b>ROAD WORK AHEAD</b><br>W20-1<br>48" x 48"<br>(2 EA)<br>STA 897+00 | <b>↑<br/>SPEED LIMIT 55</b><br>W3-5<br>48" x 48"<br>(2 EA)<br>STA 907+00 | <b>SPEED LIMIT 55</b><br>R2-1<br>48" x 60"<br>(2 EA)<br>STA 917+00 | <b>SHOULDER DROP OFF</b><br>W8-9A<br>48" x 48"<br>(2 EA)<br>STA 927+00 |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------|



CONSTRUCTION STAGE 2B





VERNON TWP.  
T-88N R-1E  
SEC. 12

NOTES:  
1. NORTH CASCADE ROAD DETOUR BY OTHERS.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

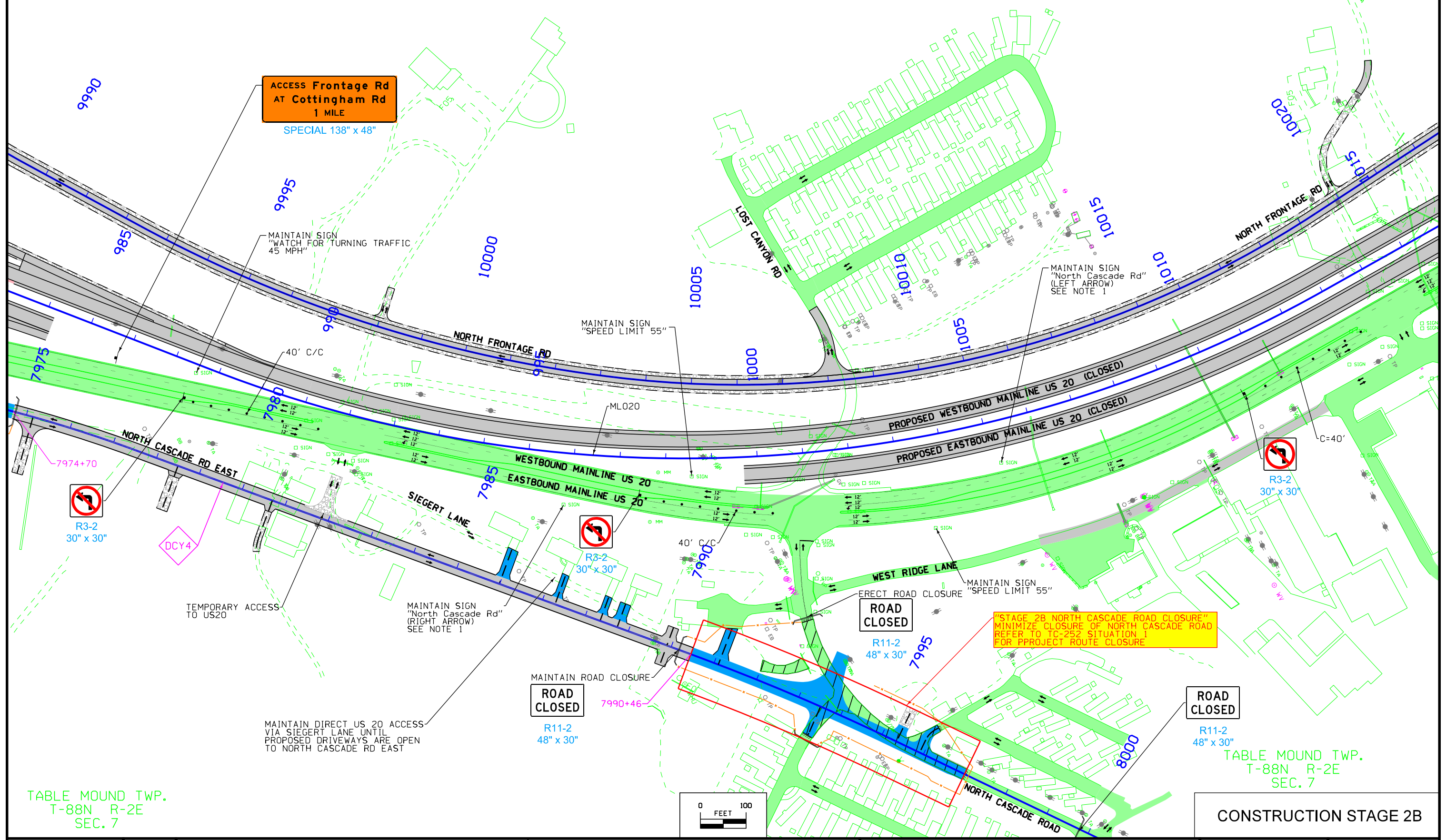
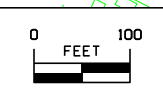


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

CONSTRUCTION STAGE 2B



VERNON TWP.  
T-88N R-1E  
SEC. 12

NOTES:  
1. UTILIZE TC-418 LANE CLOSURE (AS PERMITTED IN TAB 108-23A)  
TO PLACE TBR.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

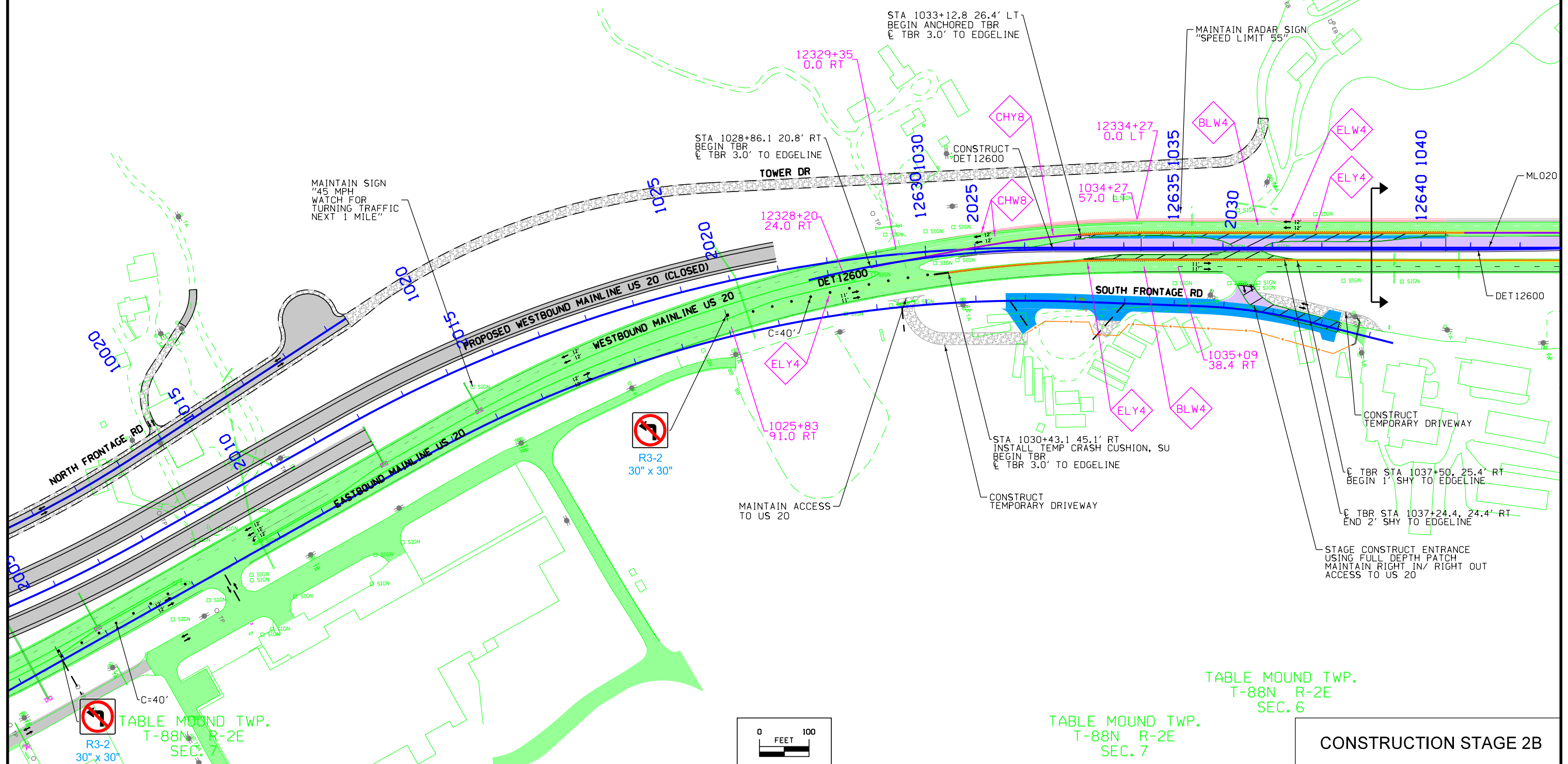
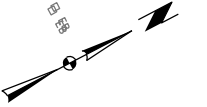
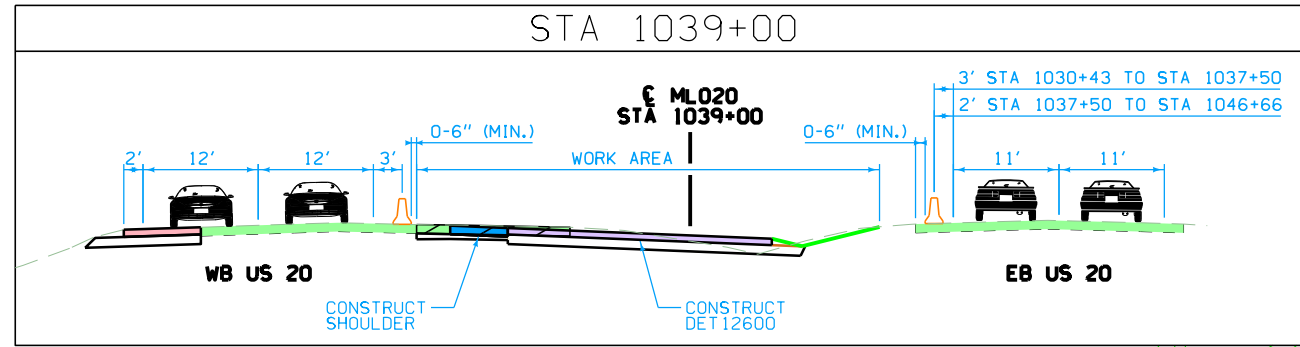


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

NOTES:  
1. UTILIZE TC-418 LANE CLOSURE (AS PERMITTED IN TAB 108-23A)  
TO PLACE TBR.

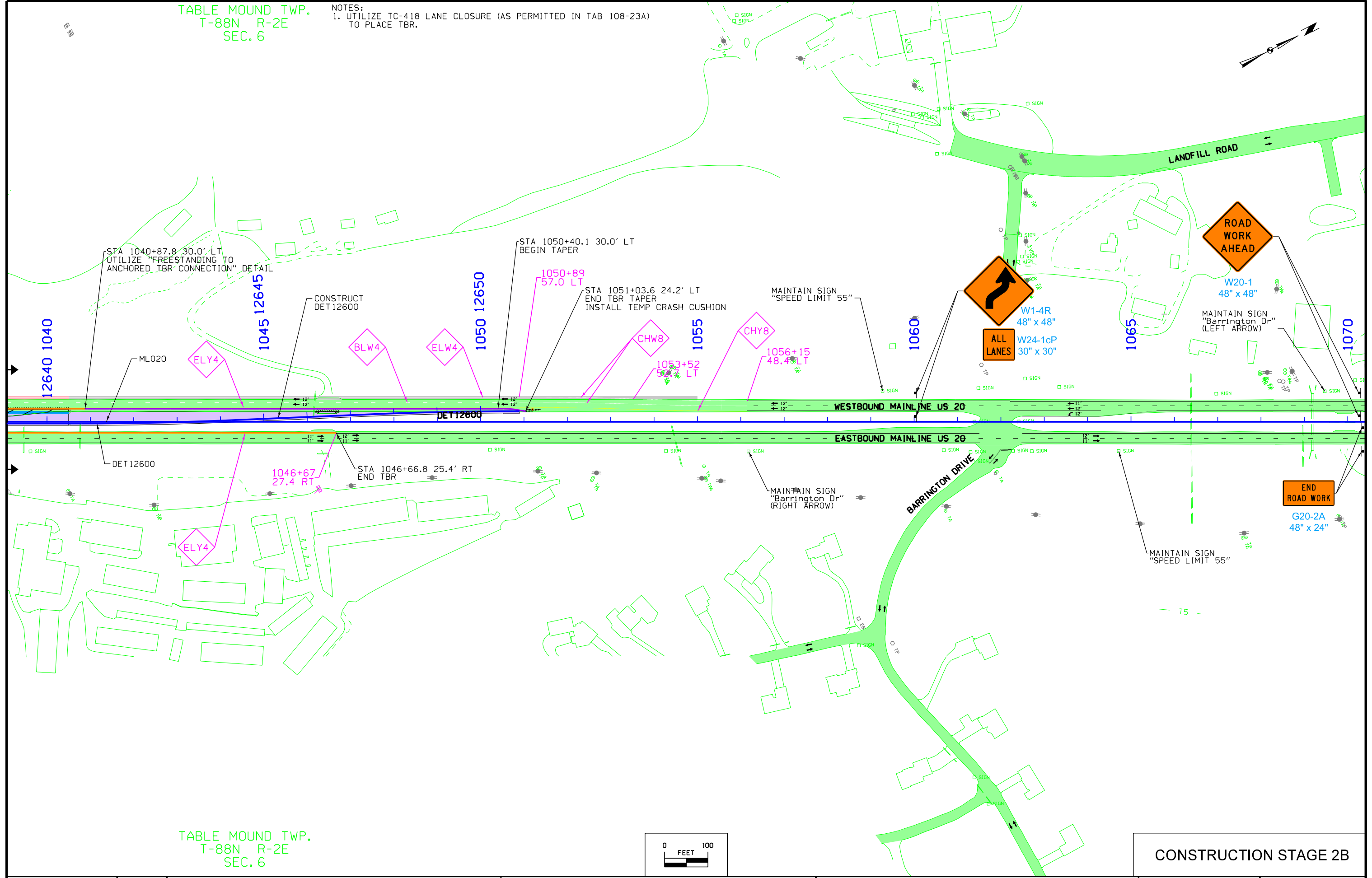
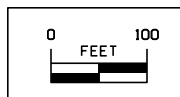


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

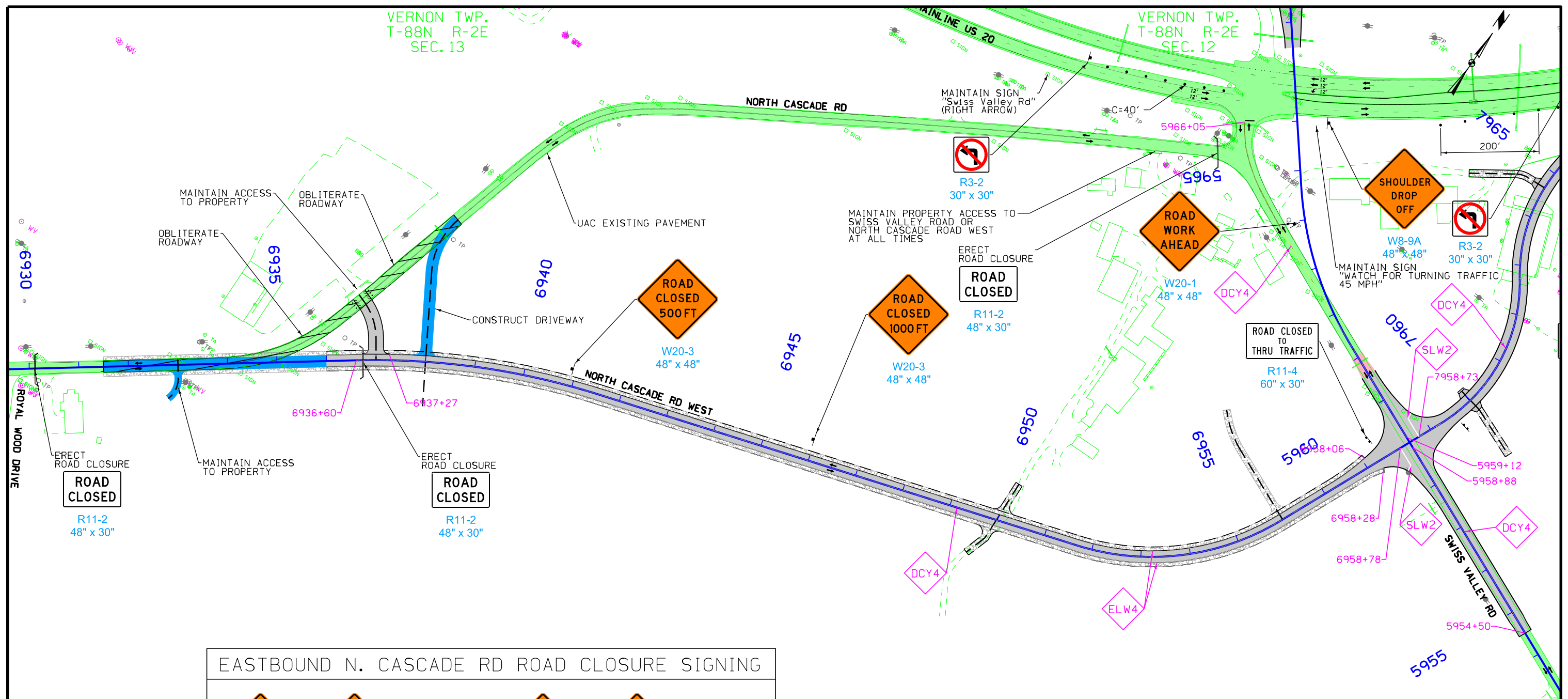


CONSTRUCTION STAGE 2B



VERNON TWP.  
T-88N R-2E  
SEC. 13

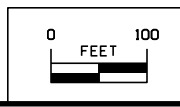
VERNON TWP.  
T-88N R-2E  
SEC. 12



EASTBOUND N. CASCADE RD ROAD CLOSURE SIGNING

|                                   |                                   |                                                         |                                   |                                   |
|-----------------------------------|-----------------------------------|---------------------------------------------------------|-----------------------------------|-----------------------------------|
|                                   |                                   |                                                         |                                   |                                   |
| W20-3<br>48" x 48"<br>STA 6906+00 | W20-3<br>48" x 48"<br>STA 6911+00 | R11-4<br>60" x 30"<br>STA 6947+00<br>TYPE III BARRICADE | W20-3<br>48" x 48"<br>STA 6919+00 | W20-3<br>48" x 48"<br>STA 6924+00 |

VERNON TWP.  
T-88N R-2E  
SEC. 13



VERNON TWP.  
T-88N R-2E  
SEC. 13

CONSTRUCTION STAGE 2B

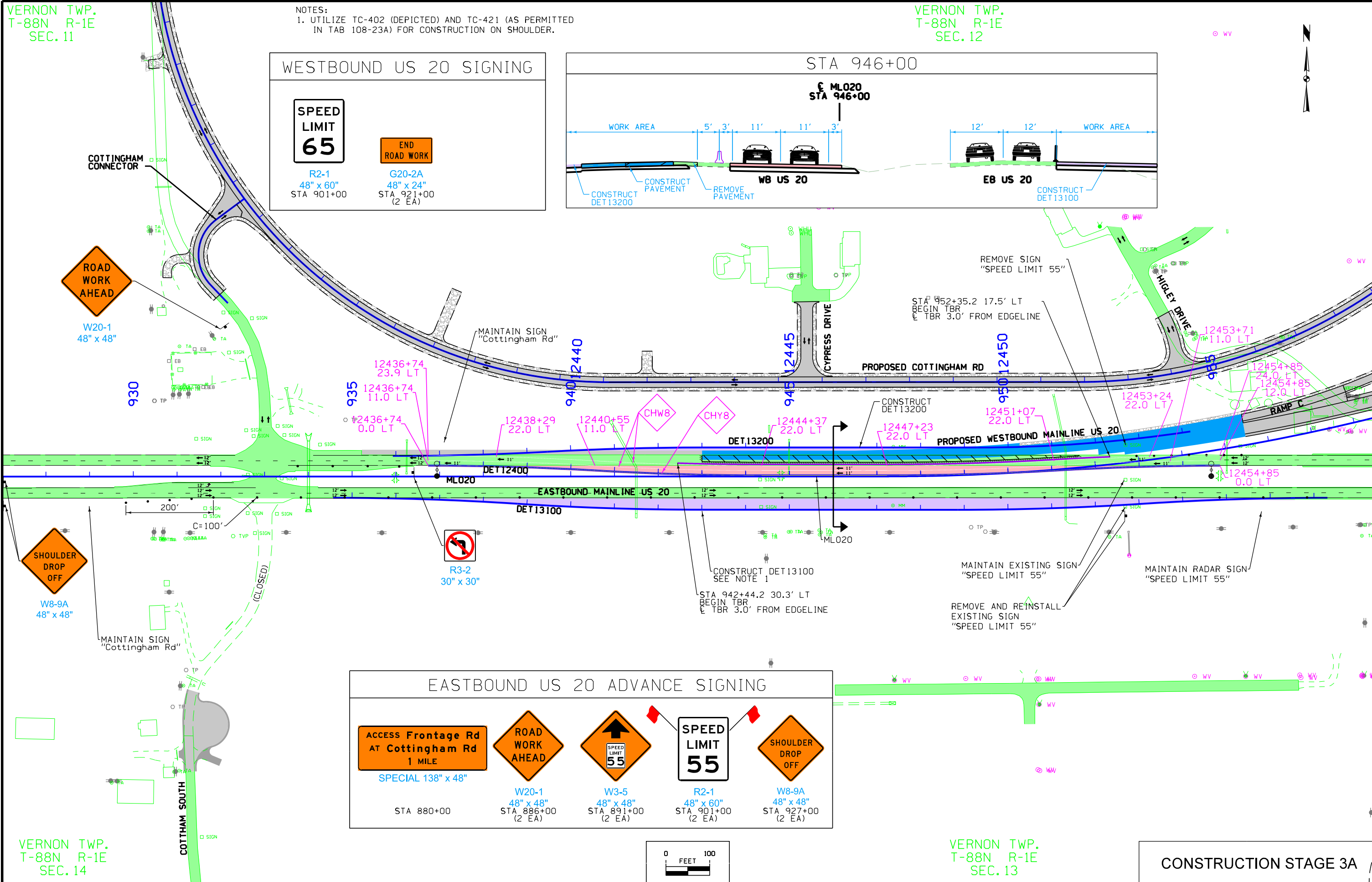
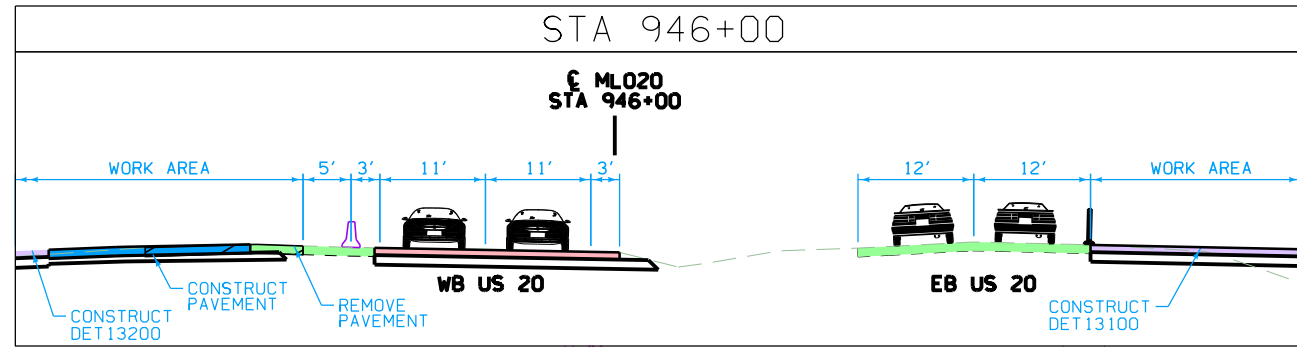
VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12

NOTES:  
1. UTILIZE TC-402 (DEPICTED) AND TC-421 (AS PERMITTED  
IN TAB 108-23A) FOR CONSTRUCTION ON SHOULDER.

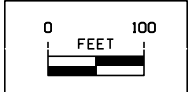
**WESTBOUND US 20 SIGNING**

|                                                          |                                                                     |
|----------------------------------------------------------|---------------------------------------------------------------------|
| <b>SPEED LIMIT 65</b><br>R2-1<br>48" x 60"<br>STA 901+00 | <b>END ROAD WORK</b><br>G20-2A<br>48" x 24"<br>STA 921+00<br>(2 EA) |
|----------------------------------------------------------|---------------------------------------------------------------------|

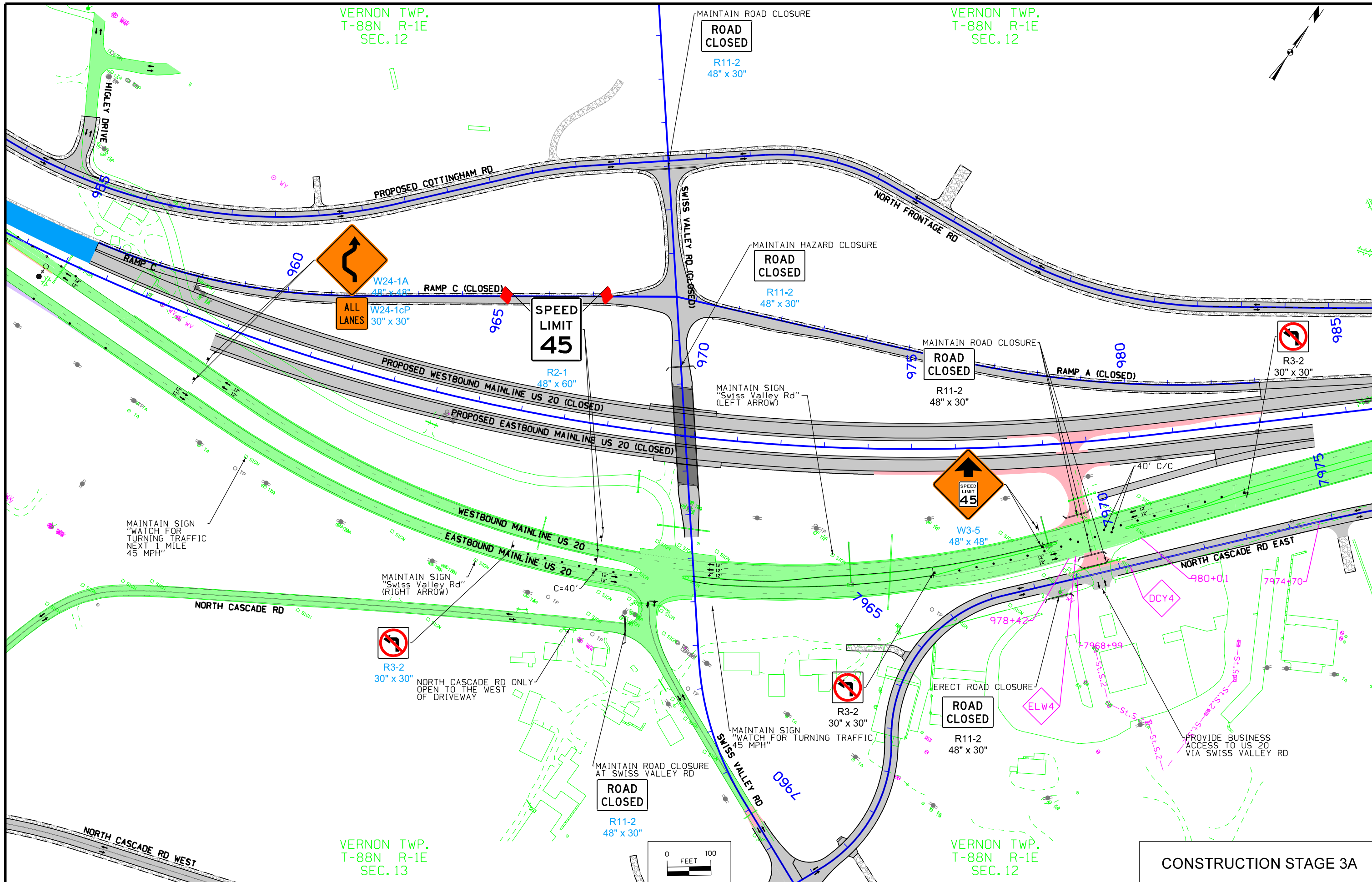


**EASTBOUND US 20 ADVANCE SIGNING**

|                                                                                               |                                                                      |                                                                    |                                                                    |                                                                        |
|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>ACCESS Frontage Rd<br/>at Cottingham Rd<br/>1 MILE</b><br>SPECIAL 138" x 48"<br>STA 880+00 | <b>ROAD WORK AHEAD</b><br>W20-1<br>48" x 48"<br>STA 891+00<br>(2 EA) | <b>SPEED LIMIT 55</b><br>W3-5<br>48" x 48"<br>STA 891+00<br>(2 EA) | <b>SPEED LIMIT 55</b><br>R2-1<br>48" x 60"<br>STA 901+00<br>(2 EA) | <b>SHOULDER DROP OFF</b><br>W8-9A<br>48" x 48"<br>STA 927+00<br>(2 EA) |
|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------|



CONSTRUCTION STAGE 3A



VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 13

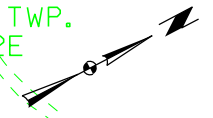
VERNON TWP.  
T-88N R-1E  
SEC. 12

CONSTRUCTION STAGE 3A

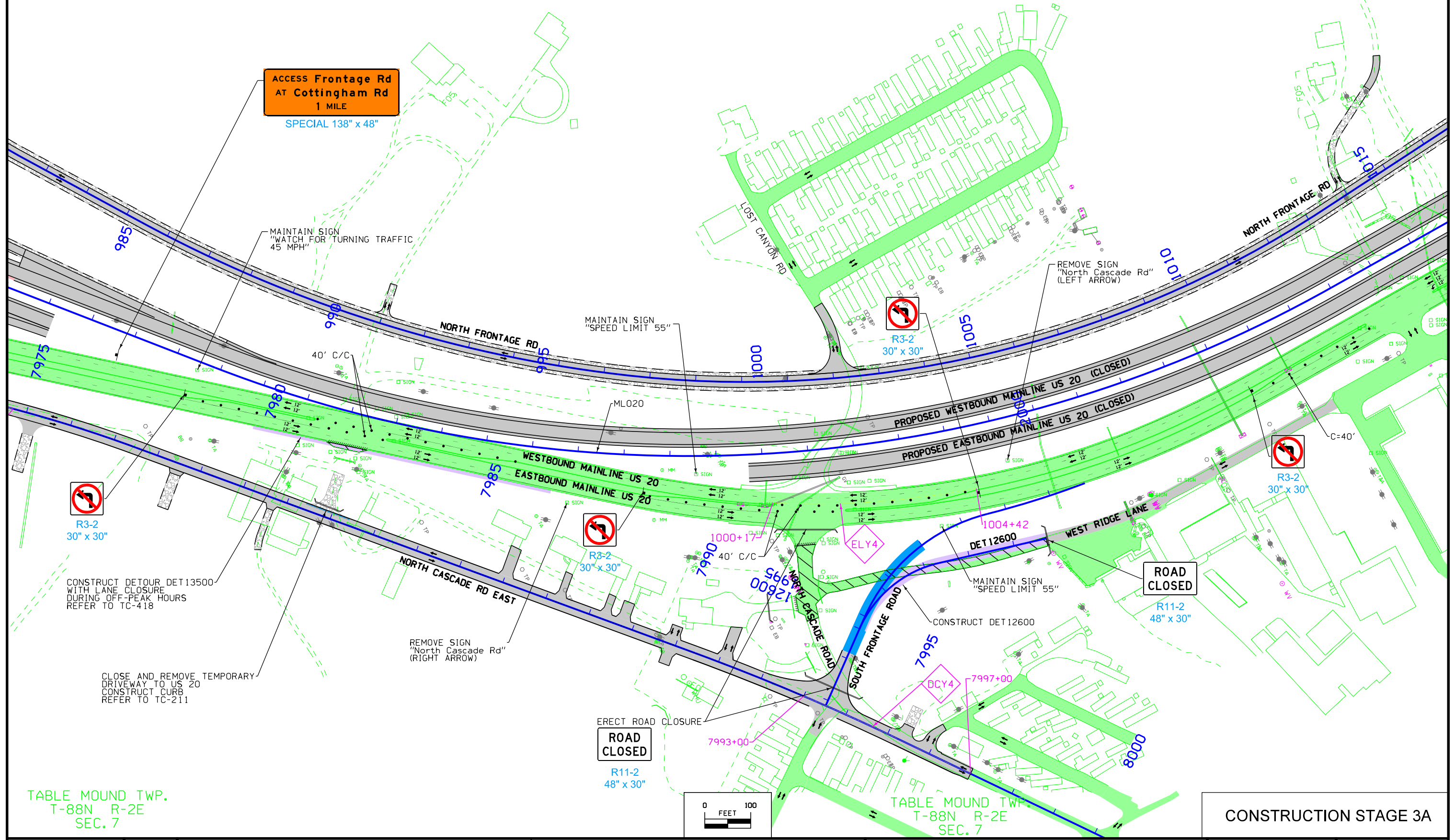


VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



ACCESS Frontage Rd  
AT Cottingham Rd  
1 MILE  
SPECIAL 138" x 48"



R3-2  
30" x 30"

CONSTRUCT DETOUR DET13500  
WITH LANE CLOSURE  
DURING OFF-PEAK HOURS  
REFER TO TC-418

CLOSE AND REMOVE TEMPORARY  
DRIVEWAY TO US 20  
CONSTRUCT CURB  
REFER TO TC-211

REMOVE SIGN  
"North Cascade Rd"  
(RIGHT ARROW)

R3-2  
30" x 30"

ERECT ROAD CLOSURE  
ROAD  
CLOSED  
R11-2  
48" x 30"

R3-2  
30" x 30"

REMOVE SIGN  
"North Cascade Rd"  
(LEFT ARROW)

R3-2  
30" x 30"

ROAD  
CLOSED

R11-2  
48" x 30"

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

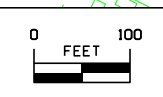


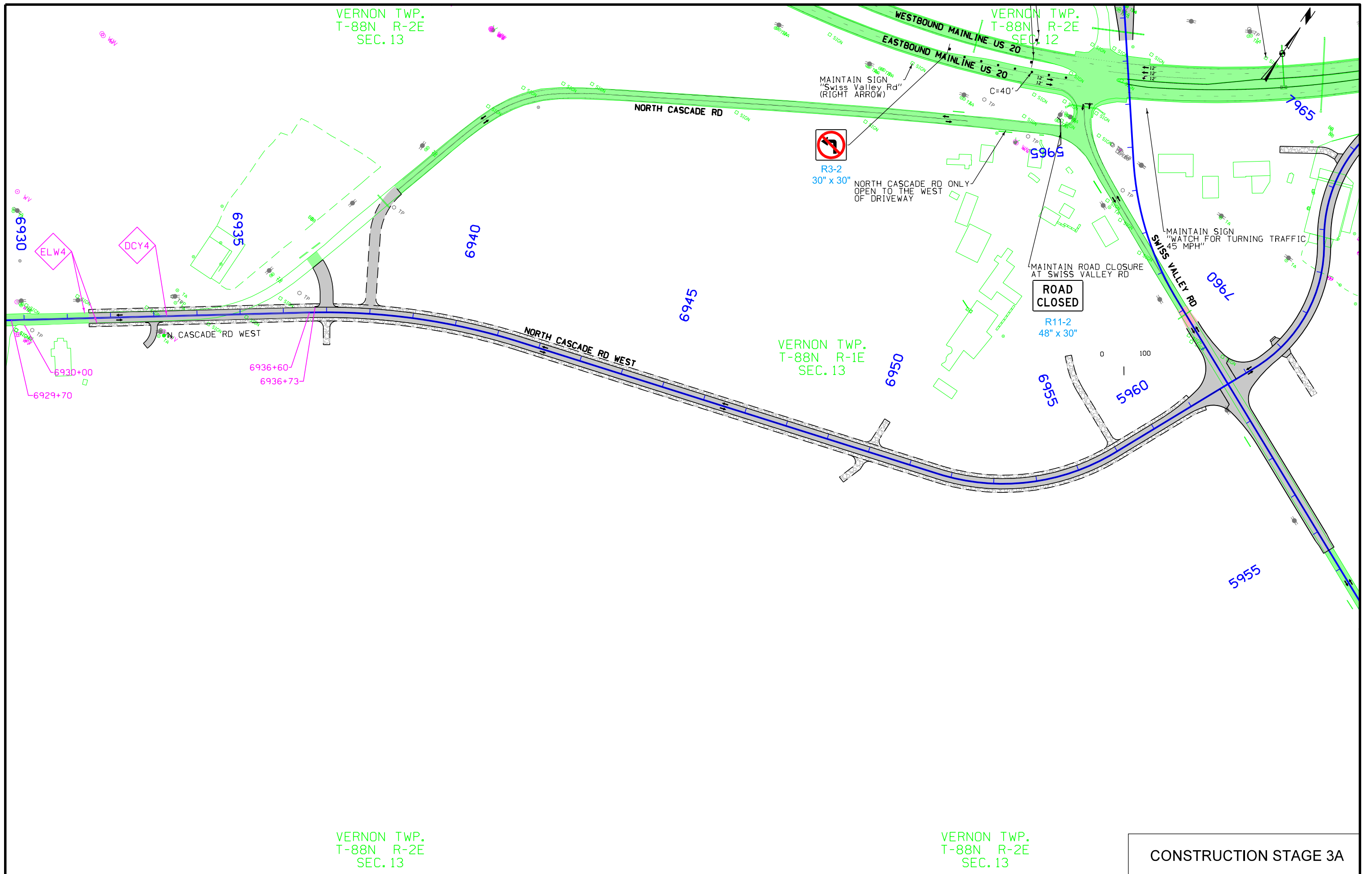
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

CONSTRUCTION STAGE 3A









VERNON TWP.  
T-88N R-2E  
SEC. 13

VERNON TWP.  
T-88N R-2E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 13

VERNON TWP.  
T-88N R-2E  
SEC. 13

CONSTRUCTION STAGE 3A

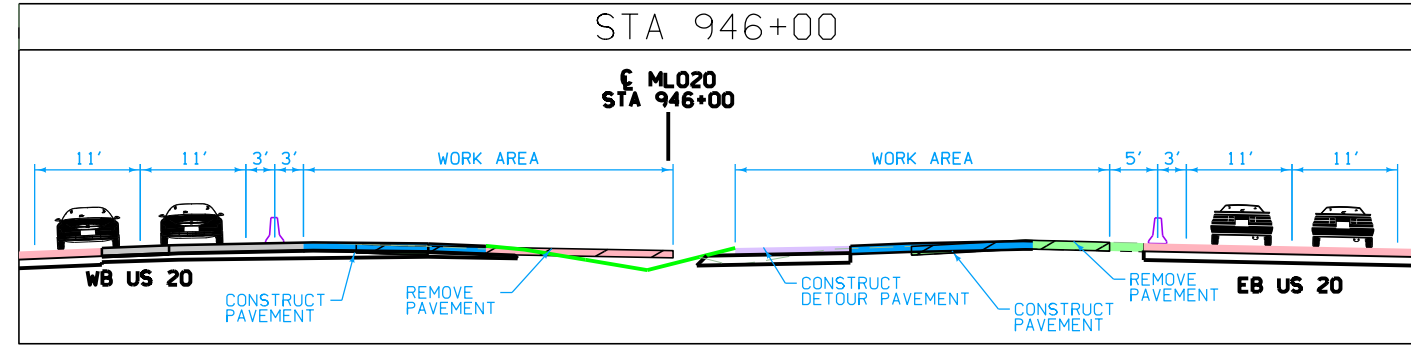
|          |         |                          |                |                                       |                   |
|----------|---------|--------------------------|----------------|---------------------------------------|-------------------|
| FILE NO. | ENGLISH | DESIGN TEAM HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHSX-020-9(183)--3H-31 | SHEET NUMBER J.28 |
|----------|---------|--------------------------|----------------|---------------------------------------|-------------------|

VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12

### WESTBOUND US 20 SIGNING

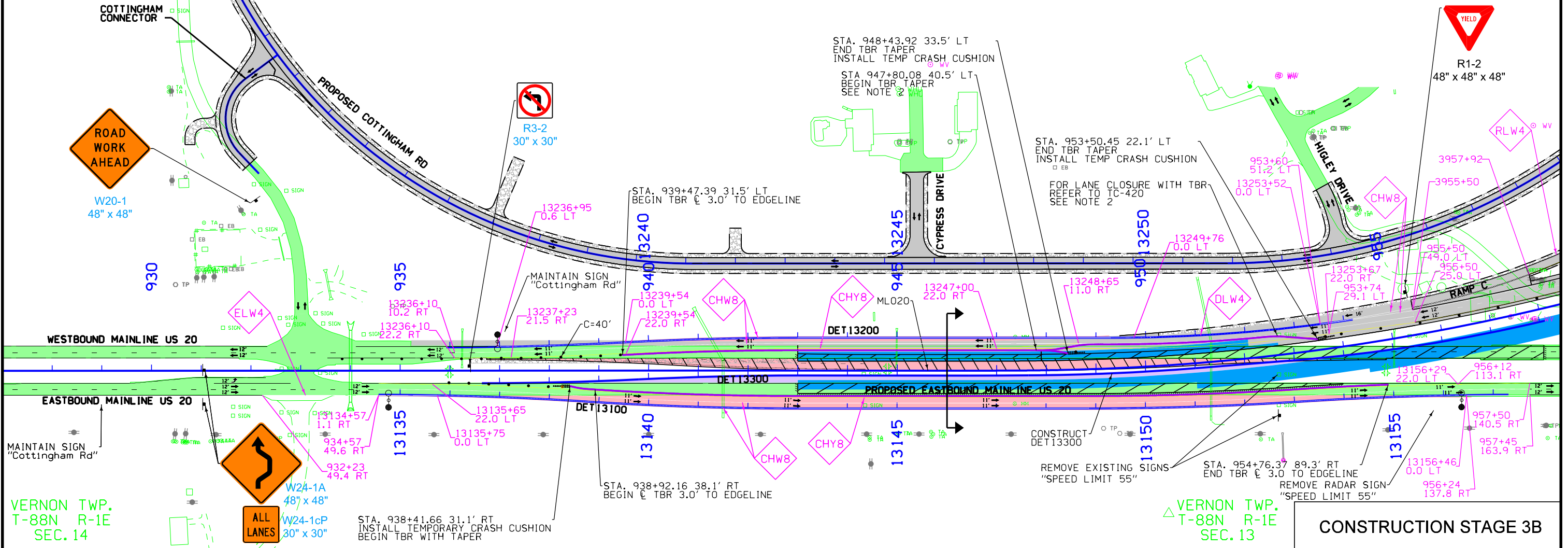
|                                                          |                                                                     |
|----------------------------------------------------------|---------------------------------------------------------------------|
| <b>SPEED LIMIT 65</b><br>R2-1<br>48" x 60"<br>STA 901+00 | <b>END ROAD WORK</b><br>G20-2A<br>48" x 24"<br>(2 EA)<br>STA 921+00 |
|----------------------------------------------------------|---------------------------------------------------------------------|



### EASTBOUND US 20 ADVANCE SIGNING

|                                                                                       |                                                                      |                                                                    |                                                                    |                                                                    |                                                                    |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>ACCESS Frontage Rd at Cottingham Rd 1 MILE</b><br>SPECIAL 138" x 48"<br>STA 880+00 | <b>ROAD WORK AHEAD</b><br>W20-1<br>48" x 48"<br>(2 EA)<br>STA 886+00 | <b>SPEED LIMIT 55</b><br>W3-5<br>48" x 48"<br>(2 EA)<br>STA 891+00 | <b>SPEED LIMIT 55</b><br>R2-1<br>48" x 60"<br>(2 EA)<br>STA 901+00 | <b>SPEED LIMIT 45</b><br>W3-5<br>48" x 48"<br>(2 EA)<br>STA 911+00 | <b>SPEED LIMIT 45</b><br>R2-1<br>48" x 60"<br>(2 EA)<br>STA 921+00 |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|

NOTES:  
1. OPEN NEW WESTBOUND US 20 LANES TO TRAFFIC.  
2. PRIORITIZE COMPLETION OF WESTBOUND US 20 PAVING FROM STA 947+90 TO STA 952+70 AT START OF STAGE 3B USING LANE CLOSURE WITH TBR. OPEN INSIDE LANE AND REDUCE TBR LIMIT TO EXTENT NEEDED TO CONSTRUCT REMAINDER OF STAGE 3B PAVEMENT.



VERNON TWP.  
T-88N R-1E  
SEC. 14

VERNON TWP.  
T-88N R-1E  
SEC. 13

**CONSTRUCTION STAGE 3B**

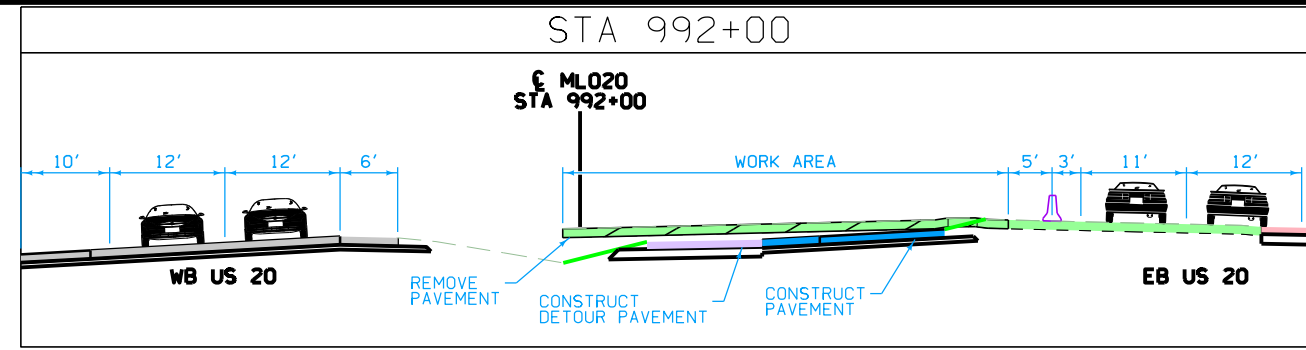




- NOTES:  
 1. OPEN NEW WESTBOUND US 20 LANES AND RAMPS TO TRAFFIC. UTILIZE PERMANENT SIGNS IN TIED SIGNING PLANS, PROJECT NHSX-020-9(184)--3H-31.  
 2. OPEN TEMPORARY SWISS VALLEY RD OFFSET INTERSECTION WITH WESTBOUND US 20. UTILIZE PDMS FIRST 14 DAYS OF OPERATION.

VERNON TWP.  
 T-88N R-1E  
 SEC. 12

TABLE MOUND TWP.  
 T-88N R-2E  
 SEC. 7



SWISS VALLEY RD  
 KEEP LEFT  
 STA 1013+00  
 PDMS  
 SEE NOTE 2

West Ridge Business Center  
 USE Swiss Valley Rd  
 144" x 48"

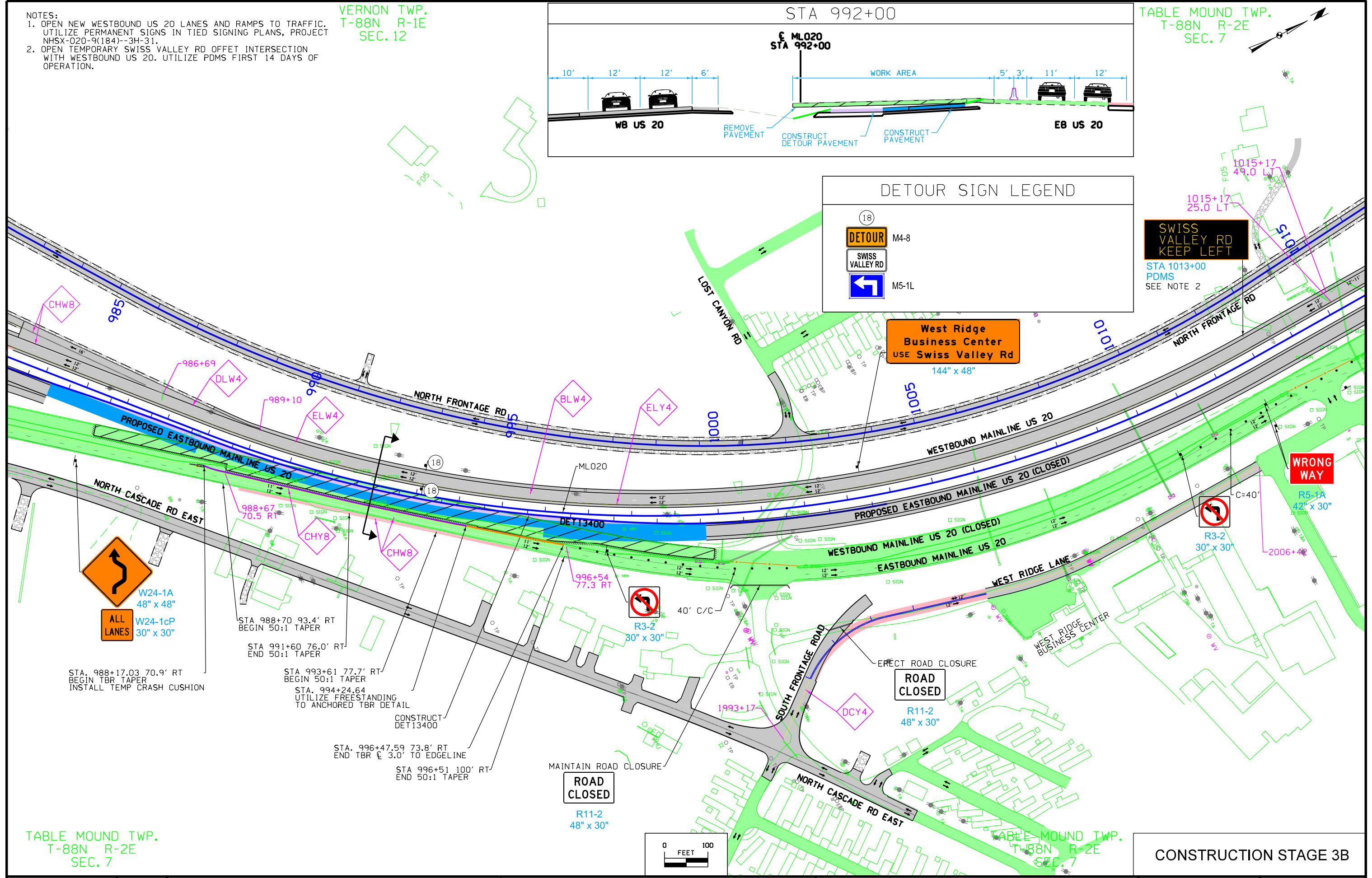


TABLE MOUND TWP.  
 T-88N R-2E  
 SEC. 7

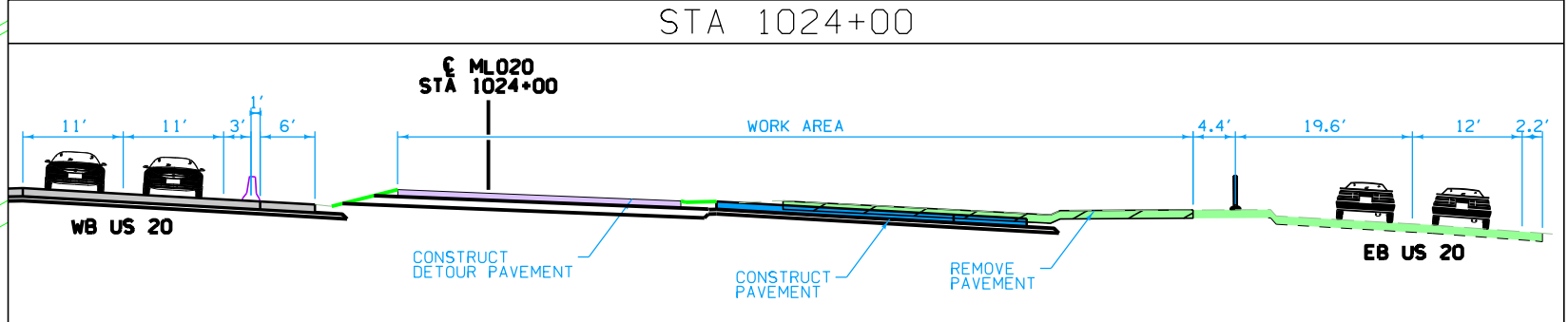
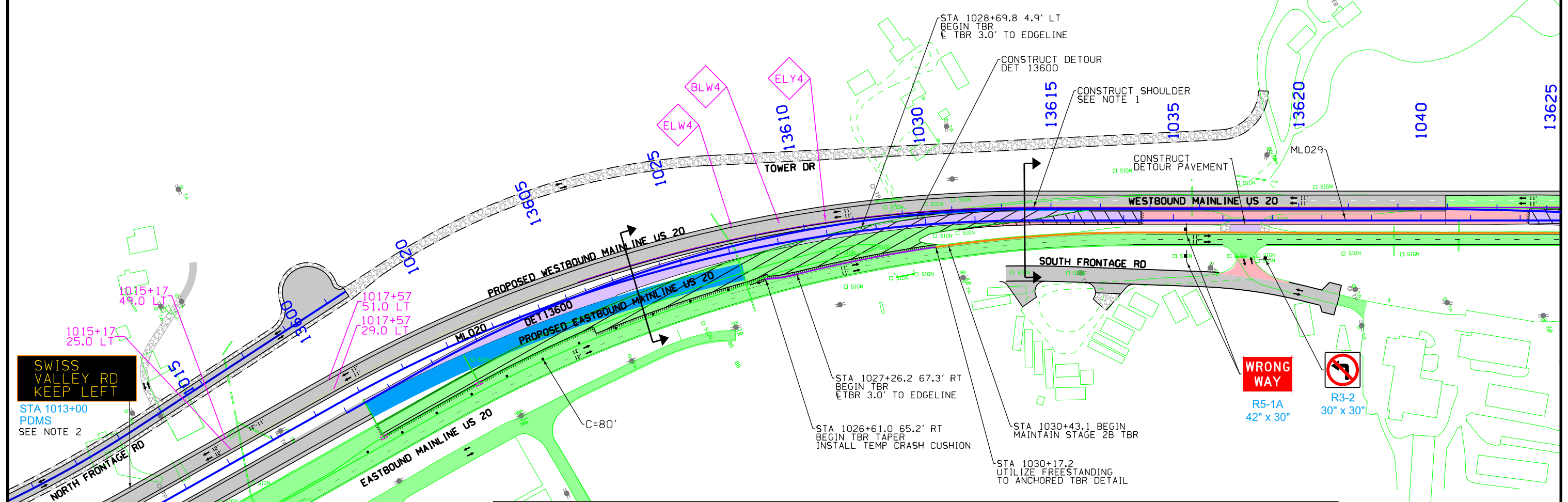
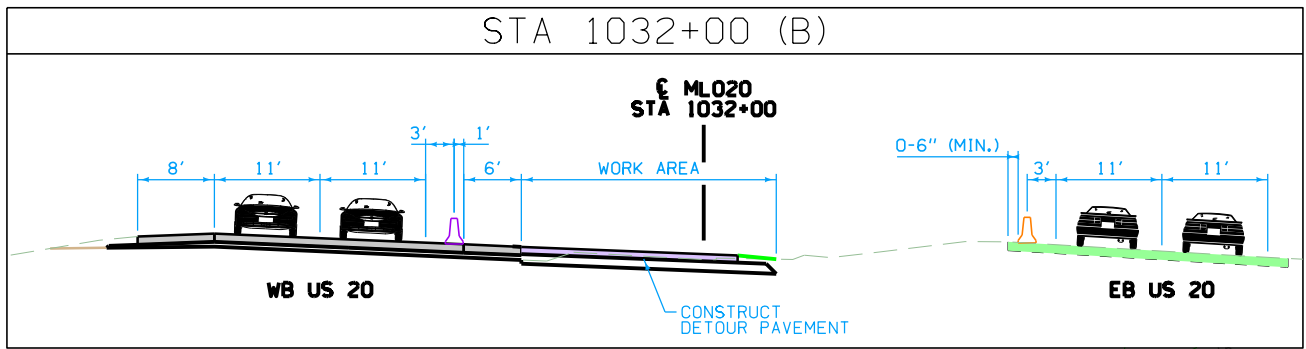
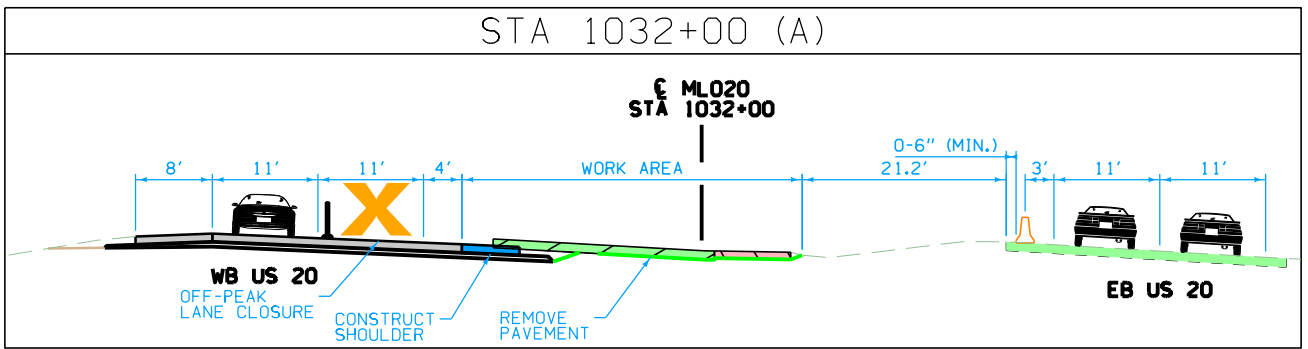
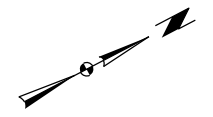
TABLE MOUND TWP.  
 T-88N R-2E  
 SEC. 7

CONSTRUCTION STAGE 3B

VERNON TWP.  
T-88N R-1E  
SEC. 12

- NOTES:  
 1. MAINTAIN 2 EASTBOUND LANES AND 2 WESTBOUND LANES EXCEPT AS PERMITTED IN TAB 108-23A. UTILIZE TC-418 LANE CLOSURE FOR CONSTRUCTION OF WESTBOUND MEDIAN SHOULDER STA 1030+20 TO STA 1033+30.51.  
 2. OPEN TEMPORARY SWISS VALLEY RD OFFSET INTERSECTION WITH WESTBOUND US 20. UTILIZE PDMS FIRST 14 DAYS OF OPERATION.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



SWISS VALLEY RD  
KEEP LEFT

STA 1013+00  
PDMS  
SEE NOTE 2

WRONG WAY

R5-1A  
42" x 30"

WRONG WAY

R3-2  
30" x 30"

WRONG WAY

R5-1A  
42" x 30"

WRONG WAY

R3-2  
30" x 30"

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

CONSTRUCTION STAGE 3B

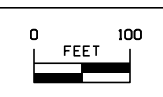


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

NOTES:  
1. MAINTAIN 2 EASTBOUND LANES AND 2 WESTBOUND LANES EXCEPT AS PERMITTED  
IN TAB 108-23A. UTILIZE TC-418 LANE CLOSURE FOR CONSTRUCTION OF  
WESTBOUND MEDIAN SHOULDER STA 1030+20 TO STA 1033+30.51.

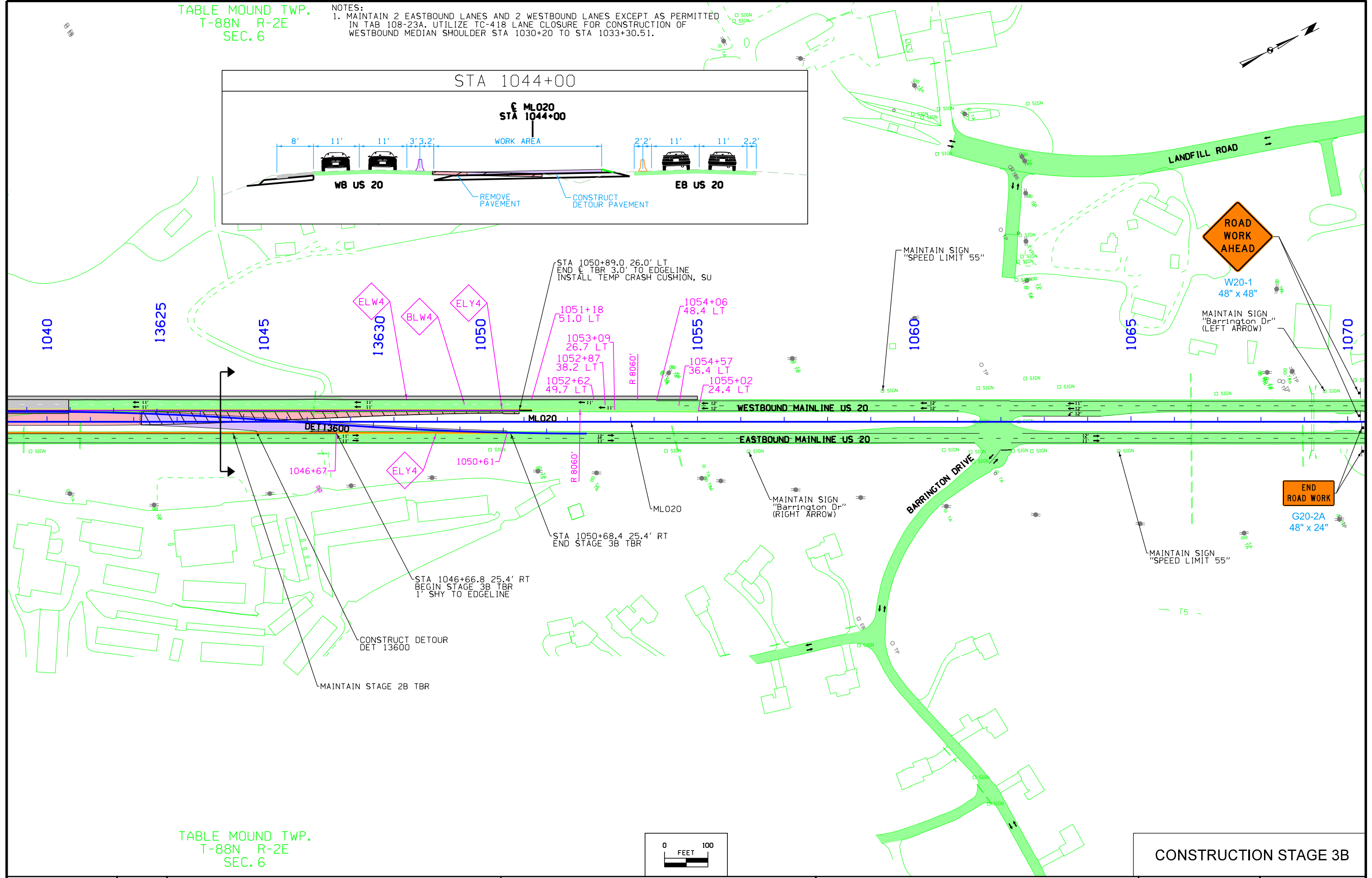
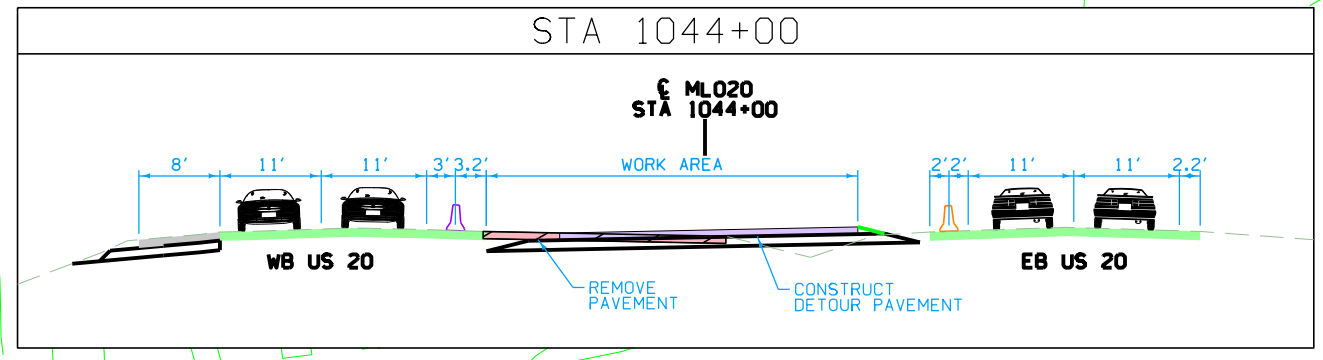
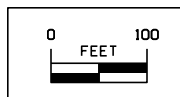


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



CONSTRUCTION STAGE 3B

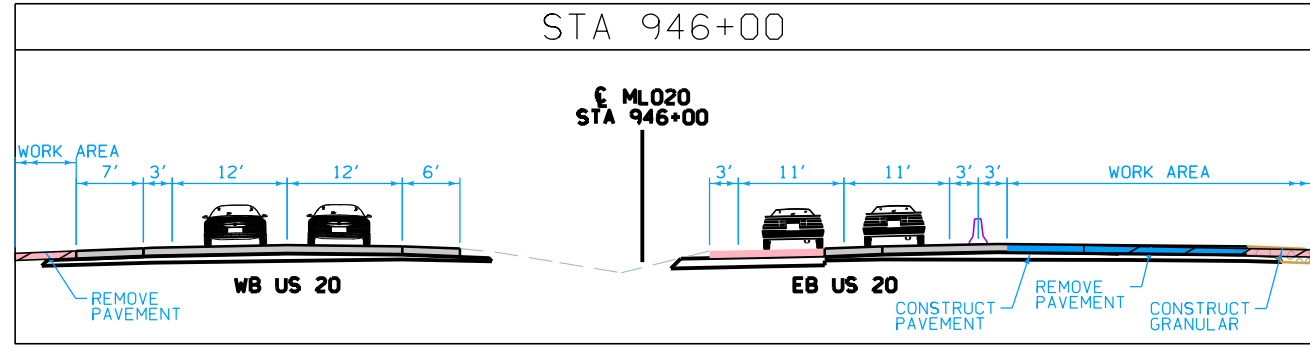


VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12

### WESTBOUND US 20 SIGNING

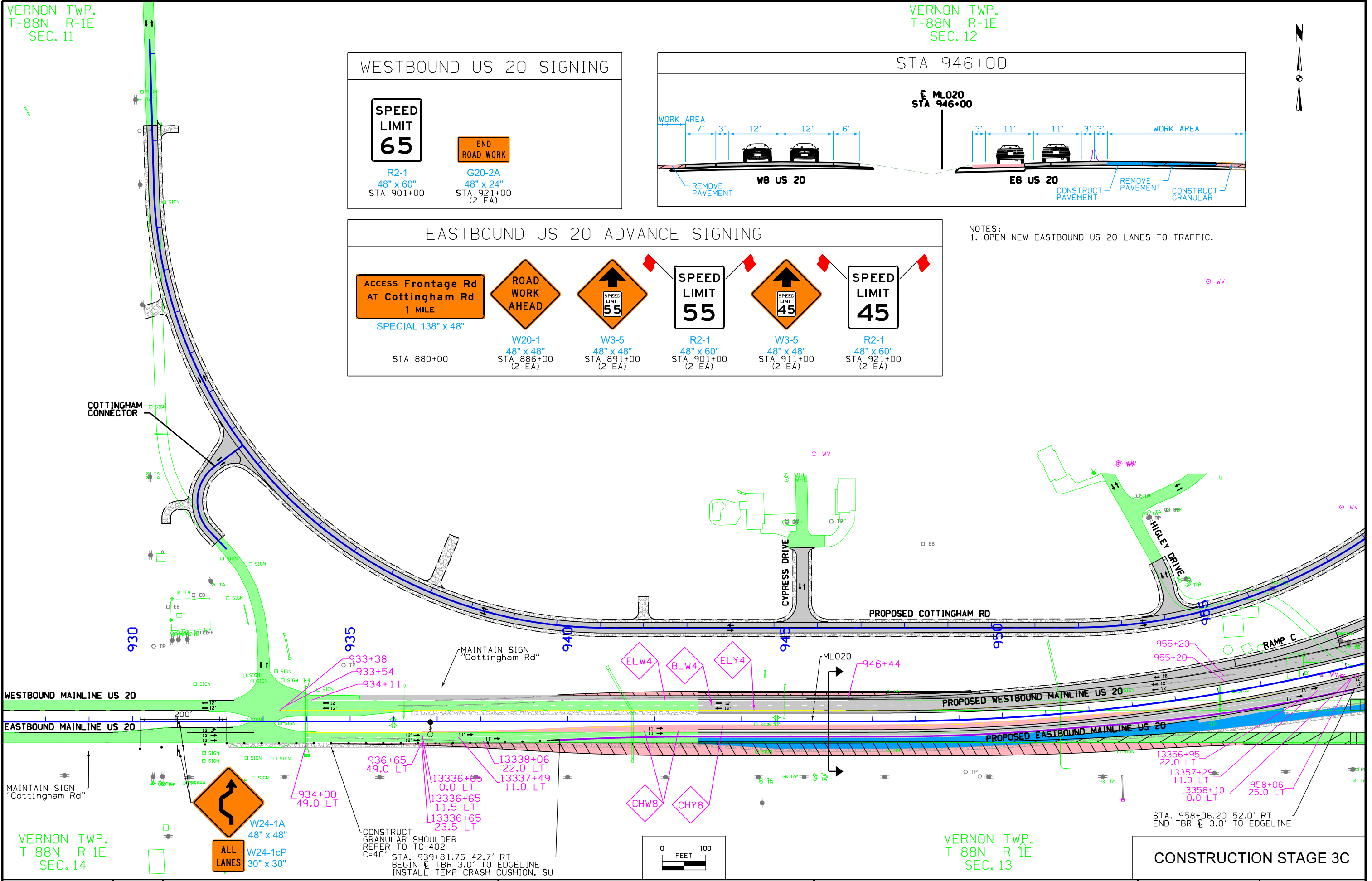
|                                                          |                                                                     |
|----------------------------------------------------------|---------------------------------------------------------------------|
| <b>SPEED LIMIT 65</b><br>R2-1<br>48" x 60"<br>STA 901+00 | <b>END ROAD WORK</b><br>G20-2A<br>48" x 24"<br>(2 EA)<br>STA 921+00 |
|----------------------------------------------------------|---------------------------------------------------------------------|



### EASTBOUND US 20 ADVANCE SIGNING

|                                                                                       |                                                                      |                                                                    |                                                                    |                                                                    |                                                                    |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>ACCESS Frontage Rd AT Cottingham Rd 1 MILE</b><br>SPECIAL 138" x 48"<br>STA 880+00 | <b>ROAD WORK AHEAD</b><br>W20-1<br>48" x 48"<br>(2 EA)<br>STA 886+00 | <b>SPEED LIMIT 55</b><br>W3-5<br>48" x 48"<br>(2 EA)<br>STA 891+00 | <b>SPEED LIMIT 55</b><br>R2-1<br>48" x 60"<br>(2 EA)<br>STA 901+00 | <b>SPEED LIMIT 45</b><br>W3-5<br>48" x 48"<br>(2 EA)<br>STA 911+00 | <b>SPEED LIMIT 45</b><br>R2-1<br>48" x 60"<br>(2 EA)<br>STA 921+00 |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|

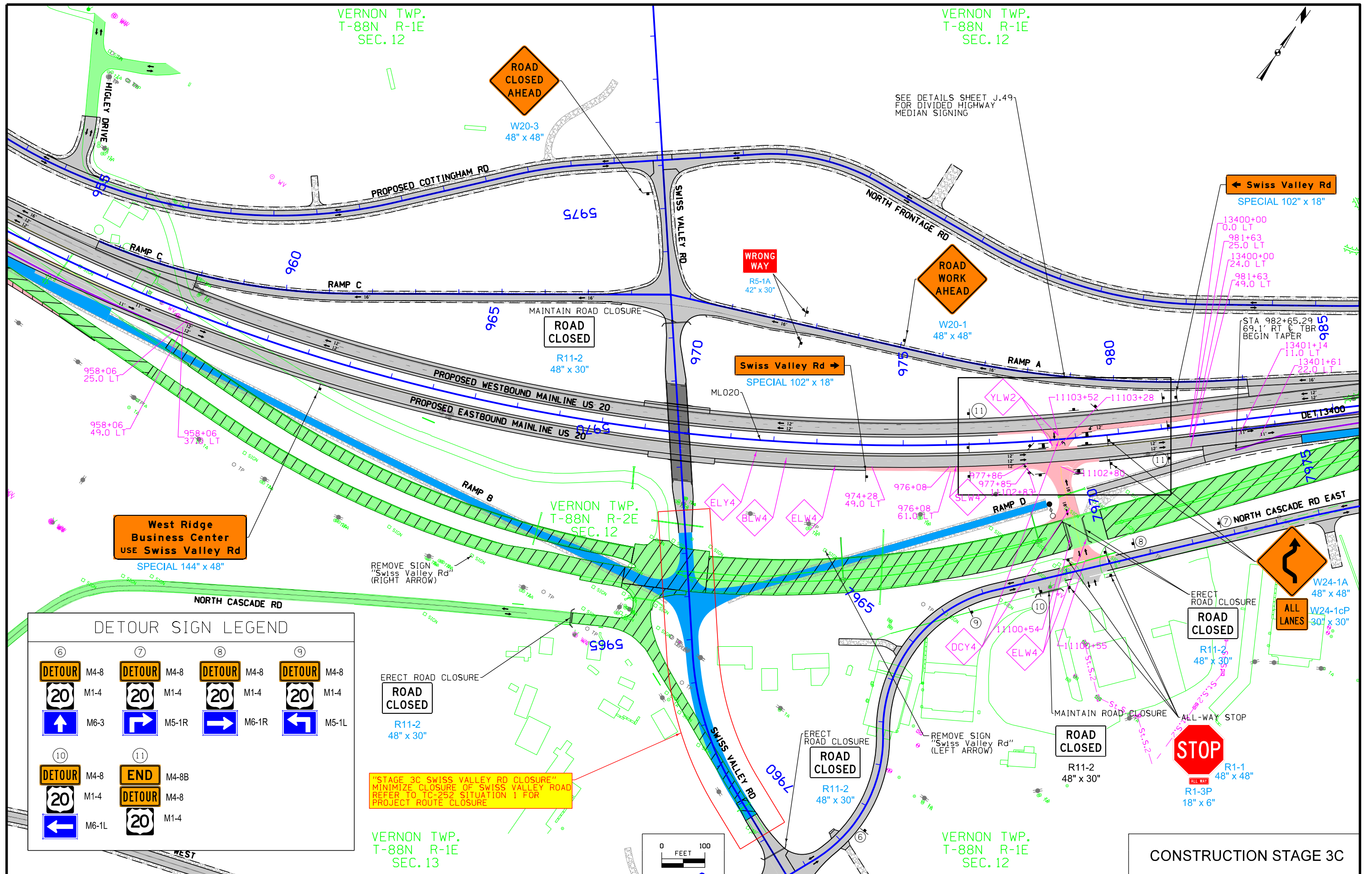
NOTES:  
1. OPEN NEW EASTBOUND US 20 LANES TO TRAFFIC.



VERNON TWP.  
T-88N R-1E  
SEC. 14

VERNON TWP.  
T-88N R-1E  
SEC. 13

CONSTRUCTION STAGE 3C



**West Ridge Business Center**  
USE Swiss Valley Rd  
SPECIAL 144" x 48"

| DETOUR SIGN LEGEND |               |               |               |
|--------------------|---------------|---------------|---------------|
| ⑥                  | ⑦             | ⑧             | ⑨             |
| <b>DETOUR</b>      | <b>DETOUR</b> | <b>DETOUR</b> | <b>DETOUR</b> |
| M4-8               | M4-8          | M4-8          | M4-8          |
|                    |               |               |               |
| M1-4               | M1-4          | M1-4          | M1-4          |
|                    |               |               |               |
| M6-3               | M5-1R         | M6-1R         | M5-1L         |
| ⑩                  | ⑪             |               |               |
| <b>DETOUR</b>      | <b>END</b>    |               |               |
| M4-8               | M4-8B         |               |               |
|                    | <b>DETOUR</b> |               |               |
| M1-4               | M4-8          |               |               |
|                    |               |               |               |
| M6-1L              | M1-4          |               |               |

"STAGE 3C SWISS VALLEY RD CLOSURE"  
MINIMIZE CLOSURE OF SWISS VALLEY ROAD  
REFER TO TC-252 SITUATION 1 FOR  
PROJECT ROUTE CLOSURE

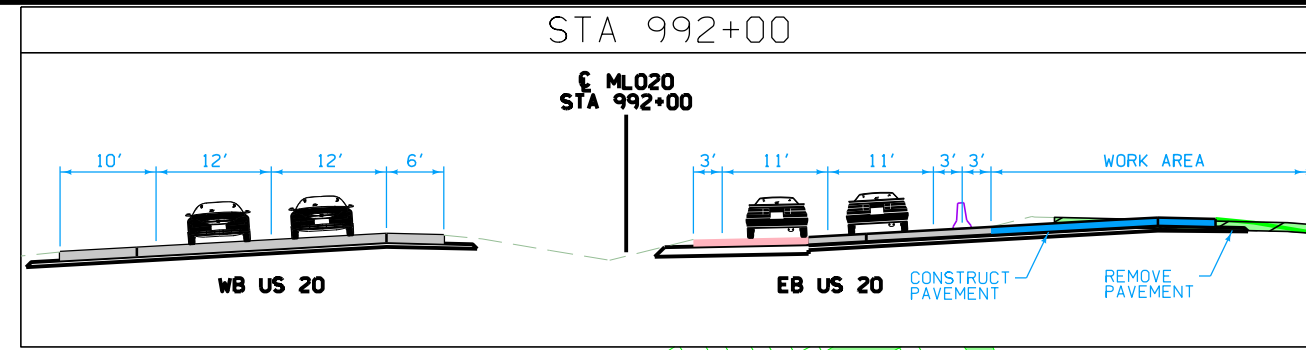
**CONSTRUCTION STAGE 3C**



VERNON TWP.  
T-88N R-1E  
SEC. 12

STA 992+00

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



West Ridge  
Business Center  
USE Swiss Valley Rd  
SPECIAL 144" x 48"

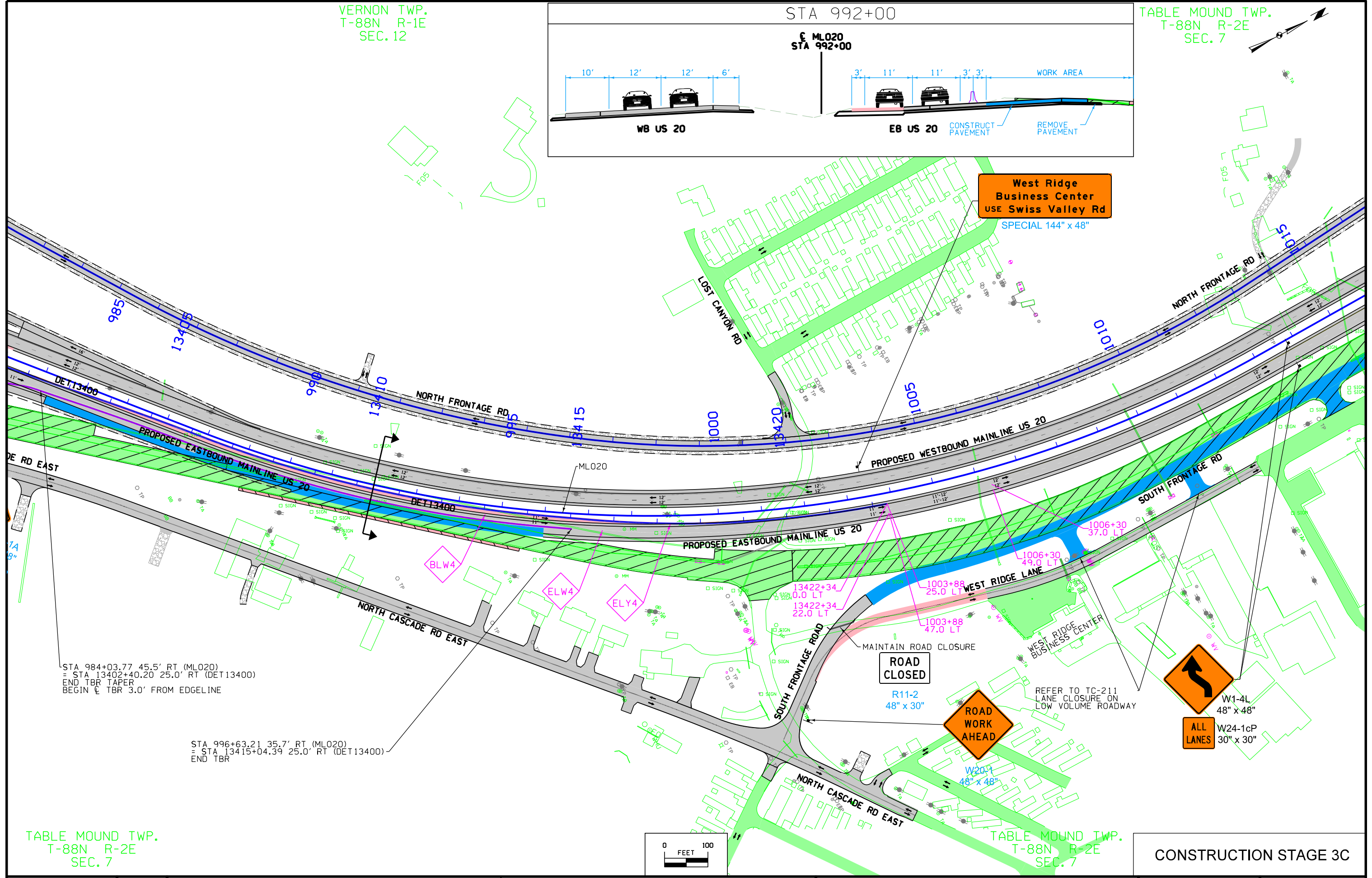


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

CONSTRUCTION STAGE 3C



VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

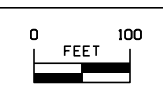
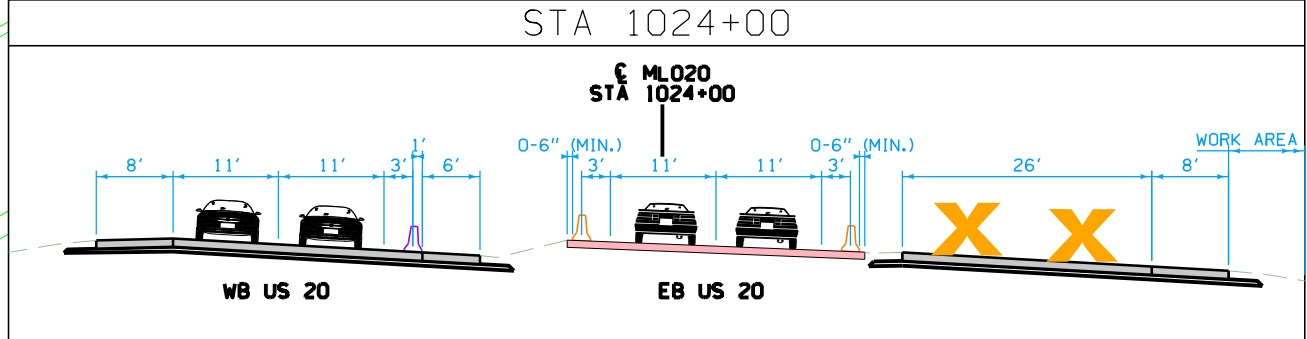
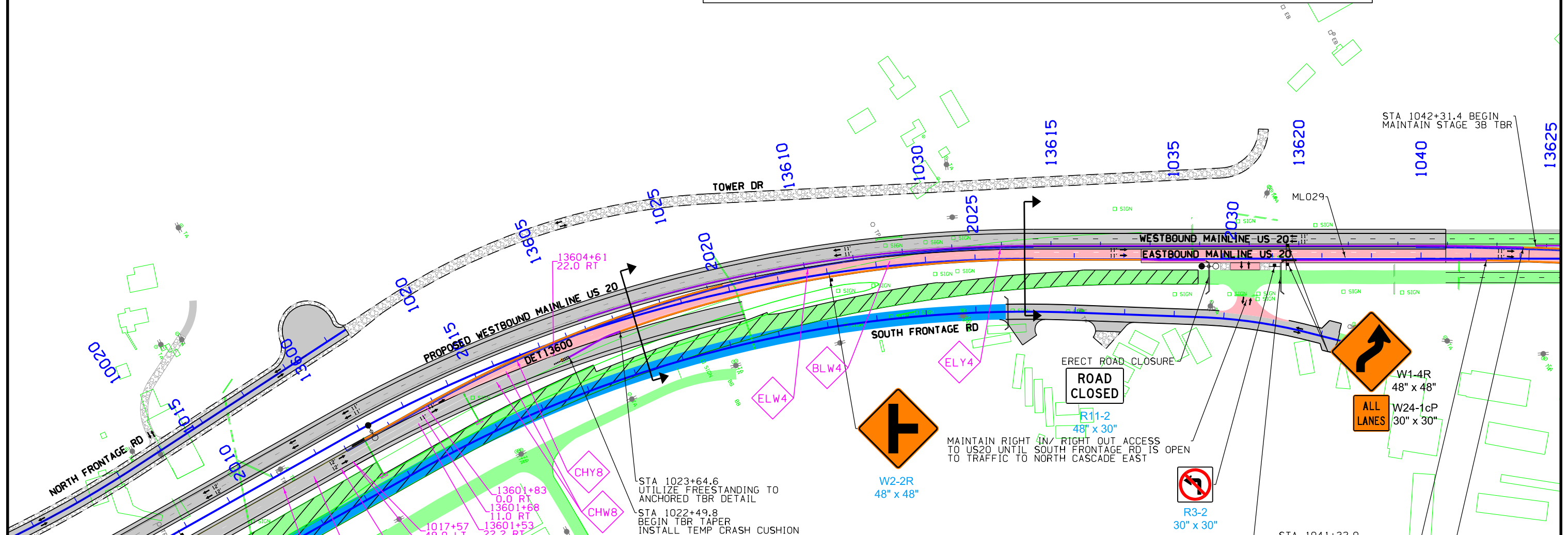
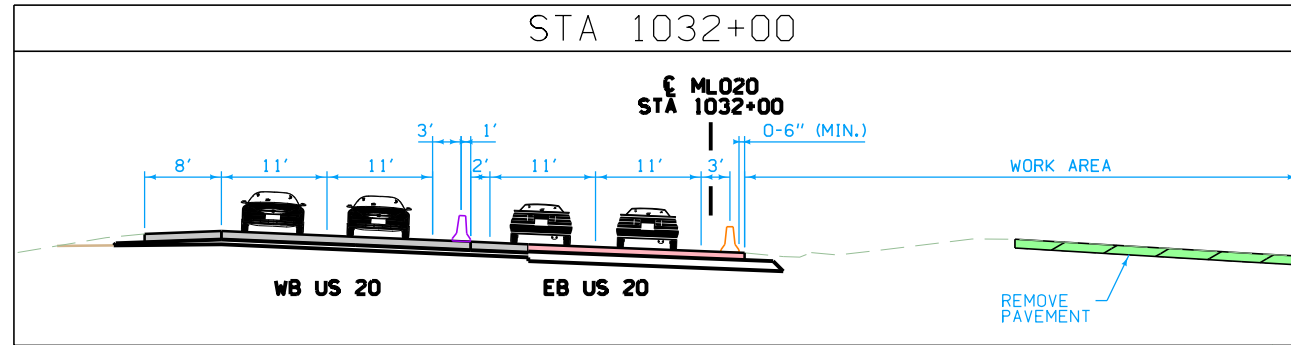


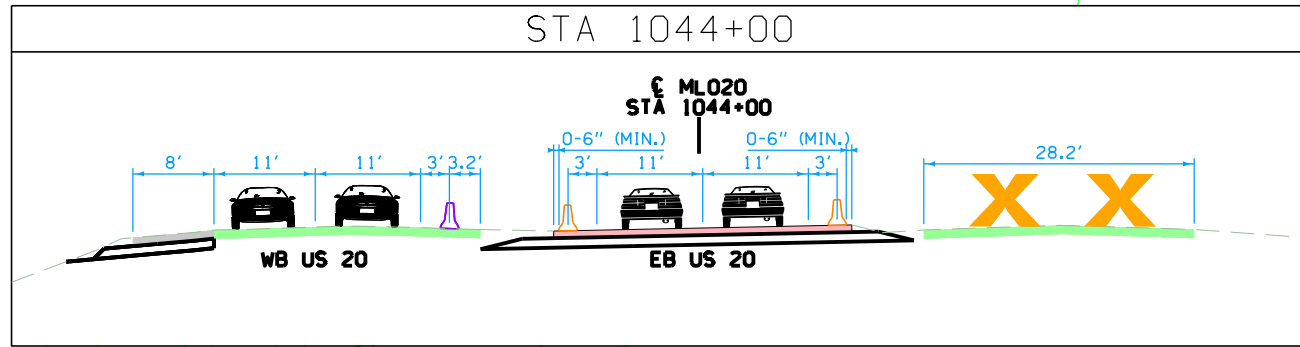
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

CONSTRUCTION STAGE 3C

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



STA 1042+31.4 BEGIN  
MAINTAIN STAGE 3B TBR

MAINTAIN STAGE 3B  
TBR AND CRASH CUSHION

MAINTAIN SIGN  
"SPEED LIMIT 55"



W20-1  
48" x 48"

MAINTAIN SIGN  
"Barrington Dr"  
(LEFT ARROW)



G20-2A  
48" x 24"

MAINTAIN SIGN  
"SPEED LIMIT 55"

1040

1045

1050

1055

1060

1065

1070

13626+86  
0.0 LT

13626+86  
22.0 RT

13633+66  
0.0 LT

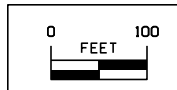
13634+93  
17.0 RT

13634+93  
22.0 RT

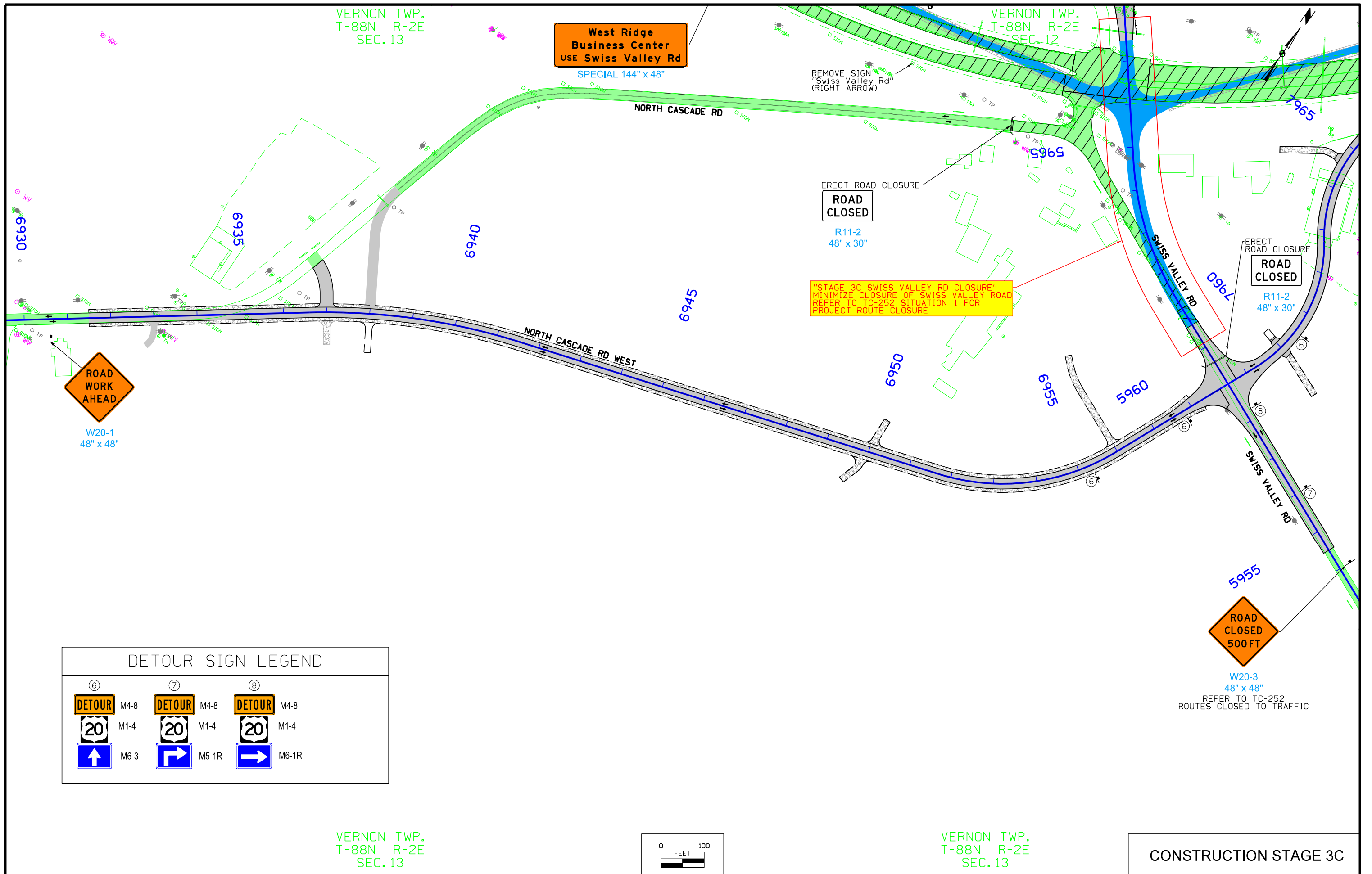
STA 1048+96.6 16.9' RT  
END  $\epsilon$  TBR  
3' TO EDGELINE

STA 1044+82.0 19.7' RT  
END  $\epsilon$  TBR  
3' TO EDGELINE

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



CONSTRUCTION STAGE 3C



West Ridge Business Center  
USE Swiss Valley Rd

SPECIAL 144" x 48"

REMOVE SIGN  
"Swiss Valley Rd"  
(RIGHT ARROW)

ERECT ROAD CLOSURE  
**ROAD CLOSED**

R11-2  
48" x 30"

"STAGE 3C SWISS VALLEY RD CLOSURE"  
MINIMIZE CLOSURE OF SWISS VALLEY ROAD  
REFER TO TC-252 SITUATION 1 FOR  
PROJECT ROUTE CLOSURE

ERECT ROAD CLOSURE  
**ROAD CLOSED**

R11-2  
48" x 30"

**ROAD WORK AHEAD**

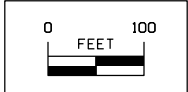
W20-1  
48" x 48"

**ROAD CLOSED 500 FT**

W20-3  
48" x 48"  
REFER TO TC-252  
ROUTES CLOSED TO TRAFFIC

| DETOUR SIGN LEGEND |                    |                    |
|--------------------|--------------------|--------------------|
| ⑥                  | ⑦                  | ⑧                  |
| <b>DETOUR</b> M4-8 | <b>DETOUR</b> M4-8 | <b>DETOUR</b> M4-8 |
| <b>20</b> M1-4     | <b>20</b> M1-4     | <b>20</b> M1-4     |
| <b>↑</b> M6-3      | <b>→</b> M5-1R     | <b>→</b> M6-1R     |

VERNON TWP.  
T-88N R-2E  
SEC. 13



VERNON TWP.  
T-88N R-2E  
SEC. 13

CONSTRUCTION STAGE 3C



VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12



WESTBOUND US 20 SIGNING

|                                 |                                             |
|---------------------------------|---------------------------------------------|
|                                 |                                             |
| R2-1<br>48" x 60"<br>STA 901+00 | G20-2A<br>48" x 24"<br>STA 921+00<br>(2 EA) |

EASTBOUND US 20 ADVANCE SIGNING

|                                            |                                           |                                           |                                            |
|--------------------------------------------|-------------------------------------------|-------------------------------------------|--------------------------------------------|
|                                            |                                           |                                           |                                            |
| W20-1<br>48" x 48"<br>STA 886+00<br>(2 EA) | W3-5<br>48" x 48"<br>STA 891+00<br>(2 EA) | R2-1<br>48" x 60"<br>STA 901+00<br>(2 EA) | W8-9A<br>48" x 48"<br>STA 924+50<br>(2 EA) |



W20-3  
48" x 48"  
COTTINGHAM  
CONNECTOR

ERECT  
ROAD CLOSURE  
ROAD  
CLOSED  
R11-2  
48" x 30"

REMOVE PAVEMENT AND  
CONSTRUCT GRANULAR SHOULDERS



W20-1  
48" x 48"

PROPOSED COTTINGHAM RD

HIGLEY DRIVE

930

935

940

945

950

932+33

931+76

C=40'

935+22

200'

936+42

ELY4

936+65

ELW4

BLW4

ELY4

ML020

PROPOSED WESTBOUND MAINLINE US 20

PROPOSED EASTBOUND MAINLINE US 20

958+06

RAMP C

950+10  
49.0 RT

952+50  
49.0 RT

956+40  
49.0 RT

956+40  
75.0 RT

CHW8

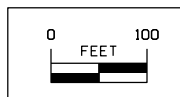
ELY4

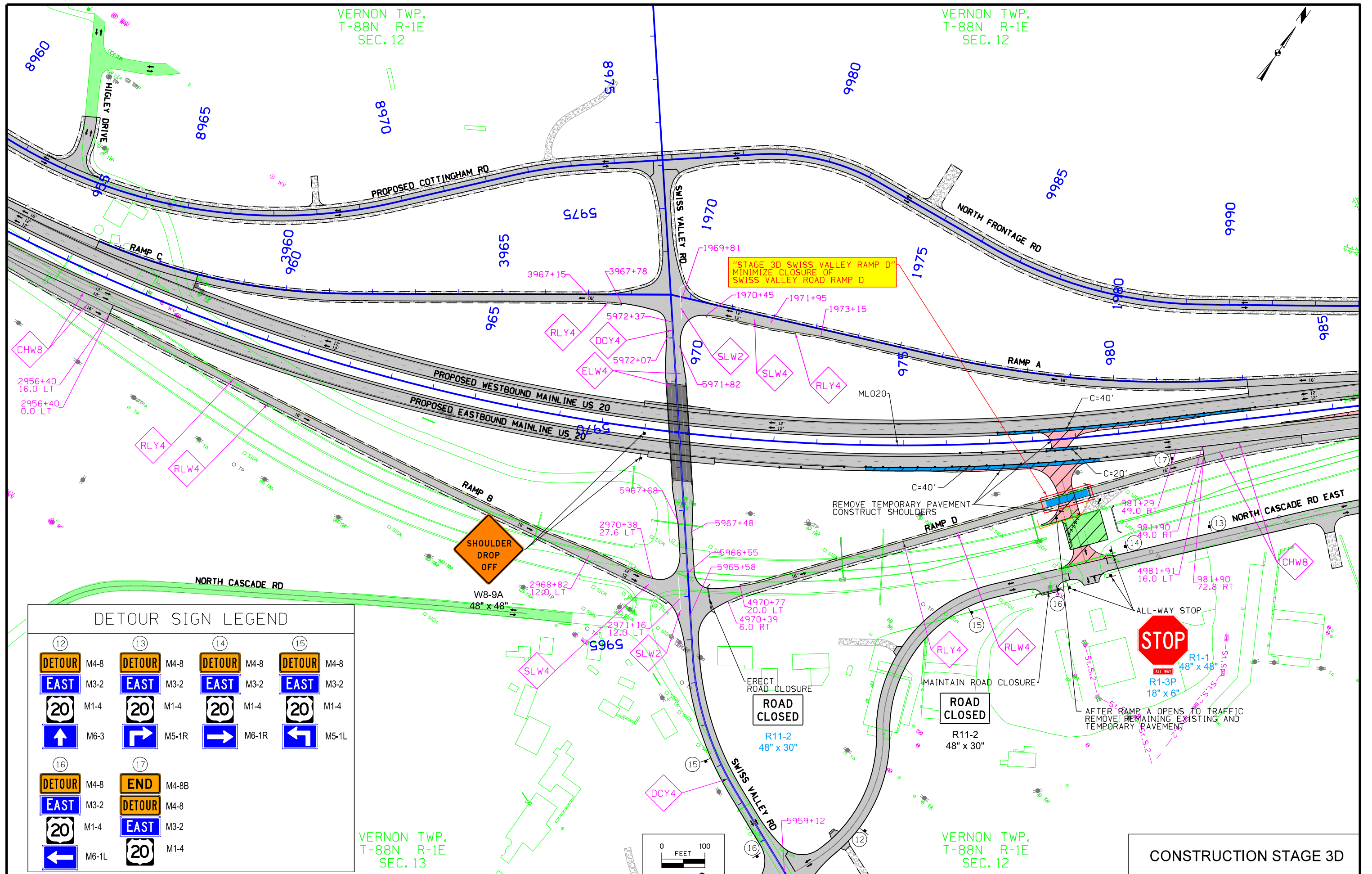
ELW4

VERNON TWP.  
T-88N R-1E  
SEC. 14

VERNON TWP.  
T-88N R-1E  
SEC. 13

CONSTRUCTION STAGE 3D





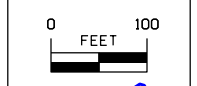
VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 13

VERNON TWP.  
T-88N R-1E  
SEC. 12

|    |    |    |    |
|----|----|----|----|
| 12 | 13 | 14 | 15 |
|    |    |    |    |
|    |    |    |    |
|    |    |    |    |
|    |    |    |    |
| 16 | 17 |    |    |
|    |    |    |    |
|    |    |    |    |
|    |    |    |    |
|    |    |    |    |

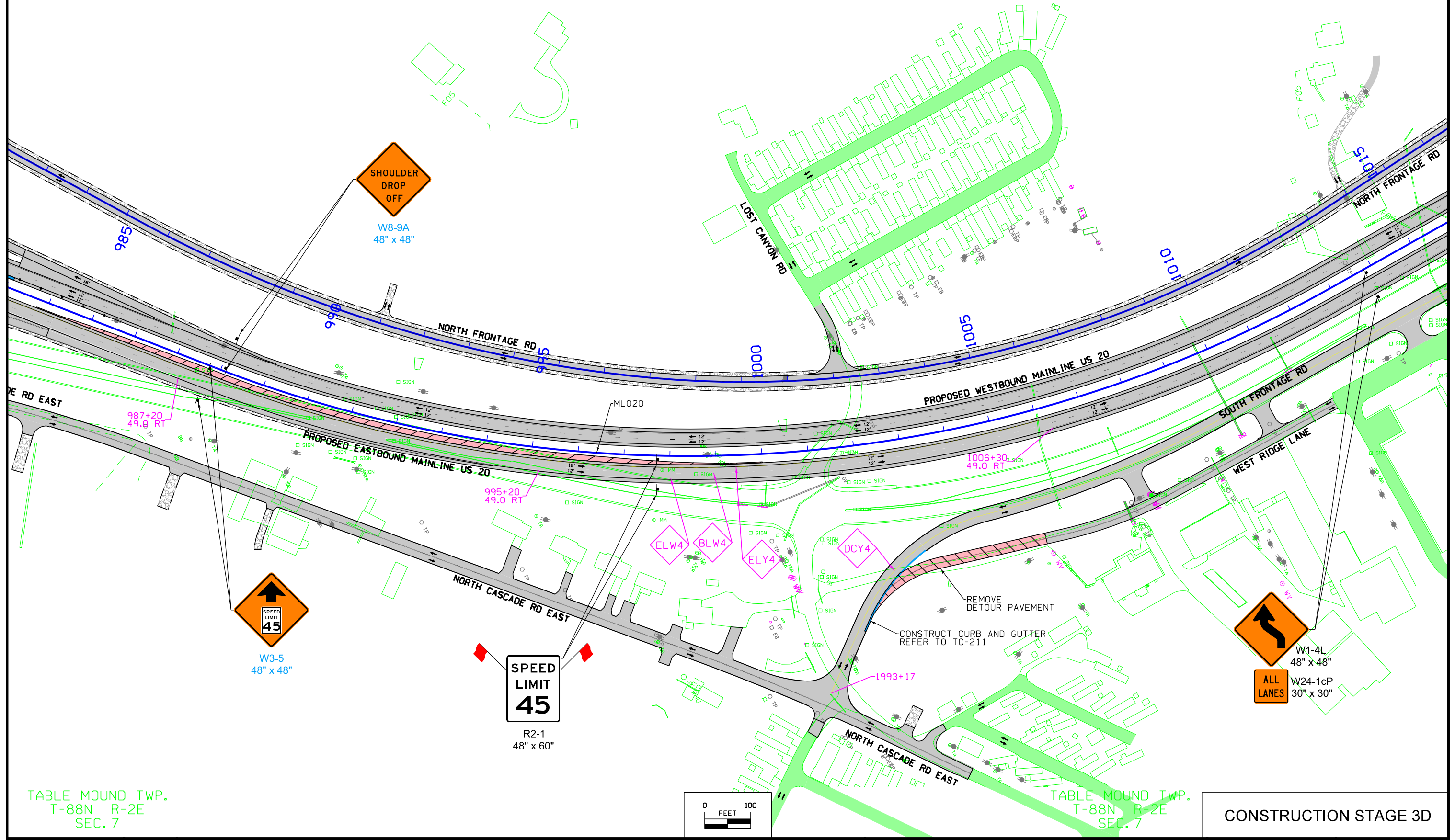
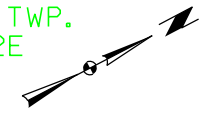


CONSTRUCTION STAGE 3D



VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



SHOULDER  
DROP  
OFF  
WB-9A  
48" x 48"

SPEED  
LIMIT  
45  
W3-5  
48" x 48"

SPEED  
LIMIT  
45  
R2-1  
48" x 60"

W1-4L  
48" x 48"  
ALL  
LANES  
W24-1cP  
30" x 30"

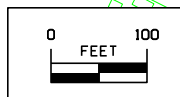


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

CONSTRUCTION STAGE 3D



VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

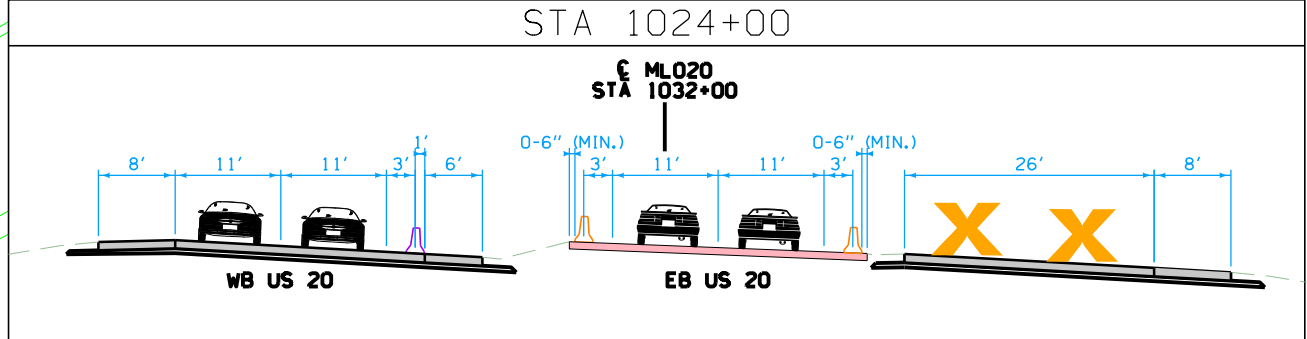
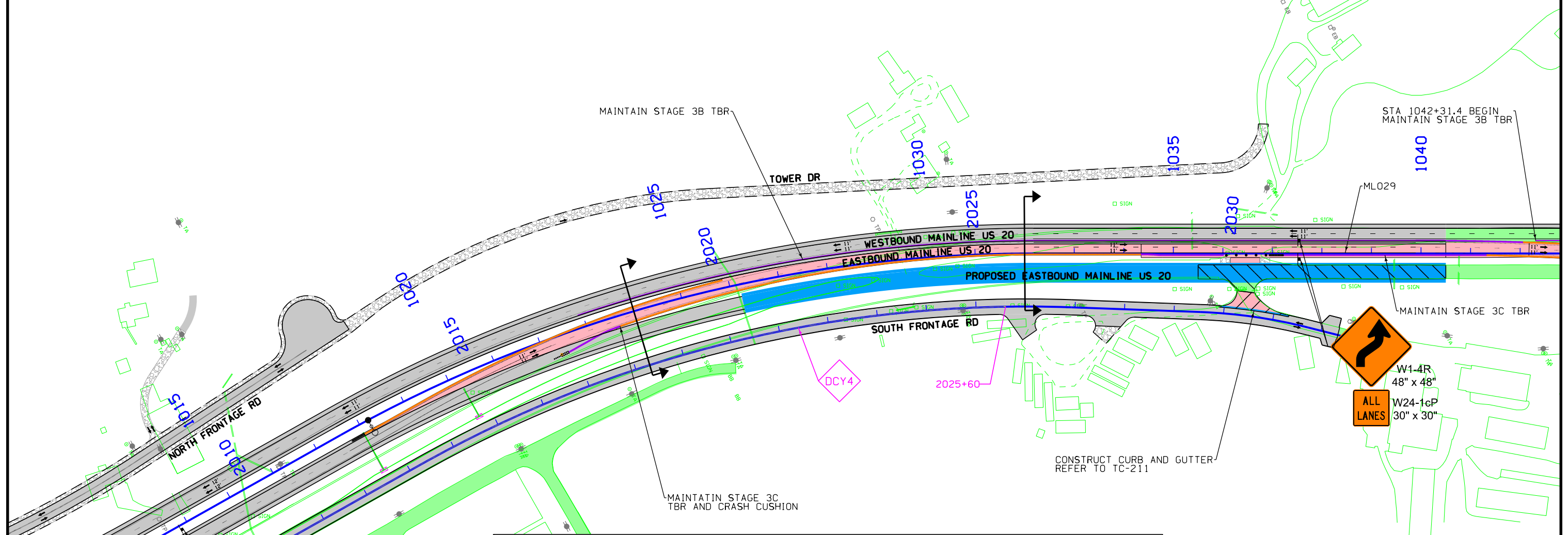
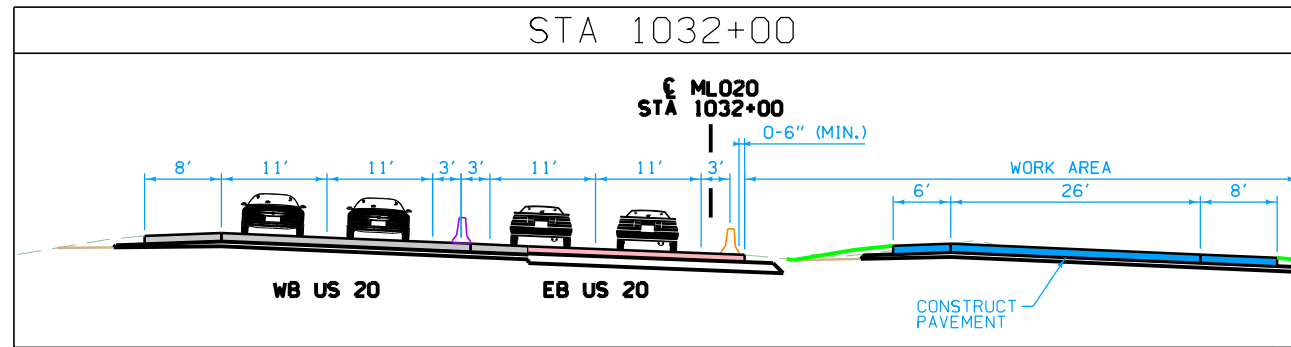


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

CONSTRUCTION STAGE 3D

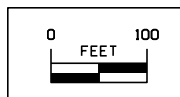
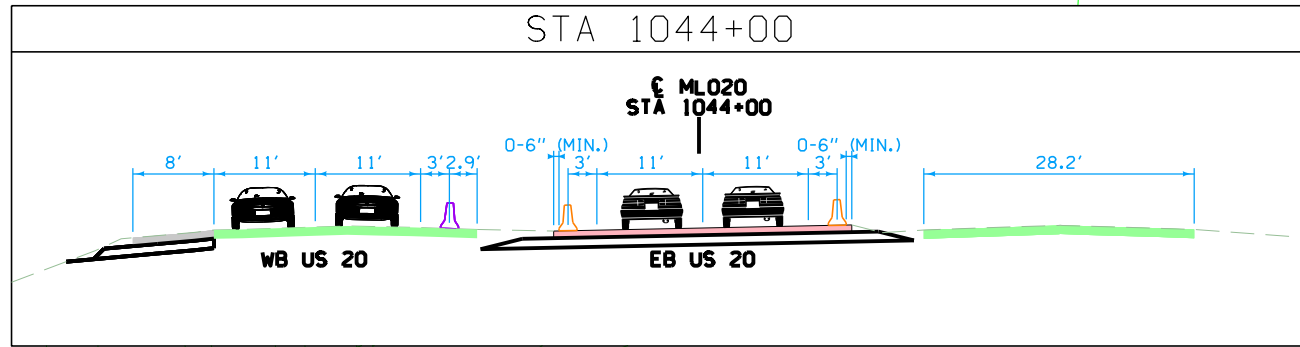


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



STA 1042+31.4 BEGIN  
MAINTAIN STAGE 3B TBR

1040

1045

1050

1055

1060

1065

1070

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20

MAINTAIN STAGE 3C TBR

MAINTAIN STAGE 3C TBR

MAINTAIN STAGE 3C TBR

ML020

MAINTAIN SIGN  
"Barrington Dr"  
(RIGHT ARROW)

BARRINGTON DRIVE

MAINTAIN SIGN  
"SPEED LIMIT 55"

T5



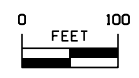
W20-1  
48" x 48"

MAINTAIN SIGN  
"Barrington Dr"  
(LEFT ARROW)



G20-2A  
48" x 24"

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



CONSTRUCTION STAGE 3D

VERNON TWP.  
T-88N R-1E  
SEC. 12

NOTES:  
1. REMOVE ALL TEMPORARY STOP SIGNS AND STOP LINES  
AT NORTH CASCADE RD EAST AND TRUCK STOP DRIVEWAY.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

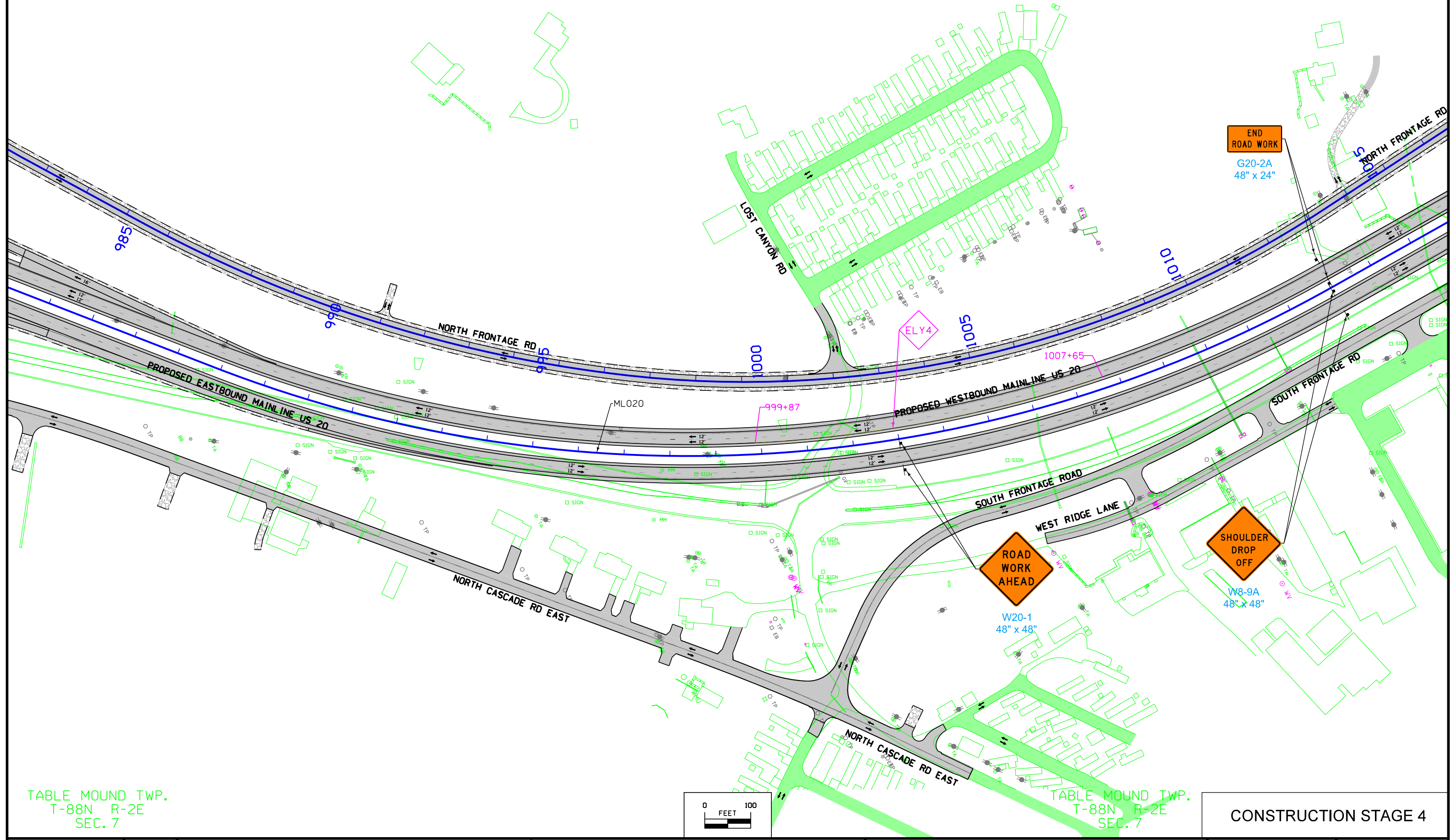
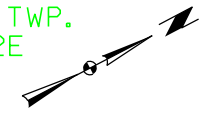
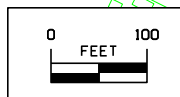


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



CONSTRUCTION STAGE 4

|          |         |                          |                |                |                        |              |      |
|----------|---------|--------------------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | J.45 |
|----------|---------|--------------------------|----------------|----------------|------------------------|--------------|------|



VERNON TWP.  
T-88N R-1E  
SEC. 12

NOTES:  
1. UTILIZE TC-402 (DEPICTED) AND TC-418 LANE CLOSURE (AS PERMITTED IN TAB 108-23A) FOR CONSTRUCTION ON SHOULDER.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

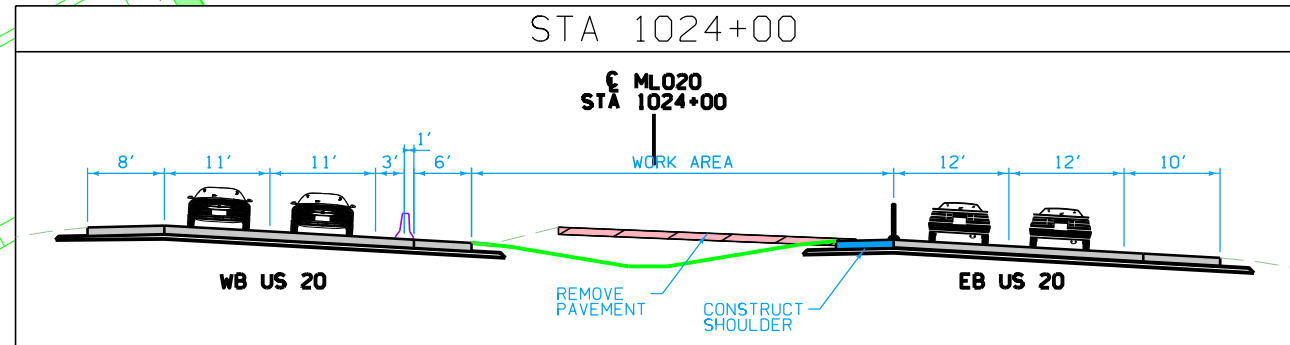
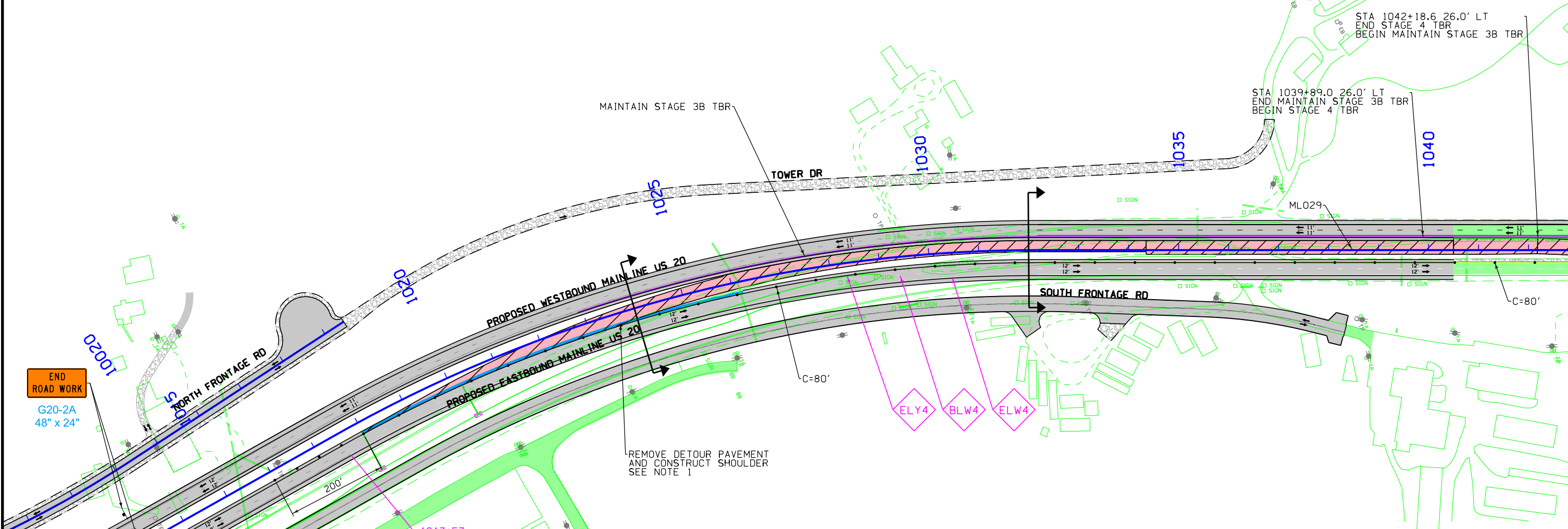
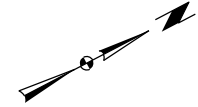
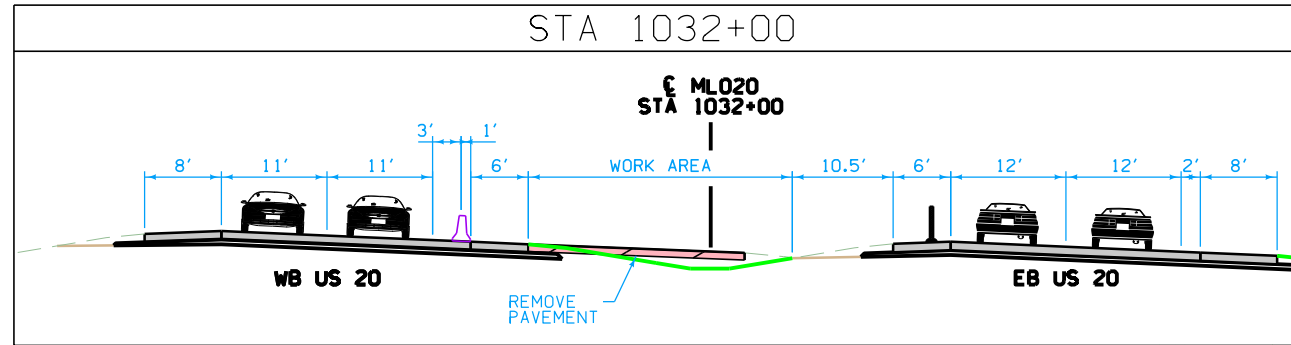


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

CONSTRUCTION STAGE 4

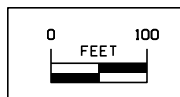
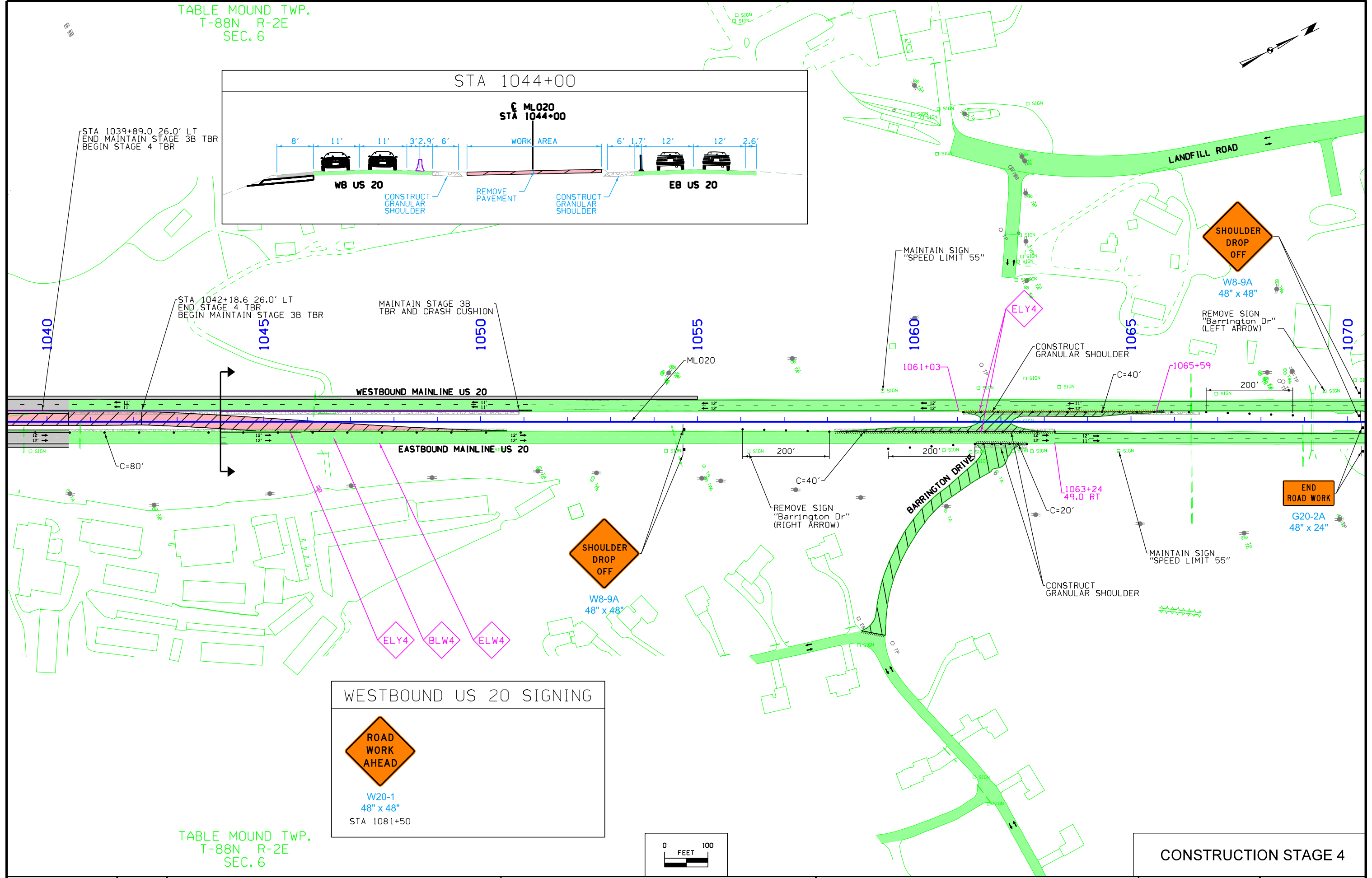
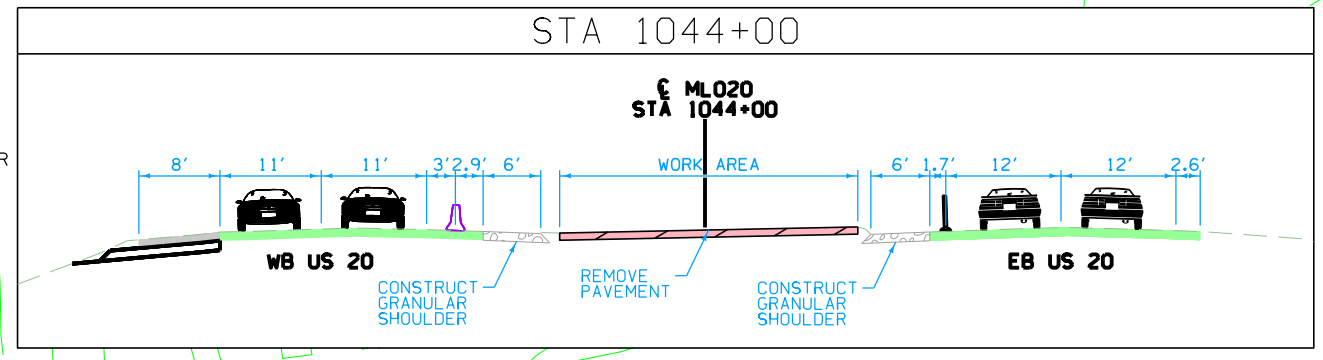


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



WESTBOUND US 20 SIGNING

W20-1  
48" x 48"  
STA 1081+50

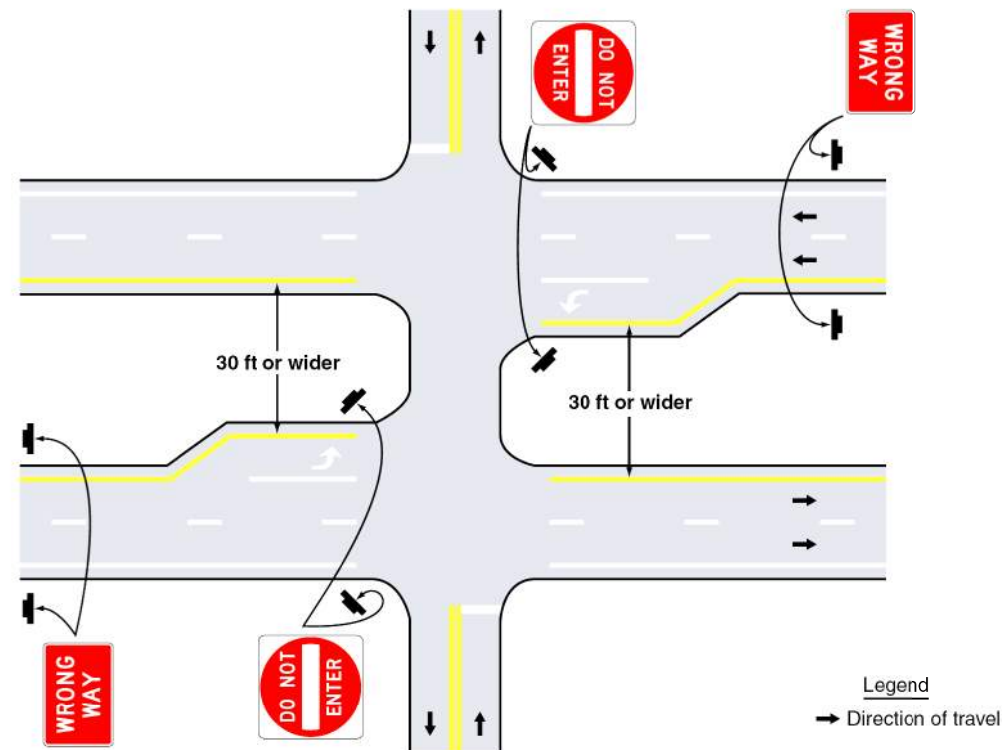
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

CONSTRUCTION STAGE 4





**Figure 2B-12. Locations of Wrong-Way Signing for Divided Highways with Median Widths of 30 Feet or Wider**



**Support:**

06 Section 2B.41 contains information regarding an optional lower mounting height for DO NOT ENTER signs that are located along an exit ramp facing a road user who is traveling in the wrong direction.

**Section 2B.38 WRONG WAY Sign (R5-1a)**

**Option:**

01 The WRONG WAY (R5-1a) sign (see Figure 2B-11) may be used as a supplement to the DO NOT ENTER sign where an exit ramp intersects a crossroad or a crossroad intersects a one-way roadway in a manner that does not physically discourage or prevent wrong-way entry (see Figure 2B-12).

**Guidance:**

02 If used, the WRONG WAY sign should be placed at a location along the exit ramp or the one-way roadway farther from the crossroad than the DO NOT ENTER sign (see Section 2B.41).

**Support:**

03 Section 2B.41 contains information regarding an optional lower mounting height for WRONG WAY signs that are located along an exit ramp facing a road user who is traveling in the wrong direction.

**Section 2B.39 Selective Exclusion Signs**

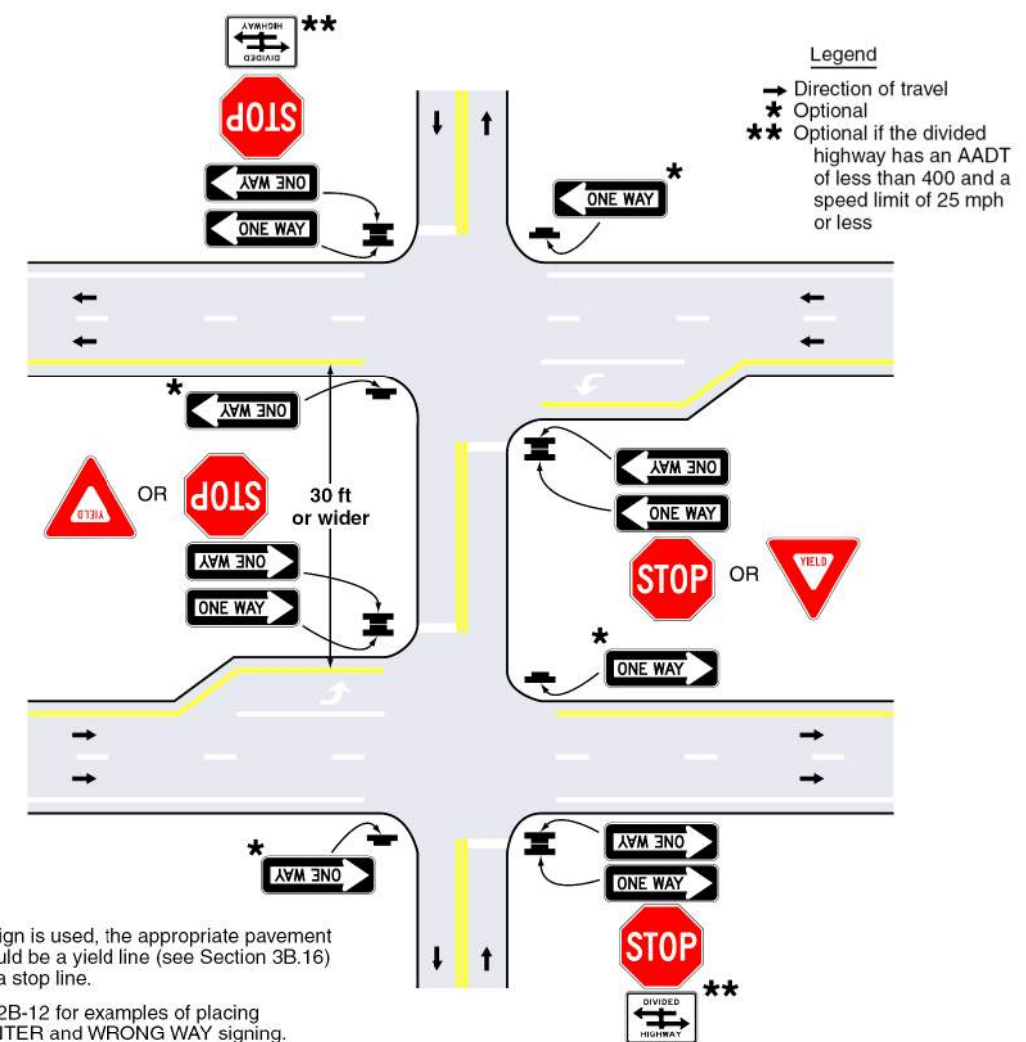
**Support:**

01 Selective Exclusion signs (see Figure 2B-11) give notice to road users that State or local statutes or ordinances exclude designated types of traffic from using particular roadways or facilities.

**Standard:**

02 If used, Selective Exclusion signs shall clearly indicate the type of traffic that is excluded.

**Figure 2B-15. ONE WAY Signing for Divided Highways with Median Widths of 30 Feet or Wider**



**Notes:**

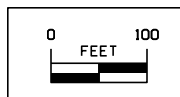
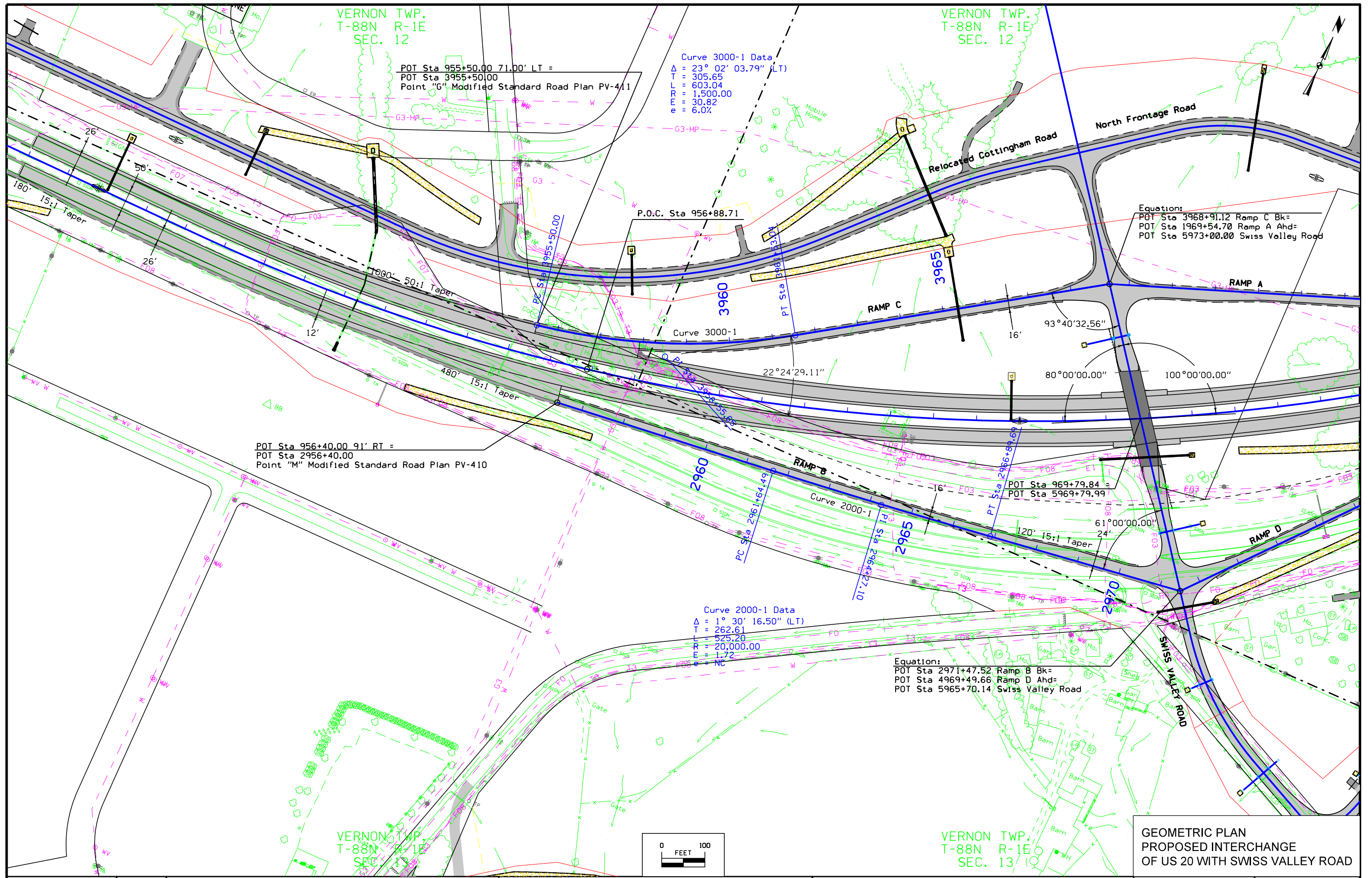
If a YIELD sign is used, the appropriate pavement marking would be a yield line (see Section 3B.16) rather than a stop line.

See Figure 2B-12 for examples of placing DO NOT ENTER and WRONG WAY signing.

**Option:**

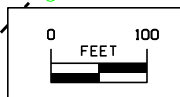
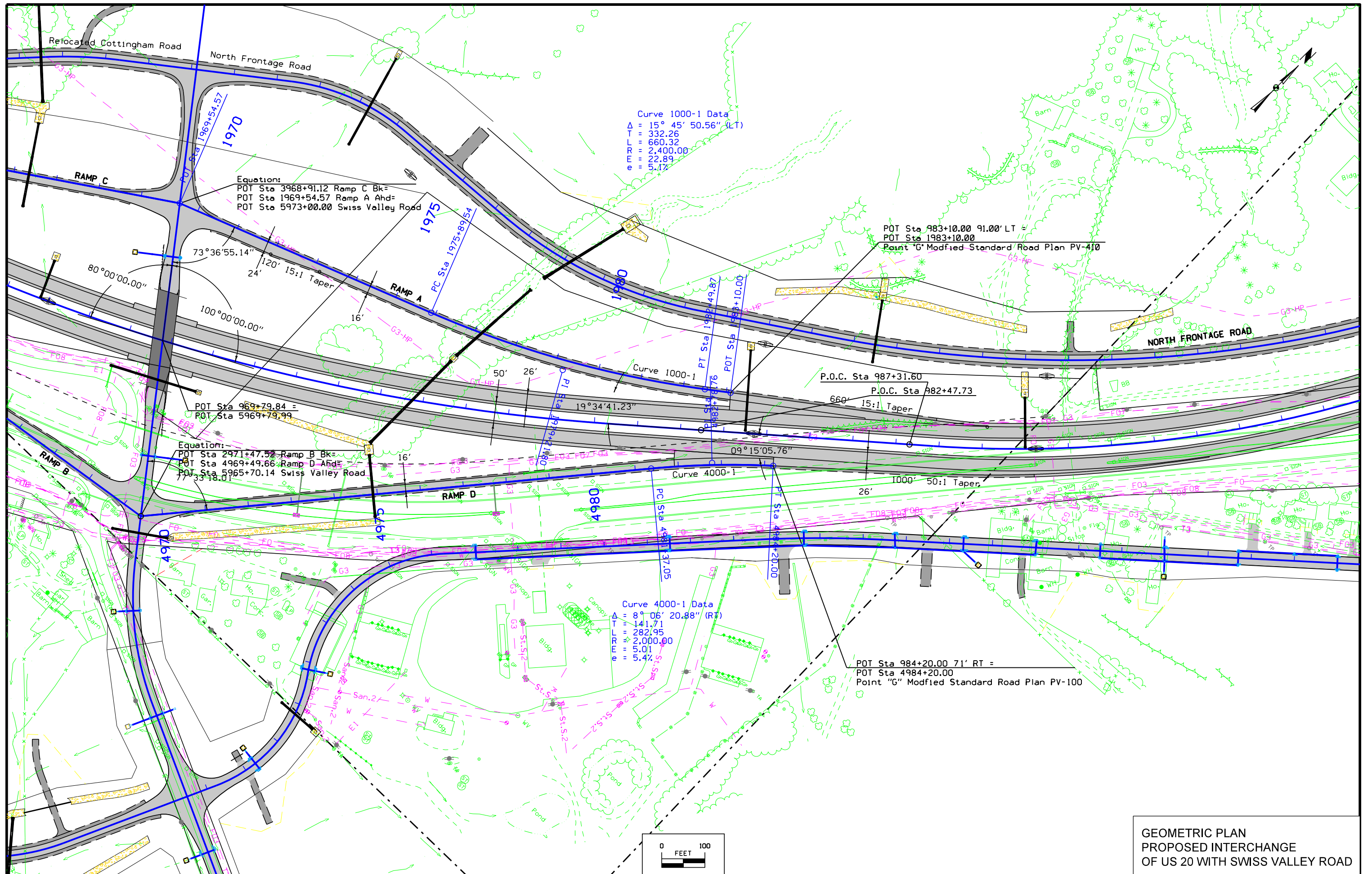
03 The following traffic control devices may be used to supplement the signs and pavement markings described in Paragraphs 1 and 2:

- A. Additional ONE WAY signs may be placed, especially on two-lane rural crossroads, appropriately in advance of the ramp intersection to supplement the required ONE WAY sign(s).
- B. Additional WRONG WAY signs may be used.
- C. Slender, elongated wrong-way arrow pavement markings (see Figure 3B-24) intended primarily to warn wrong-way road users that they are traveling in the wrong direction may be placed upstream from the ramp terminus (see Figure 2B-18) to indicate the correct direction of traffic flow. Wrong-way arrow pavement markings may also be placed on the exit ramp at appropriate locations near the crossroad junction to indicate wrong-way movement. The wrong-way arrow markings may consist of pavement markings or bidirectional red-and-white raised pavement markers or other units that show red to wrong-way road users and white to other road users (see Figure 3B-24).



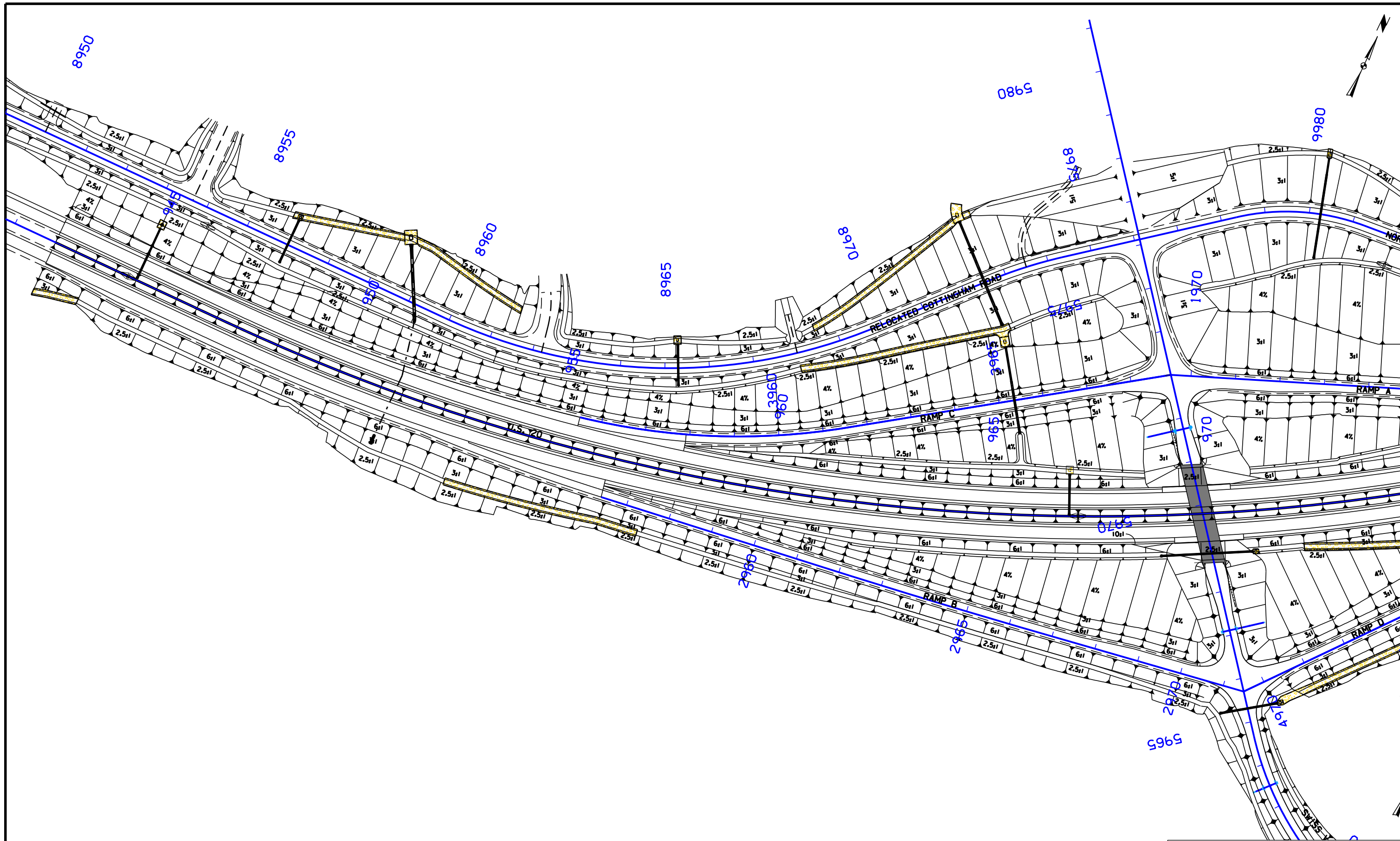
GEOMETRIC PLAN  
 PROPOSED INTERCHANGE  
 OF US 20 WITH SWISS VALLEY ROAD



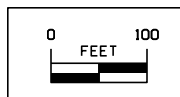


GEOMETRIC PLAN  
 PROPOSED INTERCHANGE  
 OF US 20 WITH SWISS VALLEY ROAD





+00 Prop. Ent.  
Type "C" Ent.  
Prop. 18" Ent.  
Act. Ent. Pipe

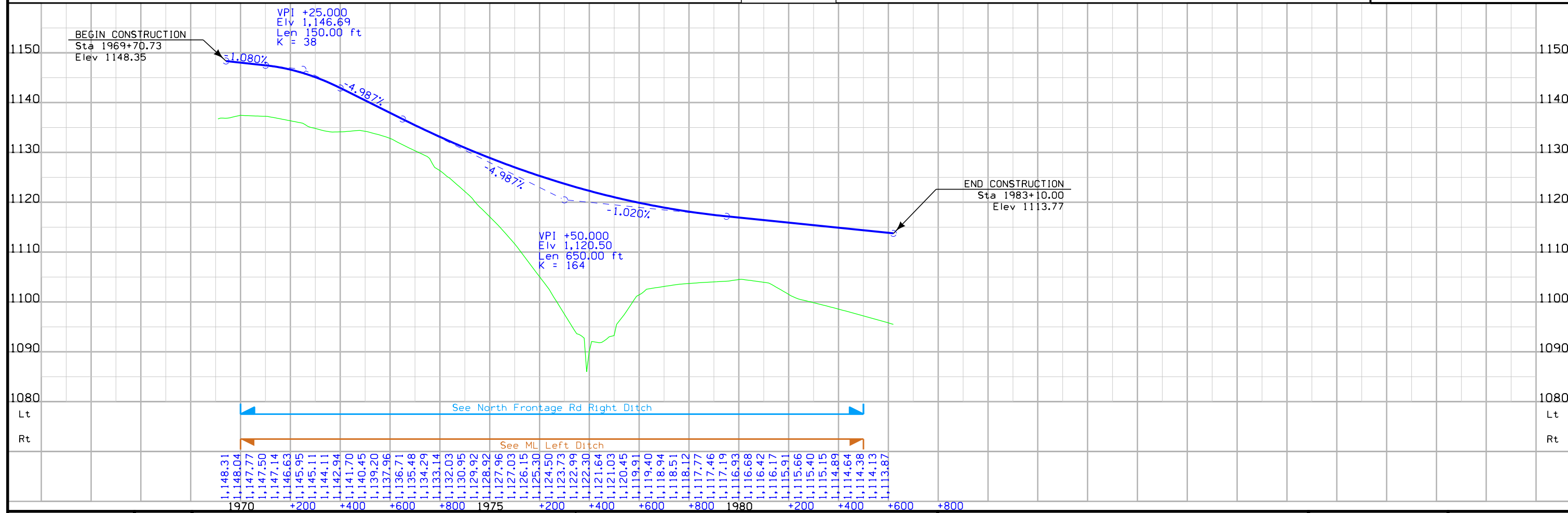
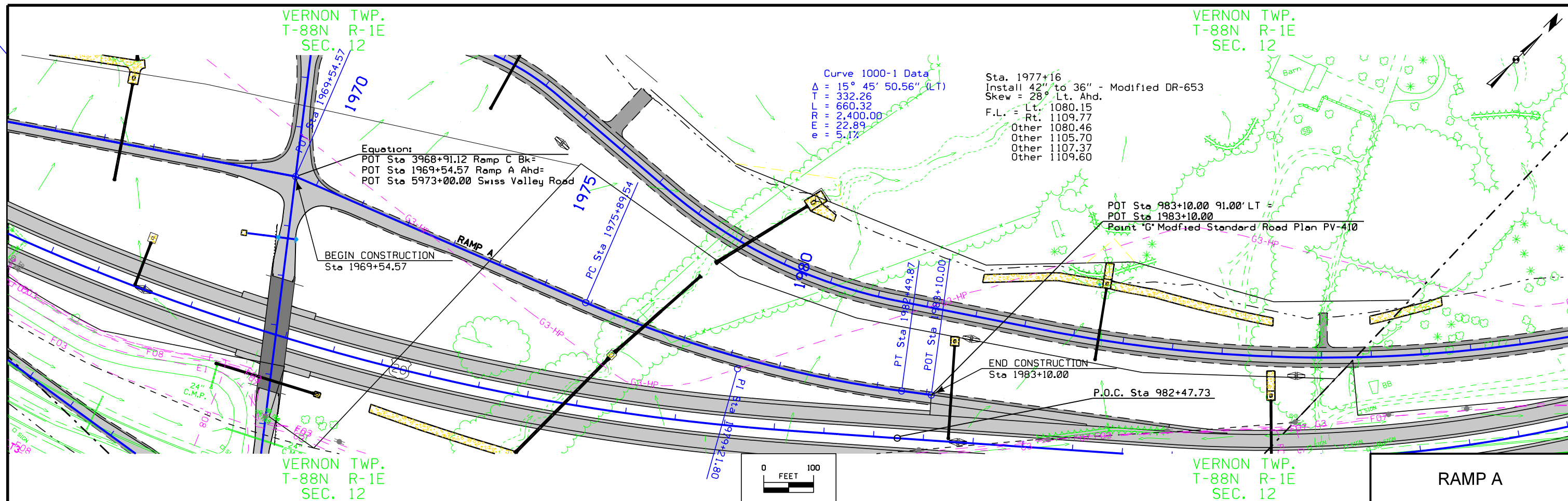


DRAINAGE & SITE GRADING  
PROPOSED INTERCHANGE  
OF US 20 WITH SWISS VALLEY ROAD

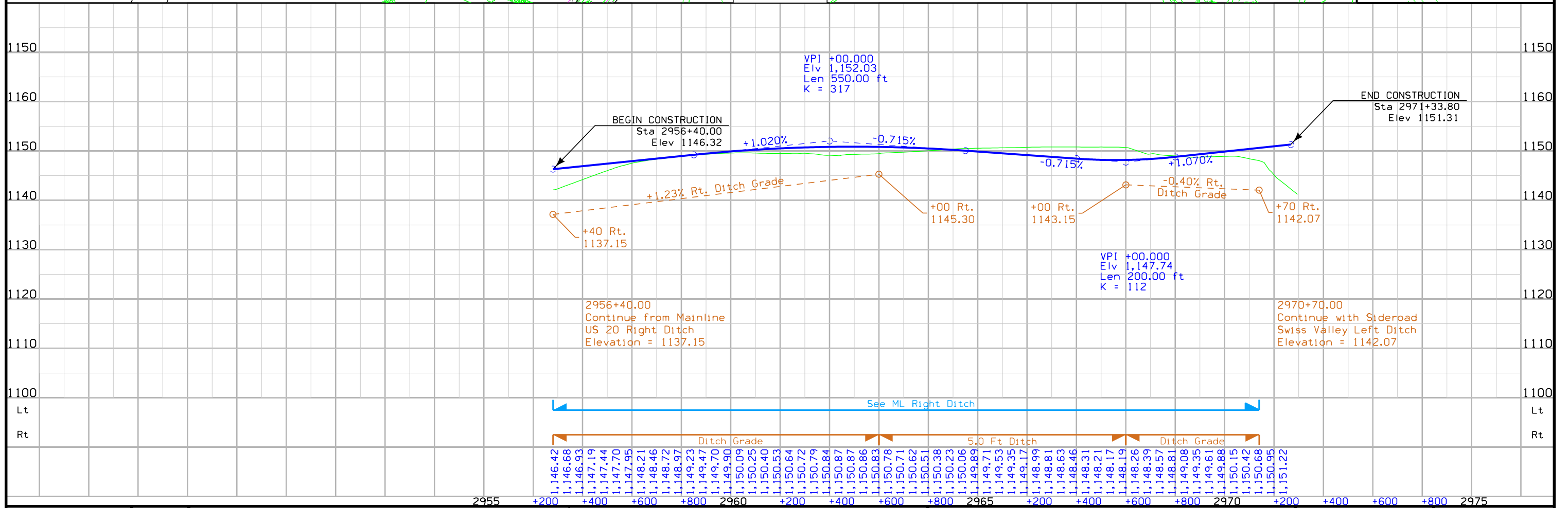
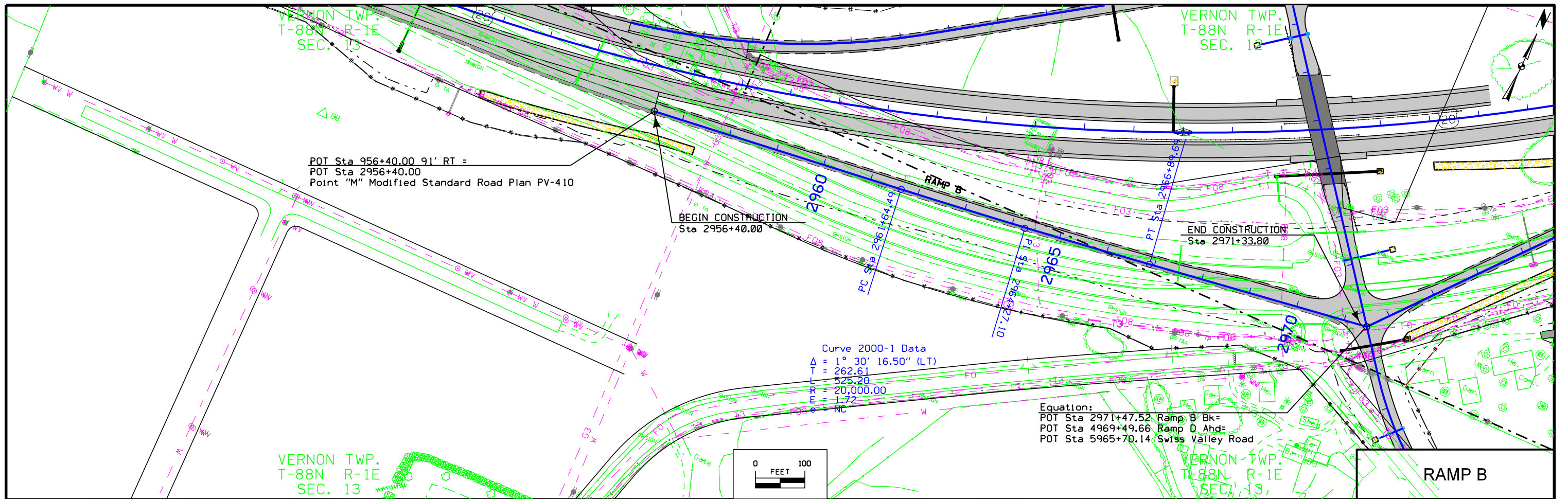
|          |         |                          |                |                                       |                  |
|----------|---------|--------------------------|----------------|---------------------------------------|------------------|
| FILE NO. | ENGLISH | DESIGN TEAM HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHSX-020-9(183)--3H-31 | SHEET NUMBER K.3 |
|----------|---------|--------------------------|----------------|---------------------------------------|------------------|

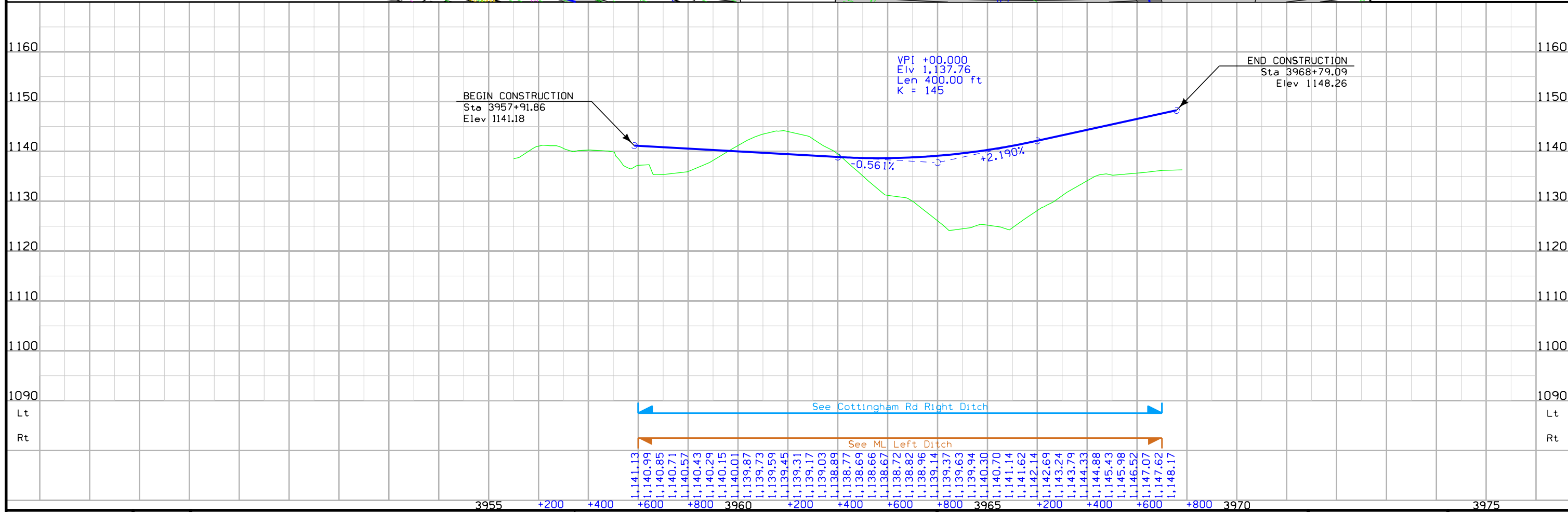
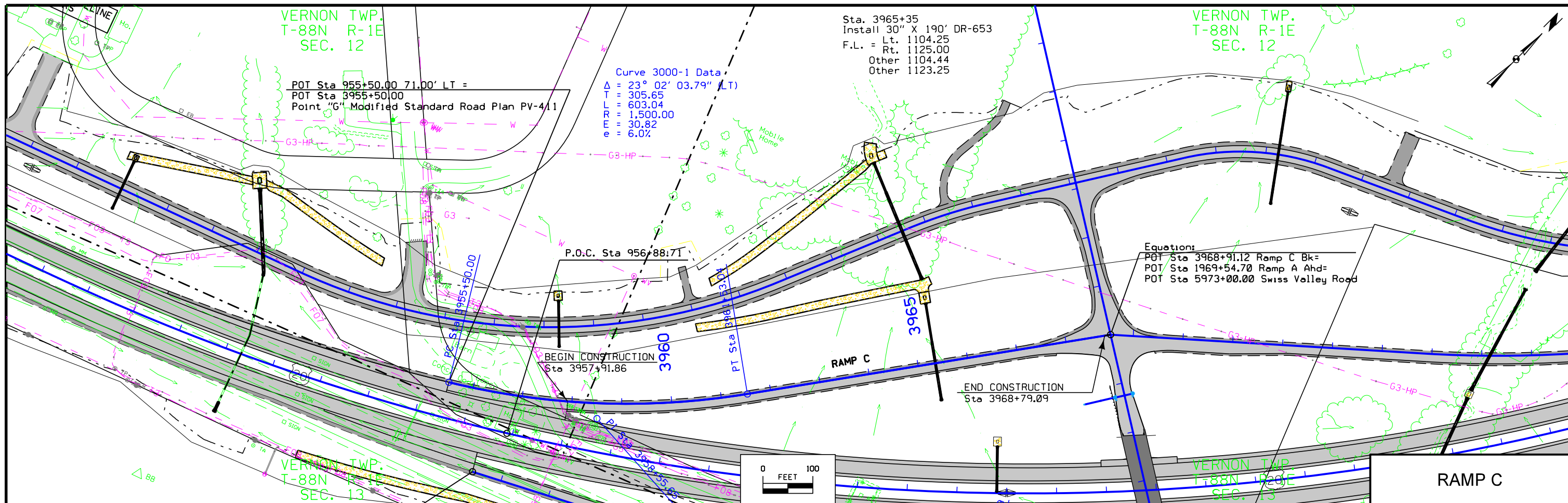




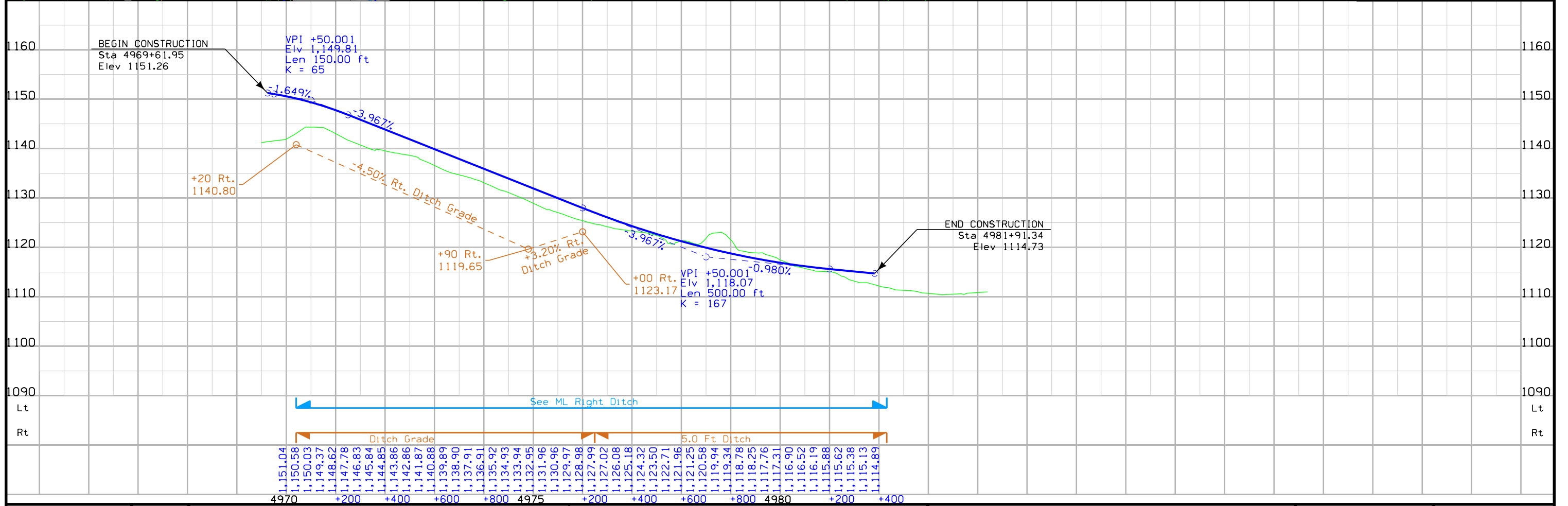
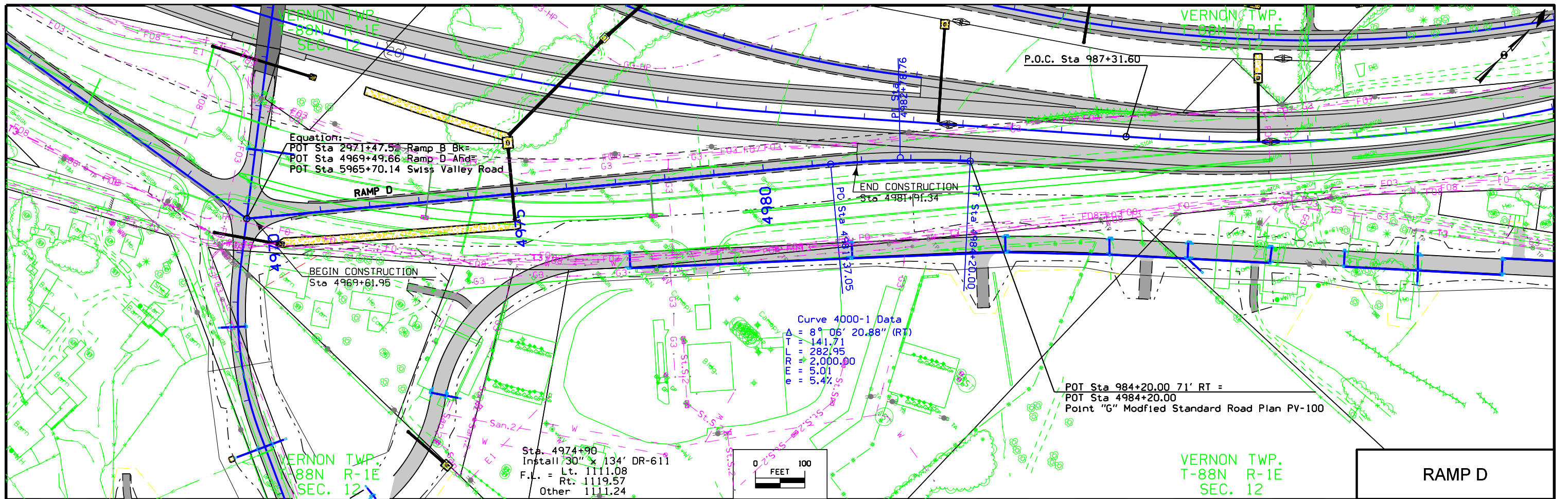




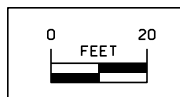
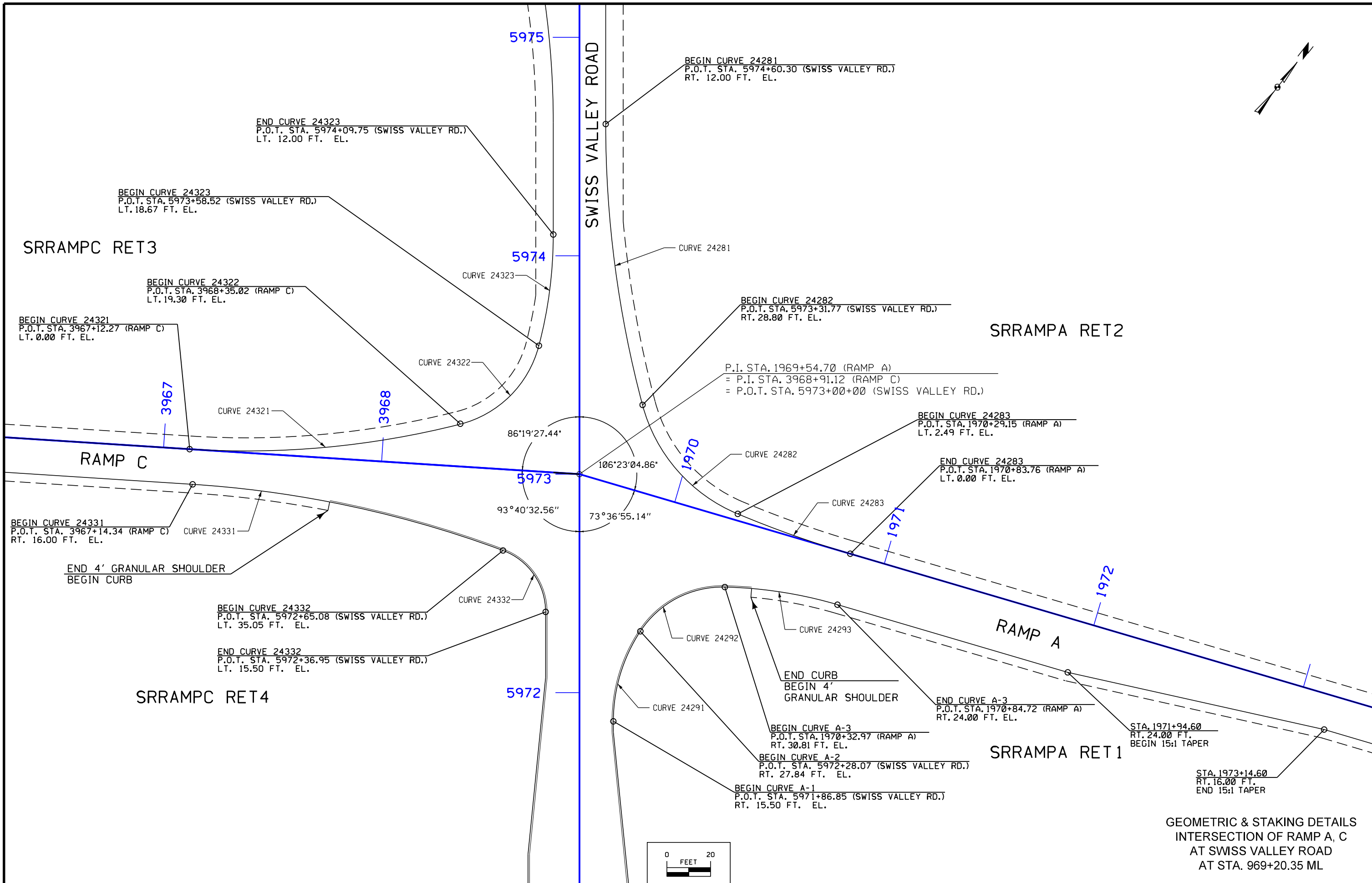
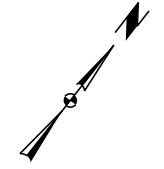






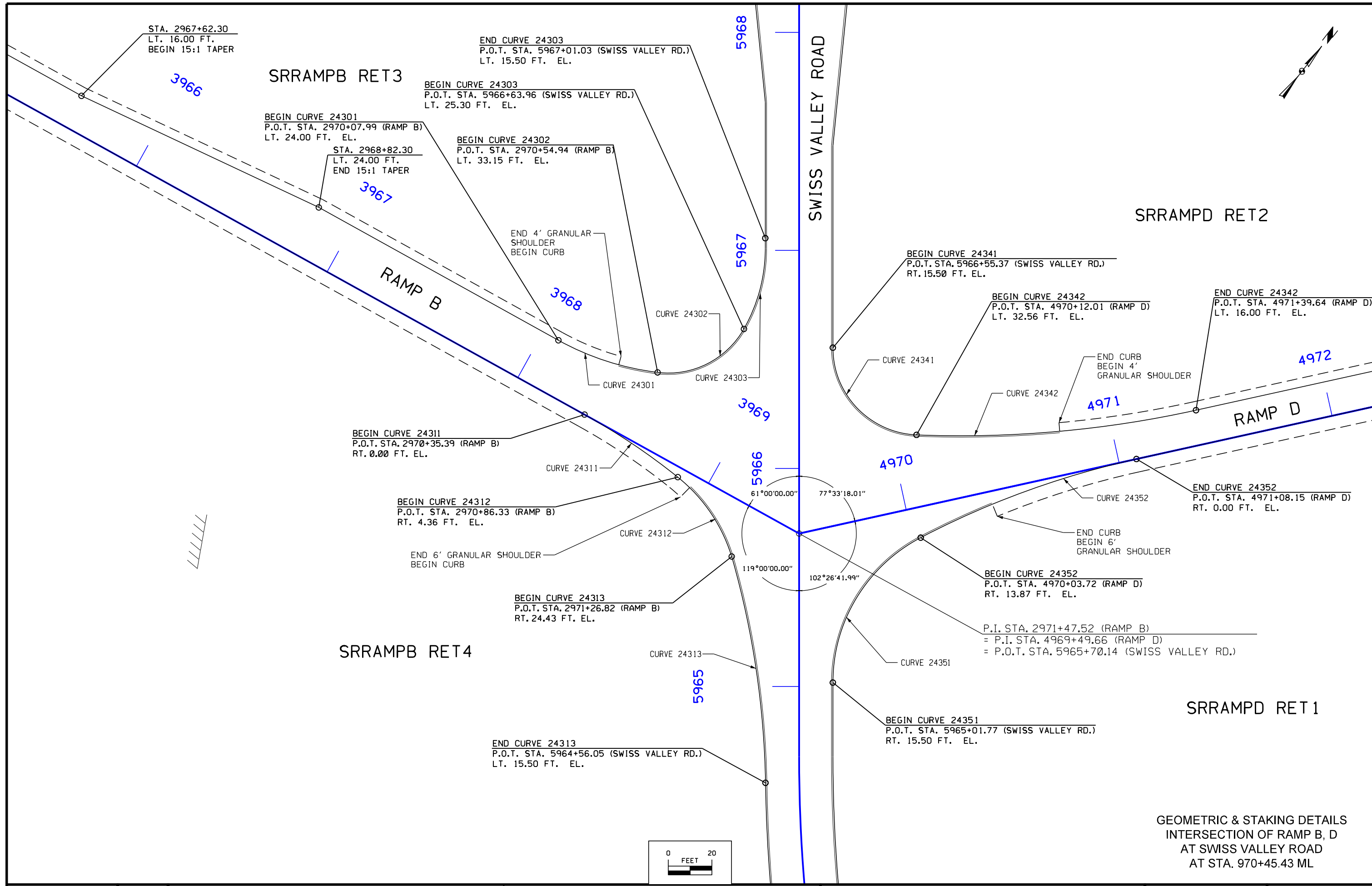


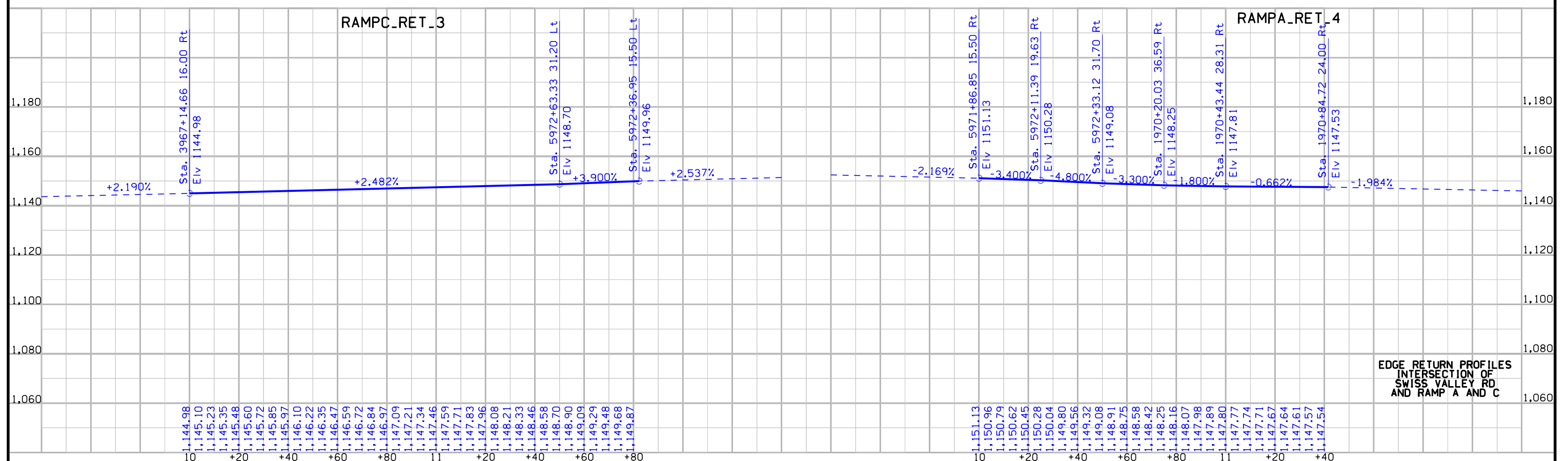
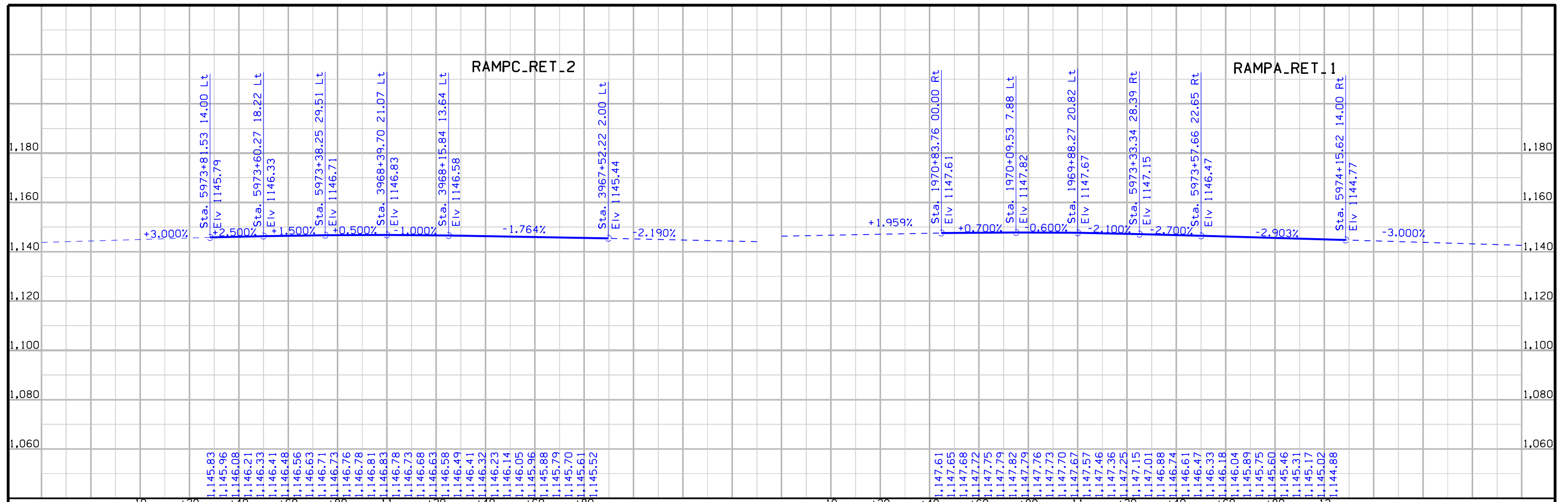




GEOMETRIC & STAKING DETAILS  
INTERSECTION OF RAMP A, C  
AT SWISS VALLEY ROAD  
AT STA. 969+20.35 ML

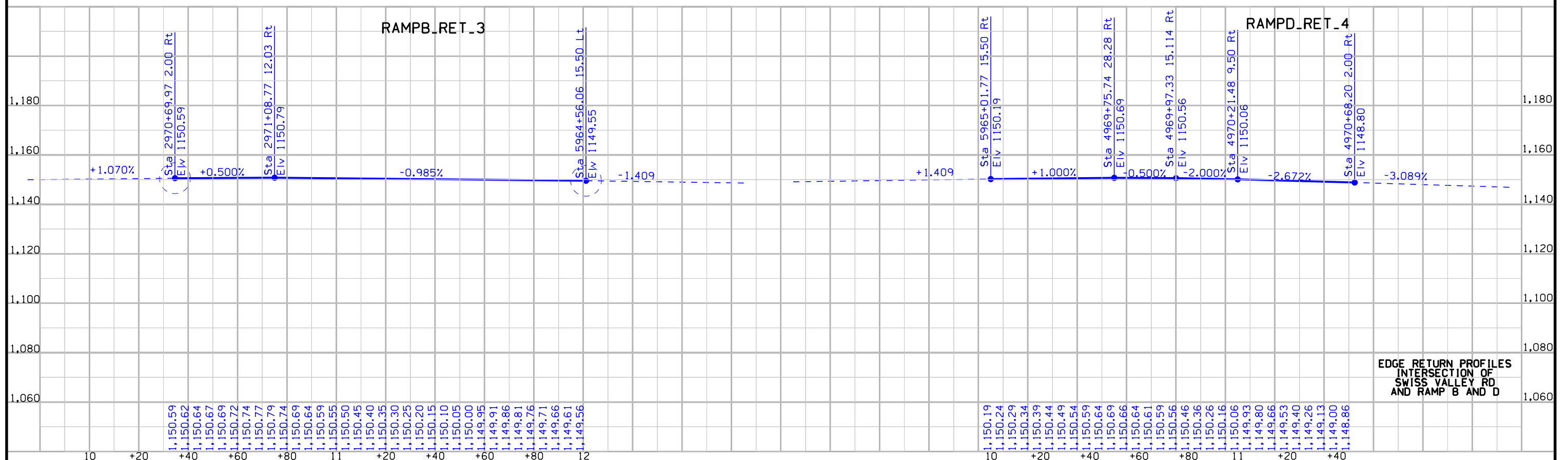
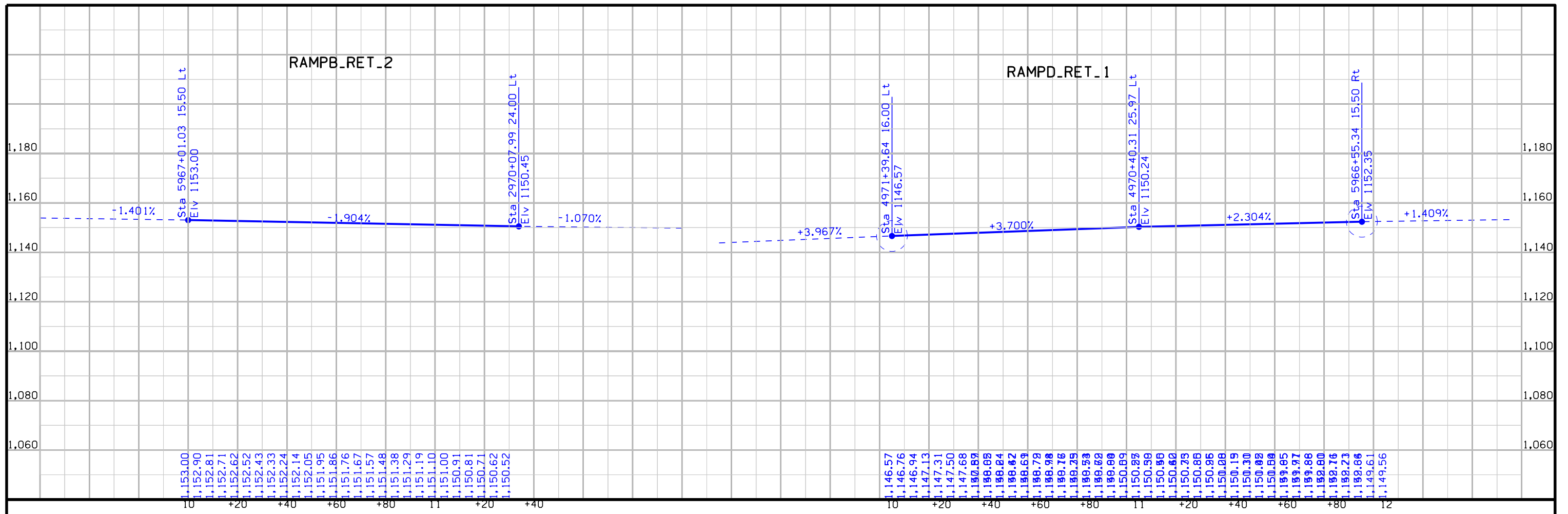
|          |         |                          |                |                                       |                  |
|----------|---------|--------------------------|----------------|---------------------------------------|------------------|
| FILE NO. | ENGLISH | DESIGN TEAM HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHSX-020-9(183)--3H-31 | SHEET NUMBER K.9 |
|----------|---------|--------------------------|----------------|---------------------------------------|------------------|





EDGE RETURN PROFILES  
INTERSECTION OF  
SWISS VALLEY RD  
AND RAMP A AND C

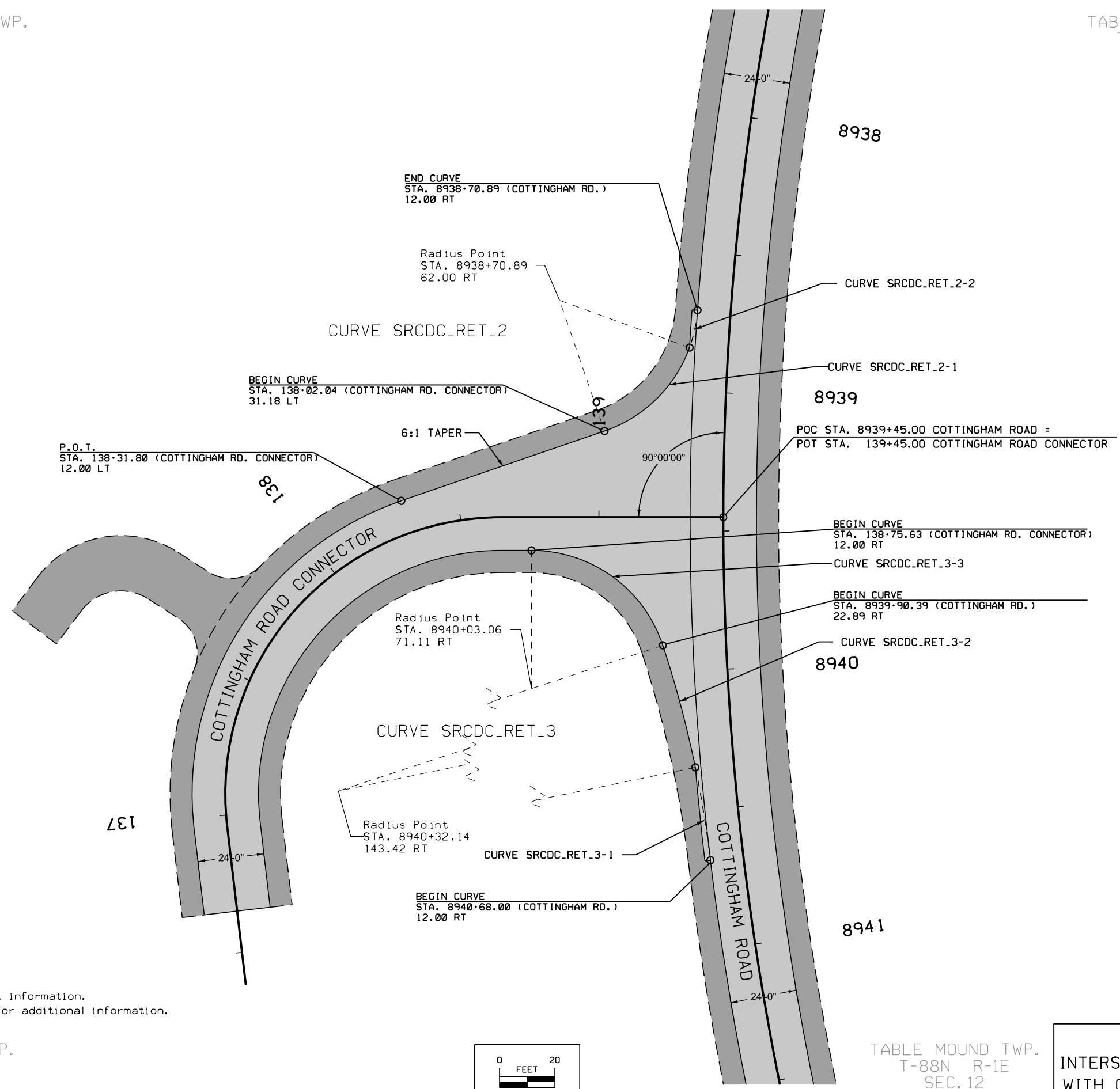
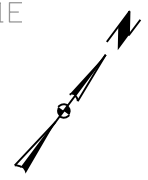




EDGE RETURN PROFILES  
INTERSECTION OF  
SWISS VALLEY RD  
AND RAMP B AND D

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 11

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12



Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

GEOMETRIC DETAILS  
INTERSECTION OF COTTINGHAM ROAD  
WITH COTTINGHAM ROAD CONNECTOR

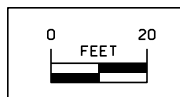
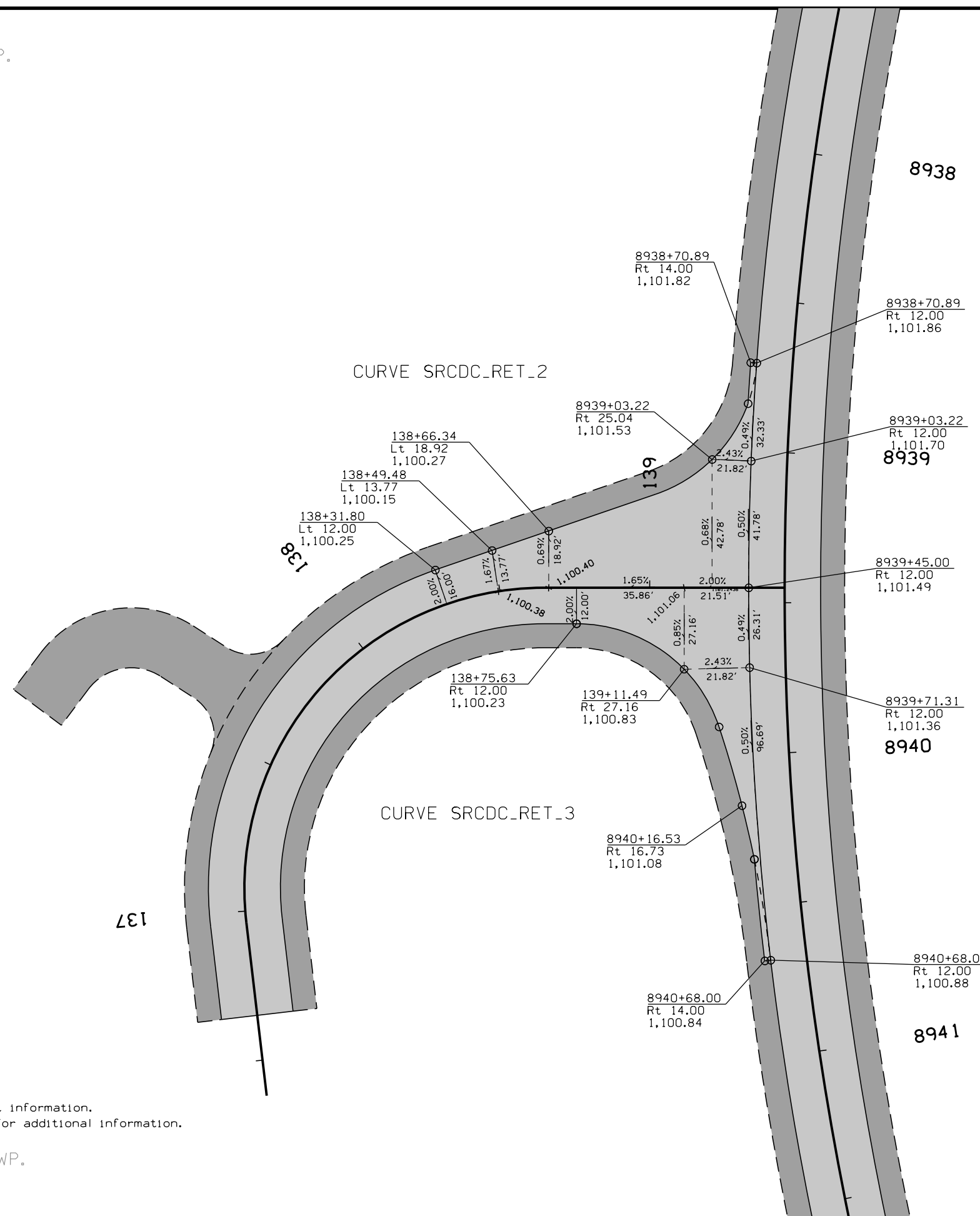
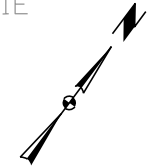


TABLE MOUND TWP.  
T-88N R-1E  
SEC. 11

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12



Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

STAKING DETAILS  
INTERSECTION OF COTTINGHAM ROAD  
WITH COTTINGHAM ROAD CONNECTOR

|          |         |             |              |                |                |                        |              |     |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|-----|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | L.2 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|-----|



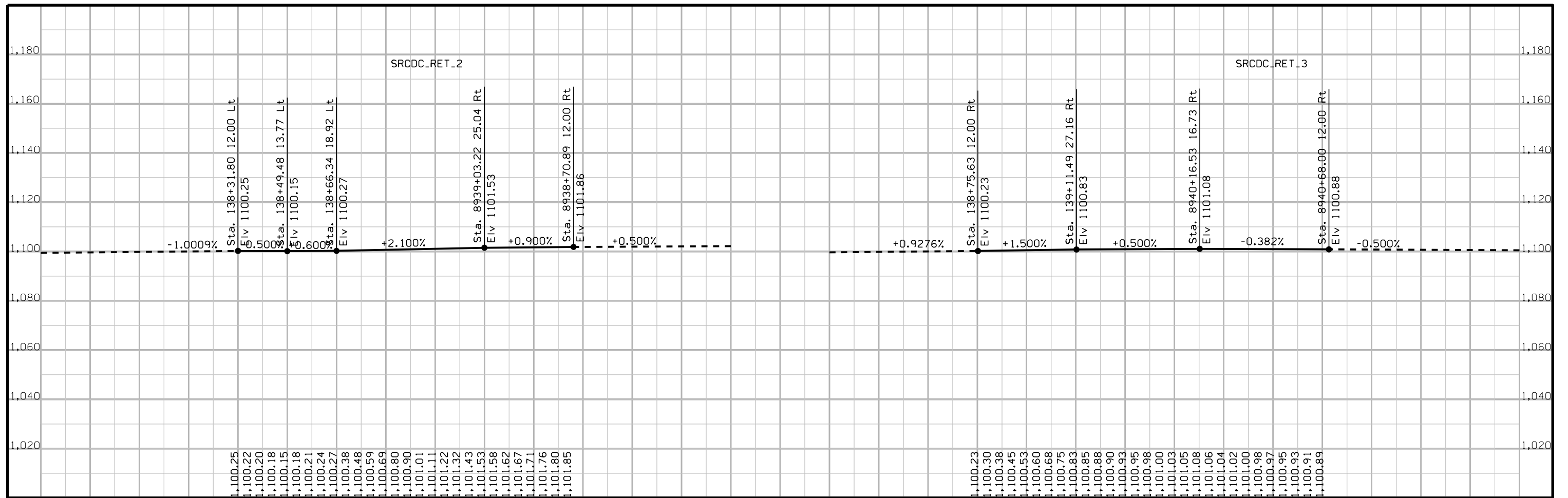
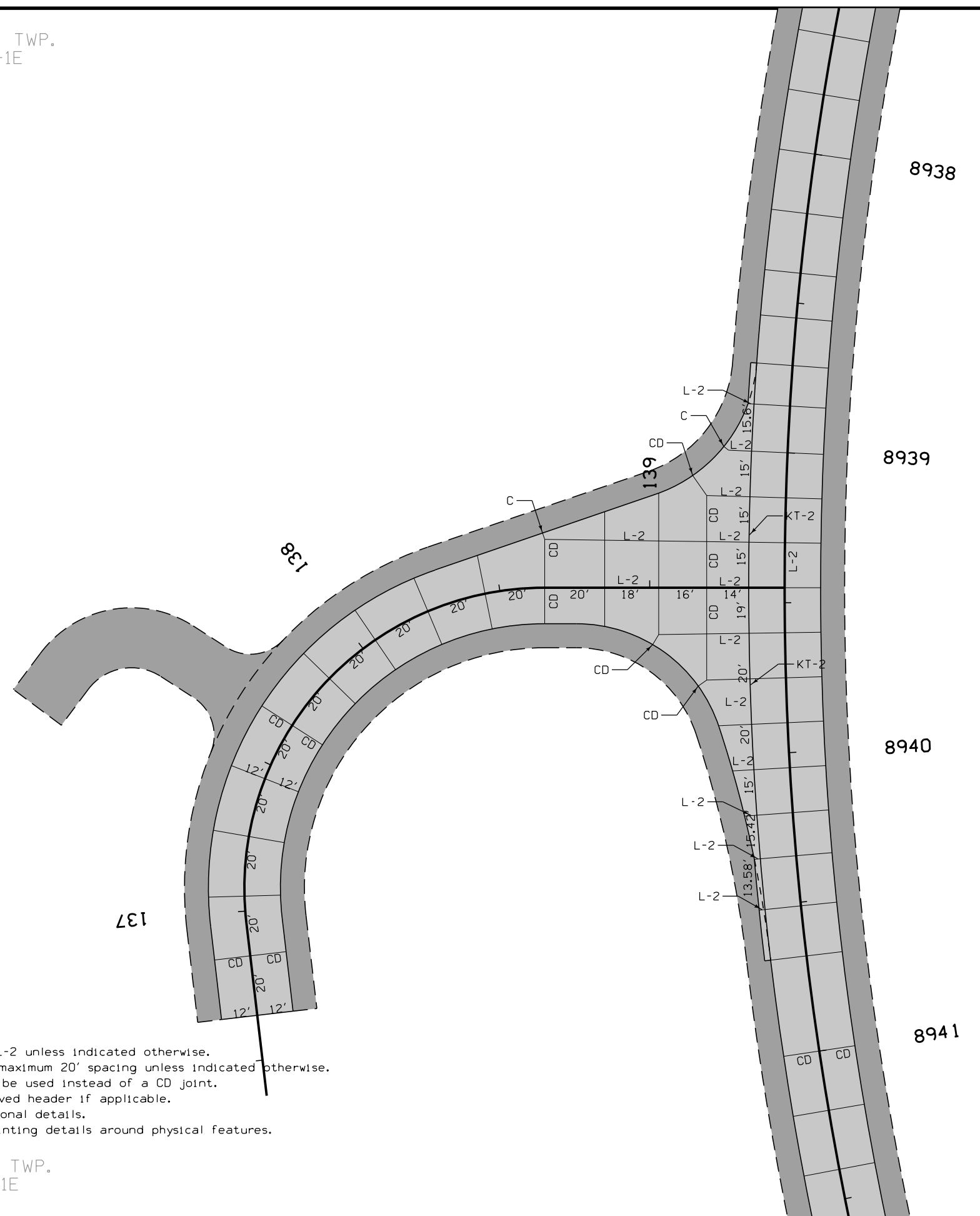
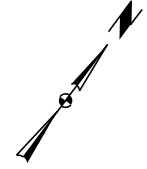


TABLE MOUND TWP.  
T-88N R-1E  
SEC. 11

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12



Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

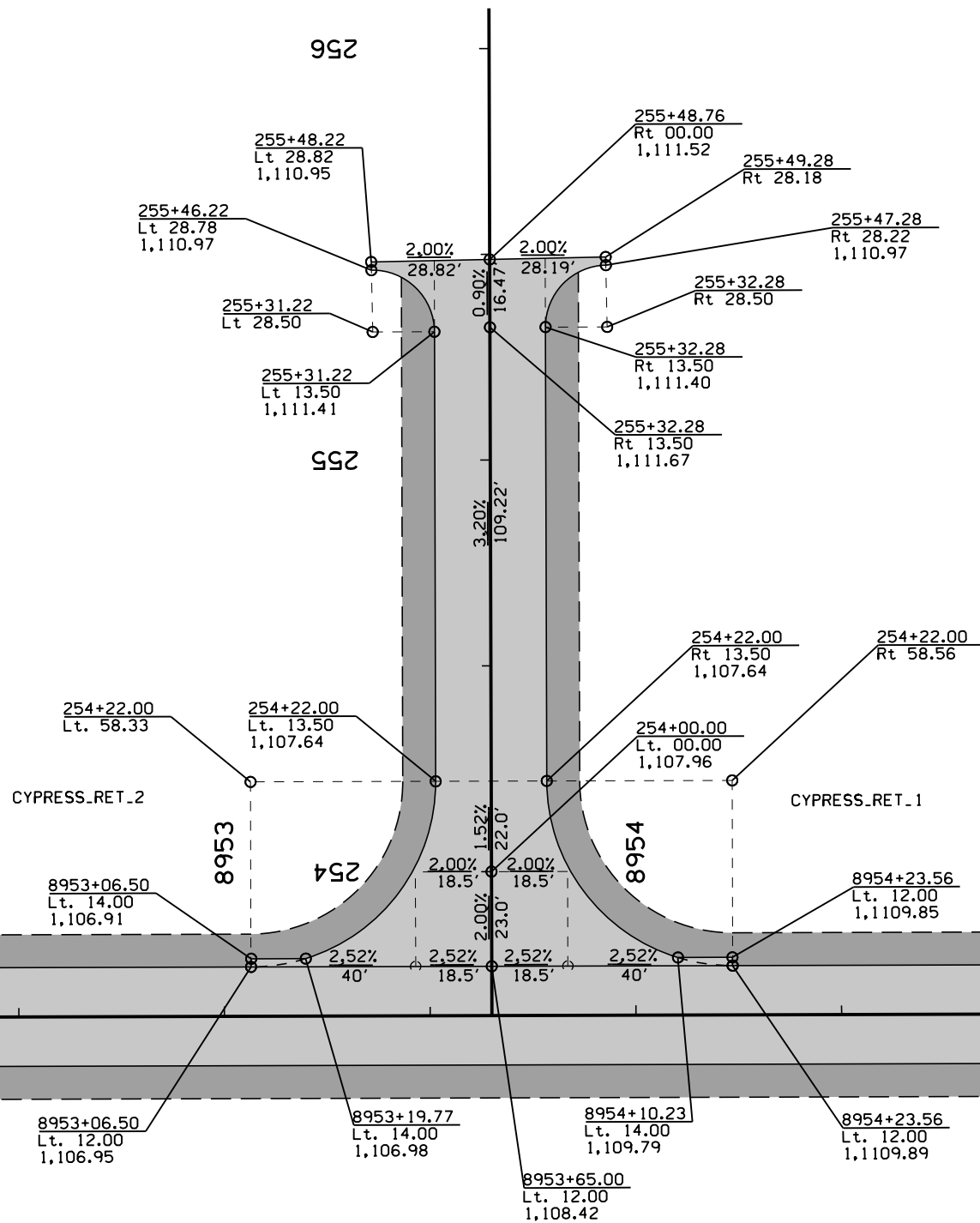
TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

JOINTING DETAILS  
INTERSECTION OF COTTINGHAM ROAD  
WITH COTTINGHAM ROAD CONNECTOR

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12



Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

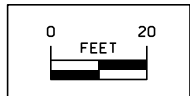


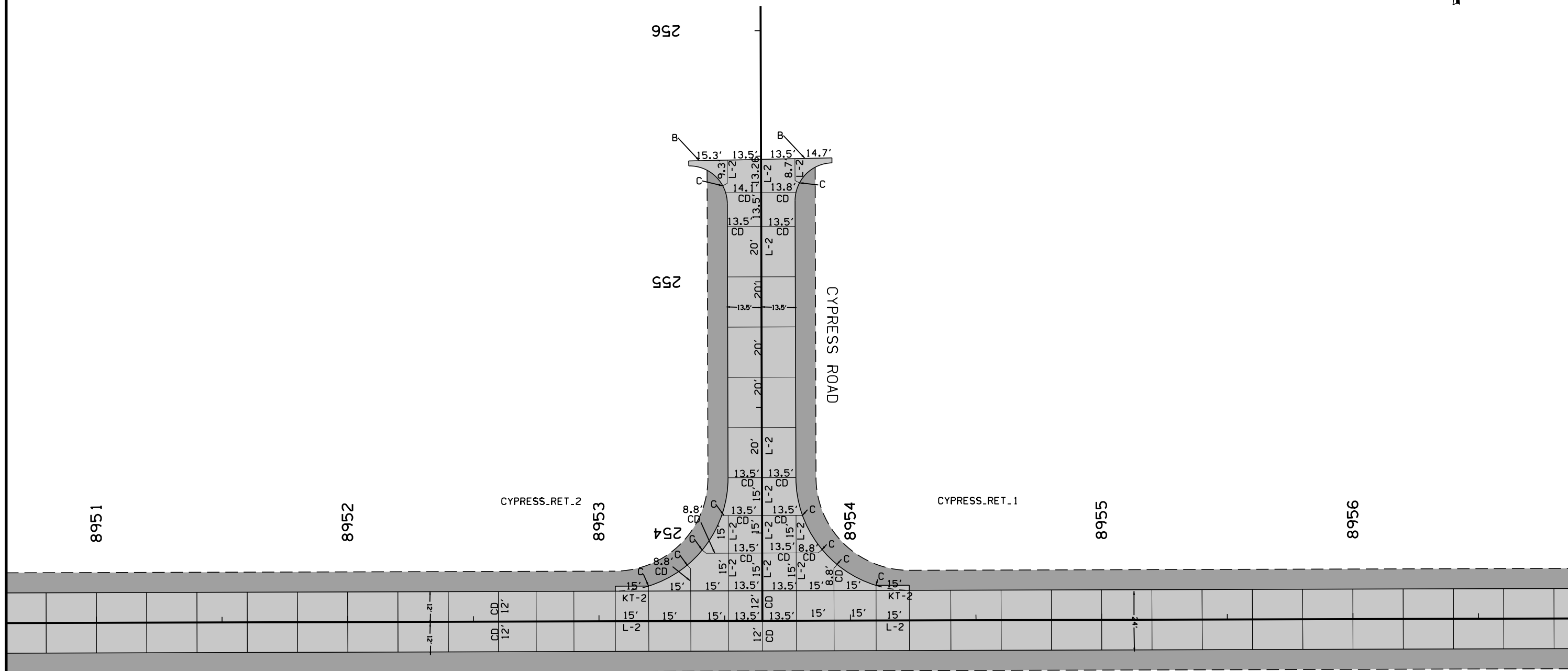
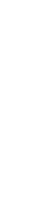
TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

STAKING DETAILS  
INTERSECTION OF COTTINGHAM ROAD  
WITH CYPRESS ROAD



TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12



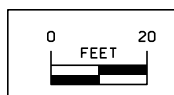
COTTINGHAM ROAD

Note:

All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
 For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
 Refer to Standard Road Plans for details of paved header if applicable.  
 Refer to Standard Road Plans PV-101 for additional details.  
 Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

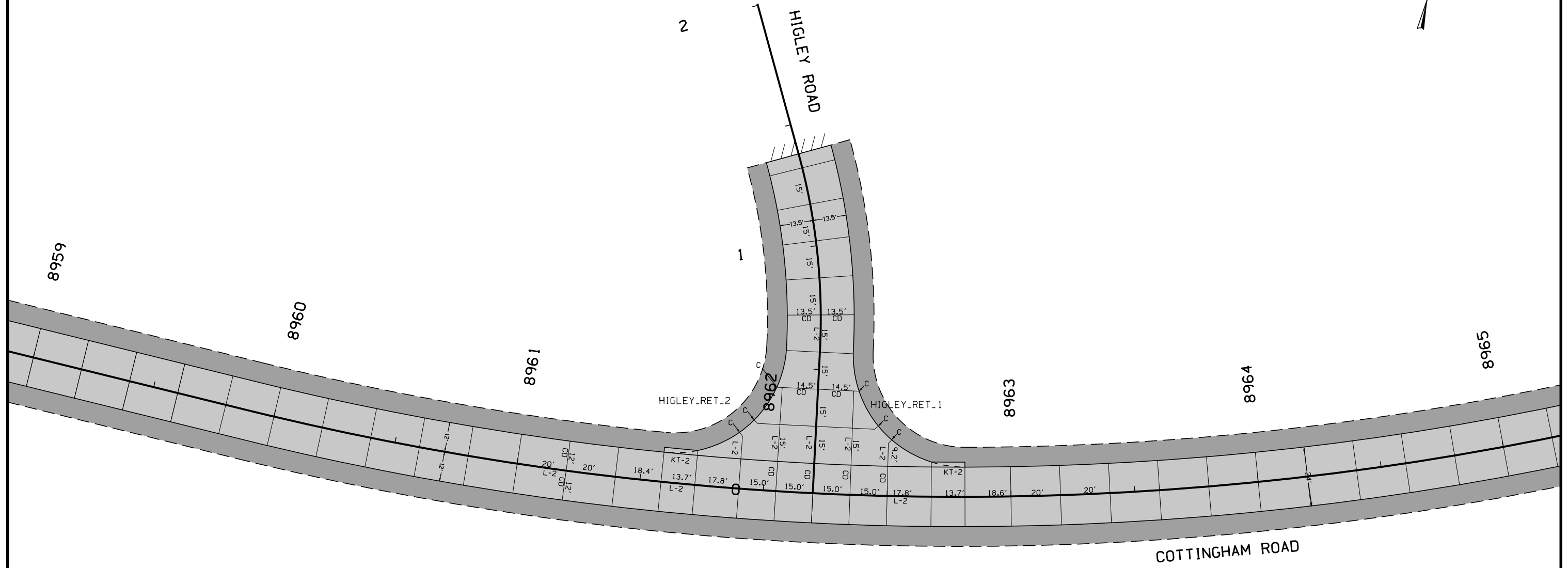


JOINTING DETAILS  
INTERSECTION OF COTTINGHAM ROAD  
WITH CYPRESS ROAD



TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

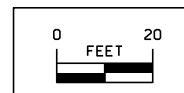
TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12



Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12



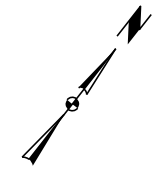
GEOMETRIC & JOINTING DETAILS  
INTERSECTION OF COTTINGHAM ROAD  
WITH HIGLEY ROAD

|          |         |             |              |                |                |                        |              |     |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|-----|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | L.8 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|-----|



TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12



5977

8974

8975

8976

9977

9978

9979

8975+04.61  
Rt 12.00

8975+51.21  
Rt 17.50

9976+65.66  
Rt 24.36

9977+64.32  
Rt 12.00

90°00'00"

NORTH FRONTAGE ROAD

COTTINGHAM ROAD

COTTHAM.RET.4

NFR.RET.1

5975+57.99  
Lt 23.93

5975+58.76  
Rt 19.98

5975+19.62  
Rt 112.00

5975+19.99  
Rt 12.00

5975

5974+61.03  
Lt 12.00

5974+89.94  
Lt 213.48

SWISS VALLEY DRIVE

5974+00.00  
Lt 107.39

5974+04.72  
Rt 128.22

Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

GEOMETRIC DETAILS  
INTERSECTION OF SWISS VALLEY ROAD  
WITH RELOCATED COTTINGHAM ROAD  
AND WITH NORTH FRONTAGE ROAD  
AT STA. 968+53.11 ML

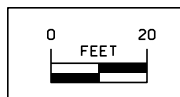
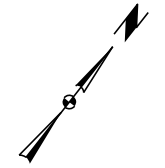


TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12



5977

8974

8975

8976

9977

9978

9979

8975+04.61  
Rt 12.00  
1,136.77

8975+51.21  
Rt 17.50  
1,137.85

9976+65.66  
Rt 24.36  
1,137.90

9977+64.32  
Rt 12.00  
1,135.84

5976  
3.15%  
87.39%

2.00%  
20.00'

2.00%  
20.00'

2.78%  
132.32'

5975+57.99  
Lt 23.93  
1,139.83

9977+50.00  
Rt 12.26  
1,136.15

5975+58.76  
Rt 19.98  
1,139.88

5975

5975+19.99  
Rt 12.00  
1,141.68

5974+61.03  
Lt 12.00  
1,143.45

2.00%  
20.00'

3.00%  
118.97'

3.00%  
20.00'

Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

5974

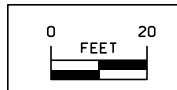


TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

STAKING DETAILS  
INTERSECTION OF SWISS VALLEY ROAD  
WITH RELOCATED COTTINGHAM ROAD  
AND WITH NORTH FRONTAGE ROAD  
AT STA. 968+53.11 ML

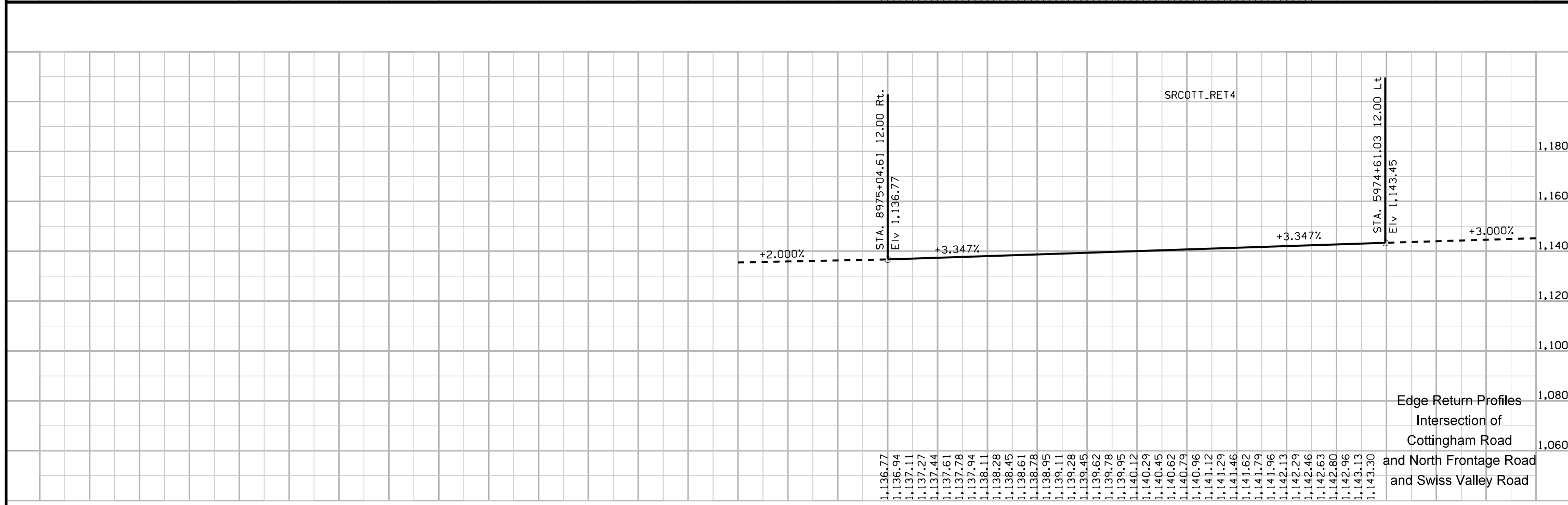
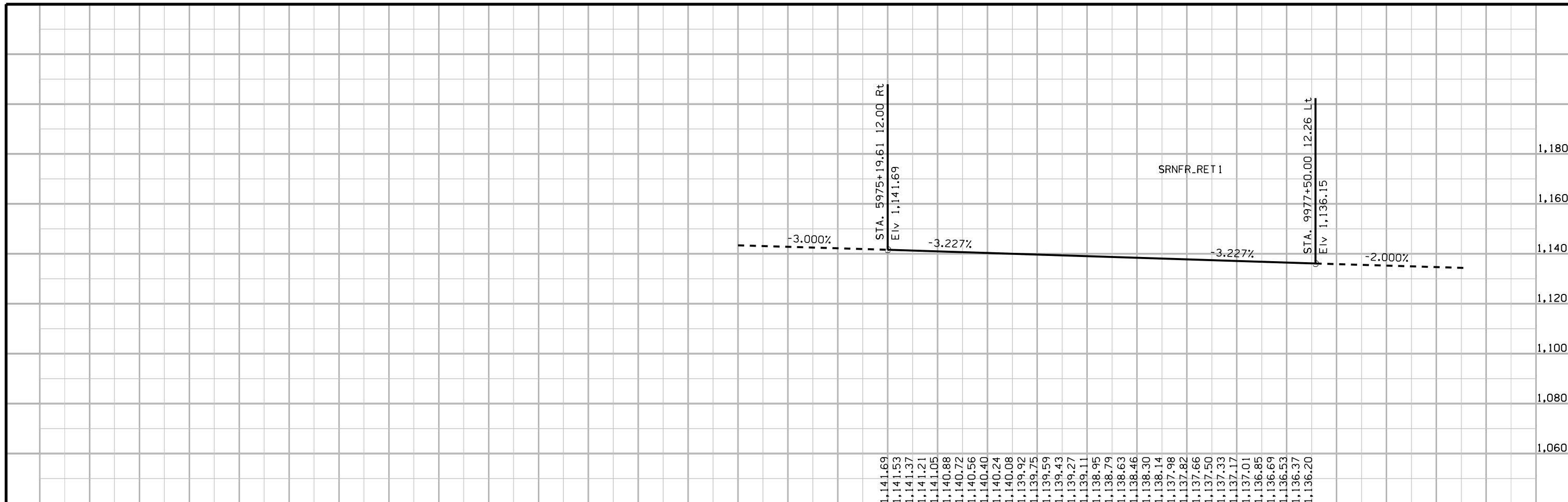
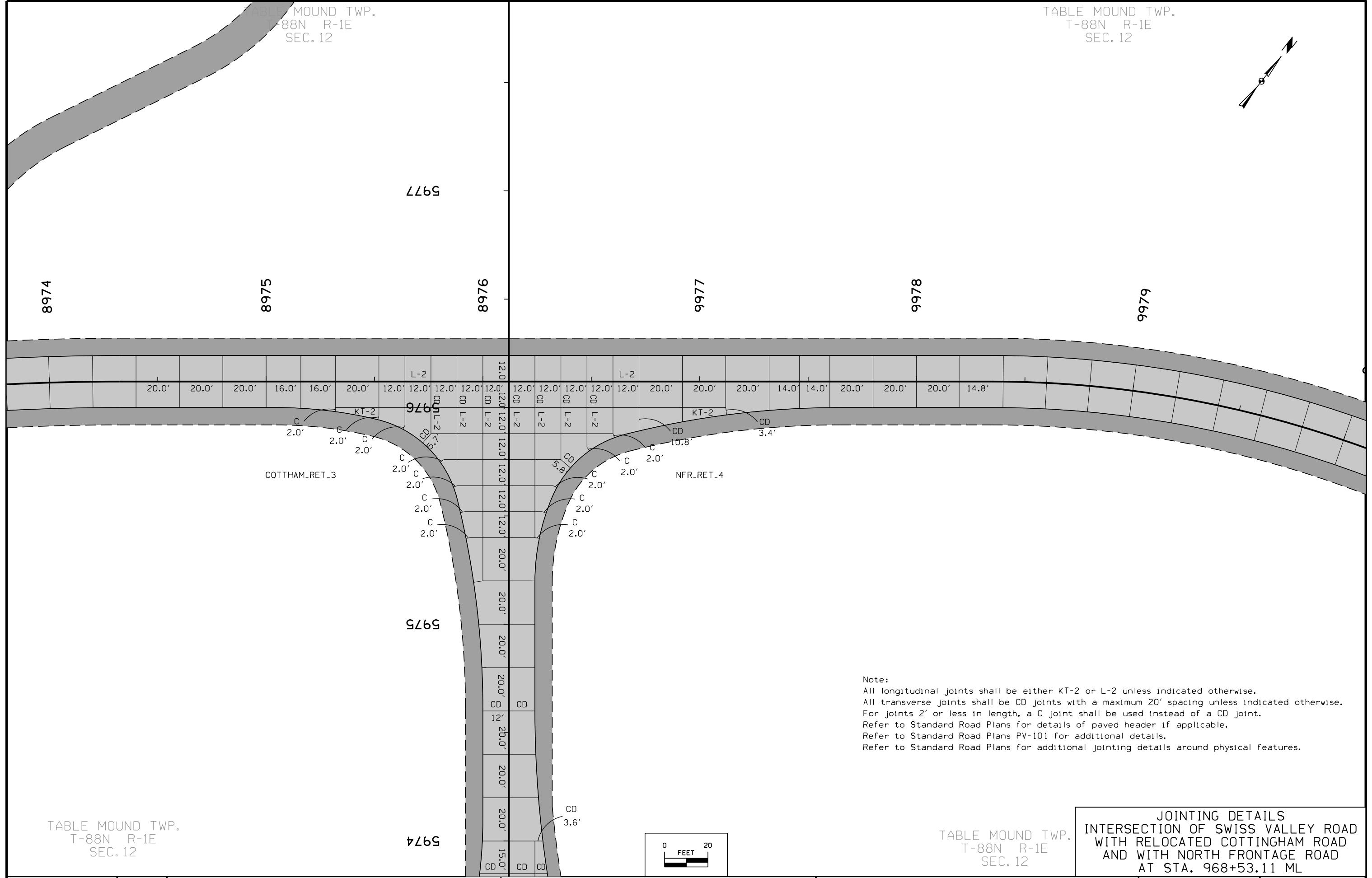
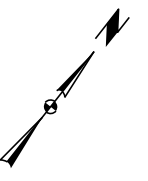




TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12



Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

JOINTING DETAILS  
INTERSECTION OF SWISS VALLEY ROAD  
WITH RELOCATED COTTINGHAM ROAD  
AND WITH NORTH FRONTAGE ROAD  
AT STA. 968+53.11 ML

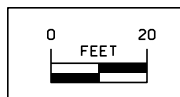
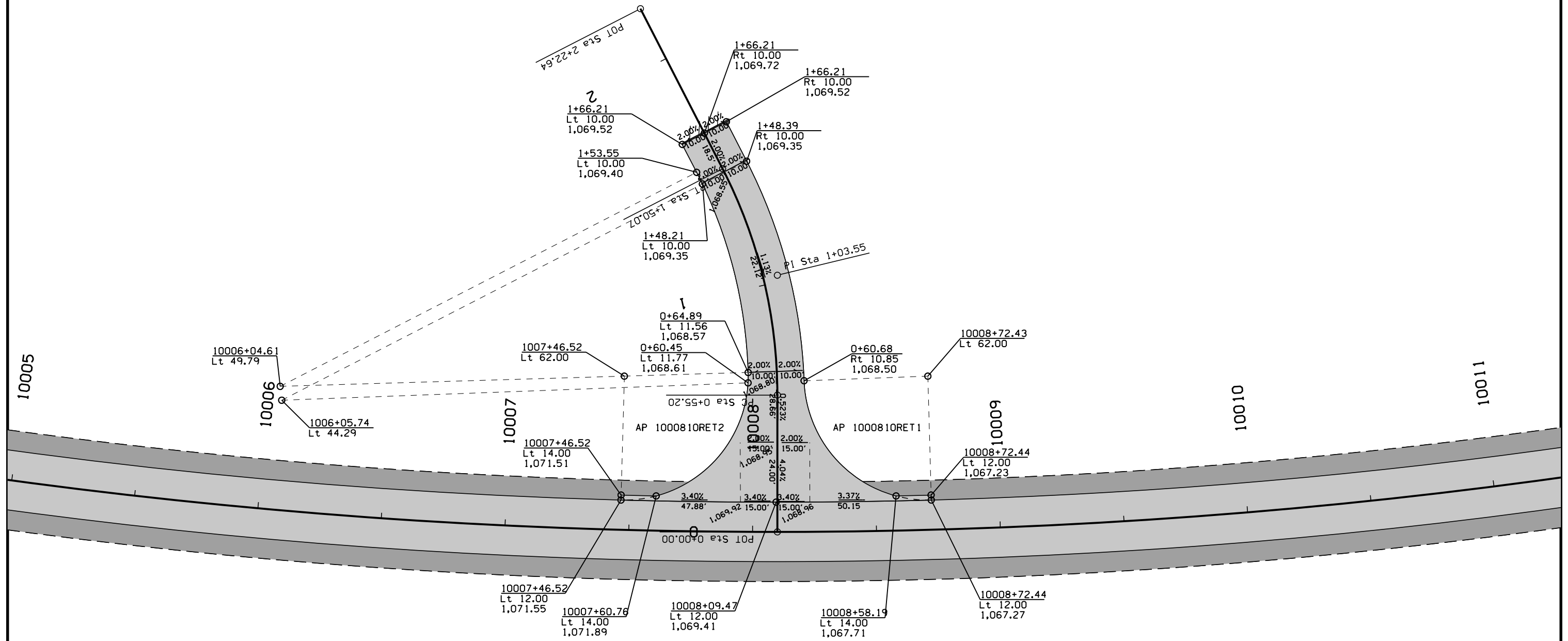


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

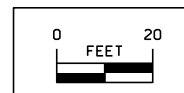


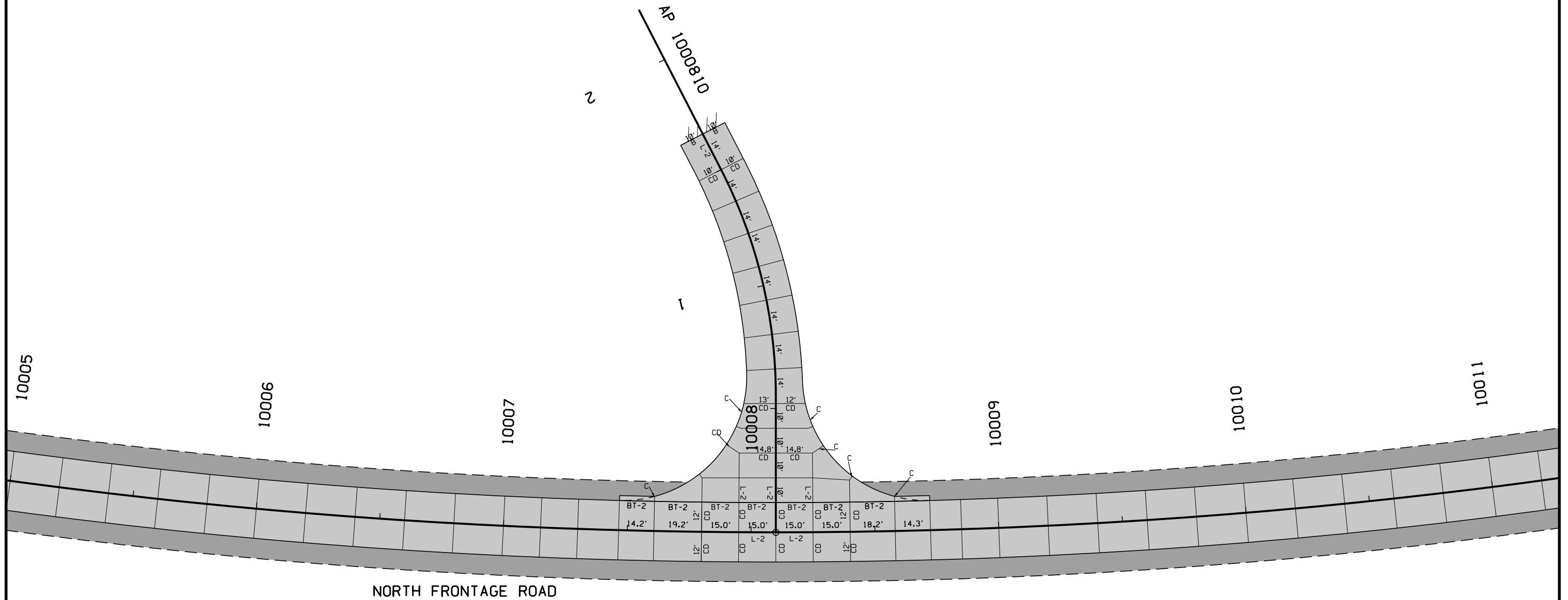
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

GEOMETRIC & STAKING DETAILS  
INTERSECTION OF  
NORTH FRONTAGE ROAD  
WITH AP 1000810

|          |         |                          |                |                                       |                   |
|----------|---------|--------------------------|----------------|---------------------------------------|-------------------|
| FILE NO. | ENGLISH | DESIGN TEAM HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHSX-020-9(183)--3H-31 | SHEET NUMBER L.13 |
|----------|---------|--------------------------|----------------|---------------------------------------|-------------------|

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

JOINTING DETAILS  
INTERSECTION OF  
NORTH FRONTAGE ROAD  
WITH AP 1000810



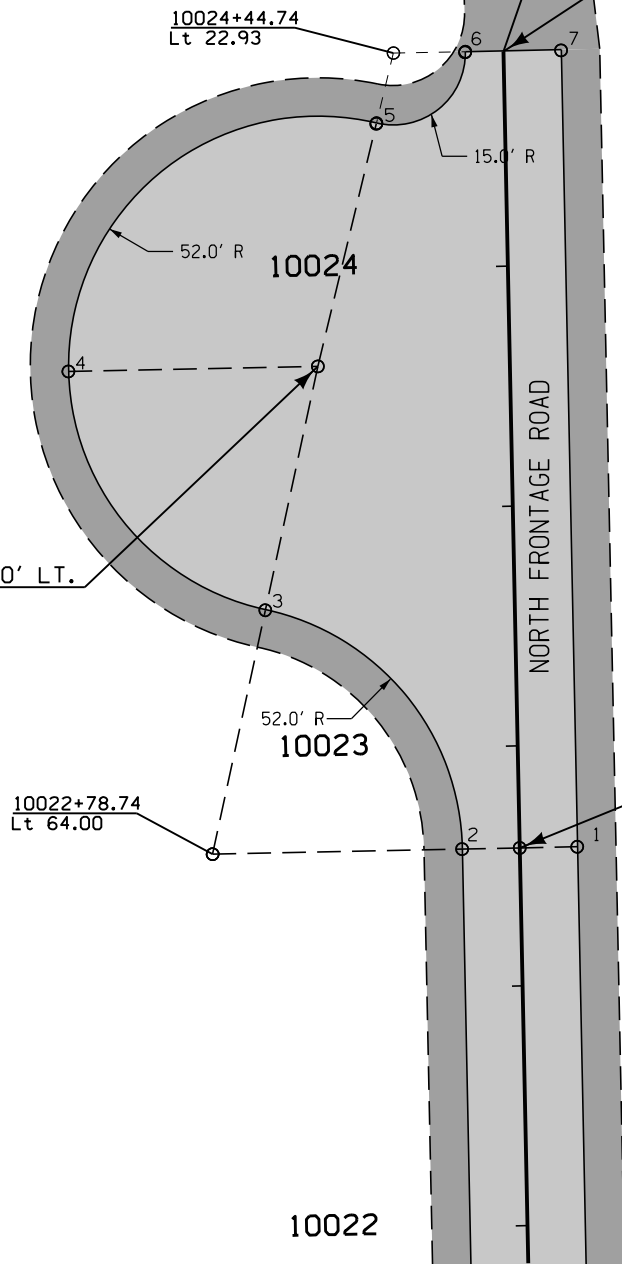
| Pt. | Stationing                      | Offset        | Elev.   |
|-----|---------------------------------|---------------|---------|
| 1   | 10022+78.74 North Frontage Road | 12.00 Ft. Rt. | 1039.70 |
| 2   | 10022+78.74 North Frontage Road | 12.00 Ft. Lt. | 1039.70 |
| 3   | 10023+29.34 North Frontage Road | 52.00 Ft. Lt. | 1038.50 |
| 4   | 10023+79.93 North Frontage Road | 92.00 Ft. Lt. | 1037.29 |
| 5   | 10024+30.23 North Frontage Road | 26.81 Ft. Rt. | 1037.66 |
| 6   | 10024+44.74 North Frontage Road | 8.00 Ft. Lt.  | 1038.45 |
| 7   | 10024+44.74 North Frontage Road | 12.00 Ft. Rt. | 1038.37 |

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

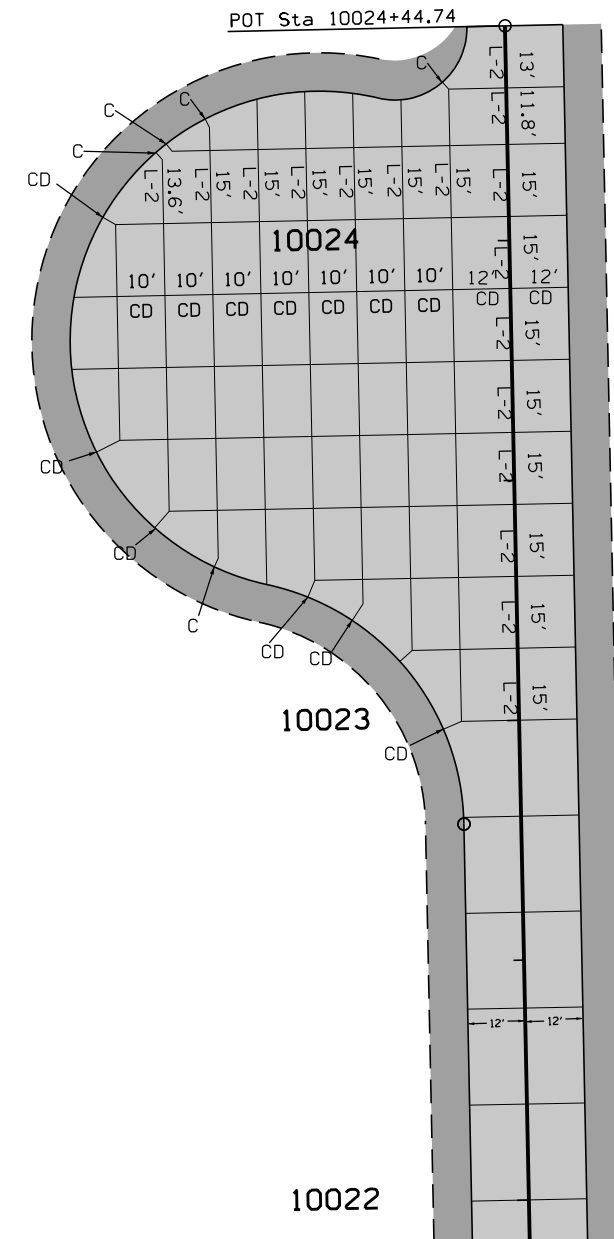
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



STA. 10024+44.74, 00.00' RT.  
PROP. TYPE "C" ENT.  
END FRONTAGE ROAD P.C.C. PVMT.



**NORTH FRONTAGE ROAD CUL-DE-SAC - GEOMETRICS**

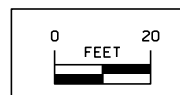


**NORTH FRONTAGE ROAD CUL-DE-SAC JOINTS**

Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

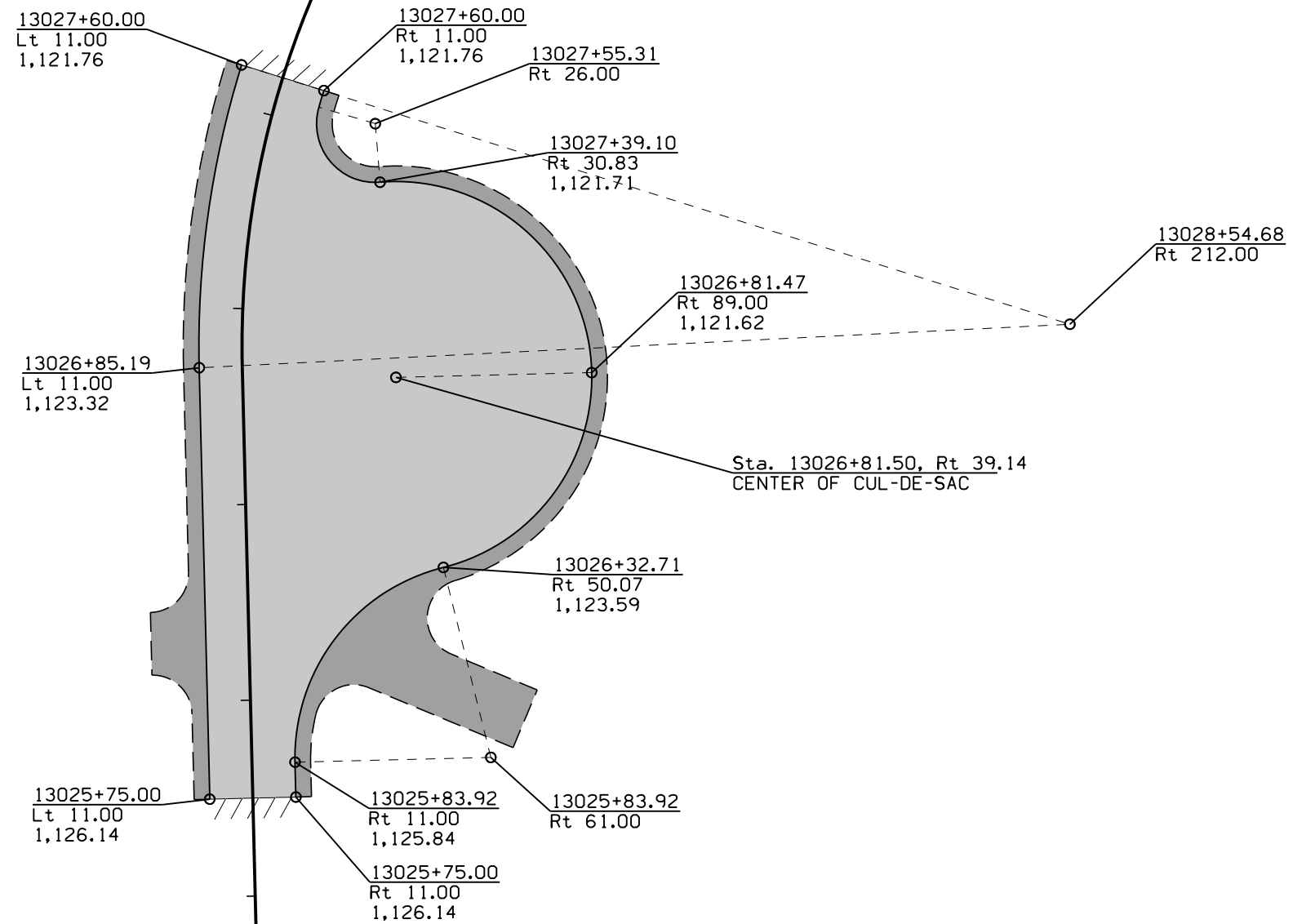
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



GEOMETRIC, STAKING, & JOINTING DETAILS  
CUL-DE-SAC ON  
NORTH FRONTAGE ROAD  
AT STA. 1017+09.58 ML

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 14

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13



Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

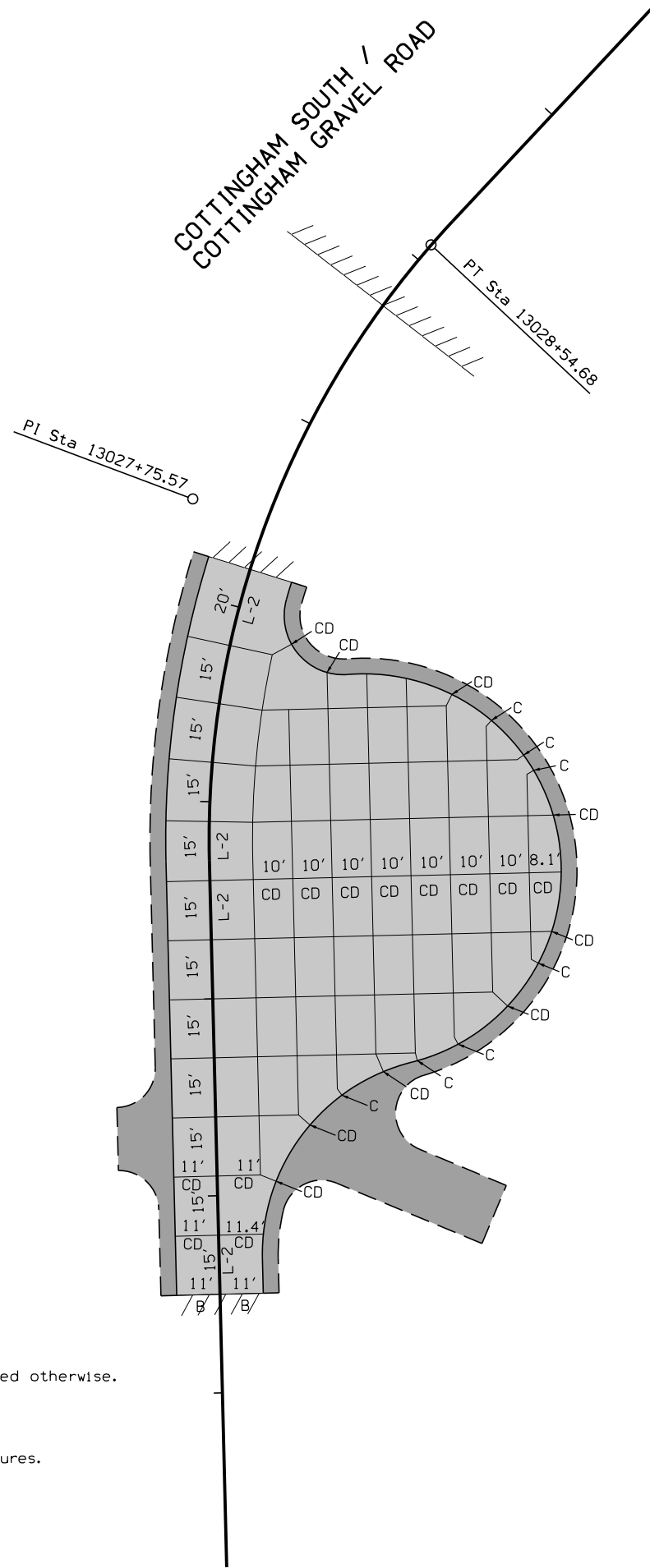
TABLE MOUND TWP.  
T-88N R-1E  
SEC. 14

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

GEOMETRIC AND STAKING DETAILS  
INTERSECTION OF  
COTTINGHAM GRAVEL ROAD  
(OR COTTINGHAM SOUTH)  
WITH US 20

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 14

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13



Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 14

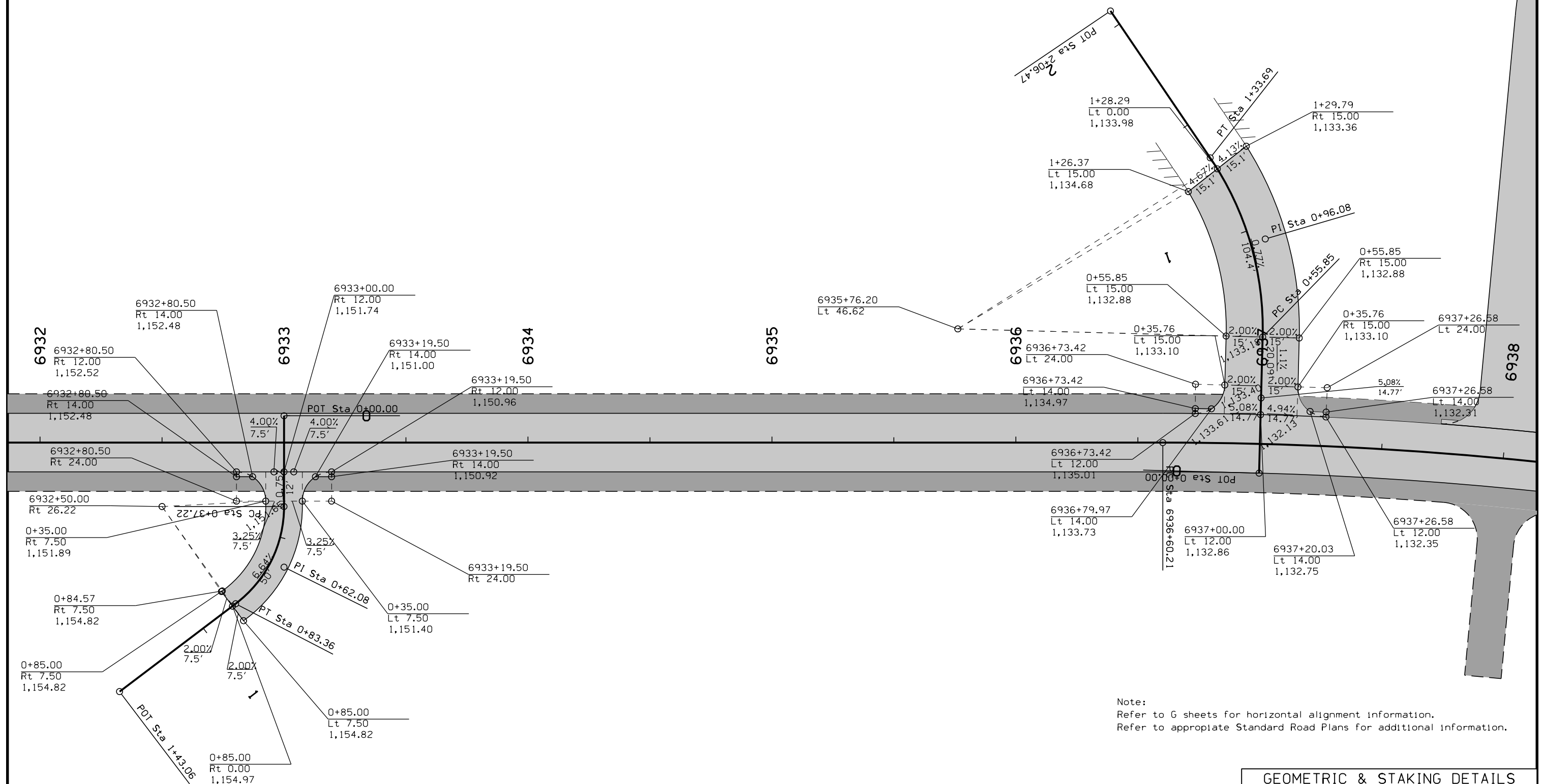
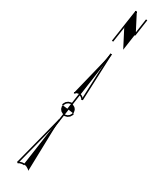
TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

JOINTING DETAILS  
INTERSECTION OF  
COTTINGHAM GRAVEL ROAD  
(COTTINGHAM SOUTH)  
WITH US 20



TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

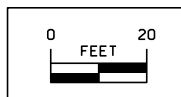


Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

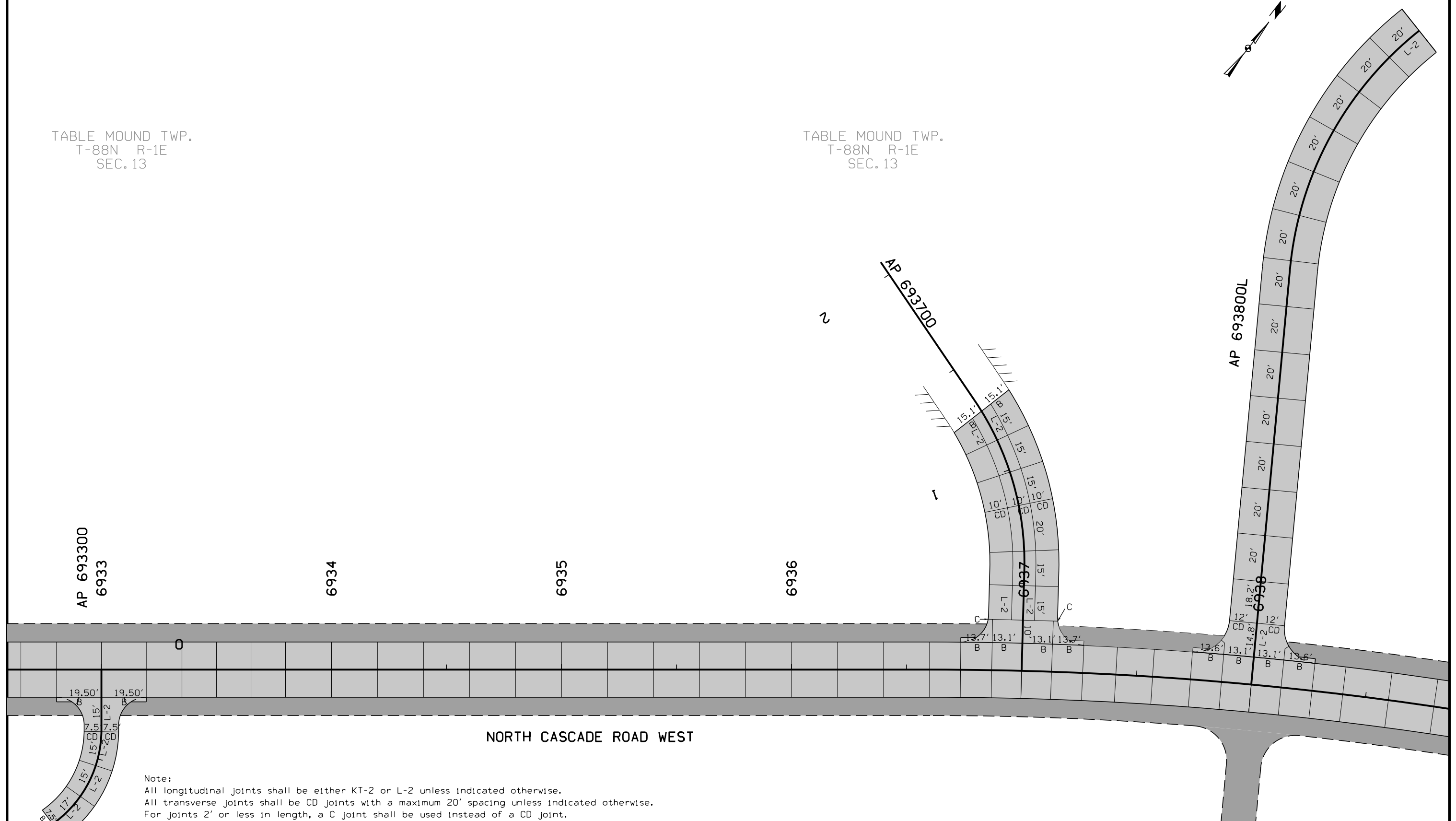
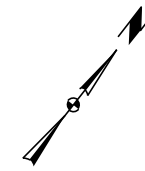
GEOMETRIC & STAKING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD WEST  
WITH AP 693300  
AND AP 693700



|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | L.18 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13



Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

JOINTING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD WEST  
WITH AP 693300, AP693700  
AND AP 693800L

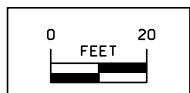
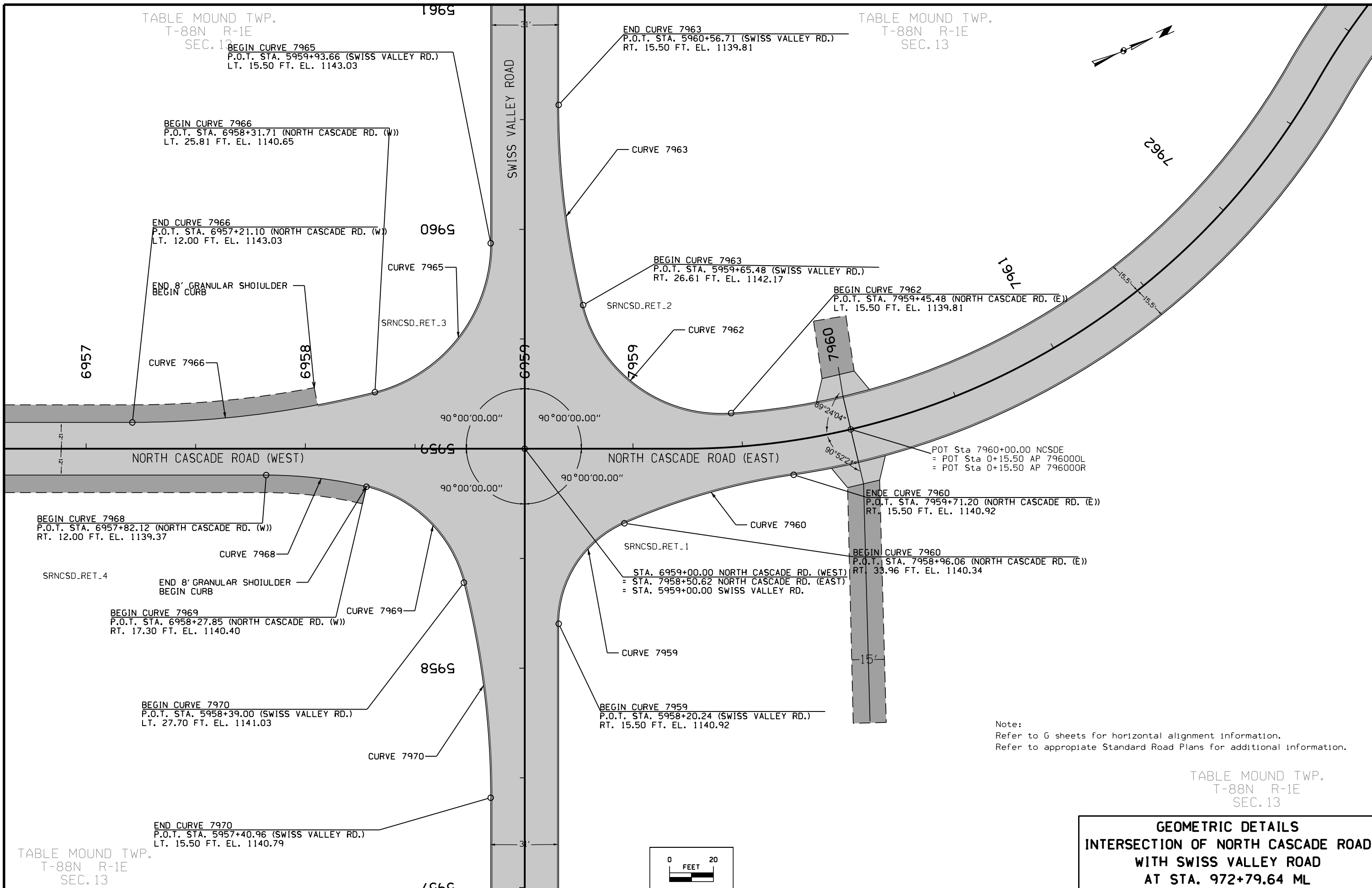
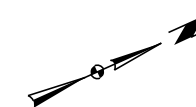


TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13



Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

**GEOMETRIC DETAILS  
INTERSECTION OF NORTH CASCADE ROAD  
WITH SWISS VALLEY ROAD  
AT STA. 972+79.64 ML**

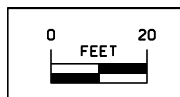
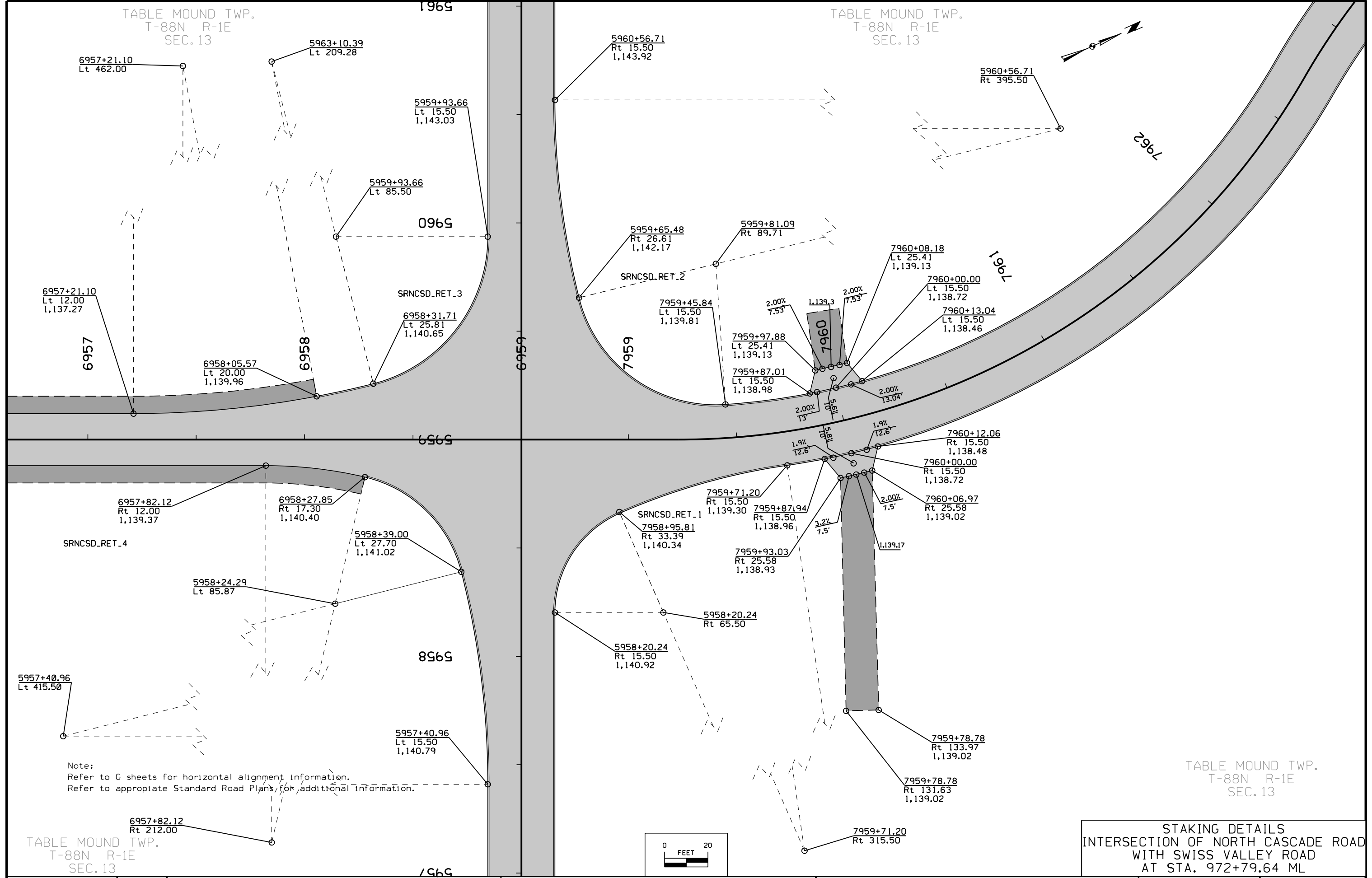


TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

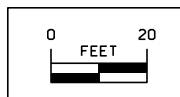


TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

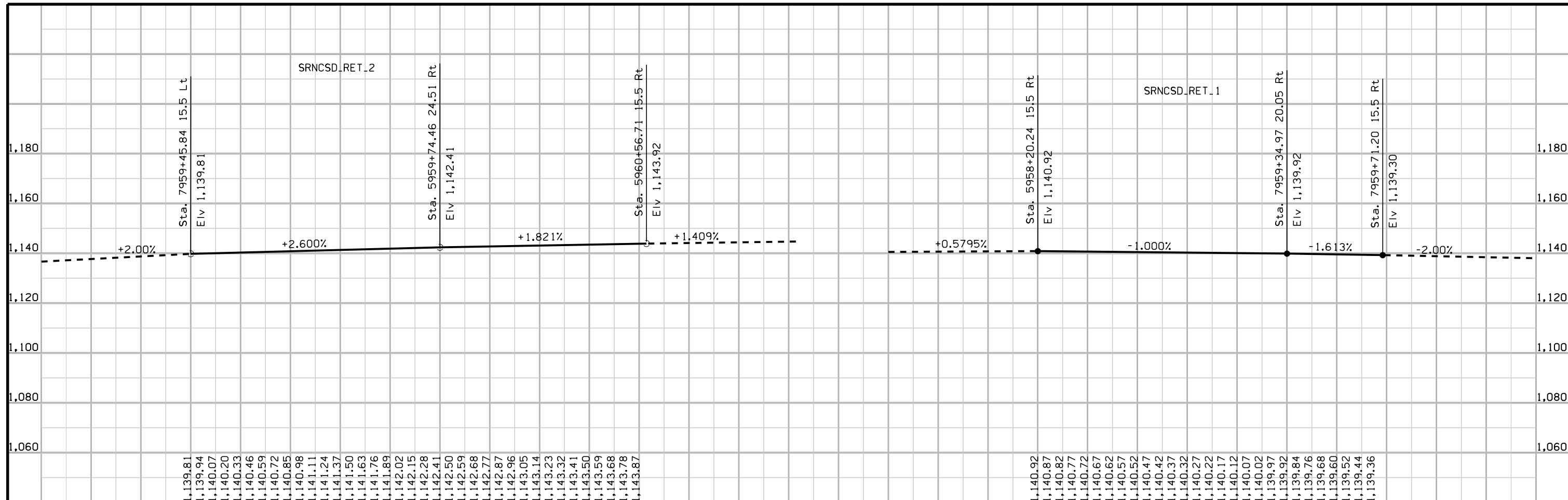
TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13



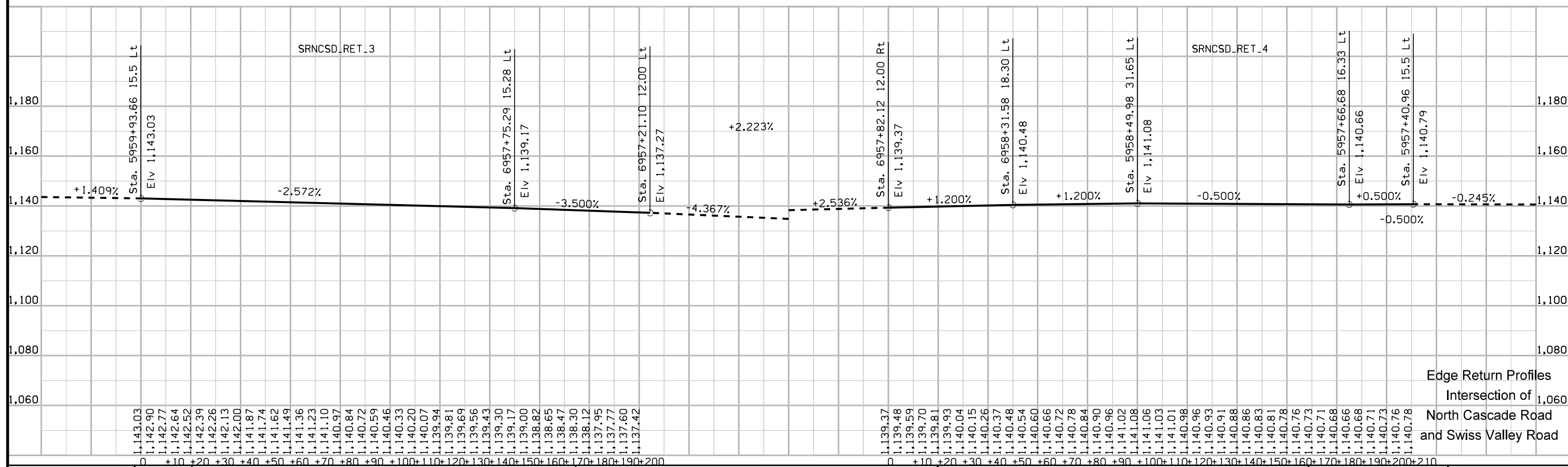
Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.



STAKING DETAILS  
INTERSECTION OF NORTH CASCADE ROAD  
WITH SWISS VALLEY ROAD  
AT STA. 972+79.64 ML



0 +10 +20 +30 +40 +50 +60 +70 +80 +90 +100+110+120+130+140+150+160+170+180 0 +10 +20 +30 +40 +50 +60 +70 +80 +90 +100+110+120+130



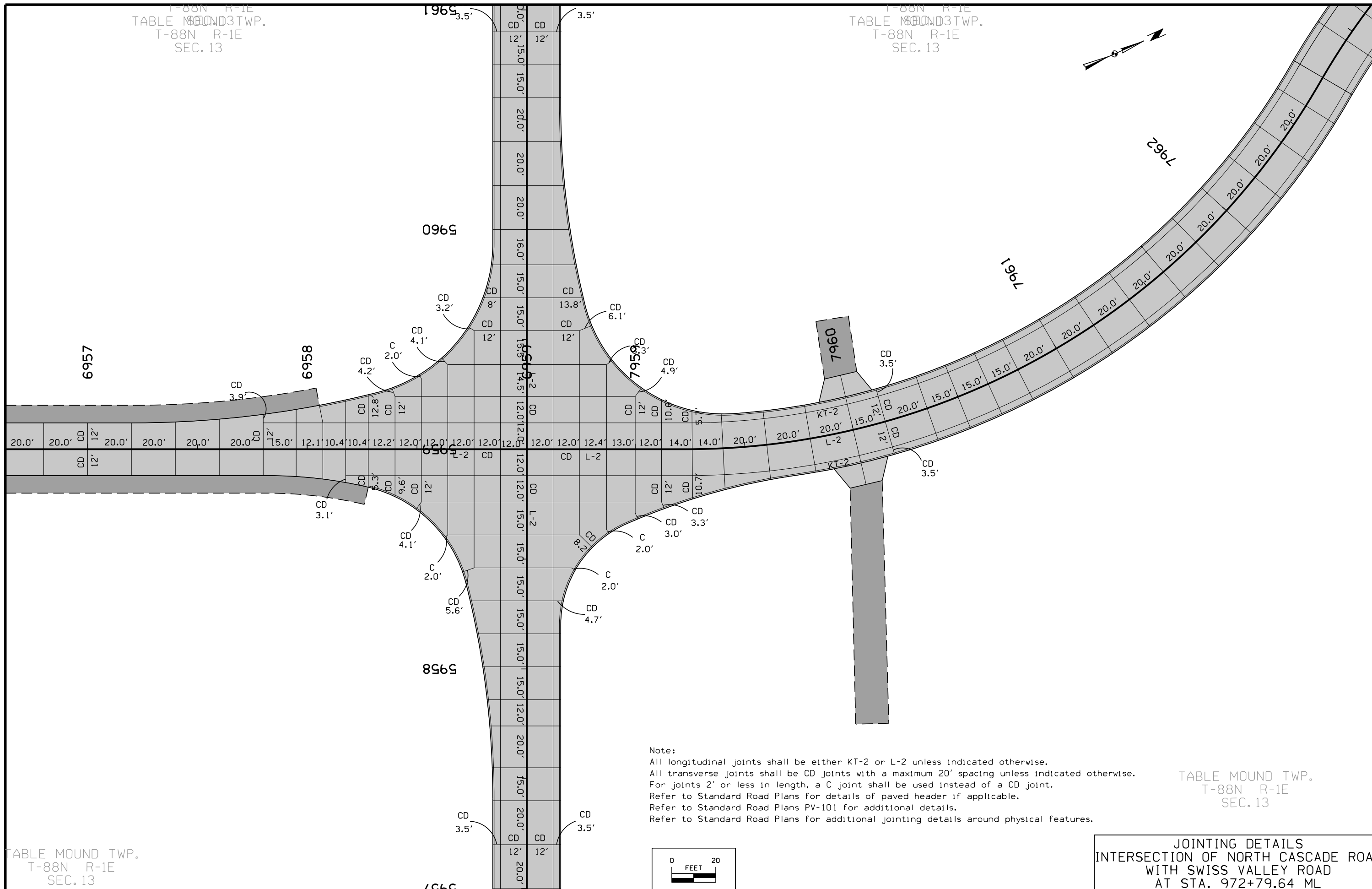
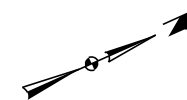
1,143.03 1,142.90 1,142.77 1,142.64 1,142.52 1,142.39 1,142.26 1,142.13 1,142.00 1,141.87 1,141.74 1,141.62 1,141.49 1,141.36 1,141.23 1,141.10 1,140.97 1,140.84 1,140.72 1,140.59 1,140.46 1,140.33 1,140.20 1,140.07 1,139.94 1,139.81 1,139.69 1,139.56 1,139.43 1,139.30 1,139.17 1,139.00 1,138.82 1,138.65 1,138.47 1,138.30 1,138.12 1,137.95 1,137.77 1,137.60 1,137.42 1,139.37 1,139.48 1,139.59 1,139.70 1,139.81 1,139.93 1,140.04 1,140.15 1,140.26 1,140.37 1,140.48 1,140.54 1,140.60 1,140.66 1,140.72 1,140.78 1,140.84 1,140.90 1,140.96 1,141.02 1,141.08 1,141.06 1,141.03 1,141.01 1,140.98 1,140.96 1,140.93 1,140.91 1,140.88 1,140.86 1,140.83 1,140.81 1,140.78 1,140.76 1,140.73 1,140.71 1,140.68 1,140.66 1,140.68 1,140.71 1,140.73 1,140.76 1,140.78

Edge Return Profiles  
Intersection of  
North Cascade Road  
and Swiss Valley Road

|          |         |             |        |                |              |
|----------|---------|-------------|--------|----------------|--------------|
| FILE NO. | ENGLISH | DESIGN TEAM | COUNTY | PROJECT NUMBER | SHEET NUMBER |
|          |         |             |        |                | L.22         |

T-88N R-1E  
TABLE MOUND3TWP.  
T-88N R-1E  
SEC. 13

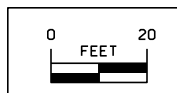
T-88N R-1E  
TABLE MOUND3TWP.  
T-88N R-1E  
SEC. 13



Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 13



JOINTING DETAILS  
INTERSECTION OF NORTH CASCADE ROAD  
WITH SWISS VALLEY ROAD  
AT STA. 972+79.64 ML



TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

7972

7971

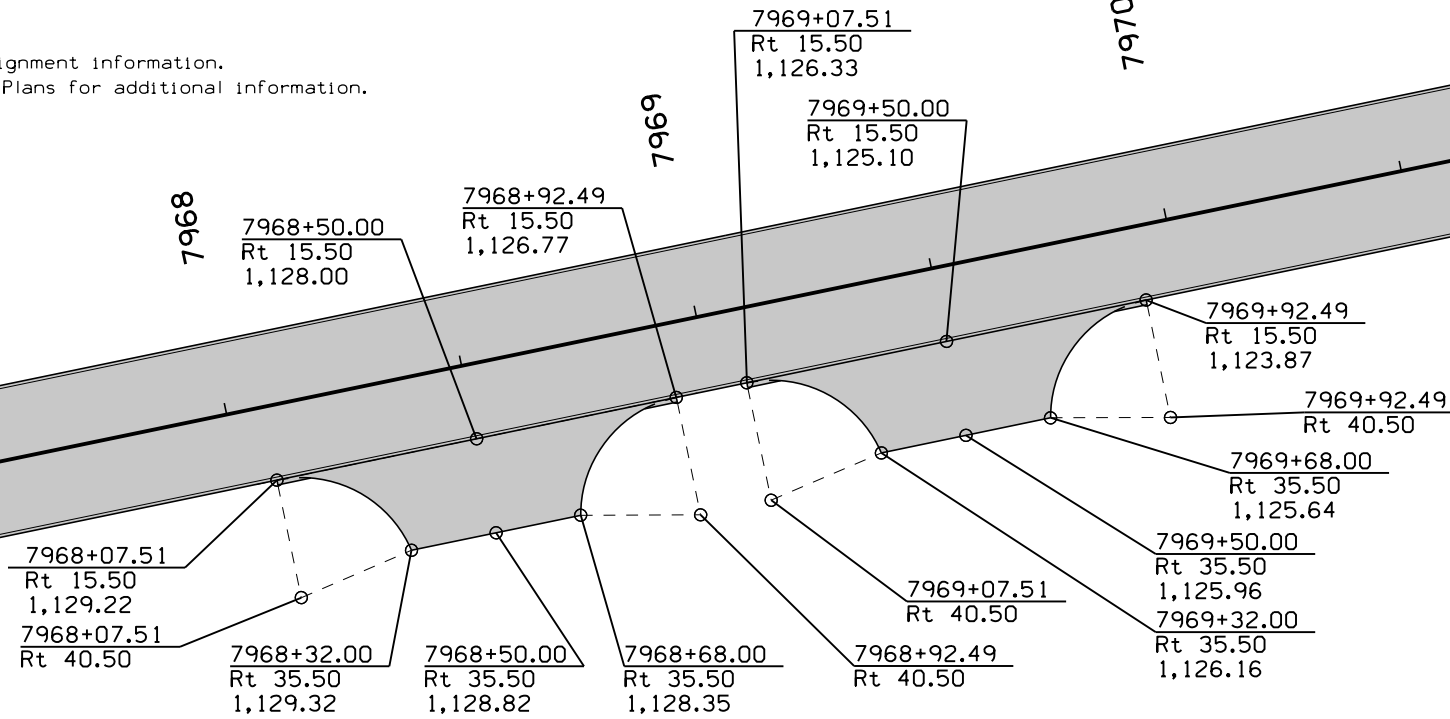
7970

7969

7968

7967

Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.



GEOMETRIC AND STAKING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD EAST  
WITH AP 796850

Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

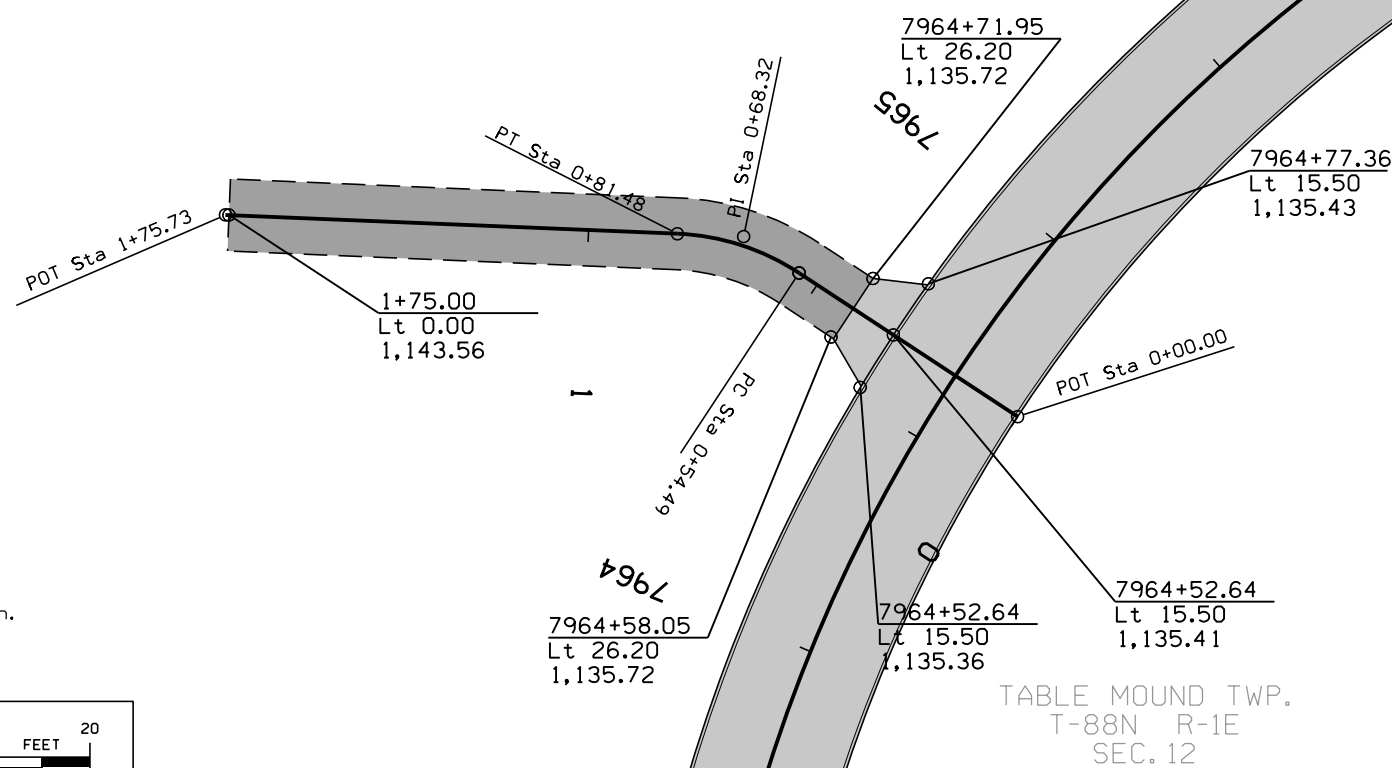
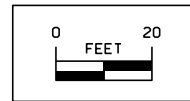
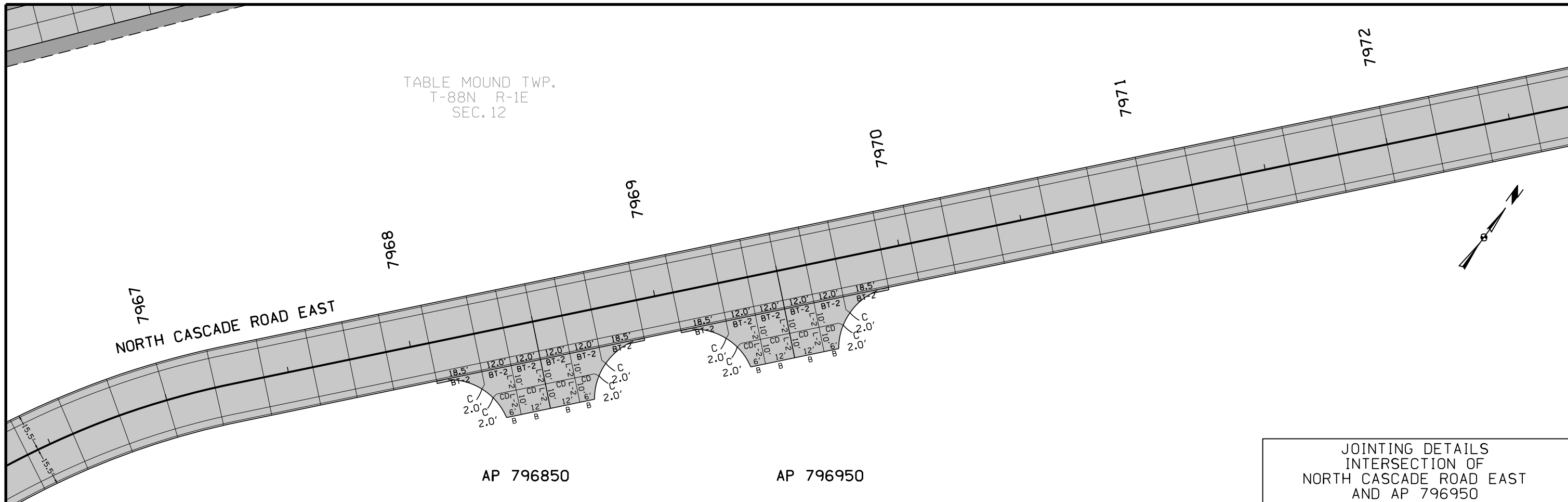
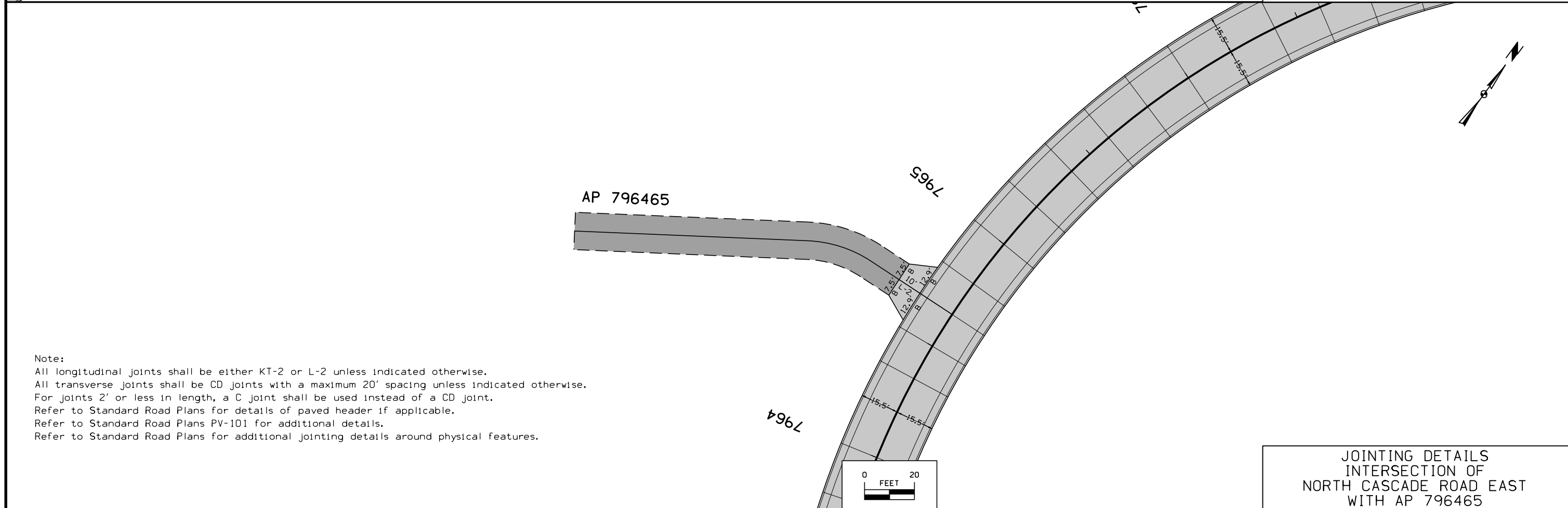


TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

GEOMETRIC & STAKING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD EAST  
WITH AP 796465



JOINTING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD EAST  
AND AP 796950



JOINTING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD EAST  
WITH AP 796465

Note:  
 All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
 For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
 Refer to Standard Road Plans for details of paved header if applicable.  
 Refer to Standard Road Plans PV-101 for additional details.  
 Refer to Standard Road Plans for additional jointing details around physical features.

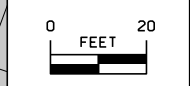


TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

7973

7974

7975

7976

7975+15.00  
Rt 15.50  
1,102.24

7975+57.65  
Rt 15.50  
1,100.34

7975+57.65  
Rt 45.50

7974+72.35  
Rt 15.50  
1,103.82

7975+27.19  
Rt 45.77  
1,101.18

7974+72.35  
Rt 45.48

7975+02.81  
Rt 45.75  
1,101.18

7975+15.00  
Rt 128.50  
1,095.90

Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

GEOMETRIC & STAKING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD EAST  
WITH AP 797515

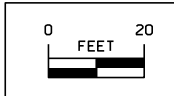


TABLE MOUND TWP.  
T-88N R-1E  
SEC. 12

7977

7978

7979

7980

7981

7982

79

7978+50.00  
Rt 15.50  
1,093.90

7980+70.00  
Rt 15.50  
1,094.22

7980+82.50  
Rt 15.50  
1,094.30

7980+57.50  
Rt 15.50  
1,094.14

7980+77.50  
Rt 25.50  
1,094.27

7978+33.00  
Rt 15.50  
1,094.06

7978+67.00  
Rt 15.50  
1,093.78

7980+62.50  
Rt 25.50  
1,094.27

7978+62.00  
Rt 25.50  
1,094.01

Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

7978+38.00  
Rt 25.50  
1,094.01

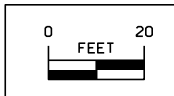
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Rt 103.00  
1,088.15

7980+75.39  
Rt 116.91  
1,085.39

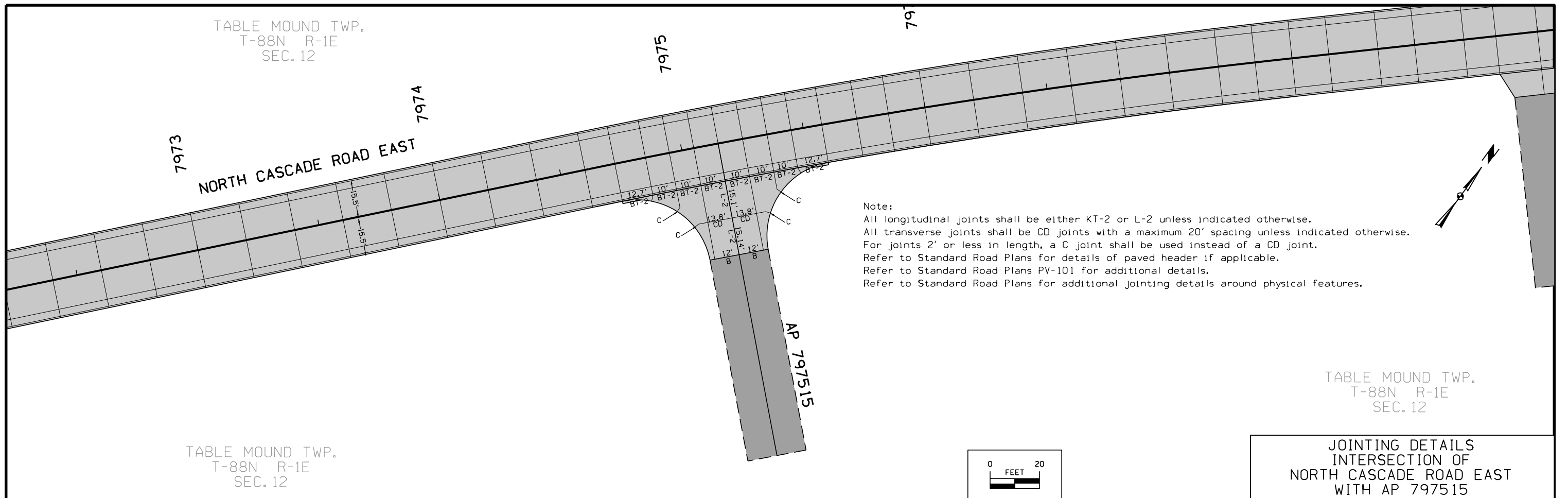
TABLE MOUND TWP.  
T-88N R-E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-E  
SEC. 7

GEOMETRIC & STAKING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD EAST  
WITH AP 797850  
AND AP 798070







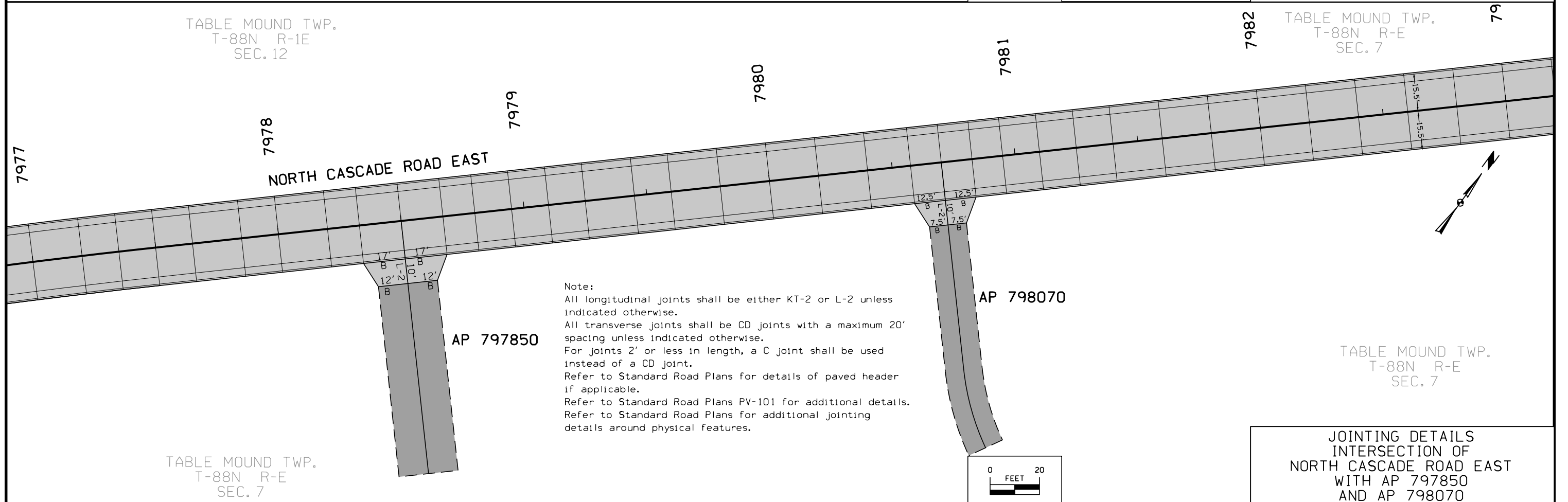
Note:  
 All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
 For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
 Refer to Standard Road Plans for details of paved header if applicable.  
 Refer to Standard Road Plans PV-101 for additional details.  
 Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
 T-88N R-1E  
 SEC. 12

TABLE MOUND TWP.  
 T-88N R-1E  
 SEC. 12

TABLE MOUND TWP.  
 T-88N R-1E  
 SEC. 12

JOINTING DETAILS  
 INTERSECTION OF  
 NORTH CASCADE ROAD EAST  
 WITH AP 797515



Note:  
 All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
 For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
 Refer to Standard Road Plans for details of paved header if applicable.  
 Refer to Standard Road Plans PV-101 for additional details.  
 Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
 T-88N R-1E  
 SEC. 12

TABLE MOUND TWP.  
 T-88N R-1E  
 SEC. 7

TABLE MOUND TWP.  
 T-88N R-E  
 SEC. 7

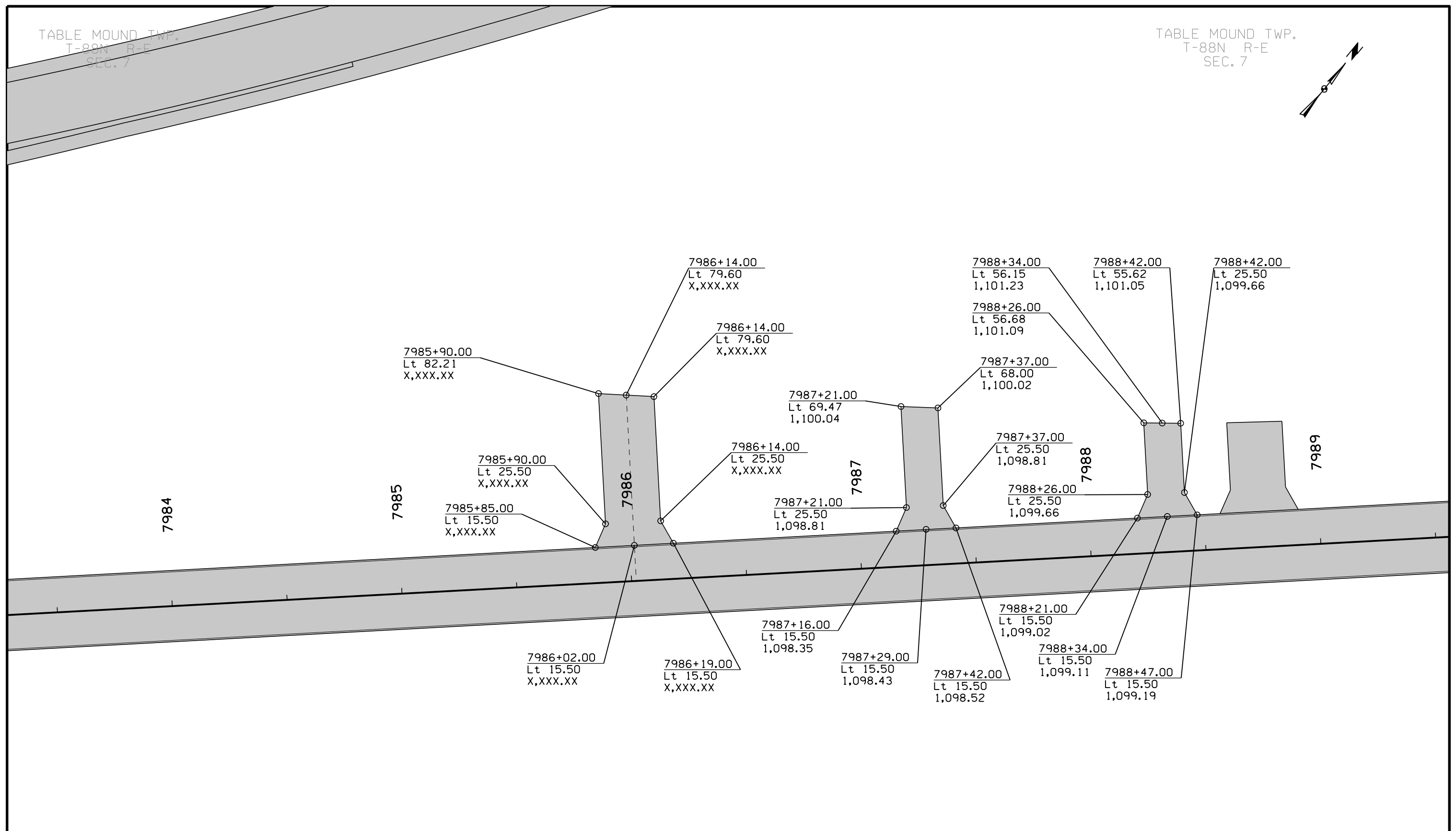
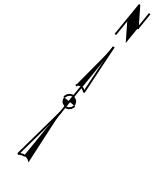
TABLE MOUND TWP.  
 T-88N R-E  
 SEC. 7

TABLE MOUND TWP.  
 T-88N R-E  
 SEC. 7

JOINTING DETAILS  
 INTERSECTION OF  
 NORTH CASCADE ROAD EAST  
 WITH AP 797850  
 AND AP 798070

TABLE MOUND TWP.  
T-88N R-E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-E  
SEC. 7



Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

GEOMETRIC & STAKING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD EAST  
WITH AP 798602  
AND AP 798729  
AND AP 798834

TABLE MOUND TWP.  
T-88N R-E  
SEC. 7

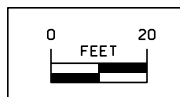
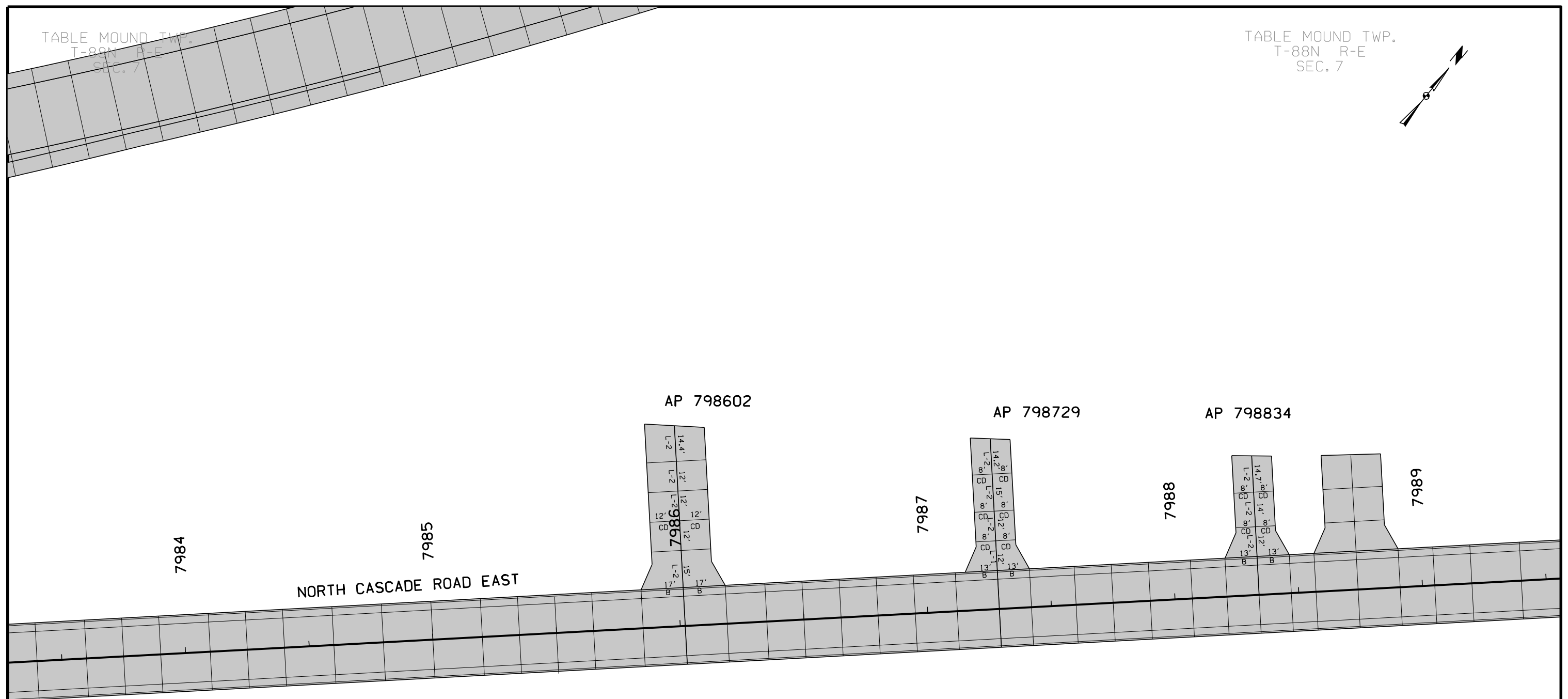
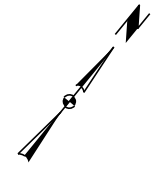


TABLE MOUND TWP.  
T-88N R-E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-E  
SEC. 7



AP 798602

AP 798729

AP 798834

7984

7985

7986

7987

7988

7989

NORTH CASCADE ROAD EAST

Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

JOINTING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD EAST  
WITH AP 798602  
AND AP 798729  
AND AP 798834

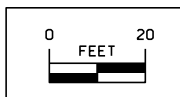
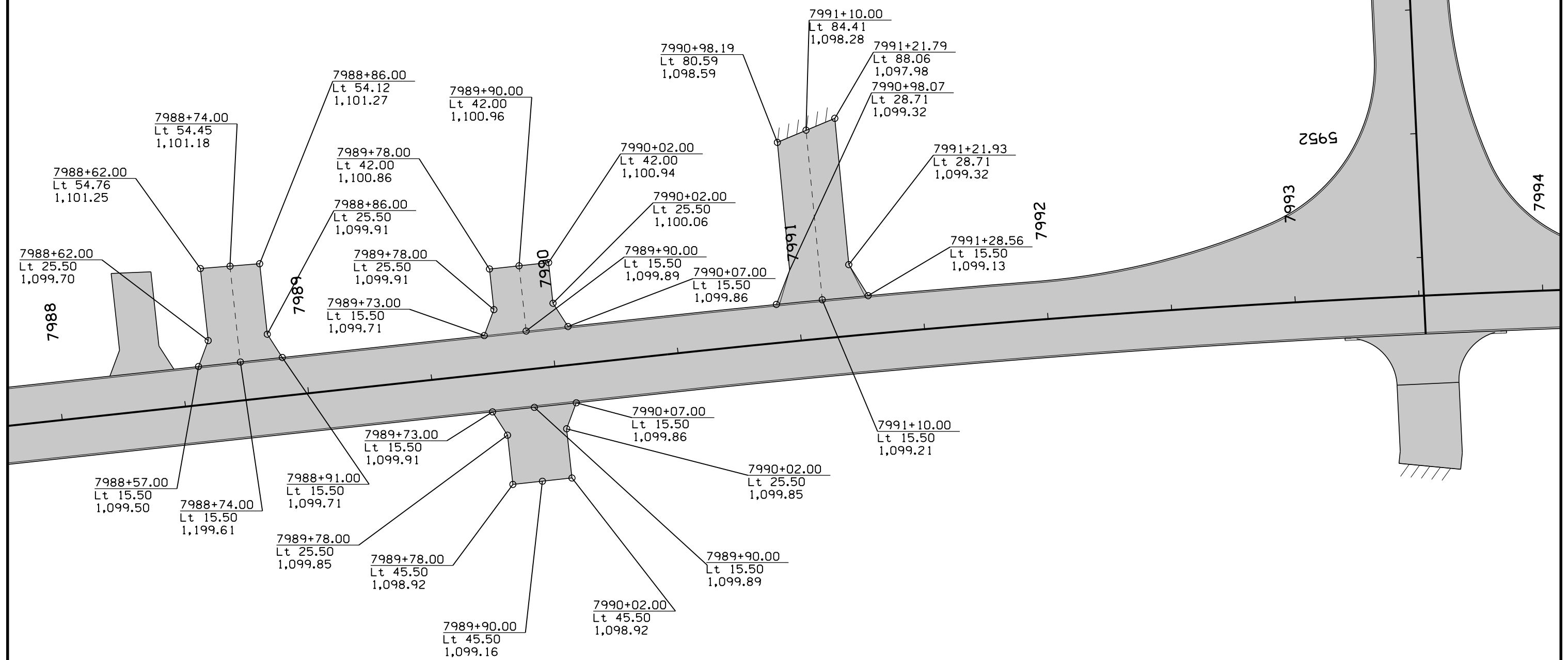
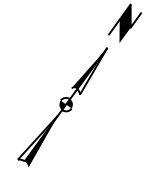


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T-88N R-E  
SEC. 7



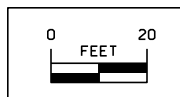
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

5953



Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

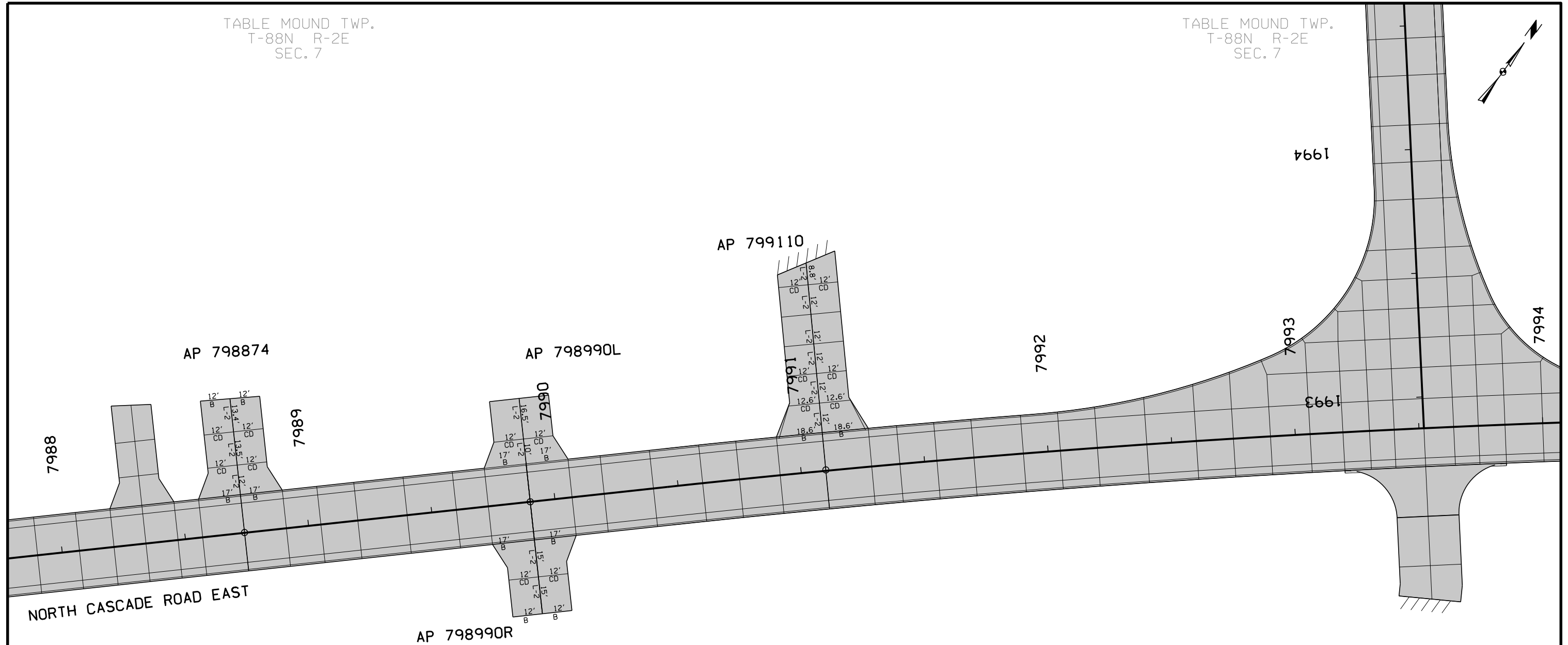
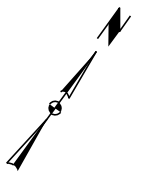
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



GEOMETRIC & STAKING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD EAST  
WITH AP 798874  
AND AP 798990L  
AND AP 798990R  
AND AP 799110

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



NORTH CASCADE ROAD EAST

Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

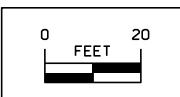


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

JOINTING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD EAST  
WITH AP 798874  
AND AP 798990L  
AND AP 798990R  
AND AP 799110

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

S661

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

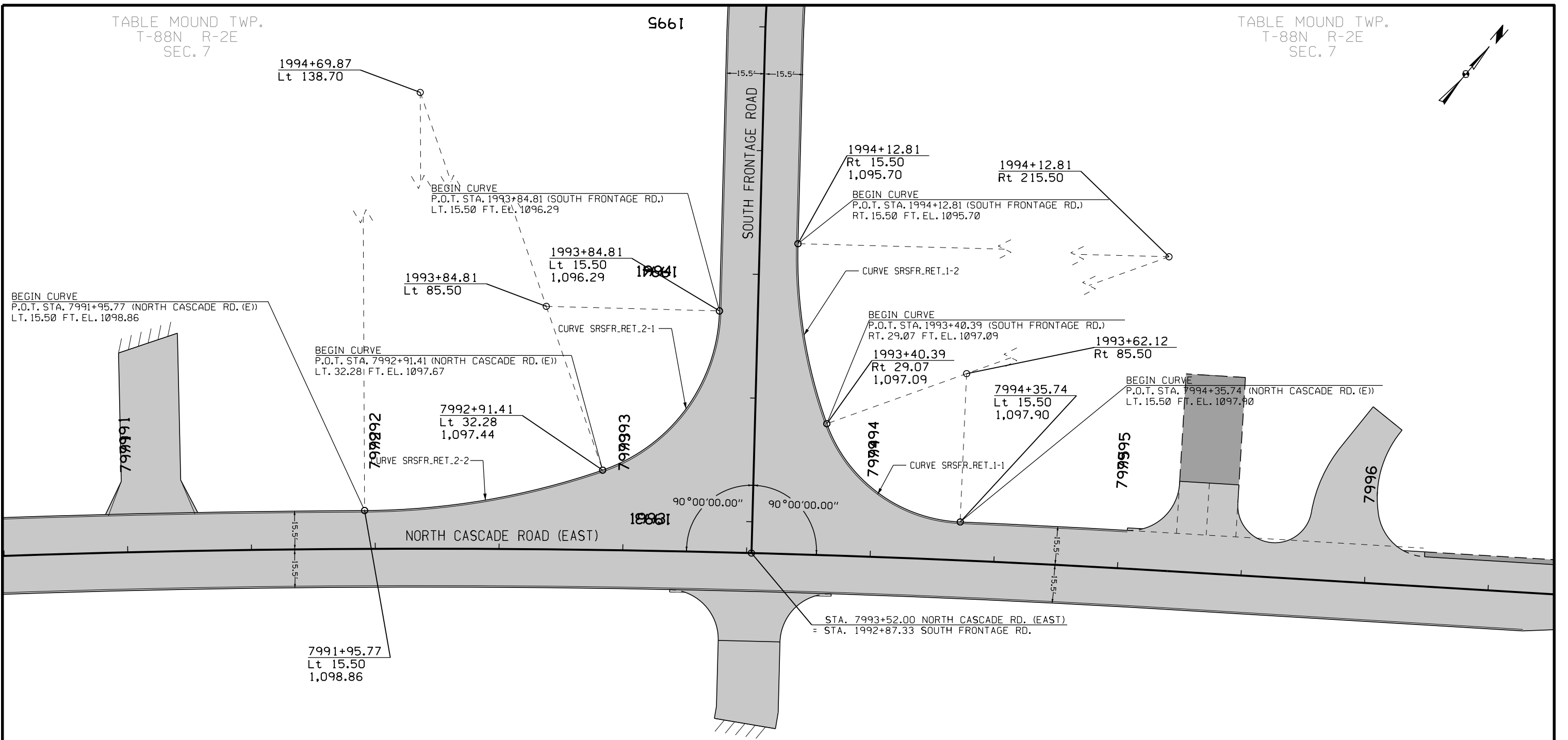
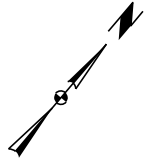


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

GEOMETRIC DETAILS  
INTERSECTION OF NORTH CASCADE ROAD  
(EAST) WITH SOUTH FRONTAGE ROAD  
AT STA. 1000+90.42 ML

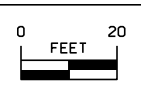
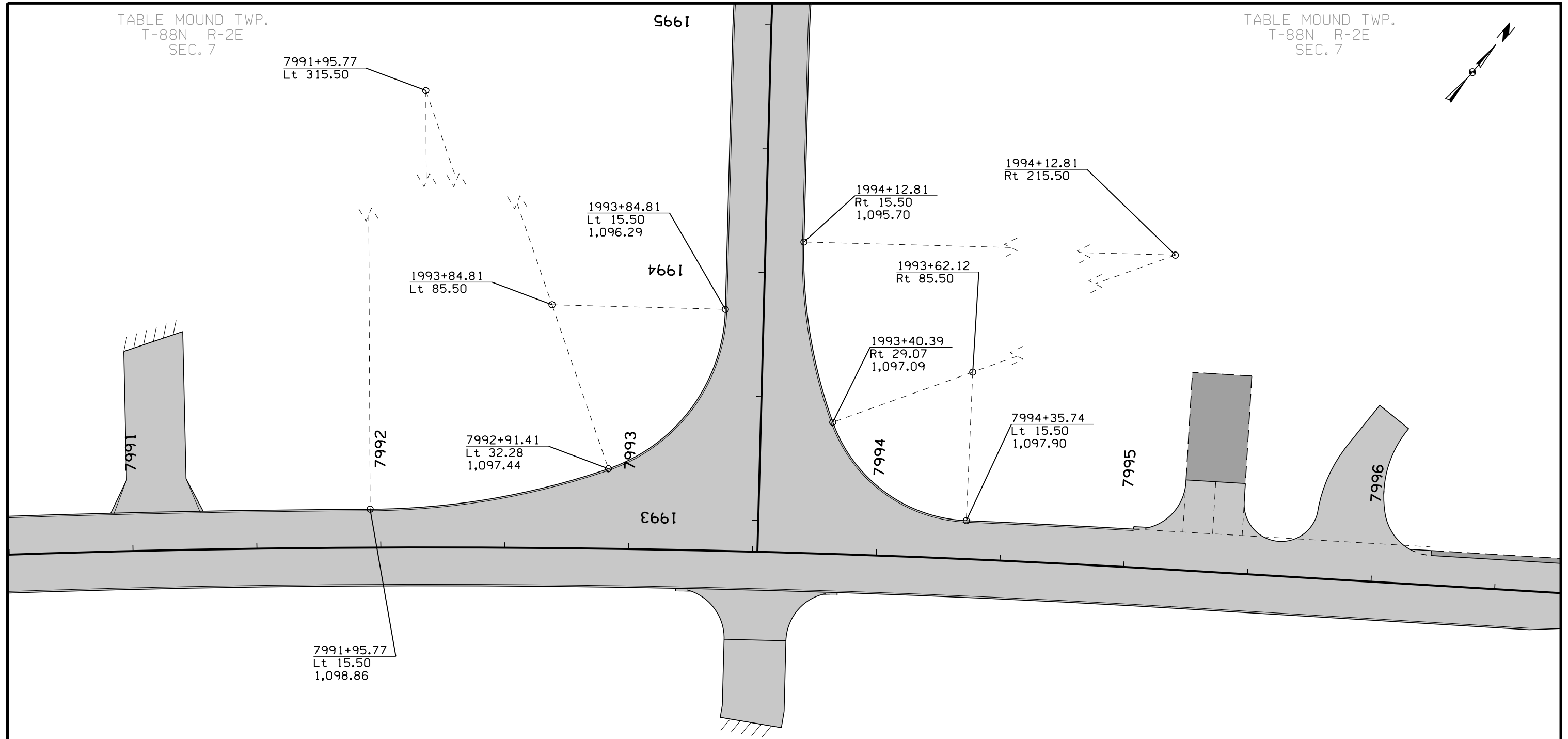
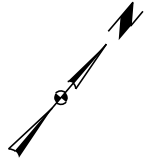




TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

S661

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

STAKING DETAILS  
INTERSECTION OF NORTH CASCADE ROAD  
(EAST) WITH SOUTH FRONTAGE ROAD  
AT STA. 1000+90.42 ML

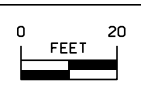
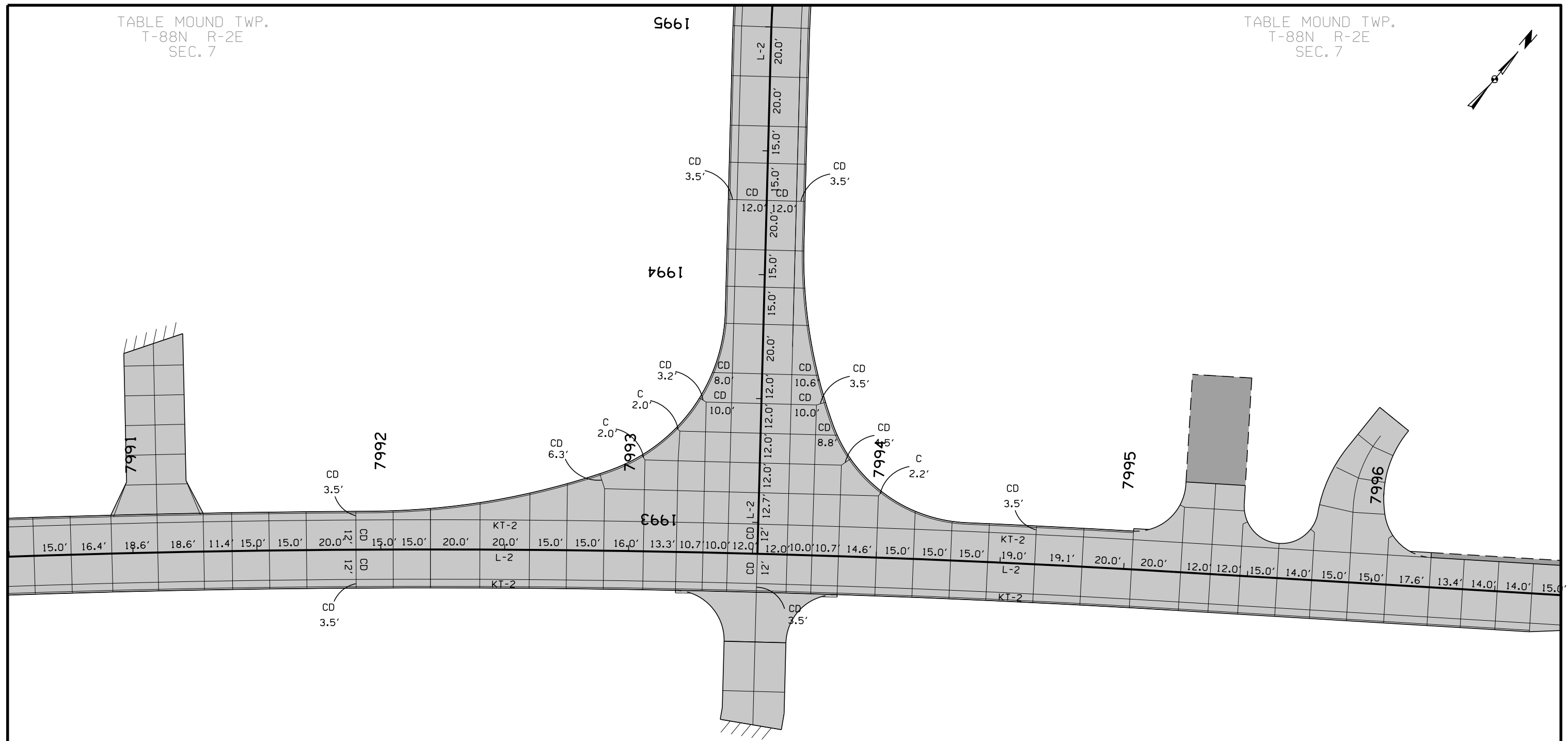
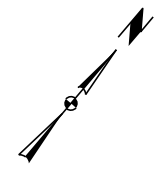


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

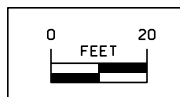
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

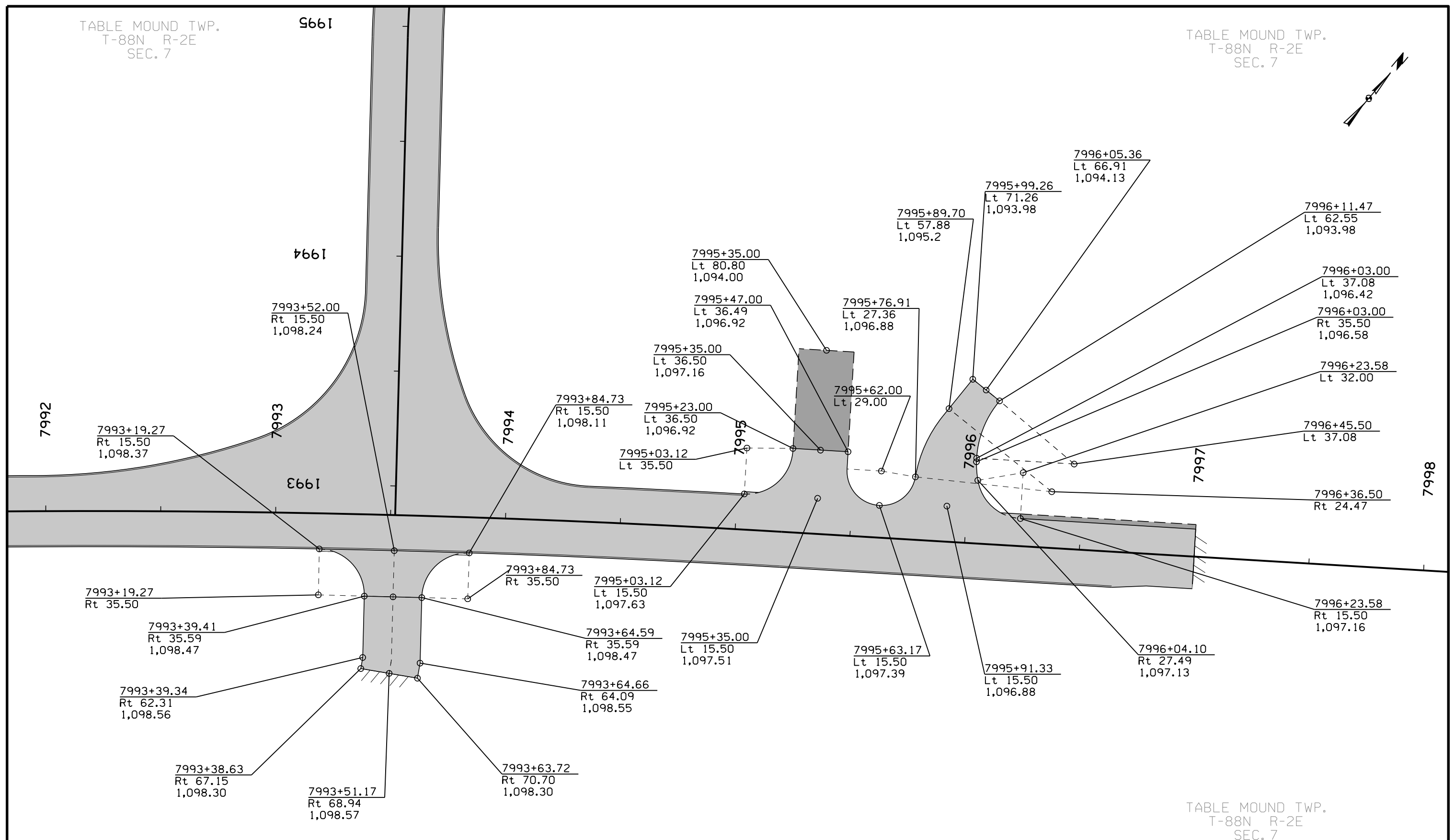
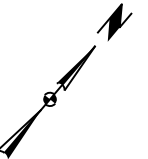


JOINTING DETAILS  
INTERSECTION OF NORTH CASCADE ROAD  
(EAST) WITH SOUTH FRONTAGE ROAD  
AT STA. 1000+90.42 ML

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

S661

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



7993+19.27  
Rt 35.50

7993+39.41  
Rt 35.59  
1,098.47

7993+39.34  
Rt 62.31  
1,098.56

7993+38.63  
Rt 67.15  
1,098.30

7993+51.17  
Rt 68.94  
1,098.57

7993+84.73  
Rt 35.50

7993+64.59  
Rt 35.59  
1,098.47

7993+64.66  
Rt 64.09  
1,098.55

7993+63.72  
Rt 70.70  
1,098.30

7995+35.00  
Lt 80.80  
1,094.00

7995+47.00  
Lt 36.49  
1,096.92

7995+35.00  
Lt 36.50  
1,097.16

7995+23.00  
Lt 36.50  
1,096.92

7995+03.12  
Lt 35.50

7995+03.12  
Lt 15.50  
1,097.63

7995+35.00  
Lt 15.50  
1,097.51

7995+63.17  
Lt 15.50  
1,097.39

7995+91.33  
Lt 15.50  
1,096.88

7996+04.10  
Rt 27.49  
1,097.13

7996+23.58  
Rt 15.50  
1,097.16

7996+45.50  
Lt 37.08

7996+36.50  
Rt 24.47

7996+23.58  
Lt 32.00

7996+03.00  
Rt 35.50  
1,096.58

7996+03.00  
Lt 37.08  
1,096.42

7996+11.47  
Lt 62.55  
1,093.98

7996+05.36  
Lt 66.91  
1,094.13

7995+89.70  
Lt 57.88  
1,095.2

7995+99.26  
Lt 71.26  
1,093.98

7995+76.91  
Lt 27.36  
1,096.88

7995+62.00  
Lt 29.00

7998

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

GEOMETRIC & STAKING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD (EAST)  
WITH AP 799352  
AND AP 799535  
AND AP 799591

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

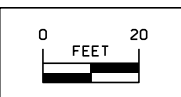
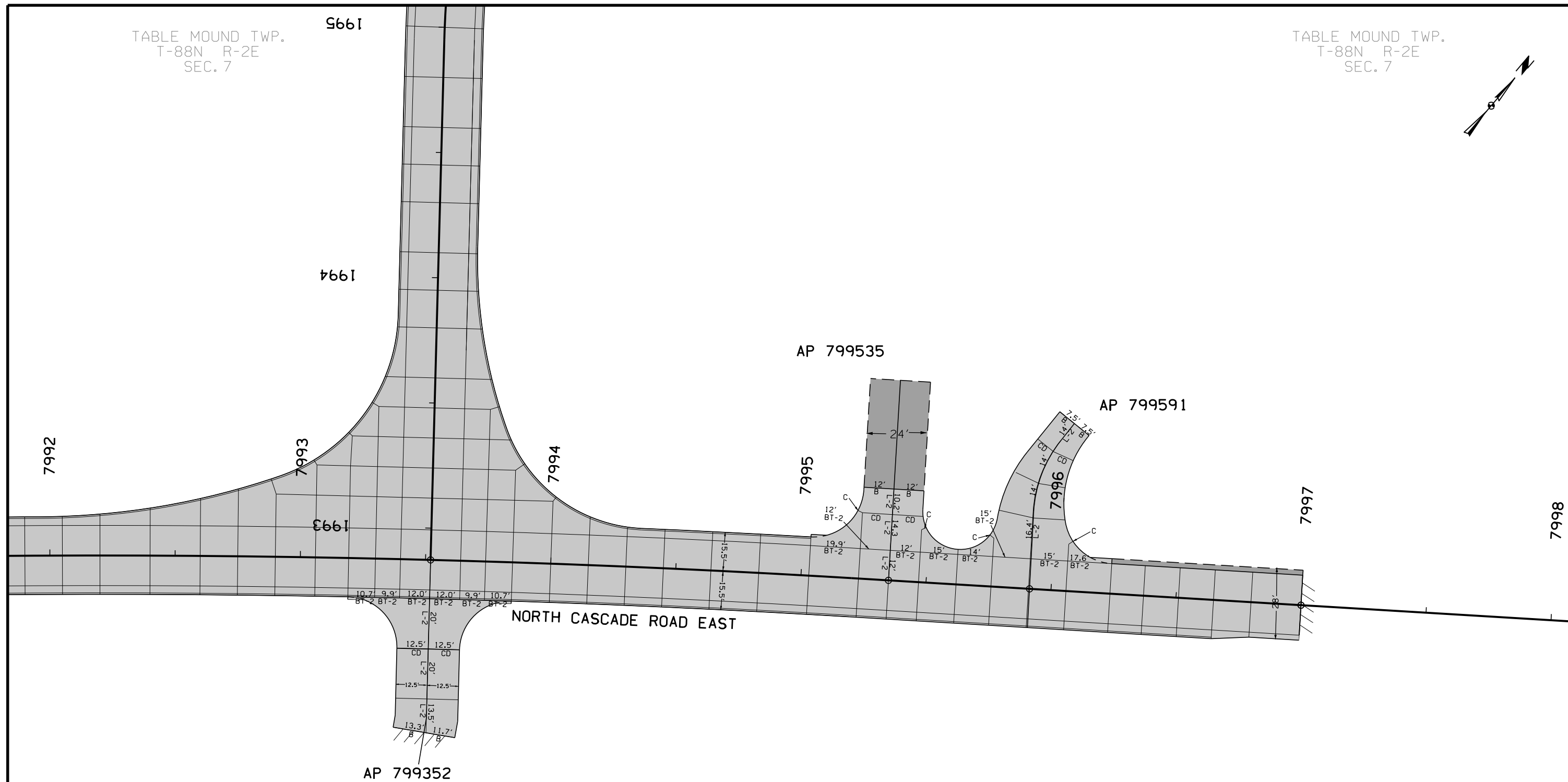
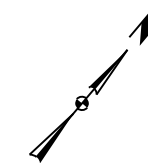




TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

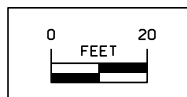


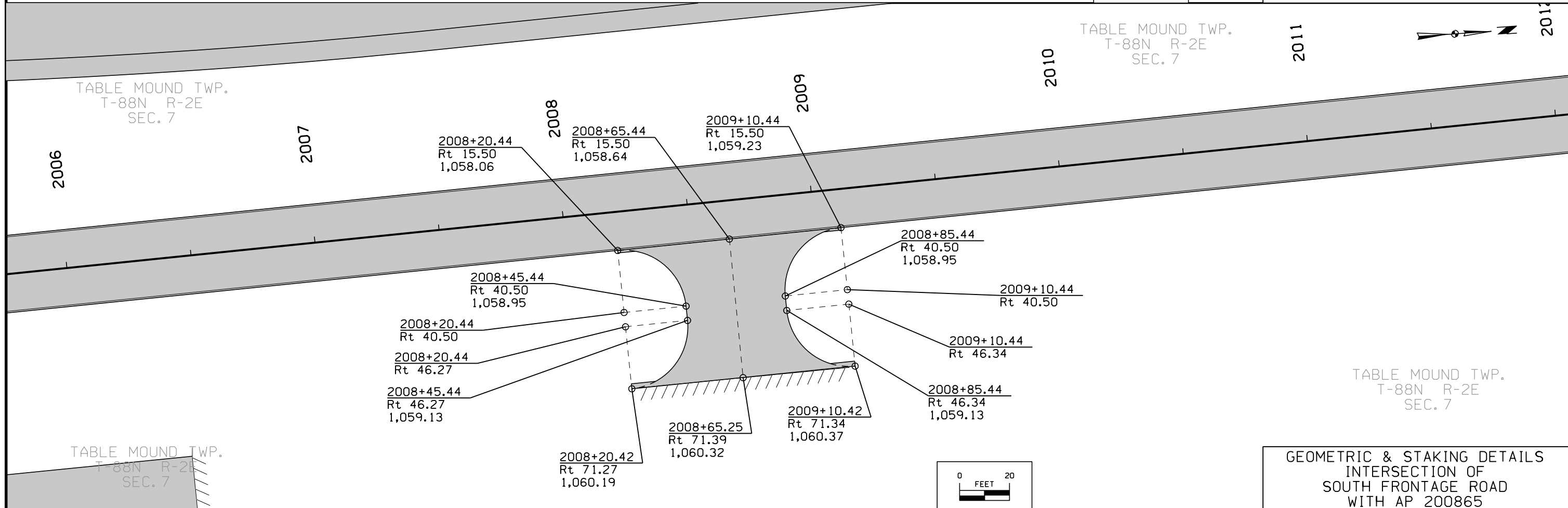
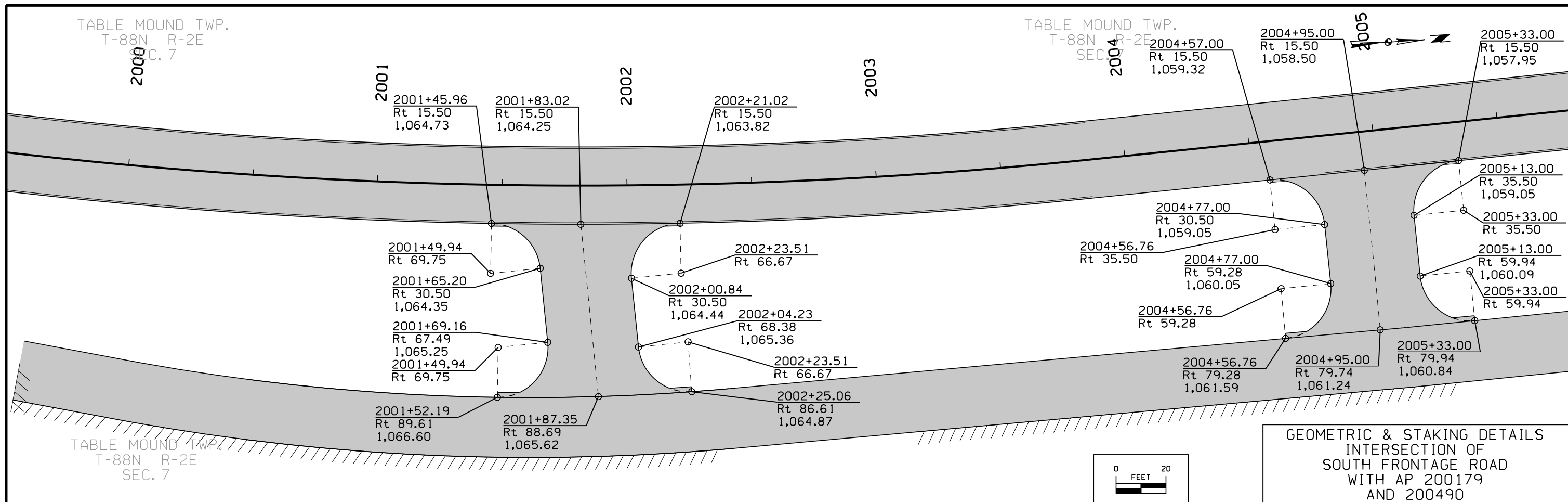
Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

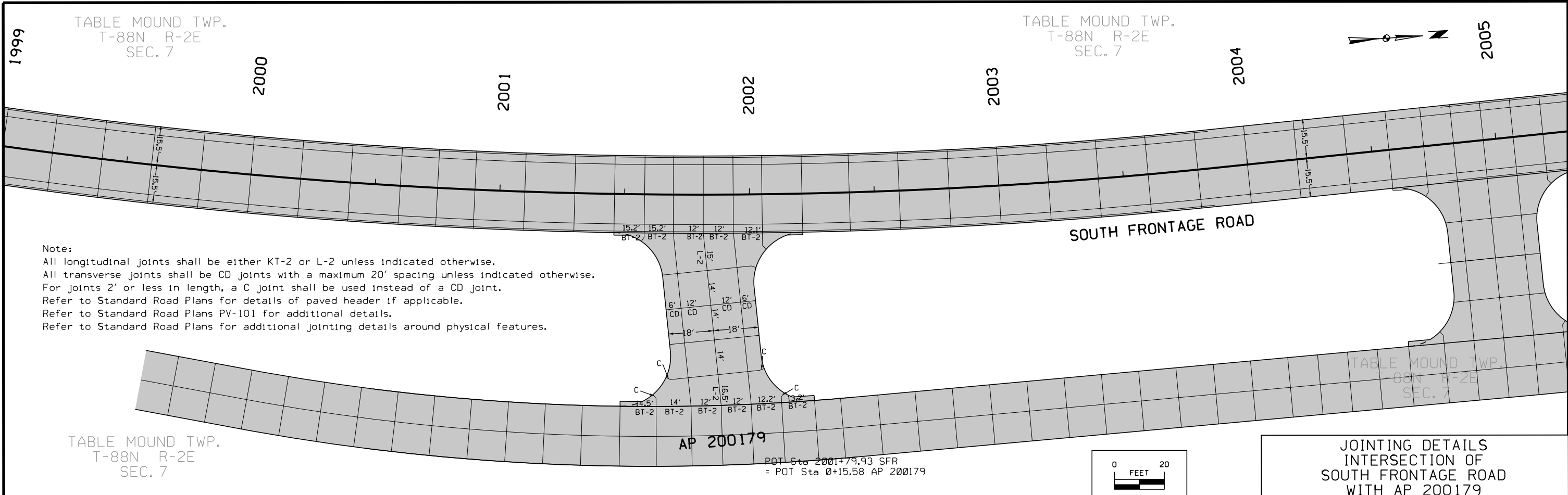
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

JOINTING DETAILS  
INTERSECTION OF  
NORTH CASCADE ROAD (EAST)  
WITH AP 799352  
AND AP 799535  
AND AP 799591



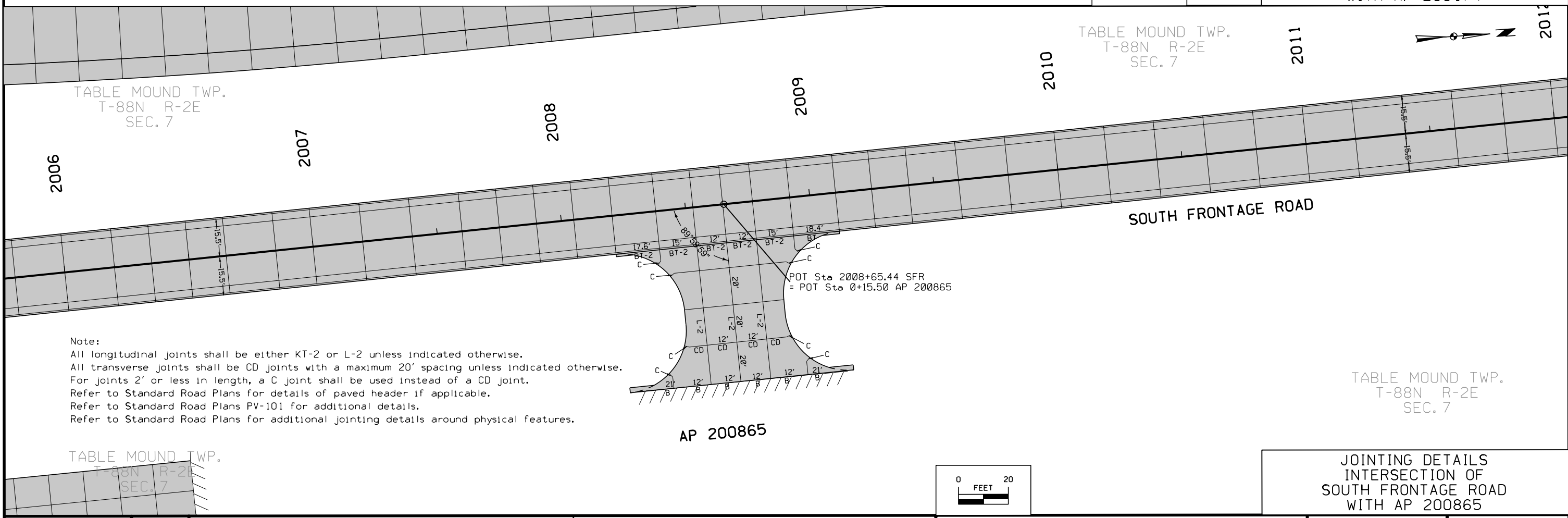


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| FILE NO. | ENGLISH | DESIGN TEAM HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHSX-020-9(183)--3H-31 | SHEET NUMBER L.37 |
|----------|---------|--------------------------|----------------|---------------------------------------|-------------------|



Note:  
 All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
 For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
 Refer to Standard Road Plans for details of paved header if applicable.  
 Refer to Standard Road Plans PV-101 for additional details.  
 Refer to Standard Road Plans for additional jointing details around physical features.

AP 200179  
 POT Sta 2001+79.93 SFR  
 = POT Sta 0+15.58 AP 200179



Note:  
 All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
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 Refer to Standard Road Plans PV-101 for additional details.  
 Refer to Standard Road Plans for additional jointing details around physical features.

AP 200865  
 POT Sta 2008+65.44 SFR  
 = POT Sta 0+15.50 AP 200865



TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

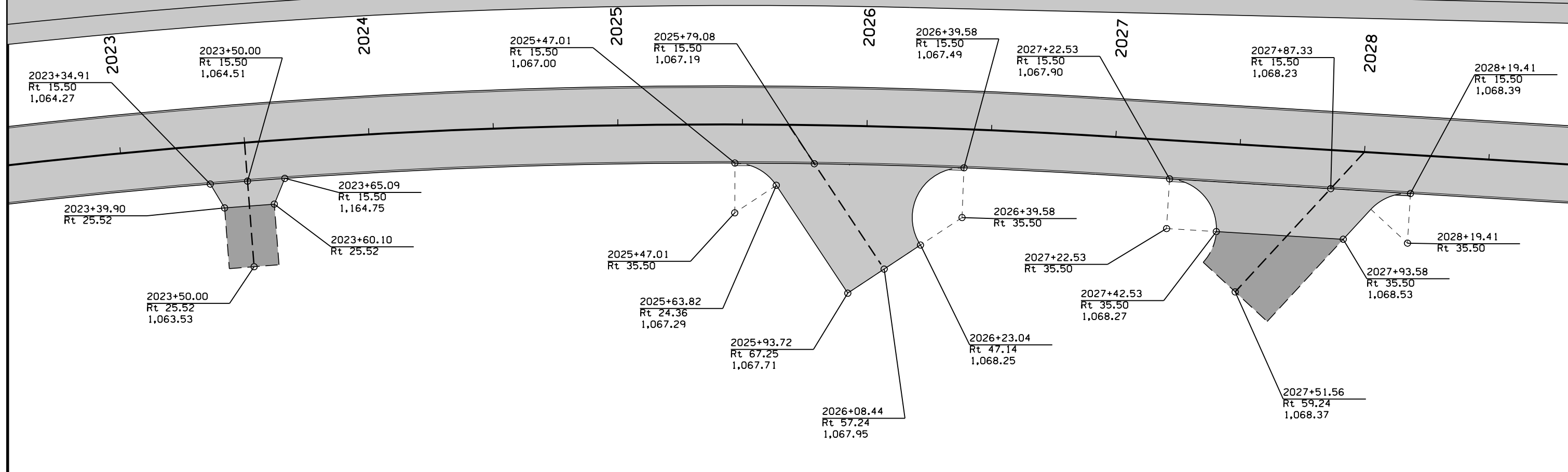
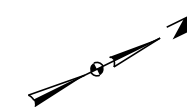
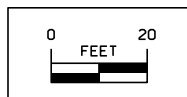


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

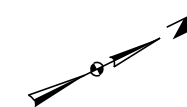
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



STAKING DETAILS  
INTERSECTION OF  
SOUTH FRONTAGE ROAD  
WITH AP 202601  
AND AP 202761

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



2023

2024

2025

2026

2027

2028

SOUTH FRONTAGE ROAD

AP 202601

AP 202601

AP 202761

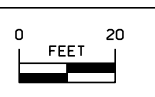
Note:

All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
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Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

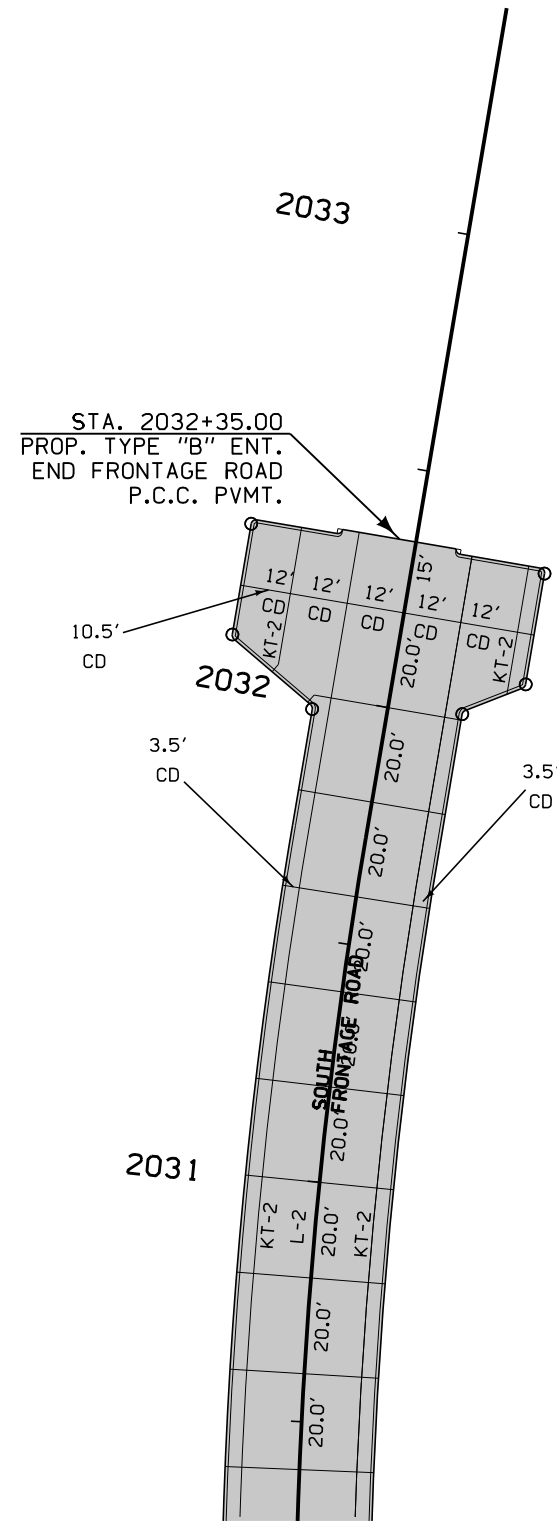
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T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

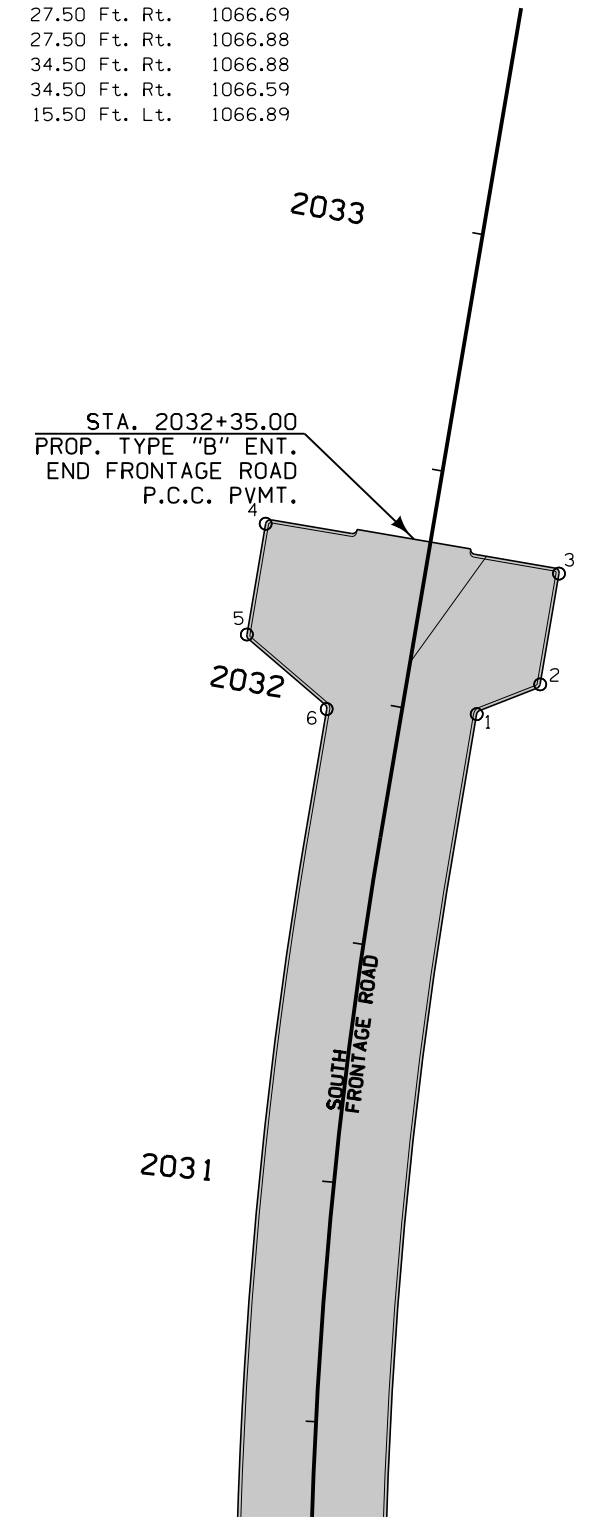
JOINTING DETAILS  
INTERSECTION OF  
SOUTH FRONTAGE ROAD  
WITH AP 202601  
AND AP 202761



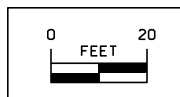
| Pt. | Stationing |                     | Offset        | Elev.   |
|-----|------------|---------------------|---------------|---------|
| 1   | 2032+01.25 | South Frontage Road | 15.50 Ft. Lt. | 1066.86 |
| 2   | 2032+09.57 | South Frontage Road | 27.50 Ft. Rt. | 1066.69 |
| 3   | 2032+34.00 | South Frontage Road | 27.50 Ft. Rt. | 1066.88 |
| 4   | 2032+34.00 | South Frontage Road | 34.50 Ft. Rt. | 1066.88 |
| 5   | 2032+09.57 | South Frontage Road | 34.50 Ft. Rt. | 1066.59 |
| 6   | 2031+97.03 | South Frontage Road | 15.50 Ft. Lt. | 1066.89 |



SOUTH FRONTAGE ROAD CUL-DE-SAC - JOINTS



SOUTH FRONTAGE ROAD CUL-DE-SAC - ELEVATIONS



GEOMETRIC DETAILS  
 CUL-DE-SAC ON  
 SOUTH FRONTAGE ROAD  
 AT STA. 1038+05.44 ML



TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

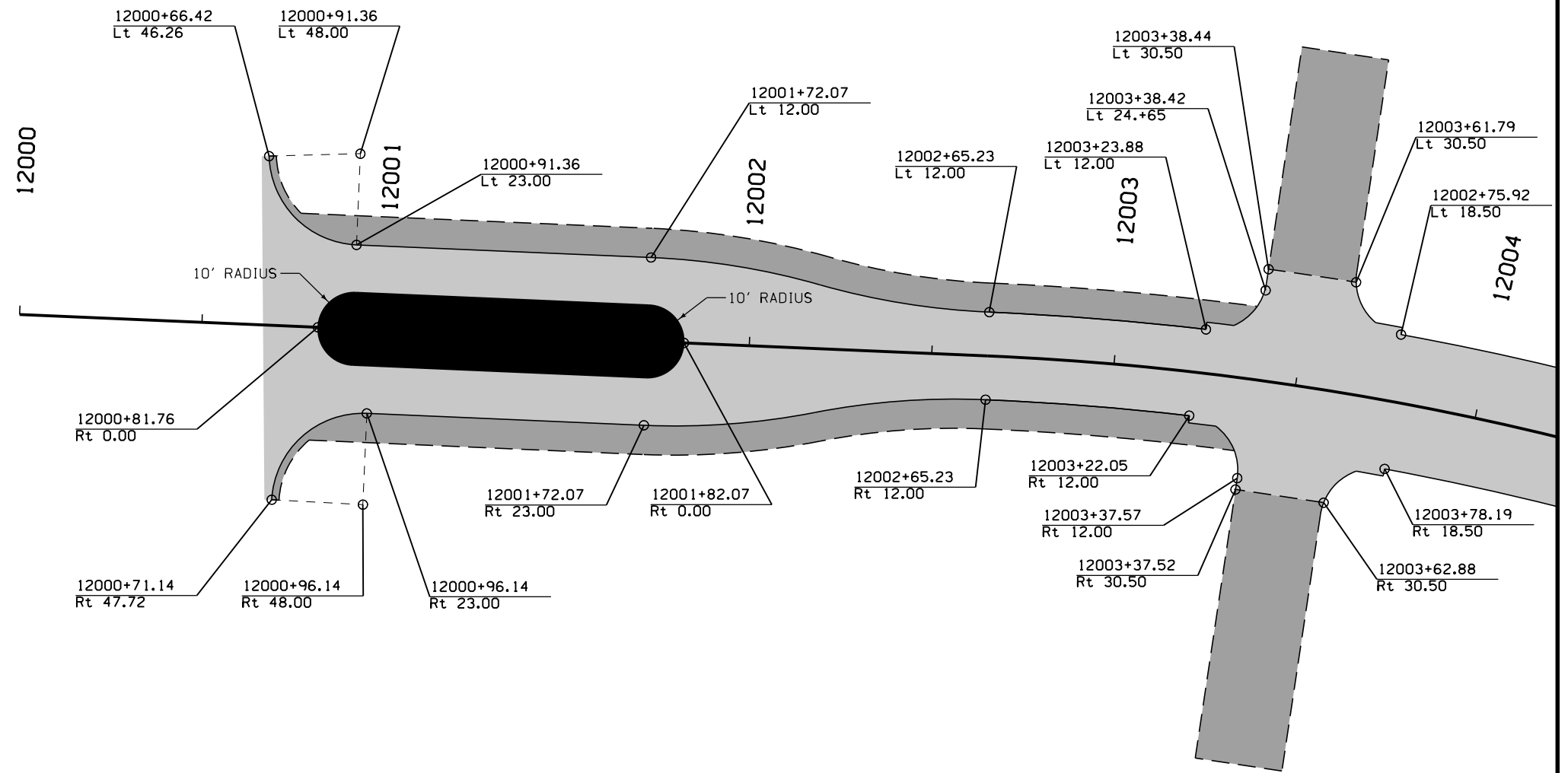
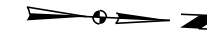
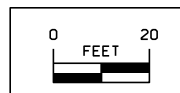


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

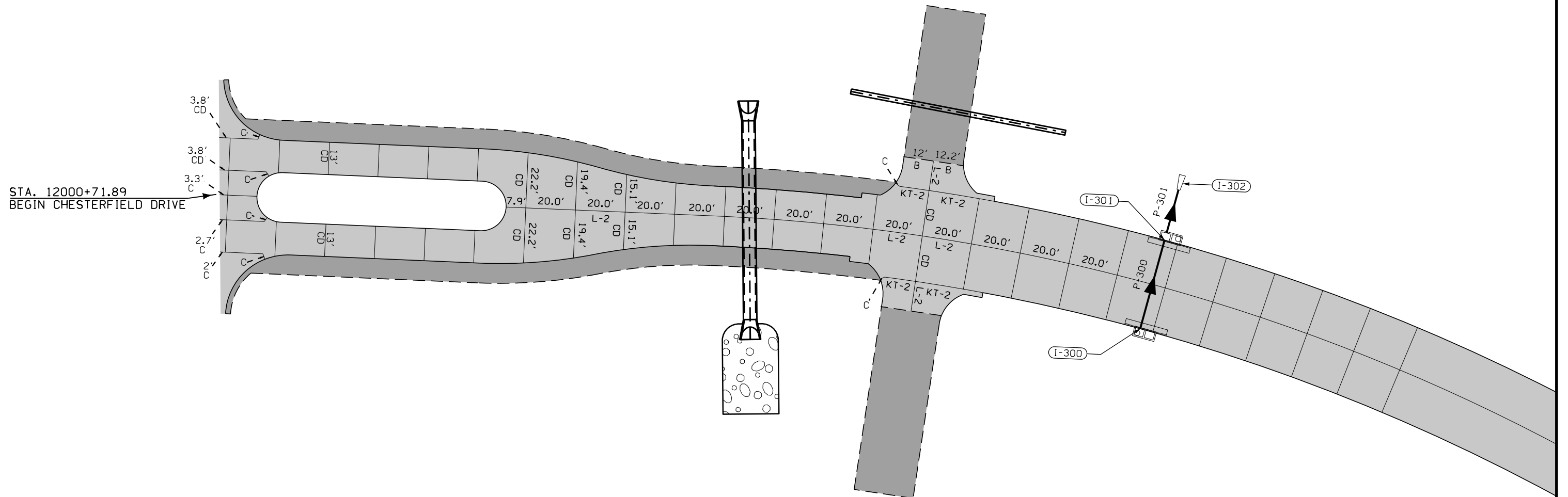
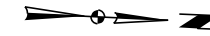


GEOMETRIC DETAILS  
INTERSECTION OF BARRINGTON DRIVE  
WITH CHESTERFIELD DRIVE

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | L.42 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

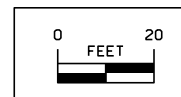
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



JOINTING DETAILS  
INTERSECTION OF BARRINGTON DRIVE  
WITH CHESTERFIELD DRIVE

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

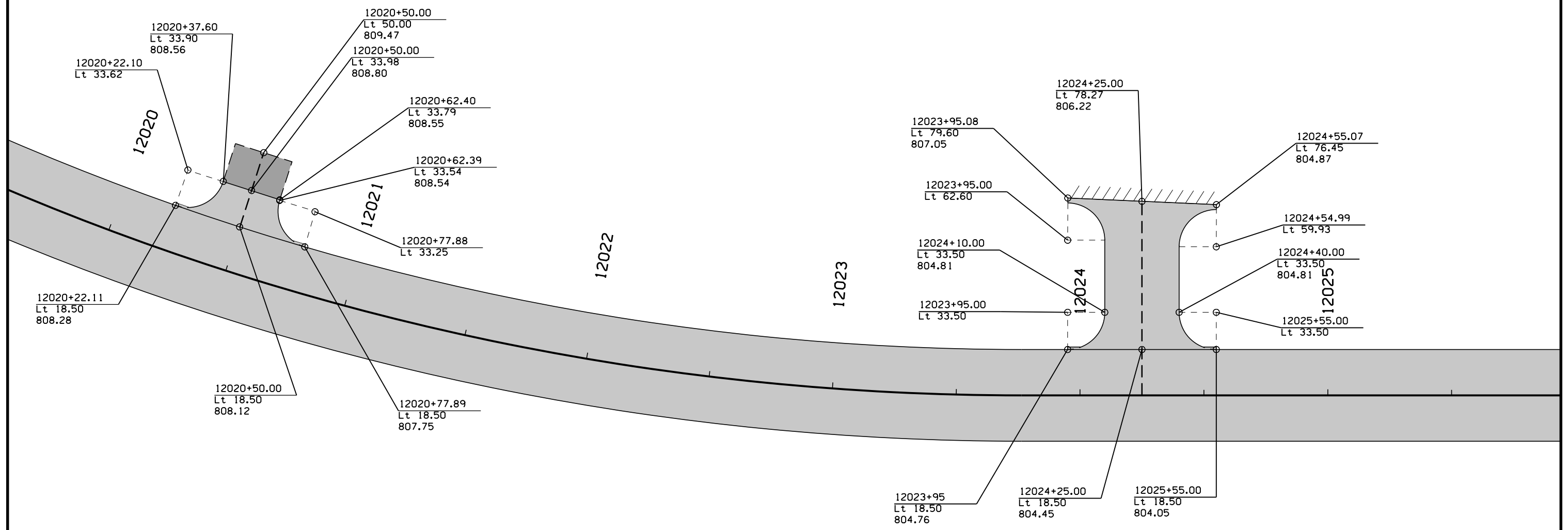
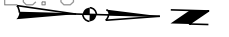
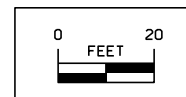


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 5

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 5

GEOMETRIC & STAKING DETAILS  
INTERSECTION OF CHESTERFIELD DRIVE  
WITH AP 1202050  
AND AP 1202500

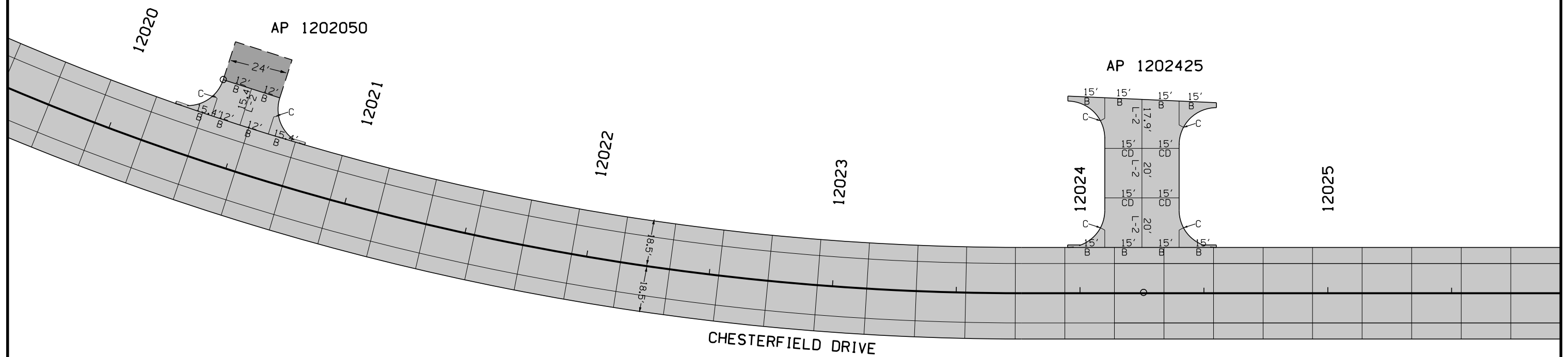
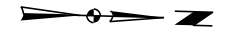


|          |         |                          |                |                                       |                   |
|----------|---------|--------------------------|----------------|---------------------------------------|-------------------|
| FILE NO. | ENGLISH | DESIGN TEAM HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER NHSX-020-9(183)--3H-31 | SHEET NUMBER L.44 |
|----------|---------|--------------------------|----------------|---------------------------------------|-------------------|



TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

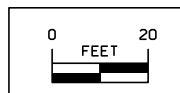
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



Note:  
 All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
 For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
 Refer to Standard Road Plans for details of paved header if applicable.  
 Refer to Standard Road Plans PV-101 for additional details.  
 Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 5

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 5

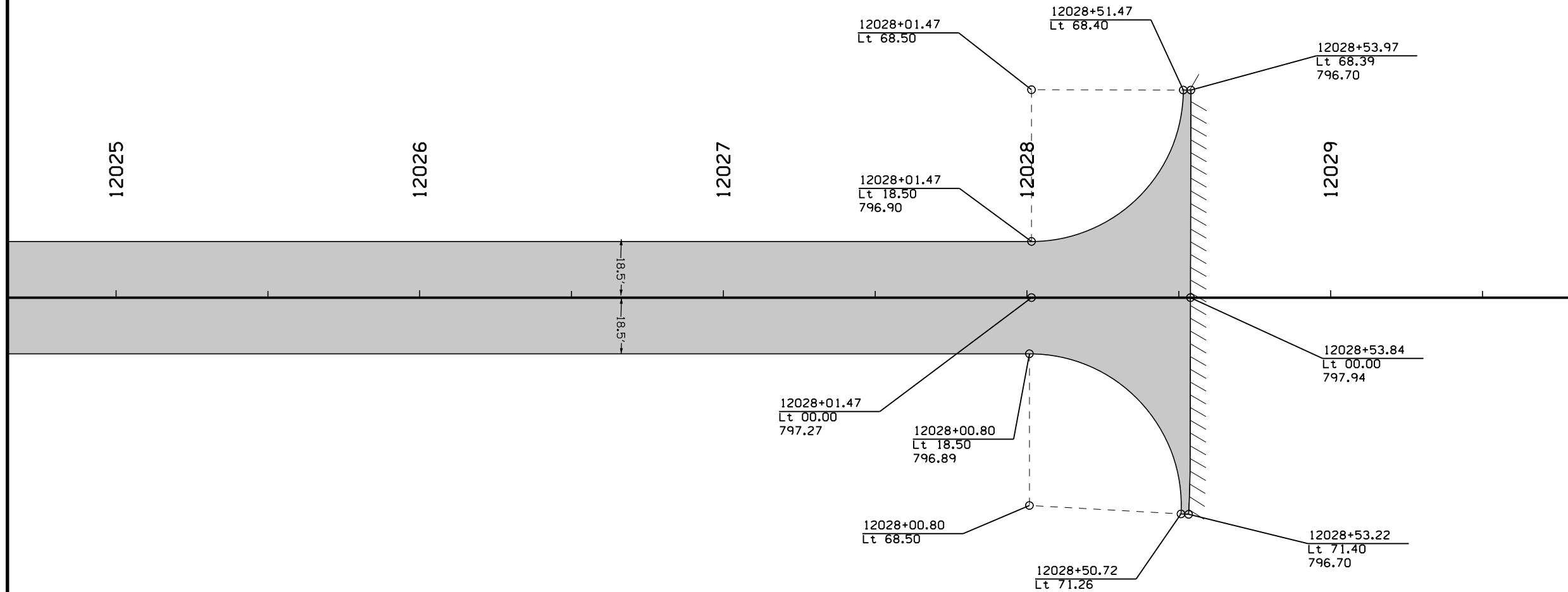
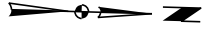


JOINTING DETAILS  
 INTERSECTION OF CHESTERFIELD DRIVE  
 WITH AP 1202050  
 AND AP 1202500

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | L.45 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 5

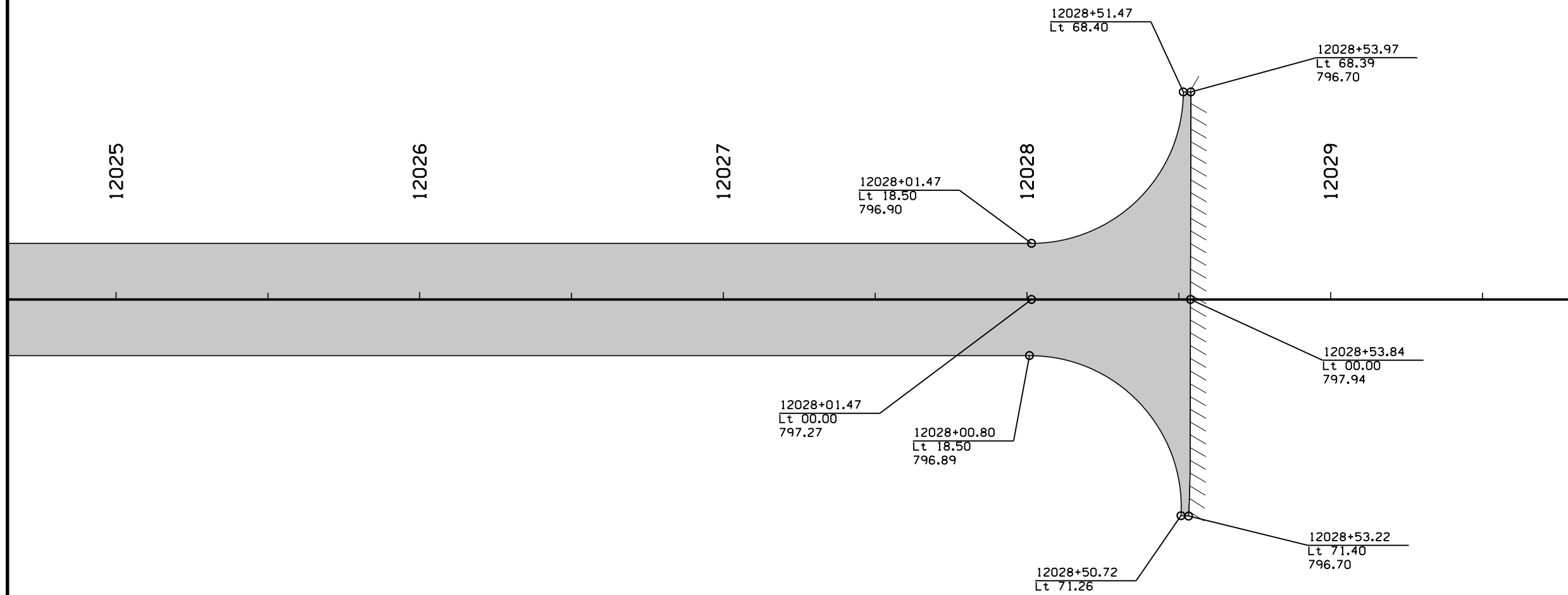
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 5

GEOMETRIC DETAILS  
INTERSECTION OF STONE VALLEY DRIVE  
WITH CHESTERFIELD DRIVE

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | L.46 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



Note:  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 5

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 5

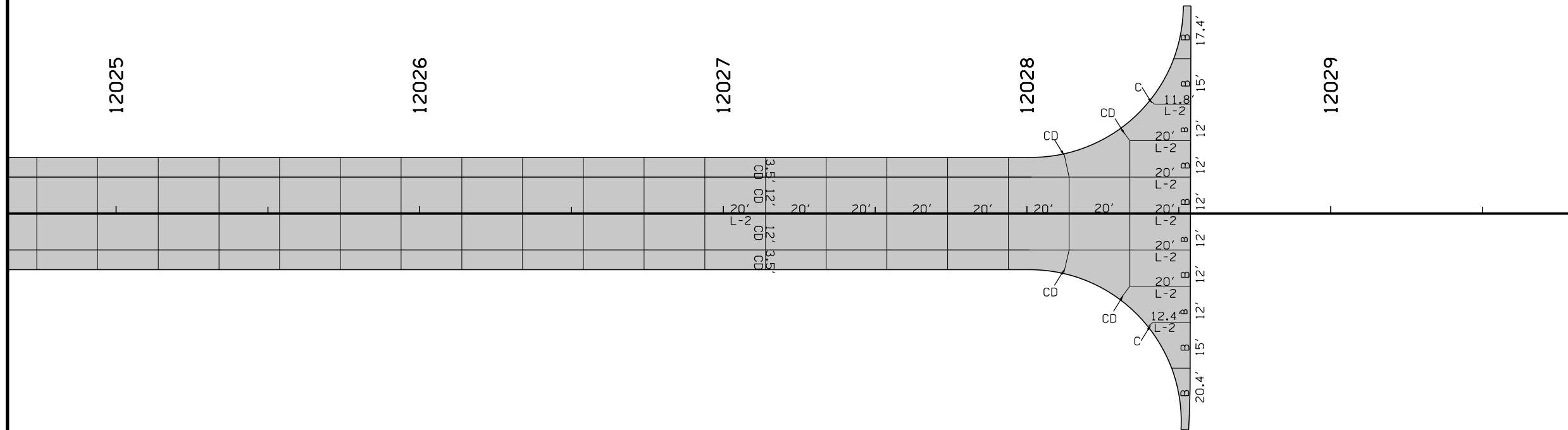
STAKING DETAILS  
INTERSECTION OF STONE VALLEY DRIVE  
WITH CHESTERFIELD DRIVE

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | L.47 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|



TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



Note:  
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
For joints 2' or less in length, a C joint shall be used instead of a CD joint.  
Refer to Standard Road Plans for details of paved header if applicable.  
Refer to Standard Road Plans PV-101 for additional details.  
Refer to Standard Road Plans for additional jointing details around physical features.

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 5

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 5

JOINTING DETAILS  
INTERSECTION OF STONE VALLEY DRIVE  
WITH CHESTERFIELD DRIVE

**ESTIMATED PROJECT QUANTITIES  
(DIVISION 4 - 100% CITY WATER MAIN)**

| Item No. | Item Code    | Item                                                     | Unit | Total | As Built Qty. |
|----------|--------------|----------------------------------------------------------|------|-------|---------------|
| 1        | 2105-8425015 | TOPSOIL, STRIP, SALVAGE AND SPREAD                       | CY   | 150   |               |
| 2        | 2312-8260051 | GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE        | TON  | 14    |               |
| 3        | 2518-6910000 | SAFETY CLOSURE                                           | EACH | 2     |               |
| 4        | 2552-0000140 | ROCK EXCAVATION                                          | CY   | 230   |               |
| 5        | 2552-0000210 | TRENCH FOUNDATION                                        | TON  | 100   |               |
| 6        | 2552-0000220 | REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL              | CY   | 230   |               |
| 7        | 2554-0112008 | WATER MAIN, TRENCHED, DIP, 8"                            | LF   | 514   |               |
| 8        | 2554-0112012 | WATER MAIN, TRENCHED, DIP, 12"                           | LF   | 138   |               |
| 9        | 2554-0132008 | WATER MAIN WITH CASING PIPE, TRENCHED, DIP, 8"           | LF   | 82    |               |
| 10       | 2554-0142008 | WATER MAIN WITH CASING PIPE, TRENCHLESS, DIP, 8"         | LF   | 326   |               |
| 11       | 2554-0203000 | FITTINGS BY WEIGHT, DI                                   | LBS  | 761   |               |
| 12       | 2554-0207008 | VALVE, GATE, DIP, 8"                                     | EACH | 7     |               |
| 13       | 2554-0207012 | VALVE, GATE, DIP, 12"                                    | EACH | 1     |               |
| 14       | 2554-0210201 | FIRE HYDRANT ASSEMBLY, WM-201                            | EACH | 1     |               |
| 15       | 2555-0000010 | DELIVER AND STOCKPILE SALVAGED MATERIALS                 | LS   | 1     |               |
| 16       | 2599-9999009 | CASING PIPE, TRENCHLESS, 24"                             | LF   | 333   |               |
| 17       | 2599-9999009 | WATER MAIN ABANDONMENT, FILL & PLUG                      | LF   | 600   |               |
| 18       | 2601-2636043 | SEEDING AND FERTILIZING (RURAL)                          | ACRE | 0.84  |               |
| 19       | 2602-0000312 | PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA. | LF   | 500   |               |
| 20       | 2602-0000350 | REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE   | LF   | 500   |               |

**ESTIMATE REFERENCE INFORMATION**

| Item No. | Item Code    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | 2105-8425015 | TOPSOIL, STRIP, SALVAGE AND SPREAD<br>Proposed topsoil thickness was calculated at 4".                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2        | 2312-8260051 | GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE<br>Quantity is for repairing the surface of Cottingham Road and thickness was calculated at 3".                                                                                                                                                                                                                                                                                                                                                                                               |
| 3        | 2518-6910000 | SAFETY CLOSURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4        | 2552-0000140 | ROCK EXCAVATION<br>Item is included to account for rock excavation encountered during utility trench excavation.                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 5        | 2552-0000210 | TRENCH FOUNDATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 6        | 2552-0000220 | REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL<br>Item is for backfilling utility trenches beneath proposed pavements and where rock is encountered. Material shall comply with Gradation No. 11 of the Standard Specifications.                                                                                                                                                                                                                                                                                                                   |
| 7        | 2554-0112008 | WATER MAIN, TRENCHED, DIP, 8"<br>Refer to M Sheets for location and details. All ductile iron pipes shall be protected from corrosion using a polyethylene encasement, blue in color. Tracer wire shall be 10 gauge stranded copper wire with 30 mil polyethylene insulation, red in color. 1" commercial clean stone shall be used for water main embedment. Engineering fabric shall be placed between the 1" commercial clean stone and final backfill and shall be considered incidental to this bid item (see detail on Sheet M.6).        |
| 8        | 2554-0112012 | WATER MAIN, TRENCHED, DIP, 12"<br>Refer to M Sheets for location and details. All ductile iron pipes shall be protected from corrosion using a polyethylene encasement, blue in color. Tracer wire shall be 10 gauge stranded copper wire with 30 mil polyethylene insulation, red in color. 1" commercial clean stone shall be used for water main embedment. Engineering fabric shall be placed between the 1" commercial clean stone and final backfill and shall be considered incidental to this bid item(see detail on Sheet M.6).        |
| 9        | 2554-0132008 | WATER MAIN WITH CASING PIPE, TRENCHED, DIP, 8"<br>Refer to M Sheets for locations and details. Tracer wire shall be 10 gauge stranded coper wire with 30 mil polyethylene insulation, red in color. Casing pipe shall have a wall thickness of 0.312". 1" commercial clean stone shall be used for water main embedment. Engineering fabric shall be placed between the 1" commercial clean stone and final backfill and shall be considered incidental to this bid item (see detail on Sheet M.6).                                             |
| 10       | 2554-0142008 | WATER MAIN WITH CASING PIPE, TRENCHLESS, DIP, 8"<br>Refer to M Sheets for locations and details. Tracer wire shall be 10 gauge stranded coper wire with 30 mil polyethylene insulation, red in color. Casing pipe shall have a wall thickness of 0.312". Seal both ends of casing and install water main field markers at both ends of casing. Water main field markers shall be considered incidental to this bid item. As indicated in the soil borings shown on the Q Sheets, it is anticipated that the casing will be installed thru rock. |
| 11       | 2554-0203000 | FITTINGS BY WEIGHT, DI<br>Refer to M Sheets for locations and details. The joint restraints used in this project are incidental to the water main pipe and will not be included under this bid item. All fitting used must be rated to handle a minimum of 305 psi.                                                                                                                                                                                                                                                                             |

**ESTIMATE REFERENCE INFORMATION**

| Item No. | Item Code    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12       | 2554-0207008 | VALVE, GATE, DIP, 8"<br>All gate valves shall be resilient seat type and shall conform to AWWA C509 or C515 and may include Clow, Kennedy, Mueller and American Flow Control with a working pressure of at least 250 psi, and be tested to a minimum of 500 psi. All valve boxes shall be standard slip type cast iron with 5-1/4" inside diameter, and drop lid marked "WATER". All boxes shall be installed with a Valve Box Adaptor. All gate valves shall be standard design, with cast iron or ductile iron body, resilient seat per AWWA C509 or C515, and non-rising stems with "o" ring stuffing box. Valve stems shall be two-inch (2") square at base and bronze. All valves shall turn right to open, with an operating nut.                                                                                                                                                                                                              |
| 13       | 2554-0207012 | VALVE, GATE, DIP, 12"<br>All gate valves shall be resilient seat type and shall conform to AWWA C509 or C515 and may include Clow, Kennedy, Mueller and American Flow Control with a working pressure of at least 250 psi, and be tested to a minimum of 500 psi. All valve boxes shall be standard slip type cast iron with 5-1/4" inside diameter, and drop lid marked "WATER". All boxes shall be installed with a Valve Box Adaptor. All gate valves shall be standard design, with cast iron or ductile iron body, resilient seat per AWWA C509 or C515, and non-rising stems with "o" ring stuffing box. Valve stems shall be two-inch (2") square at base and bronze. All valves shall turn right to open, with an operating nut.                                                                                                                                                                                                             |
| 14       | 2554-0210201 | FIRE HYDRANT ASSEMBLY, WM-201<br>Refer to M Sheets for locations and details. Hydrants shall have one 4" pumper nozzle and two 2-1/2" hose nozzles with National Standard thread. Nozzle caps shall have a tapered square operating nut. Hydrants must open to the right and have a tapered square operating nut. The operating nuts shall have a 7/8" top and 1" base. Hydrants shall be Clow Medallion, Kennedy K-81D Guardian, Mueller Super Centurion or approved USA made equal. All DIP hydrant leads shall be thickness class 52. All DIP hydrant leads shall be protected from corrosion using a polyethylene encasement, blue in color.                                                                                                                                                                                                                                                                                                     |
| 15       | 2555-0000010 | DELIVER AND STOCKPILE SALVAGED MATERIALS<br>Blow offs, water valves, and other associated equipment shall be delivered to the City of Dubuque maintenance garage at 910 Kerper Blvd Dubuque, IA 52001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 16       | 2599-9999009 | CASING PIPE, TRENCHLESS, 24"<br>Description: See M Sheets for locations and details. Casing pipe shall be installed under HWY 20 for future water main extensions.<br>Materials: Comply with Article 2553.02, B of the Standard Specifications. Casing pipe shall have a wall thickness of 0.312".<br>Construction: Comply with Article 2553.03 of the Standard Specifications. A receiving pit shall not be excavated. Both ends of the casing shall be sealed.<br>Method of Measurement: Per linear feet along the centerline of the casing pipe.<br>Basis of Payment: Payment will be the contract unit price per linear foot of casing pipe installed. Payment is full compensation for: furnishing and installing casing pipe, trenchless installation, materials and equipment, pit excavation, sealing casing ends and dewatering.                                                                                                            |
| 17       | 2599-9999009 | WATER MAIN ABANDONMENT, FILL & PLUG<br>Description: See M Sheets for locations and details.<br>Materials: Comply with Article 2552.02, G.<br>Construction: Plug - Construct water main plug by completely filling the end of the pipe with concrete. Force concrete into the end of the pipe for a distance of 16 inches, or one half the pipe diameter, whichever is greater. Fill - Fill the line to be abandoned with flowable mortar or CLSM, according to Article 2552.02, G, by gravity or pumping.<br>Method of Measurement: Per linear feet along the centerline of the pipe from end of pipe to end of pipe.<br>Basis of Payment: Payment will be the contract unit price per linear foot for each size of pipe filled and plugged. Payment is full compensation for trench excavation (if necessary), cutting pipe (if required), furnishing and placing pipe fill materials, furnishing and placing plug materials, and placing backfill. |
| 18       | 2601-2636043 | SEEDING AND FERTILIZING (RURAL)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 19       | 2602-0000312 | PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 20       | 2602-0000350 | REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

NOTE: 1. Quantities on the M Sheets assumes that the earthwork and grading will be completed prior to constructing the water main.



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

*Kevin M. Podstawa, P.E.*  
Kevin M. Podstawa, P.E.

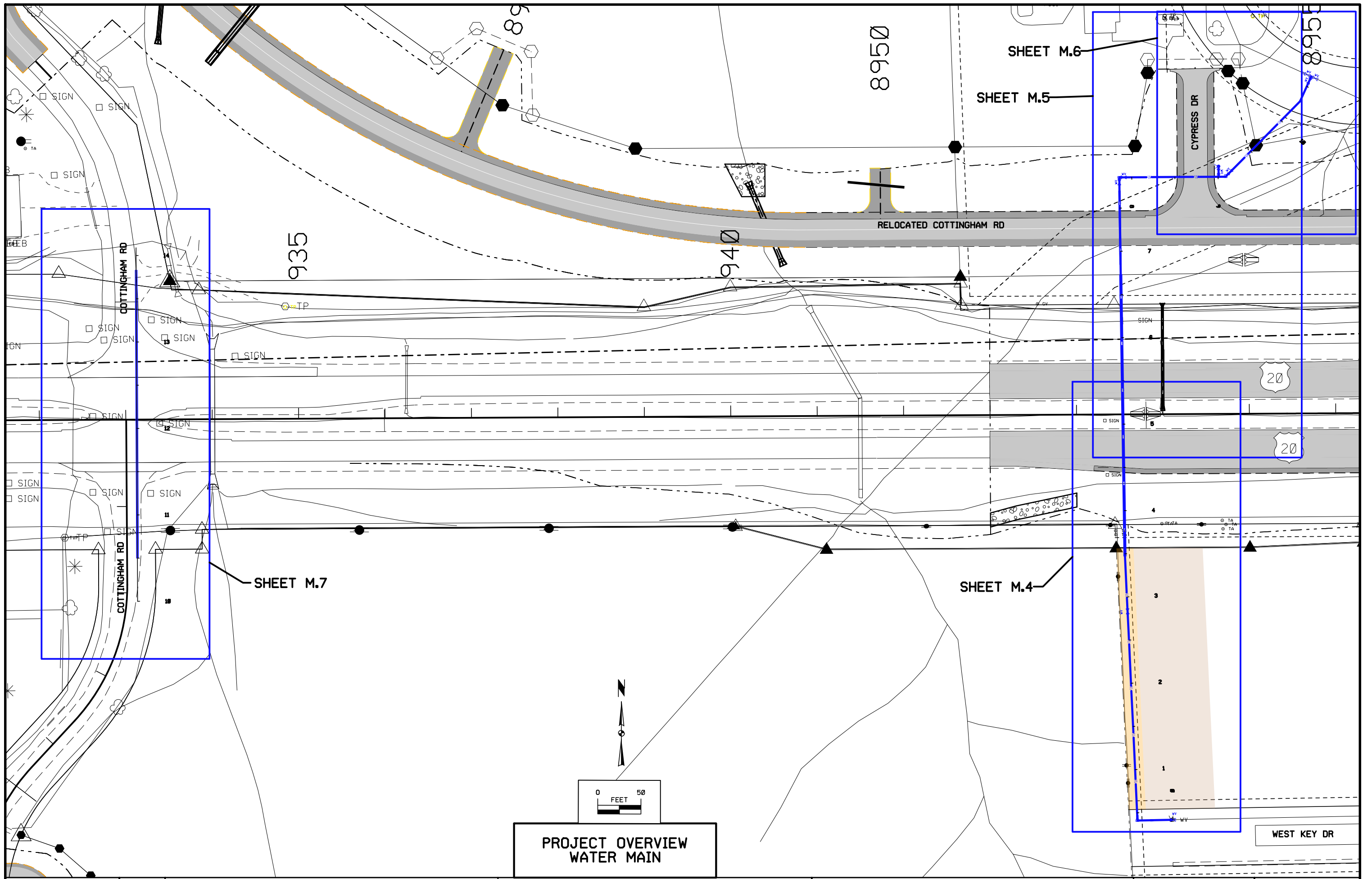
5/21/2019

Date

IOWA REGISTRATION NUMBER: 23849

PAGES OR SHEETS COVERED BY THIS SEAL: M.1 THRU M.10

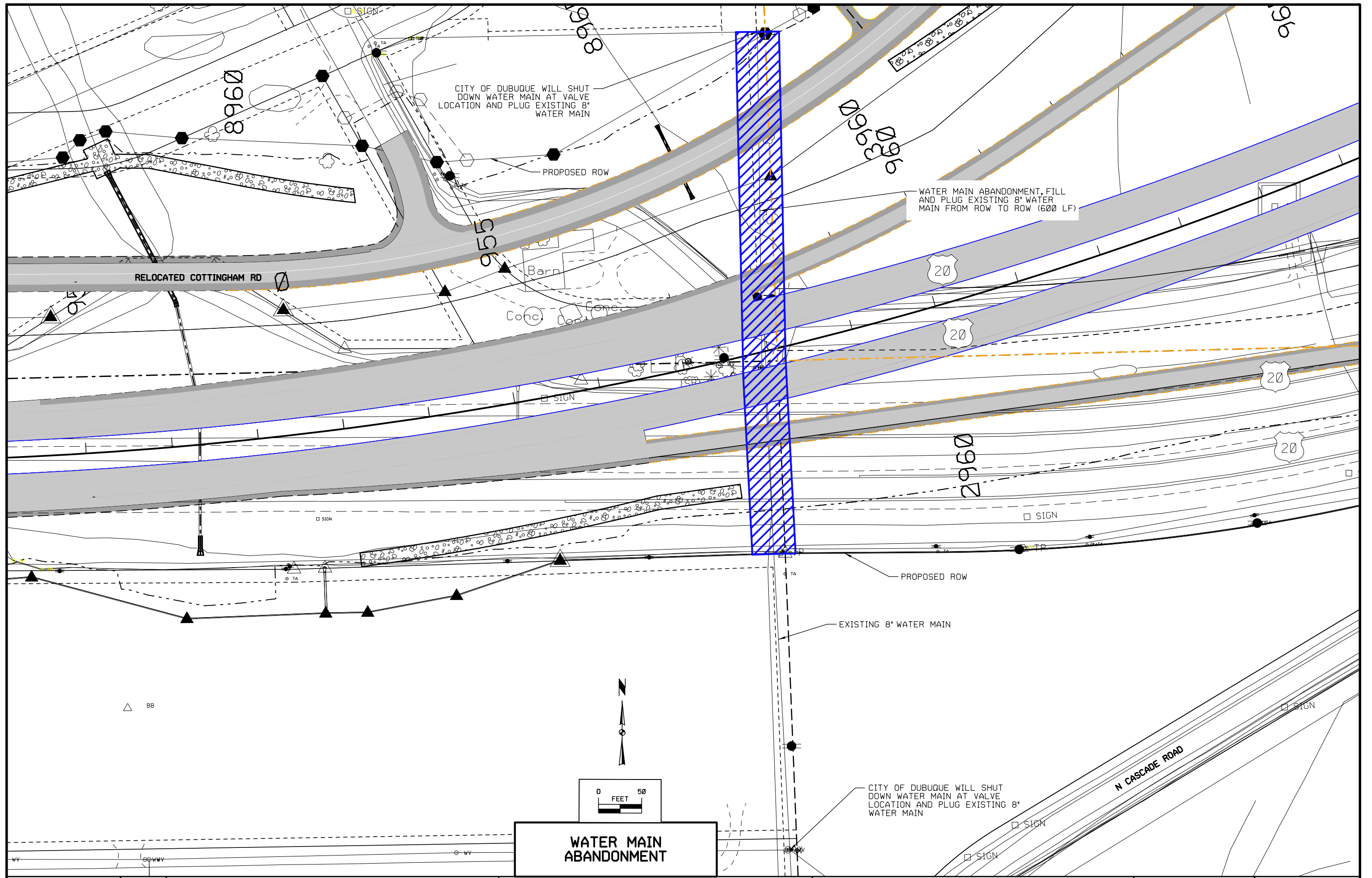
MY REGISTRATION RENEWAL DATE IS DECEMBER 31, 2020.



**PROJECT OVERVIEW  
WATER MAIN**

|          |         |             |                       |                |        |                |                              |              |            |
|----------|---------|-------------|-----------------------|----------------|--------|----------------|------------------------------|--------------|------------|
| FILE NO. | ENGLISH | DESIGN TEAM | <b>WHKS &amp; CO.</b> | <b>DUBUQUE</b> | COUNTY | PROJECT NUMBER | <b>NHSX-020-9(183)-3H-31</b> | SHEET NUMBER | <b>M.2</b> |
|----------|---------|-------------|-----------------------|----------------|--------|----------------|------------------------------|--------------|------------|





CITY OF DUBUQUE WILL SHUT  
DOWN WATER MAIN AT VALVE  
LOCATION AND PLUG EXISTING 8"  
WATER MAIN

WATER MAIN ABANDONMENT, FILL  
AND PLUG EXISTING 8" WATER  
MAIN FROM ROW TO ROW (600 LF)

RELOCATED COTTINGHAM RD

**WATER MAIN  
ABANDONMENT**

CITY OF DUBUQUE WILL SHUT  
DOWN WATER MAIN AT VALVE  
LOCATION AND PLUG EXISTING 8"  
WATER MAIN

W-1  
STA. 0+00.00  
REMOVE AND SALVAGE  
EXISTING BLOW OFF AND  
VALVE.  
F&I 8" GATE VALVE

W-2  
STA. 0+24.34  
F&I 8" 11 1/4" MJ BEND (VERT.)  
DEFLECT PIPE(S) 2.15" (VERT.)

W-3  
STA. 0+41.02  
F&I 8"x8" MJ TEE  
F&I 8" MJ PLUG  
DEFLECT PIPE(S) 1.61" (HORZ.)  
F&I 8" 11 1/4" MJ BEND (VERT.)  
DEFLECT PIPE(S) 2.41" (VERT.)

W-4  
STA. 2+83.32  
F&I 8" GATE VALVE  
DEFLECT PIPE(S) 3.09" (VERT.)

W-5  
STA. 3+47.27  
DEFLECT PIPE(S) 1.87" (HORZ.)

| WATER MAIN COORDINATES |             |             |
|------------------------|-------------|-------------|
| FITTING                | NORTHING    | EASTING     |
| W-1                    | 3634497.296 | 5650950.209 |
| W-2                    | 3634496.893 | 5650925.873 |
| W-3                    | 3634496.616 | 5650909.193 |
| W-4                    | 3634738.682 | 5650898.382 |
| W-5                    | 3634802.593 | 5650895.528 |

DO NOT TRESPASS OR ENCRONCH  
ON LAND WEST OF SECTION  
LINE/PROPERTY LINE

APPROX. BORING PIT (40'X20')

PROPOSED WATER MAIN

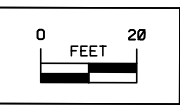
20' PERMANENT UTILITY EASEMENT

80'  
TEMPORARY UTILITY EASEMENT

SEAL BOTH ENDS OF STEEL CASING  
F&I WATER MAIN FIELD MARKERS ON  
BOTH ENDS OF STEEL CASING

PLACE WATER MAIN IN STEEL CASING

NOTE: ALL PIPE SHALL BE  
CLASS 52 DIP

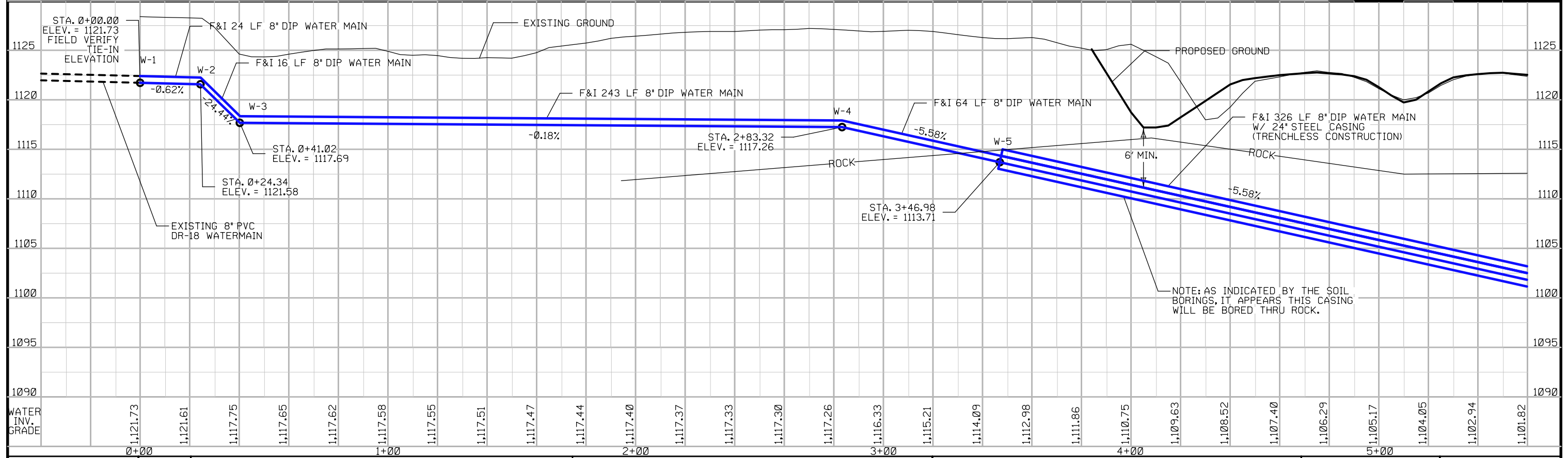


WEST KEY DR

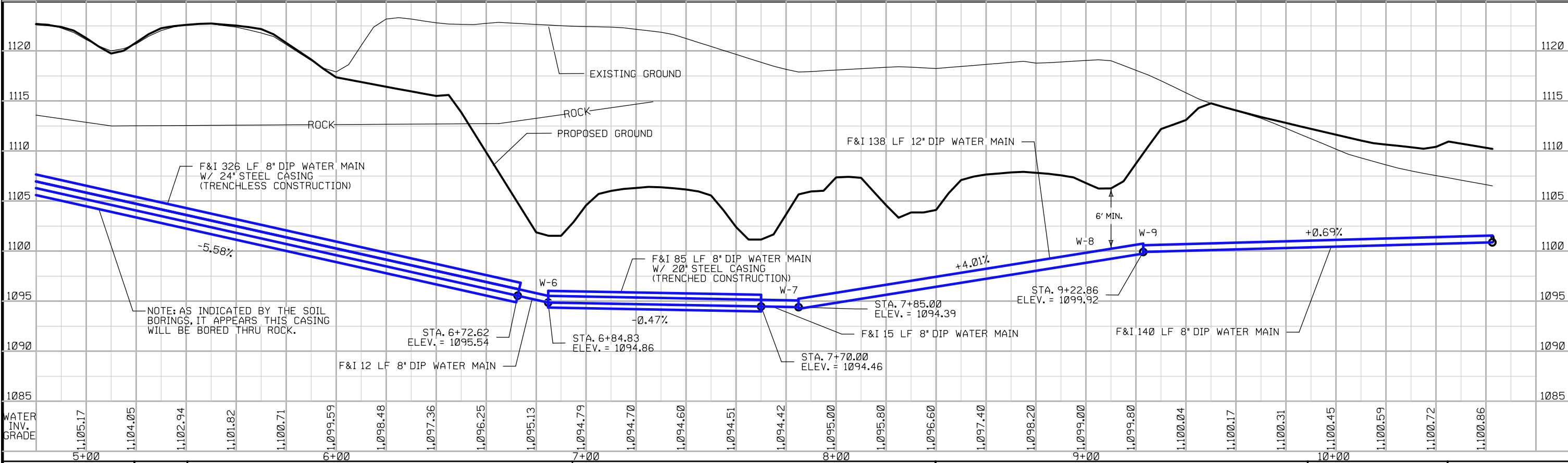
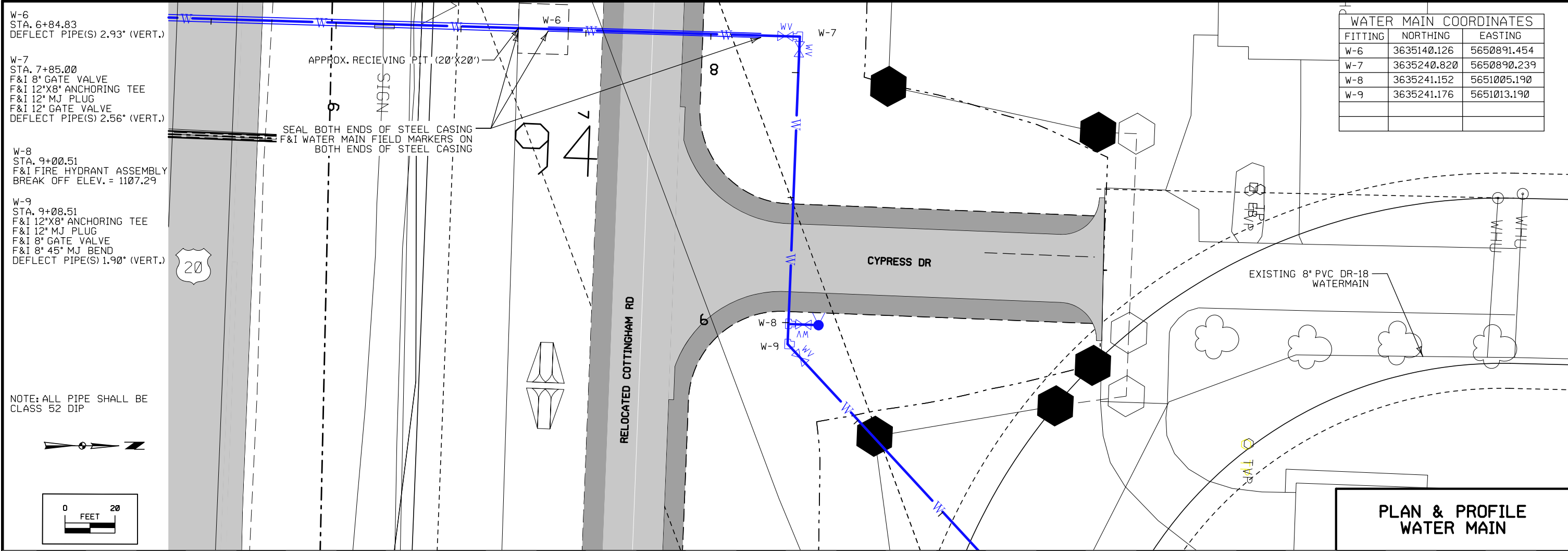
EXISTING 8" PVC DR-18  
WATERMAIN

TWO BITS, LLC  
LOT 4 KEY CITY SUBDIVISION

PLAN & PROFILE  
WATER MAIN



NOTE: AS INDICATED BY THE SOIL  
BORINGS, IT APPEARS THIS CASING  
WILL BE BORED THRU ROCK.



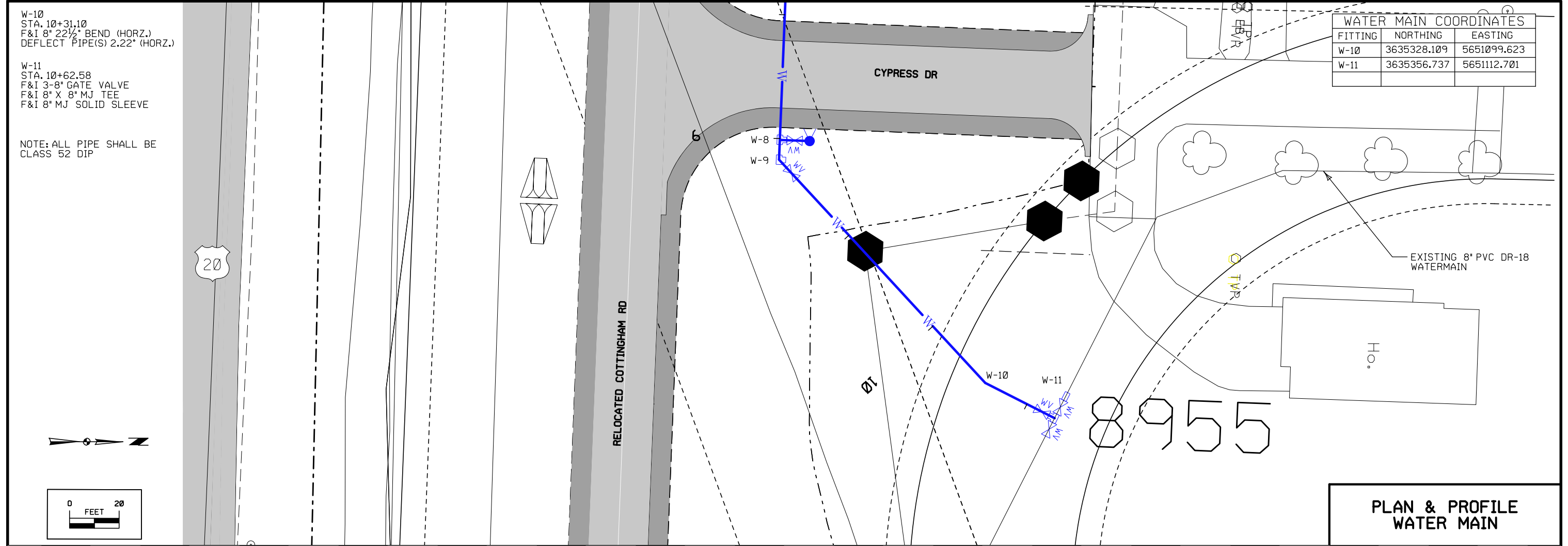


W-10  
 STA. 10+31.10  
 F&I 8" 22 1/2" BEND (HORZ.)  
 DEFLECT PIPE(S) 2.22" (HORZ.)

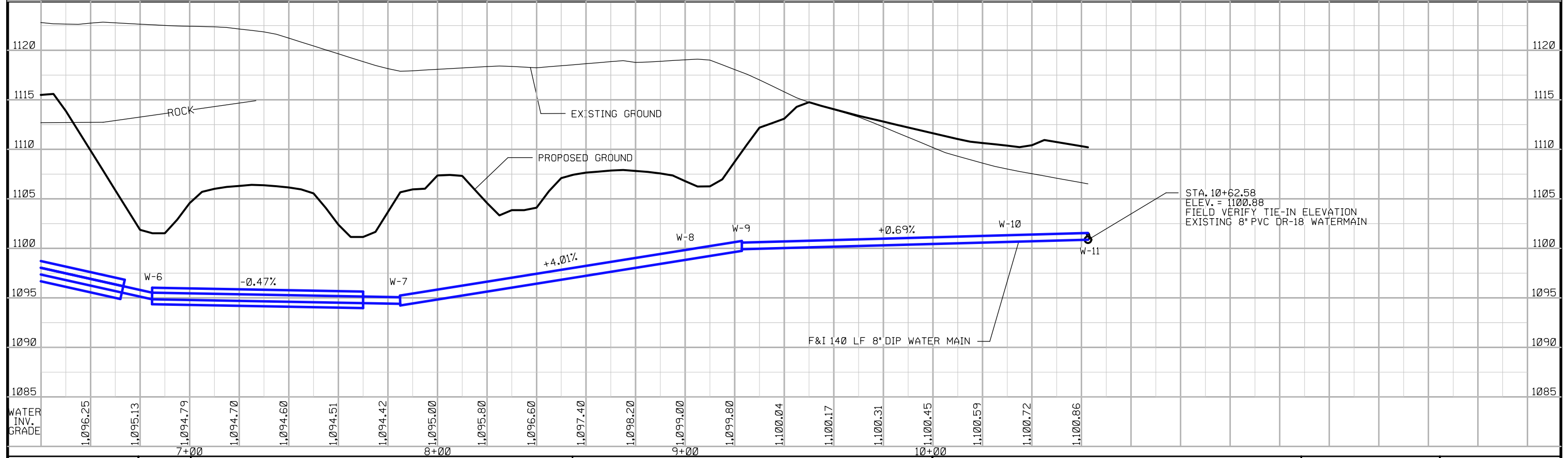
W-11  
 STA. 10+62.58  
 F&I 3-8" GATE VALVE  
 F&I 8" X 8" MJ TEE  
 F&I 8" MJ SOLID SLEEVE

NOTE: ALL PIPE SHALL BE  
 CLASS 52 DIP

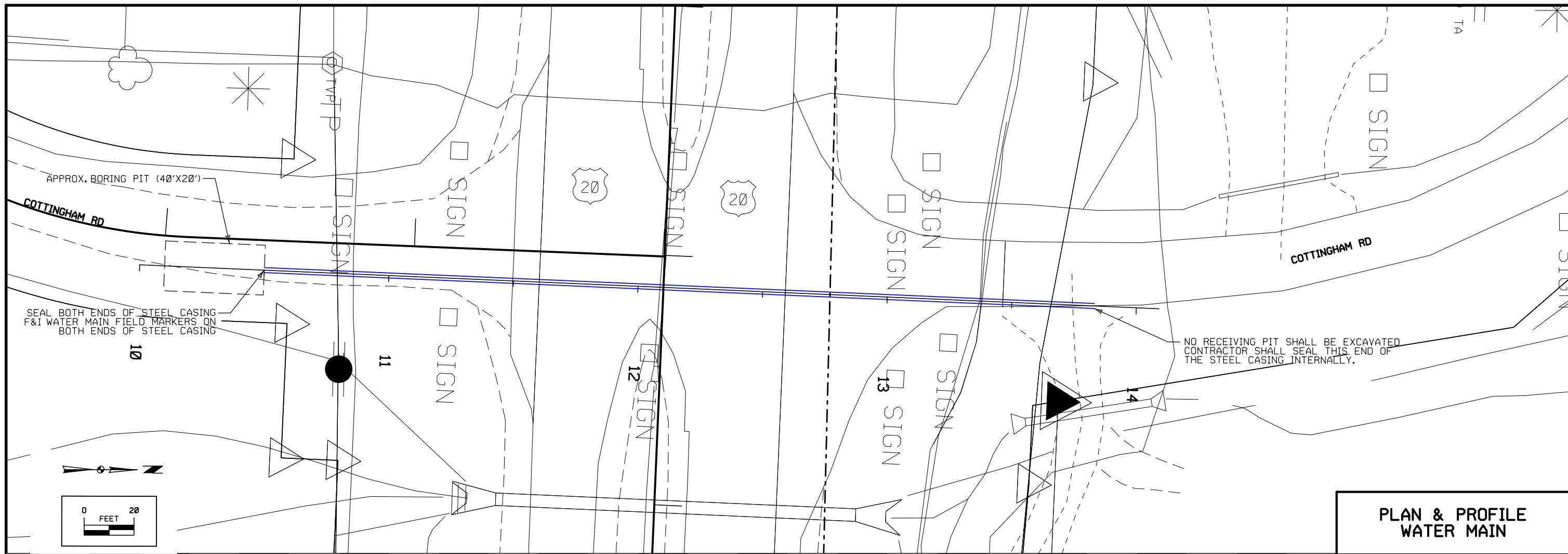
| WATER MAIN COORDINATES |             |             |
|------------------------|-------------|-------------|
| FITTING                | NORTHING    | EASTING     |
| W-10                   | 3635328.109 | 5651099.623 |
| W-11                   | 3635356.737 | 5651112.701 |



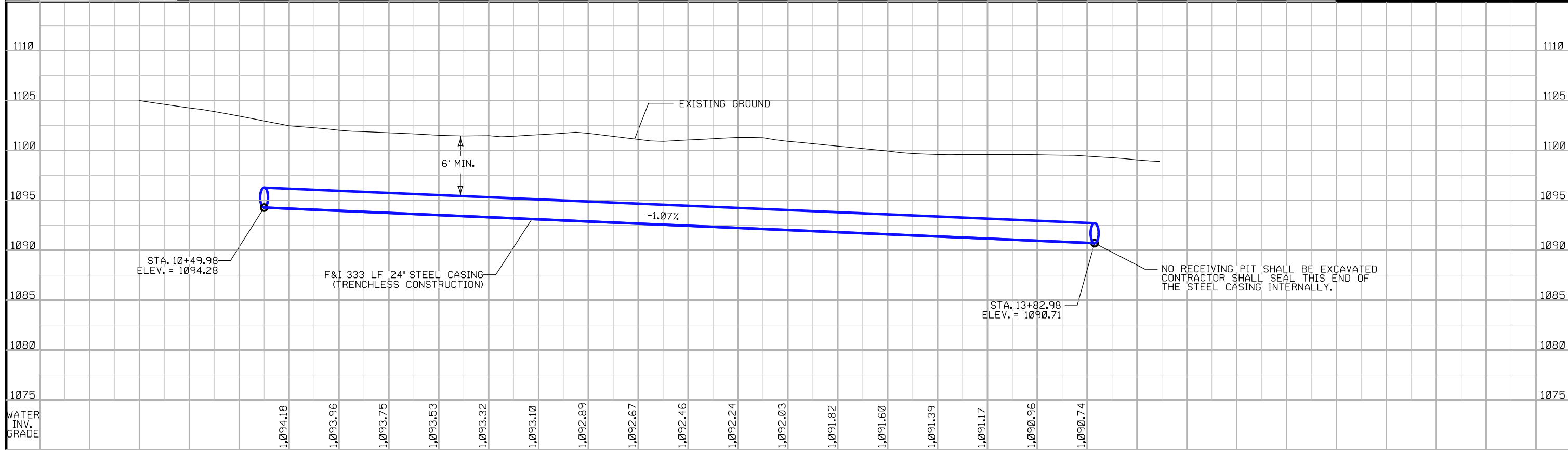
**PLAN & PROFILE  
 WATER MAIN**



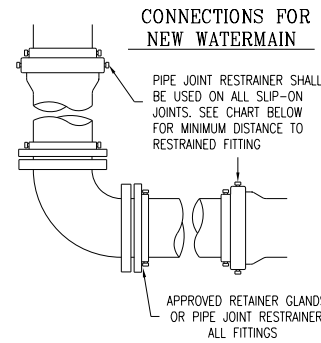
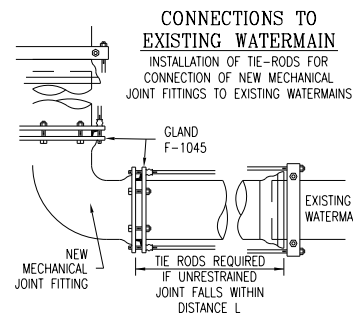
|          |         |             |                       |         |        |                |                              |              |            |
|----------|---------|-------------|-----------------------|---------|--------|----------------|------------------------------|--------------|------------|
| FILE NO. | ENGLISH | DESIGN TEAM | <b>WHKS &amp; CO.</b> | DUBUQUE | COUNTY | PROJECT NUMBER | <b>NHSX-020-9(183)-3H-31</b> | SHEET NUMBER | <b>M.6</b> |
|----------|---------|-------------|-----------------------|---------|--------|----------------|------------------------------|--------------|------------|



**PLAN & PROFILE  
WATER MAIN**



|          |         |             |                       |         |        |                |                              |              |            |
|----------|---------|-------------|-----------------------|---------|--------|----------------|------------------------------|--------------|------------|
| FILE NO. | ENGLISH | DESIGN TEAM | <b>WHKS &amp; CO.</b> | DUBUQUE | COUNTY | PROJECT NUMBER | <b>NHSX-020-9(183)-3H-31</b> | SHEET NUMBER | <b>M.7</b> |
|----------|---------|-------------|-----------------------|---------|--------|----------------|------------------------------|--------------|------------|



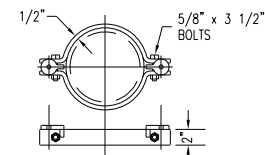
**NUMBER OF 3/4" RODS REQUIRED**

| PIPE SIZE INCHES | 12" AND LESS | 14" AND 16" | 18" AND 20" | 24" |
|------------------|--------------|-------------|-------------|-----|
| NUMBER OF RODS   | 2            | 4           | 6           | 8   |

**MINIMUM DISTANCE TO CLOSEST UNRESTRAINED JOINT (L IN FEET)**

| TYPE OF FITTING | PIPE SIZE |      |      |      |      |      |
|-----------------|-----------|------|------|------|------|------|
|                 | 6"        | 8"   | 10"  | 12"  | 14"  | 16"  |
| 11 1/4" BEND    | 18.0      | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 |
| 22 1/2" BEND    | 18.0      | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 |
| 45" BEND        | 18.0      | 18.0 | 18.0 | 18.0 | 19.0 | 21.4 |
| 90" BEND        | 19.6      | 19.6 | 24.0 | 28.2 | 32.4 | 36.6 |
| TEE             | 18.0      | 18.0 | 18.0 | 18.0 | 20.0 | 25.0 |
| PLUG            | 18.0      | 18.0 | 18.0 | 18.0 | 20.0 | 25.0 |

**NOTES**  
1. RODS TO BE GALVANIZED.



**SOCKET CLAMP FOR PIPE FITTINGS**

**RESTRAINED JOINT REQUIREMENTS**

1. ALL WATER MAIN JOINTS SHALL BE RESTRAINED IN ACCORDANCE WITH THE STANDARD DETAIL ON THIS SHEET.
2. IN ADDITION TO THE REQUIREMENTS SHOWN IN THE STANDARD DETAIL THE FOLLOWING JOINTS SHALL ALSO BE RESTRAINED.
3. JOINT RESTRAINTS SHALL BE CONSIDERED INCIDENTAL TO WATER MAIN.

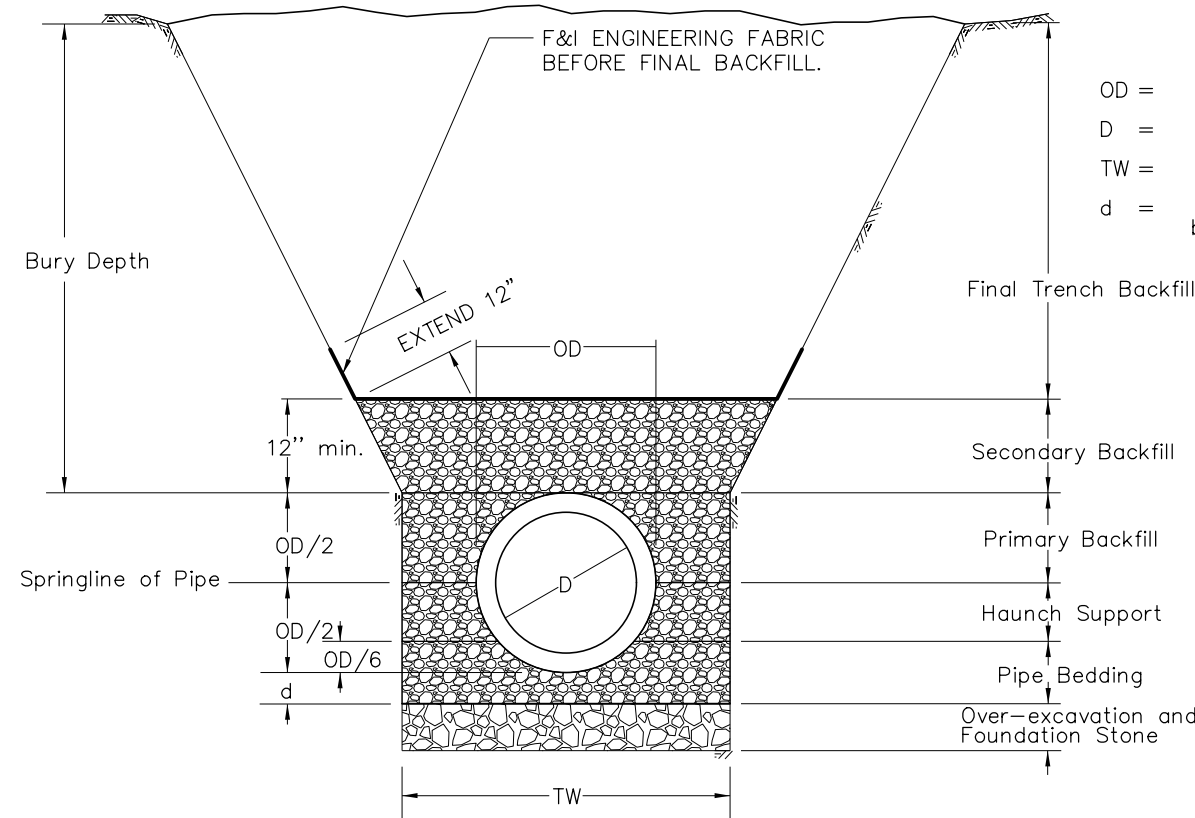
**WATER MAIN RESTRAINED JOINT REQUIREMENTS**

| FIELD MARKER REQUIREMENTS |                            |                                 |                                        |
|---------------------------|----------------------------|---------------------------------|----------------------------------------|
|                           | MARKER LOCATION            | REQUIREMENTS                    | MARKER DESCRIPTION                     |
| 1                         | FIRE HYDRANTS              | PROVIDE MARKERS AT ALL HYDRANTS | TRIVIEW HYDRANT MARKER, RED WITH DECAL |
| 2                         | WATER VALVES               | PROVIDE MARKERS AT ALL VALVES   | TRIVIEW MARKER, BLUE, DECAL GD-5194K   |
| 3                         | ISOLATED TRACER WIRE BOXES | ALL ISOLATED TRACER BOXES       | TRIVIEW MARKER, BLUE, DECAL GD-5194K   |

**GENERAL FIELD MARKER REQUIREMENTS**

1. ALL FIELD MARKERS SHALL BE RHINO MARKER-TRIVIEW OR EQUAL.
2. ALL FILED MARKERS SHALL INCLUDE CUSTOM ARTWORK/TEXT ADDED TO THE BOTTOM OF THE SPECIFIED DECAL. THE CUSTOM ARTWORK SHALL INCLUDE THE FOLLOWING:  
  
"CITY OF DUBUQUE"  
"563-589-4291"
3. ALL MARKERS USED IN NON-AGRICULTURAL AREAS SHALL STAND 48-INCHES (MINIMUM) ABOVE THE GROUND SURFACE.
4. MARKERS IN AREAS CURRENTLY USED TO PRODUCE AN AGRICULTURAL COMMODITY SHALL STAND 90-INCHES ABOVE THE GROUND SURFACE.
5. ALL MARKERS SHALL HAVE BLACK CAPS.
6. MARKERS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS.
7. ALL FIELD MARKERS SHALL BE CONSIDERED INCIDENTAL.

**FIELD MARKER REQUIREMENTS**



Refer to the contract documents for specific material and placement requirements.

① Required only when specified in the contract documents or when directed by the Engineer.

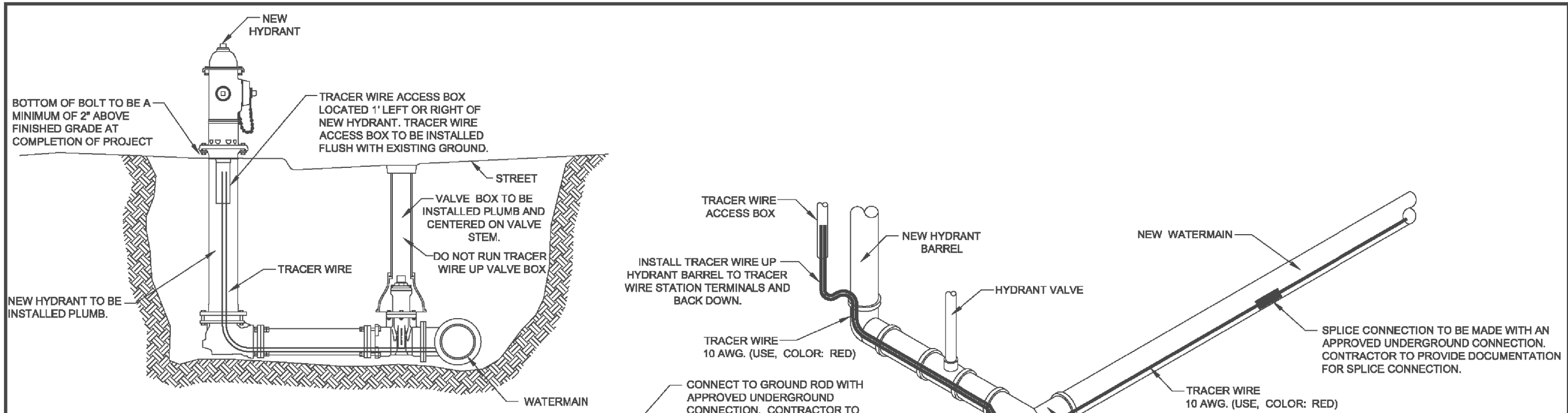
- Key**
- OD = Outside diameter of pipe
  - D = Inside diameter of pipe
  - TW = Trench width at top of pipe
  - d = Depth of bedding material below pipe

1. 1" COMMERCIAL CLEAN STONE SHALL BE USED FOR PIPE BEDDING, HAUNCH SUPPORT, PRIMARY BACKFILL AND SECONDARY BACKFILL.

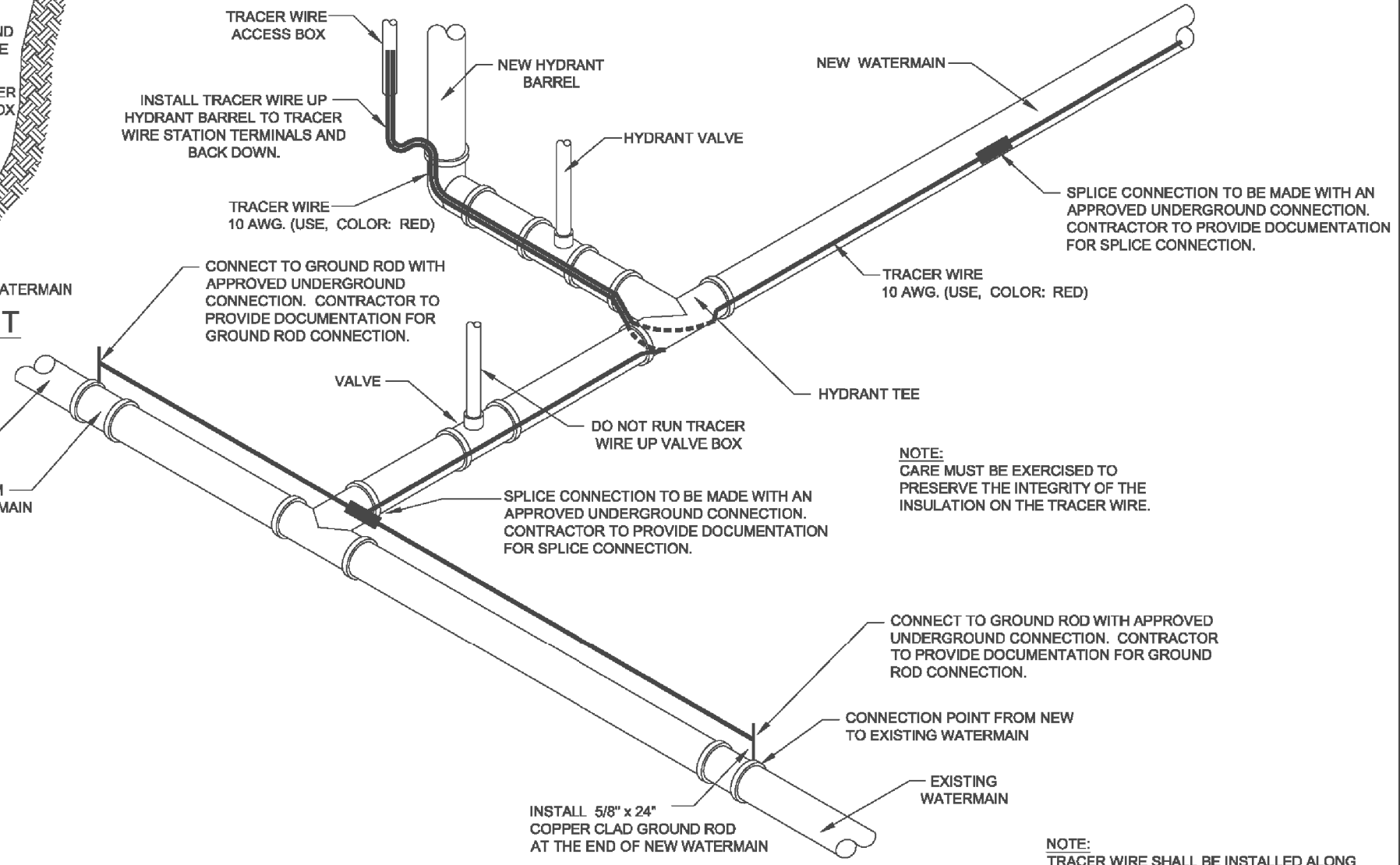
**SUDAS** Iowa Department of Transportation  
**FIGURE 3010.10 STANDARD ROAD PLAN**  
REVISED/NEW: REPLACES SUDAS FIGURE 3010.1.  
SCALE: AS SHOWN  
TRENCH BEDDING AND BACKFILL ZONES

**TRENCH ZONES**  
**SPECIAL PROVISION TO SUDAS 3010.10**

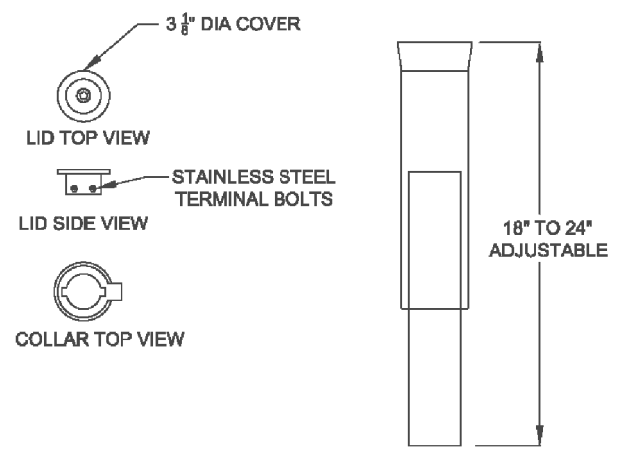




**TRACER WIRE STATION AT HYDRANT**



**TRACER WIRE DETAIL**

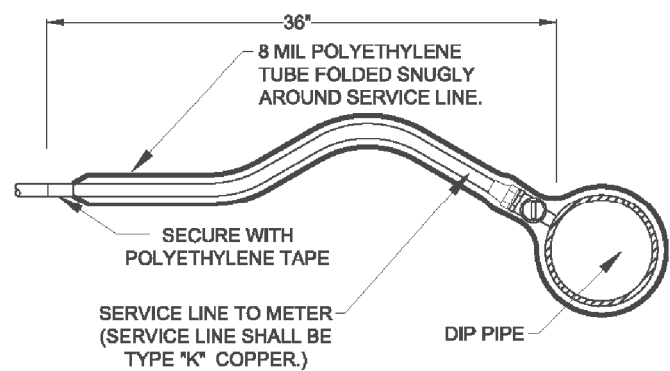
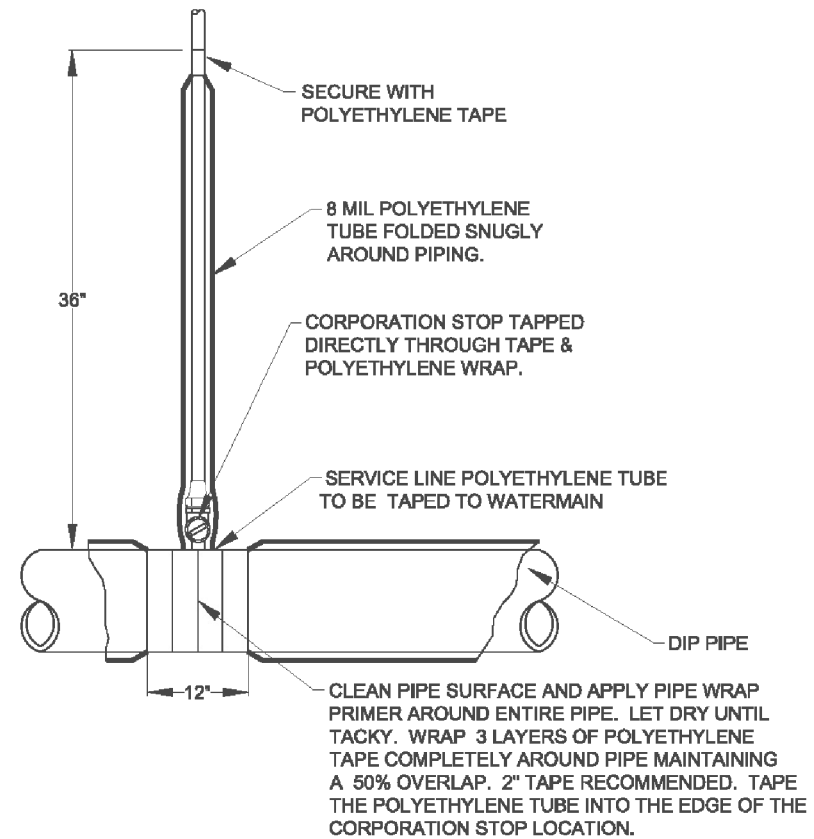


**TRACER WIRE RECEPTACLE DETAIL**

NOTE:  
CARE MUST BE EXERCISED TO PRESERVE THE INTEGRITY OF THE INSULATION ON THE TRACER WIRE.

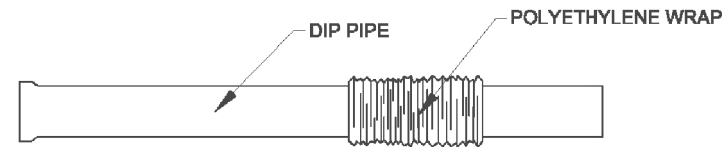
NOTE:  
TRACER WIRE SHALL BE INSTALLED ALONG THE PROPOSED WATERMAIN AND ON ALL SIDE STREETS TO THE EXISTING WATERMAIN CONNECTION.

|                                                              |                                                                                                              |                        |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------|
|                                                              | <b>CITY OF DUBUQUE</b><br>ENGINEERING DEPARTMENT<br>CITY HALL, 50 WEST 13th STREET<br>DUBUQUE, IA 52001-4864 |                        |
|                                                              | PHONE (563) 689-4270                                                                                         | FAX (563) 689-4205     |
|                                                              | Drawn By: H. McCARRON                                                                                        | Approved By: G. DOEDEN |
|                                                              | Date: 04-08-2011                                                                                             |                        |
| <b>KAUFMANN AVENUE UTILITY PROJECT</b><br>WATER MAIN DETAILS |                                                                                                              |                        |
| C.I.P. Number:                                               | Sheet Number:                                                                                                | 9 of 29                |

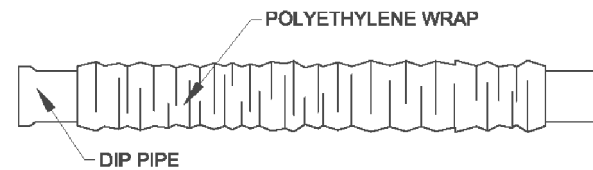


**SERVICE TAP DETAIL  
DUCTILE IRON PIPE POLYETHYLENE ENCASED**

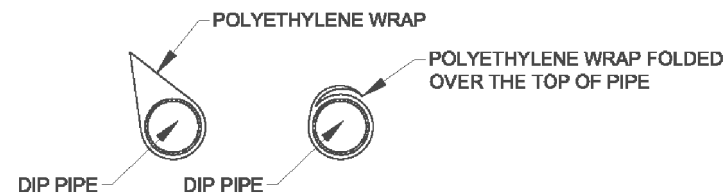
1. REMOVE ALL LUMPS OF CLAY, MUD, CINDERS, ECT. WHICH MAY HAVE ACCUMULATED ON THE SURFACE OF THE PIPE. A POLYETHYLENE TUBE SHOULD BE CUT SO THAT IT IS APPROXIMATELY TWO FEET LONGER THAN THE PIPE SECTION. SLIP THE TUBE ONTO THE PIPE. ALLOW ONE FOOT TO OVERHANG EACH END OF PIPE.



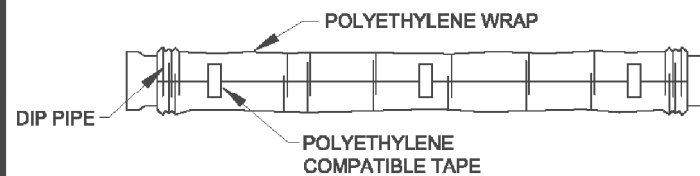
2. PUSH BACK THE OVERHANGING TUBE ENDS UNTIL THEY CLEAR THE PIPE ENDS.



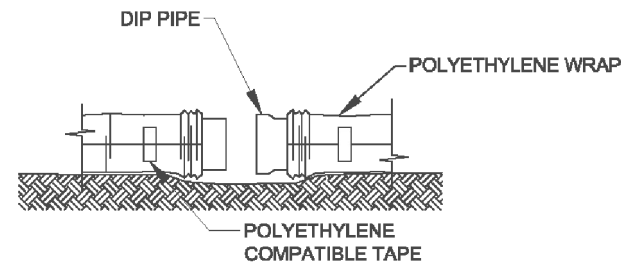
3. TAKE UP THE SLACK IN THE TUBE TO MAKE A SUNG BUT NOT TIGHT FIT. FOLD EXCESS BACK OVER THE TOP OF THE PIPE.



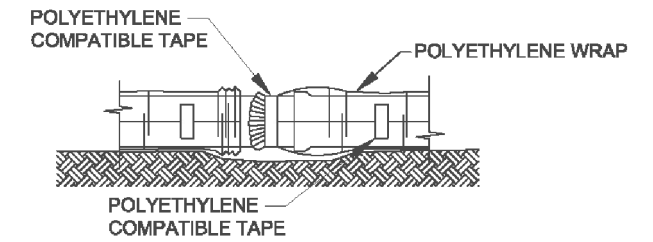
4. SECURE THE FOLD WITH POLYETHYLENE TAPE AT SEVERAL LOCATIONS? ALONG THE PIPE BARREL.



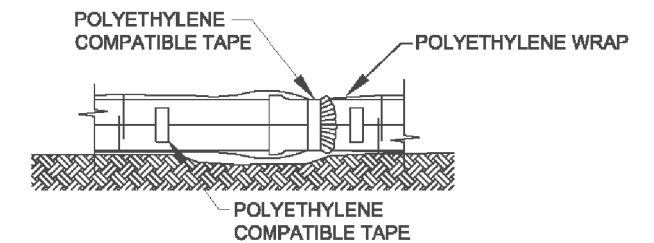
5. DIG SHALLOW DEPRESSION AT EACH DIP JOINT AND ASSEMBLE JOINT.



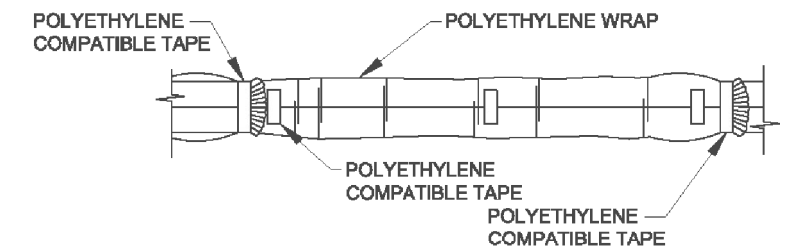
6. PULL THE POLYETHYLENE TUBE END OF THE PREVIOUSLY INSTALLED PIPE OVER THE NEW PIPE AND SECURE WITH POLYETHYLENE COMPATIBLE TAPE FROM THE PRECEDING PIPE BELL.



7. OVERLAP THE SECURED TUBE END OF THE NEW PIPE SECTION. SECURE THE NEW TUBE END IN PLACE WITH POLYETHYLENE COMPATIBLE TAPE.



8. REPAIR ALL RIPS, TEARS, OR OTHER TUBE DAMAGE WITH POLYETHYLENE COMPATIBLE TAPE.



**NOTE:**

1. THE CONTRACTOR WILL BE REQUIRED TO UTILIZE A NYLON STRAP FOR TRANSPORTING DUCTILE IRON PIPE WATERMAIN INTO THE TRENCH.
2. THE POLYETHYLENE WRAP WILL BE BLUE IN COLOR.

**INSTALLATION INSTRUCTIONS POLYETHYLENE ENCASEMENT**

|                |                                                                                                              |                        |
|----------------|--------------------------------------------------------------------------------------------------------------|------------------------|
|                | <b>CITY OF DUBUQUE</b><br>ENGINEERING DEPARTMENT<br>CITY HALL, 50 WEST 13th STREET<br>DUBUQUE, IA 52001-4864 |                        |
|                | PHONE (563) 689-4270                                                                                         | FAX (563) 689-4205     |
|                | Drawn By: H. McCARRON                                                                                        | Approved By: G. DOEDEN |
|                | Date: 04-08-2011<br><b>KAUFMANN AVENUE UTILITY PROJECT</b><br>WATER MAIN DETAILS                             |                        |
| C.I.P. Number: |                                                                                                              | Sheet Number: 8 of 29  |

**STORM SEWER**

① Diameter or equivalent diameter

\* Bid Item

\*\* For SW-545

| INTAKES AND UTILITY ACCESSES |                             |                             |            |             |                    |       | PIPES                                                                                                                                                                                                                              |                           |        |           |             |             |               |         |                                       |            |         |            |                        |                  |
|------------------------------|-----------------------------|-----------------------------|------------|-------------|--------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------|-----------|-------------|-------------|---------------|---------|---------------------------------------|------------|---------|------------|------------------------|------------------|
|                              |                             |                             |            |             |                    |       | Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 2 ft length is added to each side of the Design Length to account for estimated length to center of structures. |                           |        |           |             |             |               |         |                                       |            |         |            |                        |                  |
| No.                          | Location Station and Offset | *Type or Standard Road Plan | Form Grade | Bottom Well | Extension Length** | Notes | Line Number                                                                                                                                                                                                                        | Intake/Utility Access No. |        | Class 'D' | Pipe Size ① | Bid* Length | Design Length | Slope % | Connected Pipe Joint (DR-121)<br>Type | Flow Lines |         |            | Pipe Profile Sheet No. | Notes            |
|                              |                             |                             | Elev.      | Elev.       | FT                 |       |                                                                                                                                                                                                                                    | From                      | To     |           |             |             |               |         |                                       | IN         | FT      | FT         |                        |                  |
| 100                          | 5967+11.00, 15.50 LT        | SW-507L                     | 1153.13    | 1147.89     |                    | (6)   | P-100                                                                                                                                                                                                                              | 100                       | 101    | 2000D     | 15          | 35          | 31.0          | 1.00    |                                       | 1148.39    | 1148.08 |            | M.16                   | (6)              |
| 101                          | 5967+11.00, 15.50 RT        | SW-507R                     | 1153.13    | 1147.28     |                    | (6)   | P-101A                                                                                                                                                                                                                             | 101                       | P-101A | 2000D     | 15          | 18          | 14.0          | 1.00    |                                       | 1147.78    | 1147.64 |            | M.16                   | (6),Letdown Pipe |
| 102                          | 5967+11.00, 81.29 RT        | DR-203 (15 in.)             | 1136.16    |             |                    | (6)   | P-101B                                                                                                                                                                                                                             | P-101A                    | P-101C | HDPE      | 15          | 39          | 34.3          | 33.33   |                                       | 1147.64    | 1136.21 |            | M.16                   | (2),(6) Letdown  |
| 103                          | 5963+50.00, 15.50 RT        | SW-507R                     | 1148.05    | 1144.40     |                    | (6)   | P-101C                                                                                                                                                                                                                             | P-101B                    | 102    | HDPE      | 15          | 12          | 10.0          | 0.50    |                                       | 1136.21    | 1136.16 |            | M.16                   | (6),Letdown Pipe |
| 104                          | 5963+50.00, 15.50 LT        | SW-507L                     | 1148.05    | 1144.20     |                    | (6)   |                                                                                                                                                                                                                                    |                           |        |           |             |             |               |         |                                       |            |         |            |                        |                  |
| 105                          | 5963+50.00, 40.58 LT        | DR-201 (15 in.)             | 1144.60    |             |                    | (6)   | P-103                                                                                                                                                                                                                              | 103                       | 104    | 2000D     | 15          | 35          | 31.0          | 0.32    |                                       | 1144.90    | 1144.80 |            | M.15                   | (6)              |
| 106                          | 5961+00.00, 46.63 RT        | DR-201 (24 in.)             | 1138.40    |             |                    | (6)   | P-104                                                                                                                                                                                                                              | 104                       | 105    | 2000D     | 15          | 18          | 16.0          | 0.62    |                                       | 1144.70    | 1144.60 |            | M.15                   | (6)              |
| 107                          | 5961+00.00, 15.50 RT        | SW-507R                     | 1144.53    | 1137.52     |                    | (6)   | P-106                                                                                                                                                                                                                              | 106                       | 107    | 2000D     | 24          | 24          | 22.0          | 1.27    |                                       | 1138.40    | 1138.12 |            | M.15                   | (6)              |
| 108                          | 5961+00.00, 15.50 LT        | SW-507L                     | 1144.53    | 1134.53     |                    | (6)   | P-107                                                                                                                                                                                                                              | 107                       | 108    | 2000D     | 24          | 35          | 31.0          | 1.00    |                                       | 1138.02    | 1137.71 |            | M.15                   | (6)              |
| 109                          | 5961+00.00, 66.63 LT        | DR-201 (24 in.)             | 1131.18    |             |                    | (6)   | P-108                                                                                                                                                                                                                              | 108                       | 109    | 2000D     | 24          | 44          | 42.0          | 8.00    |                                       | 1135.03    | 1131.67 | FL 1131.18 | M.15                   | (6)              |
| 110                          | 5957+64.52, 15.50 RT        | SW-509S                     | 1140.76    | 1135.42     |                    | (6)   | P-110                                                                                                                                                                                                                              | 110                       | 111    | 2000D     | 15          | 36          | 31.6          | 2.00    |                                       | 1135.92    | 1135.29 |            | M.15                   | (6)              |
| 111                          | 5957+64.52, 16.20 LT        | SW-509S                     | 1140.76    | 1134.49     |                    | (6)   | P-111                                                                                                                                                                                                                              | 111                       | 112    | 2000D     | 15          | 26          | 24.0          | 2.00    |                                       | 1134.99    | 1134.51 |            | M.15                   | (6)              |
| 112                          | 5957+62.35, 49.15 LT        | DR-201 (15 in.)             | 1134.51    |             |                    | (6)   | P-120                                                                                                                                                                                                                              | 120                       | 121    | 2000D     | 15          | 35          | 31.0          | 0.32    |                                       | 1134.49    | 1134.39 |            | M.18                   | (6)              |
| 120                          | 7960+25.00, 15.50 RT        | SW-509L                     | 1138.22    | 1133.99     |                    | (6)   | P-121                                                                                                                                                                                                                              | 121                       | 122    | 2000D     | 15          | 18          | 16.0          | 0.62    |                                       | 1134.29    | 1134.19 |            | M.18                   | (6)              |
| 121                          | 7960+25.00, 15.50 LT        | SW-509R                     | 1138.22    | 1133.79     |                    | (6)   | P-123                                                                                                                                                                                                                              | 123                       | 125    | 2000D     | 15          | 24          | 22.0          | 2.27    |                                       | 1129.50    | 1129.00 |            | M.18                   | (6)              |
| 122                          | 7960+27.23, 40.57 LT        | DR-201 (15 in.)             | 1134.19    |             |                    | (6)   | P-124                                                                                                                                                                                                                              | 124                       | 123    | 2000D     | 15          | 35          | 31.0          | 1.00    |                                       | 1130.11    | 1129.80 |            | M.18                   | (6)              |
| 123                          | 7962+85.00, 15.50 RT        | SW-509S                     | 1134.62    | 1129.00     |                    | (6)   | P-126                                                                                                                                                                                                                              | 126                       | 127    | 2000D     | 15          | 35          | 31.0          | 1.00    |                                       | 1125.43    | 1125.12 |            | M.18                   | (6)              |
| 124                          | 7962+85.00, 15.50 LT        | SW-509S                     | 1134.62    | 1129.61     |                    | (6)   | P-127                                                                                                                                                                                                                              | 127                       | 129    | 2000D     | 15          | 446         | 442.0         | 2.95    |                                       | 1123.83    | 1110.79 |            | M.18                   | (6)              |
| 125                          | 7962+82.71, 46.57 RT        | DR-201 (15 in.)             | 1129.00    |             |                    | (6)   | P-128                                                                                                                                                                                                                              | 128                       | 129    | 2000D     | 15          | 35          | 31.0          | 1.00    |                                       | 1111.10    | 1110.79 |            | M.18                   | (6)              |
| 126                          | 7968+00.00, 15.50 LT        | SW-509R                     | 1129.43    | 1124.93     |                    | (6)   | P-129                                                                                                                                                                                                                              | 129                       | 131    | 2000D     | 15          | 311         | 306.4         | 4.77    |                                       | 1110.49    | 1095.88 |            | M.18/M.20              | (6)              |
| 127                          | 7968+00.00, 15.50 RT        | SW-509L                     | 1129.43    | 1123.33     |                    | (6)   | P-130                                                                                                                                                                                                                              | 130                       | 131    | 2000D     | 15          | 35          | 31.0          | 1.00    |                                       | 1096.19    | 1095.88 |            | M.20                   | (6)              |
| 128                          | 7972+50.00, 15.50 LT        | SW-509R                     | 1115.10    | 1110.60     |                    | (6)   | P-131                                                                                                                                                                                                                              | 131                       | 133    | 2000D     | 15          | 207         | 202.9         | 2.46    |                                       | 1095.48    | 1090.48 |            | M.20                   | (6)              |
| 129                          | 7972+50.00, 15.50 RT        | SW-509L                     | 1115.10    | 1109.99     |                    | (6)   | P-132                                                                                                                                                                                                                              | 132                       | 133    | 2000D     | 15          | 36          | 31.1          | 1.00    |                                       | 1090.79    | 1090.48 |            | M.20                   | (6)              |
| 130                          | 7975+65.00, 15.50 LT        | SW-509R                     | 1100.19    | 1095.69     |                    | (6)   | P-133                                                                                                                                                                                                                              | 133                       | 135    | 2000D     | 18          | 158         | 154.0         | 1.38    |                                       | 1090.23    | 1088.10 |            | M.20                   | (6)              |
| 131                          | 7975+65.00, 15.50 RT        | SW-509L                     | 1100.19    | 1194.98     |                    | (6)   | P-134                                                                                                                                                                                                                              | 134                       | 135    | 2000D     | 18          | 35          | 31.0          | 2.00    |                                       | 1088.72    | 1088.10 |            | M.20                   | (6)              |
| 132                          | 7977+75.00, 15.50 LT        | SW-509R                     | 1094.79    | 1090.29     |                    | (6)   | P-135                                                                                                                                                                                                                              | 135                       | 136    | 2000D     | 24          | 36          | 34.0          | 0.50    |                                       | 1087.60    | 1087.43 |            | M.20                   | (6)              |
| 133                          | 7977+75.00, 15.50 RT        | SW-507L                     | 1094.79    | 1089.73     |                    | (6)   | P-137                                                                                                                                                                                                                              | 137                       | 138    | 2000D     | 15          | 36          | 31.1          | 1.00    |                                       | 1090.41    | 1090.10 |            | M.20                   | (6)              |
| 134                          | 7979+35.00, 15.50 LT        | SW-509S                     | 1093.56    | 1088.22     |                    | (6)   | P-138                                                                                                                                                                                                                              | 138                       | 135    | 2000D     | 15          | 163         | 159.0         | 1.04    |                                       | 1090.00    | 1088.35 |            | M.20                   | (6)              |
| 135                          | 7979+35.00, 15.50 RT        | SW-509S                     | 1093.56    | 1087.10     |                    | (6)   | P-139                                                                                                                                                                                                                              | 139                       | 140    | 2000D     | 15          | 35          | 31.0          | 0.52    |                                       | 1092.09    | 1091.93 |            | M.22                   | (6)              |
| 136                          | 7979+65.74, 44.21 RT        | DR-201 (24 in.)             | 1087.43    |             |                    | (6)   | P-140                                                                                                                                                                                                                              | 140                       | 143    | 2000D     | 15          | 150         | 146.0         | 0.60    |                                       | 1091.83    | 1090.95 |            | M.22                   | (6)              |
| 137                          | 7981+00.00, 15.50 LT        | SW-509R                     | 1094.41    | 1089.91     |                    | (6)   | P-142                                                                                                                                                                                                                              | 142                       | 143    | 2000D     | 15          | 36          | 31.1          | 2.96    |                                       | 1092.07    | 1091.15 |            | M.22                   | (6)              |
| 138                          | 7981+00.00, 15.50 RT        | SW-507R                     | 1094.41    | 1089.30     |                    | (6)   | P-143                                                                                                                                                                                                                              | 143                       | 144    | 2000D     | 15          | 25          | 22.3          | 0.99    |                                       | 1090.85    | 1090.63 |            | M.22                   | (6)              |
| 139                          | 7982+50.00, 15.50 LT        | SW-507L                     | 1095.37    | 1091.59     |                    | (6)   | P-145                                                                                                                                                                                                                              | 145                       | 146    | 2000D     | 15          | 35          | 31.0          | 1.00    |                                       | 1093.02    | 1092.71 |            | M.22                   | (6)              |
| 140                          | 7982+50.00, 15.50 RT        | SW-507R                     | 1095.37    | 1091.33     |                    | (6)   | P-146                                                                                                                                                                                                                              | 146                       | 143    | 2000D     | 15          | 170         | 166.0         | 1.00    |                                       | 1092.61    | 1090.95 |            | M.22                   | (6)              |
| 142                          | 7984+00.00, 15.50 LT        | SW-509L                     | 1096.33    | 1091.57     |                    | (6)   | P-147                                                                                                                                                                                                                              | 147                       | 145    | 2000D     | 15          | 130         | 126.0         | 1.00    |                                       | 1094.38    | 1093.12 |            | M.22                   | (6)              |
| 143                          | 7984+00.00, 15.50 RT        | SW-507R                     | 1096.33    | 1090.35     |                    | (6)   | P-148                                                                                                                                                                                                                              | 148                       | 147    | 2000D     | 15          | 100         | 96.0          | 0.52    |                                       | 1094.98    | 1094.48 |            | M.22                   | (6)              |
| 144                          | 7984+00.00, 46.83 RT        | DR-201 (15 in.)             | 1090.63    |             |                    | (6)   | P-149                                                                                                                                                                                                                              | 149                       | 148    | 2000D     | 15          | 35          | 31.0          | 0.40    |                                       | 1095.51    | 1095.39 |            | M.22                   | (6)              |
| 145                          | 7985+70.00, 15.50 LT        | SW-507L                     | 1097.42    | 1092.52     |                    | (6)   | P-150                                                                                                                                                                                                                              | 150                       | 151    | 2000D     | 15          | 40          | 35.7          | 1.99    |                                       | 1094.90    | 1094.19 |            | M.22                   | (6)              |
| 146                          | 7985+70.00, 15.50 RT        | SW-507R                     | 1097.42    | 1092.11     |                    | (6)   | P-151                                                                                                                                                                                                                              | 151                       | 152    | 2000D     | 15          | 22          | 20.0          | 2.00    |                                       | 1094.09    | 1093.69 |            | M.22                   | (6)              |
| 147                          | 7987+00.00, 15.50 LT        | SW-507L                     | 1098.25    | 1093.88     |                    | (6)   | P-153                                                                                                                                                                                                                              | 153                       | 154    | 2000D     | 15          | 35          | 31.0          | 1.00    |                                       | 1094.26    | 1093.95 |            | M.22                   | (6)              |
| 148                          | 7988+00.00, 15.50 LT        | SW-507L                     | 1098.89    | 1094.48     |                    | (6)   | P-154                                                                                                                                                                                                                              | 154                       | 155    | 2000D     | 15          | 19          | 17.0          | 1.00    |                                       | 1093.85    | 1093.68 |            | M.22                   | (6)              |
| 149                          | 7988+00.00, 15.50 RT        | SW-507R                     | 1098.89    | 1095.01     |                    | (6)   | P-160                                                                                                                                                                                                                              | 160                       | 161    | 2000D     | 15          | 39          | 34.9          | 1.00    |                                       | 1146.63    | 1146.28 |            | M.16                   | (6)              |
| 150                          | 7992+50.00, 15.50 RT        | SW-507L                     | 1098.65    | 1094.40     |                    | (6)   | P-161A                                                                                                                                                                                                                             | 161                       | P-161A | 2000D     | 15          | 14          | 10.0          | 1.00    |                                       | 1145.98    | 1145.88 |            | M.16                   | (6),Letdown Pipe |
| 151                          | 7992+50.00, 20.19 LT        | SW-507R                     | 1098.31    | 1093.59     |                    | (6)   | P-161B                                                                                                                                                                                                                             | P-161A                    | P-161C | HDPE      | 15          | 44          | 39.9          | 33.33   |                                       | 1145.88    | 1132.58 |            | M.16                   | (2),(6) Letdown  |
| 152                          | 7992+49.44, 49.22 LT        | DR-201 (15 in.)             | 1093.69    |             |                    | (6)   | P-161C                                                                                                                                                                                                                             | P-161B                    | 162    | HDPE      | 15          | 12          | 10.0          | 0.50    |                                       | 1132.58    | 1132.53 |            | M.16                   | (6),Letdown Pipe |
| 153                          | 7994+90.00, 15.50 RT        | SW-507L                     | 1097.69    | 1093.76     |                    | (6)   |                                                                                                                                                                                                                                    |                           |        |           |             |             |               |         |                                       |            |         |            |                        |                  |
| 154                          | 7994+90.00, 15.50 LT        | SW-507R                     | 1097.69    | 1093.35     |                    | (6)   |                                                                                                                                                                                                                                    |                           |        |           |             |             |               |         |                                       |            |         |            |                        |                  |
| 155                          | 7994+90.00, 41.54 LT        | DR-201 (15 in.)             | 1093.68    |             |                    | (6)   | P-170                                                                                                                                                                                                                              | 170                       | 142    | 2000D     | 15          | 18          | 16.0          | 3.00    |                                       | 1092.85    | 1092.37 | FL 1093.03 | M.22                   | (6)              |
| 160                          | 5971+75.00, 16.19 RT        | SW-507L                     | 1151.37    | 1146.13     |                    | (6)   | P-200                                                                                                                                                                                                                              | 200                       | 201    | 2000D     | 15          | 35          | 31.0          | 3.84    |                                       | 1090.34    | 1089.15 |            | M.24                   | (7)              |
| 161                          | 5971+75.00, 18.68 LT        | SW-507R                     | 1151.37    | 1145.48     |                    | (6)   | P-201                                                                                                                                                                                                                              | 201                       | 202    | 2000D     | 15          | 30          | 28.0          | 3.89    |                                       | 1088.85    | 1087.76 |            | M.24                   | (7)              |
| 162                          | 5971+75.30, 83.73 LT        | DR-203 (15 in.)             | 1132.53    |             |                    | (6)   | P-203                                                                                                                                                                                                                              | 203                       | 204    | 2000D     | 15          | 35          | 31.0          | 1.00    |                                       | 1073.11    | 1072.80 |            | M.24                   | (7)              |
| 170                          | 7983+97.83, 40.58 LT        | DR-201 (15 in.)             | FL 1093.03 |             |                    | (6)   | P-204                                                                                                                                                                                                                              | 204                       | 205    | 2000D     | 15          | 30          | 28.0          | 3.21    |                                       | 1072.50    | 1071.60 |            | M.24                   | (7)              |
| 200                          | 1994+20.00, 15.50 LT        | SW-509R                     | 1095.52    | 1089.84     |                    | (7)   | P-206                                                                                                                                                                                                                              | 206                       | 207    | 2000D     | 15          | 35          | 31.0          | 4.00    |                                       | 1060.32    | 1059.08 |            | M.24                   | (7)              |
| 201                          | 1994+20.00, 15.50 RT        | SW-509L                     | 1095.52    | 1088.35     |                    | (7)   | P-207                                                                                                                                                                                                                              | 207                       | 208    | 2000D     | 15          | 30          | 28.0          | 4.00    |                                       | 1058.78    | 1057.66 |            | M.24                   | (7)              |
| 202                          | 1994+17.83, 52.58 RT        | DR-201 (15 in.)             | 1087.76    |             |                    | (7)   | P-209                                                                                                                                                                                                                              | 209                       | 210    | 2000D     | 15          | 35          | 31.0          | 0.42    |                                       | 1055.60    | 1055.47 |            | M.24                   | (7)              |
| 203                          | 1997+50.00, 15.50 LT        | SW-507R                     | 1078.98    | 1072.61     |                    | (7)   | P-210                                                                                                                                                                                                                              | 211                       | 212    | 2000D     | 15          | 20          | 18.0          | 0.44    |                                       | 1055.37    | 1055.29 |            | M.24                   | (7)              |
| 204                          | 1997+50.00, 15.50 RT        | SW-507L                     | 1078.98    | 1072.00     |                    | (7)   | P-212                                                                                                                                                                                                                              | 212                       | 213    | 2000D     | 36          | 24          | 19.2          | 1.04    |                                       | 1050.12    | 1049.92 |            | M.26                   | (7)              |
| 205                          | 1997+47.73, 52.57 RT        | DR-201 (15 in.)             | 1071.60    |             |                    | (7)   | P-213                                                                                                                                                                                                                              | 213                       | 214    | 2000D     | 36          | 35          | 31.0          | 1.00    |                                       | 1049.62    | 1049.31 |            | M.26                   | (7)              |
| 206                          | 2001+00.00, 15.50 RT        | SW-509L                     | 1065.64    | 1059.82     |                    | (7)   | P-214                                                                                                                                                                                                                              | 214                       | 215    | 2000D     | 36          | 25          | 20.5          | 1.07    |                                       | 1049.01    | 1048.79 |            | M.26                   | (7)              |
| 207                          | 2001+00.00, 15.50 LT        | SW-509R                     | 1065.64    | 1058.28     |                    | (7)   | P-218                                                                                                                                                                                                                              | 218                       | 219    | 2000D     | 18          | 35          | 31.0          | 1.00    |                                       | 1053.17    | 1052.86 |            | M.33                   | (7)              |
| 208                          | 2000+97.81, 52.58 LT        | DR-201 (15 in.)             | 1057.66    |             |                    | (7)   | P-222                                                                                                                                                                                                                              | 222                       | 223    | 2000D     | 24          | 36          | 31.1          | 1.00    |                                       | 1052.73    | 1052.42 |            | M.32                   | (7)              |
| 209                          | 2004+50.00,                 |                             |            |             |                    |       |                                                                                                                                                                                                                                    |                           |        |           |             |             |               |         |                                       |            |         |            |                        |                  |





### SURVEY SYMBOLS

|                                            |                                                 |
|--------------------------------------------|-------------------------------------------------|
| ◦ LUM Luminaire                            | — UV Underground Utility Vault                  |
| □ SIGN SI Sign                             | - - E1 - - ELA Underground Electric Line Co. 1  |
| ■ ROW Right of Way Rail                    | - - E2 - - ELB Underground Electric Line Co. 2  |
| ⚡ PPA Power Pole Co. 1                     | ELC Underground Electric Line Co. 3             |
| ⚡ PRA Power Riser Co. 1                    | - - WLA Underground Water Line Co. 1            |
| ✱ TEV Evergreen Tree                       | - - T1 - - TLA Underground Telephone Line Co. 1 |
| 🌿 SHR Shrub                                | - - T2 - - TLB Underground Telephone Line Co. 2 |
| 🌳 TDC Tree Deciduous                       | - - T3 - - TLC Underground Telephone Line Co. 3 |
| 🌾 SWAMP                                    | - - G - - GLA Underground Gas Line Co. 1        |
| Ⓛ LP L.P. Tank                             | - - F0 - - FOA Underground Fiber Optic Co. 1    |
| ◦ OUT Tile Outlet                          | - - F02 - - FOB Underground Fiber Optic Co. 2   |
| ✱ TSG Traffic Signal                       | - - S.S. - - STA Storm Sewer Co. 1              |
| ⊞ IN Storm Sewer Intake                    | STB Storm Sewer Co. 2                           |
| ⊞ INB Storm Sewer Intake Beehive           |                                                 |
| ⊞ MH Utility Access (Manhole)              |                                                 |
| BB BB Billboard                            |                                                 |
| ◦ MIS Miscellaneous                        |                                                 |
| ◦ FLG Flagpole                             |                                                 |
| ◦ MM Mile Marker Post                      |                                                 |
| □ SIGN SL Speed Limit Sign                 |                                                 |
| ◦ TPD Telephone Pedestal                   |                                                 |
| □ TCB TCB Utilities                        |                                                 |
| □ EB EB Electrical Box                     |                                                 |
| ◦ WV Water Valve                           |                                                 |
| 🔥 FHYD Fire Hydrant                        |                                                 |
| □ UB UB Utility Box                        |                                                 |
| ◦ TVP TV Pedestal                          |                                                 |
| ----- TLN Tree Line                        |                                                 |
| ----- TIL Tile Line                        |                                                 |
| ----- FCL Chain Link and Security Fence    |                                                 |
| ----- FW Wire Fence                        |                                                 |
| ----- FWD Wood Fence                       |                                                 |
| - - - - DU Centerline Draw or Stream (Up)  |                                                 |
| - - - - D Centerline Draw or Stream (Down) |                                                 |
| ----- DIK Centerline of Dike or Dam        |                                                 |
| ----- EW Edge of Water                     |                                                 |
| ----- BNK Stream Bank                      |                                                 |
| ----- GDL Guard Rail Steel                 |                                                 |
| ----- RIP Rip-Rap                          |                                                 |
| ----- RR Centerline of Railroad Tracks     |                                                 |

### UTILITY LEGEND

### PLAN VIEW COLOR LEGEND OF STORM SEWER SHEETS

| LINEWORK    | Design Color No. |                                                                     |
|-------------|------------------|---------------------------------------------------------------------|
| Green       | (2)              | Existing Storm Sewer and Topographic Features                       |
| Blue        | (229)            | Proposed Storm Sewer Pipe Details                                   |
| Blue, Light | (230)            | Proposed Storm Sewer Intake Details                                 |
| Blue        | (1)              | Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation |
| Magenta     | (5)              | Utilities                                                           |
| SHADING     | Design Color No. |                                                                     |
| Gray, Light | (48)             | Proposed Pavement Shading                                           |
| Lavender    | (9)              | Temporary Pavement Shading                                          |
| Teal        | (232)            | Interim Pavement Shading                                            |

### PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

| LINEWORK    | Design Color No. |                            |
|-------------|------------------|----------------------------|
| Green       | (2)              | Existing Pipes and Intakes |
| Blue, Light | (230)            | Proposed Pipes and Intakes |

### PLAN VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

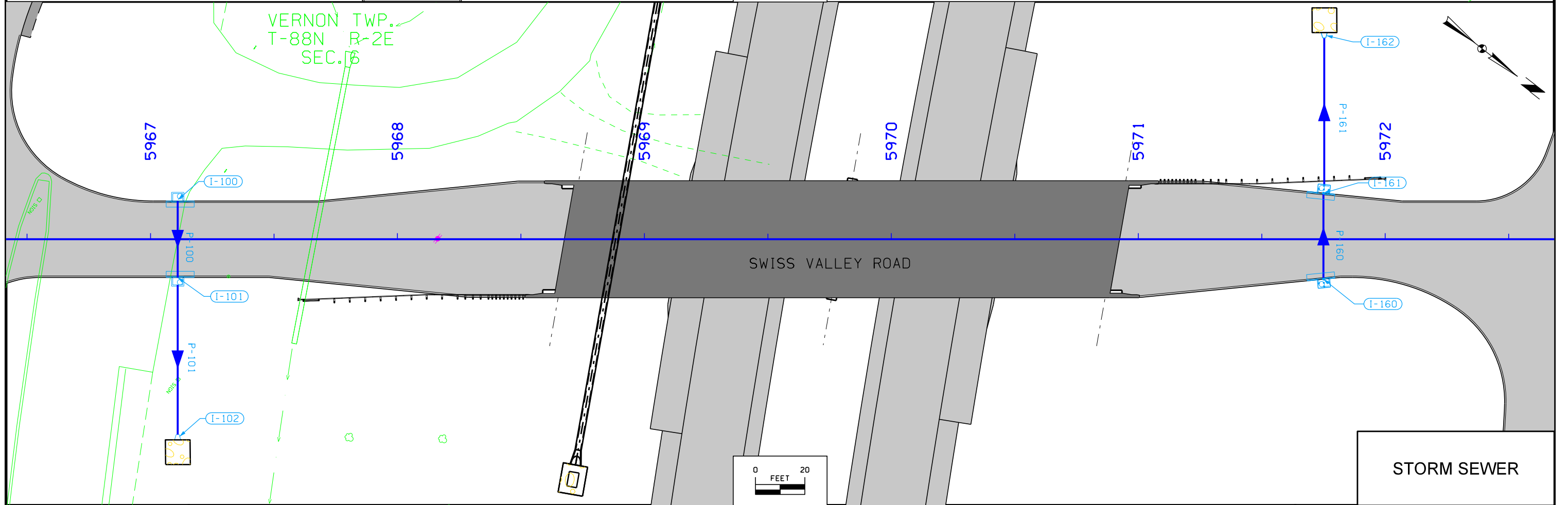
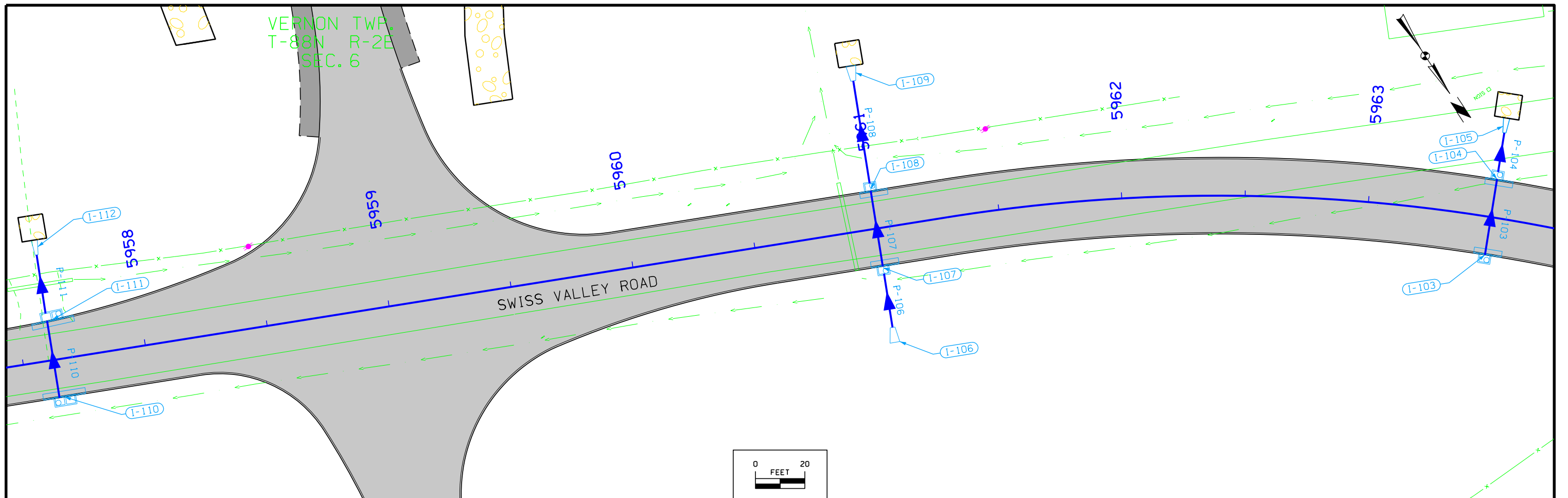
|                   |                                             |
|-------------------|---------------------------------------------|
| ▶---▶---▶---▶---▶ | Plug and Abandon Existing Pipe or Structure |
| - - - - -         | Removal of Existing Pipe or Structure       |
| —▶                | Previously Constructed Pipe or Structure    |
| —▶                | Direction of Pipe Flow                      |

### PROFILE VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

|       |                                          |
|-------|------------------------------------------|
| ----- | Existing Ground                          |
| ----- | Proposed Ground                          |
| —▶    | Previously Constructed Pipe or Structure |
| —▶    | Proposed Pipe or Structure               |

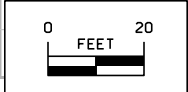
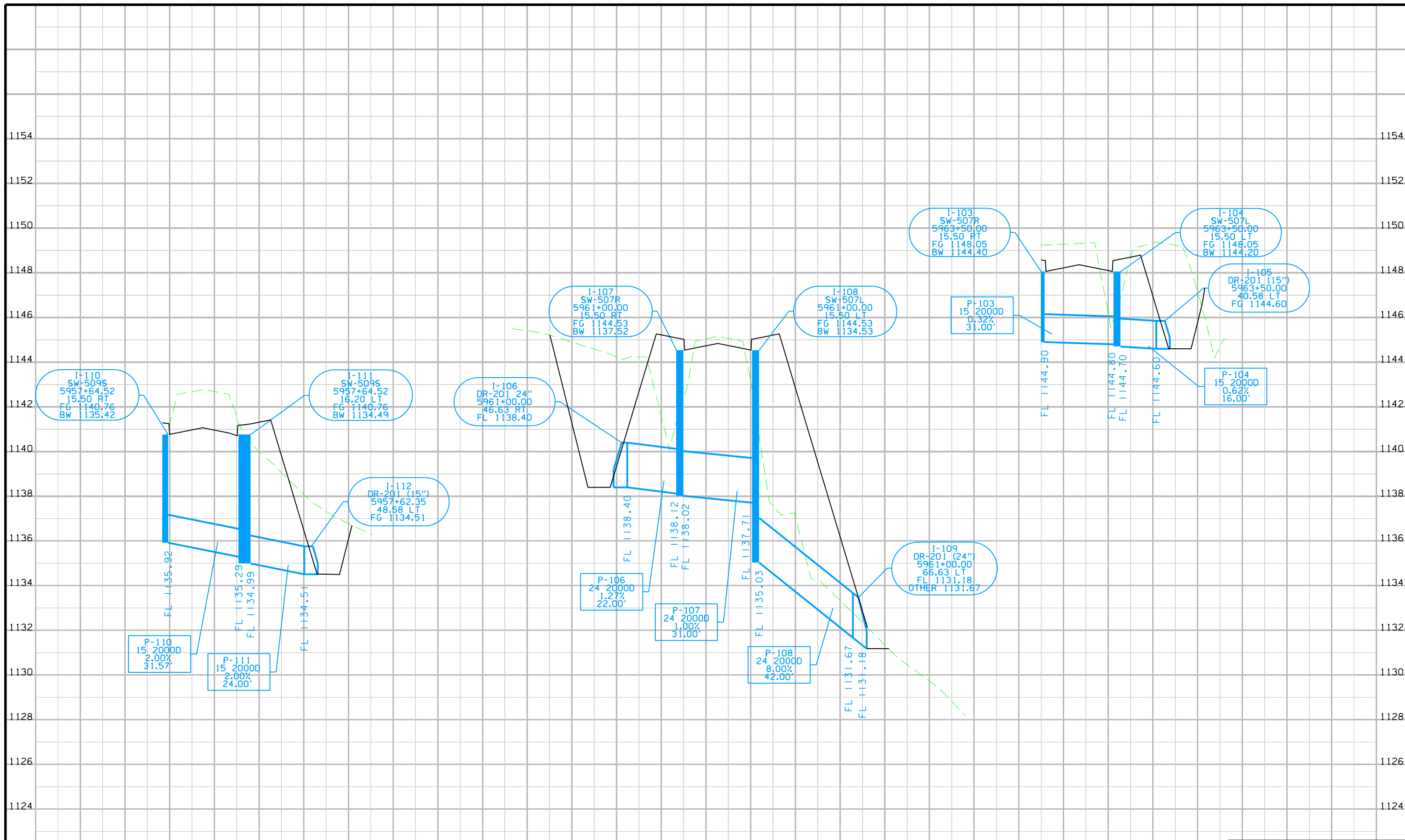
## STORM SEWER LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES M)

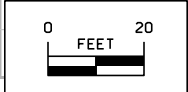
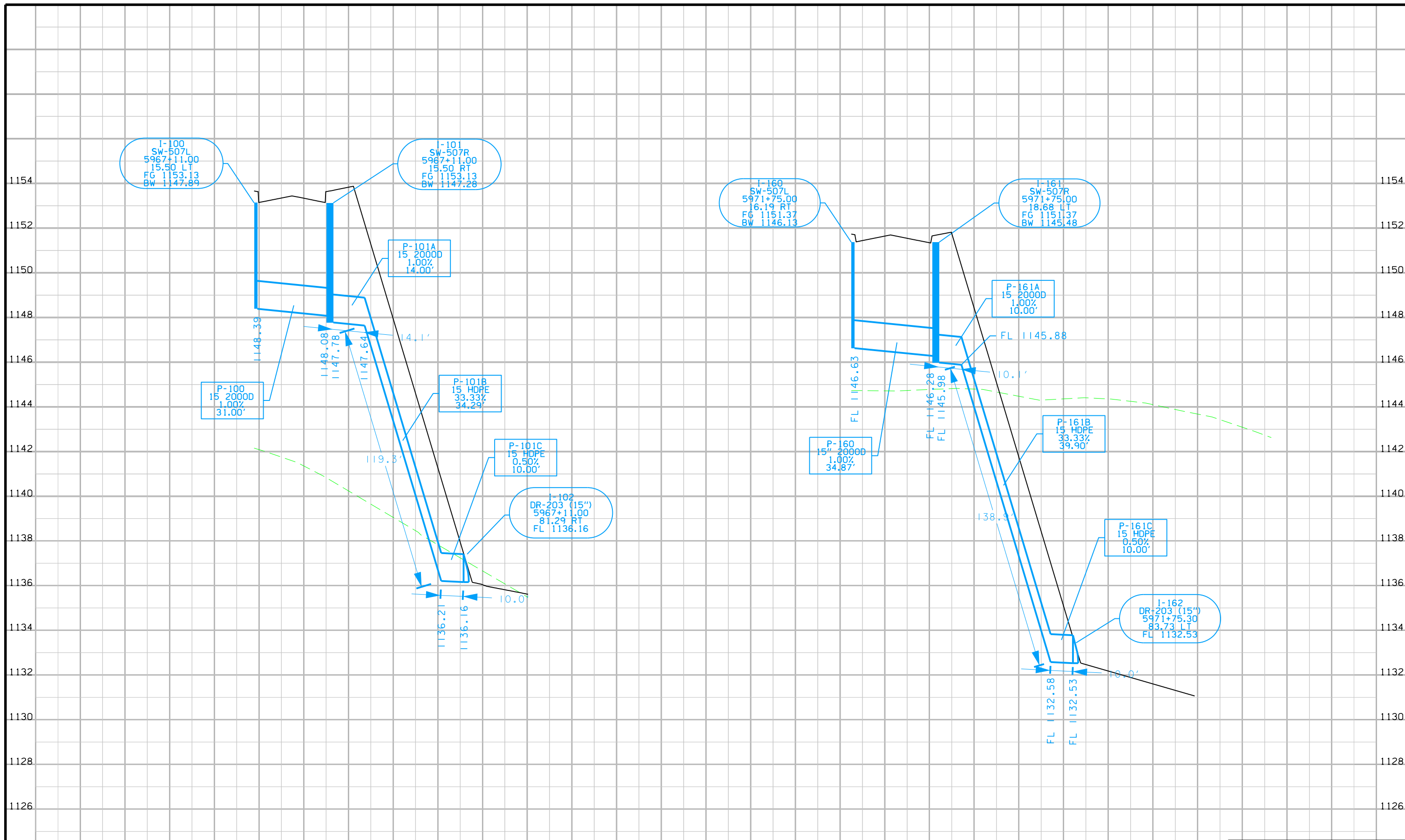


STORM SEWER

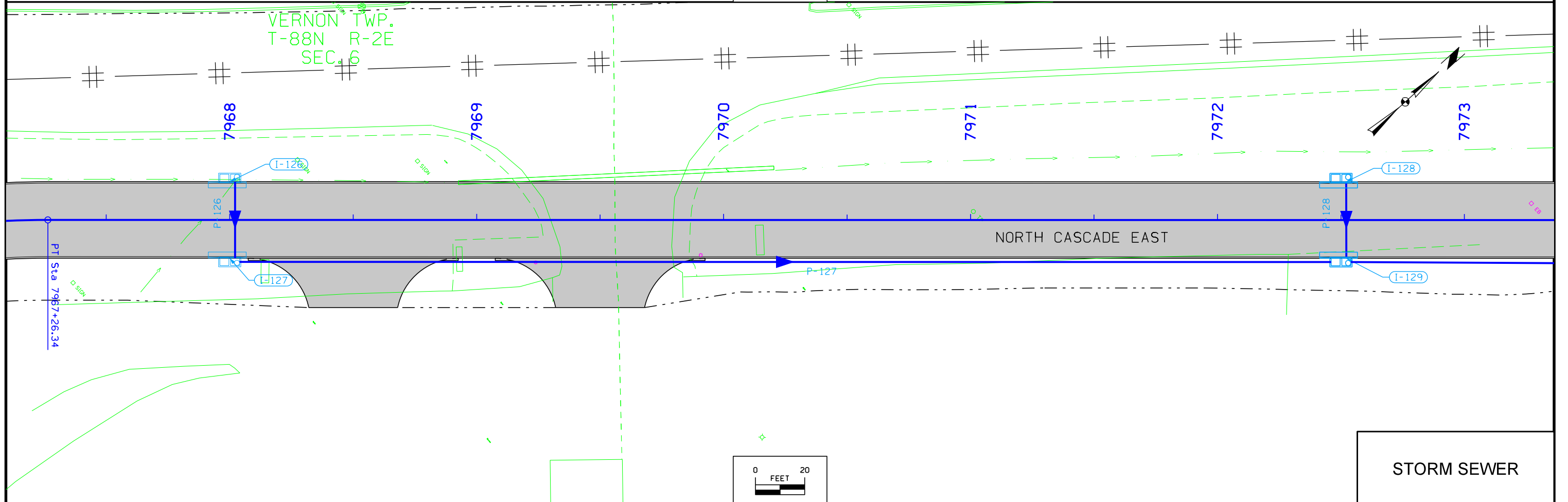
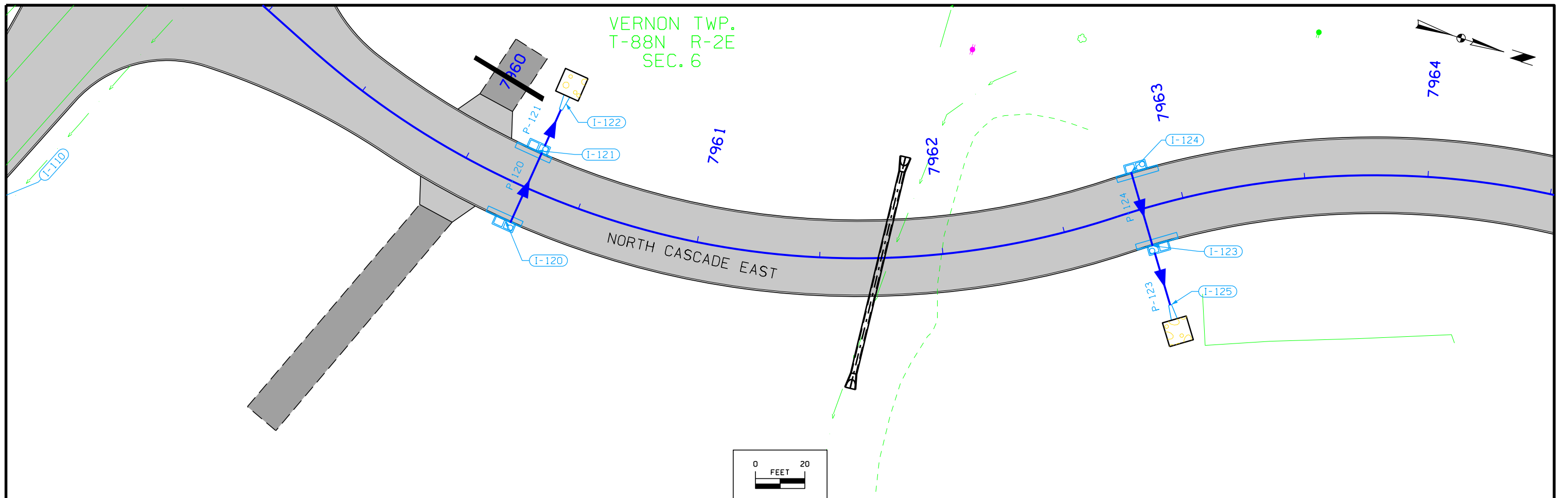




**STORM SEWER  
PROFILES**

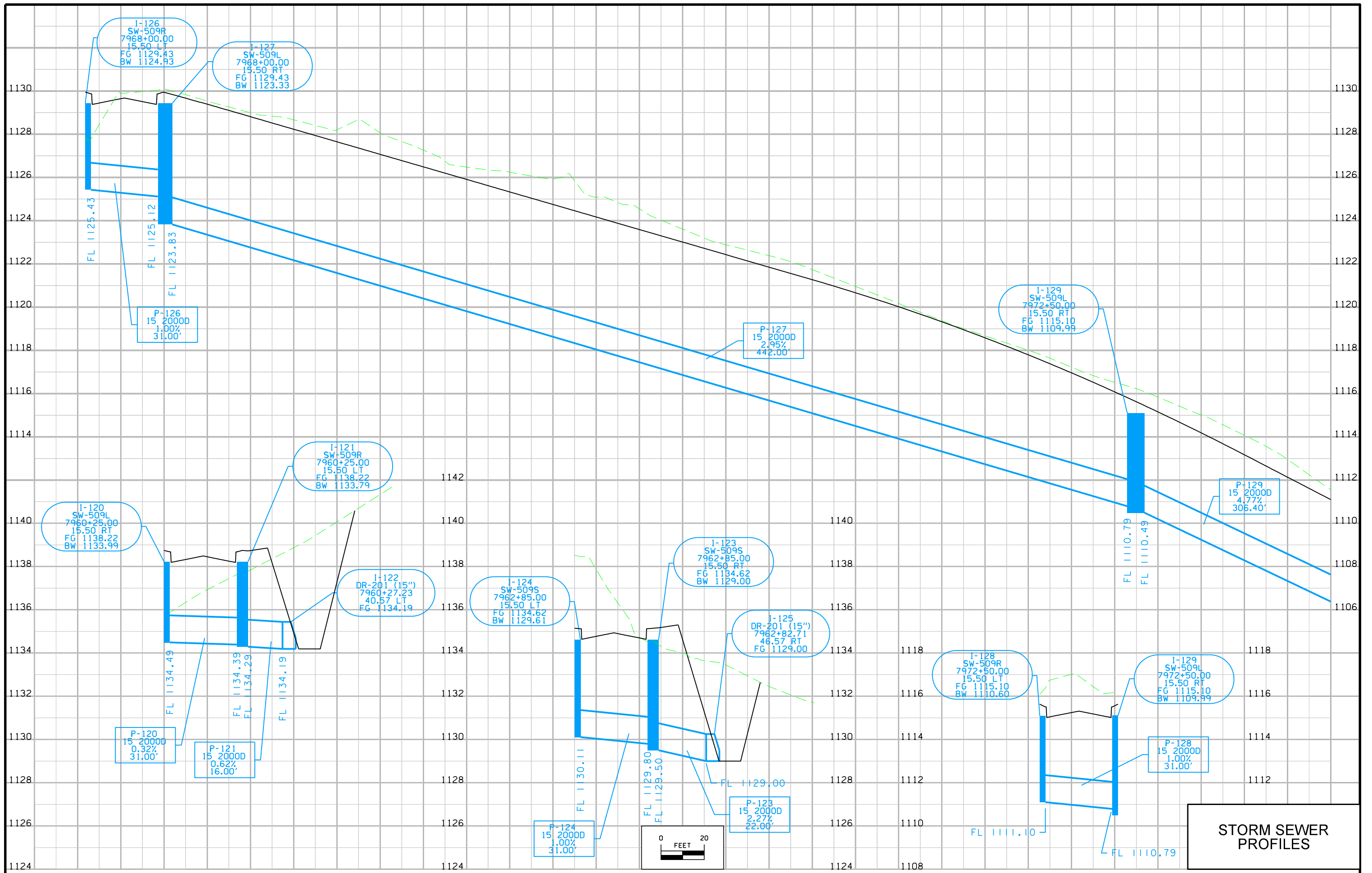


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PROFILES**

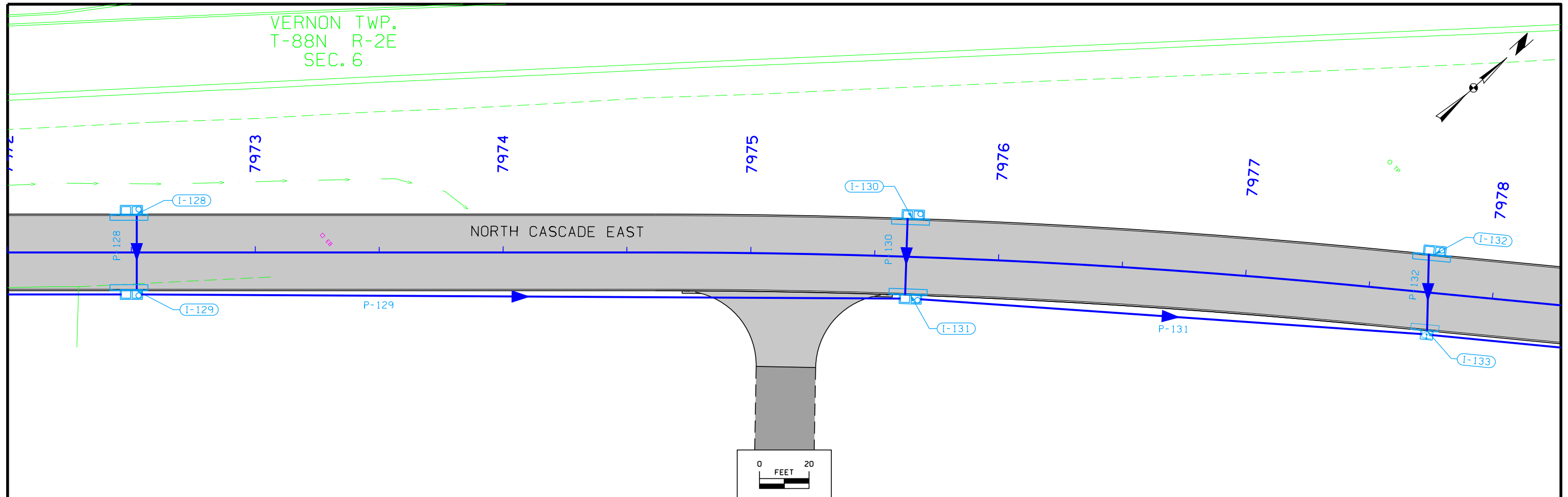


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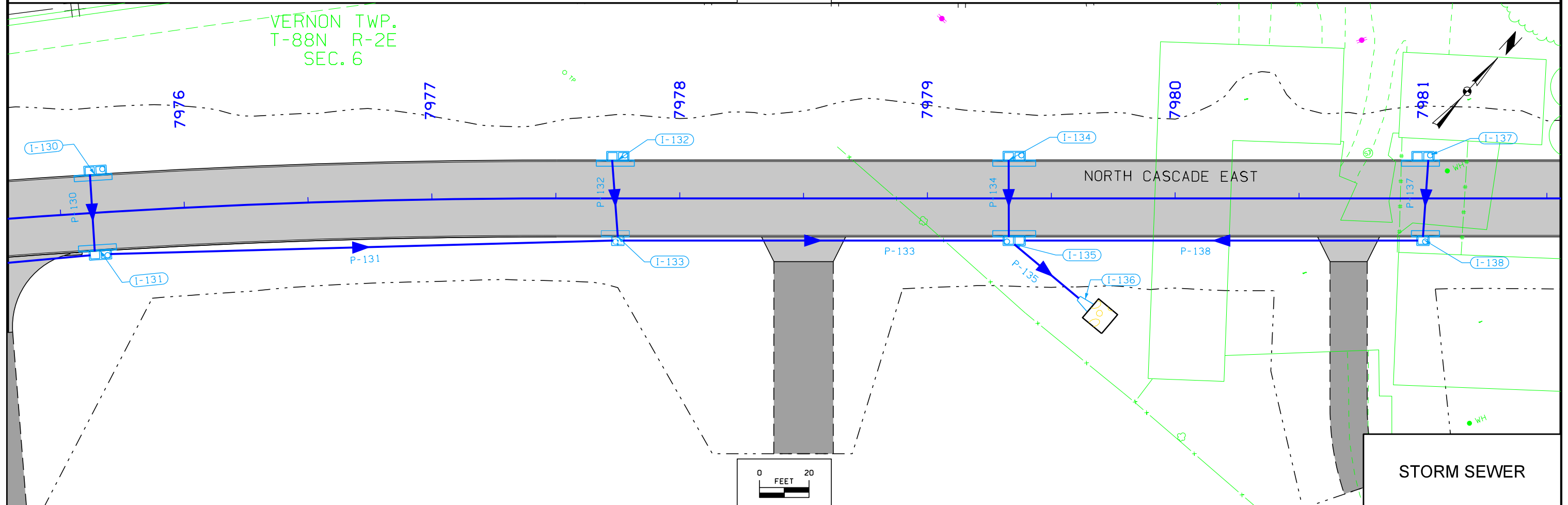




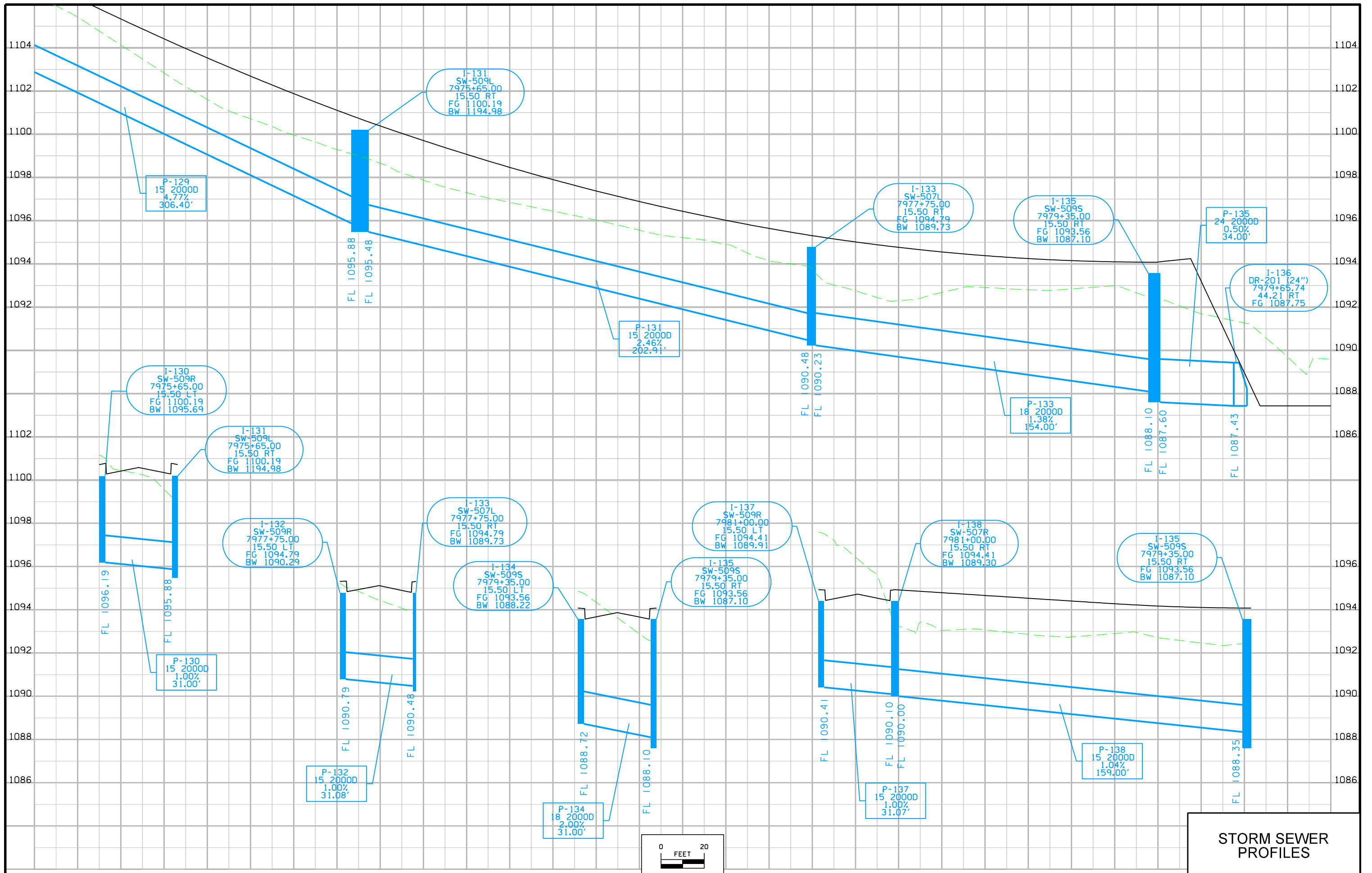
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T-88N R-2E  
SEC. 6



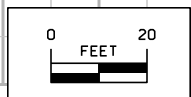
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SEC. 6



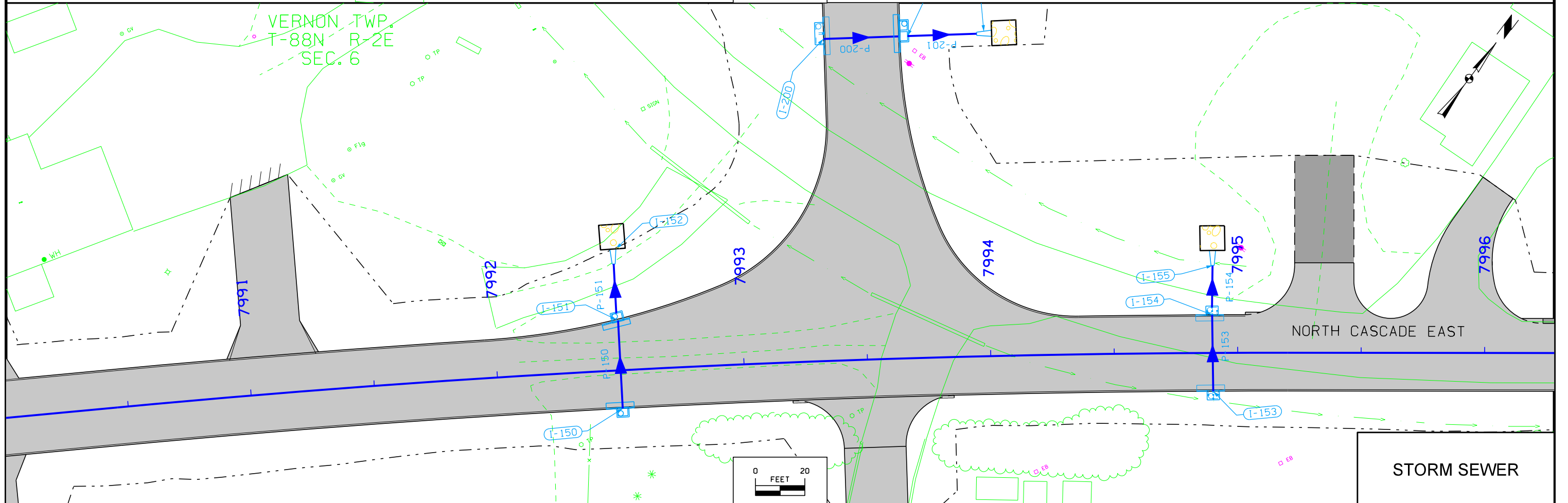
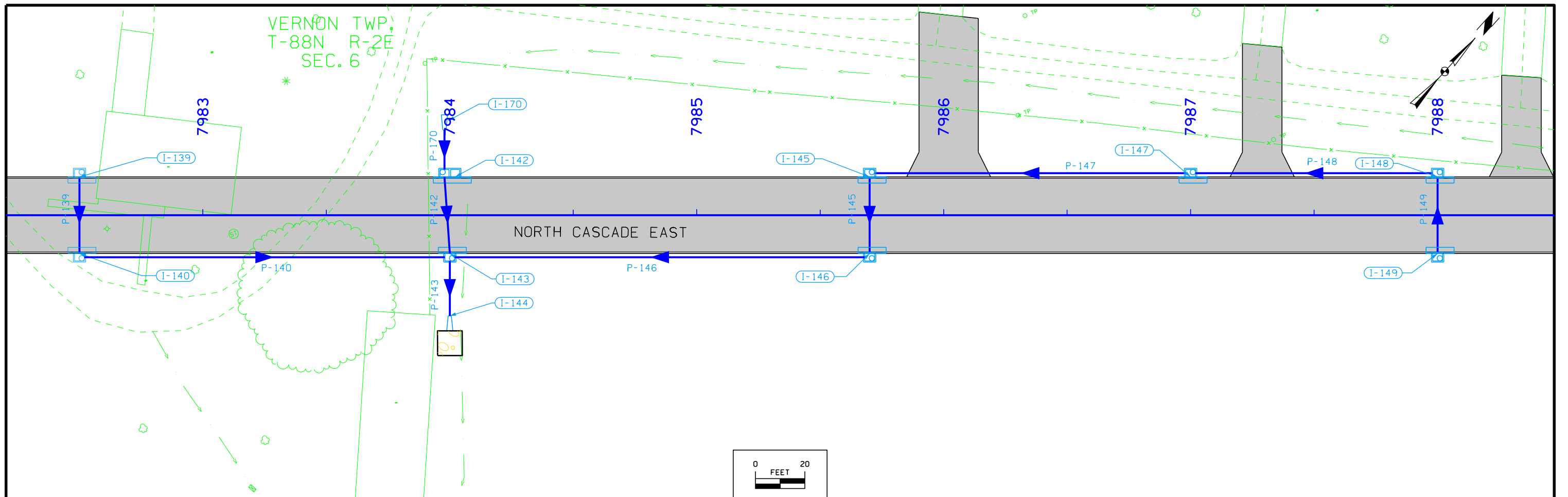
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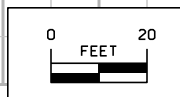
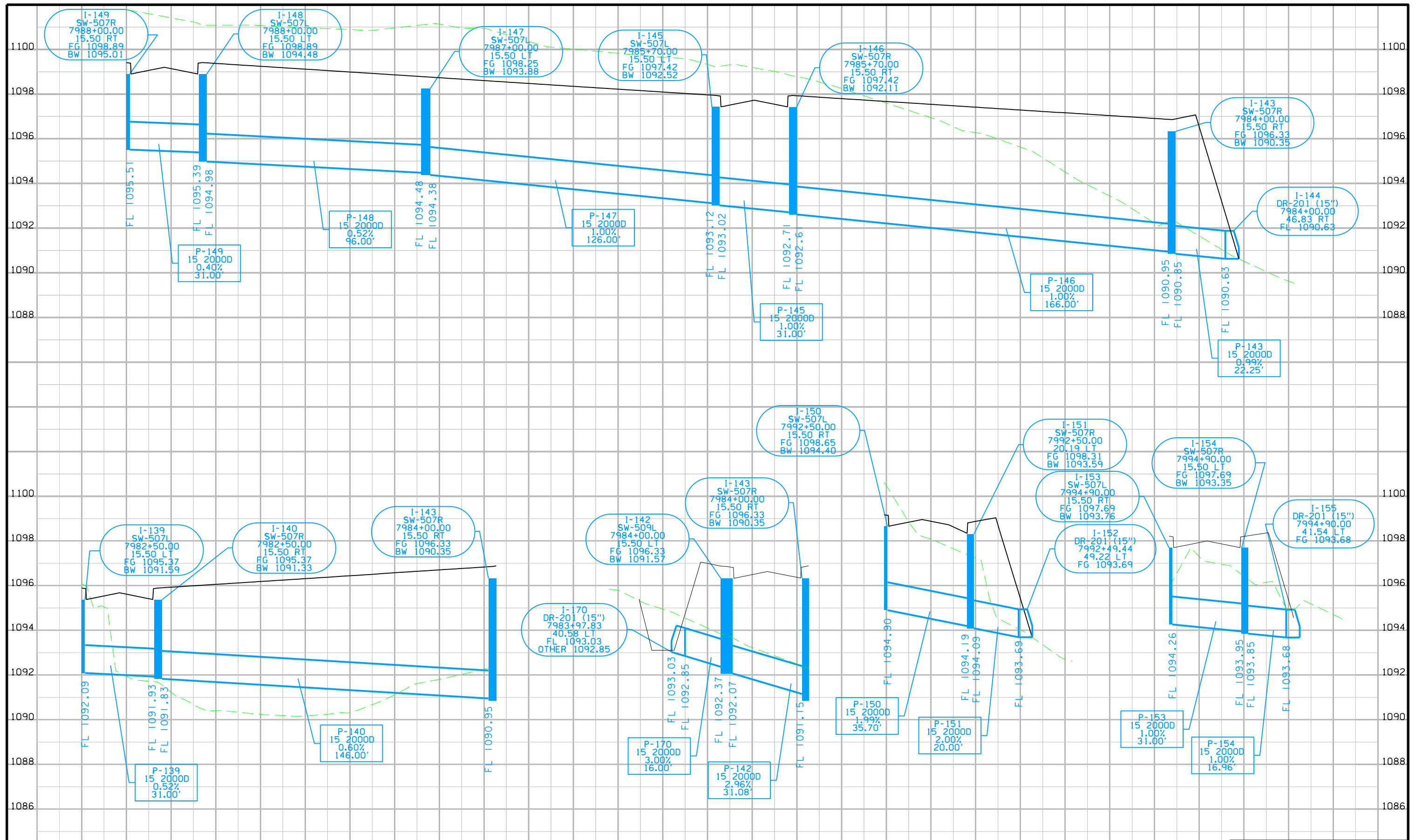
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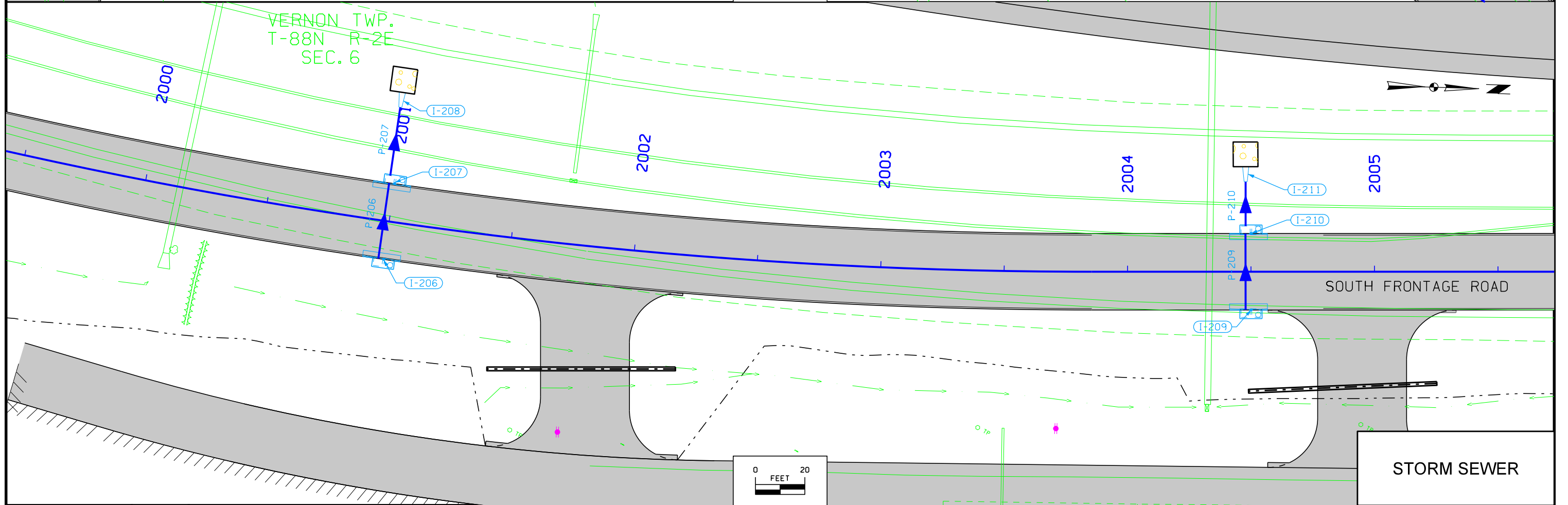
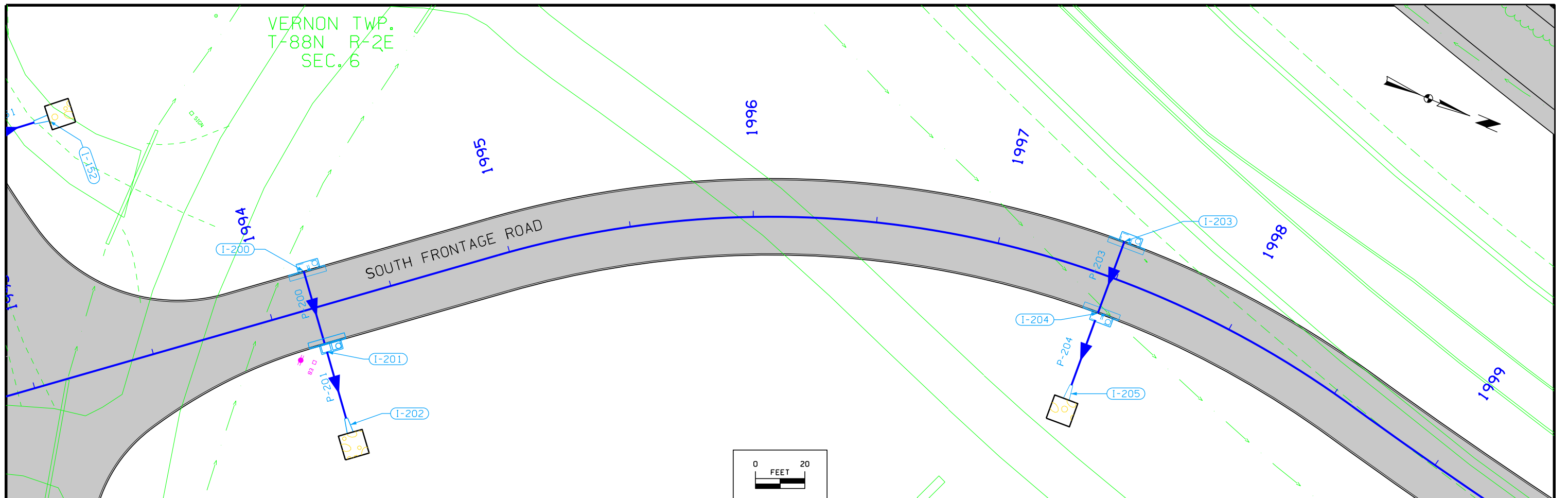




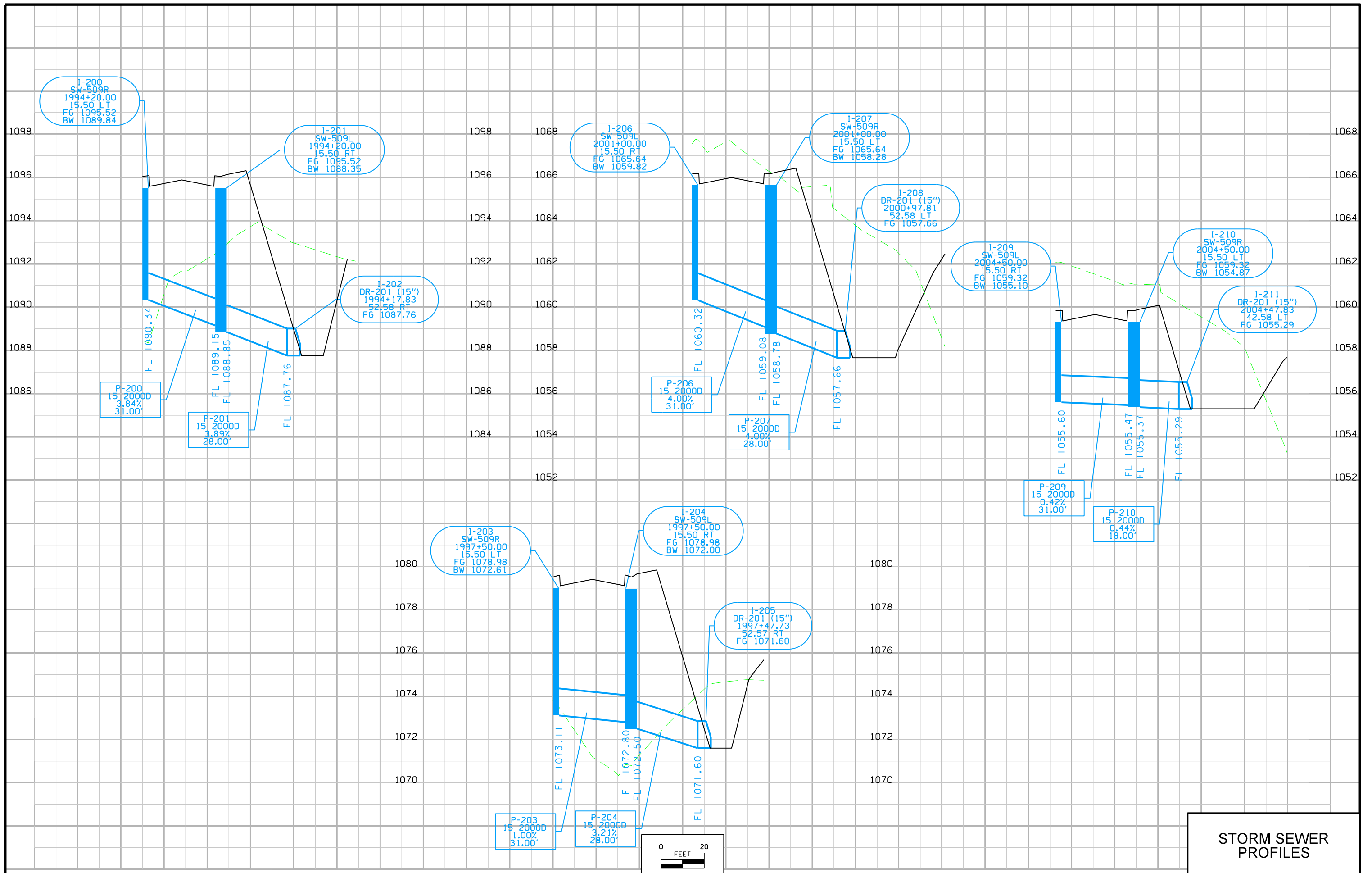
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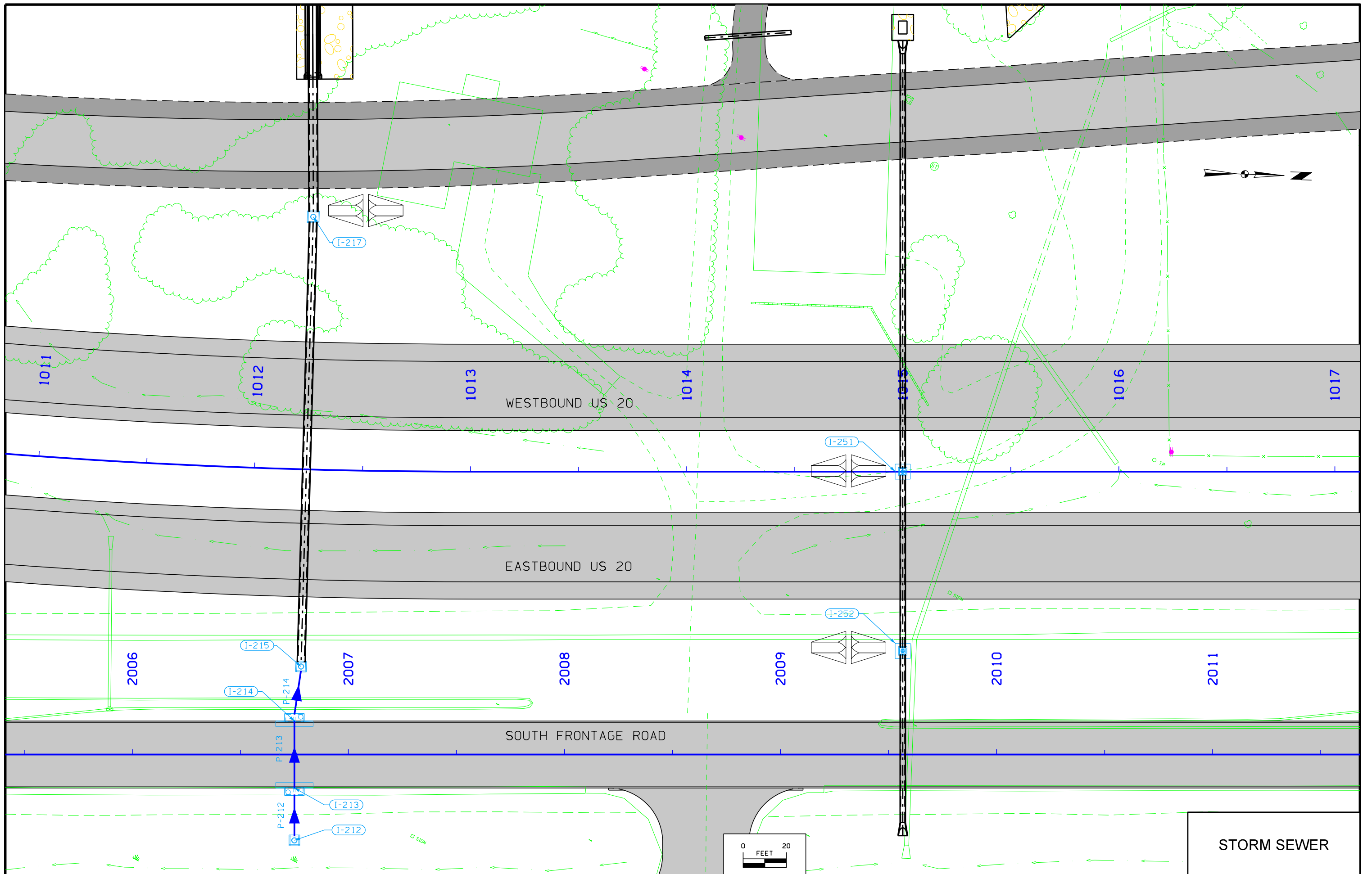
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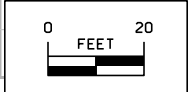
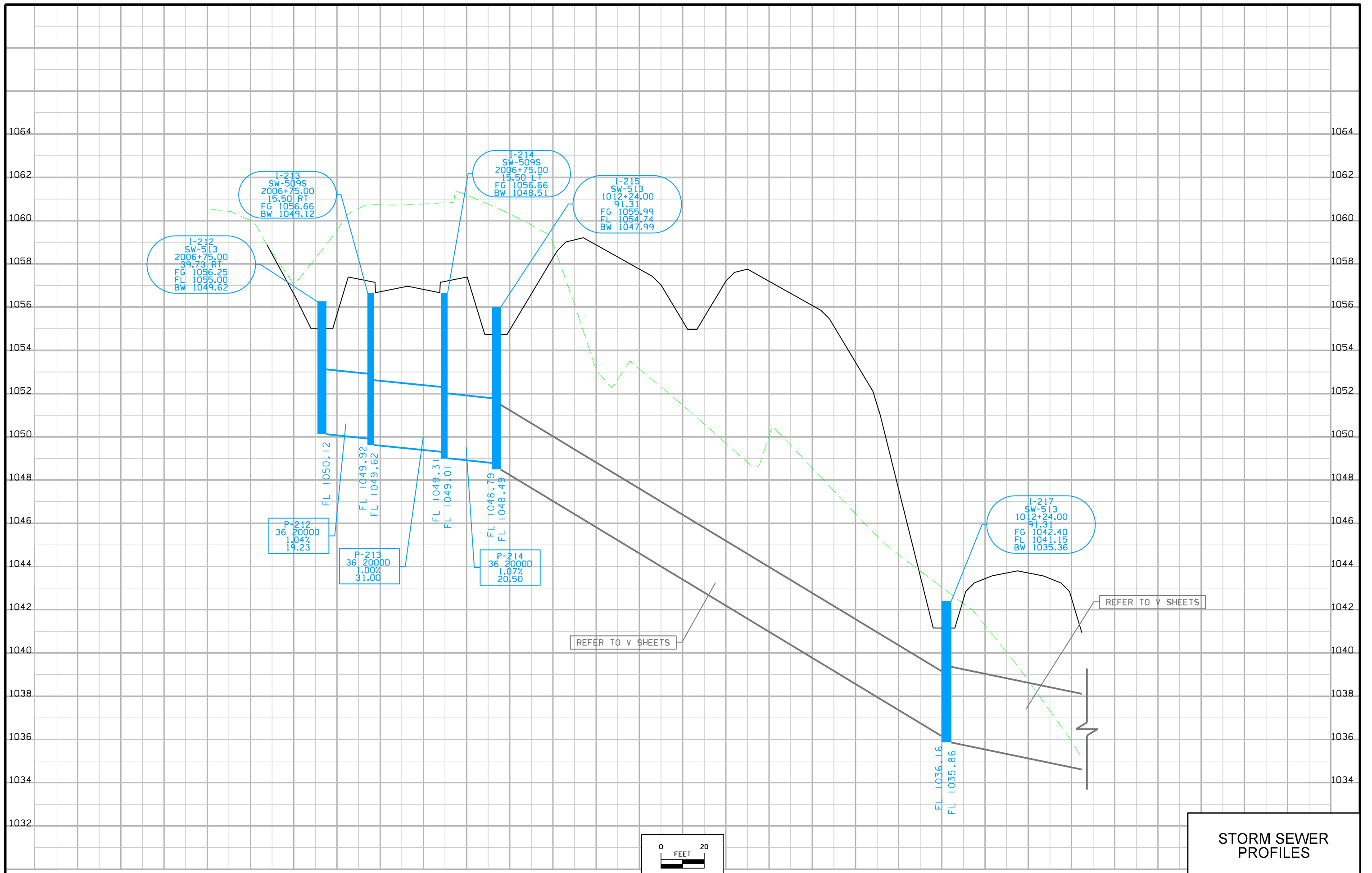




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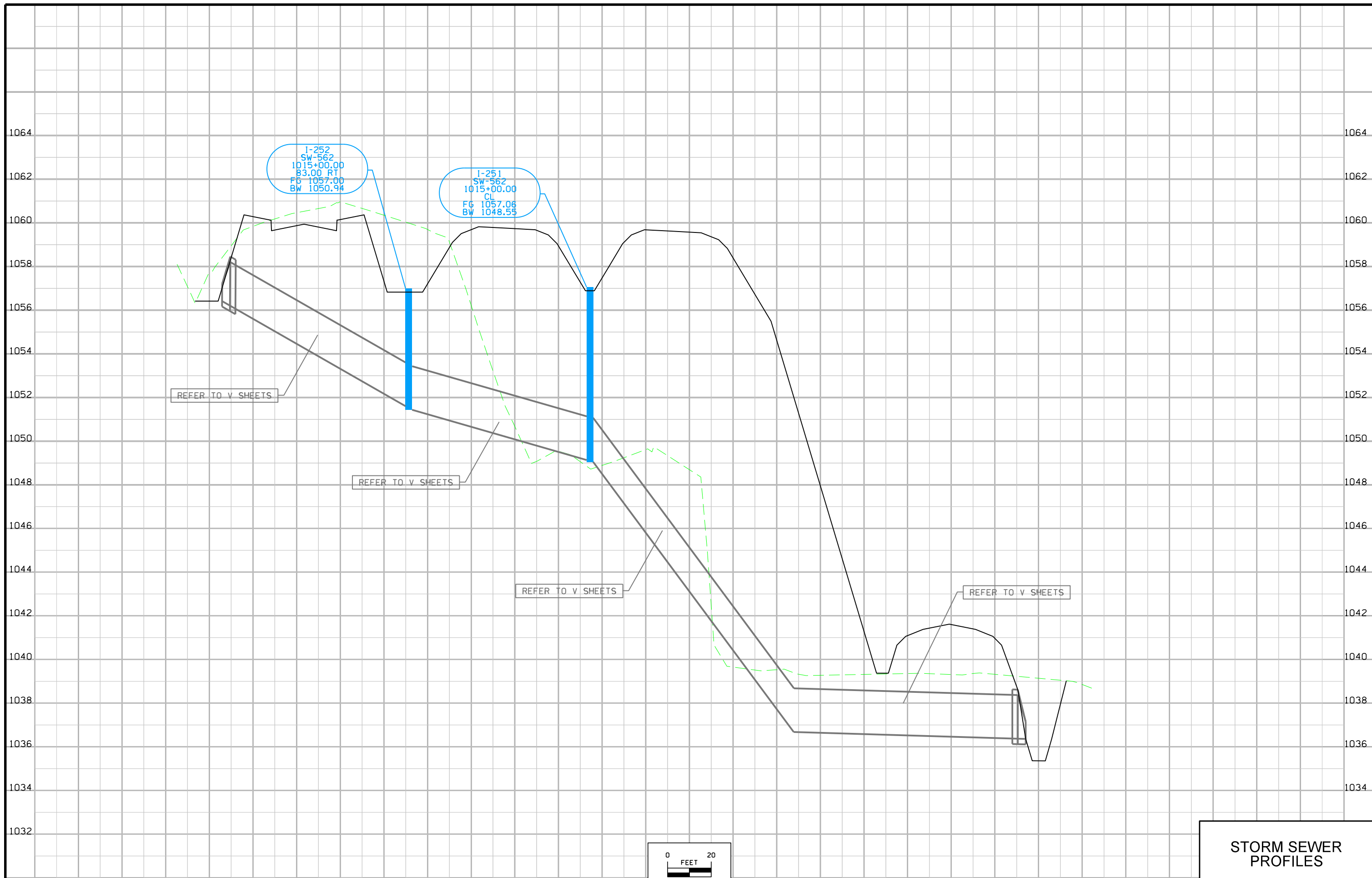


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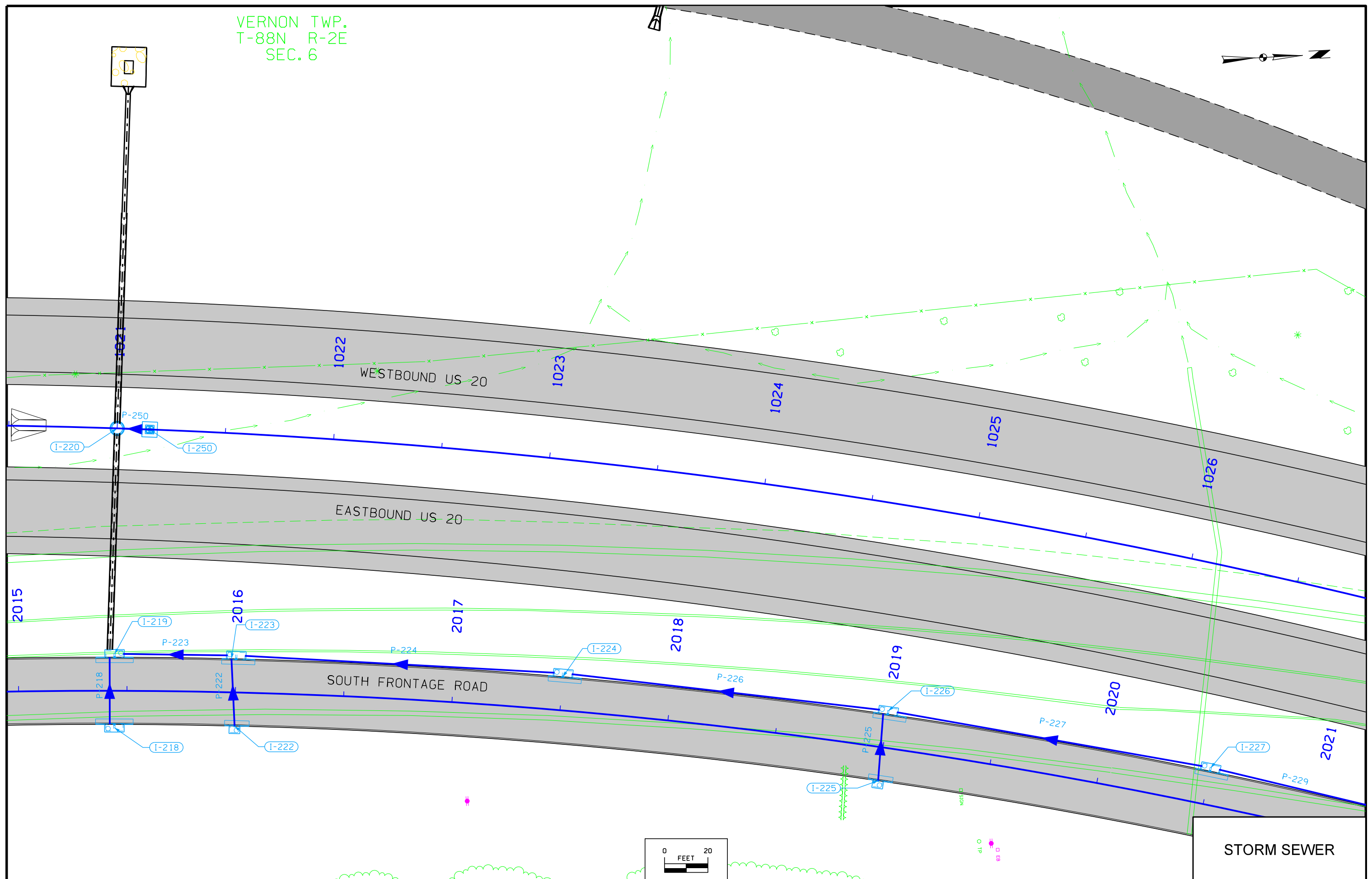
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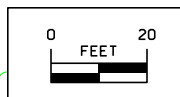


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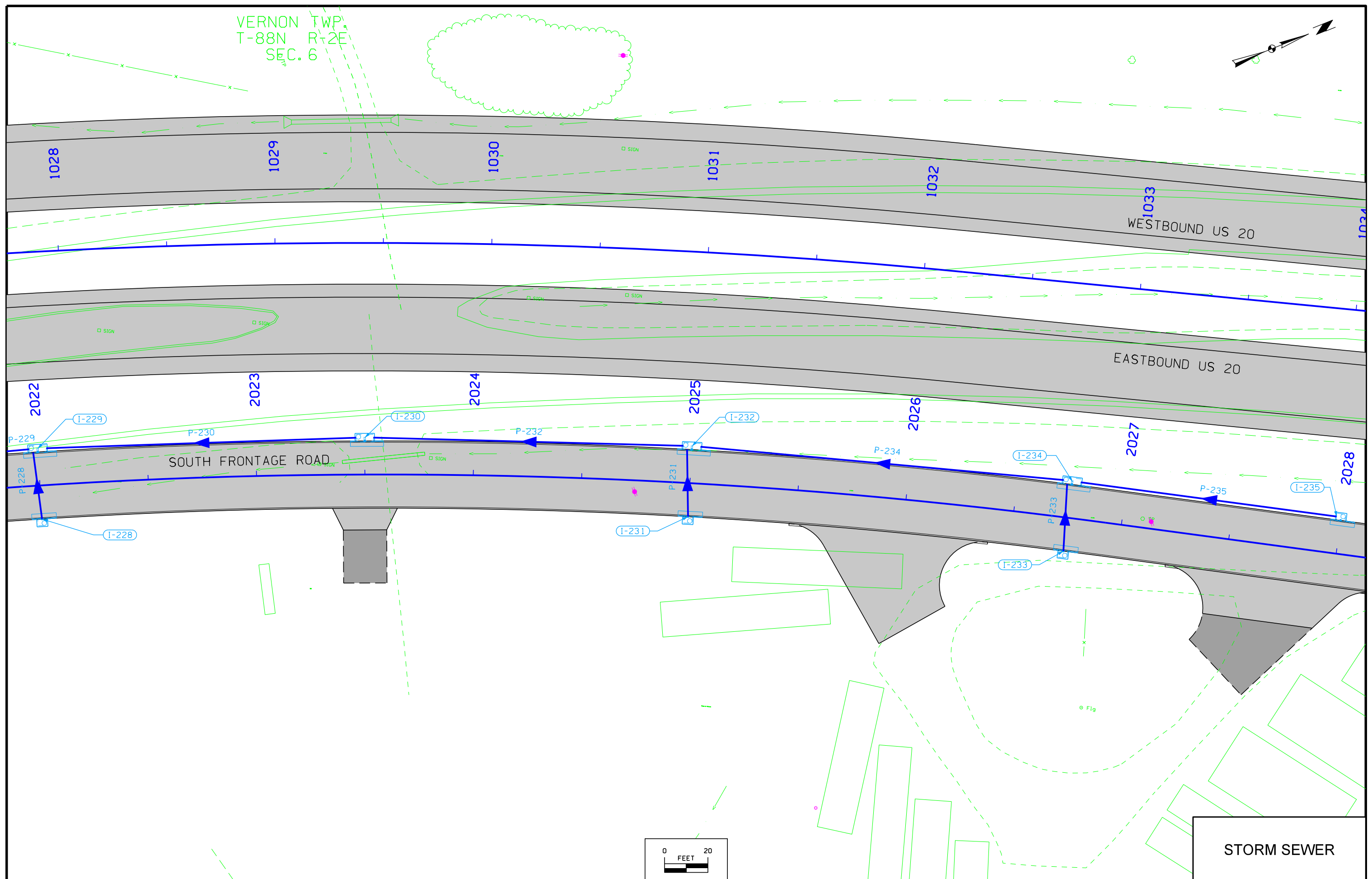
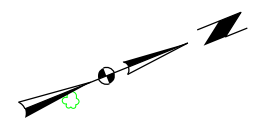
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SEC. 6



STORM SEWER

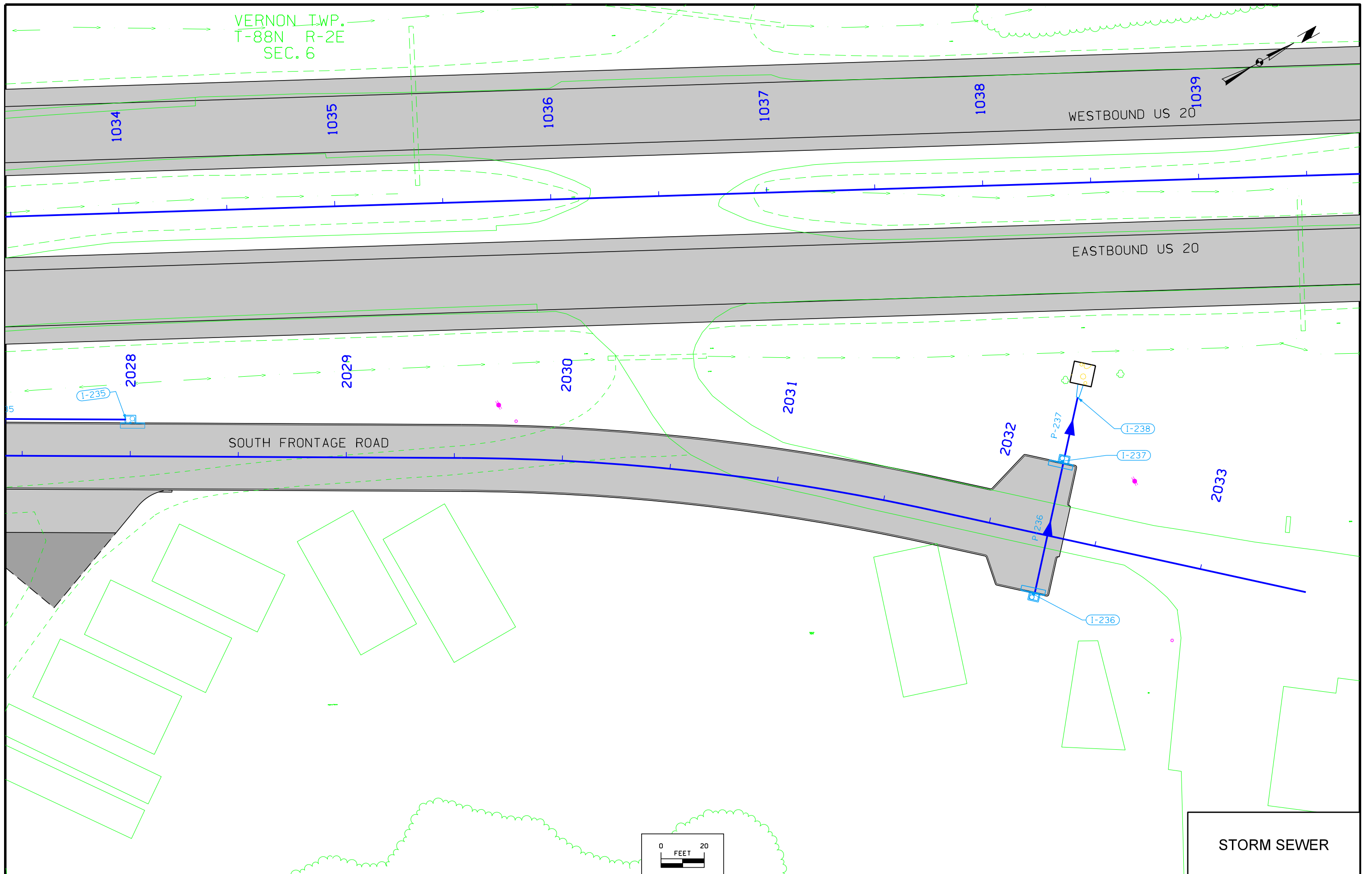


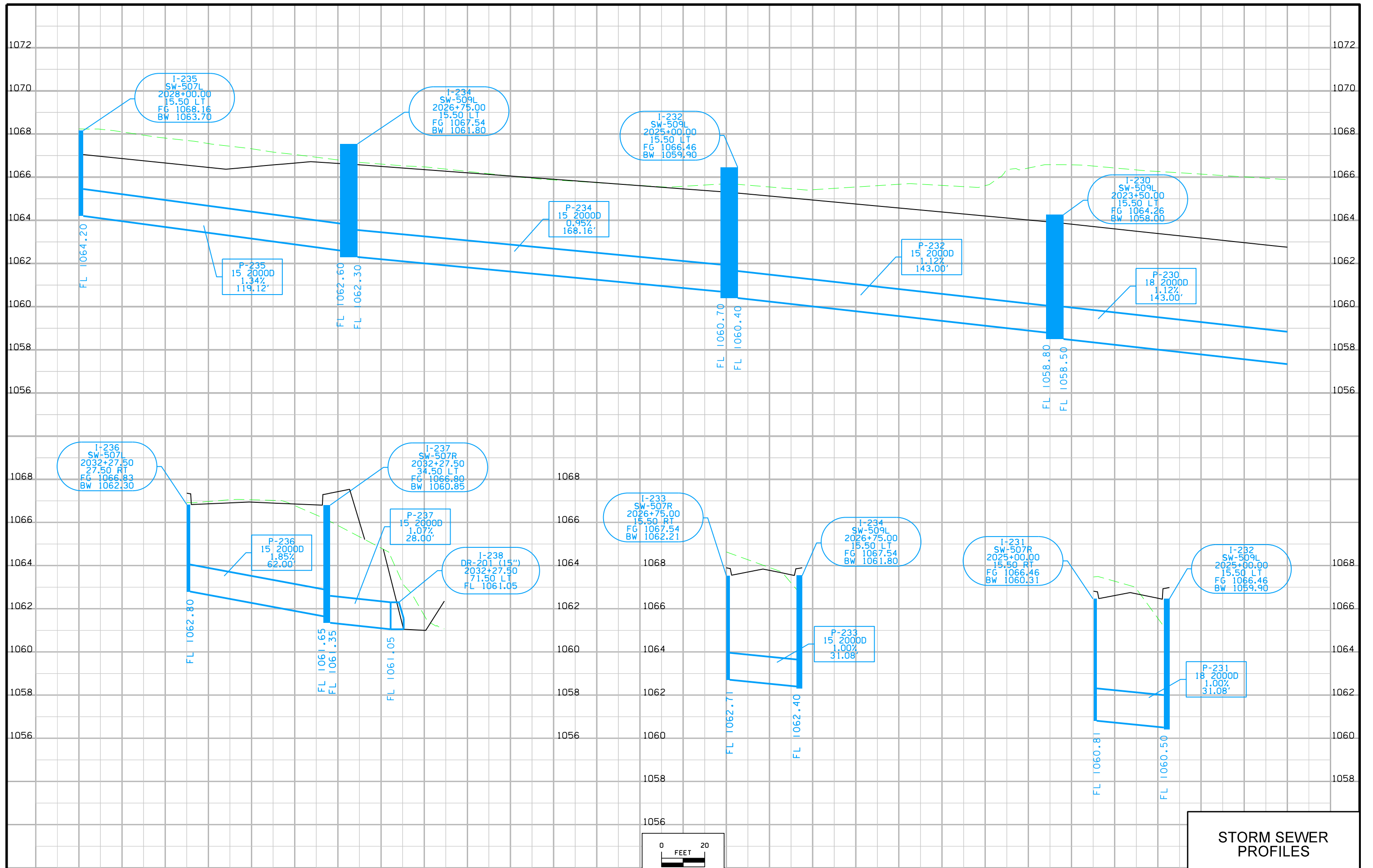
VERNON TWP.  
T-88N R-2E  
SEC. 6



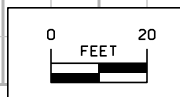
**STORM SEWER**

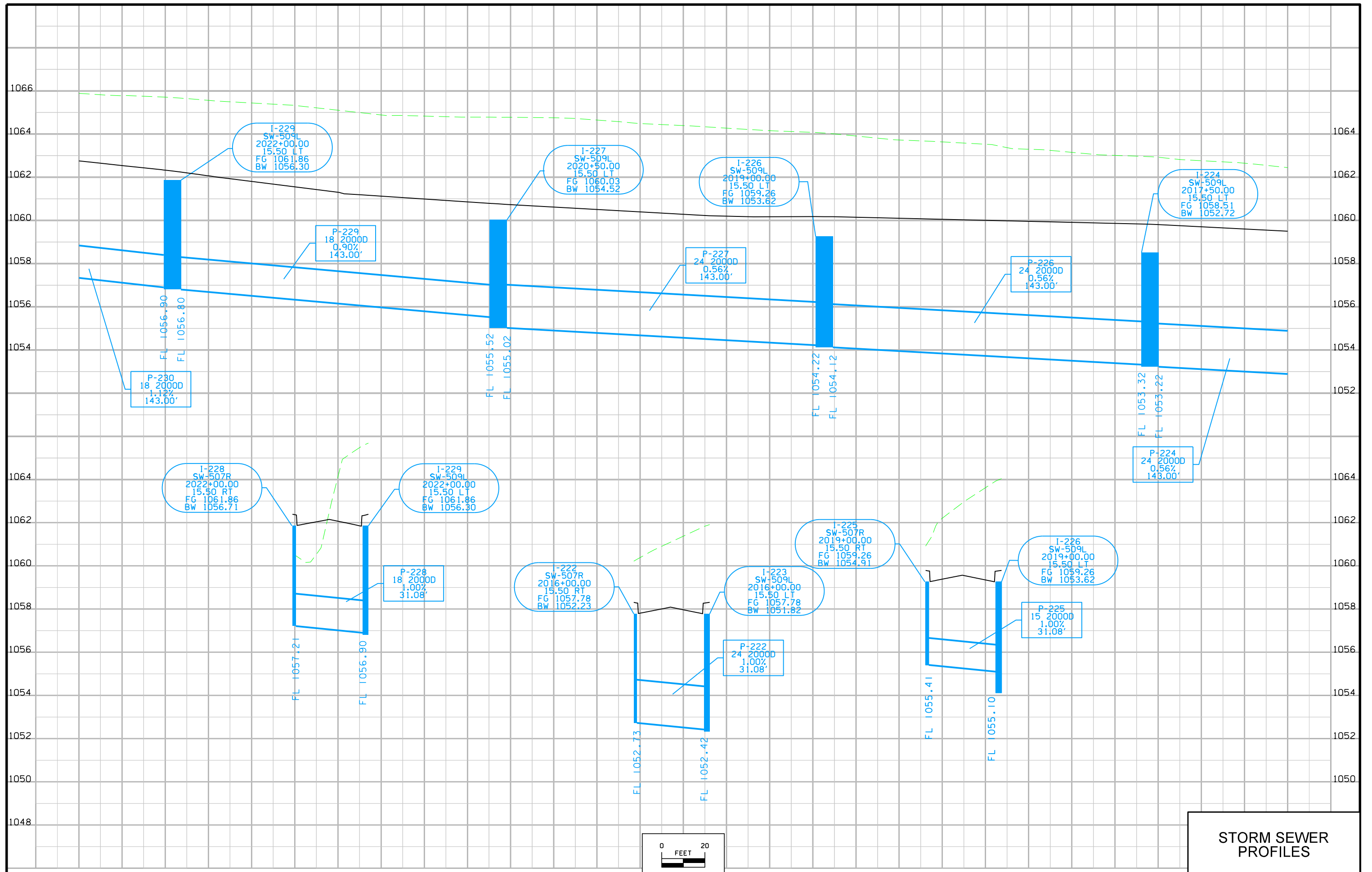




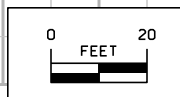


**STORM SEWER PROFILES**

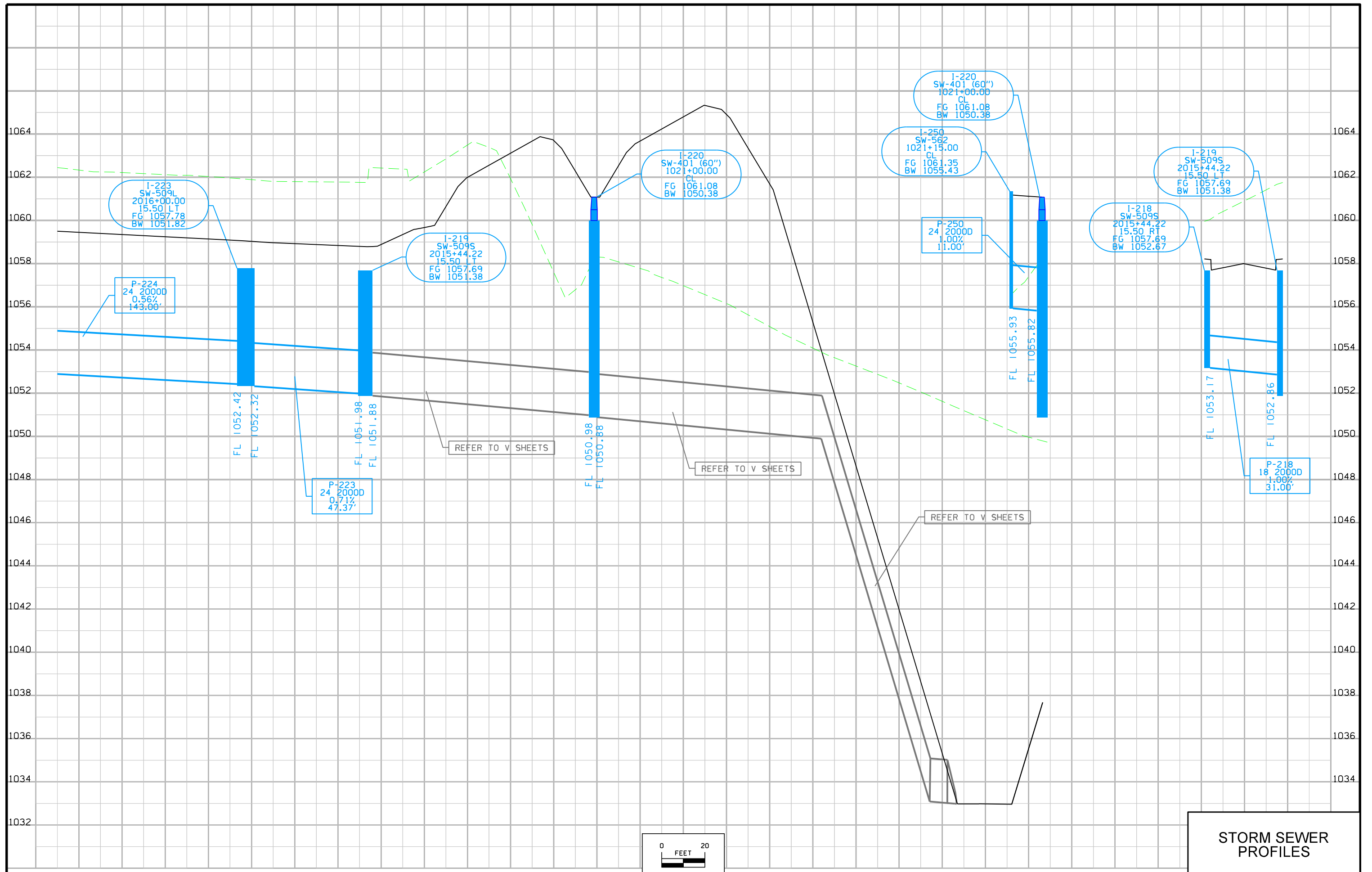




**STORM SEWER PROFILES**

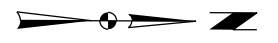






**STORM SEWER  
PROFILES**

VERNON TWP.  
T-88N R-2E  
SEC. 6



12000

12001

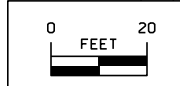
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12003

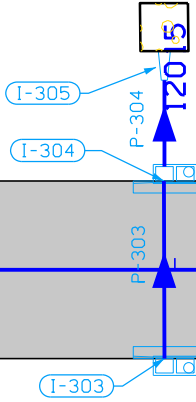
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12005

CHESTERFIELD DRIVE



VERNON TWP.  
T-88N R-2E  
SEC. 6



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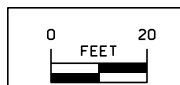
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12018

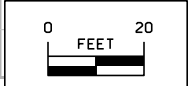
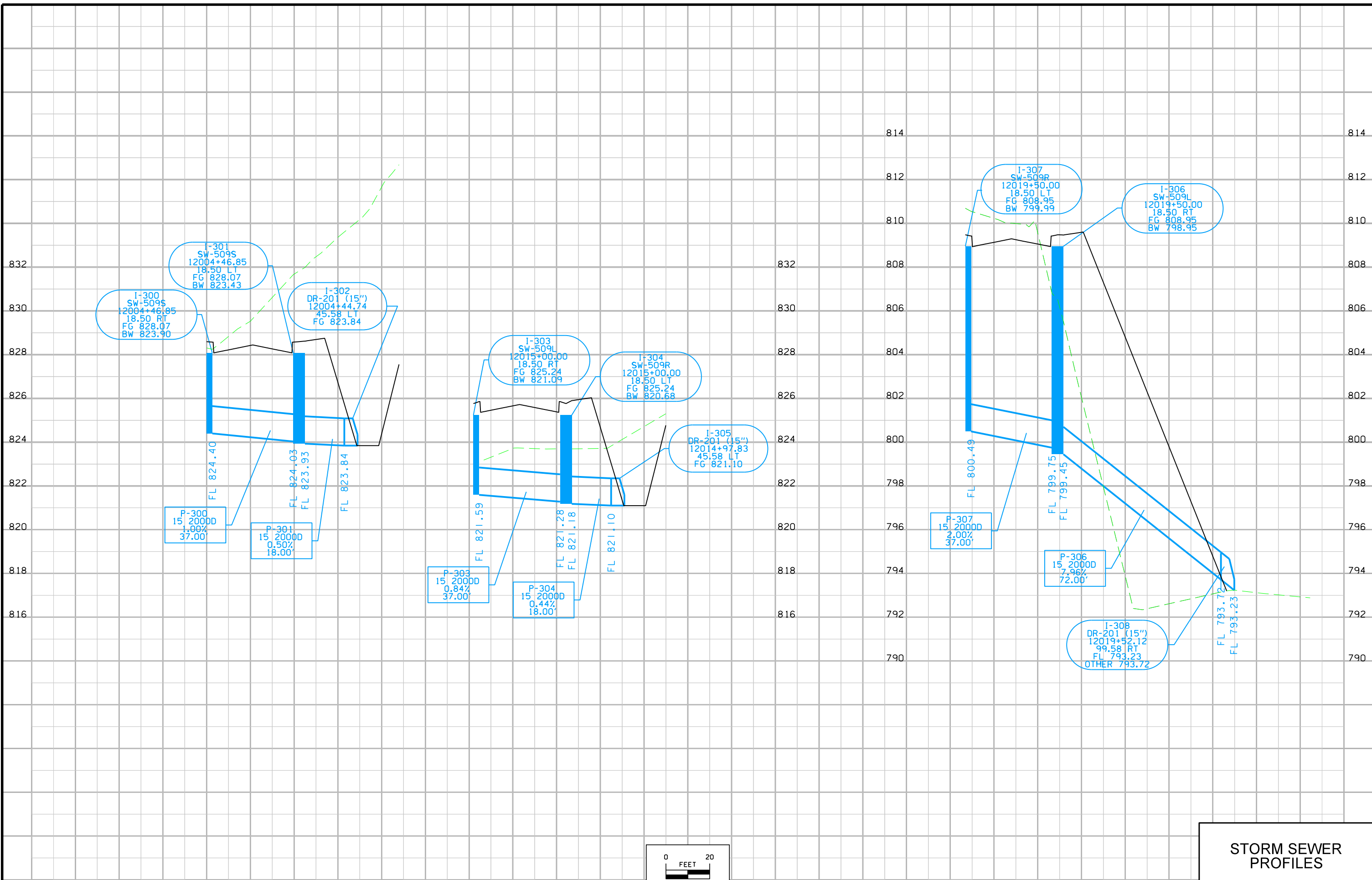
12019

12020

CHESTERFIELD DRIVE



STORM SEWER



**STORM SEWER  
PROFILES**



VERNON TWP.  
T-88N R-2E  
SEC. 6



12023

12024

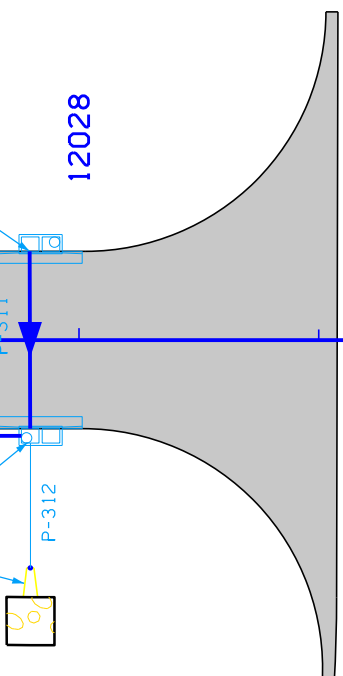
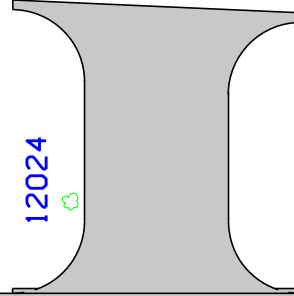
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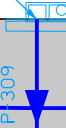
12028

12029



CHESTERFIELD DRIVE

I-309



I-310



P-310

I-311

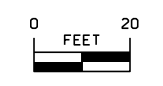


I-312

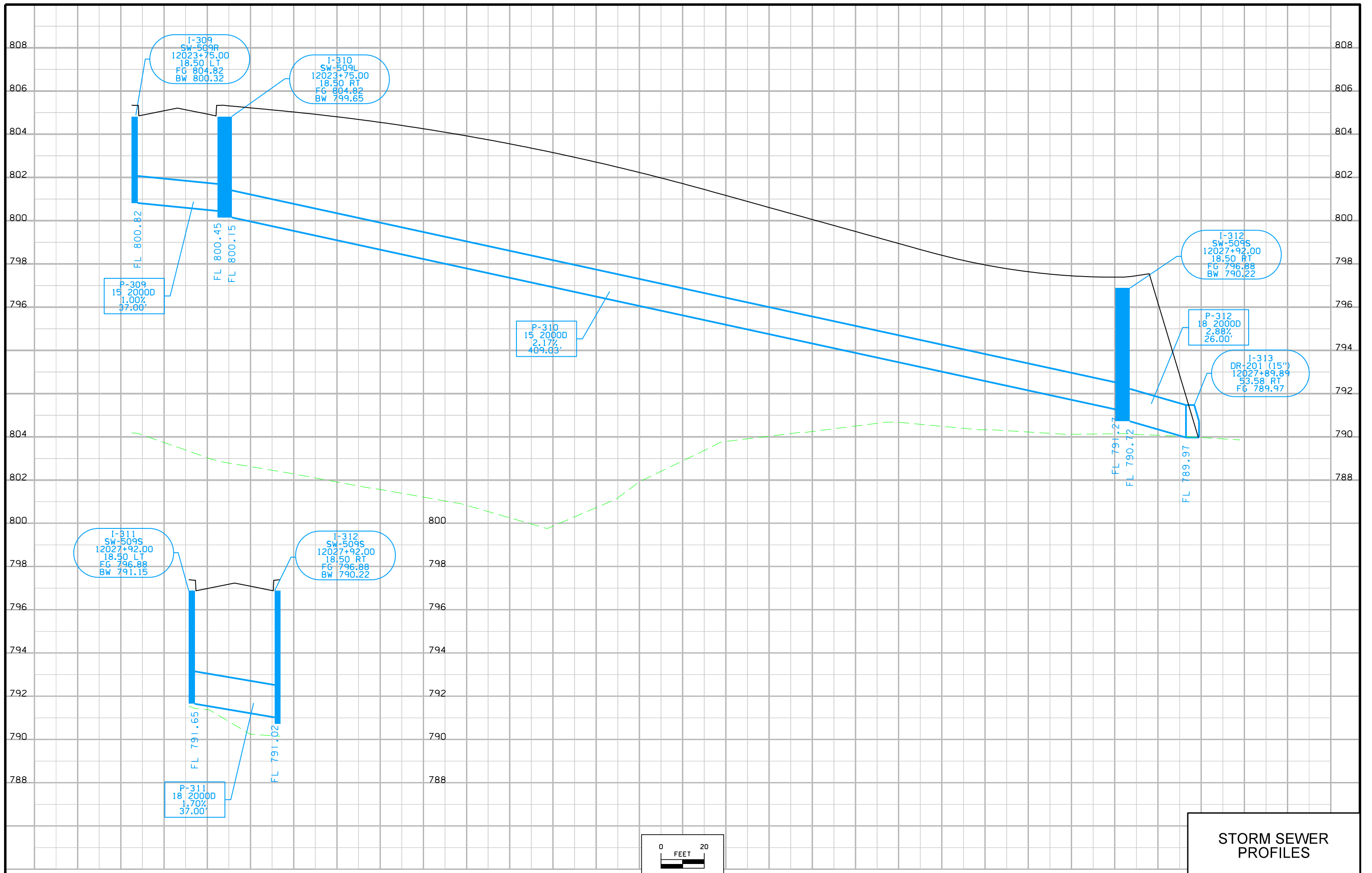
I-313



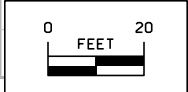
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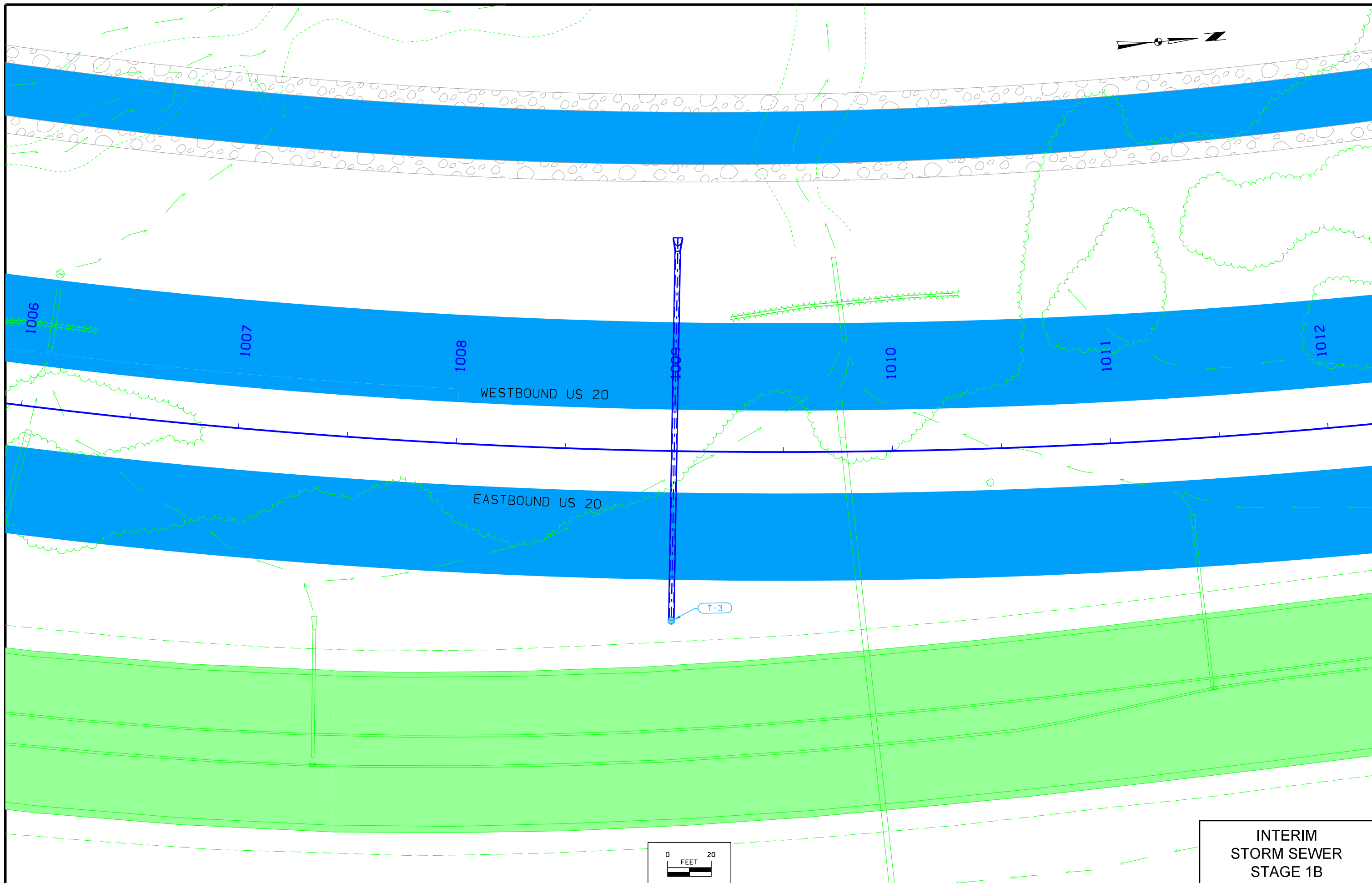


STORM SEWER

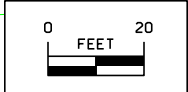


**STORM SEWER PROFILES**

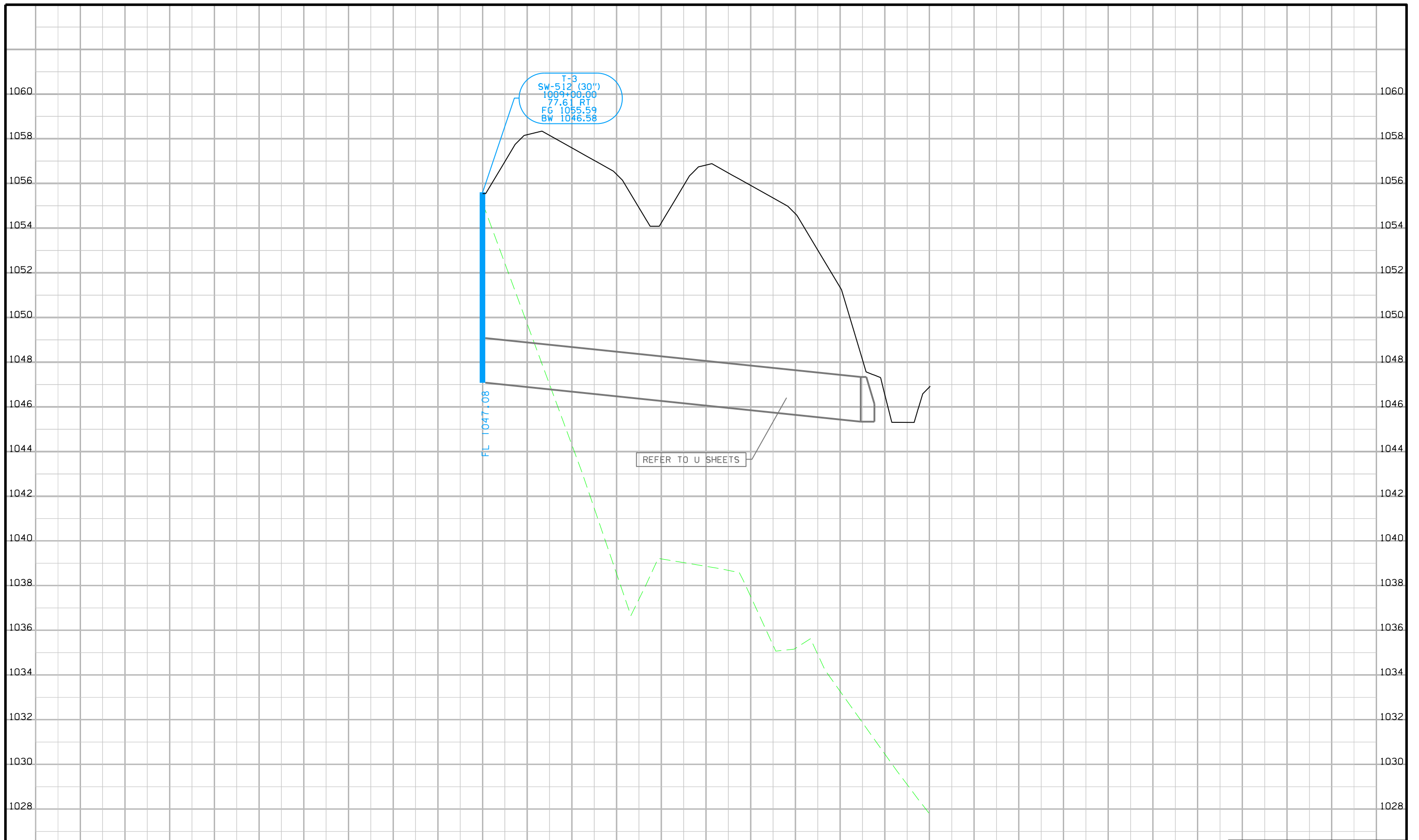




INTERIM  
STORM SEWER  
STAGE 1B



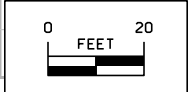




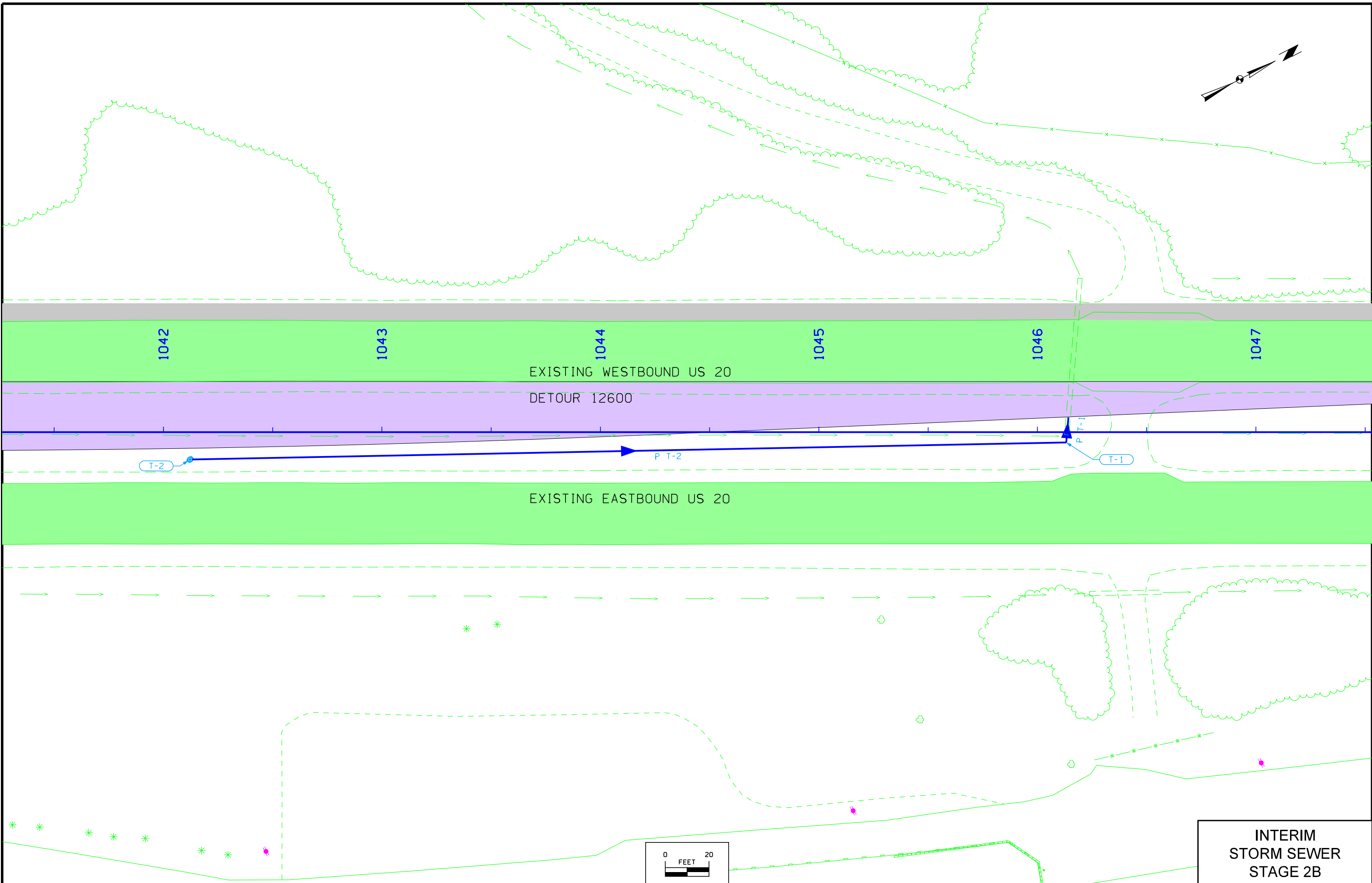
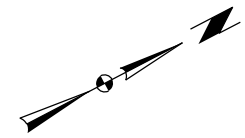
REFER TO U SHEETS

FL 1047.08

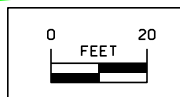
T-3  
 SW-512 (30")  
 1009+00.00  
 77.61 RT  
 FG 1055.59  
 BW 1046.58

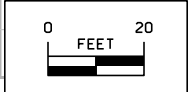
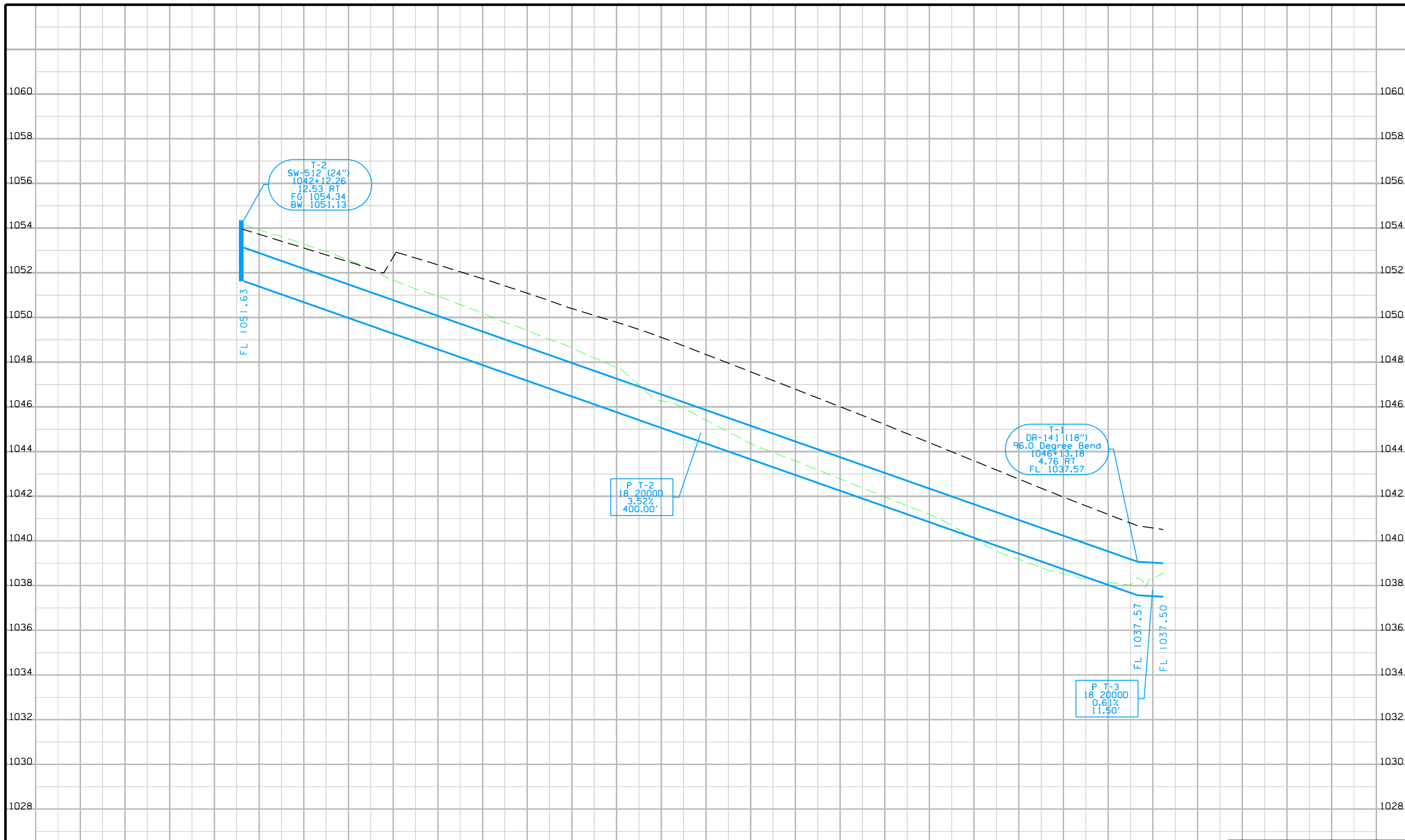


INTERIM  
 STORM SEWER  
 PROFILES



INTERIM  
STORM SEWER  
STAGE 2B














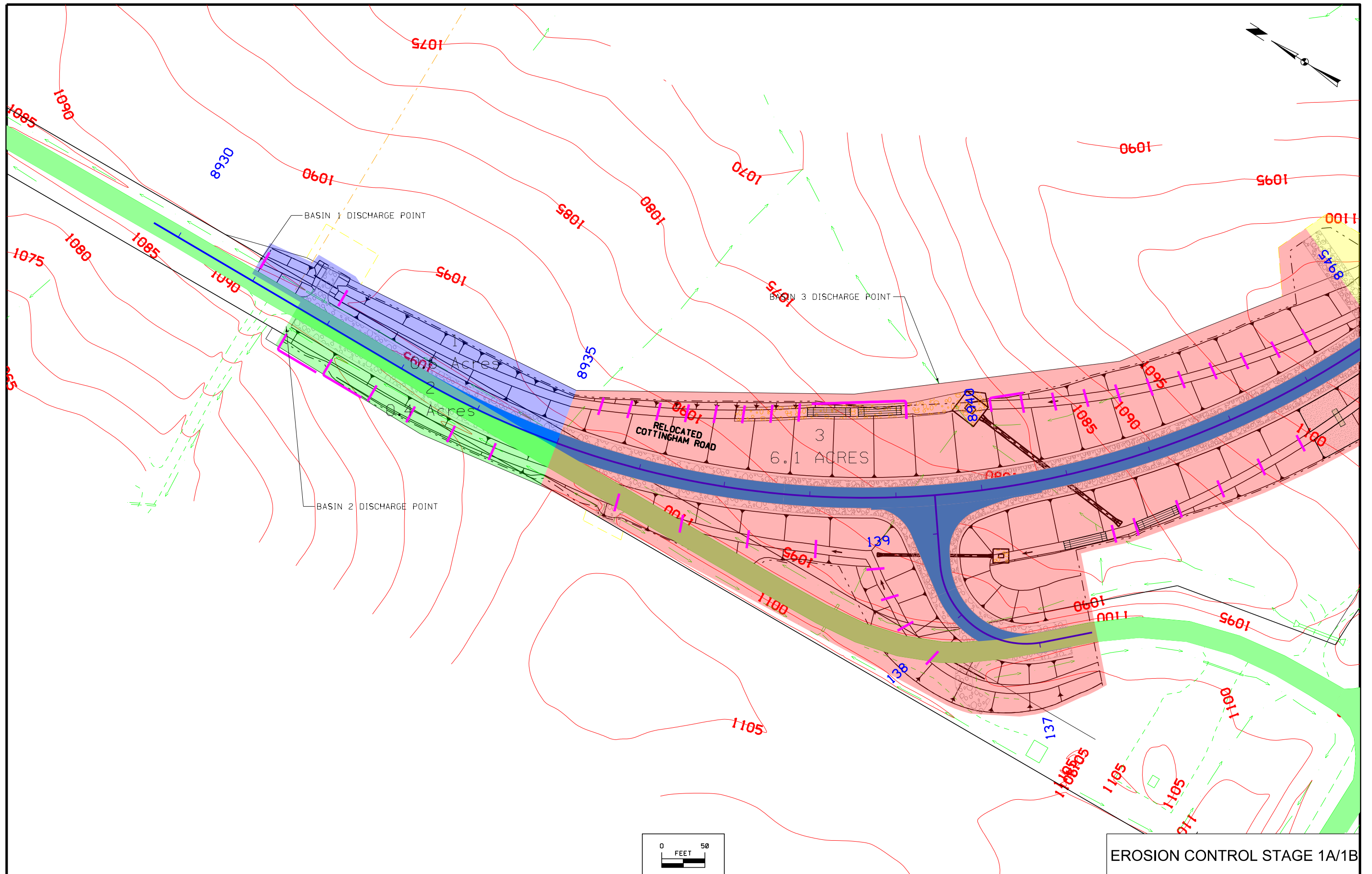
**INTERIM  
STORM SEWER  
PROFILES**



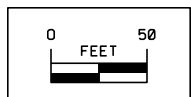
### EROSION CONTROL NOTES

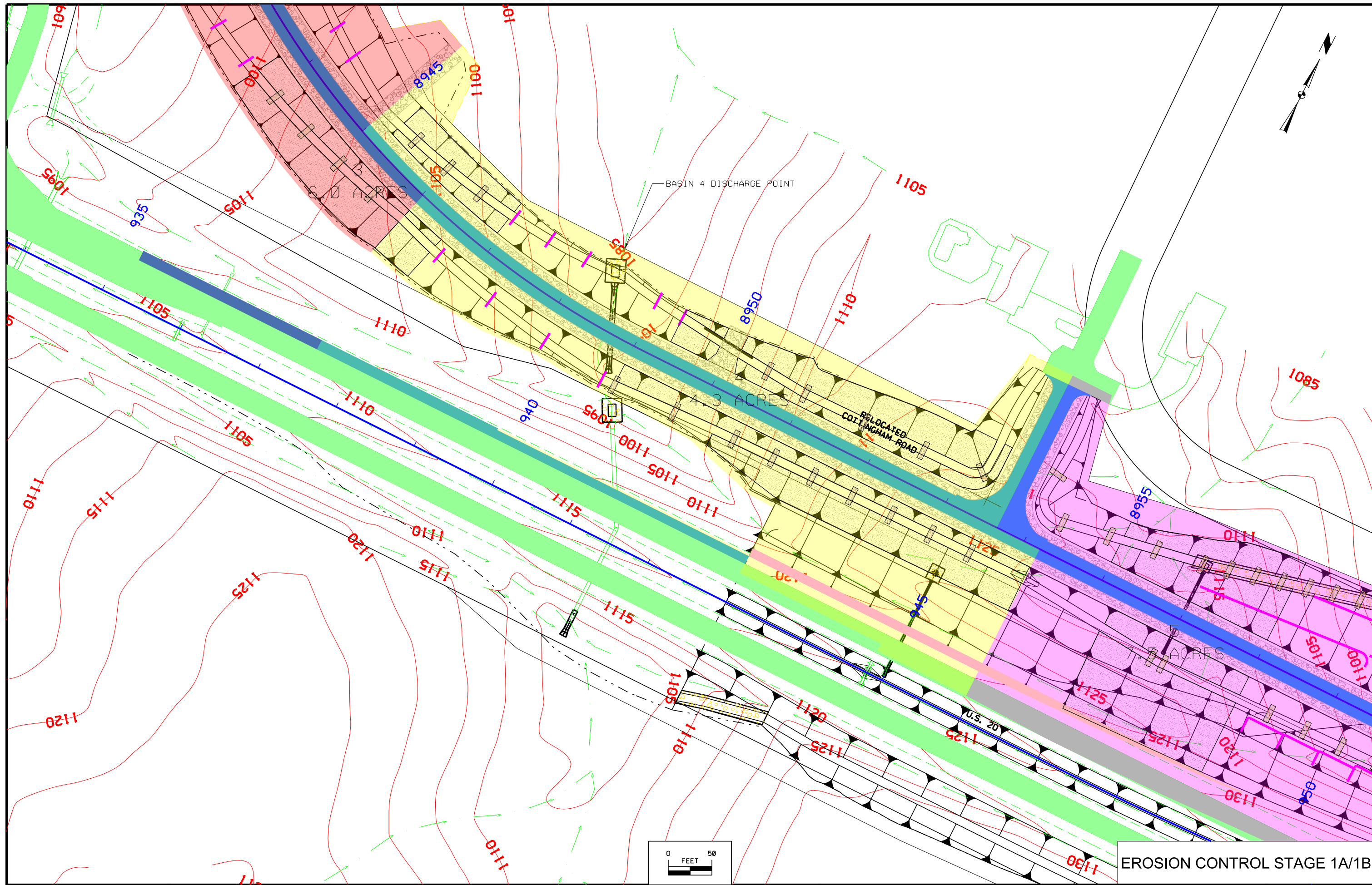
- 1.) Place all erosion control Best Management Practices (BMP) devices that do not interfere with grading operations prior to grading.
- 2.) Where and when possible, utilize intermediate grading slopes toward ditches away from high fill areas.
- 3.) Rock check dams, silt fence for ditch checks, and silt basins intended to be removed for permanent rolled ditch treatment shall remain in place until final stabilization (70%) permanent growth has been achieved. Rock check dams may remain in place once grading activities are complete at the direction of the Engineer.
- 4.) Turf Reinforced Mat and Perimeter and Slope Sediment Control Devices shall be installed to replace Rock Check Dams and Silt Fence for Ditch Checks once removed.
- 5.) Install Rock Ditches and Rock Flumes immediately following ditch grading.
- 6.) Install Rock Basins and Scour Holes for culverts at the completion of the culvert.

| LEGEND                                                                                |                                           |
|---------------------------------------------------------------------------------------|-------------------------------------------|
|  | STORM SEWER OUTLET                        |
|  | TEMPORARY-SILT FENCE                      |
|  | TEMPORARY-ROCK CHECK DAMS                 |
|  | SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT |
|  | ROCK DITCHES                              |
|  | SCOUR BASINS                              |
|  | SILT BASIN                                |
|  | SILT DIKE                                 |
|  | PROPOSED DITCH                            |



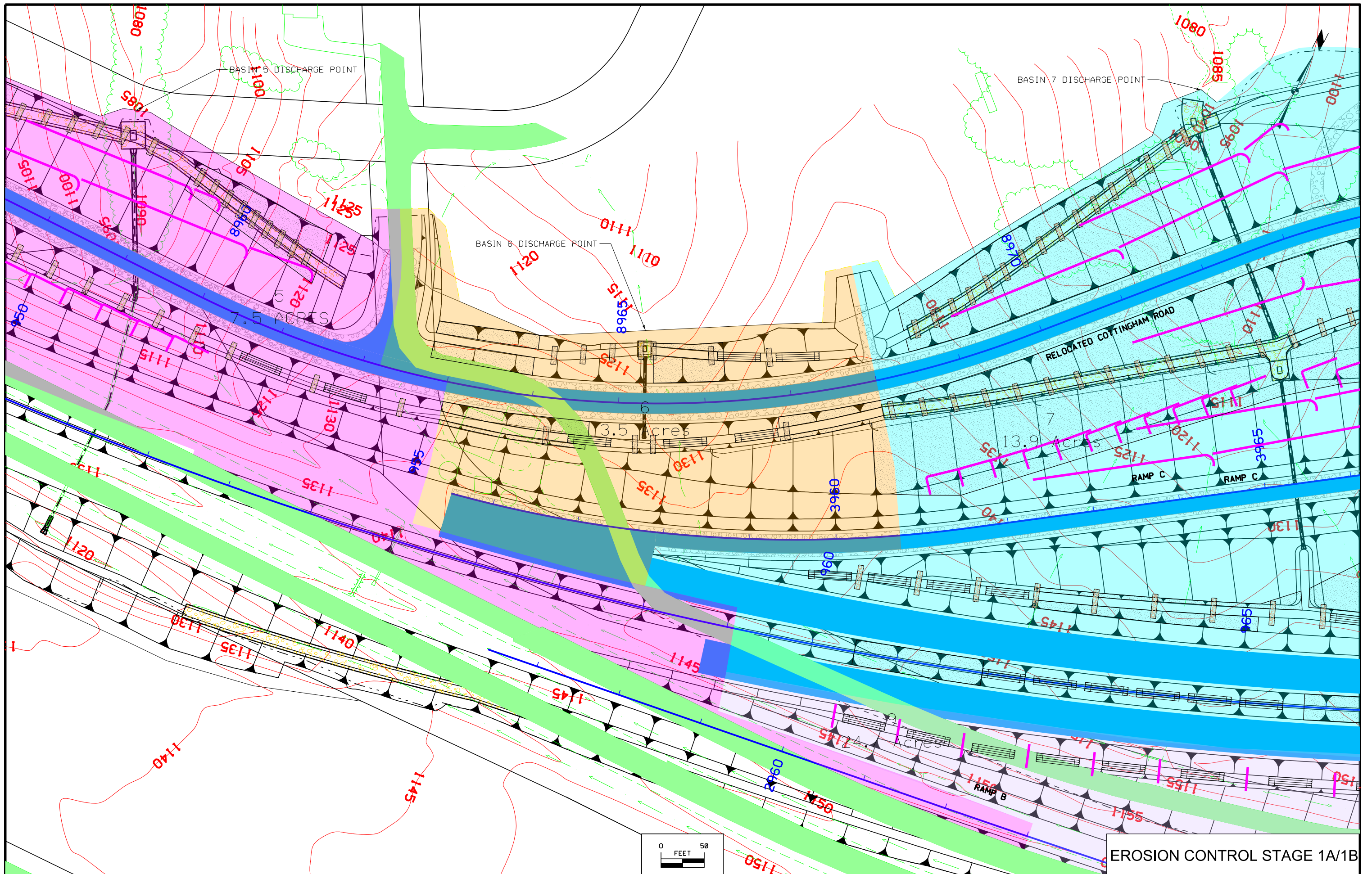
EROSION CONTROL STAGE 1A/1B



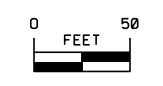


EROSION CONTROL STAGE 1A/1B

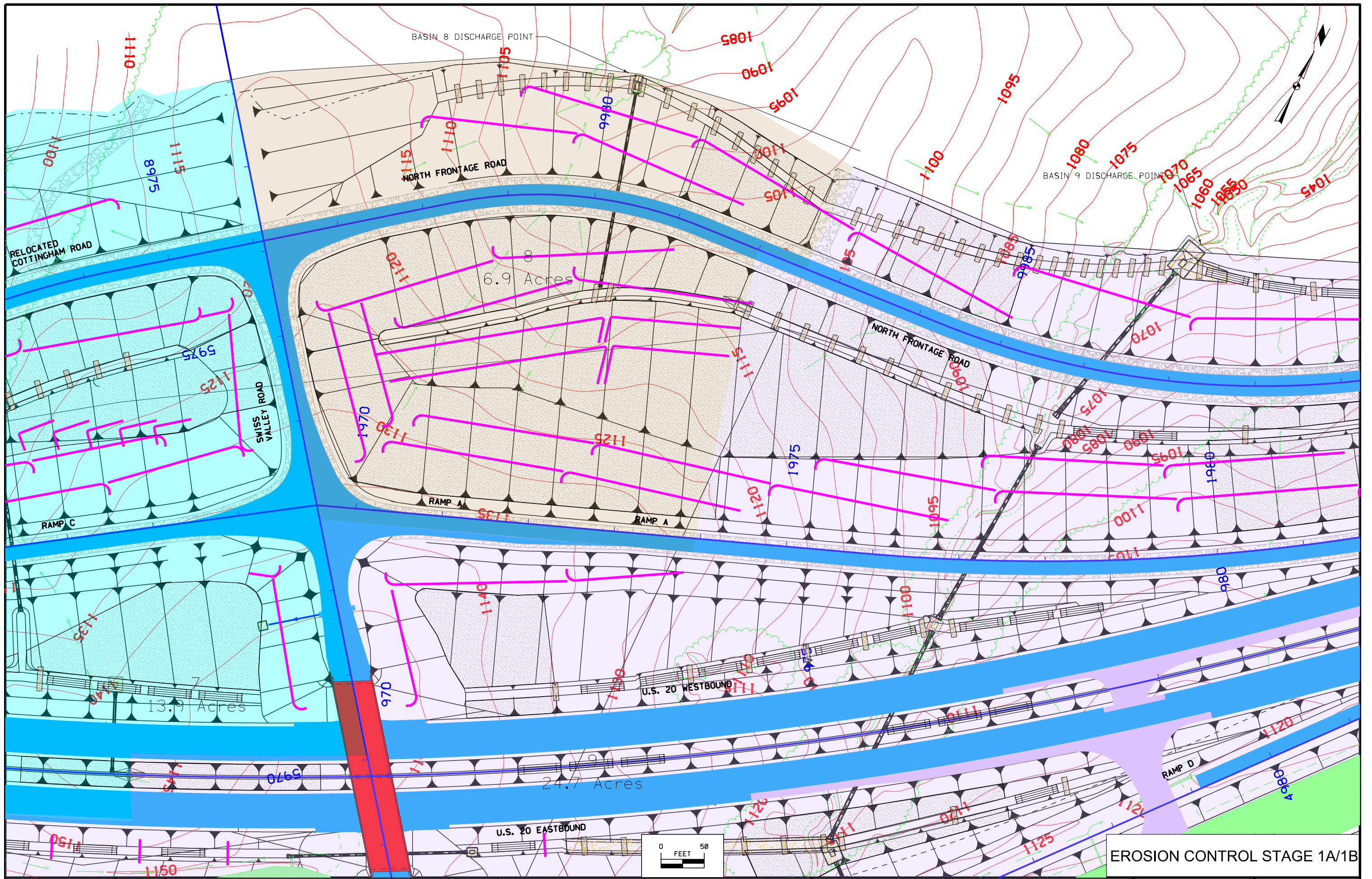




EROSION CONTROL STAGE 1A/1B

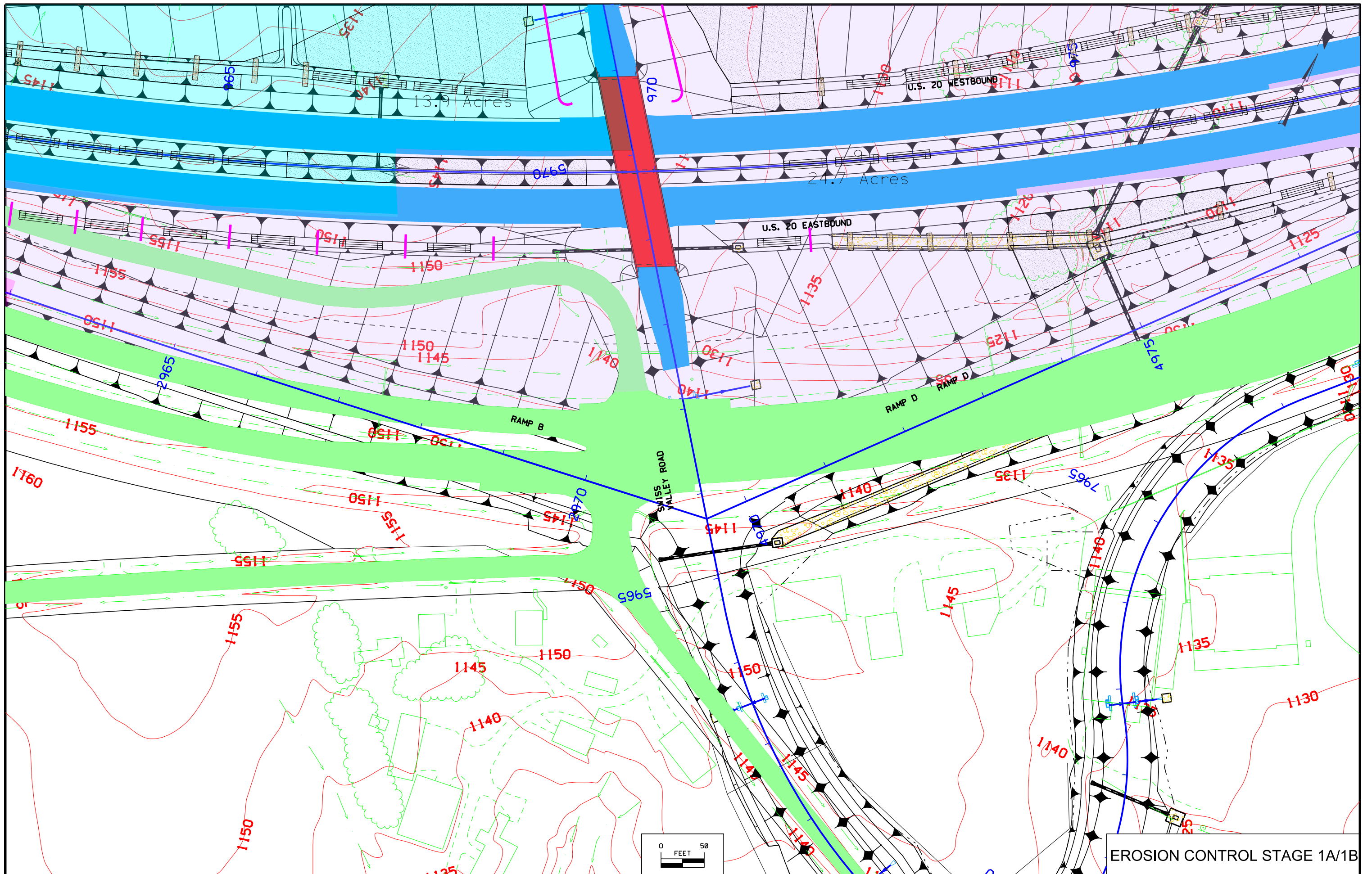




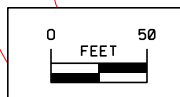


EROSION CONTROL STAGE 1A/1B

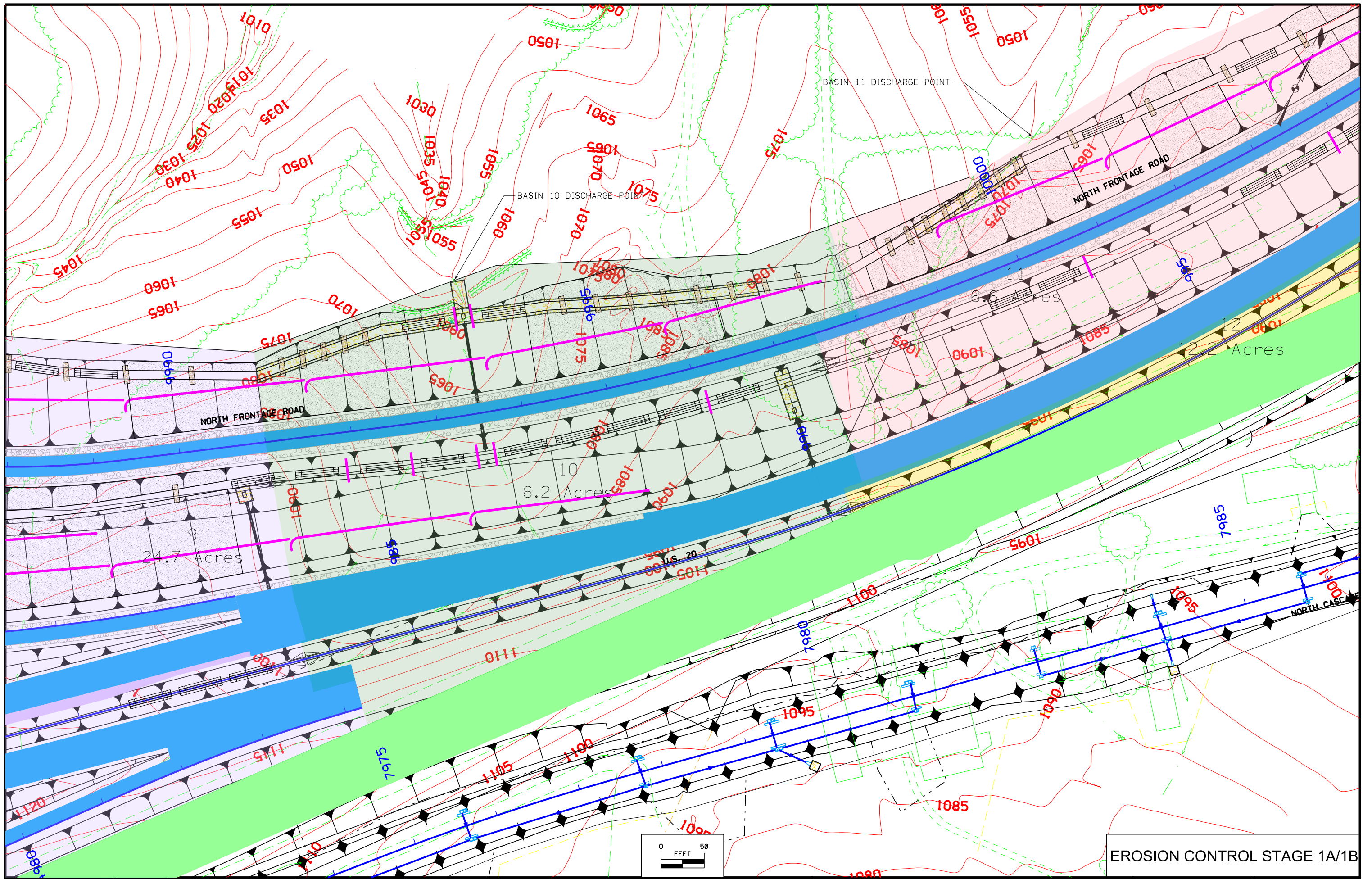




EROSION CONTROL STAGE 1A/1B

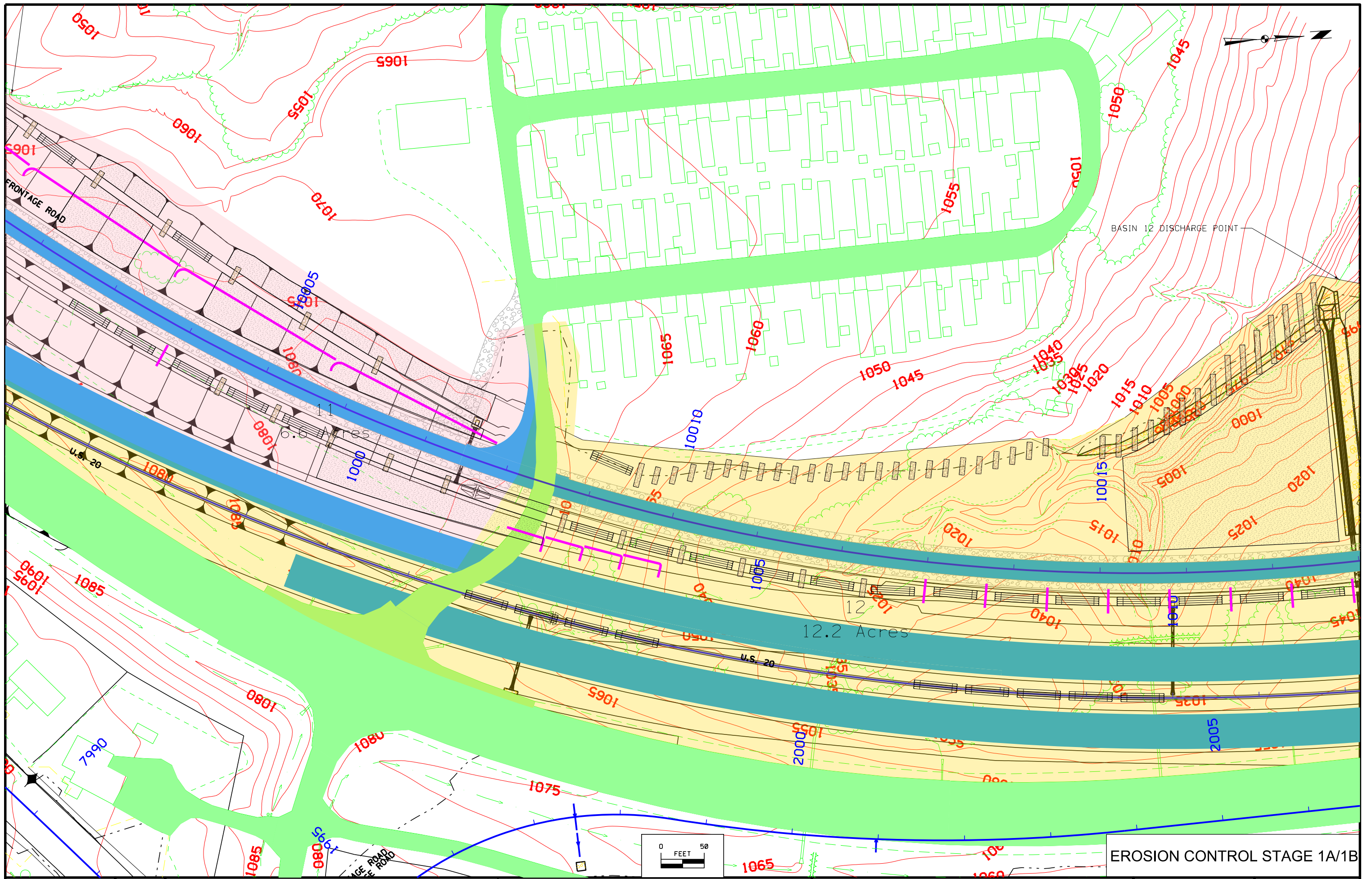




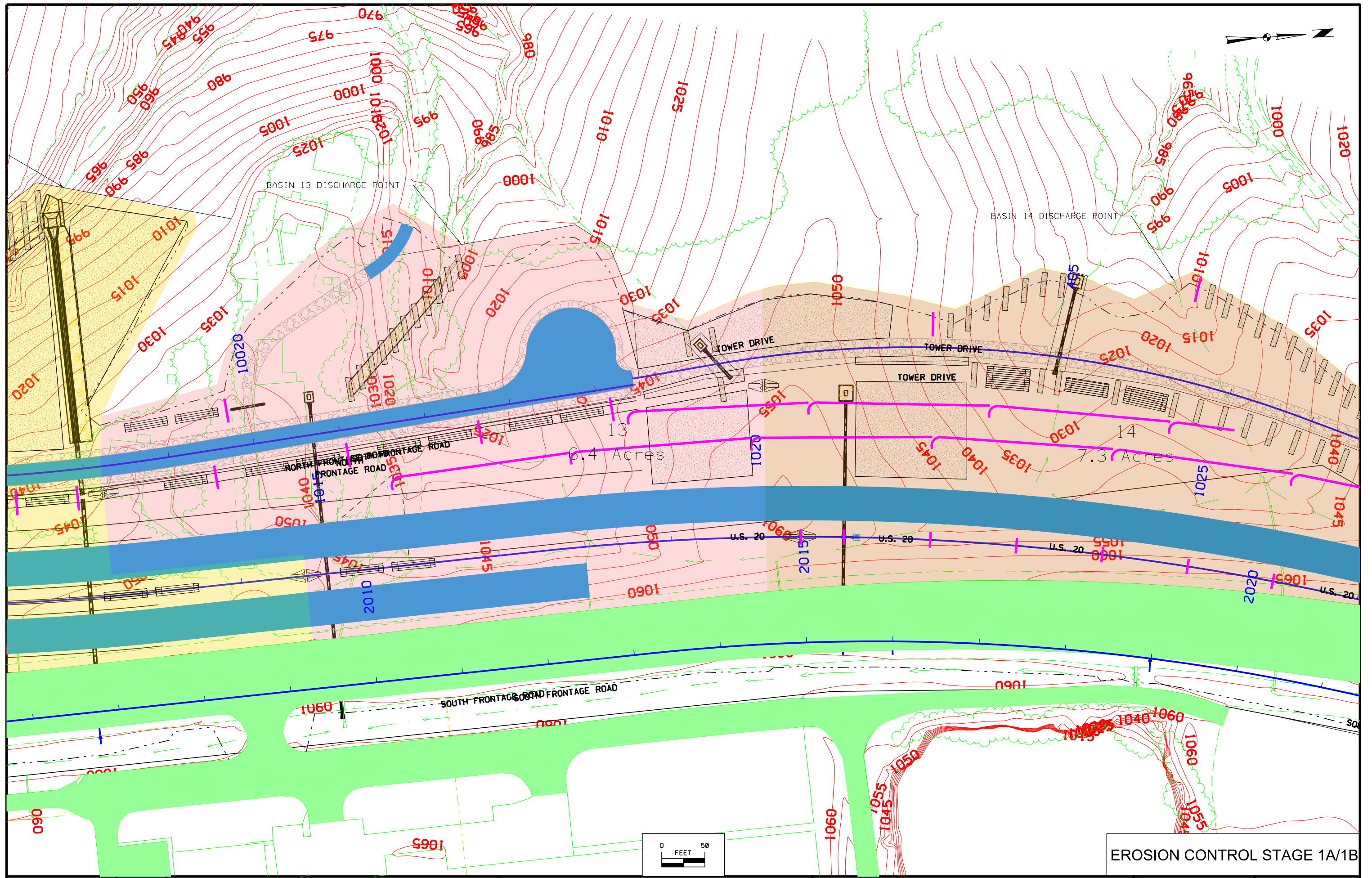


EROSION CONTROL STAGE 1A/1B

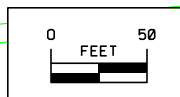




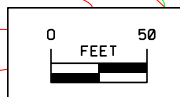
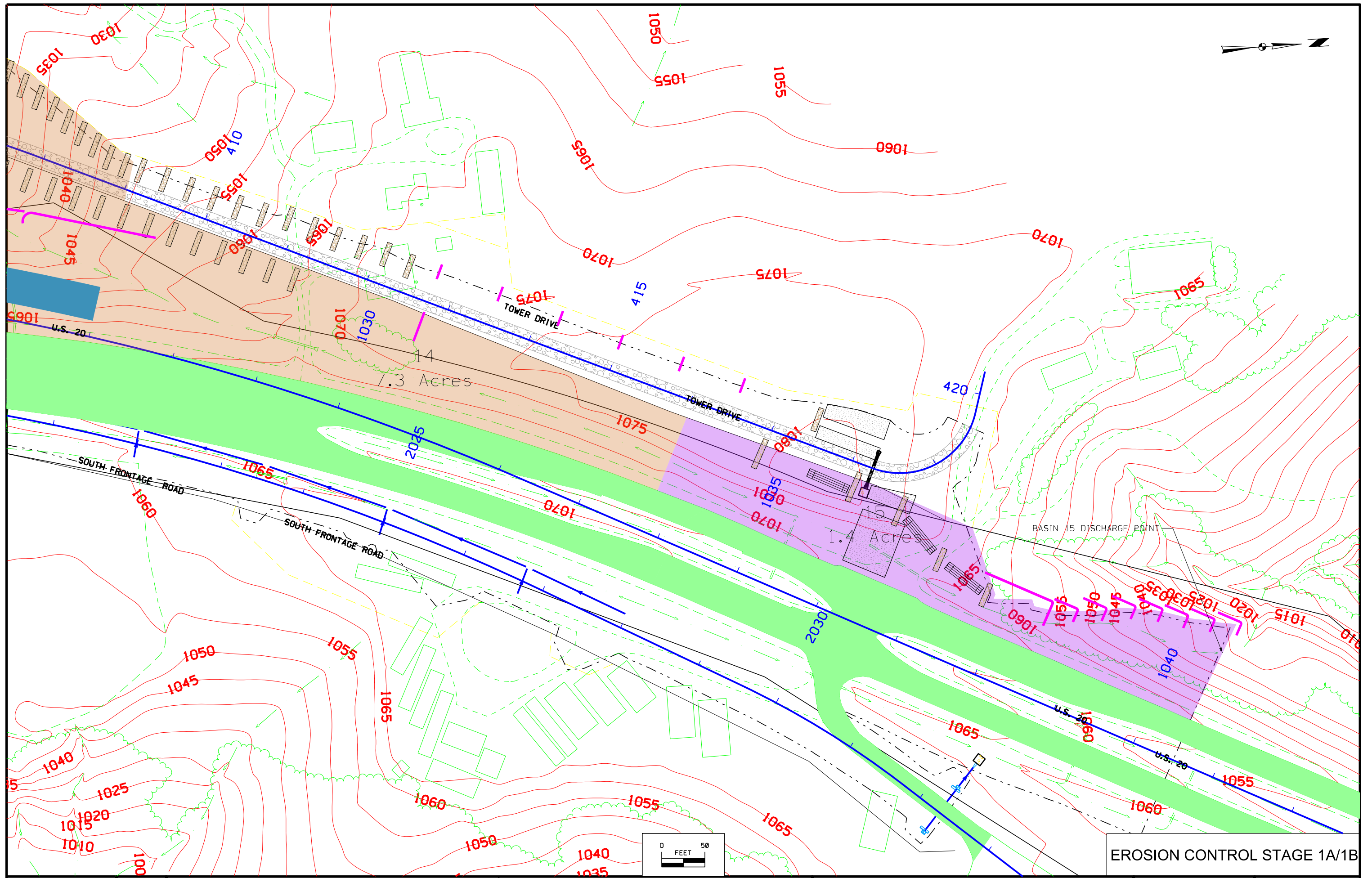




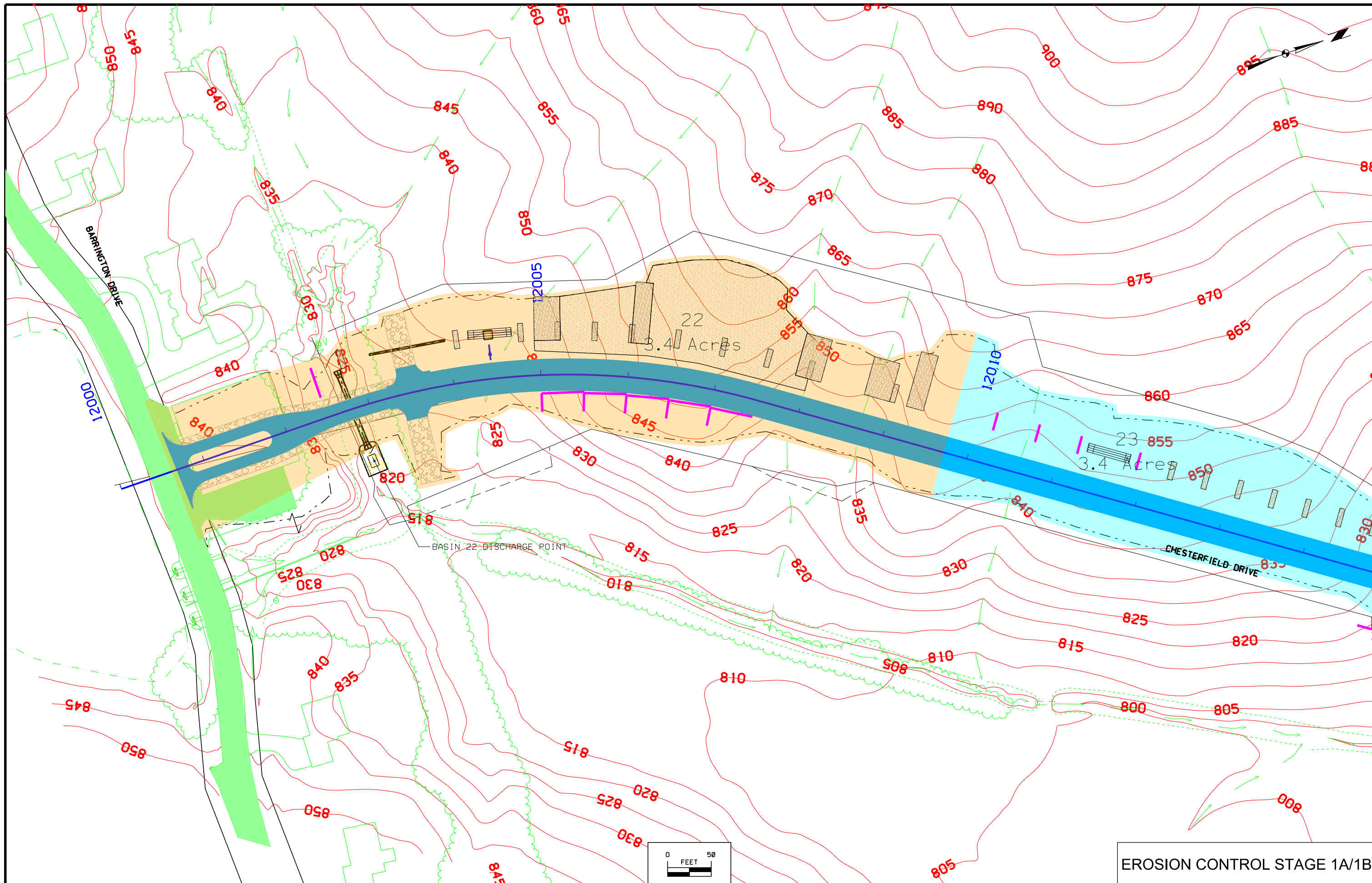
EROSION CONTROL STAGE 1A/1B



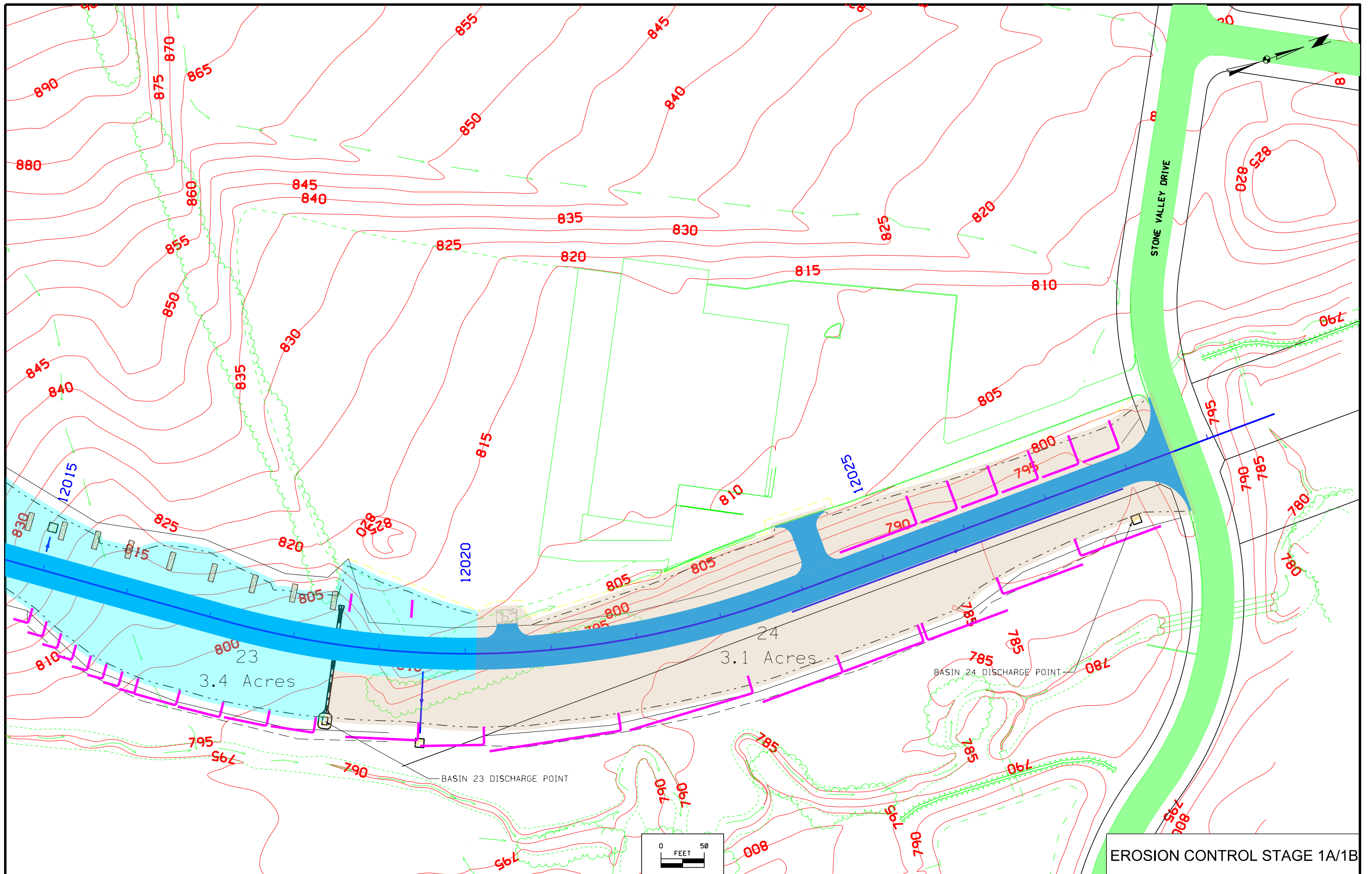




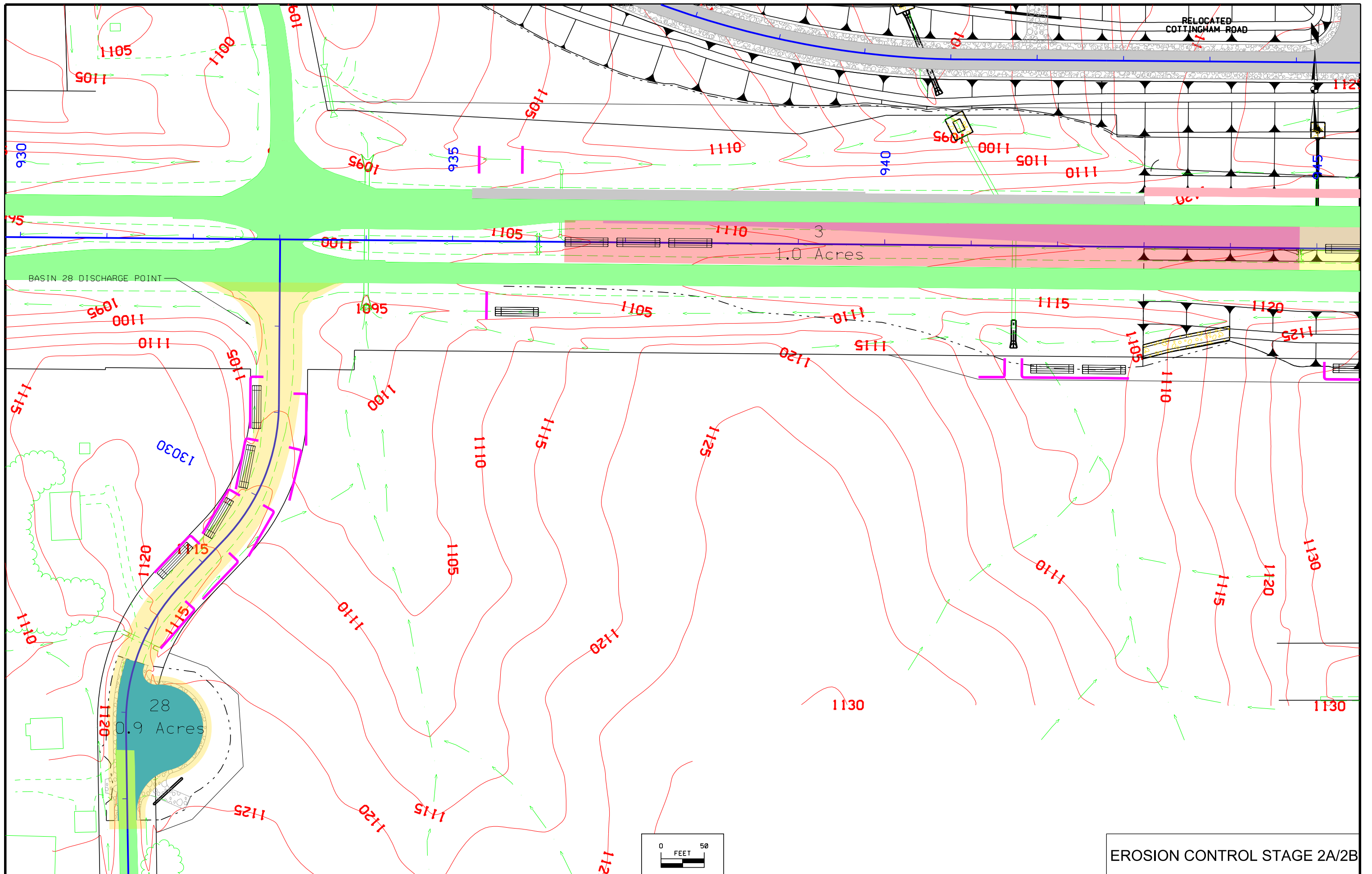
EROSION CONTROL STAGE 1A/1B

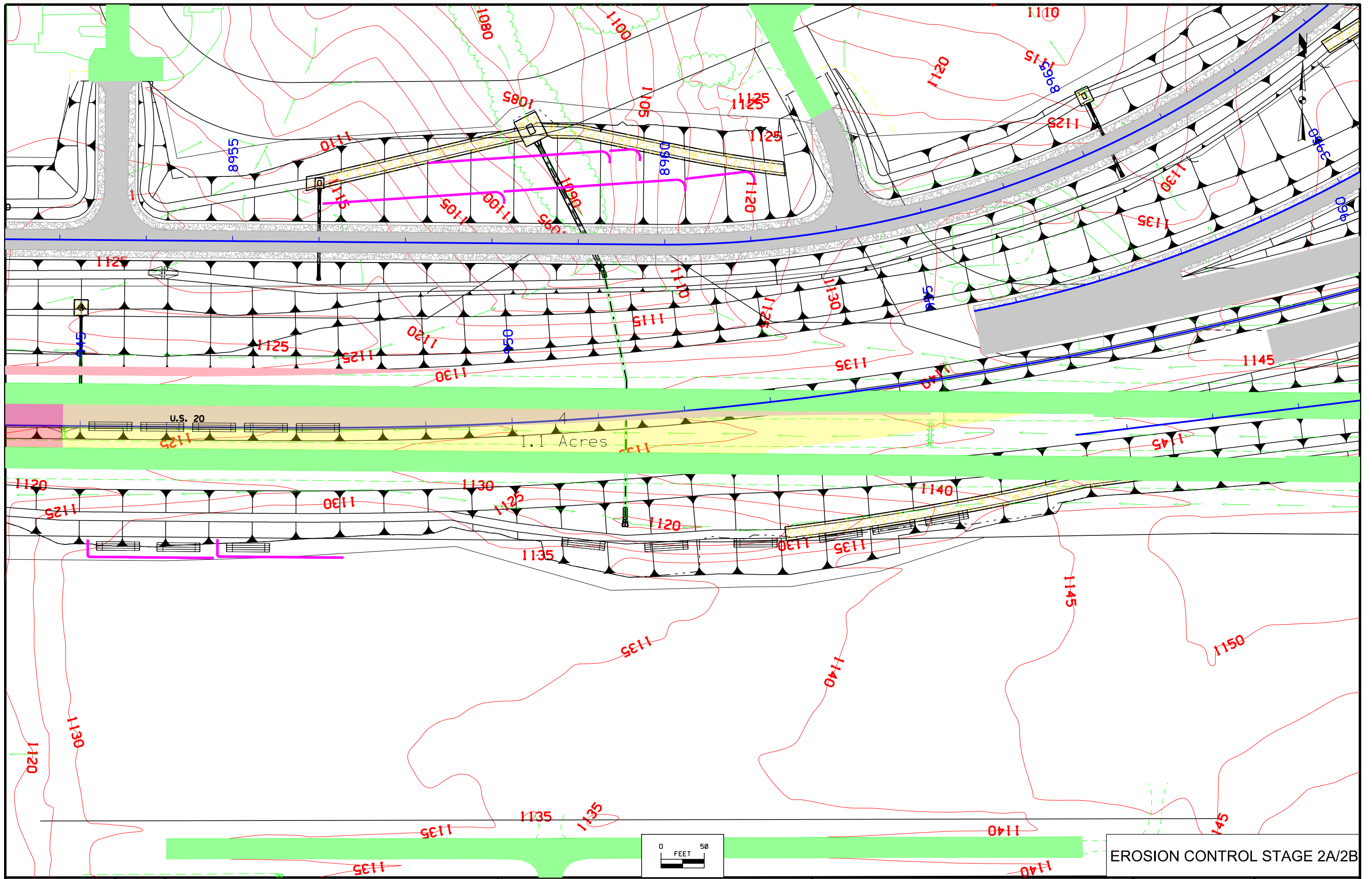




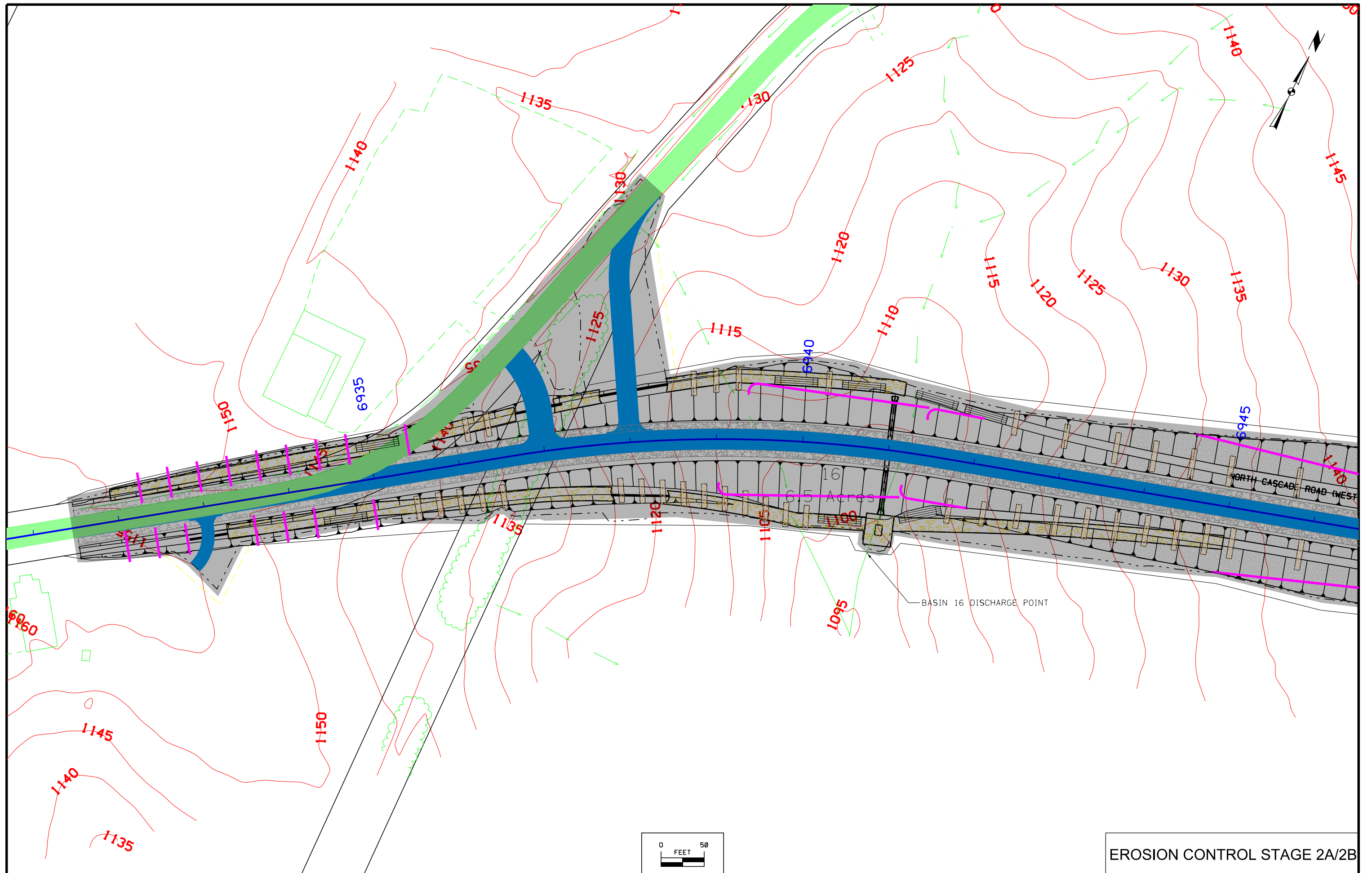




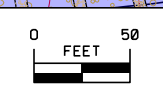
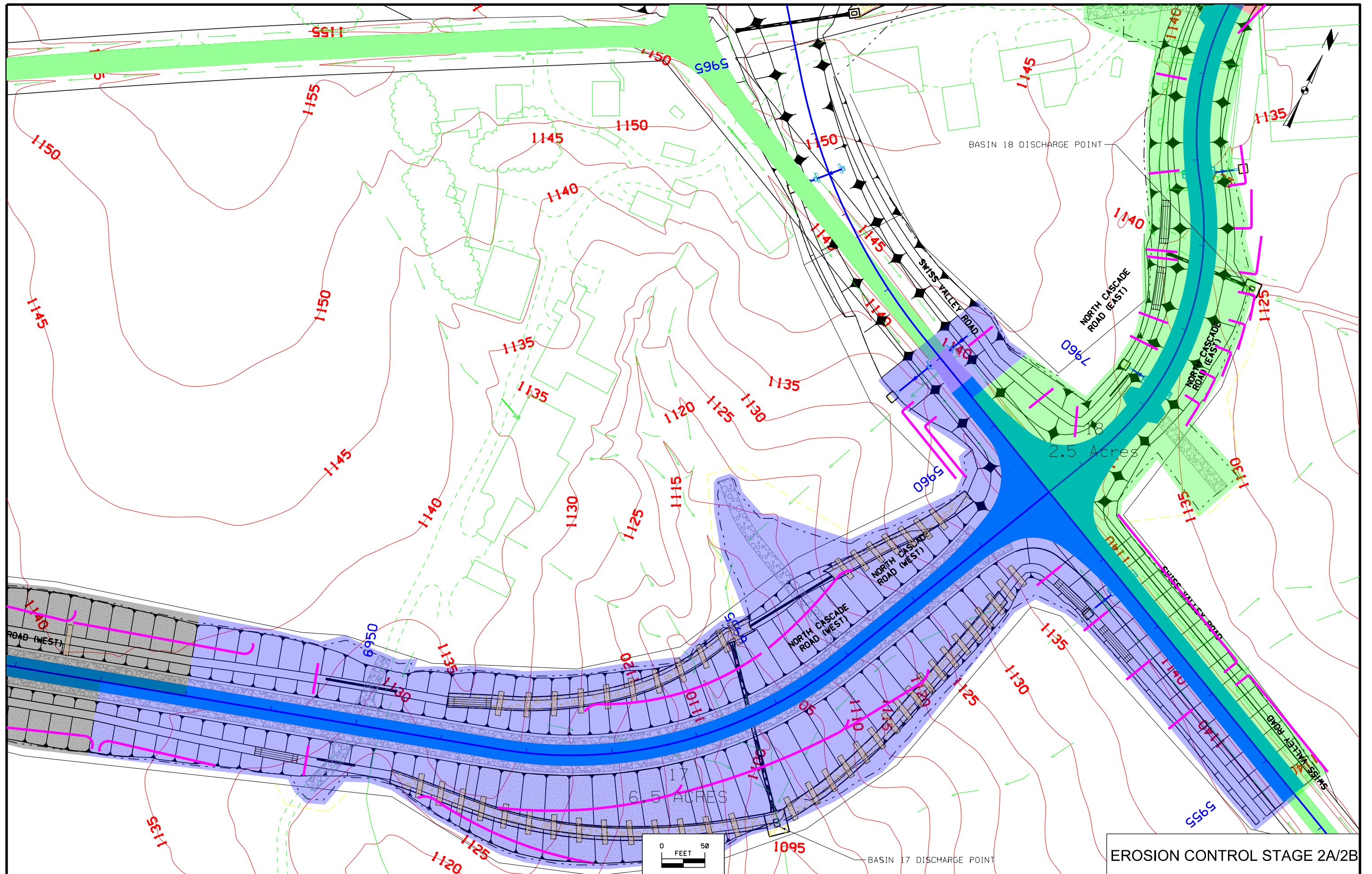




EROSION CONTROL STAGE 2A/2B

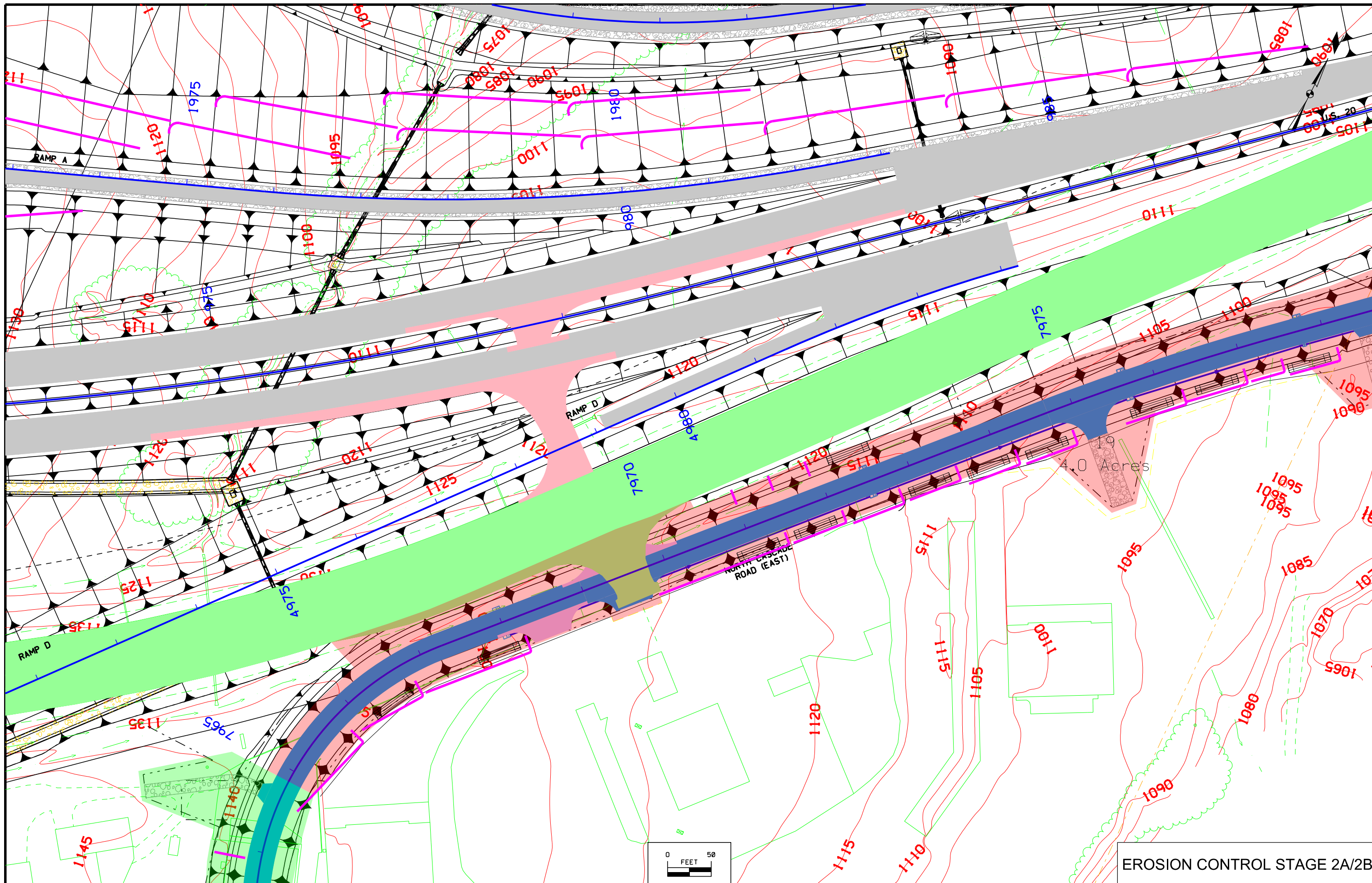


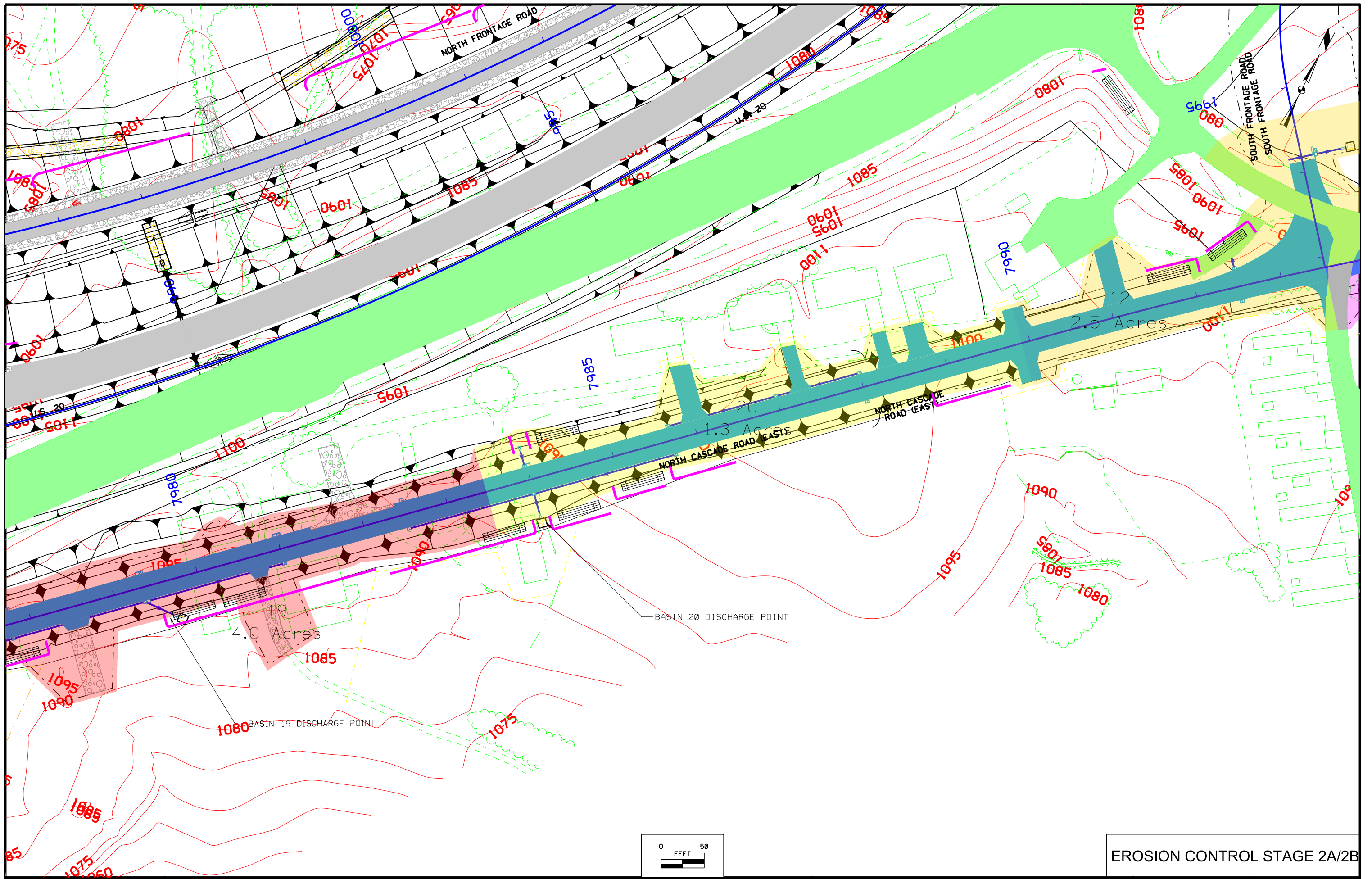




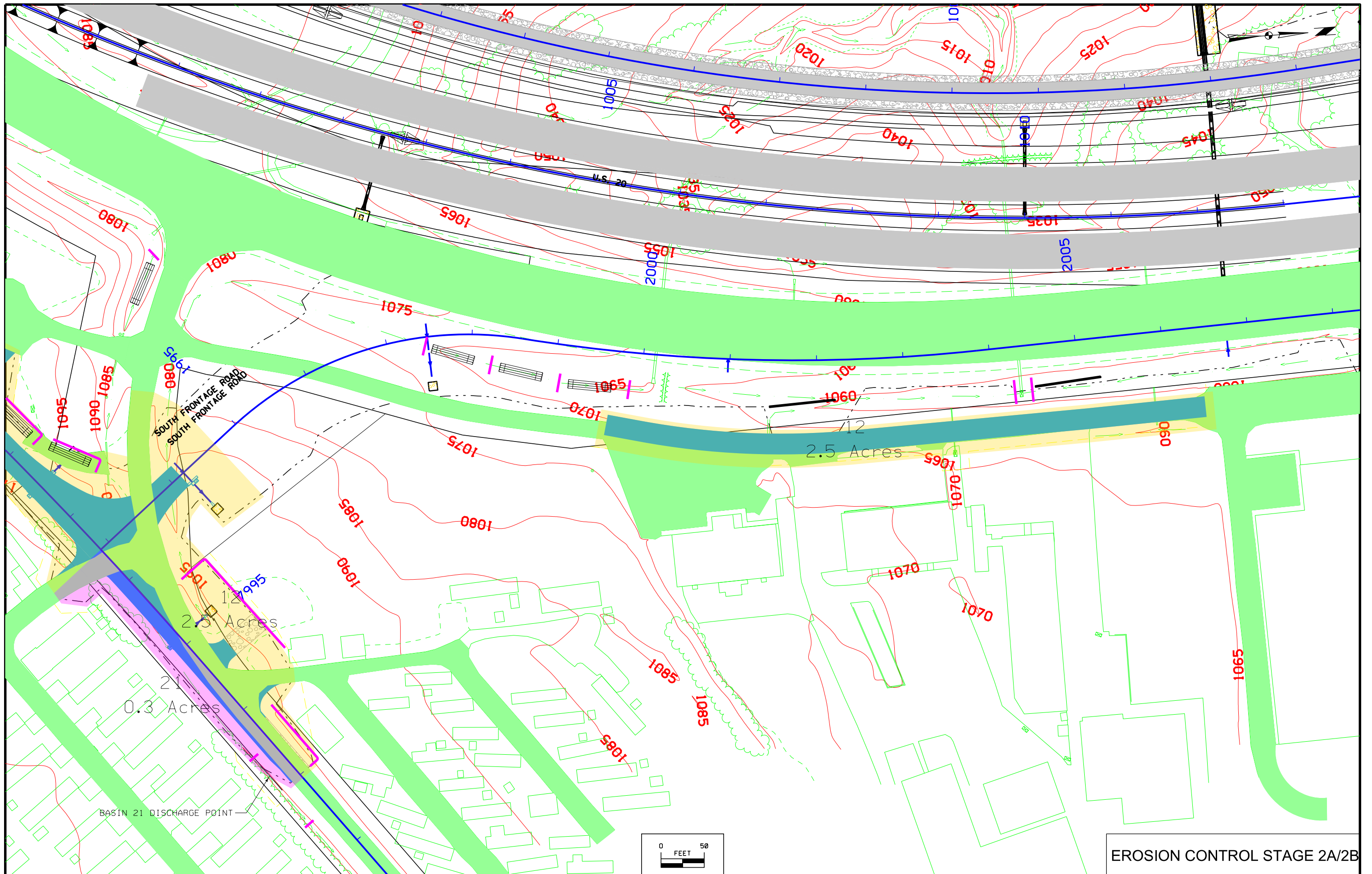
EROSION CONTROL STAGE 2A/2B



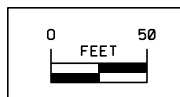


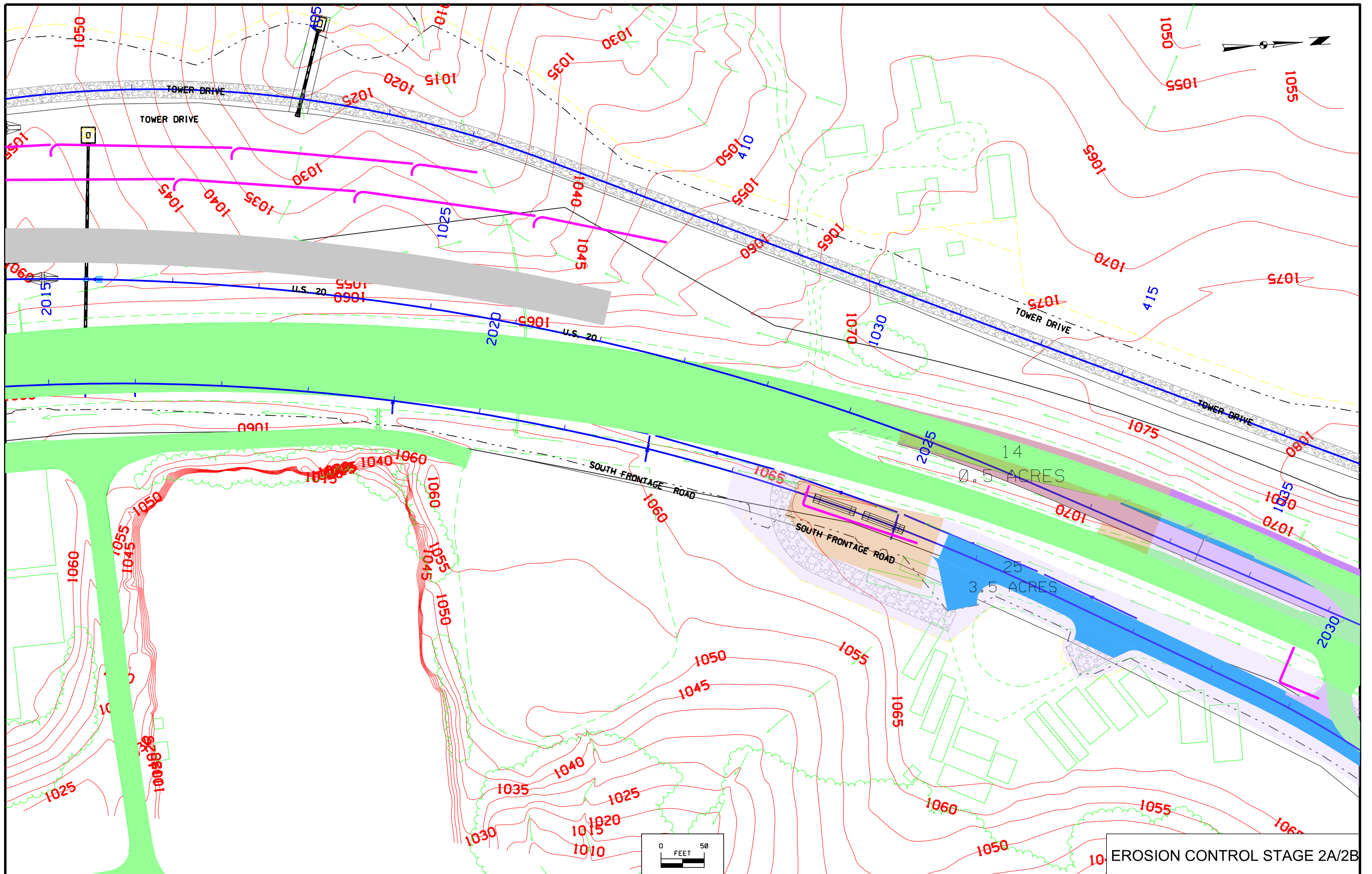




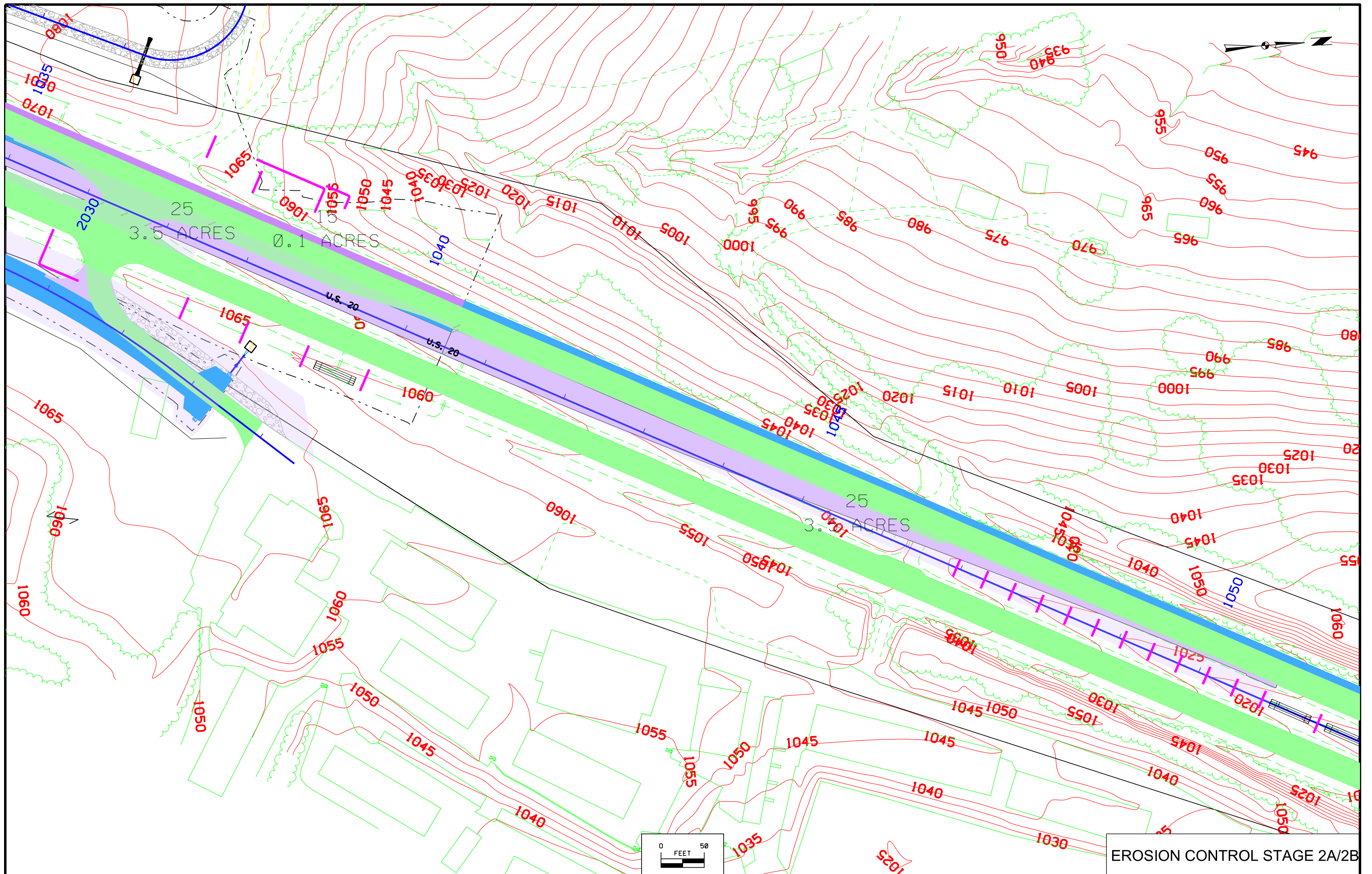


EROSION CONTROL STAGE 2A/2B



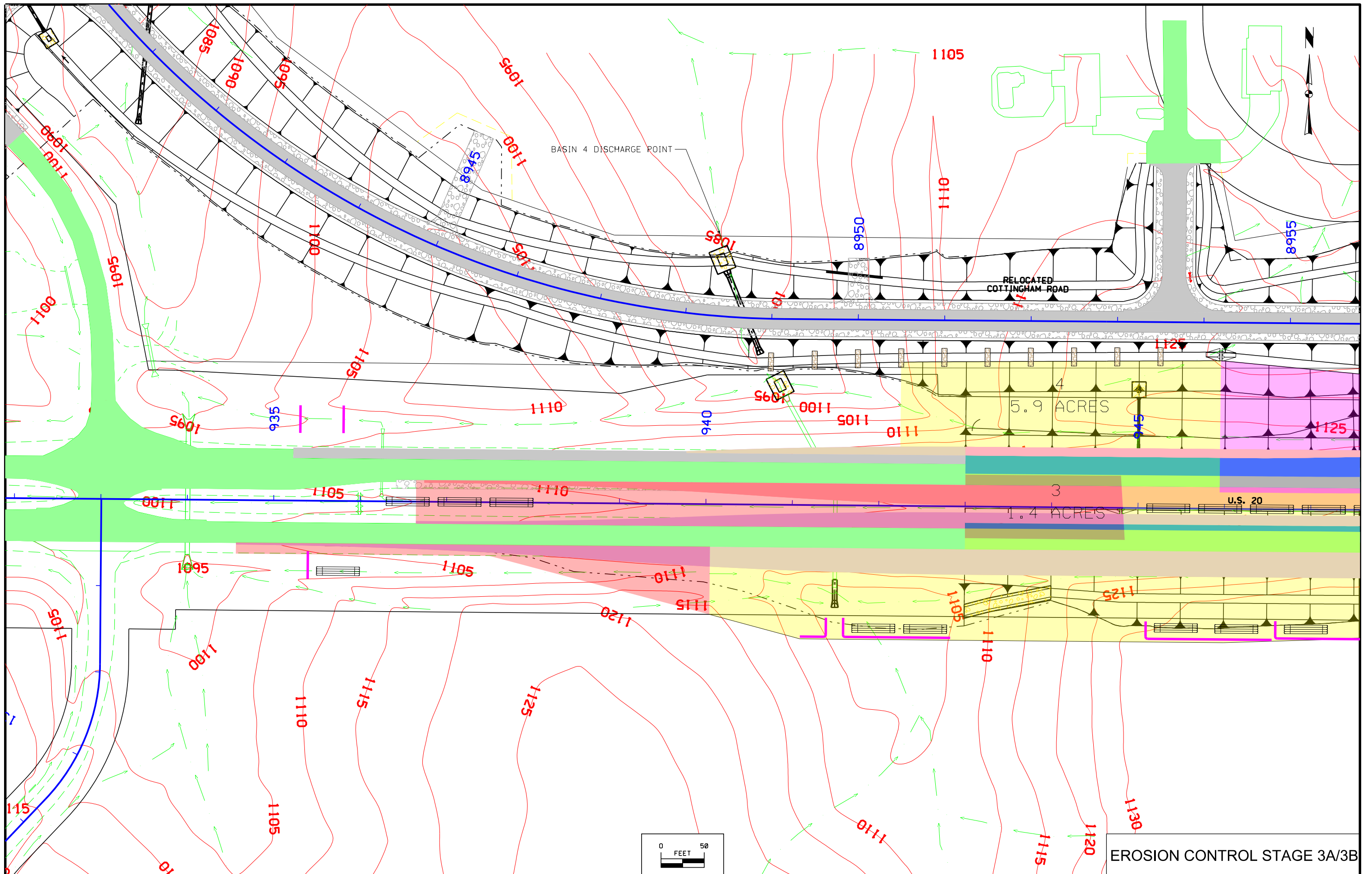


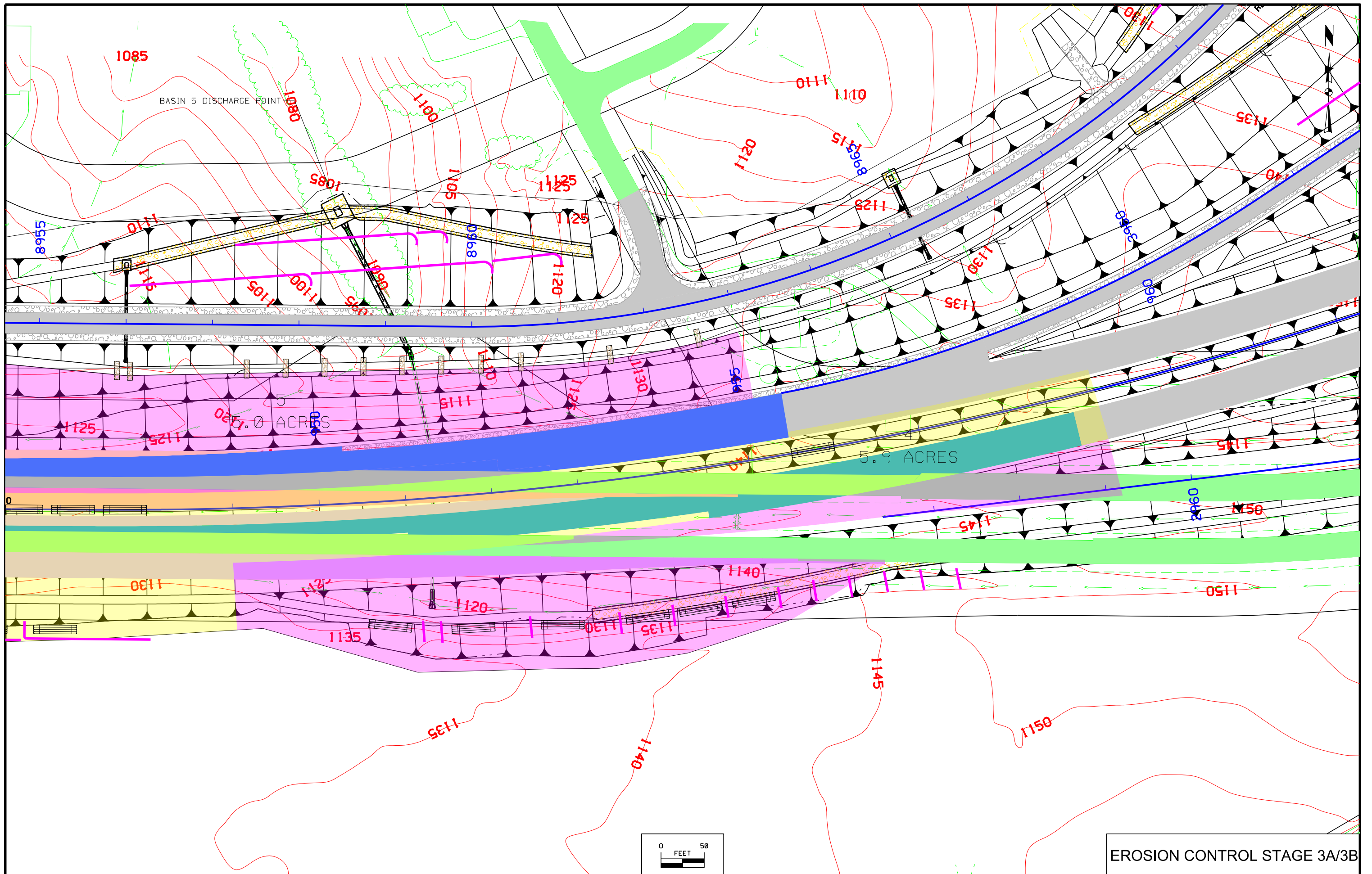




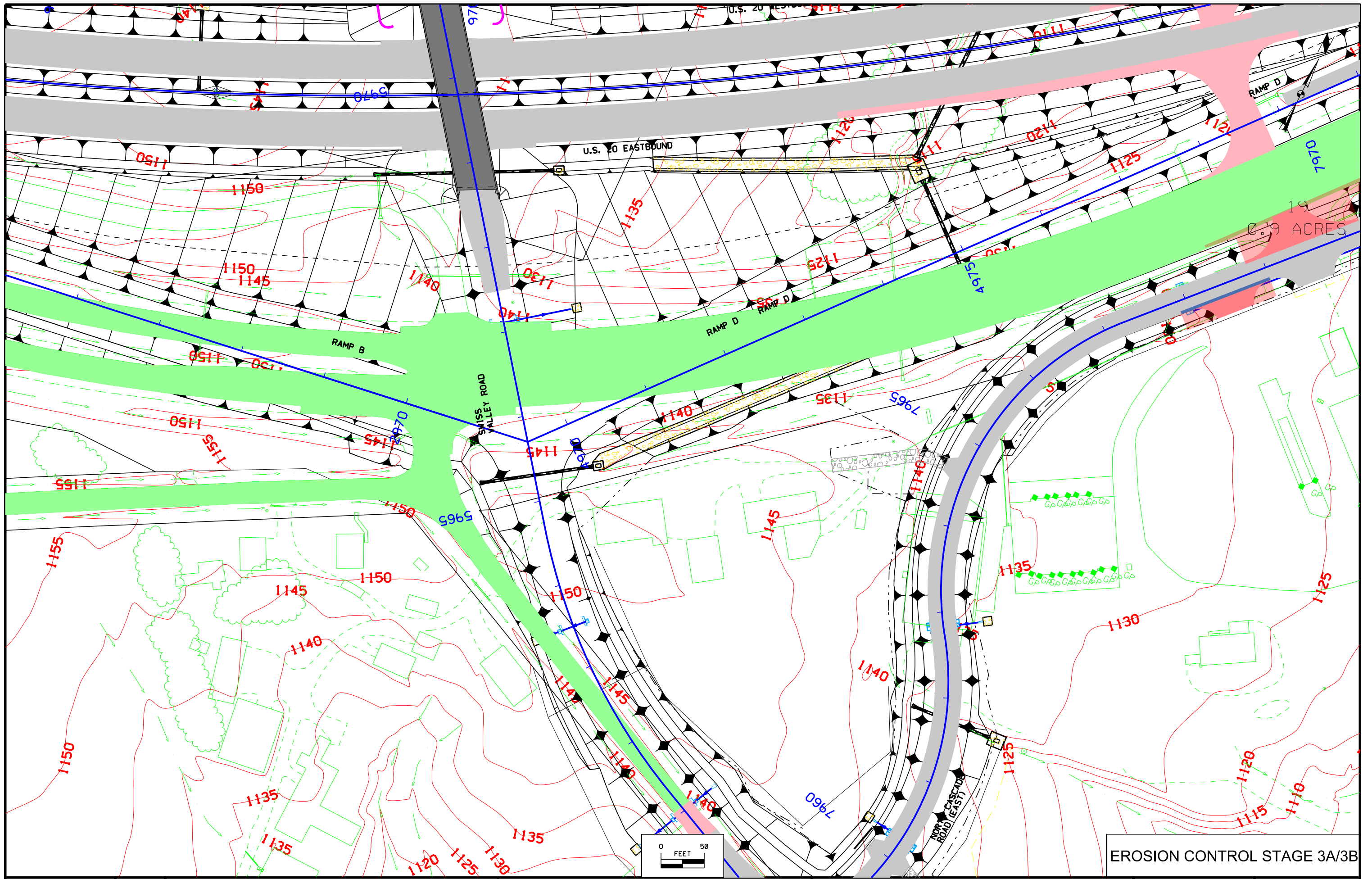
EROSION CONTROL STAGE 2A/2B



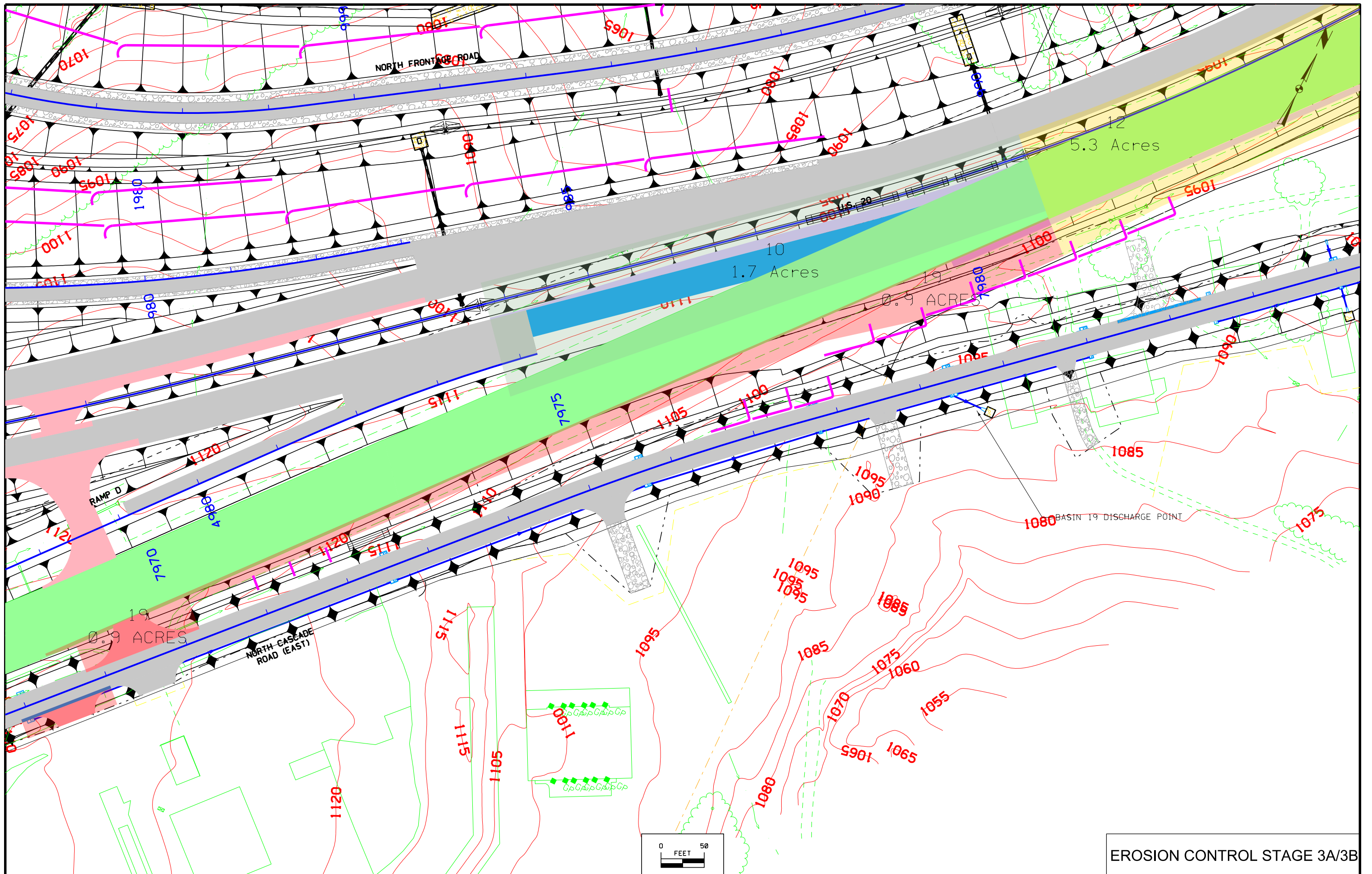


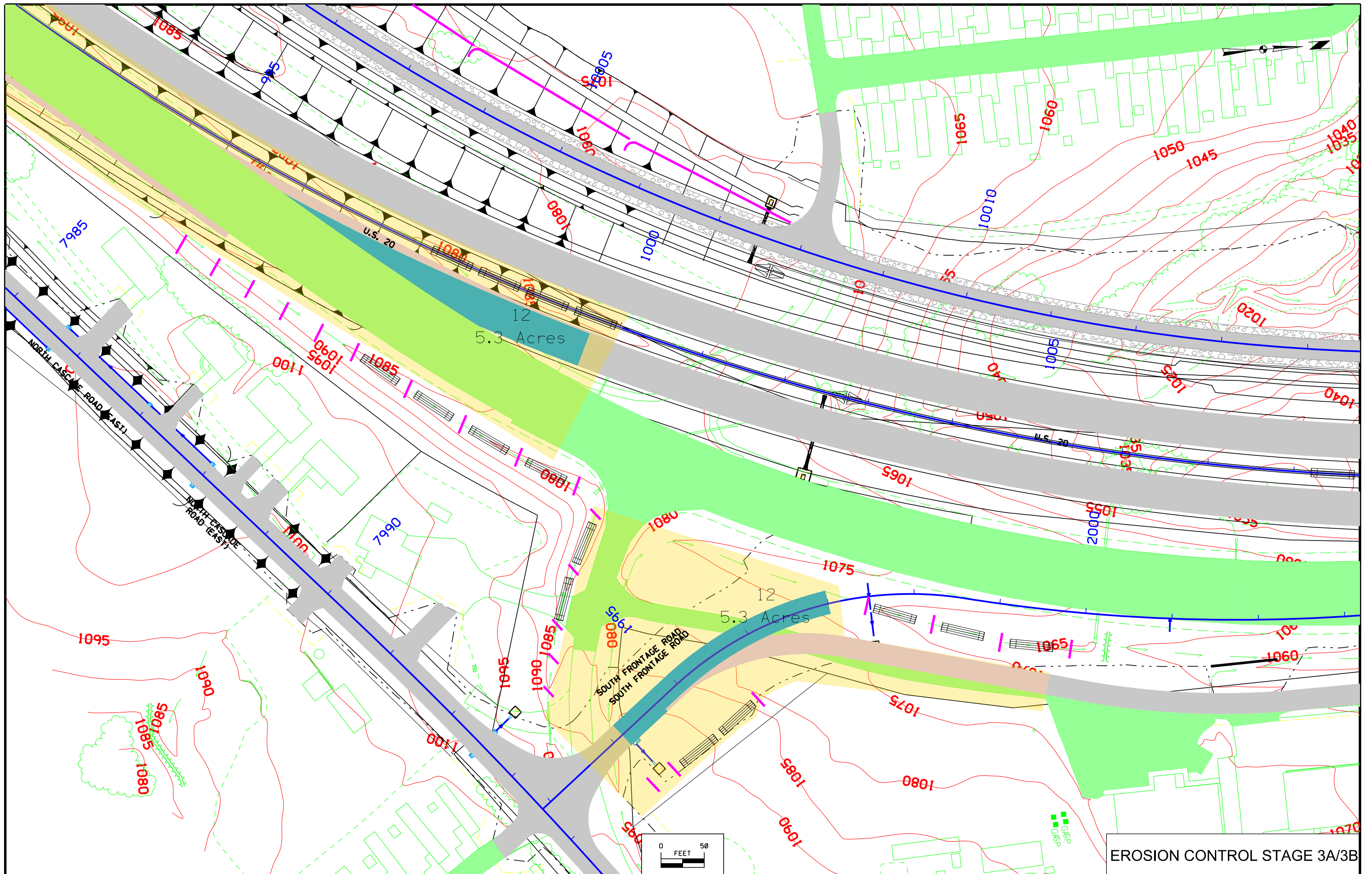




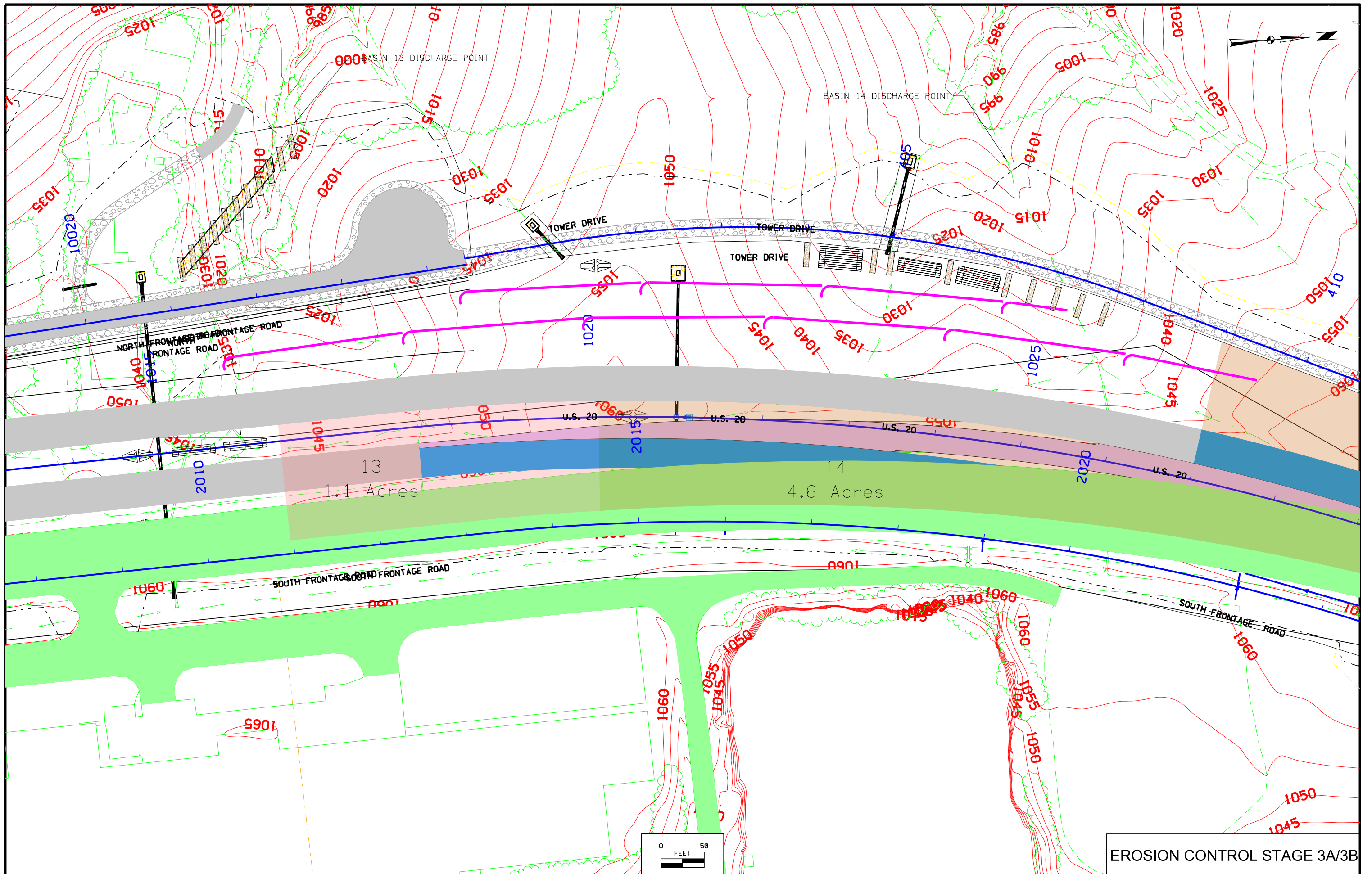






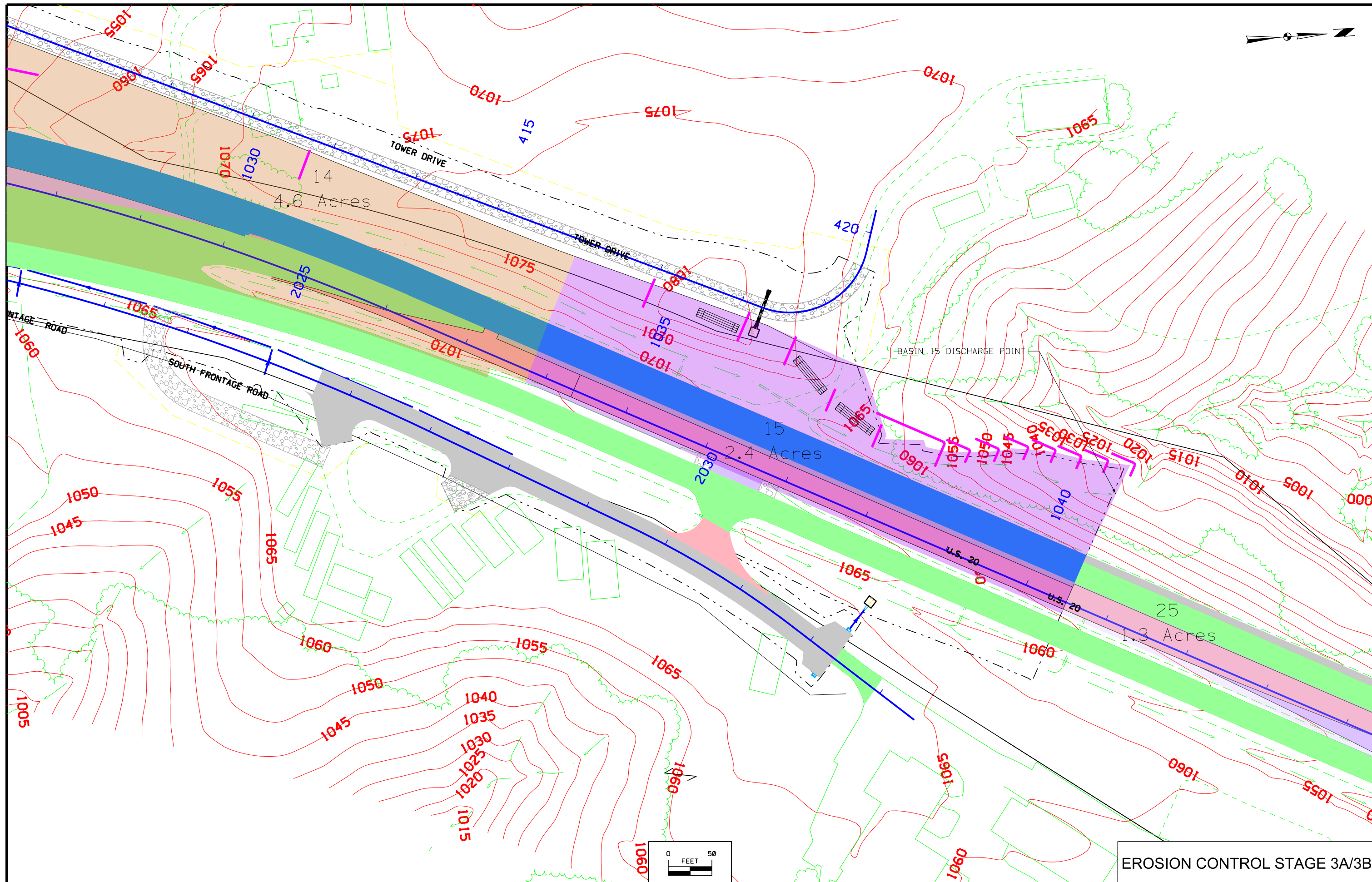




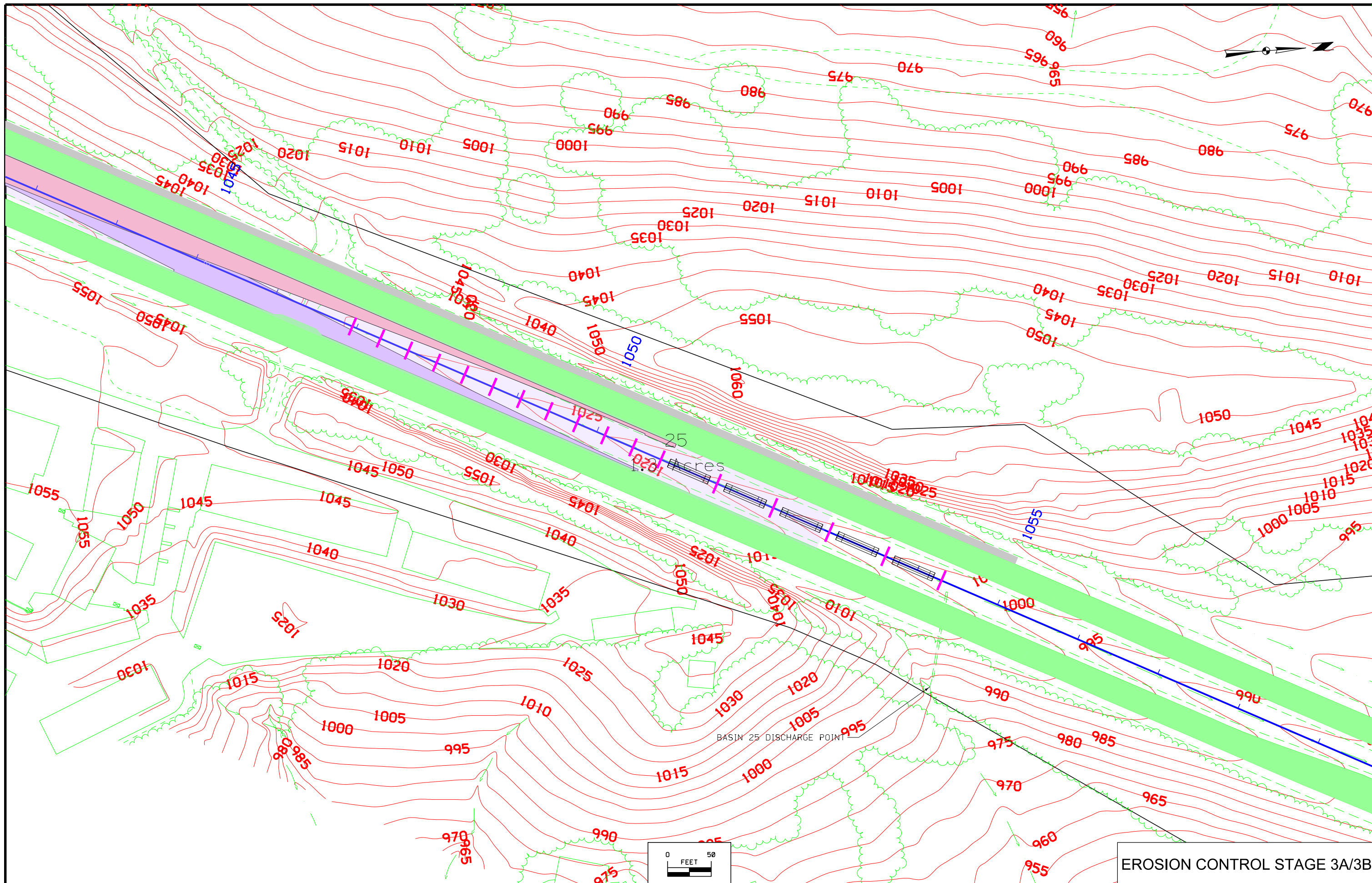


EROSION CONTROL STAGE 3A/3B

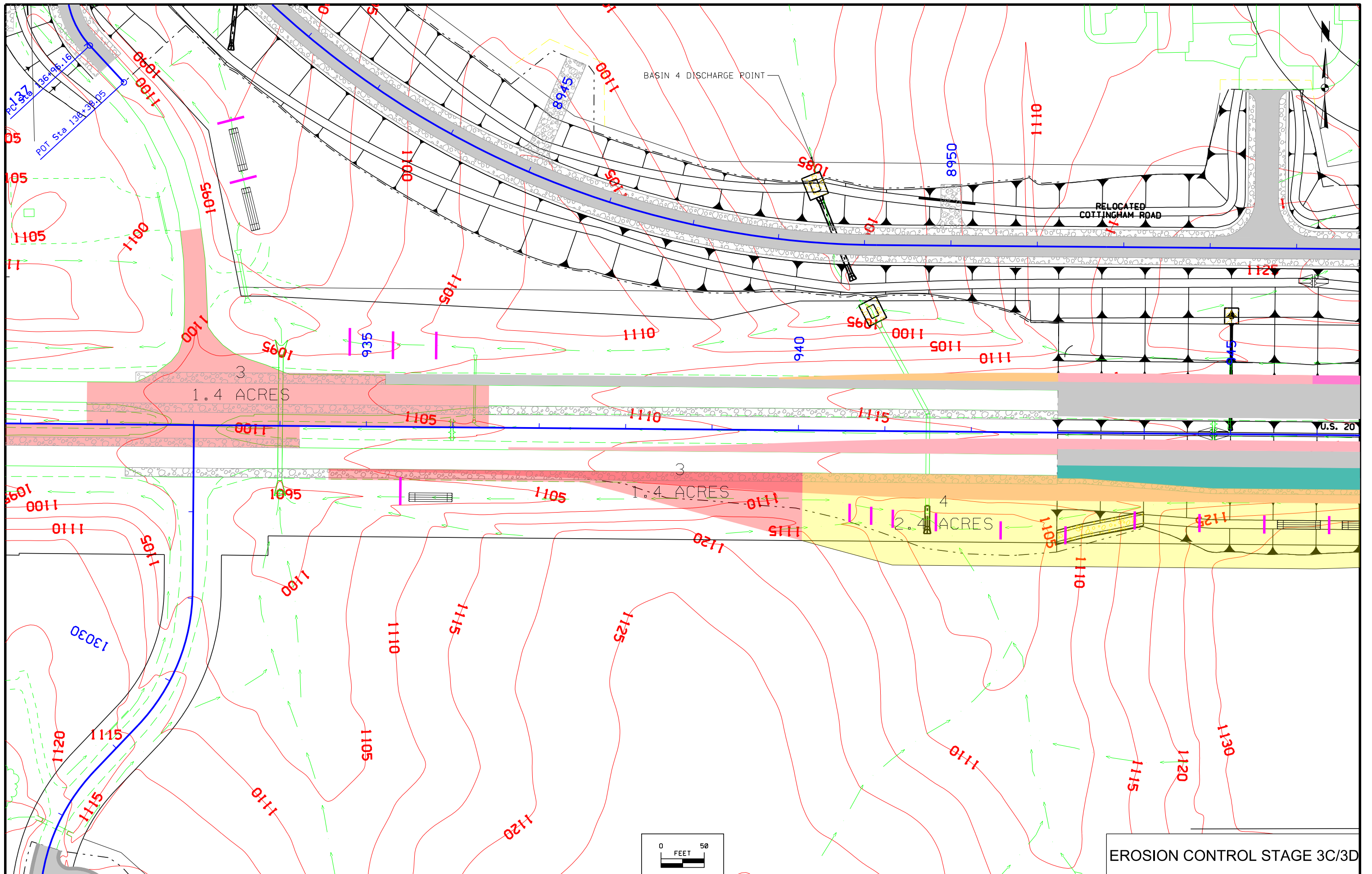




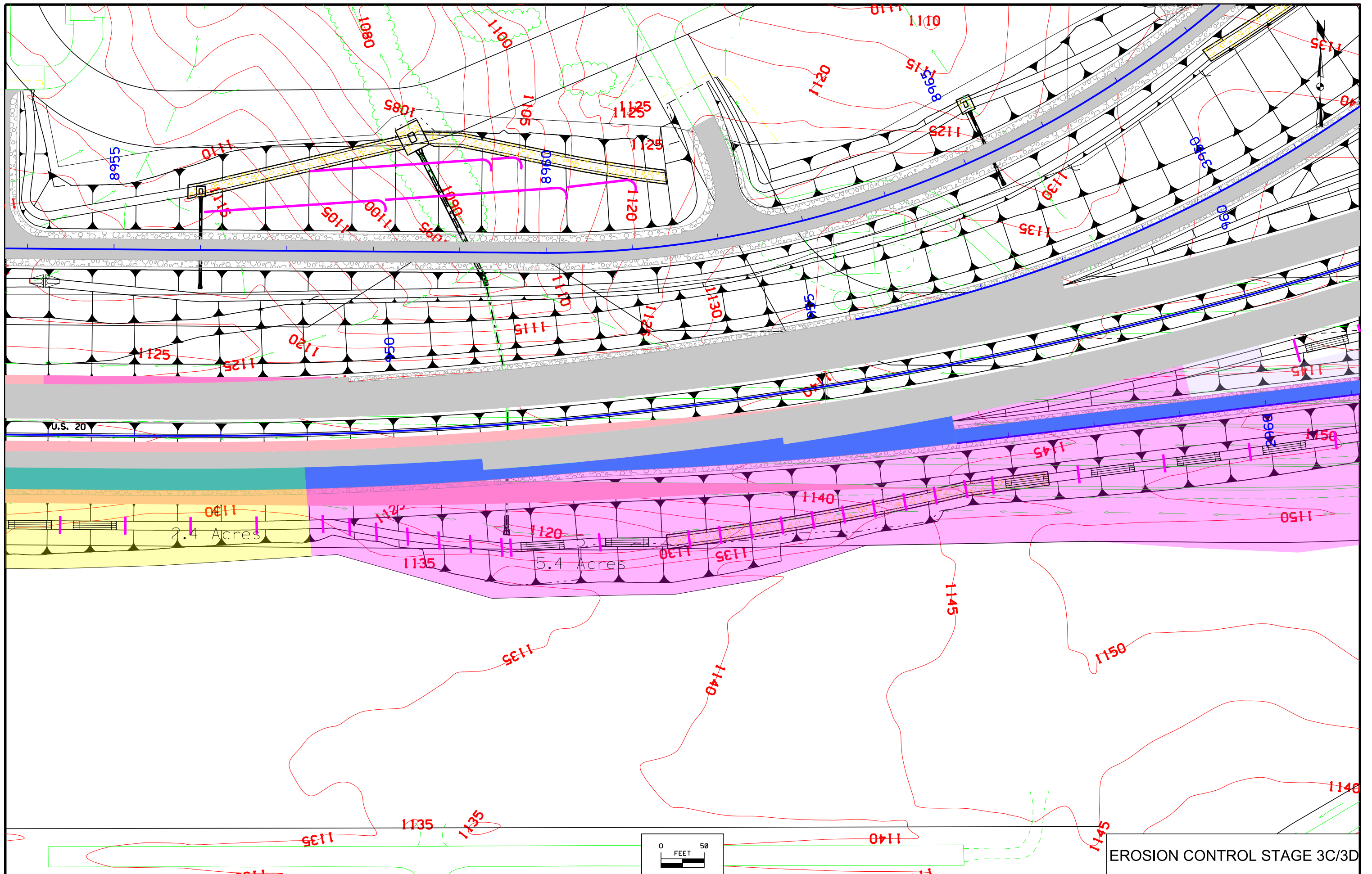
EROSION CONTROL STAGE 3A/3B



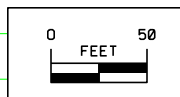


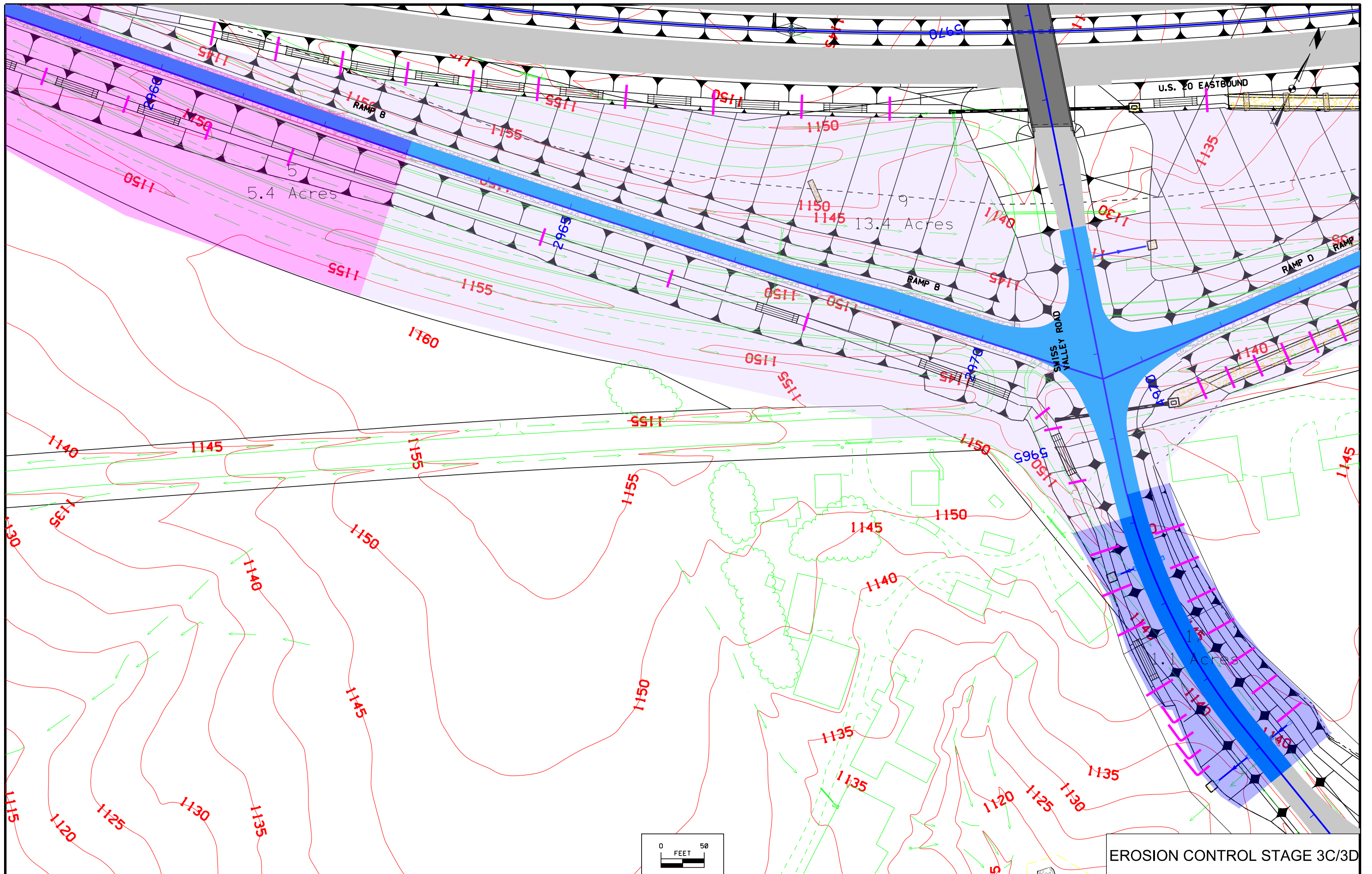






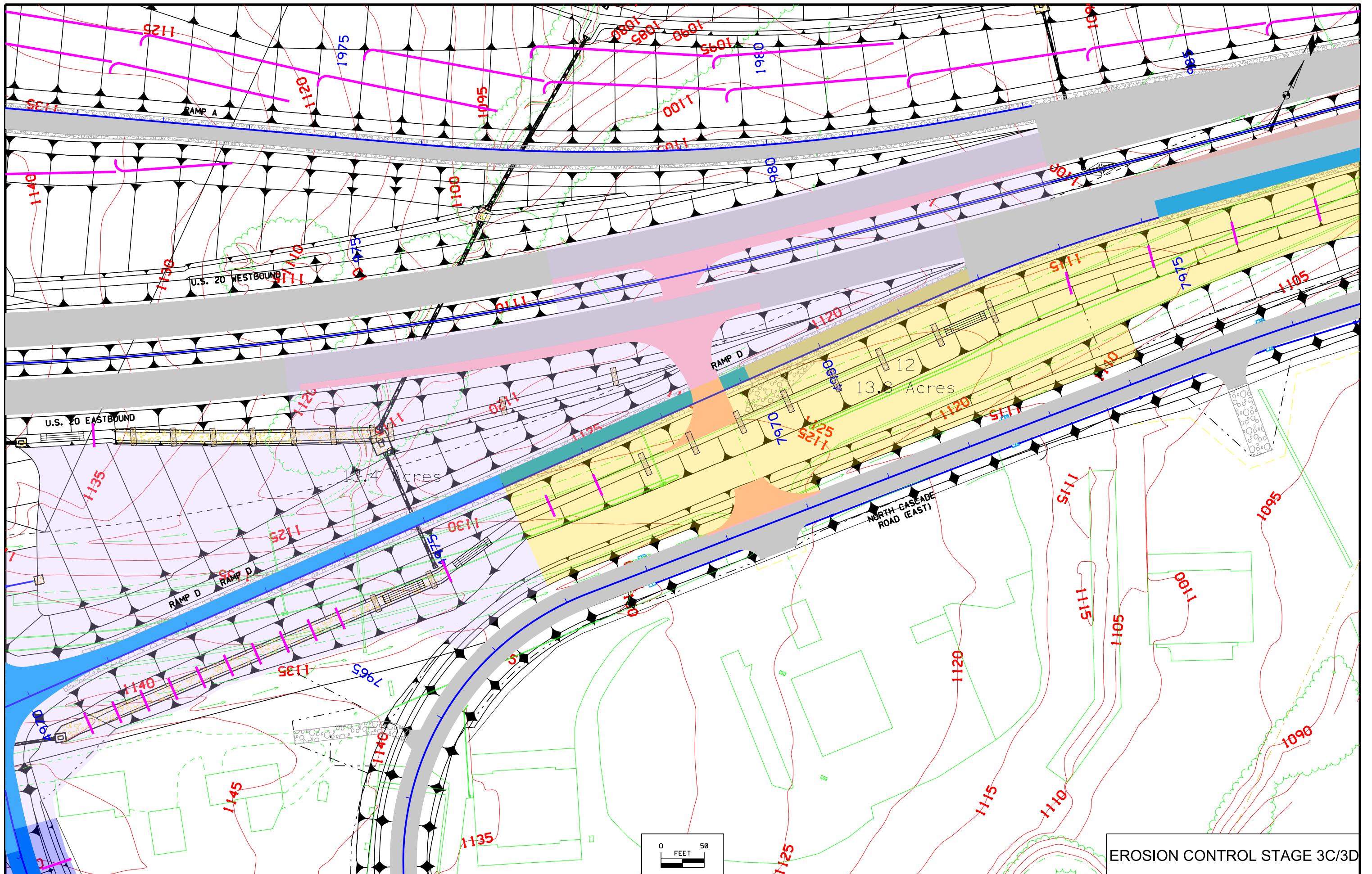
EROSION CONTROL STAGE 3C/3D



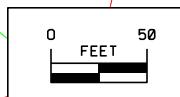


EROSION CONTROL STAGE 3C/3D

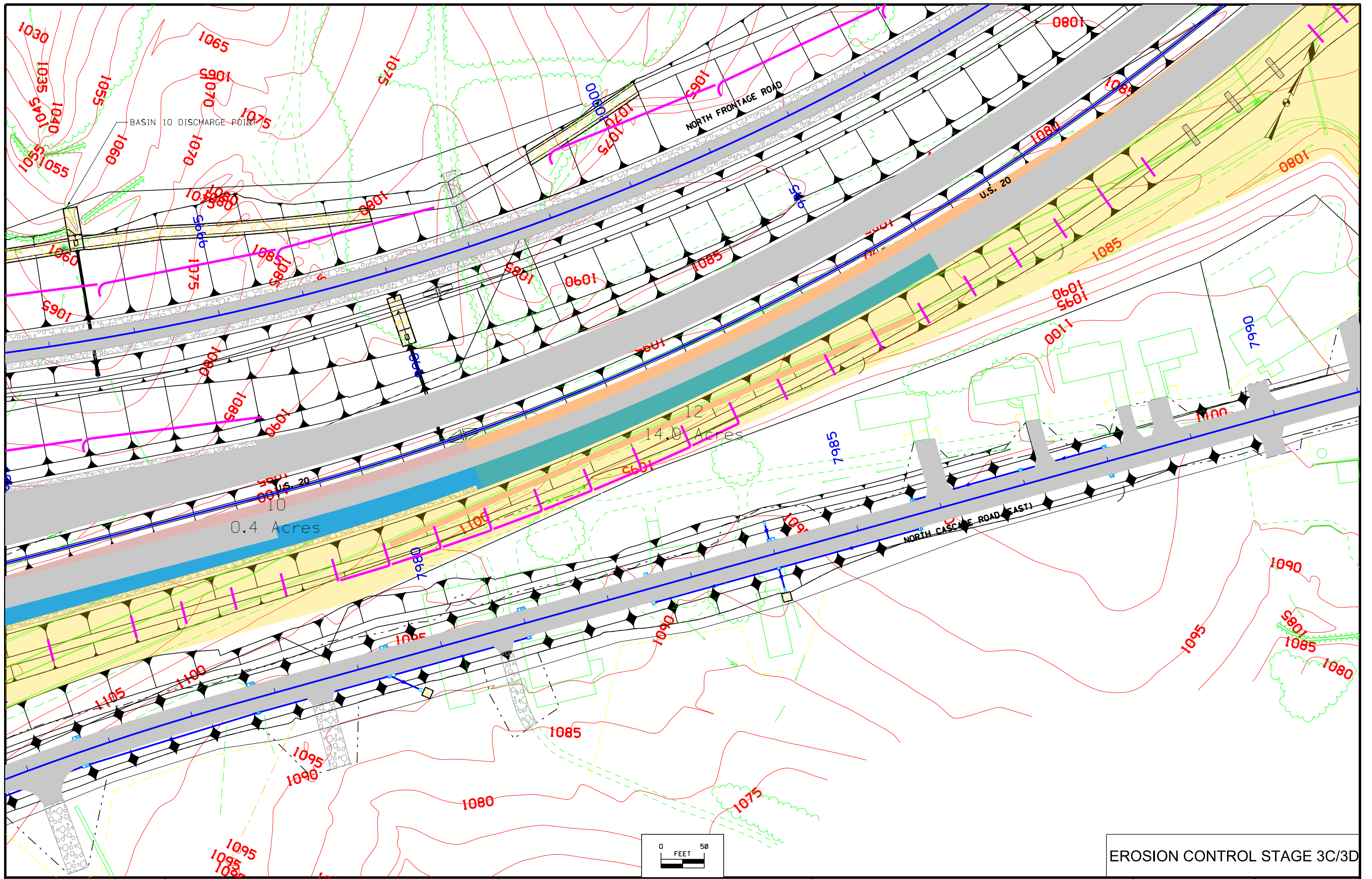




EROSION CONTROL STAGE 3C/3D

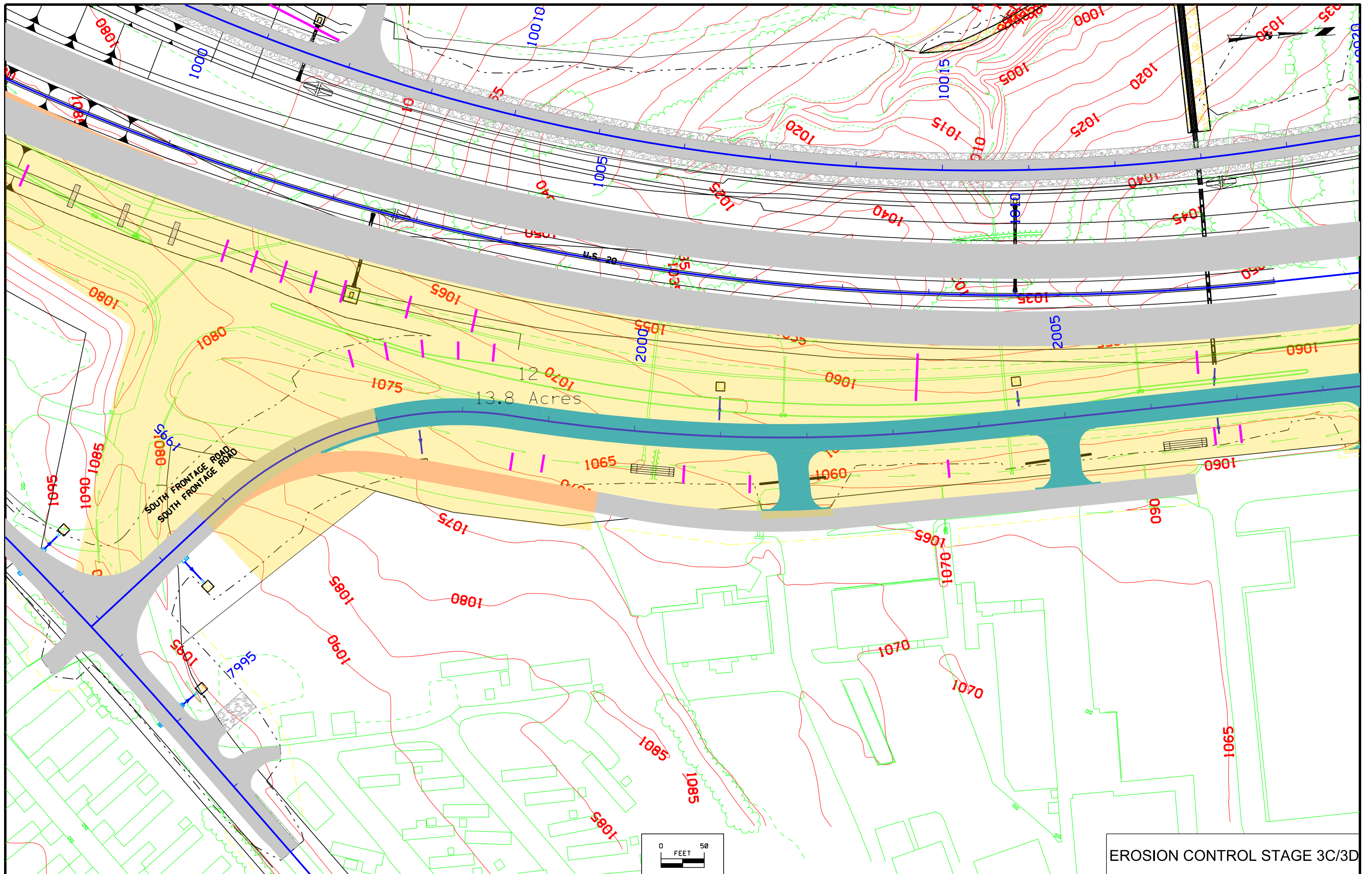




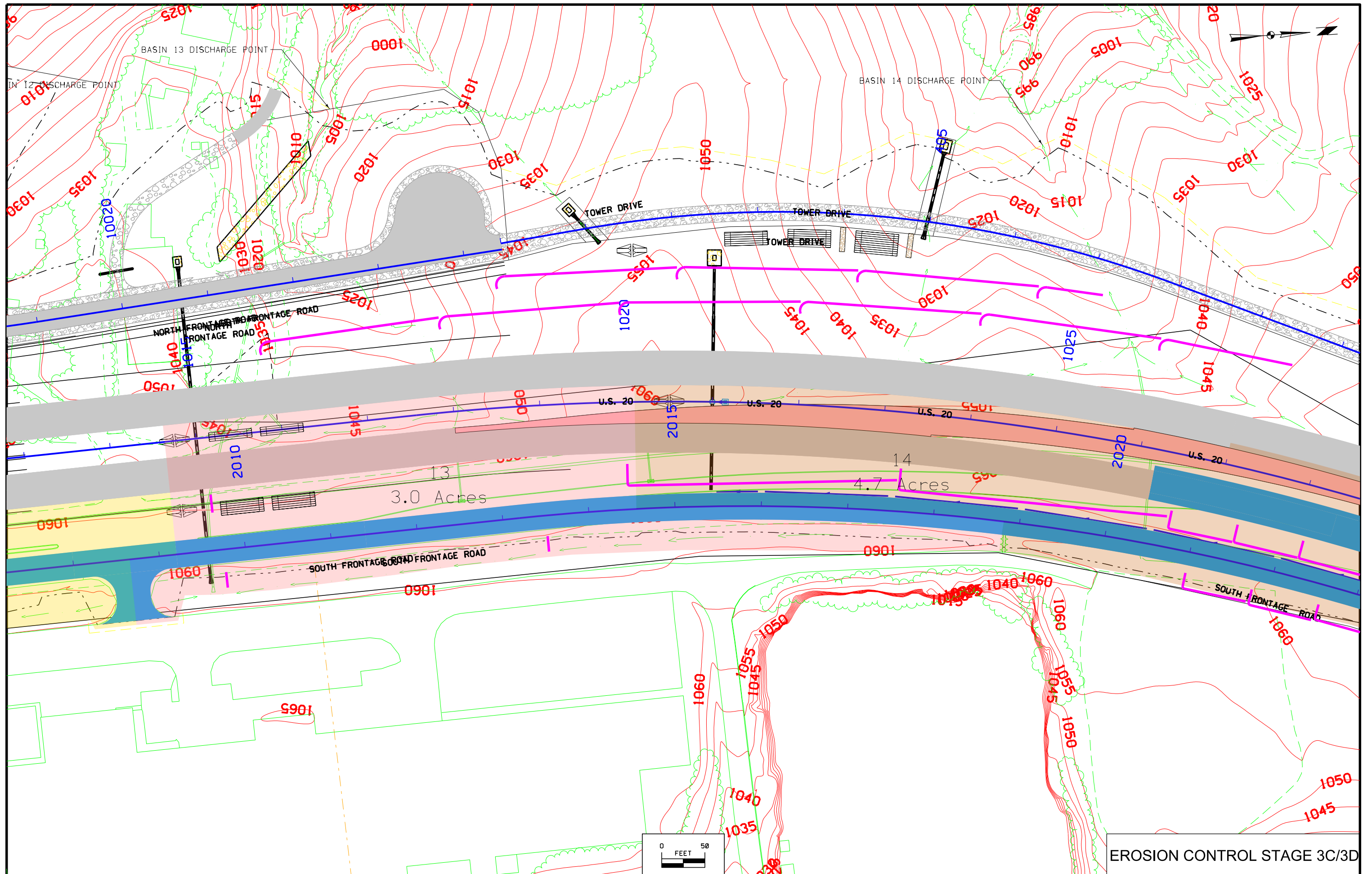


EROSION CONTROL STAGE 3C/3D



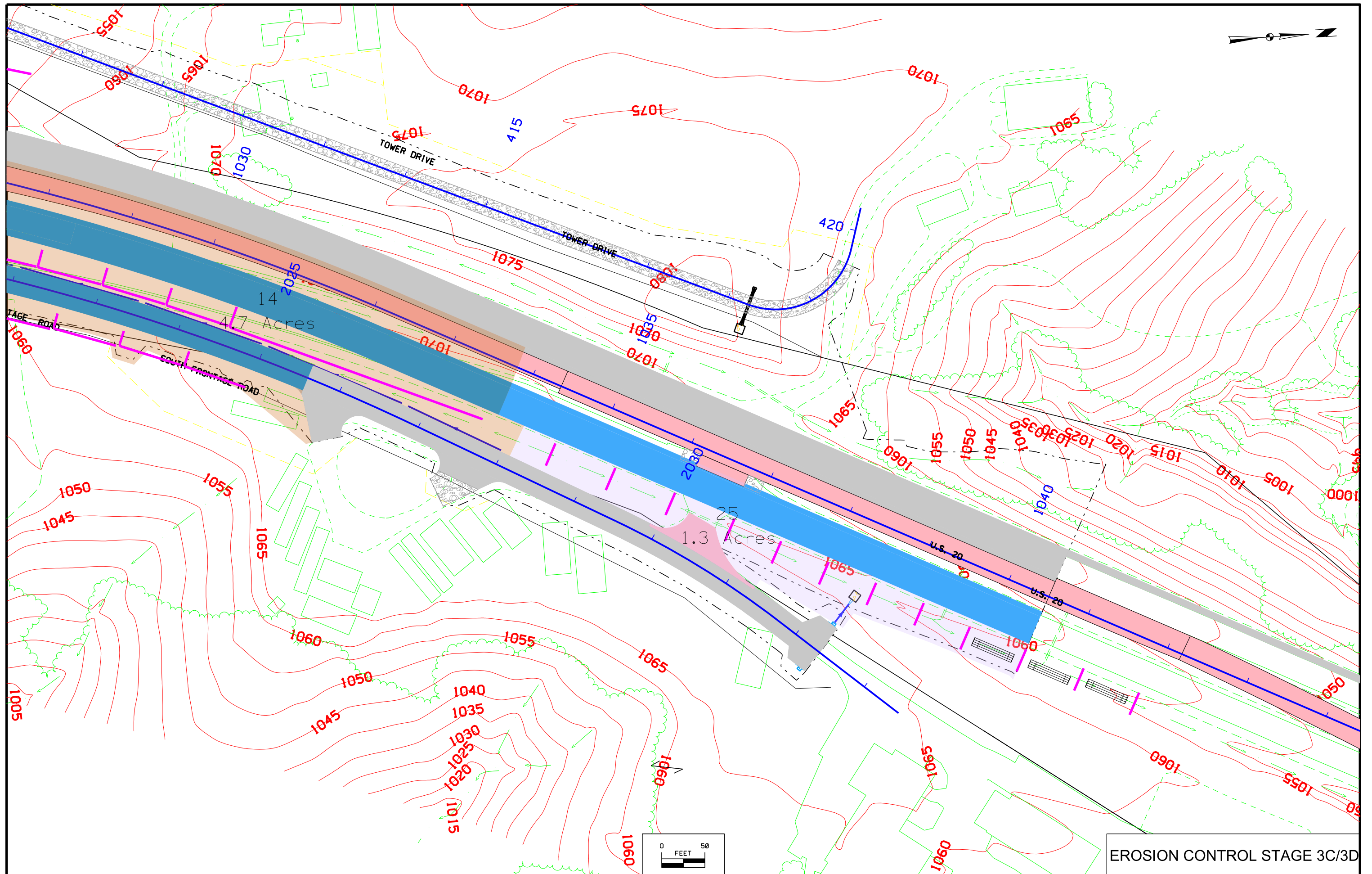


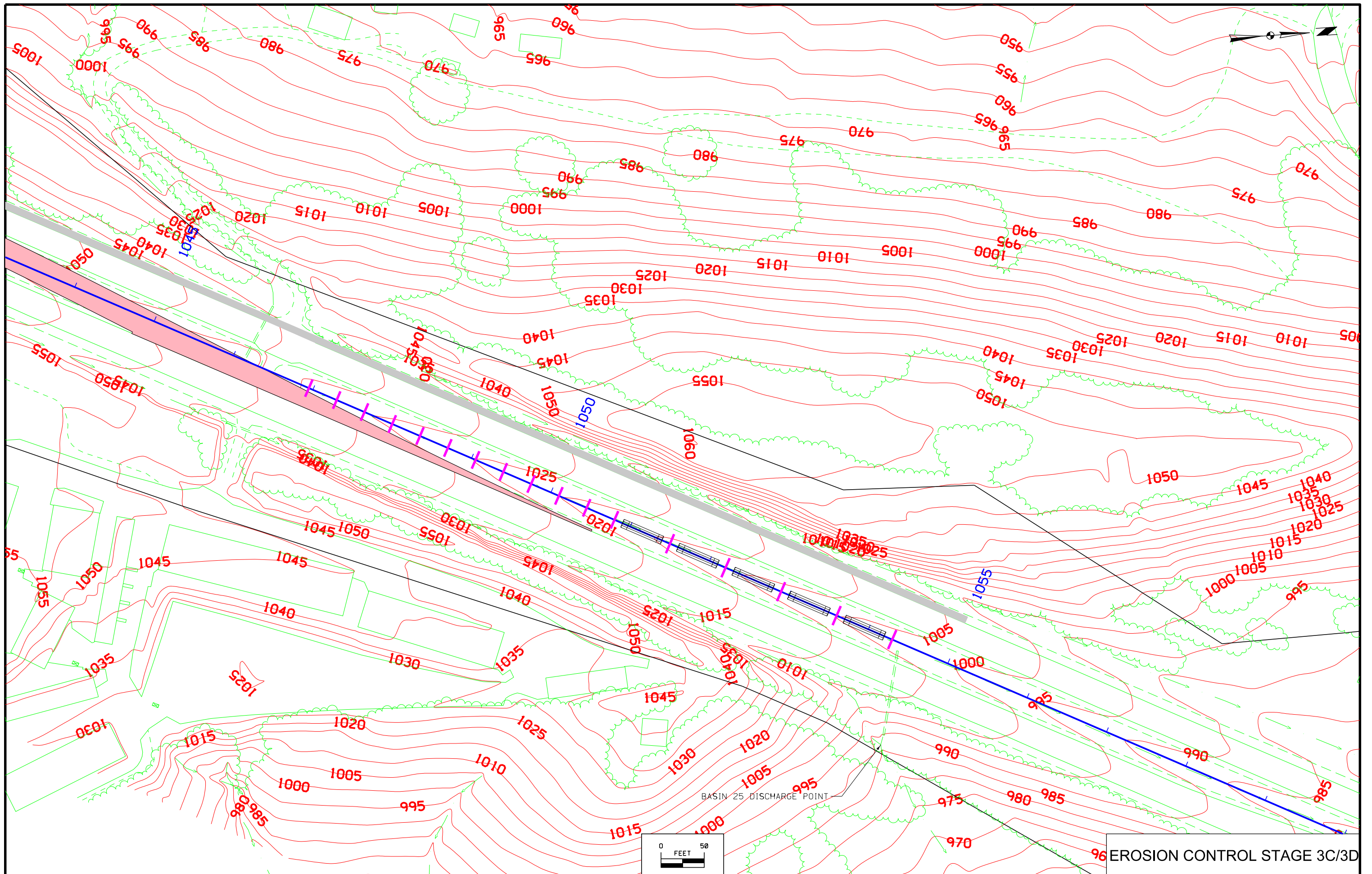
EROSION CONTROL STAGE 3C/3D



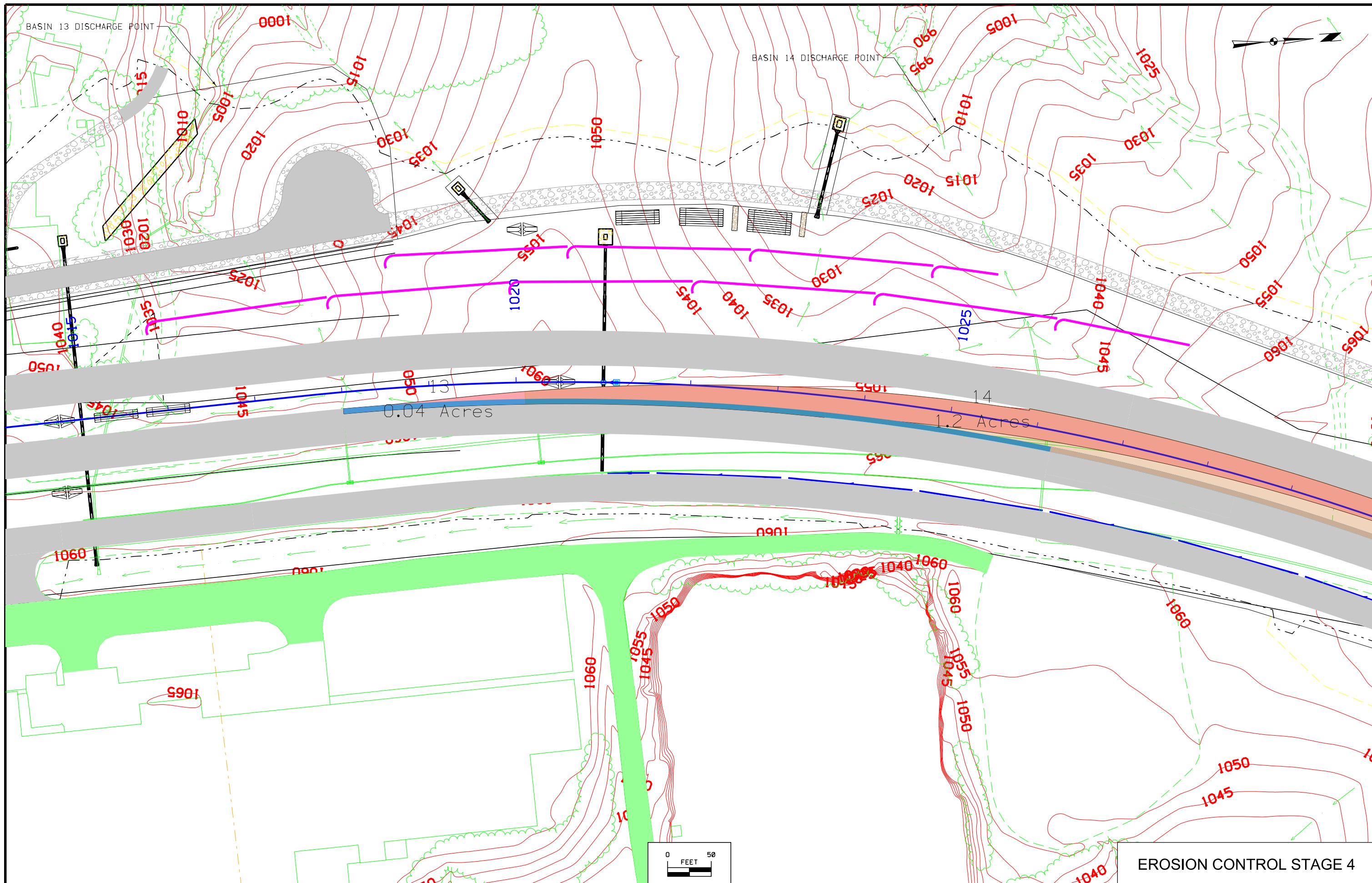
EROSION CONTROL STAGE 3C/3D



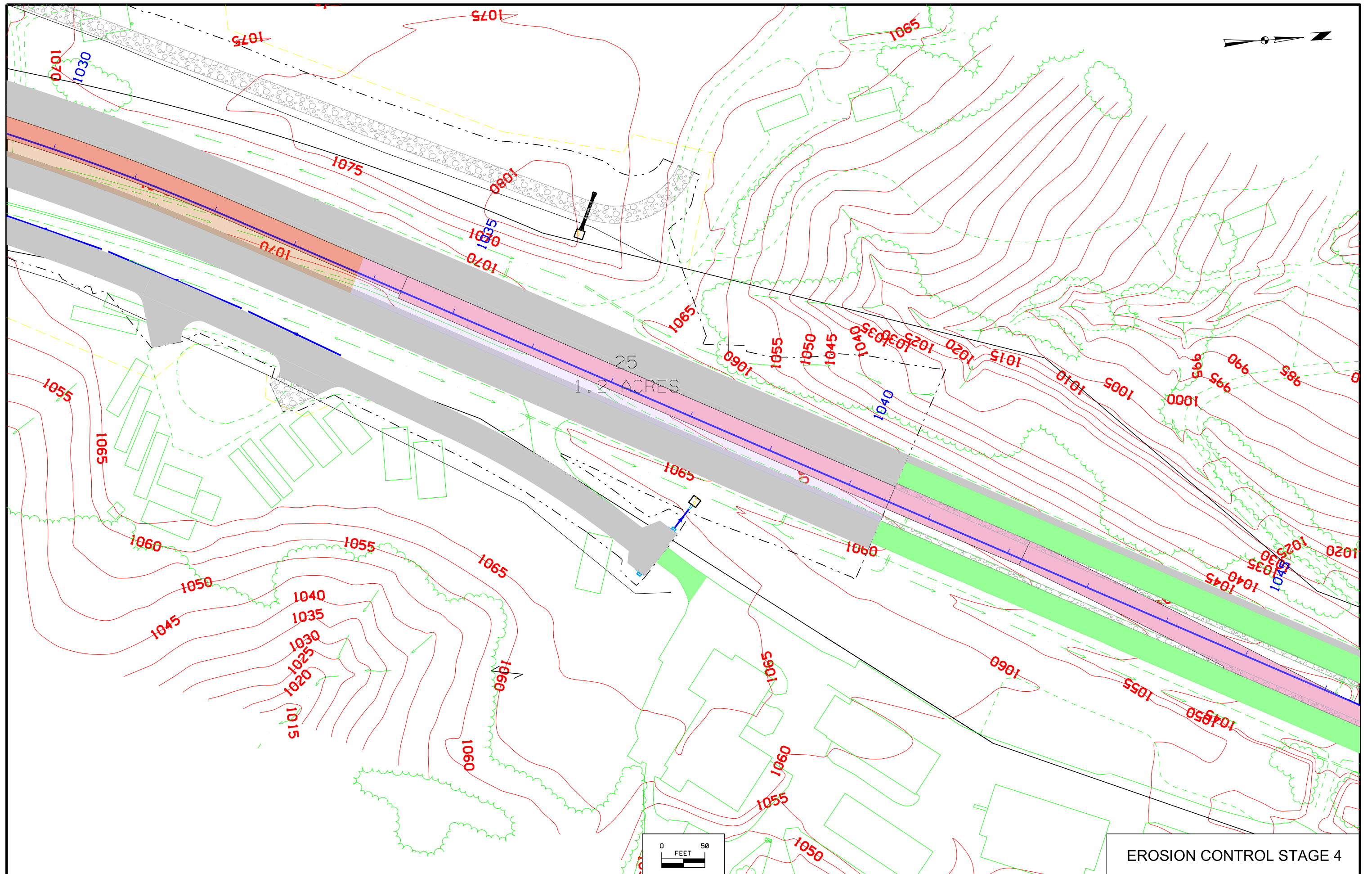




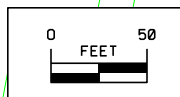
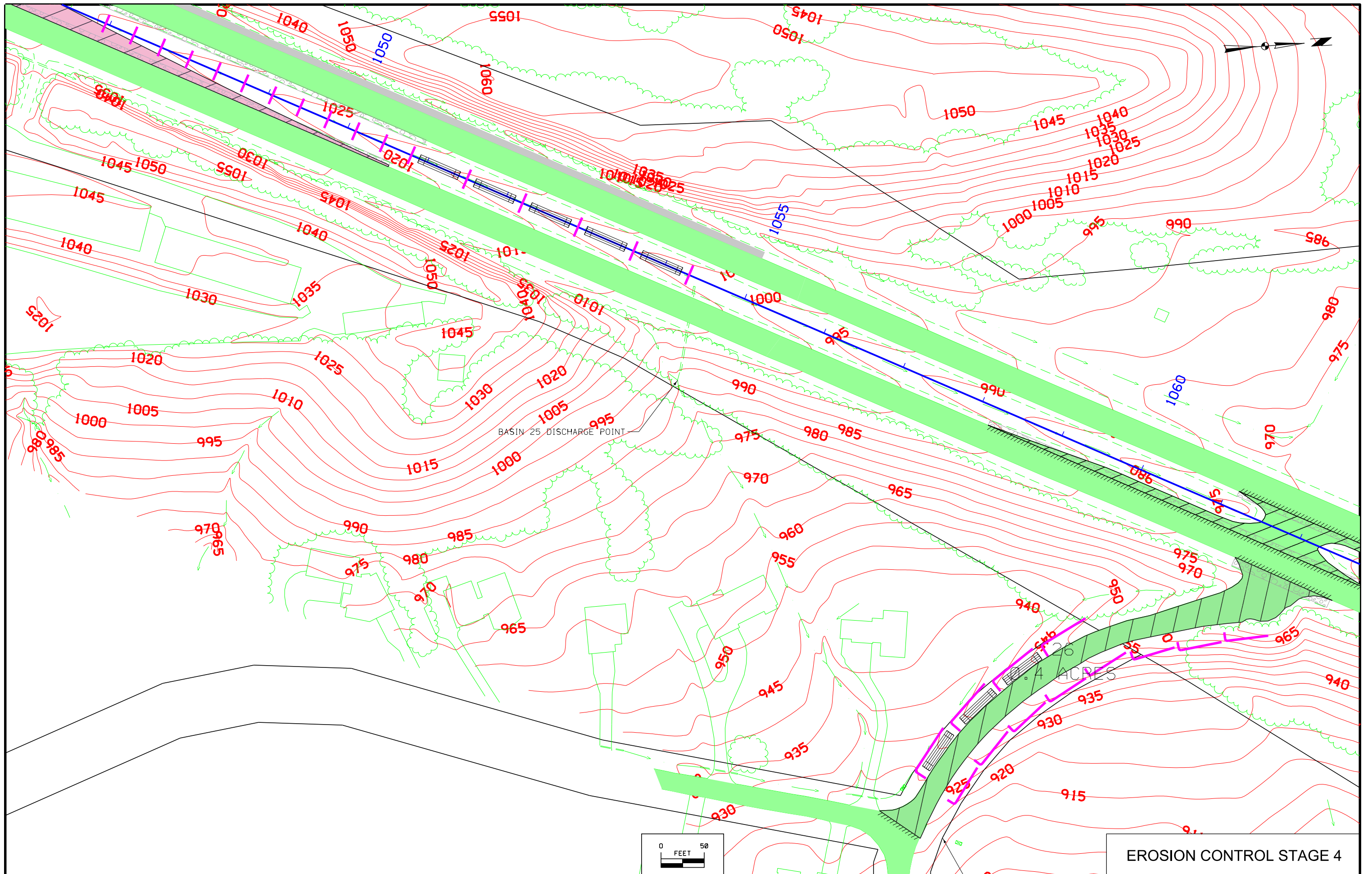








EROSION CONTROL STAGE 4



**EROSION CONTROL STAGE 4**

|                                              |                                                 |
|----------------------------------------------|-------------------------------------------------|
| ○ LUM Luminaire                              | — UV Underground Utility Vault                  |
| □ SIGN SI Sign                               | - - E1 - - ELA Underground Electric Line Co. 1  |
| ■ ROW Right of Way Rail                      | - - E2 - - ELB Underground Electric Line Co. 2  |
| ⚡ PPA Power Pole Co. 1                       | - - E3 - - ELC Underground Electric Line Co. 3  |
| ● PRA Power Riser Co. 1                      | - - W - - WLA Underground Water Line Co. 1      |
| ✱ TEV Evergreen Tree                         | - - T1 - - TLA Underground Telephone Line Co. 1 |
| 🌿 SHR Shrub                                  | - - T2 - - TLB Underground Telephone Line Co. 2 |
| 🌳 TDC Tree Deciduous                         | - - T3 - - TLC Underground Telephone Line Co. 3 |
| 🌾 SWAMP                                      | - - G - - GLA Underground Gas Line Co. 1        |
| 📡 LP L.P. Tank                               | - - F0 - - FOA Underground Fiber Optic Co. 1    |
| ○ OUT Tile Outlet                            | - - F02 - - FOB Underground Fiber Optic Co. 2   |
| ✱ TSG Traffic Signal                         | - - S1.5 - - STA Storm Sewer Co. 1              |
| ☒ IN Storm Sewer Intake                      | - - S1.5.2 - - STB Storm Sewer Co. 2            |
| ⊙ INB Storm Sewer Intake Beehive             |                                                 |
| ⊕ MH Utility Access (Manhole)                |                                                 |
| BB BB Billboard                              |                                                 |
| ○ MIS Miscellaneous                          |                                                 |
| ○ FLG FLG Flagpole                           |                                                 |
| ○ MM MM Mile Marker Post                     |                                                 |
| □ SIGN SL Speed Limit Sign                   |                                                 |
| ○ TP TPD Telephone Pedestal                  |                                                 |
| □ TCB TCB Utilities                          |                                                 |
| □ EB EB Electrical Box                       |                                                 |
| ○ WV WV Water Valve                          |                                                 |
| 🔥 FHYD Fire Hydrant                          |                                                 |
| □ UB UB Utility Box                          |                                                 |
| ○ TVP TVP TV Pedestal                        |                                                 |
| ----- TLN Tree Line                          |                                                 |
| ----- TIL Tile Line                          |                                                 |
| ----- FCL Chain Link and Security Fence      |                                                 |
| ----- FW Wire Fence                          |                                                 |
| ----- FWD Wood Fence                         |                                                 |
| - - - - - DU Centerline Draw or Stream (Up)  |                                                 |
| - - - - - D Centerline Draw or Stream (Down) |                                                 |
| ----- DIK Centerline of Dike or Dam          |                                                 |
| ----- EW Edge of Water                       |                                                 |
| ----- BNK Stream Bank                        |                                                 |
| ----- GDL Guard Rail Steel                   |                                                 |
| ----- RIP Rip-Rap                            |                                                 |
| ----- RR Centerline of Railroad Tracks       |                                                 |

### PLAN VIEW COLOR LEGEND OF SOILS SHEETS

| LINEWORK      | Design Color No. | Description                                                         |
|---------------|------------------|---------------------------------------------------------------------|
| Green         | (2)              | Existing Topographic Features and Labels                            |
| Purple (Halo) | (15)             | Backslope Drains                                                    |
| Blue          | (1)              | Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation |

| SHADING      | Design Color No. | Description |
|--------------|------------------|-------------|
| Brown, Light | (236)            | Core Out    |

### PROFILE VIEW COLOR LEGEND OF SOILS SHEETS

| LINEWORK     | Design Color No. | Description                                              |
|--------------|------------------|----------------------------------------------------------|
| Blue         | (1)              | Proposed Alignment, Stationing, and Alignment Annotation |
| Green        | (2)              | Existing Ground Line Profile                             |
| Green, Med   | (227)            | Topsoil                                                  |
| Green, Med   | (227)            | Slope Dressing Only                                      |
| Orange       | (6)              | Loam                                                     |
| Brown, Dark  | (238)            | Class 10                                                 |
| Brown, Med   | (237)            | Sand                                                     |
| Red          | (3)              | Unsuitable A                                             |
| Pink, Dark   | (13)             | Unsuitable B                                             |
| Pink         | (11)             | Unsuitable C                                             |
| Red          | (3)              | Shale                                                    |
| Red          | (3)              | Waste                                                    |
| Gray, Light  | (48)             | Broken and Weathered Rock                                |
| Gray, Med    | (80)             | Rock                                                     |
| Gray, V.Dark | (128)            | Boulders                                                 |

### PATTERN AND SYMBOL LEGEND OF SOILS SHEETS

|            |                           |                       |
|------------|---------------------------|-----------------------|
| Drill      | Dig/Core                  | Date(s) Drilled _____ |
| Water      | Treatment                 | Sandstone             |
| Dry        | Sand Blanket              | Unsuitable A          |
| Sample     | Soil Remediation Area     | Unsuitable B          |
| Plugged    | Select Soil               | Unsuitable C          |
| Moisture   | Select Sand               | Sandy Soil            |
| Shelby     | Slope Dressing Only       | Boulders              |
| Blow Count | Broken and Weathered Rock | Shale                 |
| Dens. Core | Rock                      |                       |

|                       |                          |
|-----------------------|--------------------------|
| Reference Point       | Survey Line              |
| Station               | Section Corner           |
| Ground Line Intercept | Saw Cut                  |
| Guardrail             | Clearing & Grubbing Area |
| Pavement Removal      |                          |

#### RIGHT-OF-WAY LEGEND

|  |                                    |
|--|------------------------------------|
|  | Proposed Right-of-Way              |
|  | Existing and Proposed Right-of-Way |
|  | Easement and Existing Right-of-Way |
|  | Borrow                             |
|  | Easement (Temporary)               |
|  | Easement                           |
|  | Excess                             |
|  | Access Control                     |

NOTE: Sounding and test boring data shown in the plans were accumulated for designing and estimating purposes. Their appearance on the plans does not constitute a guarantee that conditions other than those indicated will be encountered. Details and notes shown elsewhere shall be used for roadway and structure construction.

## SOILS LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES Q)



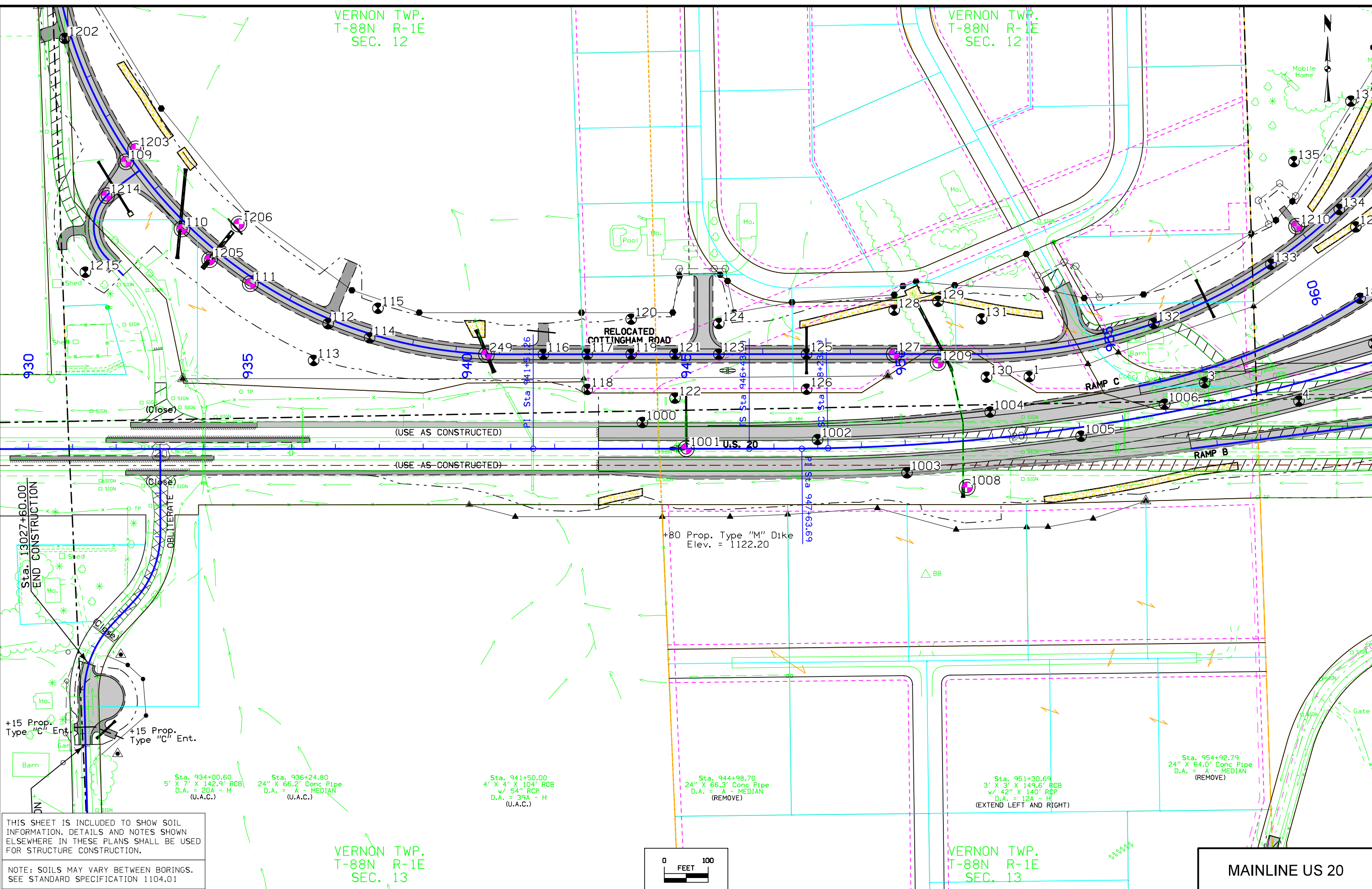
VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 13

VERNON TWP.  
T-88N R-1E  
SEC. 13

MAINLINE US 20



THIS SHEET IS INCLUDED TO SHOW SOIL INFORMATION. DETAILS AND NOTES SHOWN ELSEWHERE IN THESE PLANS SHALL BE USED FOR STRUCTURE CONSTRUCTION.

NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

Sta. 934+00.60  
5' X 7' X 142.9' RCB  
D.A. = 20A - H  
(U.A.C.)

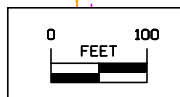
Sta. 936+24.80  
24" X 66.2' Conc Pipe  
D.A. = A - MEDIAN  
(U.A.C.)

Sta. 941+50.00  
4' X 4' X 104' RCB  
w/ 54" RCP  
D.A. = 39A - H  
(U.A.C.)

Sta. 944+98.70  
24" X 66.3' Conc Pipe  
D.A. = A - MEDIAN  
(REMOVE)

Sta. 951+30.69  
3' X 3' X 149.6' RCB  
w/ 42" X 140' RCP  
D.A. = 12A - H  
(EXTEND LEFT AND RIGHT)

Sta. 954+92.79  
24" X 64.0' Conc Pipe  
D.A. = A - MEDIAN  
(REMOVE)

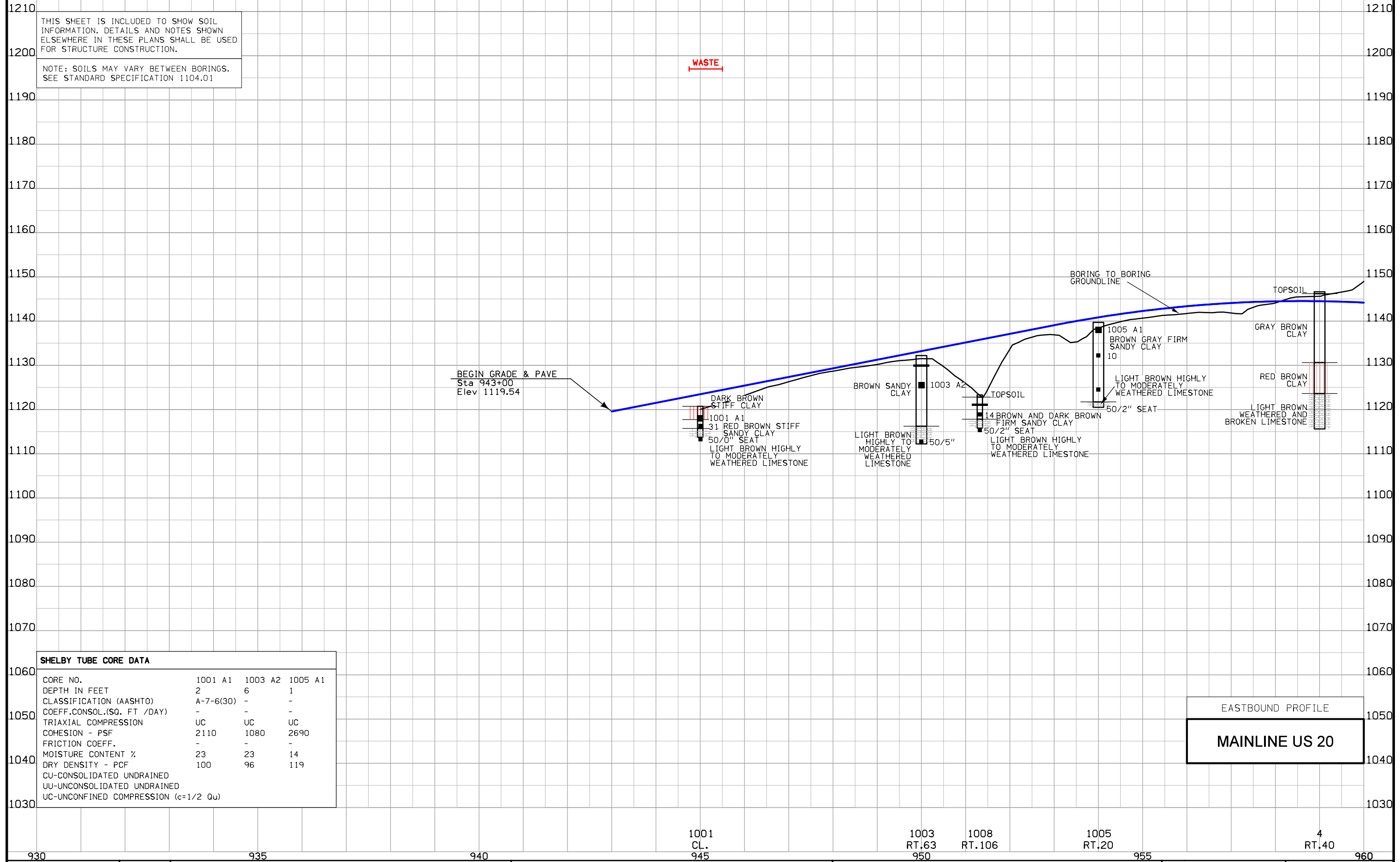


CUT MOISTURE  
CUT DENSITY (PCF)  
PLASTIC LIMIT

|      |                 |      |          |
|------|-----------------|------|----------|
| 1003 | 21,<br>96,<br>, | 1008 | 26,<br>, |
|------|-----------------|------|----------|

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| SHELBY TUBE CORE DATA                |           |         |         |
|--------------------------------------|-----------|---------|---------|
| CORE NO.                             | 1001 A1   | 1003 A2 | 1005 A1 |
| DEPTH IN FEET                        | 2         | 6       | 1       |
| CLASSIFICATION (AASHTO)              | A-7-6(30) | -       | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -         | -       | -       |
| TRIAxIAL COMPRESSION                 | UC        | UC      | UC      |
| COHESION - PSF                       | 2110      | 1080    | 2690    |
| FRICTION COEFF.                      | -         | -       | -       |
| MOISTURE CONTENT %                   | 23        | 23      | 14      |
| DRY DENSITY - PCF                    | 100       | 96      | 119     |
| CU-CONSOLIDATED UNDRAINED            |           |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |           |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |           |         |         |

EASTBOUND PROFILE  
**MAINLINE US 20**

930 935 940 1001 CL. 945 1003 RT.63 950 1008 RT.106 1005 RT.20 955 4 RT.40 960

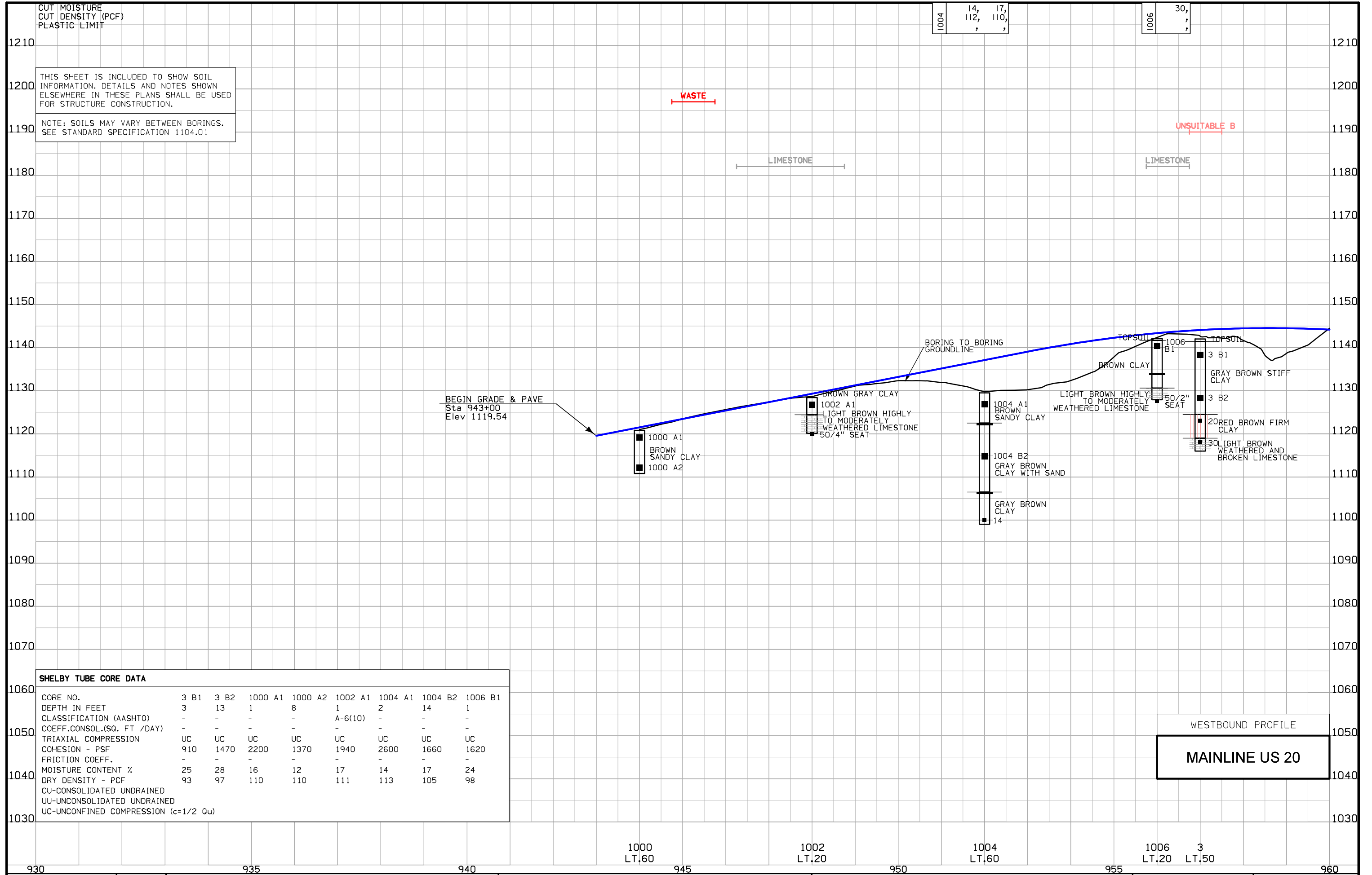
CUT MOISTURE  
CUT DENSITY (PCF)  
PLASTIC LIMIT

1004 14, 17,  
112, 110,  
, ,

1006 30,  
, ,

THIS SHEET IS INCLUDED TO SHOW SOIL  
INFORMATION. DETAILS AND NOTES SHOWN  
ELSEWHERE IN THESE PLANS SHALL BE USED  
FOR STRUCTURE CONSTRUCTION.

NOTE: SOILS MAY VARY BETWEEN BORINGS.  
SEE STANDARD SPECIFICATION 1104.01



BEGIN GRADE & PAVE  
Sta 943+00  
Elev 1119.54

1000 A1  
BROWN SANDY CLAY  
1000 A2

1002 A1  
BROWN GRAY CLAY  
LIGHT BROWN HIGHLY TO MODERATELY WEATHERED LIMESTONE  
50/4" SEAT

1004 A1  
BROWN SANDY CLAY  
1004 B2  
GRAY BROWN CLAY WITH SAND  
14  
GRAY BROWN CLAY

1006 B1  
50/2" SEAT

3 B1  
GRAY BROWN STIFF CLAY  
3 B2  
20 RED BROWN FIRM CLAY  
30 LIGHT BROWN WEATHERED AND BROKEN LIMESTONE

| SHELBY TUBE CORE DATA                |      |      |         |         |         |         |         |         |
|--------------------------------------|------|------|---------|---------|---------|---------|---------|---------|
| CORE NO.                             | 3 B1 | 3 B2 | 1000 A1 | 1000 A2 | 1002 A1 | 1004 A1 | 1004 B2 | 1006 B1 |
| DEPTH IN FEET                        | 3    | 13   | 1       | 8       | 1       | 2       | 14      | 1       |
| CLASSIFICATION (AASHTO)              | -    | -    | -       | -       | A-6(10) | -       | -       | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -    | -    | -       | -       | -       | -       | -       | -       |
| TRIAxIAL COMPRESSION                 | UC   | UC   | UC      | UC      | UC      | UC      | UC      | UC      |
| COHESION - PSF                       | 910  | 1470 | 2200    | 1370    | 1940    | 2600    | 1660    | 1620    |
| FRICTION COEFF.                      | -    | -    | -       | -       | -       | -       | -       | -       |
| MOISTURE CONTENT %                   | 25   | 28   | 16      | 12      | 17      | 14      | 17      | 24      |
| DRY DENSITY - PCF                    | 93   | 97   | 110     | 110     | 111     | 113     | 105     | 98      |
| CU-UNCONSOLIDATED UNDRAINED          |      |      |         |         |         |         |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |      |      |         |         |         |         |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |      |      |         |         |         |         |         |         |

WESTBOUND PROFILE  
**MAINLINE US 20**

1000  
LT.60

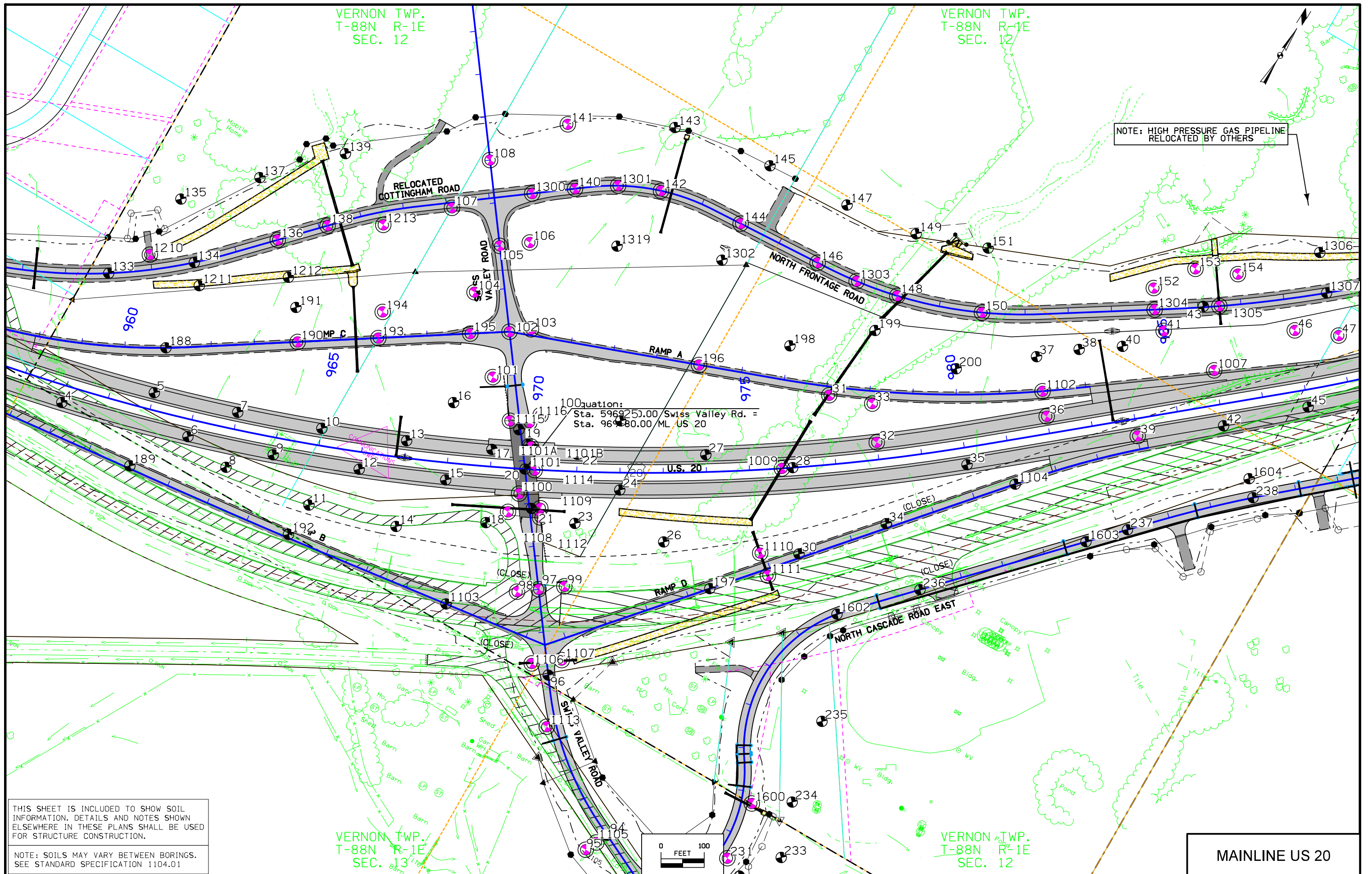
1002  
LT.20

1004  
LT.60

1006  
LT.20

3  
LT.50





NOTE: HIGH PRESSURE GAS PIPELINE RELOCATED BY OTHERS

Equation:  
 Sta. 596925.00 / Swiss Valley Rd. =  
 Sta. 96780.00 / ML US 20

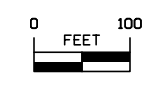
THIS SHEET IS INCLUDED TO SHOW SOIL INFORMATION. DETAILS AND NOTES SHOWN ELSEWHERE IN THESE PLANS SHALL BE USED FOR STRUCTURE CONSTRUCTION.

NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

VERNON TWP.  
 T-88N R-1E  
 SEC. 13

VERNON TWP.  
 T-88N R-1E  
 SEC. 12

MAINLINE US 20

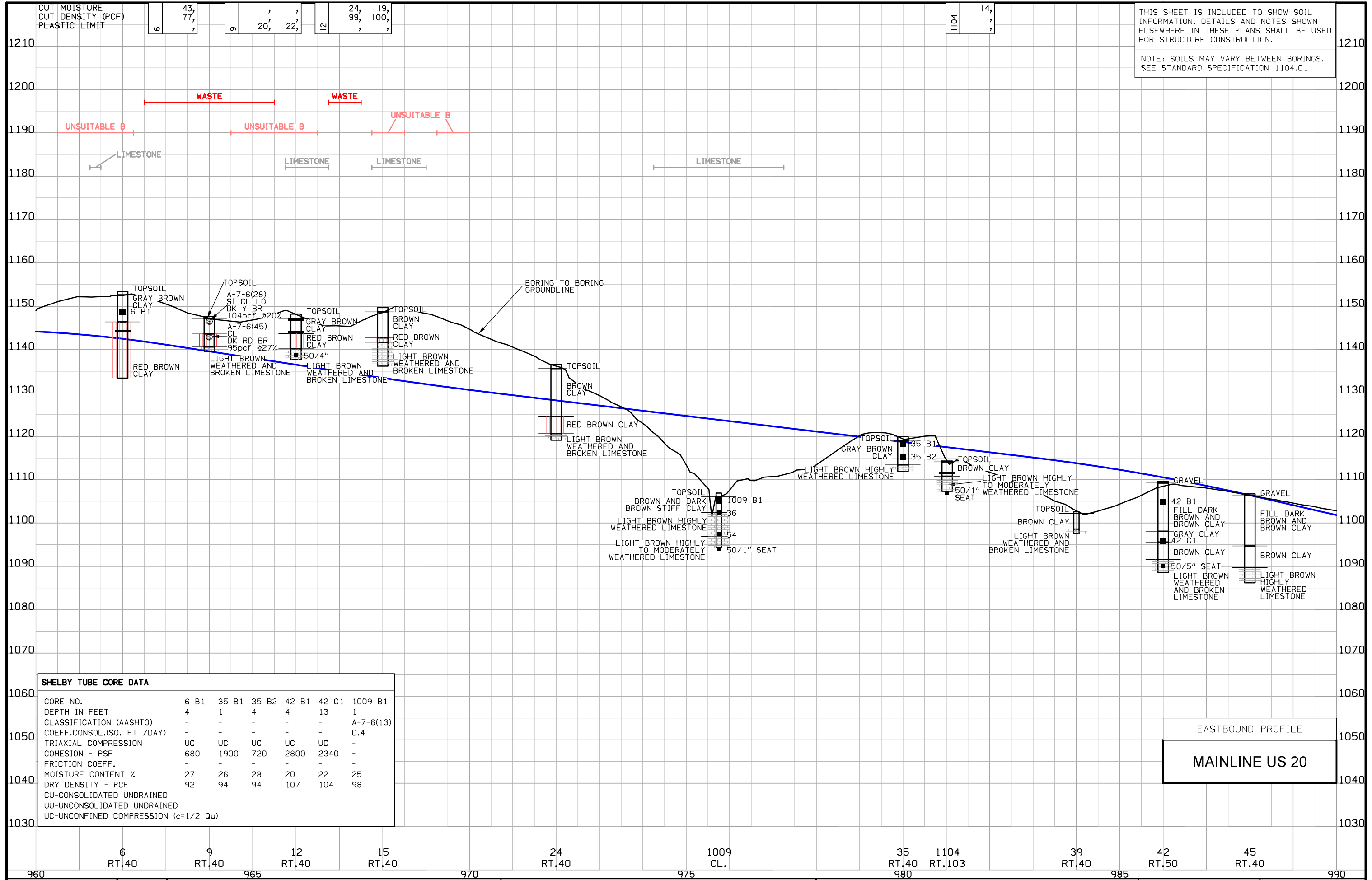


|                   |     |     |     |     |      |
|-------------------|-----|-----|-----|-----|------|
| CUT MOISTURE      | 43, |     |     | 24, | 19,  |
| CUT DENSITY (PCF) | 77, |     |     | 99, | 100, |
| PLASTIC LIMIT     | 6   | 20, | 22, |     |      |

|      |     |
|------|-----|
| 1104 | 14, |
|------|-----|

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| SHELBY TUBE CORE DATA                |      |       |       |       |       |           |
|--------------------------------------|------|-------|-------|-------|-------|-----------|
| CORE NO.                             | 6 B1 | 35 B1 | 35 B2 | 42 B1 | 42 C1 | 1009 B1   |
| DEPTH IN FEET                        | 4    | 1     | 4     | 4     | 13    | 1         |
| CLASSIFICATION (AASHTO)              | -    | -     | -     | -     | -     | A-7-6(13) |
| COEFF. CONSOL. (SQ. FT / DAY)        | -    | -     | -     | -     | -     | 0.4       |
| TRIAxIAL COMPRESSION                 | UC   | UC    | UC    | UC    | UC    | -         |
| COHESION - PSF                       | 680  | 1900  | 720   | 2800  | 2340  | -         |
| FRICTION COEFF.                      | -    | -     | -     | -     | -     | -         |
| MOISTURE CONTENT %                   | 27   | 26    | 28    | 20    | 22    | 25        |
| DRY DENSITY - PCF                    | 92   | 94    | 94    | 107   | 104   | 98        |
| CU-CONSOLIDATED UNDRAINED            |      |       |       |       |       |           |
| UU-UNCONSOLIDATED UNDRAINED          |      |       |       |       |       |           |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |      |       |       |       |       |           |

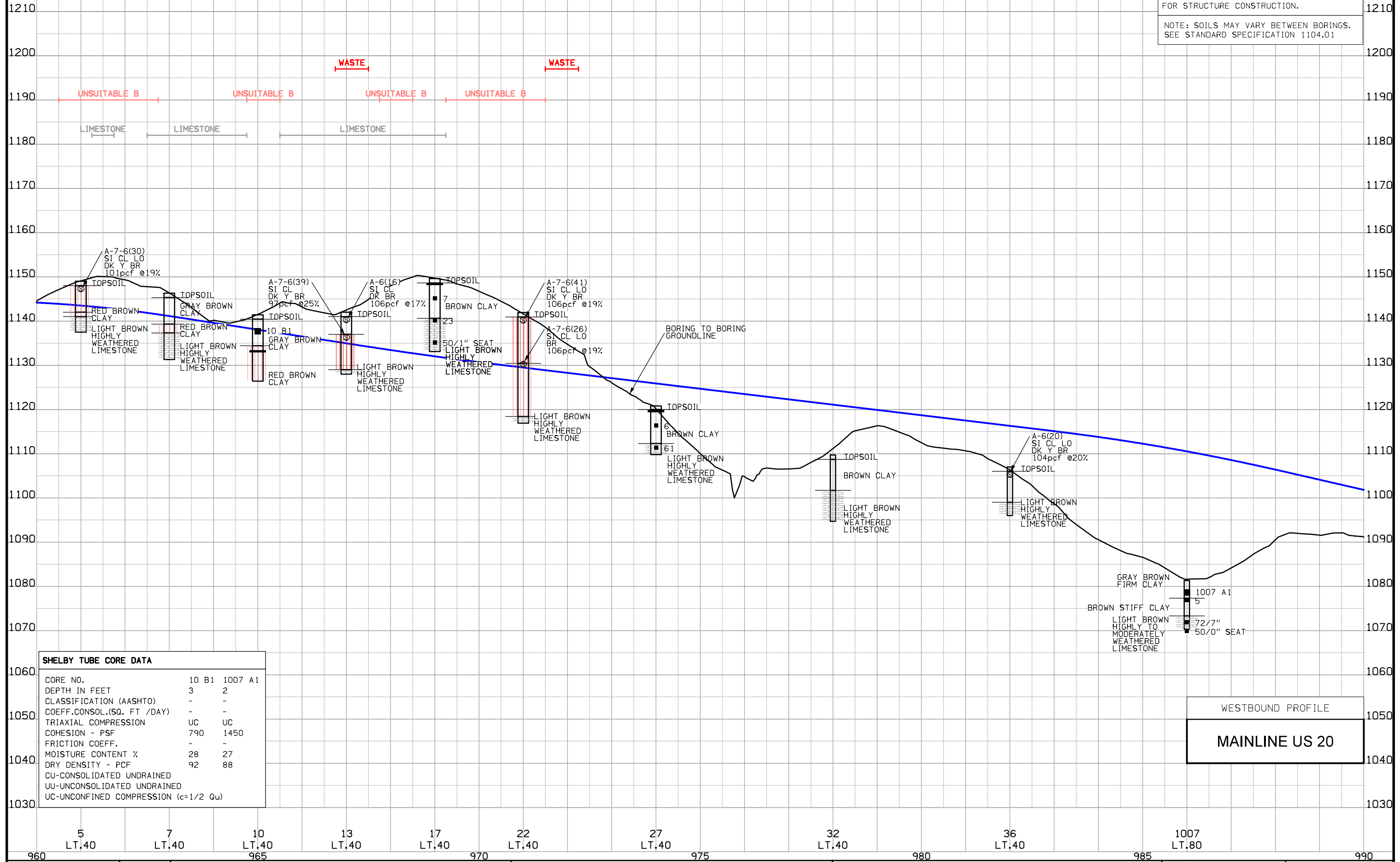
EASTBOUND PROFILE  
MAINLINE US 20

CUT MOISTURE  
CUT DENSITY (PCF)  
PLASTIC LIMIT

|   |    |    |        |    |        |    |        |    |       |    |        |    |    |
|---|----|----|--------|----|--------|----|--------|----|-------|----|--------|----|----|
| 5 | 21 | 10 | 38, 83 | 13 | 22, 21 | 17 | 24, 99 | 22 | 2, 16 | 27 | 28, 95 | 36 | 20 |
|---|----|----|--------|----|--------|----|--------|----|-------|----|--------|----|----|

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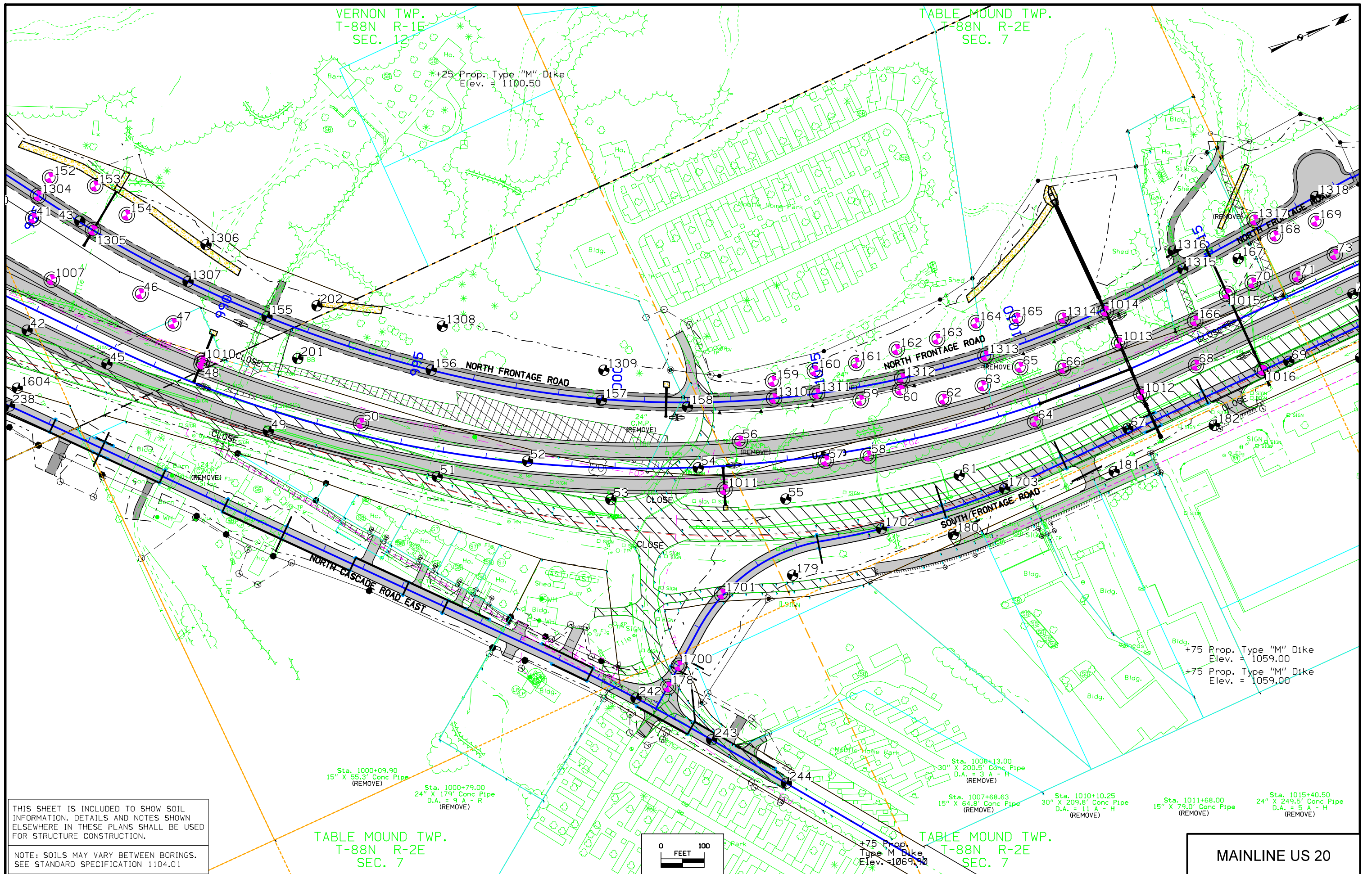
NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01



| SHELBY TUBE CORE DATA                |       |         |
|--------------------------------------|-------|---------|
| CORE NO.                             | 10 B1 | 1007 A1 |
| DEPTH IN FEET                        | 3     | 2       |
| CLASSIFICATION (AASHTO)              | -     | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -     | -       |
| TRIAxIAL COMPRESSION                 | UC    | UC      |
| COHESION - PSF                       | 790   | 1450    |
| FRICTION COEFF.                      | -     | -       |
| MOISTURE CONTENT %                   | 28    | 27      |
| DRY DENSITY - PCF                    | 92    | 88      |
| CU-CONSOLIDATED UNDRAINED            |       |         |
| UU-UNCONSOLIDATED UNDRAINED          |       |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |       |         |

WESTBOUND PROFILE  
MAINLINE US 20





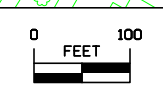
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NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

MAINLINE US 20



CUT MOISTURE  
CUT DENSITY (PCF)  
PLASTIC LIMIT

49  
,  
22,  
21,

51  
,  
39,  
83,

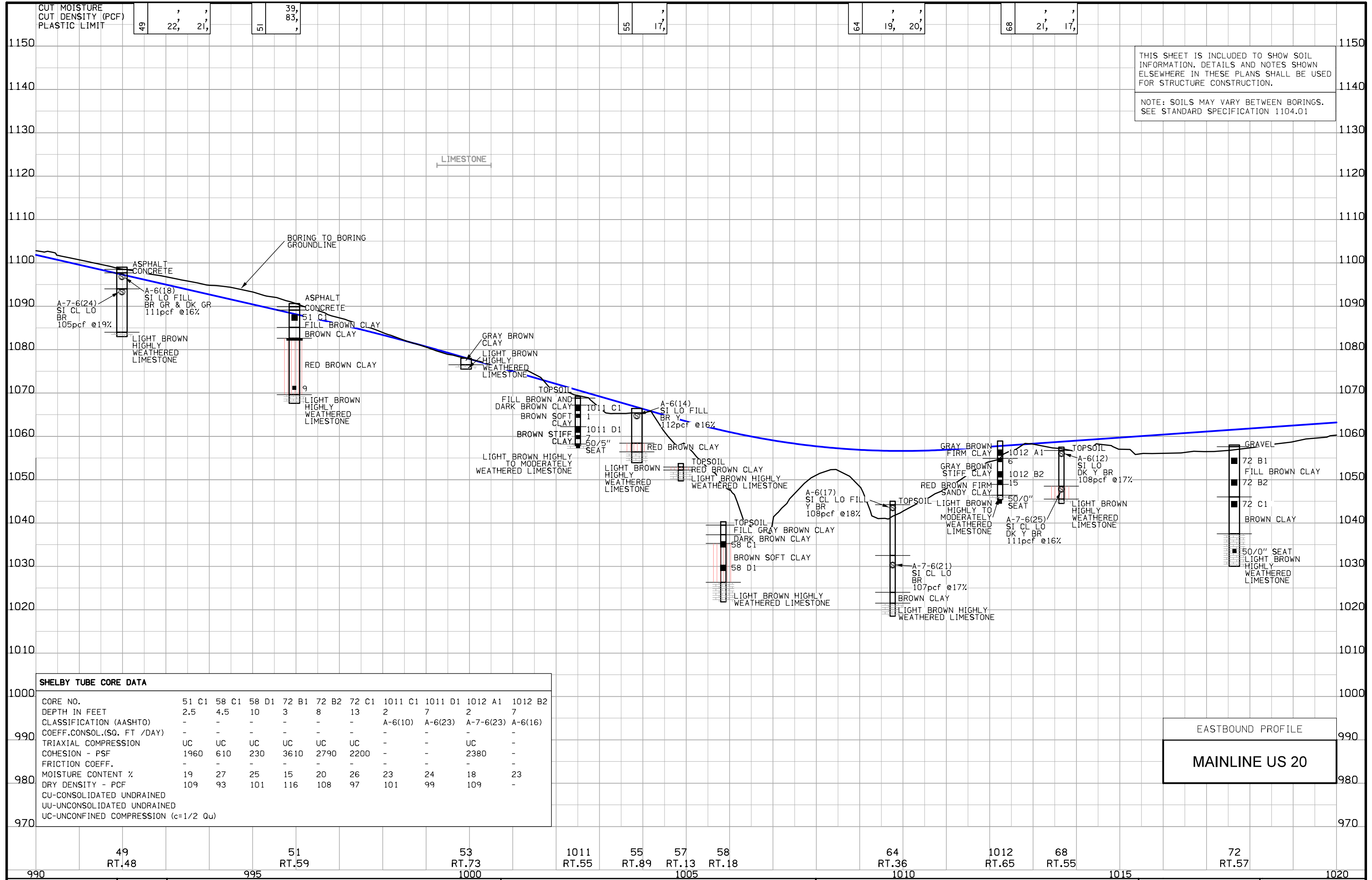
55  
,  
17,

64  
,  
19,  
20,

68  
,  
21,  
17,

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NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01



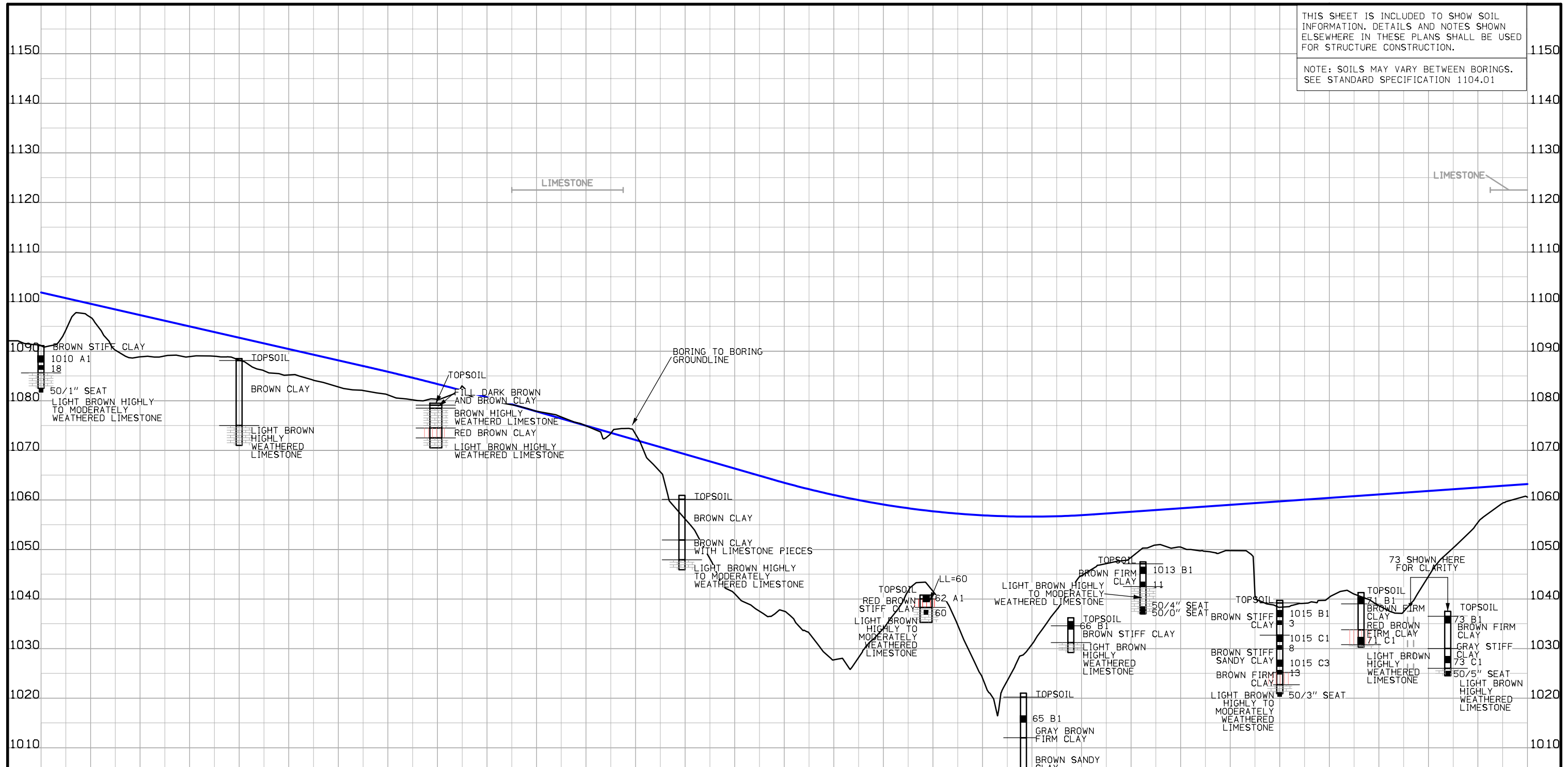
**SHELBY TUBE CORE DATA**

| CORE NO.                             | 51 C1 | 58 C1 | 58 D1 | 72 B1 | 72 B2 | 72 C1 | 1011 C1 | 1011 D1 | 1012 A1   | 1012 B2 |
|--------------------------------------|-------|-------|-------|-------|-------|-------|---------|---------|-----------|---------|
| DEPTH IN FEET                        | 2.5   | 4.5   | 10    | 3     | 8     | 13    | 2       | 7       | 2         | 7       |
| CLASSIFICATION (AASHTO)              | -     | -     | -     | -     | -     | -     | A-6(10) | A-6(23) | A-7-6(23) | A-6(16) |
| COEFF. CONSOL. (SQ. FT / DAY)        | -     | -     | -     | -     | -     | -     | -       | -       | -         | -       |
| TRIAxIAL COMPRESSION                 | UC    | UC    | UC    | UC    | UC    | UC    | -       | -       | UC        | -       |
| COHESION - PSF                       | 1960  | 610   | 230   | 3610  | 2790  | 2200  | -       | -       | 2380      | -       |
| FRICTION COEFF.                      | -     | -     | -     | -     | -     | -     | -       | -       | -         | -       |
| MOISTURE CONTENT %                   | 19    | 27    | 25    | 15    | 20    | 26    | 23      | 24      | 18        | 23      |
| DRY DENSITY - PCF                    | 109   | 93    | 101   | 116   | 108   | 97    | 101     | 99      | 109       | -       |
| CU-UNCONSOLIDATED UNDRAINED          |       |       |       |       |       |       |         |         |           |         |
| UU-UNCONSOLIDATED UNDRAINED          |       |       |       |       |       |       |         |         |           |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |       |       |       |       |       |       |         |         |           |         |

EASTBOUND PROFILE  
**MAINLINE US 20**

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NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01



| SHELBY TUBE CORE DATA                |       |       |       |       |       |       |        |           |         |           |         |         |
|--------------------------------------|-------|-------|-------|-------|-------|-------|--------|-----------|---------|-----------|---------|---------|
| CORE NO.                             | 62 A1 | 65 B1 | 66 B1 | 71 B1 | 71 C1 | 73 B1 | 73 C1  | 1010 A1   | 1013 B1 | 1015 B1   | 1015 C1 | 1015 C3 |
| DEPTH IN FEET                        | 0     | 4.5   | 1     | 1     | 9     | 1     | 9      | 2         | 1       | 2         | 7       | 12      |
| CLASSIFICATION (AASHTO)              | -     | -     | -     | -     | -     | -     | A-4(9) | A-7-6(29) | -       | A-7-6(24) | -       | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -     | -     | -     | -     | -     | -     | -      | 0.27      | -       | -         | -       | -       |
| TRIAxIAL COMPRESSION                 | UC    | UC    | UC    | UC    | UC    | UC    | UC     | -         | UC      | -         | UC      | UC      |
| COHESION - PSF                       | 1290  | 2250  | 850   | 1790  | 1360  | 1360  | 840    | -         | 1790    | -         | 1020    | 1680    |
| FRICTION COEFF.                      | -     | -     | -     | -     | -     | -     | -      | -         | -       | -         | -       | -       |
| MOISTURE CONTENT %                   | 24    | 24    | 24    | 25    | 27    | 26    | 26     | 26        | 23      | 23        | 18      | 17      |
| DRY DENSITY - PCF                    | 90    | 97    | 97    | 98    | 89    | 96    | 94     | 97        | 99      | 98        | 97      | 98      |
| CU-UNCONSOLIDATED UNDRAINED          |       |       |       |       |       |       |        |           |         |           |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |       |       |       |       |       |       |        |           |         |           |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |       |       |       |       |       |       |        |           |         |           |         |         |

WESTBOUND PROFILE  
**MAINLINE US 20**

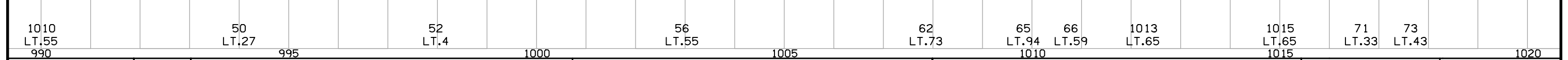


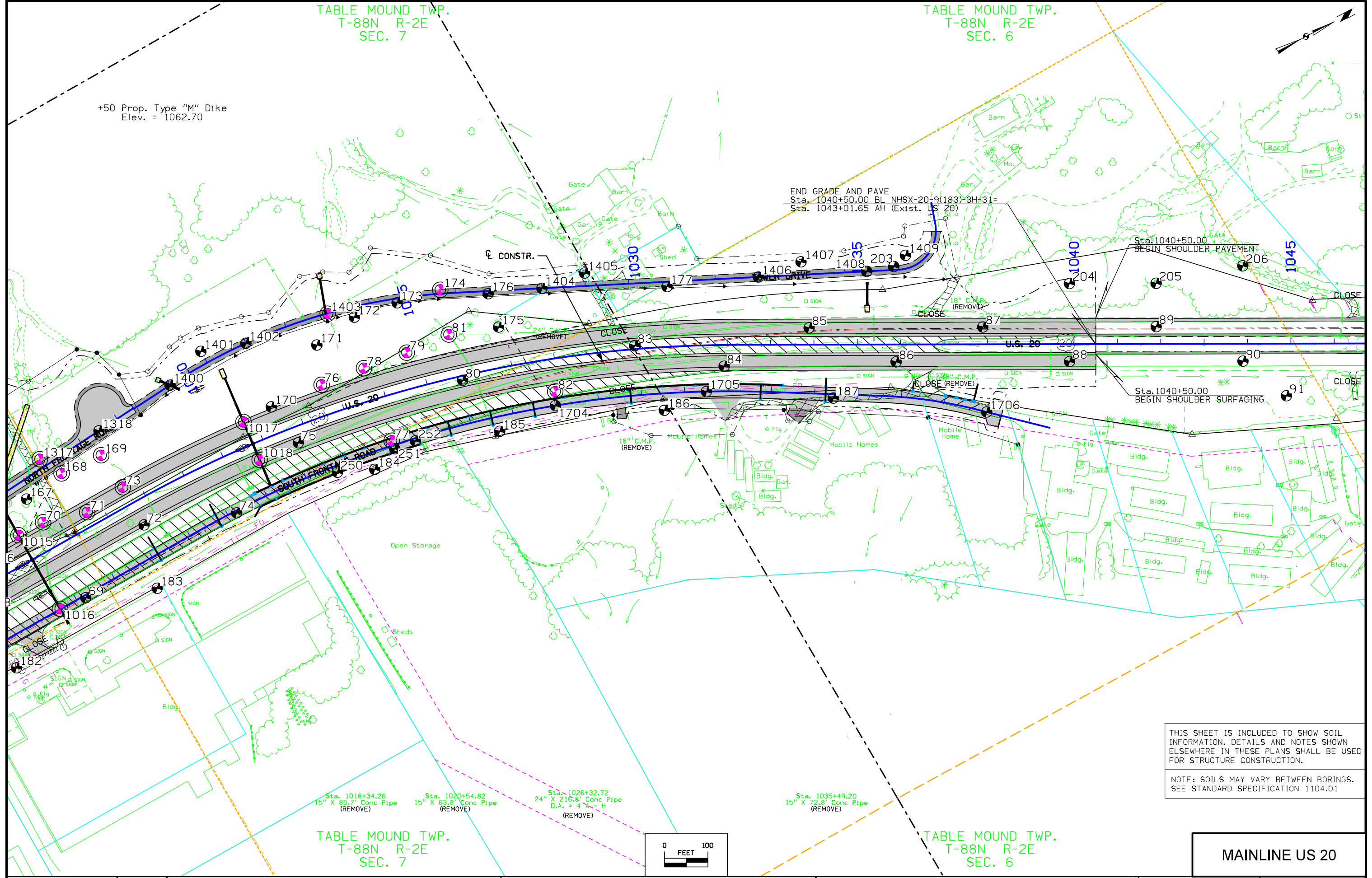


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

+50 Prop. Type "M" Dike  
Elev. = 1062.70

END GRADE AND PAVE  
Sta. 1040+50.00 BL NHSX-20-9(183)-3H-31=  
Sta. 1043+01.65 AH (Exist. US 20)

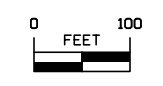


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NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



MAINLINE US 20

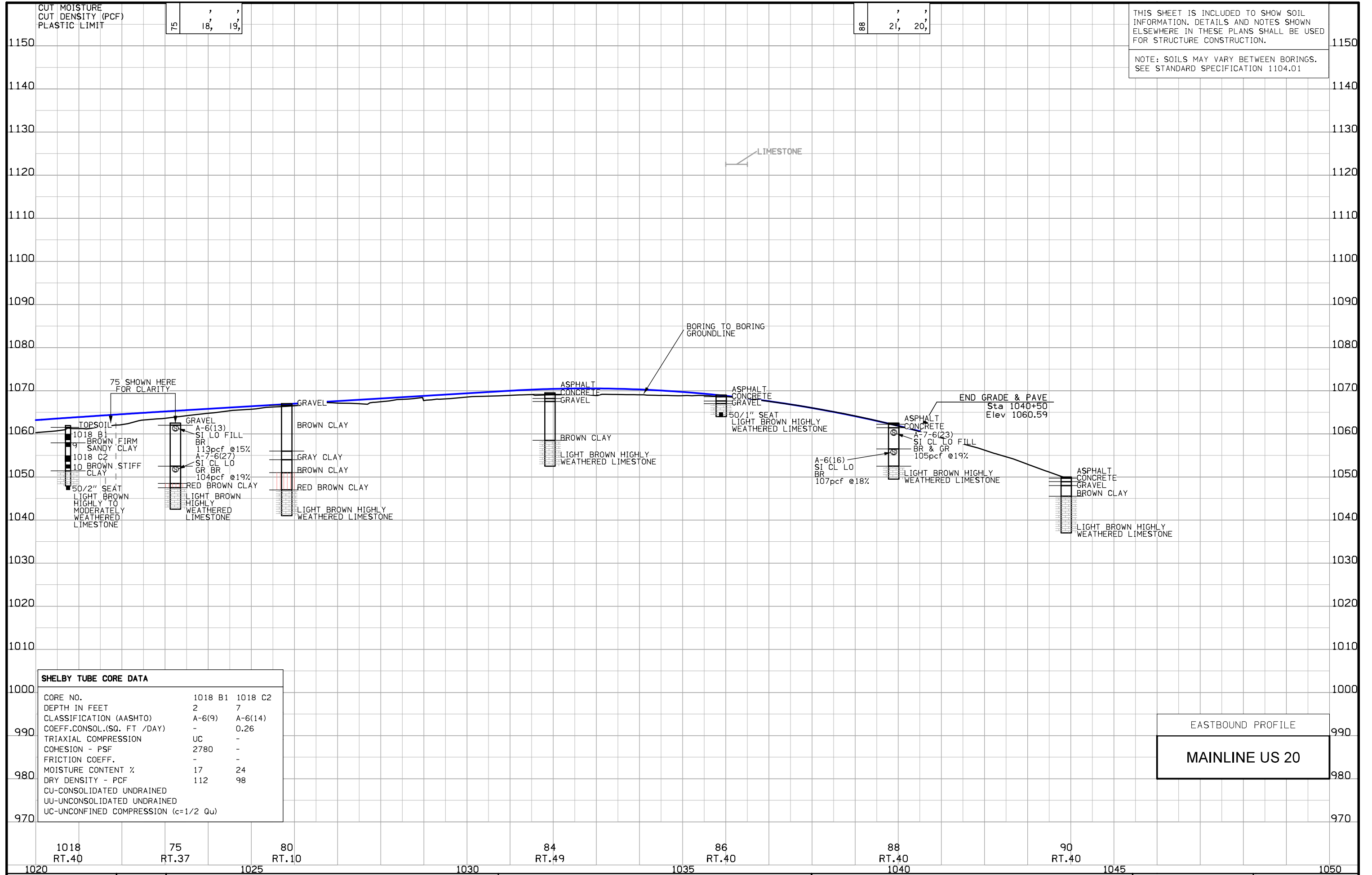
CUT MOISTURE  
CUT DENSITY (PCF)  
PLASTIC LIMIT

75      '      '  
18,    19,

88      '      '  
21,    20,

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FOR STRUCTURE CONSTRUCTION.

NOTE: SOILS MAY VARY BETWEEN BORINGS.  
SEE STANDARD SPECIFICATION 1104.01



| SHELBY TUBE CORE DATA                |         |         |
|--------------------------------------|---------|---------|
| CORE NO.                             | 1018 B1 | 1018 C2 |
| DEPTH IN FEET                        | 2       | 7       |
| CLASSIFICATION (AASHTO)              | A-6(9)  | A-6(14) |
| COEFF. CONSOL. (SQ. FT / DAY)        | -       | 0.26    |
| TRIAxIAL COMPRESSION                 | UC      | -       |
| COHESION - PSF                       | 2780    | -       |
| FRICTION COEFF.                      | -       | -       |
| MOISTURE CONTENT %                   | 17      | 24      |
| DRY DENSITY - PCF                    | 112     | 98      |
| CU-CONSOLIDATED UNDRAINED            |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |         |         |

EASTBOUND PROFILE  
**MAINLINE US 20**

1018 RT.40      75 RT.37      80 RT.10      84 RT.49      86 RT.40      88 RT.40      90 RT.40

1020      1025      1030      1035      1040      1045      1050

ENGLISH    IOWA DOT    DESIGN TEAM    HDR\Iowa DOT\Terracon    DUBUQUE COUNTY    PROJECT NUMBER    NHSX-020-9(183)--3H-31    SHEET NUMBER    Q.12

CUT MOISTURE  
CUT DENSITY (PCF)  
PLASTIC LIMIT

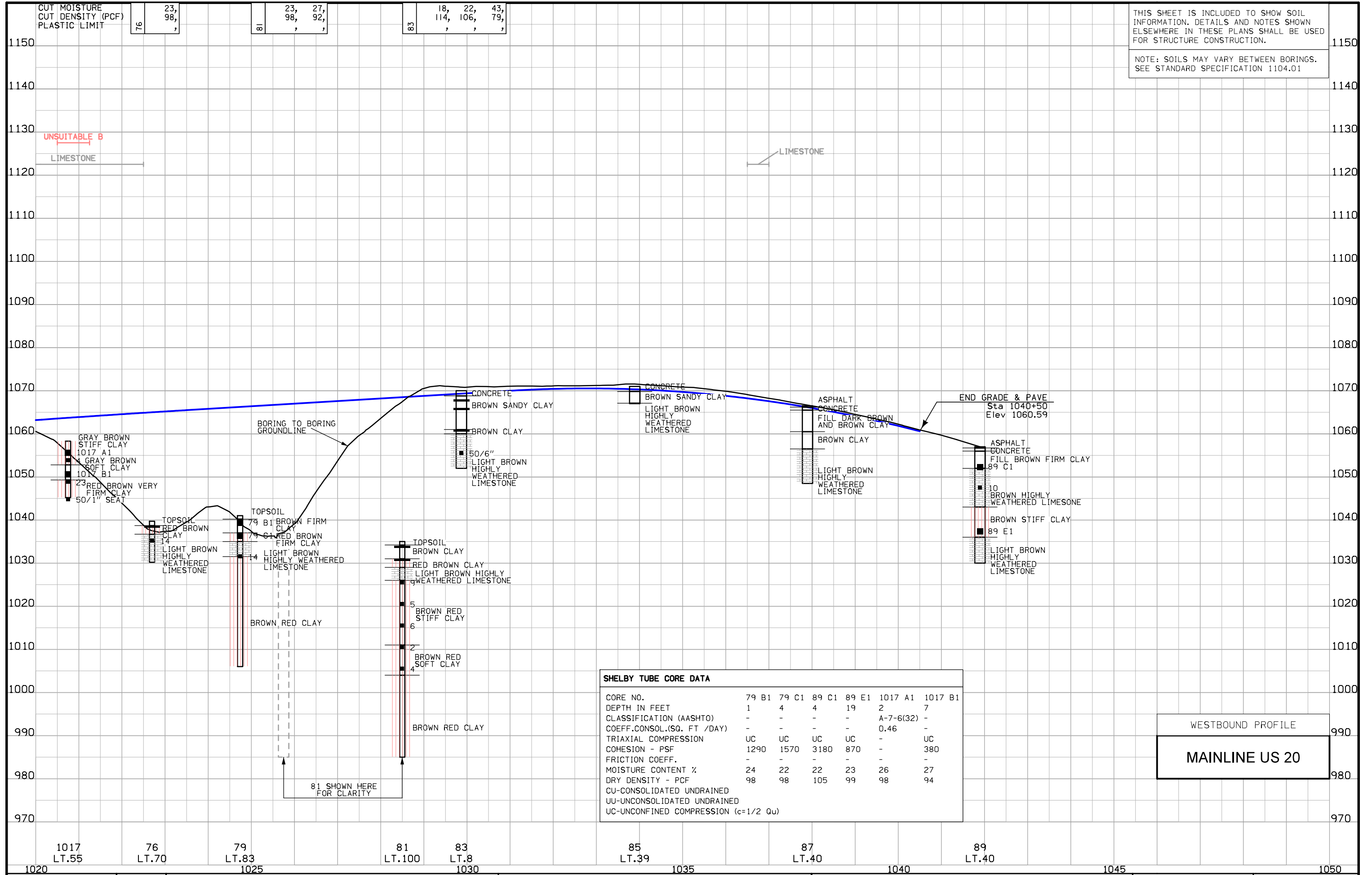
76 23,  
98,

81 23, 27,  
98, 92,

83 18, 22, 43,  
114, 106, 79,

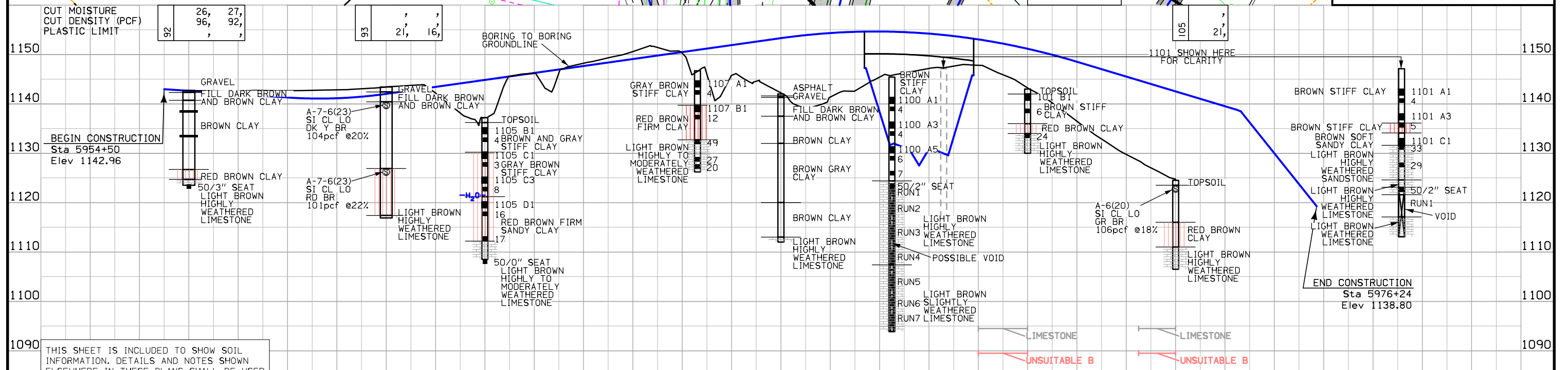
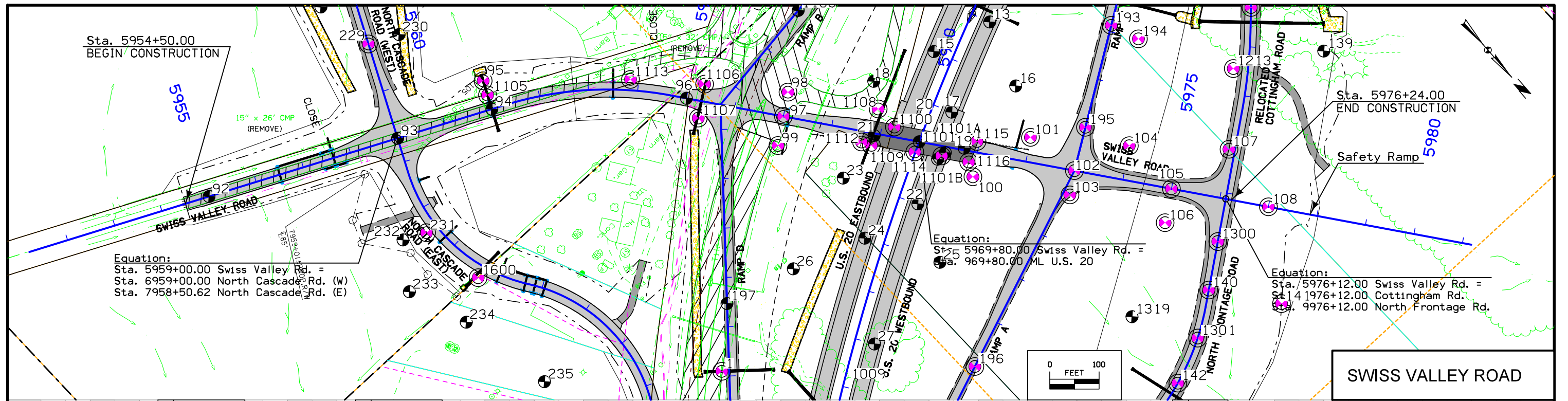
THIS SHEET IS INCLUDED TO SHOW SOIL  
INFORMATION. DETAILS AND NOTES SHOWN  
ELSEWHERE IN THESE PLANS SHALL BE USED  
FOR STRUCTURE CONSTRUCTION.

NOTE: SOILS MAY VARY BETWEEN BORINGS.  
SEE STANDARD SPECIFICATION 1104.01



WESTBOUND PROFILE  
**MAINLINE US 20**





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NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

| SHELBY TUBE CORE DATA                |        |         |         |         |         |         |         |         |         |           |         |         |         |
|--------------------------------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|---------|---------|---------|
| CORE NO.                             | 101 B1 | 1100 A1 | 1100 A3 | 1100 A5 | 1101 A1 | 1101 A3 | 1101 C1 | 1105 B1 | 1105 C1 | 1105 C3   | 1105 D1 | 1107 A1 | 1107 B1 |
| DEPTH IN FEET                        | 1      | 4       | 9       | 14      | 4       | 9       | 14      | 2       | 7       | 12        | 17      | 2       | 7       |
| CLASSIFICATION (AASHTO)              | -      | -       | A-6(19) | -       | -       | A-6(13) | -       | A-6(14) | -       | A-7-6(30) | -       | -       | A-6(14) |
| COEFF. CONSOL. (SQ. FT / DAY)        | -      | -       | -       | -       | -       | -       | 0.63    | -       | 0.83    | -         | -       | -       | -       |
| TRIAxIAL COMPRESSION                 | UC     | UC      | CU      | UC      | UC      | CU      | UC      | UC      | UC      | UC        | UC      | UC      | UC      |
| COHESION - PSF                       | 1160   | 770     | 870     | 1500    | 1440    | 240     | 250     | -       | 1080    | -         | 740     | 1250    | -       |
| FRICTION COEFF.                      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       |
| MOISTURE CONTENT %                   | 26     | 29      | 24      | 22      | 27      | 25      | 15      | 28      | 24      | 32        | 24      | 25      | 27      |
| DRY DENSITY - PCF                    | 92     | 88      | 109     | 102     | 89      | 104     | 95      | 93      | 104     | 94        | 92      | 91      | 96      |
| CU-CONSOLIDATED UNDRAINED            |        |         |         |         |         |         |         |         |         |           |         |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |        |         |         |         |         |         |         |         |         |           |         |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |        |         |         |         |         |         |         |         |         |           |         |         |         |

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NON TWP.  
88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12



8930

Sta. 8931+65.00  
BEGIN CONSTRUCTION

+75 Prop.  
Type "C" Ent.

+80 Prop.  
Type "C" Ent.

8935

RELOCATED  
COTTINGHAM ROAD

Equation:  
POC Sta. 8939+45.00 Cottingham Road =  
POT Sta. 139+45.00 Cottingham Road Connector

8940

NOTE: HIGH PRESSURE GAS PIPELINE  
RELOCATED BY OTHERS

+00 Prop.  
Type "B" Ent.

+00 Prop.  
Type "B" Ent.

+65 Prop.  
Type "B" Ent.

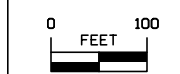
+65 Prop.  
Type "B" Ent.

RELOCATED  
COTTINGHAM ROAD

+20 Prop. Type "M" Dike  
122'v. = 1107.40

VERNON TWP.  
T-88N R-1E  
SEC. 14

VERNON TWP.  
T-88N R-1E  
SEC. 13



COTTINGHAM ROAD

CUT MOISTURE  
CUT DENSITY (pcf)  
PLASTIC LIMIT

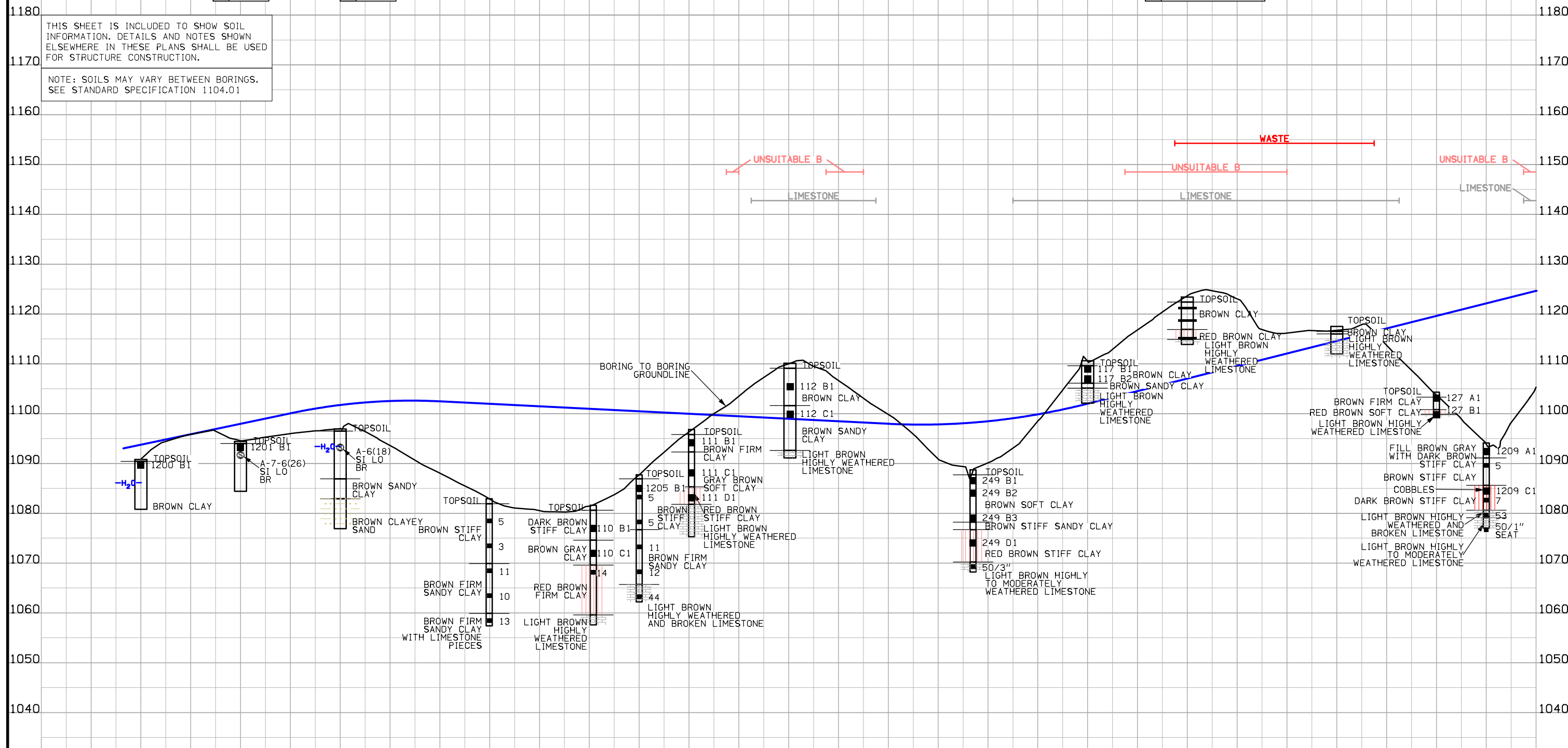
1201  
,  
18,

1202  
,  
17,

121  
22,  
102,  
,  
23,  
101,  
,  
35,  
83,  
,

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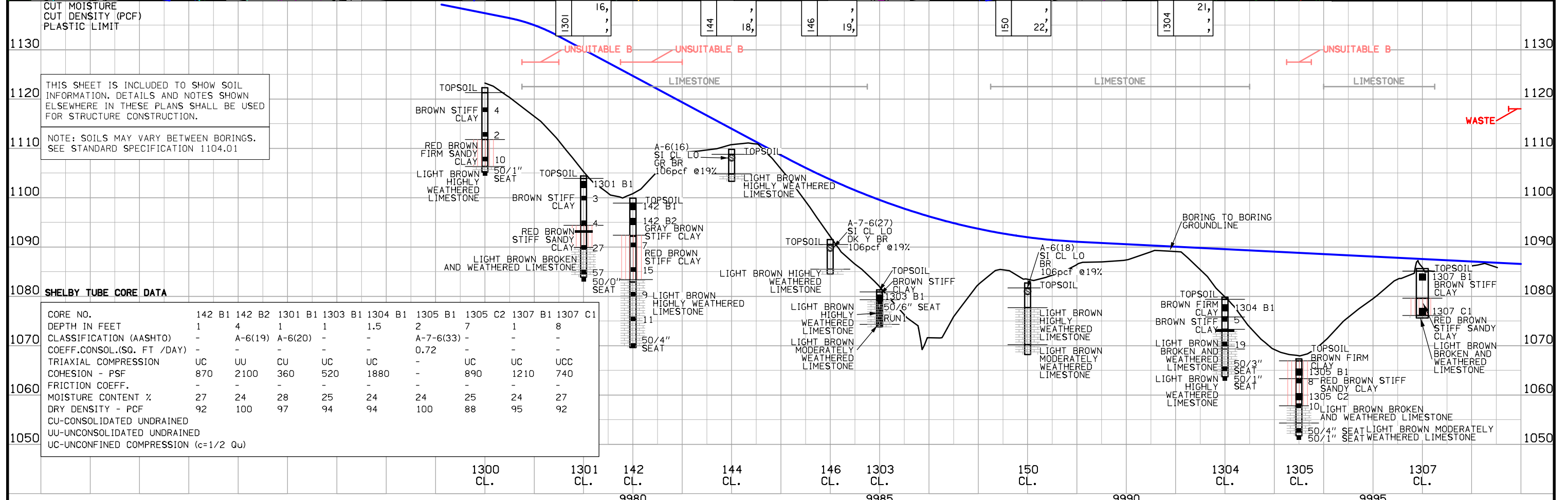
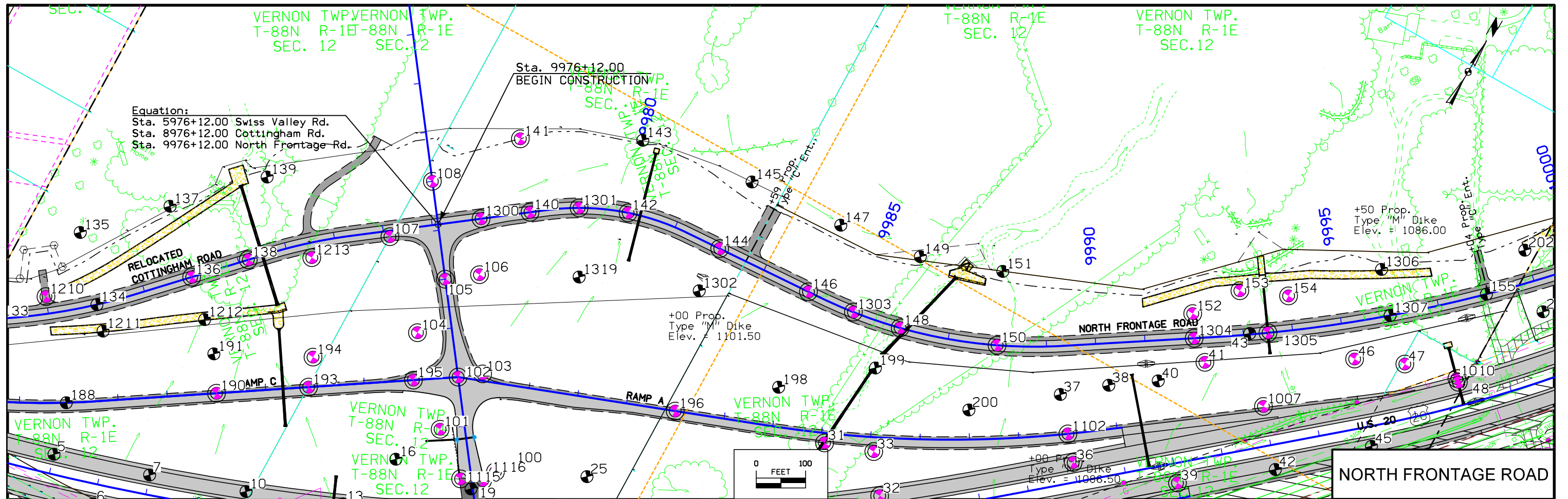
| SHELBY TUBE CORE DATA                |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |         |         |           |           |
|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|-----------|-----------|
| CORE NO.                             | 110 B1 | 110 C1 | 111 B1 | 111 C1 | 111 D1 | 112 B1 | 112 C1 | 117 B1 | 117 B2 | 127 A1 | 127 B1 | 249 B1 | 249 B2 | 249 B3 | 249 D1 | 1200 B1 | 1201 A1 | 1205 B1 | 1209 A1   | 1209 C1   |
| DEPTH IN FEET                        | 4      | 9      | 2      | 8      | 13     | 4      | 9.5    | 1      | 3      | 0.5    | 3      | 1.5    | 4      | 9      | 14     | 0.5     | 0.5     | 2       | 1         | 9         |
| CLASSIFICATION (AASHTO)              | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -       | -       | A-6(22) | A-7-6(23) | A-7-6(63) |
| COEFF. CONSOL. (SQ. FT / DAY)        | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -       | -       | 0.31    | -         | -         |
| COHESION - PSF                       | 900    | 780    | 1820   | 240    | 1490   | 1230   | 2070   | 2840   | 2130   | 1550   | 660    | 540    | 660    | 1050   | 1040   | 540     | 860     | -       | 1100      | 290       |
| MOISTURE CONTENT %                   | 32     | 28     | 26     | 25     | 15     | 26     | 19     | 20     | 25     | 25     | 21     | 29     | 31     | 24     | 48     | 29      | 28      | 24      | 29        | 41        |
| DRY DENSITY - PCF                    | 85     | 97     | 96     | 96     | 100    | 96     | 106    | 105    | 100    | 99     | 99     | 85     | 85     | 98     | 72     | 92      | 93      | 94      | 91        | 80        |
| CU-CONSOLIDATED UNDRAINED            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |         |         | UC        | CU        |
| UU-UNCONSOLIDATED UNDRAINED          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |         |         |           |           |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |         |         |           |           |

COTTINGHAM ROAD

|      |            |            |            |            |      |           |            |           |           |      |          |         |         |         |         |            |      |
|------|------------|------------|------------|------------|------|-----------|------------|-----------|-----------|------|----------|---------|---------|---------|---------|------------|------|
| 8930 | 1200 RT.20 | 1201 LT.20 | 1202 RT.15 | 1203 LT.21 | 8940 | 110 RT.15 | 1205 RT.25 | 111 RT.14 | 112 RT.11 | 8945 | 249 RT.1 | 117 CL. | 121 CL. | 125 CL. | 127 CL. | 1209 RT.20 | 8960 |
|------|------------|------------|------------|------------|------|-----------|------------|-----------|-----------|------|----------|---------|---------|---------|---------|------------|------|







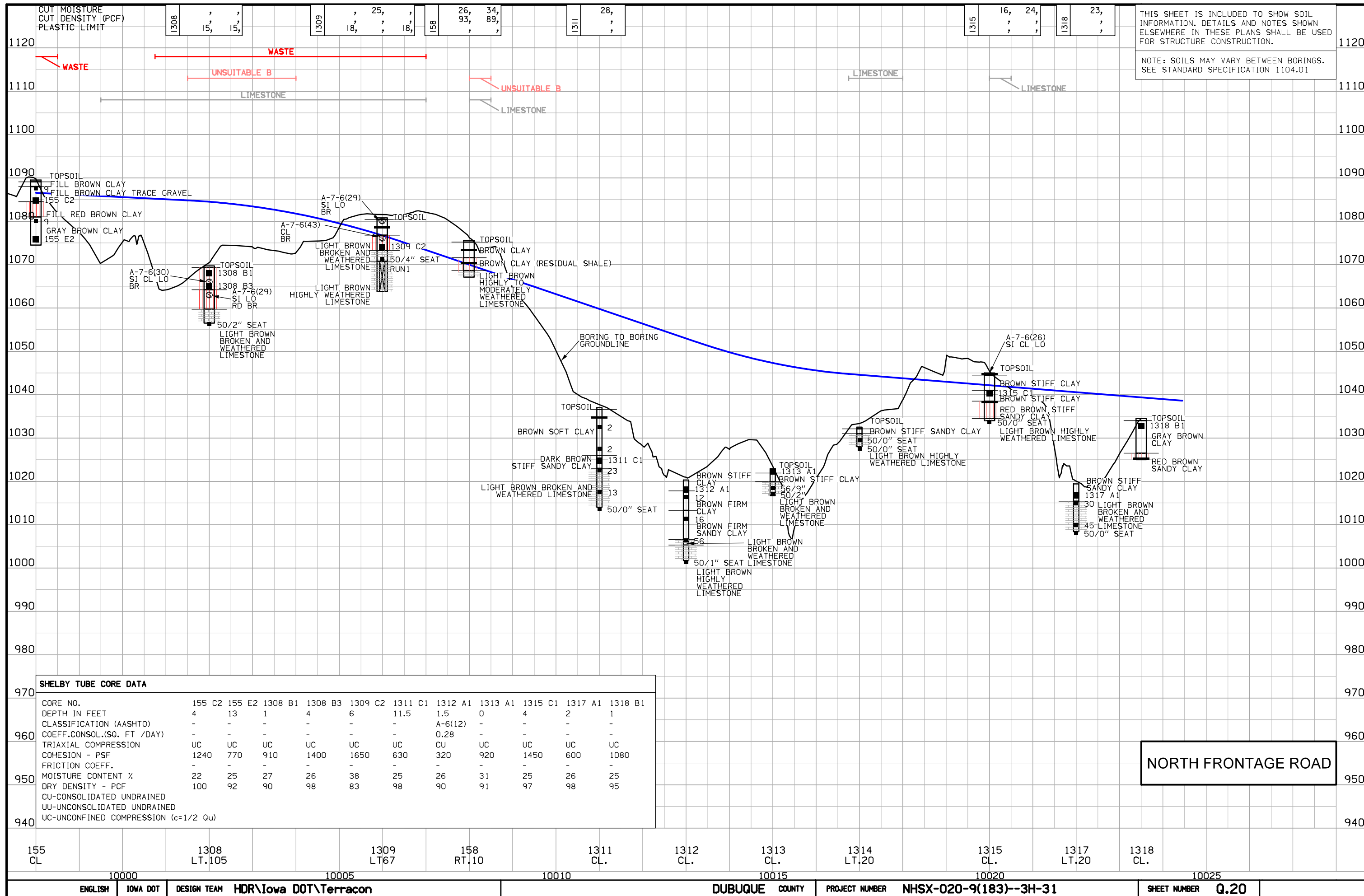
**SHELBY TUBE CORE DATA**

| CORE NO.                             | 142 B1 | 142 B2  | 1301 B1 | 1303 B1 | 1304 B1 | 1305 B1   | 1305 C2 | 1307 B1 | 1307 C1 |
|--------------------------------------|--------|---------|---------|---------|---------|-----------|---------|---------|---------|
| DEPTH IN FEET                        | 1      | 4       | 1       | 1       | 1.5     | 2         | 7       | 1       | 8       |
| CLASSIFICATION (AASHTO)              | -      | A-6(19) | A-6(20) | -       | -       | A-7-6(33) | -       | -       | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -      | -       | -       | -       | -       | 0.72      | -       | -       | -       |
| TRIAxIAL COMPRESSION                 | UC     | UU      | CU      | UC      | UC      | -         | UC      | UC      | UCC     |
| COHESION - PSF                       | 870    | 2100    | 360     | 520     | 1880    | -         | 890     | 1210    | 740     |
| FRICTION COEFF.                      | -      | -       | -       | -       | -       | -         | -       | -       | -       |
| MOISTURE CONTENT %                   | 27     | 24      | 28      | 25      | 24      | 24        | 25      | 24      | 27      |
| DRY DENSITY - PCF                    | 92     | 100     | 97      | 94      | 94      | 100       | 88      | 95      | 92      |
| CU-CONSOLIDATED UNDRAINED            |        |         |         |         |         |           |         |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |        |         |         |         |         |           |         |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |        |         |         |         |         |           |         |         |         |



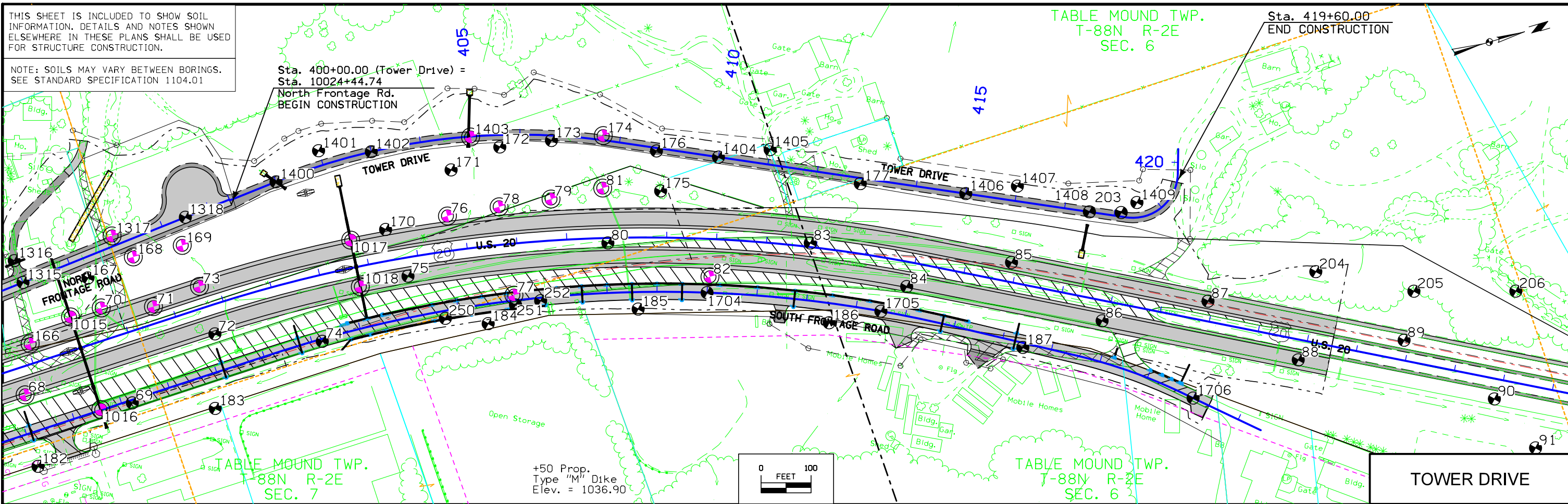






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Sta. 400+00.00 (Tower Drive) =  
Sta. 10024+44.74  
North Frontage Rd.  
BEGIN CONSTRUCTION

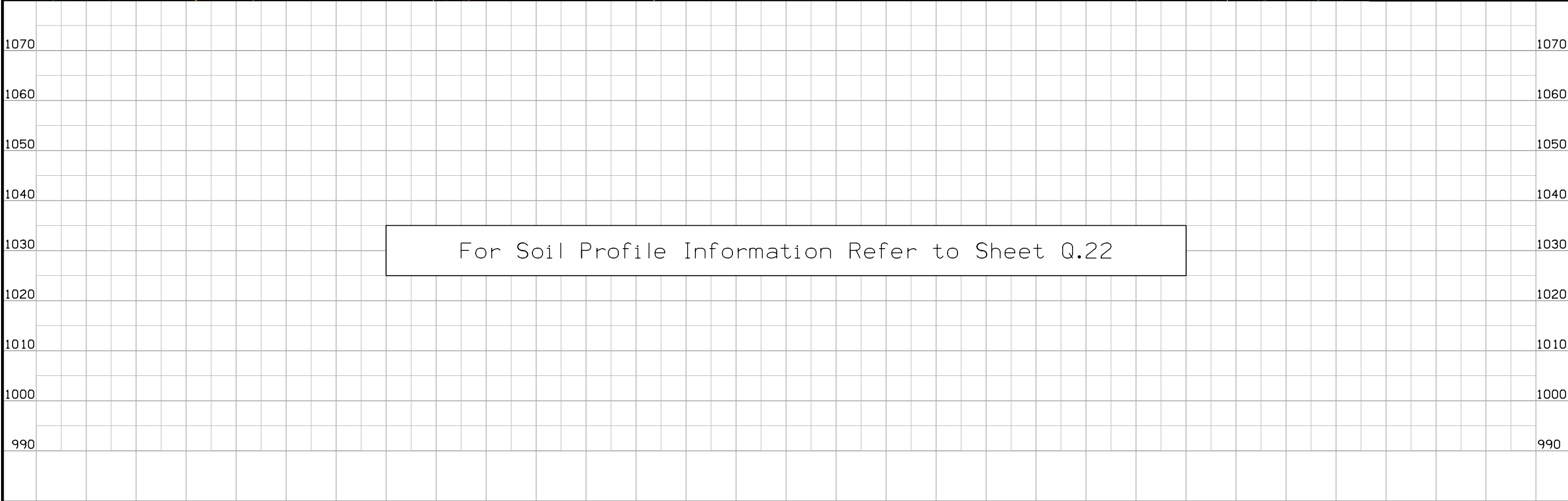
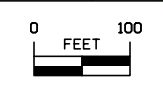
Sta. 419+60.00  
END CONSTRUCTION

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

+50 Prop.  
Type "M" Dike  
Elev. = 1036.90



CUT MOISTURE  
CUT DENSITY (PCF)  
PLASTIC LIMIT

|      |    |    |    |    |
|------|----|----|----|----|
| 1400 | 23 | 19 | 24 | 9  |
| 1401 | 25 | 18 | 15 | 20 |

|      |    |    |    |
|------|----|----|----|
| 1405 | 20 | 17 | 49 |
|------|----|----|----|

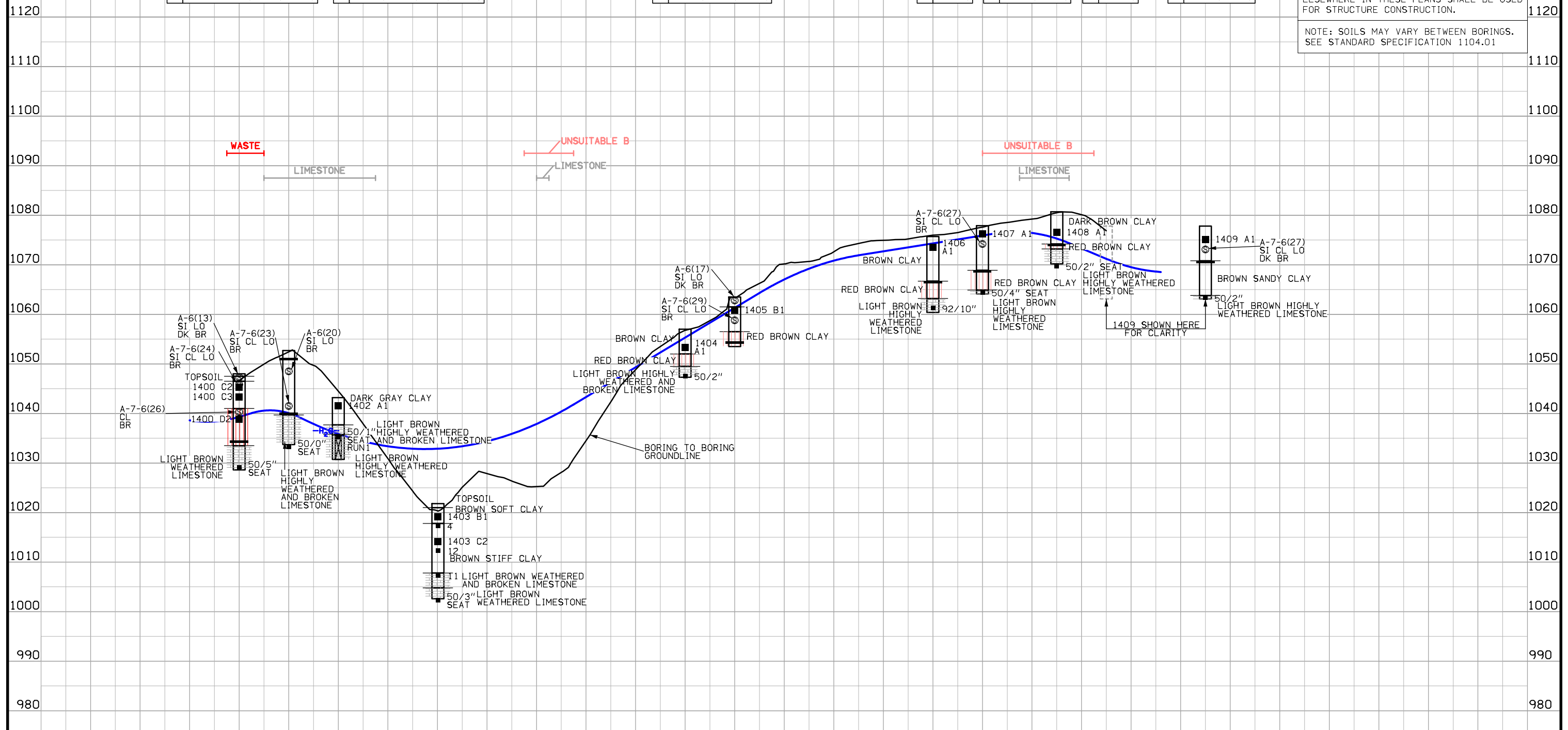
|      |    |    |    |
|------|----|----|----|
| 1406 | 24 | 18 | 42 |
|------|----|----|----|

|      |    |    |    |
|------|----|----|----|
| 1407 | 18 | 41 | 23 |
|------|----|----|----|

|      |    |    |    |
|------|----|----|----|
| 1408 | 17 | 41 | 23 |
|------|----|----|----|

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**SHELBY TUBE CORE DATA**

| CORE NO.                             | 1400 C2 | 1400 C3 | 1400 D2 | 1402 A1 | 1403 B1 | 1403 C2 | 1404 A1 | 1405 B1 | 1406 A1 | 1407 A1 | 1408 A1 | 1409 A1 |
|--------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| DEPTH IN FEET                        | 2       | 4       | 8.5     | 1       | 2       | 7       | 3       | 2       | 1.5     | 1       | 3.5     | 2       |
| CLASSIFICATION (AASHTO)              | -       | -       | -       | -       | A-6(11) | -       | -       | -       | -       | -       | -       | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TRIAxIAL COMPRESSION                 | UC      | UC      | UC      | UC      | CU      | UC      | UC      | UC      | UC      | UC      | UC      | UC      |
| COHESION - PSF                       | 2030    | 1240    | 880     | 1610    | 50      | 1040    | 1180    | 920     | 2050    | 1740    | 930     | 1720    |
| FRICTION COEFF.                      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| MOISTURE CONTENT %                   | 24      | 27      | 29      | 27      | 27      | 26      | 25      | 25      | 25      | 24      | 26      | 26      |
| DRY DENSITY - PCF                    | 98      | 94      | 88      | 96      | 88      | 97      | 99      | 96      | 98      | 98      | 92      | 98      |
| CU-CONSOLIDATED UNDRAINED            |         |         |         |         |         |         |         |         |         |         |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |         |         |         |         |         |         |         |         |         |         |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |         |         |         |         |         |         |         |         |         |         |         |         |

TOWER DRIVE

|      |       |      |      |      |       |      |       |      |       |
|------|-------|------|------|------|-------|------|-------|------|-------|
| 1400 | 1401  | 1402 | 1403 | 1404 | 1405  | 1406 | 1407  | 1408 | 1409  |
| CL.  | LT.30 | CL.  | RT.1 | CL.  | LT.30 | CL.  | LT.30 | CL.  | LT.30 |
| 400  |       |      | 405  | 410  |       | 415  |       |      |       |

ENGLISH

IOWA DOT

DESIGN TEAM HDR\Iowa DOT\Terracon

DUBUQUE COUNTY

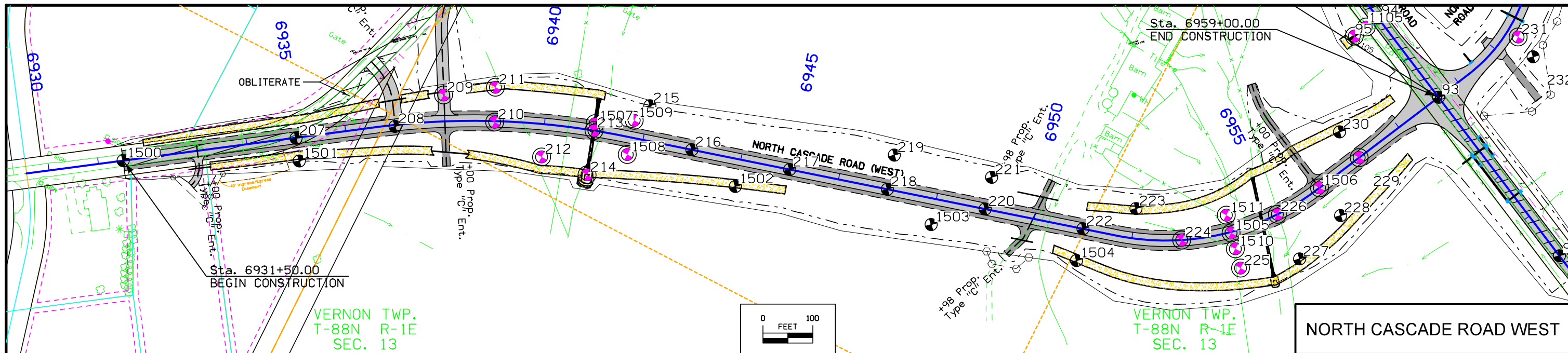
PROJECT NUMBER

NHSX-020-9(183)--3H-31

SHEET NUMBER

Q.22

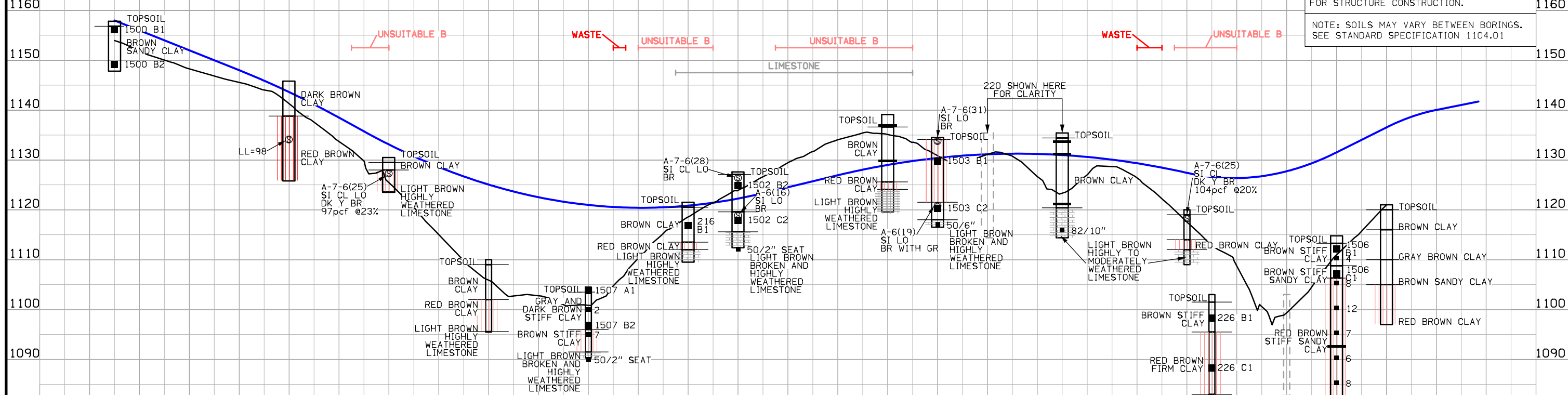




|                                              |     |     |     |     |         |                 |         |                          |     |      |    |
|----------------------------------------------|-----|-----|-----|-----|---------|-----------------|---------|--------------------------|-----|------|----|
| CUT MOISTURE CUT DENSITY (PCF) PLASTIC LIMIT | 207 | 208 | 210 | 216 | 1502    | 218             | 1503    | 220                      | 224 | 1506 | 33 |
|                                              | 24, |     |     |     | 16, 14, | 27, 91, 23, 90, | 17, 14, | 29, 82, 26, 117, 22, 94, | 20, |      |    |

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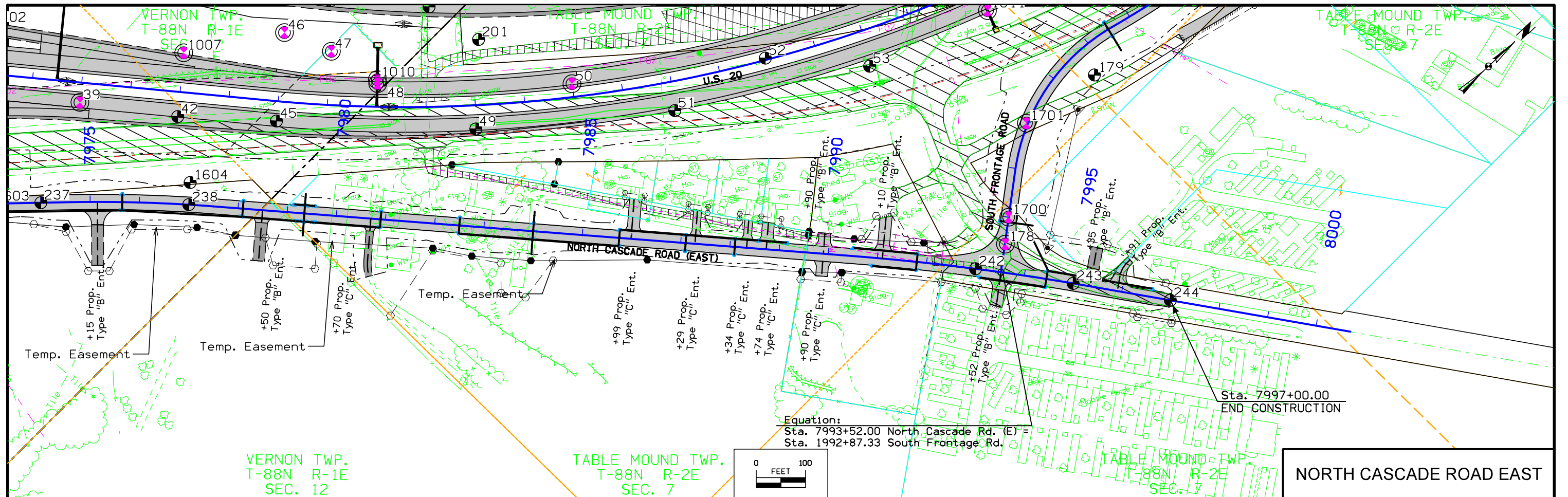


| SHELBY TUBE CORE DATA                |        |        |        |         |         |         |         |         |         |           |         |         |         |
|--------------------------------------|--------|--------|--------|---------|---------|---------|---------|---------|---------|-----------|---------|---------|---------|
| CORE NO.                             | 216 B1 | 226 B1 | 226 C1 | 1500 B1 | 1500 B2 | 1502 B2 | 1502 C2 | 1503 B1 | 1503 C2 | 1506 B1   | 1506 C1 | 1507 A1 | 1507 B2 |
| DEPTH IN FEET                        | 4      | 4      | 14     | 1       | 8       | 2       | 9       | 4       | 13.5    | 2         | 7       | 0       | 7       |
| CLASSIFICATION (AASHTO)              | -      | -      | -      | -       | -       | -       | -       | -       | -       | A-7-6(26) | -       | -       | A-6(13) |
| COEFF. CONSOL. (SQ. FT / DAY)        | -      | -      | -      | -       | -       | -       | -       | -       | -       | 0.35      | -       | -       | -       |
| COEFF. OF TRIAXIAL COMPRESSION       | UC     | UC     | UU     | UC      | UC      | UC      | UC      | UC      | UC      | UC        | UC      | UC      | CU      |
| COHESION - PSF                       | 1360   | 1290   | 1630   | 1060    | 640     | 1410    | 1250    | 710     | 1040    | 190       | 1440    | 960     | 740     |
| FRICTION COEFF.                      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -         | -       | -       | -       |
| MOISTURE CONTENT %                   | 25     | 27     | 34     | 23      | 25      | 26      | 24      | 28      | 25      | 26        | 16      | 25      | 26      |
| DRY DENSITY - PCF                    | 94     | 90     | 88     | 96      | 96      | 94      | 96      | 88      | 100     | 96        | 103     | 91      | 93      |
| CU-CONSOLIDATED UNDRAINED            |        |        |        |         |         |         |         |         |         |           |         |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |        |        |        |         |         |         |         |         |         |           |         |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |        |        |        |         |         |         |         |         |         |           |         |         |         |

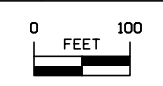
|      |      |     |     |       |      |      |     |      |     |      |     |      |     |
|------|------|-----|-----|-------|------|------|-----|------|-----|------|-----|------|-----|
| 1500 | 207  | 208 | 210 | 1507  | 216  | 1502 | 218 | 1503 | 220 | 224  | 226 | 1506 | 229 |
| 0.0  | 1.0  | 3.0 | 2.0 | -14.0 | 0.0  | 55.0 | 0.0 | 52.0 | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 |
|      | 6935 |     |     |       | 6940 |      |     | 6945 |     | 6950 |     | 6955 |     |



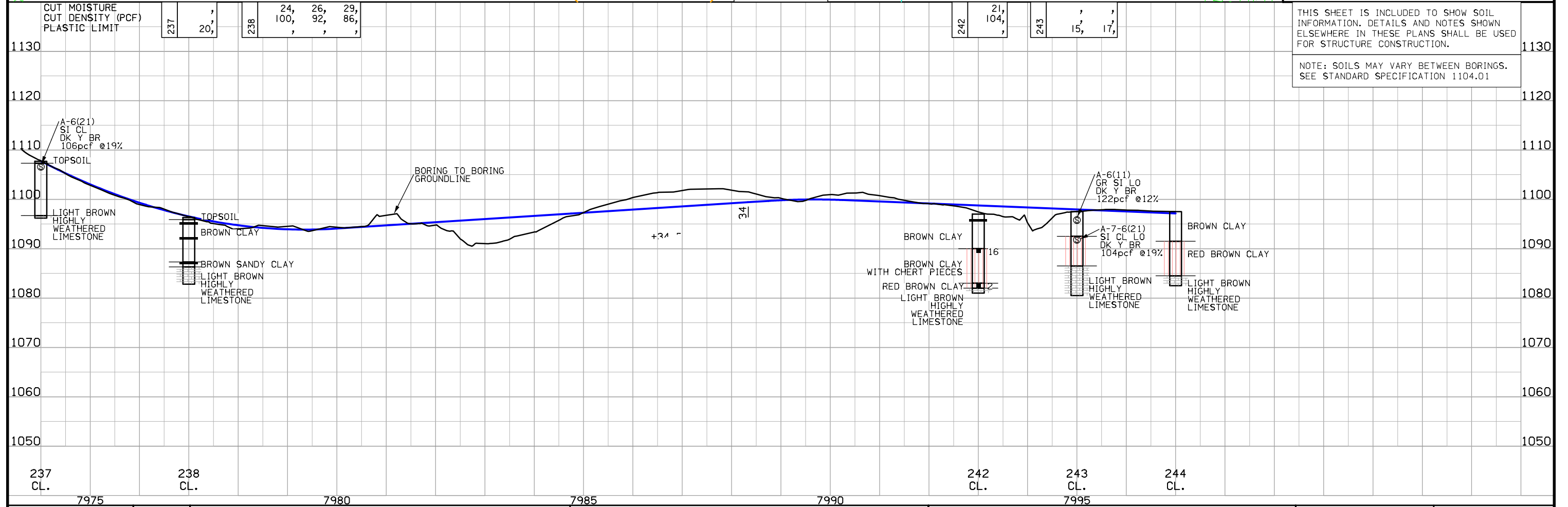




Equation:  
 Sta. 7993+52.00 North Cascade Rd. (E) =  
 Sta. 1992+87.33 South Frontage Rd.



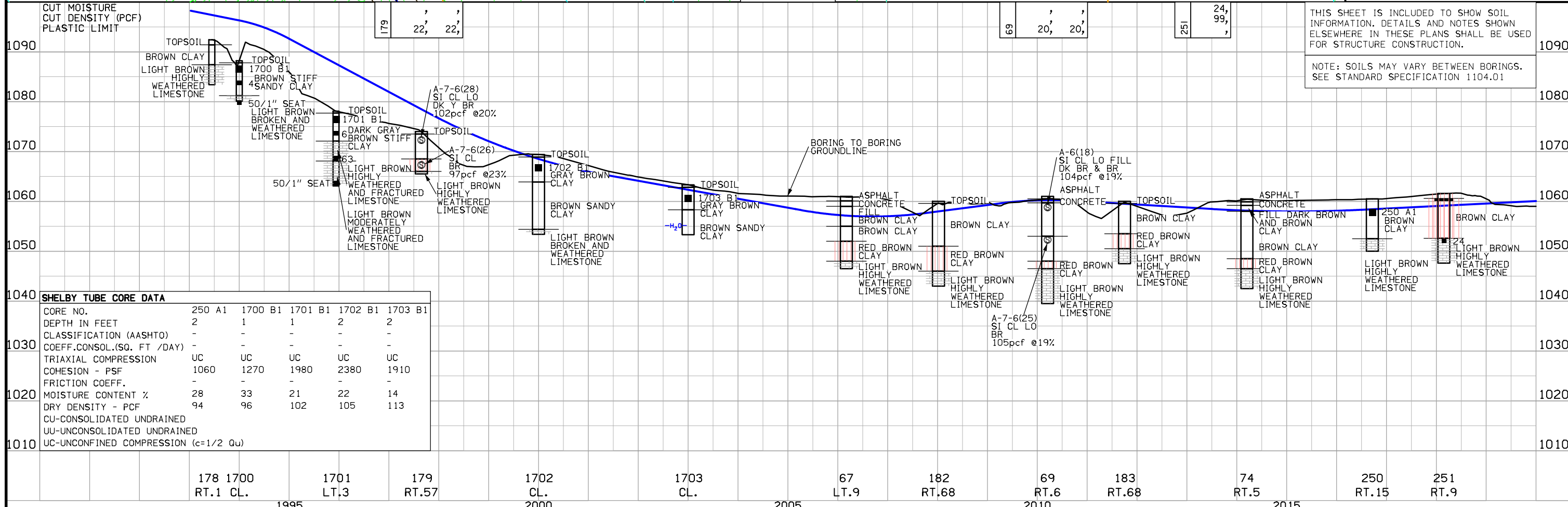
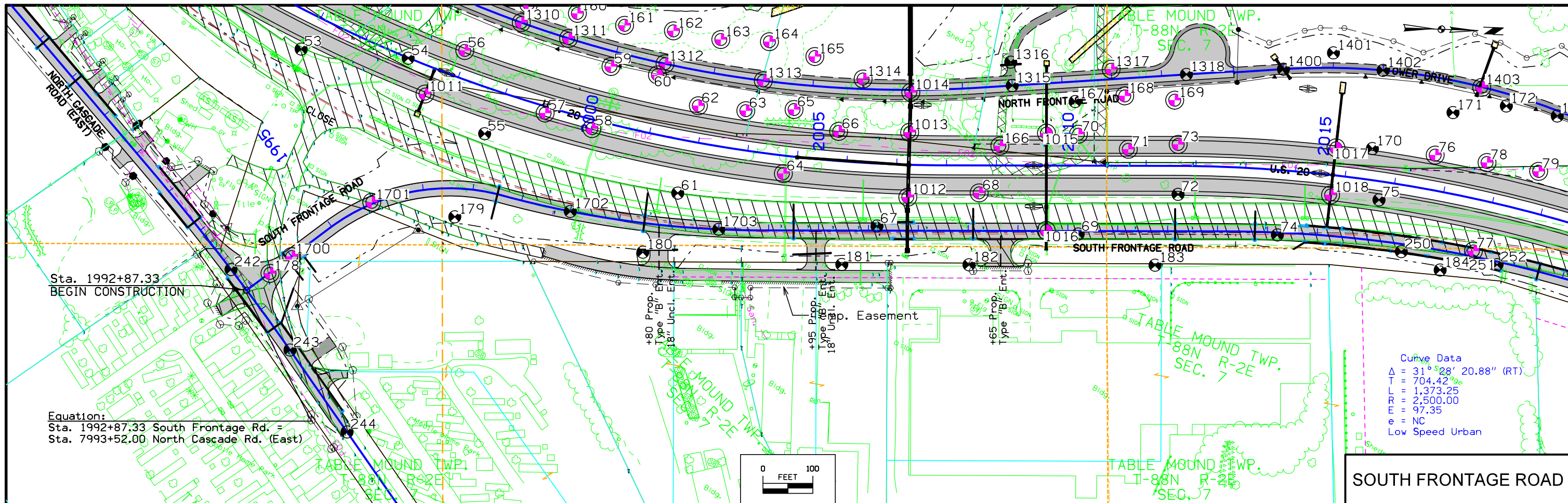
**NORTH CASCADE ROAD EAST**



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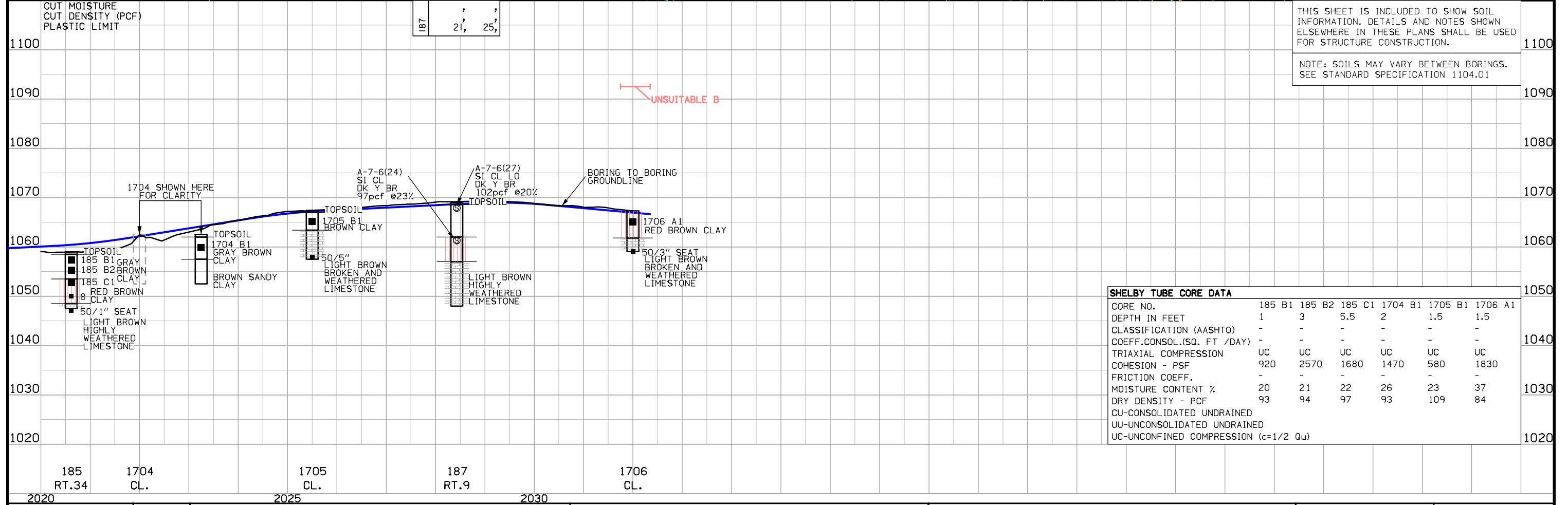
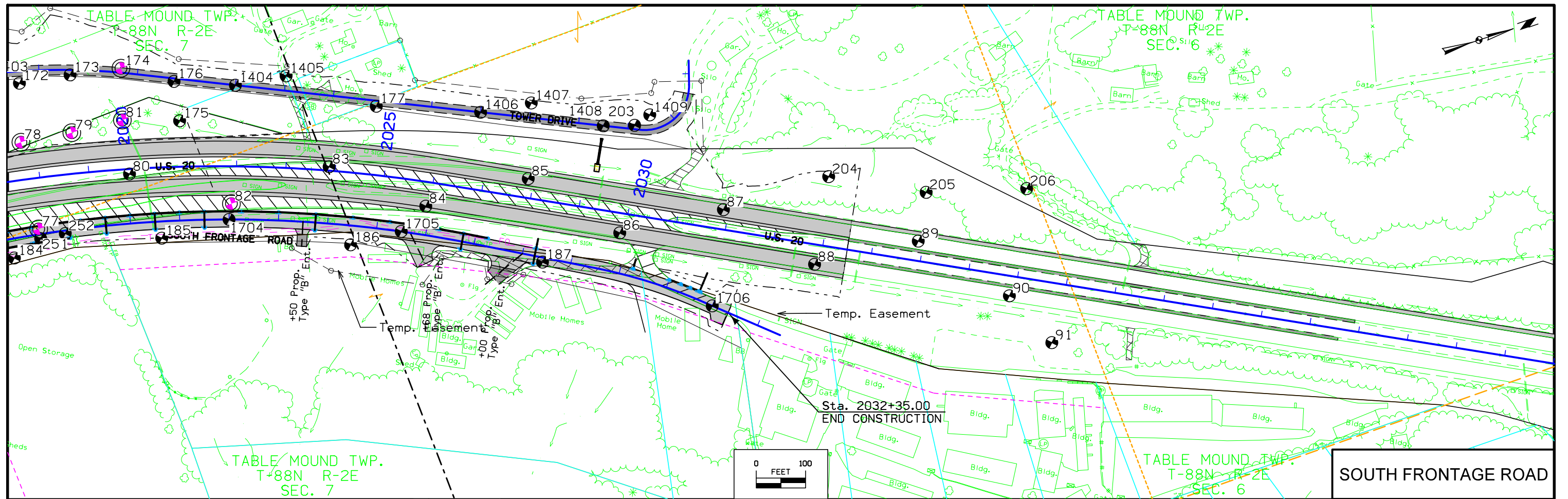
NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01





**SHELBY TUBE CORE DATA**

| CORE NO.                             | 250 A1 | 1700 B1 | 1701 B1 | 1702 B1 | 1703 B1 |
|--------------------------------------|--------|---------|---------|---------|---------|
| DEPTH IN FEET                        | 2      | 1       | 1       | 2       | 2       |
| CLASSIFICATION (AASHTO)              | -      | -       | -       | -       | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -      | -       | -       | -       | -       |
| TRIAxIAL COMPRESSION                 | UC     | UC      | UC      | UC      | UC      |
| COHESION - PSF                       | 1060   | 1270    | 1980    | 2380    | 1910    |
| FRICITION COEFF.                     | -      | -       | -       | -       | -       |
| MOISTURE CONTENT %                   | 28     | 33      | 21      | 22      | 14      |
| DRY DENSITY - PCF                    | 94     | 96      | 102     | 105     | 113     |
| CU-CONSOLIDATED UNDRAINED            |        |         |         |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |        |         |         |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |        |         |         |         |         |



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NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

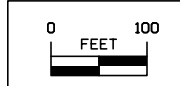
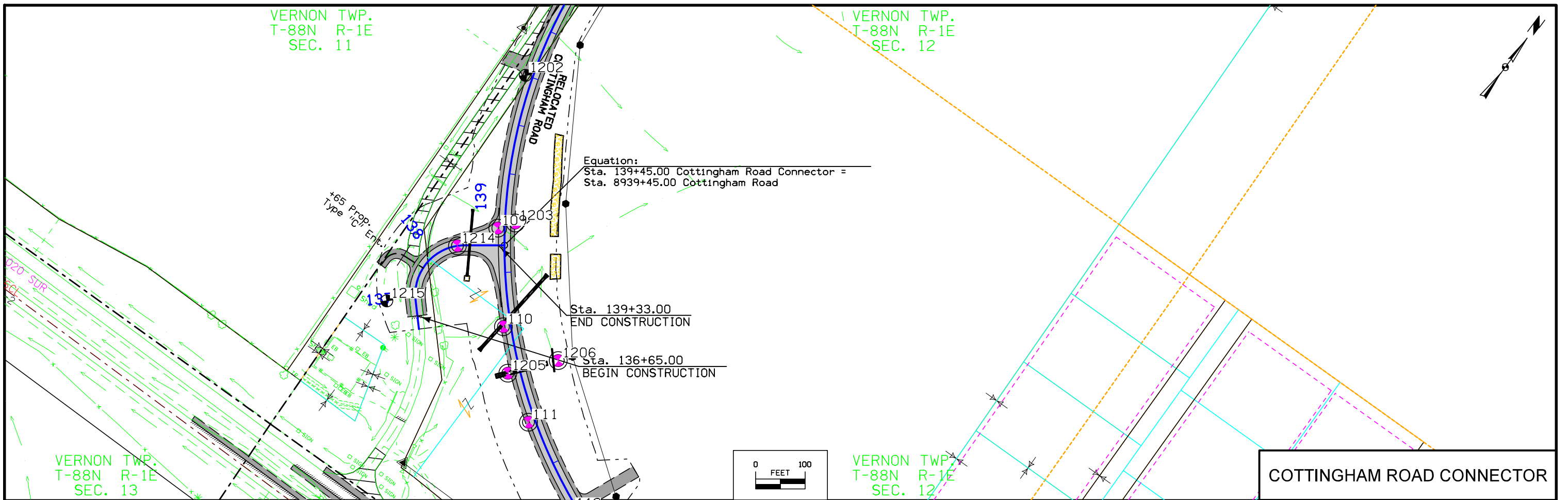
| SHELBY TUBE CORE DATA                |        |        |        |         |         |         |
|--------------------------------------|--------|--------|--------|---------|---------|---------|
| CORE NO.                             | 185 B1 | 185 B2 | 185 C1 | 1704 B1 | 1705 B1 | 1706 A1 |
| DEPTH IN FEET                        | 1      | 3      | 5.5    | 2       | 1.5     | 1.5     |
| CLASSIFICATION (AASHTO)              | -      | -      | -      | -       | -       | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -      | -      | -      | -       | -       | -       |
| TRIAXIAL COMPRESSION                 | UC     | UC     | UC     | UC      | UC      | UC      |
| COHESION - PSF                       | 920    | 2570   | 1680   | 1470    | 580     | 1830    |
| FRICTION COEFF.                      | -      | -      | -      | -       | -       | -       |
| MOISTURE CONTENT %                   | 20     | 21     | 22     | 26      | 23      | 37      |
| DRY DENSITY - PCF                    | 93     | 94     | 97     | 93      | 109     | 84      |
| CU-CONSOLIDATED UNDRAINED            |        |        |        |         |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |        |        |        |         |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |        |        |        |         |         |         |



VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 13

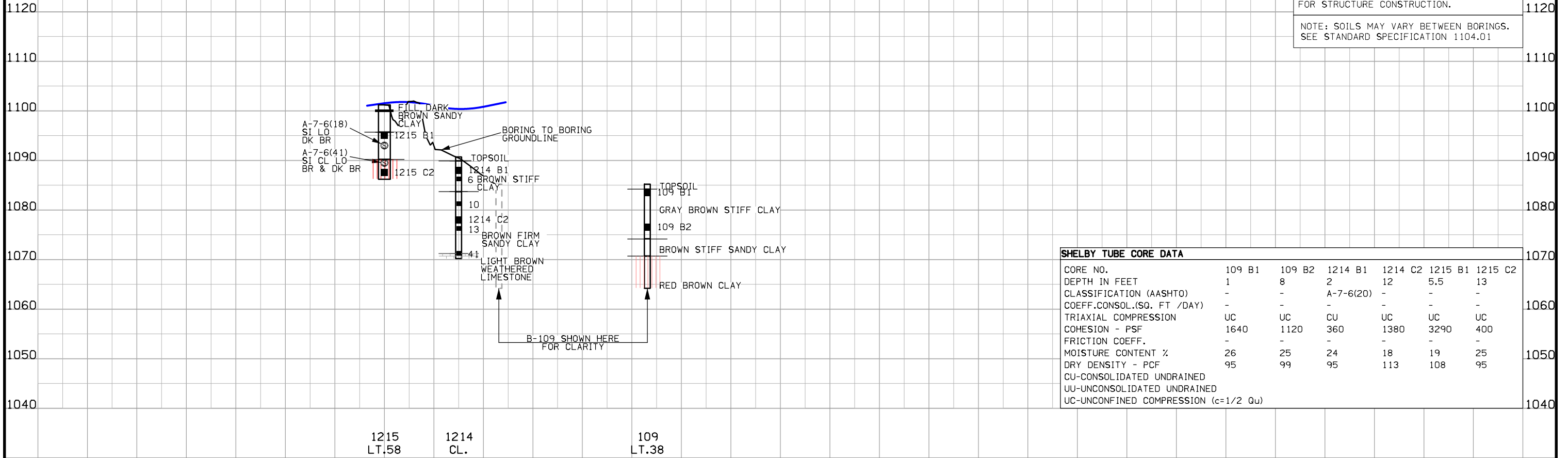


**COTTINGHAM ROAD CONNECTOR**

|                   |     |     |   |
|-------------------|-----|-----|---|
| CUT MOISTURE      | 19, | ,   | , |
| CUT DENSITY (pcf) |     |     |   |
| PLASTIC LIMIT     | 15, | 17, |   |

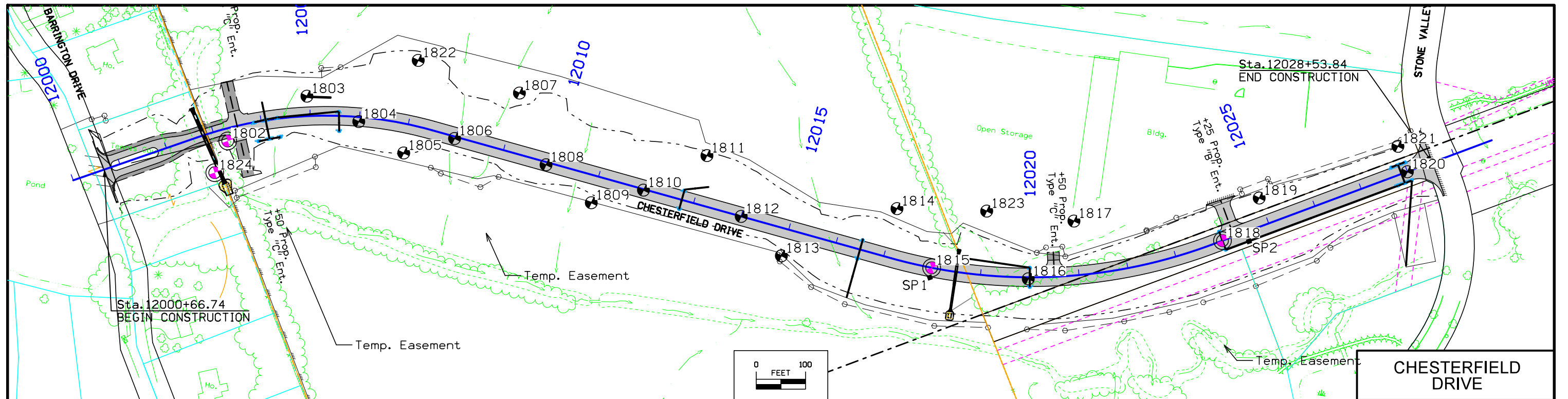
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NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01



| SHELBY TUBE CORE DATA                |        |        |           |         |         |         |
|--------------------------------------|--------|--------|-----------|---------|---------|---------|
| CORE NO.                             | 109 B1 | 109 B2 | 1214 B1   | 1214 C2 | 1215 B1 | 1215 C2 |
| DEPTH IN FEET                        | 1      | 8      | 2         | 12      | 5.5     | 13      |
| CLASSIFICATION (AASHTO)              | -      | -      | A-7-6(20) | -       | -       | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -      | -      | -         | -       | -       | -       |
| TRIAxIAL COMPRESSION                 | UC     | UC     | CU        | UC      | UC      | UC      |
| COHESION - PSF                       | 1640   | 1120   | 360       | 1380    | 3290    | 400     |
| FRICTION COEFF.                      | -      | -      | -         | -       | -       | -       |
| MOISTURE CONTENT %                   | 26     | 25     | 24        | 18      | 19      | 25      |
| DRY DENSITY - PCF                    | 95     | 99     | 95        | 113     | 108     | 95      |
| CU-CONSOLIDATED UNDRAINED            |        |        |           |         |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |        |        |           |         |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |        |        |           |         |         |         |

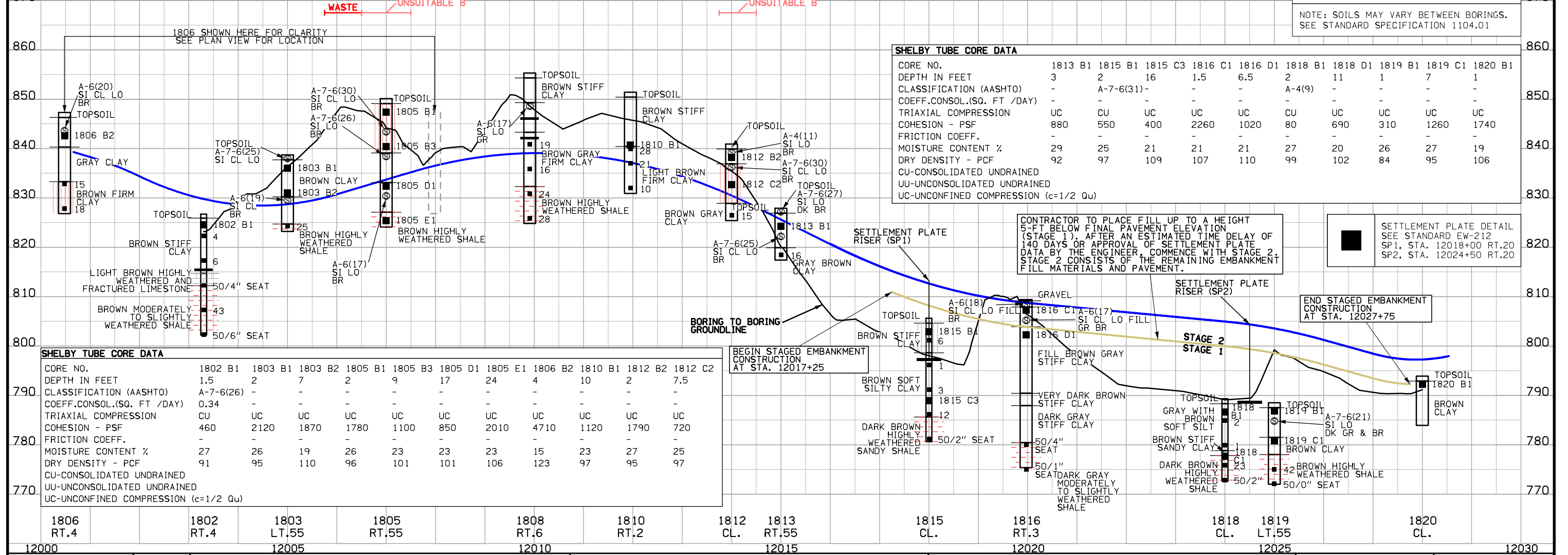




|                   |      |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|------|
| CUT MOISTURE      | 1806 | 1802 | 1803 | 1805 | 1808 | 1812 | 1813 | 1816 | 1819 |
| CUT DENSITY (PCF) | 16,  | 28,  | 16,  | 16,  | 26,  | 30,  | 24,  | 16,  | 21,  |
| PLASTIC LIMIT     | 16,  | 92,  | 15,  | 17,  | 18,  | 16,  | 17,  | 15,  | 21,  |

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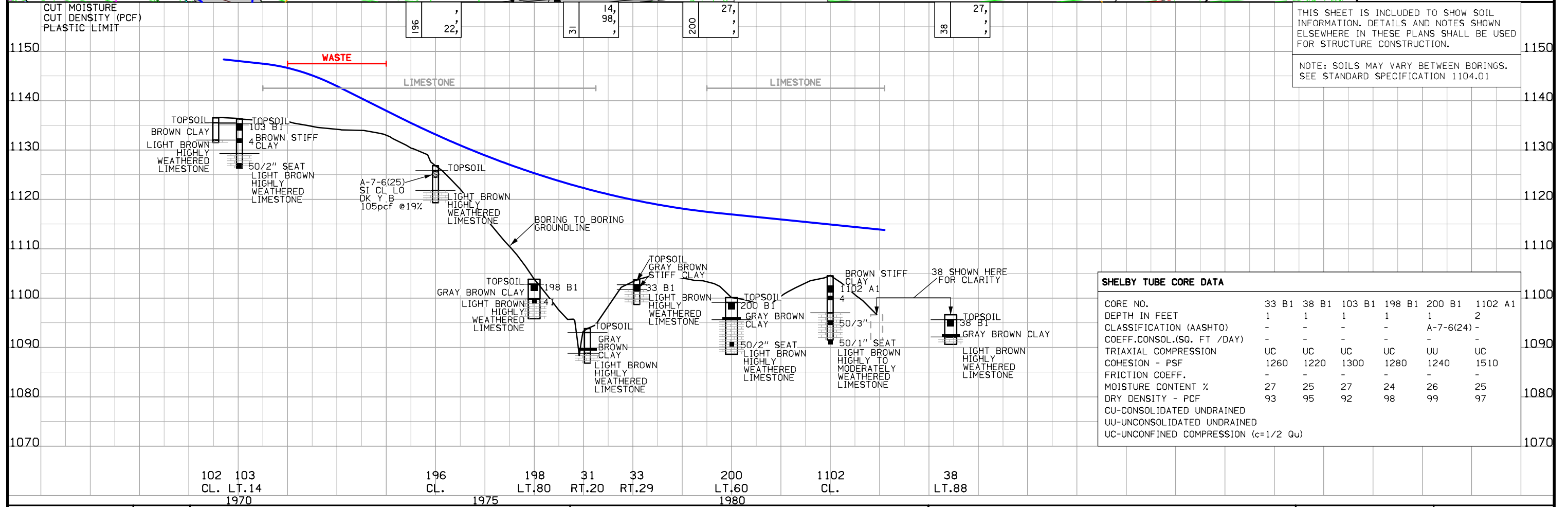
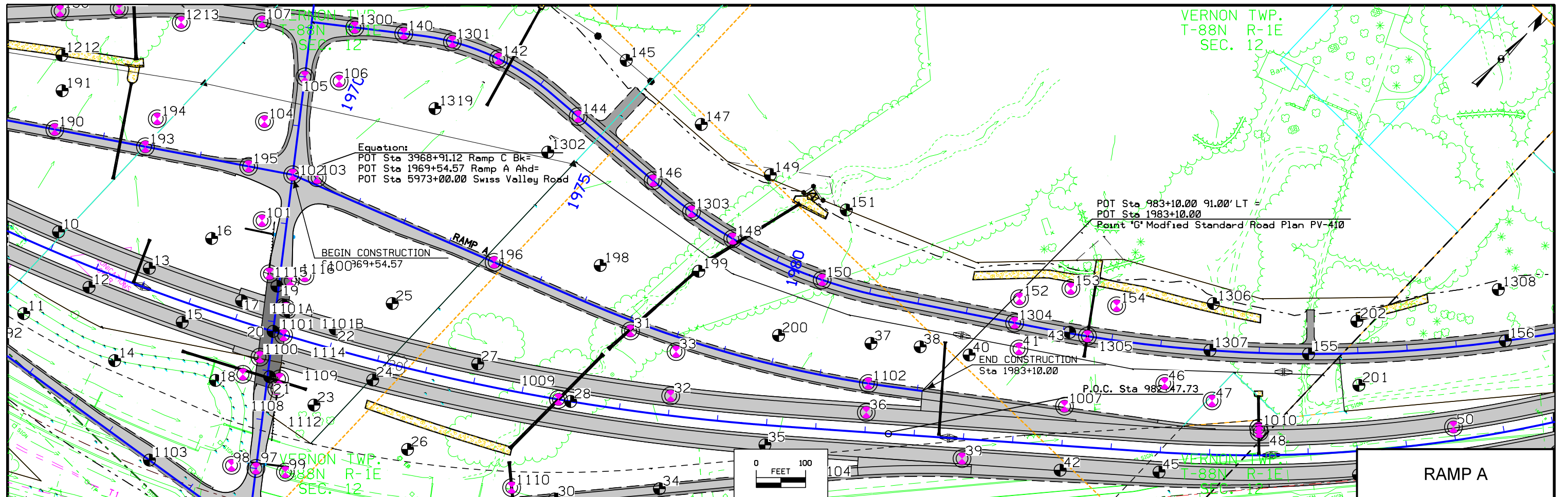
NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01



| CORE NO.                             | 1813 B1 | 1815 B1   | 1815 C3 | 1816 C1 | 1816 D1 | 1818 B1 | 1818 D1 | 1819 B1 | 1819 C1 | 1820 B1 |
|--------------------------------------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|
| DEPTH IN FEET                        | 3       | 2         | 16      | 1.5     | 6.5     | 2       | 11      | 1       | 7       | 1       |
| CLASSIFICATION (AASHTO)              | -       | A-7-6(31) | -       | -       | -       | A-4(9)  | -       | -       | -       | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -       | -         | -       | -       | -       | -       | -       | -       | -       | -       |
| TRIAxIAL COMPRESSION                 | UC      | CU        | UC      | UC      | UC      | CU      | UC      | UC      | UC      | UC      |
| COHESION - PSF                       | 880     | 550       | 400     | 2260    | 1020    | 80      | 690     | 310     | 1260    | 1740    |
| FRICTION COEFF.                      | -       | -         | -       | -       | -       | -       | -       | -       | -       | -       |
| MOISTURE CONTENT %                   | 29      | 25        | 21      | 21      | 21      | 27      | 20      | 26      | 27      | 19      |
| DRY DENSITY - PCF                    | 92      | 97        | 109     | 107     | 110     | 99      | 102     | 84      | 95      | 106     |
| CU-CONSOLIDATED UNDRAINED            |         |           |         |         |         |         |         |         |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |         |           |         |         |         |         |         |         |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |         |           |         |         |         |         |         |         |         |         |

| CORE NO.                             | 1802 B1   | 1803 B1 | 1803 B2 | 1805 B1 | 1805 B3 | 1805 D1 | 1805 E1 | 1806 B2 | 1810 B1 | 1812 B2 | 1812 C2 |
|--------------------------------------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| DEPTH IN FEET                        | 1.5       | 2       | 7       | 2       | 9       | 17      | 24      | 4       | 10      | 2       | 7.5     |
| CLASSIFICATION (AASHTO)              | A-7-6(26) | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | 0.34      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| TRIAxIAL COMPRESSION                 | CU        | UC      | UC      | UC      | UC      | UC      | UC      | UC      | UC      | UC      | UC      |
| COHESION - PSF                       | 460       | 2120    | 1870    | 1780    | 1100    | 850     | 2010    | 4710    | 1120    | 1790    | 720     |
| FRICTION COEFF.                      | -         | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| MOISTURE CONTENT %                   | 27        | 26      | 19      | 26      | 23      | 23      | 23      | 15      | 23      | 27      | 25      |
| DRY DENSITY - PCF                    | 91        | 95      | 110     | 96      | 101     | 101     | 106     | 123     | 97      | 95      | 97      |
| CU-CONSOLIDATED UNDRAINED            |           |         |         |         |         |         |         |         |         |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |           |         |         |         |         |         |         |         |         |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |           |         |         |         |         |         |         |         |         |         |         |

|       |      |       |       |       |      |       |       |       |      |       |       |       |
|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|
| 1806  | 1802 | 1803  | 1805  | 1808  | 1810 | 1812  | 1813  | 1815  | 1816 | 1818  | 1819  | 1820  |
| RT.4  | RT.4 | LT.55 | RT.55 | RT.6  | RT.2 | CL.   | RT.55 | CL.   | RT.3 | CL.   | LT.55 | CL.   |
| 12000 |      | 12005 |       | 12010 |      | 12015 |       | 12020 |      | 12025 |       | 12030 |

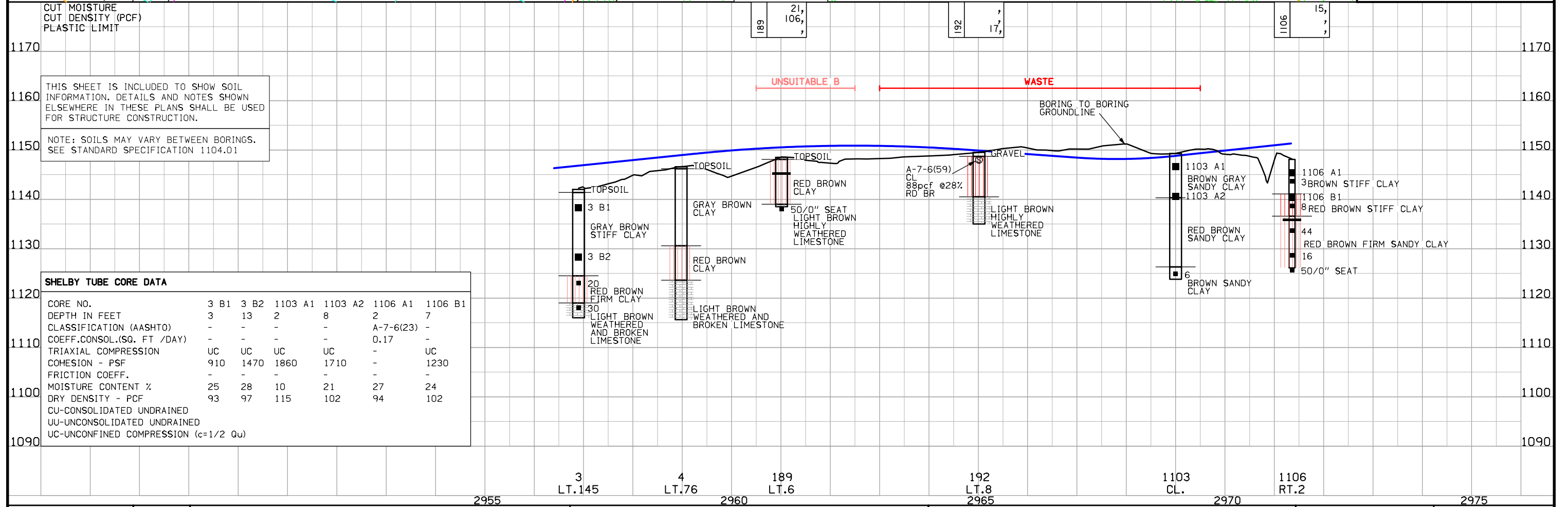
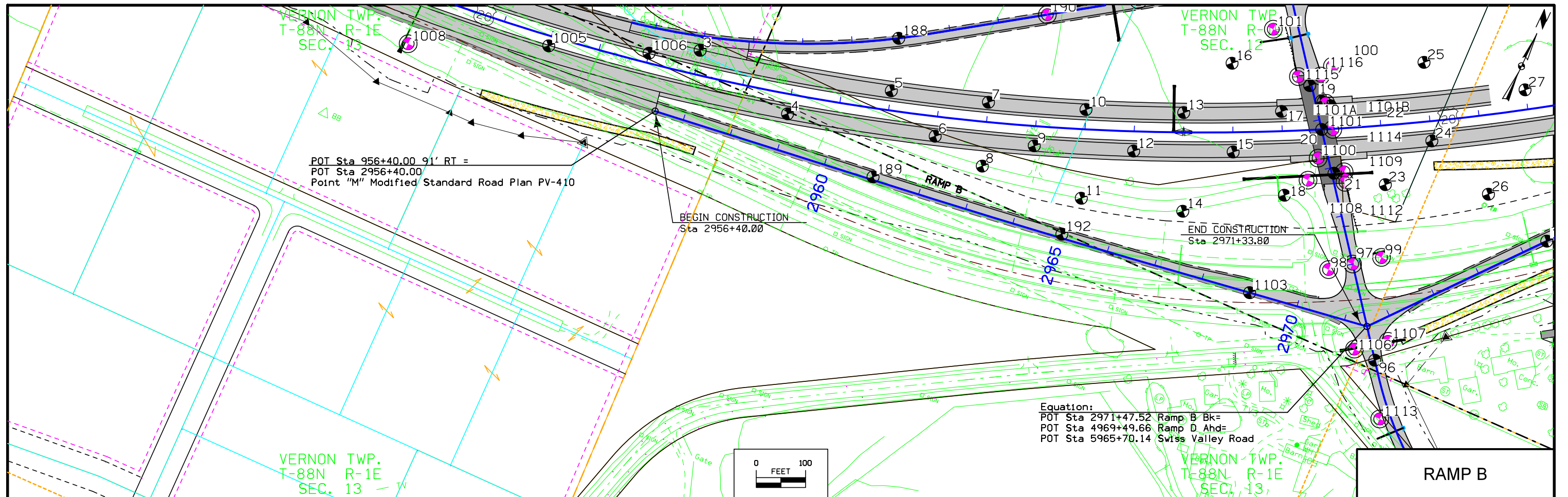


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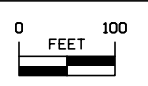
NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

| SHELBY TUBE CORE DATA                |       |       |        |        |           |         |
|--------------------------------------|-------|-------|--------|--------|-----------|---------|
| CORE NO.                             | 33 B1 | 38 B1 | 103 B1 | 198 B1 | 200 B1    | 1102 A1 |
| DEPTH IN FEET                        | 1     | 1     | 1      | 1      | 1         | 2       |
| CLASSIFICATION (AASHTO)              | -     | -     | -      | -      | A-7-6(24) | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -     | -     | -      | -      | -         | -       |
| TRIAxIAL COMPRESSION                 | UC    | UC    | UC     | UC     | UU        | UC      |
| COHESION - PSF                       | 1260  | 1220  | 1300   | 1280   | 1240      | 1510    |
| FRICTION COEFF.                      | -     | -     | -      | -      | -         | -       |
| MOISTURE CONTENT %                   | 27    | 25    | 27     | 24     | 26        | 25      |
| DRY DENSITY - PCF                    | 93    | 95    | 92     | 98     | 99        | 97      |
| CU-UNCONSOLIDATED UNDRAINED          |       |       |        |        |           |         |
| UU-UNCONSOLIDATED UNDRAINED          |       |       |        |        |           |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |       |       |        |        |           |         |





CUT MOISTURE  
CUT DENSITY (PCF)  
PLASTIC LIMIT

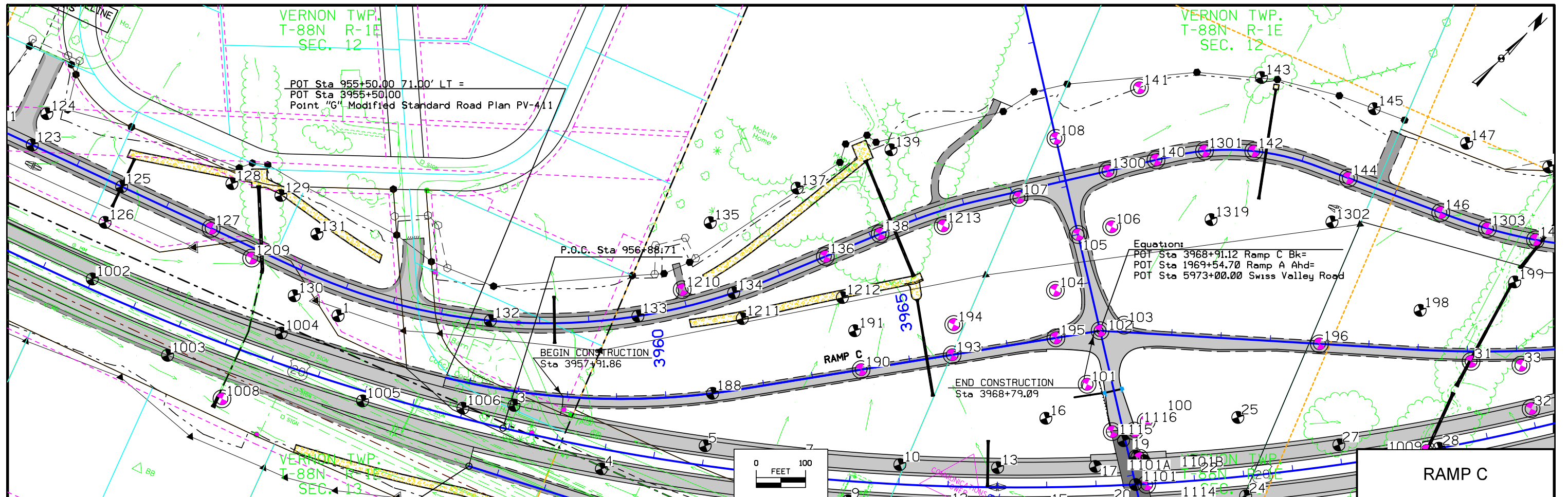


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NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

| SHELBY TUBE CORE DATA                |      |      |         |         |           |         |
|--------------------------------------|------|------|---------|---------|-----------|---------|
| CORE NO.                             | 3 B1 | 3 B2 | 1103 A1 | 1103 A2 | 1106 A1   | 1106 B1 |
| DEPTH IN FEET                        | 3    | 13   | 2       | 8       | 2         | 7       |
| CLASSIFICATION (AASHTO)              | -    | -    | -       | -       | A-7-6(23) | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -    | -    | -       | -       | 0.17      | -       |
| TRIAxIAL COMPRESSION                 | UC   | UC   | UC      | UC      | -         | UC      |
| COHESION - PSF                       | 910  | 1470 | 1860    | 1710    | -         | 1230    |
| FRICTION COEFF.                      | -    | -    | -       | -       | -         | -       |
| MOISTURE CONTENT %                   | 25   | 28   | 10      | 21      | 27        | 24      |
| DRY DENSITY - PCF                    | 93   | 97   | 115     | 102     | 94        | 102     |
| CU-CONSOLIDATED UNDRAINED            |      |      |         |         |           |         |
| UU-UNCONSOLIDATED UNDRAINED          |      |      |         |         |           |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |      |      |         |         |           |         |

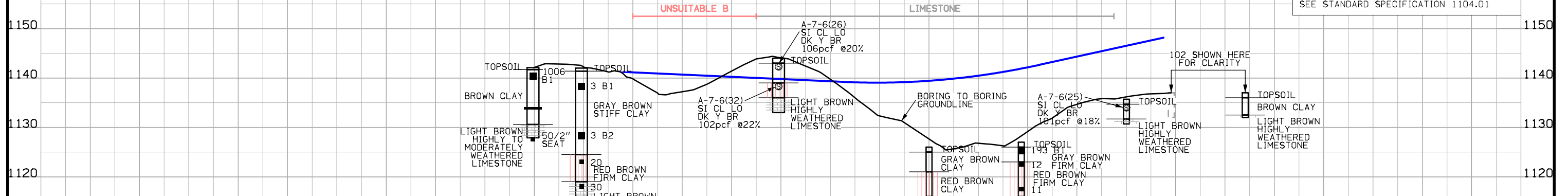




|                   |     |  |  |
|-------------------|-----|--|--|
| CUT MOISTURE      | 30, |  |  |
| CUT DENSITY (PCF) |     |  |  |
| PLASTIC LIMIT     |     |  |  |

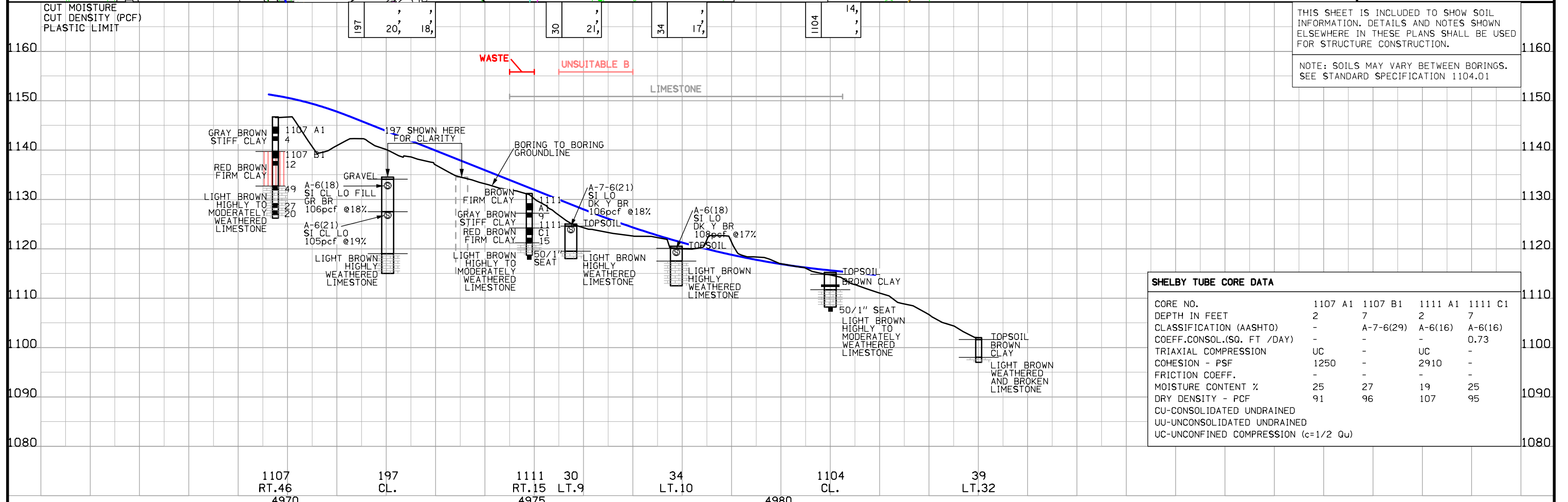
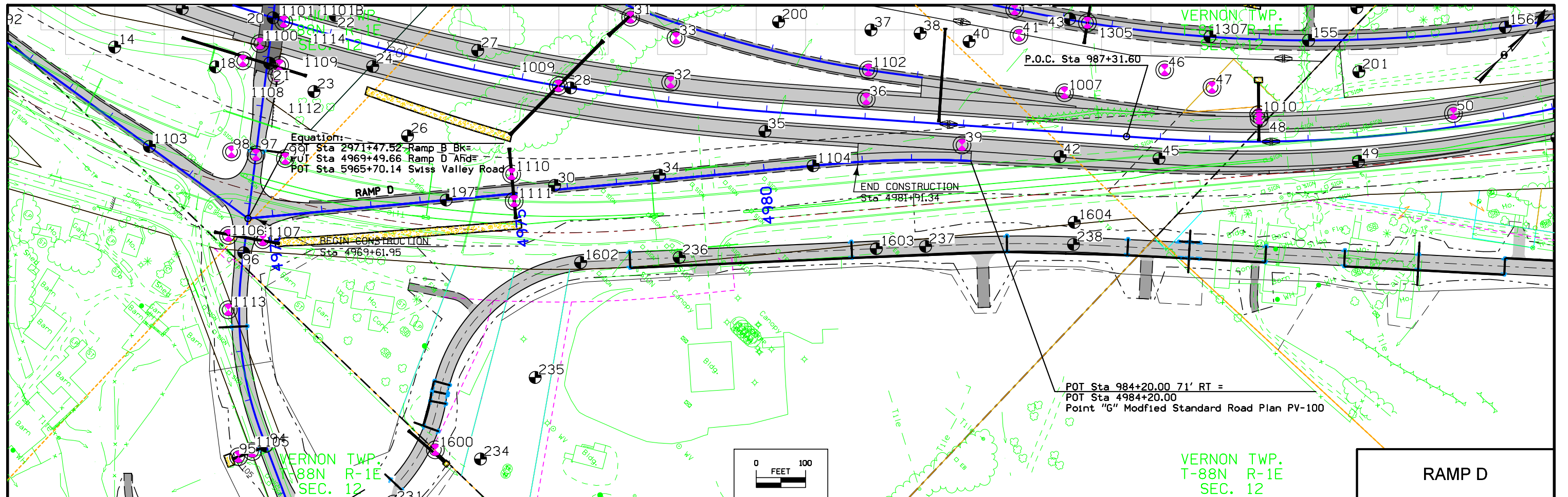
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NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01



| SHELBY TUBE CORE DATA                |      |      |        |         |
|--------------------------------------|------|------|--------|---------|
| CORE NO.                             | 3 B1 | 3 B2 | 193 B1 | 1006 B1 |
| DEPTH IN FEET                        | 3    | 13   | 1      | 1       |
| CLASSIFICATION (AASHTO)              | -    | -    | -      | -       |
| COEFF. CONSOL. (SQ. FT / DAY)        | -    | -    | -      | -       |
| TRIAxIAL COMPRESSION                 | UC   | UC   | UC     | UC      |
| COHESION - PSF                       | 910  | 1470 | 1720   | 1620    |
| FRICTION COEFF.                      | -    | -    | -      | -       |
| MOISTURE CONTENT %                   | 25   | 28   | 24     | 24      |
| DRY DENSITY - PCF                    | 93   | 97   | 99     | 98      |
| CU-CONSOLIDATED UNDRAINED            |      |      |        |         |
| UU-UNCONSOLIDATED UNDRAINED          |      |      |        |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |      |      |        |         |

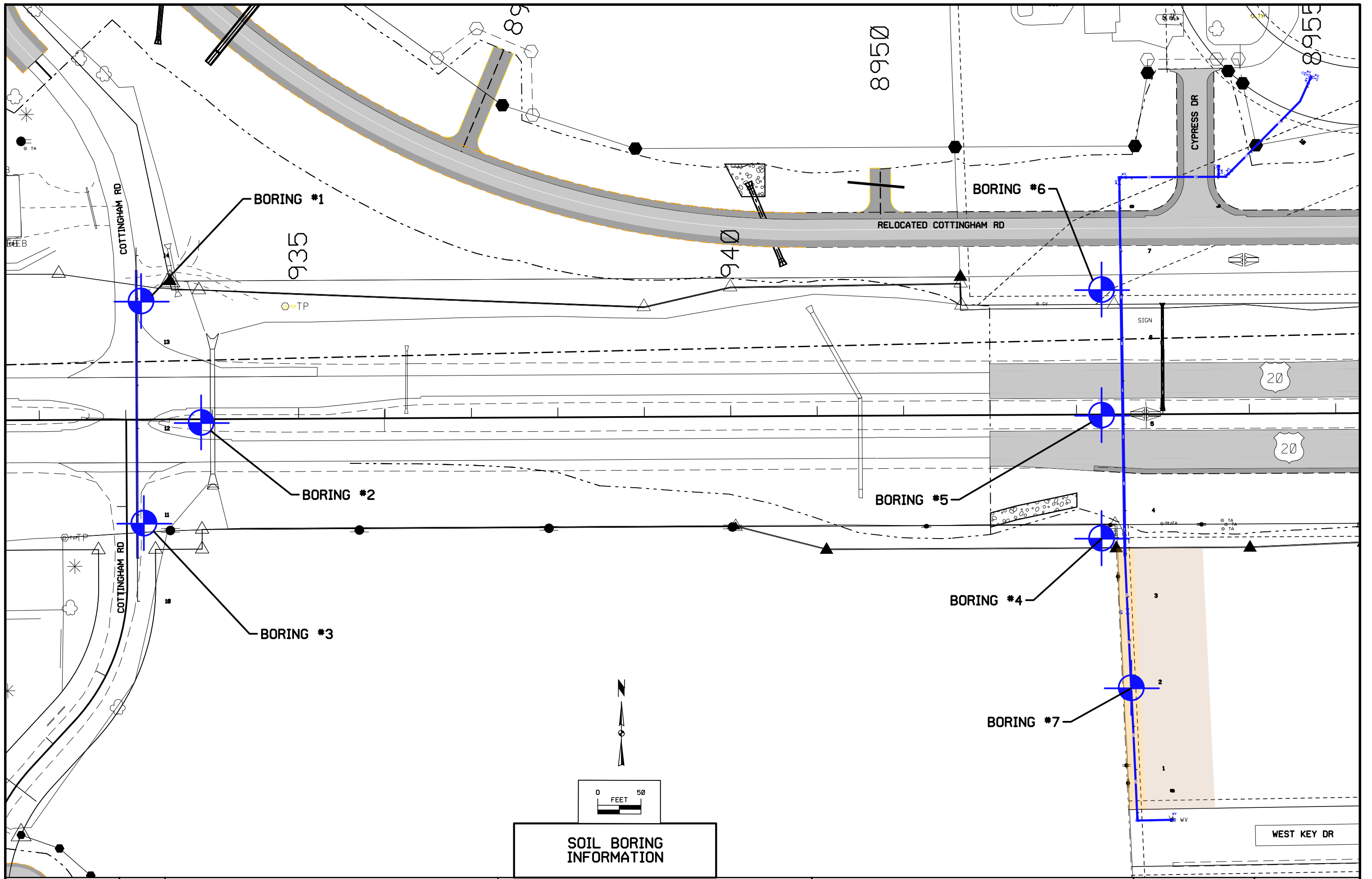
|       |       |      |      |      |     |      |
|-------|-------|------|------|------|-----|------|
| 1006  | 3     | 188  | 190  | 193  | 195 | 102  |
| RT.52 | RT.29 | CL.  | CL.  | CL.  | CL. | CL.  |
| 3955  |       | 3960 | 3965 | 3970 |     | 3975 |



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| SHELBY TUBE CORE DATA                |         |           |         |         |
|--------------------------------------|---------|-----------|---------|---------|
| CORE NO.                             | 1107 A1 | 1107 B1   | 1111 A1 | 1111 C1 |
| DEPTH IN FEET                        | 2       | 7         | 2       | 7       |
| CLASSIFICATION (AASHTO)              | -       | A-7-6(29) | A-6(16) | A-6(16) |
| COEFF. CONSOL. (SQ. FT / DAY)        | -       | -         | -       | 0.73    |
| TRIAXIAL COMPRESSION                 | UC      | -         | UC      | -       |
| COHESION - PSF                       | 1250    | -         | 2910    | -       |
| FRICTION COEFF.                      | -       | -         | -       | -       |
| MOISTURE CONTENT %                   | 25      | 27        | 19      | 25      |
| DRY DENSITY - PCF                    | 91      | 96        | 107     | 95      |
| CU-UNCONSOLIDATED UNDRAINED          |         |           |         |         |
| UU-UNCONSOLIDATED UNDRAINED          |         |           |         |         |
| UC-UNCONFINED COMPRESSION (c=1/2 Qu) |         |           |         |         |



**SOIL BORING  
INFORMATION**



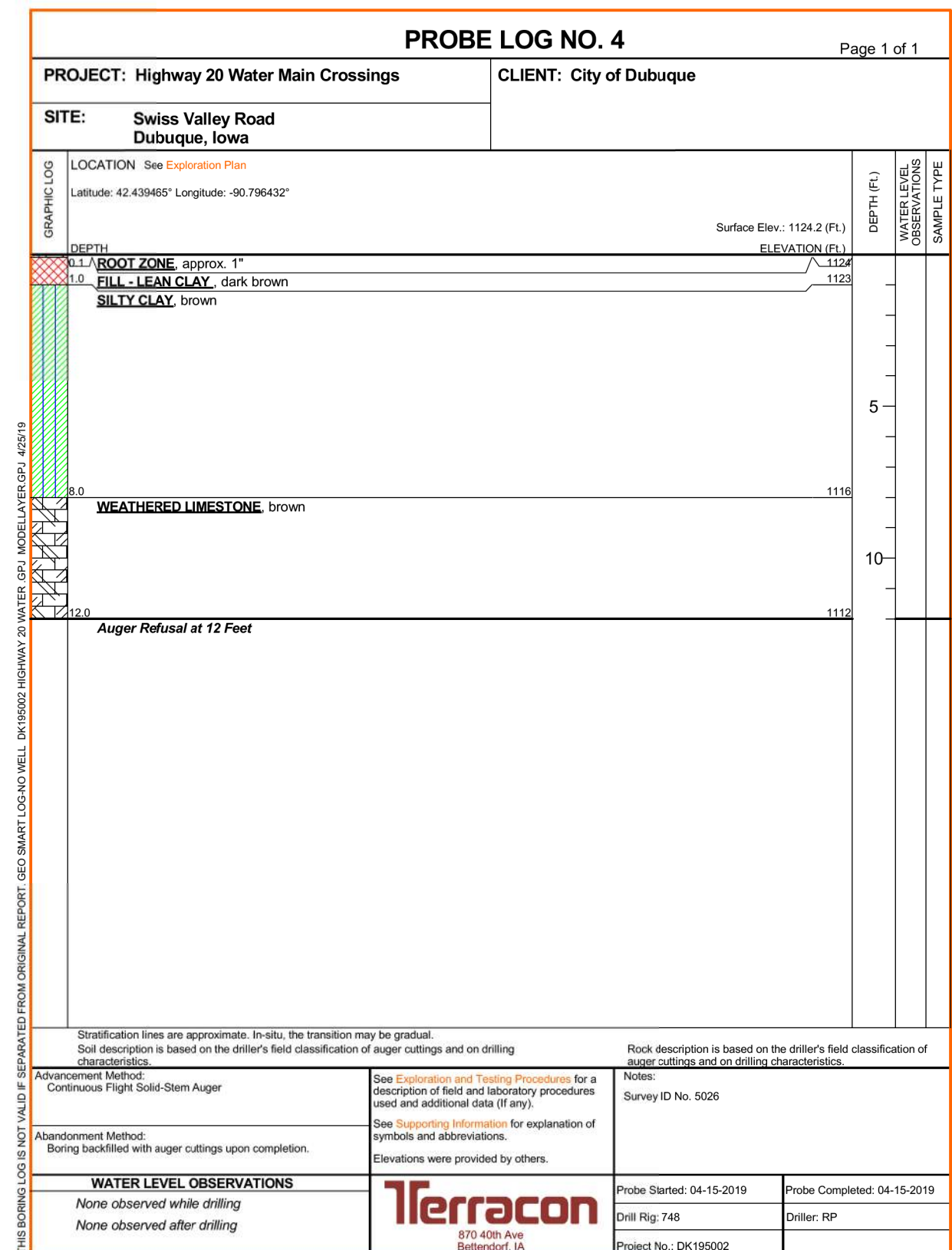
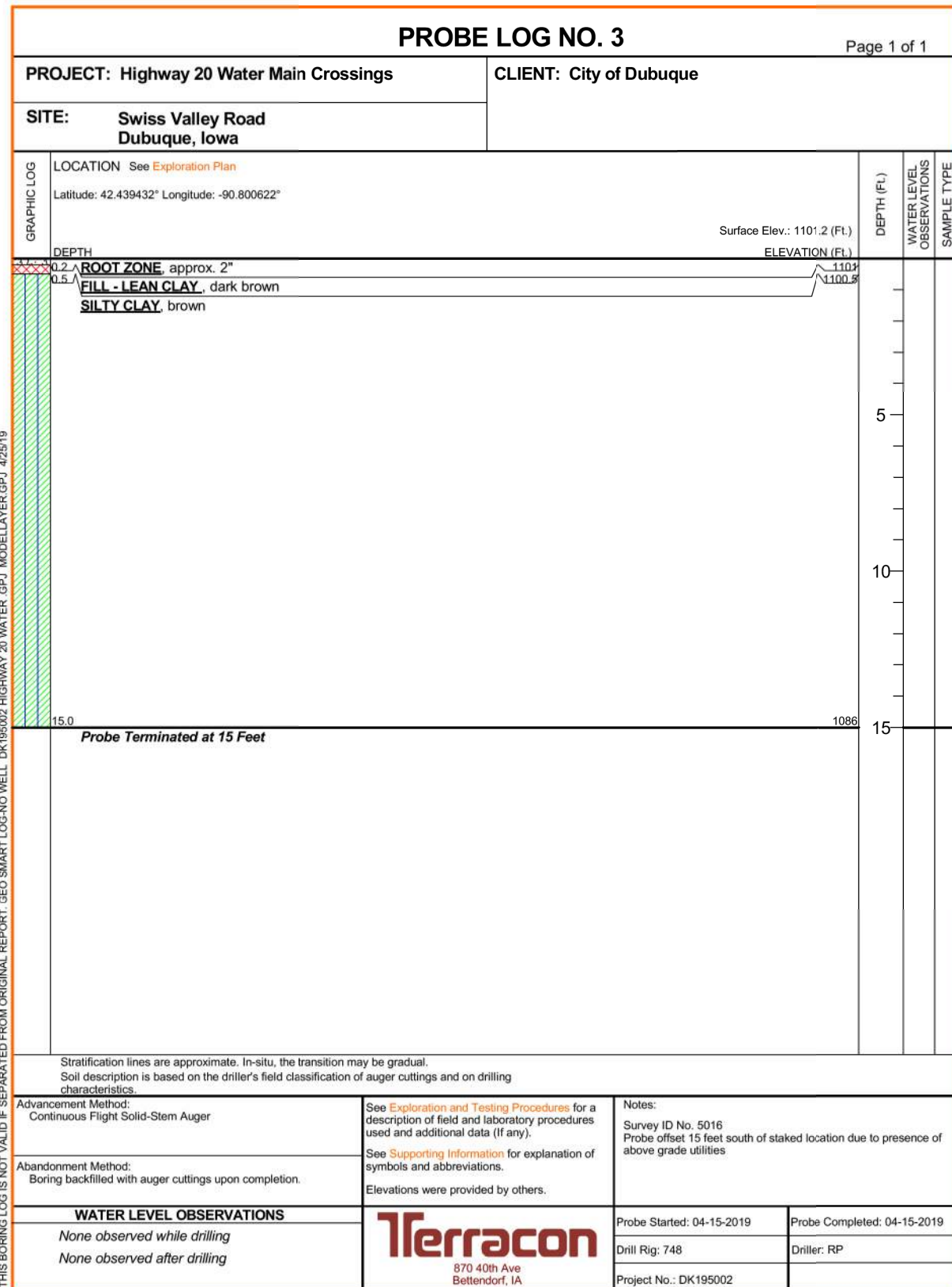
| PROBE LOG NO. 1                                                                                                                                                                                     |                                               |                                                                                                                                                |        | Page 1 of 1                  |                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------------------------|--------------------------|
| PROJECT: Highway 20 Water Main Crossings                                                                                                                                                            |                                               | CLIENT: City of Dubuque                                                                                                                        |        |                              |                          |
| SITE: Swiss Valley Road<br>Dubuque, Iowa                                                                                                                                                            |                                               |                                                                                                                                                |        |                              |                          |
| GRAPHIC LOG                                                                                                                                                                                         | LOCATION See <a href="#">Exploration Plan</a> | Surface Elev.: 1099 (Ft.)                                                                                                                      |        | DEPTH (Ft.)                  | WATER LEVEL OBSERVATIONS |
|                                                                                                                                                                                                     | Latitude: 42.440275° Longitude: -90.800623°   | ELEVATION (Ft.)                                                                                                                                |        |                              |                          |
|                                                                                                                                                                                                     | DEPTH                                         |                                                                                                                                                |        |                              |                          |
|                                                                                                                                                                                                     |                                               |                                                                                                                                                |        |                              |                          |
|                                                                                                                                                                                                     | <b>FILL - CRUSHED LIMESTONE</b> , brown       |                                                                                                                                                |        |                              |                          |
|                                                                                                                                                                                                     | 1.5                                           |                                                                                                                                                | 1097.5 |                              |                          |
|                                                                                                                                                                                                     | <b>LEAN CLAY</b> , dark brown                 |                                                                                                                                                |        |                              |                          |
|                                                                                                                                                                                                     | 4.0                                           |                                                                                                                                                | 1095   |                              |                          |
|                                                                                                                                                                                                     | <b>SILTY CLAY</b> , gray and brown            |                                                                                                                                                |        |                              |                          |
|                                                                                                                                                                                                     | 15.0                                          |                                                                                                                                                | 1084   |                              |                          |
| <b>Probe Terminated at 15 Feet</b>                                                                                                                                                                  |                                               |                                                                                                                                                |        |                              |                          |
| Stratification lines are approximate. In-situ, the transition may be gradual.<br>Soil description is based on the driller's field classification of auger cuttings and on drilling characteristics. |                                               |                                                                                                                                                |        |                              |                          |
| Advancement Method:<br>Continuous Flight Solid-Stem Auger                                                                                                                                           |                                               | See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (if any). |        | Notes:<br>Survey ID No. 5017 |                          |
| Abandonment Method:<br>Boring backfilled with auger cuttings upon completion.                                                                                                                       |                                               | See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.<br>Elevations were provided by others.                |        |                              |                          |
| <b>WATER LEVEL OBSERVATIONS</b>                                                                                                                                                                     |                                               | Terracon                                                                                                                                       |        | Probe Started: 04-15-2019    |                          |
| None observed while drilling                                                                                                                                                                        |                                               | 870 40th Ave<br>Bettendorf, IA                                                                                                                 |        | Probe Completed: 04-15-2019  |                          |
| None observed after drilling                                                                                                                                                                        |                                               | Project No.: DK195002                                                                                                                          |        | Drill Rig: 748               |                          |
|                                                                                                                                                                                                     |                                               |                                                                                                                                                |        | Driller: RP                  |                          |

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL DK195002 HIGHWAY 20 WATER.GPJ MODEL LAYER GPJ 4/25/19

| PROBE LOG NO. 2                                                                                                    |                                               |                                                                                                                                                |      | Page 1 of 1                  |                          |
|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------|--------------------------|
| PROJECT: Highway 20 Water Main Crossings                                                                           |                                               | CLIENT: City of Dubuque                                                                                                                        |      |                              |                          |
| SITE: Swiss Valley Road<br>Dubuque, Iowa                                                                           |                                               |                                                                                                                                                |      |                              |                          |
| GRAPHIC LOG                                                                                                        | LOCATION See <a href="#">Exploration Plan</a> | Surface Elev.: 1101.1 (Ft.)                                                                                                                    |      | DEPTH (Ft.)                  | WATER LEVEL OBSERVATIONS |
|                                                                                                                    | Latitude: 42.439822° Longitude: -90.800272°   | ELEVATION (Ft.)                                                                                                                                |      |                              |                          |
|                                                                                                                    | DEPTH                                         |                                                                                                                                                |      |                              |                          |
|                                                                                                                    |                                               |                                                                                                                                                |      |                              |                          |
|                                                                                                                    | <b>LEAN CLAY</b> , dark brown                 |                                                                                                                                                |      |                              |                          |
|                                                                                                                    | 15.0                                          |                                                                                                                                                | 1086 |                              |                          |
| <b>Probe Terminated at 15 Feet</b>                                                                                 |                                               |                                                                                                                                                |      |                              |                          |
| Soil description is based on the driller's field classification of auger cuttings and on drilling characteristics. |                                               |                                                                                                                                                |      |                              |                          |
| Advancement Method:<br>Continuous Flight Solid-Stem Auger                                                          |                                               | See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (if any). |      | Notes:<br>Survey ID No. 5018 |                          |
| Abandonment Method:<br>Boring backfilled with auger cuttings upon completion.                                      |                                               | See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.<br>Elevations were provided by others.                |      |                              |                          |
| <b>WATER LEVEL OBSERVATIONS</b>                                                                                    |                                               | Terracon                                                                                                                                       |      | Probe Started: 04-15-2019    |                          |
| None observed while drilling                                                                                       |                                               | 870 40th Ave<br>Bettendorf, IA                                                                                                                 |      | Probe Completed: 04-15-2019  |                          |
| None observed after drilling                                                                                       |                                               | Project No.: DK195002                                                                                                                          |      | Drill Rig: 748               |                          |
|                                                                                                                    |                                               |                                                                                                                                                |      | Driller: RP                  |                          |

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**SOIL BORING INFORMATION**



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| PROBE LOG NO. 5                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                | Page 1 of 1                  |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------|
| PROJECT: Highway 20 Water Main Crossings                                                                                                                                                                                                                                                                                              |                                                                                                                                                | CLIENT: City of Dubuque      |                             |
| SITE: Swiss Valley Road<br>Dubuque, Iowa                                                                                                                                                                                                                                                                                              |                                                                                                                                                |                              |                             |
| GRAPHIC LOG                                                                                                                                                                                                                                                                                                                           | LOCATION See <a href="#">Exploration Plan</a><br>Latitude: 42.439745° Longitude: -90.796431°                                                   | DEPTH (FL.)                  | WATER LEVEL OBSERVATIONS    |
|                                                                                                                                                                                                                                                                                                                                       | Surface Elev.: 1120 (Fl.)                                                                                                                      |                              |                             |
|                                                                                                                                                                                                                                                                                                                                       | ELEVATION (FL.)                                                                                                                                |                              |                             |
| DEPTH                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                |                              |                             |
| 0.5                                                                                                                                                                                                                                                                                                                                   | <b>FILL - LEAN CLAY</b> , dark brown                                                                                                           | 1119.5                       |                             |
|                                                                                                                                                                                                                                                                                                                                       | <b>LEAN CLAY</b> , brown                                                                                                                       |                              |                             |
| 7.5                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                | 1112.5                       |                             |
| 8.0                                                                                                                                                                                                                                                                                                                                   | <b>WEATHERED LIMESTONE</b> , brown                                                                                                             | 1112                         |                             |
|                                                                                                                                                                                                                                                                                                                                       | <b>Auger Refusal at 8 Feet</b>                                                                                                                 |                              |                             |
| <p>Stratification lines are approximate. In-situ, the transition may be gradual.<br/>Soil description is based on the driller's field classification of auger cuttings and on drilling characteristics.</p> <p>Rock description is based on the driller's field classification of auger cuttings and on drilling characteristics.</p> |                                                                                                                                                |                              |                             |
| Advancement Method:<br>Continuous Flight Solid-Stem Auger                                                                                                                                                                                                                                                                             | See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (if any). | Notes:<br>Survey ID No. 5028 |                             |
| Abandonment Method:<br>Boring backfilled with auger cuttings upon completion.                                                                                                                                                                                                                                                         | See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.<br>Elevations were provided by others.                |                              |                             |
| <b>WATER LEVEL OBSERVATIONS</b>                                                                                                                                                                                                                                                                                                       | <b>Terracon</b><br>870 40th Ave<br>Bettendorf, IA                                                                                              | Probe Started: 04-15-2019    | Probe Completed: 04-15-2019 |
| None observed while drilling<br>None observed after drilling                                                                                                                                                                                                                                                                          |                                                                                                                                                | Drill Rig: 748               | Driller: RP                 |
|                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                | Project No.: DK195002        |                             |

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| PROBE LOG NO. 6                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                | Page 1 of 1                                                                                                                |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| PROJECT: Highway 20 Water Main Crossings                                                                                                                                                                                                                                                                                              |                                                                                                                                                | CLIENT: City of Dubuque                                                                                                    |                             |
| SITE: Swiss Valley Road<br>Dubuque, Iowa                                                                                                                                                                                                                                                                                              |                                                                                                                                                |                                                                                                                            |                             |
| GRAPHIC LOG                                                                                                                                                                                                                                                                                                                           | LOCATION See <a href="#">Exploration Plan</a><br>Latitude: 42.44017° Longitude: -90.796416°                                                    | DEPTH (FL.)                                                                                                                | WATER LEVEL OBSERVATIONS    |
|                                                                                                                                                                                                                                                                                                                                       | Surface Elev.: 1122.7 (Fl.)                                                                                                                    |                                                                                                                            |                             |
|                                                                                                                                                                                                                                                                                                                                       | ELEVATION (FL.)                                                                                                                                |                                                                                                                            |                             |
| DEPTH                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                |                                                                                                                            |                             |
| 1.0                                                                                                                                                                                                                                                                                                                                   | <b>FILL - LEAN CLAY</b> , dark brown                                                                                                           | 1121.5                                                                                                                     |                             |
|                                                                                                                                                                                                                                                                                                                                       | <b>LEAN CLAY</b> , brown                                                                                                                       |                                                                                                                            |                             |
| 10.0                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                | 1112.5                                                                                                                     |                             |
| 11.0                                                                                                                                                                                                                                                                                                                                  | <b>WEATHERED LIMESTONE</b> , brown                                                                                                             | 1111.5                                                                                                                     |                             |
|                                                                                                                                                                                                                                                                                                                                       | <b>Auger Refusal at 11 Feet</b>                                                                                                                |                                                                                                                            |                             |
| <p>Stratification lines are approximate. In-situ, the transition may be gradual.<br/>Soil description is based on the driller's field classification of auger cuttings and on drilling characteristics.</p> <p>Rock description is based on the driller's field classification of auger cuttings and on drilling characteristics.</p> |                                                                                                                                                |                                                                                                                            |                             |
| Advancement Method:<br>Continuous Flight Solid-Stem Auger                                                                                                                                                                                                                                                                             | See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (if any). | Notes:<br>Survey ID No. 5029<br>Probe offset 20 feet south of the staked location due to presence of below grade utilities |                             |
| Abandonment Method:<br>Boring backfilled with auger cuttings upon completion.                                                                                                                                                                                                                                                         | See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.<br>Elevations were provided by others.                |                                                                                                                            |                             |
| <b>WATER LEVEL OBSERVATIONS</b>                                                                                                                                                                                                                                                                                                       | <b>Terracon</b><br>870 40th Ave<br>Bettendorf, IA                                                                                              | Probe Started: 04-15-2019                                                                                                  | Probe Completed: 04-15-2019 |
| None observed while drilling<br>None observed after drilling                                                                                                                                                                                                                                                                          |                                                                                                                                                | Drill Rig: 748                                                                                                             | Driller: RP                 |
|                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                | Project No.: DK195002                                                                                                      |                             |

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**SOIL BORING INFORMATION**



**PROBE LOG NO. 7**

Page 1 of 1

**PROJECT:** Highway 20 Water Main Crossings  
**SITE:** Swiss Valley Road  
 Dubuque, Iowa

**CLIENT:** City of Dubuque

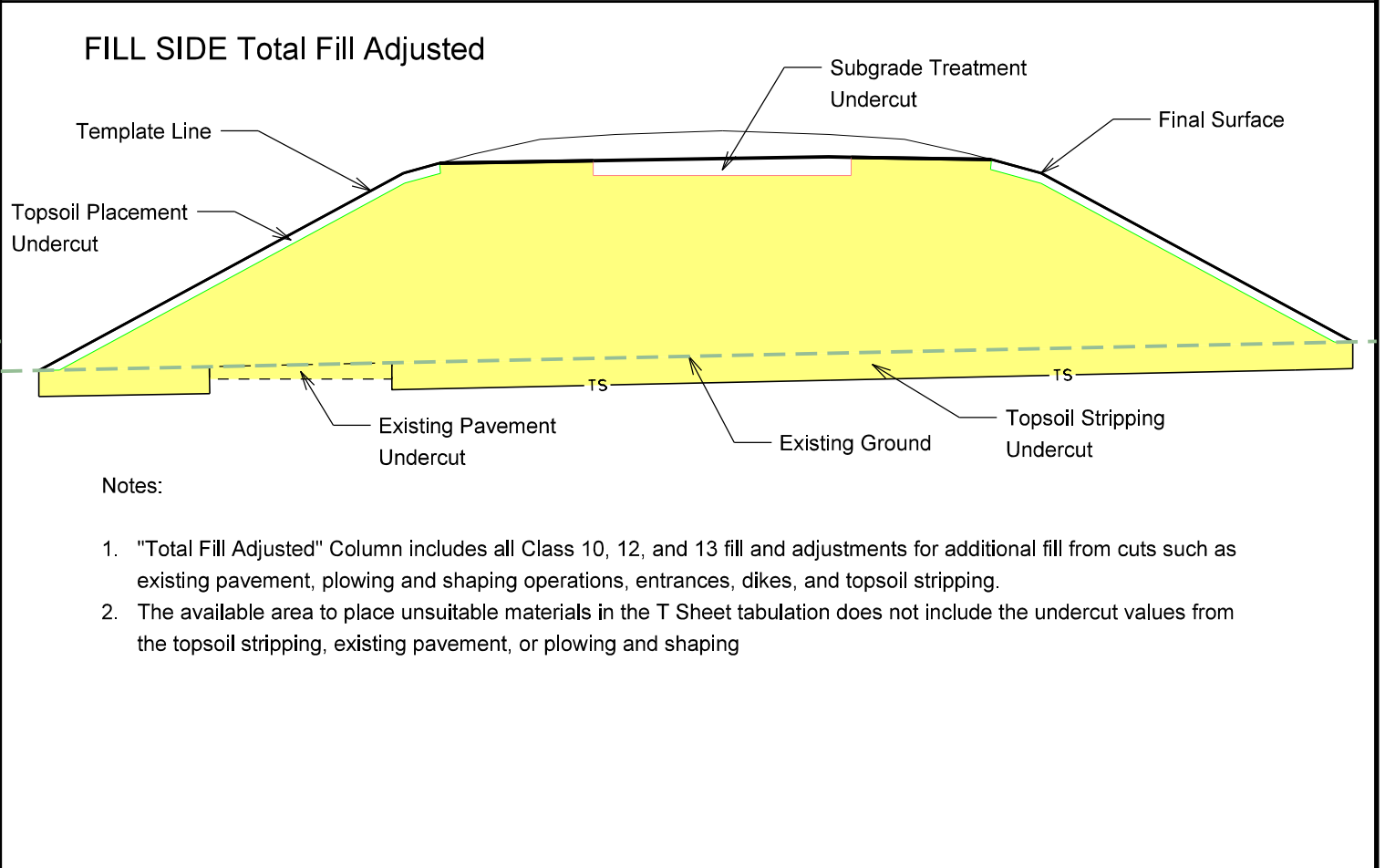
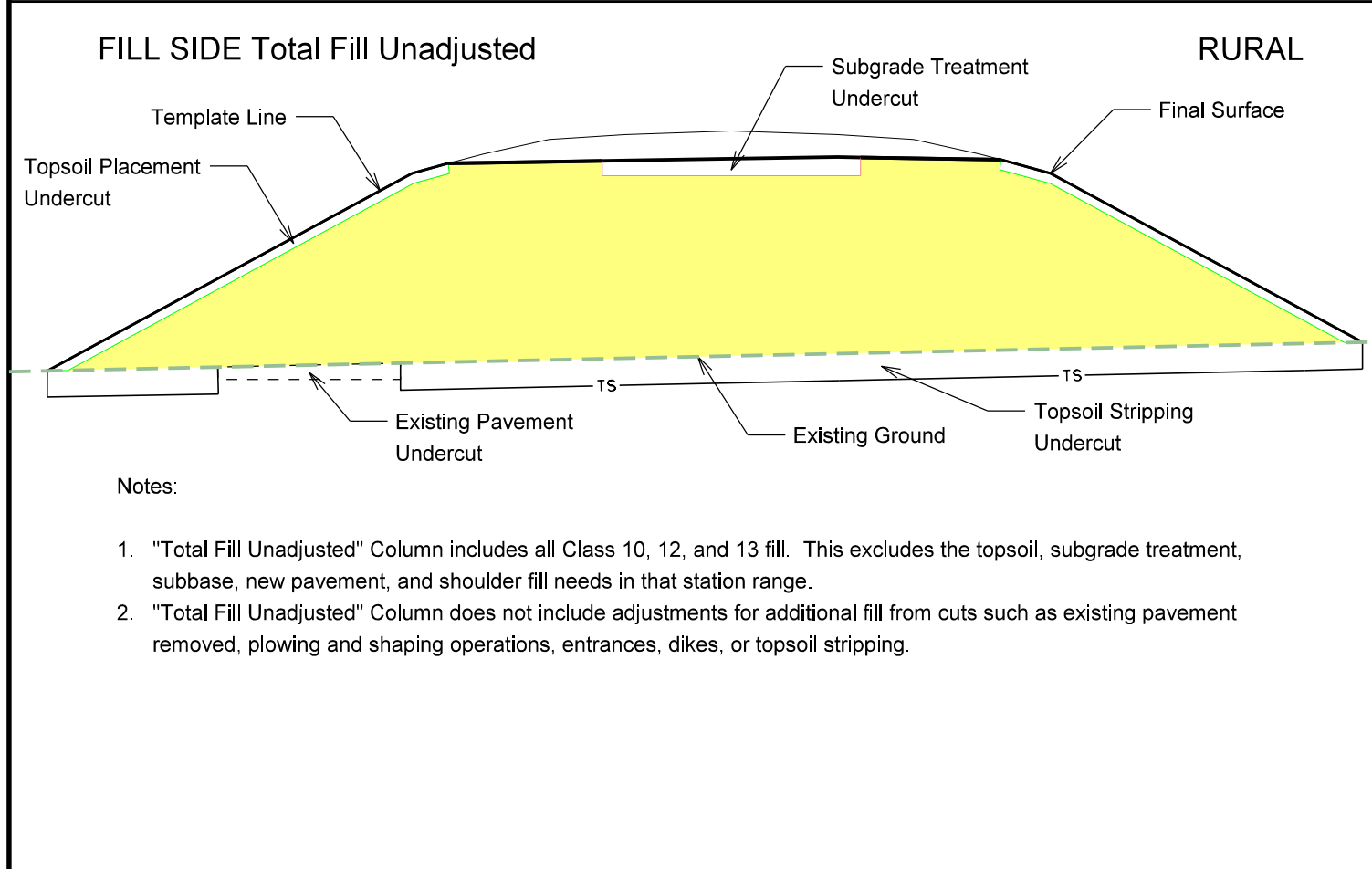
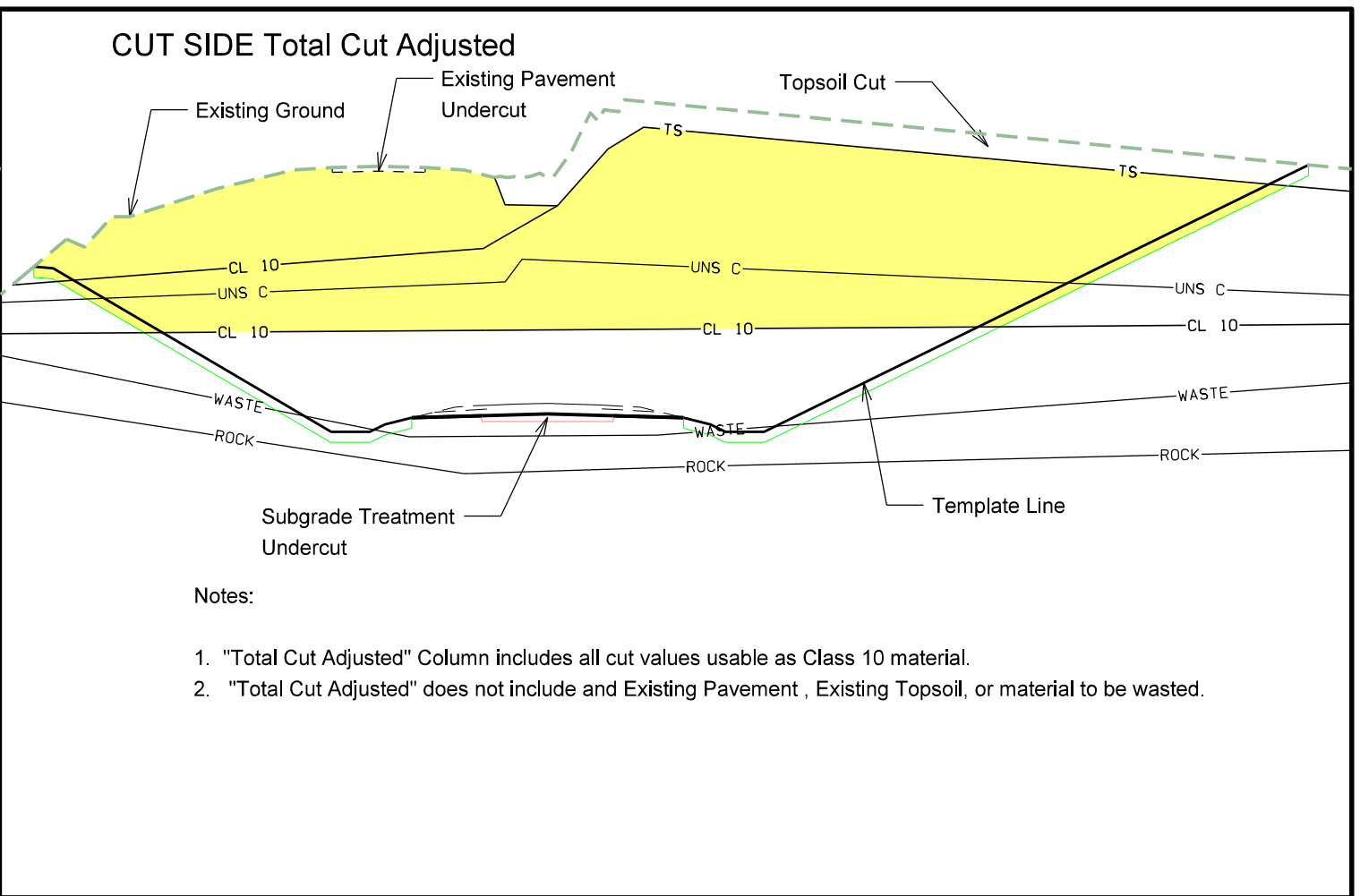
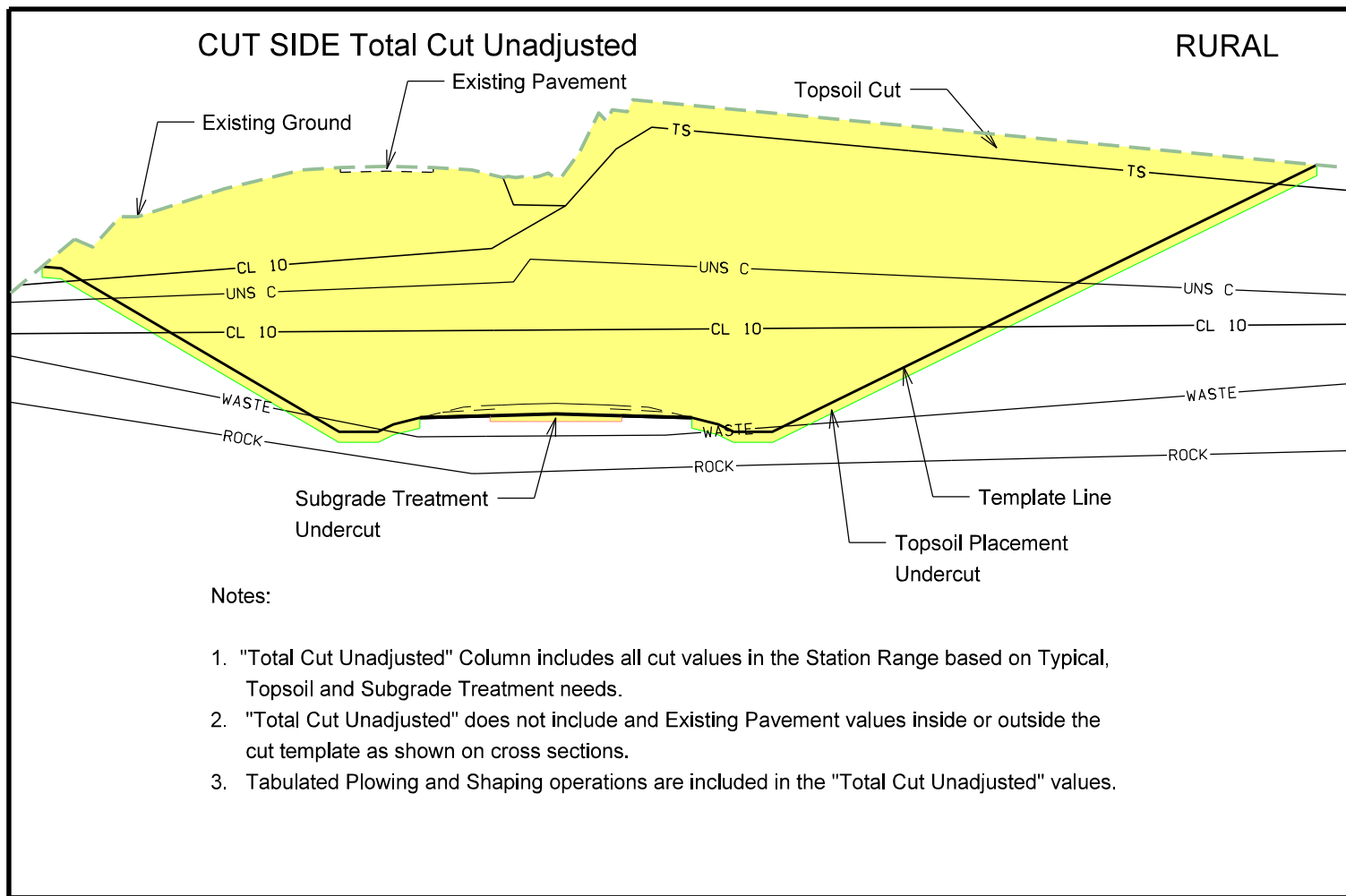
| DEPTH | ELEVATION (FL) | DESCRIPTION                                                    | DEPTH (FL) | WATER LEVEL OBSERVATIONS | SAMPLE TYPE |
|-------|----------------|----------------------------------------------------------------|------------|--------------------------|-------------|
| 0.2   | 1124.8         | <b>ROOT ZONE</b> , approx. 2"<br><b>LEAN CLAY</b> , dark brown |            |                          |             |
| 6.0   | 1119           | <b>SILTY CLAY</b> , brown                                      |            |                          |             |
| 13.0  | 1112           | <b>WEATHERED LIMESTONE</b> , brown                             |            |                          |             |
| 15.0  | 1110           | <b>Probe Terminated at 15 Feet</b>                             |            |                          |             |

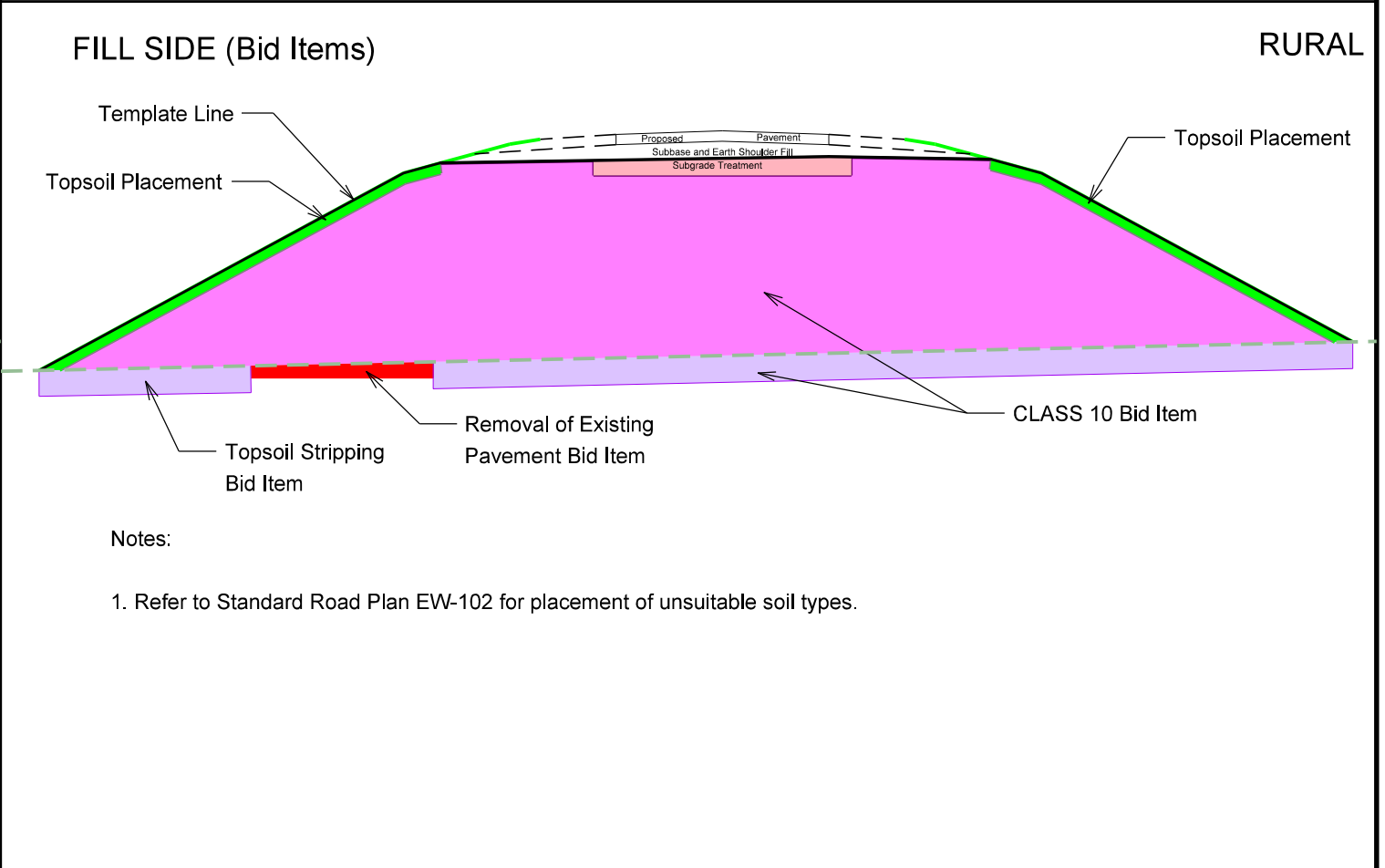
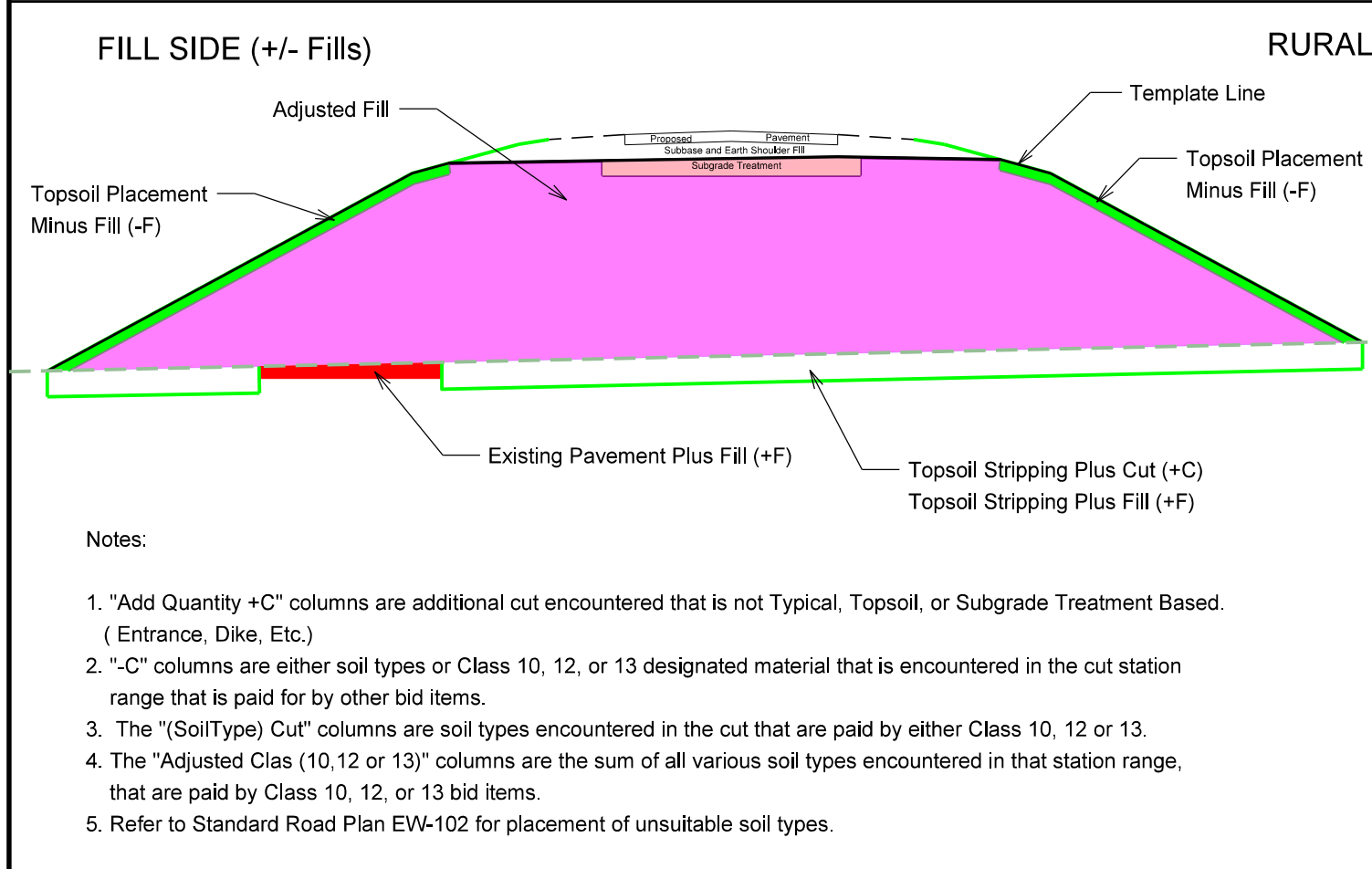
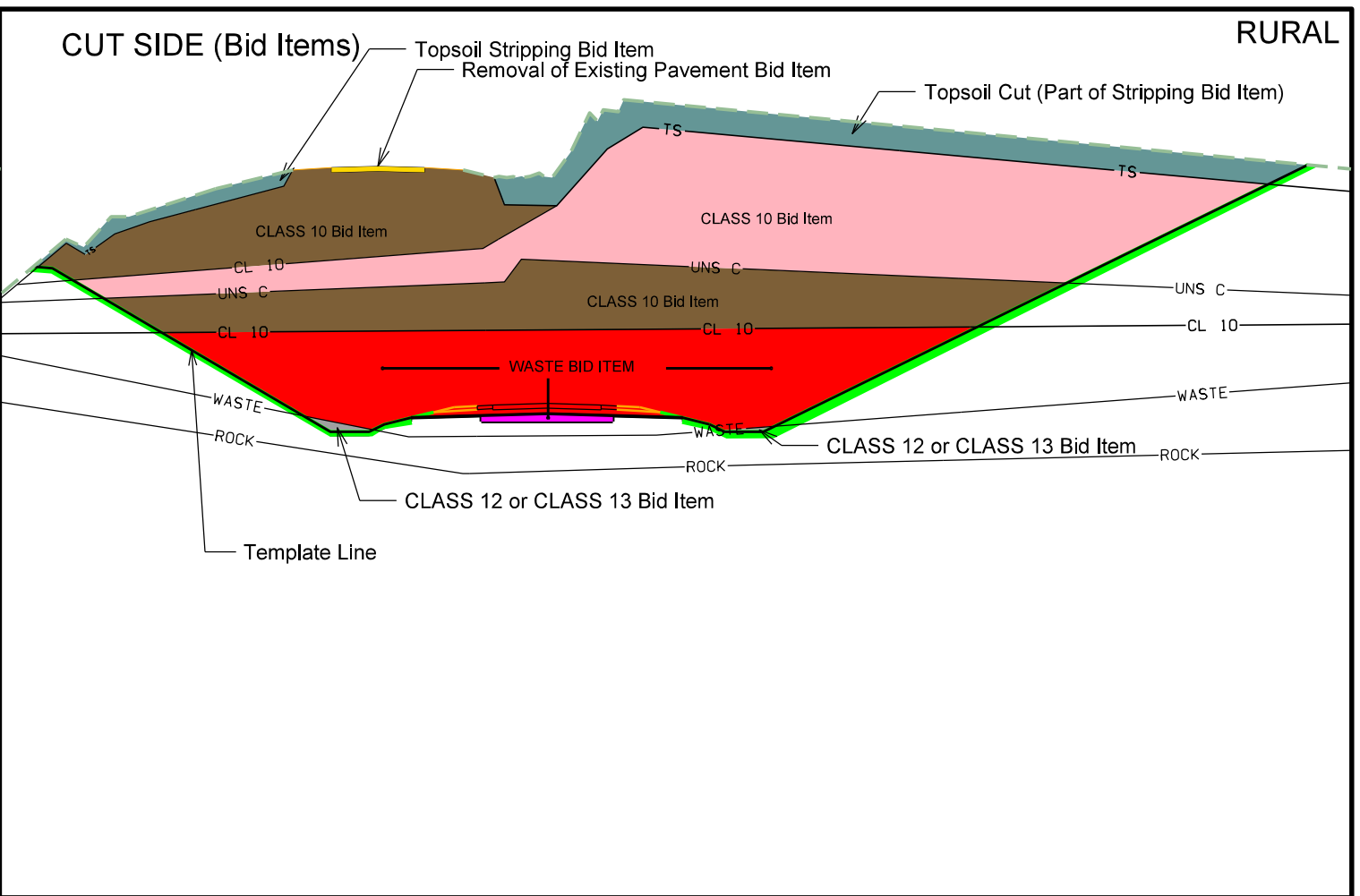
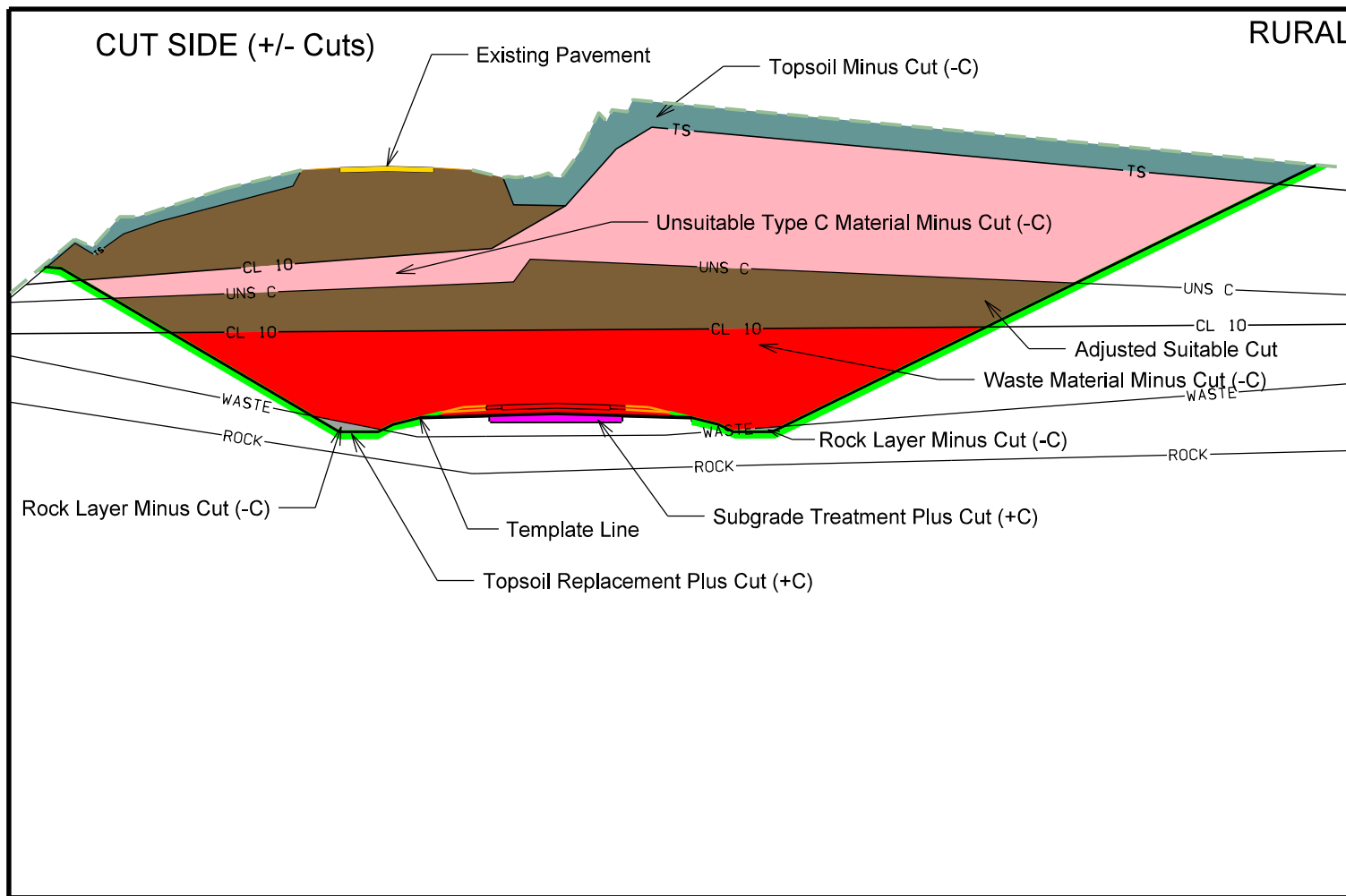
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Stratification lines are approximate. In-situ, the transition may be gradual.  
 Soil description is based on the driller's field classification of auger cuttings and on drilling characteristics.  
 Rock description is based on the driller's field classification of auger cuttings and on drilling characteristics.

|                                                                                                 |                                                                                                                                                |                                                                                                                           |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Advancement Method:<br>Continuous Flight Solid-Stem Auger                                       | See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (if any). | Notes:<br>Survey ID No. 5027<br>Probe offset 15 feet east of the staked location due to presence of above grade utilities |
| Abandonment Method:<br>Boring backfilled with auger cuttings upon completion.                   | See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.<br>Elevations were provided by others.                |                                                                                                                           |
| <b>WATER LEVEL OBSERVATIONS</b><br>None observed while drilling<br>None observed after drilling |  870 40th Ave<br>Bettendorf, IA                            | Probe Started: 04-15-2019<br>Drill Rig: 748<br>Project No.: DK195002                                                      |
|                                                                                                 |                                                                                                                                                | Probe Completed: 04-15-2019<br>Driller: RP                                                                                |

**SOIL BORING INFORMATION**

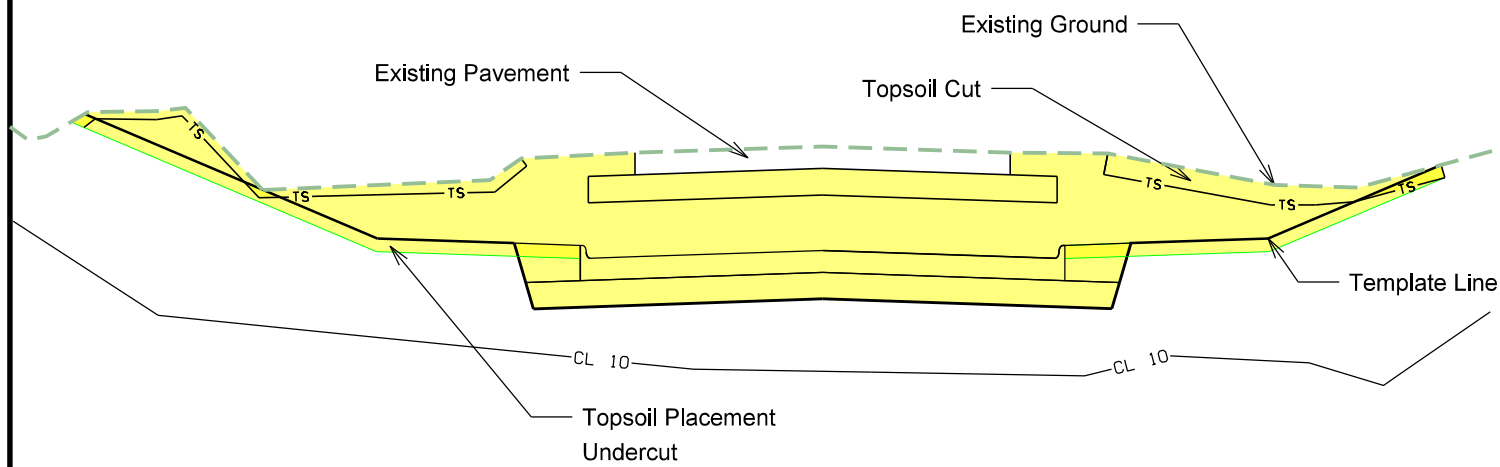






CUT SIDE Total Cut Unadjusted

URBAN

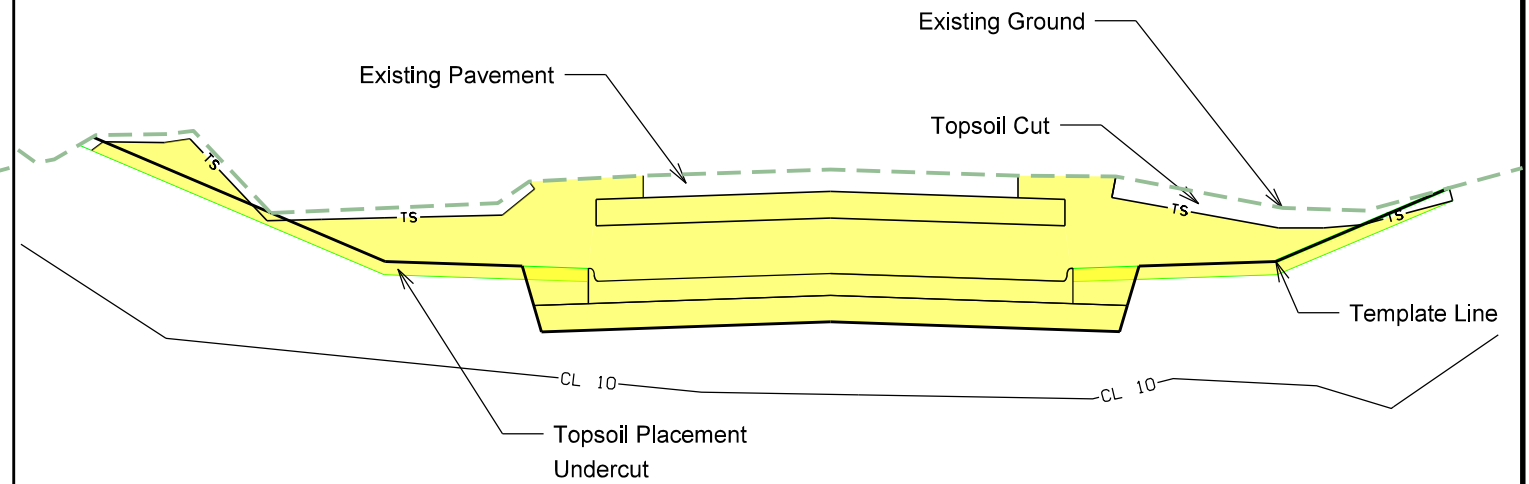


Notes:

1. "Total Cut Unadjusted" Column includes all cut values in the Station Range based on Typical, Topsoil and Subgrade Treatment needs.
2. "Total Cut Unadjusted" does not include and Existing Pavement values inside or outside the cut template as shown on cross sections.
3. Tabulated Plowing and Shaping operations are included in the "Total Cut Unadjusted" values.

CUT SIDE Total Cut Adjusted

URBAN

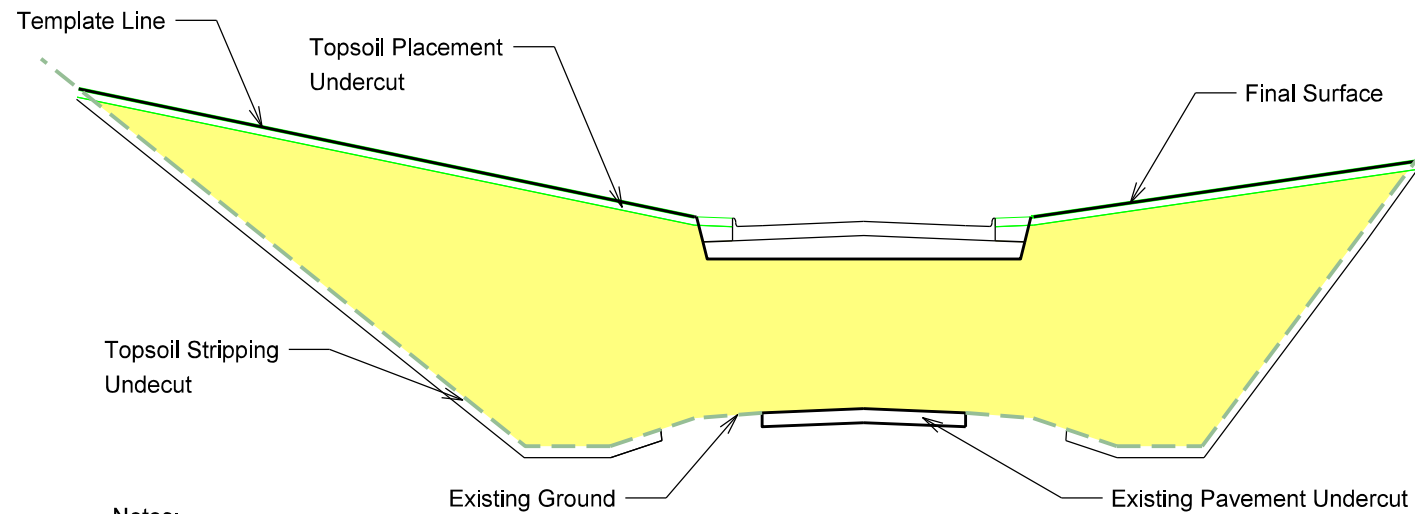


Notes:

1. "Total Cut Adjusted" Column includes all cut values usable as Class 10 material.
2. "Total Cut Adjusted" does not include and Existing Pavement , Existing Topsoil, or material to be wasted.

FILL SIDE Total Fill Unadjusted

URBAN

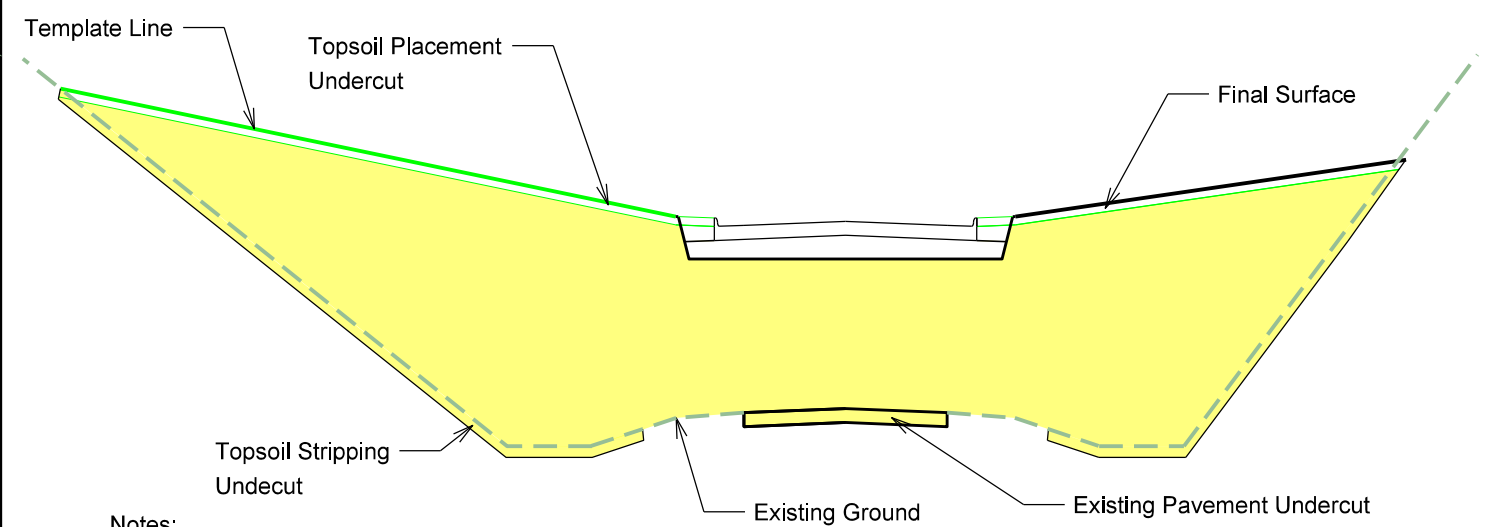


Notes:

1. "Total Fill Unadjusted" Column includes all Class 10, 12, and 13 fill. This excludes the topsoil, subgrade treatment, subbase, new pavement, and shoulder fill needs in that station range.
2. "Total Fill Unadjusted" Column does not include adjustments for additional fill from cuts such as existing pavement removed, plowing and shaping operations, entrances, dikes, or topsoil stripping.

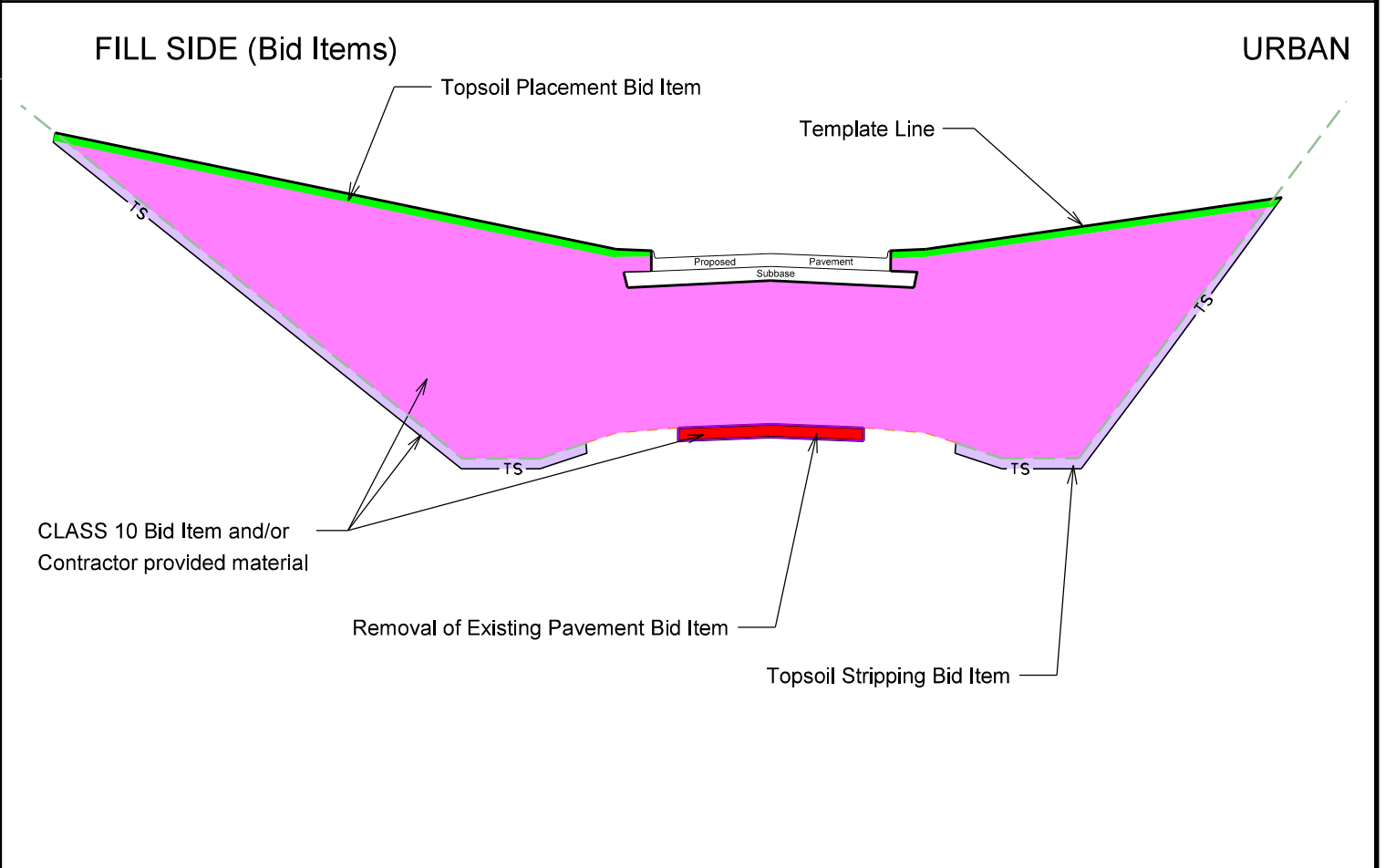
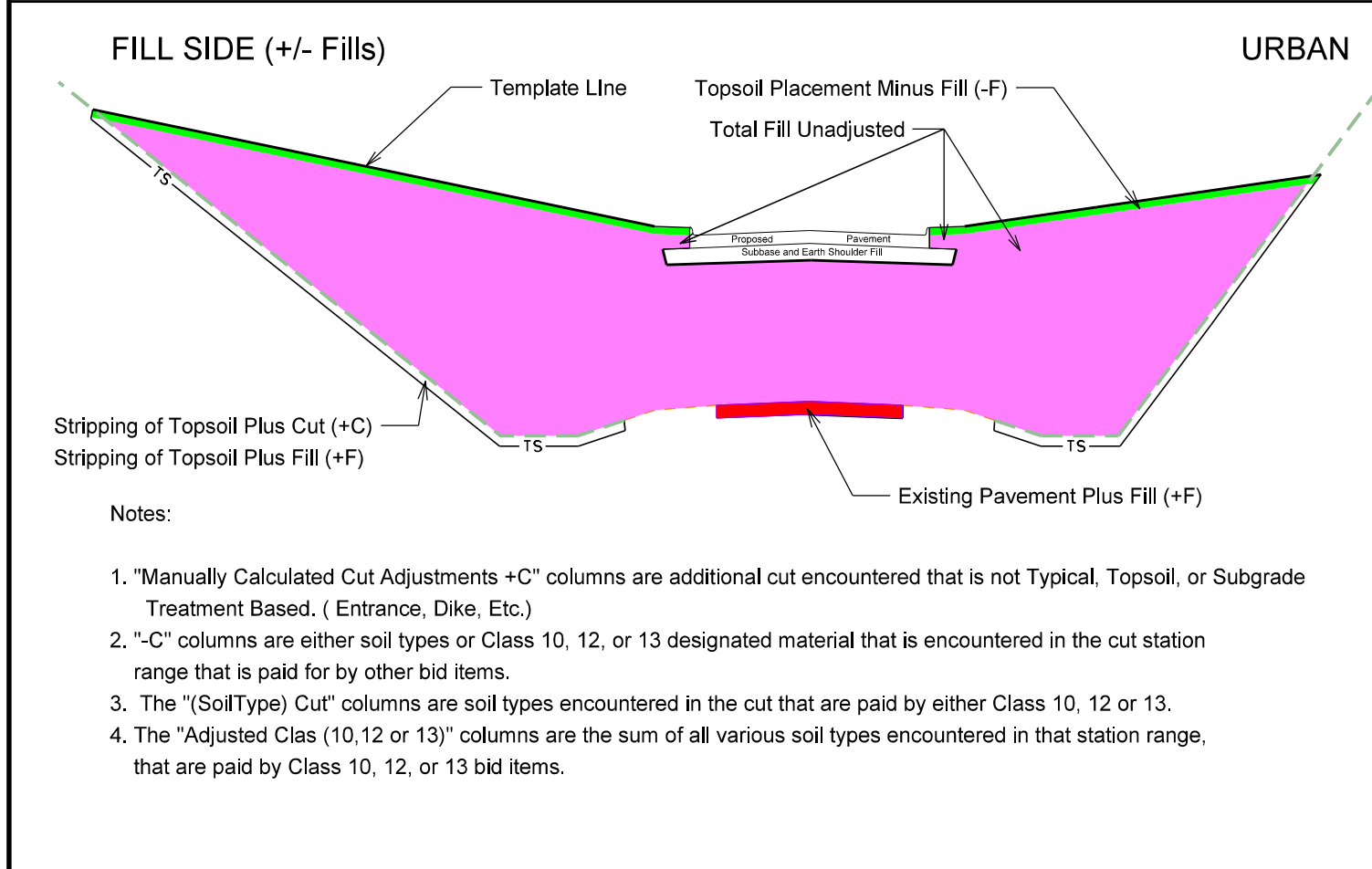
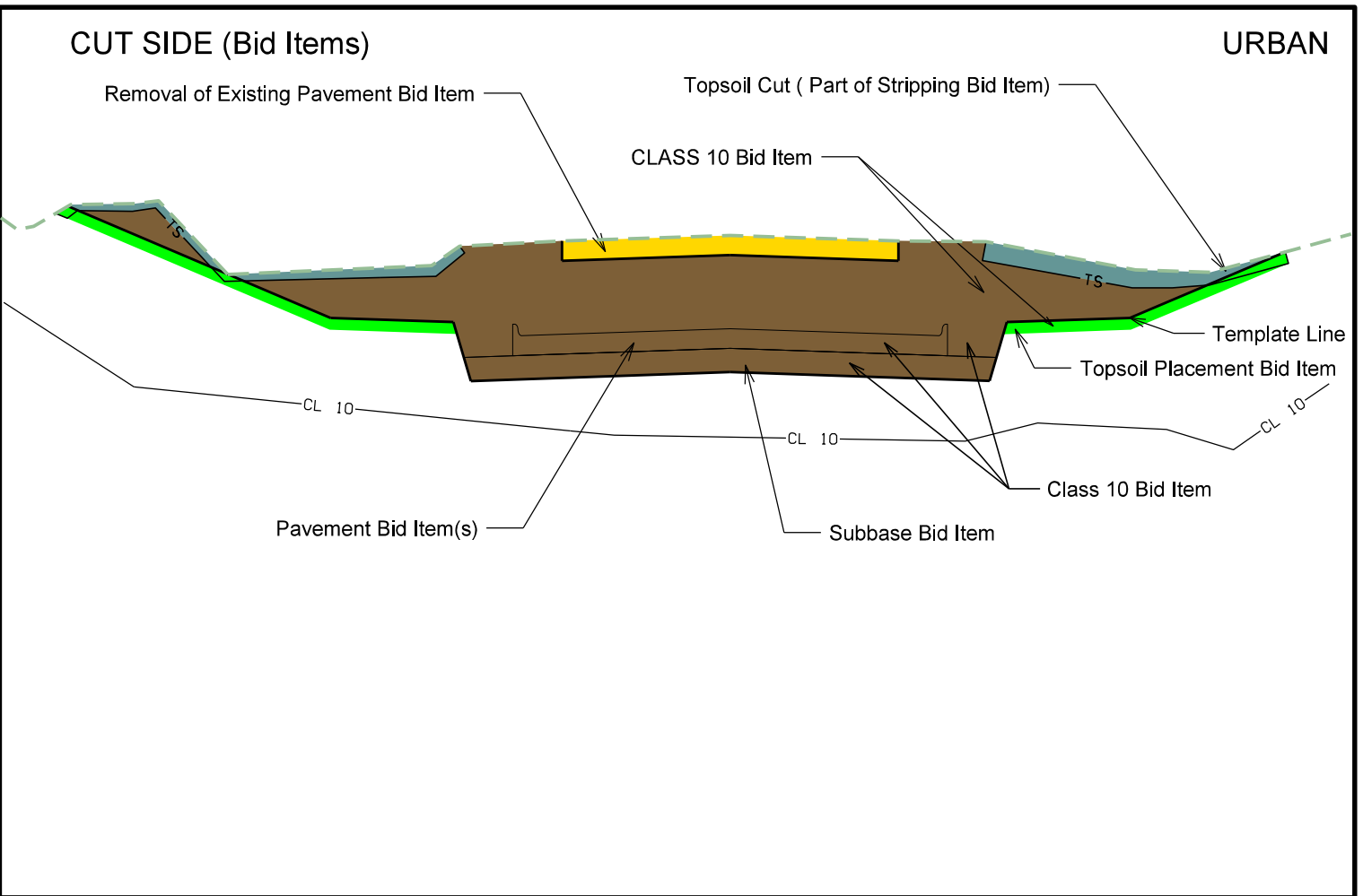
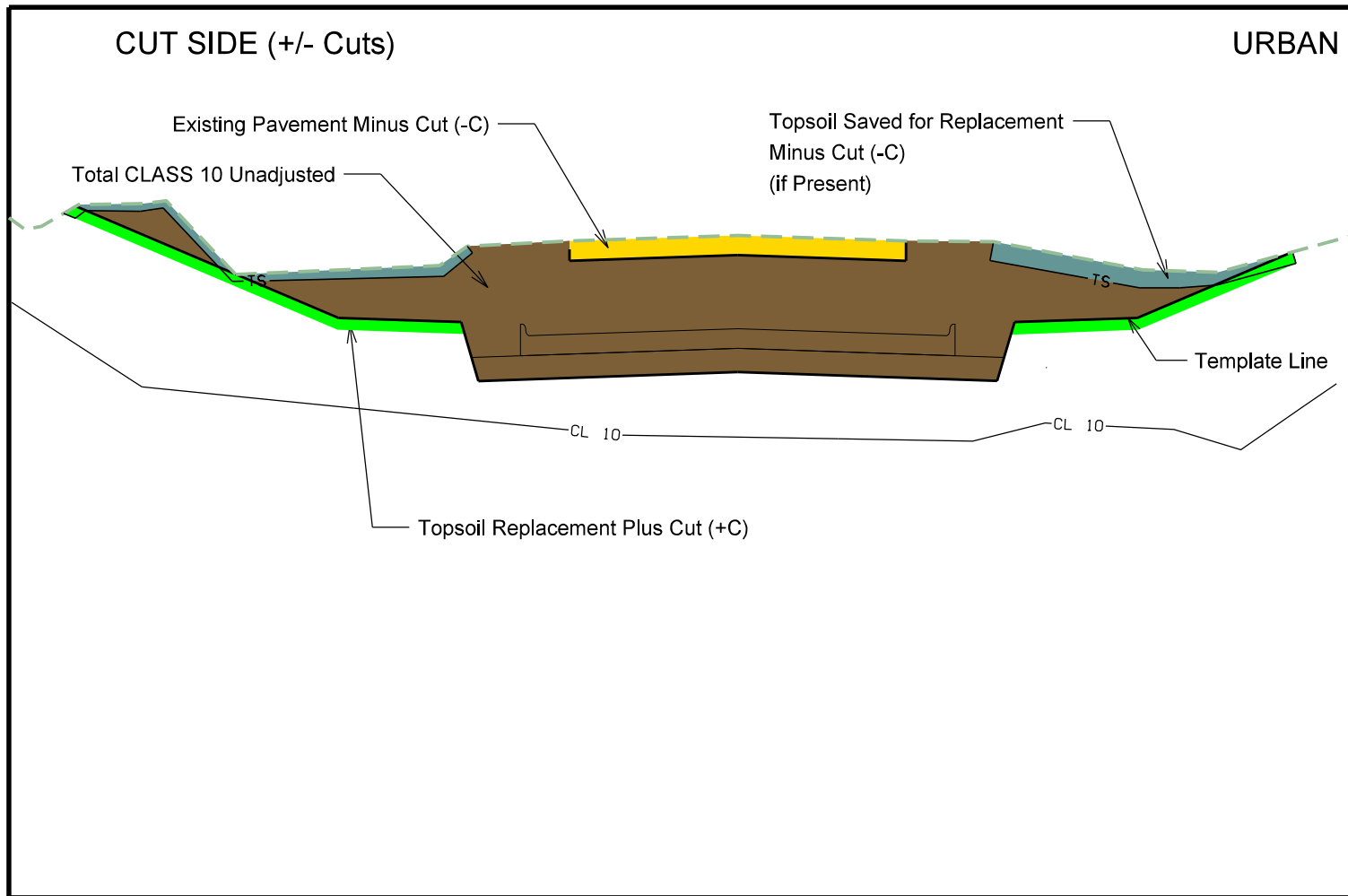
FILL SIDE Total Fill Adjusted

URBAN



Notes:

1. "Total Fill Adjusted" Column includes all Class 10, 12, and 13 fill and adjustments for additional fill from cuts such as existing pavement, plowing and shaping operations, entrances, dikes, and topsoil stripping.
2. The available area to place unsuitable materials in the T Sheet tabulation does not include the undercut values from the topsoil stripping, existing pavement, or plowing and shaping



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station      | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|              | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|              | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| Chesterfield |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12000+69.15  | 31                          | 31                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 31                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12000+75.00  | 233                         | 233                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 233                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12001+00.00  | 389                         | 389                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 389                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12001+25.00  | 546                         | 546                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 546                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12001+50.00  | 697                         | 697                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 697                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12001+75.00  | 840                         | 840                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 840                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12002+00.00  | 627                         | 627                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 627                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12002+25.00  | 172                         | 172                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 172                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12002+50.00  | 5                           | 5                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 5                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12002+75.00  | 124                         | 124                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 124                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12003+00.00  | 255                         | 255                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 255                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12003+25.00  | 286                         | 286                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 286                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12003+50.00  | 517                         | 380                              | 136                | 0                                 | 0                                | 0                          | 0                     | 0                     | 380                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12003+75.00  | 672                         | 537                              | 134                | 0                                 | 0                                | 0                          | 0                     | 0                     | 537                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12004+00.00  | 735                         | 604                              | 131                | 0                                 | 0                                | 0                          | 0                     | 0                     | 604                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12004+25.00  | 696                         | 570                              | 126                | 0                                 | 0                                | 0                          | 0                     | 0                     | 570                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12004+50.00  | 697                         | 579                              | 118                | 0                                 | 0                                | 0                          | 0                     | 0                     | 579                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12004+75.00  | 843                         | 726                              | 117                | 0                                 | 0                                | 0                          | 0                     | 0                     | 726                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12005+00.00  | 1,144                       | 873                              | 127                | 0                                 | 0                                | 0                          | 0                     | 144                   | 873                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12005+25.00  | 1,446                       | 940                              | 136                | 0                                 | 0                                | 0                          | 0                     | 370                   | 940                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12005+50.00  | 1,750                       | 739                              | 143                | 0                                 | 0                                | 0                          | 401                   | 466                   | 739                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12005+75.00  | 2,101                       | 700                              | 151                | 0                                 | 0                                | 0                          | 761                   | 489                   | 700                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12006+00.00  | 2,440                       | 1,120                            | 169                | 0                                 | 0                                | 0                          | 736                   | 416                   | 1,120                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12006+25.00  | 2,754                       | 1,466                            | 186                | 0                                 | 0                                | 0                          | 757                   | 345                   | 1,466                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12006+50.00  | 2,941                       | 1,471                            | 193                | 518                               | 0                                | 0                          | 381                   | 378                   | 1,989                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12006+75.00  | 2,932                       | 1,335                            | 195                | 1,033                             | 0                                | 0                          | 0                     | 368                   | 2,368                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12007+00.00  | 2,650                       | 1,277                            | 189                | 876                               | 0                                | 0                          | 0                     | 308                   | 2,153                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12007+25.00  | 2,062                       | 1,158                            | 171                | 480                               | 0                                | 0                          | 0                     | 253                   | 1,638                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12007+50.00  | 1,302                       | 929                              | 141                | 119                               | 0                                | 0                          | 0                     | 113                   | 1,048                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12007+75.00  | 770                         | 650                              | 120                | 0                                 | 0                                | 0                          | 0                     | 0                     | 650                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12008+00.00  | 675                         | 553                              | 121                | 0                                 | 0                                | 0                          | 0                     | 0                     | 553                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12008+25.00  | 699                         | 577                              | 123                | 0                                 | 0                                | 0                          | 0                     | 0                     | 577                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12008+50.00  | 632                         | 511                              | 121                | 0                                 | 0                                | 0                          | 0                     | 0                     | 511                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12008+75.00  | 705                         | 586                              | 118                | 0                                 | 0                                | 0                          | 0                     | 0                     | 586                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12009+00.00  | 1,118                       | 990                              | 128                | 0                                 | 0                                | 0                          | 0                     | 0                     | 990                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12009+25.00  | 1,627                       | 1,473                            | 153                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,473                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12009+50.00  | 1,834                       | 1,664                            | 170                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,664                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12009+75.00  | 1,647                       | 1,490                            | 157                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,490                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12010+00.00  | 1,334                       | 1,196                            | 137                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,196                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12010+25.00  | 1,061                       | 936                              | 125                | 0                                 | 0                                | 0                          | 0                     | 0                     | 936                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12010+50.00  | 937                         | 818                              | 119                | 0                                 | 0                                | 0                          | 0                     | 0                     | 818                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12010+75.00  | 1,015                       | 892                              | 123                | 0                                 | 0                                | 0                          | 0                     | 0                     | 892                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12011+00.00  | 1,178                       | 1,049                            | 129                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,049                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12011+25.00  | 1,289                       | 1,158                            | 131                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,158                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12011+50.00  | 1,321                       | 1,190                            | 132                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,190                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12011+75.00  | 1,327                       | 1,195                            | 132                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,195                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12012+00.00  | 1,360                       | 1,226                            | 134                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,226                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12012+25.00  | 1,400                       | 1,264                            | 136                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,264                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12012+50.00  | 1,364                       | 1,226                            | 137                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,226                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12012+75.00  | 1,276                       | 1,139                            | 136                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,139                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12013+00.00  | 1,213                       | 1,079                            | 134                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,079                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12013+25.00  | 1,173                       | 1,041                            | 132                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,041                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12013+50.00  | 1,130                       | 898                              | 129                | 104                               | 0                                | 0                          | 0                     | 0                     | 1,002                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12013+75.00  | 1,044                       | 660                              | 124                | 260                               | 0                                | 0                          | 0                     | 0                     | 920                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12014+00.00  | 891                         | 410                              | 117                | 364                               | 0                                | 0                          | 0                     | 0                     | 774                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12014+25.00  | 696                         | 160                              | 108                | 428                               | 0                                | 0                          | 0                     | 0                     | 588                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12014+50.00  | 444                         | 123                              | 101                | 220                               | 0                                | 0                          | 0                     | 0                     | 343                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12014+75.00  | 224                         | 125                              | 100                | 0                                 | 0                                | 0                          | 0                     | 0                     | 125                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12015+00.00  | 134                         | 29                               | 105                | 0                                 | 0                                | 0                          | 0                     | 0                     | 29                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12015+25.00  | 116                         | 6                                | 111                | 0                                 | 0                                | 0                          | 0                     | 0                     | 6                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12015+50.00  | 122                         | 0                                | 122                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12015+75.00  | 131                         | 0                                | 131                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12016+00.00  | 142                         | 7                                | 135                | 0                                 | 0                                | 0                          | 0                     | 0                     | 7                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12016+25.00  | 170                         | 28                               | 143                | 0                                 | 0                                | 0                          | 0                     | 0                     | 28                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12016+50.00  | 192                         | 45                               | 147                | 0                                 | 0                                | 0                          | 0                     | 0                     | 45                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12016+75.00  | 185                         | 39                               | 145                | 0                                 | 0                                | 0                          | 0                     | 0                     | 39                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12017+00.00  | 160                         | 20                               | 141                | 0                                 | 0                                | 0                          | 0                     | 0                     | 20                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 12017+25.00  |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals:   | 64,623                      | 46,062                           | 7,470              | 4,402                             | 0                                | 0                          | 3,036                 | 3,650                 | 0                                             | 50,464                |      |      |      |      |      |      |      |      |      |      |      |      |



**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station      | Fill                         |                                     |                                              |                                    |                                                 |                     |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|--------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|---------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|
|              | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |
|              | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |
| Chesterfield |                              |                                     |                                              |                                    |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |
| 12000+69.15  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 31                                      | 0                                                | 0                                      | 0                                 | 1                                 | 1                                        | -1                                                 |      |      |      |      |      |      |      |
| 12000+75.00  | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 228                                     | 0                                                | 0                                      | 0                                 | 28                                | 39                                       | -39                                                |      |      |      |      |      |      |      |
| 12001+00.00  | 9                            | 0                                   |                                              |                                    |                                                 | 9                   | 11                                                         | 378                                     | 0                                                | 0                                      | 0                                 | 49                                | 69                                       | -69                                                |      |      |      |      |      |      |      |
| 12001+25.00  | 9                            | 0                                   |                                              |                                    |                                                 | 9                   | 11                                                         | 535                                     | 0                                                | 0                                      | 0                                 | 55                                | 77                                       | -77                                                |      |      |      |      |      |      |      |
| 12001+50.00  | 9                            | 0                                   |                                              |                                    |                                                 | 9                   | 11                                                         | 686                                     | 0                                                | 0                                      | 0                                 | 62                                | 87                                       | -87                                                |      |      |      |      |      |      |      |
| 12001+75.00  | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 835                                     | 0                                                | 0                                      | 0                                 | 65                                | 91                                       | -91                                                |      |      |      |      |      |      |      |
| 12002+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 627                                     | 0                                                | 0                                      | 0                                 | 59                                | 83                                       | -83                                                |      |      |      |      |      |      |      |
| 12002+25.00  | 230                          | 0                                   |                                              |                                    |                                                 | 230                 | 290                                                        | -118                                    | 0                                                | 0                                      | 0                                 | 39                                | 55                                       | -55                                                |      |      |      |      |      |      |      |
| 12002+50.00  | 549                          | 0                                   |                                              |                                    |                                                 | 549                 | 692                                                        | -687                                    | 0                                                | 0                                      | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |
| 12002+75.00  | 421                          | 0                                   |                                              |                                    |                                                 | 421                 | 531                                                        | -407                                    | 0                                                | 0                                      | 0                                 | 43                                | 60                                       | -60                                                |      |      |      |      |      |      |      |
| 12003+00.00  | 195                          | 0                                   |                                              |                                    |                                                 | 195                 | 246                                                        | 9                                       | 0                                                | 0                                      | 0                                 | 45                                | 63                                       | -63                                                |      |      |      |      |      |      |      |
| 12003+25.00  | 153                          | 0                                   |                                              |                                    |                                                 | 153                 | 193                                                        | 93                                      | 0                                                | 0                                      | 0                                 | 57                                | 80                                       | -80                                                |      |      |      |      |      |      |      |
| 12003+50.00  | 89                           | 0                                   | 49                                           |                                    |                                                 | 138                 | 174                                                        | 206                                     | 0                                                | 0                                      | 136                               | 68                                | 95                                       | 41                                                 |      |      |      |      |      |      |      |
| 12003+75.00  | 36                           | 0                                   | 26                                           |                                    | 850                                             | 912                 | 1,149                                                      | -612                                    | 0                                                | 0                                      | 134                               | 66                                | 92                                       | 42                                                 |      |      |      |      |      |      |      |
| 12004+00.00  | 18                           | 0                                   | 19                                           |                                    |                                                 | 37                  | 47                                                         | 557                                     | 0                                                | 0                                      | 131                               | 64                                | 90                                       | 41                                                 |      |      |      |      |      |      |      |
| 12004+25.00  | 10                           | 0                                   | 15                                           |                                    |                                                 | 25                  | 32                                                         | 539                                     | 0                                                | 0                                      | 126                               | 61                                | 85                                       | 41                                                 |      |      |      |      |      |      |      |
| 12004+50.00  | 1                            | 0                                   | 6                                            |                                    |                                                 | 7                   | 9                                                          | 570                                     | 0                                                | 0                                      | 118                               | 56                                | 78                                       | 40                                                 |      |      |      |      |      |      |      |
| 12004+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 726                                     | 0                                                | 0                                      | 117                               | 55                                | 77                                       | 40                                                 |      |      |      |      |      |      |      |
| 12005+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 873                                     | 0                                                | 0                                      | 127                               | 62                                | 87                                       | 40                                                 |      |      |      |      |      |      |      |
| 12005+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 940                                     | 0                                                | 0                                      | 136                               | 68                                | 95                                       | 41                                                 |      |      |      |      |      |      |      |
| 12005+50.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 738                                     | 0                                                | 0                                      | 143                               | 72                                | 101                                      | 42                                                 |      |      |      |      |      |      |      |
| 12005+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 700                                     | 0                                                | 0                                      | 151                               | 78                                | 109                                      | 42                                                 |      |      |      |      |      |      |      |
| 12006+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,120                                   | 0                                                | 0                                      | 169                               | 90                                | 126                                      | 43                                                 |      |      |      |      |      |      |      |
| 12006+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,466                                   | 0                                                | 0                                      | 186                               | 101                               | 141                                      | 45                                                 |      |      |      |      |      |      |      |
| 12006+50.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,988                                   | 0                                                | 0                                      | 193                               | 106                               | 148                                      | 45                                                 |      |      |      |      |      |      |      |
| 12006+75.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 2,367                                   | 0                                                | 0                                      | 195                               | 107                               | 150                                      | 45                                                 |      |      |      |      |      |      |      |
| 12007+00.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 2,152                                   | 0                                                | 0                                      | 189                               | 103                               | 144                                      | 45                                                 |      |      |      |      |      |      |      |
| 12007+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,638                                   | 0                                                | 0                                      | 171                               | 91                                | 127                                      | 44                                                 |      |      |      |      |      |      |      |
| 12007+50.00  | 0                            | 0                                   | 3                                            |                                    |                                                 | 3                   | 4                                                          | 1,044                                   | 0                                                | 0                                      | 141                               | 71                                | 99                                       | 42                                                 |      |      |      |      |      |      |      |
| 12007+75.00  | 5                            | 0                                   | 11                                           |                                    |                                                 | 16                  | 20                                                         | 630                                     | 0                                                | 0                                      | 120                               | 57                                | 80                                       | 40                                                 |      |      |      |      |      |      |      |
| 12008+00.00  | 12                           | 0                                   | 19                                           |                                    |                                                 | 31                  | 39                                                         | 514                                     | 0                                                | 0                                      | 121                               | 58                                | 81                                       | 40                                                 |      |      |      |      |      |      |      |
| 12008+25.00  | 15                           | 0                                   | 20                                           |                                    |                                                 | 35                  | 44                                                         | 533                                     | 0                                                | 0                                      | 123                               | 59                                | 83                                       | 40                                                 |      |      |      |      |      |      |      |
| 12008+50.00  | 22                           | 0                                   | 22                                           |                                    |                                                 | 44                  | 56                                                         | 456                                     | 0                                                | 0                                      | 121                               | 58                                | 81                                       | 40                                                 |      |      |      |      |      |      |      |
| 12008+75.00  | 13                           | 0                                   | 11                                           |                                    |                                                 | 24                  | 30                                                         | 556                                     | 0                                                | 0                                      | 118                               | 56                                | 78                                       | 40                                                 |      |      |      |      |      |      |      |
| 12009+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 990                                     | 0                                                | 0                                      | 128                               | 63                                | 88                                       | 40                                                 |      |      |      |      |      |      |      |
| 12009+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,473                                   | 0                                                | 0                                      | 153                               | 79                                | 111                                      | 42                                                 |      |      |      |      |      |      |      |
| 12009+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,664                                   | 0                                                | 0                                      | 170                               | 91                                | 127                                      | 43                                                 |      |      |      |      |      |      |      |
| 12009+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,490                                   | 0                                                | 0                                      | 157                               | 82                                | 115                                      | 42                                                 |      |      |      |      |      |      |      |
| 12010+00.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,195                                   | 0                                                | 0                                      | 137                               | 68                                | 95                                       | 42                                                 |      |      |      |      |      |      |      |
| 12010+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 936                                     | 0                                                | 0                                      | 125                               | 60                                | 84                                       | 41                                                 |      |      |      |      |      |      |      |
| 12010+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 818                                     | 0                                                | 0                                      | 119                               | 57                                | 80                                       | 39                                                 |      |      |      |      |      |      |      |
| 12010+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 892                                     | 0                                                | 0                                      | 123                               | 59                                | 83                                       | 40                                                 |      |      |      |      |      |      |      |
| 12011+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,049                                   | 0                                                | 0                                      | 129                               | 63                                | 88                                       | 41                                                 |      |      |      |      |      |      |      |
| 12011+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,158                                   | 0                                                | 0                                      | 131                               | 65                                | 91                                       | 40                                                 |      |      |      |      |      |      |      |
| 12011+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,190                                   | 0                                                | 0                                      | 132                               | 65                                | 91                                       | 41                                                 |      |      |      |      |      |      |      |
| 12011+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,195                                   | 0                                                | 0                                      | 132                               | 65                                | 91                                       | 41                                                 |      |      |      |      |      |      |      |
| 12012+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,225                                   | 0                                                | 0                                      | 134                               | 66                                | 92                                       | 42                                                 |      |      |      |      |      |      |      |
| 12012+25.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,225                                   | 0                                                | 0                                      | 134                               | 66                                | 92                                       | 42                                                 |      |      |      |      |      |      |      |
| 12012+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,264                                   | 0                                                | 0                                      | 136                               | 68                                | 95                                       | 41                                                 |      |      |      |      |      |      |      |
| 12012+75.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,225                                   | 0                                                | 0                                      | 137                               | 68                                | 95                                       | 42                                                 |      |      |      |      |      |      |      |
| 12013+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,138                                   | 0                                                | 0                                      | 136                               | 68                                | 95                                       | 41                                                 |      |      |      |      |      |      |      |
| 12013+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,079                                   | 0                                                | 0                                      | 134                               | 67                                | 94                                       | 40                                                 |      |      |      |      |      |      |      |
| 12013+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,041                                   | 0                                                | 0                                      | 132                               | 65                                | 91                                       | 41                                                 |      |      |      |      |      |      |      |
| 12013+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,002                                   | 0                                                | 0                                      | 129                               | 63                                | 88                                       | 41                                                 |      |      |      |      |      |      |      |
| 12014+00.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 919                                     | 0                                                | 0                                      | 124                               | 60                                | 84                                       | 40                                                 |      |      |      |      |      |      |      |
| 12014+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 774                                     | 0                                                | 0                                      | 117                               | 55                                | 77                                       | 40                                                 |      |      |      |      |      |      |      |
| 12014+50.00  | 0                            | 0                                   | 18                                           |                                    |                                                 | 18                  | 23                                                         | 565                                     | 0                                                | 0                                      | 108                               | 49                                | 69                                       | 39                                                 |      |      |      |      |      |      |      |
| 12014+75.00  | 1                            | 0                                   | 23                                           |                                    |                                                 | 24                  | 30                                                         | 313                                     | 0                                                | 0                                      | 101                               | 45                                | 63                                       | 38                                                 |      |      |      |      |      |      |      |
| 12015+00.00  | 31                           | 0                                   | 40                                           |                                    |                                                 | 71                  | 90                                                         | 36                                      | 0                                                | 0                                      | 100                               | 44                                | 62                                       | 38                                                 |      |      |      |      |      |      |      |
| 12015+25.00  | 163                          | 0                                   | 81                                           |                                    |                                                 | 244                 | 308                                                        | -279                                    | 0                                                | 0                                      | 105                               | 47                                | 66                                       | 39                                                 |      |      |      |      |      |      |      |
| 12015+50.00  | 398                          | 0                                   | 100                                          |                                    |                                                 | 498                 | 628                                                        | -622                                    | 0                                                | 0                                      | 111                               | 51                                | 71                                       | 40                                                 |      |      |      |      |      |      |      |
| 12015+75.00  | 656                          | 0                                   | 118                                          |                                    |                                                 | 774                 | 975                                                        | -975                                    | 0                                                | 0                                      | 122                               | 59                                | 83                                       | 39                                                 |      |      |      |      |      |      |      |
| 12016+00.00  | 845                          | 0                                   | 128                                          |                                    |                                                 | 973                 | 1,226                                                      | -1,226                                  | 0                                                | 0                                      | 131                               | 64                                | 90                                       | 41                                                 |      |      |      |      |      |      |      |
| 12016+25.00  | 889                          | 0                                   | 124                                          |                                    |                                                 | 1,013               | 1,276                                                      | -1,269                                  | 0                                                | 0                                      | 135                               | 67                                | 94                                       | 41                                                 |      |      |      |      |      |      |      |
| 12016+50.00  | 832                          | 0                                   | 119                                          |                                    |                                                 | 951                 | 1,198                                                      | -1,170                                  | 0                                                | 0                                      | 143                               | 72                                | 101                                      | 42                                                 |      |      |      |      |      |      |      |
| 12016+75.00  | 812                          | 0                                   | 118                                          |                                    |                                                 | 930                 | 1,172                                                      | -1,127                                  | 0                                                | 0                                      | 147                               | 75                                | 105                                      | 42                                                 |      |      |      |      |      |      |      |
| 12017+00.00  | 860                          | 0                                   | 118                                          |                                    |                                                 | 978                 | 1,232                                                      | -1,193                                  | 0                                                | 0                                      | 145                               | 74                                | 104                                      | 41                                                 |      |      |      |      |      |      |      |
| 12017+25.00  | 937                          | 0                                   | 120                                          |                                    |                                                 | 1,057               | 1,332                                                      | -1,312                                  | 0                                                | 0                                      | 141                               | 71                                | 99                                       | 42                                                 |      |      |      |      |      |      |      |
| Subtotals:   | 8,228                        | 0                                   | 1,317                                        | 0                                  | 850                                             | 10,395              | 13,099                                                     | 37,365                                  | 0                                                | 0                                      | 7,470                             | 4,258                             | 5,961                                    | 1,509                                              |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station      | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
|--------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|              | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |  |
|              | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12017+25.00  | 142                         | 5                                | 137                | 0                                 | 0                                | 0                          | 0                     | 0                     | 5                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12017+50.00  | 134                         | 0                                | 134                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12017+75.00  | 134                         | 0                                | 134                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12018+00.00  | 252                         | 1                                | 251                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12018+25.00  | 2                           | 2                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 2                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12018+50.00  | 71                          | 70                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 70                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12018+75.00  | 183                         | 182                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 1                     | 182                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12019+00.00  | 255                         | 254                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 1                     | 254                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12019+25.00  | 260                         | 259                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 1                     | 259                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12019+50.00  | 195                         | 194                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 194                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12019+75.00  | 240                         | 240                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 240                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12020+00.00  | 150                         | 150                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 150                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12020+25.00  | 65                          | 66                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 66                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12020+50.00  | 125                         | 13                               | 112                | 0                                 | 0                                | 0                          | 0                     | 0                     | 13                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12020+75.00  | 109                         | 0                                | 109                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12021+00.00  | 112                         | 0                                | 112                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12021+25.00  | 117                         | 0                                | 117                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12021+50.00  | 122                         | 0                                | 122                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12021+75.00  | 126                         | 0                                | 126                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12022+00.00  | 130                         | 0                                | 130                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12022+25.00  | 133                         | 0                                | 133                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12022+50.00  | 136                         | 0                                | 136                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12022+75.00  | 139                         | 0                                | 139                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12023+00.00  | 141                         | 0                                | 141                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12023+25.00  | 142                         | 0                                | 142                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12023+50.00  | 142                         | 0                                | 142                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12023+75.00  | 143                         | 0                                | 143                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12024+00.00  | 143                         | 0                                | 143                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12024+25.00  | 143                         | 0                                | 143                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12024+50.00  | 142                         | 0                                | 142                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12024+75.00  | 142                         | 0                                | 142                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12025+00.00  | 140                         | 0                                | 140                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12025+25.00  | 138                         | 0                                | 138                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12025+50.00  | 133                         | 0                                | 133                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12025+75.00  | 123                         | 0                                | 123                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12026+00.00  | 115                         | 0                                | 115                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12026+25.00  | 111                         | 0                                | 111                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12026+50.00  | 107                         | 0                                | 107                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12026+75.00  | 104                         | 0                                | 104                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12027+00.00  | 102                         | 0                                | 102                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12027+25.00  | 101                         | 0                                | 101                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12027+50.00  | 100                         | 0                                | 100                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12027+75.00  | 99                          | 0                                | 99                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12028+00.00  | 12                          | 12                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 12                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12028+25.00  | 82                          | 82                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 82                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12028+50.00  | 16                          | 16                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 16                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 12028+53.20  |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| Chesterfield |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| Totals:      | 70,576                      | 47,608                           | 11,873             | 4,402                             | 0                                | 0                          | 3,036                 | 3,653                 | 0                                             | 52,010                |      |      |      |      |      |      |      |      |      |      |      |      |  |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station        | Fill                         |                                     |                                              |                                    |                                                 |                                                 | Checks (EW-102)                                            |                                         | Topsoil                                          |                                        |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|----------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|--|
|                | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |  |
|                |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |  |
|                | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |  |
| 12017+25.00    | 1,029                        | 0                                   | 125                                          |                                    |                                                 | 1,154                                           | 1,454                                                      | -1,449                                  | 0                                                | 0                                      | 137                               | 68                                | 95                                       | 42                                                 |      |      |      |      |      |      |      |  |
| 12017+50.00    | 1,107                        | 0                                   | 129                                          |                                    |                                                 | 1,236                                           | 1,557                                                      | -1,557                                  | 0                                                | 0                                      | 134                               | 67                                | 94                                       | 40                                                 |      |      |      |      |      |      |      |  |
| 12017+75.00    | 1,157                        | 0                                   | 132                                          |                                    |                                                 | 1,289                                           | 1,624                                                      | -1,624                                  | 0                                                | 0                                      | 134                               | 66                                | 92                                       | 42                                                 |      |      |      |      |      |      |      |  |
| 12018+00.00    | 1,204                        | 0                                   | 250                                          |                                    |                                                 | 1,454                                           | 1,832                                                      | -1,831                                  | 0                                                | 0                                      | 251                               | 67                                | 94                                       | 157                                                |      |      |      |      |      |      |      |  |
| 12018+25.00    | 1,243                        | 0                                   |                                              |                                    |                                                 | 1,243                                           | 1,566                                                      | -1,564                                  | 0                                                | 0                                      | 0                                 | 67                                | 94                                       | -94                                                |      |      |      |      |      |      |      |  |
| 12018+50.00    | 1,142                        | 0                                   |                                              |                                    |                                                 | 1,142                                           | 1,439                                                      | -1,369                                  | 0                                                | 0                                      | 0                                 | 73                                | 102                                      | -102                                               |      |      |      |      |      |      |      |  |
| 12018+75.00    | 808                          | 0                                   |                                              |                                    |                                                 | 808                                             | 1,018                                                      | -836                                    | 0                                                | 0                                      | 0                                 | 76                                | 106                                      | -106                                               |      |      |      |      |      |      |      |  |
| 12019+00.00    | 393                          | 0                                   |                                              |                                    |                                                 | 393                                             | 495                                                        | -241                                    | 0                                                | 0                                      | 0                                 | 72                                | 101                                      | -101                                               |      |      |      |      |      |      |      |  |
| 12019+25.00    | 256                          | 0                                   |                                              |                                    |                                                 | 256                                             | 323                                                        | -64                                     | 0                                                | 0                                      | 0                                 | 67                                | 94                                       | -94                                                |      |      |      |      |      |      |      |  |
| 12019+50.00    | 378                          | 0                                   |                                              |                                    |                                                 | 378                                             | 476                                                        | -282                                    | 0                                                | 0                                      | 0                                 | 63                                | 88                                       | -88                                                |      |      |      |      |      |      |      |  |
| 12019+75.00    | 514                          | 118                                 |                                              |                                    |                                                 | 632                                             | 796                                                        | -556                                    | 0                                                | 0                                      | 0                                 | 60                                | 84                                       | -84                                                |      |      |      |      |      |      |      |  |
| 12020+00.00    | 641                          | 84                                  |                                              |                                    |                                                 | 725                                             | 914                                                        | -764                                    | 0                                                | 0                                      | 0                                 | 55                                | 77                                       | -77                                                |      |      |      |      |      |      |      |  |
| 12020+25.00    | 754                          | 43                                  |                                              |                                    |                                                 | 797                                             | 1,004                                                      | -938                                    | 0                                                | 0                                      | 0                                 | 53                                | 74                                       | -74                                                |      |      |      |      |      |      |      |  |
| 12020+50.00    | 864                          | 10                                  | 103                                          |                                    |                                                 | 977                                             | 1,231                                                      | -1,218                                  | 0                                                | 0                                      | 112                               | 52                                | 73                                       | 39                                                 |      |      |      |      |      |      |      |  |
| 12020+75.00    | 963                          | 0                                   | 107                                          |                                    |                                                 | 1,070                                           | 1,348                                                      | -1,348                                  | 0                                                | 0                                      | 109                               | 50                                | 70                                       | 39                                                 |      |      |      |      |      |      |      |  |
| 12021+00.00    | 1,043                        | 0                                   | 111                                          |                                    |                                                 | 1,154                                           | 1,454                                                      | -1,454                                  | 0                                                | 0                                      | 112                               | 52                                | 73                                       | 39                                                 |      |      |      |      |      |      |      |  |
| 12021+25.00    | 1,109                        | 0                                   | 116                                          |                                    |                                                 | 1,225                                           | 1,544                                                      | -1,544                                  | 0                                                | 0                                      | 117                               | 55                                | 77                                       | 40                                                 |      |      |      |      |      |      |      |  |
| 12021+50.00    | 1,159                        | 0                                   | 120                                          |                                    |                                                 | 1,279                                           | 1,612                                                      | -1,612                                  | 0                                                | 0                                      | 122                               | 58                                | 81                                       | 41                                                 |      |      |      |      |      |      |      |  |
| 12021+75.00    | 1,205                        | 0                                   | 122                                          |                                    |                                                 | 1,327                                           | 1,672                                                      | -1,672                                  | 0                                                | 0                                      | 126                               | 61                                | 85                                       | 41                                                 |      |      |      |      |      |      |      |  |
| 12022+00.00    | 1,244                        | 0                                   | 125                                          |                                    |                                                 | 1,369                                           | 1,725                                                      | -1,725                                  | 0                                                | 0                                      | 130                               | 64                                | 90                                       | 40                                                 |      |      |      |      |      |      |      |  |
| 12022+25.00    | 1,280                        | 0                                   | 129                                          |                                    |                                                 | 1,409                                           | 1,775                                                      | -1,775                                  | 0                                                | 0                                      | 133                               | 66                                | 92                                       | 41                                                 |      |      |      |      |      |      |      |  |
| 12022+50.00    | 1,324                        | 0                                   | 134                                          |                                    |                                                 | 1,458                                           | 1,837                                                      | -1,837                                  | 0                                                | 0                                      | 136                               | 68                                | 95                                       | 41                                                 |      |      |      |      |      |      |      |  |
| 12022+75.00    | 1,365                        | 0                                   | 137                                          |                                    |                                                 | 1,502                                           | 1,893                                                      | -1,893                                  | 0                                                | 0                                      | 139                               | 70                                | 98                                       | 41                                                 |      |      |      |      |      |      |      |  |
| 12023+00.00    | 1,394                        | 0                                   | 140                                          |                                    |                                                 | 1,534                                           | 1,933                                                      | -1,933                                  | 0                                                | 0                                      | 141                               | 71                                | 99                                       | 42                                                 |      |      |      |      |      |      |      |  |
| 12023+25.00    | 1,416                        | 0                                   | 141                                          |                                    |                                                 | 1,557                                           | 1,962                                                      | -1,962                                  | 0                                                | 0                                      | 142                               | 72                                | 101                                      | 41                                                 |      |      |      |      |      |      |      |  |
| 12023+50.00    | 1,433                        | 0                                   | 141                                          |                                    |                                                 | 1,574                                           | 1,983                                                      | -1,983                                  | 0                                                | 0                                      | 142                               | 72                                | 101                                      | 41                                                 |      |      |      |      |      |      |      |  |
| 12023+75.00    | 1,451                        | 0                                   | 142                                          |                                    |                                                 | 1,593                                           | 2,007                                                      | -2,007                                  | 0                                                | 0                                      | 143                               | 72                                | 101                                      | 42                                                 |      |      |      |      |      |      |      |  |
| 12024+00.00    | 1,465                        | 0                                   | 142                                          |                                    |                                                 | 1,607                                           | 2,025                                                      | -2,025                                  | 0                                                | 0                                      | 143                               | 72                                | 101                                      | 42                                                 |      |      |      |      |      |      |      |  |
| 12024+25.00    | 1,465                        | 0                                   | 142                                          |                                    |                                                 | 1,607                                           | 2,025                                                      | -2,025                                  | 0                                                | 0                                      | 143                               | 72                                | 101                                      | 42                                                 |      |      |      |      |      |      |      |  |
| 12024+50.00    | 1,458                        | 0                                   | 141                                          |                                    |                                                 | 1,599                                           | 2,015                                                      | -2,015                                  | 0                                                | 0                                      | 142                               | 72                                | 101                                      | 41                                                 |      |      |      |      |      |      |      |  |
| 12024+75.00    | 1,446                        | 0                                   | 141                                          |                                    |                                                 | 1,587                                           | 2,000                                                      | -2,000                                  | 0                                                | 0                                      | 142                               | 72                                | 101                                      | 41                                                 |      |      |      |      |      |      |      |  |
| 12025+00.00    | 1,419                        | 0                                   | 139                                          |                                    |                                                 | 1,558                                           | 1,963                                                      | -1,963                                  | 0                                                | 0                                      | 140                               | 71                                | 99                                       | 41                                                 |      |      |      |      |      |      |      |  |
| 12025+25.00    | 1,327                        | 0                                   | 137                                          |                                    |                                                 | 1,464                                           | 1,845                                                      | -1,845                                  | 0                                                | 0                                      | 138                               | 69                                | 97                                       | 41                                                 |      |      |      |      |      |      |      |  |
| 12025+50.00    | 1,140                        | 0                                   | 132                                          |                                    |                                                 | 1,272                                           | 1,603                                                      | -1,603                                  | 0                                                | 0                                      | 133                               | 66                                | 92                                       | 41                                                 |      |      |      |      |      |      |      |  |
| 12025+75.00    | 923                          | 0                                   | 122                                          |                                    |                                                 | 1,045                                           | 1,317                                                      | -1,317                                  | 0                                                | 0                                      | 123                               | 59                                | 83                                       | 40                                                 |      |      |      |      |      |      |      |  |
| 12026+00.00    | 755                          | 0                                   | 114                                          |                                    |                                                 | 869                                             | 1,095                                                      | -1,095                                  | 0                                                | 0                                      | 115                               | 54                                | 76                                       | 39                                                 |      |      |      |      |      |      |      |  |
| 12026+25.00    | 650                          | 0                                   | 110                                          |                                    |                                                 | 760                                             | 958                                                        | -958                                    | 0                                                | 0                                      | 111                               | 51                                | 71                                       | 40                                                 |      |      |      |      |      |      |      |  |
| 12026+50.00    | 569                          | 0                                   | 106                                          |                                    |                                                 | 675                                             | 851                                                        | -851                                    | 0                                                | 0                                      | 107                               | 49                                | 69                                       | 38                                                 |      |      |      |      |      |      |      |  |
| 12026+75.00    | 502                          | 0                                   | 103                                          |                                    |                                                 | 605                                             | 762                                                        | -762                                    | 0                                                | 0                                      | 104                               | 47                                | 66                                       | 38                                                 |      |      |      |      |      |      |      |  |
| 12027+00.00    | 456                          | 0                                   | 101                                          |                                    |                                                 | 557                                             | 702                                                        | -702                                    | 0                                                | 0                                      | 102                               | 45                                | 63                                       | 39                                                 |      |      |      |      |      |      |      |  |
| 12027+25.00    | 421                          | 0                                   | 99                                           |                                    |                                                 | 520                                             | 655                                                        | -655                                    | 0                                                | 0                                      | 101                               | 44                                | 62                                       | 39                                                 |      |      |      |      |      |      |      |  |
| 12027+50.00    | 395                          | 0                                   | 98                                           |                                    |                                                 | 493                                             | 621                                                        | -621                                    | 0                                                | 0                                      | 100                               | 44                                | 62                                       | 38                                                 |      |      |      |      |      |      |      |  |
| 12027+75.00    | 365                          | 0                                   | 97                                           |                                    |                                                 | 462                                             | 582                                                        | -582                                    | 0                                                | 0                                      | 99                                | 43                                | 60                                       | 39                                                 |      |      |      |      |      |      |      |  |
| 12028+00.00    | 190                          | 0                                   |                                              |                                    |                                                 | 190                                             | 239                                                        | -227                                    | 0                                                | 0                                      | 0                                 | 38                                | 53                                       | -53                                                |      |      |      |      |      |      |      |  |
| 12028+25.00    | 17                           | 0                                   |                                              |                                    |                                                 | 17                                              | 22                                                         | 61                                      | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |  |
| 12028+50.00    | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 16                                      | 0                                                | 0                                      | 0                                 | 2                                 | 3                                        | -3                                                 |      |      |      |      |      |      |      |  |
| 12028+53.20    |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| <b>Totals:</b> | 51,067                       | 255                                 | 5,645                                        | 0                                  | 850                                             | 57,817                                          | 72,854                                                     | -20,844                                 | 0                                                | 0                                      | 11,873                            | 6,991                             | 9,788                                    | 2,086                                              |      |      |      |      |      |      |      |  |



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station              | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                      | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                      | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| Cottham Conn         |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 136+65.00            | 59                          | 58                               | 0                  | 0                                 | 8                                | 0                          | 0                     | 0                     |                                               | 58                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 136+75.00            | 175                         | 174                              | 0                  | 0                                 | 20                               | 0                          | 1                     | 0                     |                                               | 174                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 137+00.00            | 219                         | 219                              | 0                  | 0                                 | 20                               | 0                          | 1                     | 0                     |                                               | 219                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 137+25.00            | 206                         | 205                              | 0                  | 0                                 | 21                               | 0                          | 1                     | 0                     |                                               | 205                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 137+50.00            | 203                         | 202                              | 0                  | 0                                 | 23                               | 0                          | 1                     | 0                     |                                               | 202                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 137+75.00            | 312                         | 281                              | 0                  | 0                                 | 26                               | 0                          | 31                    | 0                     |                                               | 281                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 138+00.00            | 419                         | 228                              | 118                | 0                                 | 19                               | 0                          | 72                    | 0                     |                                               | 228                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 138+25.00            | 86                          | 38                               | 36                 | 0                                 | 1                                | 0                          | 11                    | 0                     |                                               | 38                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 138+31.80            | 183                         | 86                               | 97                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 86                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 138+50.00            | 203                         | 67                               | 136                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 67                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 138+75.00            | 5                           | 1                                | 4                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 1                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 138+75.63            | 144                         | 22                               | 121                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 22                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 139+00.00            |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Cottham Conn Totals: | 2,214                       | 1,581                            | 512                | 0                                 | 138                              | 0                          | 118                   | 0                     | 0                                             | 1,581                 |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station              | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|----------------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|
|                      | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |
|                      |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |
|                      | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |
| Cottham Conn         |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |
| 136+65.00            | 75                           | 0                                   |                                              |                                    |                                                 | 75                                              | 95                                                         | -37                                     | 0                                                | 0                                      | 0                                 | 20                                | 28                                       | -28                                                |      |      |      |      |      |      |      |
| 136+75.00            | 184                          | 0                                   |                                              |                                    |                                                 | 184                                             | 232                                                        | -58                                     | 0                                                | 0                                      | 0                                 | 52                                | 73                                       | -73                                                |      |      |      |      |      |      |      |
| 137+00.00            | 182                          | 0                                   |                                              |                                    |                                                 | 182                                             | 229                                                        | -10                                     | 0                                                | 0                                      | 0                                 | 55                                | 77                                       | -77                                                |      |      |      |      |      |      |      |
| 137+25.00            | 206                          | 0                                   |                                              |                                    |                                                 | 206                                             | 260                                                        | -55                                     | 0                                                | 0                                      | 0                                 | 51                                | 71                                       | -71                                                |      |      |      |      |      |      |      |
| 137+50.00            | 270                          | 0                                   |                                              |                                    |                                                 | 270                                             | 340                                                        | -138                                    | 0                                                | 0                                      | 0                                 | 52                                | 73                                       | -73                                                |      |      |      |      |      |      |      |
| 137+75.00            | 348                          | 0                                   |                                              |                                    |                                                 | 348                                             | 439                                                        | -158                                    | 0                                                | 0                                      | 0                                 | 59                                | 83                                       | -83                                                |      |      |      |      |      |      |      |
| 138+00.00            | 416                          | 0                                   | 84                                           |                                    |                                                 | 500                                             | 630                                                        | -402                                    | 0                                                | 0                                      | 118                               | 62                                | 87                                       | 31                                                 |      |      |      |      |      |      |      |
| 138+25.00            | 125                          | 0                                   | 24                                           |                                    |                                                 | 149                                             | 188                                                        | -150                                    | 0                                                | 0                                      | 36                                | 17                                | 24                                       | 12                                                 |      |      |      |      |      |      |      |
| 138+31.80            | 380                          | 0                                   | 67                                           |                                    |                                                 | 447                                             | 563                                                        | -477                                    | 0                                                | 0                                      | 97                                | 42                                | 59                                       | 38                                                 |      |      |      |      |      |      |      |
| 138+50.00            | 715                          | 0                                   | 105                                          |                                    |                                                 | 820                                             | 1,033                                                      | -966                                    | 0                                                | 0                                      | 136                               | 56                                | 78                                       | 58                                                 |      |      |      |      |      |      |      |
| 138+75.00            | 22                           | 0                                   | 3                                            |                                    |                                                 | 25                                              | 32                                                         | -31                                     | 0                                                | 0                                      | 4                                 | 1                                 | 1                                        | 3                                                  |      |      |      |      |      |      |      |
| 138+75.63            | 1,047                        | 0                                   | 108                                          |                                    |                                                 | 1,155                                           | 1,455                                                      | -1,433                                  | 0                                                | 0                                      | 121                               | 39                                | 55                                       | 66                                                 |      |      |      |      |      |      |      |
| 139+00.00            |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |
| Cottham Conn Totals: | 3,970                        | 0                                   | 391                                          | 0                                  | 0                                               | 4,361                                           | 5,496                                                      | -3,915                                  | 0                                                | 0                                      | 512                               | 506                               | 709                                      | -197                                               |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station     | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|             | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| Cotttingham |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 8931+00.00  | 60                          | 60                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 60                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8931+25.00  | 1,101                       | 70                               | 1,031              | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 70                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8931+50.00  | 62                          | 62                               | 0                  | 0                                 | 6                                | 0                          | 0                     | 0                     | 0                                             | 62                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8931+65.00  | 43                          | 43                               | 0                  | 0                                 | 8                                | 0                          | 0                     | 0                     | 0                                             | 43                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8931+75.00  | 85                          | 85                               | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     | 0                                             | 85                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8931+97.91  | 9                           | 9                                | 0                  | 0                                 | 2                                | 0                          | 0                     | 0                     | 0                                             | 9                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8932+00.00  | 112                         | 112                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 112                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8932+25.00  | 135                         | 135                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 135                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8932+50.00  | 163                         | 163                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 163                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8932+75.00  | 191                         | 191                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 191                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8933+00.00  | 216                         | 216                              | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     | 0                                             | 216                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8933+25.00  | 222                         | 222                              | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     | 0                                             | 222                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8933+50.00  | 216                         | 216                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 216                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8933+75.00  | 207                         | 207                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 207                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8934+00.00  | 190                         | 190                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 190                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8934+25.00  | 306                         | 306                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 306                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8934+50.00  | 266                         | 266                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 266                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8934+75.00  | 224                         | 224                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 224                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8935+00.00  | 203                         | 203                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 203                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8935+25.00  | 218                         | 218                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 218                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8935+50.00  | 254                         | 254                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 254                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8935+75.00  | 242                         | 242                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 242                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8936+00.00  | 330                         | 216                              | 113                | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 216                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8936+25.00  | 350                         | 229                              | 122                | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 229                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8936+50.00  | 362                         | 230                              | 132                | 0                                 | 20                               | 0                          | 0                     | 0                     | 0                                             | 230                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8936+75.00  | 365                         | 222                              | 144                | 0                                 | 16                               | 0                          | 0                     | 0                     | 0                                             | 222                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8937+00.00  | 433                         | 244                              | 157                | 0                                 | 10                               | 31                         | 0                     | 0                     | 0                                             | 275                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8937+25.00  | 318                         | 152                              | 166                | 0                                 | 3                                | 0                          | 0                     | 0                     | 0                                             | 152                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8937+50.00  | 281                         | 112                              | 169                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 112                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8937+75.00  | 256                         | 88                               | 169                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 88                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8938+00.00  | 241                         | 71                               | 170                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 71                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8938+25.00  | 226                         | 56                               | 170                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 56                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8938+50.00  | 137                         | 21                               | 117                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 21                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8938+70.89  | 18                          | 0                                | 18                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8938+75.00  | 109                         | 1                                | 108                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 1                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8939+00.00  | 109                         | 0                                | 109                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8939+25.00  | 83                          | 0                                | 83                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8939+45.00  | 20                          | 0                                | 20                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8939+50.00  | 99                          | 0                                | 99                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8939+75.00  | 102                         | 0                                | 102                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8940+00.00  | 46                          | 0                                | 46                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8940+11.02  | 61                          | 2                                | 59                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 2                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8940+25.00  | 113                         | 7                                | 106                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 7                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8940+50.00  | 108                         | 9                                | 100                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 9                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8940+68.00  | 53                          | 5                                | 48                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 5                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8940+75.00  | 200                         | 28                               | 172                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 28                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8941+00.00  | 219                         | 46                               | 172                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 46                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8941+25.00  | 165                         | 44                               | 121                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 44                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8941+42.58  | 77                          | 26                               | 51                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 26                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8941+50.00  | 302                         | 129                              | 173                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 129                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8941+75.00  | 353                         | 181                              | 171                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 181                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8942+00.00  | 412                         | 243                              | 169                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 243                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8942+25.00  | 486                         | 314                              | 168                | 3                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 317                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8942+50.00  | 577                         | 406                              | 168                | 3                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 409                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8942+75.00  | 680                         | 513                              | 168                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 513                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8943+00.00  | 797                         | 626                              | 168                | 3                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 629                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8943+25.00  | 948                         | 777                              | 167                | 3                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 780                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8943+50.00  | 1,117                       | 943                              | 166                | 7                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 950                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8943+75.00  | 1,280                       | 1,088                            | 164                | 27                                | 0                                | 0                          | 0                     | 0                     | 0                                             | 1,115                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8944+00.00  | 1,440                       | 1,231                            | 161                | 20                                | 0                                | 29                         | 0                     | 0                     | 0                                             | 1,280                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8944+25.00  | 1,580                       | 1,355                            | 158                | 0                                 | 0                                | 66                         | 0                     | 0                     | 0                                             | 1,421                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8944+50.00  | 1,671                       | 1,445                            | 154                | 0                                 | 0                                | 72                         | 0                     | 0                     | 0                                             | 1,517                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8944+75.00  | 1,706                       | 1,505                            | 149                | 0                                 | 0                                | 52                         | 0                     | 0                     | 0                                             | 1,557                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8945+00.00  | 1,728                       | 1,536                            | 147                | 0                                 | 0                                | 45                         | 0                     | 0                     | 0                                             | 1,581                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8945+25.00  | 1,718                       | 1,456                            | 148                | 0                                 | 0                                | 115                        | 0                     | 0                     | 0                                             | 1,571                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8945+50.00  | 1,620                       | 1,346                            | 147                | 17                                | 0                                | 110                        | 0                     | 0                     | 0                                             | 1,473                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8945+75.00  | 1,427                       | 1,238                            | 143                | 22                                | 0                                | 23                         | 0                     | 0                     | 0                                             | 1,283                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8946+00.00  |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals:  | 29,448                      | 21,835                           | 6,963              | 105                               | 460                              | 543                        | 0                     | 0                     | 0                                             | 22,483                |      |      |      |      |      |      |      |      |      |      |      |      |



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station     | Fill                         |                                     |                                              |                                    |                                                 |                     |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          |                                                    | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|-------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|---------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|
|             | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |      |
|             | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |
| Cotttingham |                              |                                     |                                              |                                    |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |
| 8931+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 60                                      | 0                                                | 0                                      | 0                                 | 20                                | 28                                       | -28                                                |      |      |      |      |      |      |      |      |
| 8931+25.00  | 0                            | 0                                   | 1,031                                        |                                    |                                                 | 1,031               | 1,299                                                      | -1,229                                  | 0                                                | 0                                      | 1,031                             | 22                                | 31                                       | 1,000                                              |      |      |      |      |      |      |      |      |
| 8931+50.00  | 7                            | 0                                   |                                              |                                    |                                                 | 7                   | 9                                                          | 53                                      | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |      |
| 8931+65.00  | 10                           | 0                                   |                                              |                                    |                                                 | 10                  | 13                                                         | 30                                      | 0                                                | 0                                      | 0                                 | 7                                 | 10                                       | -10                                                |      |      |      |      |      |      |      |      |
| 8931+75.00  | 29                           | 0                                   |                                              |                                    | 60                                              | 89                  | 112                                                        | -27                                     | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |      |
| 8931+97.91  | 3                            | 0                                   |                                              |                                    |                                                 | 3                   | 4                                                          | 5                                       | 0                                                | 0                                      | 0                                 | 2                                 | 3                                        | -3                                                 |      |      |      |      |      |      |      |      |
| 8932+00.00  | 36                           | 0                                   |                                              |                                    |                                                 | 36                  | 45                                                         | 67                                      | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |      |
| 8932+25.00  | 31                           | 0                                   |                                              |                                    |                                                 | 31                  | 39                                                         | 96                                      | 0                                                | 0                                      | 0                                 | 29                                | 41                                       | -41                                                |      |      |      |      |      |      |      |      |
| 8932+50.00  | 24                           | 0                                   |                                              |                                    |                                                 | 24                  | 30                                                         | 133                                     | 0                                                | 0                                      | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |      |
| 8932+75.00  | 20                           | 0                                   |                                              |                                    |                                                 | 20                  | 25                                                         | 166                                     | 0                                                | 0                                      | 0                                 | 35                                | 49                                       | -49                                                |      |      |      |      |      |      |      |      |
| 8933+00.00  | 18                           | 0                                   |                                              | 1                                  |                                                 | 19                  | 24                                                         | 192                                     | 0                                                | 0                                      | 0                                 | 36                                | 50                                       | -50                                                |      |      |      |      |      |      |      |      |
| 8933+25.00  | 17                           | 0                                   |                                              |                                    |                                                 | 17                  | 22                                                         | 201                                     | 0                                                | 0                                      | 0                                 | 36                                | 50                                       | -50                                                |      |      |      |      |      |      |      |      |
| 8933+50.00  | 18                           | 0                                   |                                              |                                    |                                                 | 18                  | 23                                                         | 193                                     | 0                                                | 0                                      | 0                                 | 36                                | 50                                       | -50                                                |      |      |      |      |      |      |      |      |
| 8933+75.00  | 17                           | 0                                   |                                              |                                    |                                                 | 17                  | 22                                                         | 186                                     | 0                                                | 0                                      | 0                                 | 35                                | 49                                       | -49                                                |      |      |      |      |      |      |      |      |
| 8934+00.00  | 17                           | 0                                   |                                              |                                    |                                                 | 17                  | 22                                                         | 169                                     | 0                                                | 0                                      | 0                                 | 35                                | 49                                       | -49                                                |      |      |      |      |      |      |      |      |
| 8934+25.00  | 19                           | 143                                 |                                              |                                    |                                                 | 162                 | 204                                                        | 102                                     | 0                                                | 0                                      | 0                                 | 35                                | 49                                       | -49                                                |      |      |      |      |      |      |      |      |
| 8934+50.00  | 26                           | 135                                 |                                              |                                    |                                                 | 161                 | 203                                                        | 63                                      | 0                                                | 0                                      | 0                                 | 34                                | 48                                       | -48                                                |      |      |      |      |      |      |      |      |
| 8934+75.00  | 41                           | 125                                 |                                              |                                    |                                                 | 166                 | 209                                                        | 15                                      | 0                                                | 0                                      | 0                                 | 32                                | 45                                       | -45                                                |      |      |      |      |      |      |      |      |
| 8935+00.00  | 66                           | 110                                 |                                              |                                    |                                                 | 176                 | 222                                                        | -19                                     | 0                                                | 0                                      | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |      |
| 8935+25.00  | 86                           | 93                                  |                                              |                                    |                                                 | 179                 | 226                                                        | -8                                      | 0                                                | 0                                      | 0                                 | 40                                | 56                                       | -56                                                |      |      |      |      |      |      |      |      |
| 8935+50.00  | 103                          | 75                                  |                                              |                                    |                                                 | 178                 | 224                                                        | 30                                      | 0                                                | 0                                      | 0                                 | 49                                | 69                                       | -69                                                |      |      |      |      |      |      |      |      |
| 8935+75.00  | 138                          | 38                                  |                                              |                                    |                                                 | 176                 | 222                                                        | 20                                      | 0                                                | 0                                      | 0                                 | 56                                | 78                                       | -78                                                |      |      |      |      |      |      |      |      |
| 8936+00.00  | 190                          | 9                                   | 70                                           |                                    |                                                 | 269                 | 339                                                        | -123                                    | 0                                                | 0                                      | 113                               | 60                                | 84                                       | 29                                                 |      |      |      |      |      |      |      |      |
| 8936+25.00  | 252                          | 3                                   | 76                                           |                                    |                                                 | 331                 | 417                                                        | -188                                    | 0                                                | 0                                      | 122                               | 66                                | 92                                       | 30                                                 |      |      |      |      |      |      |      |      |
| 8936+50.00  | 325                          | 0                                   | 83                                           |                                    |                                                 | 408                 | 514                                                        | -284                                    | 0                                                | 0                                      | 132                               | 71                                | 99                                       | 33                                                 |      |      |      |      |      |      |      |      |
| 8936+75.00  | 418                          | 0                                   | 88                                           |                                    |                                                 | 506                 | 638                                                        | -416                                    | 0                                                | 0                                      | 144                               | 76                                | 106                                      | 38                                                 |      |      |      |      |      |      |      |      |
| 8937+00.00  | 529                          | 80                                  | 96                                           |                                    |                                                 | 705                 | 888                                                        | -613                                    | 0                                                | 0                                      | 157                               | 80                                | 112                                      | 45                                                 |      |      |      |      |      |      |      |      |
| 8937+25.00  | 649                          | 0                                   | 103                                          |                                    |                                                 | 752                 | 948                                                        | -796                                    | 0                                                | 0                                      | 166                               | 82                                | 115                                      | 51                                                 |      |      |      |      |      |      |      |      |
| 8937+50.00  | 771                          | 0                                   | 110                                          | 2                                  |                                                 | 883                 | 1,113                                                      | -1,001                                  | 0                                                | 0                                      | 169                               | 82                                | 115                                      | 54                                                 |      |      |      |      |      |      |      |      |
| 8937+75.00  | 884                          | 0                                   | 116                                          |                                    |                                                 | 1,000               | 1,260                                                      | -1,172                                  | 0                                                | 0                                      | 169                               | 82                                | 115                                      | 54                                                 |      |      |      |      |      |      |      |      |
| 8938+00.00  | 989                          | 0                                   | 123                                          |                                    |                                                 | 1,112               | 1,401                                                      | -1,330                                  | 0                                                | 0                                      | 170                               | 82                                | 115                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 8938+25.00  | 1,101                        | 0                                   | 127                                          |                                    |                                                 | 1,228               | 1,547                                                      | -1,491                                  | 0                                                | 0                                      | 170                               | 83                                | 116                                      | 54                                                 |      |      |      |      |      |      |      |      |
| 8938+50.00  | 887                          | 0                                   | 94                                           |                                    |                                                 | 981                 | 1,236                                                      | -1,215                                  | 0                                                | 0                                      | 117                               | 55                                | 77                                       | 40                                                 |      |      |      |      |      |      |      |      |
| 8938+70.89  | 159                          | 0                                   | 16                                           |                                    |                                                 | 175                 | 221                                                        | -221                                    | 0                                                | 0                                      | 18                                | 8                                 | 11                                       | 7                                                  |      |      |      |      |      |      |      |      |
| 8938+75.00  | 1,029                        | 0                                   | 97                                           |                                    |                                                 | 1,126               | 1,419                                                      | -1,418                                  | 0                                                | 0                                      | 108                               | 49                                | 69                                       | 39                                                 |      |      |      |      |      |      |      |      |
| 8939+00.00  | 1,124                        | 0                                   | 99                                           |                                    |                                                 | 1,223               | 1,541                                                      | -1,541                                  | 0                                                | 0                                      | 109                               | 50                                | 70                                       | 39                                                 |      |      |      |      |      |      |      |      |
| 8939+25.00  | 948                          | 0                                   | 79                                           |                                    |                                                 | 1,027               | 1,294                                                      | -1,294                                  | 0                                                | 0                                      | 83                                | 37                                | 52                                       | 31                                                 |      |      |      |      |      |      |      |      |
| 8939+45.00  | 241                          | 0                                   | 20                                           |                                    |                                                 | 261                 | 329                                                        | -329                                    | 0                                                | 0                                      | 20                                | 9                                 | 13                                       | 7                                                  |      |      |      |      |      |      |      |      |
| 8939+50.00  | 1,223                        | 0                                   | 98                                           |                                    |                                                 | 1,321               | 1,665                                                      | -1,665                                  | 0                                                | 0                                      | 99                                | 43                                | 60                                       | 39                                                 |      |      |      |      |      |      |      |      |
| 8939+75.00  | 1,241                        | 0                                   | 98                                           |                                    |                                                 | 1,339               | 1,687                                                      | -1,687                                  | 0                                                | 0                                      | 102                               | 45                                | 63                                       | 39                                                 |      |      |      |      |      |      |      |      |
| 8940+00.00  | 550                          | 0                                   | 44                                           |                                    |                                                 | 594                 | 749                                                        | -749                                    | 0                                                | 0                                      | 46                                | 19                                | 27                                       | 19                                                 |      |      |      |      |      |      |      |      |
| 8940+11.02  | 696                          | 0                                   | 55                                           |                                    |                                                 | 751                 | 946                                                        | -944                                    | 0                                                | 0                                      | 59                                | 25                                | 35                                       | 24                                                 |      |      |      |      |      |      |      |      |
| 8940+25.00  | 1,222                        | 0                                   | 91                                           |                                    |                                                 | 1,313               | 1,654                                                      | -1,647                                  | 0                                                | 0                                      | 106                               | 48                                | 67                                       | 39                                                 |      |      |      |      |      |      |      |      |
| 8940+50.00  | 1,070                        | 0                                   | 84                                           |                                    |                                                 | 1,154               | 1,454                                                      | -1,445                                  | 0                                                | 0                                      | 100                               | 47                                | 66                                       | 34                                                 |      |      |      |      |      |      |      |      |
| 8940+68.00  | 491                          | 0                                   | 40                                           |                                    |                                                 | 531                 | 669                                                        | -664                                    | 0                                                | 0                                      | 48                                | 24                                | 34                                       | 14                                                 |      |      |      |      |      |      |      |      |
| 8940+75.00  | 1,678                        | 0                                   | 143                                          |                                    |                                                 | 1,821               | 2,295                                                      | -2,267                                  | 0                                                | 0                                      | 172                               | 84                                | 118                                      | 54                                                 |      |      |      |      |      |      |      |      |
| 8941+00.00  | 1,532                        | 0                                   | 140                                          |                                    |                                                 | 1,672               | 2,107                                                      | -2,061                                  | 0                                                | 0                                      | 172                               | 83                                | 116                                      | 56                                                 |      |      |      |      |      |      |      |      |
| 8941+25.00  | 966                          | 0                                   | 103                                          |                                    |                                                 | 1,069               | 1,347                                                      | -1,303                                  | 0                                                | 0                                      | 121                               | 52                                | 73                                       | 48                                                 |      |      |      |      |      |      |      |      |
| 8941+42.58  | 376                          | 0                                   | 41                                           |                                    |                                                 | 417                 | 526                                                        | -500                                    | 0                                                | 0                                      | 51                                | 22                                | 31                                       | 20                                                 |      |      |      |      |      |      |      |      |
| 8941+50.00  | 1,102                        | 0                                   | 120                                          |                                    |                                                 | 1,222               | 1,540                                                      | -1,411                                  | 0                                                | 0                                      | 173                               | 84                                | 118                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 8941+75.00  | 843                          | 0                                   | 111                                          |                                    |                                                 | 954                 | 1,202                                                      | -1,021                                  | 0                                                | 0                                      | 171                               | 83                                | 116                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 8942+00.00  | 604                          | 0                                   | 99                                           |                                    |                                                 | 703                 | 886                                                        | -643                                    | 0                                                | 0                                      | 169                               | 81                                | 113                                      | 56                                                 |      |      |      |      |      |      |      |      |
| 8942+25.00  | 401                          | 0                                   | 86                                           |                                    |                                                 | 487                 | 614                                                        | -297                                    | 0                                                | 0                                      | 168                               | 81                                | 113                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 8942+50.00  | 236                          | 0                                   | 73                                           |                                    |                                                 | 309                 | 389                                                        | 20                                      | 0                                                | 0                                      | 168                               | 81                                | 113                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 8942+75.00  | 106                          | 0                                   | 61                                           |                                    |                                                 | 167                 | 211                                                        | 303                                     | 0                                                | 0                                      | 168                               | 81                                | 113                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 8943+00.00  | 26                           | 0                                   | 34                                           |                                    |                                                 | 60                  | 76                                                         | 553                                     | 0                                                | 0                                      | 168                               | 81                                | 113                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 8943+25.00  | 1                            | 0                                   | 7                                            |                                    |                                                 | 8                   | 10                                                         | 770                                     | 0                                                | 0                                      | 167                               | 80                                | 112                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 8943+50.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 949                                     | 0                                                | 0                                      | 166                               | 79                                | 111                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 8943+75.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,114                                   | 0                                                | 0                                      | 164                               | 78                                | 109                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 8944+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,280                                   | 0                                                | 0                                      | 161                               | 73                                | 102                                      | 59                                                 |      |      |      |      |      |      |      |      |
| 8944+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 1                   | 1                                                          | 1,420                                   | 0                                                | 0                                      | 158                               | 67                                | 94                                       | 64                                                 |      |      |      |      |      |      |      |      |
| 8944+50.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,517                                   | 0                                                | 0                                      | 154                               | 64                                | 90                                       | 64                                                 |      |      |      |      |      |      |      |      |
| 8944+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,557                                   | 0                                                | 0                                      | 149                               | 61                                | 85                                       | 64                                                 |      |      |      |      |      |      |      |      |
| 8945+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,581                                   | 0                                                | 0                                      | 147                               | 60                                | 84                                       | 63                                                 |      |      |      |      |      |      |      |      |
| 8945+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,571                                   | 0                                                | 0                                      | 148                               | 60                                | 84                                       | 64                                                 |      |      |      |      |      |      |      |      |
| 8945+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,472                                   | 0                                                | 0                                      | 147                               | 59                                | 83                                       | 64                                                 |      |      |      |      |      |      |      |      |
| 8945+75.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,282                                   | 0                                                | 0                                      | 143                               | 57                                | 80                                       | 63                                                 |      |      |      |      |      |      |      |      |
| 8946+00.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,282                                   | 0                                                | 0                                      | 143                               | 57                                | 80                                       | 63                                                 |      |      |      |      |      |      |      |      |
| Subtotals:  | 25,586                       | 811                                 | 3,961                                        | 3                                  | 60                                              | 30,421              | 38,333                                                     | -15,850                                 | 0                                                | 0                                      | 6,963                             | 3,434                             | 4,808                                    | 2,155                                              |      |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 8946+00.00 | 1,245                       | 1,089                            | 140                | 16                                | 0                                | 0                          | 0                     | 0                     |                                               | 1,105                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8946+25.00 | 1,116                       | 946                              | 139                | 29                                | 0                                | 3                          | 0                     | 0                     |                                               | 978                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8946+50.00 | 974                         | 817                              | 137                | 18                                | 0                                | 3                          | 0                     | 0                     |                                               | 838                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8946+75.00 | 824                         | 690                              | 134                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 690                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8947+00.00 | 647                         | 517                              | 130                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 517                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8947+25.00 | 454                         | 328                              | 126                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 328                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8947+50.00 | 301                         | 179                              | 122                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 179                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8947+75.00 | 199                         | 82                               | 117                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 82                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8948+00.00 | 144                         | 29                               | 115                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 29                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8948+25.00 | 139                         | 20                               | 119                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 20                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8948+50.00 | 144                         | 23                               | 121                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 23                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8948+75.00 | 140                         | 22                               | 118                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 22                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8949+00.00 | 137                         | 23                               | 114                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 23                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8949+25.00 | 142                         | 19                               | 112                | 0                                 | 0                                | 11                         | 0                     | 0                     |                                               | 30                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8949+50.00 | 217                         | 51                               | 112                | 0                                 | 0                                | 53                         | 0                     | 0                     |                                               | 104                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8949+75.00 | 298                         | 92                               | 116                | 0                                 | 0                                | 90                         | 0                     | 0                     |                                               | 182                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8950+00.00 | 447                         | 115                              | 121                | 0                                 | 0                                | 211                        | 0                     | 0                     |                                               | 326                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8950+25.00 | 723                         | 204                              | 128                | 0                                 | 0                                | 391                        | 0                     | 0                     |                                               | 595                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8950+50.00 | 1,021                       | 384                              | 137                | 0                                 | 0                                | 500                        | 0                     | 0                     |                                               | 884                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8950+75.00 | 1,322                       | 587                              | 144                | 0                                 | 0                                | 591                        | 0                     | 0                     |                                               | 1,178                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8951+00.00 | 1,489                       | 654                              | 147                | 0                                 | 0                                | 687                        | 0                     | 0                     |                                               | 1,341                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8951+25.00 | 1,554                       | 620                              | 147                | 0                                 | 0                                | 786                        | 0                     | 0                     |                                               | 1,406                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8951+50.00 | 1,685                       | 532                              | 147                | 130                               | 0                                | 876                        | 0                     | 0                     |                                               | 1,538                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8951+75.00 | 1,861                       | 576                              | 150                | 257                               | 0                                | 878                        | 0                     | 0                     |                                               | 1,711                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8952+00.00 | 2,017                       | 748                              | 152                | 256                               | 0                                | 862                        | 0                     | 0                     |                                               | 1,866                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8952+25.00 | 2,171                       | 984                              | 153                | 251                               | 0                                | 783                        | 0                     | 0                     |                                               | 2,018                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8952+50.00 | 2,307                       | 831                              | 154                | 211                               | 0                                | 1,080                      | 31                    | 0                     |                                               | 2,122                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8952+75.00 | 2,380                       | 552                              | 154                | 178                               | 0                                | 1,435                      | 61                    | 0                     |                                               | 2,165                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8953+00.00 | 509                         | 136                              | 31                 | 42                                | 0                                | 284                        | 16                    | 0                     |                                               | 462                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8953+06.52 | 1,306                       | 382                              | 75                 | 120                               | 0                                | 685                        | 44                    | 0                     |                                               | 1,187                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8953+25.00 | 1,722                       | 528                              | 101                | 162                               | 0                                | 873                        | 58                    | 0                     |                                               | 1,563                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8953+50.00 | 833                         | 259                              | 51                 | 88                                | 0                                | 401                        | 34                    | 0                     |                                               | 748                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8953+65.02 | 529                         | 216                              | 34                 | 29                                | 0                                | 239                        | 11                    | 0                     | 5,400                                         | 5,884                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8953+75.00 | 1,211                       | 608                              | 85                 | 0                                 | 0                                | 518                        | 0                     | 0                     |                                               | 1,126                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8954+00.00 | 1,241                       | 583                              | 105                | 0                                 | 0                                | 524                        | 29                    | 0                     |                                               | 1,107                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8954+23.52 | 90                          | 41                               | 8                  | 0                                 | 0                                | 37                         | 4                     | 0                     |                                               | 78                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8954+25.00 | 1,439                       | 711                              | 142                | 0                                 | 0                                | 521                        | 65                    | 0                     |                                               | 1,232                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8954+50.00 | 1,321                       | 802                              | 145                | 0                                 | 0                                | 304                        | 70                    | 0                     |                                               | 1,106                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8954+75.00 | 1,230                       | 817                              | 144                | 0                                 | 0                                | 188                        | 81                    | 0                     |                                               | 1,005                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8955+00.00 | 1,202                       | 386                              | 145                | 0                                 | 0                                | 621                        | 51                    | 0                     |                                               | 1,007                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8955+25.00 | 1,262                       | 0                                | 152                | 0                                 | 0                                | 1,096                      | 14                    | 0                     |                                               | 1,096                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8955+50.00 | 1,395                       | 37                               | 161                | 0                                 | 0                                | 1,147                      | 49                    | 0                     |                                               | 1,184                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8955+75.00 | 1,557                       | 87                               | 170                | 0                                 | 0                                | 1,213                      | 88                    | 0                     |                                               | 1,300                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8956+00.00 | 1,580                       | 60                               | 174                | 0                                 | 0                                | 1,276                      | 70                    | 0                     |                                               | 1,336                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8956+25.00 | 1,458                       | 122                              | 170                | 0                                 | 0                                | 1,125                      | 40                    | 0                     |                                               | 1,247                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8956+50.00 | 1,306                       | 205                              | 169                | 0                                 | 0                                | 898                        | 34                    | 0                     |                                               | 1,103                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8956+75.00 | 1,163                       | 487                              | 171                | 0                                 | 0                                | 487                        | 17                    | 0                     |                                               | 974                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8957+00.00 | 793                         | 576                              | 172                | 0                                 | 0                                | 44                         | 0                     | 0                     |                                               | 620                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8957+25.00 | 537                         | 362                              | 172                | 0                                 | 0                                | 3                          | 0                     | 0                     |                                               | 365                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8957+50.00 | 365                         | 192                              | 173                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 192                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8957+75.00 | 262                         | 88                               | 174                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 88                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8958+00.00 | 216                         | 40                               | 176                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 40                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8958+25.00 | 197                         | 18                               | 180                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 18                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8958+50.00 | 201                         | 18                               | 183                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 18                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8958+75.00 | 209                         | 27                               | 182                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 27                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8959+00.00 | 220                         | 39                               | 181                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 39                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8959+25.00 | 255                         | 75                               | 181                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 75                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8959+50.00 | 320                         | 141                              | 180                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 141                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8959+75.00 | 232                         | 74                               | 107                | 18                                | 0                                | 33                         | 0                     | 0                     |                                               | 125                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8959+89.97 | 172                         | 32                               | 71                 | 24                                | 0                                | 44                         | 0                     | 0                     |                                               | 100                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8960+00.00 | 464                         | 150                              | 147                | 60                                | 0                                | 108                        | 0                     | 0                     |                                               | 318                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8960+25.00 | 513                         | 241                              | 115                | 58                                | 0                                | 99                         | 0                     | 0                     |                                               | 398                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8960+50.00 | 558                         | 298                              | 113                | 56                                | 0                                | 91                         | 0                     | 0                     |                                               | 445                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8960+75.00 | 623                         | 375                              | 112                | 54                                | 0                                | 83                         | 0                     | 0                     |                                               | 512                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8961+00.00 | 744                         | 485                              | 113                | 56                                | 0                                | 91                         | 0                     | 0                     |                                               | 632                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8961+25.00 | 478                         | 315                              | 82                 | 29                                | 0                                | 52                         | 0                     | 0                     |                                               | 396                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8961+50.00 | 53                          | 37                               | 16                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 37                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8961+58.56 | 137                         | 105                              | 32                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 105                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8961+75.00 |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals: | 56,001                      | 21,869                           | 8,801              | 2,142                             | 0                                | 22,325                     | 867                   | 0                     | 5,400                                         | 51,736                |      |      |      |      |      |      |      |      |      |      |      |      |

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                    | Checks (EW-102) |      | Topsoil |       |       |                   | [37]  | [38] | [39] | [40] | [41] | [42] | [43] | [44] |               |
|------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|--------------------|-----------------|------|---------|-------|-------|-------------------|-------|------|------|------|------|------|------|------|---------------|
|            | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]               | [30]            | [31] | [32]    | [33]  | [34]  | [35]              |       |      |      |      |      |      |      |      | [36]          |
|            | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$ | $[10] - [29]$   |      |         |       |       | $[34] \times 1.4$ |       |      |      |      |      |      |      |      | $[33] - [35]$ |
| 8946+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 1,105           | 0    | 0       | 140   | 55    | 77                | 63    |      |      |      |      |      |      |      |               |
| 8946+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 978             | 0    | 0       | 139   | 54    | 76                | 63    |      |      |      |      |      |      |      |               |
| 8946+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 838             | 0    | 0       | 137   | 57    | 80                | 57    |      |      |      |      |      |      |      |               |
| 8946+75.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 690             | 0    | 0       | 134   | 58    | 81                | 53    |      |      |      |      |      |      |      |               |
| 8947+00.00 | 0                            | 0                                   |                                              |                                    | 2                                               | 2                                               | 3                  | 514             | 0    | 0       | 130   | 56    | 78                | 52    |      |      |      |      |      |      |      |               |
| 8947+25.00 | 8                            | 0                                   |                                              |                                    | 15                                              | 23                                              | 29                 | 299             | 0    | 0       | 126   | 53    | 74                | 52    |      |      |      |      |      |      |      |               |
| 8947+50.00 | 64                           | 0                                   |                                              |                                    | 45                                              | 109                                             | 137                | 42              | 0    | 0       | 122   | 50    | 70                | 52    |      |      |      |      |      |      |      |               |
| 8947+75.00 | 201                          | 0                                   |                                              |                                    | 70                                              | 271                                             | 342                | -260            | 0    | 0       | 117   | 47    | 66                | 51    |      |      |      |      |      |      |      |               |
| 8948+00.00 | 339                          | 0                                   |                                              |                                    | 81                                              | 420                                             | 529                | -500            | 0    | 0       | 115   | 46    | 64                | 51    |      |      |      |      |      |      |      |               |
| 8948+25.00 | 433                          | 0                                   |                                              |                                    | 88                                              | 521                                             | 657                | -637            | 0    | 0       | 119   | 48    | 67                | 52    |      |      |      |      |      |      |      |               |
| 8948+50.00 | 479                          | 0                                   |                                              |                                    | 90                                              | 569                                             | 717                | -694            | 0    | 0       | 121   | 50    | 70                | 51    |      |      |      |      |      |      |      |               |
| 8948+75.00 | 442                          | 0                                   |                                              |                                    | 87                                              | 529                                             | 667                | -645            | 0    | 0       | 118   | 47    | 66                | 52    |      |      |      |      |      |      |      |               |
| 8949+00.00 | 364                          | 0                                   |                                              |                                    | 81                                              | 445                                             | 561                | -538            | 0    | 0       | 114   | 45    | 63                | 51    |      |      |      |      |      |      |      |               |
| 8949+25.00 | 283                          | 0                                   |                                              |                                    | 75                                              | 358                                             | 451                | -421            | 0    | 0       | 112   | 36    | 50                | 62    |      |      |      |      |      |      |      |               |
| 8949+50.00 | 130                          | 0                                   |                                              |                                    | 66                                              | 196                                             | 247                | -143            | 0    | 0       | 112   | 29    | 41                | 71    |      |      |      |      |      |      |      |               |
| 8949+75.00 | 12                           | 0                                   |                                              |                                    | 44                                              | 56                                              | 71                 | 111             | 0    | 0       | 116   | 32    | 45                | 71    |      |      |      |      |      |      |      |               |
| 8950+00.00 | 1                            | 0                                   |                                              |                                    | 28                                              | 29                                              | 37                 | 289             | 0    | 0       | 121   | 35    | 49                | 72    |      |      |      |      |      |      |      |               |
| 8950+25.00 | 0                            | 0                                   |                                              |                                    | 15                                              | 15                                              | 19                 | 576             | 0    | 0       | 128   | 40    | 56                | 72    |      |      |      |      |      |      |      |               |
| 8950+50.00 | 0                            | 0                                   |                                              |                                    | 1                                               | 1                                               | 1                  | 883             | 0    | 0       | 137   | 45    | 63                | 74    |      |      |      |      |      |      |      |               |
| 8950+75.00 | 0                            | 0                                   |                                              |                                    | 1                                               | 1                                               | 1                  | 1,177           | 0    | 0       | 144   | 50    | 70                | 74    |      |      |      |      |      |      |      |               |
| 8951+00.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,341           | 0    | 0       | 147   | 53    | 74                | 73    |      |      |      |      |      |      |      |               |
| 8951+25.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,406           | 0    | 0       | 147   | 52    | 73                | 74    |      |      |      |      |      |      |      |               |
| 8951+50.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,538           | 0    | 0       | 147   | 53    | 74                | 73    |      |      |      |      |      |      |      |               |
| 8951+75.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,711           | 0    | 0       | 150   | 54    | 76                | 74    |      |      |      |      |      |      |      |               |
| 8952+00.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,866           | 0    | 0       | 152   | 56    | 78                | 74    |      |      |      |      |      |      |      |               |
| 8952+25.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 2,018           | 0    | 0       | 153   | 57    | 80                | 73    |      |      |      |      |      |      |      |               |
| 8952+50.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 2,122           | 0    | 0       | 154   | 57    | 80                | 74    |      |      |      |      |      |      |      |               |
| 8952+75.00 | 0                            | 0                                   |                                              |                                    | 1                                               | 1                                               | 1                  | 2,164           | 0    | 0       | 154   | 57    | 80                | 74    |      |      |      |      |      |      |      |               |
| 8953+00.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 462             | 0    | 0       | 31    | 11    | 15                | 16    |      |      |      |      |      |      |      |               |
| 8953+06.52 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,187           | 0    | 0       | 75    | 23    | 32                | 43    |      |      |      |      |      |      |      |               |
| 8953+25.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,563           | 0    | 0       | 101   | 31    | 43                | 58    |      |      |      |      |      |      |      |               |
| 8953+50.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 748             | 0    | 0       | 51    | 16    | 22                | 29    |      |      |      |      |      |      |      |               |
| 8953+65.02 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 5,884           | 0    | 0       | 34    | 11    | 15                | 19    |      |      |      |      |      |      |      |               |
| 8953+75.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,126           | 0    | 0       | 85    | 26    | 36                | 49    |      |      |      |      |      |      |      |               |
| 8954+00.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,107           | 0    | 0       | 105   | 34    | 48                | 57    |      |      |      |      |      |      |      |               |
| 8954+23.52 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 78              | 0    | 0       | 8     | 3     | 4                 | 4     |      |      |      |      |      |      |      |               |
| 8954+25.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,232           | 0    | 0       | 142   | 52    | 73                | 69    |      |      |      |      |      |      |      |               |
| 8954+50.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,106           | 0    | 0       | 145   | 58    | 81                | 64    |      |      |      |      |      |      |      |               |
| 8954+75.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,005           | 0    | 0       | 144   | 58    | 81                | 63    |      |      |      |      |      |      |      |               |
| 8955+00.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,007           | 0    | 0       | 145   | 55    | 77                | 68    |      |      |      |      |      |      |      |               |
| 8955+25.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,096           | 0    | 0       | 152   | 56    | 78                | 74    |      |      |      |      |      |      |      |               |
| 8955+50.00 | 0                            | 0                                   |                                              |                                    | 32                                              | 32                                              | 40                 | 1,144           | 0    | 0       | 161   | 62    | 87                | 74    |      |      |      |      |      |      |      |               |
| 8955+75.00 | 0                            | 0                                   |                                              |                                    | 71                                              | 71                                              | 90                 | 1,211           | 0    | 0       | 170   | 68    | 95                | 75    |      |      |      |      |      |      |      |               |
| 8956+00.00 | 0                            | 0                                   |                                              |                                    | 40                                              | 40                                              | 50                 | 1,286           | 0    | 0       | 174   | 70    | 98                | 76    |      |      |      |      |      |      |      |               |
| 8956+25.00 | 0                            | 0                                   |                                              |                                    | 0                                               | 0                                               | 0                  | 1,247           | 0    | 0       | 170   | 68    | 95                | 75    |      |      |      |      |      |      |      |               |
| 8956+50.00 | 0                            | 0                                   |                                              |                                    | 2                                               | 2                                               | 3                  | 1,100           | 0    | 0       | 169   | 67    | 94                | 75    |      |      |      |      |      |      |      |               |
| 8956+75.00 | 32                           | 116                                 |                                              |                                    | 29                                              | 177                                             | 223                | 751             | 0    | 0       | 171   | 68    | 95                | 76    |      |      |      |      |      |      |      |               |
| 8957+00.00 | 167                          | 37                                  |                                              |                                    | 66                                              | 270                                             | 340                | 280             | 0    | 0       | 172   | 72    | 101               | 71    |      |      |      |      |      |      |      |               |
| 8957+25.00 | 403                          | 0                                   |                                              |                                    | 88                                              | 491                                             | 619                | -254            | 0    | 0       | 172   | 77    | 108               | 64    |      |      |      |      |      |      |      |               |
| 8957+50.00 | 698                          | 0                                   |                                              |                                    | 109                                             | 807                                             | 1,017              | -825            | 0    | 0       | 173   | 81    | 113               | 60    |      |      |      |      |      |      |      |               |
| 8957+75.00 | 1,054                        | 0                                   |                                              |                                    | 132                                             | 1,186                                           | 1,494              | -1,406          | 0    | 0       | 174   | 85    | 119               | 55    |      |      |      |      |      |      |      |               |
| 8958+00.00 | 1,482                        | 0                                   |                                              |                                    | 149                                             | 1,631                                           | 2,055              | -2,015          | 0    | 0       | 176   | 86    | 120               | 56    |      |      |      |      |      |      |      |               |
| 8958+25.00 | 1,992                        | 0                                   |                                              |                                    | 160                                             | 2,152                                           | 2,712              | -2,694          | 0    | 0       | 180   | 89    | 125               | 55    |      |      |      |      |      |      |      |               |
| 8958+50.00 | 2,496                        | 0                                   |                                              |                                    | 165                                             | 2,661                                           | 3,353              | -3,335          | 0    | 0       | 183   | 91    | 127               | 56    |      |      |      |      |      |      |      |               |
| 8958+75.00 | 2,850                        | 0                                   |                                              |                                    | 161                                             | 3,011                                           | 3,794              | -3,767          | 0    | 0       | 182   | 91    | 127               | 55    |      |      |      |      |      |      |      |               |
| 8959+00.00 | 2,949                        | 0                                   |                                              |                                    | 157                                             | 3,106                                           | 3,914              | -3,875          | 0    | 0       | 181   | 90    | 126               | 55    |      |      |      |      |      |      |      |               |
| 8959+25.00 | 2,718                        | 0                                   |                                              |                                    | 148                                             | 2,866                                           | 3,611              | -3,536          | 0    | 0       | 181   | 90    | 126               | 55    |      |      |      |      |      |      |      |               |
| 8959+50.00 | 2,248                        | 0                                   |                                              |                                    | 137                                             | 2,385                                           | 3,005              | -2,864          | 0    | 0       | 180   | 89    | 125               | 55    |      |      |      |      |      |      |      |               |
| 8959+75.00 | 1,091                        | 0                                   |                                              |                                    | 77                                              | 1,168                                           | 1,472              | -1,347          | 0    | 0       | 107   | 50    | 70                | 37    |      |      |      |      |      |      |      |               |
| 8959+89.97 | 626                          | 0                                   |                                              |                                    | 49                                              | 675                                             | 851                | -751            | 0    | 0       | 71    | 32    | 45                | 26    |      |      |      |      |      |      |      |               |
| 8960+00.00 | 1,215                        | 0                                   |                                              |                                    | 97                                              | 1,312                                           | 1,653              | -1,335          | 0    | 0       | 147   | 79    | 111               | 36    |      |      |      |      |      |      |      |               |
| 8960+25.00 | 791                          | 0                                   |                                              |                                    | 70                                              | 861                                             | 1,085              | -687            | 0    | 0       | 115   | 77    | 108               | 7     |      |      |      |      |      |      |      |               |
| 8960+50.00 | 495                          | 0                                   |                                              |                                    | 65                                              | 560                                             | 706                | -261            | 0    | 0       | 113   | 75    | 105               | 8     |      |      |      |      |      |      |      |               |
| 8960+75.00 | 321                          | 0                                   |                                              |                                    | 55                                              | 376                                             | 474                | 38              | 0    | 0       | 112   | 74    | 104               | 9     |      |      |      |      |      |      |      |               |
| 8961+00.00 | 199                          | 0                                   |                                              |                                    | 44                                              | 243                                             | 306                | 326             | 0    | 0       | 113   | 74    | 104               | 10    |      |      |      |      |      |      |      |               |
| 8961+25.00 | 73                           | 0                                   |                                              |                                    | 30                                              | 103                                             | 130                | 266             | 0    | 0       | 82    | 47    | 66                | 16    |      |      |      |      |      |      |      |               |
| 8961+50.00 | 2                            | 0                                   |                                              |                                    | 4                                               | 6                                               | 8                  | 29              | 0    | 0       | 16    | 6     | 8                 | 8     |      |      |      |      |      |      |      |               |
| 8961+58.56 | 0                            | 0                                   |                                              |                                    | 3                                               | 3                                               | 4                  | 101             | 0    | 0       | 32    | 11    | 15                | 17    |      |      |      |      |      |      |      |               |
| 8961+75.00 |                              |                                     |                                              |                                    |                                                 |                                                 |                    |                 |      |         |       |       |                   |       |      |      |      |      |      |      |      |               |
| Subtotals: | 26,658                       | 153                                 | 2,930                                        | 0                                  | 0                                               | 29,741                                          | 37,475             | 14,261          | 0    | 0       | 8,801 | 3,675 | 5,145             | 3,656 |      |      |      |      |      |      |      |               |



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station            | Cut                         |                                  |                    |                                    |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------|-----------------------------|----------------------------------|--------------------|------------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                    | [1]                         | [2]                              | [3]                | [4]                                | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                    | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 8961+75.00         | 273                         | 226                              | 48                 | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 226                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8962+00.00         | 247                         | 215                              | 32                 | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 215                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8962+20.00         | 71                          | 61                               | 10                 | 0                                  | 0                                | 0                          | 0                     | 0                     | 600                                           | 661                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8962+25.00         | 649                         | 572                              | 77                 | 0                                  | 19                               | 0                          | 0                     | 0                     |                                               | 572                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8962+50.00         | 770                         | 694                              | 76                 | 0                                  | 28                               | 0                          | 0                     | 0                     |                                               | 694                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8962+75.00         | 129                         | 117                              | 12                 | 0                                  | 3                                | 0                          | 0                     | 0                     |                                               | 117                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8962+81.44         | 388                         | 258                              | 35                 | 78                                 | 9                                | 17                         | 0                     | 0                     |                                               | 353                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8963+00.00         | 768                         | 446                              | 60                 | 212                                | 19                               | 51                         | 0                     | 0                     |                                               | 709                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8963+25.00         | 903                         | 565                              | 61                 | 217                                | 19                               | 61                         | 0                     | 0                     |                                               | 843                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8963+50.00         | 982                         | 676                              | 63                 | 193                                | 19                               | 50                         | 0                     | 0                     |                                               | 919                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8963+75.00         | 999                         | 726                              | 63                 | 170                                | 19                               | 40                         | 0                     | 0                     |                                               | 936                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8964+00.00         | 919                         | 669                              | 61                 | 157                                | 21                               | 31                         | 0                     | 0                     |                                               | 857                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8964+25.00         | 844                         | 636                              | 56                 | 138                                | 26                               | 14                         | 0                     | 0                     |                                               | 788                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8964+50.00         | 806                         | 628                              | 62                 | 111                                | 18                               | 5                          | 0                     | 0                     |                                               | 744                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8964+75.00         | 752                         | 610                              | 74                 | 67                                 | 3                                | 0                          | 0                     | 0                     |                                               | 677                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8965+00.00         | 617                         | 499                              | 78                 | 40                                 | 0                                | 0                          | 0                     | 0                     |                                               | 539                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8965+25.00         | 410                         | 283                              | 78                 | 45                                 | 0                                | 4                          | 0                     | 0                     |                                               | 332                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8965+50.00         | 285                         | 136                              | 77                 | 69                                 | 0                                | 4                          | 0                     | 0                     |                                               | 209                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8965+75.00         | 306                         | 124                              | 76                 | 106                                | 0                                | 0                          | 0                     | 0                     |                                               | 230                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8966+00.00         | 450                         | 185                              | 76                 | 181                                | 0                                | 8                          | 0                     | 0                     |                                               | 374                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8966+25.00         | 736                         | 347                              | 75                 | 296                                | 0                                | 18                         | 0                     | 0                     |                                               | 661                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8966+50.00         | 1,030                       | 578                              | 76                 | 362                                | 0                                | 14                         | 0                     | 0                     |                                               | 954                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8966+75.00         | 1,175                       | 692                              | 78                 | 395                                | 0                                | 9                          | 0                     | 0                     |                                               | 1,096                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8967+00.00         | 1,203                       | 634                              | 97                 | 456                                | 0                                | 15                         | 0                     | 0                     |                                               | 1,105                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8967+25.00         | 1,190                       | 540                              | 112                | 509                                | 0                                | 28                         | 0                     | 0                     |                                               | 1,077                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8967+50.00         | 1,168                       | 511                              | 108                | 520                                | 0                                | 29                         | 0                     | 0                     |                                               | 1,060                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8967+75.00         | 84                          | 56                               | 8                  | 19                                 | 0                                | 2                          | 0                     | 0                     |                                               | 77                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8967+76.82         | 1,134                       | 988                              | 123                | 0                                  | 0                                | 23                         | 0                     | 0                     |                                               | 1,011                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8968+00.00         | 1,165                       | 1,016                            | 126                | 0                                  | 0                                | 22                         | 0                     | 0                     |                                               | 1,038                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8968+23.18         | 89                          | 78                               | 8                  | 0                                  | 0                                | 2                          | 0                     | 0                     |                                               | 80                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8968+25.00         | 1,255                       | 1,110                            | 117                | 0                                  | 0                                | 28                         | 0                     | 0                     |                                               | 1,138                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8968+50.00         | 1,287                       | 924                              | 127                | 90                                 | 0                                | 146                        | 0                     | 0                     |                                               | 1,160                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8968+75.00         | 1,264                       | 723                              | 136                | 148                                | 0                                | 258                        | 0                     | 0                     |                                               | 1,129                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8969+00.00         | 1,214                       | 723                              | 146                | 110                                | 0                                | 234                        | 0                     | 0                     |                                               | 1,067                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 8969+25.00         | 1,148                       | 676                              | 157                | 100                                | 0                                | 215                        | 0                     | 0                     |                                               | 991                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8969+50.00         | 1,073                       | 619                              | 167                | 88                                 | 0                                | 198                        | 0                     | 0                     |                                               | 905                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8969+75.00         | 1,011                       | 539                              | 176                | 82                                 | 0                                | 215                        | 0                     | 0                     |                                               | 836                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8970+00.00         | 935                         | 244                              | 184                | 41                                 | 0                                | 466                        | 0                     | 0                     |                                               | 751                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8970+25.00         | 834                         | 0                                | 192                | 0                                  | 0                                | 642                        | 0                     | 0                     |                                               | 642                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8970+50.00         | 721                         | 0                                | 166                | 0                                  | 0                                | 556                        | 0                     | 0                     |                                               | 556                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8970+75.00         | 611                         | 0                                | 139                | 0                                  | 0                                | 472                        | 0                     | 0                     |                                               | 472                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8971+00.00         | 529                         | 23                               | 144                | 0                                  | 0                                | 362                        | 0                     | 0                     |                                               | 385                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8971+25.00         | 415                         | 23                               | 149                | 0                                  | 0                                | 244                        | 0                     | 0                     |                                               | 267                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8971+50.00         | 319                         | 48                               | 154                | 24                                 | 0                                | 93                         | 0                     | 0                     |                                               | 165                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8971+75.00         | 306                         | 98                               | 161                | 47                                 | 0                                | 0                          | 0                     | 0                     |                                               | 145                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8972+00.00         | 359                         | 161                              | 168                | 30                                 | 0                                | 0                          | 0                     | 0                     |                                               | 191                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8972+25.00         | 454                         | 273                              | 173                | 8                                  | 0                                | 0                          | 0                     | 0                     |                                               | 281                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8972+50.00         | 526                         | 277                              | 176                | 1                                  | 0                                | 73                         | 0                     | 0                     |                                               | 351                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8972+75.00         | 535                         | 203                              | 170                | 0                                  | 0                                | 162                        | 0                     | 0                     |                                               | 365                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8973+00.00         | 510                         | 174                              | 156                | 0                                  | 0                                | 180                        | 0                     | 0                     |                                               | 354                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8973+25.00         | 509                         | 86                               | 153                | 0                                  | 0                                | 269                        | 0                     | 0                     |                                               | 355                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8973+50.00         | 535                         | 0                                | 190                | 0                                  | 0                                | 346                        | 0                     | 0                     |                                               | 346                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8973+75.00         | 540                         | 90                               | 223                | 0                                  | 0                                | 227                        | 0                     | 0                     |                                               | 317                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8974+00.00         | 498                         | 177                              | 216                | 0                                  | 0                                | 105                        | 0                     | 0                     |                                               | 282                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8974+25.00         | 455                         | 141                              | 210                | 0                                  | 0                                | 104                        | 0                     | 0                     |                                               | 245                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8974+50.00         | 417                         | 135                              | 205                | 0                                  | 0                                | 77                         | 0                     | 0                     |                                               | 212                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8974+75.00         | 388                         | 171                              | 199                | 0                                  | 0                                | 17                         | 0                     | 0                     |                                               | 188                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 8975+00.00         | 261                         | 89                               | 172                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 89                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 8975+25.00         | 118                         | 0                                | 118                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8975+50.00         | 90                          | 0                                | 90                 | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 8975+75.00         |                             |                                  |                    |                                    |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Cottingham Totals: | 125,108                     | 65,197                           | 22,684             | 7,357                              | 663                              | 29,004                     | 867                   | 0                     | 6,000                                         | 107,558               |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station    | Fill                         |                                     |                                              |                                    |                                                 |                     |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |  |  |
|------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|---------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|--|--|--|
|            | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |  |  |
|            | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |  |  |  |
| 8961+75.00 | 0                            | 0                                   | 5                                            |                                    |                                                 | 5                   | 6                                                          | 220                                     | 0                                                | 0                                      | 48                                | 17                                | 24                                       | 24                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8962+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 215                                     | 0                                                | 0                                      | 32                                | 13                                | 18                                       | 14                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8962+20.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 661                                     | 0                                                | 0                                      | 10                                | 3                                 | 4                                        | 6                                                  |      |      |      |      |      |      |      |      |  |  |  |
| 8962+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 572                                     | 0                                                | 0                                      | 77                                | 52                                | 73                                       | 4                                                  |      |      |      |      |      |      |      |      |  |  |  |
| 8962+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 694                                     | 0                                                | 0                                      | 76                                | 65                                | 91                                       | -15                                                |      |      |      |      |      |      |      |      |  |  |  |
| 8962+75.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 117                                     | 0                                                | 0                                      | 12                                | 7                                 | 10                                       | 2                                                  |      |      |      |      |      |      |      |      |  |  |  |
| 8962+81.44 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 353                                     | 0                                                | 0                                      | 35                                | 16                                | 22                                       | 13                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8963+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 709                                     | 0                                                | 0                                      | 60                                | 28                                | 39                                       | 21                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8963+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 843                                     | 0                                                | 0                                      | 61                                | 29                                | 41                                       | 20                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8963+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 919                                     | 0                                                | 0                                      | 63                                | 31                                | 43                                       | 20                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8963+75.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 936                                     | 0                                                | 0                                      | 63                                | 31                                | 43                                       | 20                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8964+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 857                                     | 0                                                | 0                                      | 61                                | 31                                | 43                                       | 18                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8964+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 788                                     | 0                                                | 0                                      | 56                                | 29                                | 41                                       | 15                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8964+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 744                                     | 0                                                | 0                                      | 62                                | 33                                | 46                                       | 16                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8964+75.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 677                                     | 0                                                | 0                                      | 74                                | 42                                | 59                                       | 15                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8965+00.00 | 15                           | 0                                   | 9                                            |                                    |                                                 | 24                  | 30                                                         | 509                                     | 0                                                | 0                                      | 78                                | 47                                | 66                                       | 12                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8965+25.00 | 64                           | 0                                   | 26                                           |                                    |                                                 | 90                  | 113                                                        | 219                                     | 0                                                | 0                                      | 78                                | 44                                | 62                                       | 16                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8965+50.00 | 80                           | 0                                   | 36                                           |                                    |                                                 | 116                 | 146                                                        | 63                                      | 0                                                | 0                                      | 77                                | 43                                | 60                                       | 17                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8965+75.00 | 40                           | 0                                   | 28                                           |                                    |                                                 | 68                  | 86                                                         | 144                                     | 0                                                | 0                                      | 76                                | 42                                | 59                                       | 17                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8966+00.00 | 8                            | 0                                   | 11                                           |                                    |                                                 | 19                  | 24                                                         | 350                                     | 0                                                | 0                                      | 76                                | 37                                | 52                                       | 24                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8966+25.00 | 0                            | 0                                   | 2                                            |                                    |                                                 | 2                   | 3                                                          | 658                                     | 0                                                | 0                                      | 75                                | 37                                | 52                                       | 23                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8966+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 954                                     | 0                                                | 0                                      | 76                                | 38                                | 53                                       | 23                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8966+75.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,096                                   | 0                                                | 0                                      | 78                                | 36                                | 50                                       | 28                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8967+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,105                                   | 0                                                | 0                                      | 97                                | 32                                | 45                                       | 52                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8967+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,077                                   | 0                                                | 0                                      | 112                               | 29                                | 41                                       | 71                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8967+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,060                                   | 0                                                | 0                                      | 108                               | 26                                | 36                                       | 72                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8967+75.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 77                                      | 0                                                | 0                                      | 8                                 | 2                                 | 3                                        | 5                                                  |      |      |      |      |      |      |      |      |  |  |  |
| 8967+76.82 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,011                                   | 0                                                | 0                                      | 123                               | 14                                | 20                                       | 103                                                |      |      |      |      |      |      |      |      |  |  |  |
| 8968+00.00 | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,037                                   | 0                                                | 0                                      | 126                               | 16                                | 22                                       | 104                                                |      |      |      |      |      |      |      |      |  |  |  |
| 8968+23.18 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 80                                      | 0                                                | 0                                      | 8                                 | 2                                 | 3                                        | 5                                                  |      |      |      |      |      |      |      |      |  |  |  |
| 8968+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,138                                   | 0                                                | 0                                      | 117                               | 33                                | 46                                       | 71                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8968+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,160                                   | 0                                                | 0                                      | 127                               | 39                                | 55                                       | 72                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8968+75.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,129                                   | 0                                                | 0                                      | 136                               | 45                                | 63                                       | 73                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8969+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,067                                   | 0                                                | 0                                      | 146                               | 52                                | 73                                       | 73                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8969+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 991                                     | 0                                                | 0                                      | 157                               | 59                                | 83                                       | 74                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8969+50.00 | 3                            | 0                                   | 15                                           |                                    |                                                 | 18                  | 23                                                         | 882                                     | 0                                                | 0                                      | 167                               | 65                                | 91                                       | 76                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8969+75.00 | 49                           | 0                                   | 44                                           |                                    |                                                 | 93                  | 117                                                        | 719                                     | 0                                                | 0                                      | 176                               | 71                                | 99                                       | 77                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8970+00.00 | 162                          | 0                                   | 67                                           |                                    |                                                 | 229                 | 289                                                        | 462                                     | 0                                                | 0                                      | 184                               | 77                                | 108                                      | 76                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8970+25.00 | 326                          | 0                                   | 81                                           |                                    |                                                 | 407                 | 513                                                        | 129                                     | 0                                                | 0                                      | 192                               | 83                                | 116                                      | 76                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8970+50.00 | 500                          | 0                                   | 77                                           |                                    |                                                 | 577                 | 727                                                        | -171                                    | 0                                                | 0                                      | 166                               | 88                                | 123                                      | 43                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8970+75.00 | 716                          | 0                                   | 73                                           |                                    |                                                 | 789                 | 994                                                        | -522                                    | 0                                                | 0                                      | 139                               | 94                                | 132                                      | 8                                                  |      |      |      |      |      |      |      |      |  |  |  |
| 8971+00.00 | 1,085                        | 0                                   | 100                                          |                                    |                                                 | 1,185               | 1,493                                                      | -1,108                                  | 0                                                | 0                                      | 144                               | 99                                | 139                                      | 6                                                  |      |      |      |      |      |      |      |      |  |  |  |
| 8971+25.00 | 1,567                        | 0                                   | 114                                          |                                    |                                                 | 1,681               | 2,118                                                      | -1,851                                  | 0                                                | 0                                      | 149                               | 107                               | 150                                      | -1                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8971+50.00 | 2,159                        | 0                                   | 115                                          |                                    |                                                 | 2,274               | 2,865                                                      | -2,700                                  | 0                                                | 0                                      | 154                               | 120                               | 168                                      | -14                                                |      |      |      |      |      |      |      |      |  |  |  |
| 8971+75.00 | 2,786                        | 0                                   | 126                                          |                                    |                                                 | 2,912               | 3,669                                                      | -3,524                                  | 0                                                | 0                                      | 161                               | 130                               | 182                                      | -21                                                |      |      |      |      |      |      |      |      |  |  |  |
| 8972+00.00 | 3,163                        | 0                                   | 131                                          |                                    |                                                 | 3,294               | 4,151                                                      | -3,960                                  | 0                                                | 0                                      | 168                               | 137                               | 192                                      | -24                                                |      |      |      |      |      |      |      |      |  |  |  |
| 8972+25.00 | 3,292                        | 0                                   | 136                                          |                                    |                                                 | 3,428               | 4,319                                                      | -4,038                                  | 0                                                | 0                                      | 173                               | 142                               | 199                                      | -26                                                |      |      |      |      |      |      |      |      |  |  |  |
| 8972+50.00 | 3,175                        | 0                                   | 134                                          |                                    |                                                 | 3,309               | 4,169                                                      | -3,818                                  | 0                                                | 0                                      | 176                               | 142                               | 199                                      | -23                                                |      |      |      |      |      |      |      |      |  |  |  |
| 8972+75.00 | 2,781                        | 0                                   | 127                                          |                                    |                                                 | 2,908               | 3,664                                                      | -3,299                                  | 0                                                | 0                                      | 170                               | 131                               | 183                                      | -13                                                |      |      |      |      |      |      |      |      |  |  |  |
| 8973+00.00 | 2,404                        | 0                                   | 121                                          |                                    |                                                 | 2,525               | 3,182                                                      | -2,828                                  | 0                                                | 0                                      | 156                               | 118                               | 165                                      | -9                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8973+25.00 | 2,296                        | 0                                   | 123                                          |                                    |                                                 | 2,419               | 3,048                                                      | -2,693                                  | 0                                                | 0                                      | 153                               | 114                               | 160                                      | -7                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8973+50.00 | 2,415                        | 0                                   | 153                                          |                                    |                                                 | 2,568               | 9,536                                                      | -9,190                                  | 0                                                | 0                                      | 190                               | 114                               | 160                                      | 30                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8973+75.00 | 2,532                        | 0                                   | 181                                          |                                    | 5,000                                           | 2,713               | 3,418                                                      | -3,101                                  | 0                                                | 0                                      | 223                               | 110                               | 154                                      | 69                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8974+00.00 | 2,586                        | 0                                   | 176                                          |                                    |                                                 | 2,762               | 3,480                                                      | -3,198                                  | 0                                                | 0                                      | 216                               | 106                               | 148                                      | 68                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8974+25.00 | 2,609                        | 0                                   | 173                                          |                                    |                                                 | 2,782               | 3,505                                                      | -3,260                                  | 0                                                | 0                                      | 210                               | 102                               | 143                                      | 67                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8974+50.00 | 2,558                        | 0                                   | 170                                          |                                    |                                                 | 2,728               | 3,437                                                      | -3,225                                  | 0                                                | 0                                      | 205                               | 98                                | 137                                      | 68                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8974+75.00 | 2,424                        | 0                                   | 166                                          |                                    |                                                 | 2,590               | 3,263                                                      | -3,075                                  | 0                                                | 0                                      | 199                               | 94                                | 132                                      | 67                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8975+00.00 | 2,292                        | 0                                   | 155                                          |                                    |                                                 | 2,447               | 3,083                                                      | -2,994                                  | 0                                                | 0                                      | 172                               | 79                                | 111                                      | 61                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8975+25.00 | 1,914                        | 0                                   | 118                                          |                                    |                                                 | 2,032               | 2,560                                                      | -2,560                                  | 0                                                | 0                                      | 118                               | 45                                | 63                                       | 55                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8975+50.00 | 1,618                        | 0                                   | 90                                           |                                    |                                                 | 1,708               | 2,152                                                      | -2,152                                  | 0                                                | 0                                      | 90                                | 17                                | 24                                       | 66                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 8975+75.00 |                              |                                     |                                              |                                    |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |  |  |
| Cottingham |                              |                                     |                                              |                                    |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |  |  |
| Totals:    | 99,863                       | 964                                 | 9,975                                        | 3                                  | 5,060                                           | 115,865             | 145,996                                                    | -38,438                                 | 0                                                | 0                                      | 22,684                            | 10,692                            | 14,969                                   | 7,716                                              |      |      |      |      |      |      |      |      |  |  |  |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station                  | Cut                         |                                  |                    |                                    |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
|--------------------------|-----------------------------|----------------------------------|--------------------|------------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|                          | [1]                         | [2]                              | [3]                | [4]                                | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |  |
|                          | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |  |
| Cottingham South         |                             |                                  |                    |                                    |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 13025+75.00              | 329                         | 329                              | 0                  | 0                                  | 36                               | 0                          | 0                     | 0                     |                                               | 329                   |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 13026+81.50              | 287                         | 287                              | 0                  | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 287                   |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 13027+60.00              |                             |                                  |                    |                                    |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |  |
| Cottingham South Totals: | 616                         | 616                              | 0                  | 0                                  | 36                               | 0                          | 0                     | 0                     | 0                                             | 616                   |      |      |      |      |      |      |      |      |      |      |      |      |  |



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station                  | Fill                         |                                     |                                              |                                    |                                                 | Checks (EW-102)                              |                                                            | Topsoil                                 |                                                  |                                        |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|--------------------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|----------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|--|
|                          | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                         | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |  |
|                          |                              |                                     |                                              |                                    |                                                 | $\frac{[23] + [24] + [25] + [26] + [27]}{5}$ | $[28] \times 1.26$                                         | $[30] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |  |
|                          | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                          | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |  |
| Cottingham South         | 35                           | 0                                   |                                              |                                    |                                                 | 35                                           | 44                                                         | 285                                     | 0                                                | 0                                      | 0                                 | 57                                | 80                                       | -80                                                |      |      |      |      |      |      |      |  |
| 13025+75.00              | 22                           | 0                                   |                                              |                                    |                                                 | 22                                           | 28                                                         | 259                                     |                                                  |                                        | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |  |
| 13026+81.50              |                              |                                     |                                              |                                    |                                                 |                                              |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| 13027+60.00              |                              |                                     |                                              |                                    |                                                 |                                              |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| Cottingham South Totals: | 57                           | 0                                   | 0                                            | 0                                  | 0                                               | 57                                           | 72                                                         | 545                                     | 0                                                | 0                                      | 0                                 | 90                                | 126                                      | -126                                               |      |      |      |      |      |      |      |  |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station    | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| ML US20    |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 943+00.00  | 347                         | 347                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     |                                               | 347                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 943+25.00  | 397                         | 397                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     |                                               | 397                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 943+50.00  | 448                         | 448                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     |                                               | 448                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 943+75.00  | 501                         | 501                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     |                                               | 501                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 944+00.00  | 570                         | 570                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     |                                               | 570                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 944+25.00  | 684                         | 684                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     |                                               | 684                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 944+50.00  | 786                         | 761                              | 0                  | 0                                 | 41                               | 0                          | 25                    | 0                     |                                               | 761                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 944+75.00  | 838                         | 797                              | 0                  | 0                                 | 41                               | 0                          | 41                    | 0                     |                                               | 797                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 945+00.00  | 869                         | 819                              | 0                  | 0                                 | 41                               | 0                          | 50                    | 0                     |                                               | 819                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 945+25.00  | 596                         | 570                              | 0                  | 0                                 | 16                               | 0                          | 26                    | 0                     |                                               | 570                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 945+44.20  | 182                         | 179                              | 0                  | 0                                 | 5                                | 0                          | 3                     | 0                     |                                               | 179                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 945+50.00  | 893                         | 877                              | 0                  | 0                                 | 41                               | 0                          | 16                    | 0                     |                                               | 877                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 945+75.00  | 863                         | 862                              | 0                  | 0                                 | 41                               | 0                          | 1                     | 0                     |                                               | 862                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 946+00.00  | 836                         | 812                              | 0                  | 0                                 | 41                               | 24                         | 0                     | 0                     |                                               | 836                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 946+25.00  | 815                         | 760                              | 0                  | 0                                 | 41                               | 56                         | 0                     | 0                     |                                               | 816                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 946+50.00  | 799                         | 728                              | 0                  | 0                                 | 41                               | 71                         | 0                     | 0                     |                                               | 799                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 946+75.00  | 817                         | 703                              | 0                  | 0                                 | 41                               | 113                        | 0                     | 0                     |                                               | 816                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 947+00.00  | 861                         | 681                              | 0                  | 0                                 | 41                               | 180                        | 0                     | 0                     |                                               | 861                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 947+25.00  | 139                         | 122                              | 0                  | 0                                 | 3                                | 16                         | 0                     | 0                     |                                               | 138                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 947+28.84  | 775                         | 661                              | 0                  | 0                                 | 17                               | 114                        | 0                     | 0                     |                                               | 775                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 947+50.00  | 916                         | 620                              | 0                  | 0                                 | 41                               | 295                        | 0                     | 0                     |                                               | 915                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 947+75.00  | 1,048                       | 743                              | 0                  | 0                                 | 41                               | 305                        | 0                     | 0                     |                                               | 1,048                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 948+00.00  | 1,046                       | 809                              | 0                  | 0                                 | 41                               | 237                        | 0                     | 0                     |                                               | 1,046                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 948+25.00  | 994                         | 844                              | 0                  | 0                                 | 41                               | 150                        | 0                     | 0                     |                                               | 994                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 948+50.00  | 898                         | 814                              | 0                  | 0                                 | 41                               | 84                         | 0                     | 0                     |                                               | 898                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 948+75.00  | 759                         | 732                              | 0                  | 0                                 | 40                               | 27                         | 0                     | 0                     |                                               | 759                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 949+00.00  | 577                         | 577                              | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     |                                               | 577                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 949+25.00  | 425                         | 425                              | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     |                                               | 425                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 949+50.00  | 349                         | 349                              | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     |                                               | 349                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 949+75.00  | 340                         | 340                              | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     |                                               | 340                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 950+00.00  | 345                         | 345                              | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     |                                               | 345                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 950+25.00  | 376                         | 376                              | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     |                                               | 376                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 950+50.00  | 445                         | 445                              | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     |                                               | 445                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 950+75.00  | 496                         | 496                              | 0                  | 0                                 | 39                               | 0                          | 0                     | 0                     |                                               | 496                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 951+00.00  | 516                         | 516                              | 0                  | 0                                 | 39                               | 0                          | 0                     | 0                     |                                               | 516                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 951+25.00  | 468                         | 468                              | 0                  | 0                                 | 37                               | 0                          | 0                     | 0                     |                                               | 468                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 951+50.00  | 381                         | 381                              | 0                  | 0                                 | 35                               | 0                          | 0                     | 0                     |                                               | 381                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 951+75.00  | 314                         | 314                              | 0                  | 0                                 | 34                               | 0                          | 0                     | 0                     |                                               | 314                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 952+00.00  | 307                         | 270                              | 36                 | 0                                 | 32                               | 0                          | 0                     | 0                     |                                               | 270                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 952+25.00  | 294                         | 257                              | 36                 | 0                                 | 30                               | 0                          | 0                     | 0                     |                                               | 257                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 952+50.00  | 331                         | 294                              | 37                 | 0                                 | 28                               | 0                          | 0                     | 0                     |                                               | 294                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 952+75.00  | 417                         | 379                              | 37                 | 0                                 | 27                               | 0                          | 0                     | 0                     |                                               | 379                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 953+00.00  | 477                         | 440                              | 38                 | 0                                 | 27                               | 0                          | 0                     | 0                     |                                               | 440                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 953+25.00  | 489                         | 449                              | 39                 | 0                                 | 24                               | 0                          | 0                     | 0                     |                                               | 449                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 953+50.00  | 509                         | 469                              | 40                 | 0                                 | 23                               | 0                          | 0                     | 0                     |                                               | 469                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 953+75.00  | 549                         | 508                              | 41                 | 0                                 | 23                               | 0                          | 0                     | 0                     |                                               | 508                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 954+00.00  | 575                         | 533                              | 42                 | 0                                 | 24                               | 0                          | 0                     | 0                     |                                               | 533                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 954+25.00  | 599                         | 557                              | 42                 | 0                                 | 25                               | 0                          | 0                     | 0                     |                                               | 557                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 954+50.00  | 660                         | 617                              | 43                 | 0                                 | 27                               | 0                          | 0                     | 0                     |                                               | 617                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 954+75.00  | 735                         | 692                              | 44                 | 0                                 | 31                               | 0                          | 0                     | 0                     |                                               | 692                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 955+00.00  | 855                         | 811                              | 44                 | 0                                 | 34                               | 0                          | 0                     | 0                     |                                               | 811                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 955+25.00  | 1,023                       | 977                              | 45                 | 0                                 | 38                               | 0                          | 0                     | 0                     |                                               | 977                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 955+50.00  | 1,139                       | 1,088                            | 45                 | 0                                 | 42                               | 6                          | 0                     | 0                     |                                               | 1,094                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 955+75.00  | 1,194                       | 1,120                            | 46                 | 0                                 | 44                               | 29                         | 0                     | 0                     |                                               | 1,149                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 956+00.00  | 1,236                       | 1,146                            | 47                 | 0                                 | 44                               | 43                         | 0                     | 0                     |                                               | 1,189                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 956+25.00  | 1,254                       | 1,173                            | 48                 | 0                                 | 30                               | 32                         | 0                     | 0                     |                                               | 1,205                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 956+50.00  | 734                         | 657                              | 49                 | 16                                | 14                               | 12                         | 0                     | 0                     |                                               | 685                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 956+75.00  | 711                         | 629                              | 45                 | 37                                | 24                               | 0                          | 0                     | 0                     |                                               | 666                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 957+00.00  | 727                         | 639                              | 41                 | 47                                | 35                               | 0                          | 0                     | 0                     |                                               | 686                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 957+25.00  | 767                         | 667                              | 41                 | 59                                | 27                               | 0                          | 0                     | 0                     |                                               | 726                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 957+50.00  | 741                         | 633                              | 42                 | 66                                | 26                               | 0                          | 0                     | 0                     |                                               | 699                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 957+75.00  | 498                         | 427                              | 38                 | 34                                | 27                               | 0                          | 0                     | 0                     |                                               | 461                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 958+00.00  | 291                         | 257                              | 34                 | 0                                 | 21                               | 0                          | 0                     | 0                     |                                               | 257                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 958+25.00  | 418                         | 383                              | 35                 | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 383                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 958+50.00  | 403                         | 369                              | 35                 | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 369                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 958+75.00  | 427                         | 391                              | 36                 | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 391                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 959+00.00  | 471                         | 413                              | 59                 | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 413                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 959+25.00  |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals: | 42,540                      | 39,118                           | 1,205              | 259                               | 2,209                            | 1,794                      | 162                   | 0                     | 0                                             | 41,171                |      |      |      |      |      |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Fill                  |        |                                     |                                              |                                     |                                                 |                     | Checks (EW-102)                                            |                                         | Topsoil                                          |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
|------------|-----------------------|--------|-------------------------------------|----------------------------------------------|-------------------------------------|-------------------------------------------------|---------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|--|
|            | [23]                  | [24]   | [25]                                | [26]                                         | [27]                                | [28]                                            | [29]                | [30]                                                       | [31]                                    | [32]                                             | [33]                                   | [34]                              | [35]                              | [36]                                     | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|            | Total Fill Unadjusted | Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+ Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |  |
| ML_US20    |                       |        |                                     |                                              |                                     |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| 943+00.00  | 137                   | 0      |                                     |                                              |                                     | 1,860                                           | 1,997               | 2,516                                                      | -2,169                                  | 37                                               | 0                                      | 0                                 | 89                                | 125                                      | -125                                               |      |      |      |      |      |      |      |  |
| 943+25.00  | 90                    | 0      |                                     |                                              |                                     |                                                 | 90                  | 113                                                        | 284                                     | 37                                               | 0                                      | 0                                 | 86                                | 120                                      | -120                                               |      |      |      |      |      |      |      |  |
| 943+50.00  | 59                    | 0      |                                     |                                              |                                     |                                                 | 59                  | 74                                                         | 374                                     | 0                                                | 0                                      | 0                                 | 82                                | 115                                      | -115                                               |      |      |      |      |      |      |      |  |
| 943+75.00  | 36                    | 0      |                                     |                                              |                                     |                                                 | 36                  | 45                                                         | 456                                     | 0                                                | 0                                      | 0                                 | 78                                | 109                                      | -109                                               |      |      |      |      |      |      |      |  |
| 944+00.00  | 26                    | 0      |                                     |                                              |                                     |                                                 | 26                  | 33                                                         | 537                                     | 0                                                | 0                                      | 0                                 | 78                                | 109                                      | -109                                               |      |      |      |      |      |      |      |  |
| 944+25.00  | 21                    | 0      |                                     |                                              |                                     |                                                 | 21                  | 27                                                         | 658                                     | 0                                                | 0                                      | 0                                 | 83                                | 116                                      | -116                                               |      |      |      |      |      |      |      |  |
| 944+50.00  | 21                    | 0      |                                     |                                              |                                     |                                                 | 21                  | 27                                                         | 735                                     | 0                                                | 0                                      | 0                                 | 88                                | 123                                      | -123                                               |      |      |      |      |      |      |      |  |
| 944+75.00  | 22                    | 0      |                                     |                                              |                                     |                                                 | 22                  | 28                                                         | 769                                     | 0                                                | 0                                      | 0                                 | 91                                | 127                                      | -127                                               |      |      |      |      |      |      |      |  |
| 945+00.00  | 22                    | 0      |                                     |                                              |                                     |                                                 | 22                  | 28                                                         | 791                                     | 0                                                | 0                                      | 0                                 | 92                                | 129                                      | -129                                               |      |      |      |      |      |      |      |  |
| 945+25.00  | 15                    | 0      |                                     |                                              | 15                                  |                                                 | 30                  | 38                                                         | 532                                     | 0                                                | 0                                      | 0                                 | 71                                | 99                                       | -99                                                |      |      |      |      |      |      |      |  |
| 945+44.20  | 4                     | 0      |                                     |                                              | 4                                   |                                                 | 8                   | 10                                                         | 169                                     | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |  |
| 945+50.00  | 22                    | 0      |                                     |                                              |                                     |                                                 | 22                  | 28                                                         | 849                                     | 0                                                | 0                                      | 0                                 | 92                                | 129                                      | -129                                               |      |      |      |      |      |      |      |  |
| 945+75.00  | 24                    | 0      |                                     |                                              |                                     |                                                 | 24                  | 30                                                         | 832                                     | 0                                                | 0                                      | 0                                 | 92                                | 129                                      | -129                                               |      |      |      |      |      |      |      |  |
| 946+00.00  | 25                    | 0      |                                     |                                              |                                     |                                                 | 25                  | 32                                                         | 805                                     | 0                                                | 0                                      | 0                                 | 91                                | 127                                      | -127                                               |      |      |      |      |      |      |      |  |
| 946+25.00  | 26                    | 0      |                                     |                                              |                                     |                                                 | 26                  | 33                                                         | 783                                     | 0                                                | 0                                      | 0                                 | 89                                | 125                                      | -125                                               |      |      |      |      |      |      |      |  |
| 946+50.00  | 25                    | 0      |                                     |                                              |                                     |                                                 | 25                  | 32                                                         | 768                                     | 0                                                | 0                                      | 0                                 | 87                                | 122                                      | -122                                               |      |      |      |      |      |      |      |  |
| 946+75.00  | 24                    | 0      |                                     |                                              |                                     |                                                 | 24                  | 30                                                         | 786                                     | 0                                                | 0                                      | 0                                 | 86                                | 120                                      | -120                                               |      |      |      |      |      |      |      |  |
| 947+00.00  | 23                    | 0      |                                     |                                              |                                     |                                                 | 23                  | 29                                                         | 832                                     | 0                                                | 0                                      | 0                                 | 86                                | 120                                      | -120                                               |      |      |      |      |      |      |      |  |
| 947+25.00  | 4                     | 0      |                                     |                                              | 3                                   |                                                 | 7                   | 9                                                          | 129                                     | 0                                                | 0                                      | 0                                 | 13                                | 18                                       | -18                                                |      |      |      |      |      |      |      |  |
| 947+28.84  | 20                    | 0      |                                     |                                              | 17                                  |                                                 | 37                  | 47                                                         | 728                                     | 0                                                | 0                                      | 0                                 | 72                                | 101                                      | -101                                               |      |      |      |      |      |      |      |  |
| 947+50.00  | 26                    | 0      |                                     |                                              |                                     |                                                 | 26                  | 33                                                         | 882                                     | 0                                                | 0                                      | 0                                 | 84                                | 118                                      | -118                                               |      |      |      |      |      |      |      |  |
| 947+75.00  | 28                    | 119    |                                     |                                              |                                     |                                                 | 147                 | 185                                                        | 863                                     | 0                                                | 0                                      | 0                                 | 85                                | 119                                      | -119                                               |      |      |      |      |      |      |      |  |
| 948+00.00  | 30                    | 119    |                                     |                                              |                                     |                                                 | 149                 | 188                                                        | 858                                     | 0                                                | 0                                      | 0                                 | 85                                | 119                                      | -119                                               |      |      |      |      |      |      |      |  |
| 948+25.00  | 33                    | 118    |                                     |                                              |                                     |                                                 | 151                 | 190                                                        | 804                                     | 0                                                | 0                                      | 0                                 | 87                                | 122                                      | -122                                               |      |      |      |      |      |      |      |  |
| 948+50.00  | 42                    | 116    |                                     |                                              |                                     |                                                 | 158                 | 199                                                        | 699                                     | 0                                                | 0                                      | 0                                 | 88                                | 123                                      | -123                                               |      |      |      |      |      |      |      |  |
| 948+75.00  | 60                    | 114    |                                     |                                              |                                     |                                                 | 174                 | 219                                                        | 540                                     | 0                                                | 0                                      | 0                                 | 89                                | 125                                      | -125                                               |      |      |      |      |      |      |      |  |
| 949+00.00  | 94                    | 115    |                                     |                                              |                                     |                                                 | 209                 | 263                                                        | 314                                     | 37                                               | 0                                      | 0                                 | 87                                | 122                                      | -122                                               |      |      |      |      |      |      |      |  |
| 949+25.00  | 153                   | 116    |                                     |                                              |                                     |                                                 | 269                 | 339                                                        | 86                                      | 29                                               | 0                                      | 0                                 | 85                                | 119                                      | -119                                               |      |      |      |      |      |      |      |  |
| 949+50.00  | 256                   | 116    |                                     |                                              |                                     |                                                 | 372                 | 469                                                        | -120                                    | 21                                               | 0                                      | 0                                 | 88                                | 123                                      | -123                                               |      |      |      |      |      |      |      |  |
| 949+75.00  | 393                   | 116    |                                     |                                              |                                     |                                                 | 509                 | 641                                                        | -301                                    | 170                                              | 0                                      | 0                                 | 92                                | 129                                      | -129                                               |      |      |      |      |      |      |      |  |
| 950+00.00  | 520                   | 115    |                                     |                                              |                                     |                                                 | 635                 | 800                                                        | -455                                    | 318                                              | 0                                      | 0                                 | 96                                | 134                                      | -134                                               |      |      |      |      |      |      |      |  |
| 950+25.00  | 618                   | 112    |                                     |                                              | 1                                   |                                                 | 731                 | 921                                                        | -545                                    | 318                                              | 0                                      | 0                                 | 104                               | 146                                      | -146                                               |      |      |      |      |      |      |      |  |
| 950+50.00  | 695                   | 109    |                                     |                                              | 1                                   |                                                 | 805                 | 1,014                                                      | -569                                    | 318                                              | 0                                      | 0                                 | 113                               | 158                                      | -158                                               |      |      |      |      |      |      |      |  |
| 950+75.00  | 769                   | 101    |                                     |                                              | 2                                   |                                                 | 872                 | 1,099                                                      | -603                                    | 318                                              | 0                                      | 0                                 | 116                               | 162                                      | -162                                               |      |      |      |      |      |      |      |  |
| 951+00.00  | 842                   | 95     |                                     |                                              | 2                                   |                                                 | 939                 | 1,183                                                      | -667                                    | 318                                              | 0                                      | 0                                 | 119                               | 167                                      | -167                                               |      |      |      |      |      |      |      |  |
| 951+25.00  | 879                   | 93     |                                     |                                              | 4                                   |                                                 | 976                 | 1,230                                                      | -762                                    | 318                                              | 0                                      | 0                                 | 120                               | 168                                      | -168                                               |      |      |      |      |      |      |      |  |
| 951+50.00  | 879                   | 84     |                                     |                                              | 6                                   |                                                 | 969                 | 1,221                                                      | -840                                    | 318                                              | 0                                      | 0                                 | 121                               | 169                                      | -169                                               |      |      |      |      |      |      |      |  |
| 951+75.00  | 880                   | 75     |                                     |                                              | 7                                   |                                                 | 962                 | 1,212                                                      | -898                                    | 318                                              | 0                                      | 0                                 | 122                               | 171                                      | -171                                               |      |      |      |      |      |      |      |  |
| 952+00.00  | 854                   | 70     | 30                                  |                                              | 9                                   |                                                 | 963                 | 1,213                                                      | -943                                    | 318                                              | 1,152                                  | 36                                | 121                               | 169                                      | -133                                               |      |      |      |      |      |      |      |  |
| 952+25.00  | 776                   | 68     | 30                                  |                                              | 11                                  |                                                 | 885                 | 1,115                                                      | -858                                    | 496                                              | 980                                    | 36                                | 121                               | 169                                      | -133                                               |      |      |      |      |      |      |      |  |
| 952+50.00  | 653                   | 70     | 31                                  |                                              | 13                                  |                                                 | 767                 | 967                                                        | -673                                    | 659                                              | 760                                    | 37                                | 120                               | 168                                      | -131                                               |      |      |      |      |      |      |      |  |
| 952+75.00  | 547                   | 72     | 31                                  |                                              | 14                                  |                                                 | 664                 | 837                                                        | -458                                    | 529                                              | 630                                    | 37                                | 119                               | 167                                      | -130                                               |      |      |      |      |      |      |      |  |
| 953+00.00  | 492                   | 73     | 30                                  |                                              | 14                                  |                                                 | 609                 | 767                                                        | -327                                    | 460                                              | 561                                    | 38                                | 118                               | 165                                      | -127                                               |      |      |      |      |      |      |      |  |
| 953+25.00  | 446                   | 72     | 30                                  |                                              | 17                                  |                                                 | 565                 | 712                                                        | -263                                    | 401                                              | 501                                    | 39                                | 117                               | 164                                      | -125                                               |      |      |      |      |      |      |      |  |
| 953+50.00  | 404                   | 77     | 30                                  |                                              | 18                                  |                                                 | 529                 | 667                                                        | -198                                    | 354                                              | 454                                    | 40                                | 114                               | 160                                      | -120                                               |      |      |      |      |      |      |      |  |
| 953+75.00  | 355                   | 86     | 29                                  |                                              | 18                                  |                                                 | 488                 | 615                                                        | -107                                    | 302                                              | 403                                    | 41                                | 111                               | 155                                      | -114                                               |      |      |      |      |      |      |      |  |
| 954+00.00  | 305                   | 94     | 29                                  |                                              | 17                                  |                                                 | 445                 | 561                                                        | -28                                     | 249                                              | 350                                    | 42                                | 102                               | 143                                      | -101                                               |      |      |      |      |      |      |      |  |
| 954+25.00  | 253                   | 105    | 28                                  |                                              | 16                                  |                                                 | 402                 | 507                                                        | 50                                      | 197                                              | 297                                    | 42                                | 95                                | 133                                      | -91                                                |      |      |      |      |      |      |      |  |
| 954+50.00  | 193                   | 124    | 29                                  |                                              | 14                                  |                                                 | 360                 | 454                                                        | 163                                     | 146                                              | 247                                    | 43                                | 95                                | 133                                      | -90                                                |      |      |      |      |      |      |      |  |
| 954+75.00  | 150                   | 135    | 29                                  |                                              | 10                                  |                                                 | 324                 | 408                                                        | 284                                     | 112                                              | 173                                    | 44                                | 99                                | 139                                      | -95                                                |      |      |      |      |      |      |      |  |
| 955+00.00  | 98                    | 143    | 21                                  |                                              | 7                                   |                                                 | 269                 | 339                                                        | 472                                     | 52                                               | 72                                     | 44                                | 99                                | 139                                      | -95                                                |      |      |      |      |      |      |      |  |
| 955+25.00  | 52                    | 159    | 10                                  |                                              | 5                                   |                                                 | 226                 | 285                                                        | 692                                     | 0                                                | 20                                     | 45                                | 96                                | 134                                      | -89                                                |      |      |      |      |      |      |      |  |
| 955+50.00  | 39                    | 173    | 4                                   |                                              | 2                                   |                                                 | 218                 | 275                                                        | 819                                     | 0                                                | 14                                     | 45                                | 97                                | 136                                      | -91                                                |      |      |      |      |      |      |      |  |
| 955+75.00  | 31                    | 188    | 2                                   |                                              |                                     |                                                 | 221                 | 279                                                        | 871                                     | 0                                                | 21                                     | 46                                | 97                                | 136                                      | -90                                                |      |      |      |      |      |      |      |  |
| 956+00.00  | 29                    | 203    |                                     |                                              |                                     |                                                 | 232                 | 292                                                        | 897                                     | 0                                                | 0                                      | 47                                | 94                                | 132                                      | -85                                                |      |      |      |      |      |      |      |  |
| 956+25.00  | 17                    | 357    | 2                                   |                                              |                                     |                                                 | 376                 | 474                                                        | 731                                     | 195                                              | 215                                    | 48                                | 76                                | 106                                      | -58                                                |      |      |      |      |      |      |      |  |
| 956+50.00  | 7                     | 0      | 5                                   |                                              |                                     |                                                 | 12                  | 15                                                         | 670                                     | 0                                                | 0                                      | 49                                | 61                                | 85                                       | -36                                                |      |      |      |      |      |      |      |  |
| 956+75.00  | 12                    | 0      | 6                                   |                                              |                                     |                                                 | 18                  | 23                                                         | 643                                     | 0                                                | 0                                      | 45                                | 63                                | 88                                       | -43                                                |      |      |      |      |      |      |      |  |
| 957+00.00  | 12                    | 0      | 6                                   |                                              |                                     | 2                                               | 20                  | 25                                                         | 661                                     | 0                                                | 0                                      | 41                                | 64                                | 90                                       | -49                                                |      |      |      |      |      |      |      |  |
| 957+25.00  | 7                     | 0      | 3                                   |                                              | 9                                   |                                                 | 19                  | 24                                                         | 702                                     | 0                                                | 0                                      | 41                                | 66                                | 92                                       | -51                                                |      |      |      |      |      |      |      |  |
| 957+50.00  | 14                    | 0      | 4                                   |                                              | 7                                   |                                                 | 25                  | 32                                                         | 668                                     | 0                                                | 0                                      | 42                                | 65                                | 91                                       | -49                                                |      |      |      |      |      |      |      |  |
| 957+75.00  | 16                    | 0      | 5                                   |                                              |                                     |                                                 | 21                  | 27                                                         | 435                                     | 0                                                | 0                                      | 38                                | 53                                | 53                                       | -15                                                |      |      |      |      |      |      |      |  |
| 958+00.00  | 16                    | 0      | 4                                   |                                              |                                     |                                                 | 20                  | 25                                                         | 232                                     | 0                                                | 0                                      | 34                                | 12                                | 17                                       | 17                                                 |      |      |      |      |      |      |      |  |
| 958+25.00  | 53                    | 120    | 9                                   |                                              |                                     |                                                 | 182                 | 229                                                        | 154                                     | 0                                                | 0                                      | 35                                | 12                                | 17                                       | 18                                                 |      |      |      |      |      |      |      |  |
| 958+50.00  | 94                    | 83     | 12                                  |                                              |                                     |                                                 | 189                 | 238                                                        | 131                                     | 0                                                | 0                                      | 35                                | 12                                | 17                                       | 18                                                 |      |      |      |      |      |      |      |  |
| 958+75.00  | 98                    | 70     | 14                                  |                                              |                                     |                                                 | 182                 | 229                                                        | 162                                     | 0                                                | 11                                     | 36                                | 12                                | 17                                       | 19                                                 |      |      |      |      |      |      |      |  |
| 959+00.00  | 77                    | 60     | 30                                  |                                              |                                     |                                                 | 167                 | 211                                                        | 203                                     | 8                                                | 30                                     | 59                                | 15                                | 21                                       | 38                                                 |      |      |      |      |      |      |      |  |
| 959+25.00  |                       |        |                                     |                                              |                                     |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| Subtotals: | 13,943                | 4,435  | 493                                 | 265                                          | 1,860                               | 20,996                                          | 26,458              | 14,713                                                     | 7,347                                   | 6,891                                            | 1,205                                  | 5,659                             | 7,923                             | -6,718                                   |                                                    |      |      |      |      |      |      |      |  |



## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 959+25.00  | 526                         | 444                              | 82                 | 0                                 | 19                               | 0                          | 0                     | 0                     | 0                                             | 444                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 959+50.00  | 787                         | 697                              | 90                 | 0                                 | 19                               | 0                          | 0                     | 0                     | 0                                             | 697                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 959+75.00  | 696                         | 598                              | 98                 | 0                                 | 19                               | 0                          | 0                     | 0                     | 0                                             | 598                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 960+00.00  | 903                         | 791                              | 100                | 11                                | 19                               | 0                          | 0                     | 0                     | 0                                             | 802                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 960+25.00  | 1,135                       | 850                              | 105                | 162                               | 19                               | 19                         | 0                     | 0                     | 0                                             | 1,031                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 960+50.00  | 1,366                       | 694                              | 107                | 521                               | 19                               | 44                         | 0                     | 0                     | 0                                             | 1,259                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 960+75.00  | 1,590                       | 473                              | 109                | 949                               | 19                               | 60                         | 0                     | 0                     | 0                                             | 1,482                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 961+00.00  | 1,784                       | 483                              | 111                | 754                               | 19                               | 437                        | 0                     | 0                     | 0                                             | 1,674                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 961+25.00  | 1,965                       | 727                              | 114                | 449                               | 19                               | 675                        | 0                     | 0                     | 0                                             | 1,851                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 961+50.00  | 2,120                       | 941                              | 118                | 788                               | 19                               | 272                        | 0                     | 0                     | 0                                             | 2,001                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 961+75.00  | 2,207                       | 1,094                            | 120                | 993                               | 19                               | 0                          | 0                     | 0                     | 0                                             | 2,087                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 962+00.00  | 2,234                       | 1,184                            | 121                | 929                               | 19                               | 0                          | 0                     | 0                     | 0                                             | 2,113                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 962+25.00  | 2,198                       | 1,203                            | 123                | 450                               | 18                               | 143                        | 279                   | 0                     | 0                                             | 1,796                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 962+50.00  | 2,173                       | 1,212                            | 125                | 0                                 | 15                               | 268                        | 569                   | 0                     | 0                                             | 1,480                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 962+75.00  | 2,149                       | 1,131                            | 127                | 0                                 | 11                               | 298                        | 593                   | 0                     | 0                                             | 1,429                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 963+00.00  | 2,049                       | 1,032                            | 129                | 0                                 | 8                                | 277                        | 612                   | 0                     | 0                                             | 1,309                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 963+25.00  | 1,911                       | 963                              | 131                | 0                                 | 5                                | 213                        | 604                   | 0                     | 0                                             | 1,176                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 963+50.00  | 1,757                       | 821                              | 133                | 0                                 | 1                                | 231                        | 573                   | 0                     | 0                                             | 1,052                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 963+75.00  | 1,663                       | 799                              | 134                | 0                                 | 0                                | 342                        | 387                   | 0                     | 0                                             | 1,141                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 964+00.00  | 1,602                       | 739                              | 165                | 0                                 | 0                                | 443                        | 255                   | 0                     | 0                                             | 1,182                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 964+25.00  | 1,555                       | 618                              | 195                | 0                                 | 0                                | 374                        | 368                   | 0                     | 0                                             | 992                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 964+50.00  | 1,649                       | 705                              | 196                | 0                                 | 0                                | 316                        | 432                   | 0                     | 0                                             | 1,021                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 964+75.00  | 1,860                       | 918                              | 197                | 0                                 | 0                                | 333                        | 412                   | 0                     | 0                                             | 1,251                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 965+00.00  | 2,111                       | 1,110                            | 197                | 0                                 | 0                                | 383                        | 421                   | 0                     | 0                                             | 1,493                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 965+25.00  | 2,378                       | 1,249                            | 198                | 0                                 | 0                                | 483                        | 448                   | 0                     | 0                                             | 1,732                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 965+50.00  | 2,565                       | 1,317                            | 198                | 0                                 | 0                                | 819                        | 231                   | 0                     | 0                                             | 2,136                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 965+75.00  | 2,579                       | 1,139                            | 198                | 0                                 | 0                                | 1,242                      | 0                     | 0                     | 0                                             | 2,381                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 966+00.00  | 2,483                       | 980                              | 197                | 0                                 | 0                                | 1,307                      | 0                     | 0                     | 0                                             | 2,287                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 966+25.00  | 2,392                       | 944                              | 195                | 0                                 | 0                                | 1,252                      | 0                     | 0                     | 0                                             | 2,196                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 966+50.00  | 2,381                       | 899                              | 194                | 0                                 | 0                                | 665                        | 624                   | 0                     | 0                                             | 1,564                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 966+75.00  | 2,455                       | 937                              | 193                | 0                                 | 0                                | 56                         | 1,270                 | 0                     | 0                                             | 993                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 967+00.00  | 2,597                       | 936                              | 191                | 0                                 | 0                                | 53                         | 1,416                 | 0                     | 0                                             | 989                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 967+25.00  | 2,810                       | 909                              | 190                | 0                                 | 0                                | 51                         | 1,660                 | 0                     | 0                                             | 960                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 967+50.00  | 3,077                       | 972                              | 189                | 122                               | 0                                | 905                        | 890                   | 0                     | 0                                             | 1,999                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 967+75.00  | 3,345                       | 1,110                            | 187                | 191                               | 0                                | 1,857                      | 0                     | 0                     | 0                                             | 3,158                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 968+00.00  | 3,548                       | 1,291                            | 186                | 108                               | 0                                | 1,962                      | 0                     | 0                     | 0                                             | 3,361                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 968+25.00  | 3,654                       | 1,590                            | 185                | 86                                | 0                                | 1,793                      | 0                     | 0                     | 0                                             | 3,469                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 968+50.00  | 3,685                       | 1,846                            | 183                | 48                                | 0                                | 1,608                      | 0                     | 0                     | 0                                             | 3,502                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 968+75.00  | 3,666                       | 1,964                            | 182                | 0                                 | 0                                | 1,519                      | 0                     | 0                     | 0                                             | 3,483                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 969+00.00  | 3,632                       | 2,183                            | 181                | 549                               | 0                                | 719                        | 0                     | 0                     | 0                                             | 3,451                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 969+25.00  | 3,596                       | 2,200                            | 181                | 1,215                             | 0                                | 0                          | 0                     | 0                     | 0                                             | 3,415                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 969+50.00  | 3,523                       | 2,231                            | 181                | 1,110                             | 0                                | 0                          | 0                     | 0                     | 0                                             | 3,341                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 969+75.00  | 3,386                       | 2,295                            | 181                | 910                               | 0                                | 0                          | 0                     | 0                     | 0                                             | 3,205                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 970+00.00  | 3,233                       | 2,337                            | 181                | 714                               | 0                                | 0                          | 0                     | 0                     | 0                                             | 3,051                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 970+25.00  | 3,096                       | 2,435                            | 181                | 480                               | 0                                | 0                          | 0                     | 0                     | 0                                             | 2,915                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 970+50.00  | 2,948                       | 2,326                            | 181                | 440                               | 0                                | 0                          | 0                     | 0                     | 0                                             | 2,766                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 970+75.00  | 2,796                       | 2,203                            | 181                | 411                               | 0                                | 0                          | 0                     | 0                     | 0                                             | 2,614                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 971+00.00  | 2,639                       | 2,105                            | 181                | 352                               | 0                                | 0                          | 0                     | 0                     | 0                                             | 2,457                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 971+25.00  | 2,465                       | 2,027                            | 181                | 178                               | 0                                | 78                         | 0                     | 0                     | 0                                             | 2,283                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 971+50.00  | 2,258                       | 1,914                            | 181                | 39                                | 0                                | 124                        | 0                     | 0                     | 0                                             | 2,077                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 971+75.00  | 2,070                       | 1,798                            | 183                | 12                                | 0                                | 78                         | 0                     | 0                     | 0                                             | 1,888                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 972+00.00  | 1,872                       | 1,681                            | 154                | 2                                 | 0                                | 35                         | 0                     | 0                     | 0                                             | 1,718                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 972+25.00  | 1,597                       | 1,469                            | 125                | 0                                 | 0                                | 3                          | 0                     | 0                     | 0                                             | 1,472                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 972+50.00  | 1,310                       | 1,184                            | 127                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 1,184                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 972+75.00  | 1,079                       | 950                              | 129                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 950                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 973+00.00  | 866                         | 734                              | 132                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 734                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 973+25.00  | 604                         | 470                              | 134                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 470                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 973+50.00  | 382                         | 245                              | 137                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 245                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 973+75.00  | 408                         | 269                              | 139                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 269                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 974+00.00  | 262                         | 118                              | 141                | 0                                 | 0                                | 3                          | 0                     | 0                     | 0                                             | 121                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 974+25.00  | 187                         | 31                               | 144                | 0                                 | 0                                | 12                         | 0                     | 0                     | 0                                             | 43                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 974+50.00  | 161                         | 6                                | 146                | 0                                 | 0                                | 9                          | 0                     | 0                     | 0                                             | 15                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 974+75.00  | 189                         | 17                               | 149                | 0                                 | 0                                | 22                         | 0                     | 0                     | 0                                             | 39                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 975+00.00  | 238                         | 63                               | 150                | 0                                 | 0                                | 26                         | 0                     | 0                     | 0                                             | 89                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 975+25.00  | 282                         | 127                              | 149                | 0                                 | 0                                | 6                          | 0                     | 0                     | 0                                             | 133                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 975+50.00  | 311                         | 159                              | 149                | 0                                 | 0                                | 3                          | 0                     | 0                     | 0                                             | 162                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 975+75.00  | 296                         | 105                              | 149                | 0                                 | 0                                | 43                         | 0                     | 0                     | 0                                             | 148                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 976+00.00  | 289                         | 70                               | 148                | 0                                 | 0                                | 71                         | 0                     | 0                     | 0                                             | 141                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 976+25.00  |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals: | 129,580                     | 72,062                           | 10,569             | 12,973                            | 286                              | 21,932                     | 12,044                | 0                     | 0                                             | 106,967               |      |      |      |      |      |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          | [37]  | [38] | [39] | [40] | [41] | [42] | [43] | [44] |                                                    |
|------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|-------|------|------|------|------|------|------|------|----------------------------------------------------|
|            | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     |       |      |      |      |      |      |      |      | [36]                                               |
|            |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        |       |      |      |      |      |      |      |      | $[33] - [35]$                                      |
|            | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor |       |      |      |      |      |      |      |      | Topsoil Stripping Minus Topsoil Placement w/Shrink |
| 959+25.00  | 43                           | 65                                  | 44                                           |                                    |                                                 | 152                                             | 192                                                        | 252                                     | 0                                                | 11                                     | 82                                | 17                                | 24                                       | 58    |      |      |      |      |      |      |      |                                                    |
| 959+50.00  | 11                           | 247                                 | 26                                           |                                    |                                                 | 284                                             | 358                                                        | 339                                     | 156                                              | 178                                    | 90                                | 26                                | 36                                       | 54    |      |      |      |      |      |      |      |                                                    |
| 959+75.00  | 0                            | 0                                   | 6                                            |                                    |                                                 | 6                                               | 8                                                          | 590                                     | 0                                                | 0                                      | 98                                | 33                                | 46                                       | 52    |      |      |      |      |      |      |      |                                                    |
| 960+00.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                                               | 1                                                          | 801                                     | 0                                                | 0                                      | 100                               | 34                                | 48                                       | 52    |      |      |      |      |      |      |      |                                                    |
| 960+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,031                                   | 0                                                | 0                                      | 105                               | 38                                | 53                                       | 52    |      |      |      |      |      |      |      |                                                    |
| 960+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,259                                   | 0                                                | 0                                      | 107                               | 38                                | 53                                       | 54    |      |      |      |      |      |      |      |                                                    |
| 960+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,482                                   | 0                                                | 0                                      | 109                               | 40                                | 56                                       | 53    |      |      |      |      |      |      |      |                                                    |
| 961+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,674                                   | 0                                                | 0                                      | 111                               | 37                                | 52                                       | 59    |      |      |      |      |      |      |      |                                                    |
| 961+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,851                                   | 0                                                | 0                                      | 114                               | 33                                | 46                                       | 68    |      |      |      |      |      |      |      |                                                    |
| 961+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,001                                   | 0                                                | 0                                      | 118                               | 43                                | 60                                       | 58    |      |      |      |      |      |      |      |                                                    |
| 961+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,087                                   | 0                                                | 0                                      | 120                               | 53                                | 74                                       | 46    |      |      |      |      |      |      |      |                                                    |
| 962+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,113                                   | 0                                                | 0                                      | 121                               | 54                                | 76                                       | 45    |      |      |      |      |      |      |      |                                                    |
| 962+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,796                                   | 0                                                | 0                                      | 123                               | 48                                | 67                                       | 56    |      |      |      |      |      |      |      |                                                    |
| 962+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,480                                   | 0                                                | 0                                      | 125                               | 43                                | 60                                       | 65    |      |      |      |      |      |      |      |                                                    |
| 962+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,429                                   | 0                                                | 0                                      | 127                               | 44                                | 62                                       | 65    |      |      |      |      |      |      |      |                                                    |
| 963+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,309                                   | 0                                                | 0                                      | 129                               | 43                                | 60                                       | 69    |      |      |      |      |      |      |      |                                                    |
| 963+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,176                                   | 0                                                | 0                                      | 131                               | 44                                | 62                                       | 69    |      |      |      |      |      |      |      |                                                    |
| 963+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,052                                   | 0                                                | 0                                      | 133                               | 46                                | 64                                       | 69    |      |      |      |      |      |      |      |                                                    |
| 963+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,125                                   | 0                                                | 0                                      | 134                               | 48                                | 67                                       | 67    |      |      |      |      |      |      |      |                                                    |
| 964+00.00  | 0                            | 0                                   |                                              | 13                                 |                                                 | 13                                              | 16                                                         | 1,182                                   | 0                                                | 0                                      | 165                               | 47                                | 66                                       | 99    |      |      |      |      |      |      |      |                                                    |
| 964+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 992                                     | 0                                                | 0                                      | 195                               | 46                                | 64                                       | 131   |      |      |      |      |      |      |      |                                                    |
| 964+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,021                                   | 0                                                | 0                                      | 196                               | 54                                | 76                                       | 120   |      |      |      |      |      |      |      |                                                    |
| 964+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,251                                   | 0                                                | 0                                      | 197                               | 61                                | 85                                       | 112   |      |      |      |      |      |      |      |                                                    |
| 965+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,493                                   | 0                                                | 0                                      | 197                               | 58                                | 81                                       | 116   |      |      |      |      |      |      |      |                                                    |
| 965+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,732                                   | 0                                                | 0                                      | 198                               | 55                                | 77                                       | 121   |      |      |      |      |      |      |      |                                                    |
| 965+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,136                                   | 0                                                | 0                                      | 198                               | 50                                | 70                                       | 128   |      |      |      |      |      |      |      |                                                    |
| 965+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,381                                   | 0                                                | 0                                      | 198                               | 45                                | 63                                       | 135   |      |      |      |      |      |      |      |                                                    |
| 966+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,287                                   | 0                                                | 0                                      | 197                               | 44                                | 62                                       | 135   |      |      |      |      |      |      |      |                                                    |
| 966+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,196                                   | 0                                                | 0                                      | 195                               | 44                                | 62                                       | 133   |      |      |      |      |      |      |      |                                                    |
| 966+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,564                                   | 0                                                | 0                                      | 194                               | 47                                | 66                                       | 128   |      |      |      |      |      |      |      |                                                    |
| 966+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 993                                     | 0                                                | 0                                      | 193                               | 50                                | 70                                       | 123   |      |      |      |      |      |      |      |                                                    |
| 967+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 989                                     | 0                                                | 0                                      | 191                               | 49                                | 69                                       | 122   |      |      |      |      |      |      |      |                                                    |
| 967+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 960                                     | 0                                                | 0                                      | 190                               | 48                                | 67                                       | 123   |      |      |      |      |      |      |      |                                                    |
| 967+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,999                                   | 0                                                | 0                                      | 189                               | 43                                | 60                                       | 129   |      |      |      |      |      |      |      |                                                    |
| 967+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 3,158                                   | 0                                                | 0                                      | 187                               | 38                                | 53                                       | 134   |      |      |      |      |      |      |      |                                                    |
| 968+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 3,361                                   | 0                                                | 0                                      | 186                               | 37                                | 52                                       | 134   |      |      |      |      |      |      |      |                                                    |
| 968+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 3,469                                   | 0                                                | 0                                      | 185                               | 37                                | 52                                       | 133   |      |      |      |      |      |      |      |                                                    |
| 968+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 3,502                                   | 0                                                | 0                                      | 183                               | 36                                | 50                                       | 133   |      |      |      |      |      |      |      |                                                    |
| 968+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 3,483                                   | 0                                                | 0                                      | 182                               | 34                                | 48                                       | 134   |      |      |      |      |      |      |      |                                                    |
| 969+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 3,451                                   | 0                                                | 0                                      | 181                               | 42                                | 59                                       | 122   |      |      |      |      |      |      |      |                                                    |
| 969+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 3,415                                   | 0                                                | 0                                      | 181                               | 50                                | 70                                       | 111   |      |      |      |      |      |      |      |                                                    |
| 969+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 3,341                                   | 0                                                | 0                                      | 181                               | 50                                | 70                                       | 111   |      |      |      |      |      |      |      |                                                    |
| 969+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 3,205                                   | 0                                                | 0                                      | 181                               | 50                                | 70                                       | 111   |      |      |      |      |      |      |      |                                                    |
| 970+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 3,051                                   | 0                                                | 0                                      | 181                               | 50                                | 70                                       | 111   |      |      |      |      |      |      |      |                                                    |
| 970+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,915                                   | 0                                                | 0                                      | 181                               | 50                                | 70                                       | 111   |      |      |      |      |      |      |      |                                                    |
| 970+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,766                                   | 0                                                | 0                                      | 181                               | 50                                | 70                                       | 111   |      |      |      |      |      |      |      |                                                    |
| 970+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,614                                   | 0                                                | 0                                      | 181                               | 50                                | 70                                       | 111   |      |      |      |      |      |      |      |                                                    |
| 971+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,457                                   | 0                                                | 0                                      | 181                               | 50                                | 70                                       | 111   |      |      |      |      |      |      |      |                                                    |
| 971+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,283                                   | 0                                                | 0                                      | 181                               | 50                                | 70                                       | 111   |      |      |      |      |      |      |      |                                                    |
| 971+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,077                                   | 0                                                | 0                                      | 181                               | 50                                | 70                                       | 111   |      |      |      |      |      |      |      |                                                    |
| 971+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,888                                   | 0                                                | 0                                      | 183                               | 51                                | 71                                       | 112   |      |      |      |      |      |      |      |                                                    |
| 972+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,718                                   | 0                                                | 0                                      | 154                               | 52                                | 73                                       | 81    |      |      |      |      |      |      |      |                                                    |
| 972+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,472                                   | 0                                                | 0                                      | 125                               | 54                                | 76                                       | 49    |      |      |      |      |      |      |      |                                                    |
| 972+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,184                                   | 0                                                | 0                                      | 127                               | 55                                | 77                                       | 50    |      |      |      |      |      |      |      |                                                    |
| 972+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 950                                     | 0                                                | 0                                      | 129                               | 58                                | 81                                       | 48    |      |      |      |      |      |      |      |                                                    |
| 973+00.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                                               | 1                                                          | 733                                     | 0                                                | 0                                      | 132                               | 63                                | 88                                       | 44    |      |      |      |      |      |      |      |                                                    |
| 973+25.00  | 18                           | 0                                   | 14                                           |                                    |                                                 | 32                                              | 40                                                         | 430                                     | 0                                                | 1                                      | 134                               | 66                                | 92                                       | 42    |      |      |      |      |      |      |      |                                                    |
| 973+50.00  | 130                          | 0                                   | 49                                           |                                    |                                                 | 179                                             | 226                                                        | 19                                      | 16                                               | 145                                    | 137                               | 66                                | 92                                       | 45    |      |      |      |      |      |      |      |                                                    |
| 973+75.00  | 297                          | 163                                 | 92                                           |                                    |                                                 | 552                                             | 696                                                        | -427                                    | 367                                              | 418                                    | 139                               | 68                                | 95                                       | 44    |      |      |      |      |      |      |      |                                                    |
| 974+00.00  | 554                          | 88                                  | 123                                          |                                    |                                                 | 765                                             | 964                                                        | -843                                    | 408                                              | 491                                    | 141                               | 66                                | 92                                       | 49    |      |      |      |      |      |      |      |                                                    |
| 974+25.00  | 970                          | 20                                  | 131                                          |                                    |                                                 | 1,121                                           | 1,413                                                      | -1,370                                  | 181                                              | 939                                    | 144                               | 65                                | 91                                       | 53    |      |      |      |      |      |      |      |                                                    |
| 974+50.00  | 1,332                        | 0                                   | 139                                          |                                    |                                                 | 1,471                                           | 1,854                                                      | -1,839                                  | 181                                              | 1,380                                  | 146                               | 71                                | 99                                       | 47    |      |      |      |      |      |      |      |                                                    |
| 974+75.00  | 1,615                        | 0                                   | 141                                          |                                    |                                                 | 1,756                                           | 2,213                                                      | -2,174                                  | 738                                              | 1,576                                  | 149                               | 74                                | 104                                      | 45    |      |      |      |      |      |      |      |                                                    |
| 975+00.00  | 1,858                        | 0                                   | 133                                          |                                    |                                                 | 1,991                                           | 2,509                                                      | -2,420                                  | 1,284                                            | 1,710                                  | 150                               | 71                                | 99                                       | 51    |      |      |      |      |      |      |      |                                                    |
| 975+25.00  | 2,110                        | 0                                   | 130                                          |                                    |                                                 | 2,240                                           | 2,822                                                      | -2,689                                  | 1,295                                            | 2,024                                  | 149                               | 71                                | 99                                       | 50    |      |      |      |      |      |      |      |                                                    |
| 975+50.00  | 2,352                        | 0                                   | 129                                          |                                    |                                                 | 2,481                                           | 3,126                                                      | -2,964                                  | 1,295                                            | 2,327                                  | 149                               | 74                                | 104                                      | 45    |      |      |      |      |      |      |      |                                                    |
| 975+75.00  | 2,317                        | 0                                   | 129                                          |                                    |                                                 | 2,446                                           | 3,082                                                      | -2,934                                  | 1,295                                            | 2,282                                  | 149                               | 74                                | 104                                      | 45    |      |      |      |      |      |      |      |                                                    |
| 976+00.00  | 2,137                        | 0                                   | 129                                          |                                    |                                                 | 2,266                                           | 2,855                                                      | -2,714                                  | 1,295                                            | 2,056                                  | 148                               | 70                                | 98                                       | 50    |      |      |      |      |      |      |      |                                                    |
| 976+25.00  |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |       |      |      |      |      |      |      |      |                                                    |
| Subtotals: | 15,744                       | 583                                 | 1,417                                        | 13                                 | 0                                               | 17,757                                          | 22,375                                                     | 84,592                                  | 8,513                                            | 15,538                                 | 10,569                            | 3,396                             | 4,754                                    | 5,815 |      |      |      |      |      |      |      |                                                    |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Cut                         |                                  |                    |                                    |                                  |                            |                       |                       |                                               |                                      |      |      |      |      |      |      |      |      |      |      |      |      |  |
|------------|-----------------------------|----------------------------------|--------------------|------------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|--------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|            | [1]                         | [2]                              | [3]                | [4]                                | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                                 | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |  |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | <small>[2] + [4] + [6] + [9]</small> |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 976+25.00  | 293                         | 95                               | 148                | 0                                  | 0                                | 50                         | 0                     | 0                     |                                               | 145                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 976+50.00  | 304                         | 124                              | 145                | 0                                  | 0                                | 35                         | 0                     | 0                     |                                               | 159                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 976+75.00  | 313                         | 150                              | 142                | 0                                  | 0                                | 20                         | 0                     | 0                     |                                               | 170                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 977+00.00  | 327                         | 161                              | 157                | 0                                  | 0                                | 8                          | 0                     | 0                     |                                               | 169                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 977+25.00  | 333                         | 159                              | 172                | 0                                  | 0                                | 1                          | 0                     | 0                     |                                               | 160                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 977+50.00  | 319                         | 148                              | 170                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 148                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 977+75.00  | 307                         | 139                              | 167                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 139                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 978+00.00  | 316                         | 153                              | 163                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 153                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 978+25.00  | 383                         | 225                              | 158                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 225                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 978+50.00  | 425                         | 272                              | 152                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 272                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 978+75.00  | 468                         | 323                              | 145                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 323                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 979+00.00  | 554                         | 412                              | 141                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 412                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 979+25.00  | 571                         | 434                              | 137                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 434                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 979+50.00  | 533                         | 398                              | 134                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 398                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 979+75.00  | 460                         | 329                              | 131                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 329                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 980+00.00  | 424                         | 284                              | 140                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 284                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 980+25.00  | 333                         | 184                              | 149                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 184                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 980+50.00  | 288                         | 143                              | 145                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 143                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 980+75.00  | 239                         | 98                               | 141                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 98                                   |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 981+00.00  | 188                         | 48                               | 140                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 48                                   |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 981+25.00  | 146                         | 10                               | 136                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 10                                   |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 981+50.00  | 132                         | 0                                | 132                | 0                                  | 0                                | 0                          | 0                     | 0                     |                                               | 0                                    |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 981+75.00  | 304                         | 152                              | 151                | 0                                  | 13                               | 0                          | 0                     | 0                     |                                               | 152                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 982+00.00  | 505                         | 337                              | 168                | 0                                  | 27                               | 0                          | 0                     | 0                     |                                               | 337                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 982+25.00  | 485                         | 322                              | 164                | 0                                  | 26                               | 0                          | 0                     | 0                     |                                               | 322                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 982+50.00  | 471                         | 311                              | 159                | 0                                  | 26                               | 0                          | 0                     | 0                     |                                               | 311                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 982+75.00  | 460                         | 305                              | 154                | 0                                  | 26                               | 0                          | 0                     | 0                     |                                               | 305                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 983+00.00  | 659                         | 439                              | 216                | 0                                  | 25                               | 4                          | 0                     | 0                     |                                               | 443                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 983+25.00  | 838                         | 557                              | 277                | 0                                  | 25                               | 4                          | 0                     | 0                     |                                               | 561                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 983+50.00  | 767                         | 495                              | 272                | 0                                  | 25                               | 0                          | 0                     | 0                     |                                               | 495                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 983+75.00  | 683                         | 418                              | 265                | 0                                  | 25                               | 0                          | 0                     | 0                     |                                               | 418                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 984+00.00  | 615                         | 356                              | 259                | 0                                  | 26                               | 0                          | 0                     | 0                     |                                               | 356                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 984+25.00  | 580                         | 329                              | 251                | 0                                  | 28                               | 0                          | 0                     | 0                     |                                               | 329                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 984+50.00  | 582                         | 338                              | 244                | 0                                  | 30                               | 0                          | 0                     | 0                     |                                               | 338                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 984+75.00  | 587                         | 350                              | 236                | 0                                  | 33                               | 0                          | 0                     | 0                     |                                               | 350                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 985+00.00  | 585                         | 356                              | 229                | 0                                  | 35                               | 0                          | 0                     | 0                     |                                               | 356                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 985+25.00  | 586                         | 364                              | 222                | 0                                  | 37                               | 0                          | 0                     | 0                     |                                               | 364                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 985+50.00  | 584                         | 370                              | 215                | 0                                  | 40                               | 0                          | 0                     | 0                     |                                               | 370                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 985+75.00  | 582                         | 375                              | 208                | 0                                  | 42                               | 0                          | 0                     | 0                     |                                               | 375                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 986+00.00  | 581                         | 380                              | 200                | 0                                  | 44                               | 0                          | 0                     | 0                     |                                               | 380                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 986+25.00  | 585                         | 391                              | 194                | 0                                  | 46                               | 0                          | 0                     | 0                     |                                               | 391                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 986+50.00  | 597                         | 408                              | 189                | 0                                  | 49                               | 0                          | 0                     | 0                     |                                               | 408                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 986+75.00  | 608                         | 424                              | 184                | 0                                  | 51                               | 0                          | 0                     | 0                     |                                               | 424                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 987+00.00  | 624                         | 444                              | 180                | 0                                  | 51                               | 0                          | 0                     | 0                     |                                               | 444                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 987+25.00  | 640                         | 464                              | 176                | 0                                  | 51                               | 0                          | 0                     | 0                     |                                               | 464                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 987+50.00  | 646                         | 474                              | 172                | 0                                  | 52                               | 0                          | 0                     | 0                     |                                               | 474                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 987+75.00  | 651                         | 483                              | 168                | 0                                  | 55                               | 0                          | 0                     | 0                     |                                               | 483                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 988+00.00  | 659                         | 495                              | 164                | 0                                  | 57                               | 0                          | 0                     | 0                     |                                               | 495                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 988+25.00  | 397                         | 236                              | 160                | 0                                  | 57                               | 0                          | 0                     | 0                     |                                               | 236                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 988+50.00  | 422                         | 265                              | 156                | 0                                  | 55                               | 0                          | 0                     | 0                     |                                               | 265                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 988+75.00  | 465                         | 311                              | 153                | 0                                  | 54                               | 0                          | 0                     | 0                     |                                               | 311                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 989+00.00  | 498                         | 373                              | 125                | 0                                  | 55                               | 0                          | 0                     | 0                     |                                               | 373                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 989+25.00  | 521                         | 422                              | 99                 | 0                                  | 55                               | 0                          | 0                     | 0                     |                                               | 422                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 989+50.00  | 537                         | 440                              | 97                 | 0                                  | 55                               | 0                          | 0                     | 0                     |                                               | 440                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 989+75.00  | 534                         | 440                              | 95                 | 0                                  | 56                               | 0                          | 0                     | 0                     |                                               | 440                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 990+00.00  | 522                         | 429                              | 94                 | 0                                  | 57                               | 0                          | 0                     | 0                     |                                               | 429                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 990+25.00  | 517                         | 425                              | 92                 | 0                                  | 60                               | 0                          | 0                     | 0                     |                                               | 425                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 990+50.00  | 660                         | 570                              | 91                 | 0                                  | 64                               | 0                          | 0                     | 0                     |                                               | 570                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 990+75.00  | 1,072                       | 987                              | 85                 | 0                                  | 67                               | 0                          | 0                     | 0                     |                                               | 987                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 991+00.00  | 879                         | 796                              | 83                 | 0                                  | 68                               | 0                          | 0                     | 0                     |                                               | 796                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 991+25.00  | 718                         | 632                              | 86                 | 0                                  | 66                               | 0                          | 0                     | 0                     |                                               | 632                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 991+50.00  | 698                         | 612                              | 86                 | 0                                  | 62                               | 0                          | 0                     | 0                     |                                               | 612                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 991+75.00  | 672                         | 586                              | 86                 | 0                                  | 60                               | 0                          | 0                     | 0                     |                                               | 586                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 992+00.00  | 685                         | 600                              | 85                 | 0                                  | 59                               | 0                          | 0                     | 0                     |                                               | 600                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 992+25.00  | 686                         | 603                              | 84                 | 0                                  | 59                               | 0                          | 0                     | 0                     |                                               | 603                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 992+50.00  | 689                         | 607                              | 83                 | 0                                  | 59                               | 0                          | 0                     | 0                     |                                               | 607                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 992+75.00  | 680                         | 599                              | 82                 | 0                                  | 59                               | 0                          | 0                     | 0                     |                                               | 599                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 993+00.00  | 654                         | 571                              | 82                 | 0                                  | 59                               | 0                          | 0                     | 0                     |                                               | 571                                  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 993+25.00  |                             |                                  |                    |                                    |                                  |                            |                       |                       |                                               |                                      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| Subtotals: | 35,626                      | 24,930                           | 10,566             | 0                                  | 2,131                            | 122                        | 0                     | 0                     | 0                                             | 25,052                               |      |      |      |      |      |      |      |      |      |      |      |      |  |



TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Table with columns: Station, Fill (Total Fill Unadjusted, Volume, Plowing & Shaping Undercut, Existing Topsoil Stripping Undercut, Existing Pavement Undercut, Manually Calculated Fill Adjustments, Total Fill Adjusted, Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor, Total Cut Adjusted Minus Fill w/ Shrink), Checks (EW-102) (Approx. Fill Vol. Below 5' & Above 20' w/ Shrink, Approx. Fill Volume Below 3' w/ Shrink), Topsoil (Topsoil Stripping Undercut Volume, Topsoil Placement Undercut Volume, Topsoil Placement With 1.4 Shrink Factor, Topsoil Stripping Minus Topsoil Placement w/Shrink), and empty columns [37]-[44].

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 993+25.00  | 632                         | 550                              | 82                 | 0                                 | 59                               | 0                          | 0                     | 0                     | 550                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 993+50.00  | 628                         | 547                              | 81                 | 0                                 | 59                               | 0                          | 0                     | 0                     | 547                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 993+75.00  | 631                         | 550                              | 81                 | 0                                 | 58                               | 0                          | 0                     | 0                     | 550                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 994+00.00  | 641                         | 559                              | 82                 | 0                                 | 56                               | 0                          | 0                     | 0                     | 559                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 994+25.00  | 637                         | 555                              | 82                 | 0                                 | 54                               | 0                          | 0                     | 0                     | 555                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 994+50.00  | 628                         | 545                              | 82                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 545                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 994+75.00  | 622                         | 540                              | 82                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 540                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 995+00.00  | 614                         | 530                              | 83                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 530                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 995+25.00  | 614                         | 530                              | 84                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 530                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 995+50.00  | 608                         | 523                              | 85                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 523                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 995+75.00  | 560                         | 475                              | 85                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 475                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 996+00.00  | 515                         | 429                              | 86                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 429                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 996+25.00  | 505                         | 418                              | 87                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 418                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 996+50.00  | 515                         | 426                              | 89                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 426                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 996+75.00  | 510                         | 421                              | 90                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 421                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 997+00.00  | 504                         | 412                              | 92                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 412                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 997+25.00  | 515                         | 421                              | 93                 | 0                                 | 52                               | 0                          | 0                     | 0                     | 421                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 997+50.00  | 604                         | 510                              | 94                 | 0                                 | 51                               | 0                          | 0                     | 0                     | 510                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 997+75.00  | 454                         | 358                              | 96                 | 0                                 | 49                               | 0                          | 0                     | 0                     | 358                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 998+00.00  | 461                         | 363                              | 98                 | 0                                 | 47                               | 0                          | 0                     | 0                     | 363                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 998+25.00  | 527                         | 425                              | 100                | 0                                 | 44                               | 2                          | 0                     | 0                     | 427                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 998+50.00  | 588                         | 479                              | 101                | 0                                 | 41                               | 8                          | 0                     | 0                     | 487                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 998+75.00  | 628                         | 494                              | 103                | 0                                 | 39                               | 30                         | 0                     | 0                     | 524                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 999+00.00  | 634                         | 459                              | 104                | 0                                 | 37                               | 71                         | 0                     | 0                     | 530                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 999+25.00  | 676                         | 448                              | 106                | 0                                 | 35                               | 122                        | 0                     | 0                     | 570                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 999+50.00  | 720                         | 427                              | 108                | 0                                 | 35                               | 184                        | 0                     | 0                     | 611                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 999+75.00  | 768                         | 430                              | 109                | 0                                 | 37                               | 229                        | 0                     | 0                     | 659                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1000+00.00 | 810                         | 480                              | 108                | 0                                 | 38                               | 222                        | 0                     | 0                     | 702                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1000+25.00 | 826                         | 559                              | 106                | 0                                 | 41                               | 161                        | 0                     | 0                     | 720                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1000+50.00 | 804                         | 594                              | 99                 | 0                                 | 47                               | 111                        | 0                     | 0                     | 705                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1000+75.00 | 822                         | 648                              | 90                 | 0                                 | 60                               | 86                         | 0                     | 0                     | 734                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1001+00.00 | 857                         | 707                              | 91                 | 0                                 | 82                               | 59                         | 0                     | 0                     | 766                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1001+25.00 | 841                         | 689                              | 112                | 0                                 | 84                               | 41                         | 0                     | 0                     | 730                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1001+50.00 | 786                         | 626                              | 135                | 0                                 | 64                               | 24                         | 0                     | 0                     | 650                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1001+75.00 | 753                         | 606                              | 138                | 0                                 | 63                               | 8                          | 0                     | 0                     | 614                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1002+00.00 | 765                         | 620                              | 145                | 0                                 | 58                               | 0                          | 0                     | 0                     | 620                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1002+25.00 | 673                         | 519                              | 154                | 0                                 | 38                               | 0                          | 0                     | 0                     | 519                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1002+50.00 | 463                         | 311                              | 152                | 0                                 | 26                               | 0                          | 0                     | 0                     | 311                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1002+75.00 | 355                         | 201                              | 154                | 0                                 | 21                               | 0                          | 0                     | 0                     | 201                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1003+00.00 | 332                         | 176                              | 156                | 0                                 | 17                               | 0                          | 0                     | 0                     | 176                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1003+25.00 | 320                         | 164                              | 156                | 0                                 | 16                               | 0                          | 0                     | 0                     | 164                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1003+50.00 | 303                         | 148                              | 156                | 0                                 | 12                               | 0                          | 0                     | 0                     | 148                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1003+75.00 | 288                         | 132                              | 156                | 0                                 | 7                                | 0                          | 0                     | 0                     | 132                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1004+00.00 | 276                         | 119                              | 157                | 0                                 | 3                                | 0                          | 0                     | 0                     | 119                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1004+25.00 | 310                         | 153                              | 157                | 0                                 | 5                                | 0                          | 0                     | 0                     | 153                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1004+50.00 | 344                         | 186                              | 157                | 0                                 | 8                                | 0                          | 0                     | 0                     | 186                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1004+75.00 | 327                         | 170                              | 157                | 0                                 | 6                                | 0                          | 0                     | 0                     | 170                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1005+00.00 | 306                         | 150                              | 156                | 0                                 | 5                                | 0                          | 0                     | 0                     | 150                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1005+25.00 | 285                         | 129                              | 156                | 0                                 | 3                                | 0                          | 0                     | 0                     | 129                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1005+50.00 | 265                         | 109                              | 156                | 0                                 | 2                                | 0                          | 0                     | 0                     | 109                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1005+75.00 | 251                         | 95                               | 156                | 0                                 | 1                                | 0                          | 0                     | 0                     | 95                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1006+00.00 | 243                         | 88                               | 155                | 0                                 | 0                                | 0                          | 0                     | 0                     | 88                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1006+25.00 | 237                         | 82                               | 155                | 0                                 | 0                                | 0                          | 0                     | 0                     | 82                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1006+50.00 | 229                         | 72                               | 156                | 0                                 | 0                                | 0                          | 0                     | 0                     | 72                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1006+75.00 | 224                         | 67                               | 157                | 0                                 | 0                                | 0                          | 0                     | 0                     | 67                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1007+00.00 | 227                         | 69                               | 158                | 0                                 | 0                                | 0                          | 0                     | 0                     | 69                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1007+25.00 | 228                         | 69                               | 159                | 0                                 | 1                                | 0                          | 0                     | 0                     | 69                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1007+50.00 | 231                         | 73                               | 158                | 0                                 | 2                                | 0                          | 0                     | 0                     | 73                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1007+75.00 | 237                         | 78                               | 158                | 0                                 | 2                                | 0                          | 0                     | 0                     | 78                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1008+00.00 | 226                         | 69                               | 157                | 0                                 | 2                                | 0                          | 0                     | 0                     | 69                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1008+25.00 | 213                         | 57                               | 156                | 0                                 | 1                                | 0                          | 0                     | 0                     | 57                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1008+50.00 | 204                         | 49                               | 155                | 0                                 | 1                                | 0                          | 0                     | 0                     | 49                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1008+75.00 | 193                         | 39                               | 154                | 0                                 | 0                                | 0                          | 0                     | 0                     | 39                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1009+00.00 | 187                         | 35                               | 153                | 0                                 | 0                                | 0                          | 0                     | 0                     | 35                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1009+25.00 | 188                         | 36                               | 152                | 0                                 | 0                                | 0                          | 0                     | 0                     | 36                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1009+50.00 | 191                         | 40                               | 151                | 0                                 | 1                                | 0                          | 0                     | 0                     | 40                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1009+75.00 | 196                         | 45                               | 151                | 0                                 | 1                                | 0                          | 0                     | 0                     | 45                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1010+00.00 | 203                         | 53                               | 150                | 0                                 | 2                                | 0                          | 0                     | 0                     | 53                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals: | 31,958                      | 22,136                           | 8,460              | 0                                 | 2,045                            | 1,358                      | 0                     | 0                     | 23,494                                        |                       |      |      |      |      |      |      |      |      |      |      |      |      |

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                    | Checks (EW-102) |        | Topsoil |       |       |                   | [37]          | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|--------------------|-----------------|--------|---------|-------|-------|-------------------|---------------|------|------|------|------|------|------|------|--|
|            | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]               | [30]            | [31]   | [32]    | [33]  | [34]  | [35]              | [36]          |      |      |      |      |      |      |      |  |
|            | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$ | $[10] - [29]$   |        |         |       |       | $[34] \times 1.4$ | $[33] - [35]$ |      |      |      |      |      |      |      |  |
| 993+25.00  | 209                          | 67                                  | 39                                           |                                    |                                                 | 315                                             | 397                | 153             | 84     | 184     | 82    | 79    | 111               | -29           |      |      |      |      |      |      |      |  |
| 993+50.00  | 200                          | 64                                  | 38                                           |                                    |                                                 | 302                                             | 381                | 166             | 68     | 168     | 81    | 79    | 111               | -30           |      |      |      |      |      |      |      |  |
| 993+75.00  | 194                          | 57                                  | 39                                           |                                    |                                                 | 290                                             | 365                | 185             | 54     | 154     | 81    | 78    | 109               | -28           |      |      |      |      |      |      |      |  |
| 994+00.00  | 185                          | 53                                  | 40                                           |                                    |                                                 | 278                                             | 350                | 209             | 38     | 137     | 82    | 78    | 109               | -27           |      |      |      |      |      |      |      |  |
| 994+25.00  | 180                          | 44                                  | 42                                           |                                    |                                                 | 266                                             | 335                | 220             | 23     | 122     | 82    | 78    | 109               | -27           |      |      |      |      |      |      |      |  |
| 994+50.00  | 178                          | 33                                  | 44                                           |                                    |                                                 | 255                                             | 321                | 224             | 9      | 108     | 82    | 77    | 108               | -26           |      |      |      |      |      |      |      |  |
| 994+75.00  | 157                          | 29                                  | 44                                           |                                    |                                                 | 230                                             | 290                | 250             | 0      | 54      | 82    | 76    | 106               | -24           |      |      |      |      |      |      |      |  |
| 995+00.00  | 121                          | 29                                  | 44                                           |                                    |                                                 | 194                                             | 245                | 286             | 0      | 0       | 83    | 75    | 105               | -22           |      |      |      |      |      |      |      |  |
| 995+25.00  | 89                           | 36                                  | 43                                           |                                    |                                                 | 168                                             | 212                | 318             | 0      | 0       | 84    | 75    | 105               | -21           |      |      |      |      |      |      |      |  |
| 995+50.00  | 71                           | 44                                  | 43                                           |                                    |                                                 | 158                                             | 199                | 324             | 0      | 0       | 85    | 75    | 105               | -20           |      |      |      |      |      |      |      |  |
| 995+75.00  | 60                           | 24                                  | 40                                           |                                    |                                                 | 124                                             | 156                | 319             | 0      | 0       | 85    | 74    | 104               | -19           |      |      |      |      |      |      |      |  |
| 996+00.00  | 52                           | 1                                   | 37                                           |                                    |                                                 | 90                                              | 113                | 316             | 0      | 0       | 86    | 74    | 104               | -18           |      |      |      |      |      |      |      |  |
| 996+25.00  | 44                           | 7                                   | 33                                           |                                    |                                                 | 84                                              | 106                | 312             | 0      | 0       | 87    | 74    | 104               | -17           |      |      |      |      |      |      |      |  |
| 996+50.00  | 34                           | 24                                  | 29                                           |                                    |                                                 | 87                                              | 110                | 316             | 0      | 0       | 89    | 74    | 104               | -15           |      |      |      |      |      |      |      |  |
| 996+75.00  | 34                           | 31                                  | 29                                           |                                    |                                                 | 94                                              | 119                | 303             | 0      | 0       | 90    | 75    | 105               | -15           |      |      |      |      |      |      |      |  |
| 997+00.00  | 40                           | 31                                  | 33                                           |                                    |                                                 | 104                                             | 131                | 281             | 0      | 0       | 92    | 75    | 105               | -13           |      |      |      |      |      |      |      |  |
| 997+25.00  | 46                           | 40                                  | 31                                           |                                    |                                                 | 117                                             | 148                | 274             | 0      | 0       | 93    | 75    | 105               | -12           |      |      |      |      |      |      |      |  |
| 997+50.00  | 46                           | 142                                 | 26                                           |                                    |                                                 | 214                                             | 270                | 240             | 129    | 129     | 94    | 74    | 104               | -10           |      |      |      |      |      |      |      |  |
| 997+75.00  | 41                           | 0                                   | 23                                           |                                    |                                                 | 64                                              | 81                 | 277             | 0      | 0       | 96    | 71    | 99                | -4            |      |      |      |      |      |      |      |  |
| 998+00.00  | 22                           | 0                                   | 26                                           | 1                                  |                                                 | 49                                              | 62                 | 301             | 0      | 0       | 98    | 72    | 101               | -3            |      |      |      |      |      |      |      |  |
| 998+25.00  | 13                           | 45                                  | 26                                           | 2                                  |                                                 | 86                                              | 108                | 319             | 0      | 0       | 100   | 73    | 102               | -2            |      |      |      |      |      |      |      |  |
| 998+50.00  | 14                           | 34                                  | 20                                           | 3                                  |                                                 | 71                                              | 90                 | 398             | 0      | 0       | 101   | 68    | 95                | 6             |      |      |      |      |      |      |      |  |
| 998+75.00  | 12                           | 24                                  | 19                                           | 2                                  |                                                 | 57                                              | 72                 | 452             | 0      | 0       | 103   | 63    | 88                | 15            |      |      |      |      |      |      |      |  |
| 999+00.00  | 16                           | 20                                  | 17                                           | 1                                  |                                                 | 54                                              | 68                 | 462             | 0      | 0       | 104   | 65    | 91                | 13            |      |      |      |      |      |      |      |  |
| 999+25.00  | 18                           | 22                                  | 16                                           |                                    |                                                 | 56                                              | 71                 | 499             | 0      | 0       | 106   | 62    | 87                | 19            |      |      |      |      |      |      |      |  |
| 999+50.00  | 17                           | 31                                  | 17                                           | 1                                  |                                                 | 66                                              | 83                 | 528             | 0      | 0       | 108   | 58    | 81                | 27            |      |      |      |      |      |      |      |  |
| 999+75.00  | 11                           | 43                                  | 17                                           |                                    |                                                 | 71                                              | 90                 | 570             | 0      | 0       | 109   | 58    | 81                | 28            |      |      |      |      |      |      |      |  |
| 1000+00.00 | 7                            | 56                                  | 13                                           |                                    |                                                 | 76                                              | 96                 | 606             | 29     | 29      | 108   | 56    | 78                | 30            |      |      |      |      |      |      |      |  |
| 1000+25.00 | 4                            | 64                                  | 9                                            | 1                                  |                                                 | 78                                              | 98                 | 622             | 30     | 30      | 106   | 56    | 78                | 28            |      |      |      |      |      |      |      |  |
| 1000+50.00 | 1                            | 68                                  | 3                                            | 2                                  |                                                 | 74                                              | 93                 | 612             | 25     | 25      | 99    | 60    | 84                | 15            |      |      |      |      |      |      |      |  |
| 1000+75.00 | 0                            | 89                                  |                                              | 1                                  |                                                 | 90                                              | 113                | 621             | 0      | 0       | 90    | 64    | 90                | 1             |      |      |      |      |      |      |      |  |
| 1001+00.00 | 0                            | 103                                 |                                              | 1                                  |                                                 | 104                                             | 131                | 635             | 0      | 0       | 91    | 62    | 87                | 4             |      |      |      |      |      |      |      |  |
| 1001+25.00 | 1                            | 87                                  | 3                                            |                                    |                                                 | 91                                              | 115                | 615             | 0      | 0       | 112   | 62    | 87                | 25            |      |      |      |      |      |      |      |  |
| 1001+50.00 | 5                            | 52                                  | 18                                           |                                    |                                                 | 75                                              | 95                 | 556             | 0      | 0       | 135   | 66    | 92                | 43            |      |      |      |      |      |      |      |  |
| 1001+75.00 | 7                            | 23                                  | 32                                           |                                    |                                                 | 62                                              | 78                 | 536             | 0      | 0       | 138   | 67    | 94                | 44            |      |      |      |      |      |      |      |  |
| 1002+00.00 | 8                            | 21                                  | 40                                           |                                    |                                                 | 69                                              | 87                 | 533             | 0      | 0       | 145   | 65    | 91                | 54            |      |      |      |      |      |      |      |  |
| 1002+25.00 | 11                           | 29                                  | 36                                           |                                    |                                                 | 76                                              | 96                 | 423             | 0      | 0       | 154   | 66    | 92                | 62            |      |      |      |      |      |      |      |  |
| 1002+50.00 | 91                           | 17                                  | 61                                           |                                    |                                                 | 169                                             | 213                | 98              | 0      | 0       | 152   | 66    | 92                | 60            |      |      |      |      |      |      |      |  |
| 1002+75.00 | 478                          | 14                                  | 117                                          |                                    |                                                 | 609                                             | 767                | -566            | 236    | 378     | 154   | 65    | 91                | 63            |      |      |      |      |      |      |      |  |
| 1003+00.00 | 917                          | 0                                   | 138                                          |                                    |                                                 | 1,055                                           | 1,329              | -1,153          | 267    | 553     | 156   | 64    | 90                | 66            |      |      |      |      |      |      |      |  |
| 1003+25.00 | 1,197                        | 0                                   | 138                                          |                                    |                                                 | 1,335                                           | 1,682              | -1,518          | 184    | 906     | 156   | 64    | 90                | 66            |      |      |      |      |      |      |      |  |
| 1003+50.00 | 1,519                        | 0                                   | 138                                          |                                    |                                                 | 1,657                                           | 2,088              | -1,940          | 184    | 1,312   | 156   | 61    | 85                | 71            |      |      |      |      |      |      |      |  |
| 1003+75.00 | 1,724                        | 0                                   | 138                                          |                                    |                                                 | 1,862                                           | 2,346              | -2,214          | 184    | 1,570   | 156   | 57    | 80                | 76            |      |      |      |      |      |      |      |  |
| 1004+00.00 | 1,776                        | 0                                   | 139                                          |                                    |                                                 | 1,915                                           | 2,413              | -2,294          | 184    | 1,635   | 157   | 55    | 77                | 80            |      |      |      |      |      |      |      |  |
| 1004+25.00 | 1,805                        | 0                                   | 138                                          |                                    |                                                 | 1,943                                           | 2,448              | -2,295          | 184    | 1,672   | 157   | 57    | 80                | 77            |      |      |      |      |      |      |      |  |
| 1004+50.00 | 1,831                        | 0                                   | 138                                          |                                    |                                                 | 1,969                                           | 2,481              | -2,295          | 184    | 1,705   | 157   | 59    | 83                | 74            |      |      |      |      |      |      |      |  |
| 1004+75.00 | 1,891                        | 0                                   | 138                                          |                                    |                                                 | 2,029                                           | 2,557              | -2,387          | 764    | 1,738   | 157   | 58    | 81                | 76            |      |      |      |      |      |      |      |  |
| 1005+00.00 | 2,008                        | 0                                   | 137                                          |                                    |                                                 | 2,145                                           | 2,703              | -2,553          | 1,483  | 1,840   | 156   | 57    | 80                | 76            |      |      |      |      |      |      |      |  |
| 1005+25.00 | 2,200                        | 0                                   | 137                                          |                                    |                                                 | 2,337                                           | 2,945              | -2,816          | 1,343  | 2,080   | 156   | 55    | 77                | 79            |      |      |      |      |      |      |      |  |
| 1005+50.00 | 2,487                        | 0                                   | 137                                          |                                    |                                                 | 2,624                                           | 3,306              | -3,197          | 1,343  | 2,443   | 156   | 54    | 76                | 80            |      |      |      |      |      |      |      |  |
| 1005+75.00 | 2,756                        | 0                                   | 138                                          |                                    |                                                 | 2,894                                           | 3,647              | -3,552          | 1,343  | 2,782   | 156   | 53    | 74                | 82            |      |      |      |      |      |      |      |  |
| 1006+00.00 | 2,870                        | 0                                   | 137                                          | 1                                  |                                                 | 3,008                                           | 3,790              | -3,702          | 1,343  | 2,924   | 155   | 53    | 74                | 81            |      |      |      |      |      |      |      |  |
| 1006+25.00 | 2,893                        | 0                                   | 138                                          |                                    |                                                 | 3,031                                           | 3,819              | -3,737          | 1,343  | 2,955   | 155   | 52    | 73                | 82            |      |      |      |      |      |      |      |  |
| 1006+50.00 | 2,815                        | 0                                   | 140                                          |                                    |                                                 | 2,955                                           | 3,723              | -3,651          | 1,343  | 2,860   | 156   | 52    | 73                | 83            |      |      |      |      |      |      |      |  |
| 1006+75.00 | 2,459                        | 0                                   | 141                                          |                                    |                                                 | 2,600                                           | 3,276              | -3,209          | 1,343  | 2,412   | 157   | 53    | 74                | 83            |      |      |      |      |      |      |      |  |
| 1007+00.00 | 1,978                        | 0                                   | 141                                          |                                    |                                                 | 2,119                                           | 2,670              | -2,601          | 1,450  | 1,806   | 158   | 54    | 76                | 82            |      |      |      |      |      |      |      |  |
| 1007+25.00 | 1,576                        | 0                                   | 142                                          |                                    |                                                 | 1,718                                           | 2,165              | -2,096          | 1,071  | 1,373   | 159   | 54    | 76                | 83            |      |      |      |      |      |      |      |  |
| 1007+50.00 | 1,231                        | 0                                   | 140                                          |                                    |                                                 | 1,371                                           | 1,728              | -1,655          | 760    | 1,009   | 158   | 55    | 77                | 81            |      |      |      |      |      |      |      |  |
| 1007+75.00 | 982                          | 0                                   | 140                                          |                                    |                                                 | 1,122                                           | 1,414              | -1,336          | 447    | 696     | 158   | 54    | 76                | 82            |      |      |      |      |      |      |      |  |
| 1008+00.00 | 946                          | 0                                   | 140                                          |                                    |                                                 | 1,086                                           | 1,368              | -1,299          | 402    | 650     | 157   | 53    | 74                | 83            |      |      |      |      |      |      |      |  |
| 1008+25.00 | 1,137                        | 0                                   | 140                                          |                                    |                                                 | 1,277                                           | 1,609              | -1,552          | 643    | 891     | 156   | 52    | 73                | 83            |      |      |      |      |      |      |      |  |
| 1008+50.00 | 1,463                        | 0                                   | 140                                          |                                    |                                                 | 1,603                                           | 2,020              | -1,971          | 1,053  | 1,302   | 155   | 51    | 71                | 84            |      |      |      |      |      |      |      |  |
| 1008+75.00 | 1,916                        | 0                                   | 140                                          |                                    |                                                 | 2,056                                           | 2,591              | -2,552          | 966    | 1,872   | 154   | 49    | 69                | 85            |      |      |      |      |      |      |      |  |
| 1009+00.00 | 2,415                        | 0                                   | 140                                          |                                    |                                                 | 2,555                                           | 3,219              | -3,184          | 966    | 2,501   | 153   | 48    | 67                | 86            |      |      |      |      |      |      |      |  |
| 1009+25.00 | 2,788                        | 0                                   | 140                                          |                                    |                                                 | 2,928                                           | 3,689              | -3,653          | 966    | 2,971   | 152   | 47    | 66                | 86            |      |      |      |      |      |      |      |  |
| 1009+50.00 | 2,954                        | 0                                   | 139                                          |                                    |                                                 | 3,093                                           | 3,897              | -3,857          | 966    | 3,179   | 151   | 47    | 66                | 85            |      |      |      |      |      |      |      |  |
| 1009+75.00 | 2,893                        | 0                                   | 139                                          |                                    |                                                 | 3,032                                           | 3,820              | -3,775          | 1,542  | 3,076   | 151   | 46    | 64                | 87            |      |      |      |      |      |      |      |  |
| 1010+00.00 | 2,687                        | 0                                   | 138                                          |                                    |                                                 | 2,825                                           | 3,560              | -3,507          | 2,117  | 2,788   | 150   | 46    | 64                | 86            |      |      |      |      |      |      |      |  |
| Subtotals: | 60,831                       | 1,598                               | 5,216                                        | 16                                 | 0                                               | 67,661                                          | 85,256             | -61,762         | 27,093 | 57,017  | 8,460 | 4,270 | 5,978             | 2,482         |      |      |      |      |      |      |      |  |



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 1010+25.00 | 209                         | 60                               | 149                | 0                                 | 3                                | 0                          | 0                     | 0                     |                                               | 60                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1010+50.00 | 214                         | 66                               | 148                | 0                                 | 4                                | 0                          | 0                     | 0                     |                                               | 66                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1010+75.00 | 217                         | 71                               | 145                | 0                                 | 5                                | 0                          | 0                     | 0                     |                                               | 71                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1011+00.00 | 203                         | 88                               | 115                | 0                                 | 7                                | 0                          | 0                     | 0                     |                                               | 88                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1011+25.00 | 189                         | 104                              | 85                 | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 104                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1011+50.00 | 208                         | 126                              | 82                 | 0                                 | 11                               | 0                          | 0                     | 0                     |                                               | 126                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1011+75.00 | 215                         | 135                              | 80                 | 0                                 | 14                               | 0                          | 0                     | 0                     |                                               | 135                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1012+00.00 | 390                         | 144                              | 246                | 0                                 | 16                               | 0                          | 0                     | 0                     |                                               | 144                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1012+25.00 | 137                         | 137                              | 0                  | 0                                 | 15                               | 0                          | 0                     | 0                     |                                               | 137                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1012+50.00 | 110                         | 110                              | 0                  | 0                                 | 11                               | 0                          | 0                     | 0                     |                                               | 110                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1012+75.00 | 98                          | 98                               | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 98                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1013+00.00 | 98                          | 98                               | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 98                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1013+25.00 | 98                          | 98                               | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 98                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1013+50.00 | 98                          | 98                               | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 98                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1013+75.00 | 116                         | 116                              | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 116                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1014+00.00 | 166                         | 166                              | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 166                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1014+25.00 | 172                         | 172                              | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 172                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1014+50.00 | 116                         | 116                              | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 116                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1014+75.00 | 92                          | 92                               | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 92                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1015+00.00 | 62                          | 62                               | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 62                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1015+25.00 | 59                          | 59                               | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 59                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1015+50.00 | 56                          | 56                               | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 56                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1015+75.00 | 56                          | 56                               | 0                  | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 56                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1016+00.00 | 56                          | 56                               | 0                  | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 56                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1016+25.00 | 57                          | 57                               | 0                  | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 57                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1016+50.00 | 60                          | 60                               | 0                  | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 60                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1016+75.00 | 61                          | 60                               | 0                  | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 60                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1017+00.00 | 226                         | 59                               | 167                | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 59                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1017+25.00 | 229                         | 61                               | 168                | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 61                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1017+50.00 | 247                         | 77                               | 170                | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 77                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1017+75.00 | 258                         | 87                               | 171                | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 87                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1018+00.00 | 273                         | 100                              | 173                | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 100                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1018+25.00 | 288                         | 112                              | 175                | 0                                 | 11                               | 0                          | 0                     | 0                     |                                               | 112                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1018+50.00 | 444                         | 252                              | 192                | 0                                 | 12                               | 0                          | 0                     | 0                     |                                               | 252                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1018+75.00 | 644                         | 435                              | 209                | 0                                 | 12                               | 0                          | 0                     | 0                     |                                               | 435                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1019+00.00 | 734                         | 508                              | 209                | 0                                 | 14                               | 17                         | 0                     | 0                     |                                               | 525                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1019+25.00 | 847                         | 583                              | 208                | 0                                 | 15                               | 56                         | 0                     | 0                     |                                               | 639                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1019+50.00 | 979                         | 663                              | 208                | 0                                 | 16                               | 108                        | 0                     | 0                     |                                               | 771                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1019+75.00 | 1,097                       | 723                              | 207                | 0                                 | 18                               | 167                        | 0                     | 0                     |                                               | 890                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1020+00.00 | 1,211                       | 789                              | 207                | 0                                 | 15                               | 215                        | 0                     | 0                     |                                               | 1,004                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1020+25.00 | 1,285                       | 653                              | 207                | 229                               | 13                               | 196                        | 0                     | 0                     |                                               | 1,078                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1020+50.00 | 1,302                       | 514                              | 207                | 414                               | 16                               | 168                        | 0                     | 0                     |                                               | 1,096                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1020+75.00 | 1,212                       | 525                              | 207                | 314                               | 19                               | 166                        | 0                     | 0                     |                                               | 1,005                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1021+00.00 | 1,081                       | 527                              | 207                | 183                               | 22                               | 164                        | 0                     | 0                     |                                               | 874                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1021+25.00 | 934                         | 489                              | 207                | 54                                | 24                               | 184                        | 0                     | 0                     |                                               | 727                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1021+50.00 | 794                         | 413                              | 208                | 0                                 | 26                               | 174                        | 0                     | 0                     |                                               | 587                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1021+75.00 | 688                         | 348                              | 208                | 0                                 | 26                               | 131                        | 0                     | 0                     |                                               | 479                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1022+00.00 | 597                         | 306                              | 208                | 0                                 | 26                               | 84                         | 0                     | 0                     |                                               | 390                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1022+25.00 | 545                         | 309                              | 207                | 0                                 | 26                               | 29                         | 0                     | 0                     |                                               | 338                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1022+50.00 | 521                         | 313                              | 208                | 0                                 | 26                               | 1                          | 0                     | 0                     |                                               | 314                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1022+75.00 | 538                         | 330                              | 208                | 0                                 | 26                               | 0                          | 0                     | 0                     |                                               | 330                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1023+00.00 | 373                         | 165                              | 208                | 0                                 | 26                               | 0                          | 0                     | 0                     |                                               | 165                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1023+25.00 | 382                         | 176                              | 206                | 0                                 | 26                               | 0                          | 0                     | 0                     |                                               | 176                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1023+50.00 | 391                         | 189                              | 202                | 0                                 | 26                               | 0                          | 0                     | 0                     |                                               | 189                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1023+75.00 | 400                         | 203                              | 198                | 0                                 | 26                               | 0                          | 0                     | 0                     |                                               | 203                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1024+00.00 | 344                         | 214                              | 130                | 0                                 | 27                               | 0                          | 0                     | 0                     |                                               | 214                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1024+25.00 | 283                         | 220                              | 63                 | 0                                 | 29                               | 0                          | 0                     | 0                     |                                               | 220                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1024+50.00 | 286                         | 224                              | 62                 | 0                                 | 30                               | 0                          | 0                     | 0                     |                                               | 224                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1024+75.00 | 293                         | 233                              | 60                 | 0                                 | 32                               | 0                          | 0                     | 0                     |                                               | 233                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1025+00.00 | 302                         | 244                              | 58                 | 0                                 | 34                               | 0                          | 0                     | 0                     |                                               | 244                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1025+25.00 | 308                         | 252                              | 56                 | 0                                 | 35                               | 0                          | 0                     | 0                     |                                               | 252                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1025+50.00 | 313                         | 260                              | 54                 | 0                                 | 37                               | 0                          | 0                     | 0                     |                                               | 260                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1025+75.00 | 320                         | 267                              | 53                 | 0                                 | 39                               | 0                          | 0                     | 0                     |                                               | 267                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1026+00.00 | 324                         | 273                              | 51                 | 0                                 | 42                               | 0                          | 0                     | 0                     |                                               | 273                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1026+25.00 | 329                         | 281                              | 49                 | 0                                 | 46                               | 0                          | 0                     | 0                     |                                               | 281                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1026+50.00 | 337                         | 291                              | 47                 | 0                                 | 49                               | 0                          | 0                     | 0                     |                                               | 291                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1026+75.00 | 358                         | 312                              | 45                 | 0                                 | 51                               | 0                          | 0                     | 0                     |                                               | 312                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1027+00.00 | 416                         | 373                              | 43                 | 0                                 | 52                               | 0                          | 0                     | 0                     |                                               | 373                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1027+25.00 |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals: | 26,305                      | 15,873                           | 7,381              | 1,194                             | 1,274                            | 1,860                      | 0                     | 0                     | 0                                             | 18,927                |      |      |      |      |      |      |      |      |      |      |      |      |



**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station    | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 1027+25.00 | 472                         | 431                              | 41                 | 0                                 | 53                               | 0                          | 0                     | 0                     |                                               | 431                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1027+50.00 | 507                         | 468                              | 39                 | 0                                 | 53                               | 0                          | 0                     | 0                     |                                               | 468                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1027+75.00 | 534                         | 498                              | 37                 | 0                                 | 53                               | 0                          | 0                     | 0                     |                                               | 498                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1028+00.00 | 552                         | 517                              | 35                 | 0                                 | 54                               | 0                          | 0                     | 0                     |                                               | 517                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1028+25.00 | 564                         | 531                              | 33                 | 0                                 | 55                               | 0                          | 0                     | 0                     |                                               | 531                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1028+50.00 | 576                         | 546                              | 31                 | 0                                 | 58                               | 0                          | 0                     | 0                     |                                               | 546                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1028+75.00 | 584                         | 554                              | 30                 | 0                                 | 66                               | 0                          | 0                     | 0                     |                                               | 554                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1029+00.00 | 615                         | 615                              | 0                  | 0                                 | 73                               | 0                          | 0                     | 0                     |                                               | 615                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1029+25.00 | 681                         | 681                              | 0                  | 0                                 | 74                               | 0                          | 0                     | 0                     |                                               | 681                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1029+50.00 | 614                         | 614                              | 0                  | 0                                 | 75                               | 0                          | 0                     | 0                     |                                               | 614                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1029+75.00 | 540                         | 540                              | 0                  | 0                                 | 68                               | 0                          | 0                     | 0                     |                                               | 540                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1030+00.00 | 537                         | 537                              | 0                  | 0                                 | 58                               | 0                          | 0                     | 0                     |                                               | 537                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1030+25.00 | 544                         | 544                              | 0                  | 0                                 | 54                               | 0                          | 0                     | 0                     |                                               | 544                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1030+50.00 | 595                         | 595                              | 0                  | 0                                 | 54                               | 0                          | 0                     | 0                     |                                               | 595                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1030+75.00 | 631                         | 631                              | 0                  | 0                                 | 54                               | 0                          | 0                     | 0                     |                                               | 631                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1031+00.00 | 425                         | 425                              | 0                  | 0                                 | 55                               | 0                          | 0                     | 0                     |                                               | 425                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1031+25.00 | 403                         | 403                              | 0                  | 0                                 | 57                               | 0                          | 0                     | 0                     |                                               | 403                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1031+50.00 | 377                         | 377                              | 0                  | 0                                 | 58                               | 0                          | 0                     | 0                     |                                               | 377                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1031+75.00 | 359                         | 359                              | 0                  | 0                                 | 58                               | 0                          | 0                     | 0                     |                                               | 359                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1032+00.00 | 351                         | 351                              | 0                  | 0                                 | 57                               | 0                          | 0                     | 0                     |                                               | 351                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1032+25.00 | 346                         | 346                              | 0                  | 0                                 | 56                               | 0                          | 0                     | 0                     |                                               | 346                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1032+50.00 | 340                         | 340                              | 0                  | 0                                 | 54                               | 0                          | 0                     | 0                     |                                               | 340                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1032+75.00 | 338                         | 338                              | 0                  | 0                                 | 51                               | 0                          | 0                     | 0                     |                                               | 338                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1033+00.00 | 341                         | 341                              | 0                  | 0                                 | 50                               | 0                          | 0                     | 0                     |                                               | 341                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1033+25.00 | 344                         | 344                              | 0                  | 0                                 | 51                               | 0                          | 0                     | 0                     |                                               | 344                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1033+50.00 | 345                         | 345                              | 0                  | 0                                 | 53                               | 0                          | 0                     | 0                     |                                               | 345                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1033+75.00 | 346                         | 337                              | 0                  | 0                                 | 55                               | 9                          | 0                     | 0                     |                                               | 346                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1034+00.00 | 344                         | 327                              | 0                  | 0                                 | 56                               | 17                         | 0                     | 0                     |                                               | 344                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1034+25.00 | 344                         | 333                              | 0                  | 0                                 | 56                               | 11                         | 0                     | 0                     |                                               | 344                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1034+50.00 | 348                         | 335                              | 0                  | 0                                 | 56                               | 13                         | 0                     | 0                     |                                               | 348                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1034+75.00 | 350                         | 323                              | 0                  | 0                                 | 57                               | 27                         | 0                     | 0                     |                                               | 350                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1035+00.00 | 362                         | 323                              | 0                  | 0                                 | 57                               | 39                         | 0                     | 0                     |                                               | 362                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1035+25.00 | 386                         | 349                              | 0                  | 0                                 | 57                               | 37                         | 0                     | 0                     |                                               | 386                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1035+50.00 | 402                         | 360                              | 0                  | 0                                 | 59                               | 43                         | 0                     | 0                     |                                               | 403                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1035+75.00 | 410                         | 316                              | 0                  | 0                                 | 66                               | 94                         | 0                     | 0                     |                                               | 410                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1036+00.00 | 419                         | 327                              | 0                  | 0                                 | 88                               | 92                         | 0                     | 0                     |                                               | 419                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1036+25.00 | 429                         | 347                              | 0                  | 0                                 | 118                              | 82                         | 0                     | 0                     |                                               | 429                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1036+50.00 | 426                         | 357                              | 0                  | 0                                 | 113                              | 68                         | 0                     | 0                     |                                               | 425                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1036+75.00 | 414                         | 395                              | 0                  | 0                                 | 83                               | 19                         | 0                     | 0                     |                                               | 414                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1037+00.00 | 392                         | 386                              | 0                  | 0                                 | 64                               | 6                          | 0                     | 0                     |                                               | 392                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1037+25.00 | 376                         | 376                              | 0                  | 0                                 | 57                               | 0                          | 0                     | 0                     |                                               | 376                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1037+50.00 | 367                         | 367                              | 0                  | 0                                 | 56                               | 0                          | 0                     | 0                     |                                               | 367                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1037+75.00 | 352                         | 352                              | 0                  | 0                                 | 56                               | 0                          | 0                     | 0                     |                                               | 352                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1038+00.00 | 347                         | 347                              | 0                  | 0                                 | 56                               | 0                          | 0                     | 0                     |                                               | 347                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1038+25.00 | 347                         | 347                              | 0                  | 0                                 | 56                               | 0                          | 0                     | 0                     |                                               | 347                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1038+50.00 | 343                         | 343                              | 0                  | 0                                 | 56                               | 0                          | 0                     | 0                     |                                               | 343                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1038+75.00 | 330                         | 330                              | 0                  | 0                                 | 56                               | 0                          | 0                     | 0                     |                                               | 330                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1039+00.00 | 317                         | 317                              | 0                  | 0                                 | 55                               | 0                          | 0                     | 0                     |                                               | 317                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1039+25.00 | 308                         | 308                              | 0                  | 0                                 | 54                               | 0                          | 0                     | 0                     |                                               | 308                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1039+50.00 | 308                         | 307                              | 0                  | 0                                 | 51                               | 1                          | 0                     | 0                     |                                               | 308                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1039+75.00 | 304                         | 303                              | 0                  | 0                                 | 49                               | 1                          | 0                     | 0                     |                                               | 304                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1040+00.00 | 288                         | 287                              | 0                  | 0                                 | 48                               | 1                          | 0                     | 0                     |                                               | 288                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1040+25.00 | 278                         | 277                              | 0                  | 0                                 | 47                               | 1                          | 0                     | 0                     |                                               | 278                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1040+50.00 |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| ML US20    |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Totals:    | 288,161                     | 195,466                          | 38,427             | 14,426                            | 11,129                           | 27,627                     | 12,206                | 0                     | 0                                             | 237,519               |      |      |      |      |      |      |      |      |      |      |      |      |



**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station    | Fill                         |                                     |                                              |                                    |                                                 |                                                 | Checks (EW-102)    |               | Topsoil |         |        |        |                   | [37]          | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|--------------------|---------------|---------|---------|--------|--------|-------------------|---------------|------|------|------|------|------|------|------|--|
|            | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]               | [30]          | [31]    | [32]    | [33]   | [34]   | [35]              | [36]          |      |      |      |      |      |      |      |  |
|            | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$ | $[10] - [29]$ |         |         |        |        | $[34] \times 1.4$ | $[33] - [35]$ |      |      |      |      |      |      |      |  |
| 1027+25.00 | 529                          | 39                                  | 27                                           |                                    |                                                 | 595                                             | 750                | -319          | 253     | 415     | 41     | 69     | 97                | -56           |      |      |      |      |      |      |      |  |
| 1027+50.00 | 388                          | 47                                  | 24                                           |                                    |                                                 | 459                                             | 578                | -110          | 163     | 289     | 39     | 62     | 87                | -48           |      |      |      |      |      |      |      |  |
| 1027+75.00 | 288                          | 55                                  | 21                                           |                                    |                                                 | 364                                             | 459                | 39            | 43      | 169     | 37     | 59     | 83                | -46           |      |      |      |      |      |      |      |  |
| 1028+00.00 | 210                          | 66                                  | 19                                           |                                    |                                                 | 295                                             | 372                | 145           | 0       | 83      | 35     | 55     | 77                | -42           |      |      |      |      |      |      |      |  |
| 1028+25.00 | 156                          | 77                                  | 17                                           |                                    |                                                 | 250                                             | 315                | 216           | 0       | 26      | 33     | 52     | 73                | -40           |      |      |      |      |      |      |      |  |
| 1028+50.00 | 124                          | 90                                  | 15                                           |                                    |                                                 | 229                                             | 289                | 257           | 0       | 0       | 31     | 48     | 67                | -36           |      |      |      |      |      |      |      |  |
| 1028+75.00 | 99                           | 114                                 | 14                                           |                                    |                                                 | 227                                             | 286                | 268           | 0       | 0       | 30     | 45     | 63                | -33           |      |      |      |      |      |      |      |  |
| 1029+00.00 | 50                           | 160                                 |                                              |                                    |                                                 | 210                                             | 265                | 350           | 0       | 0       | 0      | 40     | 56                | -56           |      |      |      |      |      |      |      |  |
| 1029+25.00 | 9                            | 195                                 |                                              |                                    |                                                 | 204                                             | 257                | 424           | 0       | 0       | 0      | 36     | 50                | -50           |      |      |      |      |      |      |      |  |
| 1029+50.00 | 16                           | 143                                 |                                              |                                    |                                                 | 159                                             | 200                | 414           | 0       | 0       | 0      | 34     | 48                | -48           |      |      |      |      |      |      |      |  |
| 1029+75.00 | 22                           | 88                                  |                                              |                                    |                                                 | 110                                             | 139                | 401           | 0       | 0       | 0      | 31     | 43                | -43           |      |      |      |      |      |      |      |  |
| 1030+00.00 | 15                           | 91                                  |                                              |                                    |                                                 | 106                                             | 134                | 403           | 0       | 0       | 0      | 30     | 42                | -42           |      |      |      |      |      |      |      |  |
| 1030+25.00 | 11                           | 97                                  |                                              |                                    |                                                 | 108                                             | 136                | 408           | 0       | 0       | 0      | 29     | 41                | -41           |      |      |      |      |      |      |      |  |
| 1030+50.00 | 12                           | 144                                 |                                              |                                    |                                                 | 156                                             | 197                | 398           | 0       | 0       | 0      | 28     | 39                | -39           |      |      |      |      |      |      |      |  |
| 1030+75.00 | 15                           | 190                                 |                                              |                                    |                                                 | 205                                             | 258                | 373           | 0       | 0       | 0      | 28     | 39                | -39           |      |      |      |      |      |      |      |  |
| 1031+00.00 | 16                           | 0                                   |                                              |                                    |                                                 | 16                                              | 20                 | 405           | 0       | 0       | 0      | 30     | 42                | -42           |      |      |      |      |      |      |      |  |
| 1031+25.00 | 13                           | 0                                   |                                              |                                    |                                                 | 13                                              | 16                 | 387           | 0       | 0       | 0      | 31     | 43                | -43           |      |      |      |      |      |      |      |  |
| 1031+50.00 | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                  | 368           | 0       | 0       | 0      | 31     | 43                | -43           |      |      |      |      |      |      |      |  |
| 1031+75.00 | 2                            | 0                                   |                                              |                                    |                                                 | 2                                               | 3                  | 356           | 0       | 0       | 0      | 30     | 42                | -42           |      |      |      |      |      |      |      |  |
| 1032+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 351           | 0       | 0       | 0      | 29     | 41                | -41           |      |      |      |      |      |      |      |  |
| 1032+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 346           | 0       | 0       | 0      | 29     | 41                | -41           |      |      |      |      |      |      |      |  |
| 1032+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 340           | 0       | 0       | 0      | 28     | 39                | -39           |      |      |      |      |      |      |      |  |
| 1032+75.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 338           | 0       | 0       | 0      | 28     | 39                | -39           |      |      |      |      |      |      |      |  |
| 1033+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 341           | 0       | 0       | 0      | 27     | 38                | -38           |      |      |      |      |      |      |      |  |
| 1033+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 344           | 0       | 0       | 0      | 26     | 36                | -36           |      |      |      |      |      |      |      |  |
| 1033+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 345           | 0       | 0       | 0      | 21     | 29                | -29           |      |      |      |      |      |      |      |  |
| 1033+75.00 | 1                            | 0                                   |                                              |                                    |                                                 | 1                                               | 1                  | 345           | 0       | 0       | 0      | 17     | 24                | -24           |      |      |      |      |      |      |      |  |
| 1034+00.00 | 12                           | 0                                   |                                              |                                    |                                                 | 12                                              | 15                 | 329           | 0       | 0       | 0      | 22     | 31                | -31           |      |      |      |      |      |      |      |  |
| 1034+25.00 | 25                           | 0                                   |                                              |                                    |                                                 | 25                                              | 32                 | 313           | 0       | 0       | 0      | 32     | 45                | -45           |      |      |      |      |      |      |      |  |
| 1034+50.00 | 30                           | 0                                   |                                              |                                    |                                                 | 30                                              | 38                 | 310           | 0       | 0       | 0      | 38     | 53                | -53           |      |      |      |      |      |      |      |  |
| 1034+75.00 | 17                           | 0                                   |                                              |                                    |                                                 | 17                                              | 22                 | 329           | 0       | 0       | 0      | 35     | 49                | -49           |      |      |      |      |      |      |      |  |
| 1035+00.00 | 1                            | 0                                   |                                              |                                    |                                                 | 1                                               | 1                  | 361           | 0       | 0       | 0      | 31     | 43                | -43           |      |      |      |      |      |      |      |  |
| 1035+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 386           | 0       | 0       | 0      | 36     | 50                | -50           |      |      |      |      |      |      |      |  |
| 1035+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 402           | 0       | 0       | 0      | 38     | 53                | -53           |      |      |      |      |      |      |      |  |
| 1035+75.00 | 0                            | 0                                   |                                              | 1                                  |                                                 | 1                                               | 1                  | 402           | 0       | 0       | 0      | 38     | 53                | -53           |      |      |      |      |      |      |      |  |
| 1036+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 410           | 0       | 0       | 0      | 35     | 49                | -49           |      |      |      |      |      |      |      |  |
| 1036+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 419           | 0       | 0       | 0      | 36     | 50                | -50           |      |      |      |      |      |      |      |  |
| 1036+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 429           | 0       | 0       | 0      | 36     | 50                | -50           |      |      |      |      |      |      |      |  |
| 1036+75.00 | 0                            | 0                                   |                                              | 1                                  |                                                 | 1                                               | 1                  | 424           | 0       | 0       | 0      | 35     | 49                | -49           |      |      |      |      |      |      |      |  |
| 1037+00.00 | 1                            | 0                                   |                                              |                                    |                                                 | 1                                               | 1                  | 413           | 0       | 0       | 0      | 37     | 52                | -52           |      |      |      |      |      |      |      |  |
| 1037+25.00 | 1                            | 0                                   |                                              |                                    |                                                 | 1                                               | 1                  | 391           | 0       | 0       | 0      | 38     | 53                | -53           |      |      |      |      |      |      |      |  |
| 1037+50.00 | 2                            | 0                                   |                                              |                                    |                                                 | 2                                               | 3                  | 373           | 0       | 0       | 0      | 43     | 60                | -60           |      |      |      |      |      |      |      |  |
| 1037+75.00 | 5                            | 0                                   |                                              |                                    |                                                 | 5                                               | 6                  | 361           | 0       | 0       | 0      | 47     | 66                | -66           |      |      |      |      |      |      |      |  |
| 1038+00.00 | 9                            | 0                                   |                                              |                                    |                                                 | 9                                               | 11                 | 341           | 0       | 0       | 0      | 51     | 71                | -71           |      |      |      |      |      |      |      |  |
| 1038+25.00 | 21                           | 0                                   |                                              |                                    |                                                 | 21                                              | 27                 | 321           | 0       | 0       | 0      | 57     | 80                | -80           |      |      |      |      |      |      |      |  |
| 1038+50.00 | 39                           | 0                                   |                                              |                                    |                                                 | 39                                              | 49                 | 298           | 9       | 0       | 0      | 58     | 81                | -81           |      |      |      |      |      |      |      |  |
| 1038+75.00 | 72                           | 0                                   |                                              |                                    |                                                 | 72                                              | 91                 | 252           | 18      | 0       | 0      | 58     | 81                | -81           |      |      |      |      |      |      |      |  |
| 1039+00.00 | 115                          | 0                                   |                                              |                                    |                                                 | 115                                             | 145                | 185           | 18      | 0       | 0      | 65     | 91                | -91           |      |      |      |      |      |      |      |  |
| 1039+25.00 | 185                          | 0                                   |                                              | 1                                  |                                                 | 186                                             | 234                | 83            | 18      | 0       | 0      | 73     | 102               | -102          |      |      |      |      |      |      |      |  |
| 1039+50.00 | 261                          | 0                                   |                                              |                                    |                                                 | 261                                             | 329                | -21           | 18      | 0       | 0      | 80     | 112               | -112          |      |      |      |      |      |      |      |  |
| 1039+75.00 | 310                          | 0                                   |                                              |                                    |                                                 | 310                                             | 391                | -83           | 180     | 0       | 0      | 84     | 118               | -118          |      |      |      |      |      |      |      |  |
| 1040+00.00 | 368                          | 0                                   |                                              |                                    |                                                 | 368                                             | 464                | -160          | 341     | 0       | 0      | 86     | 120               | -120          |      |      |      |      |      |      |      |  |
| 1040+25.00 | 439                          | 0                                   |                                              |                                    |                                                 | 439                                             | 553                | -265          | 341     | 0       | 0      | 89     | 125               | -125          |      |      |      |      |      |      |      |  |
| 1040+50.00 | 498                          | 0                                   |                                              |                                    |                                                 | 498                                             | 628                | -350          | 0       | 0       | 0      | 93     | 130               | -130          |      |      |      |      |      |      |      |  |
| ML_US20    |                              |                                     |                                              |                                    |                                                 |                                                 |                    |               |         |         |        |        |                   |               |      |      |      |      |      |      |      |  |
| Totals:    | 276,426                      | 14,699                              | 21,523                                       | 330                                | 1,860                                           | 314,838                                         | 396,710            | -159,191      | 156,965 | 248,820 | 38,427 | 25,108 | 35,152            | 3,276         |      |      |      |      |      |      |      |  |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station    | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| NH Cascade |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 7959+00.00 | 282                         | 161                              | 120                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 161                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7959+25.00 | 218                         | 121                              | 97                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 121                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7959+50.00 | 195                         | 108                              | 87                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 108                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7959+75.00 | 95                          | 52                               | 43                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 52                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7959+87.01 | 7                           | 4                                | 3                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 4                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 7959+87.94 | 95                          | 50                               | 45                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 50                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7960+00.00 | 96                          | 49                               | 46                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 49                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7960+12.01 | 8                           | 4                                | 4                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 4                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 7960+13.04 | 99                          | 51                               | 48                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 51                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7960+25.00 | 228                         | 128                              | 100                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 128                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7960+50.00 | 192                         | 94                               | 98                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 94                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7960+75.00 | 158                         | 60                               | 98                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 60                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7961+00.00 | 130                         | 31                               | 99                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 31                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7961+25.00 | 131                         | 28                               | 102                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 28                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7961+50.00 | 167                         | 115                              | 53                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 115                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7961+75.00 | 132                         | 132                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 132                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7961+90.00 | 118                         | 118                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 118                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7962+00.00 | 280                         | 280                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 280                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7962+25.00 | 318                         | 318                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 318                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7962+50.00 | 367                         | 367                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 367                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7962+75.00 | 358                         | 358                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 358                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7963+00.00 | 318                         | 318                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 318                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7963+25.00 | 353                         | 353                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 353                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7963+50.00 | 414                         | 414                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 414                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7963+75.00 | 445                         | 445                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 445                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7964+00.00 | 441                         | 441                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 441                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7964+25.00 | 223                         | 223                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 223                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7964+37.94 | 216                         | 216                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 216                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7964+50.00 | 212                         | 212                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 212                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7964+62.06 | 399                         | 399                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 399                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7964+75.00 | 1,031                       | 1,031                            | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 1,031                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 7965+00.00 | 740                         | 740                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 740                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7965+25.00 | 449                         | 449                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 449                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7965+50.00 | 59                          | 59                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 59                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7965+54.32 | 237                         | 237                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 237                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7965+75.00 | 204                         | 204                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 204                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7966+00.00 | 163                         | 163                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 163                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7966+25.00 | 127                         | 127                              | 0                  | 0                                 | 7                                | 0                          | 0                     | 0                     |                                               | 127                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7966+45.68 | 25                          | 25                               | 0                  | 0                                 | 3                                | 0                          | 0                     | 0                     |                                               | 25                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7966+50.00 | 141                         | 141                              | 0                  | 0                                 | 26                               | 0                          | 0                     | 0                     |                                               | 141                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7966+75.00 | 131                         | 131                              | 0                  | 0                                 | 37                               | 0                          | 0                     | 0                     |                                               | 131                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7967+00.00 | 117                         | 117                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     |                                               | 117                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7967+25.00 | 113                         | 113                              | 0                  | 0                                 | 42                               | 0                          | 0                     | 0                     |                                               | 113                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7967+50.00 | 114                         | 114                              | 0                  | 0                                 | 42                               | 0                          | 0                     | 0                     |                                               | 114                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7967+75.00 | 122                         | 122                              | 0                  | 0                                 | 42                               | 0                          | 0                     | 0                     |                                               | 122                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7968+00.00 | 138                         | 138                              | 0                  | 0                                 | 42                               | 0                          | 0                     | 0                     |                                               | 138                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7968+25.00 | 158                         | 158                              | 0                  | 0                                 | 42                               | 0                          | 0                     | 0                     |                                               | 158                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7968+50.00 | 187                         | 187                              | 0                  | 0                                 | 43                               | 0                          | 0                     | 0                     |                                               | 187                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7968+75.00 | 224                         | 224                              | 0                  | 0                                 | 47                               | 0                          | 0                     | 0                     |                                               | 224                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7969+00.00 | 258                         | 258                              | 0                  | 0                                 | 60                               | 0                          | 0                     | 0                     |                                               | 258                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7969+25.00 | 263                         | 263                              | 0                  | 0                                 | 87                               | 0                          | 0                     | 0                     |                                               | 263                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7969+50.00 | 272                         | 272                              | 0                  | 0                                 | 106                              | 0                          | 0                     | 0                     |                                               | 272                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7969+75.00 | 323                         | 323                              | 0                  | 0                                 | 79                               | 0                          | 0                     | 0                     |                                               | 323                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7970+00.00 | 331                         | 331                              | 0                  | 0                                 | 47                               | 0                          | 0                     | 0                     |                                               | 331                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7970+25.00 | 308                         | 308                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     |                                               | 308                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7970+50.00 | 287                         | 287                              | 0                  | 0                                 | 35                               | 0                          | 0                     | 0                     |                                               | 287                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7970+72.50 | 33                          | 33                               | 0                  | 0                                 | 4                                | 0                          | 0                     | 0                     |                                               | 33                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7970+75.00 | 338                         | 338                              | 0                  | 0                                 | 39                               | 0                          | 0                     | 0                     |                                               | 338                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7971+00.00 | 282                         | 282                              | 0                  | 0                                 | 32                               | 0                          | 0                     | 0                     |                                               | 282                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7971+20.00 | 72                          | 72                               | 0                  | 0                                 | 8                                | 0                          | 0                     | 0                     |                                               | 72                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7971+25.00 | 373                         | 373                              | 0                  | 0                                 | 42                               | 0                          | 0                     | 0                     |                                               | 373                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7971+50.00 | 278                         | 278                              | 0                  | 0                                 | 30                               | 0                          | 0                     | 0                     |                                               | 278                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7971+67.50 | 125                         | 125                              | 0                  | 0                                 | 13                               | 0                          | 0                     | 0                     |                                               | 125                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7971+75.00 | 454                         | 454                              | 0                  | 0                                 | 45                               | 0                          | 0                     | 0                     |                                               | 454                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7972+00.00 | 512                         | 512                              | 0                  | 0                                 | 47                               | 0                          | 0                     | 0                     |                                               | 512                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7972+25.00 | 585                         | 585                              | 0                  | 0                                 | 48                               | 0                          | 0                     | 0                     |                                               | 585                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7972+50.00 | 505                         | 505                              | 0                  | 0                                 | 42                               | 0                          | 0                     | 0                     |                                               | 505                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7972+75.00 |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals: | 16,774                      | 15,729                           | 1,043              | 0                                 | 1,219                            | 0                          | 0                     | 0                     | 0                                             | 15,729                |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station     | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|-------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|
|             | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |
|             |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |
|             | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |
| NthCascadet |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |
| 7959+00.00  | 20                           | 0                                   |                                              | 15                                 |                                                 | 35                                              | 44                                                         | 117                                     | 0                                                | 0                                      | 120                               | 48                                | 67                                       | 53                                                 |      |      |      |      |      |      |      |
| 7959+25.00  | 22                           | 0                                   |                                              |                                    |                                                 | 22                                              | 28                                                         | 93                                      | 0                                                | 0                                      | 97                                | 42                                | 59                                       | 38                                                 |      |      |      |      |      |      |      |
| 7959+50.00  | 30                           | 0                                   |                                              |                                    |                                                 | 30                                              | 38                                                         | 70                                      | 0                                                | 0                                      | 87                                | 38                                | 53                                       | 34                                                 |      |      |      |      |      |      |      |
| 7959+75.00  | 20                           | 0                                   |                                              |                                    |                                                 | 20                                              | 25                                                         | 27                                      | 0                                                | 0                                      | 43                                | 19                                | 27                                       | 16                                                 |      |      |      |      |      |      |      |
| 7959+87.01  | 2                            | 0                                   |                                              |                                    |                                                 | 2                                               | 3                                                          | 1                                       | 0                                                | 0                                      | 3                                 | 2                                 | 3                                        | 0                                                  |      |      |      |      |      |      |      |
| 7959+87.94  | 26                           | 0                                   |                                              |                                    |                                                 | 26                                              | 33                                                         | 17                                      | 0                                                | 0                                      | 45                                | 21                                | 29                                       | 16                                                 |      |      |      |      |      |      |      |
| 7960+00.00  | 32                           | 0                                   |                                              |                                    |                                                 | 32                                              | 40                                                         | 9                                       | 0                                                | 0                                      | 46                                | 21                                | 29                                       | 17                                                 |      |      |      |      |      |      |      |
| 7960+12.01  | 3                            | 0                                   |                                              |                                    |                                                 | 3                                               | 4                                                          | 0                                       | 0                                                | 0                                      | 4                                 | 2                                 | 3                                        | 1                                                  |      |      |      |      |      |      |      |
| 7960+13.04  | 40                           | 0                                   |                                              |                                    |                                                 | 40                                              | 50                                                         | 1                                       | 0                                                | 0                                      | 48                                | 22                                | 31                                       | 17                                                 |      |      |      |      |      |      |      |
| 7960+25.00  | 103                          | 33                                  |                                              |                                    |                                                 | 136                                             | 171                                                        | -43                                     | 0                                                | 0                                      | 100                               | 47                                | 66                                       | 34                                                 |      |      |      |      |      |      |      |
| 7960+50.00  | 123                          | 24                                  |                                              |                                    |                                                 | 147                                             | 185                                                        | -91                                     | 0                                                | 0                                      | 98                                | 46                                | 64                                       | 34                                                 |      |      |      |      |      |      |      |
| 7960+75.00  | 169                          | 13                                  |                                              |                                    |                                                 | 182                                             | 229                                                        | -169                                    | 0                                                | 0                                      | 98                                | 46                                | 64                                       | 34                                                 |      |      |      |      |      |      |      |
| 7961+00.00  | 242                          | 2                                   |                                              |                                    |                                                 | 244                                             | 308                                                        | -277                                    | 0                                                | 0                                      | 99                                | 47                                | 66                                       | 33                                                 |      |      |      |      |      |      |      |
| 7961+25.00  | 290                          | 0                                   |                                              |                                    |                                                 | 290                                             | 365                                                        | -337                                    | 0                                                | 0                                      | 102                               | 49                                | 69                                       | 33                                                 |      |      |      |      |      |      |      |
| 7961+50.00  | 249                          | 1                                   |                                              |                                    |                                                 | 250                                             | 315                                                        | -200                                    | 0                                                | 0                                      | 53                                | 59                                | 83                                       | -30                                                |      |      |      |      |      |      |      |
| 7961+75.00  | 76                           | 1                                   |                                              |                                    |                                                 | 77                                              | 97                                                         | 35                                      | 0                                                | 0                                      | 0                                 | 41                                | 57                                       | -57                                                |      |      |      |      |      |      |      |
| 7961+90.00  | 19                           | 16                                  |                                              |                                    |                                                 | 35                                              | 44                                                         | 74                                      | 0                                                | 0                                      | 0                                 | 27                                | 38                                       | -38                                                |      |      |      |      |      |      |      |
| 7962+00.00  | 27                           | 0                                   |                                              |                                    |                                                 | 27                                              | 34                                                         | 246                                     | 0                                                | 0                                      | 0                                 | 65                                | 91                                       | -91                                                |      |      |      |      |      |      |      |
| 7962+25.00  | 16                           | 0                                   |                                              |                                    |                                                 | 16                                              | 20                                                         | 298                                     | 0                                                | 0                                      | 0                                 | 62                                | 87                                       | -87                                                |      |      |      |      |      |      |      |
| 7962+50.00  | 10                           | 0                                   |                                              |                                    |                                                 | 10                                              | 13                                                         | 354                                     | 0                                                | 0                                      | 0                                 | 60                                | 84                                       | -84                                                |      |      |      |      |      |      |      |
| 7962+75.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 348                                     | 0                                                | 0                                      | 0                                 | 45                                | 63                                       | -63                                                |      |      |      |      |      |      |      |
| 7963+00.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 308                                     | 0                                                | 0                                      | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |
| 7963+25.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 343                                     | 0                                                | 0                                      | 0                                 | 36                                | 50                                       | -50                                                |      |      |      |      |      |      |      |
| 7963+50.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 404                                     | 0                                                | 0                                      | 0                                 | 39                                | 55                                       | -55                                                |      |      |      |      |      |      |      |
| 7963+75.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 435                                     | 0                                                | 0                                      | 0                                 | 40                                | 56                                       | -56                                                |      |      |      |      |      |      |      |
| 7964+00.00  | 14                           | 0                                   |                                              |                                    |                                                 | 14                                              | 18                                                         | 423                                     | 0                                                | 0                                      | 0                                 | 41                                | 57                                       | -57                                                |      |      |      |      |      |      |      |
| 7964+25.00  | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 214                                     | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |
| 7964+37.94  | 4                            | 0                                   |                                              |                                    |                                                 | 4                                               | 5                                                          | 211                                     | 0                                                | 0                                      | 0                                 | 23                                | 32                                       | -32                                                |      |      |      |      |      |      |      |
| 7964+50.00  | 4                            | 0                                   |                                              |                                    |                                                 | 4                                               | 5                                                          | 207                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |
| 7964+62.06  | 4                            | 0                                   |                                              |                                    |                                                 | 4                                               | 5                                                          | 394                                     | 0                                                | 0                                      | 0                                 | 50                                | 70                                       | -70                                                |      |      |      |      |      |      |      |
| 7964+75.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 1,021                                   | 0                                                | 0                                      | 0                                 | 127                               | 178                                      | -178                                               |      |      |      |      |      |      |      |
| 7965+00.00  | 11                           | 0                                   |                                              |                                    |                                                 | 11                                              | 14                                                         | 726                                     | 0                                                | 0                                      | 0                                 | 101                               | 141                                      | -141                                               |      |      |      |      |      |      |      |
| 7965+25.00  | 14                           | 0                                   |                                              |                                    |                                                 | 14                                              | 18                                                         | 431                                     | 0                                                | 0                                      | 0                                 | 80                                | 112                                      | -112                                               |      |      |      |      |      |      |      |
| 7965+50.00  | 2                            | 0                                   |                                              |                                    |                                                 | 2                                               | 3                                                          | 56                                      | 0                                                | 0                                      | 0                                 | 12                                | 17                                       | -17                                                |      |      |      |      |      |      |      |
| 7965+54.32  | 11                           | 0                                   |                                              |                                    |                                                 | 11                                              | 14                                                         | 223                                     | 0                                                | 0                                      | 0                                 | 52                                | 73                                       | -73                                                |      |      |      |      |      |      |      |
| 7965+75.00  | 16                           | 0                                   |                                              |                                    |                                                 | 16                                              | 20                                                         | 184                                     | 0                                                | 0                                      | 0                                 | 51                                | 71                                       | -71                                                |      |      |      |      |      |      |      |
| 7966+00.00  | 23                           | 0                                   |                                              |                                    |                                                 | 23                                              | 29                                                         | 134                                     | 0                                                | 0                                      | 0                                 | 46                                | 64                                       | -64                                                |      |      |      |      |      |      |      |
| 7966+25.00  | 24                           | 0                                   |                                              |                                    |                                                 | 24                                              | 30                                                         | 97                                      | 0                                                | 0                                      | 0                                 | 39                                | 55                                       | -55                                                |      |      |      |      |      |      |      |
| 7966+45.68  | 5                            | 0                                   |                                              |                                    |                                                 | 5                                               | 6                                                          | 19                                      | 0                                                | 0                                      | 0                                 | 8                                 | 11                                       | -11                                                |      |      |      |      |      |      |      |
| 7966+50.00  | 26                           | 0                                   |                                              |                                    |                                                 | 26                                              | 33                                                         | 108                                     | 0                                                | 0                                      | 0                                 | 51                                | 71                                       | -71                                                |      |      |      |      |      |      |      |
| 7966+75.00  | 19                           | 0                                   |                                              |                                    |                                                 | 19                                              | 24                                                         | 107                                     | 0                                                | 0                                      | 0                                 | 53                                | 74                                       | -74                                                |      |      |      |      |      |      |      |
| 7967+00.00  | 14                           | 0                                   |                                              |                                    |                                                 | 14                                              | 18                                                         | 99                                      | 0                                                | 0                                      | 0                                 | 53                                | 74                                       | -74                                                |      |      |      |      |      |      |      |
| 7967+25.00  | 12                           | 0                                   |                                              |                                    |                                                 | 12                                              | 15                                                         | 98                                      | 0                                                | 0                                      | 0                                 | 53                                | 74                                       | -74                                                |      |      |      |      |      |      |      |
| 7967+50.00  | 11                           | 0                                   |                                              |                                    |                                                 | 11                                              | 14                                                         | 100                                     | 0                                                | 0                                      | 0                                 | 52                                | 73                                       | -73                                                |      |      |      |      |      |      |      |
| 7967+75.00  | 11                           | 0                                   |                                              |                                    |                                                 | 11                                              | 14                                                         | 108                                     | 0                                                | 0                                      | 0                                 | 52                                | 73                                       | -73                                                |      |      |      |      |      |      |      |
| 7968+00.00  | 10                           | 0                                   |                                              |                                    |                                                 | 10                                              | 13                                                         | 125                                     | 0                                                | 0                                      | 0                                 | 52                                | 73                                       | -73                                                |      |      |      |      |      |      |      |
| 7968+25.00  | 10                           | 0                                   |                                              |                                    |                                                 | 10                                              | 13                                                         | 145                                     | 0                                                | 0                                      | 0                                 | 52                                | 73                                       | -73                                                |      |      |      |      |      |      |      |
| 7968+50.00  | 9                            | 0                                   |                                              |                                    |                                                 | 9                                               | 11                                                         | 176                                     | 0                                                | 0                                      | 0                                 | 53                                | 74                                       | -74                                                |      |      |      |      |      |      |      |
| 7968+75.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 214                                     | 0                                                | 0                                      | 0                                 | 54                                | 76                                       | -76                                                |      |      |      |      |      |      |      |
| 7969+00.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 248                                     | 0                                                | 0                                      | 0                                 | 55                                | 77                                       | -77                                                |      |      |      |      |      |      |      |
| 7969+25.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 253                                     | 0                                                | 0                                      | 0                                 | 56                                | 78                                       | -78                                                |      |      |      |      |      |      |      |
| 7969+50.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 262                                     | 0                                                | 0                                      | 0                                 | 58                                | 81                                       | -81                                                |      |      |      |      |      |      |      |
| 7969+75.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 313                                     | 0                                                | 0                                      | 0                                 | 59                                | 83                                       | -83                                                |      |      |      |      |      |      |      |
| 7970+00.00  | 12                           | 0                                   |                                              |                                    |                                                 | 12                                              | 15                                                         | 316                                     | 0                                                | 0                                      | 0                                 | 60                                | 84                                       | -84                                                |      |      |      |      |      |      |      |
| 7970+25.00  | 20                           | 0                                   |                                              |                                    |                                                 | 20                                              | 25                                                         | 283                                     | 0                                                | 0                                      | 0                                 | 61                                | 85                                       | -85                                                |      |      |      |      |      |      |      |
| 7970+50.00  | 21                           | 0                                   |                                              |                                    |                                                 | 21                                              | 27                                                         | 261                                     | 0                                                | 0                                      | 0                                 | 56                                | 78                                       | -78                                                |      |      |      |      |      |      |      |
| 7970+72.50  | 2                            | 0                                   |                                              |                                    |                                                 | 2                                               | 3                                                          | 30                                      | 0                                                | 0                                      | 0                                 | 6                                 | 8                                        | -8                                                 |      |      |      |      |      |      |      |
| 7970+75.00  | 23                           | 0                                   |                                              |                                    |                                                 | 23                                              | 29                                                         | 309                                     | 0                                                | 0                                      | 0                                 | 64                                | 90                                       | -90                                                |      |      |      |      |      |      |      |
| 7971+00.00  | 19                           | 0                                   |                                              |                                    |                                                 | 19                                              | 24                                                         | 258                                     | 0                                                | 0                                      | 0                                 | 52                                | 73                                       | -73                                                |      |      |      |      |      |      |      |
| 7971+20.00  | 5                            | 0                                   |                                              |                                    |                                                 | 5                                               | 6                                                          | 66                                      | 0                                                | 0                                      | 0                                 | 13                                | 18                                       | -18                                                |      |      |      |      |      |      |      |
| 7971+25.00  | 24                           | 0                                   |                                              |                                    |                                                 | 24                                              | 30                                                         | 343                                     | 0                                                | 0                                      | 0                                 | 66                                | 92                                       | -92                                                |      |      |      |      |      |      |      |
| 7971+50.00  | 16                           | 0                                   |                                              |                                    |                                                 | 16                                              | 20                                                         | 258                                     | 0                                                | 0                                      | 0                                 | 48                                | 67                                       | -67                                                |      |      |      |      |      |      |      |
| 7971+67.50  | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 116                                     | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |
| 7971+75.00  | 22                           | 0                                   |                                              |                                    |                                                 | 22                                              | 28                                                         | 426                                     | 0                                                | 0                                      | 0                                 | 70                                | 98                                       | -98                                                |      |      |      |      |      |      |      |
| 7972+00.00  | 21                           | 0                                   |                                              |                                    |                                                 | 21                                              | 27                                                         | 486                                     | 0                                                | 0                                      | 0                                 | 72                                | 101                                      | -101                                               |      |      |      |      |      |      |      |
| 7972+25.00  | 17                           | 0                                   |                                              |                                    |                                                 | 17                                              | 22                                                         | 564                                     | 0                                                | 0                                      | 0                                 | 75                                | 105                                      | -105                                               |      |      |      |      |      |      |      |
| 7972+50.00  | 11                           | 0                                   |                                              |                                    |                                                 | 11                                              | 14                                                         | 491                                     | 0                                                | 0                                      | 0                                 | 73                                | 102                                      | -102                                               |      |      |      |      |      |      |      |
| 7972+75.00  |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |
| Subtotals:  | 2,088                        | 90                                  | 0                                            | 15                                 | 0                                               | 2,193                                           | 2,766                                                      | 12,963                                  | 0                                                | 0                                      | 1,043                             | 3,124                             | 4,374                                    | -3,331                                             |      |      |      |      |      |      |      |



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 7972+75.00 | 419                         | 419                              | 0                  | 0                                 | 35                               | 0                          | 0                     | 0                     |                                               | 419                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7973+00.00 | 496                         | 496                              | 0                  | 0                                 | 34                               | 0                          | 0                     | 0                     |                                               | 496                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7973+25.00 | 555                         | 555                              | 0                  | 0                                 | 34                               | 0                          | 0                     | 0                     |                                               | 555                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7973+50.00 | 596                         | 596                              | 0                  | 0                                 | 35                               | 0                          | 0                     | 0                     |                                               | 596                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7973+75.00 | 356                         | 356                              | 0                  | 0                                 | 18                               | 0                          | 0                     | 0                     |                                               | 356                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7974+00.00 | 98                          | 98                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 98                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7974+25.00 | 106                         | 106                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 106                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7974+50.00 | 96                          | 96                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 96                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7974+72.24 | 12                          | 12                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 12                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7974+75.00 | 106                         | 106                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 106                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7975+00.00 | 62                          | 62                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 62                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7975+14.95 | 42                          | 42                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 42                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7975+25.00 | 103                         | 103                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 103                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7975+50.00 | 31                          | 31                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 31                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7975+57.65 | 72                          | 72                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 72                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7975+75.00 | 103                         | 103                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 103                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7976+00.00 | 98                          | 98                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 98                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7976+25.00 | 101                         | 101                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 101                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7976+50.00 | 104                         | 104                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 104                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7976+75.00 | 97                          | 97                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 97                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7977+00.00 | 85                          | 85                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 85                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7977+25.00 | 76                          | 76                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 76                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7977+50.00 | 76                          | 76                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 76                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7977+75.00 | 68                          | 68                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 68                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7978+00.00 | 72                          | 72                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 72                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7978+25.00 | 104                         | 104                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 104                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7978+50.00 | 134                         | 134                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 134                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7978+75.00 | 70                          | 70                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 70                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7978+87.50 | 65                          | 65                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 65                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7979+00.00 | 64                          | 64                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 64                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7979+12.50 | 60                          | 60                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 60                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7979+25.00 | 99                          | 99                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 99                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7979+50.00 | 96                          | 96                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 96                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7979+75.00 | 103                         | 103                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 103                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7980+00.00 | 108                         | 108                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 108                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7980+25.00 | 105                         | 105                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 105                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7980+50.00 | 28                          | 28                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 28                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7980+57.50 | 77                          | 77                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 77                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7980+75.00 | 43                          | 43                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 43                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7980+82.50 | 118                         | 118                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 118                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7981+00.00 | 180                         | 180                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 180                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7981+25.00 | 136                         | 136                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 136                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7981+50.00 | 88                          | 88                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 88                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7981+75.00 | 69                          | 69                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 69                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7982+00.00 | 32                          | 32                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 32                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7982+25.00 | 28                          | 28                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 28                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7982+50.00 | 41                          | 41                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 41                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7982+75.00 | 6                           | 6                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 6                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 7983+00.00 | 6                           | 6                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 6                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 7983+25.00 | 142                         | 142                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 142                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7983+50.00 | 17                          | 17                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 17                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7983+75.00 | 27                          | 27                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 27                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7984+00.00 | 32                          | 32                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 32                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7984+25.00 | 28                          | 28                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 28                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7984+50.00 | 42                          | 42                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 42                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7984+75.00 | 59                          | 59                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 59                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7985+00.00 | 86                          | 86                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 86                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7985+25.00 | 119                         | 119                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 119                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7985+50.00 | 149                         | 149                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 149                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7985+75.00 | 67                          | 67                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 67                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7985+85.00 | 115                         | 115                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 115                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7986+00.00 | 112                         | 112                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 112                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7986+13.00 | 108                         | 108                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 108                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7986+25.00 | 237                         | 237                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 237                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7986+50.00 | 255                         | 255                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 255                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7986+75.00 | 264                         | 264                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 264                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7987+00.00 | 146                         | 146                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 146                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7987+14.00 | 111                         | 111                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 111                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7987+25.00 |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals: | 8,006                       | 8,006                            | 0                  | 0                                 | 156                              | 0                          | 0                     | 0                     | 0                                             | 8,006                 |      |      |      |      |      |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|--|
|            | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |  |
|            |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |  |
|            | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |  |
| 7972+75.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 409                                     | 0                                                | 0                                      | 0                                 | 71                                | 99                                       | -99                                                |      |      |      |      |      |      |      |  |
| 7973+00.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 486                                     | 0                                                | 0                                      | 0                                 | 73                                | 102                                      | -102                                               |      |      |      |      |      |      |      |  |
| 7973+25.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 545                                     | 0                                                | 0                                      | 0                                 | 74                                | 104                                      | -104                                               |      |      |      |      |      |      |      |  |
| 7973+50.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 586                                     | 0                                                | 0                                      | 0                                 | 74                                | 104                                      | -104                                               |      |      |      |      |      |      |      |  |
| 7973+75.00 | 9                            | 0                                   |                                              | 22                                 |                                                 | 31                                              | 39                                                         | 317                                     | 0                                                | 0                                      | 0                                 | 48                                | 67                                       | -67                                                |      |      |      |      |      |      |      |  |
| 7974+00.00 | 12                           | 0                                   |                                              |                                    |                                                 | 12                                              | 15                                                         | 83                                      | 0                                                | 0                                      | 0                                 | 23                                | 32                                       | -32                                                |      |      |      |      |      |      |      |  |
| 7974+25.00 | 16                           | 0                                   |                                              |                                    |                                                 | 16                                              | 20                                                         | 86                                      | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |  |
| 7974+50.00 | 20                           | 0                                   |                                              |                                    |                                                 | 20                                              | 25                                                         | 71                                      | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |  |
| 7974+72.24 | 3                            | 0                                   |                                              |                                    |                                                 | 3                                               | 4                                                          | 8                                       | 0                                                | 0                                      | 0                                 | 3                                 | 4                                        | -4                                                 |      |      |      |      |      |      |      |  |
| 7974+75.00 | 28                           | 0                                   |                                              |                                    |                                                 | 28                                              | 35                                                         | 71                                      | 0                                                | 0                                      | 0                                 | 31                                | 43                                       | -43                                                |      |      |      |      |      |      |      |  |
| 7975+00.00 | 18                           | 0                                   |                                              |                                    |                                                 | 18                                              | 23                                                         | 39                                      | 0                                                | 0                                      | 0                                 | 19                                | 27                                       | -27                                                |      |      |      |      |      |      |      |  |
| 7975+14.95 | 12                           | 0                                   |                                              |                                    |                                                 | 12                                              | 15                                                         | 27                                      | 0                                                | 0                                      | 0                                 | 13                                | 18                                       | -18                                                |      |      |      |      |      |      |      |  |
| 7975+25.00 | 30                           | 0                                   |                                              |                                    |                                                 | 30                                              | 38                                                         | 65                                      | 0                                                | 0                                      | 0                                 | 31                                | 43                                       | -43                                                |      |      |      |      |      |      |      |  |
| 7975+50.00 | 9                            | 0                                   |                                              |                                    |                                                 | 9                                               | 11                                                         | 20                                      | 0                                                | 0                                      | 0                                 | 9                                 | 13                                       | -13                                                |      |      |      |      |      |      |      |  |
| 7975+57.65 | 19                           | 0                                   |                                              |                                    |                                                 | 19                                              | 24                                                         | 48                                      | 0                                                | 0                                      | 0                                 | 20                                | 28                                       | -28                                                |      |      |      |      |      |      |      |  |
| 7975+75.00 | 25                           | 0                                   |                                              |                                    |                                                 | 25                                              | 32                                                         | 72                                      | 0                                                | 0                                      | 0                                 | 29                                | 41                                       | -41                                                |      |      |      |      |      |      |      |  |
| 7976+00.00 | 23                           | 0                                   |                                              |                                    |                                                 | 23                                              | 29                                                         | 69                                      | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |  |
| 7976+25.00 | 20                           | 0                                   |                                              |                                    |                                                 | 20                                              | 25                                                         | 76                                      | 0                                                | 0                                      | 0                                 | 24                                | 34                                       | -34                                                |      |      |      |      |      |      |      |  |
| 7976+50.00 | 18                           | 0                                   |                                              |                                    |                                                 | 18                                              | 23                                                         | 81                                      | 0                                                | 0                                      | 0                                 | 24                                | 34                                       | -34                                                |      |      |      |      |      |      |      |  |
| 7976+75.00 | 17                           | 0                                   |                                              |                                    |                                                 | 17                                              | 22                                                         | 76                                      | 0                                                | 0                                      | 0                                 | 23                                | 32                                       | -32                                                |      |      |      |      |      |      |      |  |
| 7977+00.00 | 15                           | 0                                   |                                              |                                    |                                                 | 15                                              | 19                                                         | 66                                      | 0                                                | 0                                      | 0                                 | 20                                | 28                                       | -28                                                |      |      |      |      |      |      |      |  |
| 7977+25.00 | 16                           | 0                                   |                                              |                                    |                                                 | 16                                              | 20                                                         | 56                                      | 0                                                | 0                                      | 0                                 | 20                                | 28                                       | -28                                                |      |      |      |      |      |      |      |  |
| 7977+50.00 | 20                           | 0                                   |                                              |                                    |                                                 | 20                                              | 25                                                         | 51                                      | 0                                                | 0                                      | 0                                 | 22                                | 31                                       | -31                                                |      |      |      |      |      |      |      |  |
| 7977+75.00 | 29                           | 0                                   |                                              |                                    |                                                 | 29                                              | 37                                                         | 31                                      | 0                                                | 0                                      | 0                                 | 24                                | 34                                       | -34                                                |      |      |      |      |      |      |      |  |
| 7978+00.00 | 35                           | 0                                   |                                              |                                    |                                                 | 35                                              | 44                                                         | 28                                      | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |  |
| 7978+25.00 | 31                           | 0                                   |                                              |                                    |                                                 | 31                                              | 39                                                         | 65                                      | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |  |
| 7978+50.00 | 25                           | 0                                   |                                              |                                    |                                                 | 25                                              | 32                                                         | 103                                     | 0                                                | 0                                      | 0                                 | 27                                | 38                                       | -38                                                |      |      |      |      |      |      |      |  |
| 7978+75.00 | 12                           | 0                                   |                                              |                                    |                                                 | 12                                              | 15                                                         | 55                                      | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |  |
| 7978+87.50 | 11                           | 0                                   |                                              |                                    |                                                 | 11                                              | 14                                                         | 51                                      | 0                                                | 0                                      | 0                                 | 13                                | 18                                       | -18                                                |      |      |      |      |      |      |      |  |
| 7979+00.00 | 10                           | 0                                   |                                              |                                    |                                                 | 10                                              | 13                                                         | 51                                      | 0                                                | 0                                      | 0                                 | 13                                | 18                                       | -18                                                |      |      |      |      |      |      |      |  |
| 7979+12.50 | 10                           | 0                                   |                                              |                                    |                                                 | 10                                              | 13                                                         | 47                                      | 0                                                | 0                                      | 0                                 | 12                                | 17                                       | -17                                                |      |      |      |      |      |      |      |  |
| 7979+25.00 | 23                           | 0                                   |                                              |                                    |                                                 | 23                                              | 29                                                         | 70                                      | 0                                                | 0                                      | 0                                 | 24                                | 34                                       | -34                                                |      |      |      |      |      |      |      |  |
| 7979+50.00 | 23                           | 0                                   |                                              |                                    |                                                 | 23                                              | 29                                                         | 67                                      | 0                                                | 0                                      | 0                                 | 24                                | 34                                       | -34                                                |      |      |      |      |      |      |      |  |
| 7979+75.00 | 22                           | 0                                   |                                              |                                    |                                                 | 22                                              | 28                                                         | 75                                      | 0                                                | 0                                      | 0                                 | 23                                | 32                                       | -32                                                |      |      |      |      |      |      |      |  |
| 7980+00.00 | 25                           | 0                                   |                                              |                                    |                                                 | 25                                              | 32                                                         | 77                                      | 0                                                | 0                                      | 0                                 | 28                                | 39                                       | -39                                                |      |      |      |      |      |      |      |  |
| 7980+25.00 | 26                           | 0                                   |                                              |                                    |                                                 | 26                                              | 33                                                         | 72                                      | 0                                                | 0                                      | 0                                 | 30                                | 42                                       | -42                                                |      |      |      |      |      |      |      |  |
| 7980+50.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 18                                      | 0                                                | 0                                      | 0                                 | 8                                 | 11                                       | -11                                                |      |      |      |      |      |      |      |  |
| 7980+57.50 | 19                           | 0                                   |                                              |                                    |                                                 | 19                                              | 24                                                         | 53                                      | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |  |
| 7980+75.00 | 9                            | 0                                   |                                              |                                    |                                                 | 9                                               | 11                                                         | 32                                      | 0                                                | 0                                      | 0                                 | 8                                 | 11                                       | -11                                                |      |      |      |      |      |      |      |  |
| 7980+82.50 | 20                           | 0                                   |                                              |                                    |                                                 | 20                                              | 25                                                         | 93                                      | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |  |
| 7981+00.00 | 28                           | 0                                   |                                              |                                    |                                                 | 28                                              | 35                                                         | 145                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |  |
| 7981+25.00 | 31                           | 0                                   |                                              |                                    |                                                 | 31                                              | 39                                                         | 97                                      | 0                                                | 0                                      | 0                                 | 24                                | 34                                       | -34                                                |      |      |      |      |      |      |      |  |
| 7981+50.00 | 31                           | 0                                   |                                              |                                    |                                                 | 31                                              | 39                                                         | 49                                      | 0                                                | 0                                      | 0                                 | 22                                | 31                                       | -31                                                |      |      |      |      |      |      |      |  |
| 7981+75.00 | 27                           | 0                                   |                                              |                                    |                                                 | 27                                              | 34                                                         | 35                                      | 0                                                | 0                                      | 0                                 | 22                                | 31                                       | -31                                                |      |      |      |      |      |      |      |  |
| 7982+00.00 | 39                           | 0                                   |                                              |                                    |                                                 | 39                                              | 49                                                         | -17                                     | 0                                                | 0                                      | 0                                 | 23                                | 32                                       | -32                                                |      |      |      |      |      |      |      |  |
| 7982+25.00 | 76                           | 0                                   |                                              |                                    |                                                 | 76                                              | 96                                                         | -68                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |  |
| 7982+50.00 | 142                          | 18                                  |                                              |                                    |                                                 | 160                                             | 202                                                        | -161                                    | 0                                                | 0                                      | 0                                 | 28                                | 39                                       | -39                                                |      |      |      |      |      |      |      |  |
| 7982+75.00 | 190                          | 4                                   |                                              |                                    |                                                 | 194                                             | 245                                                        | -239                                    | 0                                                | 0                                      | 0                                 | 28                                | 39                                       | -39                                                |      |      |      |      |      |      |      |  |
| 7983+00.00 | 197                          | 4                                   |                                              |                                    |                                                 | 201                                             | 253                                                        | -247                                    | 0                                                | 0                                      | 0                                 | 29                                | 41                                       | -41                                                |      |      |      |      |      |      |      |  |
| 7983+25.00 | 207                          | 130                                 |                                              |                                    |                                                 | 337                                             | 425                                                        | -283                                    | 0                                                | 0                                      | 0                                 | 34                                | 48                                       | -48                                                |      |      |      |      |      |      |      |  |
| 7983+50.00 | 194                          | 0                                   |                                              |                                    |                                                 | 194                                             | 245                                                        | -228                                    | 0                                                | 0                                      | 0                                 | 40                                | 56                                       | -56                                                |      |      |      |      |      |      |      |  |
| 7983+75.00 | 159                          | 0                                   |                                              |                                    |                                                 | 159                                             | 200                                                        | -173                                    | 0                                                | 0                                      | 0                                 | 42                                | 59                                       | -59                                                |      |      |      |      |      |      |      |  |
| 7984+00.00 | 122                          | 0                                   |                                              |                                    |                                                 | 122                                             | 154                                                        | -122                                    | 0                                                | 0                                      | 0                                 | 41                                | 57                                       | -57                                                |      |      |      |      |      |      |      |  |
| 7984+25.00 | 71                           | 0                                   |                                              |                                    |                                                 | 71                                              | 90                                                         | -62                                     | 0                                                | 0                                      | 0                                 | 35                                | 49                                       | -49                                                |      |      |      |      |      |      |      |  |
| 7984+50.00 | 33                           | 0                                   |                                              |                                    |                                                 | 33                                              | 42                                                         | 0                                       | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |  |
| 7984+75.00 | 15                           | 0                                   |                                              |                                    |                                                 | 15                                              | 19                                                         | 40                                      | 0                                                | 0                                      | 0                                 | 19                                | 27                                       | -27                                                |      |      |      |      |      |      |      |  |
| 7985+00.00 | 9                            | 0                                   |                                              |                                    |                                                 | 9                                               | 11                                                         | 75                                      | 0                                                | 0                                      | 0                                 | 17                                | 24                                       | -24                                                |      |      |      |      |      |      |      |  |
| 7985+25.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 109                                     | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |  |
| 7985+50.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 139                                     | 0                                                | 0                                      | 0                                 | 17                                | 24                                       | -24                                                |      |      |      |      |      |      |      |  |
| 7985+75.00 | 3                            | 0                                   |                                              |                                    |                                                 | 3                                               | 4                                                          | 63                                      | 0                                                | 0                                      | 0                                 | 7                                 | 10                                       | -10                                                |      |      |      |      |      |      |      |  |
| 7985+85.00 | 5                            | 0                                   |                                              |                                    |                                                 | 5                                               | 6                                                          | 109                                     | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |  |
| 7986+00.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                                               | 5                                                          | 107                                     | 0                                                | 0                                      | 0                                 | 17                                | 24                                       | -24                                                |      |      |      |      |      |      |      |  |
| 7986+13.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                                               | 5                                                          | 103                                     | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |  |
| 7986+25.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 227                                     | 0                                                | 0                                      | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |  |
| 7986+50.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 245                                     | 0                                                | 0                                      | 0                                 | 32                                | 45                                       | -45                                                |      |      |      |      |      |      |      |  |
| 7986+75.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 254                                     | 0                                                | 0                                      | 0                                 | 30                                | 42                                       | -42                                                |      |      |      |      |      |      |      |  |
| 7987+00.00 | 5                            | 0                                   |                                              |                                    |                                                 | 5                                               | 6                                                          | 140                                     | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |  |
| 7987+14.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                                               | 5                                                          | 106                                     | 0                                                | 0                                      | 0                                 | 12                                | 17                                       | -17                                                |      |      |      |      |      |      |      |  |
| 7987+25.00 |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| Subtotals: | 2,336                        | 156                                 | 0                                            | 22                                 | 0                                               | 2,514                                           | 3,170                                                      | 4,836                                   | 0                                                | 0                                      | 0                                 | 1,756                             | 2,458                                    | -2,458                                             |      |      |      |      |      |      |      |  |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station             | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                     | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                     | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 7987+25.00          | 164                         | 164                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 164                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7987+42.00          | 75                          | 75                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 75                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7987+50.00          | 230                         | 230                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 230                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7987+75.00          | 220                         | 220                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 220                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7988+00.00          | 154                         | 154                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 154                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7988+19.00          | 45                          | 45                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 45                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7988+25.00          | 150                         | 150                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 150                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7988+47.00          | 18                          | 18                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 18                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7988+50.00          | 76                          | 76                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 76                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7988+63.50          | 56                          | 56                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 56                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7988+75.00          | 70                          | 70                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 70                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7988+91.50          | 32                          | 32                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 32                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7989+00.00          | 83                          | 83                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 83                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7989+25.00          | 73                          | 73                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 73                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7989+50.00          | 86                          | 86                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 86                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7989+75.00          | 16                          | 16                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 16                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7989+79.00          | 95                          | 95                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 95                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7990+00.00          | 35                          | 35                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 35                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7990+07.00          | 94                          | 94                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 94                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7990+25.00          | 141                         | 141                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 141                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7990+50.00          | 149                         | 149                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 149                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7990+75.00          | 138                         | 138                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 138                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7991+00.00          | 120                         | 120                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 120                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7991+25.00          | 103                         | 103                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 103                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7991+50.00          | 85                          | 85                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 85                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7991+75.00          | 77                          | 77                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 77                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7992+00.00          | 82                          | 82                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 82                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7992+25.00          | 94                          | 94                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 94                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7992+50.00          | 98                          | 98                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 98                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7992+75.00          | 80                          | 80                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 80                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7993+00.00          | 140                         | 140                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 140                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7993+19.27          | 40                          | 40                               | 0                  | 0                                 | 2                                | 0                          | 0                     | 0                     | 0                                             | 40                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7993+25.00          | 137                         | 137                              | 0                  | 0                                 | 13                               | 0                          | 0                     | 0                     | 0                                             | 137                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 7993+50.00          | 74                          | 74                               | 0                  | 0                                 | 43                               | 0                          | 0                     | 0                     | 0                                             | 74                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7993+75.00          | 22                          | 22                               | 0                  | 0                                 | 26                               | 0                          | 0                     | 0                     | 0                                             | 22                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7993+84.73          | 51                          | 51                               | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 0                                             | 51                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7994+00.00          | 88                          | 88                               | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 0                                             | 88                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7994+25.00          | 80                          | 80                               | 0                  | 0                                 | 22                               | 0                          | 0                     | 0                     | 0                                             | 80                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7994+50.00          | 99                          | 99                               | 0                  | 0                                 | 22                               | 0                          | 0                     | 0                     | 0                                             | 99                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7994+75.00          | 23                          | 23                               | 0                  | 0                                 | 22                               | 0                          | 0                     | 0                     | 0                                             | 23                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7995+00.00          | 4                           | 4                                | 0                  | 0                                 | 3                                | 0                          | 0                     | 0                     | 0                                             | 4                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 7995+03.07          | 29                          | 29                               | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     | 0                                             | 29                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7995+25.00          | 40                          | 40                               | 0                  | 0                                 | 22                               | 0                          | 0                     | 0                     | 0                                             | 40                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7995+50.00          | 16                          | 16                               | 0                  | 0                                 | 10                               | 0                          | 0                     | 0                     | 0                                             | 16                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7995+59.37          | 28                          | 28                               | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 28                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7995+75.00          | 9                           | 9                                | 0                  | 0                                 | 7                                | 0                          | 0                     | 0                     | 0                                             | 9                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 7995+79.76          | 36                          | 36                               | 0                  | 0                                 | 28                               | 0                          | 0                     | 0                     | 0                                             | 36                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7996+00.00          | 5                           | 5                                | 0                  | 0                                 | 3                                | 0                          | 0                     | 0                     | 0                                             | 5                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 7996+03.00          | 37                          | 37                               | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     | 0                                             | 37                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7996+23.00          | 4                           | 4                                | 0                  | 0                                 | 2                                | 0                          | 0                     | 0                     | 0                                             | 4                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 7996+25.00          | 48                          | 48                               | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 48                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7996+50.00          | 48                          | 48                               | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 48                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7996+75.00          | 47                          | 47                               | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 0                                             | 47                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 7997+00.00          |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| NthCascadeE Totals: | 28,824                      | 27,779                           | 1,043              | 0                                 | 1,773                            | 0                          | 0                     | 0                     | 0                                             | 27,779                |      |      |      |      |      |      |      |      |      |      |      |      |



**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station             | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|---------------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|
|                     | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |
|                     |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |
|                     | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |
| 7987+25.00          | 6                            | 0                                   |                                              |                                    |                                                 | 6                                               | 8                                                          | 156                                     | 0                                                | 0                                      | 0                                 | 17                                | 24                                       | -24                                                |      |      |      |      |      |      |      |
| 7987+42.00          | 3                            | 0                                   |                                              |                                    |                                                 | 3                                               | 4                                                          | 71                                      | 0                                                | 0                                      | 0                                 | 7                                 | 10                                       | -10                                                |      |      |      |      |      |      |      |
| 7987+50.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 220                                     | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |
| 7987+75.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 210                                     | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |
| 7988+00.00          | 6                            | 0                                   |                                              |                                    |                                                 | 6                                               | 8                                                          | 146                                     | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |
| 7988+19.00          | 2                            | 0                                   |                                              |                                    |                                                 | 2                                               | 3                                                          | 42                                      | 0                                                | 0                                      | 0                                 | 5                                 | 7                                        | -7                                                 |      |      |      |      |      |      |      |
| 7988+25.00          | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 141                                     | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |
| 7988+47.00          | 1                            | 0                                   |                                              |                                    |                                                 | 1                                               | 1                                                          | 17                                      | 0                                                | 0                                      | 0                                 | 2                                 | 3                                        | -3                                                 |      |      |      |      |      |      |      |
| 7988+50.00          | 4                            | 0                                   |                                              |                                    |                                                 | 4                                               | 5                                                          | 71                                      | 0                                                | 0                                      | 0                                 | 9                                 | 13                                       | -13                                                |      |      |      |      |      |      |      |
| 7988+63.50          | 4                            | 0                                   |                                              |                                    |                                                 | 4                                               | 5                                                          | 51                                      | 0                                                | 0                                      | 0                                 | 8                                 | 11                                       | -11                                                |      |      |      |      |      |      |      |
| 7988+75.00          | 5                            | 0                                   |                                              |                                    |                                                 | 5                                               | 6                                                          | 64                                      | 0                                                | 0                                      | 0                                 | 11                                | 15                                       | -15                                                |      |      |      |      |      |      |      |
| 7988+91.50          | 3                            | 0                                   |                                              |                                    |                                                 | 3                                               | 4                                                          | 28                                      | 0                                                | 0                                      | 0                                 | 6                                 | 8                                        | -8                                                 |      |      |      |      |      |      |      |
| 7989+00.00          | 10                           | 0                                   |                                              |                                    |                                                 | 10                                              | 13                                                         | 70                                      | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |
| 7989+25.00          | 19                           | 0                                   |                                              |                                    |                                                 | 19                                              | 24                                                         | 49                                      | 0                                                | 0                                      | 0                                 | 19                                | 27                                       | -27                                                |      |      |      |      |      |      |      |
| 7989+50.00          | 18                           | 0                                   |                                              |                                    |                                                 | 18                                              | 23                                                         | 63                                      | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |
| 7989+75.00          | 1                            | 0                                   |                                              |                                    |                                                 | 1                                               | 1                                                          | 15                                      | 0                                                | 0                                      | 0                                 | 3                                 | 4                                        | -4                                                 |      |      |      |      |      |      |      |
| 7989+79.00          | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 86                                      | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |
| 7990+00.00          | 2                            | 0                                   |                                              |                                    |                                                 | 2                                               | 3                                                          | 32                                      | 0                                                | 0                                      | 0                                 | 5                                 | 7                                        | -7                                                 |      |      |      |      |      |      |      |
| 7990+07.00          | 6                            | 0                                   |                                              |                                    |                                                 | 6                                               | 8                                                          | 86                                      | 0                                                | 0                                      | 0                                 | 12                                | 17                                       | -17                                                |      |      |      |      |      |      |      |
| 7990+25.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 131                                     | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |
| 7990+50.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 139                                     | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |
| 7990+75.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 128                                     | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |
| 7991+00.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 110                                     | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |
| 7991+25.00          | 9                            | 0                                   |                                              |                                    |                                                 | 9                                               | 11                                                         | 92                                      | 0                                                | 0                                      | 0                                 | 19                                | 27                                       | -27                                                |      |      |      |      |      |      |      |
| 7991+50.00          | 13                           | 0                                   |                                              |                                    |                                                 | 13                                              | 16                                                         | 69                                      | 0                                                | 0                                      | 0                                 | 19                                | 27                                       | -27                                                |      |      |      |      |      |      |      |
| 7991+75.00          | 14                           | 0                                   |                                              |                                    |                                                 | 14                                              | 18                                                         | 59                                      | 0                                                | 0                                      | 0                                 | 19                                | 27                                       | -27                                                |      |      |      |      |      |      |      |
| 7992+00.00          | 21                           | 0                                   |                                              |                                    |                                                 | 21                                              | 27                                                         | 56                                      | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |
| 7992+25.00          | 39                           | 0                                   |                                              |                                    |                                                 | 39                                              | 49                                                         | 45                                      | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |
| 7992+50.00          | 60                           | 0                                   |                                              |                                    |                                                 | 60                                              | 76                                                         | 22                                      | 0                                                | 0                                      | 0                                 | 30                                | 42                                       | -42                                                |      |      |      |      |      |      |      |
| 7992+75.00          | 100                          | 0                                   |                                              |                                    |                                                 | 100                                             | 126                                                        | -46                                     | 0                                                | 0                                      | 0                                 | 36                                | 50                                       | -50                                                |      |      |      |      |      |      |      |
| 7993+00.00          | 133                          | 94                                  |                                              |                                    |                                                 | 227                                             | 286                                                        | -146                                    | 0                                                | 0                                      | 0                                 | 24                                | 34                                       | -34                                                |      |      |      |      |      |      |      |
| 7993+19.27          | 67                           | 27                                  |                                              |                                    |                                                 | 94                                              | 119                                                        | -79                                     | 0                                                | 0                                      | 0                                 | 6                                 | 8                                        | -8                                                 |      |      |      |      |      |      |      |
| 7993+25.00          | 202                          | 101                                 |                                              |                                    |                                                 | 303                                             | 382                                                        | -245                                    | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |
| 7993+50.00          | 114                          | 65                                  |                                              |                                    |                                                 | 179                                             | 226                                                        | -152                                    | 0                                                | 0                                      | 0                                 | 9                                 | 13                                       | -13                                                |      |      |      |      |      |      |      |
| 7993+75.00          | 87                           | 19                                  |                                              |                                    |                                                 | 106                                             | 134                                                        | -112                                    | 0                                                | 0                                      | 0                                 | 8                                 | 11                                       | -11                                                |      |      |      |      |      |      |      |
| 7993+84.73          | 114                          | 37                                  |                                              |                                    |                                                 | 154                                             | 194                                                        | -143                                    | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |
| 7994+00.00          | 105                          | 65                                  |                                              | 3                                  |                                                 | 170                                             | 214                                                        | -126                                    | 0                                                | 0                                      | 0                                 | 20                                | 28                                       | -28                                                |      |      |      |      |      |      |      |
| 7994+25.00          | 76                           | 69                                  |                                              |                                    |                                                 | 145                                             | 183                                                        | -103                                    | 0                                                | 0                                      | 0                                 | 22                                | 31                                       | -31                                                |      |      |      |      |      |      |      |
| 7994+50.00          | 53                           | 87                                  |                                              |                                    |                                                 | 140                                             | 176                                                        | -77                                     | 0                                                | 0                                      | 0                                 | 22                                | 31                                       | -31                                                |      |      |      |      |      |      |      |
| 7994+75.00          | 42                           | 0                                   |                                              |                                    |                                                 | 42                                              | 53                                                         | -30                                     | 0                                                | 0                                      | 0                                 | 22                                | 31                                       | -31                                                |      |      |      |      |      |      |      |
| 7995+00.00          | 4                            | 0                                   |                                              |                                    |                                                 | 4                                               | 5                                                          | -1                                      | 0                                                | 0                                      | 0                                 | 2                                 | 3                                        | -3                                                 |      |      |      |      |      |      |      |
| 7995+03.07          | 14                           | 0                                   |                                              |                                    |                                                 | 14                                              | 18                                                         | 11                                      | 0                                                | 0                                      | 0                                 | 8                                 | 11                                       | -11                                                |      |      |      |      |      |      |      |
| 7995+25.00          | 12                           | 0                                   |                                              |                                    |                                                 | 12                                              | 15                                                         | 25                                      | 0                                                | 0                                      | 0                                 | 9                                 | 13                                       | -13                                                |      |      |      |      |      |      |      |
| 7995+50.00          | 5                            | 0                                   |                                              |                                    |                                                 | 5                                               | 6                                                          | 10                                      | 0                                                | 0                                      | 0                                 | 4                                 | 6                                        | -6                                                 |      |      |      |      |      |      |      |
| 7995+59.37          | 13                           | 0                                   |                                              |                                    |                                                 | 13                                              | 16                                                         | 12                                      | 0                                                | 0                                      | 0                                 | 6                                 | 8                                        | -8                                                 |      |      |      |      |      |      |      |
| 7995+75.00          | 5                            | 0                                   |                                              |                                    |                                                 | 5                                               | 6                                                          | 3                                       | 0                                                | 0                                      | 0                                 | 2                                 | 3                                        | -3                                                 |      |      |      |      |      |      |      |
| 7995+79.76          | 17                           | 0                                   |                                              |                                    |                                                 | 17                                              | 22                                                         | 15                                      | 0                                                | 0                                      | 0                                 | 8                                 | 11                                       | -11                                                |      |      |      |      |      |      |      |
| 7996+00.00          | 2                            | 0                                   |                                              |                                    |                                                 | 2                                               | 3                                                          | 2                                       | 0                                                | 0                                      | 0                                 | 1                                 | 1                                        | -1                                                 |      |      |      |      |      |      |      |
| 7996+03.00          | 10                           | 0                                   |                                              |                                    |                                                 | 10                                              | 13                                                         | 24                                      | 0                                                | 0                                      | 0                                 | 8                                 | 11                                       | -11                                                |      |      |      |      |      |      |      |
| 7996+23.00          | 1                            | 0                                   |                                              |                                    |                                                 | 1                                               | 1                                                          | 3                                       | 0                                                | 0                                      | 0                                 | 1                                 | 1                                        | -1                                                 |      |      |      |      |      |      |      |
| 7996+25.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 38                                      | 0                                                | 0                                      | 0                                 | 10                                | 14                                       | -14                                                |      |      |      |      |      |      |      |
| 7996+50.00          | 5                            | 0                                   |                                              |                                    |                                                 | 5                                               | 6                                                          | 42                                      | 0                                                | 0                                      | 0                                 | 9                                 | 13                                       | -13                                                |      |      |      |      |      |      |      |
| 7996+75.00          | 2                            | 0                                   |                                              |                                    |                                                 | 2                                               | 3                                                          | 44                                      | 0                                                | 0                                      | 0                                 | 6                                 | 8                                        | -8                                                 |      |      |      |      |      |      |      |
| 7997+00.00          |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |
| NthCascadeE Totals: | 5,923                        | 810                                 | 0                                            | 40                                 | 0                                               | 6,773                                           | 8,542                                                      | 19,239                                  | 0                                                | 0                                      | 1,043                             | 5,592                             | 7,829                                    | -6,786                                             |      |      |      |      |      |      |      |

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station     | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                    |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]               | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|             | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | Total Cut Adjusted |      |      |      |      |      |      |      |      |      |      |      |      |
| NH Cascades |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6931+50.00  | 79                          | 79                               | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 79                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6931+75.00  | 82                          | 82                               | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 82                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6932+00.00  | 82                          | 82                               | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 82                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6932+25.00  | 90                          | 90                               | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 90                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6932+50.00  | 105                         | 105                              | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 105                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6932+75.00  | 26                          | 26                               | 0                  | 0                                 | 4                                | 0                          | 0                     | 0                     |                                               | 26                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6933+80.50  | 82                          | 82                               | 0                  | 0                                 | 16                               | 0                          | 0                     | 0                     |                                               | 82                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6933+00.00  | 94                          | 94                               | 0                  | 0                                 | 16                               | 0                          | 0                     | 0                     |                                               | 94                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6933+19.50  | 34                          | 34                               | 0                  | 0                                 | 4                                | 0                          | 0                     | 0                     |                                               | 34                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6933+25.00  | 163                         | 163                              | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 163                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6933+50.00  | 182                         | 182                              | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 182                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6933+75.00  | 178                         | 178                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 178                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6934+00.00  | 239                         | 172                              | 67                 | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 172                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6934+25.00  | 251                         | 184                              | 67                 | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 184                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6934+50.00  | 257                         | 191                              | 65                 | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 191                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6934+75.00  | 263                         | 201                              | 62                 | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 201                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6935+00.00  | 284                         | 220                              | 63                 | 0                                 | 21                               | 0                          | 0                     | 0                     |                                               | 220                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6935+25.00  | 325                         | 254                              | 71                 | 0                                 | 21                               | 0                          | 0                     | 0                     |                                               | 254                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6935+50.00  | 363                         | 279                              | 83                 | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 279                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6935+75.00  | 386                         | 284                              | 99                 | 0                                 | 13                               | 0                          | 3                     | 0                     |                                               | 284                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6936+00.00  | 384                         | 256                              | 112                | 13                                | 4                                | 0                          | 3                     | 0                     |                                               | 269                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6936+25.00  | 317                         | 159                              | 118                | 40                                | 0                                | 0                          | 0                     | 0                     |                                               | 199                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6936+50.00  | 327                         | 137                              | 126                | 64                                | 0                                | 0                          | 0                     | 0                     |                                               | 201                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6936+73.42  | 26                          | 13                               | 9                  | 5                                 | 0                                | 0                          | 0                     | 0                     |                                               | 18                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6936+75.00  | 387                         | 150                              | 164                | 74                                | 0                                | 0                          | 0                     | 0                     |                                               | 224                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6937+00.00  | 336                         | 139                              | 158                | 39                                | 0                                | 0                          | 0                     | 0                     |                                               | 178                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6937+25.00  | 22                          | 13                               | 8                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 13                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6937+26.58  | 305                         | 181                              | 124                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 181                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6937+50.00  | 301                         | 168                              | 132                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 168                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6937+75.00  | 294                         | 159                              | 135                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 159                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6938+00.00  | 255                         | 116                              | 139                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 116                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6938+25.00  | 233                         | 90                               | 143                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 90                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6938+50.00  | 211                         | 65                               | 146                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 65                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6938+75.00  | 195                         | 45                               | 150                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 45                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6939+00.00  | 197                         | 40                               | 157                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 40                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6939+25.00  | 214                         | 50                               | 164                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 50                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6939+50.00  | 234                         | 64                               | 170                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 64                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6939+75.00  | 260                         | 85                               | 175                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 85                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6940+00.00  | 271                         | 94                               | 177                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 94                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6940+25.00  | 251                         | 81                               | 170                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 81                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6940+50.00  | 196                         | 36                               | 160                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 36                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6940+75.00  | 160                         | 2                                | 158                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 2                  |      |      |      |      |      |      |      |      |      |      |      |      |
| 6941+00.00  | 171                         | 13                               | 158                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 13                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6941+25.00  | 218                         | 52                               | 155                | 1                                 | 0                                | 0                          | 9                     | 0                     |                                               | 53                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6941+50.00  | 269                         | 74                               | 153                | 1                                 | 0                                | 0                          | 41                    | 0                     |                                               | 75                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6941+75.00  | 296                         | 89                               | 151                | 25                                | 0                                | 0                          | 31                    | 0                     |                                               | 114                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6942+00.00  | 353                         | 161                              | 149                | 43                                | 0                                | 0                          | 0                     | 0                     |                                               | 204                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6942+25.00  | 443                         | 267                              | 147                | 29                                | 0                                | 0                          | 0                     | 0                     |                                               | 296                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6942+50.00  | 544                         | 315                              | 147                | 47                                | 0                                | 34                         | 0                     | 0                     |                                               | 396                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6942+75.00  | 668                         | 404                              | 147                | 64                                | 0                                | 52                         | 0                     | 0                     |                                               | 520                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6943+00.00  | 817                         | 599                              | 147                | 46                                | 0                                | 25                         | 0                     | 0                     |                                               | 670                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6943+25.00  | 950                         | 770                              | 147                | 27                                | 0                                | 6                          | 0                     | 0                     |                                               | 803                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6943+50.00  | 1,071                       | 906                              | 148                | 9                                 | 0                                | 9                          | 0                     | 0                     |                                               | 924                |      |      |      |      |      |      |      |      |      |      |      |      |
| 6943+75.00  | 1,191                       | 1,012                            | 149                | 0                                 | 0                                | 30                         | 0                     | 0                     |                                               | 1,042              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6944+00.00  | 1,279                       | 1,074                            | 148                | 0                                 | 0                                | 57                         | 0                     | 0                     |                                               | 1,131              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6944+25.00  | 1,345                       | 1,085                            | 147                | 0                                 | 0                                | 113                        | 0                     | 0                     |                                               | 1,198              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6944+50.00  | 1,414                       | 1,029                            | 148                | 134                               | 0                                | 103                        | 0                     | 0                     |                                               | 1,266              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6944+75.00  | 1,490                       | 927                              | 148                | 323                               | 0                                | 92                         | 0                     | 0                     |                                               | 1,342              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6945+00.00  | 1,592                       | 957                              | 151                | 367                               | 0                                | 117                        | 0                     | 0                     |                                               | 1,441              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6945+25.00  | 1,705                       | 1,128                            | 155                | 335                               | 0                                | 86                         | 0                     | 0                     |                                               | 1,549              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6945+50.00  | 1,814                       | 1,302                            | 160                | 294                               | 0                                | 59                         | 0                     | 0                     |                                               | 1,655              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6945+75.00  | 1,905                       | 1,457                            | 163                | 250                               | 0                                | 35                         | 0                     | 0                     |                                               | 1,742              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6946+00.00  | 1,963                       | 1,592                            | 166                | 148                               | 0                                | 57                         | 0                     | 0                     |                                               | 1,797              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6946+25.00  | 1,979                       | 1,676                            | 166                | 60                                | 0                                | 77                         | 0                     | 0                     |                                               | 1,813              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6946+50.00  | 1,942                       | 1,675                            | 165                | 48                                | 0                                | 55                         | 0                     | 0                     |                                               | 1,778              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6946+75.00  | 1,851                       | 1,609                            | 163                | 43                                | 0                                | 36                         | 0                     | 0                     |                                               | 1,688              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6947+00.00  | 1,757                       | 1,395                            | 160                | 86                                | 0                                | 117                        | 0                     | 0                     |                                               | 1,598              |      |      |      |      |      |      |      |      |      |      |      |      |
| 6947+25.00  |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals:  | 37,968                      | 26,693                           | 7,410              | 2,615                             | 356                              | 1,160                      | 87                    | 0                     | 0                                             | 30,468             |      |      |      |      |      |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station     | Fill                         |                                     |                                              |                                    |                                                 |                     |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          |                                                    | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|-------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|---------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|
|             | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |      |
|             | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |
| NH Cascades |                              |                                     |                                              |                                    |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |
| 6931+50.00  | 2                            | 0                                   |                                              |                                    |                                                 | 2                   | 3                                                          | 76                                      | 0                                                | 0                                      | 0                                 | 12                                | 17                                       | -17                                                |      |      |      |      |      |      |      |      |
| 6931+75.00  | 5                            | 0                                   |                                              |                                    |                                                 | 5                   | 6                                                          | 76                                      | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |      |
| 6932+00.00  | 7                            | 0                                   |                                              |                                    |                                                 | 7                   | 9                                                          | 73                                      | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |      |
| 6932+25.00  | 6                            | 0                                   |                                              |                                    |                                                 | 6                   | 8                                                          | 82                                      | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |      |
| 6932+50.00  | 5                            | 0                                   |                                              |                                    |                                                 | 5                   | 6                                                          | 99                                      | 0                                                | 0                                      | 0                                 | 20                                | 28                                       | -28                                                |      |      |      |      |      |      |      |      |
| 6932+75.00  | 1                            | 0                                   |                                              |                                    |                                                 | 1                   | 1                                                          | 25                                      | 0                                                | 0                                      | 0                                 | 5                                 | 7                                        | -7                                                 |      |      |      |      |      |      |      |      |
| 6932+80.50  | 3                            | 0                                   |                                              |                                    |                                                 | 3                   | 4                                                          | 78                                      | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |      |
| 6933+00.00  | 3                            | 0                                   |                                              |                                    | 30                                              | 33                  | 42                                                         | 52                                      | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |      |
| 6933+19.50  | 1                            | 0                                   |                                              |                                    |                                                 | 1                   | 1                                                          | 33                                      | 0                                                | 0                                      | 0                                 | 6                                 | 8                                        | -8                                                 |      |      |      |      |      |      |      |      |
| 6933+25.00  | 3                            | 0                                   |                                              |                                    |                                                 | 3                   | 4                                                          | 159                                     | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |      |
| 6933+50.00  | 3                            | 0                                   |                                              |                                    |                                                 | 3                   | 4                                                          | 178                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |      |
| 6933+75.00  | 2                            | 0                                   |                                              |                                    |                                                 | 2                   | 3                                                          | 175                                     | 0                                                | 0                                      | 0                                 | 27                                | 38                                       | -38                                                |      |      |      |      |      |      |      |      |
| 6934+00.00  | 1                            | 0                                   | 6                                            |                                    |                                                 | 7                   | 9                                                          | 163                                     | 0                                                | 0                                      | 67                                | 28                                | 39                                       | 28                                                 |      |      |      |      |      |      |      |      |
| 6934+25.00  | 0                            | 0                                   | 3                                            |                                    |                                                 | 3                   | 4                                                          | 180                                     | 0                                                | 0                                      | 67                                | 28                                | 39                                       | 28                                                 |      |      |      |      |      |      |      |      |
| 6934+50.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 190                                     | 0                                                | 0                                      | 65                                | 27                                | 38                                       | 27                                                 |      |      |      |      |      |      |      |      |
| 6934+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 201                                     | 0                                                | 0                                      | 62                                | 25                                | 35                                       | 27                                                 |      |      |      |      |      |      |      |      |
| 6935+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 220                                     | 0                                                | 0                                      | 63                                | 26                                | 36                                       | 27                                                 |      |      |      |      |      |      |      |      |
| 6935+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 254                                     | 0                                                | 0                                      | 71                                | 32                                | 45                                       | 26                                                 |      |      |      |      |      |      |      |      |
| 6935+50.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 278                                     | 0                                                | 0                                      | 83                                | 38                                | 53                                       | 30                                                 |      |      |      |      |      |      |      |      |
| 6935+75.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 283                                     | 0                                                | 0                                      | 99                                | 44                                | 62                                       | 37                                                 |      |      |      |      |      |      |      |      |
| 6936+00.00  | 1                            | 0                                   | 6                                            |                                    |                                                 | 7                   | 9                                                          | 260                                     | 0                                                | 0                                      | 112                               | 47                                | 66                                       | 46                                                 |      |      |      |      |      |      |      |      |
| 6936+25.00  | 6                            | 0                                   | 24                                           |                                    |                                                 | 30                  | 38                                                         | 161                                     | 0                                                | 0                                      | 118                               | 47                                | 66                                       | 52                                                 |      |      |      |      |      |      |      |      |
| 6936+50.00  | 29                           | 0                                   | 60                                           |                                    |                                                 | 89                  | 112                                                        | 89                                      | 0                                                | 0                                      | 126                               | 55                                | 77                                       | 49                                                 |      |      |      |      |      |      |      |      |
| 6936+73.42  | 3                            | 0                                   | 4                                            |                                    |                                                 | 7                   | 9                                                          | 9                                       | 0                                                | 0                                      | 9                                 | 4                                 | 6                                        | 3                                                  |      |      |      |      |      |      |      |      |
| 6936+75.00  | 104                          | 0                                   | 92                                           |                                    |                                                 | 196                 | 247                                                        | -23                                     | 0                                                | 0                                      | 164                               | 48                                | 67                                       | 97                                                 |      |      |      |      |      |      |      |      |
| 6937+00.00  | 149                          | 0                                   | 105                                          |                                    | 350                                             | 604                 | 761                                                        | -583                                    | 0                                                | 0                                      | 158                               | 44                                | 62                                       | 96                                                 |      |      |      |      |      |      |      |      |
| 6937+25.00  | 9                            | 2                                   | 6                                            |                                    |                                                 | 17                  | 22                                                         | -9                                      | 0                                                | 0                                      | 8                                 | 4                                 | 6                                        | 2                                                  |      |      |      |      |      |      |      |      |
| 6937+26.58  | 169                          | 14                                  | 86                                           |                                    |                                                 | 269                 | 339                                                        | -158                                    | 0                                                | 0                                      | 124                               | 53                                | 74                                       | 50                                                 |      |      |      |      |      |      |      |      |
| 6937+50.00  | 273                          | 1                                   | 74                                           |                                    |                                                 | 348                 | 439                                                        | -271                                    | 0                                                | 0                                      | 132                               | 56                                | 78                                       | 54                                                 |      |      |      |      |      |      |      |      |
| 6937+75.00  | 389                          | 17                                  | 81                                           |                                    |                                                 | 487                 | 614                                                        | -455                                    | 93                                               | 508                                    | 135                               | 58                                | 81                                       | 54                                                 |      |      |      |      |      |      |      |      |
| 6938+00.00  | 516                          | 0                                   | 89                                           |                                    | 830                                             | 1,435               | 1,808                                                      | -1,692                                  | 186                                              | 552                                    | 139                               | 61                                | 85                                       | 54                                                 |      |      |      |      |      |      |      |      |
| 6938+25.00  | 652                          | 0                                   | 97                                           |                                    |                                                 | 749                 | 944                                                        | -854                                    | 186                                              | 733                                    | 143                               | 63                                | 88                                       | 55                                                 |      |      |      |      |      |      |      |      |
| 6938+50.00  | 795                          | 0                                   | 105                                          |                                    |                                                 | 900                 | 1,134                                                      | -1,069                                  | 186                                              | 924                                    | 146                               | 66                                | 92                                       | 54                                                 |      |      |      |      |      |      |      |      |
| 6938+75.00  | 948                          | 0                                   | 113                                          |                                    |                                                 | 1,061               | 1,337                                                      | -1,292                                  | 186                                              | 1,126                                  | 150                               | 68                                | 95                                       | 55                                                 |      |      |      |      |      |      |      |      |
| 6939+00.00  | 1,095                        | 0                                   | 120                                          |                                    |                                                 | 1,215               | 1,531                                                      | -1,491                                  | 186                                              | 1,320                                  | 157                               | 73                                | 102                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 6939+25.00  | 1,226                        | 0                                   | 124                                          |                                    |                                                 | 1,350               | 1,701                                                      | -1,651                                  | 186                                              | 1,491                                  | 164                               | 78                                | 109                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 6939+50.00  | 1,297                        | 0                                   | 128                                          |                                    |                                                 | 1,425               | 1,796                                                      | -1,732                                  | 186                                              | 1,585                                  | 170                               | 81                                | 113                                      | 57                                                 |      |      |      |      |      |      |      |      |
| 6939+75.00  | 1,285                        | 0                                   | 130                                          |                                    |                                                 | 1,415               | 1,783                                                      | -1,698                                  | 698                                              | 1,572                                  | 175                               | 85                                | 119                                      | 56                                                 |      |      |      |      |      |      |      |      |
| 6940+00.00  | 1,258                        | 0                                   | 131                                          |                                    |                                                 | 1,389               | 1,750                                                      | -1,656                                  | 1,367                                            | 1,540                                  | 177                               | 86                                | 120                                      | 57                                                 |      |      |      |      |      |      |      |      |
| 6940+25.00  | 1,294                        | 0                                   | 131                                          |                                    |                                                 | 1,425               | 1,796                                                      | -1,715                                  | 1,211                                            | 1,584                                  | 170                               | 81                                | 113                                      | 57                                                 |      |      |      |      |      |      |      |      |
| 6940+50.00  | 1,382                        | 0                                   | 136                                          |                                    |                                                 | 1,518               | 1,913                                                      | -1,877                                  | 1,211                                            | 1,702                                  | 160                               | 75                                | 105                                      | 55                                                 |      |      |      |      |      |      |      |      |
| 6940+75.00  | 1,417                        | 0                                   | 139                                          |                                    |                                                 | 1,556               | 1,961                                                      | -1,959                                  | 1,211                                            | 1,750                                  | 158                               | 74                                | 104                                      | 54                                                 |      |      |      |      |      |      |      |      |
| 6941+00.00  | 1,305                        | 0                                   | 133                                          |                                    |                                                 | 1,438               | 1,812                                                      | -1,799                                  | 1,211                                            | 1,601                                  | 158                               | 74                                | 104                                      | 54                                                 |      |      |      |      |      |      |      |      |
| 6941+25.00  | 1,052                        | 0                                   | 133                                          |                                    |                                                 | 1,185               | 1,493                                                      | -1,440                                  | 1,118                                            | 1,289                                  | 155                               | 72                                | 101                                      | 54                                                 |      |      |      |      |      |      |      |      |
| 6941+50.00  | 776                          | 0                                   | 119                                          |                                    |                                                 | 895                 | 1,128                                                      | -1,053                                  | 759                                              | 929                                    | 153                               | 71                                | 99                                       | 54                                                 |      |      |      |      |      |      |      |      |
| 6941+75.00  | 536                          | 0                                   | 94                                           |                                    |                                                 | 630                 | 794                                                        | -680                                    | 436                                              | 605                                    | 151                               | 70                                | 98                                       | 53                                                 |      |      |      |      |      |      |      |      |
| 6942+00.00  | 317                          | 0                                   | 81                                           |                                    |                                                 | 398                 | 502                                                        | -298                                    | 155                                              | 323                                    | 149                               | 68                                | 95                                       | 54                                                 |      |      |      |      |      |      |      |      |
| 6942+25.00  | 136                          | 0                                   | 65                                           |                                    |                                                 | 201                 | 253                                                        | 43                                      | 0                                                | 0                                      | 147                               | 67                                | 94                                       | 53                                                 |      |      |      |      |      |      |      |      |
| 6942+50.00  | 29                           | 0                                   | 36                                           |                                    |                                                 | 65                  | 82                                                         | 314                                     | 0                                                | 0                                      | 147                               | 60                                | 84                                       | 63                                                 |      |      |      |      |      |      |      |      |
| 6942+75.00  | 0                            | 0                                   | 7                                            |                                    |                                                 | 7                   | 9                                                          | 511                                     | 0                                                | 0                                      | 147                               | 56                                | 78                                       | 69                                                 |      |      |      |      |      |      |      |      |
| 6943+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 670                                     | 0                                                | 0                                      | 147                               | 60                                | 84                                       | 63                                                 |      |      |      |      |      |      |      |      |
| 6943+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 803                                     | 0                                                | 0                                      | 147                               | 60                                | 84                                       | 63                                                 |      |      |      |      |      |      |      |      |
| 6943+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 924                                     | 0                                                | 0                                      | 148                               | 57                                | 80                                       | 68                                                 |      |      |      |      |      |      |      |      |
| 6943+75.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,041                                   | 0                                                | 0                                      | 149                               | 53                                | 74                                       | 75                                                 |      |      |      |      |      |      |      |      |
| 6944+00.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,130                                   | 0                                                | 0                                      | 148                               | 53                                | 74                                       | 74                                                 |      |      |      |      |      |      |      |      |
| 6944+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,198                                   | 0                                                | 0                                      | 147                               | 53                                | 74                                       | 73                                                 |      |      |      |      |      |      |      |      |
| 6944+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,266                                   | 0                                                | 0                                      | 148                               | 53                                | 74                                       | 74                                                 |      |      |      |      |      |      |      |      |
| 6944+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,342                                   | 0                                                | 0                                      | 148                               | 53                                | 74                                       | 74                                                 |      |      |      |      |      |      |      |      |
| 6945+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,441                                   | 0                                                | 0                                      | 151                               | 55                                | 77                                       | 74                                                 |      |      |      |      |      |      |      |      |
| 6945+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,549                                   | 0                                                | 0                                      | 155                               | 58                                | 81                                       | 74                                                 |      |      |      |      |      |      |      |      |
| 6945+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,654                                   | 0                                                | 0                                      | 160                               | 61                                | 85                                       | 75                                                 |      |      |      |      |      |      |      |      |
| 6945+75.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,742                                   | 0                                                | 0                                      | 163                               | 63                                | 88                                       | 75                                                 |      |      |      |      |      |      |      |      |
| 6946+00.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 1,796                                   | 0                                                | 0                                      | 166                               | 65                                | 91                                       | 75                                                 |      |      |      |      |      |      |      |      |
| 6946+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,813                                   | 0                                                | 0                                      | 166                               | 65                                | 91                                       | 75                                                 |      |      |      |      |      |      |      |      |
| 6946+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,778                                   | 0                                                | 0                                      | 165                               | 64                                | 90                                       | 75                                                 |      |      |      |      |      |      |      |      |
| 6946+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,688                                   | 0                                                | 0                                      | 163                               | 63                                | 88                                       | 75                                                 |      |      |      |      |      |      |      |      |
| 6947+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,598                                   | 0                                                | 0                                      | 160                               | 61                                | 85                                       | 75                                                 |      |      |      |      |      |      |      |      |
| 6947+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |
| Subtotals:  | 18,490                       | 34                                  | 2,665                                        | 0                                  | 1,210                                           | 22,399              | 28,225                                                     | 2,244                                   | 10,773                                           | 21,133                                 | 7,410                             | 3,290                             | 4,606                                    | 2,804                                              |      |      |      |      |      |      |      |      |



**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station                | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                        | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                        | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 6947+25.00             | 1,670                       | 1,186                            | 159                | 129                               | 0                                | 196                        | 0                     | 0                     |                                               | 1,511                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6947+50.00             | 1,548                       | 1,235                            | 157                | 63                                | 0                                | 93                         | 0                     | 0                     |                                               | 1,391                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6947+75.00             | 1,393                       | 1,240                            | 154                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 1,240                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6948+00.00             | 1,256                       | 1,104                            | 152                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 1,104                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6948+25.00             | 1,169                       | 1,019                            | 151                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 1,019                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6948+50.00             | 1,124                       | 976                              | 149                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 976                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6948+75.00             | 1,115                       | 967                              | 148                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 967                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6949+00.00             | 1,067                       | 921                              | 146                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 921                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6949+25.00             | 930                         | 786                              | 143                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 786                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6949+50.00             | 405                         | 330                              | 75                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 330                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6949+63.74             | 250                         | 187                              | 62                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 187                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6949+75.00             | 159                         | 106                              | 52                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 106                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6949+84.09             | 178                         | 95                               | 83                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 95                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6950+00.00             | 91                          | 31                               | 61                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 31                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6950+11.92             | 67                          | 11                               | 56                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 11                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6950+25.00             | 33                          | 10                               | 23                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 10                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6950+30.68             | 200                         | 107                              | 93                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 107                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6950+50.00             | 420                         | 290                              | 130                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 290                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6950+75.00             | 715                         | 571                              | 144                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 571                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6951+00.00             | 1,027                       | 864                              | 157                | 5                                 | 0                                | 0                          | 0                     | 0                     |                                               | 869                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6951+25.00             | 1,230                       | 1,053                            | 170                | 6                                 | 0                                | 0                          | 0                     | 0                     |                                               | 1,059                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6951+50.00             | 1,322                       | 1,142                            | 179                | 1                                 | 0                                | 0                          | 0                     | 0                     |                                               | 1,143                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 6951+75.00             | 1,349                       | 963                              | 189                | 0                                 | 0                                | 177                        | 0                     | 0                     |                                               | 982                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6952+00.00             | 1,306                       | 644                              | 196                | 0                                 | 0                                | 61                         | 404                   | 0                     |                                               | 705                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6952+25.00             | 1,231                       | 409                              | 201                | 0                                 | 0                                | 114                        | 508                   | 0                     |                                               | 523                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6952+50.00             | 1,161                       | 497                              | 204                | 45                                | 0                                | 135                        | 281                   | 0                     |                                               | 677                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6952+75.00             | 1,080                       | 605                              | 206                | 108                               | 0                                | 160                        | 0                     | 0                     |                                               | 873                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6953+00.00             | 1,001                       | 410                              | 208                | 143                               | 0                                | 239                        | 0                     | 0                     |                                               | 792                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6953+25.00             | 911                         | 428                              | 209                | 110                               | 0                                | 164                        | 0                     | 0                     |                                               | 702                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6953+50.00             | 757                         | 467                              | 210                | 56                                | 0                                | 24                         | 0                     | 0                     |                                               | 547                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6953+75.00             | 520                         | 231                              | 206                | 63                                | 0                                | 20                         | 0                     | 0                     |                                               | 314                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6954+00.00             | 298                         | 43                               | 201                | 37                                | 0                                | 18                         | 0                     | 0                     |                                               | 98                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6954+25.00             | 226                         | 21                               | 205                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 21                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6954+50.00             | 240                         | 28                               | 212                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 28                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6954+75.00             | 262                         | 49                               | 213                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 49                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6955+00.00             | 298                         | 86                               | 212                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 86                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6955+25.00             | 350                         | 140                              | 211                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 140                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6955+50.00             | 420                         | 208                              | 211                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 208                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6955+75.00             | 482                         | 272                              | 210                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 272                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6956+00.00             | 516                         | 303                              | 206                | 6                                 | 0                                | 0                          | 0                     | 0                     |                                               | 309                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6956+25.00             | 522                         | 276                              | 198                | 47                                | 0                                | 0                          | 0                     | 0                     |                                               | 323                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6956+50.00             | 517                         | 285                              | 191                | 41                                | 0                                | 0                          | 0                     | 0                     |                                               | 326                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6956+75.00             | 490                         | 307                              | 183                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 307                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6957+00.00             | 448                         | 275                              | 173                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 275                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6957+25.00             | 398                         | 237                              | 161                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 237                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6957+50.00             | 341                         | 192                              | 148                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 192                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6957+75.00             | 273                         | 144                              | 128                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 144                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 6958+00.00             | 97                          | 97                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 97                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6958+25.00             | 36                          | 36                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 36                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 6958+50.00             | 0                           | 0                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 6958+75.00             | 0                           | 0                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| NthCascadew<br>Totals: | 70,867                      | 48,577                           | 14,946             | 3,475                             | 356                              | 2,403                      | 1,457                 | 0                     | 0                                             | 54,455                |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station     | Fill                         |                                     |                                              |                                    |                                                 |                                                 | Checks (EW-102)                                            |                                         | Topsoil                                          |                                        |                                   |                                   |                                          |                                                    | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |  |  |
|-------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|--|--|--|
|             | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |      |  |  |  |
|             |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |      |  |  |  |
|             | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |  |  |  |
| 6947+25.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                                               | 1                                                          | 1,510                                   | 0                                                | 0                                      | 159                               | 61                                | 85                                       | 74                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6947+50.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                                               | 1                                                          | 1,390                                   | 0                                                | 0                                      | 157                               | 67                                | 94                                       | 63                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6947+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,240                                   | 0                                                | 0                                      | 154                               | 72                                | 101                                      | 53                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6948+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,104                                   | 0                                                | 0                                      | 152                               | 71                                | 99                                       | 53                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6948+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,019                                   | 0                                                | 0                                      | 151                               | 70                                | 98                                       | 53                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6948+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 976                                     | 0                                                | 0                                      | 149                               | 68                                | 95                                       | 54                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6948+75.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                                               | 1                                                          | 966                                     | 0                                                | 0                                      | 148                               | 67                                | 94                                       | 54                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6949+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 921                                     | 0                                                | 0                                      | 146                               | 66                                | 92                                       | 54                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6949+25.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                                               | 1                                                          | 785                                     | 0                                                | 0                                      | 143                               | 64                                | 90                                       | 53                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6949+50.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                                               | 1                                                          | 329                                     | 0                                                | 0                                      | 75                                | 33                                | 46                                       | 29                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6949+63.74  | 5                            | 0                                   | 11                                           |                                    |                                                 | 16                                              | 20                                                         | 167                                     | 0                                                | 0                                      | 62                                | 21                                | 29                                       | 33                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6949+75.00  | 15                           | 0                                   | 19                                           |                                    |                                                 | 34                                              | 43                                                         | 63                                      | 0                                                | 0                                      | 52                                | 14                                | 20                                       | 32                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6949+84.09  | 44                           | 0                                   | 38                                           |                                    |                                                 | 82                                              | 103                                                        | -8                                      | 0                                                | 0                                      | 83                                | 26                                | 36                                       | 47                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6950+00.00  | 42                           | 17                                  | 40                                           |                                    | 400                                             | 499                                             | 629                                                        | -598                                    | 0                                                | 0                                      | 61                                | 15                                | 21                                       | 40                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6950+11.92  | 55                           | 7                                   | 43                                           |                                    |                                                 | 105                                             | 132                                                        | -121                                    | 0                                                | 0                                      | 56                                | 12                                | 17                                       | 39                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6950+25.00  | 26                           | 2                                   | 15                                           |                                    |                                                 | 43                                              | 54                                                         | -44                                     | 0                                                | 0                                      | 23                                | 8                                 | 11                                       | 12                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6950+30.68  | 74                           | 11                                  | 48                                           |                                    |                                                 | 133                                             | 168                                                        | -61                                     | 0                                                | 0                                      | 93                                | 38                                | 53                                       | 40                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6950+50.00  | 39                           | 0                                   | 36                                           |                                    |                                                 | 75                                              | 95                                                         | 196                                     | 0                                                | 0                                      | 130                               | 56                                | 78                                       | 52                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6950+75.00  | 3                            | 0                                   | 7                                            |                                    |                                                 | 10                                              | 13                                                         | 558                                     | 0                                                | 0                                      | 144                               | 65                                | 91                                       | 53                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6951+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 869                                     | 0                                                | 0                                      | 157                               | 74                                | 104                                      | 53                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6951+25.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                                               | 1                                                          | 1,058                                   | 0                                                | 0                                      | 170                               | 82                                | 115                                      | 55                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6951+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,143                                   | 0                                                | 0                                      | 179                               | 88                                | 123                                      | 56                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6951+75.00  | 0                            | 0                                   | 2                                            |                                    |                                                 | 2                                               | 3                                                          | 979                                     | 0                                                | 0                                      | 189                               | 91                                | 127                                      | 62                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6952+00.00  | 3                            | 0                                   | 15                                           |                                    |                                                 | 18                                              | 23                                                         | 682                                     | 0                                                | 0                                      | 196                               | 92                                | 129                                      | 67                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6952+25.00  | 38                           | 0                                   | 43                                           |                                    |                                                 | 81                                              | 102                                                        | 421                                     | 0                                                | 0                                      | 201                               | 95                                | 133                                      | 68                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6952+50.00  | 125                          | 0                                   | 62                                           |                                    |                                                 | 187                                             | 236                                                        | 441                                     | 0                                                | 0                                      | 204                               | 97                                | 136                                      | 68                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6952+75.00  | 239                          | 0                                   | 71                                           |                                    |                                                 | 310                                             | 391                                                        | 482                                     | 1                                                | 287                                    | 206                               | 99                                | 139                                      | 67                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6953+00.00  | 364                          | 0                                   | 80                                           |                                    |                                                 | 444                                             | 560                                                        | 233                                     | 3                                                | 353                                    | 208                               | 96                                | 134                                      | 74                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6953+25.00  | 516                          | 0                                   | 89                                           |                                    |                                                 | 605                                             | 762                                                        | -60                                     | 3                                                | 556                                    | 209                               | 97                                | 136                                      | 73                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6953+50.00  | 699                          | 0                                   | 101                                          |                                    |                                                 | 800                                             | 1,008                                                      | -461                                    | 3                                                | 801                                    | 210                               | 101                               | 141                                      | 69                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6953+75.00  | 1,047                        | 0                                   | 122                                          |                                    |                                                 | 1,169                                           | 1,473                                                      | -1,159                                  | 629                                              | 1,266                                  | 206                               | 98                                | 137                                      | 69                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6954+00.00  | 1,687                        | 0                                   | 155                                          |                                    |                                                 | 1,842                                           | 2,321                                                      | -2,223                                  | 1,255                                            | 2,114                                  | 201                               | 98                                | 137                                      | 64                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6954+25.00  | 2,262                        | 0                                   | 175                                          |                                    |                                                 | 2,437                                           | 3,071                                                      | -3,050                                  | 1,255                                            | 2,864                                  | 205                               | 105                               | 147                                      | 58                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6954+50.00  | 2,542                        | 0                                   | 179                                          |                                    |                                                 | 2,721                                           | 3,429                                                      | -3,401                                  | 1,255                                            | 3,221                                  | 212                               | 109                               | 153                                      | 59                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6954+75.00  | 2,550                        | 0                                   | 175                                          |                                    |                                                 | 2,725                                           | 3,434                                                      | -3,385                                  | 1,725                                            | 3,226                                  | 213                               | 110                               | 154                                      | 59                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6955+00.00  | 2,339                        | 0                                   | 166                                          |                                    |                                                 | 2,505                                           | 3,156                                                      | -3,070                                  | 2,196                                            | 2,948                                  | 212                               | 110                               | 154                                      | 58                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6955+25.00  | 2,046                        | 0                                   | 156                                          |                                    |                                                 | 2,202                                           | 2,775                                                      | -2,635                                  | 2,196                                            | 2,567                                  | 211                               | 109                               | 153                                      | 58                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6955+50.00  | 1,710                        | 0                                   | 145                                          |                                    |                                                 | 1,855                                           | 2,337                                                      | -2,129                                  | 1,956                                            | 2,129                                  | 211                               | 109                               | 153                                      | 58                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6955+75.00  | 1,415                        | 0                                   | 133                                          |                                    |                                                 | 1,548                                           | 1,951                                                      | -1,679                                  | 1,580                                            | 1,751                                  | 210                               | 109                               | 153                                      | 57                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6956+00.00  | 1,203                        | 0                                   | 123                                          |                                    | 3,000                                           | 4,326                                           | 5,451                                                      | -5,142                                  | 1,312                                            | 1,483                                  | 206                               | 106                               | 148                                      | 58                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6956+25.00  | 1,067                        | 0                                   | 114                                          |                                    |                                                 | 1,181                                           | 1,488                                                      | -1,165                                  | 1,130                                            | 1,300                                  | 198                               | 101                               | 141                                      | 57                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6956+50.00  | 917                          | 0                                   | 107                                          |                                    |                                                 | 1,024                                           | 1,290                                                      | -964                                    | 931                                              | 1,103                                  | 191                               | 96                                | 134                                      | 57                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6956+75.00  | 744                          | 0                                   | 100                                          |                                    |                                                 | 844                                             | 1,064                                                      | -757                                    | 718                                              | 887                                    | 183                               | 91                                | 127                                      | 56                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6957+00.00  | 607                          | 0                                   | 93                                           |                                    |                                                 | 700                                             | 882                                                        | -607                                    | 549                                              | 717                                    | 173                               | 84                                | 118                                      | 55                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6957+25.00  | 478                          | 0                                   | 86                                           |                                    |                                                 | 564                                             | 711                                                        | -474                                    | 378                                              | 546                                    | 161                               | 75                                | 105                                      | 56                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6957+50.00  | 357                          | 0                                   | 80                                           |                                    |                                                 | 437                                             | 551                                                        | -359                                    | 198                                              | 358                                    | 148                               | 66                                | 92                                       | 56                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6957+75.00  | 252                          | 0                                   | 76                                           |                                    |                                                 | 328                                             | 413                                                        | -269                                    | 40                                               | 194                                    | 128                               | 50                                | 70                                       | 58                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6958+00.00  | 182                          | 0                                   |                                              |                                    |                                                 | 182                                             | 229                                                        | -132                                    | 0                                                | 0                                      | 0                                 | 36                                | 50                                       | -50                                                |      |      |      |      |      |      |      |      |  |  |  |
| 6958+25.00  | 123                          | 0                                   |                                              |                                    |                                                 | 123                                             | 155                                                        | -119                                    | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |      |  |  |  |
| 6958+50.00  | 109                          | 0                                   |                                              |                                    |                                                 | 109                                             | 137                                                        | -137                                    | 0                                                | 0                                      | 0                                 | 4                                 | 6                                        | -6                                                 |      |      |      |      |      |      |      |      |  |  |  |
| 6958+75.00  |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |  |  |
| NthCascadew |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |  |  |
| Totals:     | 44,414                       | 71                                  | 5,576                                        | 0                                  | 4,610                                           | 54,671                                          | 68,889                                                     | -14,434                                 | 30,085                                           | 51,804                                 | 14,946                            | 6,883                             | 9,637                                    | 5,310                                              |      |      |      |      |      |      |      |      |  |  |  |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station    | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                    |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]               | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | Total Cut Adjusted |      |      |      |      |      |      |      |      |      |      |      |      |
| NHFrontage |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9976+50.00 | 55                          | 0                                | 55                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9976+75.00 | 89                          | 0                                | 89                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9977+00.00 | 133                         | 1                                | 132                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1                                             |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9977+25.00 | 197                         | 36                               | 161                | 0                                 | 0                                | 0                          | 0                     | 0                     | 36                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9977+50.00 | 868                         | 417                              | 219                | 113                               | 0                                | 120                        | 0                     | 0                     | 650                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9977+75.00 | 1,508                       | 734                              | 273                | 226                               | 0                                | 275                        | 0                     | 0                     | 1,235                                         |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9978+00.00 | 1,456                       | 644                              | 277                | 219                               | 0                                | 316                        | 0                     | 0                     | 1,179                                         |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9978+25.00 | 1,330                       | 516                              | 277                | 205                               | 0                                | 332                        | 0                     | 0                     | 1,053                                         |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9978+50.00 | 1,188                       | 466                              | 274                | 99                                | 0                                | 349                        | 0                     | 0                     | 914                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9978+75.00 | 1,052                       | 467                              | 270                | 0                                 | 0                                | 315                        | 0                     | 0                     | 782                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9979+00.00 | 910                         | 389                              | 264                | 0                                 | 0                                | 257                        | 0                     | 0                     | 646                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9979+25.00 | 762                         | 276                              | 257                | 0                                 | 0                                | 230                        | 0                     | 0                     | 506                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9979+50.00 | 660                         | 198                              | 251                | 0                                 | 0                                | 211                        | 0                     | 0                     | 409                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9979+75.00 | 595                         | 248                              | 246                | 0                                 | 0                                | 101                        | 0                     | 0                     | 349                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9980+00.00 | 619                         | 374                              | 245                | 0                                 | 0                                | 0                          | 0                     | 0                     | 374                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9980+25.00 | 681                         | 441                              | 240                | 0                                 | 0                                | 0                          | 0                     | 0                     | 441                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9980+50.00 | 758                         | 526                              | 231                | 0                                 | 0                                | 0                          | 0                     | 0                     | 526                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9980+75.00 | 863                         | 641                              | 223                | 0                                 | 0                                | 0                          | 0                     | 0                     | 641                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9981+00.00 | 908                         | 635                              | 213                | 0                                 | 0                                | 59                         | 0                     | 0                     | 694                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9981+25.00 | 913                         | 576                              | 204                | 0                                 | 0                                | 132                        | 0                     | 0                     | 708                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9981+50.00 | 915                         | 545                              | 194                | 0                                 | 0                                | 176                        | 0                     | 0                     | 721                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9981+75.00 | 927                         | 495                              | 184                | 0                                 | 0                                | 248                        | 0                     | 0                     | 743                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9982+00.00 | 978                         | 579                              | 178                | 0                                 | 0                                | 221                        | 0                     | 0                     | 800                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9982+25.00 | 1,060                       | 774                              | 174                | 0                                 | 0                                | 112                        | 0                     | 0                     | 886                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9982+50.00 | 1,155                       | 914                              | 177                | 0                                 | 0                                | 64                         | 0                     | 0                     | 978                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9982+75.00 | 1,172                       | 936                              | 183                | 0                                 | 0                                | 54                         | 0                     | 0                     | 990                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9983+00.00 | 1,070                       | 836                              | 185                | 0                                 | 0                                | 49                         | 0                     | 0                     | 885                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9983+25.00 | 929                         | 696                              | 185                | 0                                 | 0                                | 48                         | 0                     | 0                     | 744                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9983+50.00 | 805                         | 565                              | 185                | 0                                 | 0                                | 55                         | 0                     | 0                     | 620                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9983+75.00 | 706                         | 447                              | 185                | 0                                 | 0                                | 75                         | 0                     | 0                     | 522                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9984+00.00 | 620                         | 341                              | 185                | 0                                 | 0                                | 94                         | 0                     | 0                     | 435                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9984+25.00 | 548                         | 261                              | 185                | 0                                 | 0                                | 103                        | 0                     | 0                     | 364                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9984+50.00 | 479                         | 206                              | 186                | 0                                 | 0                                | 87                         | 0                     | 0                     | 293                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9984+75.00 | 399                         | 177                              | 188                | 0                                 | 0                                | 34                         | 0                     | 0                     | 211                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9985+00.00 | 307                         | 149                              | 158                | 0                                 | 0                                | 0                          | 0                     | 0                     | 149                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9985+25.00 | 246                         | 117                              | 129                | 0                                 | 0                                | 0                          | 0                     | 0                     | 117                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9985+50.00 | 225                         | 94                               | 131                | 0                                 | 0                                | 0                          | 0                     | 0                     | 94                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9985+75.00 | 52                          | 20                               | 32                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 20                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9985+81.08 | 169                         | 68                               | 101                | 0                                 | 0                                | 0                          | 0                     | 0                     | 68                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9986+00.00 | 239                         | 104                              | 135                | 0                                 | 0                                | 0                          | 0                     | 0                     | 104                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9986+25.00 | 264                         | 128                              | 136                | 0                                 | 0                                | 0                          | 0                     | 0                     | 128                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9986+50.00 | 324                         | 187                              | 137                | 0                                 | 0                                | 0                          | 0                     | 0                     | 187                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9986+75.00 | 265                         | 165                              | 100                | 0                                 | 0                                | 0                          | 0                     | 0                     | 165                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9986+92.97 | 107                         | 67                               | 39                 | 0                                 | 0                                | 1                          | 0                     | 0                     | 68                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9987+00.00 | 436                         | 295                              | 136                | 0                                 | 0                                | 5                          | 0                     | 0                     | 300                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9987+25.00 | 481                         | 338                              | 131                | 0                                 | 0                                | 12                         | 0                     | 0                     | 350                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9987+50.00 | 447                         | 297                              | 126                | 0                                 | 0                                | 24                         | 0                     | 0                     | 321                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9987+75.00 | 392                         | 245                              | 123                | 0                                 | 0                                | 24                         | 0                     | 0                     | 269                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9988+00.00 | 356                         | 207                              | 120                | 0                                 | 0                                | 28                         | 0                     | 0                     | 235                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9988+25.00 | 365                         | 208                              | 117                | 0                                 | 0                                | 40                         | 0                     | 0                     | 248                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9988+50.00 | 414                         | 259                              | 115                | 0                                 | 0                                | 40                         | 0                     | 0                     | 299                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9988+75.00 | 472                         | 320                              | 112                | 0                                 | 0                                | 39                         | 0                     | 0                     | 359                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9989+00.00 | 553                         | 384                              | 137                | 0                                 | 0                                | 32                         | 0                     | 0                     | 416                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9989+25.00 | 587                         | 405                              | 161                | 0                                 | 0                                | 20                         | 0                     | 0                     | 425                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9989+50.00 | 571                         | 397                              | 157                | 0                                 | 0                                | 18                         | 0                     | 0                     | 415                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9989+75.00 | 539                         | 358                              | 152                | 0                                 | 0                                | 29                         | 0                     | 0                     | 387                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9990+00.00 | 534                         | 314                              | 147                | 0                                 | 0                                | 73                         | 0                     | 0                     | 387                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9990+25.00 | 564                         | 319                              | 143                | 0                                 | 0                                | 102                        | 0                     | 0                     | 421                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9990+50.00 | 588                         | 348                              | 139                | 0                                 | 0                                | 102                        | 0                     | 0                     | 450                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9990+75.00 | 576                         | 358                              | 135                | 0                                 | 0                                | 83                         | 0                     | 0                     | 441                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9991+00.00 | 550                         | 354                              | 138                | 0                                 | 0                                | 58                         | 0                     | 0                     | 412                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9991+25.00 | 508                         | 309                              | 147                | 0                                 | 0                                | 52                         | 0                     | 0                     | 361                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9991+50.00 | 453                         | 260                              | 154                | 0                                 | 0                                | 38                         | 0                     | 0                     | 298                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9991+75.00 | 424                         | 221                              | 161                | 0                                 | 0                                | 42                         | 0                     | 0                     | 263                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9992+00.00 | 394                         | 200                              | 167                | 0                                 | 0                                | 27                         | 0                     | 0                     | 227                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9992+25.00 | 360                         | 185                              | 172                | 0                                 | 0                                | 3                          | 0                     | 0                     | 188                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9992+50.00 | 305                         | 128                              | 174                | 0                                 | 0                                | 2                          | 0                     | 0                     | 130                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9992+75.00 |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals: | 40,375                      | 23,165                           | 11,337             | 862                               | 0                                | 5,011                      | 0                     | 0                     | 29,038                                        |                    |      |      |      |      |      |      |      |      |      |      |      |      |



**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station     | Fill                         |                                     |                                              |                                    |                                                 |                                                 | Checks (EW-102)                                            |                                         | Topsoil                                          |                                        |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|-------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|--|
|             | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |  |
|             |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |  |
|             | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |  |
| NthFrontage |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| 9976+50.00  | 692                          | 0                                   | 55                                           | 18                                 |                                                 | 765                                             | 964                                                        | -964                                    | 0                                                | 0                                      | 55                                | 4                                 | 6                                        | 49                                                 |      |      |      |      |      |      |      |  |
| 9976+75.00  | 978                          | 0                                   | 89                                           |                                    |                                                 | 1,067                                           | 1,345                                                      | -1,345                                  | 0                                                | 0                                      | 89                                | 23                                | 32                                       | 57                                                 |      |      |      |      |      |      |      |  |
| 9977+00.00  | 1,148                        | 0                                   | 126                                          |                                    |                                                 | 1,274                                           | 1,605                                                      | -1,604                                  | 0                                                | 0                                      | 132                               | 55                                | 77                                       | 55                                                 |      |      |      |      |      |      |      |  |
| 9977+25.00  | 1,259                        | 0                                   | 141                                          |                                    |                                                 | 1,400                                           | 1,764                                                      | -1,728                                  | 0                                                | 0                                      | 161                               | 76                                | 106                                      | 55                                                 |      |      |      |      |      |      |      |  |
| 9977+50.00  | 1,402                        | 0                                   | 138                                          |                                    |                                                 | 1,540                                           | 1,940                                                      | -1,290                                  | 0                                                | 0                                      | 219                               | 108                               | 151                                      | 68                                                 |      |      |      |      |      |      |      |  |
| 9977+75.00  | 1,580                        | 0                                   | 140                                          |                                    |                                                 | 1,720                                           | 2,167                                                      | -932                                    | 0                                                | 0                                      | 273                               | 137                               | 192                                      | 81                                                 |      |      |      |      |      |      |      |  |
| 9978+00.00  | 1,753                        | 0                                   | 147                                          |                                    |                                                 | 1,900                                           | 2,394                                                      | -1,215                                  | 0                                                | 0                                      | 277                               | 139                               | 195                                      | 82                                                 |      |      |      |      |      |      |      |  |
| 9978+25.00  | 1,954                        | 0                                   | 153                                          |                                    |                                                 | 2,107                                           | 2,655                                                      | -1,602                                  | 0                                                | 0                                      | 277                               | 139                               | 195                                      | 82                                                 |      |      |      |      |      |      |      |  |
| 9978+50.00  | 2,206                        | 0                                   | 160                                          |                                    |                                                 | 2,366                                           | 2,981                                                      | -2,067                                  | 0                                                | 0                                      | 274                               | 137                               | 192                                      | 82                                                 |      |      |      |      |      |      |      |  |
| 9978+75.00  | 2,470                        | 0                                   | 167                                          |                                    |                                                 | 2,637                                           | 3,323                                                      | -2,541                                  | 0                                                | 0                                      | 270                               | 138                               | 193                                      | 77                                                 |      |      |      |      |      |      |      |  |
| 9979+00.00  | 2,694                        | 0                                   | 173                                          |                                    |                                                 | 2,867                                           | 3,613                                                      | -2,967                                  | 0                                                | 0                                      | 264                               | 138                               | 193                                      | 71                                                 |      |      |      |      |      |      |      |  |
| 9979+25.00  | 2,843                        | 0                                   | 178                                          |                                    |                                                 | 3,021                                           | 3,807                                                      | -3,301                                  | 0                                                | 0                                      | 257                               | 133                               | 186                                      | 71                                                 |      |      |      |      |      |      |      |  |
| 9979+50.00  | 2,877                        | 0                                   | 183                                          |                                    |                                                 | 3,060                                           | 3,856                                                      | -3,447                                  | 0                                                | 0                                      | 251                               | 129                               | 181                                      | 70                                                 |      |      |      |      |      |      |      |  |
| 9979+75.00  | 2,743                        | 0                                   | 185                                          |                                    |                                                 | 3,928                                           | 3,689                                                      | -3,340                                  | 0                                                | 0                                      | 246                               | 126                               | 176                                      | 70                                                 |      |      |      |      |      |      |      |  |
| 9980+00.00  | 2,377                        | 0                                   | 178                                          |                                    |                                                 | 2,555                                           | 3,219                                                      | -2,845                                  | 0                                                | 0                                      | 245                               | 128                               | 179                                      | 66                                                 |      |      |      |      |      |      |      |  |
| 9980+25.00  | 1,851                        | 0                                   | 161                                          |                                    |                                                 | 2,012                                           | 2,535                                                      | -2,094                                  | 0                                                | 0                                      | 240                               | 129                               | 181                                      | 59                                                 |      |      |      |      |      |      |      |  |
| 9980+50.00  | 1,330                        | 0                                   | 142                                          |                                    |                                                 | 1,472                                           | 1,855                                                      | -1,329                                  | 0                                                | 0                                      | 231                               | 123                               | 172                                      | 59                                                 |      |      |      |      |      |      |      |  |
| 9980+75.00  | 940                          | 0                                   | 122                                          |                                    |                                                 | 1,062                                           | 1,338                                                      | -697                                    | 0                                                | 0                                      | 223                               | 117                               | 164                                      | 59                                                 |      |      |      |      |      |      |      |  |
| 9981+00.00  | 694                          | 0                                   | 107                                          |                                    |                                                 | 801                                             | 1,009                                                      | -315                                    | 0                                                | 0                                      | 213                               | 104                               | 146                                      | 67                                                 |      |      |      |      |      |      |      |  |
| 9981+25.00  | 512                          | 0                                   | 96                                           |                                    |                                                 | 608                                             | 766                                                        | -58                                     | 0                                                | 0                                      | 204                               | 90                                | 126                                      | 78                                                 |      |      |      |      |      |      |      |  |
| 9981+50.00  | 352                          | 0                                   | 84                                           |                                    |                                                 | 436                                             | 549                                                        | 172                                     | 0                                                | 0                                      | 194                               | 83                                | 116                                      | 78                                                 |      |      |      |      |      |      |      |  |
| 9981+75.00  | 200                          | 0                                   | 71                                           |                                    |                                                 | 271                                             | 342                                                        | 402                                     | 0                                                | 0                                      | 184                               | 77                                | 108                                      | 76                                                 |      |      |      |      |      |      |      |  |
| 9982+00.00  | 83                           | 0                                   | 59                                           |                                    |                                                 | 142                                             | 179                                                        | 621                                     | 0                                                | 0                                      | 178                               | 73                                | 102                                      | 76                                                 |      |      |      |      |      |      |      |  |
| 9982+25.00  | 22                           | 0                                   | 34                                           |                                    |                                                 | 56                                              | 71                                                         | 815                                     | 0                                                | 0                                      | 174                               | 71                                | 99                                       | 75                                                 |      |      |      |      |      |      |      |  |
| 9982+50.00  | 5                            | 0                                   | 27                                           |                                    | 1,800                                           | 1,832                                           | 2,308                                                      | -1,330                                  | 0                                                | 0                                      | 177                               | 73                                | 102                                      | 75                                                 |      |      |      |      |      |      |      |  |
| 9982+75.00  | 38                           | 0                                   | 48                                           |                                    |                                                 | 86                                              | 108                                                        | 882                                     | 0                                                | 0                                      | 183                               | 80                                | 112                                      | 71                                                 |      |      |      |      |      |      |      |  |
| 9983+00.00  | 125                          | 0                                   | 62                                           |                                    |                                                 | 187                                             | 236                                                        | 649                                     | 0                                                | 0                                      | 185                               | 81                                | 113                                      | 72                                                 |      |      |      |      |      |      |      |  |
| 9983+25.00  | 259                          | 0                                   | 72                                           |                                    |                                                 | 331                                             | 417                                                        | 327                                     | 0                                                | 0                                      | 185                               | 78                                | 109                                      | 76                                                 |      |      |      |      |      |      |      |  |
| 9983+50.00  | 430                          | 0                                   | 83                                           |                                    |                                                 | 513                                             | 646                                                        | -26                                     | 0                                                | 0                                      | 185                               | 78                                | 109                                      | 76                                                 |      |      |      |      |      |      |      |  |
| 9983+75.00  | 605                          | 0                                   | 91                                           |                                    |                                                 | 696                                             | 877                                                        | -355                                    | 0                                                | 0                                      | 185                               | 78                                | 109                                      | 76                                                 |      |      |      |      |      |      |      |  |
| 9984+00.00  | 766                          | 0                                   | 98                                           |                                    |                                                 | 864                                             | 1,089                                                      | -654                                    | 0                                                | 0                                      | 185                               | 78                                | 109                                      | 76                                                 |      |      |      |      |      |      |      |  |
| 9984+25.00  | 941                          | 0                                   | 105                                          |                                    |                                                 | 1,046                                           | 1,318                                                      | -954                                    | 0                                                | 0                                      | 185                               | 78                                | 109                                      | 76                                                 |      |      |      |      |      |      |      |  |
| 9984+50.00  | 1,133                        | 0                                   | 113                                          |                                    |                                                 | 1,246                                           | 1,570                                                      | -1,277                                  | 0                                                | 0                                      | 186                               | 79                                | 111                                      | 75                                                 |      |      |      |      |      |      |      |  |
| 9984+75.00  | 1,344                        | 0                                   | 124                                          |                                    |                                                 | 1,468                                           | 1,850                                                      | -1,639                                  | 0                                                | 0                                      | 188                               | 83                                | 116                                      | 72                                                 |      |      |      |      |      |      |      |  |
| 9985+00.00  | 1,594                        | 0                                   | 112                                          |                                    |                                                 | 1,706                                           | 2,150                                                      | -2,001                                  | 0                                                | 0                                      | 158                               | 89                                | 125                                      | 33                                                 |      |      |      |      |      |      |      |  |
| 9985+25.00  | 1,878                        | 0                                   | 102                                          |                                    |                                                 | 1,980                                           | 2,495                                                      | -2,378                                  | 0                                                | 0                                      | 129                               | 94                                | 132                                      | -3                                                 |      |      |      |      |      |      |      |  |
| 9985+50.00  | 2,214                        | 0                                   | 109                                          |                                    |                                                 | 2,323                                           | 2,927                                                      | -2,833                                  | 0                                                | 0                                      | 131                               | 100                               | 140                                      | -9                                                 |      |      |      |      |      |      |      |  |
| 9985+75.00  | 592                          | 0                                   | 27                                           |                                    |                                                 | 619                                             | 780                                                        | -760                                    | 0                                                | 0                                      | 32                                | 25                                | 35                                       | -3                                                 |      |      |      |      |      |      |      |  |
| 9985+81.08  | 1,880                        | 0                                   | 85                                           |                                    |                                                 | 1,965                                           | 2,476                                                      | -2,408                                  | 0                                                | 0                                      | 101                               | 77                                | 108                                      | -7                                                 |      |      |      |      |      |      |      |  |
| 9986+00.00  | 2,409                        | 0                                   | 109                                          |                                    |                                                 | 2,518                                           | 3,173                                                      | -3,069                                  | 0                                                | 0                                      | 135                               | 104                               | 146                                      | -11                                                |      |      |      |      |      |      |      |  |
| 9986+25.00  | 2,117                        | 0                                   | 103                                          |                                    |                                                 | 2,220                                           | 2,797                                                      | -2,669                                  | 0                                                | 0                                      | 136                               | 105                               | 147                                      | -11                                                |      |      |      |      |      |      |      |  |
| 9986+50.00  | 1,703                        | 0                                   | 102                                          |                                    |                                                 | 1,805                                           | 2,274                                                      | -2,087                                  | 0                                                | 0                                      | 137                               | 106                               | 148                                      | -11                                                |      |      |      |      |      |      |      |  |
| 9986+75.00  | 955                          | 0                                   | 74                                           |                                    |                                                 | 1,029                                           | 1,297                                                      | -1,132                                  | 0                                                | 0                                      | 100                               | 75                                | 105                                      | -5                                                 |      |      |      |      |      |      |      |  |
| 9986+92.97  | 307                          | 0                                   | 28                                           |                                    |                                                 | 335                                             | 422                                                        | -354                                    | 0                                                | 0                                      | 39                                | 28                                | 39                                       | 0                                                  |      |      |      |      |      |      |      |  |
| 9987+00.00  | 831                          | 0                                   | 89                                           |                                    |                                                 | 920                                             | 1,159                                                      | -859                                    | 0                                                | 0                                      | 136                               | 94                                | 132                                      | 5                                                  |      |      |      |      |      |      |      |  |
| 9987+25.00  | 597                          | 0                                   | 78                                           |                                    |                                                 | 675                                             | 851                                                        | -501                                    | 0                                                | 0                                      | 131                               | 92                                | 129                                      | 2                                                  |      |      |      |      |      |      |      |  |
| 9987+50.00  | 566                          | 0                                   | 74                                           |                                    |                                                 | 640                                             | 806                                                        | -485                                    | 0                                                | 0                                      | 126                               | 88                                | 123                                      | 3                                                  |      |      |      |      |      |      |      |  |
| 9987+75.00  | 626                          | 0                                   | 74                                           |                                    |                                                 | 700                                             | 882                                                        | -613                                    | 0                                                | 0                                      | 123                               | 84                                | 118                                      | 6                                                  |      |      |      |      |      |      |      |  |
| 9988+00.00  | 614                          | 0                                   | 72                                           |                                    |                                                 | 686                                             | 864                                                        | -629                                    | 0                                                | 0                                      | 120                               | 82                                | 115                                      | 5                                                  |      |      |      |      |      |      |      |  |
| 9988+25.00  | 499                          | 0                                   | 67                                           |                                    |                                                 | 566                                             | 713                                                        | -465                                    | 0                                                | 0                                      | 117                               | 79                                | 111                                      | 7                                                  |      |      |      |      |      |      |      |  |
| 9988+50.00  | 379                          | 0                                   | 61                                           |                                    |                                                 | 440                                             | 554                                                        | -255                                    | 0                                                | 0                                      | 115                               | 76                                | 106                                      | 9                                                  |      |      |      |      |      |      |      |  |
| 9988+75.00  | 276                          | 0                                   | 55                                           |                                    |                                                 | 331                                             | 417                                                        | -58                                     | 0                                                | 0                                      | 112                               | 74                                | 104                                      | 9                                                  |      |      |      |      |      |      |      |  |
| 9989+00.00  | 200                          | 27                                  | 64                                           |                                    |                                                 | 291                                             | 367                                                        | 49                                      | 0                                                | 0                                      | 137                               | 68                                | 95                                       | 42                                                 |      |      |      |      |      |      |      |  |
| 9989+25.00  | 169                          | 41                                  | 72                                           |                                    |                                                 | 282                                             | 355                                                        | 70                                      | 0                                                | 0                                      | 161                               | 62                                | 87                                       | 74                                                 |      |      |      |      |      |      |      |  |
| 9989+50.00  | 163                          | 48                                  | 69                                           |                                    |                                                 | 280                                             | 353                                                        | 62                                      | 0                                                | 0                                      | 157                               | 59                                | 83                                       | 74                                                 |      |      |      |      |      |      |      |  |
| 9989+75.00  | 149                          | 52                                  | 67                                           |                                    |                                                 | 268                                             | 338                                                        | 49                                      | 0                                                | 0                                      | 152                               | 56                                | 78                                       | 74                                                 |      |      |      |      |      |      |      |  |
| 9990+00.00  | 121                          | 66                                  | 59                                           |                                    |                                                 | 246                                             | 310                                                        | 77                                      | 0                                                | 0                                      | 147                               | 53                                | 74                                       | 73                                                 |      |      |      |      |      |      |      |  |
| 9990+25.00  | 85                           | 90                                  | 48                                           |                                    |                                                 | 223                                             | 281                                                        | 140                                     | 0                                                | 0                                      | 143                               | 50                                | 70                                       | 73                                                 |      |      |      |      |      |      |      |  |
| 9990+50.00  | 51                           | 109                                 | 39                                           |                                    |                                                 | 199                                             | 251                                                        | 199                                     | 0                                                | 0                                      | 139                               | 51                                | 71                                       | 68                                                 |      |      |      |      |      |      |      |  |
| 9990+75.00  | 37                           | 113                                 | 35                                           |                                    |                                                 | 185                                             | 233                                                        | 208                                     | 0                                                | 0                                      | 135                               | 52                                | 73                                       | 62                                                 |      |      |      |      |      |      |      |  |
| 9991+00.00  | 43                           | 95                                  | 45                                           |                                    |                                                 | 183                                             | 231                                                        | 181                                     | 0                                                | 0                                      | 138                               | 54                                | 76                                       | 62                                                 |      |      |      |      |      |      |      |  |
| 9991+25.00  | 112                          | 45                                  | 63                                           |                                    |                                                 | 220                                             | 277                                                        | 84                                      | 0                                                | 0                                      | 147                               | 59                                | 83                                       | 64                                                 |      |      |      |      |      |      |      |  |
| 9991+50.00  | 268                          | 5                                   | 82                                           |                                    |                                                 | 355                                             | 447                                                        | -149                                    | 0                                                | 0                                      | 154                               | 64                                | 90                                       | 64                                                 |      |      |      |      |      |      |      |  |
| 9991+75.00  | 491                          | 0                                   | 102                                          |                                    |                                                 | 593                                             | 747                                                        | -484                                    | 0                                                | 0                                      | 161                               | 69                                | 97                                       | 64                                                 |      |      |      |      |      |      |      |  |
| 9992+00.00  | 764                          | 0                                   | 113                                          |                                    |                                                 | 877                                             | 1,105                                                      | -878                                    | 0                                                | 0                                      | 167                               | 73                                | 102                                      | 65                                                 |      |      |      |      |      |      |      |  |
| 9992+25.00  | 1,079                        | 0                                   | 122                                          |                                    |                                                 | 1,201                                           | 1,513                                                      | -1,325                                  | 0                                                | 0                                      | 172                               | 76                                | 106                                      | 66                                                 |      |      |      |      |      |      |      |  |
| 9992+50.00  | 1,417                        | 0                                   | 132                                          |                                    |                                                 | 1,549                                           | 1,952                                                      | -1,822                                  | 0                                                | 0                                      | 174                               | 81                                | 113                                      | 61                                                 |      |      |      |      |      |      |      |  |
| 9992+75.00  |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| Subtotals:  | 65,792                       | 691                                 | 6,445                                        | 18                                 | 1,800                                           | 74,746                                          | 94,182                                                     | -65,144                                 | 0                                                | 0                                      | 11,337                            | 5,662                             | 7,927                                    | 3,411                                              |      |      |      |      |      |      |      |  |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station     | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|             | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 9992+75.00  | 244                         | 71                               | 173                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 71                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9993+00.00  | 219                         | 47                               | 172                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 47                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9993+25.00  | 193                         | 20                               | 170                | 4                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 24                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9993+50.00  | 181                         | 4                                | 167                | 10                                | 0                                | 0                          | 0                     | 0                     | 0                                             | 14                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9993+75.00  | 199                         | 26                               | 166                | 7                                 | 0                                | 1                          | 0                     | 0                     | 0                                             | 34                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9994+00.00  | 254                         | 61                               | 169                | 0                                 | 0                                | 24                         | 0                     | 0                     | 0                                             | 85                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9994+25.00  | 361                         | 137                              | 172                | 0                                 | 0                                | 51                         | 0                     | 0                     | 0                                             | 188                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9994+50.00  | 476                         | 254                              | 173                | 0                                 | 0                                | 49                         | 0                     | 0                     | 0                                             | 303                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9994+75.00  | 578                         | 369                              | 173                | 0                                 | 0                                | 36                         | 0                     | 0                     | 0                                             | 405                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9995+00.00  | 716                         | 517                              | 174                | 0                                 | 0                                | 25                         | 0                     | 0                     | 0                                             | 542                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9995+25.00  | 877                         | 687                              | 174                | 0                                 | 0                                | 17                         | 0                     | 0                     | 0                                             | 704                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9995+50.00  | 898                         | 691                              | 168                | 0                                 | 0                                | 40                         | 0                     | 0                     | 0                                             | 731                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9995+75.00  | 756                         | 545                              | 156                | 0                                 | 0                                | 55                         | 0                     | 0                     | 0                                             | 600                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9996+00.00  | 593                         | 448                              | 123                | 0                                 | 0                                | 22                         | 0                     | 0                     | 0                                             | 470                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9996+25.00  | 505                         | 410                              | 95                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 410                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9996+50.00  | 489                         | 389                              | 92                 | 0                                 | 0                                | 9                          | 0                     | 0                     | 0                                             | 398                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9996+75.00  | 511                         | 414                              | 89                 | 0                                 | 0                                | 9                          | 0                     | 0                     | 0                                             | 423                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9997+00.00  | 459                         | 374                              | 86                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 374                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9997+25.00  | 422                         | 339                              | 83                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 339                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9997+50.00  | 482                         | 318                              | 80                 | 0                                 | 0                                | 0                          | 84                    | 0                     | 0                                             | 318                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9997+75.00  | 664                         | 399                              | 79                 | 0                                 | 0                                | 0                          | 186                   | 0                     | 0                                             | 399                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9998+00.00  | 118                         | 76                               | 12                 | 0                                 | 0                                | 0                          | 29                    | 0                     | 0                                             | 76                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 9998+03.95  | 487                         | 284                              | 67                 | 0                                 | 0                                | 0                          | 136                   | 0                     | 0                                             | 284                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9998+25.00  | 343                         | 160                              | 81                 | 0                                 | 0                                | 0                          | 102                   | 0                     | 0                                             | 160                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9998+50.00  | 280                         | 172                              | 83                 | 0                                 | 0                                | 0                          | 25                    | 0                     | 0                                             | 172                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9998+75.00  | 281                         | 197                              | 84                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 197                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9999+00.00  | 289                         | 203                              | 86                 | 0                                 | 0                                | 1                          | 0                     | 0                     | 0                                             | 204                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9999+25.00  | 287                         | 191                              | 88                 | 0                                 | 0                                | 8                          | 0                     | 0                     | 0                                             | 199                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9999+50.00  | 312                         | 217                              | 89                 | 0                                 | 0                                | 7                          | 0                     | 0                     | 0                                             | 224                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 9999+75.00  | 357                         | 243                              | 93                 | 0                                 | 0                                | 22                         | 0                     | 0                     | 0                                             | 265                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10000+00.00 | 435                         | 274                              | 96                 | 0                                 | 0                                | 64                         | 0                     | 0                     | 0                                             | 338                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10000+25.00 | 489                         | 317                              | 98                 | 0                                 | 0                                | 74                         | 0                     | 0                     | 0                                             | 391                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10000+50.00 | 419                         | 268                              | 99                 | 5                                 | 0                                | 32                         | 15                    | 0                     | 0                                             | 305                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10000+75.00 | 321                         | 182                              | 100                | 5                                 | 0                                | 13                         | 21                    | 0                     | 0                                             | 200                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10001+00.00 | 311                         | 156                              | 101                | 0                                 | 0                                | 15                         | 39                    | 0                     | 0                                             | 171                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10001+25.00 | 382                         | 168                              | 102                | 67                                | 0                                | 2                          | 43                    | 0                     | 0                                             | 237                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10001+50.00 | 514                         | 211                              | 104                | 160                               | 0                                | 0                          | 40                    | 0                     | 0                                             | 371                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10001+75.00 | 656                         | 254                              | 105                | 208                               | 0                                | 0                          | 88                    | 0                     | 0                                             | 462                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10002+00.00 | 749                         | 262                              | 107                | 248                               | 0                                | 1                          | 130                   | 0                     | 0                                             | 511                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10002+25.00 | 818                         | 234                              | 108                | 283                               | 0                                | 19                         | 175                   | 0                     | 0                                             | 536                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10002+50.00 | 859                         | 290                              | 103                | 280                               | 0                                | 17                         | 169                   | 0                     | 0                                             | 587                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10002+75.00 | 844                         | 389                              | 96                 | 244                               | 0                                | 0                          | 115                   | 0                     | 0                                             | 633                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10003+00.00 | 791                         | 293                              | 95                 | 320                               | 0                                | 0                          | 82                    | 0                     | 0                                             | 613                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10003+25.00 | 715                         | 155                              | 95                 | 402                               | 0                                | 0                          | 62                    | 0                     | 0                                             | 557                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10003+50.00 | 666                         | 139                              | 94                 | 377                               | 0                                | 0                          | 56                    | 0                     | 0                                             | 516                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10003+75.00 | 653                         | 179                              | 94                 | 294                               | 0                                | 0                          | 86                    | 0                     | 0                                             | 473                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10004+00.00 | 711                         | 188                              | 95                 | 113                               | 0                                | 176                        | 139                   | 0                     | 0                                             | 477                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10004+25.00 | 781                         | 181                              | 95                 | 0                                 | 0                                | 343                        | 162                   | 0                     | 0                                             | 524                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10004+50.00 | 739                         | 154                              | 93                 | 4                                 | 0                                | 327                        | 161                   | 0                     | 0                                             | 485                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10004+75.00 | 800                         | 178                              | 92                 | 21                                | 0                                | 339                        | 170                   | 0                     | 0                                             | 538                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10005+00.00 | 915                         | 226                              | 93                 | 45                                | 0                                | 353                        | 198                   | 0                     | 0                                             | 624                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10005+25.00 | 1,033                       | 308                              | 93                 | 72                                | 0                                | 340                        | 220                   | 0                     | 0                                             | 720                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10005+50.00 | 1,103                       | 350                              | 92                 | 110                               | 0                                | 334                        | 218                   | 0                     | 0                                             | 794                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10005+75.00 | 1,116                       | 336                              | 90                 | 148                               | 0                                | 333                        | 209                   | 0                     | 0                                             | 817                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10006+00.00 | 1,107                       | 301                              | 87                 | 174                               | 0                                | 348                        | 197                   | 0                     | 0                                             | 823                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10006+25.00 | 1,090                       | 381                              | 85                 | 166                               | 0                                | 280                        | 180                   | 0                     | 0                                             | 827                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10006+50.00 | 1,086                       | 528                              | 82                 | 146                               | 0                                | 170                        | 160                   | 0                     | 0                                             | 844                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10006+75.00 | 1,109                       | 632                              | 80                 | 138                               | 0                                | 119                        | 138                   | 0                     | 0                                             | 889                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10007+00.00 | 1,129                       | 871                              | 79                 | 67                                | 0                                | 48                         | 64                    | 0                     | 0                                             | 986                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10007+25.00 | 1,115                       | 1,036                            | 79                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 1,036                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 10007+50.00 | 1,229                       | 1,130                            | 99                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 1,130                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 10007+75.00 | 1,273                       | 888                              | 108                | 216                               | 18                               | 62                         | 0                     | 0                     | 0                                             | 1,166                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 10008+00.00 | 927                         | 312                              | 81                 | 414                               | 42                               | 119                        | 0                     | 0                     | 700                                           | 1,545                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 10008+25.00 | 637                         | 116                              | 38                 | 336                               | 60                               | 148                        | 0                     | 0                     | 0                                             | 600                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10008+50.00 | 532                         | 270                              | 35                 | 137                               | 36                               | 90                         | 0                     | 0                     | 0                                             | 497                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10008+75.00 | 285                         | 226                              | 59                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 226                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10009+00.00 | 86                          | 28                               | 58                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 28                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 10009+25.00 | 60                          | 5                                | 55                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 5                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10009+50.00 |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals:  | 41,316                      | 20,679                           | 6,982              | 5,221                             | 156                              | 4,542                      | 3,899                 | 0                     | 700                                           | 31,142                |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station     | Fill                         |                                     |                                              |                                    |                                                 |                     |                                                            |                                         | Checks (EW-102)                                  |                                        | Topsoil                           |                                   |                                          |                                                    | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|-------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|---------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|--|
|             | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |      |  |
|             | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |  |
| 9992+75.00  | 1,717                        | 0                                   | 141                                          |                                    |                                                 | 1,858               | 2,341                                                      | -2,270                                  | 0                                                | 0                                      | 173                               | 85                                | 119                                      | 54                                                 |      |      |      |      |      |      |      |      |  |
| 9993+00.00  | 1,957                        | 0                                   | 148                                          |                                    |                                                 | 2,105               | 2,652                                                      | -2,605                                  | 0                                                | 0                                      | 172                               | 85                                | 119                                      | 53                                                 |      |      |      |      |      |      |      |      |  |
| 9993+25.00  | 2,072                        | 0                                   | 151                                          |                                    |                                                 | 2,223               | 2,801                                                      | -2,777                                  | 0                                                | 0                                      | 170                               | 84                                | 118                                      | 52                                                 |      |      |      |      |      |      |      |      |  |
| 9993+50.00  | 2,005                        | 0                                   | 154                                          |                                    |                                                 | 2,159               | 2,720                                                      | -2,706                                  | 0                                                | 0                                      | 167                               | 81                                | 113                                      | 54                                                 |      |      |      |      |      |      |      |      |  |
| 9993+75.00  | 1,786                        | 0                                   | 147                                          |                                    |                                                 | 1,933               | 2,436                                                      | -2,402                                  | 0                                                | 0                                      | 166                               | 76                                | 106                                      | 60                                                 |      |      |      |      |      |      |      |      |  |
| 9994+00.00  | 1,472                        | 0                                   | 135                                          |                                    |                                                 | 1,607               | 2,025                                                      | -1,940                                  | 0                                                | 0                                      | 169                               | 74                                | 104                                      | 65                                                 |      |      |      |      |      |      |      |      |  |
| 9994+25.00  | 1,132                        | 0                                   | 125                                          |                                    |                                                 | 1,257               | 1,584                                                      | -1,396                                  | 0                                                | 0                                      | 172                               | 76                                | 106                                      | 66                                                 |      |      |      |      |      |      |      |      |  |
| 9994+50.00  | 843                          | 0                                   | 114                                          |                                    |                                                 | 957                 | 1,206                                                      | -903                                    | 0                                                | 0                                      | 173                               | 77                                | 108                                      | 65                                                 |      |      |      |      |      |      |      |      |  |
| 9994+75.00  | 608                          | 0                                   | 104                                          |                                    |                                                 | 712                 | 897                                                        | -492                                    | 0                                                | 0                                      | 173                               | 77                                | 108                                      | 65                                                 |      |      |      |      |      |      |      |      |  |
| 9995+00.00  | 416                          | 0                                   | 88                                           |                                    |                                                 | 504                 | 635                                                        | -93                                     | 0                                                | 0                                      | 174                               | 77                                | 108                                      | 66                                                 |      |      |      |      |      |      |      |      |  |
| 9995+25.00  | 264                          | 0                                   | 72                                           |                                    |                                                 | 336                 | 423                                                        | 281                                     | 0                                                | 0                                      | 174                               | 78                                | 109                                      | 65                                                 |      |      |      |      |      |      |      |      |  |
| 9995+50.00  | 141                          | 0                                   | 63                                           |                                    |                                                 | 204                 | 257                                                        | 474                                     | 0                                                | 0                                      | 168                               | 73                                | 102                                      | 66                                                 |      |      |      |      |      |      |      |      |  |
| 9995+75.00  | 63                           | 14                                  | 50                                           |                                    |                                                 | 127                 | 160                                                        | 440                                     | 0                                                | 0                                      | 156                               | 66                                | 92                                       | 64                                                 |      |      |      |      |      |      |      |      |  |
| 9996+00.00  | 30                           | 20                                  | 36                                           |                                    |                                                 | 86                  | 108                                                        | 362                                     | 0                                                | 0                                      | 123                               | 60                                | 84                                       | 39                                                 |      |      |      |      |      |      |      |      |  |
| 9996+25.00  | 46                           | 15                                  | 32                                           |                                    |                                                 | 93                  | 117                                                        | 293                                     | 0                                                | 0                                      | 95                                | 60                                | 84                                       | 11                                                 |      |      |      |      |      |      |      |      |  |
| 9996+50.00  | 54                           | 23                                  | 29                                           |                                    |                                                 | 106                 | 134                                                        | 264                                     | 0                                                | 0                                      | 92                                | 57                                | 80                                       | 12                                                 |      |      |      |      |      |      |      |      |  |
| 9996+75.00  | 25                           | 52                                  | 21                                           |                                    |                                                 | 98                  | 124                                                        | 300                                     | 0                                                | 0                                      | 89                                | 54                                | 76                                       | 13                                                 |      |      |      |      |      |      |      |      |  |
| 9997+00.00  | 9                            | 0                                   | 12                                           |                                    |                                                 | 21                  | 27                                                         | 348                                     | 0                                                | 0                                      | 86                                | 55                                | 77                                       | 9                                                  |      |      |      |      |      |      |      |      |  |
| 9997+25.00  | 7                            | 0                                   | 10                                           |                                    |                                                 | 17                  | 22                                                         | 318                                     | 0                                                | 0                                      | 83                                | 52                                | 73                                       | 10                                                 |      |      |      |      |      |      |      |      |  |
| 9997+50.00  | 5                            | 0                                   | 6                                            |                                    |                                                 | 11                  | 14                                                         | 304                                     | 0                                                | 0                                      | 80                                | 49                                | 69                                       | 11                                                 |      |      |      |      |      |      |      |      |  |
| 9997+75.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 398                                     | 0                                                | 0                                      | 79                                | 48                                | 67                                       | 12                                                 |      |      |      |      |      |      |      |      |  |
| 9998+00.00  | 0                            | 0                                   |                                              |                                    | 400                                             | 400                 | 504                                                        | -428                                    | 0                                                | 0                                      | 12                                | 8                                 | 11                                       | 1                                                  |      |      |      |      |      |      |      |      |  |
| 9998+03.95  | 3                            | 0                                   | 6                                            |                                    |                                                 | 9                   | 11                                                         | 273                                     | 0                                                | 0                                      | 67                                | 41                                | 57                                       | 10                                                 |      |      |      |      |      |      |      |      |  |
| 9998+25.00  | 68                           | 0                                   | 30                                           |                                    |                                                 | 98                  | 124                                                        | 37                                      | 0                                                | 0                                      | 81                                | 50                                | 70                                       | 11                                                 |      |      |      |      |      |      |      |      |  |
| 9998+50.00  | 191                          | 0                                   | 44                                           |                                    |                                                 | 235                 | 296                                                        | -124                                    | 0                                                | 0                                      | 83                                | 52                                | 73                                       | 10                                                 |      |      |      |      |      |      |      |      |  |
| 9998+75.00  | 268                          | 0                                   | 43                                           |                                    |                                                 | 311                 | 392                                                        | -195                                    | 0                                                | 0                                      | 84                                | 50                                | 70                                       | 14                                                 |      |      |      |      |      |      |      |      |  |
| 9999+00.00  | 305                          | 26                                  | 45                                           |                                    |                                                 | 376                 | 474                                                        | -270                                    | 0                                                | 0                                      | 86                                | 48                                | 67                                       | 19                                                 |      |      |      |      |      |      |      |      |  |
| 9999+25.00  | 326                          | 37                                  | 48                                           |                                    |                                                 | 411                 | 518                                                        | -319                                    | 0                                                | 0                                      | 88                                | 49                                | 69                                       | 19                                                 |      |      |      |      |      |      |      |      |  |
| 9999+50.00  | 284                          | 60                                  | 47                                           |                                    |                                                 | 391                 | 493                                                        | -269                                    | 0                                                | 0                                      | 89                                | 51                                | 71                                       | 18                                                 |      |      |      |      |      |      |      |      |  |
| 9999+75.00  | 204                          | 77                                  | 40                                           |                                    |                                                 | 321                 | 405                                                        | -140                                    | 0                                                | 0                                      | 93                                | 54                                | 76                                       | 17                                                 |      |      |      |      |      |      |      |      |  |
| 10000+00.00 | 156                          | 81                                  | 31                                           |                                    |                                                 | 268                 | 338                                                        | 0                                       | 0                                                | 0                                      | 96                                | 58                                | 81                                       | 15                                                 |      |      |      |      |      |      |      |      |  |
| 10000+25.00 | 141                          | 81                                  | 29                                           |                                    |                                                 | 251                 | 316                                                        | 75                                      | 0                                                | 0                                      | 98                                | 60                                | 84                                       | 14                                                 |      |      |      |      |      |      |      |      |  |
| 10000+50.00 | 134                          | 77                                  | 30                                           |                                    |                                                 | 241                 | 304                                                        | 1                                       | 0                                                | 0                                      | 99                                | 61                                | 85                                       | 14                                                 |      |      |      |      |      |      |      |      |  |
| 10000+75.00 | 147                          | 73                                  | 41                                           |                                    |                                                 | 261                 | 329                                                        | -129                                    | 0                                                | 0                                      | 100                               | 62                                | 87                                       | 13                                                 |      |      |      |      |      |      |      |      |  |
| 10001+00.00 | 163                          | 75                                  | 50                                           |                                    |                                                 | 288                 | 363                                                        | -192                                    | 0                                                | 0                                      | 101                               | 62                                | 87                                       | 14                                                 |      |      |      |      |      |      |      |      |  |
| 10001+25.00 | 155                          | 78                                  | 46                                           |                                    |                                                 | 279                 | 352                                                        | -115                                    | 0                                                | 0                                      | 102                               | 67                                | 94                                       | 8                                                  |      |      |      |      |      |      |      |      |  |
| 10001+50.00 | 130                          | 78                                  | 37                                           |                                    |                                                 | 245                 | 309                                                        | 62                                      | 0                                                | 0                                      | 104                               | 73                                | 102                                      | 2                                                  |      |      |      |      |      |      |      |      |  |
| 10001+75.00 | 96                           | 82                                  | 36                                           |                                    |                                                 | 214                 | 270                                                        | 192                                     | 0                                                | 0                                      | 105                               | 71                                | 99                                       | 6                                                  |      |      |      |      |      |      |      |      |  |
| 10002+00.00 | 55                           | 53                                  | 34                                           |                                    |                                                 | 142                 | 179                                                        | 332                                     | 0                                                | 0                                      | 107                               | 69                                | 97                                       | 10                                                 |      |      |      |      |      |      |      |      |  |
| 10002+25.00 | 27                           | 23                                  | 29                                           |                                    |                                                 | 79                  | 100                                                        | 436                                     | 0                                                | 0                                      | 108                               | 70                                | 98                                       | 10                                                 |      |      |      |      |      |      |      |      |  |
| 10002+50.00 | 17                           | 31                                  | 26                                           |                                    |                                                 | 74                  | 93                                                         | 494                                     | 0                                                | 0                                      | 103                               | 69                                | 97                                       | 7                                                  |      |      |      |      |      |      |      |      |  |
| 10002+75.00 | 13                           | 38                                  | 21                                           |                                    |                                                 | 72                  | 91                                                         | 542                                     | 0                                                | 0                                      | 96                                | 71                                | 99                                       | -4                                                 |      |      |      |      |      |      |      |      |  |
| 10003+00.00 | 16                           | 34                                  | 24                                           |                                    |                                                 | 74                  | 93                                                         | 520                                     | 0                                                | 0                                      | 95                                | 73                                | 102                                      | -7                                                 |      |      |      |      |      |      |      |      |  |
| 10003+25.00 | 27                           | 23                                  | 31                                           |                                    |                                                 | 81                  | 102                                                        | 455                                     | 0                                                | 0                                      | 95                                | 73                                | 102                                      | -7                                                 |      |      |      |      |      |      |      |      |  |
| 10003+50.00 | 30                           | 21                                  | 31                                           |                                    |                                                 | 82                  | 103                                                        | 413                                     | 0                                                | 0                                      | 94                                | 71                                | 99                                       | -6                                                 |      |      |      |      |      |      |      |      |  |
| 10003+75.00 | 23                           | 27                                  | 28                                           |                                    |                                                 | 78                  | 98                                                         | 375                                     | 0                                                | 0                                      | 94                                | 69                                | 97                                       | -3                                                 |      |      |      |      |      |      |      |      |  |
| 10004+00.00 | 15                           | 40                                  | 20                                           |                                    |                                                 | 75                  | 95                                                         | 383                                     | 0                                                | 0                                      | 95                                | 65                                | 91                                       | 4                                                  |      |      |      |      |      |      |      |      |  |
| 10004+25.00 | 6                            | 59                                  | 10                                           |                                    |                                                 | 75                  | 95                                                         | 430                                     | 0                                                | 0                                      | 95                                | 61                                | 85                                       | 10                                                 |      |      |      |      |      |      |      |      |  |
| 10004+50.00 | 1                            | 0                                   | 5                                            |                                    |                                                 | 6                   | 8                                                          | 477                                     | 0                                                | 0                                      | 93                                | 59                                | 83                                       | 10                                                 |      |      |      |      |      |      |      |      |  |
| 10004+75.00 | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 537                                     | 0                                                | 0                                      | 92                                | 57                                | 80                                       | 12                                                 |      |      |      |      |      |      |      |      |  |
| 10005+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 624                                     | 0                                                | 0                                      | 93                                | 53                                | 74                                       | 19                                                 |      |      |      |      |      |      |      |      |  |
| 10005+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 720                                     | 0                                                | 0                                      | 93                                | 48                                | 67                                       | 26                                                 |      |      |      |      |      |      |      |      |  |
| 10005+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 794                                     | 0                                                | 0                                      | 92                                | 46                                | 64                                       | 28                                                 |      |      |      |      |      |      |      |      |  |
| 10005+75.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 817                                     | 0                                                | 0                                      | 90                                | 44                                | 62                                       | 28                                                 |      |      |      |      |      |      |      |      |  |
| 10006+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 823                                     | 0                                                | 0                                      | 87                                | 42                                | 59                                       | 28                                                 |      |      |      |      |      |      |      |      |  |
| 10006+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 827                                     | 0                                                | 0                                      | 85                                | 39                                | 55                                       | 30                                                 |      |      |      |      |      |      |      |      |  |
| 10006+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 844                                     | 0                                                | 0                                      | 82                                | 37                                | 52                                       | 30                                                 |      |      |      |      |      |      |      |      |  |
| 10006+75.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 889                                     | 0                                                | 0                                      | 80                                | 35                                | 49                                       | 31                                                 |      |      |      |      |      |      |      |      |  |
| 10007+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 986                                     | 0                                                | 0                                      | 79                                | 41                                | 57                                       | 22                                                 |      |      |      |      |      |      |      |      |  |
| 10007+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,036                                   | 0                                                | 0                                      | 79                                | 48                                | 67                                       | 12                                                 |      |      |      |      |      |      |      |      |  |
| 10007+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,130                                   | 0                                                | 0                                      | 99                                | 70                                | 98                                       | 1                                                  |      |      |      |      |      |      |      |      |  |
| 10007+75.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,166                                   | 0                                                | 0                                      | 108                               | 50                                | 70                                       | 38                                                 |      |      |      |      |      |      |      |      |  |
| 10008+00.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,545                                   | 0                                                | 0                                      | 81                                | 26                                | 36                                       | 45                                                 |      |      |      |      |      |      |      |      |  |
| 10008+25.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 600                                     | 0                                                | 0                                      | 38                                | 34                                | 48                                       | -10                                                |      |      |      |      |      |      |      |      |  |
| 10008+50.00 | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 497                                     | 0                                                | 0                                      | 35                                | 26                                | 36                                       | -1                                                 |      |      |      |      |      |      |      |      |  |
| 10008+75.00 | 15                           | 0                                   | 17                                           |                                    |                                                 | 32                  | 40                                                         | 186                                     | 0                                                | 0                                      | 59                                | 28                                | 39                                       | 20                                                 |      |      |      |      |      |      |      |      |  |
| 10009+00.00 | 108                          | 0                                   | 42                                           |                                    |                                                 | 150                 | 189                                                        | -161                                    | 0                                                | 0                                      | 58                                | 27                                | 38                                       | 20                                                 |      |      |      |      |      |      |      |      |  |
| 10009+25.00 | 278                          | 0                                   | 51                                           |                                    |                                                 | 329                 | 415                                                        | -410                                    | 0                                                | 0                                      | 55                                | 24                                | 34                                       | 21                                                 |      |      |      |      |      |      |      |      |  |
| 10009+50.00 |                              |                                     |                                              |                                    |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |
| Subtotals:  | 18,054                       | 1,298                               | 2,612                                        | 0                                  | 400                                             | 22,364              | 28,181                                                     | 2,961                                   | 0                                                | 0                                      | 6,982                             | 3,886                             | 5,440                                    | 1,542                                              |      |      |      |      |      |      |      |      |  |



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station             | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                     | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                     | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 10009+50.00         | 56                          | 0                                | 56                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10009+75.00         | 61                          | 0                                | 60                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10010+00.00         | 67                          | 2                                | 65                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10010+25.00         | 76                          | 5                                | 71                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10010+50.00         | 78                          | 4                                | 74                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10010+75.00         | 78                          | 2                                | 76                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10011+00.00         | 80                          | 1                                | 78                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10011+25.00         | 81                          | 1                                | 80                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10011+50.00         | 85                          | 1                                | 83                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10011+75.00         | 87                          | 2                                | 86                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10012+00.00         | 91                          | 1                                | 89                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10012+25.00         | 91                          | 1                                | 91                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10012+50.00         | 92                          | 0                                | 92                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10012+75.00         | 94                          | 0                                | 94                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10013+00.00         | 95                          | 0                                | 95                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10013+25.00         | 97                          | 0                                | 97                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10013+50.00         | 105                         | 3                                | 102                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10013+75.00         | 119                         | 12                               | 107                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10014+00.00         | 142                         | 29                               | 113                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10014+25.00         | 133                         | 20                               | 113                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10014+50.00         | 114                         | 2                                | 113                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10014+75.00         | 126                         | 7                                | 119                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10015+00.00         | 147                         | 20                               | 126                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10015+25.00         | 181                         | 45                               | 135                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10015+50.00         | 211                         | 63                               | 148                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10015+75.00         | 271                         | 106                              | 165                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10016+00.00         | 364                         | 182                              | 183                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10016+25.00         | 415                         | 219                              | 196                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10016+50.00         | 647                         | 247                              | 208                | 0                                 | 0                                | 192                        | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10016+75.00         | 822                         | 169                              | 210                | 0                                 | 0                                | 443                        | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10017+00.00         | 899                         | 102                              | 209                | 0                                 | 0                                | 588                        | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10017+25.00         | 1,639                       | 161                              | 215                | 0                                 | 0                                | 1,263                      | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10017+50.00         | 2,732                       | 1,589                            | 217                | 0                                 | 0                                | 926                        | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10017+75.00         | 3,069                       | 1,633                            | 185                | 0                                 | 0                                | 1,250                      | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10017+95.73         | 367                         | 84                               | 26                 | 0                                 | 0                                | 258                        | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10018+00.00         | 173                         | 133                              | 40                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10018+25.00         | 473                         | 388                              | 85                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10018+50.00         | 556                         | 556                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10018+75.00         | 615                         | 615                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10019+00.00         | 688                         | 688                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10019+25.00         | 720                         | 720                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10019+50.00         | 720                         | 720                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10019+75.00         | 630                         | 628                              | 0                  | 0                                 | 0                                | 2                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10020+00.00         | 405                         | 353                              | 0                  | 27                                | 0                                | 24                         | 0                     | 0                     | 12,000                                        | 12,404                |      |      |      |      |      |      |      |      |      |      |      |      |
| 10020+25.00         | 190                         | 140                              | 0                  | 27                                | 0                                | 23                         | 0                     | 0                     | 0                                             | 190                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10020+50.00         | 89                          | 89                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 89                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 10020+75.00         | 125                         | 125                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 125                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10021+00.00         | 104                         | 104                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 104                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10021+25.00         | 16                          | 16                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 16                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 10021+50.00         | 4                           | 4                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 4                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10021+75.00         | 19                          | 18                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 18                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 10022+00.00         | 226                         | 45                               | 181                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 45                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 10022+25.00         | 222                         | 27                               | 196                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 27                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 10022+50.00         | 204                         | 0                                | 204                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10022+75.00         | 206                         | 0                                | 206                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10023+00.00         | 201                         | 0                                | 201                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10023+25.00         | 203                         | 0                                | 203                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10023+50.00         | 219                         | 7                                | 211                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 7                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 10023+75.00         | 329                         | 112                              | 217                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 112                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10024+00.00         | 519                         | 310                              | 209                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 310                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 10024+25.00         |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| NthFrontage Totals: | 103,359                     | 54,355                           | 24,449             | 6,137                             | 156                              | 14,522                     | 3,899                 | 0                     | 12,700                                        | 87,714                |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station             | Fill                         |                                     |                                              |                                    |                                                 |                     | Checks (EW-102)                                            |                                         | Topsoil                                          |                                        |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|---------------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|---------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|--|
|                     | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |  |
|                     | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |  |
| 10009+50.00         | 486                          | 0                                   | 55                                           |                                    |                                                 | 541                 | 682                                                        | -682                                    | 0                                                | 0                                      | 56                                | 25                                | 35                                       | 21                                                 |      |      |      |      |      |      |      |  |
| 10009+75.00         | 770                          | 0                                   | 59                                           |                                    |                                                 | 829                 | 1,045                                                      | -1,045                                  | 0                                                | 0                                      | 60                                | 29                                | 41                                       | 19                                                 |      |      |      |      |      |      |      |  |
| 10010+00.00         | 1,117                        | 0                                   | 61                                           |                                    |                                                 | 1,178               | 1,484                                                      | -1,482                                  | 0                                                | 0                                      | 65                                | 34                                | 48                                       | 17                                                 |      |      |      |      |      |      |      |  |
| 10010+25.00         | 1,438                        | 0                                   | 65                                           |                                    |                                                 | 1,503               | 1,894                                                      | -1,889                                  | 0                                                | 0                                      | 71                                | 40                                | 56                                       | 15                                                 |      |      |      |      |      |      |      |  |
| 10010+50.00         | 1,659                        | 0                                   | 68                                           |                                    |                                                 | 1,727               | 2,176                                                      | -2,172                                  | 0                                                | 0                                      | 74                                | 43                                | 60                                       | 14                                                 |      |      |      |      |      |      |      |  |
| 10010+75.00         | 1,791                        | 0                                   | 71                                           |                                    |                                                 | 1,862               | 2,346                                                      | -2,344                                  | 0                                                | 0                                      | 76                                | 45                                | 63                                       | 13                                                 |      |      |      |      |      |      |      |  |
| 10011+00.00         | 1,882                        | 0                                   | 75                                           |                                    |                                                 | 1,957               | 2,466                                                      | -2,465                                  | 0                                                | 0                                      | 78                                | 47                                | 66                                       | 12                                                 |      |      |      |      |      |      |      |  |
| 10011+25.00         | 1,974                        | 0                                   | 77                                           |                                    |                                                 | 2,051               | 2,584                                                      | -2,583                                  | 0                                                | 0                                      | 80                                | 49                                | 69                                       | 11                                                 |      |      |      |      |      |      |      |  |
| 10011+50.00         | 2,098                        | 0                                   | 80                                           |                                    |                                                 | 2,178               | 2,744                                                      | -2,743                                  | 0                                                | 0                                      | 83                                | 52                                | 73                                       | 10                                                 |      |      |      |      |      |      |      |  |
| 10011+75.00         | 2,325                        | 0                                   | 82                                           |                                    |                                                 | 2,407               | 3,033                                                      | -3,031                                  | 0                                                | 0                                      | 86                                | 55                                | 77                                       | 9                                                  |      |      |      |      |      |      |      |  |
| 10012+00.00         | 2,636                        | 0                                   | 86                                           |                                    |                                                 | 2,722               | 3,430                                                      | -3,429                                  | 0                                                | 0                                      | 89                                | 58                                | 81                                       | 8                                                  |      |      |      |      |      |      |      |  |
| 10012+25.00         | 2,908                        | 0                                   | 88                                           |                                    |                                                 | 2,996               | 3,775                                                      | -3,774                                  | 0                                                | 0                                      | 91                                | 60                                | 84                                       | 7                                                  |      |      |      |      |      |      |      |  |
| 10012+50.00         | 3,117                        | 0                                   | 90                                           |                                    |                                                 | 3,207               | 4,041                                                      | -4,041                                  | 0                                                | 0                                      | 92                                | 62                                | 87                                       | 5                                                  |      |      |      |      |      |      |      |  |
| 10012+75.00         | 3,238                        | 0                                   | 93                                           |                                    |                                                 | 3,331               | 4,197                                                      | -4,197                                  | 0                                                | 0                                      | 94                                | 63                                | 88                                       | 6                                                  |      |      |      |      |      |      |      |  |
| 10013+00.00         | 3,195                        | 0                                   | 94                                           |                                    |                                                 | 3,289               | 4,144                                                      | -4,144                                  | 0                                                | 0                                      | 95                                | 64                                | 90                                       | 6                                                  |      |      |      |      |      |      |      |  |
| 10013+25.00         | 3,088                        | 0                                   | 96                                           |                                    |                                                 | 3,184               | 4,012                                                      | -4,012                                  | 0                                                | 0                                      | 97                                | 66                                | 92                                       | 5                                                  |      |      |      |      |      |      |      |  |
| 10013+50.00         | 2,959                        | 0                                   | 98                                           |                                    |                                                 | 3,057               | 3,852                                                      | -3,849                                  | 0                                                | 0                                      | 102                               | 70                                | 98                                       | 4                                                  |      |      |      |      |      |      |      |  |
| 10013+75.00         | 2,810                        | 0                                   | 99                                           |                                    |                                                 | 2,909               | 3,665                                                      | -3,653                                  | 0                                                | 0                                      | 107                               | 76                                | 106                                      | 1                                                  |      |      |      |      |      |      |      |  |
| 10014+00.00         | 2,751                        | 0                                   | 100                                          |                                    |                                                 | 2,851               | 3,592                                                      | -3,563                                  | 0                                                | 0                                      | 113                               | 82                                | 115                                      | -2                                                 |      |      |      |      |      |      |      |  |
| 10014+25.00         | 2,723                        | 0                                   | 105                                          |                                    |                                                 | 2,828               | 3,563                                                      | -3,543                                  | 0                                                | 0                                      | 113                               | 82                                | 115                                      | -2                                                 |      |      |      |      |      |      |      |  |
| 10014+50.00         | 2,790                        | 0                                   | 110                                          |                                    |                                                 | 2,900               | 3,654                                                      | -3,652                                  | 0                                                | 0                                      | 113                               | 82                                | 115                                      | -2                                                 |      |      |      |      |      |      |      |  |
| 10014+75.00         | 3,088                        | 0                                   | 111                                          |                                    |                                                 | 3,199               | 4,031                                                      | -4,024                                  | 0                                                | 0                                      | 119                               | 88                                | 123                                      | -4                                                 |      |      |      |      |      |      |      |  |
| 10015+00.00         | 3,619                        | 0                                   | 115                                          |                                    |                                                 | 3,734               | 4,705                                                      | -4,685                                  | 0                                                | 0                                      | 126                               | 95                                | 133                                      | -7                                                 |      |      |      |      |      |      |      |  |
| 10015+25.00         | 4,481                        | 0                                   | 120                                          |                                    |                                                 | 4,601               | 5,797                                                      | -5,752                                  | 0                                                | 0                                      | 135                               | 104                               | 146                                      | -11                                                |      |      |      |      |      |      |      |  |
| 10015+50.00         | 4,550                        | 0                                   | 128                                          |                                    |                                                 | 4,678               | 5,894                                                      | -5,831                                  | 0                                                | 0                                      | 148                               | 117                               | 164                                      | -16                                                |      |      |      |      |      |      |      |  |
| 10015+75.00         | 3,794                        | 0                                   | 139                                          |                                    |                                                 | 3,933               | 4,956                                                      | -4,850                                  | 0                                                | 0                                      | 165                               | 125                               | 175                                      | -10                                                |      |      |      |      |      |      |      |  |
| 10016+00.00         | 3,085                        | 0                                   | 150                                          |                                    |                                                 | 3,235               | 4,076                                                      | -3,894                                  | 0                                                | 0                                      | 183                               | 132                               | 185                                      | -2                                                 |      |      |      |      |      |      |      |  |
| 10016+25.00         | 2,287                        | 0                                   | 161                                          |                                    |                                                 | 2,448               | 3,085                                                      | -2,866                                  | 0                                                | 0                                      | 196                               | 155                               | 217                                      | -21                                                |      |      |      |      |      |      |      |  |
| 10016+50.00         | 1,577                        | 0                                   | 144                                          |                                    |                                                 | 1,721               | 2,169                                                      | -1,730                                  | 0                                                | 0                                      | 208                               | 177                               | 248                                      | -40                                                |      |      |      |      |      |      |      |  |
| 10016+75.00         | 1,040                        | 0                                   | 121                                          |                                    |                                                 | 1,161               | 1,463                                                      | -851                                    | 0                                                | 0                                      | 210                               | 179                               | 251                                      | -41                                                |      |      |      |      |      |      |      |  |
| 10017+00.00         | 729                          | 0                                   | 117                                          |                                    |                                                 | 846                 | 1,066                                                      | -376                                    | 0                                                | 0                                      | 209                               | 178                               | 249                                      | -40                                                |      |      |      |      |      |      |      |  |
| 10017+25.00         | 550                          | 0                                   | 101                                          |                                    |                                                 | 651                 | 820                                                        | 604                                     | 0                                                | 0                                      | 215                               | 175                               | 245                                      | -30                                                |      |      |      |      |      |      |      |  |
| 10017+50.00         | 439                          | 0                                   | 81                                           |                                    |                                                 | 520                 | 655                                                        | 1,860                                   | 0                                                | 0                                      | 217                               | 173                               | 242                                      | -25                                                |      |      |      |      |      |      |      |  |
| 10017+75.00         | 267                          | 0                                   | 57                                           |                                    |                                                 | 324                 | 408                                                        | 2,475                                   | 0                                                | 0                                      | 185                               | 149                               | 209                                      | -24                                                |      |      |      |      |      |      |      |  |
| 10017+95.73         | 38                           | 0                                   | 10                                           |                                    |                                                 | 48                  | 61                                                         | 282                                     | 0                                                | 0                                      | 26                                | 20                                | 28                                       | -2                                                 |      |      |      |      |      |      |      |  |
| 10018+00.00         | 104                          | 0                                   | 31                                           |                                    |                                                 | 135                 | 170                                                        | -37                                     | 0                                                | 0                                      | 40                                | 43                                | 60                                       | -20                                                |      |      |      |      |      |      |      |  |
| 10018+25.00         | 4                            | 0                                   | 85                                           |                                    |                                                 | 89                  | 112                                                        | 276                                     | 0                                                | 0                                      | 85                                | 38                                | 53                                       | 32                                                 |      |      |      |      |      |      |      |  |
| 10018+50.00         | 1                            | 0                                   | 0                                            |                                    |                                                 | 1                   | 1                                                          | 555                                     | 0                                                | 0                                      | 0                                 | 39                                | 55                                       | -55                                                |      |      |      |      |      |      |      |  |
| 10018+75.00         | 0                            | 0                                   | 0                                            |                                    |                                                 | 0                   | 0                                                          | 615                                     | 0                                                | 0                                      | 0                                 | 40                                | 56                                       | -56                                                |      |      |      |      |      |      |      |  |
| 10019+00.00         | 0                            | 0                                   | 0                                            |                                    |                                                 | 0                   | 0                                                          | 688                                     | 0                                                | 0                                      | 0                                 | 42                                | 59                                       | -59                                                |      |      |      |      |      |      |      |  |
| 10019+25.00         | 1                            | 0                                   | 0                                            |                                    |                                                 | 1                   | 1                                                          | 719                                     | 0                                                | 0                                      | 0                                 | 44                                | 62                                       | -62                                                |      |      |      |      |      |      |      |  |
| 10019+50.00         | 1                            | 0                                   | 0                                            |                                    |                                                 | 1                   | 1                                                          | 719                                     | 0                                                | 0                                      | 0                                 | 42                                | 59                                       | -59                                                |      |      |      |      |      |      |      |  |
| 10019+75.00         | 10                           | 0                                   | 0                                            |                                    |                                                 | 10                  | 13                                                         | 617                                     | 0                                                | 0                                      | 0                                 | 40                                | 56                                       | -56                                                |      |      |      |      |      |      |      |  |
| 10020+00.00         | 35                           | 0                                   | 0                                            |                                    |                                                 | 35                  | 44                                                         | 12,360                                  | 0                                                | 0                                      | 0                                 | 37                                | 52                                       | -52                                                |      |      |      |      |      |      |      |  |
| 10020+25.00         | 71                           | 0                                   | 0                                            |                                    |                                                 | 71                  | 90                                                         | 101                                     | 0                                                | 0                                      | 0                                 | 38                                | 53                                       | -53                                                |      |      |      |      |      |      |      |  |
| 10020+50.00         | 108                          | 0                                   | 0                                            |                                    |                                                 | 108                 | 136                                                        | -47                                     | 0                                                | 0                                      | 0                                 | 41                                | 57                                       | -57                                                |      |      |      |      |      |      |      |  |
| 10020+75.00         | 152                          | 0                                   | 0                                            |                                    |                                                 | 152                 | 192                                                        | -67                                     | 0                                                | 0                                      | 0                                 | 46                                | 64                                       | -64                                                |      |      |      |      |      |      |      |  |
| 10021+00.00         | 199                          | 0                                   | 0                                            |                                    |                                                 | 199                 | 251                                                        | -147                                    | 0                                                | 0                                      | 0                                 | 45                                | 63                                       | -63                                                |      |      |      |      |      |      |      |  |
| 10021+25.00         | 487                          | 0                                   | 0                                            |                                    |                                                 | 487                 | 614                                                        | -598                                    | 0                                                | 0                                      | 0                                 | 46                                | 64                                       | -64                                                |      |      |      |      |      |      |      |  |
| 10021+50.00         | 1,132                        | 0                                   | 0                                            |                                    |                                                 | 1,132               | 1,426                                                      | -1,422                                  | 0                                                | 0                                      | 0                                 | 56                                | 78                                       | -78                                                |      |      |      |      |      |      |      |  |
| 10021+75.00         | 1,729                        | 0                                   | 0                                            |                                    |                                                 | 1,729               | 2,179                                                      | -2,161                                  | 0                                                | 0                                      | 0                                 | 71                                | 99                                       | -99                                                |      |      |      |      |      |      |      |  |
| 10022+00.00         | 2,139                        | 0                                   | 157                                          |                                    |                                                 | 2,296               | 2,893                                                      | -2,848                                  | 0                                                | 0                                      | 181                               | 90                                | 126                                      | 55                                                 |      |      |      |      |      |      |      |  |
| 10022+25.00         | 2,325                        | 0                                   | 183                                          |                                    |                                                 | 2,508               | 3,160                                                      | -3,133                                  | 0                                                | 0                                      | 196                               | 99                                | 139                                      | 57                                                 |      |      |      |      |      |      |      |  |
| 10022+50.00         | 2,165                        | 0                                   | 204                                          |                                    |                                                 | 2,369               | 2,985                                                      | -2,985                                  | 0                                                | 0                                      | 204                               | 105                               | 147                                      | 57                                                 |      |      |      |      |      |      |      |  |
| 10022+75.00         | 1,808                        | 0                                   | 204                                          |                                    |                                                 | 2,012               | 2,535                                                      | -2,535                                  | 0                                                | 0                                      | 206                               | 104                               | 146                                      | 60                                                 |      |      |      |      |      |      |      |  |
| 10023+00.00         | 1,529                        | 0                                   | 198                                          |                                    |                                                 | 1,727               | 2,176                                                      | -2,176                                  | 0                                                | 0                                      | 201                               | 86                                | 120                                      | 81                                                 |      |      |      |      |      |      |      |  |
| 10023+25.00         | 1,246                        | 0                                   | 201                                          |                                    |                                                 | 1,447               | 1,823                                                      | -1,823                                  | 0                                                | 0                                      | 203                               | 67                                | 94                                       | 109                                                |      |      |      |      |      |      |      |  |
| 10023+50.00         | 849                          | 0                                   | 188                                          |                                    |                                                 | 1,037               | 1,307                                                      | -1,300                                  | 0                                                | 0                                      | 211                               | 63                                | 88                                       | 123                                                |      |      |      |      |      |      |      |  |
| 10023+75.00         | 539                          | 0                                   | 154                                          |                                    |                                                 | 693                 | 873                                                        | -761                                    | 0                                                | 0                                      | 217                               | 65                                | 91                                       | 126                                                |      |      |      |      |      |      |      |  |
| 10024+00.00         | 300                          | 0                                   | 117                                          |                                    |                                                 | 417                 | 526                                                        | -216                                    | 0                                                | 0                                      | 209                               | 66                                | 92                                       | 117                                                |      |      |      |      |      |      |      |  |
| 10024+25.00         |                              |                                     |                                              |                                    |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| NthFrontage Totals: | 178,079                      | 1,989                               | 14,086                                       | 18                                 | 2,200                                           | 196,372             | 247,436                                                    | -159,722                                | 0                                                | 0                                      | 24,449                            | 14,052                            | 19,673                                   | 4,777                                              |      |      |      |      |      |      |      |  |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station        | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp A         |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 1970+50.00     | 1,750                       | 656                              | 232                | 0                                 | 0                                | 861                        | 0                     | 0                     |                                               | 1,517                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1970+75.00     | 3,312                       | 1,475                            | 328                | 0                                 | 0                                | 1,292                      | 216                   | 0                     |                                               | 2,767                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1971+00.00     | 4,177                       | 2,074                            | 387                | 0                                 | 0                                | 1,346                      | 370                   | 0                     |                                               | 3,420                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1971+25.00     | 4,144                       | 2,099                            | 391                | 0                                 | 0                                | 1,399                      | 255                   | 0                     |                                               | 3,498                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1971+50.00     | 4,085                       | 2,098                            | 395                | 0                                 | 0                                | 1,432                      | 160                   | 0                     |                                               | 3,530                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1971+75.00     | 3,964                       | 2,027                            | 400                | 0                                 | 0                                | 1,452                      | 85                    | 0                     |                                               | 3,479                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1972+00.00     | 3,810                       | 1,895                            | 405                | 0                                 | 0                                | 1,478                      | 32                    | 0                     |                                               | 3,373                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1972+25.00     | 3,680                       | 1,787                            | 408                | 0                                 | 0                                | 1,476                      | 8                     | 0                     |                                               | 3,263                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1972+50.00     | 3,585                       | 1,737                            | 409                | 0                                 | 0                                | 1,436                      | 3                     | 0                     |                                               | 3,173                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1972+75.00     | 3,539                       | 1,761                            | 409                | 0                                 | 0                                | 1,369                      | 0                     | 0                     |                                               | 3,130                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1973+00.00     | 3,507                       | 1,818                            | 406                | 0                                 | 0                                | 1,282                      | 0                     | 0                     |                                               | 3,100                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1973+25.00     | 3,397                       | 1,807                            | 401                | 0                                 | 0                                | 1,189                      | 0                     | 0                     |                                               | 2,996                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1973+50.00     | 3,113                       | 1,619                            | 393                | 0                                 | 0                                | 1,101                      | 0                     | 0                     |                                               | 2,720                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1973+75.00     | 2,775                       | 1,330                            | 385                | 0                                 | 0                                | 1,060                      | 0                     | 0                     |                                               | 2,390                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1974+00.00     | 2,495                       | 1,244                            | 314                | 0                                 | 0                                | 937                        | 0                     | 0                     |                                               | 2,181                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1974+25.00     | 2,284                       | 1,266                            | 243                | 0                                 | 0                                | 775                        | 0                     | 0                     |                                               | 2,041                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1974+50.00     | 2,104                       | 1,165                            | 234                | 0                                 | 0                                | 706                        | 0                     | 0                     |                                               | 1,871                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1974+75.00     | 1,886                       | 1,023                            | 225                | 0                                 | 0                                | 637                        | 0                     | 0                     |                                               | 1,660                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1975+00.00     | 1,693                       | 922                              | 216                | 0                                 | 0                                | 555                        | 0                     | 0                     |                                               | 1,477                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1975+25.00     | 1,540                       | 853                              | 207                | 0                                 | 0                                | 480                        | 0                     | 0                     |                                               | 1,333                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1975+50.00     | 1,370                       | 760                              | 198                | 0                                 | 0                                | 412                        | 0                     | 0                     |                                               | 1,172                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 1975+75.00     | 1,181                       | 703                              | 188                | 0                                 | 0                                | 290                        | 0                     | 0                     |                                               | 993                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1976+00.00     | 967                         | 553                              | 179                | 0                                 | 0                                | 234                        | 0                     | 0                     |                                               | 787                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1976+25.00     | 739                         | 340                              | 169                | 0                                 | 0                                | 230                        | 0                     | 0                     |                                               | 570                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1976+50.00     | 530                         | 207                              | 159                | 0                                 | 0                                | 164                        | 0                     | 0                     |                                               | 371                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1976+75.00     | 346                         | 107                              | 153                | 0                                 | 0                                | 86                         | 0                     | 0                     |                                               | 193                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1977+00.00     | 208                         | 40                               | 147                | 0                                 | 0                                | 21                         | 0                     | 0                     |                                               | 61                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1977+25.00     | 145                         | 5                                | 140                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 5                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 1977+50.00     | 133                         | 0                                | 133                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 1977+75.00     | 157                         | 0                                | 157                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 1978+00.00     | 180                         | 0                                | 180                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 1978+25.00     | 196                         | 18                               | 177                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 18                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1978+50.00     | 268                         | 92                               | 176                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 92                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 1978+75.00     | 357                         | 185                              | 172                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 185                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1979+00.00     | 447                         | 275                              | 170                | 0                                 | 0                                | 2                          | 0                     | 0                     |                                               | 277                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1979+25.00     | 531                         | 355                              | 168                | 0                                 | 0                                | 8                          | 0                     | 0                     |                                               | 363                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1979+50.00     | 557                         | 375                              | 163                | 0                                 | 0                                | 19                         | 0                     | 0                     |                                               | 394                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1979+75.00     | 529                         | 319                              | 159                | 0                                 | 0                                | 51                         | 0                     | 0                     |                                               | 370                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1980+00.00     | 461                         | 236                              | 155                | 0                                 | 0                                | 69                         | 0                     | 0                     |                                               | 305                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1980+25.00     | 371                         | 152                              | 152                | 0                                 | 0                                | 67                         | 0                     | 0                     |                                               | 219                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1980+50.00     | 299                         | 76                               | 149                | 0                                 | 0                                | 74                         | 0                     | 0                     |                                               | 150                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1980+75.00     | 272                         | 45                               | 146                | 0                                 | 0                                | 81                         | 0                     | 0                     |                                               | 126                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1981+00.00     | 282                         | 52                               | 144                | 0                                 | 0                                | 87                         | 0                     | 0                     |                                               | 139                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1981+25.00     | 314                         | 80                               | 142                | 0                                 | 0                                | 92                         | 0                     | 0                     |                                               | 172                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1981+50.00     | 357                         | 121                              | 140                | 0                                 | 0                                | 96                         | 0                     | 0                     |                                               | 217                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1981+75.00     | 397                         | 168                              | 138                | 0                                 | 0                                | 91                         | 0                     | 0                     |                                               | 259                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1982+00.00     | 433                         | 224                              | 137                | 0                                 | 0                                | 72                         | 0                     | 0                     |                                               | 296                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1982+25.00     | 460                         | 277                              | 136                | 0                                 | 0                                | 48                         | 0                     | 0                     |                                               | 325                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1982+50.00     | 468                         | 307                              | 136                | 0                                 | 0                                | 25                         | 0                     | 0                     |                                               | 332                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1982+75.00     | 451                         | 298                              | 135                | 0                                 | 0                                | 19                         | 0                     | 0                     |                                               | 317                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1983+00.00     | 172                         | 110                              | 54                 | 0                                 | 0                                | 8                          | 0                     | 0                     |                                               | 118                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1983+10.00     |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp A Totals: | 74,418                      | 37,136                           | 11,540             | 0                                 | 0                                | 24,609                     | 1,129                 | 0                     | 0                                             | 61,745                |      |      |      |      |      |      |      |      |      |      |      |      |



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station        | Fill                         |                                     |                                              |                                    |                                                 |                                                 | Checks (EW-102)                                            |                                         | Topsoil                                          |                                        |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|----------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|--|
|                | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |  |
|                |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |  |
|                | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |  |
| Ramp A         |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| 1970+50.00     | 657                          | 0                                   | 112                                          |                                    |                                                 | 769                                             | 969                                                        | 548                                     | 501                                              | 702                                    | 232                               | 118                               | 165                                      | 67                                                 |      |      |      |      |      |      |      |  |
| 1970+75.00     | 645                          | 0                                   | 111                                          |                                    |                                                 | 756                                             | 953                                                        | 1,814                                   | 486                                              | 687                                    | 328                               | 183                               | 256                                      | 72                                                 |      |      |      |      |      |      |      |  |
| 1971+00.00     | 647                          | 0                                   | 111                                          |                                    |                                                 | 758                                             | 955                                                        | 2,465                                   | 488                                              | 688                                    | 387                               | 222                               | 311                                      | 76                                                 |      |      |      |      |      |      |      |  |
| 1971+25.00     | 645                          | 0                                   | 111                                          |                                    |                                                 | 756                                             | 953                                                        | 2,545                                   | 485                                              | 685                                    | 391                               | 225                               | 315                                      | 76                                                 |      |      |      |      |      |      |      |  |
| 1971+50.00     | 638                          | 0                                   | 112                                          |                                    |                                                 | 750                                             | 945                                                        | 2,585                                   | 478                                              | 678                                    | 395                               | 228                               | 319                                      | 76                                                 |      |      |      |      |      |      |      |  |
| 1971+75.00     | 622                          | 0                                   | 111                                          |                                    |                                                 | 733                                             | 924                                                        | 2,555                                   | 457                                              | 658                                    | 400                               | 231                               | 323                                      | 77                                                 |      |      |      |      |      |      |      |  |
| 1972+00.00     | 584                          | 0                                   | 108                                          |                                    |                                                 | 692                                             | 872                                                        | 2,501                                   | 404                                              | 605                                    | 405                               | 235                               | 329                                      | 76                                                 |      |      |      |      |      |      |      |  |
| 1972+25.00     | 528                          | 0                                   | 105                                          |                                    |                                                 | 633                                             | 798                                                        | 2,465                                   | 348                                              | 544                                    | 408                               | 238                               | 333                                      | 75                                                 |      |      |      |      |      |      |      |  |
| 1972+50.00     | 478                          | 0                                   | 101                                          |                                    |                                                 | 579                                             | 730                                                        | 2,443                                   | 296                                              | 490                                    | 409                               | 240                               | 336                                      | 73                                                 |      |      |      |      |      |      |      |  |
| 1972+75.00     | 443                          | 0                                   | 98                                           |                                    |                                                 | 541                                             | 682                                                        | 2,448                                   | 249                                              | 442                                    | 409                               | 241                               | 337                                      | 72                                                 |      |      |      |      |      |      |      |  |
| 1973+00.00     | 437                          | 0                                   | 95                                           |                                    |                                                 | 532                                             | 670                                                        | 2,430                                   | 237                                              | 431                                    | 406                               | 240                               | 336                                      | 70                                                 |      |      |      |      |      |      |      |  |
| 1973+25.00     | 449                          | 0                                   | 95                                           |                                    |                                                 | 544                                             | 686                                                        | 2,311                                   | 252                                              | 445                                    | 401                               | 237                               | 332                                      | 69                                                 |      |      |      |      |      |      |      |  |
| 1973+50.00     | 461                          | 0                                   | 97                                           |                                    |                                                 | 558                                             | 703                                                        | 2,017                                   | 271                                              | 464                                    | 393                               | 231                               | 323                                      | 70                                                 |      |      |      |      |      |      |      |  |
| 1973+75.00     | 533                          | 0                                   | 115                                          |                                    |                                                 | 648                                             | 817                                                        | 1,574                                   | 398                                              | 586                                    | 385                               | 226                               | 316                                      | 69                                                 |      |      |      |      |      |      |      |  |
| 1974+00.00     | 661                          | 0                                   | 124                                          |                                    |                                                 | 785                                             | 989                                                        | 1,192                                   | 335                                              | 770                                    | 314                               | 220                               | 308                                      | 6                                                  |      |      |      |      |      |      |      |  |
| 1974+25.00     | 824                          | 0                                   | 116                                          |                                    |                                                 | 940                                             | 1,184                                                      | 857                                     | 335                                              | 964                                    | 243                               | 213                               | 298                                      | -55                                                |      |      |      |      |      |      |      |  |
| 1974+50.00     | 1,012                        | 0                                   | 114                                          |                                    |                                                 | 1,126                                           | 1,419                                                      | 452                                     | 335                                              | 1,198                                  | 234                               | 204                               | 286                                      | -52                                                |      |      |      |      |      |      |      |  |
| 1974+75.00     | 1,193                        | 0                                   | 113                                          |                                    |                                                 | 1,306                                           | 1,646                                                      | 15                                      | 776                                              | 1,426                                  | 225                               | 195                               | 273                                      | -48                                                |      |      |      |      |      |      |      |  |
| 1975+00.00     | 1,373                        | 0                                   | 111                                          |                                    |                                                 | 1,484                                           | 1,870                                                      | -393                                    | 1,216                                            | 1,651                                  | 216                               | 186                               | 260                                      | -44                                                |      |      |      |      |      |      |      |  |
| 1975+25.00     | 1,587                        | 0                                   | 110                                          |                                    |                                                 | 1,697                                           | 2,138                                                      | -805                                    | 1,216                                            | 1,918                                  | 207                               | 177                               | 248                                      | -41                                                |      |      |      |      |      |      |      |  |
| 1975+50.00     | 1,844                        | 0                                   | 109                                          |                                    |                                                 | 1,953                                           | 2,461                                                      | -1,289                                  | 1,216                                            | 2,242                                  | 198                               | 167                               | 234                                      | -36                                                |      |      |      |      |      |      |      |  |
| 1975+75.00     | 2,125                        | 0                                   | 107                                          |                                    |                                                 | 2,232                                           | 2,812                                                      | -1,819                                  | 1,216                                            | 2,592                                  | 188                               | 157                               | 220                                      | -32                                                |      |      |      |      |      |      |      |  |
| 1976+00.00     | 2,418                        | 0                                   | 108                                          |                                    |                                                 | 2,526                                           | 3,183                                                      | -2,396                                  | 1,216                                            | 2,964                                  | 179                               | 146                               | 204                                      | -25                                                |      |      |      |      |      |      |      |  |
| 1976+25.00     | 2,697                        | 0                                   | 107                                          |                                    |                                                 | 2,804                                           | 3,533                                                      | -2,963                                  | 1,216                                            | 3,313                                  | 169                               | 135                               | 189                                      | -20                                                |      |      |      |      |      |      |      |  |
| 1976+50.00     | 2,945                        | 0                                   | 106                                          |                                    |                                                 | 3,051                                           | 3,844                                                      | -3,473                                  | 1,216                                            | 3,625                                  | 159                               | 125                               | 175                                      | -16                                                |      |      |      |      |      |      |      |  |
| 1976+75.00     | 3,244                        | 0                                   | 110                                          |                                    |                                                 | 3,354                                           | 4,226                                                      | -4,033                                  | 1,216                                            | 4,006                                  | 153                               | 119                               | 167                                      | -14                                                |      |      |      |      |      |      |      |  |
| 1977+00.00     | 3,380                        | 0                                   | 113                                          |                                    |                                                 | 3,493                                           | 4,401                                                      | -4,340                                  | 1,216                                            | 4,182                                  | 147                               | 113                               | 158                                      | -11                                                |      |      |      |      |      |      |      |  |
| 1977+25.00     | 3,280                        | 0                                   | 125                                          |                                    |                                                 | 3,405                                           | 4,290                                                      | -4,285                                  | 1,618                                            | 4,056                                  | 140                               | 106                               | 148                                      | -9                                                 |      |      |      |      |      |      |      |  |
| 1977+50.00     | 3,048                        | 0                                   | 133                                          |                                    |                                                 | 3,181                                           | 4,008                                                      | -4,008                                  | 2,019                                            | 3,760                                  | 133                               | 99                                | 139                                      | -6                                                 |      |      |      |      |      |      |      |  |
| 1977+75.00     | 2,562                        | 0                                   | 157                                          |                                    |                                                 | 2,719                                           | 3,426                                                      | -3,426                                  | 2,019                                            | 3,179                                  | 157                               | 92                                | 129                                      | 28                                                 |      |      |      |      |      |      |      |  |
| 1978+00.00     | 1,955                        | 0                                   | 180                                          |                                    |                                                 | 2,135                                           | 2,690                                                      | -2,690                                  | 2,019                                            | 2,443                                  | 180                               | 86                                | 120                                      | 60                                                 |      |      |      |      |      |      |      |  |
| 1978+25.00     | 1,460                        | 0                                   | 161                                          |                                    |                                                 | 1,621                                           | 2,043                                                      | -2,025                                  | 1,607                                            | 1,794                                  | 177                               | 84                                | 118                                      | 59                                                 |      |      |      |      |      |      |      |  |
| 1978+50.00     | 1,172                        | 0                                   | 137                                          |                                    |                                                 | 1,309                                           | 1,649                                                      | -1,557                                  | 1,213                                            | 1,401                                  | 176                               | 83                                | 116                                      | 60                                                 |      |      |      |      |      |      |      |  |
| 1978+75.00     | 991                          | 0                                   | 124                                          |                                    |                                                 | 1,115                                           | 1,405                                                      | -1,220                                  | 969                                              | 1,157                                  | 172                               | 80                                | 112                                      | 60                                                 |      |      |      |      |      |      |      |  |
| 1979+00.00     | 825                          | 0                                   | 115                                          |                                    |                                                 | 940                                             | 1,184                                                      | -907                                    | 748                                              | 936                                    | 170                               | 79                                | 111                                      | 59                                                 |      |      |      |      |      |      |      |  |
| 1979+25.00     | 697                          | 0                                   | 108                                          |                                    |                                                 | 805                                             | 1,014                                                      | -651                                    | 578                                              | 766                                    | 168                               | 78                                | 109                                      | 59                                                 |      |      |      |      |      |      |      |  |
| 1979+50.00     | 628                          | 0                                   | 102                                          |                                    |                                                 | 730                                             | 920                                                        | -526                                    | 484                                              | 672                                    | 163                               | 75                                | 105                                      | 58                                                 |      |      |      |      |      |      |      |  |
| 1979+75.00     | 625                          | 0                                   | 100                                          |                                    |                                                 | 725                                             | 914                                                        | -544                                    | 488                                              | 667                                    | 159                               | 72                                | 101                                      | 58                                                 |      |      |      |      |      |      |      |  |
| 1980+00.00     | 678                          | 0                                   | 102                                          |                                    |                                                 | 780                                             | 983                                                        | -678                                    | 387                                              | 735                                    | 155                               | 70                                | 98                                       | 57                                                 |      |      |      |      |      |      |      |  |
| 1980+25.00     | 763                          | 0                                   | 105                                          |                                    |                                                 | 868                                             | 1,094                                                      | -875                                    | 387                                              | 845                                    | 152                               | 67                                | 94                                       | 58                                                 |      |      |      |      |      |      |      |  |
| 1980+50.00     | 847                          | 0                                   | 107                                          |                                    |                                                 | 954                                             | 1,202                                                      | -1,052                                  | 387                                              | 954                                    | 149                               | 65                                | 91                                       | 58                                                 |      |      |      |      |      |      |      |  |
| 1980+75.00     | 827                          | 0                                   | 106                                          |                                    |                                                 | 933                                             | 1,176                                                      | -1,050                                  | 387                                              | 927                                    | 146                               | 63                                | 88                                       | 58                                                 |      |      |      |      |      |      |      |  |
| 1981+00.00     | 732                          | 0                                   | 102                                          |                                    |                                                 | 834                                             | 1,051                                                      | -912                                    | 387                                              | 803                                    | 144                               | 62                                | 87                                       | 57                                                 |      |      |      |      |      |      |      |  |
| 1981+25.00     | 664                          | 0                                   | 97                                           |                                    |                                                 | 761                                             | 959                                                        | -787                                    | 387                                              | 711                                    | 142                               | 61                                | 85                                       | 57                                                 |      |      |      |      |      |      |      |  |
| 1981+50.00     | 612                          | 0                                   | 92                                           |                                    |                                                 | 704                                             | 887                                                        | -670                                    | 471                                              | 639                                    | 140                               | 60                                | 84                                       | 56                                                 |      |      |      |      |      |      |      |  |
| 1981+75.00     | 573                          | 0                                   | 87                                           |                                    |                                                 | 660                                             | 832                                                        | -573                                    | 416                                              | 583                                    | 138                               | 60                                | 84                                       | 54                                                 |      |      |      |      |      |      |      |  |
| 1982+00.00     | 555                          | 0                                   | 83                                           |                                    |                                                 | 638                                             | 804                                                        | -508                                    | 388                                              | 556                                    | 137                               | 60                                | 84                                       | 53                                                 |      |      |      |      |      |      |      |  |
| 1982+25.00     | 582                          | 0                                   | 79                                           |                                    |                                                 | 661                                             | 833                                                        | -508                                    | 457                                              | 611                                    | 136                               | 60                                | 84                                       | 52                                                 |      |      |      |      |      |      |      |  |
| 1982+50.00     | 647                          | 0                                   | 79                                           |                                    |                                                 | 726                                             | 915                                                        | -583                                    | 435                                              | 719                                    | 136                               | 61                                | 85                                       | 51                                                 |      |      |      |      |      |      |      |  |
| 1982+75.00     | 738                          | 0                                   | 81                                           |                                    |                                                 | 819                                             | 1,032                                                      | -715                                    | 435                                              | 835                                    | 135                               | 61                                | 85                                       | 50                                                 |      |      |      |      |      |      |      |  |
| 1983+00.00     | 329                          | 0                                   | 33                                           |                                    |                                                 | 362                                             | 456                                                        | -338                                    | 0                                                | 0                                      | 54                                | 25                                | 35                                       | 19                                                 |      |      |      |      |      |      |      |  |
| 1983+10.00     |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| Ramp A Totals: | 58,860                       | 0                                   | 5,525                                        | 0                                  | 0                                               | 64,385                                          | 81,127                                                     | -19,382                                 | 36,758                                           | 68,700                                 | 11,540                            | 6,961                             | 9,746                                    | 1,795                                              |      |      |      |      |      |      |      |  |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station        | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp B         |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2956+40.00     | 98                          | 98                               | 0                  | 0                                 | 11                               | 0                          | 0                     | 0                     |                                               | 98                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2956+50.00     | 255                         | 255                              | 0                  | 0                                 | 31                               | 0                          | 0                     | 0                     |                                               | 255                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2956+75.00     | 271                         | 271                              | 0                  | 0                                 | 36                               | 0                          | 0                     | 0                     |                                               | 271                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2957+00.00     | 287                         | 287                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     |                                               | 287                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2957+25.00     | 419                         | 419                              | 0                  | 0                                 | 45                               | 0                          | 0                     | 0                     |                                               | 419                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2957+50.00     | 316                         | 316                              | 0                  | 0                                 | 48                               | 0                          | 0                     | 0                     |                                               | 316                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2958+00.00     | 331                         | 331                              | 0                  | 0                                 | 49                               | 0                          | 0                     | 0                     |                                               | 331                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2958+25.00     | 345                         | 345                              | 0                  | 0                                 | 49                               | 0                          | 0                     | 0                     |                                               | 345                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2958+50.00     | 356                         | 356                              | 0                  | 0                                 | 49                               | 0                          | 0                     | 0                     |                                               | 356                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2958+75.00     | 360                         | 360                              | 0                  | 0                                 | 48                               | 0                          | 0                     | 0                     |                                               | 360                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2959+00.00     | 353                         | 353                              | 0                  | 0                                 | 48                               | 0                          | 0                     | 0                     |                                               | 353                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2959+25.00     | 344                         | 344                              | 0                  | 0                                 | 46                               | 0                          | 0                     | 0                     |                                               | 344                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2959+50.00     | 337                         | 337                              | 0                  | 0                                 | 43                               | 0                          | 0                     | 0                     |                                               | 337                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2959+75.00     | 331                         | 331                              | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     |                                               | 331                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2960+00.00     | 330                         | 330                              | 0                  | 0                                 | 38                               | 0                          | 0                     | 0                     |                                               | 330                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2960+25.00     | 406                         | 274                              | 0                  | 132                               | 34                               | 0                          | 0                     | 0                     |                                               | 406                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2960+50.00     | 405                         | 151                              | 0                  | 254                               | 31                               | 0                          | 0                     | 0                     |                                               | 405                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2960+75.00     | 405                         | 166                              | 0                  | 239                               | 28                               | 0                          | 0                     | 0                     |                                               | 405                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2961+00.00     | 415                         | 187                              | 0                  | 227                               | 26                               | 0                          | 0                     | 0                     |                                               | 414                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2961+25.00     | 437                         | 219                              | 0                  | 218                               | 25                               | 0                          | 0                     | 0                     |                                               | 437                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2961+50.00     | 464                         | 250                              | 0                  | 212                               | 25                               | 0                          | 0                     | 0                     |                                               | 462                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2961+75.00     | 487                         | 270                              | 0                  | 217                               | 26                               | 0                          | 0                     | 0                     |                                               | 487                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2962+00.00     | 518                         | 376                              | 0                  | 142                               | 26                               | 0                          | 0                     | 0                     |                                               | 518                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2962+25.00     | 575                         | 508                              | 0                  | 67                                | 26                               | 0                          | 0                     | 0                     |                                               | 575                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2962+50.00     | 648                         | 510                              | 0                  | 137                               | 26                               | 0                          | 0                     | 0                     |                                               | 647                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2962+75.00     | 720                         | 469                              | 0                  | 251                               | 28                               | 0                          | 0                     | 0                     |                                               | 720                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2963+00.00     | 795                         | 503                              | 0                  | 150                               | 32                               | 0                          | 142                   | 0                     |                                               | 653                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2963+25.00     | 876                         | 567                              | 0                  | 0                                 | 35                               | 0                          | 309                   | 0                     |                                               | 567                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2963+50.00     | 978                         | 512                              | 0                  | 0                                 | 38                               | 0                          | 466                   | 0                     |                                               | 512                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2963+75.00     | 1,096                       | 463                              | 0                  | 0                                 | 41                               | 0                          | 632                   | 0                     |                                               | 463                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2964+00.00     | 1,210                       | 523                              | 0                  | 0                                 | 43                               | 0                          | 687                   | 0                     |                                               | 523                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2964+25.00     | 1,328                       | 595                              | 0                  | 0                                 | 44                               | 0                          | 734                   | 0                     |                                               | 595                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2964+50.00     | 1,442                       | 672                              | 0                  | 0                                 | 44                               | 0                          | 770                   | 0                     |                                               | 672                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2964+75.00     | 1,551                       | 730                              | 0                  | 0                                 | 44                               | 0                          | 821                   | 0                     |                                               | 730                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2965+00.00     | 1,705                       | 1,238                            | 0                  | 0                                 | 44                               | 0                          | 467                   | 0                     |                                               | 1,238                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2965+25.00     | 1,702                       | 1,702                            | 0                  | 0                                 | 44                               | 0                          | 0                     | 0                     |                                               | 1,702                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2965+50.00     | 1,818                       | 1,818                            | 0                  | 0                                 | 44                               | 0                          | 0                     | 0                     |                                               | 1,818                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2965+75.00     | 1,932                       | 1,932                            | 0                  | 0                                 | 44                               | 0                          | 0                     | 0                     |                                               | 1,932                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2966+00.00     | 2,038                       | 2,038                            | 0                  | 0                                 | 47                               | 0                          | 0                     | 0                     |                                               | 2,038                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2966+25.00     | 2,127                       | 2,127                            | 0                  | 0                                 | 50                               | 0                          | 0                     | 0                     |                                               | 2,127                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2966+50.00     | 2,200                       | 1,743                            | 0                  | 0                                 | 54                               | 0                          | 457                   | 0                     |                                               | 1,743                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2966+75.00     | 2,274                       | 1,468                            | 0                  | 0                                 | 58                               | 0                          | 806                   | 0                     |                                               | 1,468                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2967+00.00     | 2,362                       | 1,629                            | 0                  | 0                                 | 63                               | 0                          | 732                   | 0                     |                                               | 1,629                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2967+25.00     | 2,453                       | 1,653                            | 0                  | 0                                 | 68                               | 0                          | 800                   | 0                     |                                               | 1,653                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2967+50.00     | 2,539                       | 1,712                            | 0                  | 0                                 | 74                               | 0                          | 827                   | 0                     |                                               | 1,712                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2967+62.30     | 1,278                       | 912                              | 0                  | 0                                 | 38                               | 0                          | 366                   | 0                     |                                               | 912                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2967+75.00     | 1,335                       | 984                              | 0                  | 0                                 | 40                               | 0                          | 351                   | 0                     |                                               | 984                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2968+00.00     | 2,648                       | 2,167                            | 0                  | 0                                 | 80                               | 0                          | 481                   | 0                     |                                               | 2,167                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2968+25.00     | 2,643                       | 2,366                            | 0                  | 0                                 | 81                               | 0                          | 277                   | 0                     |                                               | 2,366                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2968+50.00     | 2,600                       | 2,439                            | 0                  | 0                                 | 82                               | 0                          | 161                   | 0                     |                                               | 2,439                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2968+75.00     | 2,514                       | 2,489                            | 0                  | 0                                 | 82                               | 0                          | 25                    | 0                     |                                               | 2,489                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2968+82.30     | 712                         | 707                              | 0                  | 0                                 | 24                               | 0                          | 5                     | 0                     |                                               | 707                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2969+00.00     | 1,676                       | 1,676                            | 0                  | 0                                 | 62                               | 0                          | 0                     | 0                     |                                               | 1,676                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2969+25.00     | 2,244                       | 2,244                            | 0                  | 0                                 | 89                               | 0                          | 0                     | 0                     |                                               | 2,244                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2969+50.00     | 2,119                       | 2,119                            | 0                  | 0                                 | 86                               | 0                          | 0                     | 0                     |                                               | 2,119                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2969+75.00     | 2,112                       | 2,112                            | 0                  | 0                                 | 91                               | 0                          | 0                     | 0                     |                                               | 2,112                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2970+00.00     | 1,288                       | 1,288                            | 0                  | 0                                 | 85                               | 0                          | 0                     | 0                     |                                               | 1,288                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2970+25.00     | 369                         | 369                              | 0                  | 0                                 | 66                               | 0                          | 0                     | 0                     |                                               | 369                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2970+50.00     | 179                         | 179                              | 0                  | 0                                 | 44                               | 0                          | 0                     | 0                     |                                               | 179                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2970+75.00     | 35                          | 35                               | 0                  | 0                                 | 14                               | 0                          | 0                     | 0                     |                                               | 35                    |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp B Totals: | 66,391                      | 53,824                           | 0                  | 2,246                             | 2,798                            | 0                          | 10,316                | 0                     | 0                                             | 56,070                |      |      |      |      |      |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station        | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |
|----------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|--|
|                | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|                |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |      |  |
|                | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |  |
| Ramp B         |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |
| 2956+40.00     | 18                           | 0                                   |                                              |                                    |                                                 | 18                                              | 23                                                         | 75                                      | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |      |  |
| 2956+50.00     | 41                           | 0                                   |                                              | 1                                  |                                                 | 42                                              | 53                                                         | 202                                     | 0                                                | 0                                      | 0                                 | 35                                | 49                                       | -49                                                |      |      |      |      |      |      |      |      |  |
| 2956+75.00     | 34                           | 0                                   |                                              | 1                                  |                                                 | 35                                              | 44                                                         | 227                                     | 0                                                | 0                                      | 0                                 | 35                                | 49                                       | -49                                                |      |      |      |      |      |      |      |      |  |
| 2957+00.00     | 24                           | 0                                   |                                              |                                    |                                                 | 24                                              | 30                                                         | 257                                     | 0                                                | 0                                      | 0                                 | 37                                | 52                                       | -52                                                |      |      |      |      |      |      |      |      |  |
| 2957+25.00     | 14                           | 118                                 |                                              |                                    |                                                 | 132                                             | 166                                                        | 253                                     | 0                                                | 0                                      | 0                                 | 39                                | 55                                       | -55                                                |      |      |      |      |      |      |      |      |  |
| 2957+50.00     | 6                            | 0                                   |                                              |                                    |                                                 | 6                                               | 8                                                          | 308                                     | 0                                                | 0                                      | 0                                 | 41                                | 57                                       | -57                                                |      |      |      |      |      |      |      |      |  |
| 2957+75.00     | 1                            | 0                                   |                                              |                                    |                                                 | 1                                               | 1                                                          | 330                                     | 0                                                | 0                                      | 0                                 | 43                                | 60                                       | -60                                                |      |      |      |      |      |      |      |      |  |
| 2958+00.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 345                                     | 0                                                | 0                                      | 0                                 | 45                                | 63                                       | -63                                                |      |      |      |      |      |      |      |      |  |
| 2958+25.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 356                                     | 0                                                | 0                                      | 0                                 | 47                                | 66                                       | -66                                                |      |      |      |      |      |      |      |      |  |
| 2958+50.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 359                                     | 0                                                | 0                                      | 0                                 | 49                                | 69                                       | -69                                                |      |      |      |      |      |      |      |      |  |
| 2958+75.00     | 0                            | 0                                   |                                              | 1                                  |                                                 | 1                                               | 1                                                          | 353                                     | 0                                                | 0                                      | 0                                 | 51                                | 71                                       | -71                                                |      |      |      |      |      |      |      |      |  |
| 2959+00.00     | 1                            | 0                                   |                                              |                                    |                                                 | 2                                               | 3                                                          | 341                                     | 0                                                | 0                                      | 0                                 | 52                                | 73                                       | -73                                                |      |      |      |      |      |      |      |      |  |
| 2959+25.00     | 8                            | 0                                   |                                              | 1                                  |                                                 | 9                                               | 11                                                         | 326                                     | 0                                                | 0                                      | 0                                 | 52                                | 73                                       | -73                                                |      |      |      |      |      |      |      |      |  |
| 2959+50.00     | 18                           | 0                                   |                                              | 1                                  |                                                 | 19                                              | 24                                                         | 307                                     | 0                                                | 0                                      | 0                                 | 50                                | 70                                       | -70                                                |      |      |      |      |      |      |      |      |  |
| 2959+75.00     | 30                           | 0                                   |                                              |                                    |                                                 | 30                                              | 38                                                         | 292                                     | 0                                                | 0                                      | 0                                 | 49                                | 69                                       | -69                                                |      |      |      |      |      |      |      |      |  |
| 2960+00.00     | 42                           | 73                                  |                                              | 1                                  |                                                 | 116                                             | 146                                                        | 260                                     | 0                                                | 0                                      | 0                                 | 49                                | 69                                       | -69                                                |      |      |      |      |      |      |      |      |  |
| 2960+25.00     | 52                           | 69                                  |                                              |                                    |                                                 | 121                                             | 153                                                        | 253                                     | 0                                                | 0                                      | 0                                 | 50                                | 70                                       | -70                                                |      |      |      |      |      |      |      |      |  |
| 2960+50.00     | 61                           | 63                                  |                                              |                                    |                                                 | 124                                             | 156                                                        | 249                                     | 0                                                | 0                                      | 0                                 | 50                                | 70                                       | -70                                                |      |      |      |      |      |      |      |      |  |
| 2960+75.00     | 65                           | 59                                  |                                              |                                    |                                                 | 124                                             | 156                                                        | 258                                     | 0                                                | 0                                      | 0                                 | 51                                | 71                                       | -71                                                |      |      |      |      |      |      |      |      |  |
| 2961+00.00     | 66                           | 56                                  |                                              |                                    |                                                 | 122                                             | 154                                                        | 283                                     | 0                                                | 0                                      | 0                                 | 51                                | 71                                       | -71                                                |      |      |      |      |      |      |      |      |  |
| 2961+25.00     | 68                           | 51                                  |                                              |                                    |                                                 | 119                                             | 150                                                        | 312                                     | 0                                                | 0                                      | 0                                 | 52                                | 73                                       | -73                                                |      |      |      |      |      |      |      |      |  |
| 2961+50.00     | 88                           | 41                                  |                                              |                                    |                                                 | 129                                             | 163                                                        | 324                                     | 0                                                | 0                                      | 0                                 | 53                                | 74                                       | -74                                                |      |      |      |      |      |      |      |      |  |
| 2961+75.00     | 107                          | 33                                  |                                              |                                    |                                                 | 140                                             | 176                                                        | 342                                     | 0                                                | 0                                      | 0                                 | 53                                | 74                                       | -74                                                |      |      |      |      |      |      |      |      |  |
| 2962+00.00     | 90                           | 37                                  |                                              |                                    |                                                 | 127                                             | 160                                                        | 415                                     | 0                                                | 0                                      | 0                                 | 54                                | 76                                       | -76                                                |      |      |      |      |      |      |      |      |  |
| 2962+25.00     | 63                           | 45                                  |                                              |                                    |                                                 | 108                                             | 136                                                        | 511                                     | 0                                                | 0                                      | 0                                 | 56                                | 78                                       | -78                                                |      |      |      |      |      |      |      |      |  |
| 2962+50.00     | 54                           | 49                                  |                                              |                                    |                                                 | 103                                             | 130                                                        | 590                                     | 0                                                | 0                                      | 0                                 | 57                                | 80                                       | -80                                                |      |      |      |      |      |      |      |      |  |
| 2962+75.00     | 51                           | 50                                  |                                              |                                    |                                                 | 101                                             | 127                                                        | 526                                     | 0                                                | 0                                      | 0                                 | 59                                | 83                                       | -83                                                |      |      |      |      |      |      |      |      |  |
| 2963+00.00     | 47                           | 53                                  |                                              |                                    |                                                 | 100                                             | 126                                                        | 441                                     | 0                                                | 0                                      | 0                                 | 60                                | 84                                       | -84                                                |      |      |      |      |      |      |      |      |  |
| 2963+25.00     | 42                           | 60                                  |                                              |                                    |                                                 | 102                                             | 129                                                        | 383                                     | 0                                                | 0                                      | 0                                 | 63                                | 88                                       | -88                                                |      |      |      |      |      |      |      |      |  |
| 2963+50.00     | 37                           | 68                                  |                                              |                                    |                                                 | 105                                             | 132                                                        | 331                                     | 0                                                | 0                                      | 0                                 | 66                                | 92                                       | -92                                                |      |      |      |      |      |      |      |      |  |
| 2963+75.00     | 33                           | 70                                  |                                              |                                    |                                                 | 103                                             | 130                                                        | 393                                     | 0                                                | 0                                      | 0                                 | 69                                | 97                                       | -97                                                |      |      |      |      |      |      |      |      |  |
| 2964+00.00     | 30                           | 71                                  |                                              |                                    |                                                 | 101                                             | 127                                                        | 468                                     | 0                                                | 0                                      | 0                                 | 74                                | 104                                      | -104                                               |      |      |      |      |      |      |      |      |  |
| 2964+25.00     | 28                           | 74                                  |                                              |                                    |                                                 | 102                                             | 129                                                        | 543                                     | 0                                                | 0                                      | 0                                 | 79                                | 111                                      | -111                                               |      |      |      |      |      |      |      |      |  |
| 2964+50.00     | 23                           | 76                                  |                                              |                                    |                                                 | 99                                              | 125                                                        | 605                                     | 0                                                | 0                                      | 0                                 | 83                                | 116                                      | -116                                               |      |      |      |      |      |      |      |      |  |
| 2964+75.00     | 18                           | 119                                 |                                              |                                    |                                                 | 137                                             | 173                                                        | 1,065                                   | 0                                                | 0                                      | 0                                 | 87                                | 122                                      | -122                                               |      |      |      |      |      |      |      |      |  |
| 2965+00.00     | 13                           | 0                                   |                                              |                                    |                                                 | 13                                              | 16                                                         | 1,686                                   | 0                                                | 0                                      | 0                                 | 92                                | 129                                      | -129                                               |      |      |      |      |      |      |      |      |  |
| 2965+25.00     | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 1,808                                   | 0                                                | 0                                      | 0                                 | 96                                | 134                                      | -134                                               |      |      |      |      |      |      |      |      |  |
| 2965+50.00     | 4                            | 0                                   |                                              | 1                                  |                                                 | 5                                               | 6                                                          | 1,926                                   | 0                                                | 0                                      | 0                                 | 100                               | 140                                      | -140                                               |      |      |      |      |      |      |      |      |  |
| 2965+75.00     | 1                            | 0                                   |                                              |                                    |                                                 | 1                                               | 1                                                          | 2,037                                   | 0                                                | 0                                      | 0                                 | 104                               | 146                                      | -146                                               |      |      |      |      |      |      |      |      |  |
| 2966+00.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,127                                   | 0                                                | 0                                      | 0                                 | 108                               | 151                                      | -151                                               |      |      |      |      |      |      |      |      |  |
| 2966+25.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,743                                   | 0                                                | 0                                      | 0                                 | 113                               | 158                                      | -158                                               |      |      |      |      |      |      |      |      |  |
| 2966+50.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,468                                   | 0                                                | 0                                      | 0                                 | 117                               | 164                                      | -164                                               |      |      |      |      |      |      |      |      |  |
| 2966+75.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,629                                   | 0                                                | 0                                      | 0                                 | 122                               | 171                                      | -171                                               |      |      |      |      |      |      |      |      |  |
| 2967+00.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,653                                   | 0                                                | 0                                      | 0                                 | 126                               | 176                                      | -176                                               |      |      |      |      |      |      |      |      |  |
| 2967+25.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,712                                   | 0                                                | 0                                      | 0                                 | 131                               | 183                                      | -183                                               |      |      |      |      |      |      |      |      |  |
| 2967+50.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 912                                     | 0                                                | 0                                      | 0                                 | 66                                | 92                                       | -92                                                |      |      |      |      |      |      |      |      |  |
| 2967+62.30     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 984                                     | 0                                                | 0                                      | 0                                 | 69                                | 97                                       | -97                                                |      |      |      |      |      |      |      |      |  |
| 2967+75.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,167                                   | 0                                                | 0                                      | 0                                 | 138                               | 193                                      | -193                                               |      |      |      |      |      |      |      |      |  |
| 2968+00.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,366                                   | 0                                                | 0                                      | 0                                 | 140                               | 196                                      | -196                                               |      |      |      |      |      |      |      |      |  |
| 2968+25.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,439                                   | 0                                                | 0                                      | 0                                 | 143                               | 200                                      | -200                                               |      |      |      |      |      |      |      |      |  |
| 2968+50.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 2,489                                   | 0                                                | 0                                      | 0                                 | 146                               | 204                                      | -204                                               |      |      |      |      |      |      |      |      |  |
| 2968+75.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 707                                     | 0                                                | 0                                      | 0                                 | 43                                | 60                                       | -60                                                |      |      |      |      |      |      |      |      |  |
| 2968+82.30     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 1,676                                   | 0                                                | 0                                      | 0                                 | 106                               | 148                                      | -148                                               |      |      |      |      |      |      |      |      |  |
| 2969+00.00     | 0                            | 0                                   |                                              | 1                                  |                                                 | 1                                               | 1                                                          | 2,243                                   | 0                                                | 0                                      | 0                                 | 152                               | 213                                      | -213                                               |      |      |      |      |      |      |      |      |  |
| 2969+25.00     | 0                            | 0                                   |                                              | 6                                  |                                                 | 6                                               | 8                                                          | 2,111                                   | 0                                                | 0                                      | 0                                 | 157                               | 220                                      | -220                                               |      |      |      |      |      |      |      |      |  |
| 2969+50.00     | 4                            | 0                                   |                                              |                                    |                                                 | 17                                              | 22                                                         | 2,091                                   | 0                                                | 0                                      | 0                                 | 167                               | 234                                      | -234                                               |      |      |      |      |      |      |      |      |  |
| 2969+75.00     | 14                           | 0                                   |                                              |                                    |                                                 | 40                                              | 50                                                         | 1,238                                   | 0                                                | 0                                      | 0                                 | 124                               | 174                                      | -174                                               |      |      |      |      |      |      |      |      |  |
| 2970+00.00     | 38                           | 36                                  |                                              |                                    |                                                 | 106                                             | 134                                                        | 235                                     | 0                                                | 0                                      | 0                                 | 65                                | 91                                       | -91                                                |      |      |      |      |      |      |      |      |  |
| 2970+25.00     | 95                           | 20                                  |                                              |                                    |                                                 | 162                                             | 204                                                        | -25                                     | 0                                                | 0                                      | 0                                 | 48                                | 67                                       | -67                                                |      |      |      |      |      |      |      |      |  |
| 2970+50.00     | 125                          | 0                                   |                                              |                                    |                                                 | 181                                             | 228                                                        | -193                                    | 0                                                | 0                                      | 0                                 | 20                                | 28                                       | -28                                                |      |      |      |      |      |      |      |      |  |
| 2970+75.00     |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |
| Ramp B Totals: | 1,562                        | 1,391                               | 0                                            | 189                                | 0                                               | 3,142                                           | 3,961                                                      | 52,110                                  | 0                                                | 0                                      | 0                                 | 4,548                             | 6,368                                    | -6,368                                             |      |      |      |      |      |      |      |      |  |



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station        | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp C         |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3957+91.86     | 134                         | 98                               | 36                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 98                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3958+00.00     | 400                         | 287                              | 112                | 0                                 | 0                                | 0                          | 0                     | 0                     | 287                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3958+25.00     | 459                         | 343                              | 115                | 0                                 | 0                                | 0                          | 0                     | 0                     | 343                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3958+50.00     | 571                         | 452                              | 119                | 0                                 | 0                                | 0                          | 0                     | 0                     | 452                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3958+75.00     | 651                         | 528                              | 123                | 0                                 | 0                                | 0                          | 0                     | 0                     | 528                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3959+00.00     | 717                         | 591                              | 127                | 0                                 | 0                                | 0                          | 0                     | 0                     | 591                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3959+50.00     | 817                         | 685                              | 132                | 0                                 | 0                                | 0                          | 0                     | 0                     | 685                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3959+75.00     | 991                         | 852                              | 139                | 0                                 | 0                                | 0                          | 0                     | 0                     | 852                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3960+00.00     | 1,231                       | 1,086                            | 146                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,086                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3960+25.00     | 1,473                       | 1,321                            | 152                | 0                                 | 0                                | 0                          | 0                     | 0                     | 1,321                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3960+50.00     | 1,676                       | 1,171                            | 159                | 339                               | 0                                | 7                          | 0                     | 0                     | 1,517                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3960+75.00     | 1,833                       | 944                              | 166                | 707                               | 0                                | 15                         | 0                     | 0                     | 1,666                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3961+00.00     | 1,908                       | 914                              | 171                | 599                               | 0                                | 223                        | 0                     | 0                     | 1,736                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3961+25.00     | 1,889                       | 857                              | 174                | 442                               | 0                                | 416                        | 0                     | 0                     | 1,715                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3961+50.00     | 1,827                       | 938                              | 179                | 317                               | 0                                | 393                        | 0                     | 0                     | 1,648                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3961+75.00     | 1,737                       | 989                              | 185                | 107                               | 0                                | 456                        | 0                     | 0                     | 1,552                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3962+00.00     | 1,602                       | 915                              | 191                | 0                                 | 0                                | 496                        | 0                     | 0                     | 1,411                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3962+25.00     | 1,423                       | 794                              | 197                | 0                                 | 0                                | 433                        | 0                     | 0                     | 1,227                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3962+50.00     | 1,256                       | 678                              | 204                | 0                                 | 0                                | 375                        | 0                     | 0                     | 1,053                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3962+75.00     | 1,140                       | 601                              | 211                | 0                                 | 0                                | 327                        | 0                     | 0                     | 928                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3963+00.00     | 1,039                       | 535                              | 218                | 0                                 | 0                                | 286                        | 0                     | 0                     | 821                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3963+25.00     | 905                         | 440                              | 224                | 0                                 | 0                                | 242                        | 0                     | 0                     | 682                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3963+50.00     | 759                         | 332                              | 230                | 0                                 | 0                                | 198                        | 0                     | 0                     | 530                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3963+75.00     | 649                         | 260                              | 236                | 0                                 | 0                                | 153                        | 0                     | 0                     | 413                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3964+00.00     | 590                         | 226                              | 242                | 0                                 | 0                                | 122                        | 0                     | 0                     | 348                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3964+25.00     | 553                         | 174                              | 247                | 0                                 | 0                                | 132                        | 0                     | 0                     | 306                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3964+50.00     | 542                         | 121                              | 253                | 0                                 | 0                                | 168                        | 0                     | 0                     | 289                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3964+75.00     | 625                         | 166                              | 258                | 0                                 | 0                                | 201                        | 0                     | 0                     | 367                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3965+00.00     | 775                         | 273                              | 263                | 0                                 | 0                                | 238                        | 0                     | 0                     | 511                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3965+25.00     | 957                         | 410                              | 268                | 0                                 | 0                                | 279                        | 0                     | 0                     | 689                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3965+50.00     | 1,142                       | 570                              | 275                | 42                                | 0                                | 255                        | 0                     | 0                     | 867                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3965+75.00     | 1,293                       | 691                              | 285                | 90                                | 0                                | 227                        | 0                     | 0                     | 1,008                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3966+00.00     | 1,467                       | 763                              | 297                | 104                               | 0                                | 304                        | 0                     | 0                     | 1,171                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3966+25.00     | 1,717                       | 900                              | 308                | 131                               | 0                                | 378                        | 0                     | 0                     | 1,409                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3966+50.00     | 2,007                       | 1,106                            | 318                | 76                                | 0                                | 507                        | 0                     | 0                     | 1,689                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3966+75.00     | 2,259                       | 1,260                            | 328                | 0                                 | 0                                | 670                        | 0                     | 0                     | 1,930                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3967+00.00     | 2,446                       | 1,340                            | 336                | 0                                 | 0                                | 770                        | 0                     | 0                     | 2,110                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3967+25.00     | 2,575                       | 1,351                            | 344                | 0                                 | 0                                | 879                        | 0                     | 0                     | 2,230                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3967+50.00     | 2,666                       | 1,327                            | 352                | 0                                 | 0                                | 986                        | 0                     | 0                     | 2,313                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3967+75.00     | 2,739                       | 1,339                            | 359                | 0                                 | 0                                | 1,041                      | 0                     | 0                     | 2,380                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3968+00.00     | 2,459                       | 1,177                            | 358                | 0                                 | 0                                | 923                        | 0                     | 0                     | 2,100                                         |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3968+25.00     | 1,171                       | 530                              | 237                | 4                                 | 0                                | 400                        | 0                     | 0                     | 934                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 3968+50.00     | 140                         | 36                               | 100                | 4                                 | 0                                | 0                          | 0                     | 0                     | 40                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp C Totals: | 55,210                      | 30,371                           | 9,374              | 2,962                             | 0                                | 12,500                     | 0                     | 0                     | 45,833                                        |                       |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station        | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                    | Checks (EW-102) |      | Topsoil |       |       |                   | [37]          | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|----------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|--------------------|-----------------|------|---------|-------|-------|-------------------|---------------|------|------|------|------|------|------|------|
|                | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]               | [30]            | [31] | [32]    | [33]  | [34]  | [35]              | [36]          |      |      |      |      |      |      |      |
|                | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$ | $[10] - [29]$   |      |         |       |       | $[34] \times 1.4$ | $[33] - [35]$ |      |      |      |      |      |      |      |
| Ramp C         |                              |                                     |                                              |                                    |                                                 |                                                 |                    |                 |      |         |       |       |                   |               |      |      |      |      |      |      |      |
| 3957+91.86     | 6                            | 0                                   | 17                                           |                                    |                                                 | 23                                              | 29                 | 69              | 0    | 0       | 36    | 14    | 20                | 16            |      |      |      |      |      |      |      |
| 3958+00.00     | 49                           | 0                                   | 53                                           |                                    |                                                 | 102                                             | 129                | 158             | 0    | 0       | 112   | 45    | 63                | 49            |      |      |      |      |      |      |      |
| 3958+25.00     | 106                          | 0                                   | 52                                           |                                    |                                                 | 158                                             | 199                | 144             | 0    | 0       | 115   | 48    | 67                | 48            |      |      |      |      |      |      |      |
| 3958+50.00     | 122                          | 0                                   | 51                                           |                                    |                                                 | 173                                             | 218                | 234             | 0    | 0       | 119   | 50    | 70                | 49            |      |      |      |      |      |      |      |
| 3958+75.00     | 96                           | 0                                   | 51                                           |                                    |                                                 | 147                                             | 185                | 343             | 0    | 0       | 123   | 52    | 73                | 50            |      |      |      |      |      |      |      |
| 3959+00.00     | 60                           | 0                                   | 49                                           |                                    |                                                 | 109                                             | 137                | 454             | 0    | 0       | 127   | 54    | 76                | 51            |      |      |      |      |      |      |      |
| 3959+25.00     | 19                           | 0                                   | 35                                           |                                    |                                                 | 54                                              | 68                 | 617             | 0    | 0       | 132   | 57    | 80                | 52            |      |      |      |      |      |      |      |
| 3959+50.00     | 0                            | 0                                   | 11                                           |                                    |                                                 | 11                                              | 14                 | 838             | 0    | 0       | 139   | 59    | 83                | 56            |      |      |      |      |      |      |      |
| 3959+75.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 1,086           | 0    | 0       | 146   | 62    | 87                | 59            |      |      |      |      |      |      |      |
| 3960+00.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 1,321           | 0    | 0       | 152   | 65    | 91                | 61            |      |      |      |      |      |      |      |
| 3960+25.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 1,517           | 0    | 0       | 159   | 71    | 99                | 60            |      |      |      |      |      |      |      |
| 3960+50.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 1,666           | 0    | 0       | 166   | 76    | 106               | 60            |      |      |      |      |      |      |      |
| 3960+75.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 1,736           | 0    | 0       | 171   | 79    | 111               | 60            |      |      |      |      |      |      |      |
| 3961+00.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 1,715           | 0    | 0       | 174   | 81    | 113               | 61            |      |      |      |      |      |      |      |
| 3961+25.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 1,648           | 0    | 0       | 179   | 85    | 119               | 60            |      |      |      |      |      |      |      |
| 3961+50.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 1,552           | 0    | 0       | 185   | 89    | 125               | 60            |      |      |      |      |      |      |      |
| 3961+75.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 1,411           | 0    | 0       | 191   | 94    | 132               | 59            |      |      |      |      |      |      |      |
| 3962+00.00     | 0                            | 0                                   | 12                                           |                                    |                                                 | 12                                              | 15                 | 1,212           | 0    | 0       | 197   | 99    | 139               | 58            |      |      |      |      |      |      |      |
| 3962+25.00     | 37                           | 0                                   | 42                                           |                                    |                                                 | 79                                              | 100                | 953             | 0    | 0       | 204   | 103   | 144               | 60            |      |      |      |      |      |      |      |
| 3962+50.00     | 134                          | 0                                   | 67                                           |                                    |                                                 | 201                                             | 253                | 675             | 0    | 0       | 211   | 109   | 153               | 58            |      |      |      |      |      |      |      |
| 3962+75.00     | 250                          | 0                                   | 78                                           |                                    |                                                 | 328                                             | 413                | 408             | 0    | 0       | 218   | 115   | 161               | 57            |      |      |      |      |      |      |      |
| 3963+00.00     | 350                          | 0                                   | 91                                           |                                    |                                                 | 441                                             | 556                | 126             | 0    | 0       | 224   | 119   | 167               | 57            |      |      |      |      |      |      |      |
| 3963+25.00     | 456                          | 0                                   | 107                                          |                                    |                                                 | 563                                             | 709                | -179            | 0    | 0       | 230   | 123   | 172               | 58            |      |      |      |      |      |      |      |
| 3963+50.00     | 615                          | 0                                   | 126                                          |                                    |                                                 | 741                                             | 934                | -521            | 0    | 0       | 236   | 127   | 178               | 58            |      |      |      |      |      |      |      |
| 3963+75.00     | 835                          | 0                                   | 145                                          |                                    |                                                 | 980                                             | 1,235              | -887            | 0    | 0       | 242   | 131   | 183               | 59            |      |      |      |      |      |      |      |
| 3964+00.00     | 1,064                        | 0                                   | 155                                          |                                    |                                                 | 1,219                                           | 1,536              | -1,230          | 0    | 0       | 247   | 135   | 189               | 58            |      |      |      |      |      |      |      |
| 3964+25.00     | 1,208                        | 0                                   | 155                                          |                                    |                                                 | 1,363                                           | 1,717              | -1,428          | 0    | 0       | 253   | 138   | 193               | 60            |      |      |      |      |      |      |      |
| 3964+50.00     | 1,223                        | 0                                   | 178                                          |                                    |                                                 | 1,401                                           | 1,765              | -1,398          | 0    | 0       | 258   | 142   | 199               | 59            |      |      |      |      |      |      |      |
| 3964+75.00     | 1,191                        | 0                                   | 170                                          |                                    |                                                 | 1,361                                           | 1,715              | -1,204          | 0    | 0       | 263   | 145   | 203               | 60            |      |      |      |      |      |      |      |
| 3965+00.00     | 1,213                        | 0                                   | 135                                          |                                    |                                                 | 1,348                                           | 1,699              | -1,010          | 0    | 0       | 268   | 148   | 207               | 61            |      |      |      |      |      |      |      |
| 3965+25.00     | 1,242                        | 0                                   | 132                                          |                                    |                                                 | 1,374                                           | 1,731              | -864            | 0    | 0       | 275   | 153   | 214               | 61            |      |      |      |      |      |      |      |
| 3965+50.00     | 1,190                        | 0                                   | 130                                          |                                    |                                                 | 1,320                                           | 1,663              | -655            | 0    | 0       | 285   | 160   | 224               | 61            |      |      |      |      |      |      |      |
| 3965+75.00     | 1,069                        | 0                                   | 125                                          |                                    |                                                 | 1,194                                           | 1,505              | -334            | 0    | 0       | 297   | 168   | 235               | 62            |      |      |      |      |      |      |      |
| 3966+00.00     | 932                          | 0                                   | 117                                          |                                    |                                                 | 1,049                                           | 1,322              | 87              | 0    | 0       | 308   | 175   | 245               | 63            |      |      |      |      |      |      |      |
| 3966+25.00     | 820                          | 0                                   | 111                                          |                                    |                                                 | 931                                             | 1,173              | 516             | 0    | 0       | 318   | 182   | 255               | 63            |      |      |      |      |      |      |      |
| 3966+50.00     | 708                          | 0                                   | 107                                          |                                    |                                                 | 815                                             | 1,027              | 903             | 0    | 0       | 328   | 188   | 263               | 65            |      |      |      |      |      |      |      |
| 3966+75.00     | 620                          | 0                                   | 102                                          |                                    |                                                 | 722                                             | 910                | 1,200           | 0    | 0       | 336   | 194   | 272               | 64            |      |      |      |      |      |      |      |
| 3967+00.00     | 589                          | 0                                   | 101                                          |                                    |                                                 | 690                                             | 869                | 1,361           | 0    | 0       | 344   | 199   | 279               | 65            |      |      |      |      |      |      |      |
| 3967+25.00     | 606                          | 0                                   | 103                                          |                                    |                                                 | 709                                             | 893                | 1,420           | 0    | 0       | 352   | 203   | 284               | 68            |      |      |      |      |      |      |      |
| 3967+50.00     | 678                          | 0                                   | 109                                          |                                    |                                                 | 787                                             | 992                | 1,388           | 0    | 0       | 359   | 205   | 287               | 72            |      |      |      |      |      |      |      |
| 3967+75.00     | 795                          | 0                                   | 119                                          |                                    |                                                 | 914                                             | 1,152              | 948             | 0    | 0       | 358   | 205   | 287               | 71            |      |      |      |      |      |      |      |
| 3968+00.00     | 833                          | 0                                   | 112                                          |                                    |                                                 | 945                                             | 1,191              | -257            | 0    | 0       | 237   | 123   | 172               | 65            |      |      |      |      |      |      |      |
| 3968+25.00     | 786                          | 0                                   | 90                                           |                                    |                                                 | 876                                             | 1,104              | -1,064          | 0    | 0       | 100   | 24    | 34                | 66            |      |      |      |      |      |      |      |
| 3968+50.00     |                              |                                     |                                              |                                    |                                                 |                                                 |                    |                 |      |         |       |       |                   |               |      |      |      |      |      |      |      |
| Ramp C Totals: | 19,902                       | 0                                   | 3,238                                        | 0                                  | 0                                               | 23,140                                          | 29,158             | 16,676          | 0    | 0       | 9,374 | 4,894 | 6,852             | 2,523         |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station        | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp D         |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 4970+25.00     | 11                          | 11                               | 0                  | 0                                 | 8                                | 0                          | 0                     | 0                     |                                               | 11                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 4970+50.00     | 71                          | 71                               | 0                  | 0                                 | 12                               | 0                          | 0                     | 0                     |                                               | 71                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 4970+75.00     | 116                         | 116                              | 0                  | 0                                 | 11                               | 0                          | 0                     | 0                     |                                               | 116                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4971+00.00     | 426                         | 426                              | 0                  | 0                                 | 14                               | 0                          | 0                     | 0                     |                                               | 426                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4971+25.00     | 758                         | 758                              | 0                  | 0                                 | 13                               | 0                          | 0                     | 0                     |                                               | 758                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4971+50.00     | 727                         | 727                              | 0                  | 0                                 | 8                                | 0                          | 0                     | 0                     |                                               | 727                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4972+00.00     | 628                         | 628                              | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 628                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4972+25.00     | 549                         | 549                              | 0                  | 0                                 | 13                               | 0                          | 0                     | 0                     |                                               | 549                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4972+50.00     | 511                         | 511                              | 0                  | 0                                 | 18                               | 0                          | 0                     | 0                     |                                               | 511                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4972+75.00     | 502                         | 502                              | 0                  | 0                                 | 23                               | 0                          | 0                     | 0                     |                                               | 502                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4973+00.00     | 460                         | 460                              | 0                  | 0                                 | 26                               | 0                          | 0                     | 0                     |                                               | 460                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4973+25.00     | 428                         | 428                              | 0                  | 0                                 | 27                               | 0                          | 0                     | 0                     |                                               | 428                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4973+50.00     | 442                         | 442                              | 0                  | 0                                 | 28                               | 0                          | 0                     | 0                     |                                               | 442                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4973+75.00     | 479                         | 479                              | 0                  | 0                                 | 32                               | 0                          | 0                     | 0                     |                                               | 479                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4974+00.00     | 513                         | 513                              | 0                  | 0                                 | 35                               | 0                          | 0                     | 0                     |                                               | 513                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4974+25.00     | 573                         | 573                              | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     |                                               | 573                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4974+50.00     | 653                         | 642                              | 0                  | 0                                 | 45                               | 3                          | 8                     | 0                     |                                               | 645                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4974+75.00     | 699                         | 654                              | 0                  | 0                                 | 50                               | 12                         | 33                    | 0                     |                                               | 666                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4975+00.00     | 745                         | 646                              | 0                  | 0                                 | 52                               | 31                         | 68                    | 0                     |                                               | 677                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4975+25.00     | 780                         | 657                              | 32                 | 0                                 | 50                               | 29                         | 63                    | 0                     |                                               | 686                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4975+50.00     | 700                         | 602                              | 32                 | 27                                | 44                               | 19                         | 20                    | 0                     |                                               | 648                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4975+75.00     | 673                         | 558                              | 31                 | 48                                | 37                               | 37                         | 0                     | 0                     |                                               | 643                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4976+00.00     | 484                         | 358                              | 30                 | 33                                | 29                               | 62                         | 0                     | 0                     |                                               | 453                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4976+25.00     | 450                         | 328                              | 30                 | 19                                | 26                               | 73                         | 0                     | 0                     |                                               | 420                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4976+50.00     | 464                         | 358                              | 29                 | 23                                | 26                               | 53                         | 0                     | 0                     |                                               | 434                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4976+75.00     | 491                         | 402                              | 28                 | 27                                | 26                               | 35                         | 0                     | 0                     |                                               | 464                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4977+00.00     | 537                         | 460                              | 28                 | 29                                | 26                               | 20                         | 0                     | 0                     |                                               | 509                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4977+25.00     | 570                         | 503                              | 27                 | 19                                | 26                               | 22                         | 0                     | 0                     |                                               | 544                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4977+50.00     | 577                         | 512                              | 26                 | 0                                 | 26                               | 40                         | 0                     | 0                     |                                               | 552                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4977+75.00     | 569                         | 497                              | 25                 | 0                                 | 26                               | 47                         | 0                     | 0                     |                                               | 544                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4978+00.00     | 569                         | 488                              | 24                 | 0                                 | 26                               | 57                         | 0                     | 0                     |                                               | 545                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4978+25.00     | 585                         | 495                              | 24                 | 0                                 | 26                               | 66                         | 0                     | 0                     |                                               | 561                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4978+50.00     | 641                         | 541                              | 23                 | 0                                 | 26                               | 76                         | 0                     | 0                     |                                               | 617                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4978+75.00     | 719                         | 611                              | 23                 | 0                                 | 25                               | 85                         | 0                     | 0                     |                                               | 696                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4979+00.00     | 747                         | 631                              | 23                 | 0                                 | 25                               | 93                         | 0                     | 0                     |                                               | 724                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4979+25.00     | 687                         | 569                              | 22                 | 0                                 | 24                               | 97                         | 0                     | 0                     |                                               | 666                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4979+50.00     | 627                         | 515                              | 20                 | 0                                 | 23                               | 91                         | 0                     | 0                     |                                               | 606                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4979+75.00     | 602                         | 501                              | 19                 | 0                                 | 23                               | 81                         | 0                     | 0                     |                                               | 582                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4980+00.00     | 556                         | 467                              | 19                 | 0                                 | 22                               | 70                         | 0                     | 0                     |                                               | 537                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4980+25.00     | 518                         | 442                              | 18                 | 0                                 | 21                               | 59                         | 0                     | 0                     |                                               | 501                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4980+50.00     | 496                         | 430                              | 18                 | 0                                 | 20                               | 48                         | 0                     | 0                     |                                               | 478                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4980+75.00     | 465                         | 409                              | 18                 | 0                                 | 18                               | 39                         | 0                     | 0                     |                                               | 448                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4981+00.00     | 425                         | 378                              | 17                 | 0                                 | 17                               | 30                         | 0                     | 0                     |                                               | 408                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4981+25.00     | 387                         | 349                              | 17                 | 0                                 | 15                               | 20                         | 0                     | 0                     |                                               | 369                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4981+50.00     | 410                         | 385                              | 17                 | 0                                 | 13                               | 8                          | 0                     | 0                     |                                               | 393                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4981+75.00     | 362                         | 345                              | 16                 | 0                                 | 12                               | 0                          | 0                     | 0                     |                                               | 345                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 4981+91.34     | 232                         | 222                              | 10                 | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 222                   |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp D Totals: | 24,614                      | 22,149                           | 646                | 225                               | 1,152                            | 1,403                      | 192                   | 0                     | 0                                             | 23,777                |      |      |      |      |      |      |      |      |      |      |      |      |



**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station        | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|----------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|
|                | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |
|                |                              |                                     |                                              |                                    |                                                 | $\frac{[23] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |
|                | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |
| Ramp D         |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |
| 4970+25.00     | 437                          | 0                                   |                                              | 32                                 |                                                 | 469                                             | 591                                                        | -580                                    | 0                                                | 0                                      | 0                                 | 45                                | 63                                       | -63                                                |      |      |      |      |      |      |      |
| 4970+50.00     | 367                          | 0                                   |                                              | 35                                 |                                                 | 402                                             | 507                                                        | -436                                    | 0                                                | 0                                      | 0                                 | 54                                | 76                                       | -76                                                |      |      |      |      |      |      |      |
| 4970+75.00     | 290                          | 0                                   |                                              | 39                                 |                                                 | 329                                             | 415                                                        | -299                                    | 0                                                | 0                                      | 0                                 | 60                                | 84                                       | -84                                                |      |      |      |      |      |      |      |
| 4971+00.00     | 364                          | 0                                   |                                              | 43                                 |                                                 | 407                                             | 513                                                        | -87                                     | 0                                                | 0                                      | 0                                 | 117                               | 164                                      | -164                                               |      |      |      |      |      |      |      |
| 4971+25.00     | 468                          | 0                                   |                                              | 50                                 |                                                 | 518                                             | 653                                                        | 105                                     | 0                                                | 0                                      | 0                                 | 176                               | 246                                      | -246                                               |      |      |      |      |      |      |      |
| 4971+50.00     | 444                          | 0                                   |                                              | 53                                 |                                                 | 497                                             | 626                                                        | 101                                     | 0                                                | 0                                      | 0                                 | 171                               | 239                                      | -239                                               |      |      |      |      |      |      |      |
| 4971+75.00     | 447                          | 0                                   |                                              | 50                                 |                                                 | 497                                             | 626                                                        | 2                                       | 0                                                | 0                                      | 0                                 | 164                               | 230                                      | -230                                               |      |      |      |      |      |      |      |
| 4972+00.00     | 440                          | 0                                   |                                              | 44                                 |                                                 | 484                                             | 610                                                        | -61                                     | 0                                                | 0                                      | 0                                 | 157                               | 220                                      | -220                                               |      |      |      |      |      |      |      |
| 4972+25.00     | 429                          | 0                                   |                                              | 36                                 |                                                 | 465                                             | 586                                                        | -75                                     | 139                                              | 0                                      | 0                                 | 151                               | 211                                      | -211                                               |      |      |      |      |      |      |      |
| 4972+50.00     | 403                          | 12                                  |                                              | 30                                 |                                                 | 445                                             | 561                                                        | -59                                     | 270                                              | 0                                      | 0                                 | 146                               | 204                                      | -204                                               |      |      |      |      |      |      |      |
| 4972+75.00     | 374                          | 8                                   |                                              | 27                                 |                                                 | 409                                             | 515                                                        | -55                                     | 262                                              | 0                                      | 0                                 | 136                               | 190                                      | -190                                               |      |      |      |      |      |      |      |
| 4973+00.00     | 384                          | 6                                   |                                              | 26                                 |                                                 | 416                                             | 524                                                        | -96                                     | 263                                              | 0                                      | 0                                 | 126                               | 176                                      | -176                                               |      |      |      |      |      |      |      |
| 4973+25.00     | 379                          | 9                                   |                                              | 25                                 |                                                 | 413                                             | 520                                                        | -78                                     | 263                                              | 0                                      | 0                                 | 122                               | 171                                      | -171                                               |      |      |      |      |      |      |      |
| 4973+50.00     | 370                          | 16                                  |                                              | 21                                 |                                                 | 407                                             | 513                                                        | -34                                     | 263                                              | 0                                      | 0                                 | 118                               | 165                                      | -165                                               |      |      |      |      |      |      |      |
| 4973+75.00     | 375                          | 20                                  |                                              | 18                                 |                                                 | 413                                             | 520                                                        | -7                                      | 265                                              | 0                                      | 0                                 | 114                               | 160                                      | -160                                               |      |      |      |      |      |      |      |
| 4974+00.00     | 395                          | 22                                  |                                              | 12                                 |                                                 | 429                                             | 541                                                        | 32                                      | 266                                              | 0                                      | 0                                 | 110                               | 154                                      | -154                                               |      |      |      |      |      |      |      |
| 4974+25.00     | 422                          | 23                                  |                                              | 7                                  |                                                 | 452                                             | 570                                                        | 75                                      | 266                                              | 0                                      | 0                                 | 106                               | 148                                      | -148                                               |      |      |      |      |      |      |      |
| 4974+50.00     | 368                          | 23                                  |                                              | 3                                  |                                                 | 394                                             | 497                                                        | 170                                     | 266                                              | 0                                      | 0                                 | 102                               | 143                                      | -143                                               |      |      |      |      |      |      |      |
| 4974+75.00     | 254                          | 19                                  |                                              |                                    |                                                 | 273                                             | 344                                                        | 333                                     | 0                                                | 0                                      | 0                                 | 97                                | 136                                      | -136                                               |      |      |      |      |      |      |      |
| 4975+00.00     | 162                          | 18                                  | 17                                           |                                    |                                                 | 197                                             | 248                                                        | 438                                     | 37                                               | 112                                    | 32                                | 89                                | 125                                      | -93                                                |      |      |      |      |      |      |      |
| 4975+25.00     | 104                          | 21                                  | 17                                           |                                    |                                                 | 142                                             | 179                                                        | 469                                     | 0                                                | 43                                     | 32                                | 81                                | 113                                      | -81                                                |      |      |      |      |      |      |      |
| 4975+50.00     | 65                           | 97                                  | 15                                           |                                    |                                                 | 177                                             | 223                                                        | 420                                     | 13                                               | 87                                     | 31                                | 73                                | 102                                      | -71                                                |      |      |      |      |      |      |      |
| 4975+75.00     | 33                           | 0                                   | 13                                           |                                    |                                                 | 46                                              | 58                                                         | 395                                     | 0                                                | 0                                      | 30                                | 64                                | 90                                       | -60                                                |      |      |      |      |      |      |      |
| 4976+00.00     | 15                           | 0                                   | 9                                            |                                    |                                                 | 24                                              | 30                                                         | 390                                     | 0                                                | 0                                      | 30                                | 60                                | 84                                       | -54                                                |      |      |      |      |      |      |      |
| 4976+25.00     | 7                            | 0                                   | 5                                            |                                    |                                                 | 12                                              | 15                                                         | 419                                     | 0                                                | 0                                      | 29                                | 58                                | 81                                       | -52                                                |      |      |      |      |      |      |      |
| 4976+50.00     | 2                            | 0                                   | 2                                            |                                    |                                                 | 4                                               | 5                                                          | 459                                     | 0                                                | 0                                      | 28                                | 56                                | 78                                       | -50                                                |      |      |      |      |      |      |      |
| 4976+75.00     | 0                            | 0                                   | 2                                            |                                    |                                                 | 2                                               | 3                                                          | 506                                     | 0                                                | 0                                      | 28                                | 54                                | 76                                       | -48                                                |      |      |      |      |      |      |      |
| 4977+00.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 544                                     | 0                                                | 0                                      | 27                                | 51                                | 71                                       | -44                                                |      |      |      |      |      |      |      |
| 4977+25.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 552                                     | 0                                                | 0                                      | 26                                | 49                                | 69                                       | -43                                                |      |      |      |      |      |      |      |
| 4977+50.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 544                                     | 0                                                | 0                                      | 25                                | 47                                | 66                                       | -41                                                |      |      |      |      |      |      |      |
| 4977+75.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 545                                     | 0                                                | 0                                      | 24                                | 45                                | 63                                       | -39                                                |      |      |      |      |      |      |      |
| 4978+00.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 561                                     | 0                                                | 0                                      | 24                                | 43                                | 60                                       | -36                                                |      |      |      |      |      |      |      |
| 4978+25.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 617                                     | 0                                                | 0                                      | 23                                | 42                                | 59                                       | -36                                                |      |      |      |      |      |      |      |
| 4978+50.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 696                                     | 0                                                | 0                                      | 23                                | 41                                | 57                                       | -34                                                |      |      |      |      |      |      |      |
| 4978+75.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 724                                     | 0                                                | 0                                      | 23                                | 40                                | 56                                       | -33                                                |      |      |      |      |      |      |      |
| 4979+00.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 666                                     | 0                                                | 0                                      | 22                                | 37                                | 52                                       | -30                                                |      |      |      |      |      |      |      |
| 4979+25.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 606                                     | 0                                                | 0                                      | 20                                | 35                                | 49                                       | -29                                                |      |      |      |      |      |      |      |
| 4979+50.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 582                                     | 0                                                | 0                                      | 19                                | 32                                | 45                                       | -26                                                |      |      |      |      |      |      |      |
| 4979+75.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 537                                     | 0                                                | 0                                      | 19                                | 30                                | 42                                       | -23                                                |      |      |      |      |      |      |      |
| 4980+00.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 501                                     | 0                                                | 0                                      | 18                                | 28                                | 39                                       | -21                                                |      |      |      |      |      |      |      |
| 4980+25.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 478                                     | 0                                                | 0                                      | 18                                | 27                                | 38                                       | -20                                                |      |      |      |      |      |      |      |
| 4980+50.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 448                                     | 0                                                | 0                                      | 18                                | 26                                | 36                                       | -18                                                |      |      |      |      |      |      |      |
| 4980+75.00     | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                                                          | 408                                     | 0                                                | 0                                      | 17                                | 25                                | 35                                       | -18                                                |      |      |      |      |      |      |      |
| 4981+00.00     | 1                            | 0                                   | 2                                            |                                    |                                                 | 3                                               | 4                                                          | 365                                     | 0                                                | 0                                      | 17                                | 23                                | 32                                       | -15                                                |      |      |      |      |      |      |      |
| 4981+25.00     | 8                            | 66                                  | 5                                            |                                    |                                                 | 79                                              | 100                                                        | 293                                     | 0                                                | 0                                      | 17                                | 21                                | 29                                       | -12                                                |      |      |      |      |      |      |      |
| 4981+50.00     | 29                           | 47                                  | 7                                            |                                    |                                                 | 83                                              | 105                                                        | 240                                     | 0                                                | 0                                      | 16                                | 20                                | 28                                       | -12                                                |      |      |      |      |      |      |      |
| 4981+75.00     | 33                           | 22                                  | 5                                            |                                    |                                                 | 60                                              | 76                                                         | 146                                     | 0                                                | 0                                      | 10                                | 14                                | 20                                       | -10                                                |      |      |      |      |      |      |      |
| 4981+91.34     |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |
| Ramp D Totals: | 7,869                        | 429                                 | 99                                           | 551                                | 0                                               | 8,948                                           | 11,277                                                     | 12,501                                  | 2,572                                            | 242                                    | 646                               | 3,483                             | 4,877                                    | -4,231                                             |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station     | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|--------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                                 | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|             | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | $\frac{[2] + [4] + [6] + [9]}{[10]}$ |      |      |      |      |      |      |      |      |      |      |      |      |
| SthFrontage |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1993+25.00  | 1                           | 1                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 1                                             |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1993+50.00  | 2                           | 2                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 2                                             |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1993+75.00  | 1                           | 1                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 1                                             |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1994+00.00  | 73                          | 73                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 73                                            |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1994+25.00  | 151                         | 151                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 151                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1994+50.00  | 157                         | 157                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 157                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1994+75.00  | 158                         | 158                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 158                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1995+00.00  | 156                         | 156                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 156                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1995+25.00  | 122                         | 122                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 122                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1995+50.00  | 49                          | 49                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 49                                            |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1995+75.00  | 9                           | 9                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 9                                             |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1996+00.00  | 12                          | 12                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 12                                            |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1996+25.00  | 50                          | 50                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 50                                            |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1996+50.00  | 128                         | 128                              | 0                  | 0                                 | 7                                | 0                          | 0                     | 0                     | 128                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1996+75.00  | 188                         | 188                              | 0                  | 0                                 | 27                               | 0                          | 0                     | 0                     | 188                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1997+00.00  | 222                         | 222                              | 0                  | 0                                 | 39                               | 0                          | 0                     | 0                     | 222                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1997+25.00  | 250                         | 250                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     | 250                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1997+50.00  | 268                         | 268                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     | 268                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1997+75.00  | 231                         | 231                              | 0                  | 0                                 | 33                               | 0                          | 0                     | 0                     | 231                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1998+00.00  | 261                         | 261                              | 0                  | 0                                 | 29                               | 0                          | 0                     | 0                     | 261                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1998+25.00  | 370                         | 370                              | 0                  | 0                                 | 30                               | 0                          | 0                     | 0                     | 370                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1998+50.00  | 407                         | 407                              | 0                  | 0                                 | 30                               | 0                          | 0                     | 0                     | 407                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1998+75.00  | 461                         | 461                              | 0                  | 0                                 | 32                               | 0                          | 0                     | 0                     | 461                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1999+00.00  | 342                         | 342                              | 0                  | 0                                 | 35                               | 0                          | 0                     | 0                     | 342                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1999+25.00  | 349                         | 349                              | 0                  | 0                                 | 37                               | 0                          | 0                     | 0                     | 349                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1999+50.00  | 340                         | 340                              | 0                  | 0                                 | 38                               | 0                          | 0                     | 0                     | 340                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2000+00.00  | 330                         | 330                              | 0                  | 0                                 | 39                               | 0                          | 0                     | 0                     | 330                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2000+25.00  | 361                         | 361                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     | 361                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2000+50.00  | 378                         | 378                              | 0                  | 0                                 | 42                               | 0                          | 0                     | 0                     | 378                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2000+75.00  | 352                         | 352                              | 0                  | 0                                 | 43                               | 0                          | 0                     | 0                     | 352                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2001+00.00  | 325                         | 325                              | 0                  | 0                                 | 44                               | 0                          | 0                     | 0                     | 325                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2001+25.00  | 301                         | 301                              | 0                  | 0                                 | 44                               | 0                          | 0                     | 0                     | 301                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2001+50.00  | 275                         | 275                              | 0                  | 0                                 | 44                               | 0                          | 0                     | 0                     | 275                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2001+75.00  | 253                         | 253                              | 0                  | 0                                 | 44                               | 0                          | 0                     | 0                     | 253                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2002+00.00  | 238                         | 238                              | 0                  | 0                                 | 45                               | 0                          | 0                     | 0                     | 238                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2002+25.00  | 223                         | 223                              | 0                  | 0                                 | 45                               | 0                          | 0                     | 0                     | 223                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2002+50.00  | 206                         | 206                              | 0                  | 0                                 | 46                               | 0                          | 0                     | 0                     | 206                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2002+75.00  | 195                         | 195                              | 0                  | 0                                 | 47                               | 0                          | 0                     | 0                     | 195                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2003+00.00  | 192                         | 192                              | 0                  | 0                                 | 49                               | 0                          | 0                     | 0                     | 192                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2003+25.00  | 187                         | 187                              | 0                  | 0                                 | 51                               | 0                          | 0                     | 0                     | 187                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2003+50.00  | 187                         | 187                              | 0                  | 0                                 | 51                               | 0                          | 0                     | 0                     | 187                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2003+75.00  | 195                         | 195                              | 0                  | 0                                 | 51                               | 0                          | 0                     | 0                     | 195                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2004+00.00  | 203                         | 203                              | 0                  | 0                                 | 51                               | 0                          | 0                     | 0                     | 203                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2004+25.00  | 225                         | 225                              | 0                  | 0                                 | 51                               | 0                          | 0                     | 0                     | 225                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2004+50.00  | 270                         | 270                              | 0                  | 0                                 | 50                               | 0                          | 0                     | 0                     | 270                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2004+75.00  | 309                         | 309                              | 0                  | 0                                 | 50                               | 0                          | 0                     | 0                     | 309                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2005+00.00  | 332                         | 332                              | 0                  | 0                                 | 49                               | 0                          | 0                     | 0                     | 332                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2005+25.00  | 357                         | 357                              | 0                  | 0                                 | 49                               | 0                          | 0                     | 0                     | 357                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2005+50.00  | 376                         | 376                              | 0                  | 0                                 | 50                               | 0                          | 0                     | 0                     | 376                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2005+75.00  | 385                         | 385                              | 0                  | 0                                 | 50                               | 0                          | 0                     | 0                     | 385                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2006+00.00  | 391                         | 391                              | 0                  | 0                                 | 50                               | 0                          | 0                     | 0                     | 391                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2006+25.00  | 386                         | 386                              | 0                  | 0                                 | 49                               | 0                          | 0                     | 0                     | 386                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2006+50.00  | 379                         | 379                              | 0                  | 0                                 | 46                               | 0                          | 0                     | 0                     | 379                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2006+75.00  | 379                         | 379                              | 0                  | 0                                 | 44                               | 0                          | 0                     | 0                     | 379                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2007+00.00  | 372                         | 372                              | 0                  | 0                                 | 45                               | 0                          | 0                     | 0                     | 372                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2007+25.00  | 359                         | 359                              | 0                  | 0                                 | 48                               | 0                          | 0                     | 0                     | 359                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2007+50.00  | 341                         | 341                              | 0                  | 0                                 | 50                               | 0                          | 0                     | 0                     | 341                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2007+75.00  | 303                         | 303                              | 0                  | 0                                 | 50                               | 0                          | 0                     | 0                     | 303                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2008+00.00  | 261                         | 261                              | 0                  | 0                                 | 52                               | 0                          | 0                     | 0                     | 261                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2008+25.00  | 235                         | 235                              | 0                  | 0                                 | 53                               | 0                          | 0                     | 0                     | 235                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2008+50.00  | 214                         | 214                              | 0                  | 0                                 | 53                               | 0                          | 0                     | 0                     | 214                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2008+75.00  | 192                         | 192                              | 0                  | 0                                 | 53                               | 0                          | 0                     | 0                     | 192                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2009+00.00  | 168                         | 168                              | 0                  | 0                                 | 53                               | 0                          | 0                     | 0                     | 168                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2009+25.00  | 146                         | 146                              | 0                  | 0                                 | 52                               | 0                          | 0                     | 0                     | 146                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2009+50.00  | 127                         | 127                              | 0                  | 0                                 | 51                               | 0                          | 0                     | 0                     | 127                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2009+75.00  | 105                         | 105                              | 0                  | 0                                 | 49                               | 0                          | 0                     | 0                     | 105                                           |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2010+00.00  | 88                          | 88                               | 0                  | 0                                 | 47                               | 0                          | 0                     | 0                     | 88                                            |                                      |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals:  | 15,859                      | 15,859                           | 0                  | 0                                 | 2,390                            | 0                          | 0                     | 0                     | 15,859                                        |                                      |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station     | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          |                                                    | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|-------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|
|             | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |      |
|             |                              |                                     |                                              |                                    |                                                 | $\frac{[23] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |      |
|             | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |
| StnFrontage |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |
| 1993+25.00  | 373                          | 0                                   |                                              | 37                                 |                                                 | 410                                             | 517                                                        | -516                                    | 0                                                | 0                                      | 0                                 | 41                                | 57                                       | -57                                                |      |      |      |      |      |      |      |      |
| 1993+50.00  | 379                          | 0                                   |                                              | 38                                 |                                                 | 417                                             | 526                                                        | -524                                    | 0                                                | 0                                      | 0                                 | 45                                | 63                                       | -63                                                |      |      |      |      |      |      |      |      |
| 1993+75.00  | 372                          | 0                                   |                                              | 24                                 |                                                 | 396                                             | 499                                                        | -498                                    | 0                                                | 0                                      | 0                                 | 37                                | 52                                       | -52                                                |      |      |      |      |      |      |      |      |
| 1994+00.00  | 347                          | 0                                   |                                              | 6                                  |                                                 | 353                                             | 445                                                        | -372                                    | 0                                                | 0                                      | 0                                 | 49                                | 69                                       | -69                                                |      |      |      |      |      |      |      |      |
| 1994+25.00  | 319                          | 0                                   |                                              | 8                                  |                                                 | 327                                             | 412                                                        | -261                                    | 0                                                | 0                                      | 0                                 | 67                                | 94                                       | -94                                                |      |      |      |      |      |      |      |      |
| 1994+50.00  | 318                          | 0                                   |                                              |                                    |                                                 | 318                                             | 401                                                        | -244                                    | 0                                                | 0                                      | 0                                 | 68                                | 95                                       | -95                                                |      |      |      |      |      |      |      |      |
| 1994+75.00  | 380                          | 0                                   |                                              |                                    |                                                 | 380                                             | 479                                                        | -321                                    | 0                                                | 0                                      | 0                                 | 67                                | 94                                       | -94                                                |      |      |      |      |      |      |      |      |
| 1995+00.00  | 500                          | 0                                   |                                              |                                    |                                                 | 500                                             | 630                                                        | -474                                    | 0                                                | 0                                      | 0                                 | 68                                | 95                                       | -95                                                |      |      |      |      |      |      |      |      |
| 1995+25.00  | 612                          | 0                                   |                                              |                                    |                                                 | 612                                             | 771                                                        | -649                                    | 0                                                | 0                                      | 0                                 | 68                                | 95                                       | -95                                                |      |      |      |      |      |      |      |      |
| 1995+50.00  | 644                          | 0                                   |                                              | 19                                 |                                                 | 663                                             | 835                                                        | -786                                    | 0                                                | 0                                      | 0                                 | 64                                | 90                                       | -90                                                |      |      |      |      |      |      |      |      |
| 1995+75.00  | 631                          | 0                                   |                                              | 22                                 |                                                 | 653                                             | 823                                                        | -814                                    | 0                                                | 0                                      | 0                                 | 59                                | 83                                       | -83                                                |      |      |      |      |      |      |      |      |
| 1996+00.00  | 614                          | 0                                   |                                              | 21                                 |                                                 | 635                                             | 800                                                        | -788                                    | 0                                                | 0                                      | 0                                 | 60                                | 84                                       | -84                                                |      |      |      |      |      |      |      |      |
| 1996+25.00  | 603                          | 0                                   |                                              | 21                                 |                                                 | 624                                             | 786                                                        | -736                                    | 0                                                | 0                                      | 0                                 | 70                                | 98                                       | -98                                                |      |      |      |      |      |      |      |      |
| 1996+50.00  | 583                          | 0                                   |                                              | 17                                 |                                                 | 600                                             | 756                                                        | -628                                    | 0                                                | 0                                      | 0                                 | 79                                | 111                                      | -111                                               |      |      |      |      |      |      |      |      |
| 1996+75.00  | 538                          | 0                                   |                                              | 6                                  |                                                 | 544                                             | 686                                                        | -498                                    | 0                                                | 0                                      | 0                                 | 80                                | 112                                      | -112                                               |      |      |      |      |      |      |      |      |
| 1997+00.00  | 475                          | 0                                   |                                              |                                    |                                                 | 475                                             | 599                                                        | -377                                    | 0                                                | 0                                      | 0                                 | 80                                | 112                                      | -112                                               |      |      |      |      |      |      |      |      |
| 1997+25.00  | 397                          | 0                                   |                                              | 1                                  |                                                 | 398                                             | 502                                                        | -252                                    | 0                                                | 0                                      | 0                                 | 81                                | 113                                      | -113                                               |      |      |      |      |      |      |      |      |
| 1997+50.00  | 323                          | 0                                   |                                              | 6                                  |                                                 | 329                                             | 415                                                        | -147                                    | 0                                                | 0                                      | 0                                 | 80                                | 112                                      | -112                                               |      |      |      |      |      |      |      |      |
| 1997+75.00  | 339                          | 21                                  |                                              | 16                                 |                                                 | 376                                             | 474                                                        | -243                                    | 0                                                | 0                                      | 0                                 | 78                                | 109                                      | -109                                               |      |      |      |      |      |      |      |      |
| 1998+00.00  | 284                          | 56                                  |                                              | 18                                 |                                                 | 358                                             | 451                                                        | -190                                    | 0                                                | 0                                      | 0                                 | 76                                | 106                                      | -106                                               |      |      |      |      |      |      |      |      |
| 1998+25.00  | 160                          | 108                                 |                                              | 15                                 |                                                 | 283                                             | 357                                                        | 13                                      | 0                                                | 0                                      | 0                                 | 74                                | 104                                      | -104                                               |      |      |      |      |      |      |      |      |
| 1998+50.00  | 126                          | 130                                 |                                              | 14                                 |                                                 | 270                                             | 340                                                        | 67                                      | 0                                                | 0                                      | 0                                 | 73                                | 102                                      | -102                                               |      |      |      |      |      |      |      |      |
| 1998+75.00  | 99                           | 146                                 |                                              | 13                                 |                                                 | 258                                             | 325                                                        | 136                                     | 0                                                | 0                                      | 0                                 | 73                                | 102                                      | -102                                               |      |      |      |      |      |      |      |      |
| 1999+00.00  | 77                           | 0                                   |                                              | 11                                 |                                                 | 88                                              | 111                                                        | 231                                     | 0                                                | 0                                      | 0                                 | 73                                | 102                                      | -102                                               |      |      |      |      |      |      |      |      |
| 1999+25.00  | 57                           | 0                                   |                                              | 10                                 |                                                 | 67                                              | 85                                                         | 265                                     | 0                                                | 0                                      | 0                                 | 71                                | 99                                       | -99                                                |      |      |      |      |      |      |      |      |
| 1999+50.00  | 43                           | 0                                   |                                              | 11                                 |                                                 | 54                                              | 68                                                         | 272                                     | 0                                                | 0                                      | 0                                 | 69                                | 97                                       | -97                                                |      |      |      |      |      |      |      |      |
| 1999+75.00  | 32                           | 0                                   |                                              | 11                                 |                                                 | 43                                              | 54                                                         | 276                                     | 0                                                | 0                                      | 0                                 | 67                                | 94                                       | -94                                                |      |      |      |      |      |      |      |      |
| 2000+00.00  | 17                           | 0                                   |                                              | 10                                 |                                                 | 27                                              | 34                                                         | 327                                     | 0                                                | 0                                      | 0                                 | 65                                | 91                                       | -91                                                |      |      |      |      |      |      |      |      |
| 2000+25.00  | 9                            | 0                                   |                                              | 9                                  |                                                 | 18                                              | 23                                                         | 355                                     | 0                                                | 0                                      | 0                                 | 63                                | 88                                       | -88                                                |      |      |      |      |      |      |      |      |
| 2000+50.00  | 9                            | 0                                   |                                              | 9                                  |                                                 | 18                                              | 23                                                         | 329                                     | 0                                                | 0                                      | 0                                 | 62                                | 87                                       | -87                                                |      |      |      |      |      |      |      |      |
| 2000+75.00  | 10                           | 0                                   |                                              | 8                                  |                                                 | 18                                              | 23                                                         | 302                                     | 0                                                | 0                                      | 0                                 | 61                                | 85                                       | -85                                                |      |      |      |      |      |      |      |      |
| 2001+00.00  | 12                           | 0                                   |                                              | 7                                  |                                                 | 19                                              | 24                                                         | 277                                     | 0                                                | 0                                      | 0                                 | 60                                | 84                                       | -84                                                |      |      |      |      |      |      |      |      |
| 2001+25.00  | 14                           | 0                                   |                                              | 7                                  |                                                 | 21                                              | 27                                                         | 249                                     | 0                                                | 0                                      | 0                                 | 58                                | 81                                       | -81                                                |      |      |      |      |      |      |      |      |
| 2001+50.00  | 14                           | 0                                   |                                              | 7                                  |                                                 | 21                                              | 27                                                         | 227                                     | 0                                                | 0                                      | 0                                 | 57                                | 80                                       | -80                                                |      |      |      |      |      |      |      |      |
| 2001+75.00  | 13                           | 0                                   |                                              | 5                                  |                                                 | 18                                              | 23                                                         | 215                                     | 0                                                | 0                                      | 0                                 | 55                                | 77                                       | -77                                                |      |      |      |      |      |      |      |      |
| 2002+00.00  | 11                           | 0                                   |                                              | 4                                  |                                                 | 15                                              | 19                                                         | 204                                     | 0                                                | 0                                      | 0                                 | 53                                | 74                                       | -74                                                |      |      |      |      |      |      |      |      |
| 2002+25.00  | 9                            | 0                                   |                                              | 3                                  |                                                 | 12                                              | 15                                                         | 191                                     | 0                                                | 0                                      | 0                                 | 47                                | 66                                       | -66                                                |      |      |      |      |      |      |      |      |
| 2002+50.00  | 8                            | 0                                   |                                              | 3                                  |                                                 | 11                                              | 14                                                         | 181                                     | 0                                                | 0                                      | 0                                 | 40                                | 56                                       | -56                                                |      |      |      |      |      |      |      |      |
| 2002+75.00  | 7                            | 0                                   |                                              | 2                                  |                                                 | 9                                               | 11                                                         | 181                                     | 0                                                | 0                                      | 0                                 | 39                                | 55                                       | -55                                                |      |      |      |      |      |      |      |      |
| 2003+00.00  | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 178                                     | 0                                                | 0                                      | 0                                 | 38                                | 53                                       | -53                                                |      |      |      |      |      |      |      |      |
| 2003+25.00  | 6                            | 0                                   |                                              |                                    |                                                 | 6                                               | 8                                                          | 179                                     | 0                                                | 0                                      | 0                                 | 37                                | 52                                       | -52                                                |      |      |      |      |      |      |      |      |
| 2003+50.00  | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 186                                     | 0                                                | 0                                      | 0                                 | 36                                | 50                                       | -50                                                |      |      |      |      |      |      |      |      |
| 2003+75.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 193                                     | 0                                                | 0                                      | 0                                 | 36                                | 50                                       | -50                                                |      |      |      |      |      |      |      |      |
| 2004+00.00  | 24                           | 0                                   |                                              |                                    |                                                 | 24                                              | 30                                                         | 195                                     | 0                                                | 0                                      | 0                                 | 48                                | 67                                       | -67                                                |      |      |      |      |      |      |      |      |
| 2004+25.00  | 24                           | 0                                   |                                              |                                    |                                                 | 24                                              | 30                                                         | 240                                     | 0                                                | 0                                      | 0                                 | 54                                | 76                                       | -76                                                |      |      |      |      |      |      |      |      |
| 2004+50.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 299                                     | 0                                                | 0                                      | 0                                 | 47                                | 66                                       | -66                                                |      |      |      |      |      |      |      |      |
| 2004+75.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 322                                     | 0                                                | 0                                      | 0                                 | 47                                | 66                                       | -66                                                |      |      |      |      |      |      |      |      |
| 2005+00.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 347                                     | 0                                                | 0                                      | 0                                 | 46                                | 64                                       | -64                                                |      |      |      |      |      |      |      |      |
| 2005+25.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 366                                     | 0                                                | 0                                      | 0                                 | 44                                | 62                                       | -62                                                |      |      |      |      |      |      |      |      |
| 2005+50.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 375                                     | 0                                                | 0                                      | 0                                 | 44                                | 62                                       | -62                                                |      |      |      |      |      |      |      |      |
| 2005+75.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 381                                     | 0                                                | 0                                      | 0                                 | 43                                | 60                                       | -60                                                |      |      |      |      |      |      |      |      |
| 2006+00.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 376                                     | 0                                                | 0                                      | 0                                 | 40                                | 56                                       | -56                                                |      |      |      |      |      |      |      |      |
| 2006+25.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 369                                     | 0                                                | 0                                      | 0                                 | 38                                | 53                                       | -53                                                |      |      |      |      |      |      |      |      |
| 2006+50.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 369                                     | 0                                                | 0                                      | 0                                 | 40                                | 56                                       | -56                                                |      |      |      |      |      |      |      |      |
| 2006+75.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 362                                     | 0                                                | 0                                      | 0                                 | 40                                | 56                                       | -56                                                |      |      |      |      |      |      |      |      |
| 2007+00.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 349                                     | 0                                                | 0                                      | 0                                 | 38                                | 53                                       | -53                                                |      |      |      |      |      |      |      |      |
| 2007+25.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 331                                     | 0                                                | 0                                      | 0                                 | 39                                | 55                                       | -55                                                |      |      |      |      |      |      |      |      |
| 2007+50.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 293                                     | 0                                                | 0                                      | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |      |
| 2007+75.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 251                                     | 0                                                | 0                                      | 0                                 | 28                                | 39                                       | -39                                                |      |      |      |      |      |      |      |      |
| 2008+00.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 225                                     | 0                                                | 0                                      | 0                                 | 28                                | 39                                       | -39                                                |      |      |      |      |      |      |      |      |
| 2008+25.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 204                                     | 0                                                | 0                                      | 0                                 | 27                                | 38                                       | -38                                                |      |      |      |      |      |      |      |      |
| 2008+50.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 182                                     | 0                                                | 0                                      | 0                                 | 27                                | 38                                       | -38                                                |      |      |      |      |      |      |      |      |
| 2008+75.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 158                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |      |
| 2009+00.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 136                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |      |
| 2009+25.00  | 6                            | 0                                   |                                              |                                    |                                                 | 6                                               | 8                                                          | 119                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |      |
| 2009+50.00  | 4                            | 0                                   |                                              | 1                                  |                                                 | 5                                               | 6                                                          | 99                                      | 0                                                | 0                                      | 0                                 | 28                                | 39                                       | -39                                                |      |      |      |      |      |      |      |      |
| 2009+75.00  | 5                            | 0                                   |                                              | 3                                  |                                                 | 8                                               | 10                                                         | 78                                      | 0                                                | 0                                      | 0                                 | 29                                | 41                                       | -41                                                |      |      |      |      |      |      |      |      |
| Subtotals:  | 10,001                       | 461                                 | 0                                            | 423                                | 0                                               | 10,885                                          | 13,717                                                     | 2,142                                   | 0                                                | 0                                      | 0                                 | 3,510                             | 4,914                                    | -4,914                                             |      |      |      |      |      |      |      |      |



**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station    | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 2010+00.00 | 77                          | 77                               | 0                  | 0                                 | 44                               | 0                          | 0                     | 0                     | 77                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2010+25.00 | 68                          | 68                               | 0                  | 0                                 | 42                               | 0                          | 0                     | 0                     | 68                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2010+50.00 | 60                          | 60                               | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     | 60                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2010+75.00 | 56                          | 56                               | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     | 56                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2011+00.00 | 57                          | 57                               | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     | 57                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2011+25.00 | 64                          | 64                               | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     | 64                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2011+50.00 | 73                          | 73                               | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     | 73                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2011+75.00 | 88                          | 88                               | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     | 88                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2012+00.00 | 108                         | 108                              | 0                  | 0                                 | 42                               | 0                          | 0                     | 0                     | 108                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2012+25.00 | 130                         | 130                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     | 130                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2012+50.00 | 149                         | 149                              | 0                  | 0                                 | 41                               | 0                          | 0                     | 0                     | 149                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2012+75.00 | 162                         | 162                              | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     | 162                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2013+00.00 | 174                         | 174                              | 0                  | 0                                 | 40                               | 0                          | 0                     | 0                     | 174                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2013+25.00 | 184                         | 184                              | 0                  | 0                                 | 39                               | 0                          | 0                     | 0                     | 184                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2013+50.00 | 191                         | 191                              | 0                  | 0                                 | 38                               | 0                          | 0                     | 0                     | 191                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2013+75.00 | 196                         | 196                              | 0                  | 0                                 | 37                               | 0                          | 0                     | 0                     | 196                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2014+00.00 | 203                         | 203                              | 0                  | 0                                 | 35                               | 0                          | 0                     | 0                     | 203                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2014+25.00 | 208                         | 208                              | 0                  | 0                                 | 33                               | 0                          | 0                     | 0                     | 208                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2014+50.00 | 229                         | 229                              | 0                  | 0                                 | 36                               | 0                          | 0                     | 0                     | 229                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2014+75.00 | 250                         | 250                              | 0                  | 0                                 | 38                               | 0                          | 0                     | 0                     | 250                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2015+00.00 | 253                         | 253                              | 0                  | 0                                 | 35                               | 0                          | 0                     | 0                     | 253                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2015+25.00 | 257                         | 257                              | 0                  | 0                                 | 32                               | 0                          | 0                     | 0                     | 257                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2015+50.00 | 257                         | 257                              | 0                  | 0                                 | 29                               | 0                          | 0                     | 0                     | 257                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2015+75.00 | 255                         | 255                              | 0                  | 0                                 | 27                               | 0                          | 0                     | 0                     | 255                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2016+00.00 | 249                         | 249                              | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 249                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2016+25.00 | 242                         | 242                              | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 242                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2016+50.00 | 234                         | 234                              | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 234                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2016+75.00 | 227                         | 227                              | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 227                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2017+00.00 | 223                         | 223                              | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 223                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2017+25.00 | 219                         | 219                              | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 219                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2017+50.00 | 214                         | 214                              | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 214                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2017+75.00 | 212                         | 212                              | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 212                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2018+00.00 | 212                         | 212                              | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 212                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2018+25.00 | 215                         | 215                              | 0                  | 0                                 | 25                               | 0                          | 0                     | 0                     | 215                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2018+50.00 | 217                         | 217                              | 0                  | 0                                 | 23                               | 0                          | 0                     | 0                     | 217                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2018+75.00 | 216                         | 216                              | 0                  | 0                                 | 21                               | 0                          | 0                     | 0                     | 216                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2019+00.00 | 207                         | 207                              | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     | 207                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2019+25.00 | 196                         | 196                              | 0                  | 0                                 | 18                               | 0                          | 0                     | 0                     | 196                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2019+50.00 | 190                         | 190                              | 0                  | 0                                 | 17                               | 0                          | 0                     | 0                     | 190                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2019+75.00 | 184                         | 184                              | 0                  | 0                                 | 15                               | 0                          | 0                     | 0                     | 184                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2020+00.00 | 179                         | 179                              | 0                  | 0                                 | 13                               | 0                          | 0                     | 0                     | 179                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2020+25.00 | 168                         | 168                              | 0                  | 0                                 | 12                               | 0                          | 0                     | 0                     | 168                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2020+50.00 | 158                         | 158                              | 0                  | 0                                 | 10                               | 0                          | 0                     | 0                     | 158                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2020+75.00 | 151                         | 151                              | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     | 151                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2021+00.00 | 146                         | 146                              | 0                  | 0                                 | 8                                | 0                          | 0                     | 0                     | 146                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2021+25.00 | 140                         | 140                              | 0                  | 0                                 | 7                                | 0                          | 0                     | 0                     | 140                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2021+50.00 | 131                         | 131                              | 0                  | 0                                 | 7                                | 0                          | 0                     | 0                     | 131                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2021+75.00 | 124                         | 124                              | 0                  | 0                                 | 7                                | 0                          | 0                     | 0                     | 124                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2022+00.00 | 121                         | 121                              | 0                  | 0                                 | 7                                | 0                          | 0                     | 0                     | 121                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2022+25.00 | 120                         | 120                              | 0                  | 0                                 | 6                                | 0                          | 0                     | 0                     | 120                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2022+50.00 | 117                         | 117                              | 0                  | 0                                 | 6                                | 0                          | 0                     | 0                     | 117                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2022+75.00 | 115                         | 115                              | 0                  | 0                                 | 6                                | 0                          | 0                     | 0                     | 115                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2023+00.00 | 117                         | 117                              | 0                  | 0                                 | 6                                | 0                          | 0                     | 0                     | 117                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2023+25.00 | 124                         | 124                              | 0                  | 0                                 | 6                                | 0                          | 0                     | 0                     | 124                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2023+50.00 | 127                         | 127                              | 0                  | 0                                 | 6                                | 0                          | 0                     | 0                     | 127                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2023+75.00 | 118                         | 118                              | 0                  | 0                                 | 6                                | 0                          | 0                     | 0                     | 118                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2024+00.00 | 111                         | 111                              | 0                  | 0                                 | 6                                | 0                          | 0                     | 0                     | 111                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2024+25.00 | 108                         | 108                              | 0                  | 0                                 | 6                                | 0                          | 0                     | 0                     | 108                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2024+50.00 | 110                         | 110                              | 0                  | 0                                 | 5                                | 0                          | 0                     | 0                     | 110                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2024+75.00 | 113                         | 113                              | 0                  | 0                                 | 4                                | 0                          | 0                     | 0                     | 113                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2025+00.00 | 106                         | 106                              | 0                  | 0                                 | 3                                | 0                          | 0                     | 0                     | 106                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2025+25.00 | 100                         | 100                              | 0                  | 0                                 | 2                                | 0                          | 0                     | 0                     | 100                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2025+50.00 | 100                         | 100                              | 0                  | 0                                 | 1                                | 0                          | 0                     | 0                     | 100                                           |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2025+75.00 | 98                          | 98                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 98                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2026+00.00 | 96                          | 96                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 96                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2026+25.00 | 96                          | 96                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 96                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2026+50.00 | 97                          | 97                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 97                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 2026+75.00 | 98                          | 98                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 98                                            |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals: | 10,595                      | 10,595                           | 0                  | 0                                 | 1,423                            | 0                          | 0                     | 0                     | 10,595                                        |                       |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station    | Fill                         |                                     |                                              |                                    |                                                 |                     |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|---------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|
|            | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |
|            | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |
| 2010+00.00 | 8                            | 0                                   |                                              | 6                                  |                                                 | 14                  | 18                                                         | 59                                      | 0                                                | 0                                      | 0                                 | 30                                | 42                                       | -42                                                |      |      |      |      |      |      |      |
| 2010+25.00 | 11                           | 0                                   |                                              | 8                                  |                                                 | 19                  | 24                                                         | 44                                      | 0                                                | 0                                      | 0                                 | 32                                | 45                                       | -45                                                |      |      |      |      |      |      |      |
| 2010+50.00 | 16                           | 0                                   |                                              | 10                                 |                                                 | 26                  | 33                                                         | 27                                      | 0                                                | 0                                      | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |
| 2010+75.00 | 18                           | 0                                   |                                              | 10                                 |                                                 | 28                  | 35                                                         | 21                                      | 0                                                | 0                                      | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |
| 2011+00.00 | 18                           | 0                                   |                                              | 10                                 |                                                 | 28                  | 35                                                         | 22                                      | 0                                                | 0                                      | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |
| 2011+25.00 | 18                           | 0                                   |                                              | 9                                  |                                                 | 27                  | 34                                                         | 30                                      | 0                                                | 0                                      | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |
| 2011+50.00 | 17                           | 0                                   |                                              | 7                                  |                                                 | 24                  | 30                                                         | 43                                      | 0                                                | 0                                      | 0                                 | 33                                | 46                                       | -46                                                |      |      |      |      |      |      |      |
| 2012+00.00 | 13                           | 0                                   |                                              | 3                                  |                                                 | 16                  | 20                                                         | 68                                      | 0                                                | 0                                      | 0                                 | 32                                | 45                                       | -45                                                |      |      |      |      |      |      |      |
| 2012+25.00 | 9                            | 0                                   |                                              |                                    |                                                 | 9                   | 11                                                         | 97                                      | 0                                                | 0                                      | 0                                 | 31                                | 43                                       | -43                                                |      |      |      |      |      |      |      |
| 2012+50.00 | 5                            | 0                                   |                                              |                                    |                                                 | 5                   | 6                                                          | 124                                     | 0                                                | 0                                      | 0                                 | 30                                | 42                                       | -42                                                |      |      |      |      |      |      |      |
| 2012+75.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 144                                     | 0                                                | 0                                      | 0                                 | 29                                | 41                                       | -41                                                |      |      |      |      |      |      |      |
| 2013+00.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 157                                     | 0                                                | 0                                      | 0                                 | 28                                | 39                                       | -39                                                |      |      |      |      |      |      |      |
| 2013+25.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 169                                     | 0                                                | 0                                      | 0                                 | 27                                | 38                                       | -38                                                |      |      |      |      |      |      |      |
| 2013+50.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 179                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |
| 2013+75.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 186                                     | 0                                                | 0                                      | 0                                 | 27                                | 38                                       | -38                                                |      |      |      |      |      |      |      |
| 2014+00.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 191                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |
| 2014+25.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 198                                     | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |
| 2014+50.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 203                                     | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |
| 2014+75.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 224                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |
| 2015+00.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 245                                     | 0                                                | 0                                      | 0                                 | 27                                | 38                                       | -38                                                |      |      |      |      |      |      |      |
| 2015+25.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 248                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |
| 2015+50.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 252                                     | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |
| 2015+75.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 252                                     | 0                                                | 0                                      | 0                                 | 23                                | 32                                       | -32                                                |      |      |      |      |      |      |      |
| 2016+00.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 250                                     | 0                                                | 0                                      | 0                                 | 22                                | 31                                       | -31                                                |      |      |      |      |      |      |      |
| 2016+25.00 | 4                            | 0                                   |                                              |                                    |                                                 | 4                   | 5                                                          | 244                                     | 0                                                | 0                                      | 0                                 | 22                                | 31                                       | -31                                                |      |      |      |      |      |      |      |
| 2016+50.00 | 6                            | 0                                   |                                              |                                    |                                                 | 6                   | 8                                                          | 234                                     | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |
| 2016+75.00 | 9                            | 0                                   |                                              |                                    |                                                 | 9                   | 11                                                         | 223                                     | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |
| 2017+00.00 | 10                           | 0                                   |                                              |                                    |                                                 | 10                  | 13                                                         | 214                                     | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |
| 2017+25.00 | 10                           | 0                                   |                                              |                                    |                                                 | 10                  | 13                                                         | 210                                     | 0                                                | 0                                      | 0                                 | 20                                | 28                                       | -28                                                |      |      |      |      |      |      |      |
| 2017+50.00 | 11                           | 0                                   |                                              |                                    |                                                 | 11                  | 14                                                         | 205                                     | 0                                                | 0                                      | 0                                 | 19                                | 27                                       | -27                                                |      |      |      |      |      |      |      |
| 2017+75.00 | 10                           | 0                                   |                                              |                                    |                                                 | 10                  | 13                                                         | 201                                     | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |
| 2018+00.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                   | 10                                                         | 202                                     | 0                                                | 0                                      | 0                                 | 17                                | 24                                       | -24                                                |      |      |      |      |      |      |      |
| 2018+25.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                   | 10                                                         | 202                                     | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |
| 2018+50.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                   | 10                                                         | 205                                     | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |
| 2018+75.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                   | 10                                                         | 207                                     | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |
| 2019+00.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                   | 10                                                         | 206                                     | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |
| 2019+25.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                   | 10                                                         | 197                                     | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |
| 2019+50.00 | 10                           | 0                                   |                                              |                                    |                                                 | 10                  | 13                                                         | 183                                     | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |
| 2019+75.00 | 13                           | 0                                   |                                              |                                    |                                                 | 13                  | 16                                                         | 174                                     | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |
| 2020+00.00 | 15                           | 0                                   |                                              |                                    |                                                 | 15                  | 19                                                         | 165                                     | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |
| 2020+25.00 | 17                           | 0                                   |                                              |                                    |                                                 | 17                  | 22                                                         | 158                                     | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |
| 2020+50.00 | 21                           | 0                                   |                                              |                                    |                                                 | 21                  | 27                                                         | 142                                     | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |
| 2020+75.00 | 25                           | 0                                   |                                              |                                    |                                                 | 25                  | 32                                                         | 127                                     | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |
| 2021+00.00 | 24                           | 0                                   |                                              |                                    |                                                 | 24                  | 30                                                         | 121                                     | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |
| 2021+25.00 | 25                           | 0                                   |                                              |                                    |                                                 | 25                  | 32                                                         | 115                                     | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |
| 2021+50.00 | 27                           | 0                                   |                                              |                                    |                                                 | 27                  | 34                                                         | 106                                     | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |
| 2021+75.00 | 27                           | 0                                   |                                              |                                    |                                                 | 27                  | 34                                                         | 97                                      | 0                                                | 0                                      | 0                                 | 17                                | 24                                       | -24                                                |      |      |      |      |      |      |      |
| 2022+00.00 | 24                           | 0                                   |                                              |                                    |                                                 | 24                  | 30                                                         | 94                                      | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |
| 2022+25.00 | 19                           | 0                                   |                                              |                                    |                                                 | 19                  | 24                                                         | 97                                      | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |
| 2022+50.00 | 16                           | 0                                   |                                              |                                    |                                                 | 16                  | 20                                                         | 100                                     | 0                                                | 0                                      | 0                                 | 18                                | 25                                       | -25                                                |      |      |      |      |      |      |      |
| 2022+75.00 | 14                           | 0                                   |                                              |                                    |                                                 | 14                  | 18                                                         | 99                                      | 0                                                | 0                                      | 0                                 | 19                                | 27                                       | -27                                                |      |      |      |      |      |      |      |
| 2023+00.00 | 13                           | 0                                   |                                              |                                    |                                                 | 13                  | 16                                                         | 99                                      | 0                                                | 0                                      | 0                                 | 19                                | 27                                       | -27                                                |      |      |      |      |      |      |      |
| 2023+25.00 | 11                           | 0                                   |                                              |                                    |                                                 | 11                  | 14                                                         | 103                                     | 0                                                | 0                                      | 0                                 | 20                                | 28                                       | -28                                                |      |      |      |      |      |      |      |
| 2023+50.00 | 9                            | 0                                   |                                              |                                    |                                                 | 9                   | 11                                                         | 113                                     | 0                                                | 0                                      | 0                                 | 20                                | 28                                       | -28                                                |      |      |      |      |      |      |      |
| 2023+75.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                   | 10                                                         | 117                                     | 0                                                | 0                                      | 0                                 | 21                                | 29                                       | -29                                                |      |      |      |      |      |      |      |
| 2024+00.00 | 7                            | 0                                   |                                              |                                    |                                                 | 7                   | 9                                                          | 109                                     | 0                                                | 0                                      | 0                                 | 22                                | 31                                       | -31                                                |      |      |      |      |      |      |      |
| 2024+25.00 | 7                            | 0                                   |                                              |                                    |                                                 | 7                   | 9                                                          | 102                                     | 0                                                | 0                                      | 0                                 | 22                                | 31                                       | -31                                                |      |      |      |      |      |      |      |
| 2024+50.00 | 6                            | 0                                   |                                              |                                    |                                                 | 6                   | 8                                                          | 100                                     | 0                                                | 0                                      | 0                                 | 23                                | 32                                       | -32                                                |      |      |      |      |      |      |      |
| 2024+75.00 | 6                            | 0                                   |                                              |                                    |                                                 | 6                   | 8                                                          | 102                                     | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |
| 2025+00.00 | 7                            | 0                                   |                                              |                                    |                                                 | 7                   | 9                                                          | 104                                     | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |
| 2025+25.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                   | 10                                                         | 96                                      | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |
| 2025+50.00 | 8                            | 0                                   |                                              |                                    |                                                 | 8                   | 10                                                         | 90                                      | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |
| 2025+75.00 | 9                            | 0                                   |                                              |                                    |                                                 | 9                   | 11                                                         | 89                                      | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |
| 2026+00.00 | 11                           | 0                                   |                                              |                                    |                                                 | 11                  | 14                                                         | 84                                      | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |
| 2026+25.00 | 13                           | 0                                   |                                              |                                    |                                                 | 13                  | 16                                                         | 80                                      | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |
| 2026+50.00 | 16                           | 0                                   |                                              |                                    |                                                 | 16                  | 20                                                         | 76                                      | 0                                                | 0                                      | 0                                 | 24                                | 34                                       | -34                                                |      |      |      |      |      |      |      |
| 2026+75.00 | 20                           | 0                                   |                                              |                                    |                                                 | 20                  | 25                                                         | 72                                      | 0                                                | 0                                      | 0                                 | 24                                | 34                                       | -34                                                |      |      |      |      |      |      |      |
| 2027+00.00 | 27                           | 0                                   |                                              |                                    |                                                 | 27                  | 34                                                         | 64                                      | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |
| Subtotals: | 760                          | 0                                   | 0                                            | 63                                 | 0                                               | 823                 | 1,040                                                      | 9,555                                   | 0                                                | 0                                      | 0                                 | 1,535                             | 2,149                                    | -2,149                                             |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station     | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|             | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 2027+00.00  | 99                          | 99                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 99                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2027+25.00  | 100                         | 100                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 100                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2027+50.00  | 101                         | 101                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 101                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2027+75.00  | 100                         | 100                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 100                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2028+00.00  | 100                         | 100                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 100                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2028+25.00  | 99                          | 99                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 99                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2028+50.00  | 95                          | 95                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 95                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2028+75.00  | 92                          | 92                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 92                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2029+00.00  | 91                          | 91                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 91                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2029+25.00  | 94                          | 94                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 94                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2029+50.00  | 95                          | 95                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 95                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2029+75.00  | 94                          | 94                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 94                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2030+00.00  | 96                          | 96                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 96                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2030+25.00  | 99                          | 99                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 99                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2030+50.00  | 101                         | 101                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 101                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2030+75.00  | 96                          | 96                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 96                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2031+00.00  | 94                          | 94                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 94                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2031+25.00  | 99                          | 99                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 99                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2031+50.00  | 103                         | 51                               | 0                  | 52                                | 0                                | 0                          | 0                     | 0                     | 0                                             | 103                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2031+75.00  | 103                         | 0                                | 0                  | 103                               | 0                                | 0                          | 0                     | 0                     | 0                                             | 103                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2032+00.00  | 122                         | 6                                | 0                  | 115                               | 0                                | 0                          | 0                     | 0                     | 0                                             | 121                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 2032+25.00  | 43                          | 2                                | 0                  | 41                                | 0                                | 0                          | 0                     | 0                     | 0                                             | 43                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 2032+35.00  |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| SthFrontage |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Totals:     | 28,570                      | 28,258                           | 0                  | 311                               | 3,813                            | 0                          | 0                     | 0                     | 0                                             | 28,569                |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station             | Fill                         |                                     |                                              |                                    |                                                 |                                                 | Checks (EW-102)                                            |                                         | Topsoil                                          |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |  |
|---------------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|--|--|
|                     | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |  |
|                     |                              |                                     |                                              |                                    |                                                 | $\frac{[23] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[30] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |      |  |  |
|                     | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |  |  |
| 2027+00.00          | 31                           | 0                                   |                                              |                                    |                                                 | 31                                              | 39                                                         | 60                                      | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |      |  |  |
| 2027+25.00          | 32                           | 0                                   |                                              |                                    |                                                 | 32                                              | 40                                                         | 60                                      | 0                                                | 0                                      | 0                                 | 27                                | 38                                       | -38                                                |      |      |      |      |      |      |      |      |  |  |
| 2027+50.00          | 32                           | 0                                   |                                              |                                    |                                                 | 32                                              | 40                                                         | 61                                      | 0                                                | 0                                      | 0                                 | 29                                | 41                                       | -41                                                |      |      |      |      |      |      |      |      |  |  |
| 2027+75.00          | 26                           | 0                                   |                                              |                                    |                                                 | 26                                              | 33                                                         | 67                                      | 0                                                | 0                                      | 0                                 | 25                                | 35                                       | -35                                                |      |      |      |      |      |      |      |      |  |  |
| 2028+00.00          | 17                           | 0                                   |                                              |                                    |                                                 | 17                                              | 22                                                         | 79                                      | 0                                                | 0                                      | 0                                 | 19                                | 27                                       | -27                                                |      |      |      |      |      |      |      |      |  |  |
| 2028+25.00          | 12                           | 0                                   |                                              |                                    |                                                 | 12                                              | 15                                                         | 84                                      | 0                                                | 0                                      | 0                                 | 17                                | 24                                       | -24                                                |      |      |      |      |      |      |      |      |  |  |
| 2028+50.00          | 10                           | 0                                   |                                              |                                    |                                                 | 10                                              | 13                                                         | 82                                      | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |      |  |  |
| 2028+75.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 82                                      | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |      |  |  |
| 2029+00.00          | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 82                                      | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |      |  |  |
| 2029+25.00          | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 85                                      | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |      |  |  |
| 2029+50.00          | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 86                                      | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |      |  |  |
| 2029+75.00          | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 85                                      | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |      |  |  |
| 2030+00.00          | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 87                                      | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |      |  |  |
| 2030+25.00          | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 90                                      | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |      |  |  |
| 2030+50.00          | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 92                                      | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |      |  |  |
| 2030+75.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 86                                      | 0                                                | 0                                      | 0                                 | 17                                | 24                                       | -24                                                |      |      |      |      |      |      |      |      |  |  |
| 2031+00.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 84                                      | 0                                                | 0                                      | 0                                 | 17                                | 24                                       | -24                                                |      |      |      |      |      |      |      |      |  |  |
| 2031+25.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 89                                      | 0                                                | 0                                      | 0                                 | 17                                | 24                                       | -24                                                |      |      |      |      |      |      |      |      |  |  |
| 2031+50.00          | 8                            | 0                                   |                                              |                                    |                                                 | 8                                               | 10                                                         | 93                                      | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |      |  |  |
| 2031+75.00          | 6                            | 0                                   |                                              |                                    |                                                 | 6                                               | 8                                                          | 95                                      | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |      |  |  |
| 2032+00.00          | 7                            | 0                                   |                                              |                                    |                                                 | 7                                               | 9                                                          | 112                                     | 0                                                | 0                                      | 0                                 | 19                                | 27                                       | -27                                                |      |      |      |      |      |      |      |      |  |  |
| 2032+25.00          | 4                            | 0                                   |                                              |                                    |                                                 | 4                                               | 5                                                          | 38                                      | 0                                                | 0                                      | 0                                 | 8                                 | 11                                       | -11                                                |      |      |      |      |      |      |      |      |  |  |
| 2032+35.00          |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |  |
| SthFrontage Totals: | 11,027                       | 461                                 | 0                                            | 486                                | 0                                               | 11,974                                          | 15,094                                                     | 13,476                                  | 0                                                | 0                                      | 0                                 | 5,432                             | 7,605                                    | -7,605                                             |      |      |      |      |      |      |      |      |  |  |



**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station     | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|             | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| SwissValley |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| 5954+50.00  | 78                          | 78                               | 0                  | 0                                 | 15                               | 0                          | 0                     | 0                     |                                               | 78                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5954+70.00  | 20                          | 20                               | 0                  | 0                                 | 4                                | 0                          | 0                     | 0                     |                                               | 20                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5954+75.00  | 41                          | 41                               | 0                  | 0                                 | 7                                | 0                          | 0                     | 0                     |                                               | 41                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5954+85.00  | 62                          | 62                               | 0                  | 0                                 | 11                               | 0                          | 0                     | 0                     |                                               | 62                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5955+00.00  | 107                         | 107                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 107                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5955+25.00  | 110                         | 110                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 110                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5955+50.00  | 112                         | 112                              | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 112                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5955+75.00  | 114                         | 114                              | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 114                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5956+00.00  | 121                         | 121                              | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 121                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5956+25.00  | 129                         | 129                              | 0                  | 0                                 | 20                               | 0                          | 0                     | 0                     |                                               | 129                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5956+50.00  | 135                         | 135                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 135                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5956+75.00  | 144                         | 144                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 144                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5957+00.00  | 152                         | 152                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 152                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5957+25.00  | 102                         | 102                              | 0                  | 0                                 | 12                               | 0                          | 0                     | 0                     |                                               | 102                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5957+40.96  | 60                          | 60                               | 0                  | 0                                 | 7                                | 0                          | 0                     | 0                     |                                               | 60                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5957+50.00  | 177                         | 177                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 177                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5957+75.00  | 195                         | 195                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 195                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5958+00.00  | 174                         | 174                              | 0                  | 0                                 | 15                               | 0                          | 0                     | 0                     |                                               | 174                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5958+20.24  | 44                          | 44                               | 0                  | 0                                 | 4                                | 0                          | 0                     | 0                     |                                               | 44                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5958+25.00  | 177                         | 177                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 177                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5958+50.00  | 133                         | 133                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 133                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5958+75.00  | 127                         | 127                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 127                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5959+00.00  | 132                         | 132                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 132                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5959+25.00  | 136                         | 136                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 136                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5959+50.00  | 156                         | 156                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 156                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5959+75.00  | 146                         | 146                              | 0                  | 0                                 | 14                               | 0                          | 0                     | 0                     |                                               | 146                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5959+93.66  | 50                          | 50                               | 0                  | 0                                 | 5                                | 0                          | 0                     | 0                     |                                               | 50                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5960+00.00  | 202                         | 202                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 202                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5960+25.00  | 204                         | 204                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 204                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5960+50.00  | 54                          | 54                               | 0                  | 0                                 | 5                                | 0                          | 0                     | 0                     |                                               | 54                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5960+56.71  | 145                         | 145                              | 0                  | 0                                 | 13                               | 0                          | 0                     | 0                     |                                               | 145                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5960+75.00  | 211                         | 211                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 211                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5961+00.00  | 210                         | 210                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 210                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5961+25.00  | 182                         | 182                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 182                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5961+50.00  | 157                         | 157                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 157                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5961+75.00  | 146                         | 146                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 146                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5962+00.00  | 154                         | 154                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 154                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5962+25.00  | 163                         | 163                              | 0                  | 0                                 | 18                               | 0                          | 0                     | 0                     |                                               | 163                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5962+50.00  | 166                         | 166                              | 0                  | 0                                 | 18                               | 0                          | 0                     | 0                     |                                               | 166                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5962+75.00  | 174                         | 174                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 174                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5963+00.00  | 193                         | 193                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 193                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5963+25.00  | 221                         | 221                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 221                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5963+50.00  | 242                         | 242                              | 0                  | 0                                 | 19                               | 0                          | 0                     | 0                     |                                               | 242                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5963+75.00  | 240                         | 240                              | 0                  | 0                                 | 16                               | 0                          | 0                     | 0                     |                                               | 240                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5964+00.00  | 261                         | 261                              | 0                  | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 261                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5964+25.00  | 323                         | 323                              | 0                  | 0                                 | 6                                | 0                          | 0                     | 0                     |                                               | 323                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5964+50.00  | 98                          | 98                               | 0                  | 0                                 | 2                                | 0                          | 0                     | 0                     |                                               | 98                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5964+56.05  | 350                         | 350                              | 0                  | 0                                 | 8                                | 0                          | 0                     | 0                     |                                               | 350                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5964+75.00  | 420                         | 420                              | 0                  | 0                                 | 5                                | 0                          | 0                     | 0                     |                                               | 420                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5965+00.00  | 26                          | 26                               | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 26                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5965+01.77  | 252                         | 252                              | 0                  | 0                                 | 2                                | 0                          | 0                     | 0                     |                                               | 252                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5965+25.00  | 167                         | 167                              | 0                  | 0                                 | 4                                | 0                          | 0                     | 0                     |                                               | 167                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5965+50.00  | 124                         | 124                              | 0                  | 0                                 | 10                               | 0                          | 0                     | 0                     |                                               | 124                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5965+75.00  | 44                          | 44                               | 0                  | 0                                 | 7                                | 0                          | 0                     | 0                     |                                               | 44                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5966+00.00  | 0                           | 0                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5966+25.00  | 0                           | 0                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5966+50.00  | 8                           | 8                                | 0                  | 0                                 | 5                                | 0                          | 0                     | 0                     |                                               | 8                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5966+75.00  | 44                          | 44                               | 0                  | 0                                 | 13                               | 0                          | 0                     | 0                     |                                               | 44                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5967+00.00  | 3                           | 3                                | 0                  | 0                                 | 1                                | 0                          | 0                     | 0                     |                                               | 3                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5967+01.03  | 62                          | 62                               | 0                  | 0                                 | 16                               | 0                          | 0                     | 0                     |                                               | 62                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5967+25.00  | 62                          | 62                               | 0                  | 0                                 | 13                               | 0                          | 0                     | 0                     |                                               | 62                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5967+48.00  | 6                           | 6                                | 0                  | 0                                 | 1                                | 0                          | 0                     | 0                     |                                               | 6                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5967+50.00  | 79                          | 79                               | 0                  | 0                                 | 7                                | 0                          | 0                     | 0                     |                                               | 79                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5967+75.00  | 88                          | 88                               | 0                  | 0                                 | 5                                | 0                          | 0                     | 0                     |                                               | 88                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5968+00.00  | 162                         | 162                              | 0                  | 0                                 | 9                                | 0                          | 0                     | 0                     |                                               | 162                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5968+25.00  | 38                          | 38                               | 0                  | 0                                 | 2                                | 0                          | 0                     | 0                     |                                               | 38                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5968+28.83  | 286                         | 286                              | 0                  | 0                                 | 17                               | 0                          | 0                     | 0                     |                                               | 286                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5968+48.83  |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals:  | 9,101                       | 9,101                            | 0                  | 0                                 | 862                              | 0                          | 0                     | 0                     |                                               | 9,101                 |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station     | Fill                         |                                     |                                              |                                    |                                                 |                     |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|-------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|---------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|--|
|             | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |  |
|             | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |  |
| SwissValley |                              |                                     |                                              |                                    |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| 5954+50.00  | 54                           | 0                                   |                                              |                                    |                                                 | 54                  | 68                                                         | 10                                      | 0                                                | 0                                      | 0                                 | 31                                | 43                                       | -43                                                |      |      |      |      |      |      |      |  |
| 5954+70.00  | 14                           | 0                                   |                                              |                                    |                                                 | 14                  | 18                                                         | 2                                       | 0                                                | 0                                      | 0                                 | 8                                 | 11                                       | -11                                                |      |      |      |      |      |      |      |  |
| 5954+75.00  | 28                           | 0                                   |                                              |                                    |                                                 | 28                  | 35                                                         | 6                                       | 0                                                | 0                                      | 0                                 | 16                                | 22                                       | -22                                                |      |      |      |      |      |      |      |  |
| 5954+85.00  | 42                           | 0                                   |                                              |                                    |                                                 | 42                  | 53                                                         | 9                                       | 0                                                | 0                                      | 0                                 | 24                                | 34                                       | -34                                                |      |      |      |      |      |      |      |  |
| 5955+00.00  | 70                           | 0                                   |                                              |                                    |                                                 | 70                  | 88                                                         | 19                                      | 0                                                | 0                                      | 0                                 | 40                                | 56                                       | -56                                                |      |      |      |      |      |      |      |  |
| 5955+25.00  | 70                           | 0                                   |                                              |                                    |                                                 | 70                  | 88                                                         | 22                                      | 0                                                | 0                                      | 0                                 | 41                                | 57                                       | -57                                                |      |      |      |      |      |      |      |  |
| 5955+50.00  | 73                           | 0                                   |                                              |                                    |                                                 | 73                  | 92                                                         | 20                                      | 0                                                | 0                                      | 0                                 | 41                                | 57                                       | -57                                                |      |      |      |      |      |      |      |  |
| 5955+75.00  | 74                           | 0                                   |                                              |                                    |                                                 | 74                  | 93                                                         | 21                                      | 0                                                | 0                                      | 0                                 | 42                                | 59                                       | -59                                                |      |      |      |      |      |      |      |  |
| 5956+00.00  | 72                           | 0                                   |                                              |                                    |                                                 | 72                  | 91                                                         | 30                                      | 0                                                | 0                                      | 0                                 | 42                                | 59                                       | -59                                                |      |      |      |      |      |      |      |  |
| 5956+25.00  | 72                           | 0                                   |                                              |                                    |                                                 | 72                  | 91                                                         | 38                                      | 0                                                | 0                                      | 0                                 | 42                                | 59                                       | -59                                                |      |      |      |      |      |      |      |  |
| 5956+50.00  | 70                           | 0                                   |                                              |                                    |                                                 | 70                  | 88                                                         | 47                                      | 0                                                | 0                                      | 0                                 | 42                                | 59                                       | -59                                                |      |      |      |      |      |      |      |  |
| 5956+75.00  | 63                           | 0                                   |                                              |                                    |                                                 | 63                  | 79                                                         | 65                                      | 0                                                | 0                                      | 0                                 | 41                                | 57                                       | -57                                                |      |      |      |      |      |      |      |  |
| 5957+00.00  | 58                           | 0                                   |                                              |                                    |                                                 | 58                  | 73                                                         | 79                                      | 0                                                | 0                                      | 0                                 | 41                                | 57                                       | -57                                                |      |      |      |      |      |      |      |  |
| 5957+25.00  | 35                           | 0                                   |                                              |                                    |                                                 | 35                  | 44                                                         | 58                                      | 0                                                | 0                                      | 0                                 | 26                                | 36                                       | -36                                                |      |      |      |      |      |      |      |  |
| 5957+40.96  | 16                           | 0                                   |                                              |                                    |                                                 | 16                  | 20                                                         | 40                                      | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |  |
| 5957+50.00  | 41                           | 0                                   |                                              |                                    |                                                 | 41                  | 52                                                         | 125                                     | 0                                                | 0                                      | 0                                 | 43                                | 60                                       | -60                                                |      |      |      |      |      |      |      |  |
| 5957+75.00  | 49                           | 0                                   |                                              |                                    |                                                 | 49                  | 62                                                         | 133                                     | 0                                                | 0                                      | 0                                 | 46                                | 64                                       | -64                                                |      |      |      |      |      |      |      |  |
| 5958+00.00  | 41                           | 0                                   |                                              |                                    |                                                 | 41                  | 52                                                         | 122                                     | 0                                                | 0                                      | 0                                 | 39                                | 55                                       | -55                                                |      |      |      |      |      |      |      |  |
| 5958+20.24  | 9                            | 0                                   |                                              |                                    |                                                 | 9                   | 11                                                         | 33                                      | 0                                                | 0                                      | 0                                 | 9                                 | 13                                       | -13                                                |      |      |      |      |      |      |      |  |
| 5958+25.00  | 31                           | 0                                   |                                              |                                    |                                                 | 31                  | 39                                                         | 138                                     | 0                                                | 0                                      | 0                                 | 38                                | 53                                       | -53                                                |      |      |      |      |      |      |      |  |
| 5958+50.00  | 9                            | 0                                   |                                              |                                    |                                                 | 9                   | 11                                                         | 122                                     | 0                                                | 0                                      | 0                                 | 13                                | 18                                       | -18                                                |      |      |      |      |      |      |      |  |
| 5958+75.00  | 10                           | 0                                   |                                              |                                    |                                                 | 10                  | 13                                                         | 114                                     | 0                                                | 0                                      | 0                                 | 0                                 | 0                                        | 0                                                  |      |      |      |      |      |      |      |  |
| 5959+00.00  | 11                           | 0                                   |                                              |                                    |                                                 | 11                  | 14                                                         | 118                                     | 0                                                | 0                                      | 0                                 | 0                                 | 0                                        | 0                                                  |      |      |      |      |      |      |      |  |
| 5959+25.00  | 13                           | 0                                   |                                              |                                    |                                                 | 13                  | 16                                                         | 120                                     | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |  |
| 5959+50.00  | 36                           | 0                                   |                                              |                                    |                                                 | 36                  | 45                                                         | 111                                     | 0                                                | 0                                      | 0                                 | 35                                | 49                                       | -49                                                |      |      |      |      |      |      |      |  |
| 5959+75.00  | 45                           | 0                                   |                                              |                                    |                                                 | 45                  | 57                                                         | 89                                      | 0                                                | 0                                      | 0                                 | 32                                | 45                                       | -45                                                |      |      |      |      |      |      |      |  |
| 5959+93.66  | 18                           | 0                                   |                                              |                                    |                                                 | 18                  | 23                                                         | 27                                      | 0                                                | 0                                      | 0                                 | 11                                | 15                                       | -15                                                |      |      |      |      |      |      |      |  |
| 5960+00.00  | 89                           | 0                                   |                                              |                                    |                                                 | 89                  | 112                                                        | 90                                      | 0                                                | 0                                      | 0                                 | 47                                | 66                                       | -66                                                |      |      |      |      |      |      |      |  |
| 5960+25.00  | 123                          | 0                                   |                                              |                                    |                                                 | 123                 | 155                                                        | 49                                      | 0                                                | 0                                      | 0                                 | 53                                | 74                                       | -74                                                |      |      |      |      |      |      |      |  |
| 5960+50.00  | 40                           | 0                                   |                                              |                                    |                                                 | 40                  | 50                                                         | 4                                       | 0                                                | 0                                      | 0                                 | 15                                | 21                                       | -21                                                |      |      |      |      |      |      |      |  |
| 5960+56.71  | 132                          | 0                                   |                                              |                                    |                                                 | 132                 | 166                                                        | -21                                     | 0                                                | 0                                      | 0                                 | 45                                | 63                                       | -63                                                |      |      |      |      |      |      |      |  |
| 5960+75.00  | 213                          | 0                                   |                                              |                                    |                                                 | 213                 | 268                                                        | -57                                     | 0                                                | 0                                      | 0                                 | 66                                | 92                                       | -92                                                |      |      |      |      |      |      |      |  |
| 5961+00.00  | 223                          | 0                                   |                                              |                                    |                                                 | 223                 | 281                                                        | -71                                     | 0                                                | 0                                      | 0                                 | 68                                | 95                                       | -95                                                |      |      |      |      |      |      |      |  |
| 5961+25.00  | 209                          | 0                                   |                                              |                                    |                                                 | 209                 | 263                                                        | -81                                     | 0                                                | 0                                      | 0                                 | 64                                | 90                                       | -90                                                |      |      |      |      |      |      |      |  |
| 5961+50.00  | 172                          | 0                                   |                                              |                                    |                                                 | 172                 | 217                                                        | -60                                     | 0                                                | 0                                      | 0                                 | 58                                | 81                                       | -81                                                |      |      |      |      |      |      |      |  |
| 5961+75.00  | 128                          | 0                                   |                                              |                                    |                                                 | 128                 | 161                                                        | -15                                     | 0                                                | 0                                      | 0                                 | 55                                | 77                                       | -77                                                |      |      |      |      |      |      |      |  |
| 5962+00.00  | 90                           | 0                                   |                                              |                                    |                                                 | 90                  | 113                                                        | 41                                      | 0                                                | 0                                      | 0                                 | 56                                | 78                                       | -78                                                |      |      |      |      |      |      |      |  |
| 5962+25.00  | 60                           | 0                                   |                                              |                                    |                                                 | 61                  | 77                                                         | 86                                      | 0                                                | 0                                      | 0                                 | 55                                | 77                                       | -77                                                |      |      |      |      |      |      |      |  |
| 5962+50.00  | 36                           | 0                                   |                                              | 1                                  |                                                 | 37                  | 47                                                         | 119                                     | 0                                                | 0                                      | 0                                 | 53                                | 74                                       | -74                                                |      |      |      |      |      |      |      |  |
| 5962+75.00  | 18                           | 0                                   |                                              | 1                                  |                                                 | 18                  | 23                                                         | 151                                     | 0                                                | 0                                      | 0                                 | 50                                | 70                                       | -70                                                |      |      |      |      |      |      |      |  |
| 5963+00.00  | 11                           | 0                                   |                                              |                                    |                                                 | 11                  | 14                                                         | 179                                     | 0                                                | 0                                      | 0                                 | 47                                | 66                                       | -66                                                |      |      |      |      |      |      |      |  |
| 5963+25.00  | 9                            | 0                                   |                                              |                                    |                                                 | 9                   | 11                                                         | 210                                     | 0                                                | 0                                      | 0                                 | 45                                | 63                                       | -63                                                |      |      |      |      |      |      |      |  |
| 5963+50.00  | 13                           | 0                                   |                                              |                                    |                                                 | 13                  | 16                                                         | 226                                     | 0                                                | 0                                      | 0                                 | 45                                | 63                                       | -63                                                |      |      |      |      |      |      |      |  |
| 5963+75.00  | 12                           | 0                                   |                                              |                                    |                                                 | 12                  | 15                                                         | 225                                     | 0                                                | 0                                      | 0                                 | 45                                | 63                                       | -63                                                |      |      |      |      |      |      |      |  |
| 5964+00.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                   | 10                                                         | 251                                     | 0                                                | 0                                      | 0                                 | 46                                | 64                                       | -64                                                |      |      |      |      |      |      |      |  |
| 5964+25.00  | 8                            | 0                                   |                                              |                                    |                                                 | 8                   | 10                                                         | 313                                     | 0                                                | 0                                      | 0                                 | 48                                | 67                                       | -67                                                |      |      |      |      |      |      |      |  |
| 5964+50.00  | 2                            | 0                                   |                                              |                                    |                                                 | 2                   | 3                                                          | 95                                      | 0                                                | 0                                      | 0                                 | 13                                | 18                                       | -18                                                |      |      |      |      |      |      |      |  |
| 5964+56.05  | 5                            | 0                                   |                                              |                                    |                                                 | 5                   | 6                                                          | 344                                     | 0                                                | 0                                      | 0                                 | 45                                | 63                                       | -63                                                |      |      |      |      |      |      |      |  |
| 5964+75.00  | 6                            | 0                                   |                                              |                                    |                                                 | 6                   | 8                                                          | 412                                     | 0                                                | 0                                      | 0                                 | 61                                | 85                                       | -85                                                |      |      |      |      |      |      |      |  |
| 5965+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 26                                      | 0                                                | 0                                      | 0                                 | 4                                 | 6                                        | -6                                                 |      |      |      |      |      |      |      |  |
| 5965+01.77  | 74                           | 0                                   |                                              |                                    |                                                 | 74                  | 93                                                         | 159                                     | 0                                                | 0                                      | 0                                 | 57                                | 80                                       | -80                                                |      |      |      |      |      |      |      |  |
| 5965+25.00  | 217                          | 0                                   |                                              |                                    |                                                 | 217                 | 274                                                        | -107                                    | 0                                                | 0                                      | 0                                 | 73                                | 102                                      | -102                                               |      |      |      |      |      |      |      |  |
| 5965+50.00  | 688                          | 0                                   |                                              |                                    |                                                 | 689                 | 868                                                        | -744                                    | 0                                                | 0                                      | 0                                 | 71                                | 99                                       | -99                                                |      |      |      |      |      |      |      |  |
| 5965+75.00  | 792                          | 0                                   |                                              | 1                                  |                                                 | 792                 | 998                                                        | -954                                    | 0                                                | 0                                      | 0                                 | 28                                | 39                                       | -39                                                |      |      |      |      |      |      |      |  |
| 5966+00.00  | 514                          | 0                                   |                                              |                                    | 50                                              | 564                 | 711                                                        | -711                                    | 0                                                | 0                                      | 0                                 | 11                                | 15                                       | -15                                                |      |      |      |      |      |      |      |  |
| 5966+25.00  | 508                          | 0                                   |                                              |                                    | 66                                              | 574                 | 723                                                        | -723                                    | 0                                                | 0                                      | 0                                 | 24                                | 34                                       | -34                                                |      |      |      |      |      |      |      |  |
| 5966+50.00  | 561                          | 0                                   |                                              |                                    | 64                                              | 625                 | 788                                                        | -780                                    | 0                                                | 0                                      | 0                                 | 41                                | 57                                       | -57                                                |      |      |      |      |      |      |      |  |
| 5966+75.00  | 731                          | 0                                   |                                              |                                    | 95                                              | 826                 | 1,041                                                      | -997                                    | 0                                                | 0                                      | 0                                 | 66                                | 92                                       | -92                                                |      |      |      |      |      |      |      |  |
| 5967+00.00  | 34                           | 0                                   |                                              |                                    | 3                                               | 37                  | 47                                                         | -44                                     | 0                                                | 0                                      | 0                                 | 3                                 | 4                                        | -4                                                 |      |      |      |      |      |      |      |  |
| 5967+01.03  | 975                          | 0                                   |                                              |                                    | 55                                              | 1,030               | 1,298                                                      | -1,236                                  | 0                                                | 0                                      | 0                                 | 75                                | 105                                      | -105                                               |      |      |      |      |      |      |      |  |
| 5967+25.00  | 1,292                        | 0                                   |                                              |                                    | 18                                              | 1,310               | 1,651                                                      | -1,589                                  | 0                                                | 0                                      | 0                                 | 76                                | 106                                      | -106                                               |      |      |      |      |      |      |      |  |
| 5967+48.00  | 129                          | 0                                   |                                              |                                    | 1                                               | 130                 | 164                                                        | -158                                    | 0                                                | 0                                      | 0                                 | 7                                 | 10                                       | -10                                                |      |      |      |      |      |      |      |  |
| 5967+50.00  | 1,494                        | 0                                   |                                              |                                    | 17                                              | 1,511               | 1,904                                                      | -1,825                                  | 0                                                | 0                                      | 0                                 | 87                                | 122                                      | -122                                               |      |      |      |      |      |      |      |  |
| 5967+75.00  | 1,177                        | 0                                   |                                              |                                    | 17                                              | 1,194               | 1,505                                                      | -1,417                                  | 0                                                | 0                                      | 0                                 | 88                                | 123                                      | -123                                               |      |      |      |      |      |      |      |  |
| 5968+00.00  | 923                          | 0                                   |                                              |                                    | 13                                              | 936                 | 1,179                                                      | -1,017                                  | 0                                                | 0                                      | 0                                 | 88                                | 123                                      | -123                                               |      |      |      |      |      |      |      |  |
| 5968+25.00  | 129                          | 0                                   |                                              |                                    | 1                                               | 130                 | 164                                                        | -126                                    | 0                                                | 0                                      | 0                                 | 14                                | 20                                       | -20                                                |      |      |      |      |      |      |      |  |
| 5968+28.83  | 653                          | 0                                   |                                              |                                    | 3                                               | 656                 | 827                                                        | -541                                    | 0                                                | 0                                      | 0                                 | 71                                | 99                                       | -99                                                |      |      |      |      |      |      |      |  |
| 5968+48.83  |                              |                                     |                                              |                                    |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |  |
| Subtotals:  | 13,622                       | 0                                   | 0                                            | 406                                | 0                                               | 14,028              | 17,678                                                     | -8,577                                  | 0                                                | 0                                      | 0                                 | 2,736                             | 3,830                                    | -3,830                                             |      |      |      |      |      |      |      |  |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station             | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                     | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                     | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 5968+48.83          | 21                          | 21                               | 0                  | 0                                 | 1                                | 0                          | 0                     | 0                     | 0                                             | 21                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5968+50.00          | 0                           | 0                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| Gap                 | 0                           | 0                                | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5971+00.00          | 42                          | 26                               | 8                  | 2                                 | 0                                | 5                          | 0                     | 0                     | 0                                             | 33                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5971+01.04          | 978                         | 595                              | 176                | 32                                | 0                                | 174                        | 0                     | 0                     | 0                                             | 801                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5971+25.00          | 37                          | 23                               | 7                  | 0                                 | 0                                | 7                          | 0                     | 0                     | 0                                             | 30                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5971+26.00          | 715                         | 465                              | 164                | 0                                 | 0                                | 85                         | 0                     | 0                     | 0                                             | 550                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5971+50.00          | 600                         | 386                              | 163                | 0                                 | 0                                | 51                         | 0                     | 0                     | 0                                             | 437                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5971+75.00          | 139                         | 86                               | 43                 | 0                                 | 0                                | 9                          | 0                     | 0                     | 0                                             | 95                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5971+81.87          | 94                          | 57                               | 31                 | 2                                 | 0                                | 4                          | 0                     | 0                     | 0                                             | 63                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5971+86.85          | 199                         | 110                              | 78                 | 8                                 | 0                                | 4                          | 0                     | 0                     | 0                                             | 122                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5972+00.00          | 76                          | 34                               | 38                 | 3                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 37                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5972+06.83          | 167                         | 61                               | 102                | 4                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 65                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5972+25.00          | 93                          | 23                               | 69                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 23                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5972+36.95          | 80                          | 10                               | 70                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 10                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5972+50.00          | 126                         | 0                                | 126                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5972+75.00          | 128                         | 0                                | 128                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5973+00.00          | 138                         | 0                                | 138                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5973+25.00          | 187                         | 31                               | 156                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 31                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5973+50.00          | 323                         | 117                              | 181                | 26                                | 0                                | 0                          | 0                     | 0                     | 0                                             | 143                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5973+75.00          | 647                         | 304                              | 207                | 95                                | 0                                | 41                         | 0                     | 0                     | 0                                             | 440                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5974+00.00          | 376                         | 183                              | 86                 | 77                                | 0                                | 30                         | 0                     | 0                     | 0                                             | 290                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5974+09.75          | 684                         | 349                              | 141                | 131                               | 0                                | 64                         | 0                     | 0                     | 0                                             | 544                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5974+25.00          | 1,167                       | 624                              | 236                | 85                                | 0                                | 223                        | 0                     | 0                     | 0                                             | 932                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5974+50.00          | 470                         | 241                              | 97                 | 0                                 | 0                                | 133                        | 0                     | 0                     | 0                                             | 374                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5974+60.30          | 33                          | 17                               | 7                  | 1                                 | 0                                | 8                          | 0                     | 0                     | 0                                             | 26                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5974+61.03          | 663                         | 333                              | 133                | 60                                | 0                                | 137                        | 0                     | 0                     | 0                                             | 530                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5974+75.00          | 999                         | 511                              | 232                | 92                                | 0                                | 164                        | 0                     | 0                     | 0                                             | 767                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5975+00.00          | 528                         | 260                              | 200                | 33                                | 0                                | 35                         | 0                     | 0                     | 0                                             | 328                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 5975+25.00          | 219                         | 60                               | 159                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 60                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5975+50.00          | 129                         | 0                                | 129                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5975+75.00          | 93                          | 0                                | 93                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5976+00.00          | 70                          | 0                                | 70                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5976+25.00          | 87                          | 0                                | 87                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5976+50.00          | 133                         | 0                                | 133                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5976+75.00          | 174                         | 0                                | 174                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5977+00.00          | 243                         | 46                               | 197                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 46                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5977+25.00          | 210                         | 46                               | 165                | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 46                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 5977+50.00          | 99                          | 0                                | 99                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             | 0                     |      |      |      |      |      |      |      |      |      |      |      |      |
| 5977+75.00          |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| SwissValley Totals: | 20,268                      | 14,120                           | 4,323              | 651                               | 863                              | 1,174                      | 0                     | 0                     | 0                                             | 15,945                |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station             | Fill                         |                                     |                                              |                                    |                                                 |                                                 | Checks (EW-102)    |               | Topsoil |      |       |       | [37]              | [38]          | [39] | [40] | [41] | [42] | [43] | [44] |  |
|---------------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|--------------------|---------------|---------|------|-------|-------|-------------------|---------------|------|------|------|------|------|------|--|
|                     | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]               | [30]          | [31]    | [32] | [33]  | [34]  | [35]              | [36]          |      |      |      |      |      |      |  |
|                     | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$ | $[10] - [29]$ |         |      |       |       | $[34] \times 1.4$ | $[33] - [35]$ |      |      |      |      |      |      |  |
| 5968+48.83          | 37                           | 0                                   |                                              |                                    |                                                 | 37                                              | 47                 | -26           | 0       | 0    | 0     | 4     | 6                 | -6            |      |      |      |      |      |      |  |
| 5968+50.00          | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 0             | 0       | 0    | 0     | 0     | 0                 | 0             |      |      |      |      |      |      |  |
| Gap                 | 0                            | 0                                   |                                              |                                    |                                                 | 0                                               | 0                  | 0             | 0       | 0    | 0     | 0     | 0                 | 0             |      |      |      |      |      |      |  |
| 5971+00.00          | 8                            | 0                                   | 4                                            |                                    |                                                 | 12                                              | 15                 | 18            | 0       | 0    | 0     | 4     | 6                 | 2             |      |      |      |      |      |      |  |
| 5971+01.04          | 207                          | 0                                   | 78                                           |                                    |                                                 | 285                                             | 359                | 442           | 0       | 0    | 176   | 90    | 126               | 50            |      |      |      |      |      |      |  |
| 5971+25.00          | 9                            | 0                                   | 3                                            |                                    |                                                 | 12                                              | 15                 | 15            | 0       | 0    | 7     | 4     | 6                 | 1             |      |      |      |      |      |      |  |
| 5971+26.00          | 250                          | 0                                   | 81                                           |                                    |                                                 | 331                                             | 417                | 133           | 0       | 0    | 164   | 84    | 118               | 46            |      |      |      |      |      |      |  |
| 5971+50.00          | 330                          | 0                                   | 88                                           |                                    |                                                 | 418                                             | 527                | -90           | 0       | 0    | 163   | 86    | 120               | 43            |      |      |      |      |      |      |  |
| 5971+75.00          | 105                          | 0                                   | 25                                           |                                    |                                                 | 130                                             | 164                | -69           | 0       | 0    | 43    | 23    | 32                | 11            |      |      |      |      |      |      |  |
| 5971+81.87          | 81                           | 0                                   | 18                                           |                                    |                                                 | 99                                              | 125                | -62           | 0       | 0    | 31    | 17    | 24                | 7             |      |      |      |      |      |      |  |
| 5971+86.85          | 234                          | 0                                   | 50                                           |                                    |                                                 | 284                                             | 358                | -236          | 0       | 0    | 78    | 41    | 57                | 21            |      |      |      |      |      |      |  |
| 5972+00.00          | 133                          | 0                                   | 27                                           |                                    |                                                 | 160                                             | 202                | -165          | 0       | 0    | 38    | 20    | 28                | 10            |      |      |      |      |      |      |  |
| 5972+06.83          | 424                          | 0                                   | 81                                           |                                    |                                                 | 505                                             | 636                | -571          | 0       | 0    | 102   | 51    | 71                | 31            |      |      |      |      |      |      |  |
| 5972+25.00          | 353                          | 0                                   | 60                                           |                                    |                                                 | 413                                             | 520                | -497          | 0       | 0    | 69    | 32    | 45                | 24            |      |      |      |      |      |      |  |
| 5972+36.95          | 439                          | 0                                   | 66                                           |                                    |                                                 | 505                                             | 636                | -626          | 0       | 0    | 70    | 22    | 31                | 39            |      |      |      |      |      |      |  |
| 5972+50.00          | 936                          | 0                                   | 126                                          |                                    |                                                 | 1,062                                           | 1,338              | -1,338        | 0       | 0    | 126   | 10    | 14                | 112           |      |      |      |      |      |      |  |
| 5972+75.00          | 1,112                        | 0                                   | 128                                          |                                    |                                                 | 1,240                                           | 1,562              | -1,562        | 0       | 0    | 128   | 11    | 15                | 113           |      |      |      |      |      |      |  |
| 5973+00.00          | 1,230                        | 0                                   | 138                                          |                                    |                                                 | 1,368                                           | 1,724              | -1,724        | 0       | 0    | 138   | 30    | 42                | 96            |      |      |      |      |      |      |  |
| 5973+25.00          | 1,307                        | 0                                   | 143                                          |                                    |                                                 | 1,450                                           | 1,827              | -1,796        | 0       | 0    | 156   | 53    | 74                | 82            |      |      |      |      |      |      |  |
| 5973+50.00          | 1,348                        | 0                                   | 145                                          |                                    |                                                 | 1,493                                           | 1,881              | -1,738        | 0       | 0    | 181   | 80    | 112               | 69            |      |      |      |      |      |      |  |
| 5973+75.00          | 1,280                        | 0                                   | 142                                          |                                    |                                                 | 1,422                                           | 1,792              | -1,352        | 0       | 0    | 207   | 103   | 144               | 63            |      |      |      |      |      |      |  |
| 5974+00.00          | 483                          | 0                                   | 51                                           |                                    |                                                 | 534                                             | 673                | -383          | 0       | 0    | 86    | 45    | 63                | 23            |      |      |      |      |      |      |  |
| 5974+09.75          | 754                          | 0                                   | 80                                           |                                    |                                                 | 834                                             | 1,051              | -507          | 0       | 0    | 141   | 74    | 104               | 37            |      |      |      |      |      |      |  |
| 5974+25.00          | 1,274                        | 0                                   | 133                                          |                                    |                                                 | 1,407                                           | 1,773              | -841          | 0       | 0    | 236   | 126   | 176               | 60            |      |      |      |      |      |      |  |
| 5974+50.00          | 549                          | 0                                   | 55                                           |                                    |                                                 | 604                                             | 761                | -387          | 0       | 0    | 97    | 52    | 73                | 24            |      |      |      |      |      |      |  |
| 5974+60.30          | 39                           | 0                                   | 4                                            |                                    |                                                 | 43                                              | 54                 | -28           | 0       | 0    | 7     | 4     | 6                 | 1             |      |      |      |      |      |      |  |
| 5974+61.03          | 766                          | 0                                   | 76                                           |                                    |                                                 | 842                                             | 1,061              | -531          | 0       | 0    | 133   | 72    | 101               | 32            |      |      |      |      |      |      |  |
| 5974+75.00          | 1,435                        | 0                                   | 140                                          |                                    |                                                 | 1,575                                           | 1,985              | -1,218        | 0       | 0    | 232   | 123   | 172               | 60            |      |      |      |      |      |      |  |
| 5975+00.00          | 1,505                        | 0                                   | 142                                          |                                    |                                                 | 1,647                                           | 2,075              | -1,747        | 0       | 0    | 200   | 100   | 140               | 60            |      |      |      |      |      |      |  |
| 5975+25.00          | 1,727                        | 0                                   | 141                                          |                                    |                                                 | 1,868                                           | 2,354              | -2,294        | 0       | 0    | 159   | 70    | 98                | 61            |      |      |      |      |      |      |  |
| 5975+50.00          | 1,868                        | 0                                   | 129                                          |                                    |                                                 | 1,997                                           | 2,516              | -2,516        | 0       | 0    | 129   | 32    | 45                | 84            |      |      |      |      |      |      |  |
| 5975+75.00          | 1,443                        | 0                                   | 93                                           |                                    |                                                 | 1,536                                           | 1,935              | -1,935        | 0       | 0    | 93    | 4     | 6                 | 87            |      |      |      |      |      |      |  |
| 5976+00.00          | 1,093                        | 0                                   | 70                                           |                                    |                                                 | 1,163                                           | 1,465              | -1,465        | 0       | 0    | 70    | 0     | 0                 | 70            |      |      |      |      |      |      |  |
| 5976+25.00          | 1,250                        | 0                                   | 87                                           |                                    |                                                 | 1,337                                           | 1,685              | -1,685        | 0       | 0    | 87    | 35    | 49                | 38            |      |      |      |      |      |      |  |
| 5976+50.00          | 1,483                        | 0                                   | 133                                          |                                    |                                                 | 1,616                                           | 2,036              | -2,036        | 0       | 0    | 133   | 89    | 125               | 9             |      |      |      |      |      |      |  |
| 5976+75.00          | 1,339                        | 0                                   | 174                                          |                                    |                                                 | 1,513                                           | 1,906              | -1,906        | 0       | 0    | 174   | 116   | 162               | 12            |      |      |      |      |      |      |  |
| 5977+00.00          | 869                          | 0                                   | 169                                          |                                    |                                                 | 1,038                                           | 1,308              | -1,262        | 0       | 0    | 197   | 131   | 183               | 14            |      |      |      |      |      |      |  |
| 5977+25.00          | 444                          | 0                                   | 135                                          |                                    |                                                 | 579                                             | 730                | -684          | 0       | 0    | 165   | 110   | 154               | 11            |      |      |      |      |      |      |  |
| 5977+50.00          | 129                          | 0                                   | 92                                           |                                    |                                                 | 221                                             | 279                | -279          | 0       | 0    | 99    | 66    | 92                | 7             |      |      |      |      |      |      |  |
| 5977+75.00          |                              |                                     |                                              |                                    |                                                 |                                                 |                    |               |         |      |       |       |                   |               |      |      |      |      |      |      |  |
| SwissValley Totals: | 41,895                       | 0                                   | 3,307                                        | 406                                | 0                                               | 45,608                                          | 57,471             | -41,525       | 0       | 0    | 4,323 | 4,750 | 6,650             | -2,327        |      |      |      |      |      |      |  |



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                    |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]               | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|            | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | Total Cut Adjusted |      |      |      |      |      |      |      |      |      |      |      |      |
| Lower      |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 400+00.00  | 531                         | 446                              | 85                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 446                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 400+25.00  | 553                         | 480                              | 73                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 480                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 400+50.00  | 589                         | 446                              | 70                 | 0                                 | 0                                | 0                          | 74                    | 0                     | 446                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 400+75.00  | 686                         | 426                              | 76                 | 0                                 | 0                                | 0                          | 183                   | 0                     | 426                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 401+00.00  | 829                         | 424                              | 83                 | 0                                 | 0                                | 1                          | 320                   | 0                     | 425                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 401+25.00  | 1,012                       | 510                              | 90                 | 0                                 | 0                                | 4                          | 407                   | 0                     | 514                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 401+50.00  | 1,192                       | 751                              | 96                 | 0                                 | 0                                | 149                        | 197                   | 0                     | 900                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 401+75.00  | 1,316                       | 924                              | 98                 | 0                                 | 0                                | 293                        | 0                     | 0                     | 1,217                                         |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 402+00.00  | 1,285                       | 902                              | 97                 | 0                                 | 0                                | 286                        | 0                     | 0                     | 1,188                                         |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 402+25.00  | 1,161                       | 782                              | 94                 | 0                                 | 0                                | 285                        | 0                     | 0                     | 1,067                                         |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 402+50.00  | 1,019                       | 527                              | 90                 | 0                                 | 0                                | 402                        | 0                     | 0                     | 929                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 402+75.00  | 824                         | 318                              | 85                 | 0                                 | 0                                | 421                        | 0                     | 0                     | 739                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 403+00.00  | 610                         | 312                              | 79                 | 0                                 | 0                                | 218                        | 0                     | 0                     | 530                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 403+25.00  | 395                         | 228                              | 71                 | 0                                 | 0                                | 97                         | 0                     | 0                     | 325                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 403+50.00  | 207                         | 100                              | 63                 | 0                                 | 0                                | 44                         | 0                     | 0                     | 144                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 403+75.00  | 119                         | 51                               | 66                 | 0                                 | 0                                | 1                          | 0                     | 0                     | 52                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 404+00.00  | 126                         | 46                               | 80                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 46                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 404+25.00  | 146                         | 53                               | 93                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 53                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 404+50.00  | 139                         | 37                               | 102                | 0                                 | 0                                | 0                          | 0                     | 0                     | 37                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 404+75.00  | 114                         | 10                               | 105                | 0                                 | 0                                | 0                          | 0                     | 0                     | 10                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 405+00.00  | 96                          | 0                                | 96                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 405+25.00  | 83                          | 0                                | 83                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 405+50.00  | 81                          | 0                                | 81                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 405+75.00  | 89                          | 0                                | 89                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 0                                             |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 406+00.00  | 119                         | 6                                | 112                | 0                                 | 0                                | 0                          | 0                     | 0                     | 6                                             |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 406+25.00  | 155                         | 29                               | 126                | 0                                 | 0                                | 0                          | 0                     | 0                     | 29                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 406+50.00  | 182                         | 37                               | 121                | 23                                | 0                                | 1                          | 0                     | 0                     | 61                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 406+75.00  | 197                         | 41                               | 114                | 42                                | 0                                | 1                          | 0                     | 0                     | 84                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 407+00.00  | 209                         | 44                               | 108                | 39                                | 0                                | 18                         | 0                     | 0                     | 101                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 407+25.00  | 186                         | 27                               | 102                | 38                                | 0                                | 18                         | 0                     | 0                     | 83                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 407+50.00  | 149                         | 34                               | 93                 | 22                                | 0                                | 0                          | 0                     | 0                     | 56                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 407+75.00  | 140                         | 23                               | 85                 | 32                                | 0                                | 0                          | 0                     | 0                     | 55                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 408+00.00  | 120                         | 17                               | 76                 | 27                                | 0                                | 0                          | 0                     | 0                     | 44                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 408+25.00  | 97                          | 30                               | 67                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 30                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 408+50.00  | 76                          | 17                               | 58                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 17                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 408+75.00  | 78                          | 22                               | 54                 | 2                                 | 0                                | 0                          | 0                     | 0                     | 24                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 409+00.00  | 117                         | 61                               | 55                 | 2                                 | 0                                | 0                          | 0                     | 0                     | 63                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 409+25.00  | 153                         | 97                               | 56                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 97                                            |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 409+50.00  | 175                         | 119                              | 56                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 119                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 409+75.00  | 193                         | 135                              | 57                 | 1                                 | 0                                | 0                          | 0                     | 0                     | 136                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 410+00.00  | 196                         | 136                              | 59                 | 1                                 | 0                                | 0                          | 0                     | 0                     | 137                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 410+25.00  | 203                         | 142                              | 61                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 142                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 410+50.00  | 225                         | 161                              | 64                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 161                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 410+75.00  | 265                         | 197                              | 68                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 197                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 411+00.00  | 420                         | 263                              | 157                | 0                                 | 0                                | 0                          | 0                     | 0                     | 263                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 411+25.00  | 327                         | 327                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 327                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 411+50.00  | 379                         | 379                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 379                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 411+75.00  | 430                         | 430                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 430                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 412+00.00  | 426                         | 426                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 426                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 412+25.00  | 381                         | 381                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 381                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 412+50.00  | 371                         | 371                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 371                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 412+75.00  | 356                         | 356                              | 0                  | 0                                 | 0                                | 0                          | 0                     | 0                     | 356                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 413+00.00  | 434                         | 349                              | 86                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 349                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 413+25.00  | 457                         | 371                              | 86                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 371                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 413+50.00  | 473                         | 387                              | 87                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 387                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 413+75.00  | 479                         | 391                              | 87                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 391                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 414+00.00  | 464                         | 376                              | 87                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 376                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 414+25.00  | 447                         | 358                              | 88                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 358                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 414+50.00  | 442                         | 351                              | 90                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 351                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 414+75.00  | 445                         | 353                              | 92                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 353                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 415+00.00  | 455                         | 361                              | 94                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 361                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 415+25.00  | 470                         | 373                              | 97                 | 0                                 | 0                                | 0                          | 0                     | 0                     | 373                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 415+50.00  | 491                         | 389                              | 100                | 2                                 | 0                                | 0                          | 0                     | 0                     | 391                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 415+75.00  | 517                         | 405                              | 103                | 10                                | 0                                | 0                          | 0                     | 0                     | 415                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 416+00.00  | 548                         | 405                              | 105                | 37                                | 0                                | 0                          | 0                     | 0                     | 442                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 416+25.00  | 594                         | 407                              | 106                | 81                                | 0                                | 0                          | 0                     | 0                     | 488                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 416+50.00  | 639                         | 415                              | 108                | 104                               | 0                                | 12                         | 0                     | 0                     | 531                                           |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 416+75.00  |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                    |      |      |      |      |      |      |      |      |      |      |      |      |
| Subtotals: | 26,882                      | 17,772                           | 5,210              | 463                               | 0                                | 2,251                      | 1,181                 | 0                     | 20,486                                        |                    |      |      |      |      |      |      |      |      |      |      |      |      |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station    | Fill                         |                                     |                                              |                                    |                                                 |                     |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |
|------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|---------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|--|
|            | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|            | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |  |
| Lower      |                              |                                     |                                              |                                    |                                                 |                     |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |
| 400+00.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 445                                     | 0                                                | 0                                      | 85                                | 39                                | 55                                       | 30                                                 |      |      |      |      |      |      |      |      |  |
| 400+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 480                                     | 0                                                | 0                                      | 73                                | 33                                | 46                                       | 27                                                 |      |      |      |      |      |      |      |      |  |
| 400+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 446                                     | 0                                                | 0                                      | 70                                | 32                                | 45                                       | 25                                                 |      |      |      |      |      |      |      |      |  |
| 400+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 425                                     | 0                                                | 0                                      | 76                                | 37                                | 52                                       | 24                                                 |      |      |      |      |      |      |      |      |  |
| 401+00.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 425                                     | 0                                                | 0                                      | 83                                | 34                                | 48                                       | 35                                                 |      |      |      |      |      |      |      |      |  |
| 401+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 514                                     | 0                                                | 0                                      | 90                                | 35                                | 49                                       | 41                                                 |      |      |      |      |      |      |      |      |  |
| 401+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 900                                     | 0                                                | 0                                      | 96                                | 39                                | 55                                       | 41                                                 |      |      |      |      |      |      |      |      |  |
| 401+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,217                                   | 0                                                | 0                                      | 98                                | 37                                | 52                                       | 46                                                 |      |      |      |      |      |      |      |      |  |
| 402+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,188                                   | 0                                                | 0                                      | 97                                | 35                                | 49                                       | 48                                                 |      |      |      |      |      |      |      |      |  |
| 402+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 1,067                                   | 0                                                | 0                                      | 94                                | 32                                | 45                                       | 49                                                 |      |      |      |      |      |      |      |      |  |
| 402+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 929                                     | 0                                                | 0                                      | 90                                | 29                                | 41                                       | 49                                                 |      |      |      |      |      |      |      |      |  |
| 402+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 739                                     | 0                                                | 0                                      | 85                                | 25                                | 35                                       | 50                                                 |      |      |      |      |      |      |      |      |  |
| 403+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 529                                     | 0                                                | 0                                      | 79                                | 20                                | 28                                       | 51                                                 |      |      |      |      |      |      |      |      |  |
| 403+25.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          | 325                                     | 0                                                | 0                                      | 71                                | 15                                | 21                                       | 50                                                 |      |      |      |      |      |      |      |      |  |
| 403+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 133                                     | 0                                                | 0                                      | 63                                | 14                                | 20                                       | 43                                                 |      |      |      |      |      |      |      |      |  |
| 403+75.00  | 0                            | 0                                   | 9                                            |                                    |                                                 | 9                   | 11                                                         | -30                                     | 0                                                | 0                                      | 66                                | 25                                | 35                                       | 31                                                 |      |      |      |      |      |      |      |      |  |
| 404+00.00  | 38                           | 0                                   | 27                                           |                                    |                                                 | 65                  | 82                                                         | -196                                    | 0                                                | 0                                      | 80                                | 40                                | 56                                       | 24                                                 |      |      |      |      |      |      |      |      |  |
| 404+25.00  | 144                          | 0                                   | 48                                           |                                    |                                                 | 192                 | 242                                                        | -446                                    | 0                                                | 0                                      | 93                                | 48                                | 67                                       | 26                                                 |      |      |      |      |      |      |      |      |  |
| 404+50.00  | 330                          | 0                                   | 66                                           |                                    |                                                 | 396                 | 499                                                        | -771                                    | 0                                                | 0                                      | 102                               | 51                                | 71                                       | 31                                                 |      |      |      |      |      |      |      |      |  |
| 404+75.00  | 563                          | 0                                   | 78                                           |                                    |                                                 | 641                 | 808                                                        | -973                                    | 0                                                | 0                                      | 105                               | 53                                | 74                                       | 31                                                 |      |      |      |      |      |      |      |      |  |
| 405+00.00  | 691                          | 0                                   | 89                                           |                                    |                                                 | 780                 | 983                                                        | -891                                    | 0                                                | 0                                      | 96                                | 51                                | 71                                       | 25                                                 |      |      |      |      |      |      |      |      |  |
| 405+25.00  | 617                          | 0                                   | 90                                           |                                    |                                                 | 707                 | 891                                                        | -665                                    | 0                                                | 0                                      | 83                                | 42                                | 59                                       | 24                                                 |      |      |      |      |      |      |      |      |  |
| 405+50.00  | 447                          | 0                                   | 81                                           |                                    |                                                 | 528                 | 665                                                        | -510                                    | 0                                                | 0                                      | 81                                | 40                                | 56                                       | 25                                                 |      |      |      |      |      |      |      |      |  |
| 405+75.00  | 325                          | 0                                   | 80                                           |                                    |                                                 | 405                 | 510                                                        | -557                                    | 0                                                | 0                                      | 89                                | 46                                | 64                                       | 25                                                 |      |      |      |      |      |      |      |      |  |
| 406+00.00  | 354                          | 0                                   | 88                                           |                                    |                                                 | 442                 | 557                                                        | -812                                    | 0                                                | 0                                      | 112                               | 61                                | 85                                       | 27                                                 |      |      |      |      |      |      |      |      |  |
| 406+25.00  | 545                          | 0                                   | 104                                          |                                    |                                                 | 649                 | 818                                                        | -992                                    | 0                                                | 0                                      | 126                               | 71                                | 99                                       | 27                                                 |      |      |      |      |      |      |      |      |  |
| 406+50.00  | 705                          | 0                                   | 105                                          |                                    |                                                 | 810                 | 1,021                                                      | -1,061                                  | 0                                                | 0                                      | 121                               | 63                                | 88                                       | 33                                                 |      |      |      |      |      |      |      |      |  |
| 406+75.00  | 782                          | 0                                   | 108                                          |                                    |                                                 | 890                 | 1,121                                                      | -941                                    | 0                                                | 0                                      | 114                               | 55                                | 77                                       | 37                                                 |      |      |      |      |      |      |      |      |  |
| 407+00.00  | 795                          | 0                                   | 114                                          |                                    |                                                 | 909                 | 1,145                                                      | -812                                    | 0                                                | 0                                      | 108                               | 51                                | 71                                       | 37                                                 |      |      |      |      |      |      |      |      |  |
| 407+25.00  | 719                          | 0                                   | 108                                          |                                    |                                                 | 827                 | 1,042                                                      | -664                                    | 0                                                | 0                                      | 102                               | 47                                | 66                                       | 36                                                 |      |      |      |      |      |      |      |      |  |
| 407+50.00  | 622                          | 0                                   | 88                                           |                                    |                                                 | 710                 | 895                                                        | -486                                    | 0                                                | 0                                      | 93                                | 45                                | 63                                       | 30                                                 |      |      |      |      |      |      |      |      |  |
| 407+75.00  | 506                          | 0                                   | 65                                           |                                    |                                                 | 571                 | 720                                                        | -325                                    | 0                                                | 0                                      | 85                                | 43                                | 60                                       | 25                                                 |      |      |      |      |      |      |      |      |  |
| 408+00.00  | 371                          | 0                                   | 58                                           |                                    |                                                 | 429                 | 541                                                        | -194                                    | 0                                                | 0                                      | 76                                | 37                                | 52                                       | 24                                                 |      |      |      |      |      |      |      |      |  |
| 408+25.00  | 242                          | 0                                   | 51                                           |                                    |                                                 | 293                 | 369                                                        | -9                                      | 0                                                | 0                                      | 67                                | 31                                | 43                                       | 24                                                 |      |      |      |      |      |      |      |      |  |
| 408+50.00  | 133                          | 0                                   | 45                                           |                                    |                                                 | 178                 | 224                                                        | 55                                      | 0                                                | 0                                      | 58                                | 25                                | 35                                       | 23                                                 |      |      |      |      |      |      |      |      |  |
| 408+75.00  | 48                           | 0                                   | 34                                           |                                    |                                                 | 82                  | 103                                                        | 26                                      | 0                                                | 0                                      | 54                                | 22                                | 31                                       | 23                                                 |      |      |      |      |      |      |      |      |  |
| 409+00.00  | 7                            | 0                                   | 19                                           |                                    |                                                 | 26                  | 33                                                         | 6                                       | 0                                                | 0                                      | 55                                | 23                                | 32                                       | 23                                                 |      |      |      |      |      |      |      |      |  |
| 409+25.00  | 0                            | 0                                   | 6                                            |                                    |                                                 | 6                   | 8                                                          | 97                                      | 0                                                | 0                                      | 56                                | 24                                | 34                                       | 22                                                 |      |      |      |      |      |      |      |      |  |
| 409+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 119                                     | 0                                                | 0                                      | 56                                | 24                                | 34                                       | 22                                                 |      |      |      |      |      |      |      |      |  |
| 409+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 136                                     | 0                                                | 0                                      | 57                                | 25                                | 35                                       | 22                                                 |      |      |      |      |      |      |      |      |  |
| 410+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 137                                     | 0                                                | 0                                      | 59                                | 25                                | 35                                       | 24                                                 |      |      |      |      |      |      |      |      |  |
| 410+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 142                                     | 0                                                | 0                                      | 61                                | 27                                | 38                                       | 23                                                 |      |      |      |      |      |      |      |      |  |
| 410+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 161                                     | 0                                                | 0                                      | 64                                | 29                                | 41                                       | 23                                                 |      |      |      |      |      |      |      |      |  |
| 410+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 197                                     | 0                                                | 0                                      | 68                                | 32                                | 45                                       | 23                                                 |      |      |      |      |      |      |      |      |  |
| 411+00.00  | 0                            | 0                                   | 121                                          |                                    |                                                 | 121                 | 153                                                        | 111                                     | 0                                                | 0                                      | 157                               | 34                                | 48                                       | 109                                                |      |      |      |      |      |      |      |      |  |
| 411+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 327                                     | 0                                                | 0                                      | 0                                 | 35                                | 49                                       | -49                                                |      |      |      |      |      |      |      |      |  |
| 411+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 379                                     | 0                                                | 0                                      | 0                                 | 37                                | 52                                       | -52                                                |      |      |      |      |      |      |      |      |  |
| 411+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 430                                     | 0                                                | 0                                      | 0                                 | 40                                | 56                                       | -56                                                |      |      |      |      |      |      |      |      |  |
| 412+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 426                                     | 0                                                | 0                                      | 0                                 | 42                                | 59                                       | -59                                                |      |      |      |      |      |      |      |      |  |
| 412+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 381                                     | 0                                                | 0                                      | 0                                 | 42                                | 59                                       | -59                                                |      |      |      |      |      |      |      |      |  |
| 412+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 371                                     | 0                                                | 0                                      | 0                                 | 43                                | 60                                       | -60                                                |      |      |      |      |      |      |      |      |  |
| 412+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 356                                     | 0                                                | 0                                      | 0                                 | 43                                | 60                                       | -60                                                |      |      |      |      |      |      |      |      |  |
| 413+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 349                                     | 0                                                | 0                                      | 86                                | 44                                | 62                                       | 24                                                 |      |      |      |      |      |      |      |      |  |
| 413+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 371                                     | 0                                                | 0                                      | 86                                | 44                                | 62                                       | 24                                                 |      |      |      |      |      |      |      |      |  |
| 413+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 387                                     | 0                                                | 0                                      | 87                                | 44                                | 62                                       | 25                                                 |      |      |      |      |      |      |      |      |  |
| 413+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 391                                     | 0                                                | 0                                      | 87                                | 45                                | 63                                       | 24                                                 |      |      |      |      |      |      |      |      |  |
| 414+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 376                                     | 0                                                | 0                                      | 87                                | 45                                | 63                                       | 24                                                 |      |      |      |      |      |      |      |      |  |
| 414+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 358                                     | 0                                                | 0                                      | 88                                | 45                                | 63                                       | 25                                                 |      |      |      |      |      |      |      |      |  |
| 414+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 351                                     | 0                                                | 0                                      | 90                                | 46                                | 64                                       | 26                                                 |      |      |      |      |      |      |      |      |  |
| 414+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 353                                     | 0                                                | 0                                      | 92                                | 48                                | 67                                       | 25                                                 |      |      |      |      |      |      |      |      |  |
| 415+00.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 361                                     | 0                                                | 0                                      | 94                                | 49                                | 69                                       | 25                                                 |      |      |      |      |      |      |      |      |  |
| 415+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 373                                     | 0                                                | 0                                      | 97                                | 51                                | 71                                       | 26                                                 |      |      |      |      |      |      |      |      |  |
| 415+50.00  | 0                            | 0                                   | 4                                            |                                    |                                                 | 4                   | 5                                                          | 386                                     | 0                                                | 0                                      | 100                               | 53                                | 74                                       | 26                                                 |      |      |      |      |      |      |      |      |  |
| 415+75.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 411                                     | 0                                                | 0                                      | 103                               | 55                                | 77                                       | 26                                                 |      |      |      |      |      |      |      |      |  |
| 416+00.00  | 0                            | 0                                   | 3                                            |                                    |                                                 | 3                   | 4                                                          | 442                                     | 0                                                | 0                                      | 105                               | 56                                | 78                                       | 27                                                 |      |      |      |      |      |      |      |      |  |
| 416+25.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 488                                     | 0                                                | 0                                      | 106                               | 57                                | 80                                       | 26                                                 |      |      |      |      |      |      |      |      |  |
| 416+50.00  | 0                            | 0                                   |                                              |                                    |                                                 | 0                   | 0                                                          | 530                                     | 0                                                | 0                                      | 108                               | 44                                | 62                                       | 46                                                 |      |      |      |      |      |      |      |      |  |
| 416+75.00  | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                   | 1                                                          |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |
| Subtotals: | 8,984                        | 0                                   | 1,693                                        | 0                                  | 0                                               | 10,677              | 13,454                                                     | 7,032                                   | 0                                                | 0                                      | 5,210                             | 2,654                             | 3,716                                    | 1,494                                              |      |      |      |      |      |      |      |      |  |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station       | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|               | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|               | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| 416+75.00     | 685                         | 425                              | 110                | 84                                | 0                                | 66                         | 0                     | 0                     |                                               | 575                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 417+00.00     | 780                         | 467                              | 115                | 61                                | 0                                | 137                        | 0                     | 0                     |                                               | 665                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 417+25.00     | 912                         | 531                              | 122                | 62                                | 0                                | 198                        | 0                     | 0                     |                                               | 791                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 417+50.00     | 1,043                       | 656                              | 128                | 63                                | 0                                | 195                        | 0                     | 0                     |                                               | 914                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 417+75.00     | 1,126                       | 758                              | 132                | 156                               | 0                                | 81                         | 0                     | 0                     |                                               | 995                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 418+00.00     | 1,128                       | 734                              | 135                | 259                               | 0                                | 0                          | 0                     | 0                     |                                               | 993                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 418+25.00     | 991                         | 625                              | 134                | 133                               | 0                                | 99                         | 0                     | 0                     |                                               | 857                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 418+50.00     | 801                         | 563                              | 139                | 0                                 | 0                                | 99                         | 0                     | 0                     |                                               | 662                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 418+75.00     | 488                         | 380                              | 108                | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 380                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 419+00.00     | 191                         | 126                              | 65                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 126                   |      |      |      |      |      |      |      |      |      |      |      |      |
| 419+25.00     | 128                         | 71                               | 57                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 71                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 419+50.00     | 128                         | 71                               | 57                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 71                    |      |      |      |      |      |      |      |      |      |      |      |      |
| 419+60.00     | 51                          | 29                               | 22                 | 0                                 | 0                                | 0                          | 0                     | 0                     |                                               | 29                    |      |      |      |      |      |      |      |      |      |      |      |      |
| Tower Totals: | 35,206                      | 23,137                           | 6,477              | 1,281                             | 0                                | 3,126                      | 1,181                 | 0                     | 0                                             | 27,544                |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station   | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|-----------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|
|           | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |
|           |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |
|           | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |
| 416+75.00 | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                                               | 1                                                          | 574                                     | 0                                                | 0                                      | 110                               | 32                                | 45                                       | 65                                                 |      |      |      |      |      |      |      |
| 417+00.00 | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                                               | 1                                                          | 664                                     | 0                                                | 0                                      | 115                               | 31                                | 43                                       | 72                                                 |      |      |      |      |      |      |      |
| 417+25.00 | 0                            | 0                                   | 2                                            |                                    |                                                 | 2                                               | 3                                                          | 788                                     | 0                                                | 0                                      | 122                               | 30                                | 42                                       | 80                                                 |      |      |      |      |      |      |      |
| 417+50.00 | 0                            | 0                                   | 3                                            |                                    |                                                 | 3                                               | 4                                                          | 910                                     | 0                                                | 0                                      | 128                               | 33                                | 46                                       | 82                                                 |      |      |      |      |      |      |      |
| 417+75.00 | 0                            | 0                                   | 4                                            |                                    |                                                 | 4                                               | 5                                                          | 990                                     | 0                                                | 0                                      | 132                               | 33                                | 46                                       | 86                                                 |      |      |      |      |      |      |      |
| 418+00.00 | 1                            | 0                                   | 6                                            |                                    |                                                 | 7                                               | 9                                                          | 984                                     | 0                                                | 0                                      | 135                               | 36                                | 50                                       | 85                                                 |      |      |      |      |      |      |      |
| 418+25.00 | 1                            | 0                                   | 9                                            |                                    |                                                 | 10                                              | 13                                                         | 844                                     | 0                                                | 0                                      | 134                               | 36                                | 50                                       | 84                                                 |      |      |      |      |      |      |      |
| 418+50.00 | 1                            | 0                                   | 7                                            |                                    |                                                 | 8                                               | 10                                                         | 652                                     | 0                                                | 0                                      | 139                               | 58                                | 81                                       | 58                                                 |      |      |      |      |      |      |      |
| 418+75.00 | 0                            | 0                                   | 1                                            |                                    |                                                 | 1                                               | 1                                                          | 379                                     | 0                                                | 0                                      | 108                               | 58                                | 81                                       | 27                                                 |      |      |      |      |      |      |      |
| 419+00.00 | 0                            | 0                                   | 2                                            |                                    |                                                 | 2                                               | 3                                                          | 123                                     | 0                                                | 0                                      | 65                                | 30                                | 42                                       | 23                                                 |      |      |      |      |      |      |      |
| 419+25.00 | 0                            | 0                                   | 6                                            |                                    |                                                 | 6                                               | 8                                                          | 63                                      | 0                                                | 0                                      | 57                                | 24                                | 34                                       | 23                                                 |      |      |      |      |      |      |      |
| 419+50.00 | 0                            | 0                                   | 5                                            |                                    |                                                 | 5                                               | 6                                                          | 23                                      | 0                                                | 0                                      | 22                                | 9                                 | 13                                       | 9                                                  |      |      |      |      |      |      |      |
| 419+60.00 |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |
| Tower     |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |
| Totals:   | 8,987                        | 0                                   | 1,740                                        | 0                                  | 0                                               | 10,727                                          | 13,518                                                     | 14,027                                  | 0                                                | 0                                      | 6,477                             | 3,064                             | 4,290                                    | 2,188                                              |      |      |      |      |      |      |      |



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station                | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                        | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                        | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| <b>Summary:</b>        |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Chesterfield           | 70,576                      | 47,608                           | 11,873             | 4,402                             | 0                                | 0                          | 3,036                 | 3,653                 | 0                                             | 52,010                |      |      |      |      |      |      |      |      |      |      |      |      |
| Cottham_Conn           | 2,214                       | 1,581                            | 512                | 0                                 | 138                              | 0                          | 118                   | 0                     | 0                                             | 1,581                 |      |      |      |      |      |      |      |      |      |      |      |      |
| Cottingham             | 125,108                     | 65,197                           | 22,684             | 7,357                             | 663                              | 29,004                     | 867                   | 0                     | 6,000                                         | 107,558               |      |      |      |      |      |      |      |      |      |      |      |      |
| Cottingham_South       | 616                         | 616                              | 0                  | 0                                 | 36                               | 0                          | 0                     | 0                     | 0                                             | 616                   |      |      |      |      |      |      |      |      |      |      |      |      |
| ML_US20                | 288,161                     | 195,466                          | 38,427             | 14,426                            | 11,129                           | 27,627                     | 12,206                | 0                     | 0                                             | 237,519               |      |      |      |      |      |      |      |      |      |      |      |      |
| NthCascadeE            | 28,824                      | 27,779                           | 1,043              | 0                                 | 1,773                            | 0                          | 0                     | 0                     | 0                                             | 27,779                |      |      |      |      |      |      |      |      |      |      |      |      |
| NthCascadeW            | 70,867                      | 48,577                           | 14,946             | 3,475                             | 356                              | 2,403                      | 1,457                 | 0                     | 0                                             | 54,455                |      |      |      |      |      |      |      |      |      |      |      |      |
| NthFrontage            | 103,359                     | 54,355                           | 24,449             | 6,137                             | 156                              | 14,522                     | 3,899                 | 0                     | 12,700                                        | 87,714                |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp_A                 | 74,418                      | 37,136                           | 11,540             | 0                                 | 0                                | 24,609                     | 1,129                 | 0                     | 0                                             | 61,745                |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp_B                 | 66,391                      | 53,824                           | 0                  | 2,246                             | 2,798                            | 0                          | 10,316                | 0                     | 0                                             | 56,070                |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp_C                 | 55,210                      | 30,371                           | 9,374              | 2,962                             | 0                                | 12,500                     | 0                     | 0                     | 0                                             | 45,833                |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp_D                 | 24,614                      | 22,149                           | 646                | 225                               | 1,152                            | 1,403                      | 192                   | 0                     | 0                                             | 23,777                |      |      |      |      |      |      |      |      |      |      |      |      |
| SthFrontage            | 28,570                      | 28,258                           | 0                  | 311                               | 3,813                            | 0                          | 0                     | 0                     | 0                                             | 28,569                |      |      |      |      |      |      |      |      |      |      |      |      |
| SwissValley            | 20,268                      | 14,120                           | 4,323              | 651                               | 863                              | 1,174                      | 0                     | 0                     | 0                                             | 15,945                |      |      |      |      |      |      |      |      |      |      |      |      |
| Tower                  | 35,206                      | 23,137                           | 6,477              | 1,281                             | 0                                | 3,126                      | 1,181                 | 0                     | 0                                             | 27,544                |      |      |      |      |      |      |      |      |      |      |      |      |
| <b>Project Totals:</b> | 994,402                     | 650,174                          | 146,294            | 43,473                            | 22,877                           | 116,368                    | 34,401                | 3,653                 | 18,700                                        | 828,715               |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station                                                    | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                                                            | Checks (EW-102)                         |                                                  | Topsoil                                                 |                                   |                                   |                                          |                                                    | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|------------------------------------------------------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|---------------------------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|--|
|                                                            | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                       | [30]                                    | [31]                                             | [32]                                                    | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |      |  |
|                                                            |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [25] + [26] + [27]}{[27]}$ | $[28] \times 1.26$                                         | $[10] - [29]$                           |                                                  |                                                         |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |      |  |
|                                                            | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.26 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink                  | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |  |
| Summary:                                                   |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            |                                         |                                                  |                                                         |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |
| Chesterfield                                               | 51,067                       | 255                                 | 5,645                                        | 0                                  | 850                                             | 57,817                                          | 72,854                                                     | -20,844                                 | 0                                                | 0                                                       | 11,873                            | 6,991                             | 9,788                                    | 2,086                                              |      |      |      |      |      |      |      |      |  |
| Cottham_Conn                                               | 3,970                        | 0                                   | 391                                          | 0                                  | 0                                               | 4,361                                           | 5,496                                                      | -3,915                                  | 0                                                | 0                                                       | 512                               | 506                               | 709                                      | -197                                               |      |      |      |      |      |      |      |      |  |
| Cottingham                                                 | 99,863                       | 964                                 | 9,975                                        | 3                                  | 5,060                                           | 115,865                                         | 145,996                                                    | -38,438                                 | 0                                                | 0                                                       | 22,684                            | 10,692                            | 14,969                                   | 7,716                                              |      |      |      |      |      |      |      |      |  |
| Cottingham_South                                           | 57                           | 0                                   | 0                                            | 0                                  | 0                                               | 57                                              | 72                                                         | 545                                     | 0                                                | 0                                                       | 0                                 | 90                                | 126                                      | -126                                               |      |      |      |      |      |      |      |      |  |
| ML_US20                                                    | 276,426                      | 14,699                              | 21,523                                       | 330                                | 1,860                                           | 314,838                                         | 396,710                                                    | -159,191                                | 156,965                                          | 248,820                                                 | 38,427                            | 25,108                            | 35,152                                   | 3,276                                              |      |      |      |      |      |      |      |      |  |
| NthCascadeE                                                | 5,923                        | 810                                 | 0                                            | 40                                 | 0                                               | 6,773                                           | 8,542                                                      | 19,239                                  | 0                                                | 0                                                       | 1,043                             | 5,592                             | 7,829                                    | -6,786                                             |      |      |      |      |      |      |      |      |  |
| NthCascadeW                                                | 44,414                       | 71                                  | 5,576                                        | 0                                  | 4,610                                           | 54,671                                          | 68,889                                                     | -14,434                                 | 30,085                                           | 51,804                                                  | 14,946                            | 6,883                             | 9,637                                    | 5,310                                              |      |      |      |      |      |      |      |      |  |
| NthFrontage                                                | 178,079                      | 1,989                               | 14,086                                       | 18                                 | 2,200                                           | 196,372                                         | 247,436                                                    | -159,722                                | 0                                                | 0                                                       | 24,449                            | 14,052                            | 19,673                                   | 4,777                                              |      |      |      |      |      |      |      |      |  |
| Ramp_A                                                     | 58,860                       | 0                                   | 5,525                                        | 0                                  | 0                                               | 64,385                                          | 81,127                                                     | -19,382                                 | 36,758                                           | 68,700                                                  | 11,540                            | 6,961                             | 9,746                                    | 1,795                                              |      |      |      |      |      |      |      |      |  |
| Ramp_B                                                     | 1,562                        | 1,391                               | 0                                            | 189                                | 0                                               | 3,142                                           | 3,961                                                      | 52,110                                  | 0                                                | 0                                                       | 0                                 | 4,548                             | 6,368                                    | -6,368                                             |      |      |      |      |      |      |      |      |  |
| Ramp_C                                                     | 19,902                       | 0                                   | 3,238                                        | 0                                  | 0                                               | 23,140                                          | 29,158                                                     | 16,676                                  | 0                                                | 0                                                       | 9,374                             | 4,894                             | 6,852                                    | 2,523                                              |      |      |      |      |      |      |      |      |  |
| Ramp_D                                                     | 7,869                        | 429                                 | 99                                           | 551                                | 0                                               | 8,948                                           | 11,277                                                     | 12,501                                  | 2,572                                            | 242                                                     | 646                               | 3,483                             | 4,877                                    | -4,231                                             |      |      |      |      |      |      |      |      |  |
| SthFrontage                                                | 11,027                       | 461                                 | 0                                            | 486                                | 0                                               | 11,974                                          | 15,094                                                     | 13,476                                  | 0                                                | 0                                                       | 0                                 | 5,432                             | 7,605                                    | -7,605                                             |      |      |      |      |      |      |      |      |  |
| SwissValley                                                | 41,895                       | 0                                   | 3,307                                        | 406                                | 0                                               | 45,608                                          | 57,471                                                     | -41,525                                 | 0                                                | 0                                                       | 4,323                             | 4,750                             | 6,650                                    | -2,327                                             |      |      |      |      |      |      |      |      |  |
| Tower                                                      | 8,987                        | 0                                   | 1,740                                        | 0                                  | 0                                               | 10,727                                          | 13,518                                                     | 14,027                                  | 0                                                | 0                                                       | 6,477                             | 3,064                             | 4,290                                    | 2,188                                              |      |      |      |      |      |      |      |      |  |
| Project Totals:                                            | 809,901                      | 21,069                              | 71,105                                       | 2,023                              | 14,580                                          | 918,678                                         | 1,157,601                                                  | -328,877                                | 226,380                                          | 369,566                                                 | 146,294                           | 103,046                           | 144,271                                  | 2,031                                              |      |      |      |      |      |      |      |      |  |
|                                                            |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            | Total                                   |                                                  |                                                         |                                   | Stage 1                           | Stage 2                                  | Stage 3                                            |      |      |      |      |      |      |      |      |  |
| Excavation, Class 10, Roadway and Borrow                   |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            | 712,347                                 |                                                  | $[2] + [4] + [9]$                                       |                                   | 425,429                           | 79,831                                   | 207,087                                            |      |      |      |      |      |      |      |      |  |
| Excavation, Class 10, Waste (Class 10 Waste)               |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            | 103,540                                 |                                                  | $(\text{Stg2 } [30] / 1.3) + (\text{Stg3 } [30] / 1.3)$ |                                   | 0                                 | 1,812                                    | 101,728                                            |      |      |      |      |      |      |      |      |  |
| Excavation, Class 12, Roadway and Borrow                   |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            | 116,368                                 |                                                  | [6]                                                     |                                   | 109,923                           | 2,403                                    | 4,042                                              |      |      |      |      |      |      |      |      |  |
| Excavation, Class 13, Waste (Template Waste + Shale Waste) |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            | 38,054                                  |                                                  | [7] + [8]                                               |                                   | 25,927                            | 1,457                                    | 10,670                                             |      |      |      |      |      |      |      |      |  |
| Embankment-In-Place, Contractor Furnish                    |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            | 362,998                                 |                                                  | Stg1 [30] / 1.24                                        |                                   | 362,998                           | 0                                        | 0                                                  |      |      |      |      |      |      |      |      |  |
| Compaction With Moisture Control                           |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            | 917,168                                 |                                                  | $362,998 + ([10] / 1.26) - \text{Unused Class 10}$      |                                   | 794,733                           | 61,445                                   | 60,679                                             |      |      |      |      |      |      |      |      |  |
| Topsoil, Strip and Stockpile (For Use in Stage 2 and 3)    |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            | 38,487                                  |                                                  | $(127,677 - 89,190)$                                    |                                   | 38,487                            | 0                                        | 0                                                  |      |      |      |      |      |      |      |      |  |
| Topsoil, Spread (Obtain from Stockpile)                    |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            | 38,487                                  |                                                  | $[36] + \text{Stg2 } [36] + \text{Stg3 } [36]$          |                                   | 0                                 | 1,476                                    | 34,987                                             |      |      |      |      |      |      |      |      |  |
| Topsoil, Strip, Salvage and Spread                         |                              |                                     |                                              |                                    |                                                 |                                                 |                                                            | 146,294                                 |                                                  | [33]                                                    |                                   | 127,677<br>(38487<br>Carryover)   | 15,989<br>(37010<br>Carryover)           | 2,628<br>(2023<br>Excess)                          |      |      |      |      |      |      |      |      |  |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station                | Cut                         |                                  |                    |                                    |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
|------------------------|-----------------------------|----------------------------------|--------------------|------------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                        | [1]                         | [2]                              | [3]                | [4]                                | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] |
|                        | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      |      |
| Summary:               |                             |                                  |                    |                                    |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |
| Chesterfield-Stage_1   | 70,576                      | 47,608                           | 11,873             | 4,402                              | 0                                | 0                          | 3,036                 | 3,653                 | 0                                             | 52,010                |      |      |      |      |      |      |      |      |      |      |      |      |
| Cottingham-Stage_1     | 125,108                     | 65,197                           | 22,684             | 7,357                              | 663                              | 29,004                     | 867                   | 0                     | 6,000                                         | 107,558               |      |      |      |      |      |      |      |      |      |      |      |      |
| Cottingham_Conn-Stage  | 2,214                       | 1,581                            | 512                | 0                                  | 138                              | 0                          | 118                   | 0                     | 0                                             | 1,581                 |      |      |      |      |      |      |      |      |      |      |      |      |
| Cottingham_South-Stage | 616                         | 616                              | 0                  | 0                                  | 36                               | 0                          | 0                     | 0                     | 0                                             | 616                   |      |      |      |      |      |      |      |      |      |      |      |      |
| ML_US20-Stage_1        | 191,835                     | 103,919                          | 36,445             | 14,426                             | 688                              | 24,988                     | 12,044                | 0                     | 0                                             | 143,333               |      |      |      |      |      |      |      |      |      |      |      |      |
| NthFrontage-Stage_1    | 103,359                     | 54,355                           | 24,449             | 6,137                              | 156                              | 14,522                     | 3,899                 | 0                     | 12,700                                        | 87,714                |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp_A-Stage_1         | 74,418                      | 37,136                           | 11,540             | 0                                  | 0                                | 24,609                     | 1,129                 | 0                     | 0                                             | 61,745                |      |      |      |      |      |      |      |      |      |      |      |      |
| Ramp_C-Stage_1         | 55,210                      | 30,371                           | 9,374              | 2,962                              | 0                                | 12,500                     | 0                     | 0                     | 0                                             | 45,833                |      |      |      |      |      |      |      |      |      |      |      |      |
| Swiss_Valey-Stage_1    | 11,741                      | 5,593                            | 4,323              | 651                                | 34                               | 1,174                      | 0                     | 0                     | 0                                             | 7,418                 |      |      |      |      |      |      |      |      |      |      |      |      |
| Tower-Stage_1          | 35,206                      | 23,137                           | 6,477              | 1,281                              | 0                                | 3,126                      | 1,181                 | 0                     | 0                                             | 27,544                |      |      |      |      |      |      |      |      |      |      |      |      |
| Project Totals:        | 670,283                     | 369,513                          | 127,677            | 37,216                             | 1,715                            | 109,923                    | 22,274                | 3,653                 | 18,700                                        | 535,352               |      |      |      |      |      |      |      |      |      |      |      |      |

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station                | Fill                         |                                     |                                              |                                    |                                                 |                                                        | Checks (EW-102)                                            |                                         | Topsoil                                          |                                        |                                   |                                   |                                          |                                                    | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |  |
|------------------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|--|
|                        | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                                   | [29]                                                       | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |      |  |
|                        |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [26] + [27] + [28]}{[25] + [26] + [27]}$ | $[28] \times 1.24$                                         | $[30] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |      |  |
|                        | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                                    | Total Fill Adjusted w/ Weighted Average 1.24 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |  |
| Summary:               |                              |                                     |                                              |                                    |                                                 |                                                        |                                                            |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |  |
| Chesterfield-Stage 1   | 51,067                       | 255                                 | 5,645                                        | 0                                  | 850                                             | 57,817                                                 | 71,697                                                     | -19,687                                 | 0                                                | 0                                      | 11,873                            | 6,991                             | 9,788                                    | 2,086                                              |      |      |      |      |      |      |      |      |  |
| Cottingham-Stage 1     | 99,863                       | 964                                 | 9,975                                        | 3                                  | 5,060                                           | 115,865                                                | 143,679                                                    | -36,121                                 | 0                                                | 0                                      | 22,684                            | 10,692                            | 14,969                                   | 7,716                                              |      |      |      |      |      |      |      |      |  |
| Cottingham_Conn-Stage  | 3,970                        | 0                                   | 391                                          | 0                                  | 0                                               | 4,361                                                  | 5,408                                                      | -3,827                                  | 0                                                | 0                                      | 512                               | 506                               | 709                                      | -197                                               |      |      |      |      |      |      |      |      |  |
| Cottingham_South-Stage | 57                           | 0                                   | 0                                            | 0                                  | 0                                               | 57                                                     | 71                                                         | 546                                     | 0                                                | 0                                      | 0                                 | 90                                | 126                                      | -126                                               |      |      |      |      |      |      |      |      |  |
| ML_US20-Stage 1        | 262,988                      | 3,248                               | 21,221                                       | 28                                 | 0                                               | 287,485                                                | 356,491                                                    | -213,158                                | 0                                                | 0                                      | 36,445                            | 14,180                            | 19,852                                   | 16,593                                             |      |      |      |      |      |      |      |      |  |
| NthFrontage-Stage 1    | 178,079                      | 1,989                               | 14,086                                       | 18                                 | 2,200                                           | 196,372                                                | 243,509                                                    | -155,795                                | 0                                                | 0                                      | 24,449                            | 14,052                            | 19,673                                   | 4,777                                              |      |      |      |      |      |      |      |      |  |
| Ramp_A-Stage 1         | 58,860                       | 0                                   | 5,525                                        | 0                                  | 0                                               | 64,385                                                 | 79,840                                                     | -18,095                                 | 0                                                | 0                                      | 11,540                            | 6,961                             | 9,746                                    | 1,795                                              |      |      |      |      |      |      |      |      |  |
| Ramp_C-Stage 1         | 19,902                       | 0                                   | 3,238                                        | 0                                  | 0                                               | 23,140                                                 | 28,696                                                     | 17,138                                  | 0                                                | 0                                      | 9,374                             | 4,894                             | 6,852                                    | 2,523                                              |      |      |      |      |      |      |      |      |  |
| Swiss_Valey-Stage 1    | 31,155                       | 0                                   | 3,307                                        | 34                                 | 0                                               | 34,496                                                 | 42,777                                                     | -35,359                                 | 0                                                | 0                                      | 4,323                             | 2,275                             | 3,185                                    | 1,139                                              |      |      |      |      |      |      |      |      |  |
| Tower-Stage 1          | 8,987                        | 0                                   | 1,740                                        | 0                                  | 0                                               | 10,727                                                 | 13,304                                                     | 14,241                                  | 0                                                | 0                                      | 6,477                             | 3,064                             | 4,290                                    | 2,188                                              |      |      |      |      |      |      |      |      |  |
| Project Totals:        | 714,928                      | 6,456                               | 65,128                                       | 83                                 | 8,110                                           | 794,705                                                | 985,472                                                    | -450,117                                | 0                                                | 0                                      | 127,677                           | 63,705                            | 89,190                                   | 38,494                                             |      |      |      |      |      |      |      |      |  |





**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

| Station             | Fill                         |                                     |                                              |                                    |                                                 |                                                 |                                                           | Checks (EW-102)                         |                                                  | Topsoil                                |                                   |                                   |                                          | [37]                                               | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|---------------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|
|                     | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                            | [29]                                                      | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |
|                     |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [26] + [27]}{[25] + [27]}$ | $[28] \times 1.3$                                         | $[30] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |
|                     | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                             | Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |
| Summary:            |                              |                                     |                                              |                                    |                                                 |                                                 |                                                           |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |
| NthCascadeE-Stage_2 | 5,923                        | 810                                 | 0                                            | 40                                 | 0                                               | 6,773                                           | 8,805                                                     | 18,974                                  | 0                                                | 0                                      | 1,043                             | 5,592                             | 7,829                                    | -6,786                                             |      |      |      |      |      |      |      |
| NthCascadew-Stage_2 | 44,414                       | 71                                  | 5,576                                        | 0                                  | 4,610                                           | 54,671                                          | 71,073                                                    | -16,618                                 | 0                                                | 0                                      | 14,946                            | 6,883                             | 9,637                                    | 5,310                                              |      |      |      |      |      |      |      |
| Project Totals:     | 50,337                       | 881                                 | 5,576                                        | 40                                 | 4,610                                           | 61,444                                          | 79,878                                                    | 2,356                                   | 0                                                | 0                                      | 15,989                            | 12,475                            | 17,466                                   | -1,476                                             |      |      |      |      |      |      |      |

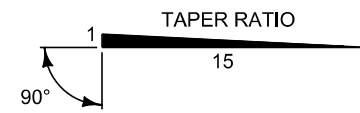
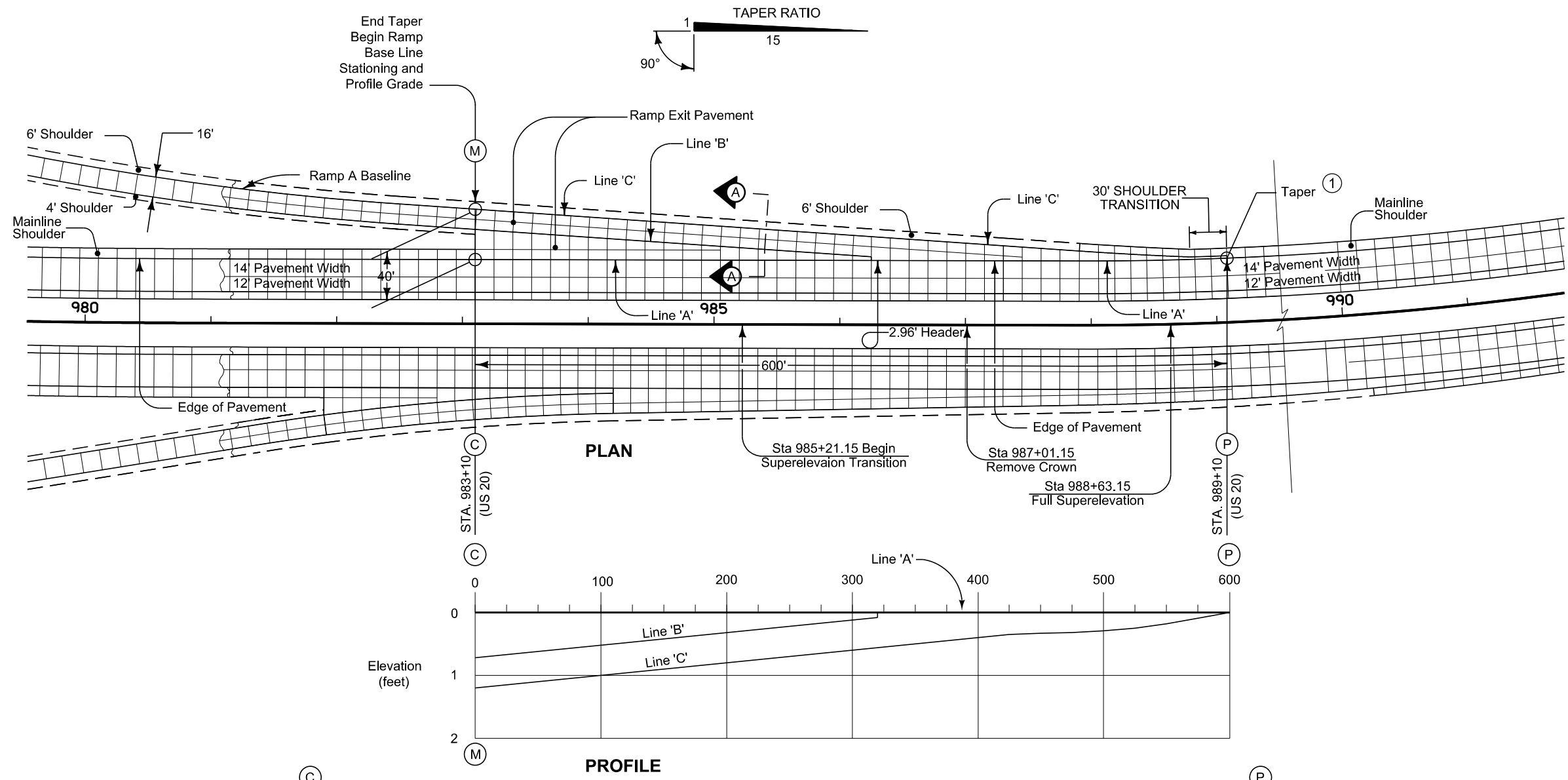
### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station                | Cut                         |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |             |
|------------------------|-----------------------------|----------------------------------|--------------------|-----------------------------------|----------------------------------|----------------------------|-----------------------|-----------------------|-----------------------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|-------------|
|                        | [1]                         | [2]                              | [3]                | [4]                               | [5]                              | [6]                        | [7]                   | [8]                   | [9]                                           | [10]                  | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22]        |
|                        | Total Cut Unadjusted Volume | Total Class 10 Unadjusted Volume | Topsoil Cut Volume | Template Unsuitable Type B Volume | Template Pavement Removal Volume | Template B & W Rock Volume | Template Waste Volume | Template Shale Volume | Manually Calculated Cut Adjustments (+/- Cut) | [2] + [4] + [6] + [9] |      |      |      |      |      |      |      |      |      |      |      | [19] - [21] |
| <b>Summary:</b>        |                             |                                  |                    |                                   |                                  |                            |                       |                       |                                               |                       |      |      |      |      |      |      |      |      |      |      |      |             |
| ML US20-Stage 3        | 96,330                      | 91,547                           | 1,982              | 0                                 | 10,441                           | 2,639                      | 162                   | 0                     | 0                                             | 94,186                |      |      |      |      |      |      |      |      |      |      |      |             |
| Ramp_B-Stage_3         | 66,391                      | 53,824                           | 0                  | 2,246                             | 2,798                            | 0                          | 10,316                | 0                     | 0                                             | 56,070                |      |      |      |      |      |      |      |      |      |      |      |             |
| Ramp_D-Stage_3         | 24,614                      | 22,149                           | 646                | 225                               | 1,152                            | 1,403                      | 192                   | 0                     | 0                                             | 23,777                |      |      |      |      |      |      |      |      |      |      |      |             |
| SthFrontage-Stage_3    | 28,570                      | 28,258                           | 0                  | 311                               | 3,813                            | 0                          | 0                     | 0                     | 0                                             | 28,569                |      |      |      |      |      |      |      |      |      |      |      |             |
| SwissValley-Stage_3    | 8,527                       | 8,527                            | 0                  | 0                                 | 829                              | 0                          | 0                     | 0                     | 0                                             | 8,527                 |      |      |      |      |      |      |      |      |      |      |      |             |
| <b>Project Totals:</b> | <b>224,432</b>              | <b>204,305</b>                   | <b>2,628</b>       | <b>2,782</b>                      | <b>19,033</b>                    | <b>4,042</b>               | <b>10,670</b>         | <b>0</b>              | <b>0</b>                                      | <b>211,129</b>        |      |      |      |      |      |      |      |      |      |      |      |             |

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

| Station             | Fill                         |                                     |                                              |                                    |                                                 |                                                        |                                                           |                                         | Checks (EW-102)                                  |                                        | Topsoil                           |                                   |                                          |                                                    | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] |
|---------------------|------------------------------|-------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------------------------|------|------|------|------|------|------|------|------|
|                     | [23]                         | [24]                                | [25]                                         | [26]                               | [27]                                            | [28]                                                   | [29]                                                      | [30]                                    | [31]                                             | [32]                                   | [33]                              | [34]                              | [35]                                     | [36]                                               |      |      |      |      |      |      |      |      |
|                     |                              |                                     |                                              |                                    |                                                 | $\frac{[25] + [24] + [26] + [27]}{[25] + [26] + [27]}$ | $[28] \times 1.3$                                         | $[10] - [29]$                           |                                                  |                                        |                                   |                                   | $[34] \times 1.4$                        | $[33] - [35]$                                      |      |      |      |      |      |      |      |      |
|                     | Total Fill Unadjusted Volume | Plowing & Shaping Undercut (+ Fill) | Existing Topsoil Stripping Undercut (+ Fill) | Existing Pavement Undercut (+Fill) | Manually Calculated Fill Adjustments (+/- Fill) | Total Fill Adjusted                                    | Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor | Total Cut Adjusted Minus Fill w/ Shrink | Approx. Fill Vol. Below 5' & Above 20' w/ Shrink | Approx. Fill Volume Below 3' w/ Shrink | Topsoil Stripping Undercut Volume | Topsoil Placement Undercut Volume | Topsoil Placement With 1.4 Shrink Factor | Topsoil Stripping Minus Topsoil Placement w/Shrink |      |      |      |      |      |      |      |      |
| Summary:            |                              |                                     |                                              |                                    |                                                 |                                                        |                                                           |                                         |                                                  |                                        |                                   |                                   |                                          |                                                    |      |      |      |      |      |      |      |      |
| ML_US20-Stage_3     | 13,438                       | 11,451                              | 312                                          | 302                                | 1,860                                           | 25,503                                                 | 33,154                                                    | 61,032                                  | 155,721                                          | 246,847                                | 1,982                             | 10,928                            | 15,300                                   | -13,318                                            |      |      |      |      |      |      |      |      |
| Ramp_B-Stage_3      | 1,562                        | 1,391                               | 0                                            | 189                                | 0                                               | 3,142                                                  | 4,085                                                     | 51,985                                  | 0                                                | 0                                      | 0                                 | 4,548                             | 6,368                                    | -6,368                                             |      |      |      |      |      |      |      |      |
| Ramp_D-Stage_3      | 7,869                        | 429                                 | 99                                           | 551                                | 0                                               | 8,948                                                  | 11,632                                                    | 12,145                                  | 0                                                | 0                                      | 646                               | 3,483                             | 4,877                                    | -4,231                                             |      |      |      |      |      |      |      |      |
| SthFrontage-Stage_3 | 11,027                       | 461                                 | 0                                            | 486                                | 0                                               | 11,974                                                 | 15,566                                                    | 13,003                                  | 0                                                | 0                                      | 0                                 | 5,432                             | 7,605                                    | -7,605                                             |      |      |      |      |      |      |      |      |
| SwissValley-Stage_3 | 10,740                       | 0                                   | 0                                            | 372                                | 0                                               | 11,112                                                 | 14,446                                                    | -5,919                                  | 0                                                | 0                                      | 0                                 | 2,475                             | 3,465                                    | -3,465                                             |      |      |      |      |      |      |      |      |
| Project Totals:     | 44,636                       | 13,732                              | 411                                          | 1,900                              | 1,860                                           | 60,679                                                 | 78,883                                                    | 132,246                                 | 155,721                                          | 246,847                                | 2,628                             | 26,866                            | 37,615                                   | -34,987                                            |      |      |      |      |      |      |      |      |

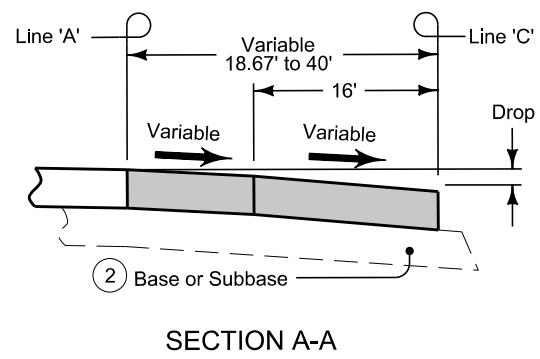




**TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER**

| DISTANCE (Ft.) | 0    | 25    | 50    | 75    | 100   | 125   | 150   | 160   | 175   | 200   | 225   | 250   | 275   | 300   | 325   | 350   | 375   | 400   | 425   | 450   | 475  | 500  | 525  | 550  | 575  | 600 |
|----------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|-----|
| OFFSET (Ft.)   | 40   | 38.33 | 36.67 | 35.00 | 33.33 | 31.67 | 30.00 | 29.33 | 28.33 | 26.67 | 25.00 | 23.33 | 21.67 | 20.00 | 18.33 | 16.67 | 15.00 | 13.33 | 11.67 | 10.00 | 8.33 | 6.67 | 5.00 | 3.33 | 1.67 | 0   |
| SLOPE (%)      | 3.00 | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  | 3.31  | 3.86 | 4.42 | 4.97 | 5.53 | 5.60 | 0   |
| DROP (Ft.)     | 1.20 | 1.15  | 1.10  | 1.05  | 1.00  | 0.95  | 0.90  | 0.88  | 0.85  | 0.80  | 0.75  | 0.70  | 0.65  | 0.60  | 0.55  | 0.50  | 0.45  | 0.40  | 0.35  | 0.33  | 0.32 | 0.29 | 0.25 | 0.18 | 0.09 | 0   |

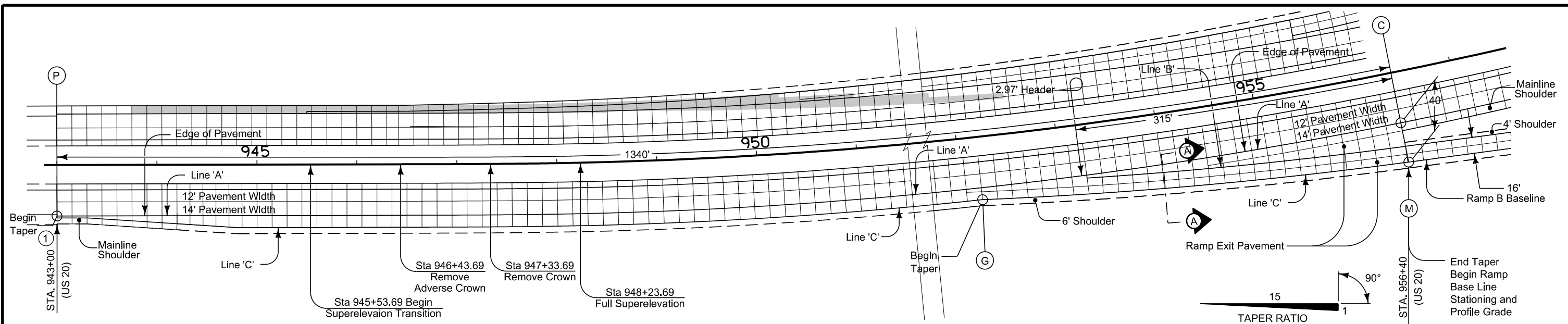
**RAMP "A"**



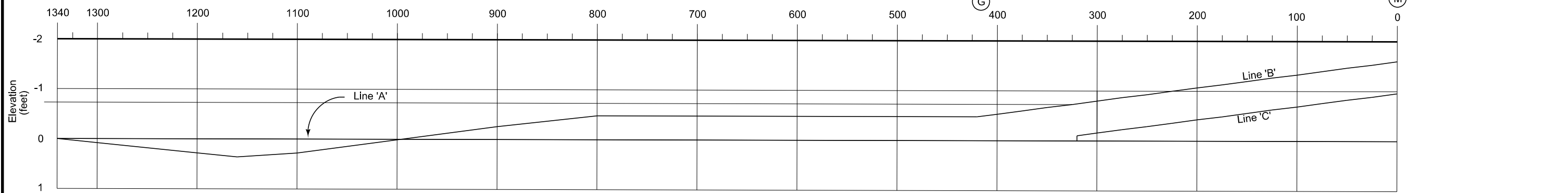
Construct ramp exit pavement the same thickness as mainline pavement.  
 Ramp exit pavement shown by shaded area is 1336 square yards.  
 For jointing layout, see Standard Road Plan PV-410, Sheet 2 of 2.  
 This design is based on 60 mph design speed at  $e_{max} = 6\%$ .  
 For location equivalent stations, see Tabulation 101-15.  
 Equate Point 'M' (Ramp Stationing) to Point 'C' (Mainline Stationing).

- ① For header construction details at the beginning of taper, see Typical 7101 or Typical 7102.
- ② Construct subbase for ramp exit pavement the same thickness as mainline subbase.

|                                                                                           |               |          |
|-------------------------------------------------------------------------------------------|---------------|----------|
| <b>MODIFIED<br/>STANDARD ROAD PLAN</b>                                                    | REVISION      |          |
|                                                                                           | 2             | 10-18-11 |
|                                                                                           | <b>PV-410</b> |          |
| SHEET 1 of 1                                                                              |               |          |
| MODIFICATIONS: Revised to accommodate the curvature of mainline lanes.<br>Removed Sheet 2 |               |          |
| <b>DECELERATION TAPER<br/>FOR 16' EXIT RAMP</b>                                           |               |          |



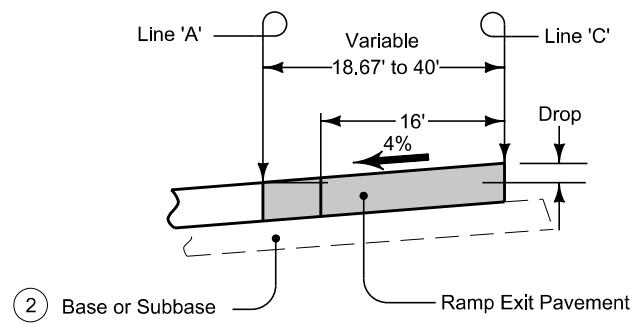
PLAN



PROFILE

**TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER**

| DISTANCE (Ft.) | 1340 | 1300 | 1200 | 1160  | 1100  | 1000  | 900   | 800   | 700   | 600   | 500   | 450   | 425   | 420   | 400   | 375   | 350   | 315   | 300   | 275   | 250   | 225   | 200   | 175   | 150   | 125   | 100   | 75    | 50    | 25    | 0     |      |
|----------------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| OFFSET (Ft.)   | 0    | 2.67 | 9.33 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 13.33 | 15.00 | 16.67 | 18.63 | 20.00 | 21.67 | 23.33 | 25.00 | 26.67 | 28.33 | 30.00 | 31.67 | 33.33 | 35.00 | 36.67 | 38.33 | 40    |      |
| SLOPE (%)      | 3.00 | 3.00 | 3.00 | 3.00  | 2.30  | 0.08  | 2.14  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00 |
| DROP (Ft.)     | 0    | 0.08 | 0.28 | 0.36  | 0.28  | 0.01  | -0.26 | -0.48 | -0.48 | -0.48 | -0.48 | -0.48 | -0.48 | -0.48 | -0.53 | -0.60 | -0.67 | -0.77 | -0.80 | -0.87 | -0.93 | -1.00 | -1.07 | -1.13 | -1.20 | -1.27 | -1.33 | -1.40 | -1.47 | -1.53 | -1.60 |      |



SECTION A-A

Construct ramp exit pavement the same thickness as mainline pavement.  
 Ramp exit pavement shown by shaded area is 2349 square yards.  
 For jointing layout, see Modified Road Plan PV-410. See Sheet U.3.  
 This design is based on 60 mph design speed at e max = 6%.  
 For location equivalent stations, see Tabulation 101-15.  
 Equate Point 'M' (Ramp Stationing) to Point 'C' (Mainline Stationing).

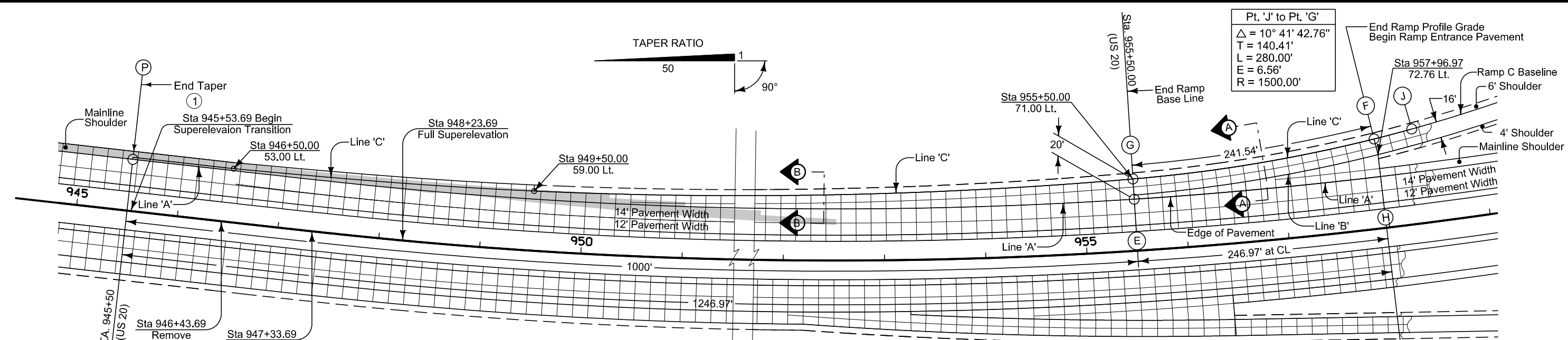
- ① Ramp exit subbase shall be the same thickness as mainline subbase.
- ② Refer to detail project plans for mainline and ramp alignment and grade data.

**RAMP "B"**

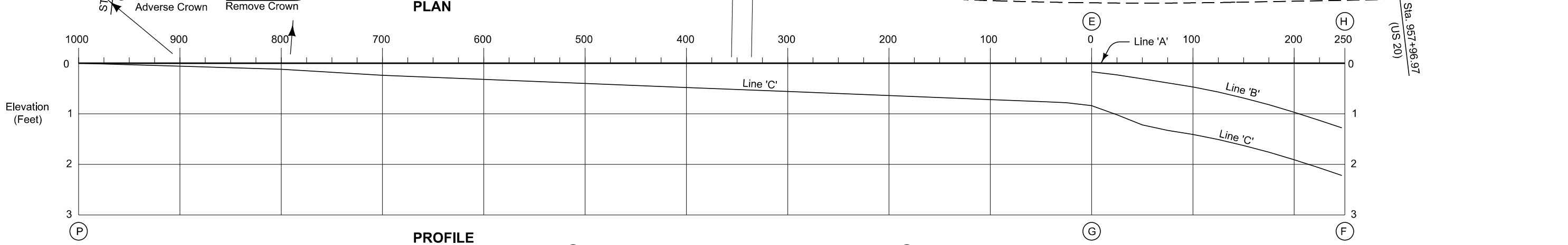
|                                        |               |          |
|----------------------------------------|---------------|----------|
| <b>MODIFIED<br/>STANDARD ROAD PLAN</b> | REVISION      |          |
|                                        | 2             | 10-18-11 |
|                                        | <b>PV-410</b> |          |
| SHEET 1 of 1                           |               |          |

MODIFICATIONS: Revised to accommodate the curvature of mainline lanes.

**DECELERATION TAPER  
FOR 16' EXIT RAMP**



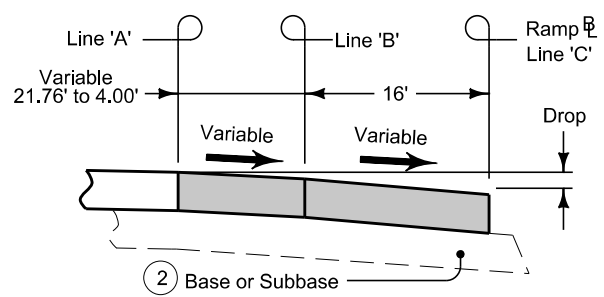
Pt. 'J' to Pt. 'G'  
 $\Delta = 10^\circ 41' 42.76''$   
 $T = 140.41'$   
 $L = 280.00'$   
 $E = 6.56'$   
 $R = 1500.00'$



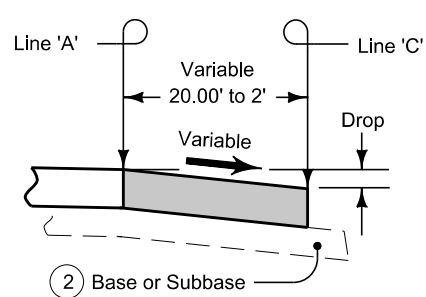
**TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER**

| 1000 | 900 | 800 | 700 | 600 | 500 | 400 | 300 | 200 | 100 | 75 | 50 | 25 | 0    | 25   | 50   | 75                      | 100  | 125   | 150   | 175   | 200   | 225        | 246.97                       | Dist. From Pt. (E) Along U.S. 20 (Ft.) |                                              |                              |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|------|------|------|-------------------------|------|-------|-------|-------|-------|------------|------------------------------|----------------------------------------|----------------------------------------------|------------------------------|
|      |     |     |     |     |     |     |     |     |     |    |    |    | 4.00 | 4.60 | 5.47 | 6.61                    | 8.02 | 9.70  | 11.65 | 13.87 | 16.36 | 19.11      | 21.76                        | Offset (Ft.)                           | From Line 'A'<br>To Line 'B'                 |                              |
|      |     |     |     |     |     |     |     |     |     |    |    |    | 4.19 | 4.92 | 5.66 | ← Constant 5.9% Slope → |      |       |       |       |       | Drop (Ft.) |                              |                                        |                                              |                              |
|      |     |     |     |     |     |     |     |     |     |    |    |    | 0.17 | 0.23 | 0.31 | 0.39                    | 0.47 | 0.57  | 0.69  | 0.82  | 0.97  | 1.13       | 1.28                         | Offset (Ft.)                           |                                              |                              |
|      |     |     |     |     |     |     |     |     |     |    |    |    | 4.19 | 4.92 | 5.66 | ← Constant 5.9% Slope → |      |       |       |       |       | Slope (%)  | From Line 'B'<br>To Line 'C' |                                        |                                              |                              |
|      |     |     |     |     |     |     |     |     |     |    |    |    | 0.67 | 0.79 | 0.91 | 0.94                    | 0.94 | 0.94  | 0.94  | 0.94  | 0.94  | 0.94       |                              | 0.94                                   | Drop (Ft.)                                   |                              |
|      |     |     |     |     |     |     |     |     |     |    |    |    | 0.00 | 2.00 | 4.00 | 6.00                    | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 | 18.00      |                              | 19.50                                  | Offset (Ft.)                                 |                              |
|      |     |     |     |     |     |     |     |     |     |    |    |    | 3.00 | 3.00 | 3.00 | 4.00                    | 4.00 | 4.00  | 4.00  | 4.00  | 4.00  | 4.00       | 4.00                         | 4.00                                   | Slope (%)                                    | From Line 'A'<br>To Line 'C' |
|      |     |     |     |     |     |     |     |     |     |    |    |    | 0.00 | 0.06 | 0.12 | 0.24                    | 0.32 | 0.40  | 0.48  | 0.56  | 0.64  | 0.72       | 0.74                         | 0.76                                   | Drop (Ft.)                                   |                              |
|      |     |     |     |     |     |     |     |     |     |    |    |    | 0.00 | 0.00 | 0.06 | 0.12                    | 0.18 | 0.24  | 0.30  | 0.36  | 0.42  | 0.48       | 0.54                         | 0.60                                   | Distance From Point (G) Along Line 'C' (Ft.) |                              |

**RAMP "C"**



SECTION A-A

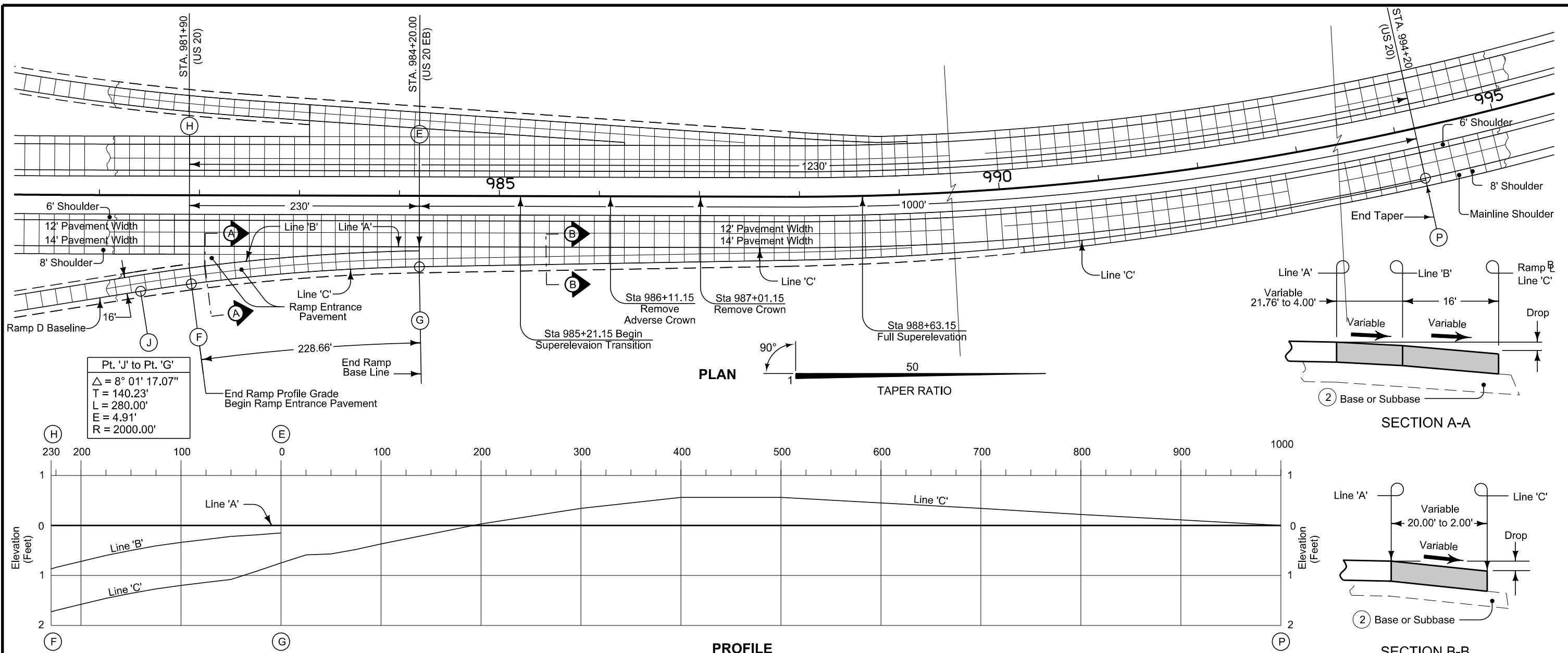


SECTION B-B

Construct ramp entrance pavement the same thickness as mainline pavement.  
 Ramp entrance pavement shown by shaded area is 1831 square yards.  
 For jointing layout, see Standard Road Plan PV-411. See Sheet 2 of 2.  
 This design is based on 60 mph design speed at  $e_{max} = 6\%$ .  
 For location equivalent stations, see Tabulation 101-15.

- ① Ramp entrance subbase shall be the same thickness as mainline subbase.
- ② Refer to detail project plans for mainline and ramp alignment and grade data.

|                                                                                           |               |          |
|-------------------------------------------------------------------------------------------|---------------|----------|
| <b>MODIFIED<br/>STANDARD ROAD PLAN</b>                                                    | REVISION      |          |
|                                                                                           | 2             | 10-18-11 |
|                                                                                           | <b>PV-411</b> |          |
| SHEET 1 of 1                                                                              |               |          |
| MODIFICATIONS: Revised to accommodate the curvature of mainline lanes.<br>Removed Sheet 2 |               |          |
| ACCELERATION TAPER<br>FOR 16' ENTRANCE RAMP                                               |               |          |



Pt. 'J' to Pt. 'G'  
 $\Delta = 8^\circ 01' 17.07''$   
 $T = 140.23'$   
 $L = 280.00'$   
 $E = 4.91'$   
 $R = 2000.00'$

PLAN  
 90°  
 50  
 TAPER RATIO

PROFILE

SECTION A-A

SECTION B-B

TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER

| Dist. From Pt. (E) Along U.S. 20 (Ft.)       |              | 230                   | 225    | 200    | 175    | 150    | 125    | 100   | 75    | 50    | 25    | 0    | 25    | 50    | 75    | 100   | 200   | 300   | 400   | 500   | 600   | 700   | 800   | 900   | 1000 |
|----------------------------------------------|--------------|-----------------------|--------|--------|--------|--------|--------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| From Line 'A'<br>To Line 'B'                 | Offset (Ft.) | 21.76                 | 21.09  | 17.94  | 15.10  | 12.57  | 10.36  | 8.47  | 6.88  | 5.61  | 4.65  | 4.00 |       |       |       |       |       |       |       |       |       |       |       |       |      |
|                                              | Slope (%)    | Constant 4.0% Slope   |        |        |        |        |        |       |       |       |       |      | 3.78  |       |       |       |       |       |       |       |       |       |       |       |      |
|                                              | Drop (Ft.)   | 0.87                  | 0.84   | 0.72   | 0.60   | 0.50   | 0.41   | 0.34  | 0.28  | 0.22  | 0.19  | 0.15 |       |       |       |       |       |       |       |       |       |       |       |       |      |
| From Line 'B'<br>To Line 'C'                 | Offset (Ft.) | Constant 16.0' Offset |        |        |        |        |        |       |       |       |       |      |       |       |       |       |       |       |       |       |       |       |       |       |      |
|                                              | Slope (%)    | 5.40                  | 5.40   | 5.40   | 5.40   | 5.40   | 5.40   | 5.40  | 5.40  | 5.40  | 4.58  | 3.78 |       |       |       |       |       |       |       |       |       |       |       |       |      |
|                                              | Drop (Ft.)   | 0.86                  | 0.86   | 0.86   | 0.86   | 0.86   | 0.86   | 0.86  | 0.86  | 0.86  | 0.73  | 0.60 |       |       |       |       |       |       |       |       |       |       |       |       |      |
| From Line 'A'<br>To Line 'C'                 | Offset (Ft.) |                       |        |        |        |        |        |       |       |       |       |      | 19.50 | 19.00 | 18.50 | 18.00 | 16.00 | 14.00 | 12.00 | 10.00 | 8.00  | 6.00  | 4.00  | 2.00  | 0    |
|                                              | Slope (%)    |                       |        |        |        |        |        |       |       |       |       |      | 3.00  | 3.00  | 2.58  | 2.03  | 0.20  | 2.42  | 4.64  | 5.60  | 5.60  | 5.60  | 5.60  | 5.60  | 5.60 |
|                                              | Drop (Ft.)   | 1.73                  | 1.70   | 1.58   | 1.46   | 1.36   | 1.27   | 1.20  | 1.14  | 1.08  | 0.92  | 0.75 | 0.59  | 0.57  | 0.48  | 0.37  | -0.03 | -0.34 | -0.56 | -0.56 | -0.45 | -0.34 | -0.22 | -0.11 | 0    |
| Distance From Point (G) Along Line 'C' (Ft.) |              | 228.66                | 223.66 | 198.66 | 173.70 | 148.77 | 123.87 | 99.00 | 74.15 | 49.31 | 24.49 | 0.00 |       |       |       |       |       |       |       |       |       |       |       |       |      |

Construct ramp entrance pavement the same thickness as mainline pavement.  
 Ramp entrance pavement shown by shaded area is 1813 square yards.  
 For jointing layout, see Standard Road Plan PV-411. See Sheet 2 OF 2.  
 This design is based on 60 mph design speed at e max = 6%.  
 For location equivalent stations, see Tabulation 101-15.

- ① Ramp entrance subbase shall be the same thickness as mainline subbase.
- ② Refer to detail project plans for mainline and ramp alignment and grade data.

**MODIFIED**  
**STANDARD ROAD PLAN**

|               |          |
|---------------|----------|
| REVISION      |          |
| 2             | 10-18-11 |
| <b>PV-411</b> |          |
| SHEET 1 of 1  |          |

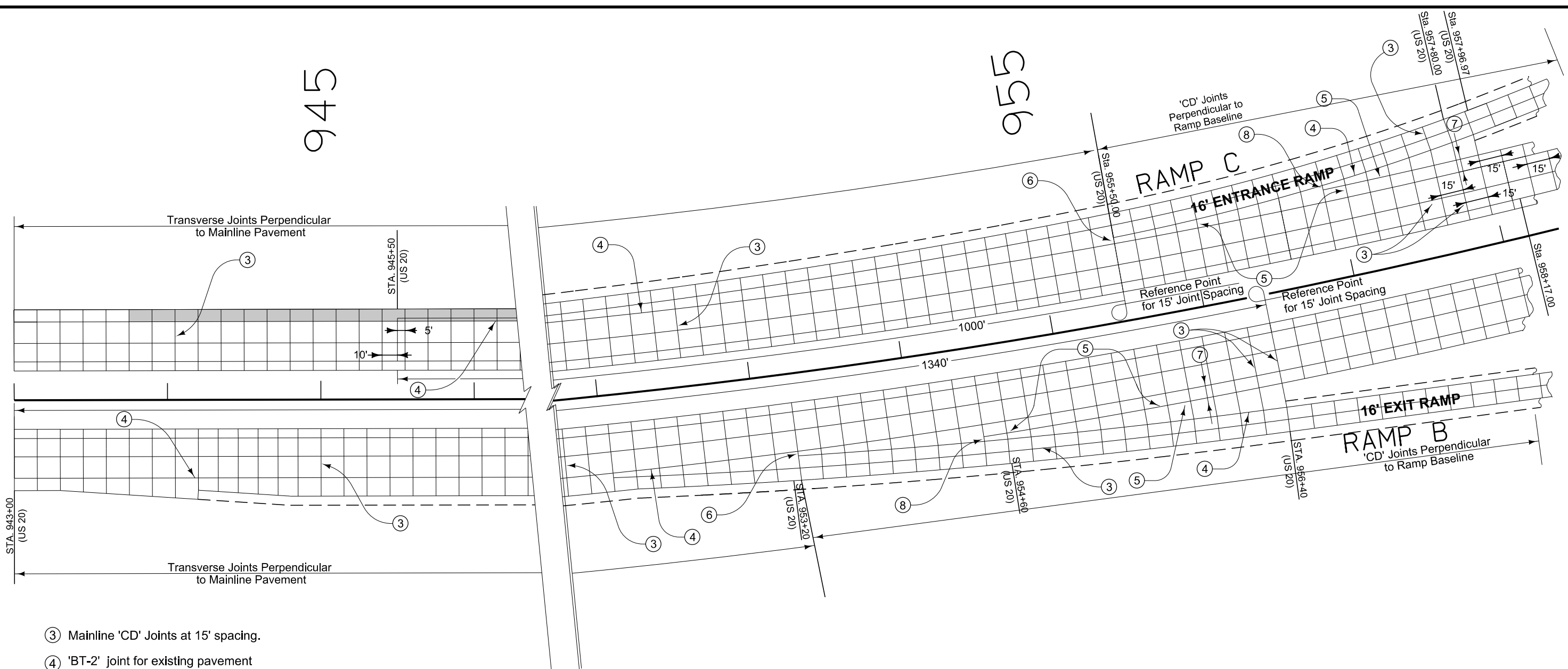
MODIFICATIONS: Revised to accommodate the curvature of mainline lanes.  
 Removed Sheet 2

**ACCELERATION TAPER  
 FOR 16' ENTRANCE RAMP**



945

955



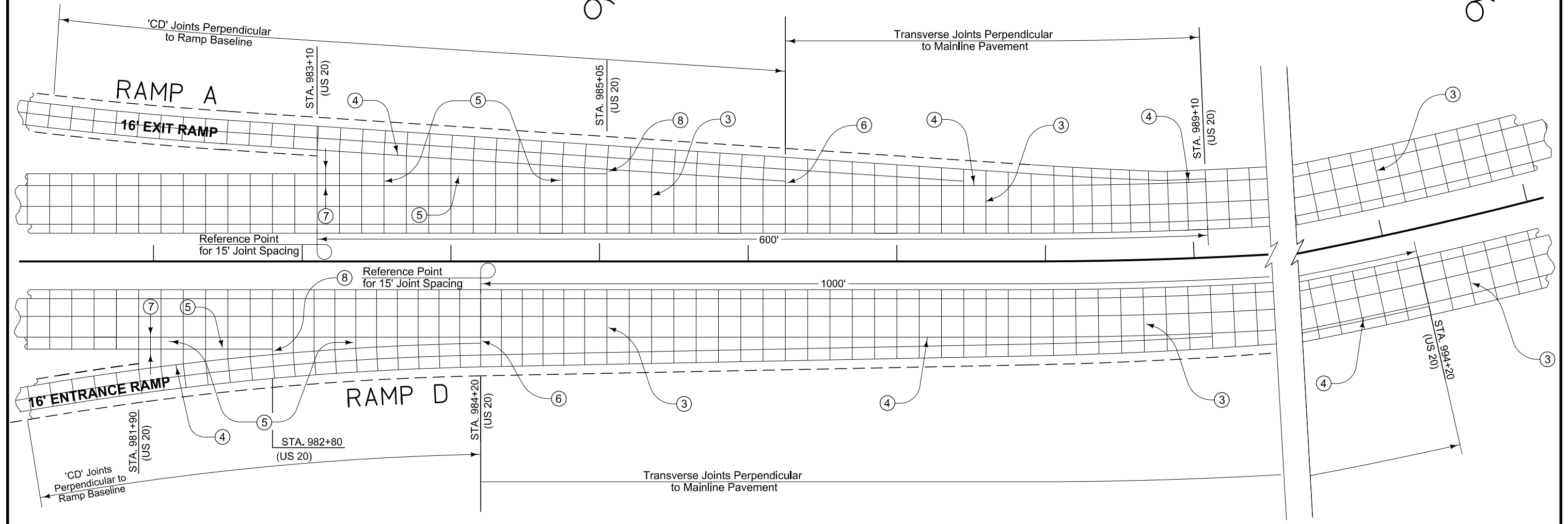
- ③ Mainline 'CD' Joints at 15' spacing.
- ④ 'BT-2' joint for existing pavement or 'KT-2' for new pavement .
- ⑤ 'C' Joint.
- ⑥ 'B' Joint, 2' minimum, 4' maximum.
- ⑦ 10' minimum or equal to mainline shoulder width.
- ⑧ 'B' or 'C' Joint, 2' minimum, 4' maximum.

**RAMP "B"  
AND  
RAMP "C"**

|                                                                                                         |                      |          |
|---------------------------------------------------------------------------------------------------------|----------------------|----------|
| <p><b>MODIFIED<br/>STANDARD ROAD PLAN</b></p>                                                           | REVISION             |          |
|                                                                                                         | 2                    | 10-18-11 |
|                                                                                                         | <p><b>PV-410</b></p> |          |
| SHEET 2 of 2                                                                                            |                      |          |
| MODIFICATIONS: Revised to accommodate the curvature of mainline lanes.                                  |                      |          |
| <p><b>DECELERATION TAPER FOR 16' EXIT RAMP<br/>AND ACCELERATION<br/>TAPER FOR 16' ENTRANCE RAMP</b></p> |                      |          |

985

995



- ③ Mainline 'CD' Joints at 15' spacing.
- ④ 'BT-2' joint for existing pavement or 'KT-2' for new pavement .
- ⑤ 'C' Joint.
- ⑥ 'B' Joint. 2' minimum. 4' maximum.
- ⑦ 10' minimum or equal to mainline shoulder width.
- ⑧ 'B' or 'C' Joint. 2' minimum. 4' maximum.

**RAMP "A"  
AND  
RAMP "D"**

|                                                                                                  |          |          |
|--------------------------------------------------------------------------------------------------|----------|----------|
| <p><b>MODIFIED<br/>STANDARD ROAD PLAN</b></p>                                                    | REVISION |          |
|                                                                                                  | 2        | 10-18-11 |
|                                                                                                  | PV-410   |          |
| SHEET 2 of 2                                                                                     |          |          |
| MODIFICATIONS: Revised to accommodate the curvature of mainline lanes.                           |          |          |
| <p>DECELERATION TAPER FOR 16' EXIT RAMP<br/>AND ACCELERATION<br/>TAPER FOR 16' ENTRANCE RAMP</p> |          |          |

CYPRESS\_RET\_1 HORIZONTAL CURVE DATA

P.I. Station 0+45.00 N 3,635,194.3163 E 5,650,992.3251  
 Delta = 90° 00' 00.00" (RT)  
 Degree = 127° 19' 26.24"  
 Tangent = 45.0000  
 Length = 70.6858  
 Radius = 45.0000  
 External = 18.6396  
 Long Chord = 63.6396  
 Mid. Ord. = 13.1802  
 P.C. Station 0+00.00 N 3,635,194.4463 E 5,651,037.3249  
 P.T. Station 0+70.69 N 3,635,239.3161 E 5,650,992.1951

Back = S 89° 50' 04.02" W  
 Ahead = N 0° 09' 55.98" W  
 Chord Bear = N 45° 09' 55.98" W

CYPRESS\_RET\_2 HORIZONTAL CURVE DATA

P.I. Station 0+45.00 N 3,635,194.2383 E 5,650,965.3252  
 Delta = 90° 00' 00.00" (LT)  
 Degree = 127° 19' 26.24"  
 Tangent = 45.0000  
 Length = 70.6858  
 Radius = 45.0000  
 External = 18.6396  
 Long Chord = 63.6396  
 Mid. Ord. = 13.1802  
 P.C. Station 0+00.00 N 3,635,194.1083 E 5,650,920.3254  
 P.T. Station 0+70.69 N 3,635,239.2381 E 5,650,965.1952

Back = N 89° 50' 04.02" E  
 Ahead = N 0° 09' 55.98" W  
 Chord Bear = N 44° 50' 04.02" E

CYPRESS DRIVE DITCH GRADE LEFT VERTICAL PROFILE DATA

| VPI   | STATION   | ELEV       | GRADE  |
|-------|-----------|------------|--------|
| VPI 1 | 254+22.00 | 1,103.7900 |        |
| VPI 2 | 255+48.76 | 1,109.4892 | 4.5000 |

CYPRESS DRIVE CENTERLINE HORIZONTAL ALIGNMENT DATA

Point 895368 N 3,635,182.2774 E 5,650,978.8598 Sta 253+65.00  
 Course from 895368 to 895367 N 0° 09' 55.98" W Distance 244.7712  
 Point 895367 N 3,635,427.0476 E 5,650,978.1526 Sta 256+09.77

CYPRESS DRIVE VERTICAL PROFILE DATA

| VPI        | STATION   | ELEV       | GRADE   | TOTAL L | BACK L      | AHEAD L |
|------------|-----------|------------|---------|---------|-------------|---------|
| VPI 1      | 253+77.00 | 1,108.4200 |         |         |             |         |
| VPC        | 254+00.00 | 1,107.9600 | -2.0000 | K = 6.2 |             |         |
| Low Point  | 254+12.50 | 1,107.8350 |         |         |             |         |
| VPI 2      | 254+25.00 | 1,107.4600 |         | 50.00   | 25.00       | 25.00   |
| VPT        | 254+50.00 | 1,108.9600 | 6.0000  |         |             |         |
| VPC        | 254+75.00 | 1,110.4600 | 6.0000  | K = 7.2 | SSD = 121.3 |         |
| VPI 3      | 255+00.00 | 1,111.9600 |         | 50.00   | 25.00       | 25.00   |
| High Point | 255+18.48 | 1,111.7643 |         |         |             |         |
| VPT        | 255+25.00 | 1,111.7350 | -0.9000 |         |             |         |
| VPI 4      | 255+48.76 | 1,111.5212 | -0.9000 |         |             |         |

CYPRESS DRIVE DITCH GRADE RIGHT VERTICAL PROFILE DATA

| VPI   | STATION   | ELEV       | GRADE  |
|-------|-----------|------------|--------|
| VPI 1 | 253+77.00 | 1,106.1800 |        |
| VPI 2 | 254+50.00 | 1,106.3260 | 0.2000 |
| VPI 3 | 255+48.76 | 1,109.7826 | 3.5000 |

HIGLEY DRIVE (AP896220) CENTERLINE HORIZONTAL ALIGNMENT DATA

Point 896220 N 3,635,206.7233 E 5,651,832.3866 Sta 0+00.00  
 Course from 896220 to PC AP896220-1 N 11° 08' 54.93" W Dist 58.4067

Curve Data

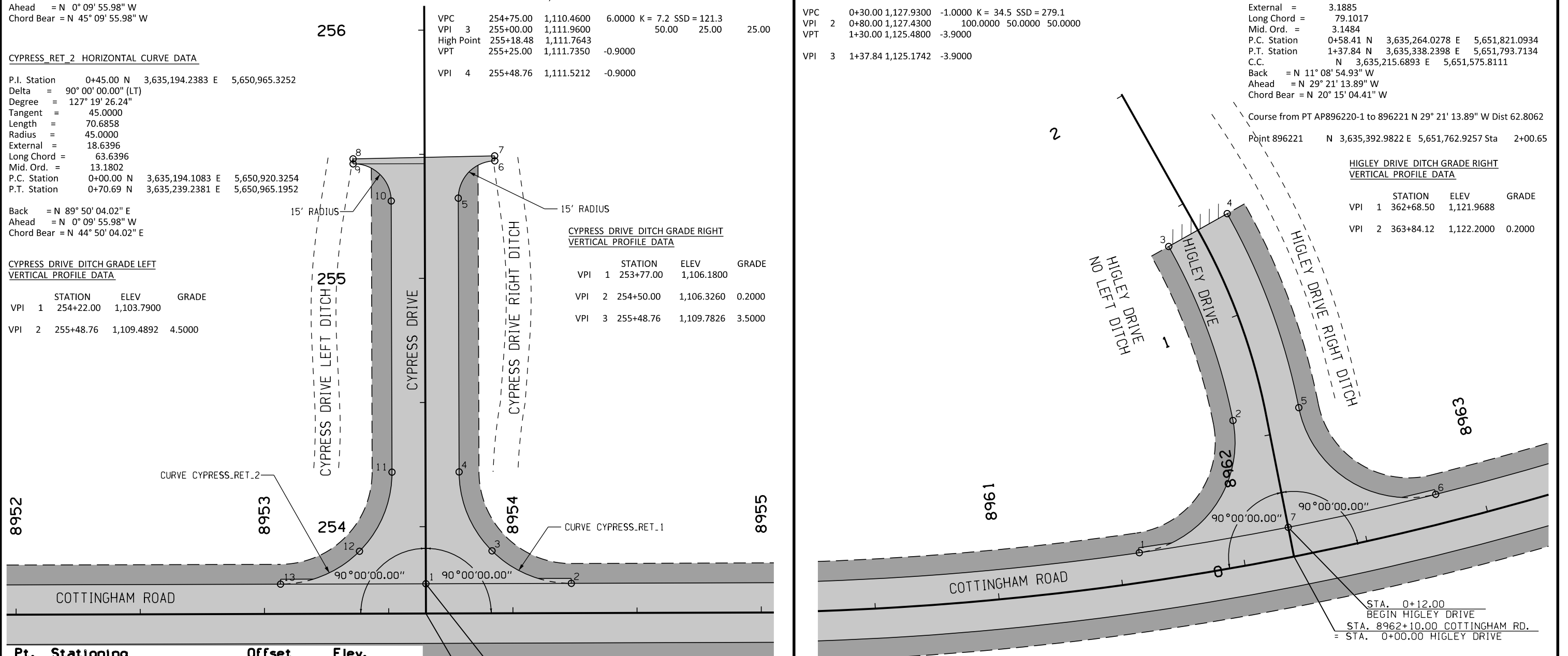
Curve AP896220-1  
 P.I. Station 0+98.46 N 3,635,303.3272 E 5,651,813.3485  
 Delta = 18° 12' 18.95" (LT)  
 Degree = 22° 55' 05.92"  
 Tangent = 40.0553  
 Length = 79.4355  
 Radius = 250.0000  
 External = 3.1885  
 Long Chord = 79.1017  
 Mid. Ord. = 3.1484  
 P.C. Station 0+58.41 N 3,635,264.0278 E 5,651,821.0934  
 P.T. Station 1+37.84 N 3,635,338.2398 E 5,651,793.7134  
 C.C. N 3,635,215.6893 E 5,651,575.8111  
 Back = N 11° 08' 54.93" W  
 Ahead = N 29° 21' 13.89" W  
 Chord Bear = N 20° 15' 04.41" W

Course from PT AP896220-1 to 896221 N 29° 21' 13.89" W Dist 62.8062

Point 896221 N 3,635,392.9822 E 5,651,762.9257 Sta 2+00.65

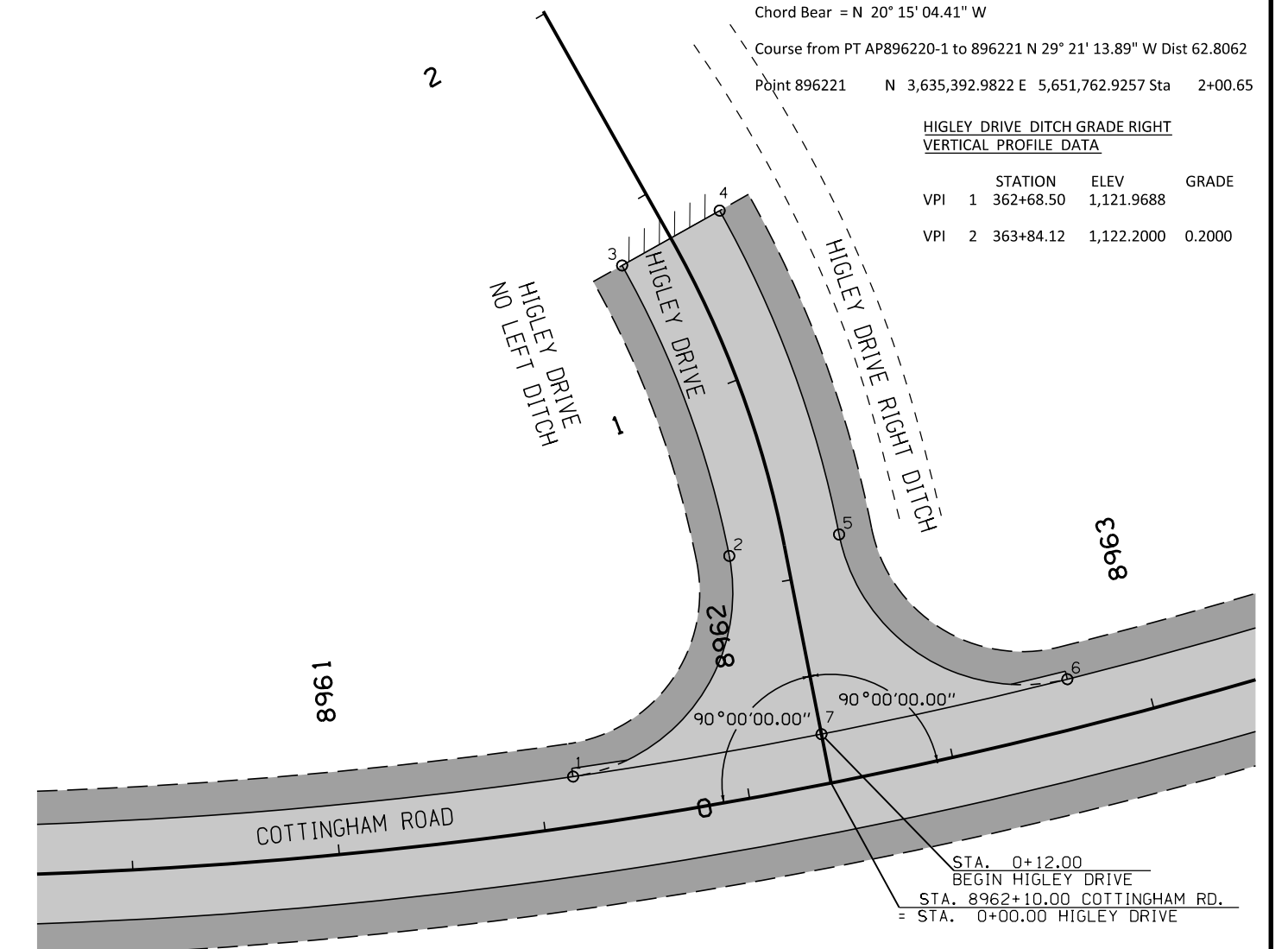
HIGLEY DRIVE DITCH GRADE RIGHT VERTICAL PROFILE DATA

| VPI   | STATION   | ELEV       | GRADE  |
|-------|-----------|------------|--------|
| VPI 1 | 362+68.50 | 1,121.9688 |        |
| VPI 2 | 363+84.12 | 1,122.2000 | 0.2000 |



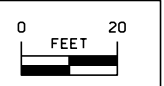
HIGLEY DRIVE (AP896220) VERTICAL PROFILE DATA

| VPI   | STATION | ELEV       | GRADE   | TOTAL L  | BACK L      | AHEAD L |
|-------|---------|------------|---------|----------|-------------|---------|
| VPI 1 | 0+12.00 | 1,128.1100 |         |          |             |         |
| VPC   | 0+30.00 | 1,127.9300 | -1.0000 | K = 34.5 | SSD = 279.1 |         |
| VPI 2 | 0+80.00 | 1,127.4300 |         | 100.0000 | 50.0000     | 50.0000 |
| VPT   | 1+30.00 | 1,125.4800 | -3.9000 |          |             |         |
| VPI 3 | 1+37.84 | 1,125.1742 | -3.9000 |          |             |         |



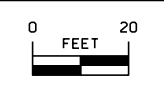
| Pt. | Stationing | Offset                        | Elev. |
|-----|------------|-------------------------------|-------|
| 1   | 8953+85.00 | Cottingham Road 12.00 Ft. Lt. | -     |
| 2   | 8954+23.50 | Cottingham Road 12.00 Ft. Lt. | -     |
| 3   | 253+90.18  | Cypress Drive 26.68 Ft. Rt.   | -     |
| 4   | 254+22.00  | Cypress Drive 13.50 Ft. Rt.   | -     |
| 5   | 255+32.28  | Cypress Drive 13.50 Ft. Rt.   | -     |
| 6   | 255+47.28  | Cypress Drive 28.22 Ft. Rt.   | -     |
| 7   | 255+49.28  | Cypress Drive 28.18 Ft. Rt.   | -     |
| 8   | 255+48.22  | Cypress Drive 28.82 Ft. Lt.   | -     |
| 9   | 255+46.22  | Cypress Drive 28.78 Ft. Lt.   | -     |
| 10  | 255+31.22  | Cypress Drive 13.50 Ft. Lt.   | -     |
| 11  | 254+22.00  | Cypress Drive 13.50 Ft. Lt.   | -     |
| 12  | 253+90.18  | Cypress Drive 26.68 Ft. Lt.   | -     |
| 13  | 8953+06.50 | Cottingham Road 12.00 Ft. Lt. | -     |

STA. 253+77.00  
 BEGIN CYPRESS DRIVE  
 STA. 8953+65.00 COTTINGHAM RD.  
 = STA. 253+65.00 CYPRESS DRIVE



GEOMETRIC DETAILS  
 INTERSECTION OF RELOCATED  
 COTTINGHAM ROAD  
 WITH CYPRESS DRIVE

| Pt. | Stationing | Offset                        | Elev.   |
|-----|------------|-------------------------------|---------|
| 1   | 8961+58.56 | Cottingham Road 12.00 Ft. Lt. | 1127.44 |
| 2   | 0+58.53    | Higley Drive 13.50 Ft. Lt.    | 1127.26 |
| 3   | 1+37.84    | Higley Drive 13.50 Ft. Lt.    | 1124.90 |
| 4   | 1+37.84    | Higley Drive 13.50 Ft. Rt.    | 1124.90 |
| 5   | 0+58.48    | Higley Drive 13.50 Ft. Rt.    | 1127.26 |
| 6   | 8962+81.44 | Cottingham Road 12.00 Ft. Lt. | 1128.49 |
| 7   | 8962+20.00 | Cottingham Road 12.00 Ft. Lt. | 1128.11 |

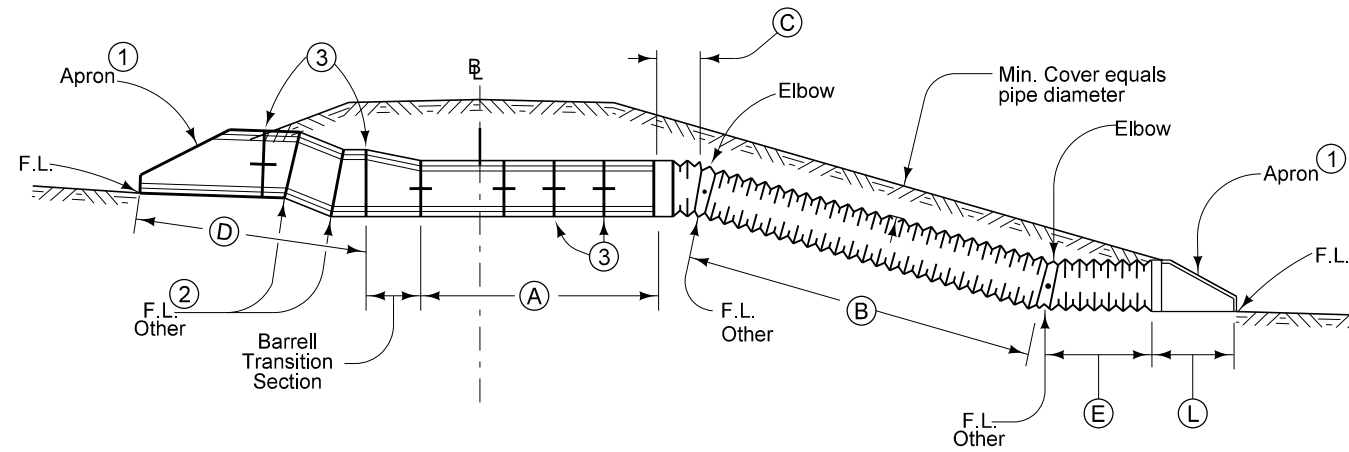


GEOMETRIC DETAILS  
 INTERSECTION OF RELOCATED  
 COTTINGHAM ROAD  
 WITH HIGLEY DRIVE

℄ is ℄ of roadway, dike, survey, or other as detailed on the plans.

Skew angle is the angle which one end of the pipe is ahead (by stationing) of a line perpendicular to the ℄. (Example: skew Rt. ahead 30 degrees)

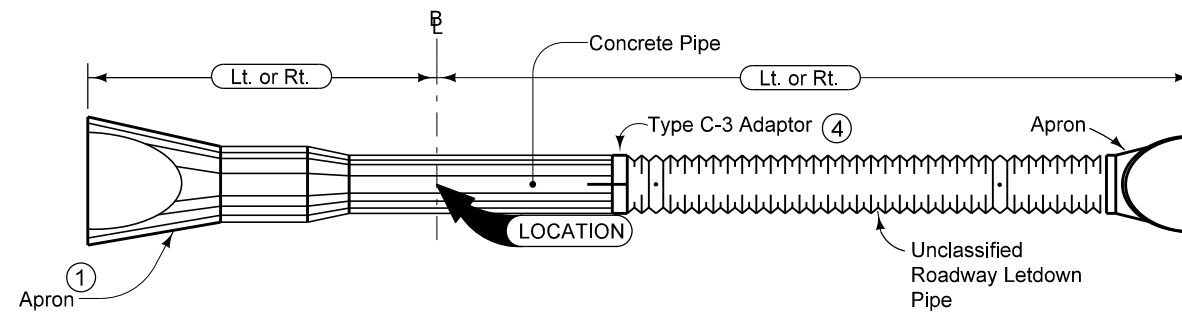
Standard type joint couplings are required. See Materials I.M. 441.



A = Concrete Pipe Length  
 B+C+E = Unclassified Roadway Letdown Pipe Length

- ① Refer to the following:  
 DR-201 for circular concrete.  
 DR-202 for low clearance concrete.  
 DR-203 for circular metal.  
 DR-204 for arch metal (metal pipe only).  
 DR-205 for circular concrete with end wall.  
 DR-206 for low clearance concrete with end wall.
- ② Optional "D" section only when specified in the tabulation. Refer to DR-141.
- ③ See DR-121
- ④ See DR-122.

SECTION



PLAN

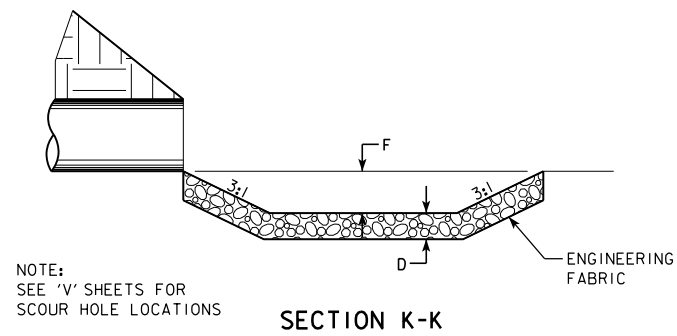
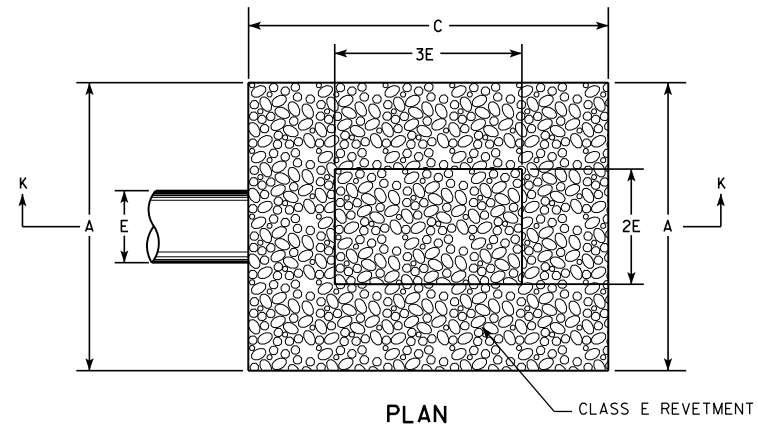
Possible Tabulation:  
 104-3

|                                        |               |          |
|----------------------------------------|---------------|----------|
| <b>MODIFIED<br/>STANDARD ROAD PLAN</b> | REVISION      |          |
|                                        | 1             | 04-18-17 |
|                                        | <b>DR-653</b> |          |
| SHEET 1 of 1                           |               |          |

MODIFICATIONS: Changed left side to show a slope taper pipe.

**SLOPE TAPERED  
 CONCRETE/UNCLASSIFIED ROADWAY  
 LETDOWN PIPE WITH METAL APRON**

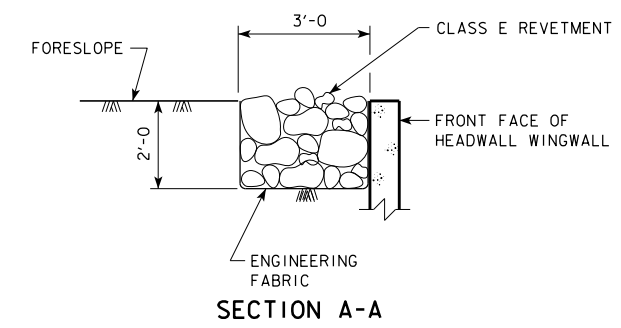
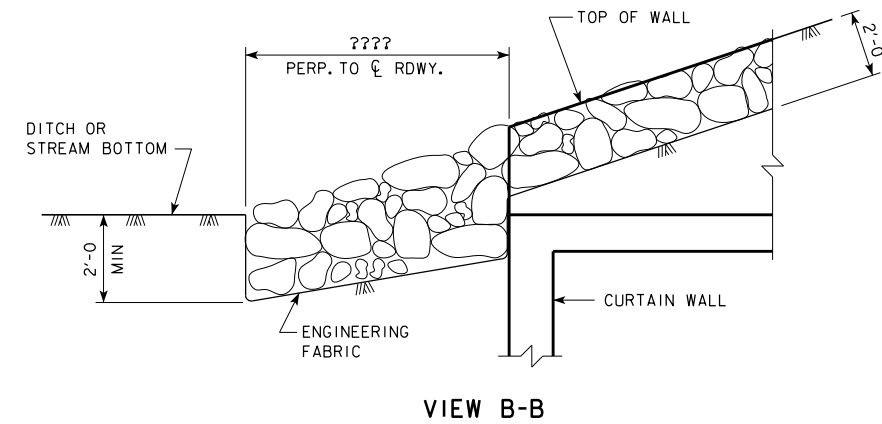




SCOUR HOLE

CONSTRUCTION NOTES:

CLASS E REVETMENT SHALL BE USED AND PLACED ACCORDING TO ARTICLE 2507.03, OF THE STANDARD SPECIFICATIONS.  
THE ENGINEERING FABRIC SHALL MEET THE MATERIAL REQUIREMENTS IN ACCORDANCE WITH ARTICLE 4196.01, B, 3, OF THE STANDARD SPECIFICATIONS.



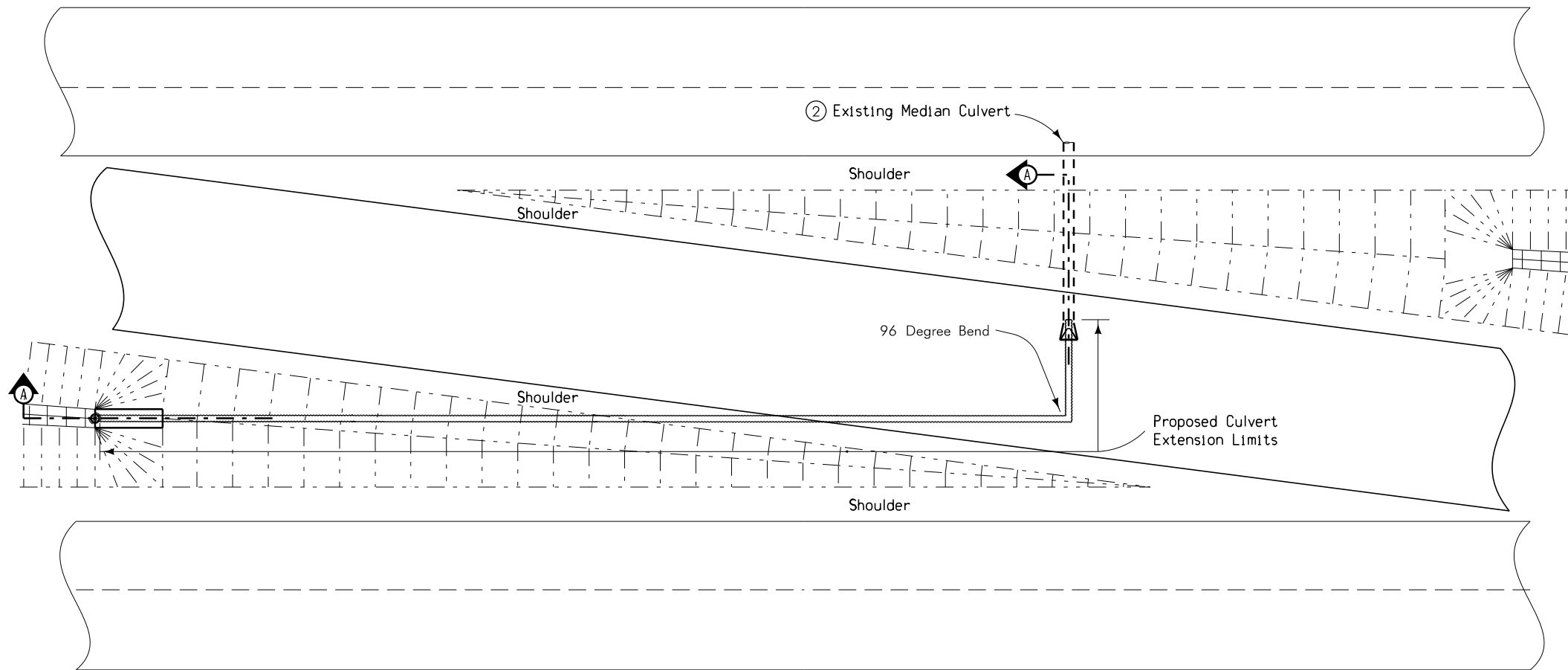
TYPICAL DETAILS

CONSTRUCTION NOTES:

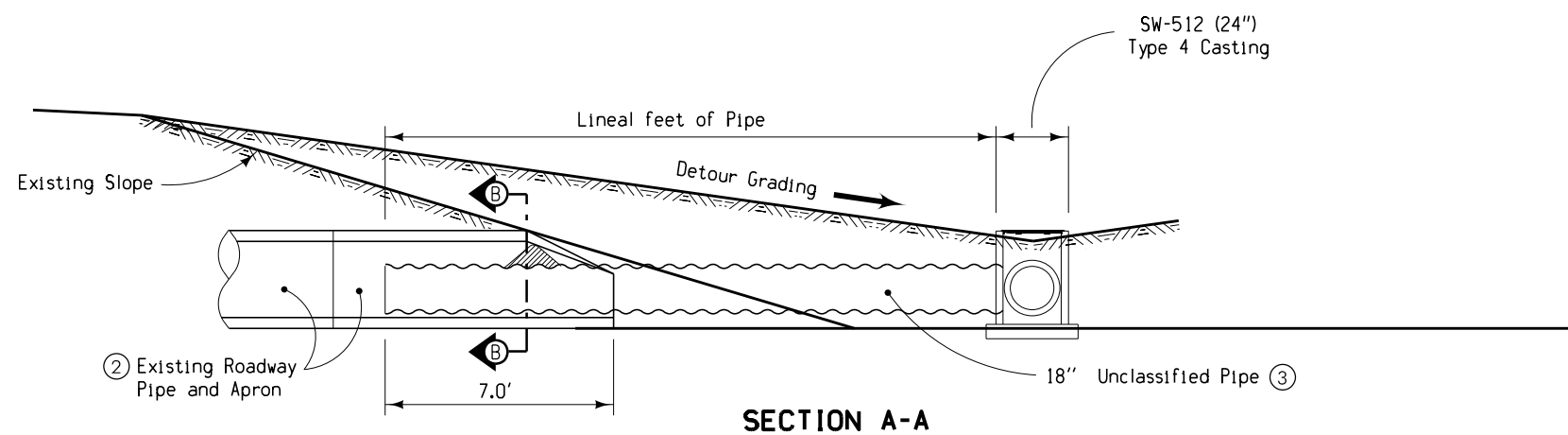
CLASS E REVETMENT SHALL BE USED AND PLACED ACCORDING TO ARTICLE 2507.03, OF THE STANDARD SPECIFICATIONS.  
THE ENGINEERING FABRIC SHALL MEET THE MATERIAL REQUIREMENTS IN ACCORDANCE WITH ARTICLE 4196.01, B, 3, OF THE STANDARD SPECIFICATIONS.



REVETMENT PROTECTION DETAILS



PLAN VIEW



SECTION A-A

Construct the extension by placing the appropriate size of Unclassified Pipe into the existing culvert and apron. After the Unclassified pipe has been assembled at the proper angle and placed into the culvert, some adjusting may be required by rotating the Unclassified Pipe to fit the new flow line. Seal the area between the existing apron and Unclassified Pipe with concrete.

Construct the extension using Class 'C' concrete.

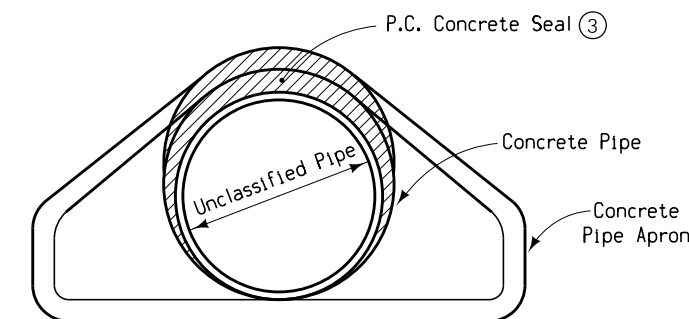
Excavating silt for pipe placement is incidental to pipe items.

Place a silt fence ditch check immediately upstream from the inlet of the culvert. See EC-201 for construction details.

- ① Place in Stage 2B. Remove in Stage 4.
- ② Existing roadway pipe and apron to be used after median crossover is removed.
- ③ P.C. Concrete Seal and Unclassified Pipe to be removed when median crossover is removed.

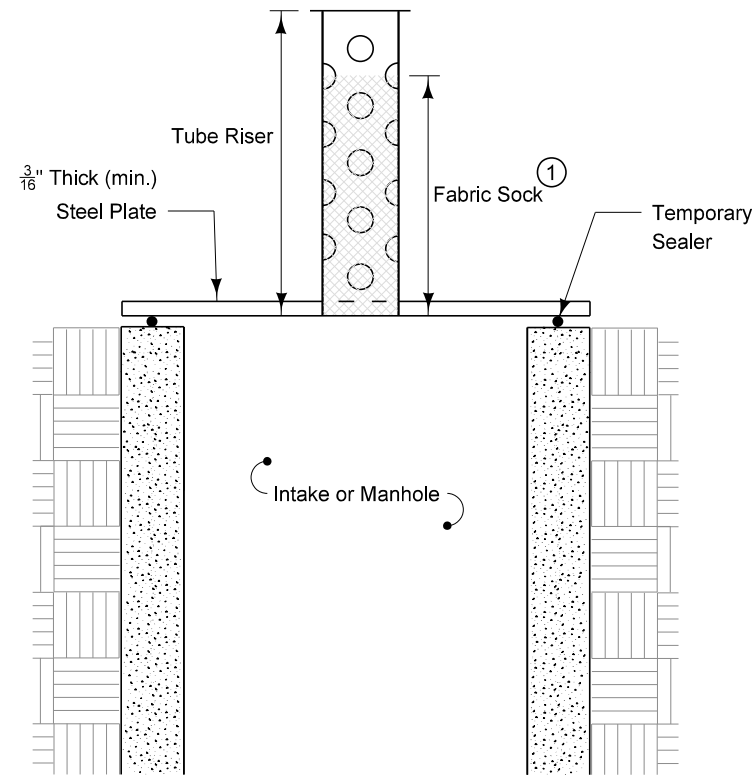
Contract Items:

Unclassified Roadway Pipe, 18"  
SW-512 (24") – Type 4B Casting

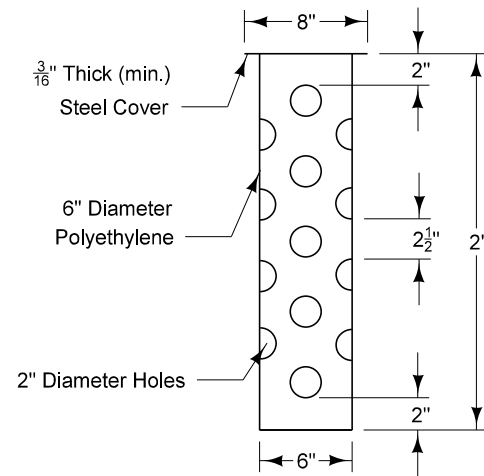


SECTION B-B

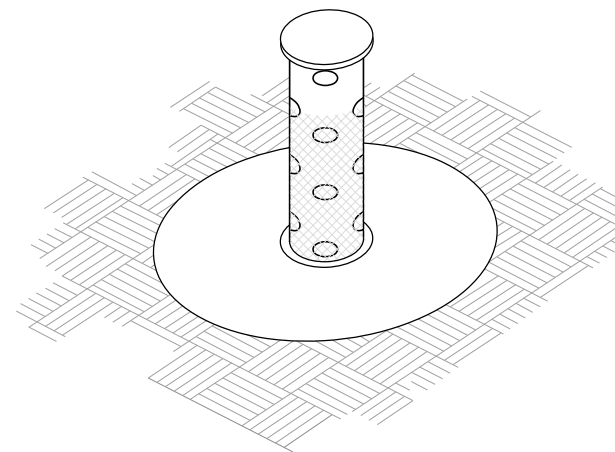
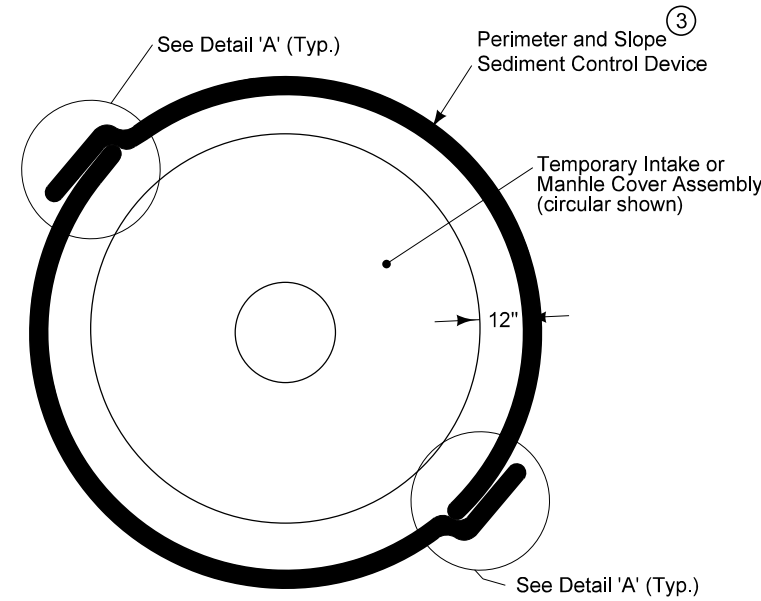
**MODIFIED DETAIL SHEET 500-6  
MEDIAN CULVERT EXTENSIONS  
WITH SW-512 INTAKE**



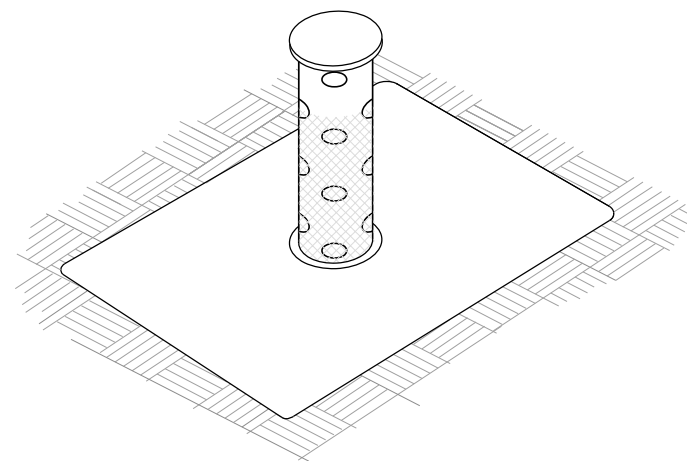
SECTION VIEW



TUBE RISER

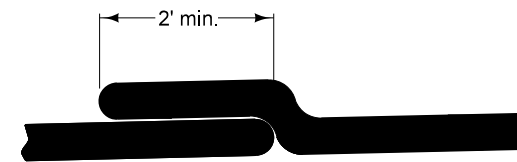


ISOMETRIC VIEW  
(Circular)



ISOMETRIC VIEW  
(Rectangular)

TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY



DETAIL 'A'  
(Overlap Joint)

PERIMETER AND SLOPE SEDIMENT CONTROL

Method of Measurement for Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each device installed.

Method of Measurement for Maintenance of Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Maintenance of Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each occurrence. Payment is full compensation for inspecting fabric sock and replacing when flow capacity has been reduced to 50%.

Method of Measurement for Removal of Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Removal of Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each device removed.

- ① Wrap fabric sock around tube riser. Use fabric complying with Article 4196.01, B, 1 with a minimum flow rate of 90 gallons per minute per square foot. Ensure top of sock is below form grade elevation.
- ② Tube riser may be such that it can be pushed down and pulled up.
- ③ Place Perimeter and Slope Sediment Control Devices around all intake or manhole wells. Use 20 inch diameter device.
- ④ Extra material required to install overlaps will not be included in the installation length.

Possible Contract Items:

- Temporary Intake or Manhole Cover Assembly
- Maintenance of Temporary Intake or Manhole Cover Assembly
- Removal of Temporary Intake or Manhole Cover Assembly
- Perimeter and Slope Sediment Control Device

Possible Tabulations:

- 100-11
- 100-19

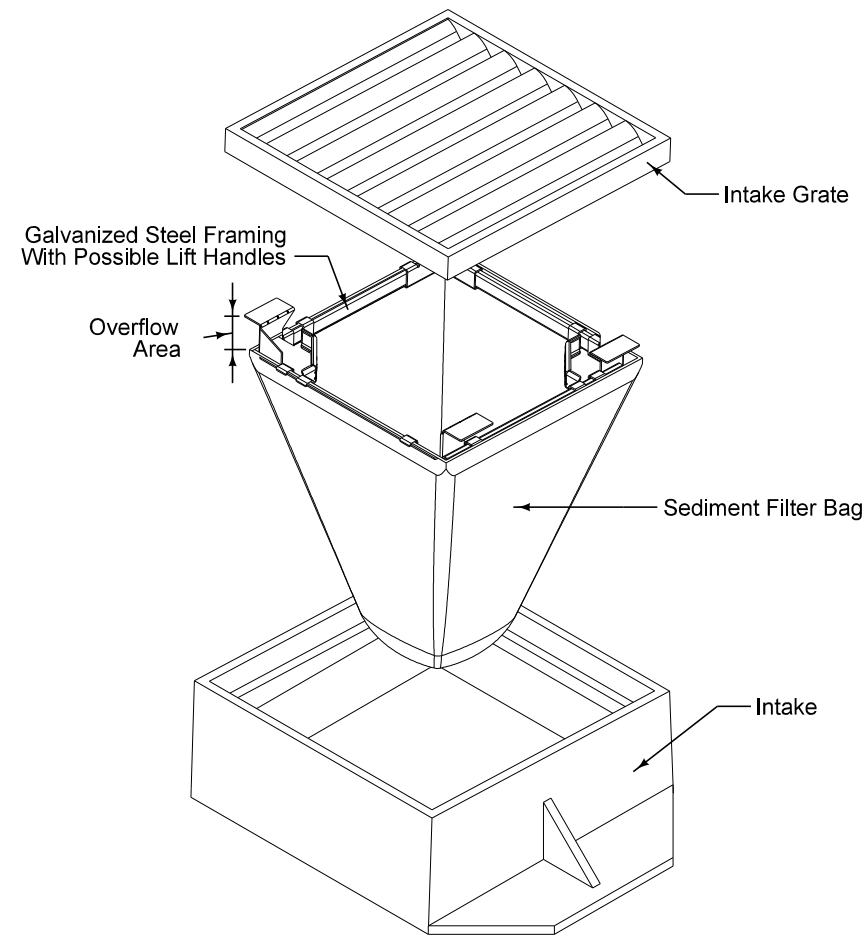


ROAD DESIGN DETAIL

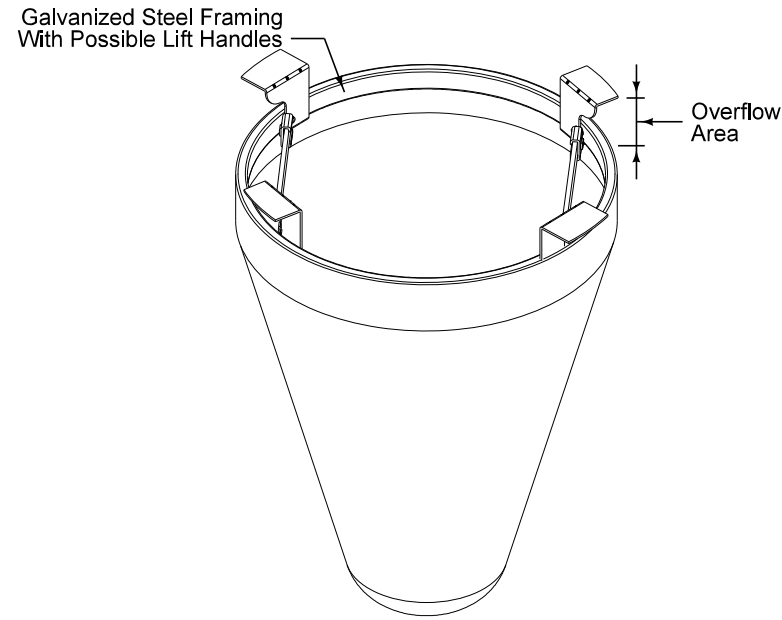
| REVISION     |          |
|--------------|----------|
| 1            | 04-18-17 |
| <b>570-5</b> |          |
| SHEET 1 of 1 |          |

REVISIONS: Add bid items for maintenance and removal. Added basis of payment and method of measurement.

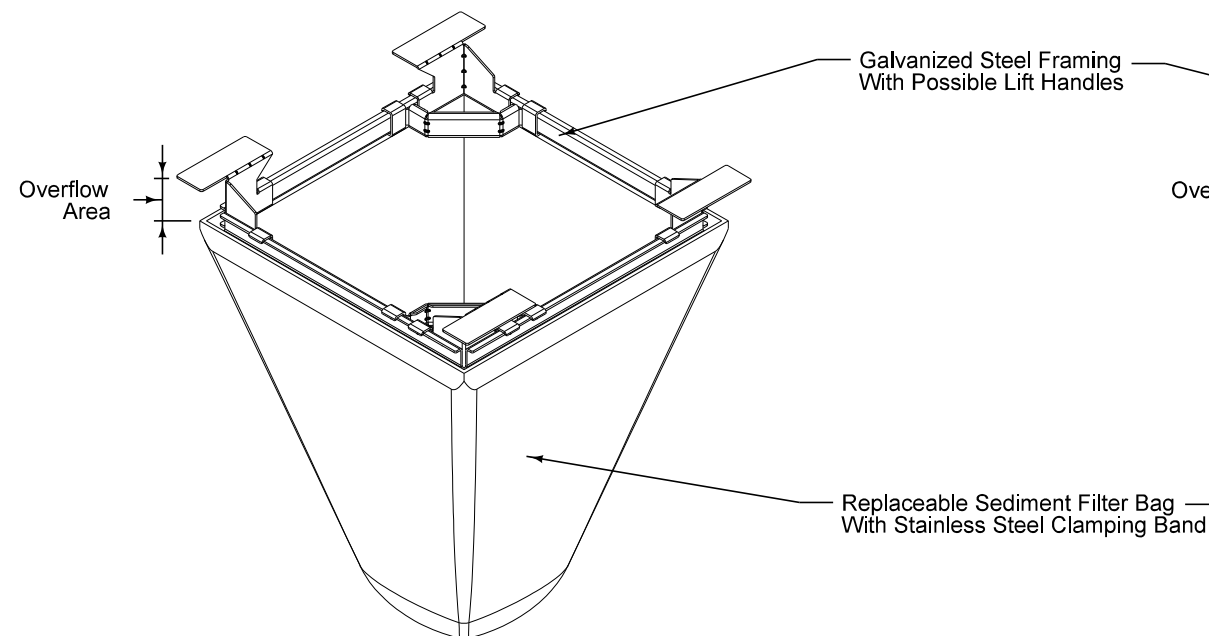
EROSION CONTROL FOR INTAKE  
OR MANHOLE WELL



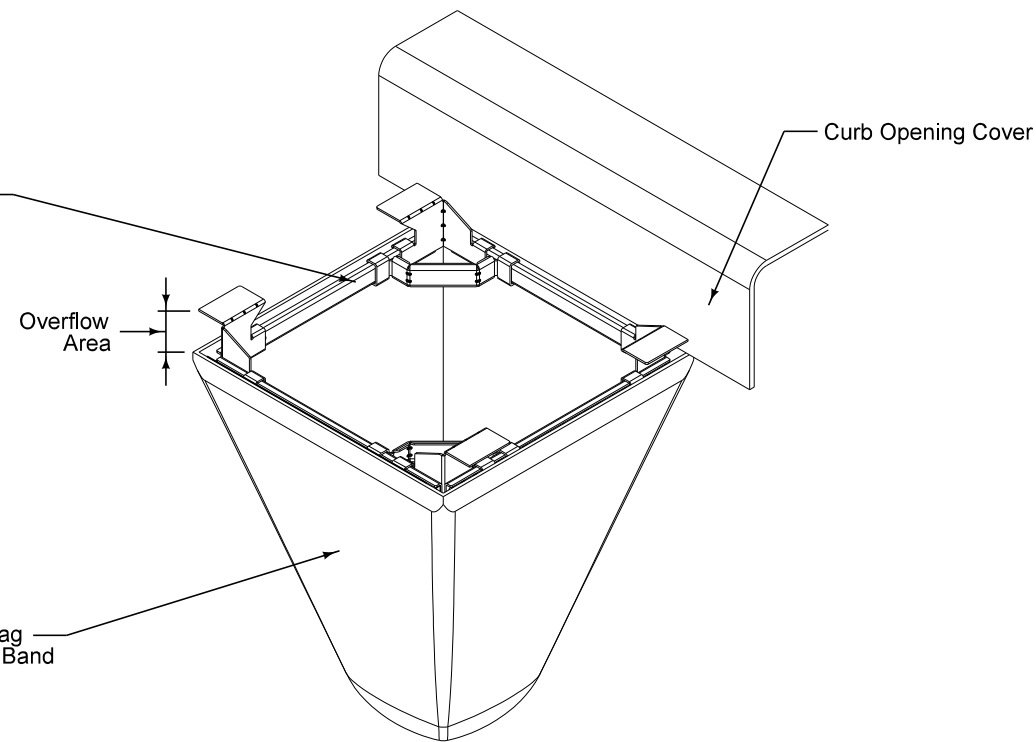
TYPICAL SEDIMENT FILTER BAG PLACEMENT



SEDIMENT FILTER BAG FOR CIRCULAR GRATE



SEDIMENT FILTER BAG FOR SQUARE OR RECTANGULAR GRATE



SEDIMENT FILTER BAG FOR COMBINATION GRATE WITH CURB OPENING

Remove sediment filter bag upon stabilization of sediment sources.

Measurement for Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Grate Intake Sediment Filter Bag will be at the contract unit price for each device installed. Payment is full compensation for furnishing all equipment, labor, and materials required to install the Grate Intake Sediment Filter Bag as shown.

Method of Measurement for Maintenance of Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Maintenance of Grate Intake Sediment Filter Bag will be at the contract unit price for each occurrence. Payment is full compensation for clean out and disposal of material when capacity reaches 50%, and for any other repair needed during the project.

Measurement for Removal of Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Removal of Grate Intake Sediment Filter Bag will be at the contract unit price for each device removed. Payment is full compensation for all labor and equipment required for removal.

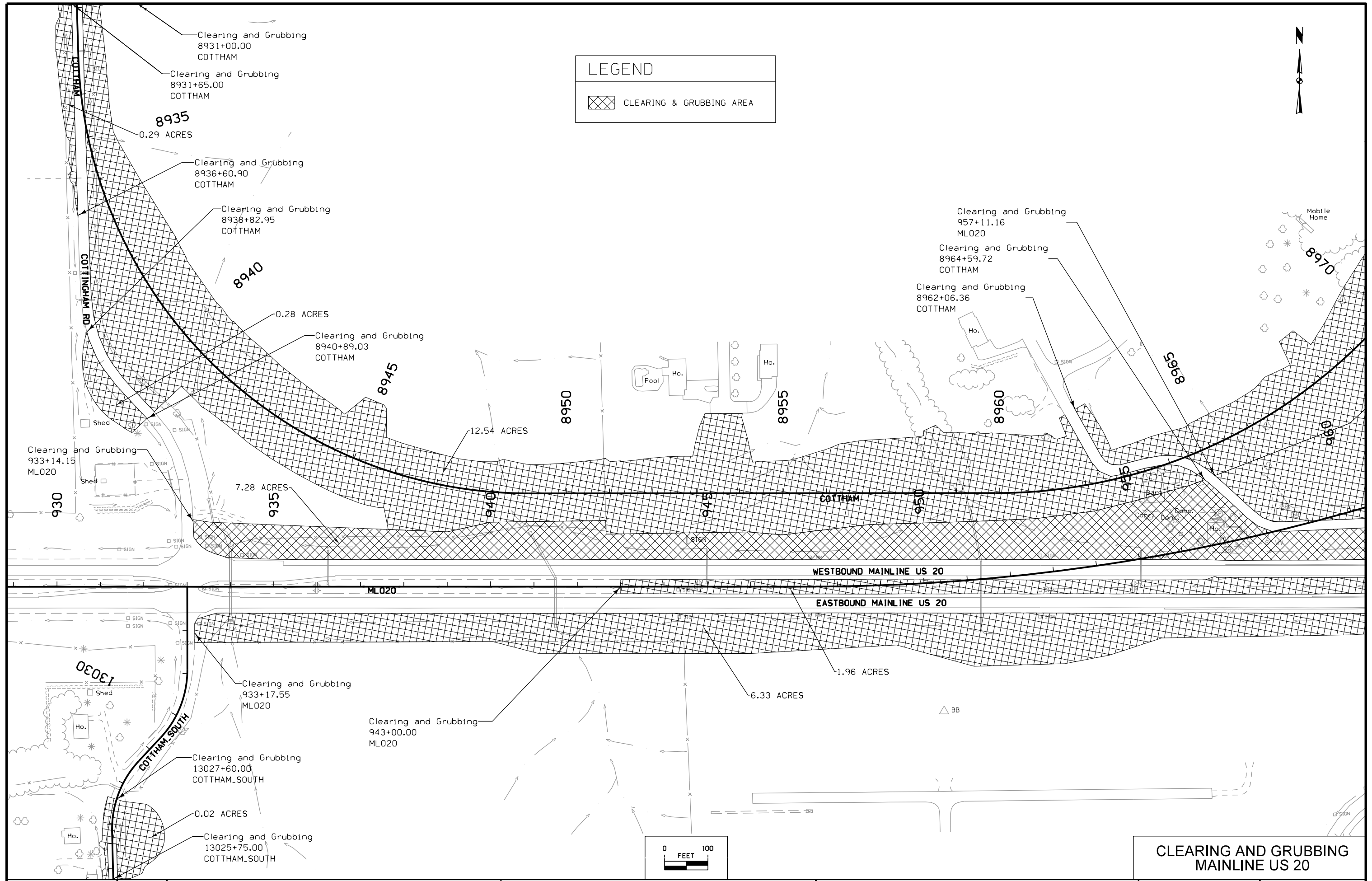
- ① Woven material meeting the requirements of Table 4196.01-1 of the Standard Specifications, except a maximum apparent opening size US Sieve No. 10 and a minimum flow rate of 145 gallons per minute per square foot.

Possible Contract Items:  
 Grate Intake Sediment Filter Bag  
 Maintenance of Grate Intake Sediment Filter Bag  
 Removal of Grate Intake Sediment Filter Bag

Possible Tabulation:  
 100-37

|                                                      |              |          |
|------------------------------------------------------|--------------|----------|
|                                                      | REVISION     |          |
|                                                      | NEW          | 04-18-17 |
| <b>ROAD DESIGN DETAIL</b>                            | <b>570-7</b> |          |
|                                                      | SHEET 1 of 1 |          |
| REVISIONS: NEW                                       |              |          |
| <b>GRATE INTAKE<br/>         SEDIMENT FILTER BAG</b> |              |          |





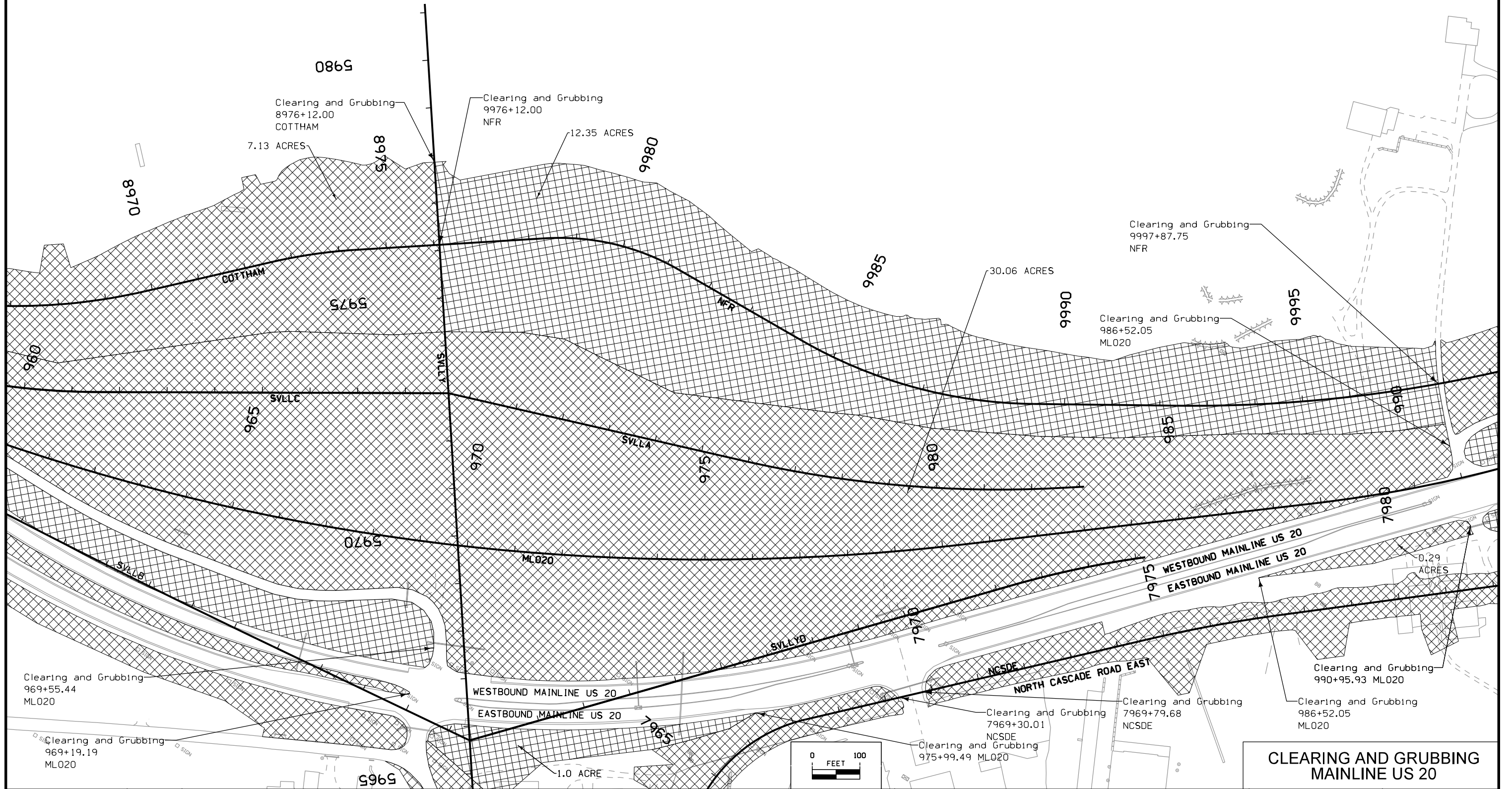
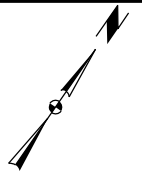
LEGEND

CLEARING & GRUBBING AREA

**CLEARING AND GRUBBING  
MAINLINE US 20**

**LEGEND**

 CLEARING & GRUBBING AREA

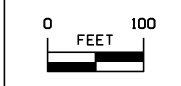
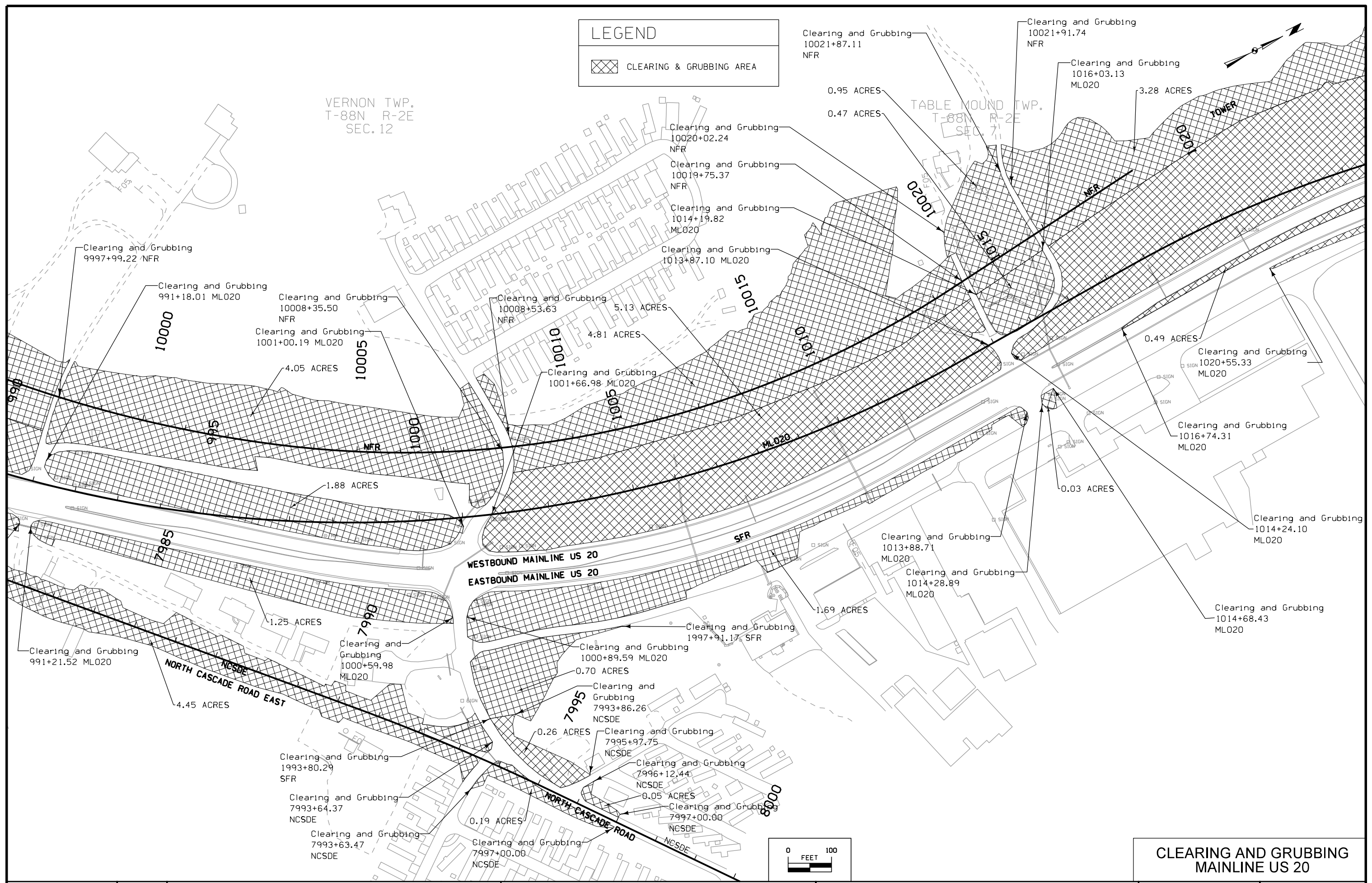


**LEGEND**

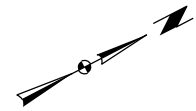
 CLEARING & GRUBBING AREA

VERNON TWP.  
T-88N R-2E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



**CLEARING AND GRUBBING  
MAINLINE US 20**

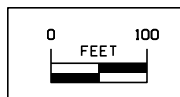
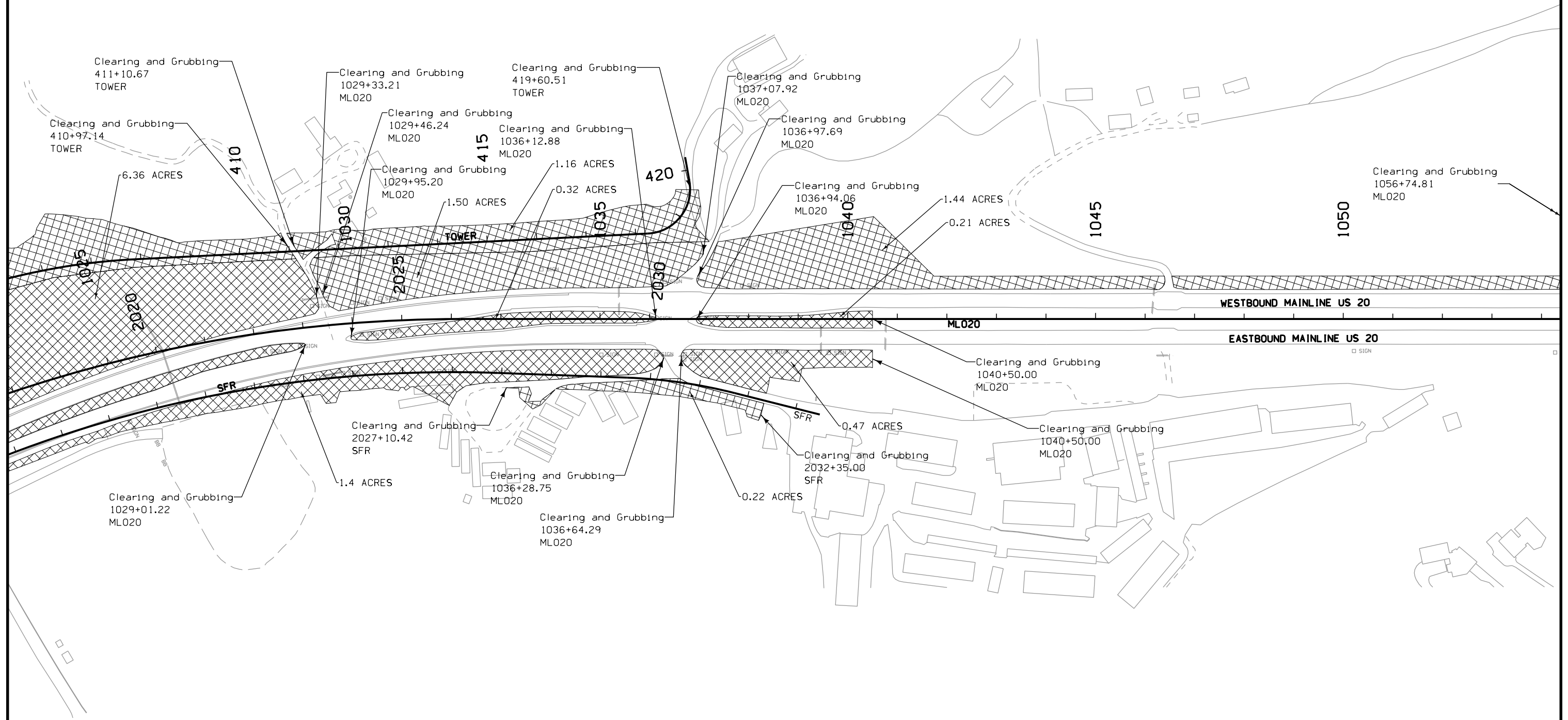


**LEGEND**

 CLEARING & GRUBBING AREA

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

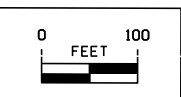
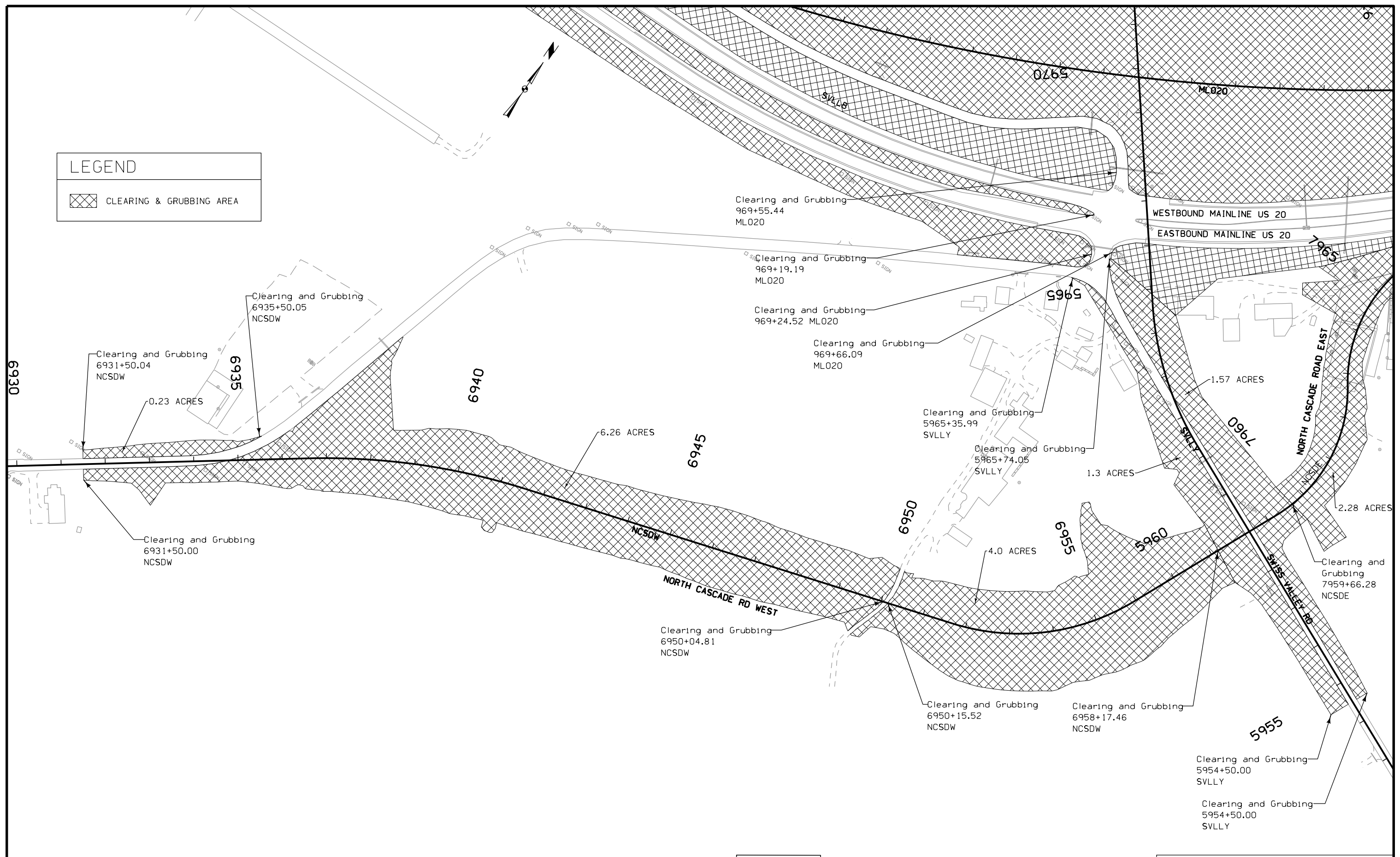


**CLEARING AND GRUBBING  
MAINLINE US 20**

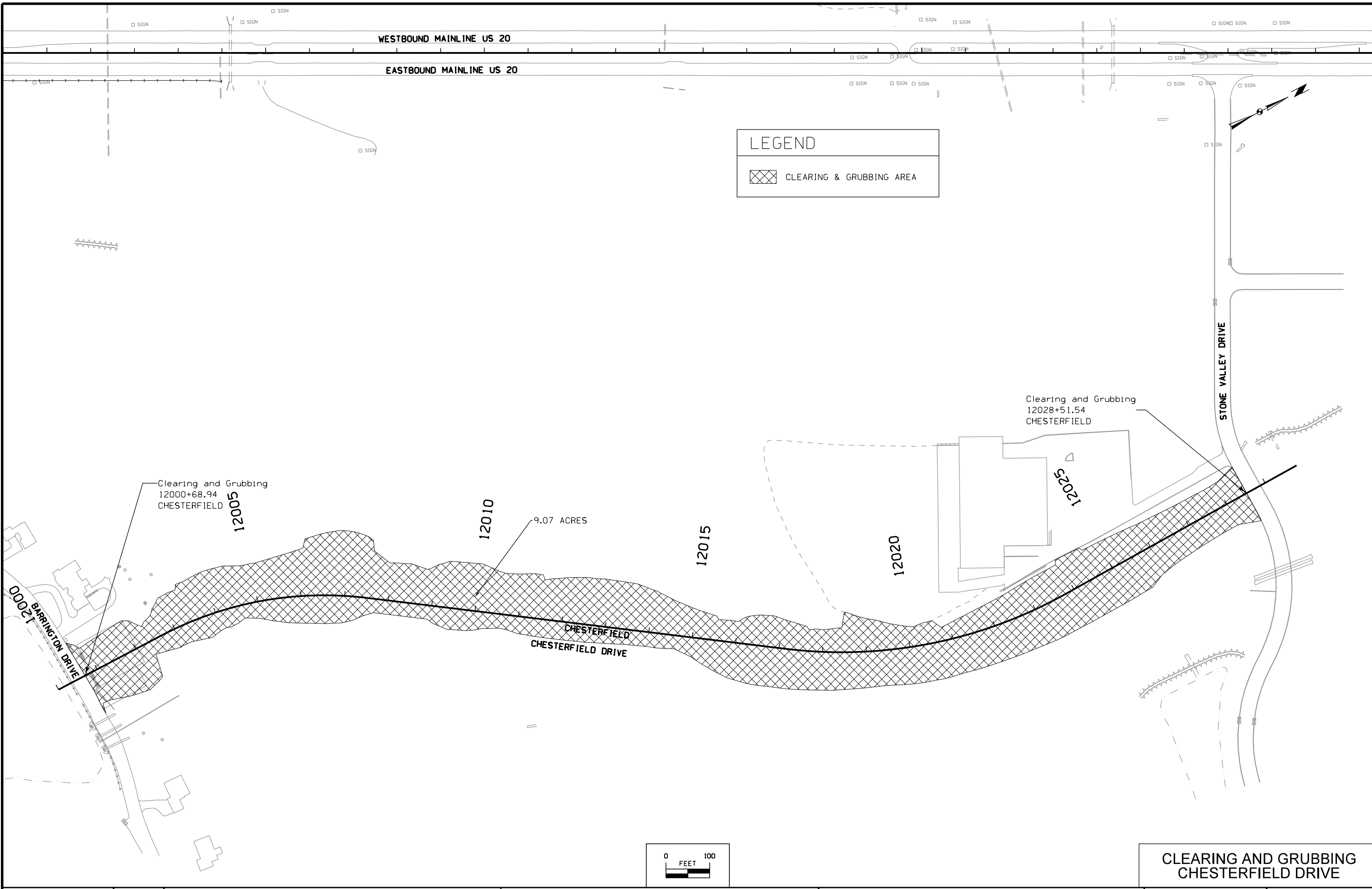


**LEGEND**

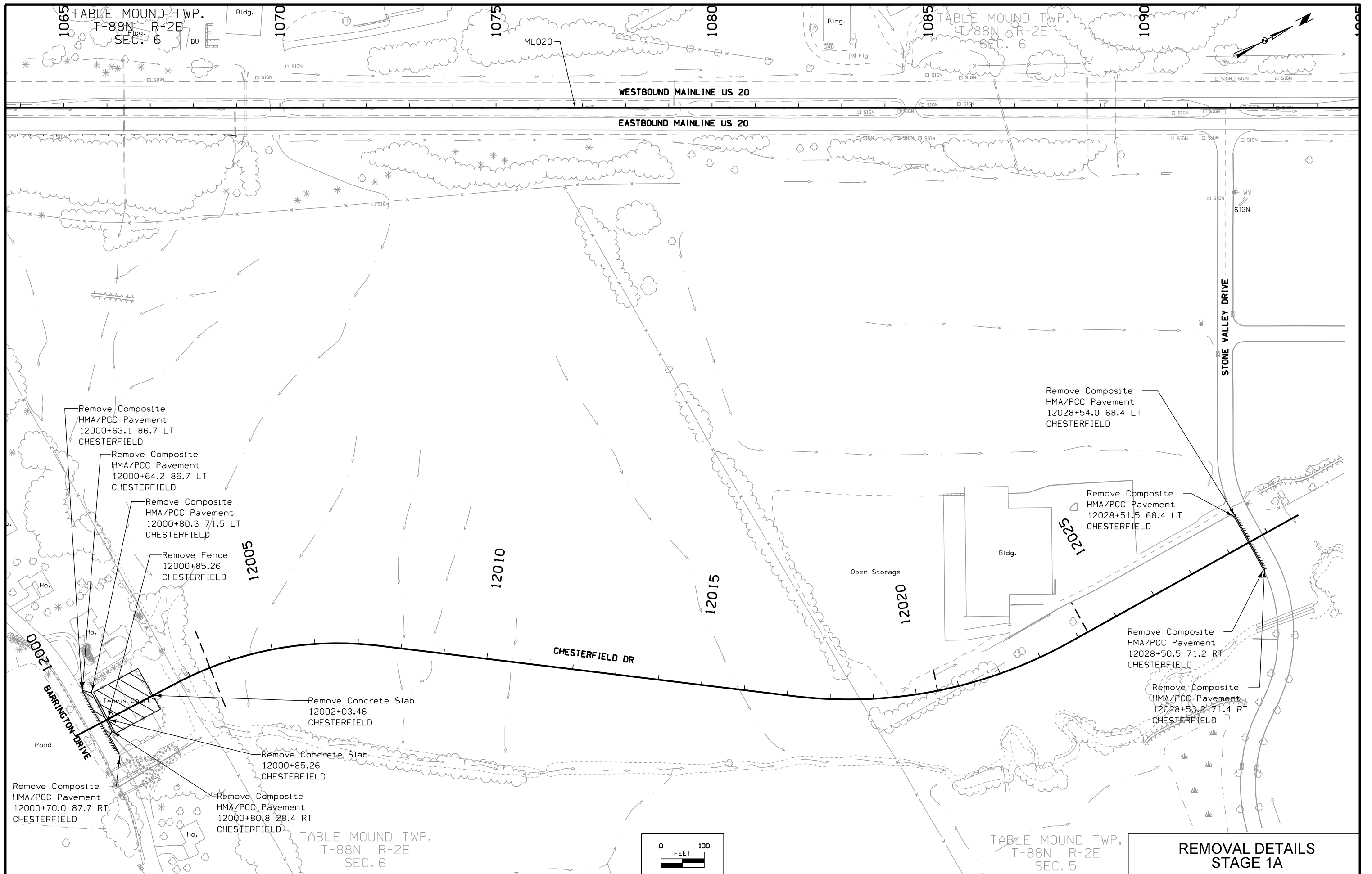
 CLEARING & GRUBBING AREA



**CLEARING AND GRUBBING  
NORTH CASCADE ROAD WEST**



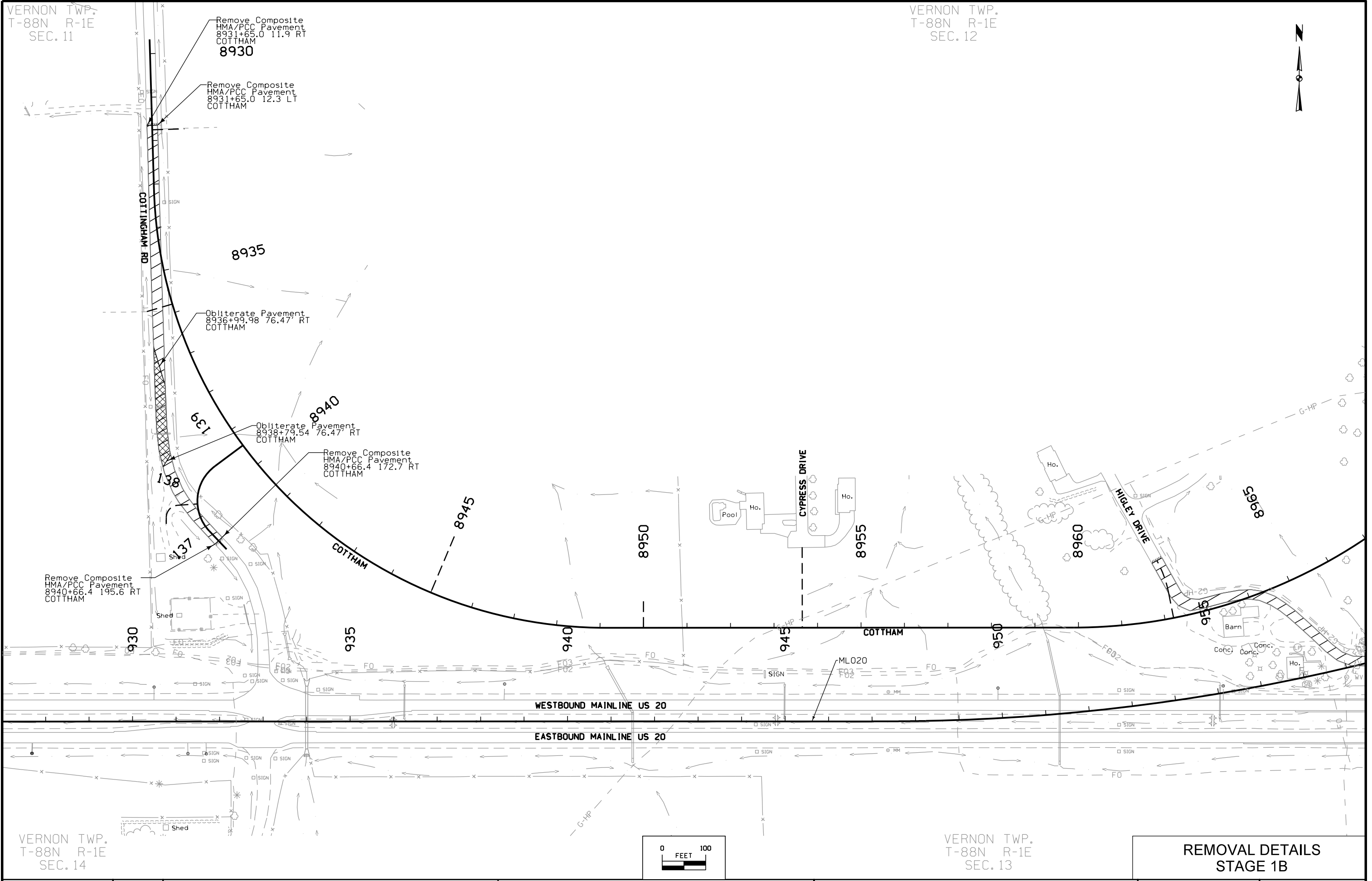
**CLEARING AND GRUBBING  
CHESTERFIELD DRIVE**



**REMOVAL DETAILS  
STAGE 1A**

VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12



Remove Composite  
HMA/PCC Pavement  
8940+66.4 195.6 RT  
COTTHAM

Remove Composite  
HMA/PCC Pavement  
8931+65.0 11.9 RT  
COTTHAM  
8930

Remove Composite  
HMA/PCC Pavement  
8931+65.0 12.3 LT  
COTTHAM

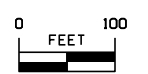
Obliterate Pavement  
8936+99.98 76.47 RT  
COTTHAM

Obliterate Pavement  
8938+79.54 76.47 RT  
COTTHAM

Remove Composite  
HMA/PCC Pavement  
8940+66.4 172.7 RT  
COTTHAM

WESTBOUND MAINLINE US 20

EASTBOUND MAINLINE US 20



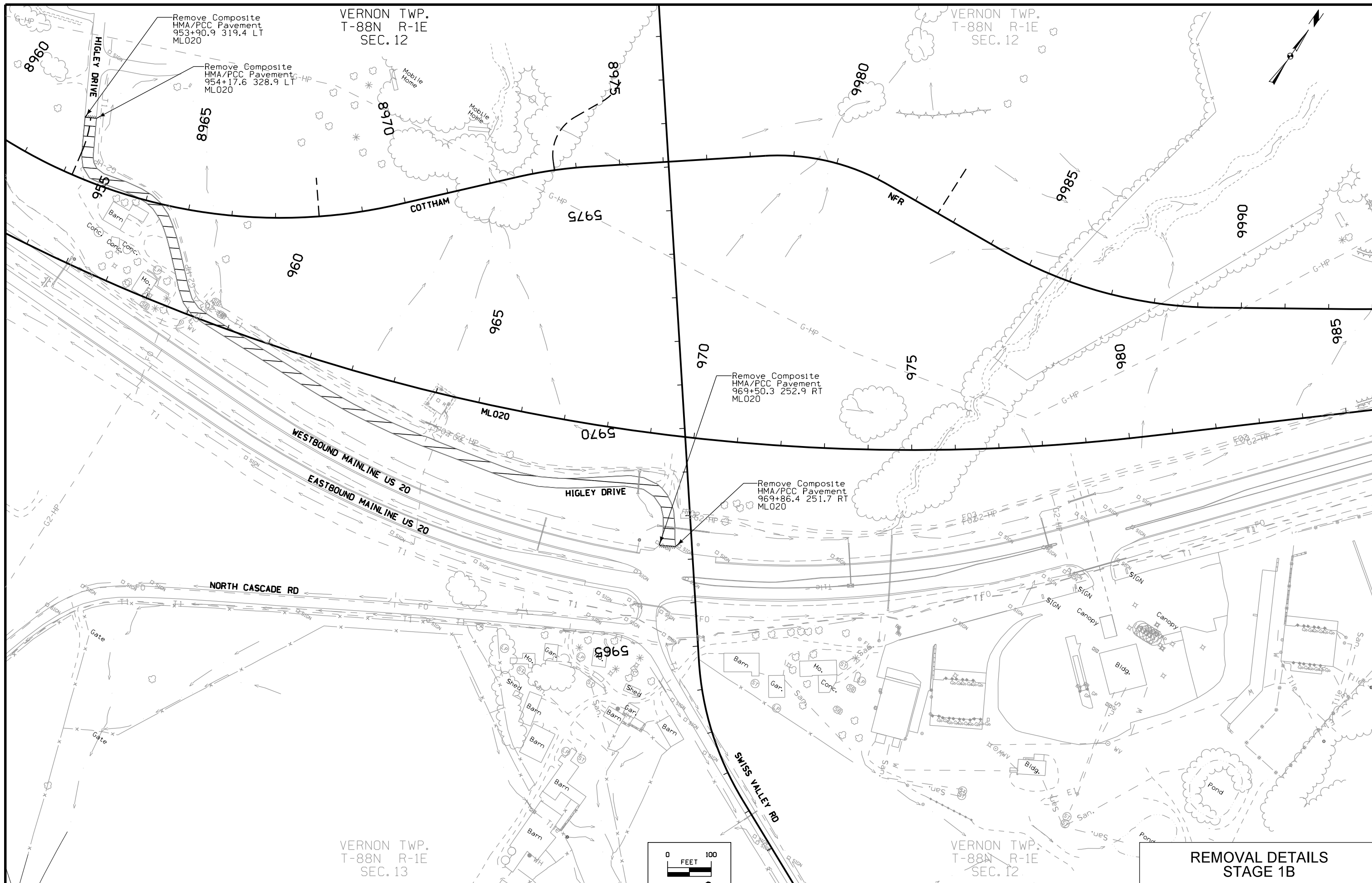
VERNON TWP.  
T-88N R-1E  
SEC. 14

VERNON TWP.  
T-88N R-1E  
SEC. 13

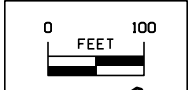
REMOVAL DETAILS  
STAGE 1B

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.20 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|





**REMOVAL DETAILS  
STAGE 1B**



VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

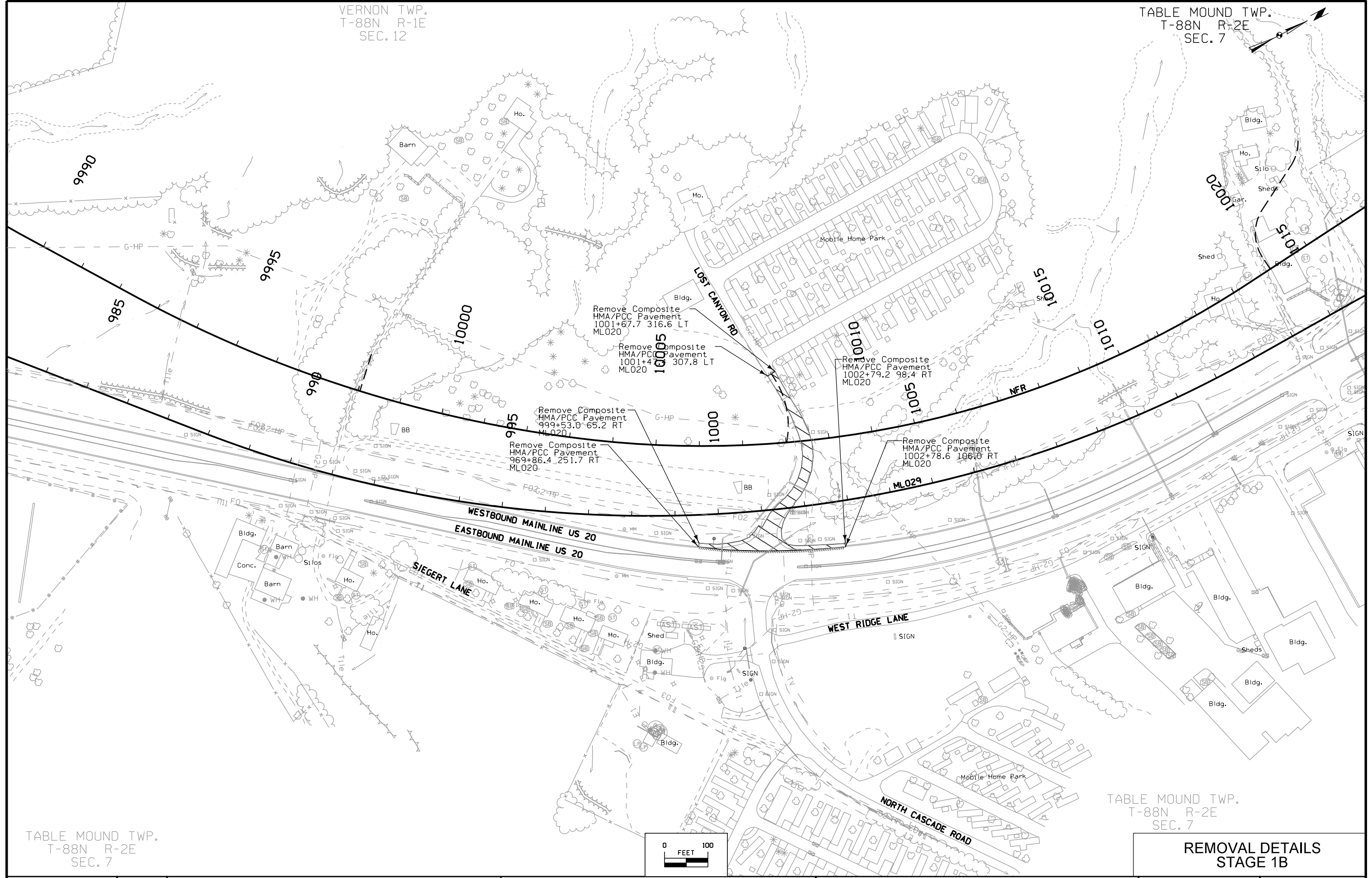
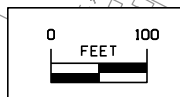


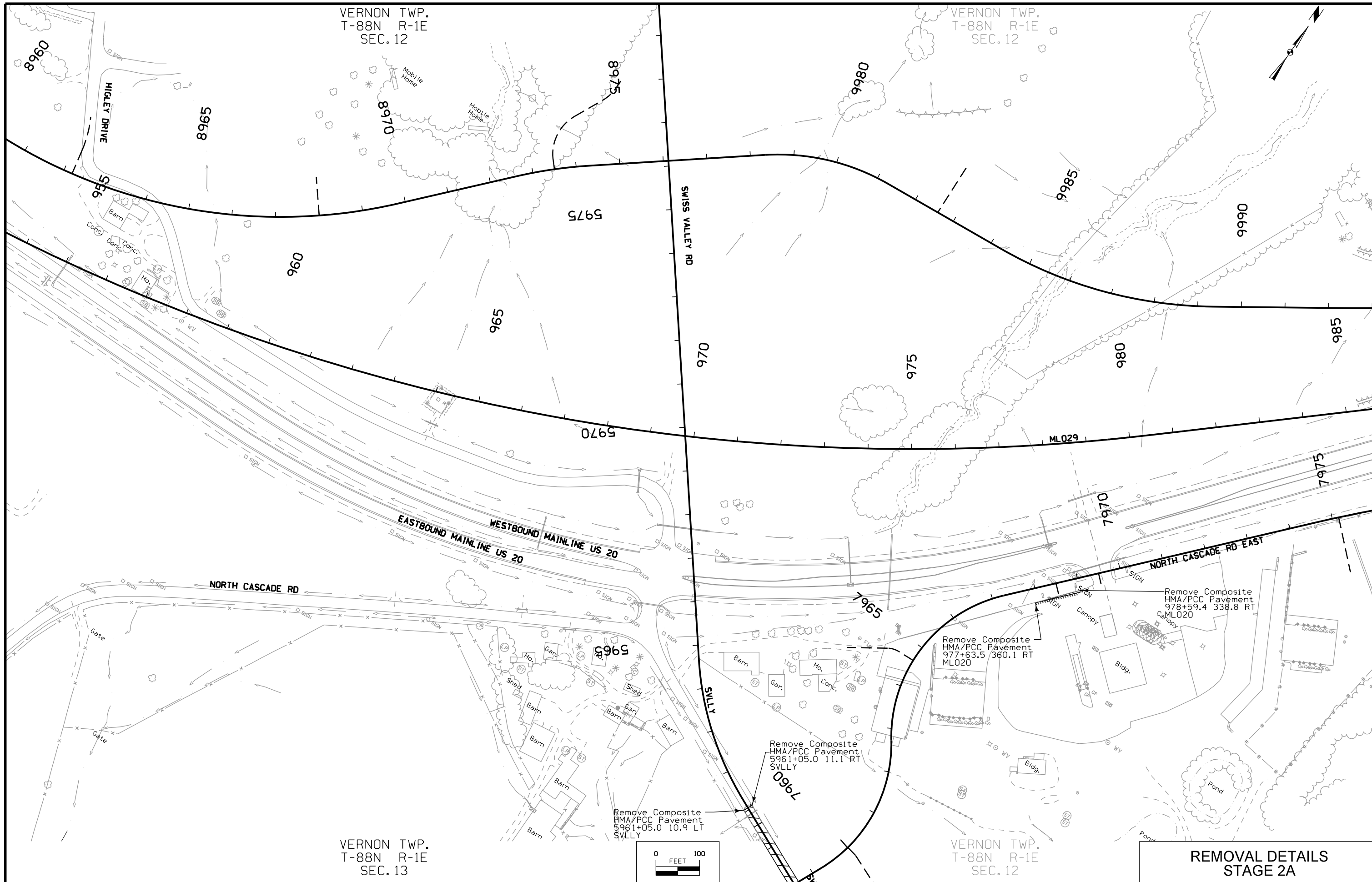
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

**REMOVAL DETAILS  
STAGE 1B**



|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.22 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|



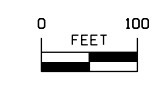
VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 13

VERNON TWP.  
T-88N R-1E  
SEC. 12

**REMOVAL DETAILS  
STAGE 2A**



VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

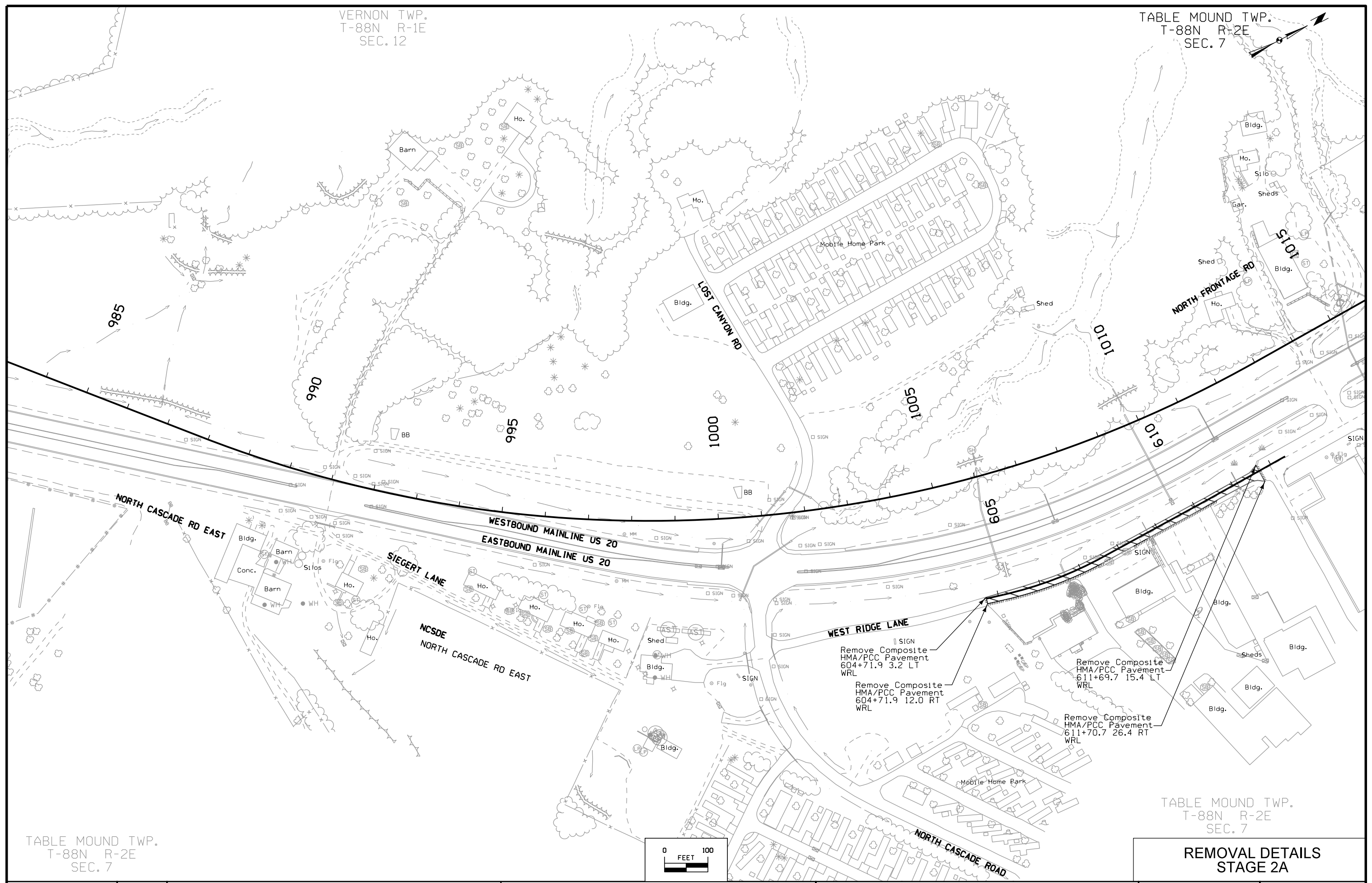
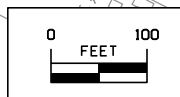


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



**REMOVAL DETAILS  
STAGE 2A**

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.24 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|



VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

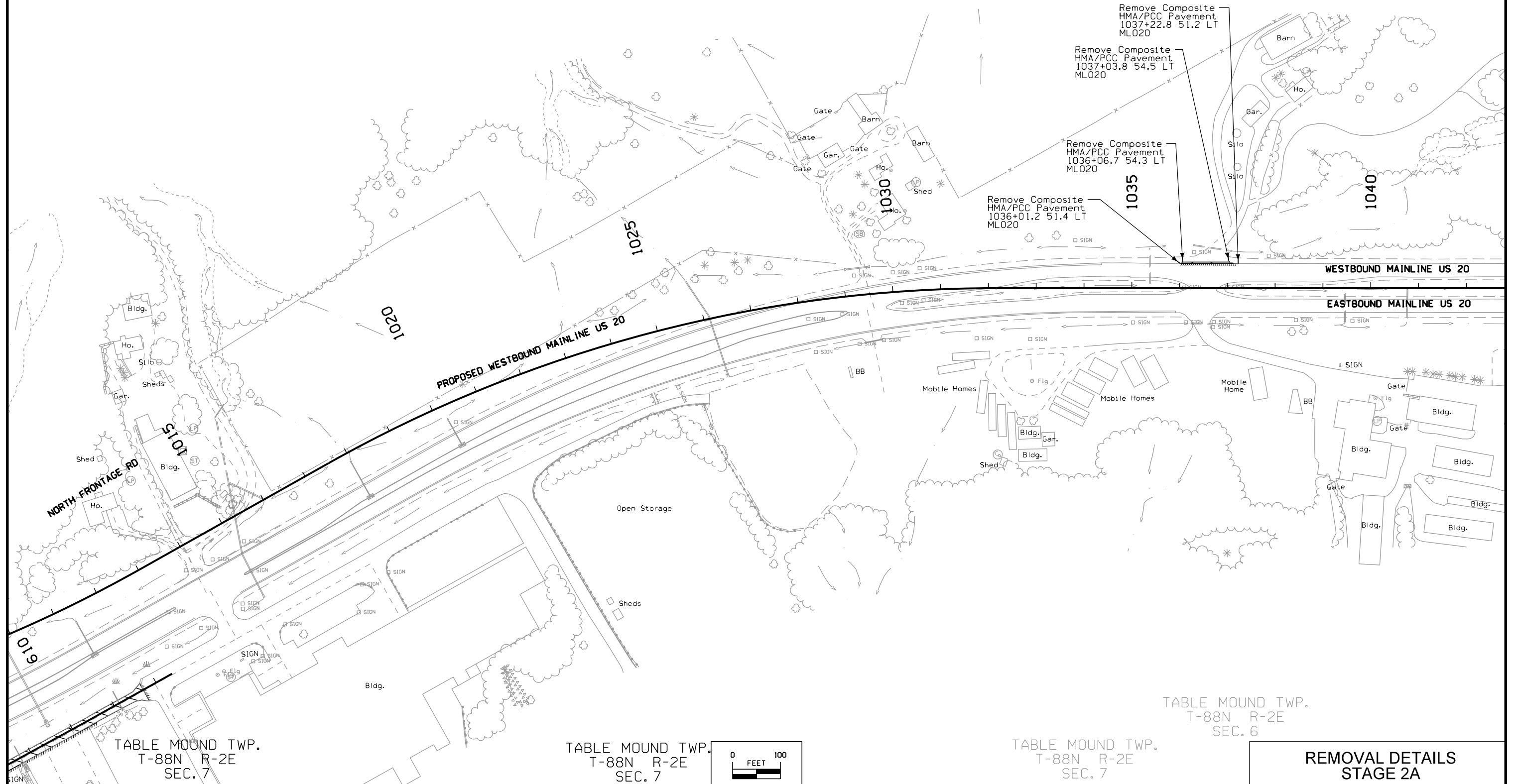
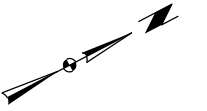


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

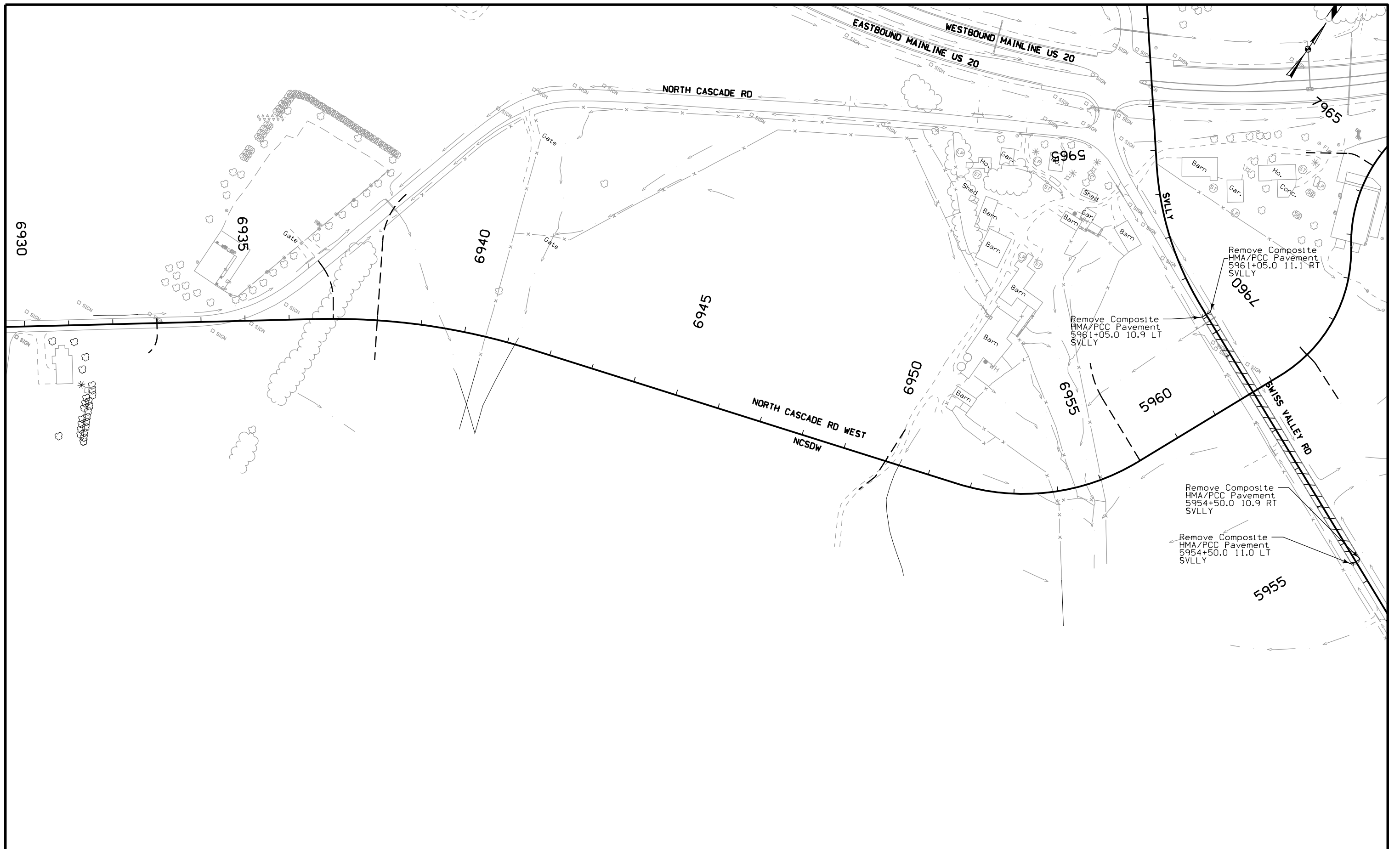
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

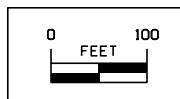
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

**REMOVAL DETAILS  
STAGE 2A**

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.25 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|



VERNON TWP.  
T-88N R-2E  
SEC. 13



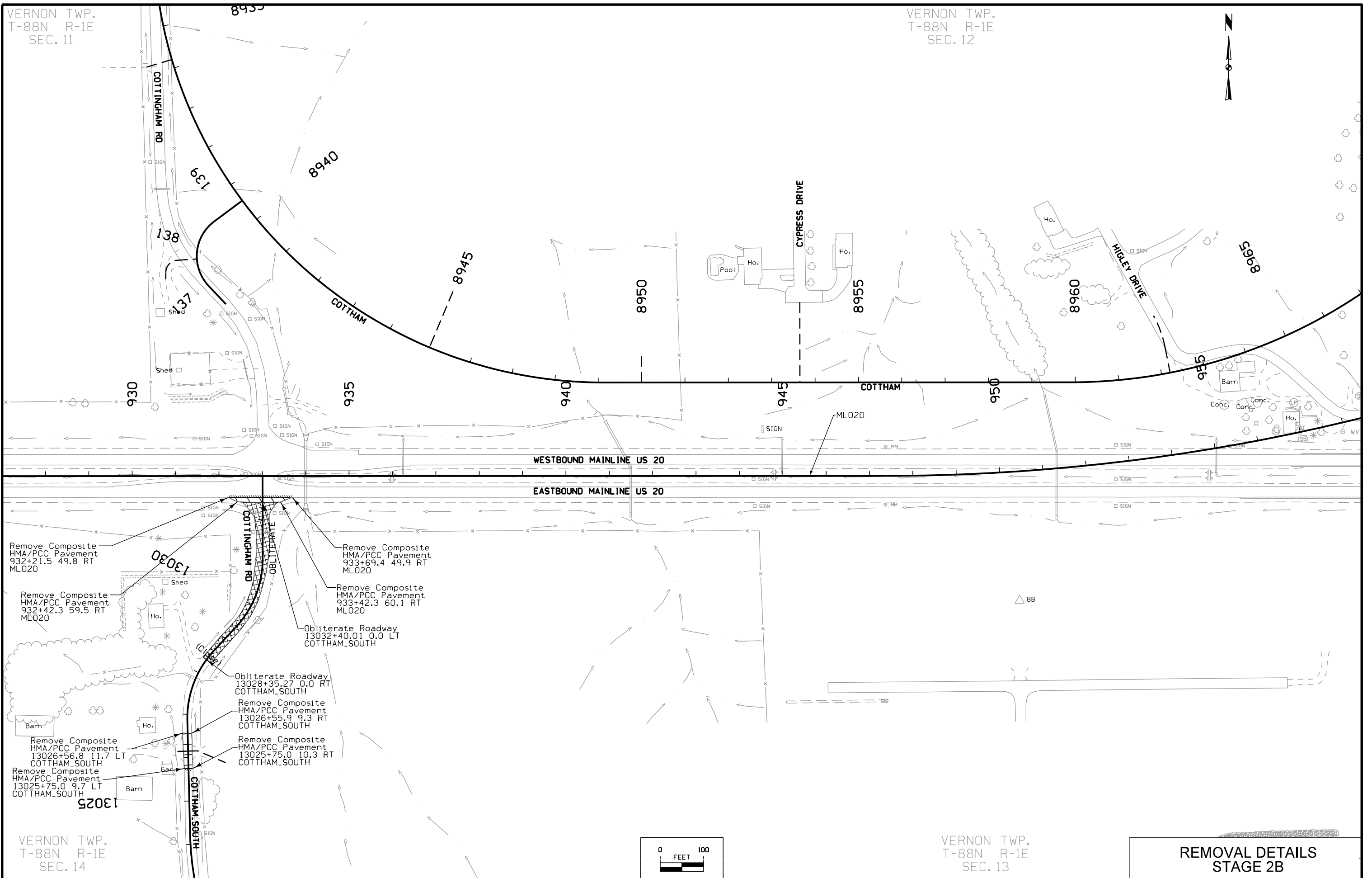
VERNON TWP.  
T-88N R-2E  
SEC. 13

**REMOVAL DETAILS  
STAGE 2A**

|          |         |                                 |                |                                              |                          |
|----------|---------|---------------------------------|----------------|----------------------------------------------|--------------------------|
| FILE NO. | ENGLISH | DESIGN TEAM <b>HDR\Iowa DOT</b> | DUBUQUE COUNTY | PROJECT NUMBER <b>NHSX-020-9(183)--3H-31</b> | SHEET NUMBER <b>U.26</b> |
|----------|---------|---------------------------------|----------------|----------------------------------------------|--------------------------|

VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12



Remove Composite  
HMA/PCC Pavement  
932+21.5 49.8 RT  
ML020

Remove Composite  
HMA/PCC Pavement  
932+42.3 59.5 RT  
ML020

Remove Composite  
HMA/PCC Pavement  
933+69.4 49.9 RT  
ML020

Remove Composite  
HMA/PCC Pavement  
933+42.3 60.1 RT  
ML020

Obliterate Roadway  
13032+40.01 0.0 LT  
COTTHAM\_SOUTH

Obliterate Roadway  
13028+35.27 0.0 RT  
COTTHAM\_SOUTH

Remove Composite  
HMA/PCC Pavement  
13026+55.9 9.3 RT  
COTTHAM\_SOUTH

Remove Composite  
HMA/PCC Pavement  
13025+75.0 10.3 RT  
COTTHAM\_SOUTH

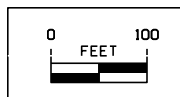
Remove Composite  
HMA/PCC Pavement  
13026+56.8 11.7 LT  
COTTHAM\_SOUTH

Remove Composite  
HMA/PCC Pavement  
13025+75.0 9.7 LT  
COTTHAM\_SOUTH

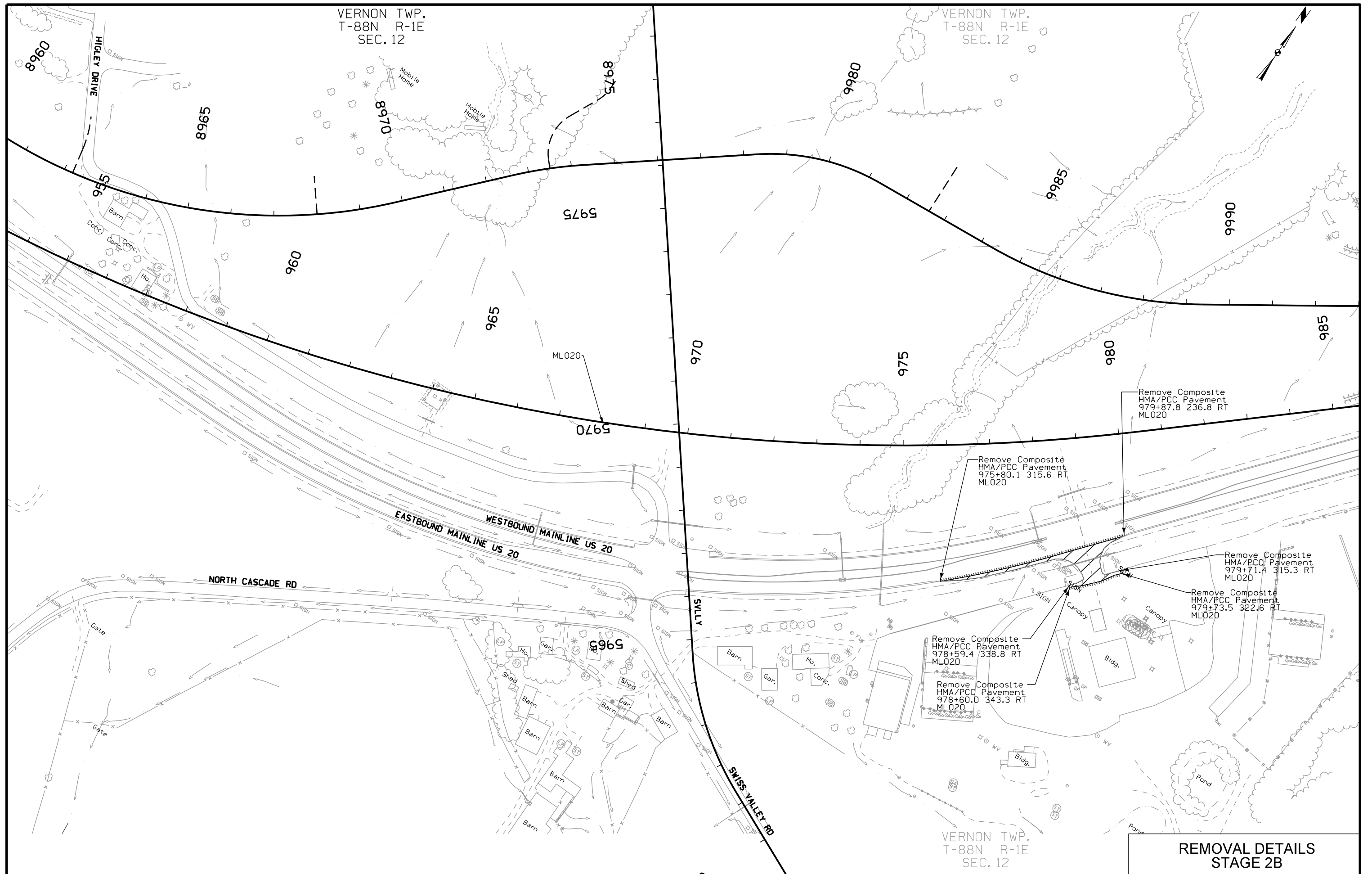
VERNON TWP.  
T-88N R-1E  
SEC. 14

VERNON TWP.  
T-88N R-1E  
SEC. 13

**REMOVAL DETAILS  
STAGE 2B**



|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.27 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|



VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 12

**REMOVAL DETAILS  
STAGE 2B**



VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

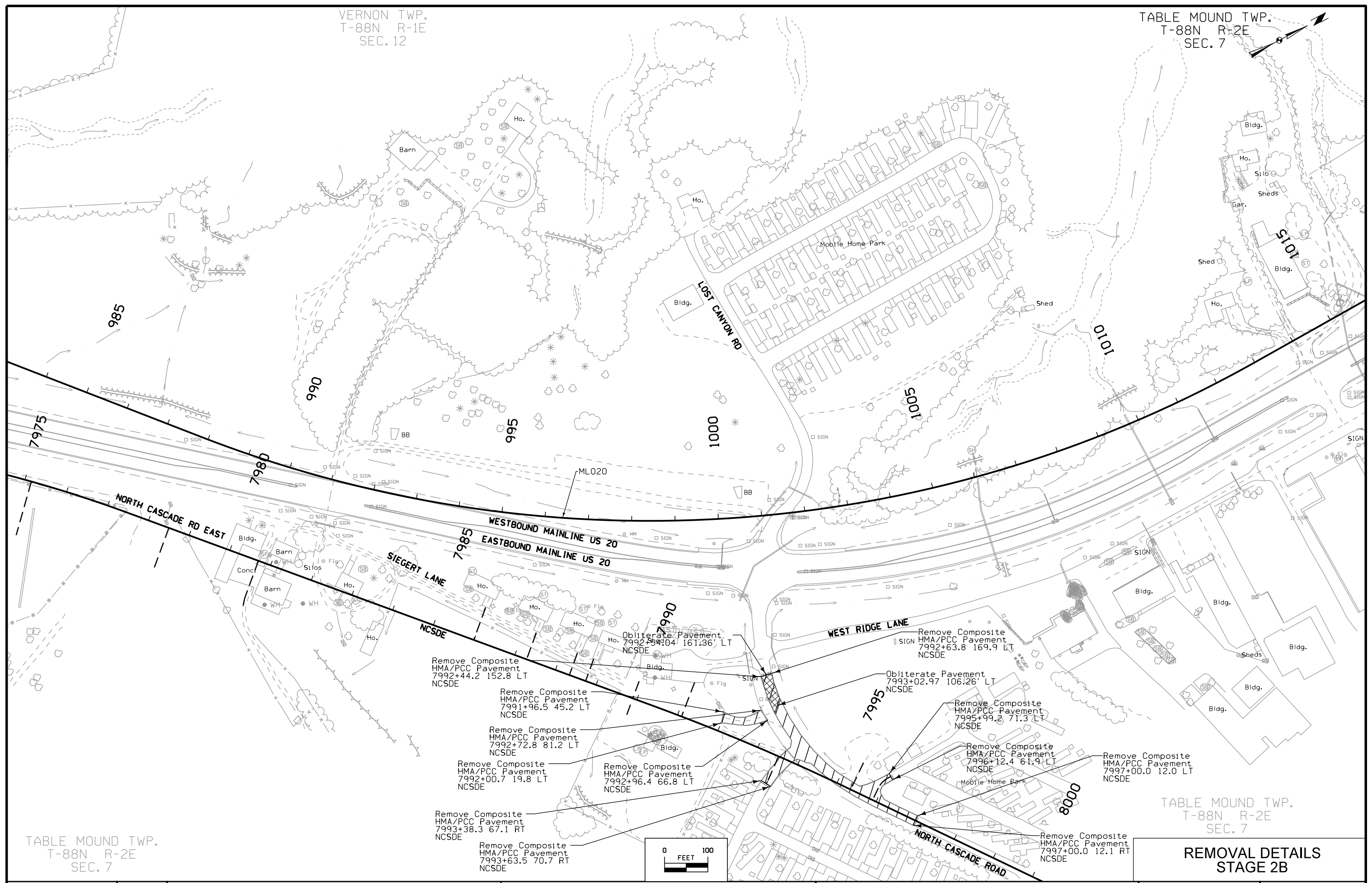
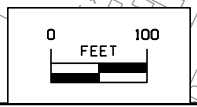


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

**REMOVAL DETAILS  
STAGE 2B**



|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.29 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

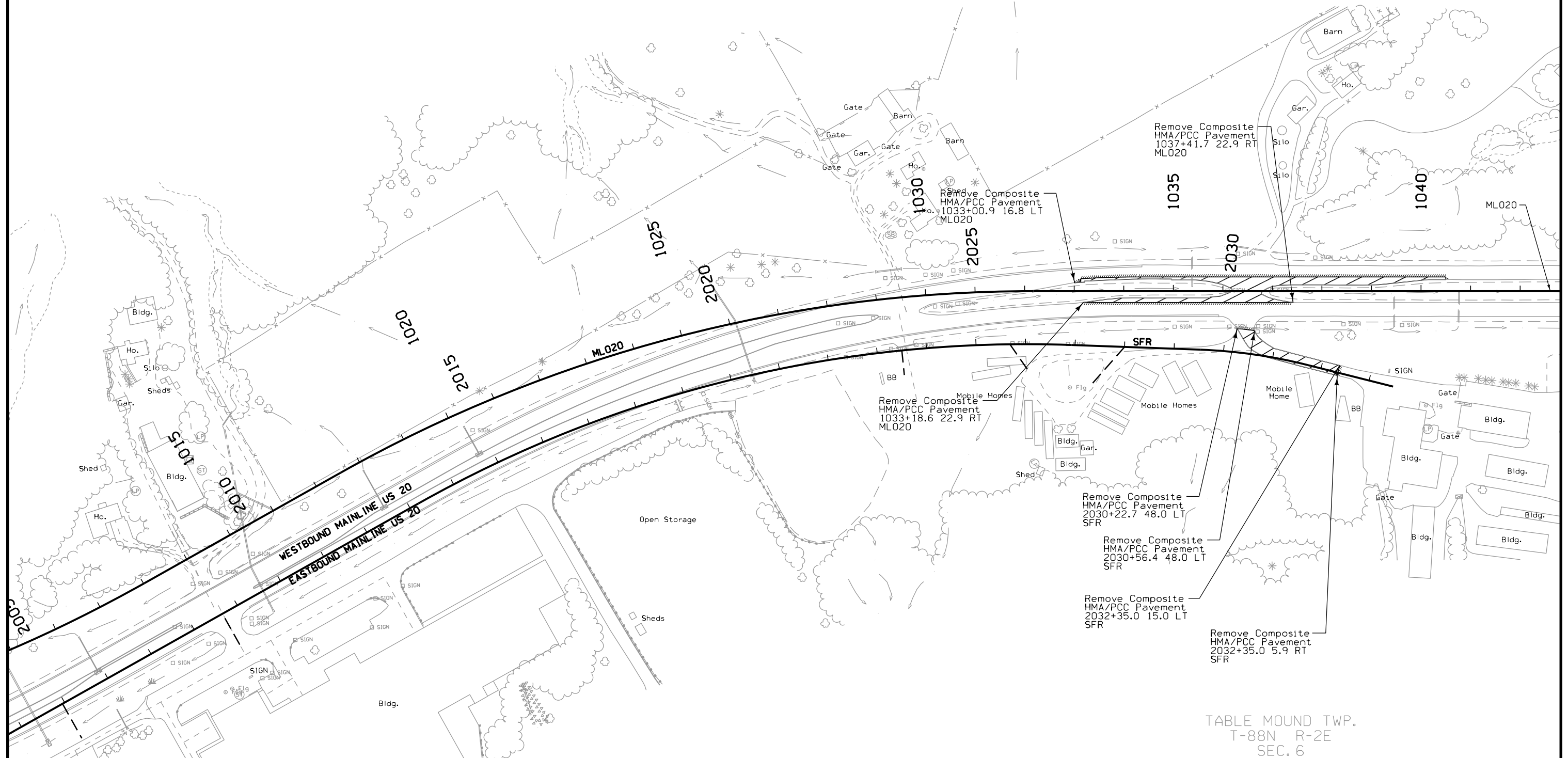
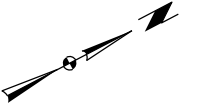


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

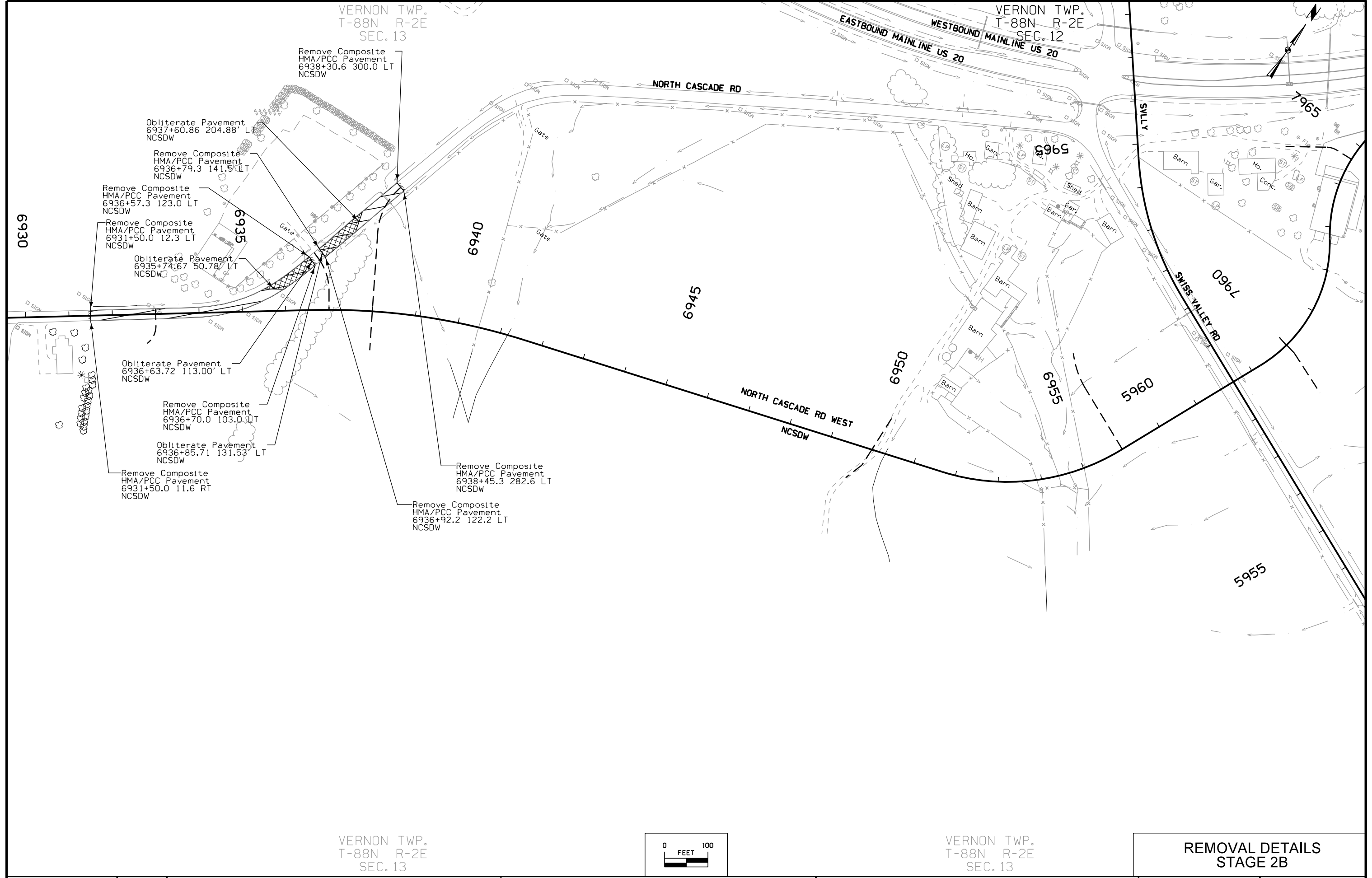
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

**REMOVAL DETAILS  
STAGE 2B**

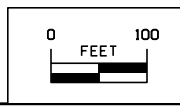
VERNON TWP.  
T-88N R-2E  
SEC. 13

VERNON TWP.  
T-88N R-2E  
SEC. 12



- Remove Composite HMA/PCC Pavement 6938+30.6 300.0 LT NCSDW
- Obliterate Pavement 6937+60.86 204.88' LT NCSDW
- Remove Composite HMA/PCC Pavement 6936+79.3 141.5' LT NCSDW
- Remove Composite HMA/PCC Pavement 6936+57.3 123.0 LT NCSDW
- Remove Composite HMA/PCC Pavement 6931+50.0 12.3 LT NCSDW
- Obliterate Pavement 6935+74.67 50.78' LT NCSDW
- Obliterate Pavement 6936+63.72 113.00' LT NCSDW
- Remove Composite HMA/PCC Pavement 6936+70.0 103.0' LT NCSDW
- Obliterate Pavement 6936+85.71 131.53' LT NCSDW
- Remove Composite HMA/PCC Pavement 6931+50.0 11.6 RT NCSDW
- Remove Composite HMA/PCC Pavement 6938+45.3 282.6 LT NCSDW
- Remove Composite HMA/PCC Pavement 6936+92.2 122.2 LT NCSDW

VERNON TWP.  
T-88N R-2E  
SEC. 13

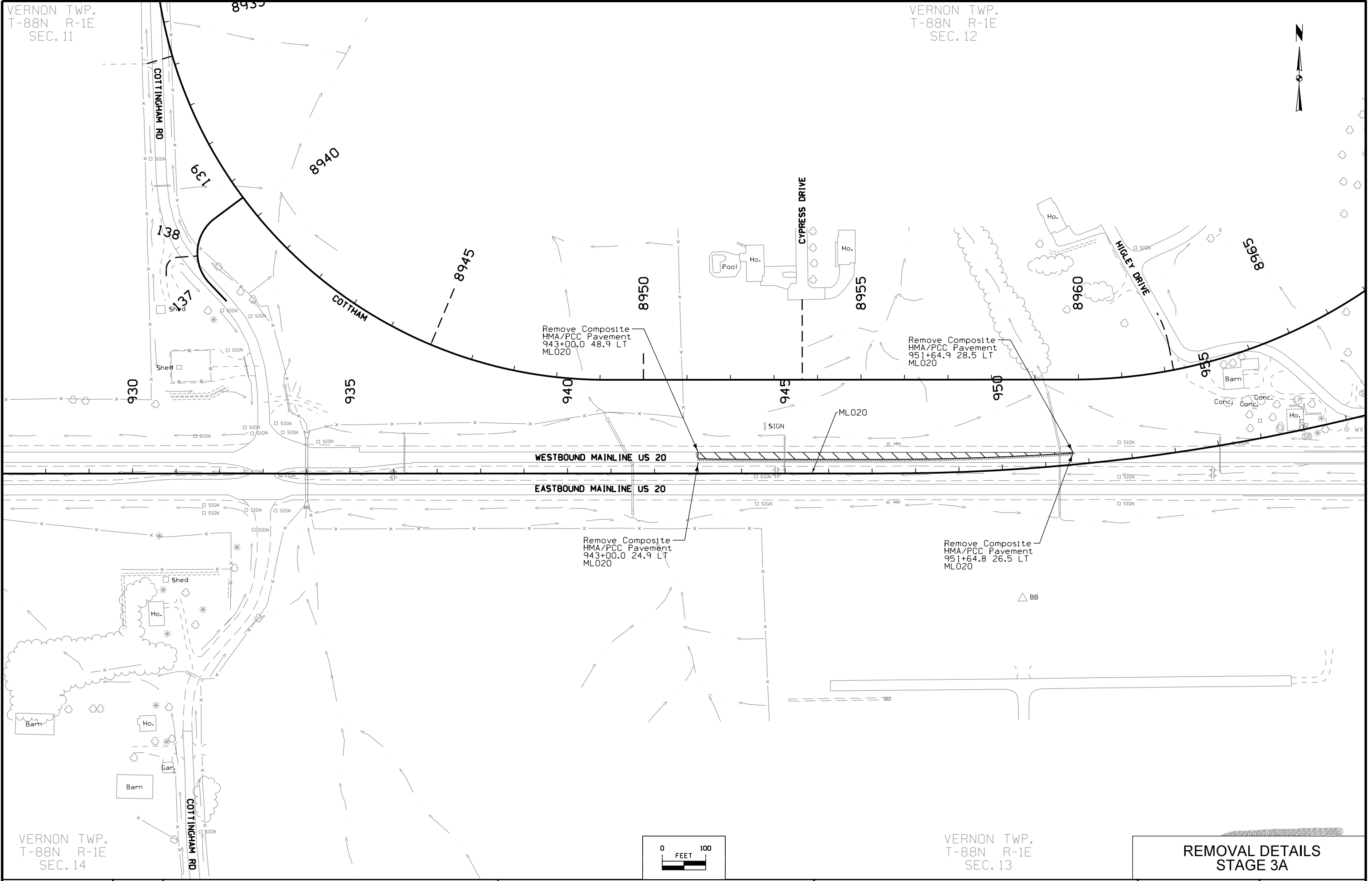


VERNON TWP.  
T-88N R-2E  
SEC. 13

**REMOVAL DETAILS  
STAGE 2B**

VERNON TWP.  
T-88N R-1E  
SEC. 11

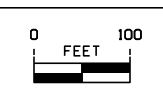
VERNON TWP.  
T-88N R-1E  
SEC. 12



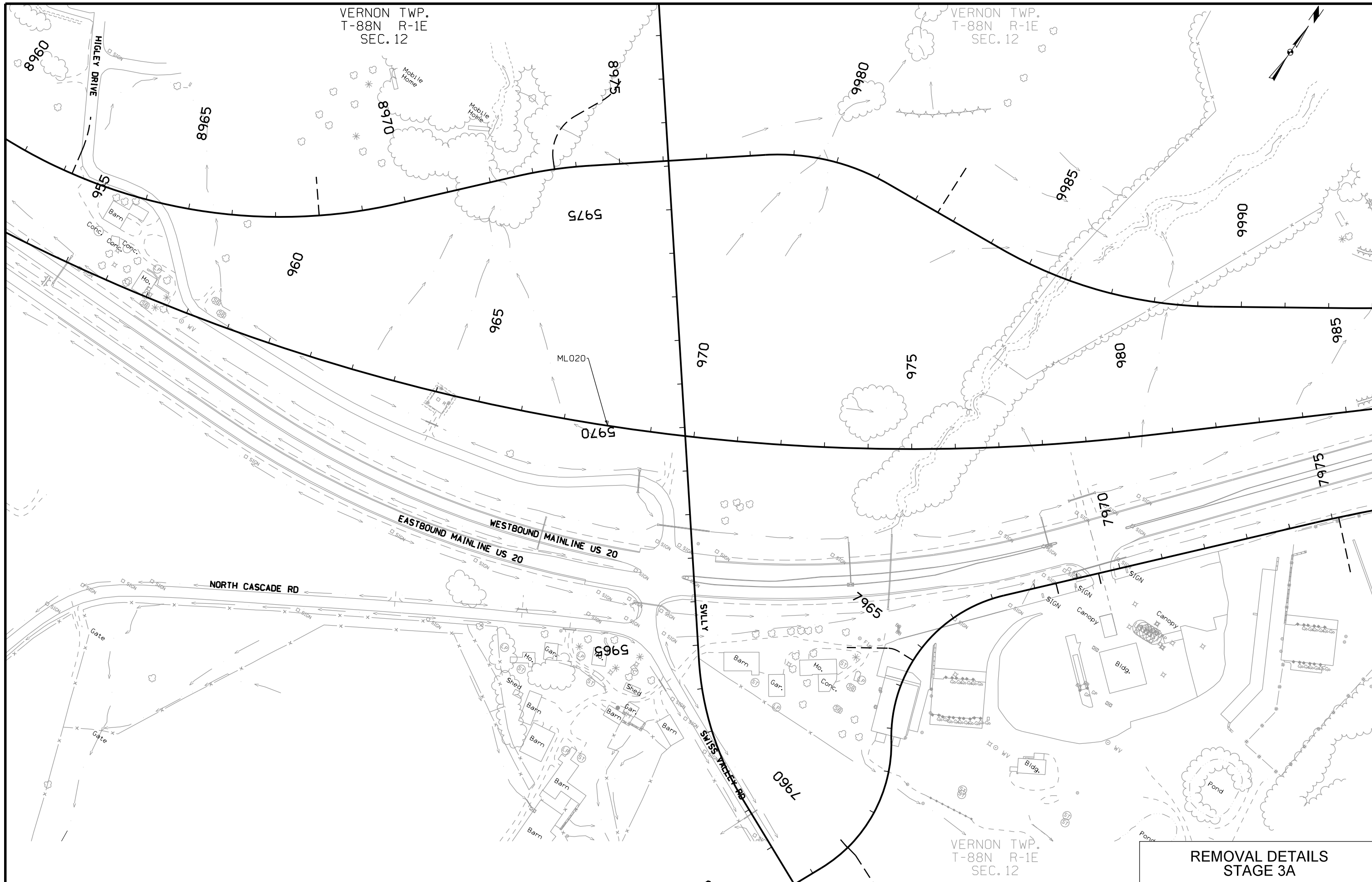
VERNON TWP.  
T-88N R-1E  
SEC. 14

VERNON TWP.  
T-88N R-1E  
SEC. 13

**REMOVAL DETAILS  
STAGE 3A**







VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 12

VERNON TWP.  
T-88N R-1E  
SEC. 12

**REMOVAL DETAILS  
STAGE 3A**

VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

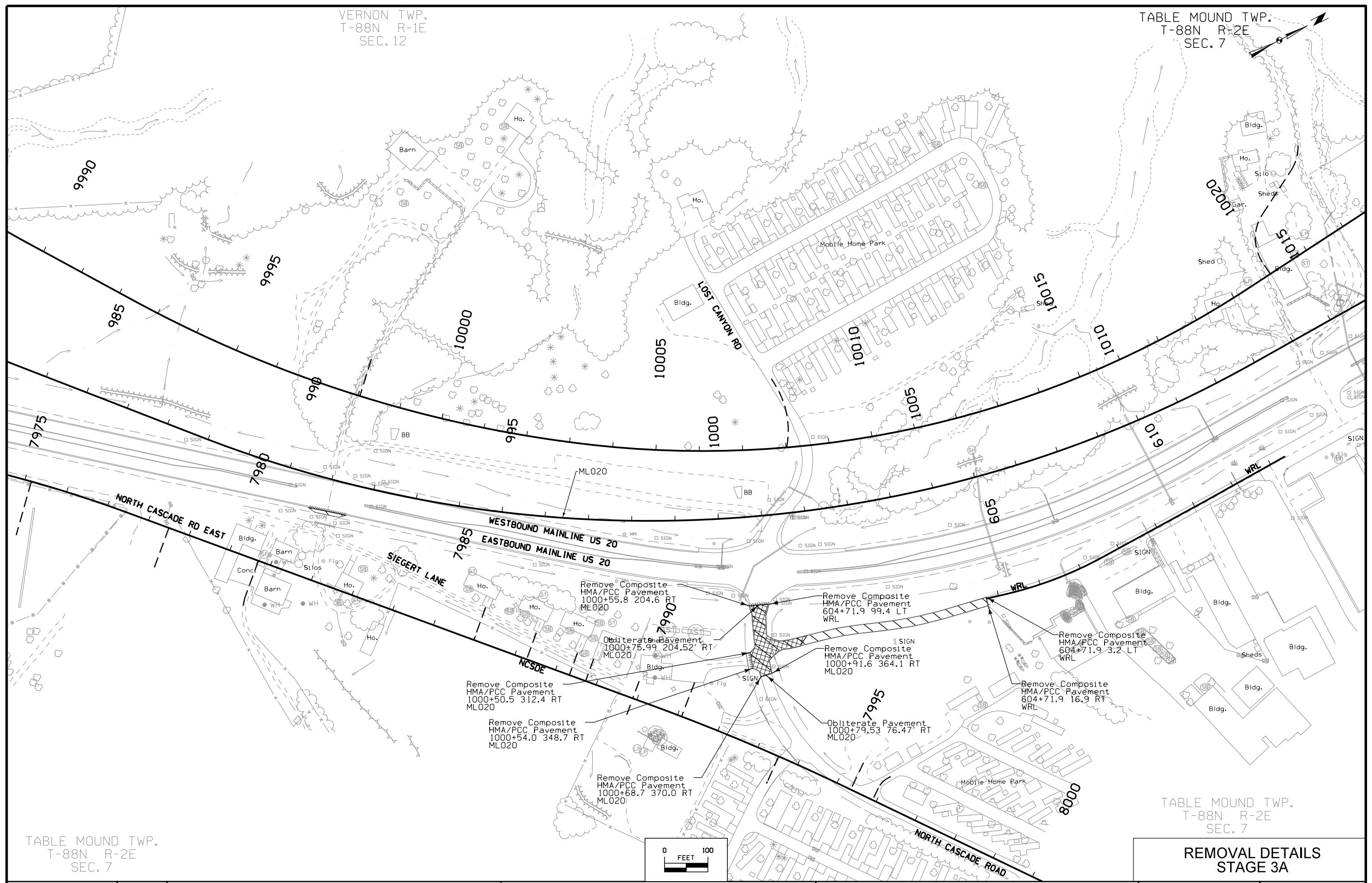
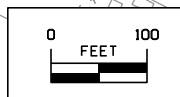


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



**REMOVAL DETAILS  
STAGE 3A**

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.34 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

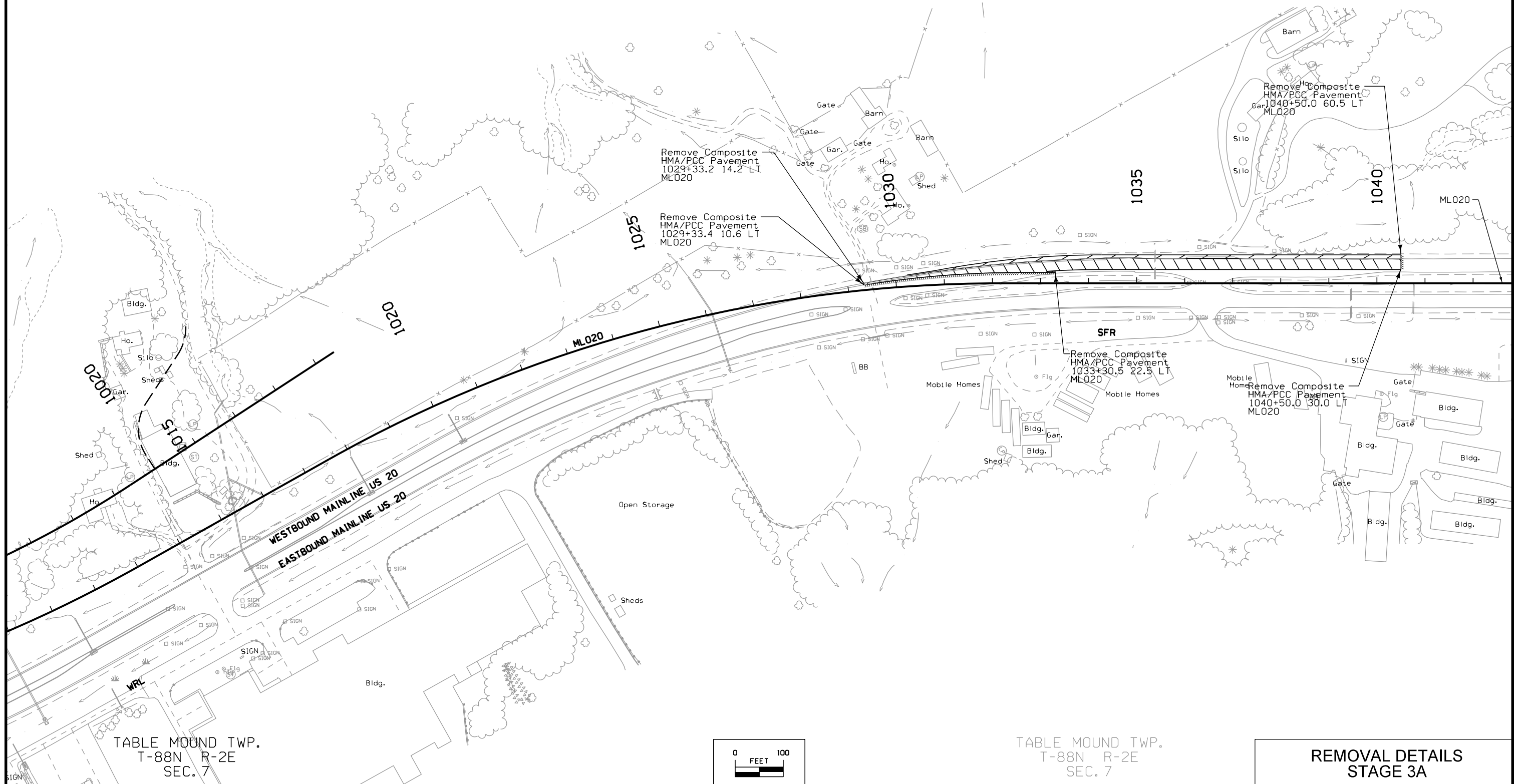
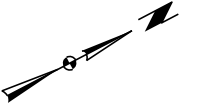
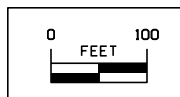


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

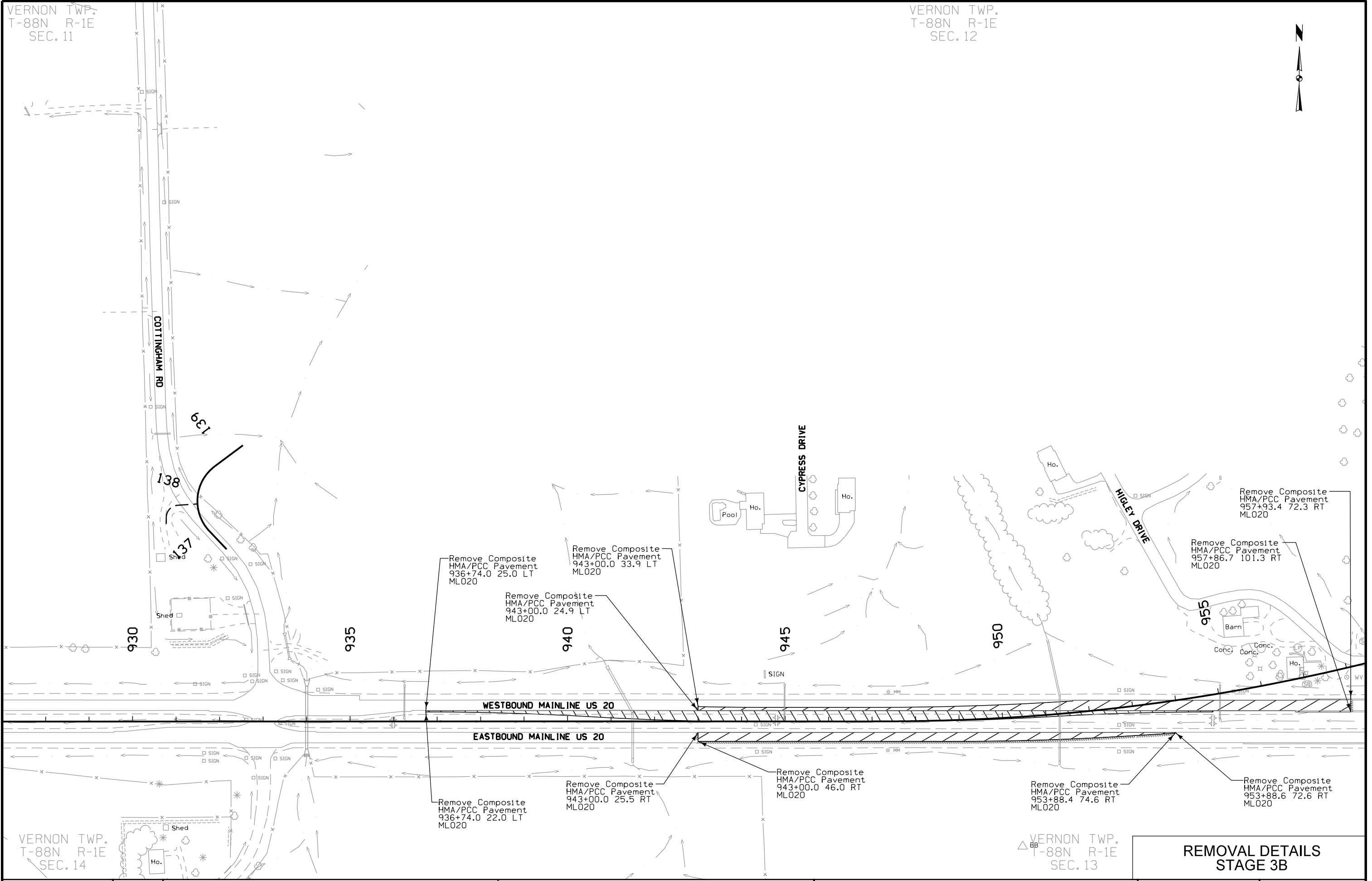
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

**REMOVAL DETAILS  
STAGE 3A**



VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12



VERNON TWP.  
T-88N R-1E  
SEC. 14

VERNON TWP.  
T-88N R-1E  
SEC. 13

**REMOVAL DETAILS  
STAGE 3B**

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.36 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|



VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

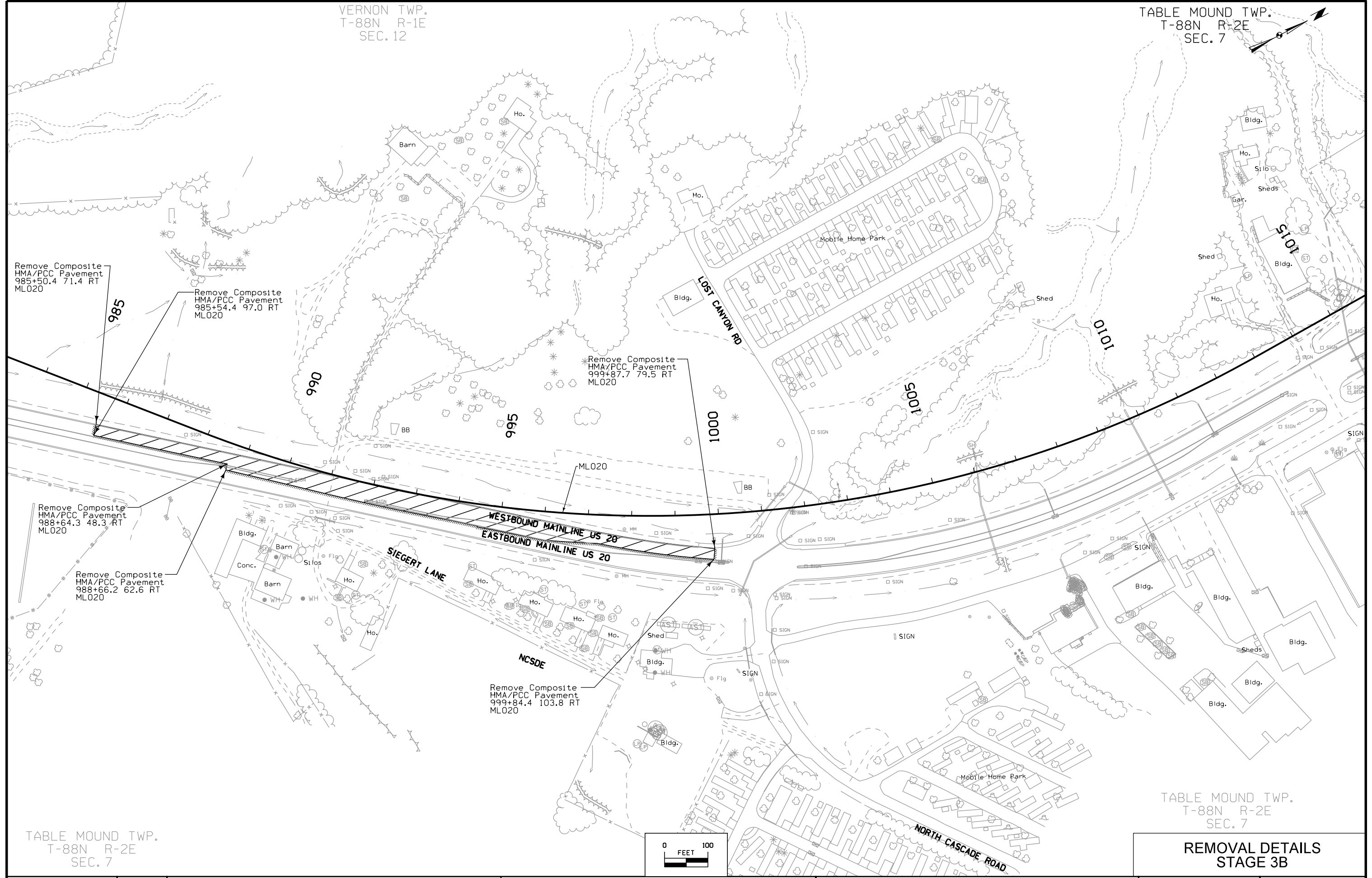
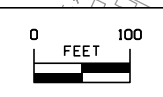


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

**REMOVAL DETAILS  
STAGE 3B**



|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.37 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

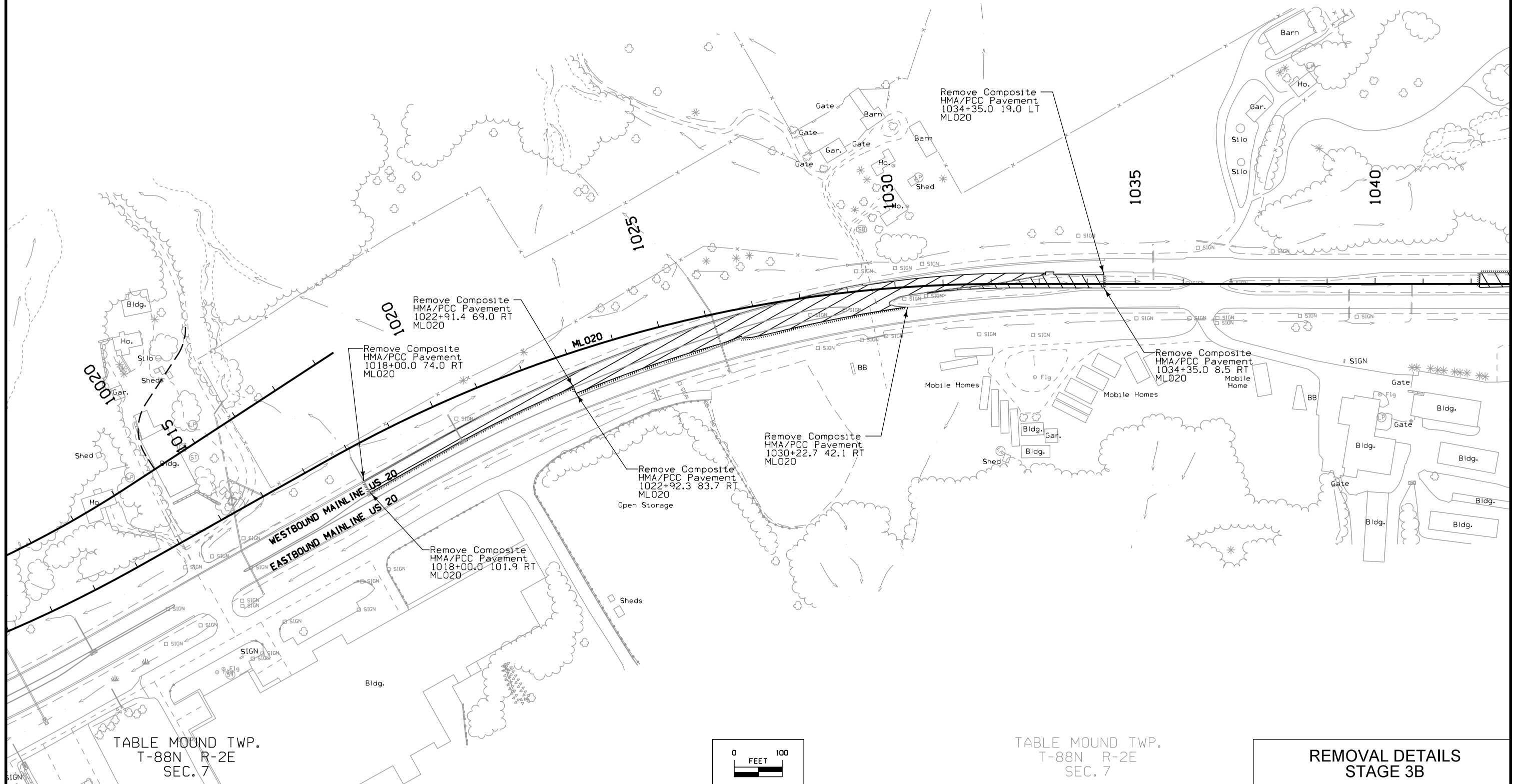
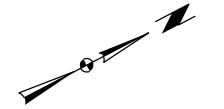


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

**REMOVAL DETAILS  
STAGE 3B**

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.38 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

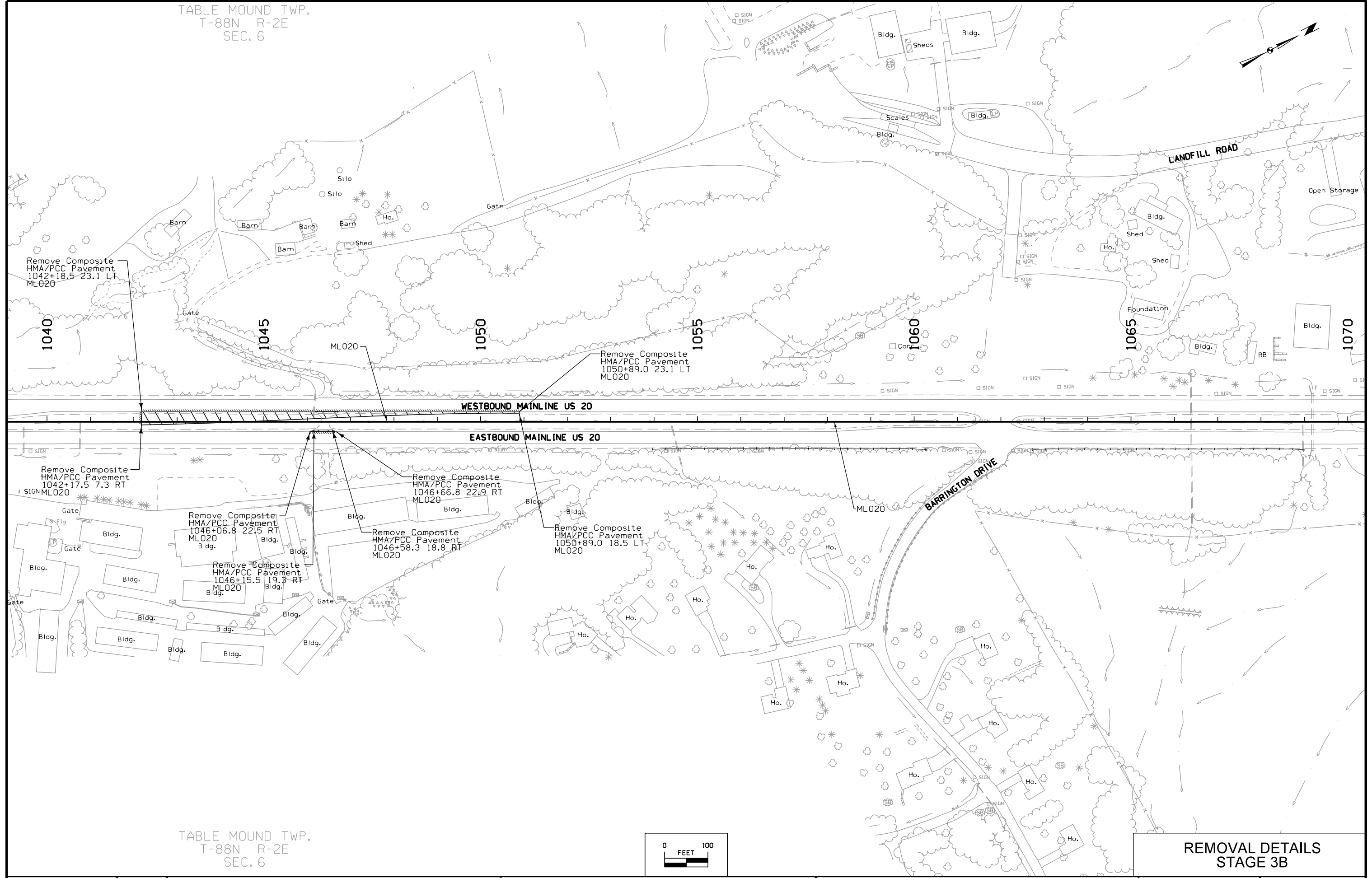
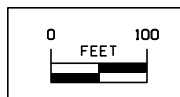


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

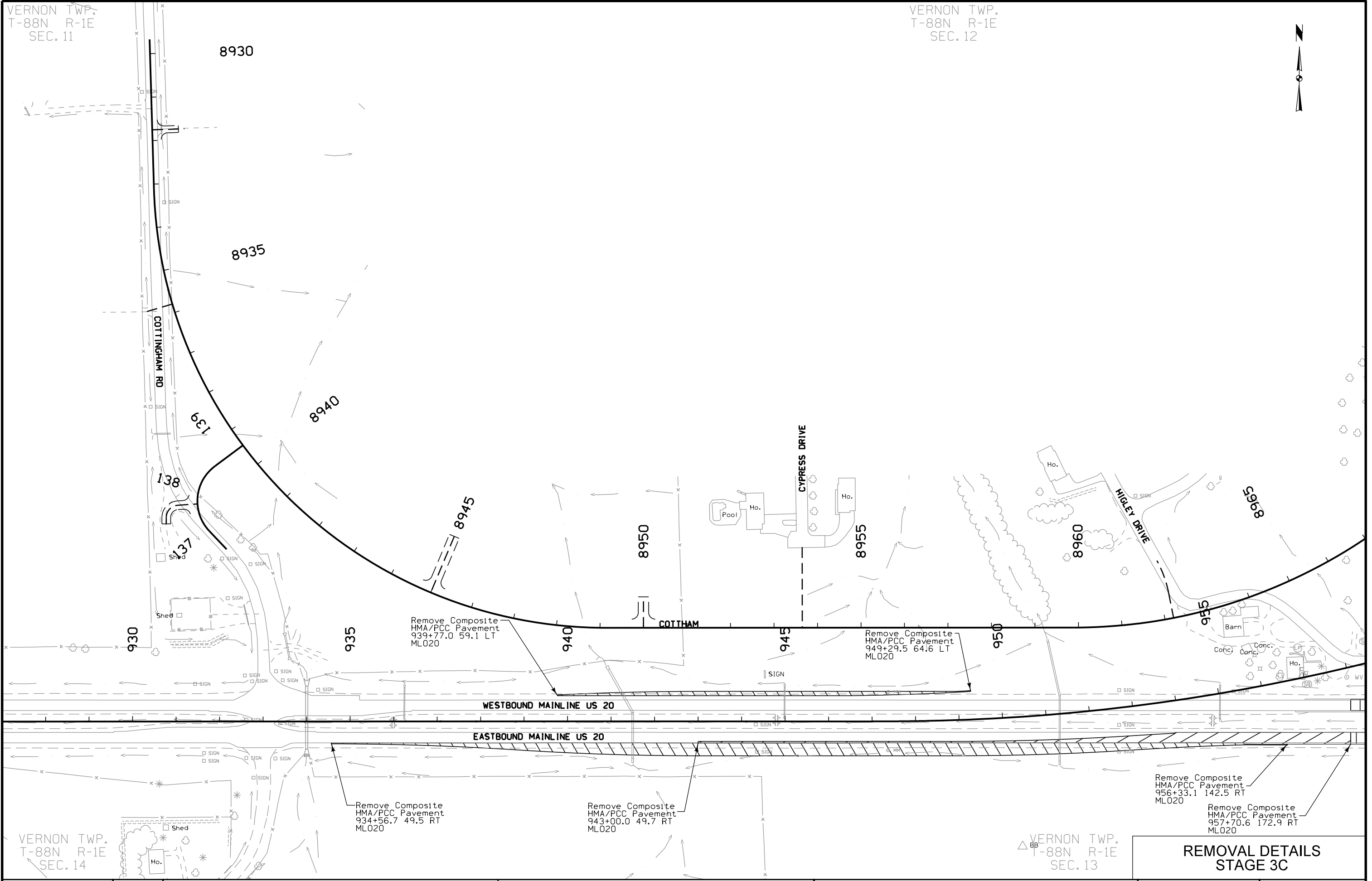


**REMOVAL DETAILS  
STAGE 3B**

|          |         |                                 |                       |                                              |                          |
|----------|---------|---------------------------------|-----------------------|----------------------------------------------|--------------------------|
| FILE NO. | ENGLISH | DESIGN TEAM <b>HDR\Iowa DOT</b> | <b>DUBUQUE</b> COUNTY | PROJECT NUMBER <b>NHSX-020-9(183)--3H-31</b> | SHEET NUMBER <b>U.39</b> |
|----------|---------|---------------------------------|-----------------------|----------------------------------------------|--------------------------|

VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12



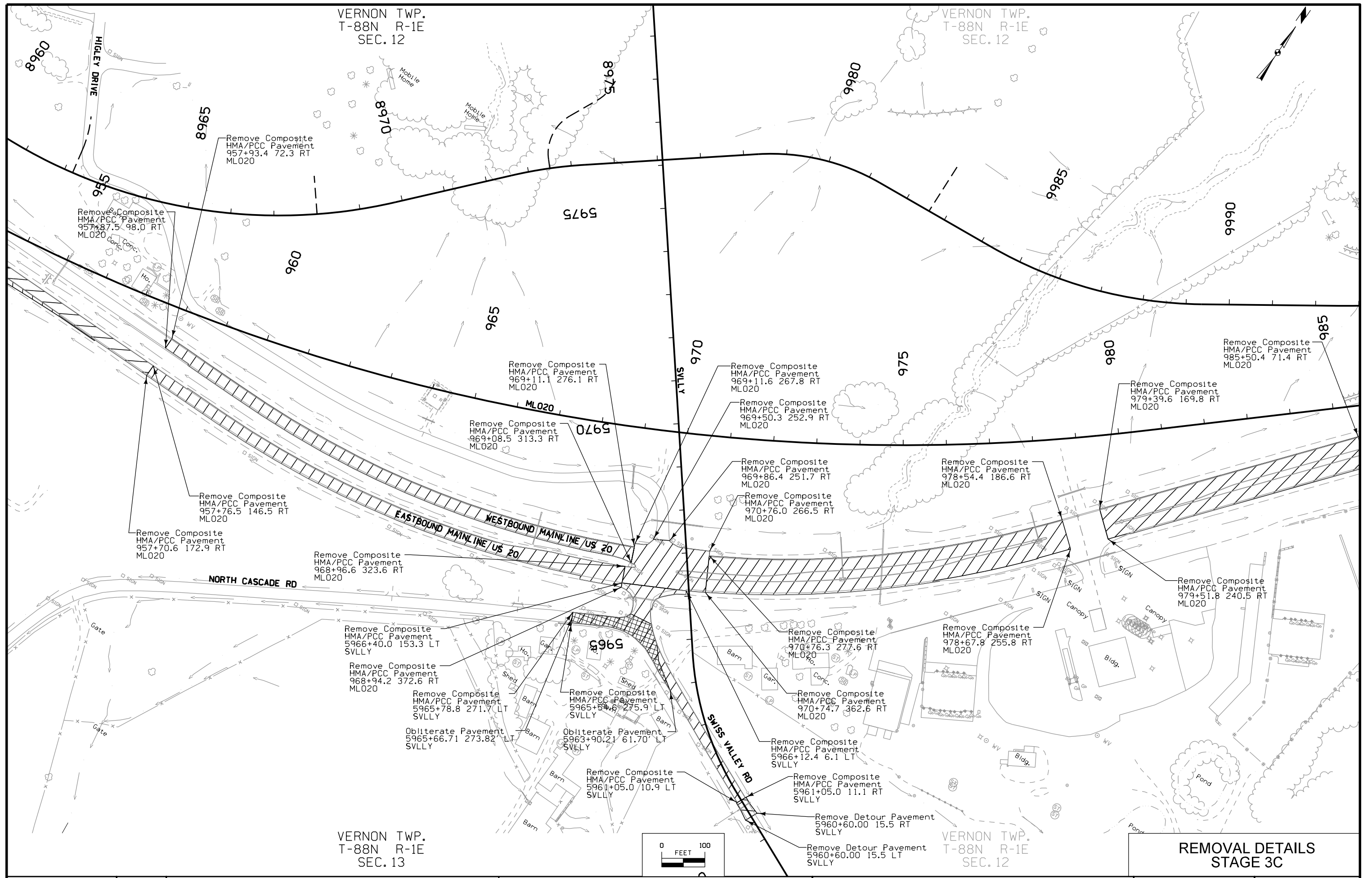
VERNON TWP.  
T-88N R-1E  
SEC. 14

VERNON TWP.  
T-88N R-1E  
SEC. 13

**REMOVAL DETAILS  
STAGE 3C**

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.40 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|





**REMOVAL DETAILS  
STAGE 3C**

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.41 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

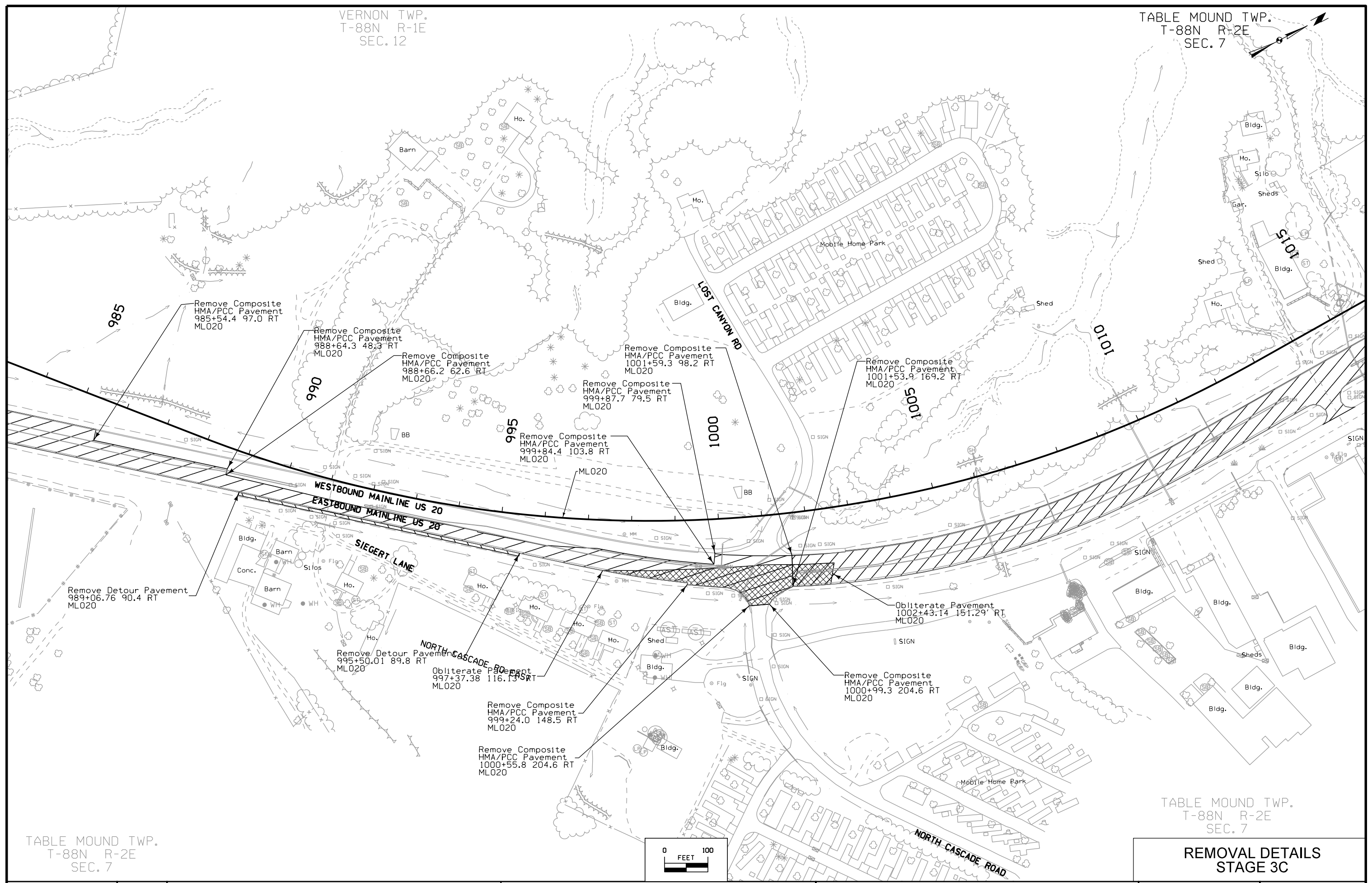
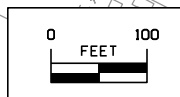


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



**REMOVAL DETAILS  
STAGE 3C**

|          |         |                                 |                |                                              |                          |
|----------|---------|---------------------------------|----------------|----------------------------------------------|--------------------------|
| FILE NO. | ENGLISH | DESIGN TEAM <b>HDR\Iowa DOT</b> | DUBUQUE COUNTY | PROJECT NUMBER <b>NHSX-020-9(183)--3H-31</b> | SHEET NUMBER <b>U.42</b> |
|----------|---------|---------------------------------|----------------|----------------------------------------------|--------------------------|

VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

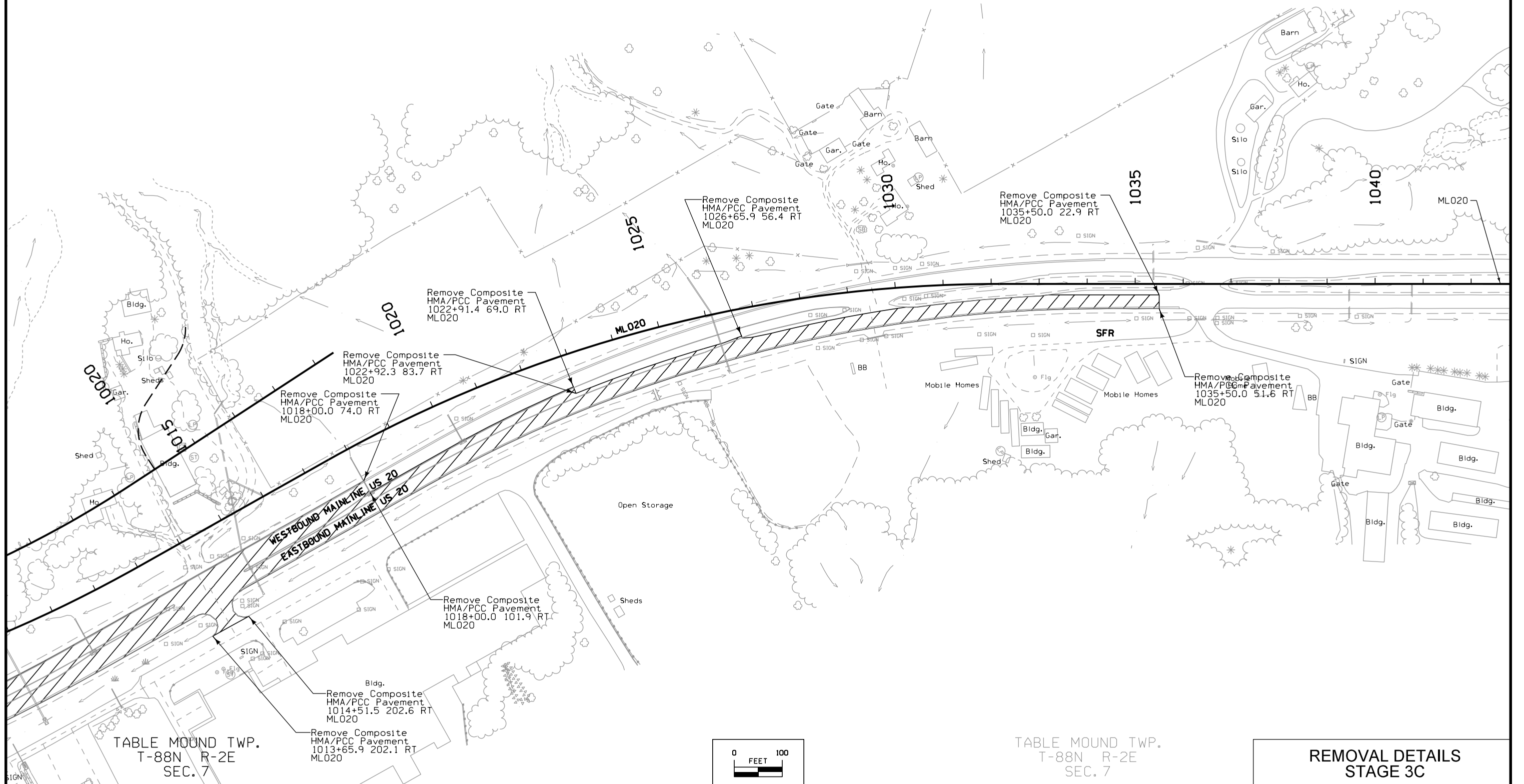
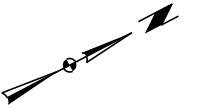


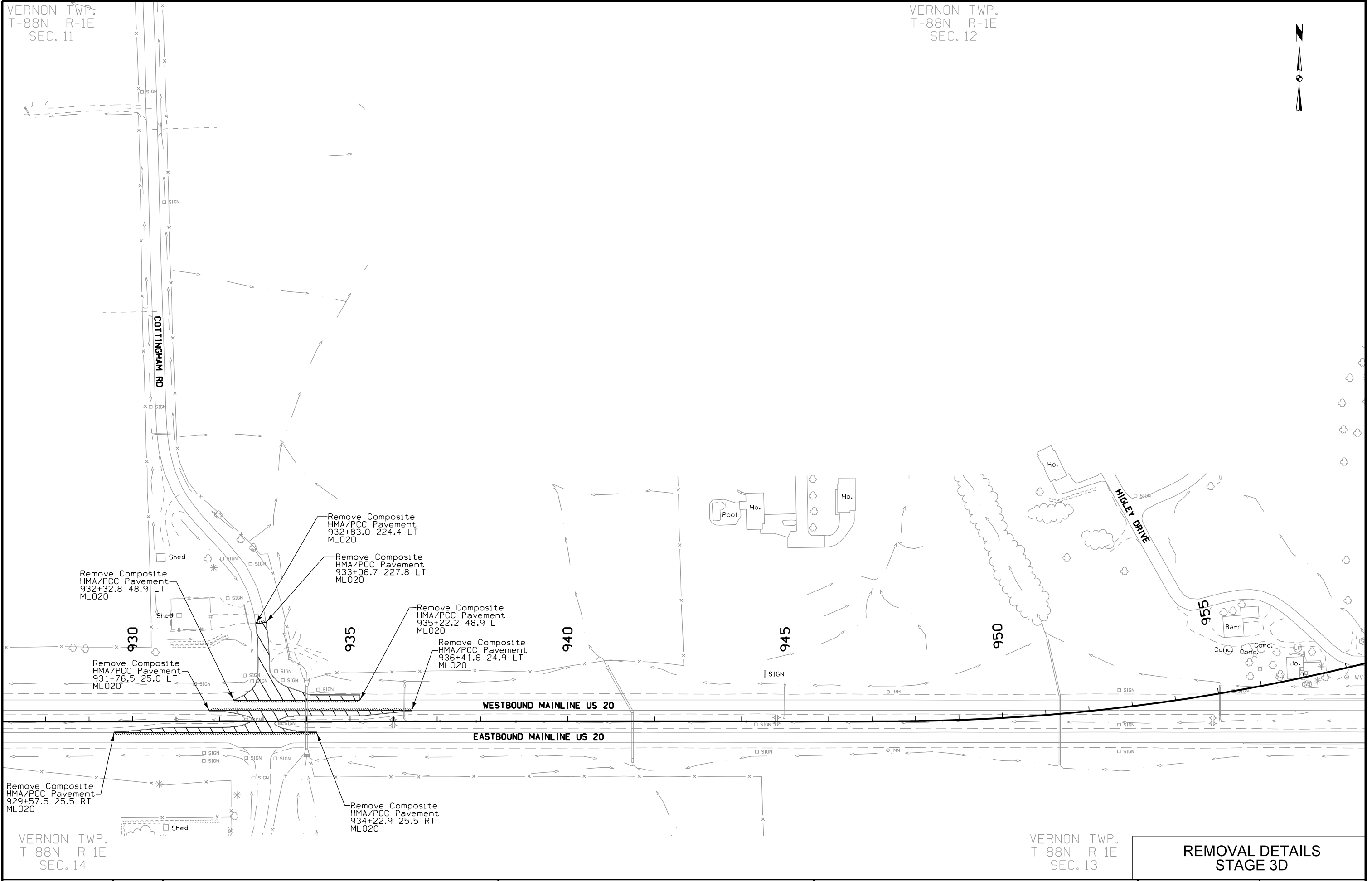
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

**REMOVAL DETAILS  
STAGE 3C**

VERNON TWP.  
T-88N R-1E  
SEC. 11

VERNON TWP.  
T-88N R-1E  
SEC. 12



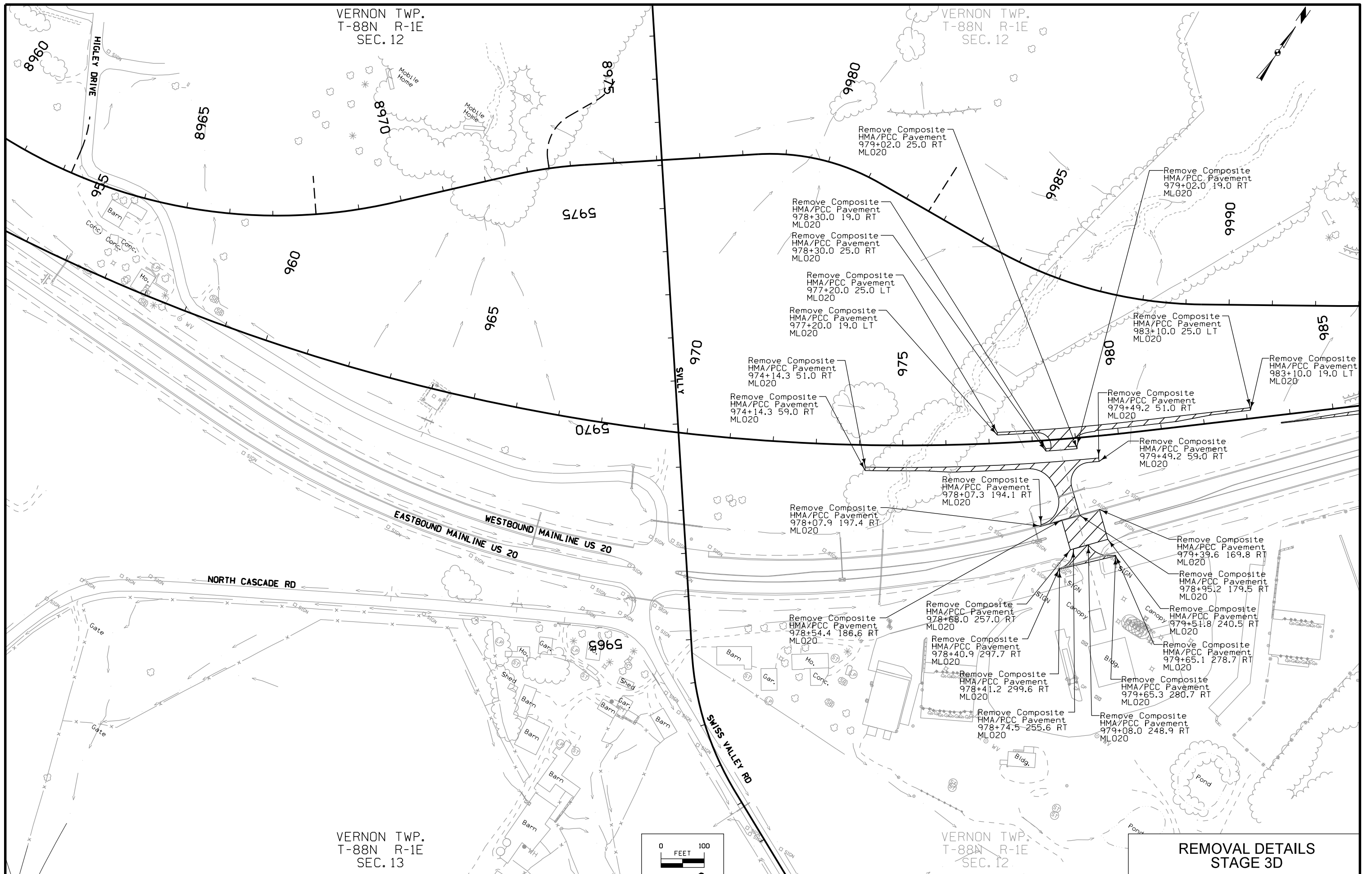
VERNON TWP.  
T-88N R-1E  
SEC. 14

VERNON TWP.  
T-88N R-1E  
SEC. 13

**REMOVAL DETAILS  
STAGE 3D**

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.44 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|





**REMOVAL DETAILS  
STAGE 3D**

VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

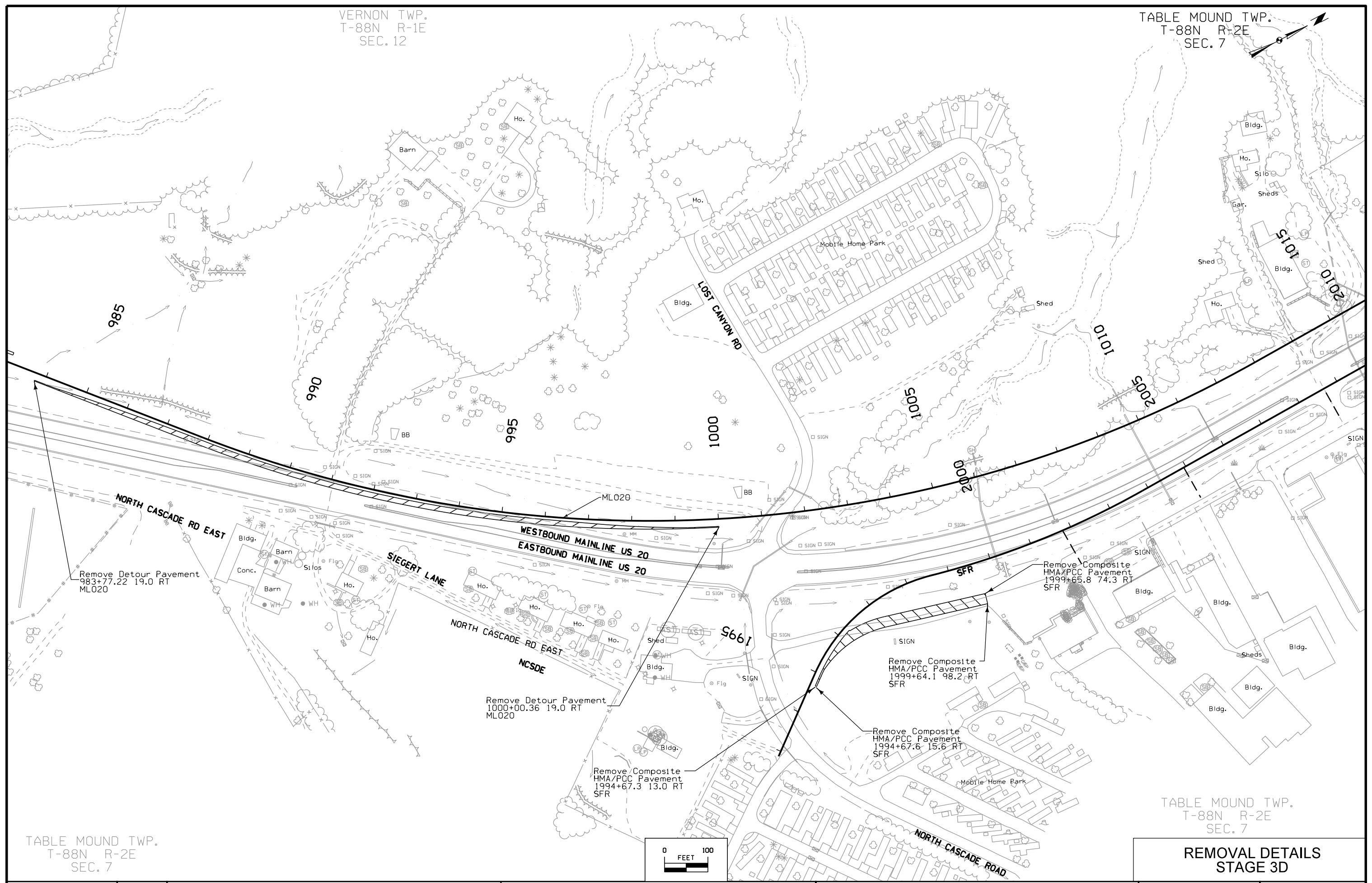
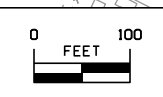


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7



**REMOVAL DETAILS  
STAGE 3D**

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.46 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

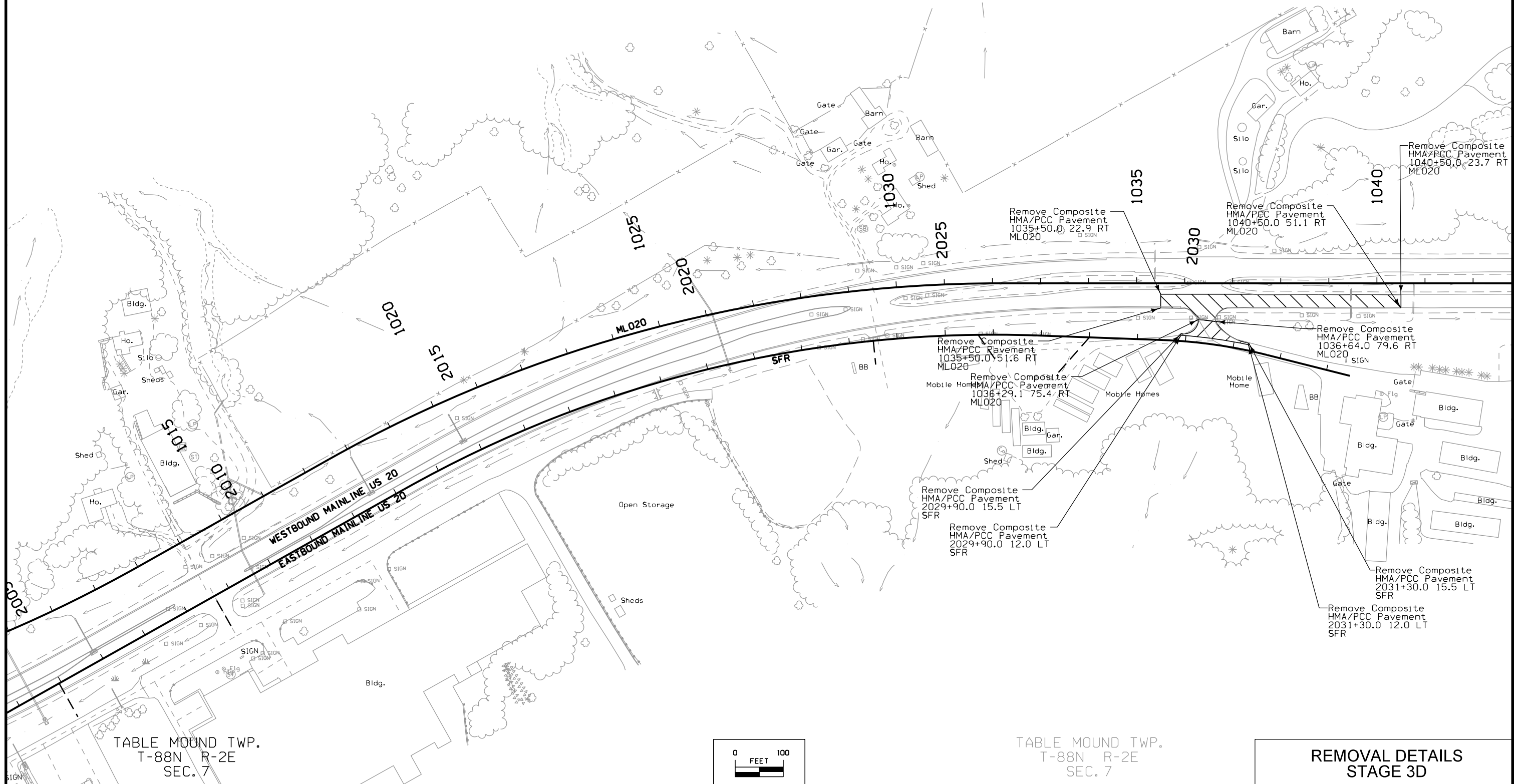
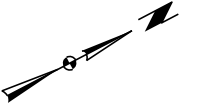
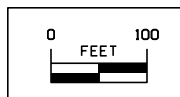


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

**REMOVAL DETAILS  
STAGE 3D**



VERNON TWP.  
T-88N R-1E  
SEC. 12

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

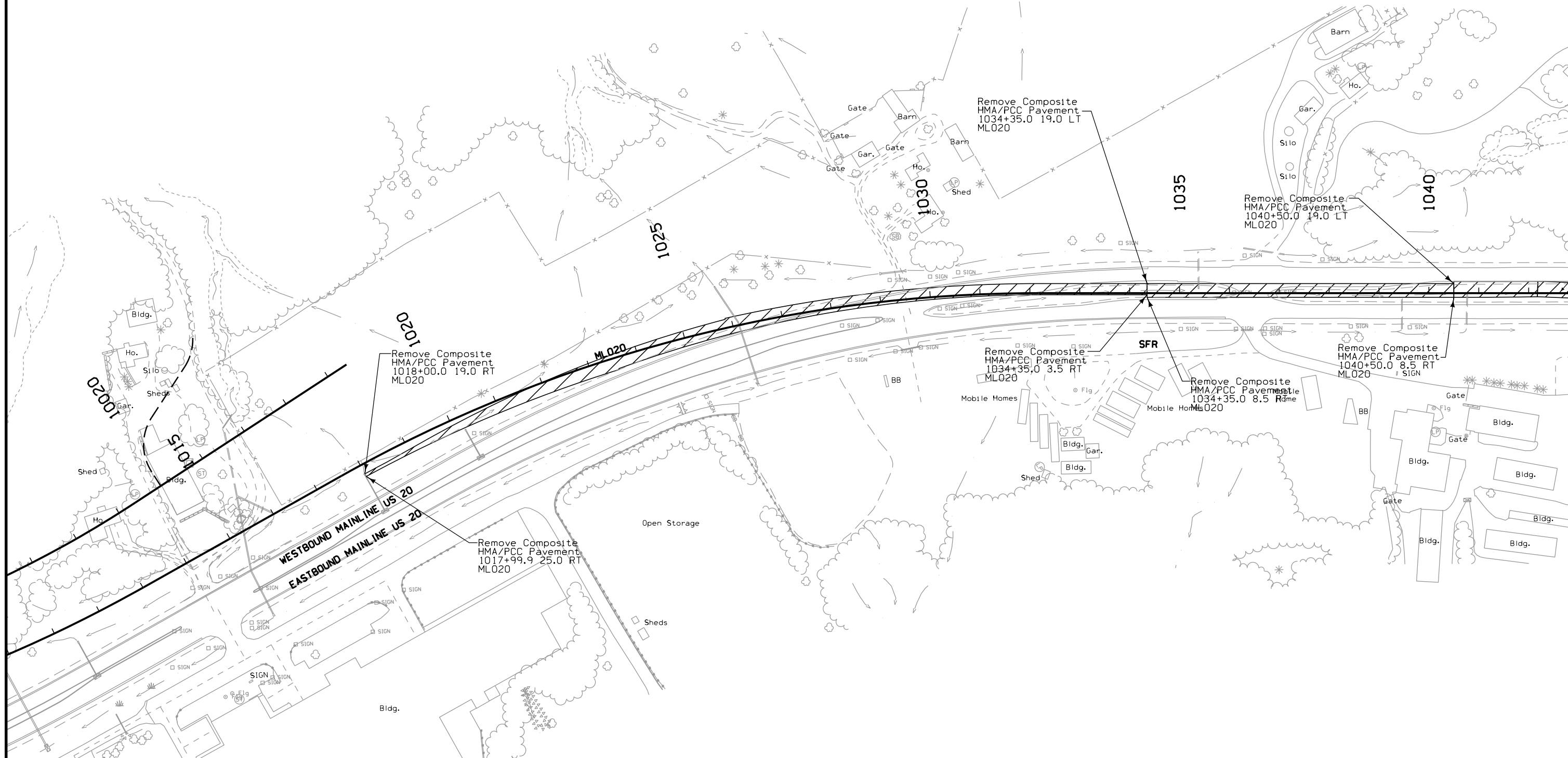
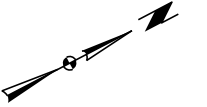


TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

TABLE MOUND TWP.  
T-88N R-2E  
SEC. 7

**REMOVAL DETAILS  
STAGE 4**

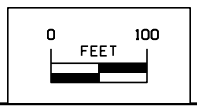




TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6

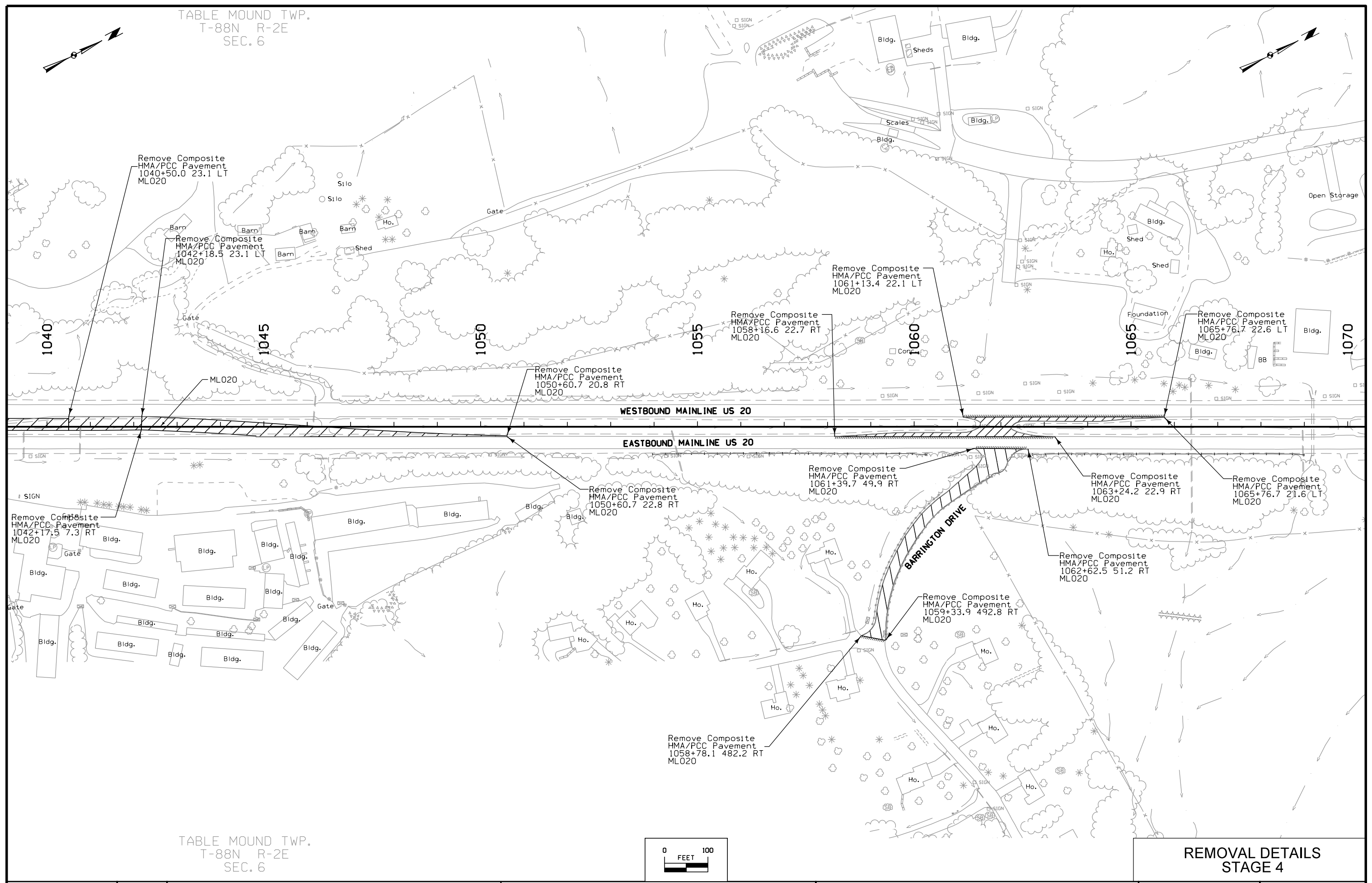
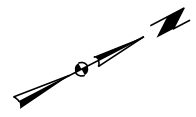
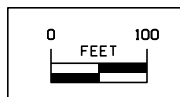
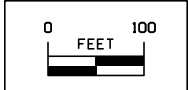
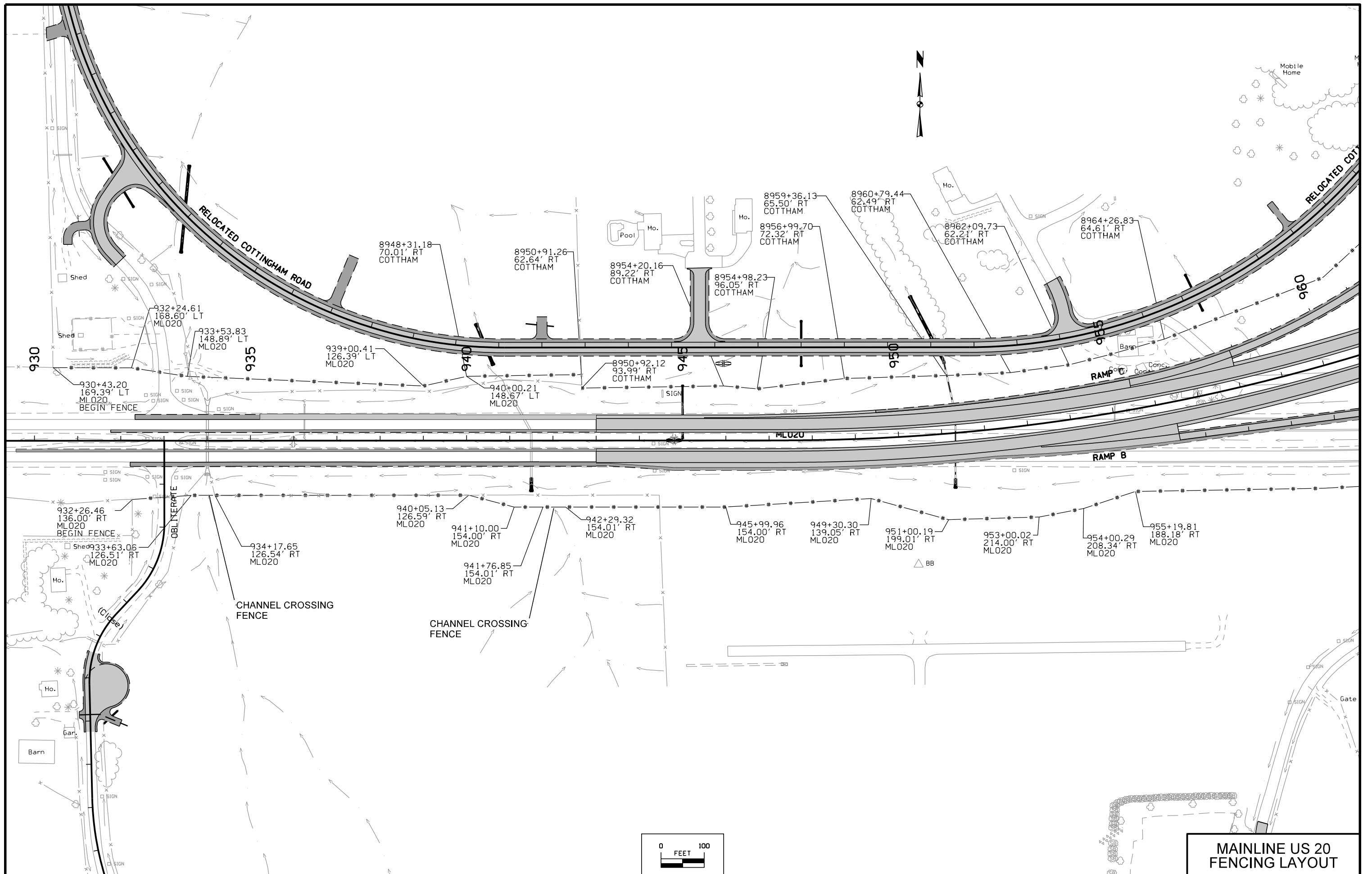


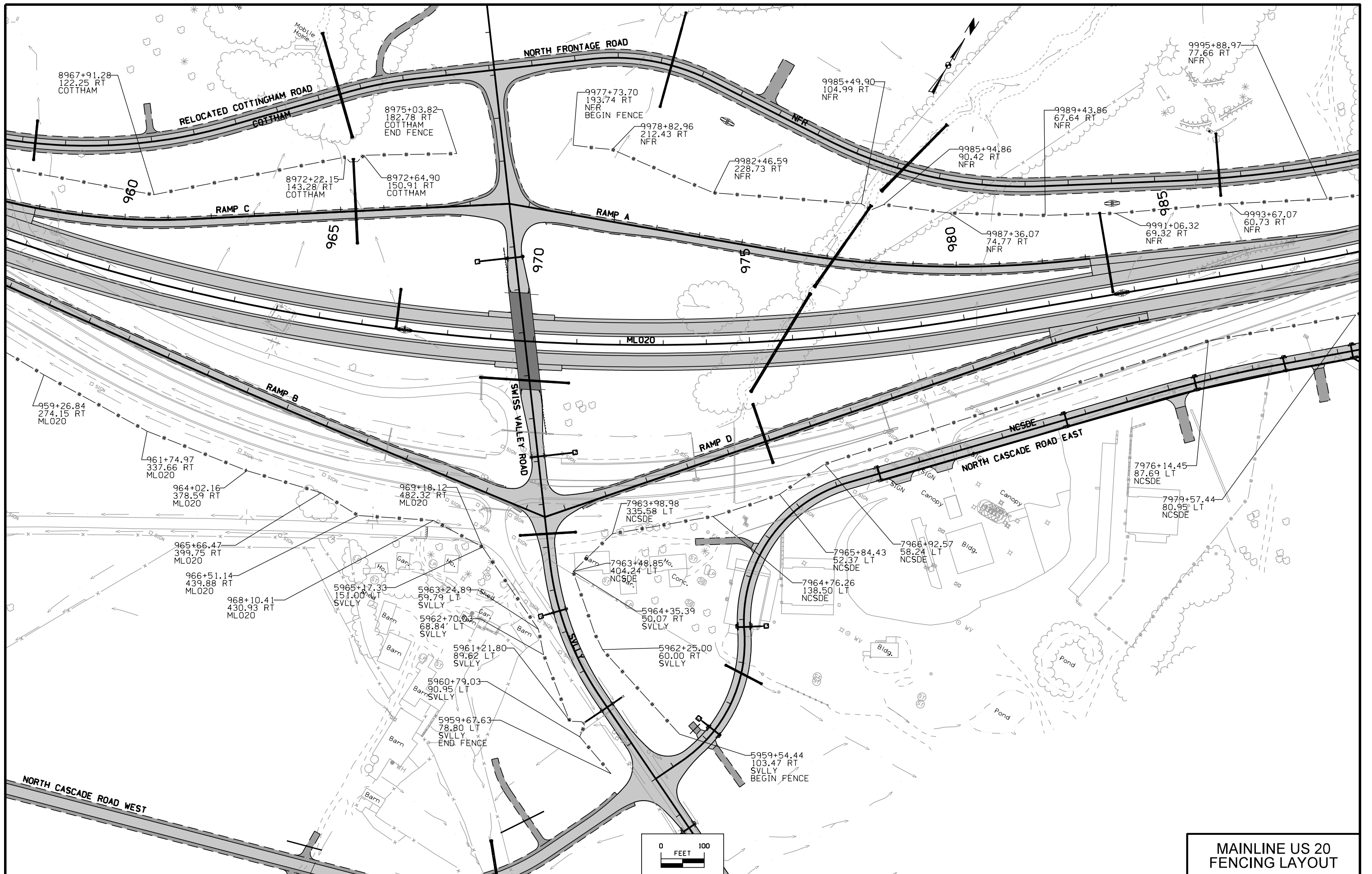
TABLE MOUND TWP.  
T-88N R-2E  
SEC. 6



**REMOVAL DETAILS  
STAGE 4**

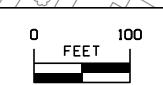
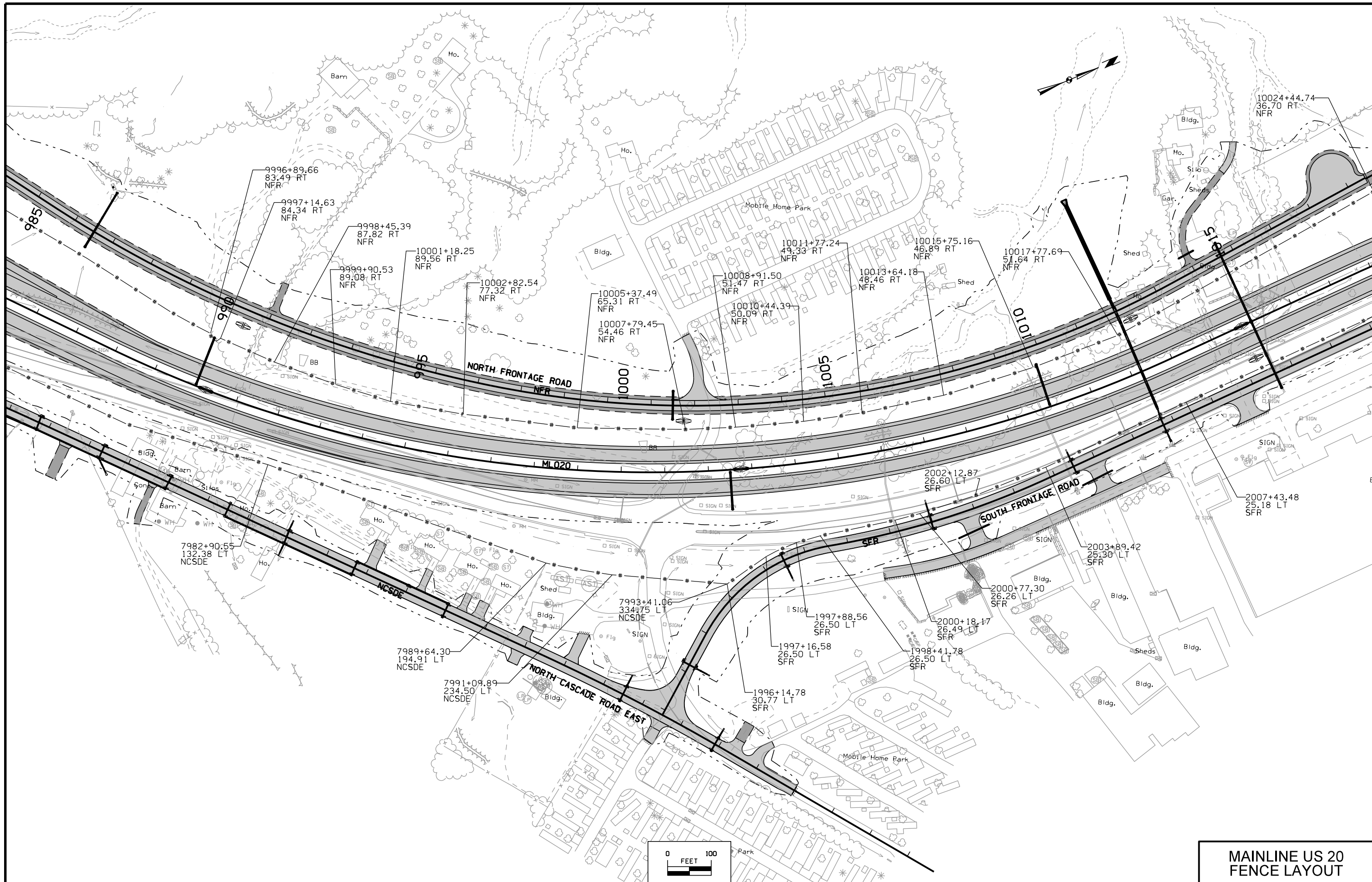


**MAINLINE US 20  
FENCING LAYOUT**



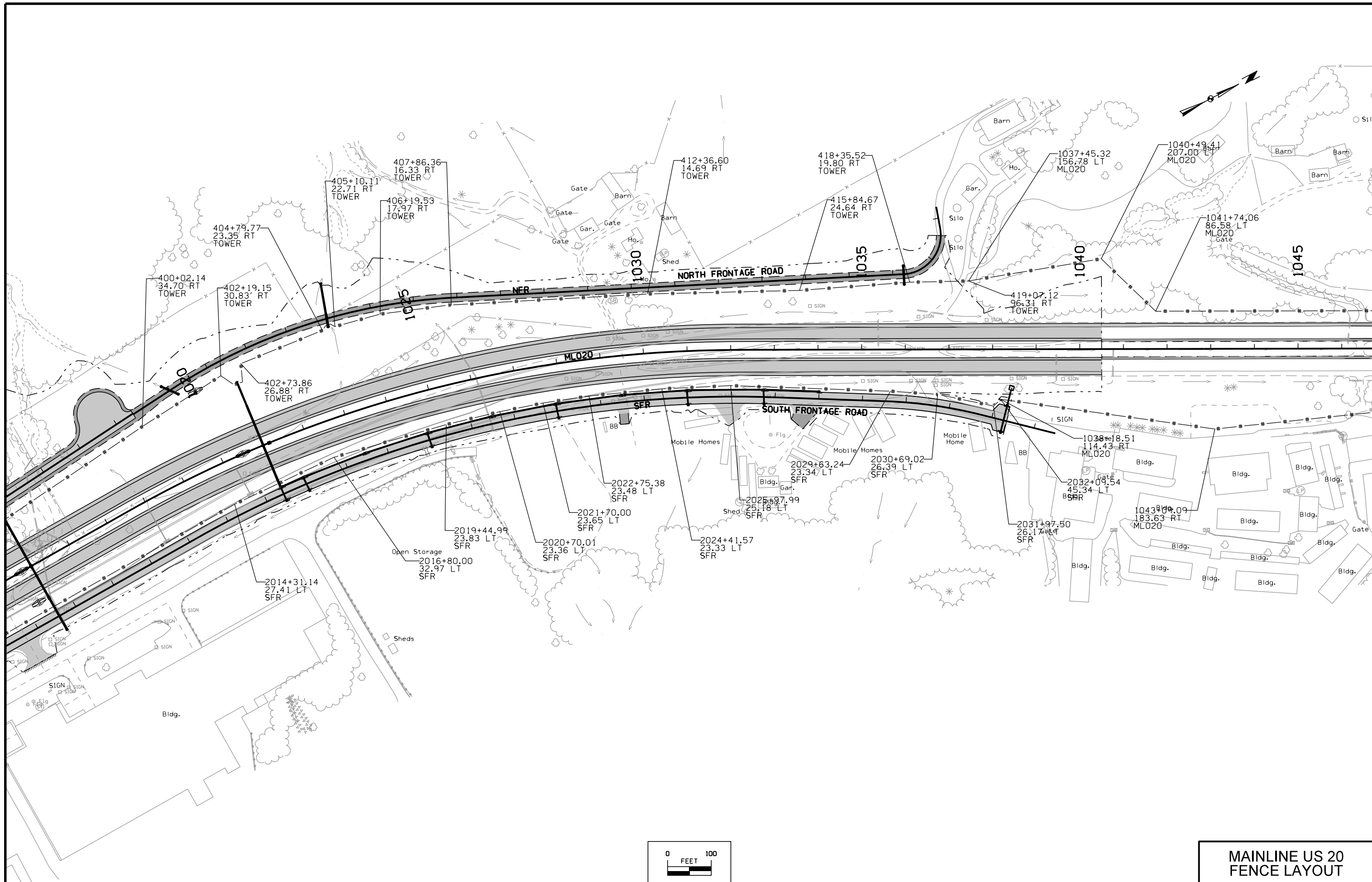
**MAINLINE US 20  
FENCING LAYOUT**

|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.51 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

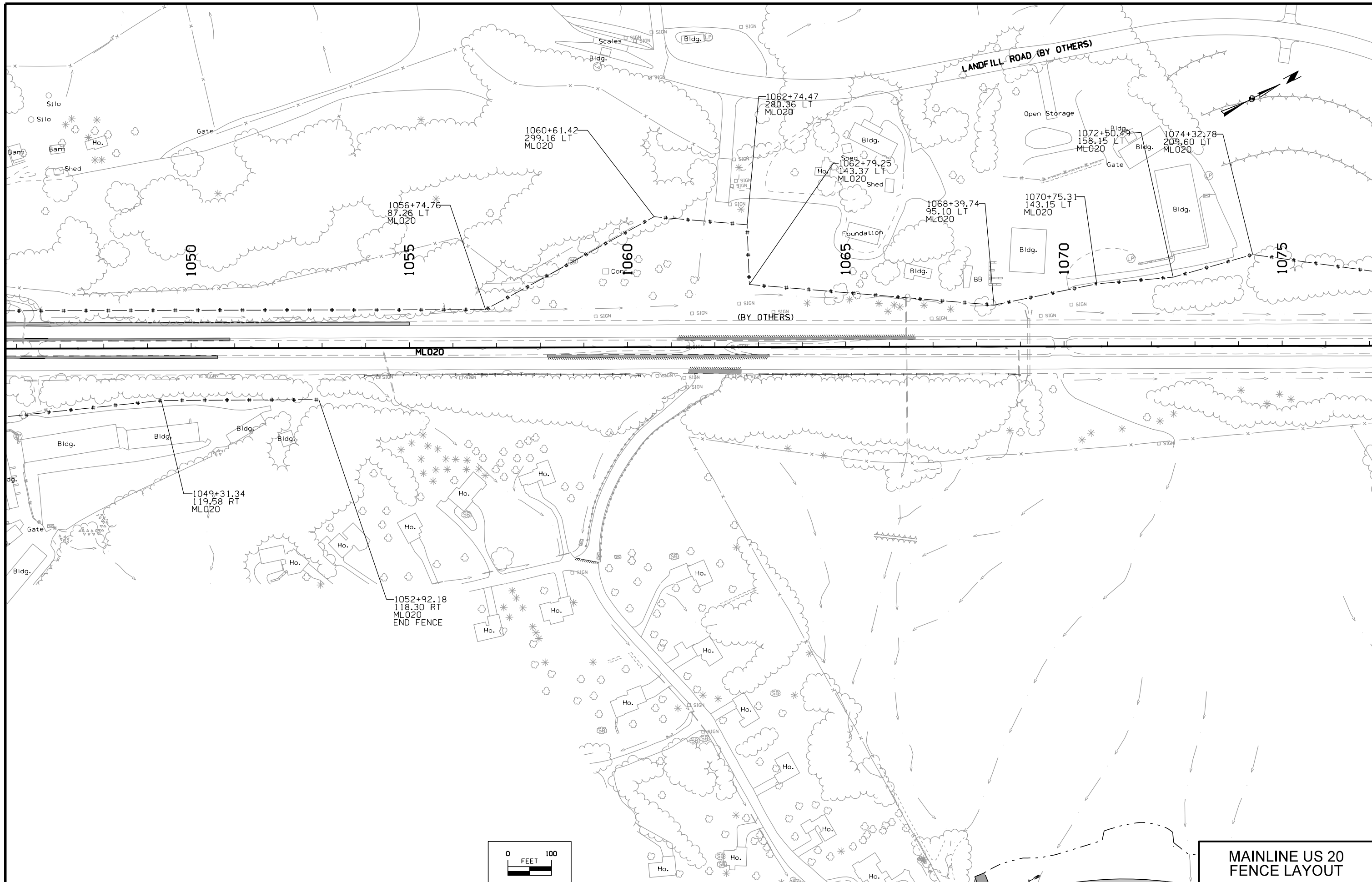


**MAINLINE US 20  
FENCE LAYOUT**





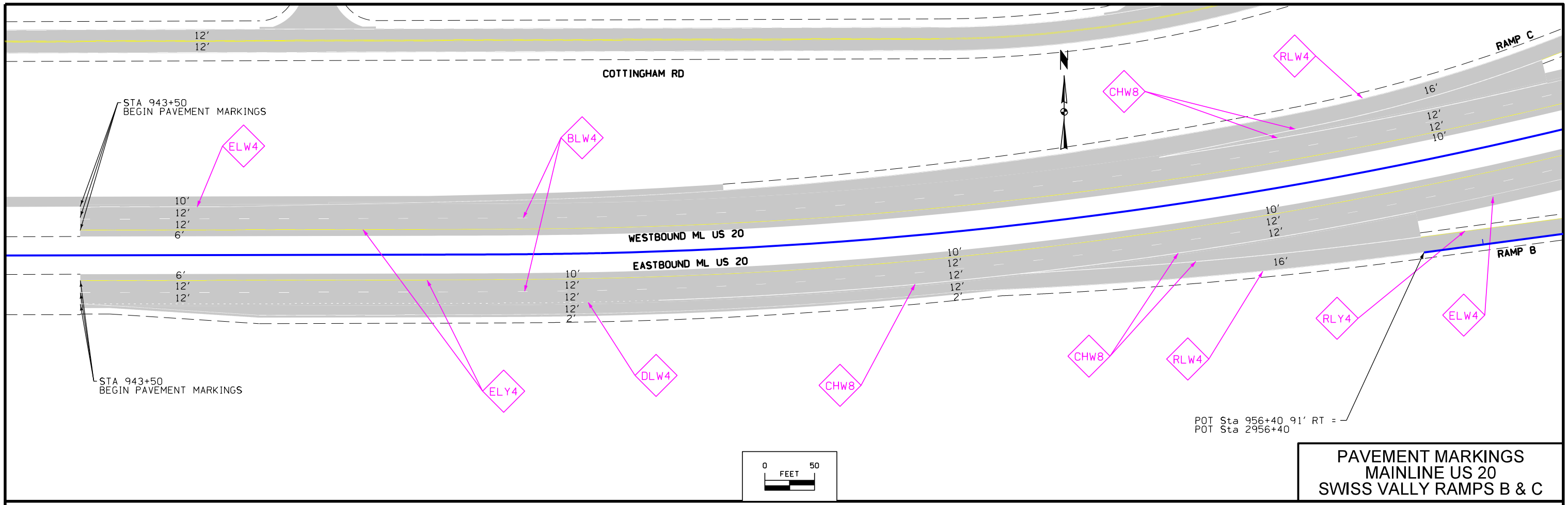
**MAINLINE US 20  
FENCE LAYOUT**



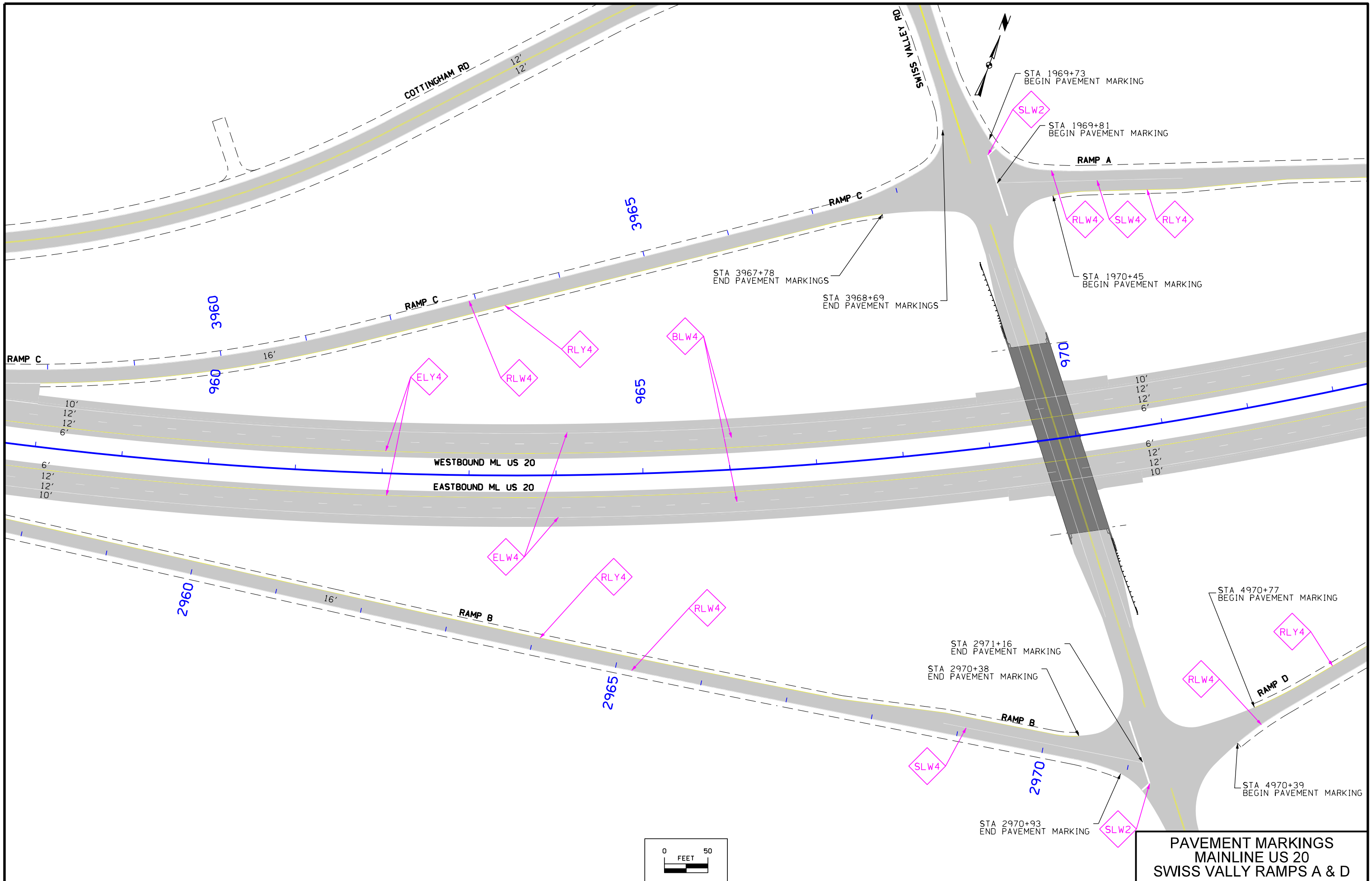
**MAINLINE US 20  
FENCE LAYOUT**



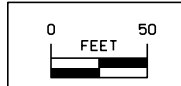
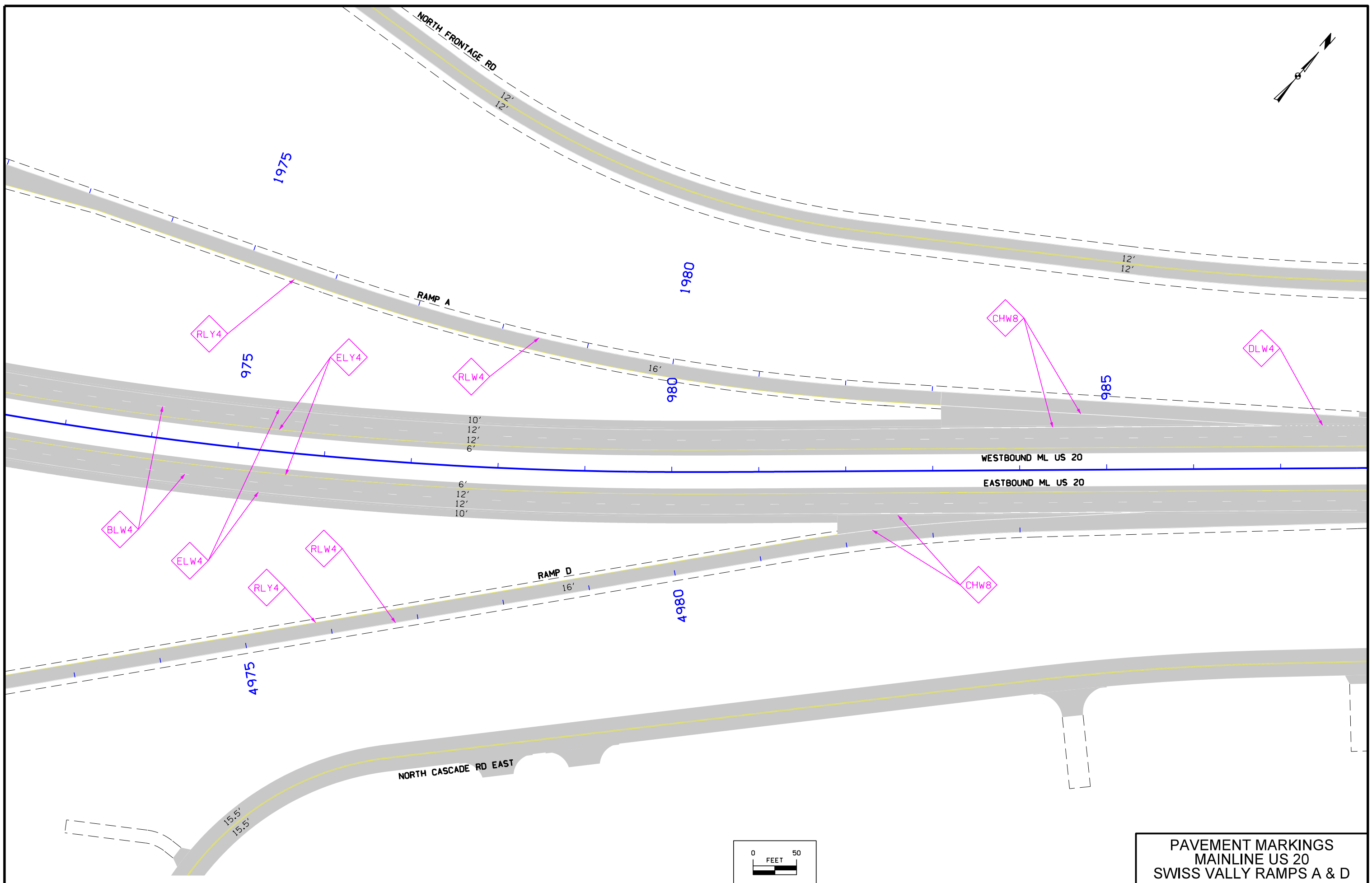
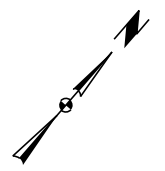
**MAINLINE US 20  
FENCE LAYOUT**





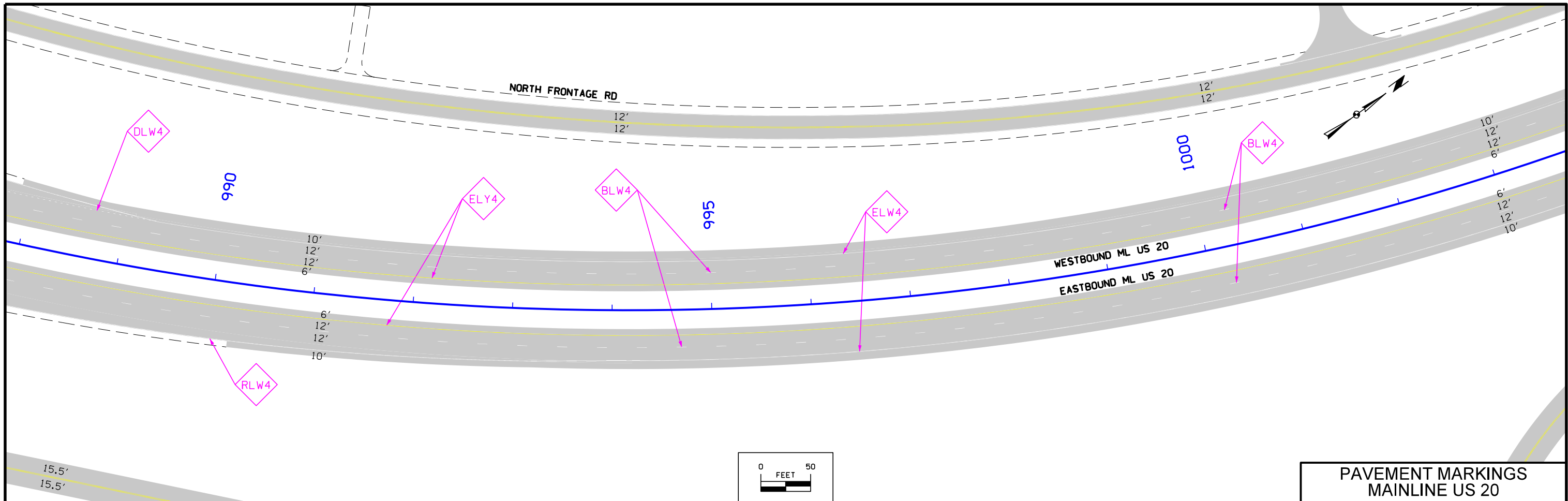


**PAVEMENT MARKINGS  
MAINLINE US 20  
SWISS VALLEY RAMPS A & D**

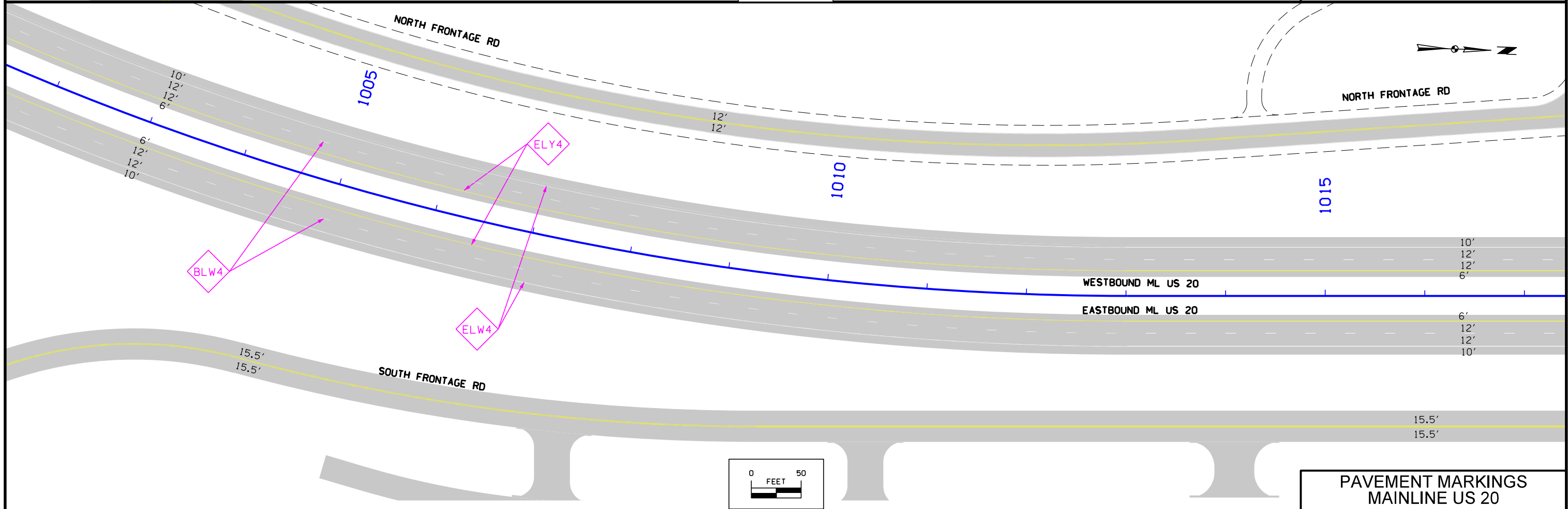


PAVEMENT MARKINGS  
 MAINLINE US 20  
 SWISS VALLEY RAMPS A & D

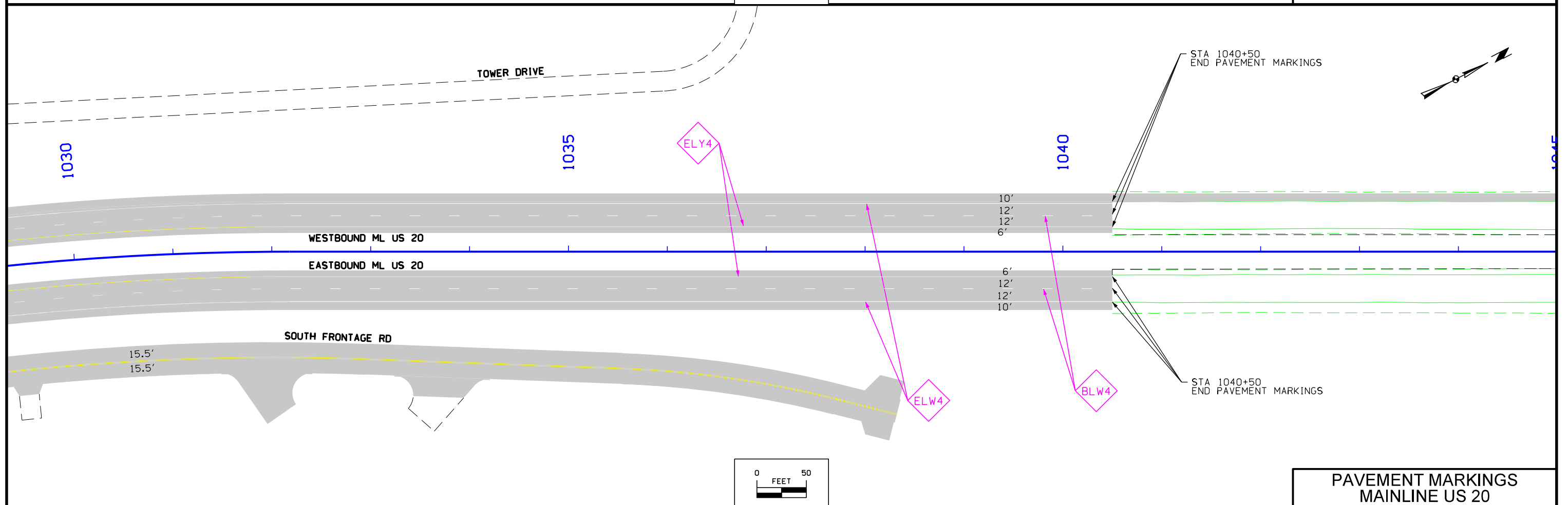
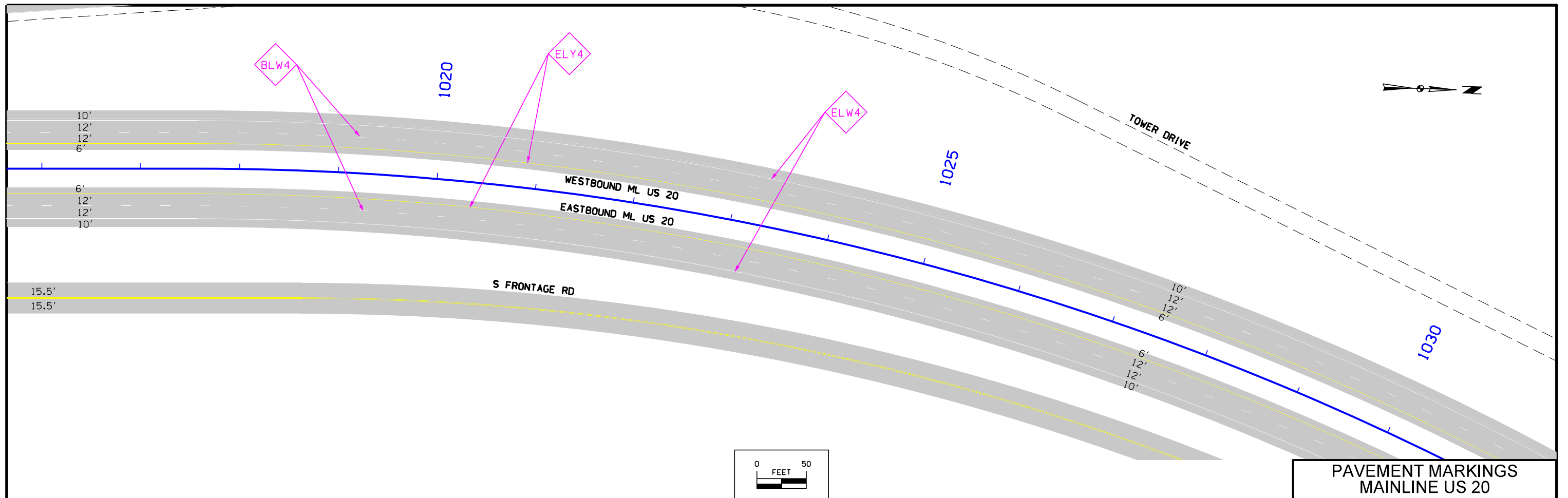
|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.58 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|



PAVEMENT MARKINGS  
MAINLINE US 20

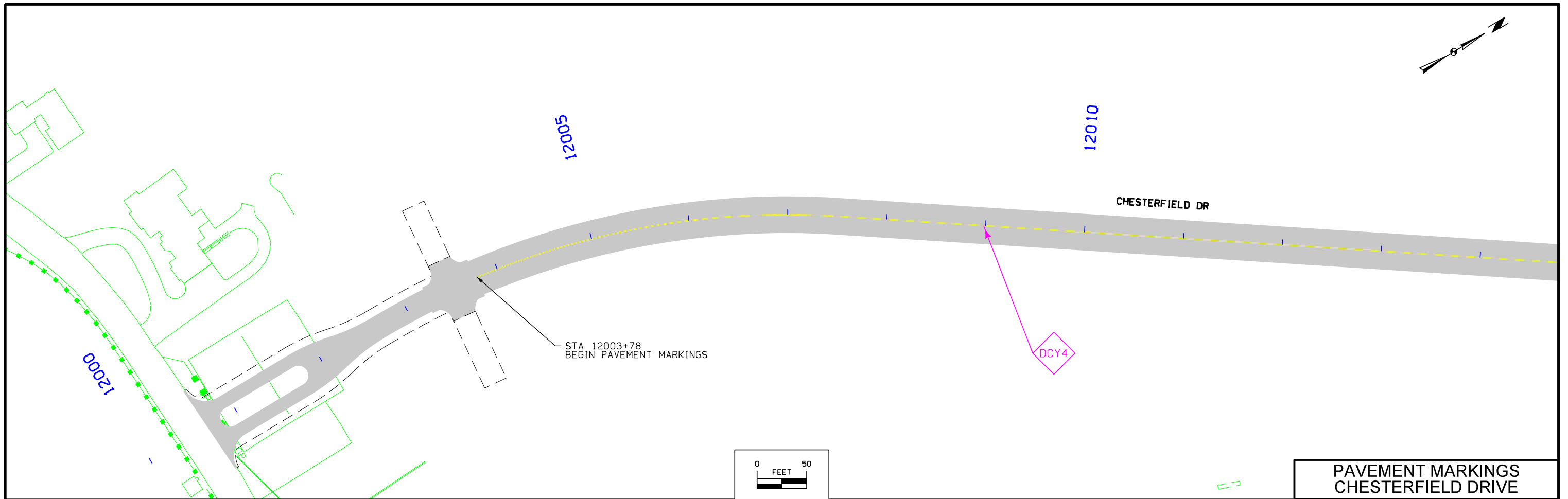


PAVEMENT MARKINGS  
MAINLINE US 20

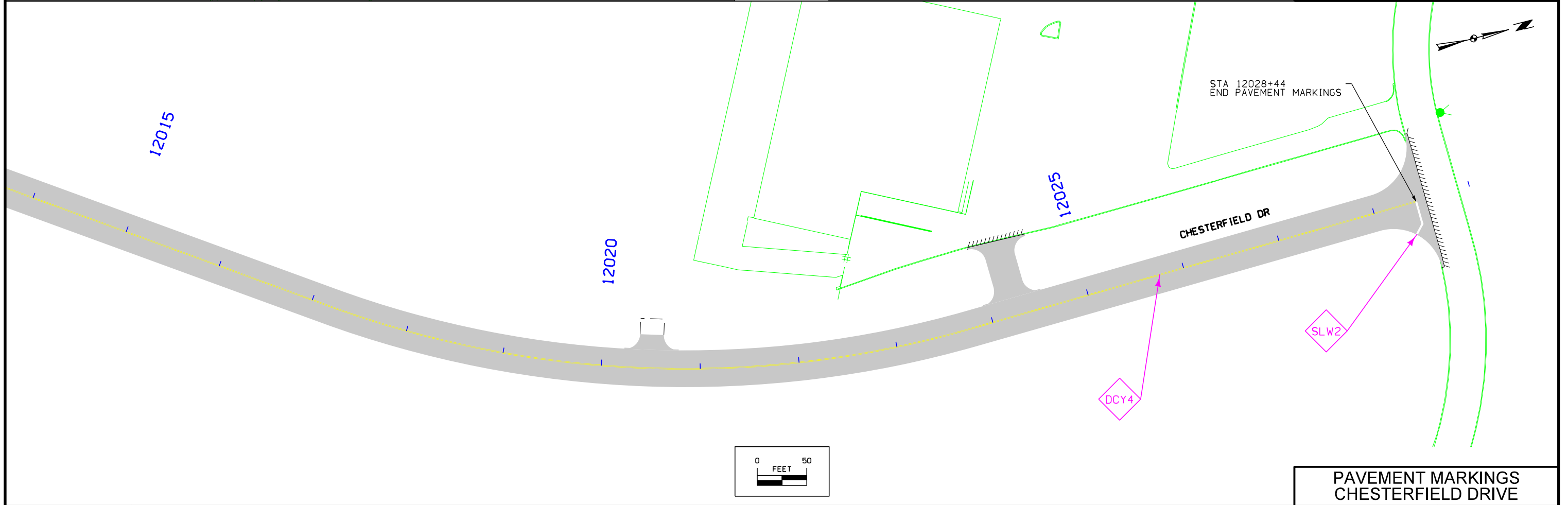


|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.60 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

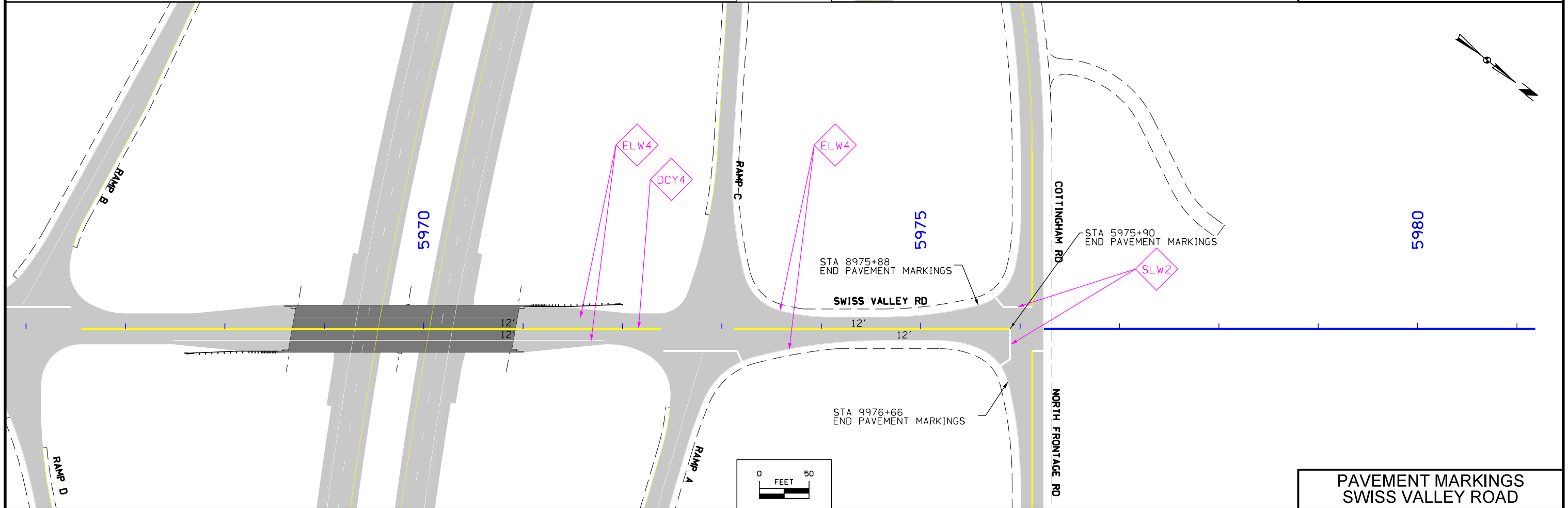
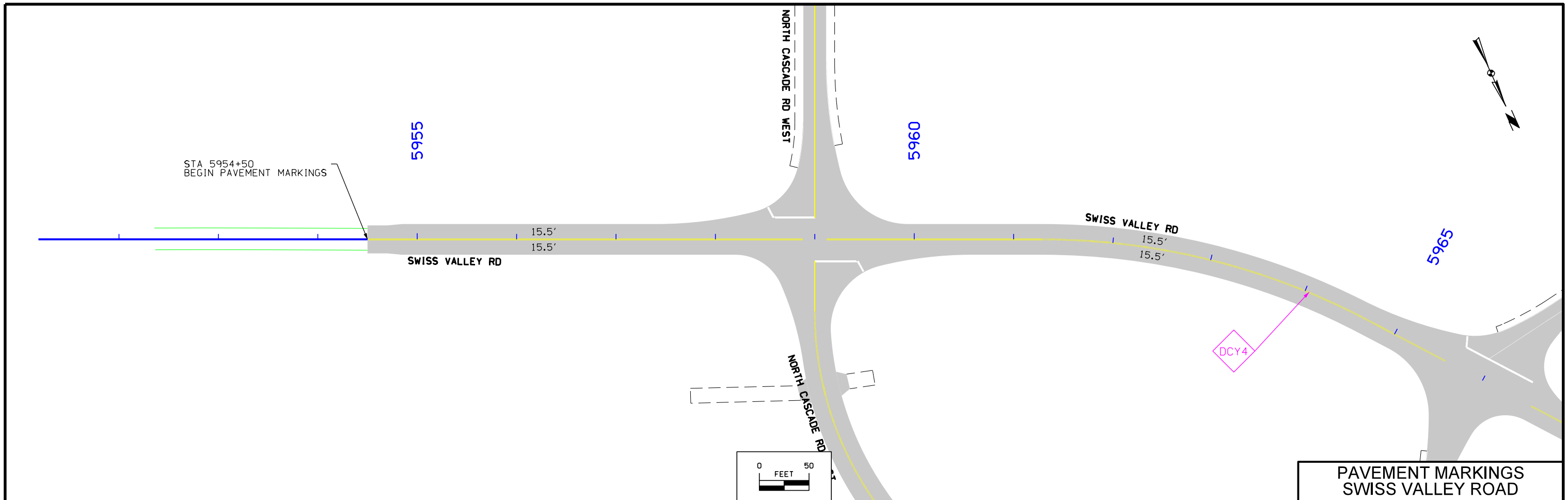




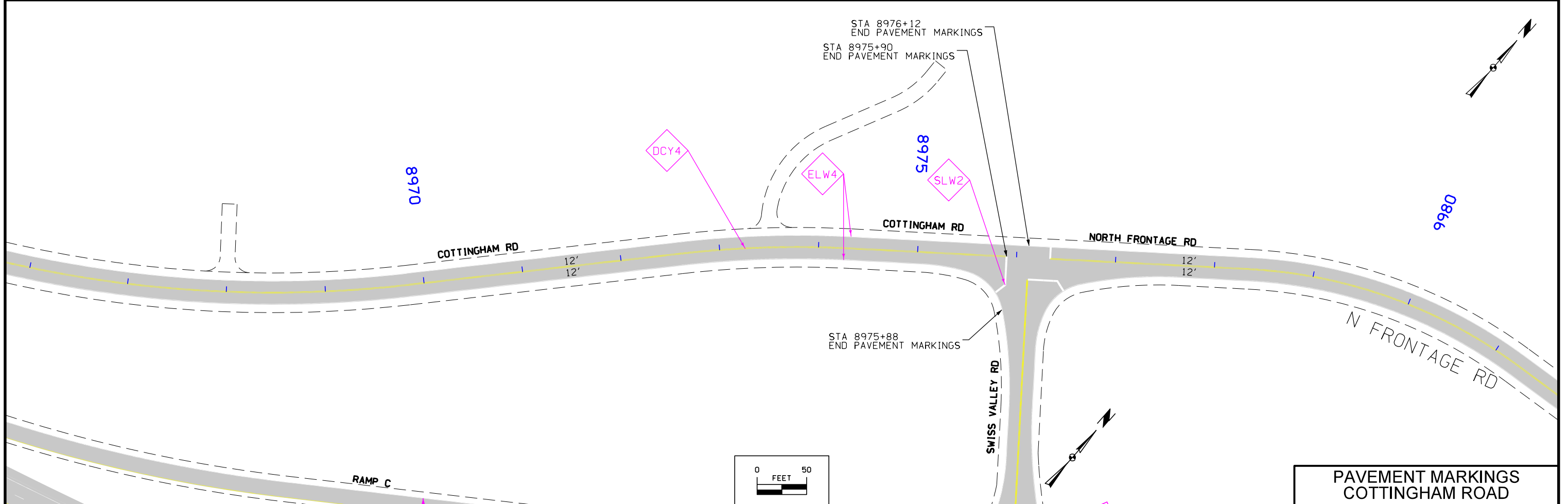
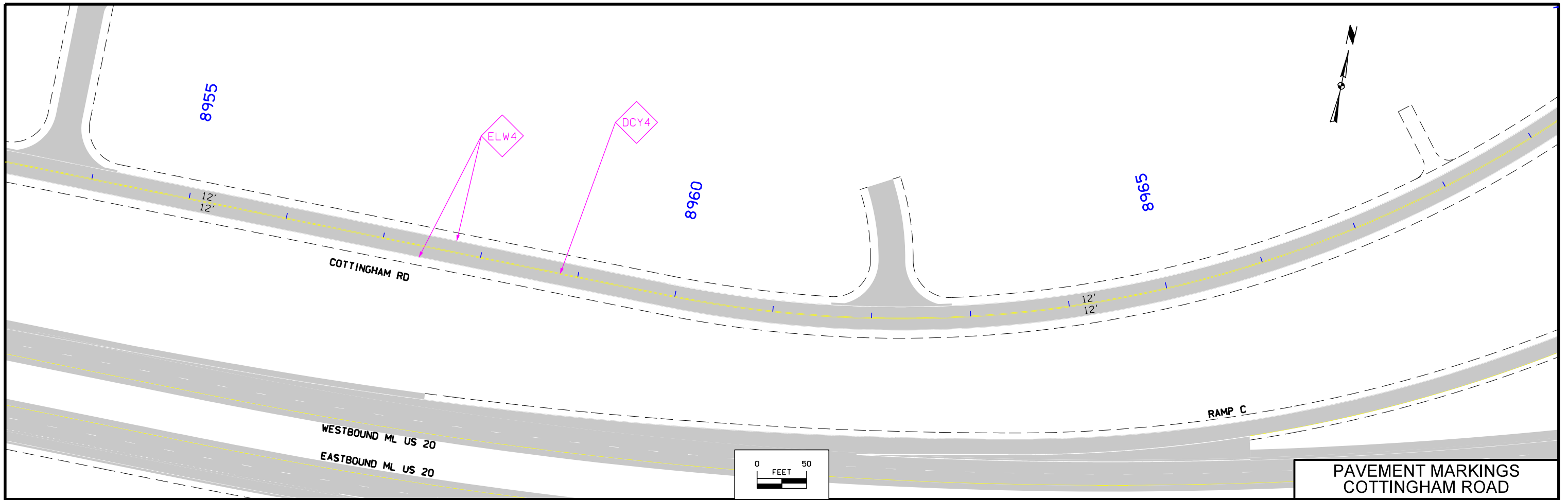
PAVEMENT MARKINGS  
CHESTERFIELD DRIVE



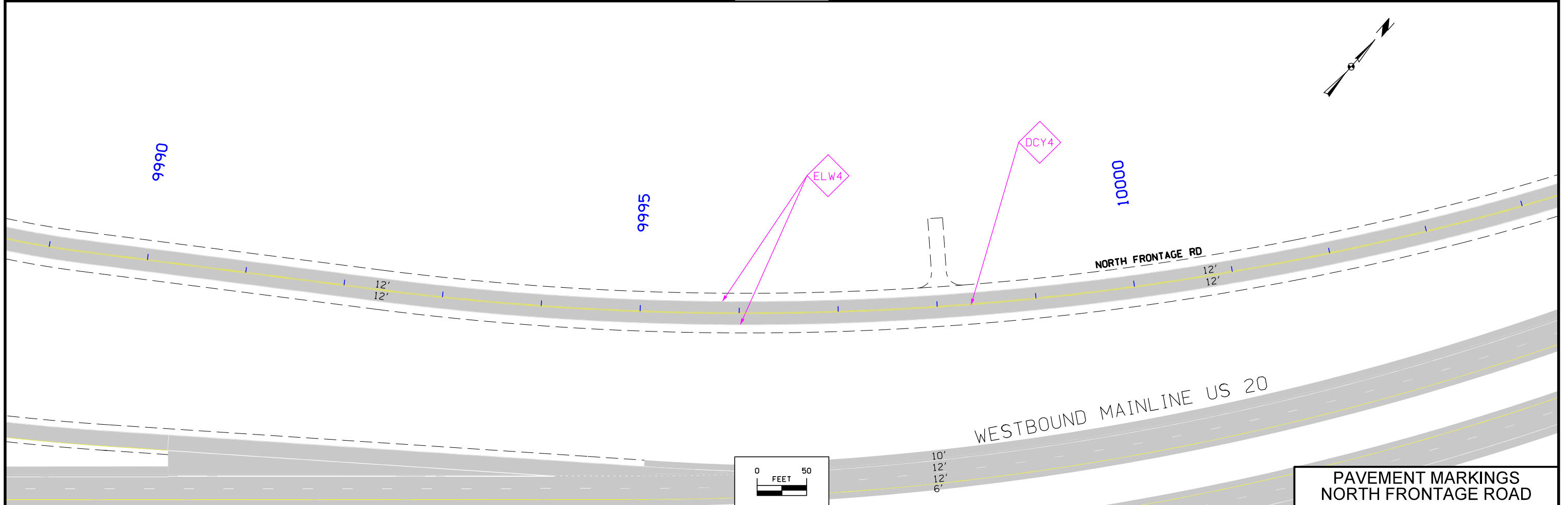
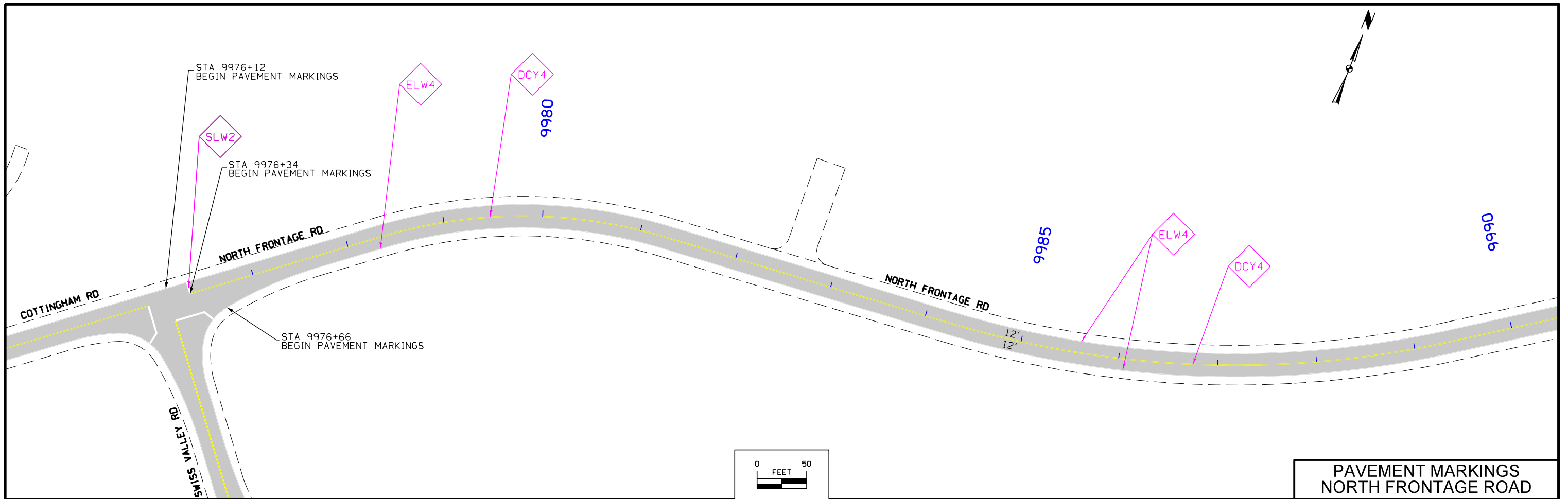
PAVEMENT MARKINGS  
CHESTERFIELD DRIVE



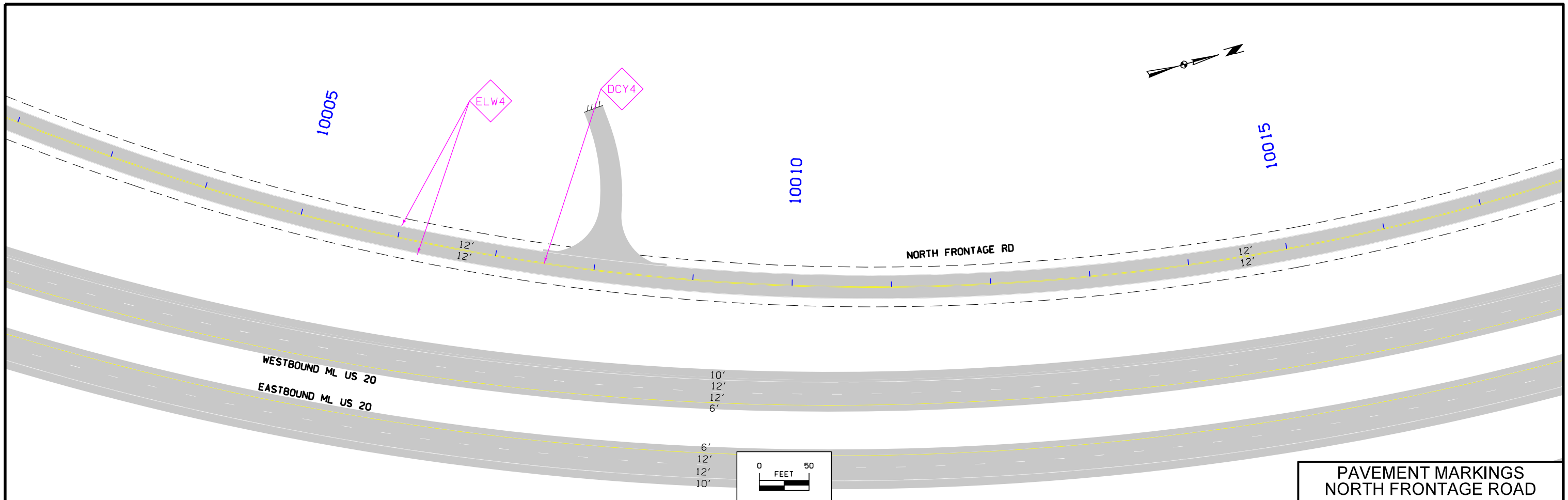




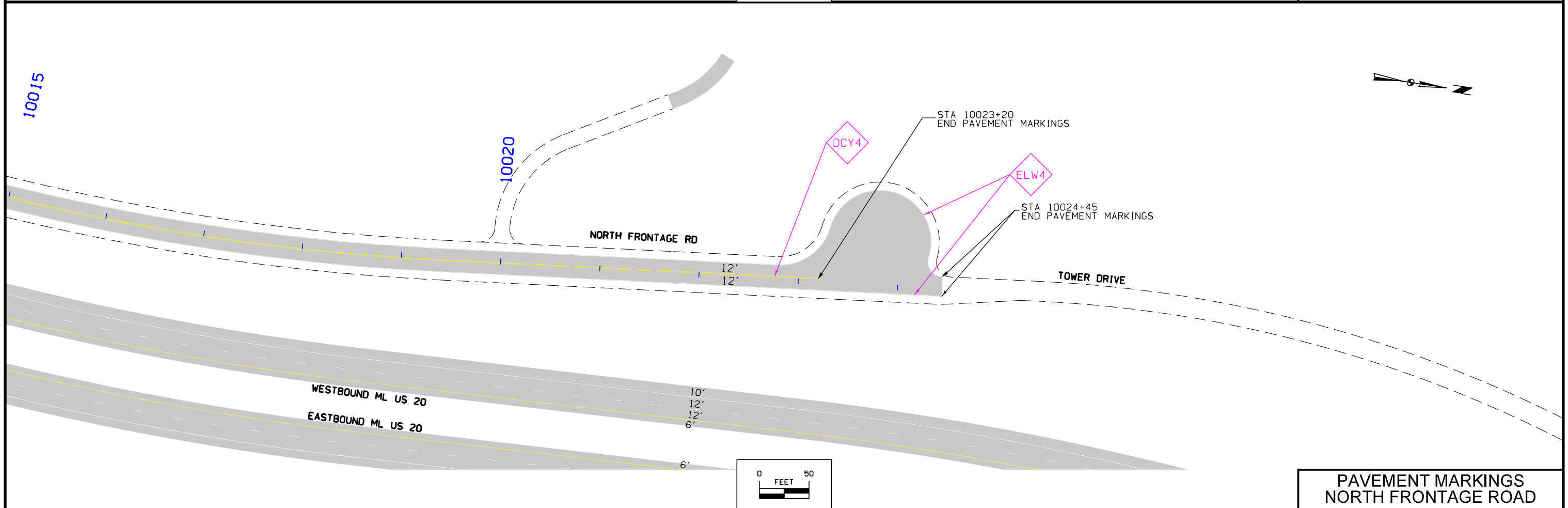




|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.65 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|

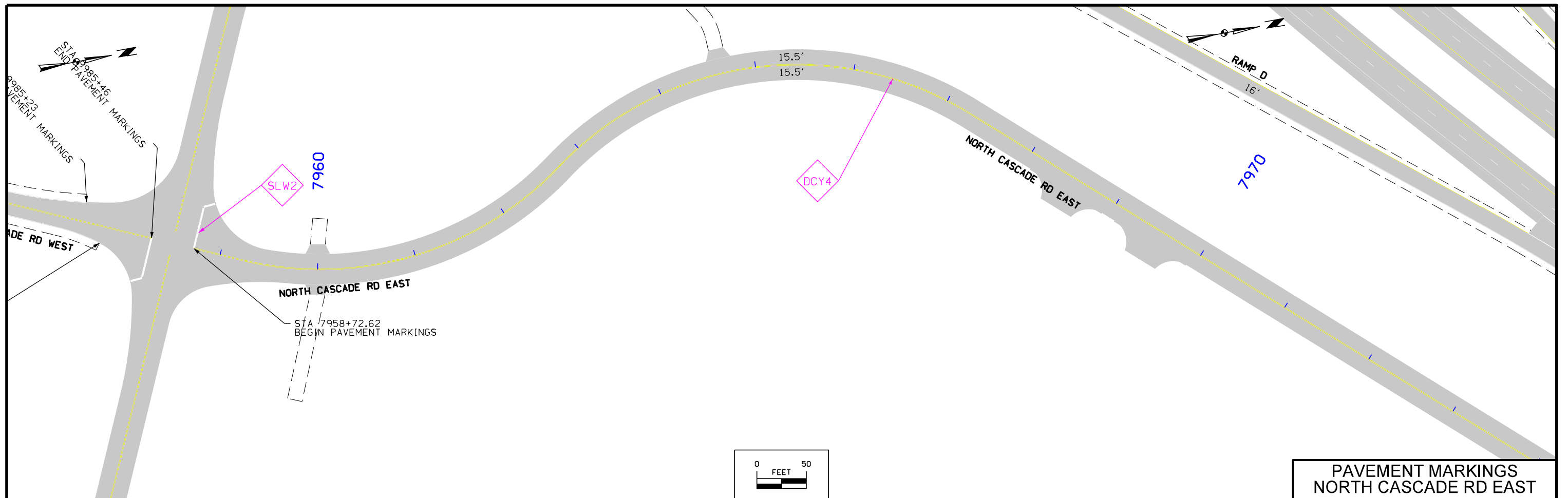


PAVEMENT MARKINGS  
NORTH FRONTAGE ROAD

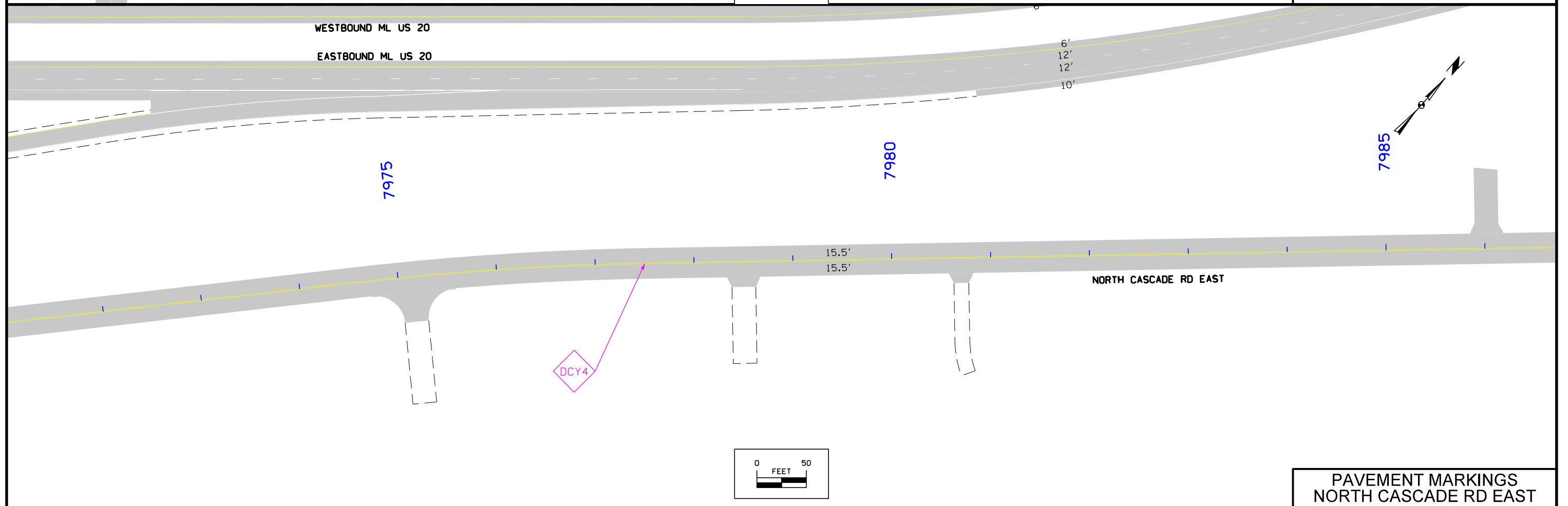


PAVEMENT MARKINGS  
NORTH FRONTAGE ROAD





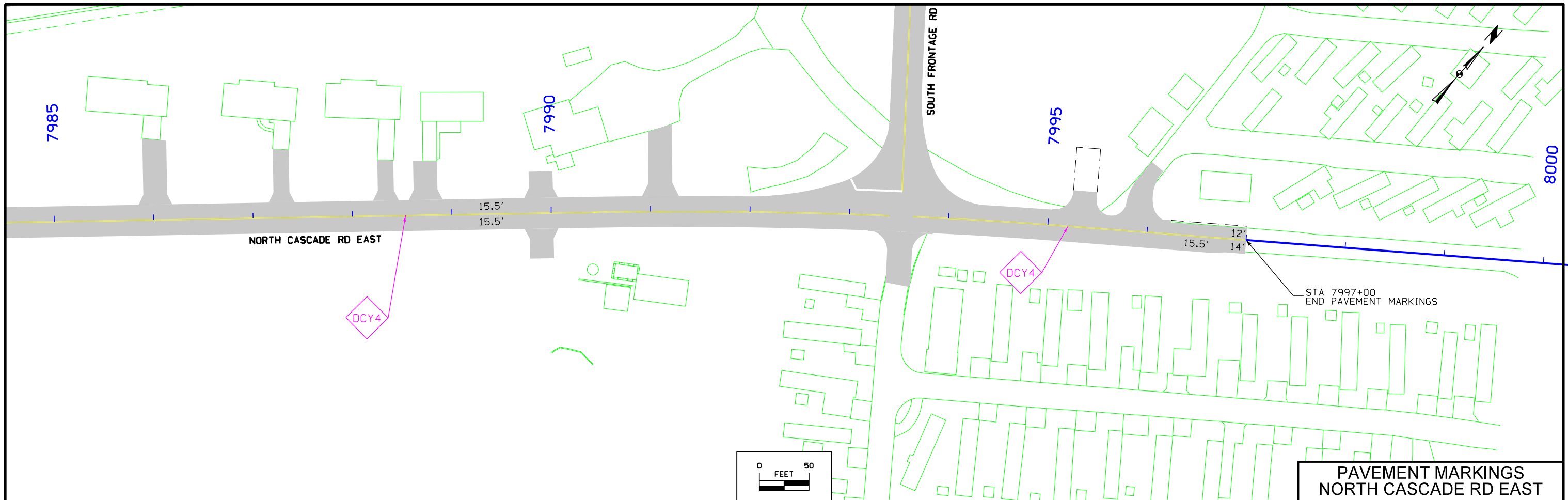
PAVEMENT MARKINGS  
NORTH CASCADE RD EAST

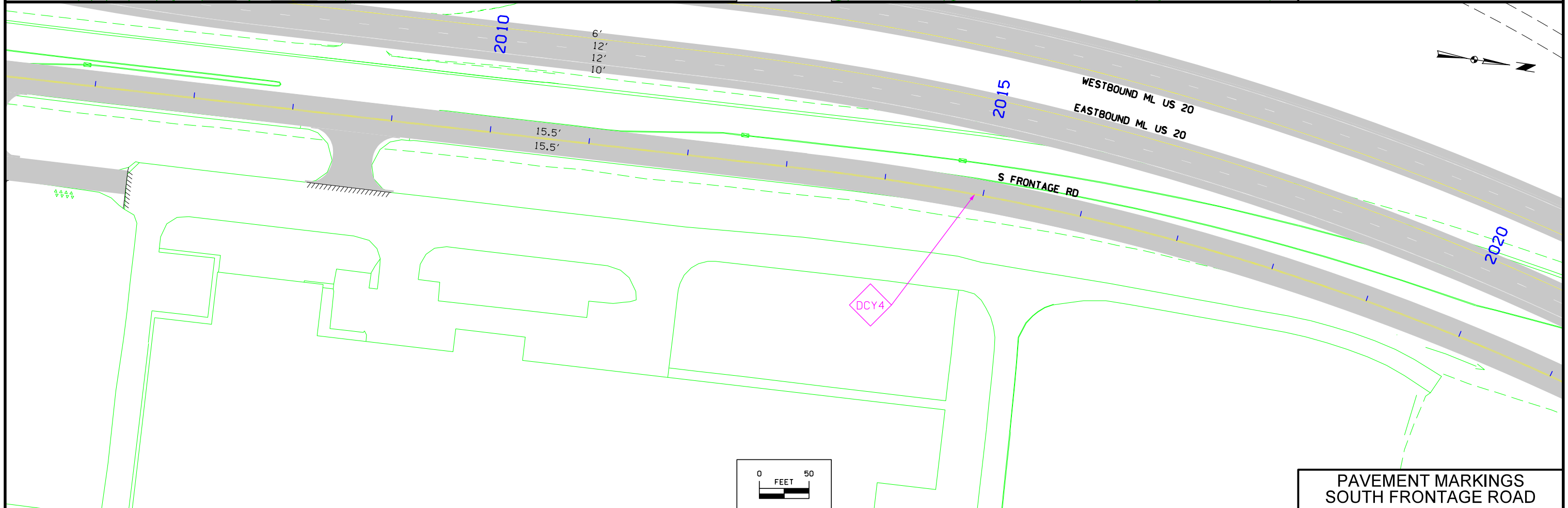
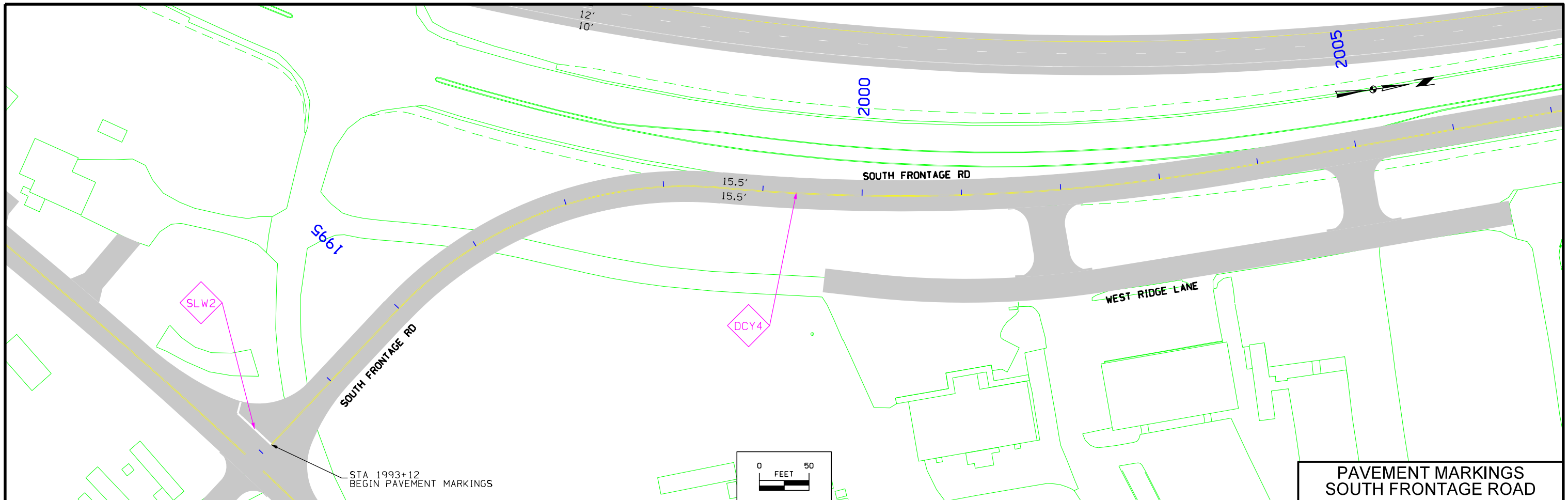


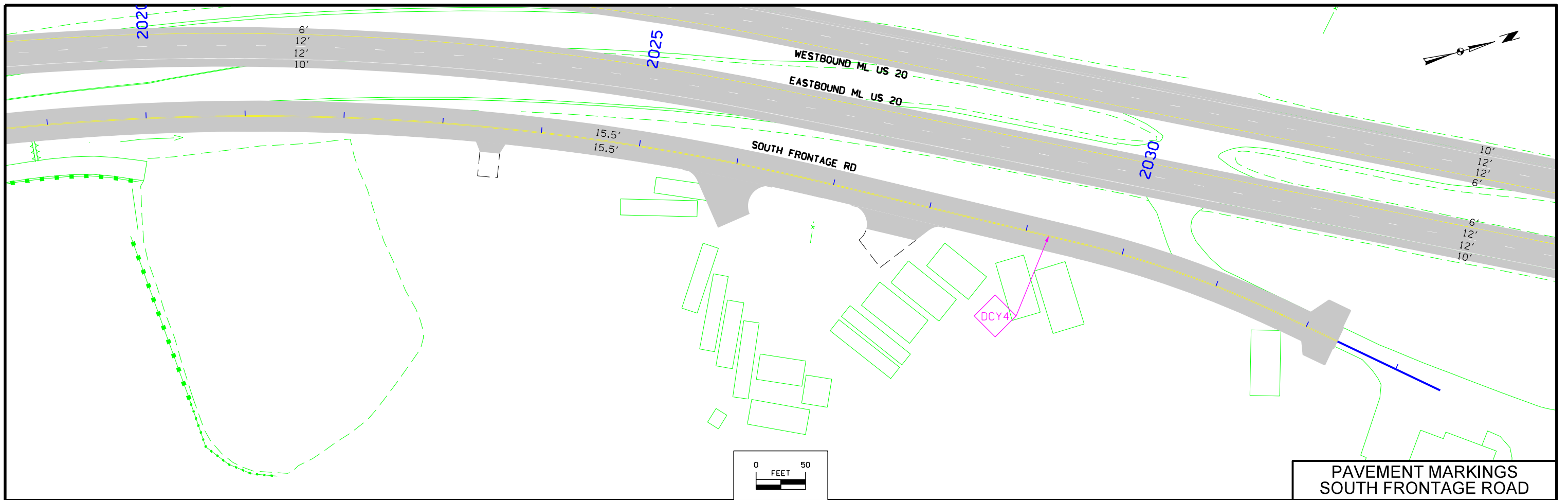
PAVEMENT MARKINGS  
NORTH CASCADE RD EAST

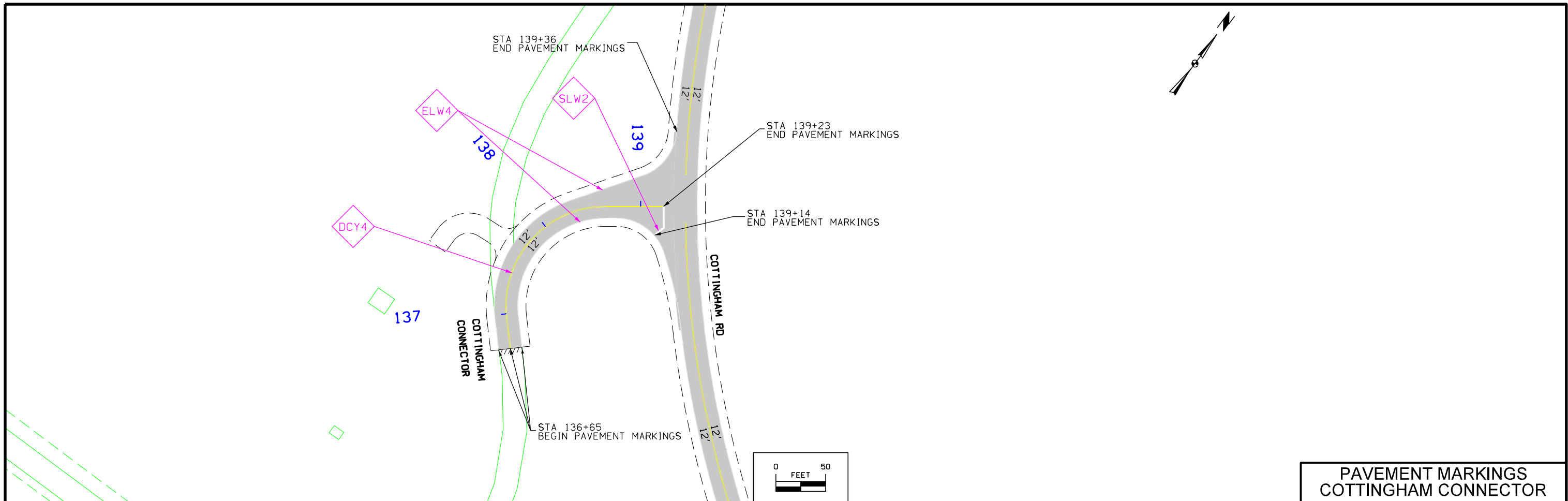
|          |         |             |              |                |                |                        |              |      |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|
| FILE NO. | ENGLISH | DESIGN TEAM | HDR\Iowa DOT | DUBUQUE COUNTY | PROJECT NUMBER | NHSX-020-9(183)--3H-31 | SHEET NUMBER | U.68 |
|----------|---------|-------------|--------------|----------------|----------------|------------------------|--------------|------|





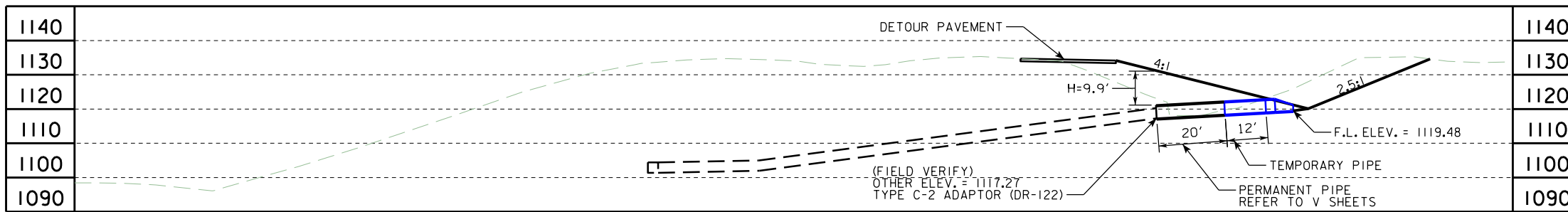




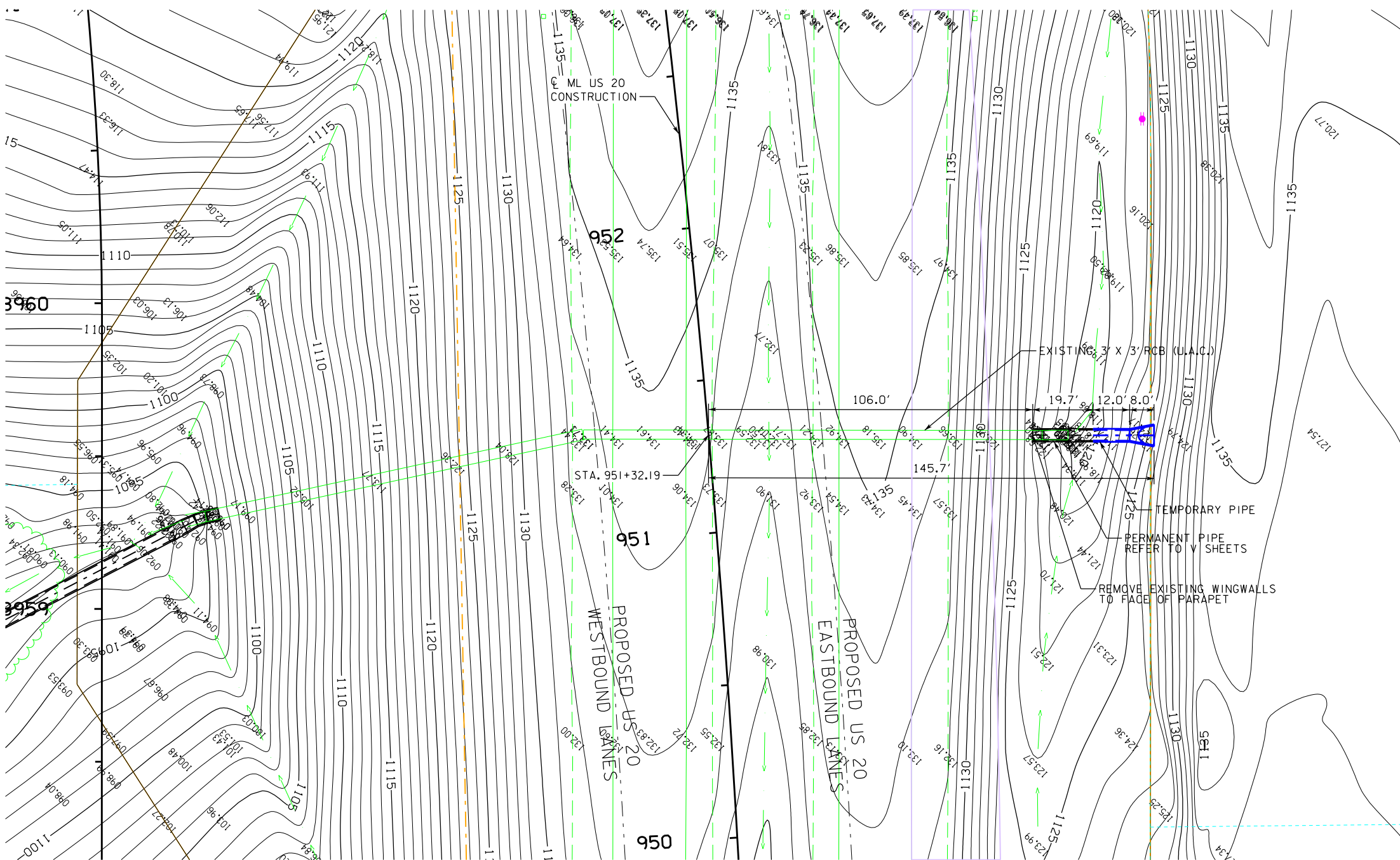


PAVEMENT MARKINGS  
COTTINGHAM CONNECTOR





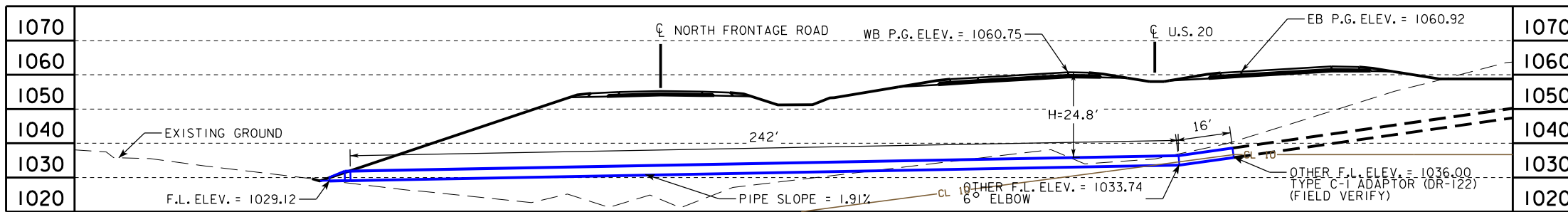
LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



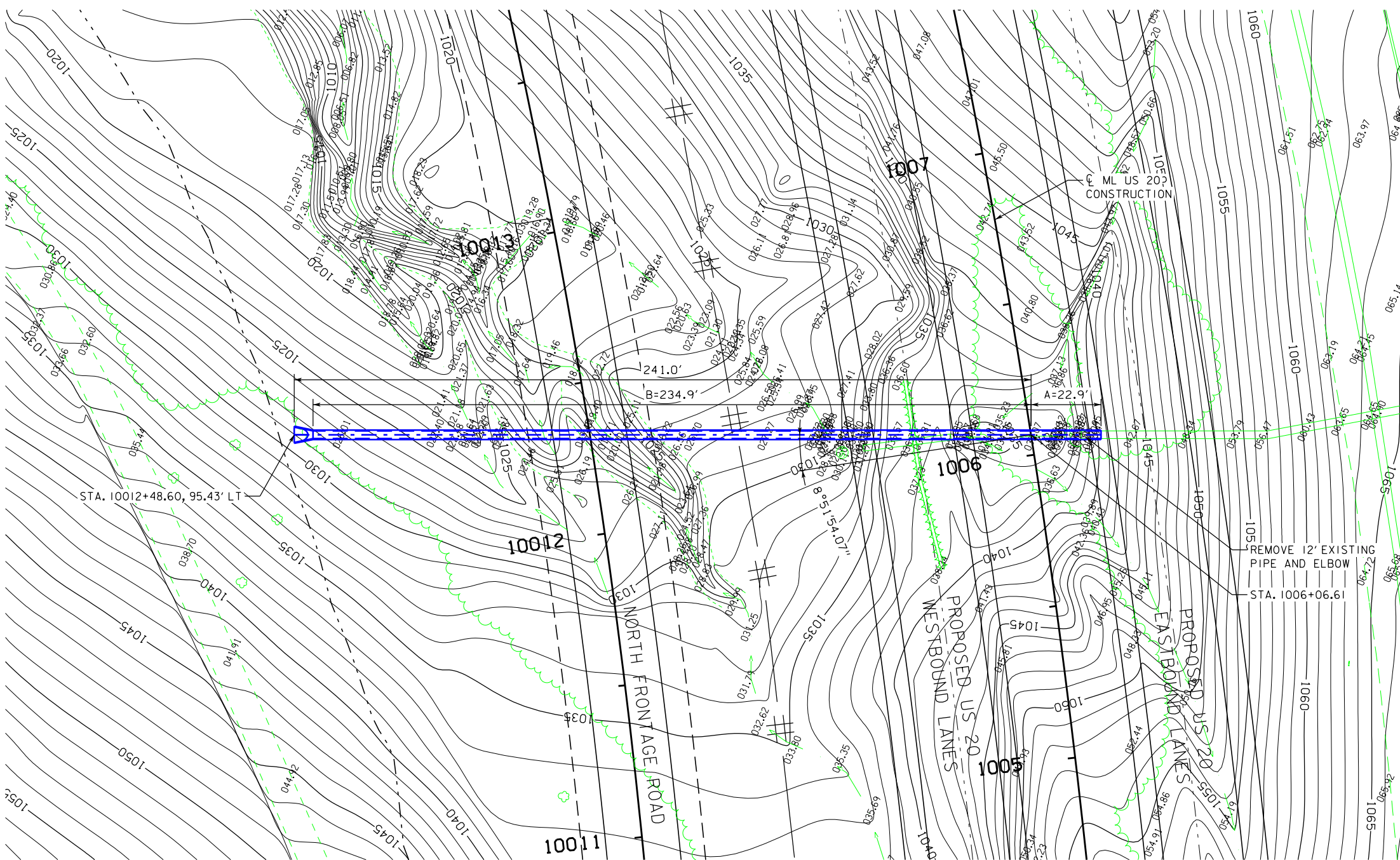
NOTE:  
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.



42 in. x 16 ft.  
REINFORCED CONC. PIPE EXTENSION  
STA. 951+32.19 ( $\phi$  US20)



LONGITUDINAL SECTION ALONG  $\bar{C}$  CULVERT

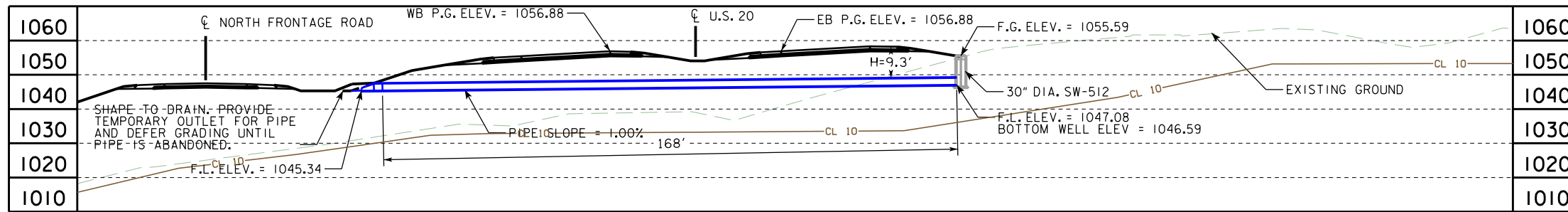


NOTE:  
 ALL DIMENSIONS ARE IN FEET (++) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

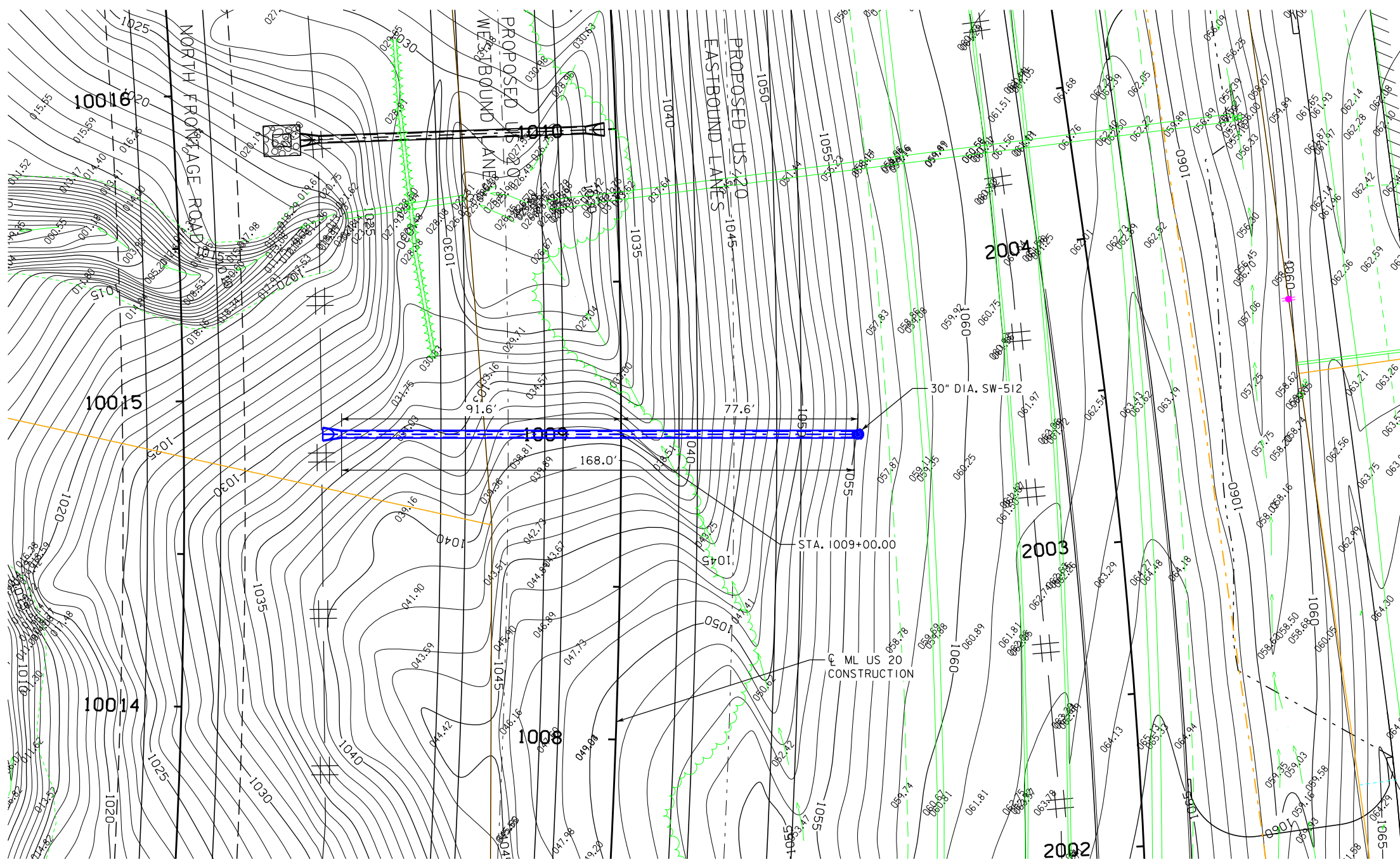


30 in. x 258 ft.  
 REINFORCED CONC. PIPE EXTENSION  
 STA. 1006+06.61 ( $\bar{C}$  US20)

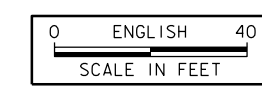




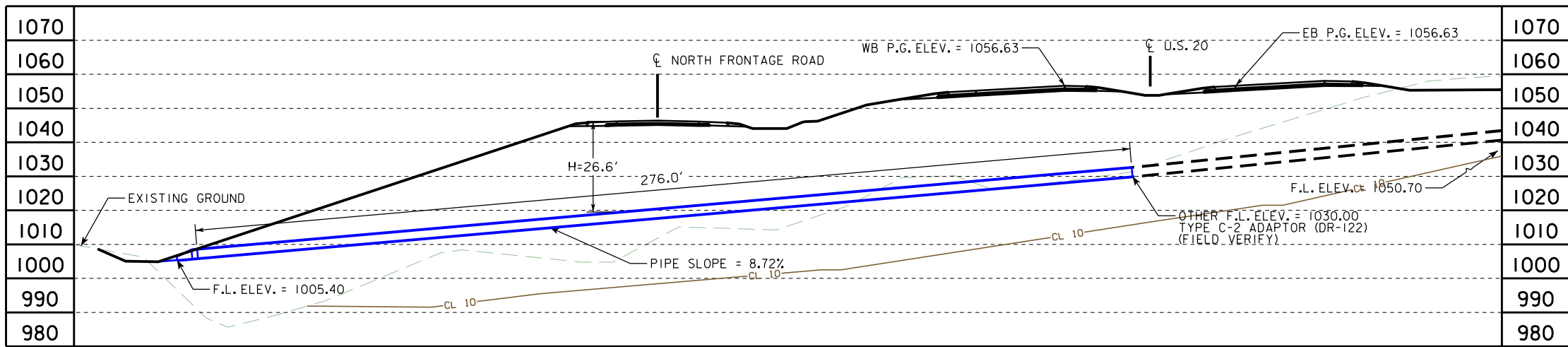
LONGITUDINAL SECTION ALONG  $\bar{C}$  CULVERT



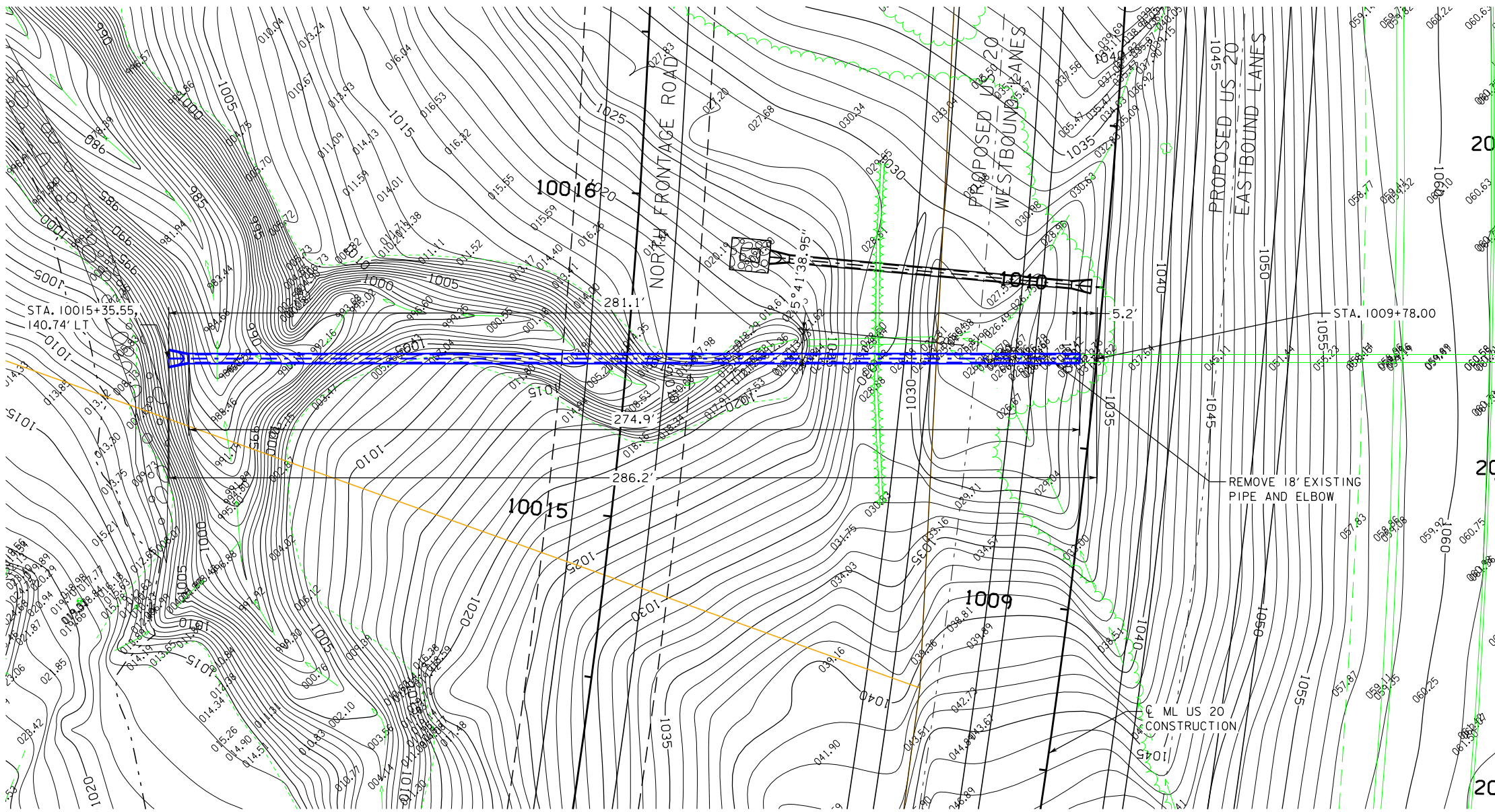
NOTE:  
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.



24 in. x 168 ft.  
REINFORCED CONC. PIPE & INTAKE  
STA. 1009+00 ( $\bar{C}$  US20)



LONGITUDINAL SECTION ALONG CL CULVERT

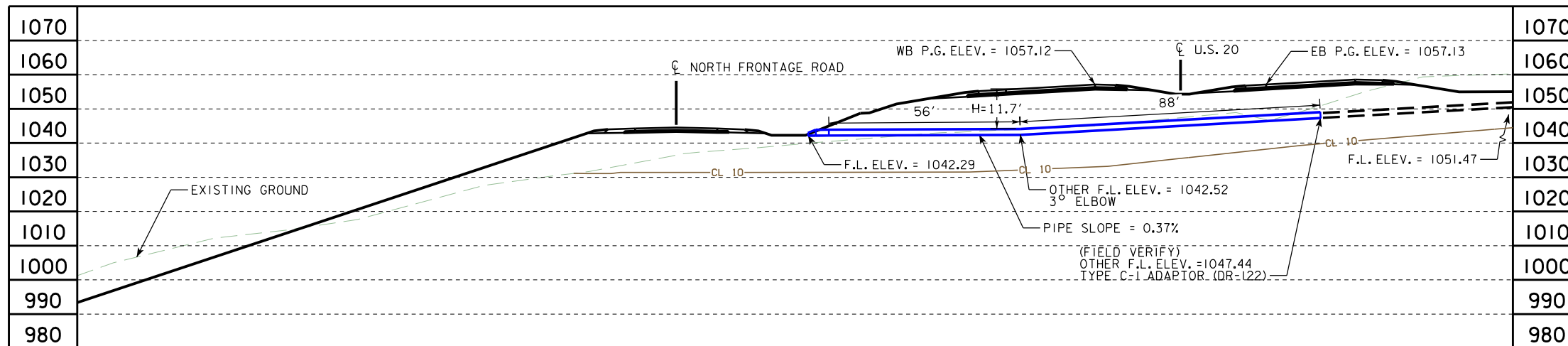


NOTE:  
 ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

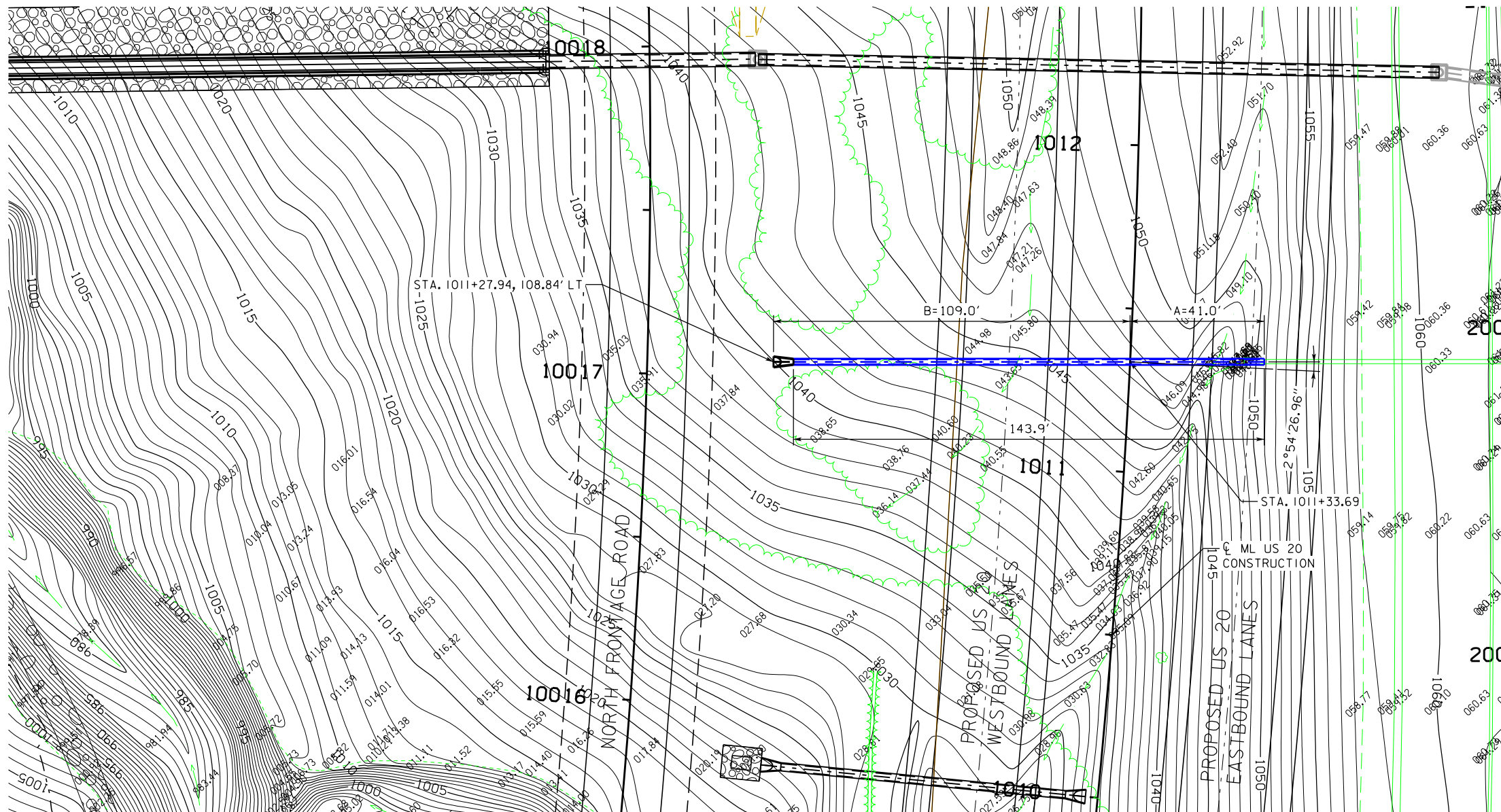


30 in. x 276 ft.  
 REINFORCED CONC. PIPE EXTENSION  
 STA. 1009+78 (CL US20)





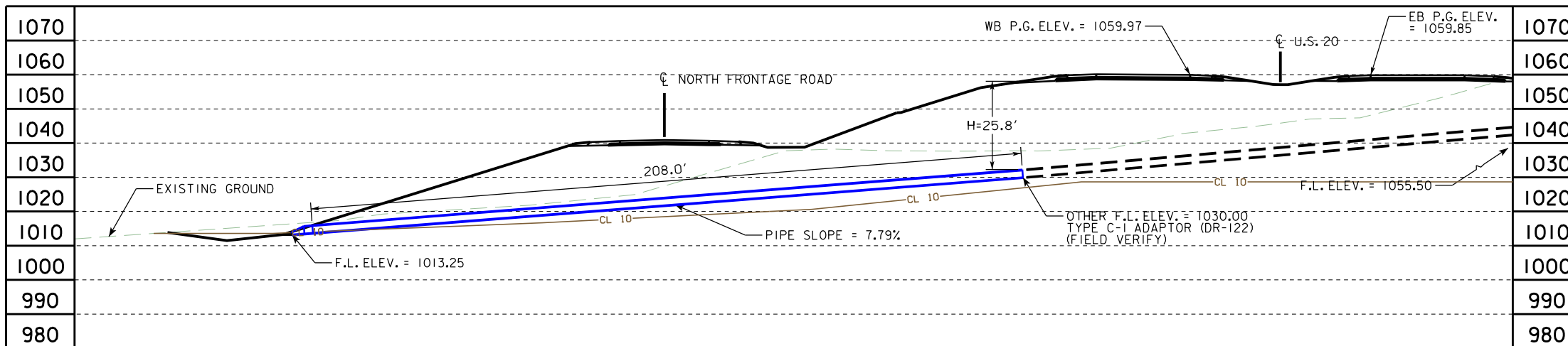
LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



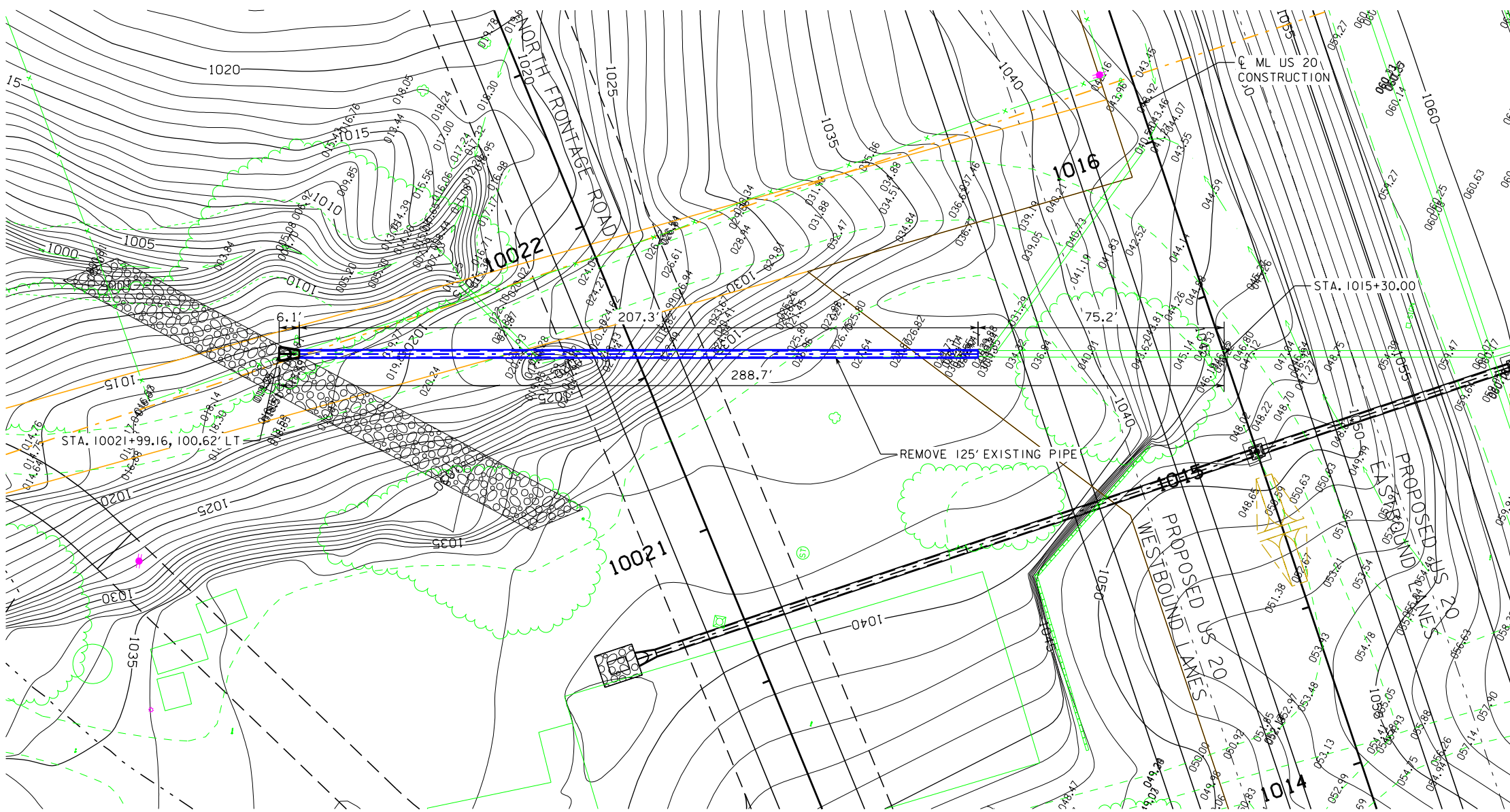
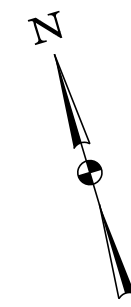
NOTE:  
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

18 in. x 144 ft.  
REINFORCED CONC. PIPE EXTENSION  
STA. 1011+33.69 ( $\phi$  US20)





LONGITUDINAL SECTION ALONG CL CULVERT

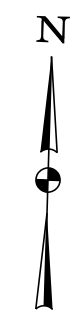
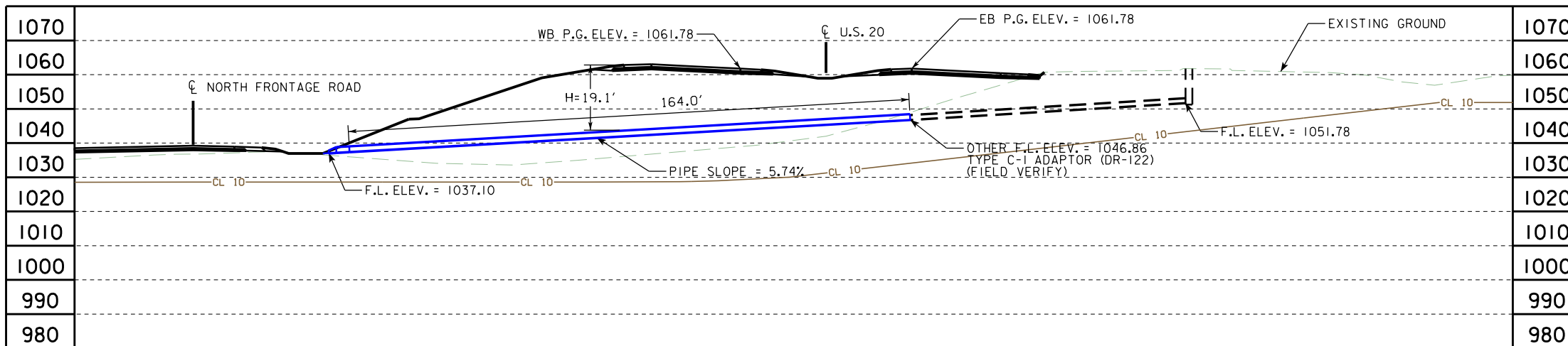


NOTE:  
 ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

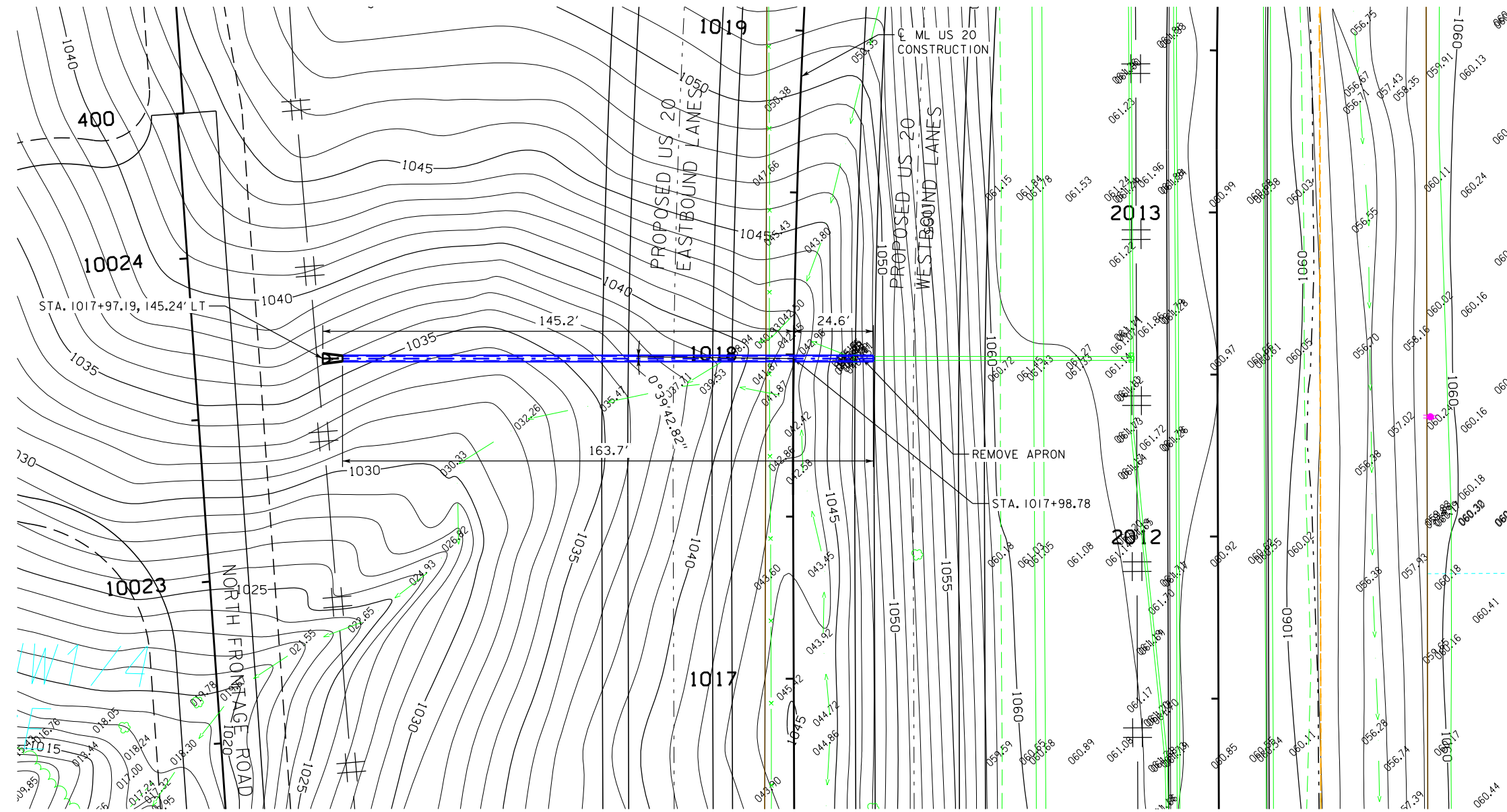


24 in. x 208 ft.  
 REINFORCED CONC. PIPE EXTENSION  
 STA. 1015+30(CL US20)





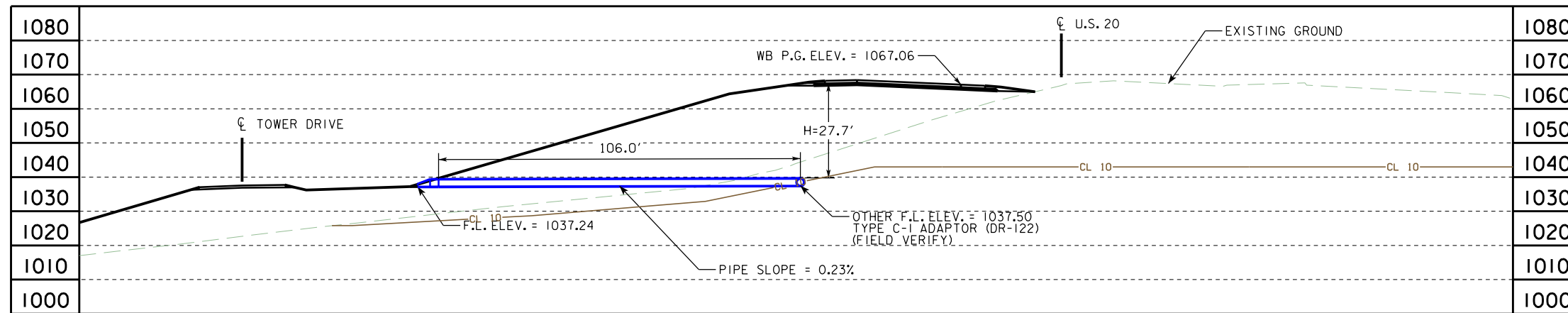
LONGITUDINAL SECTION ALONG CL CULVERT



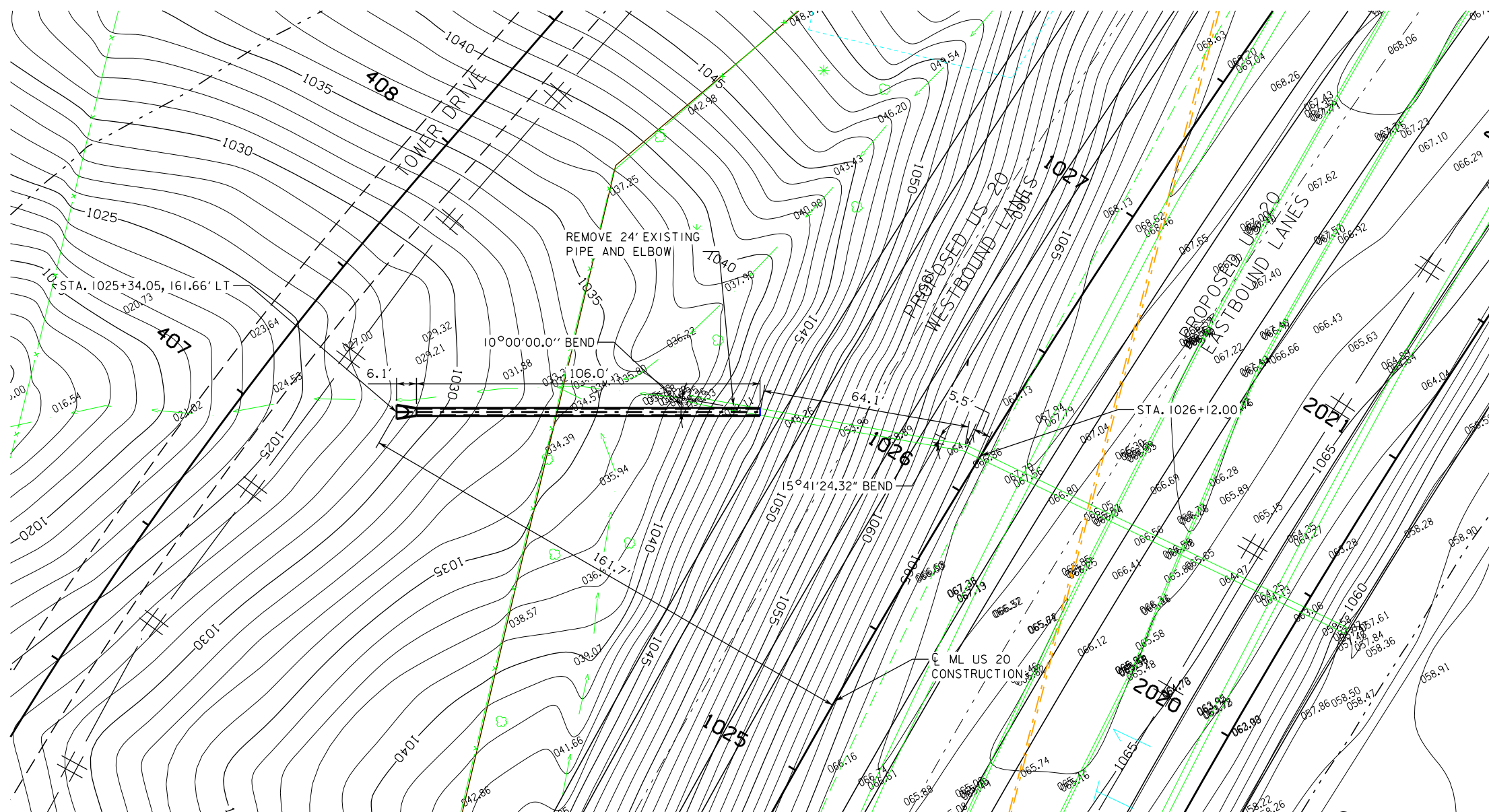
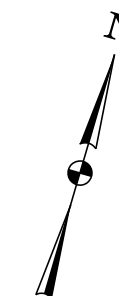
NOTE:  
 ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.



18 in. x 164 ft.  
 REINFORCED CONC. PIPE EXTENSION  
 STA. 1017+98.78 (CL US20)

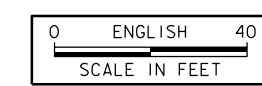


LONGITUDINAL SECTION ALONG CL CULVERT

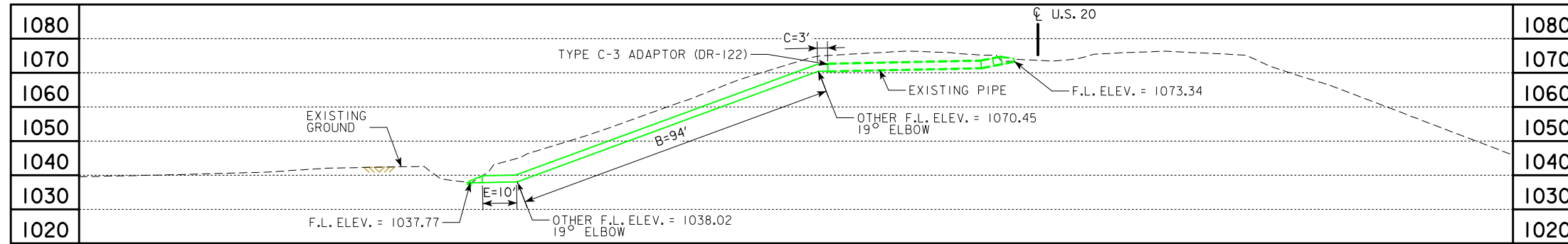


NOTE:  
 ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

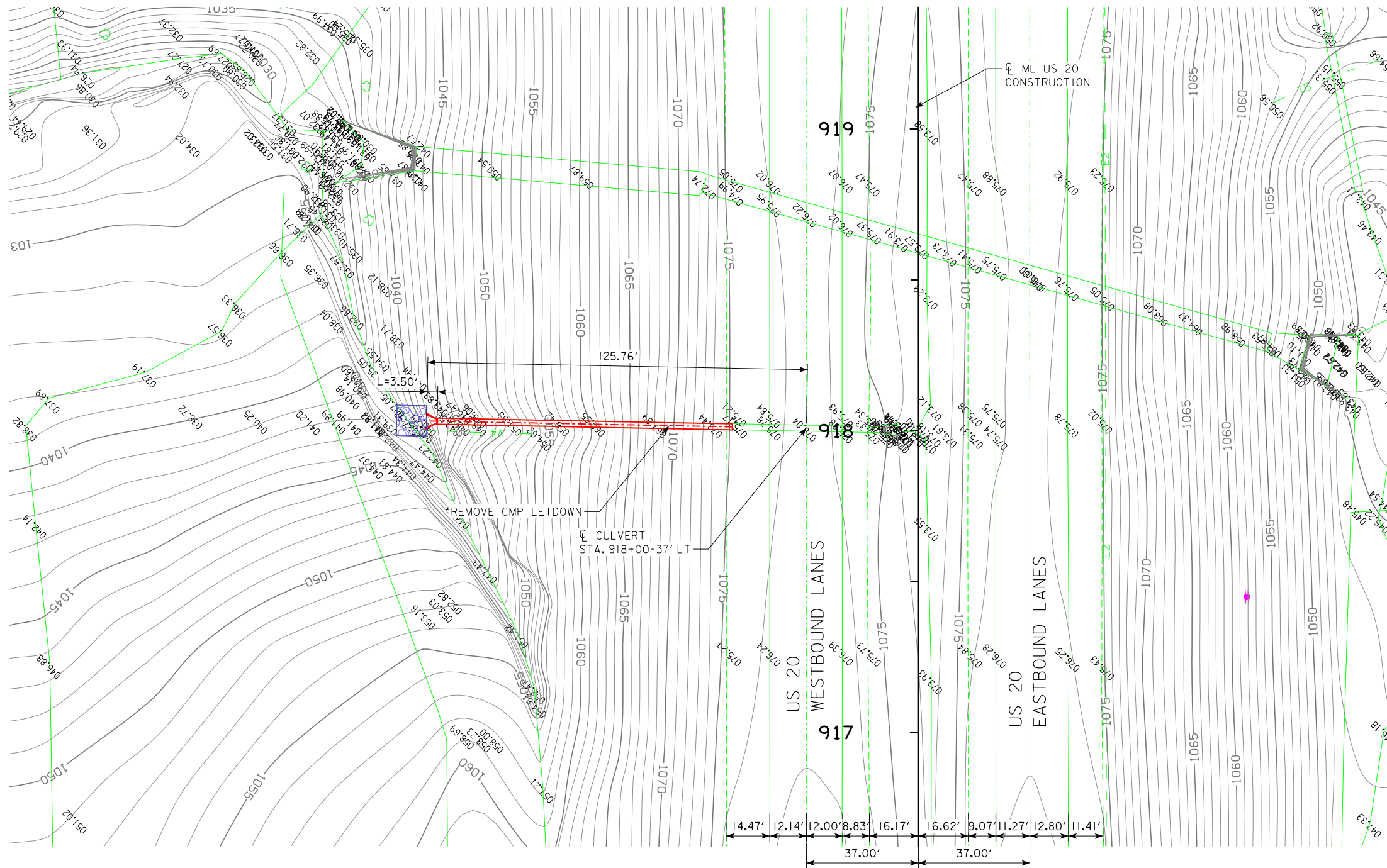
24 in. x 106 ft.  
 REINFORCED CONC. PIPE EXTENSION  
 STA. 1026+12 (CL US20)







LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN



LOCATION

US 20  
T-88 N R-1 E  
SECTION II  
VERNON TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'24.23"N  
LONGITUDE 90°48'22.49"W

QUANTITIES

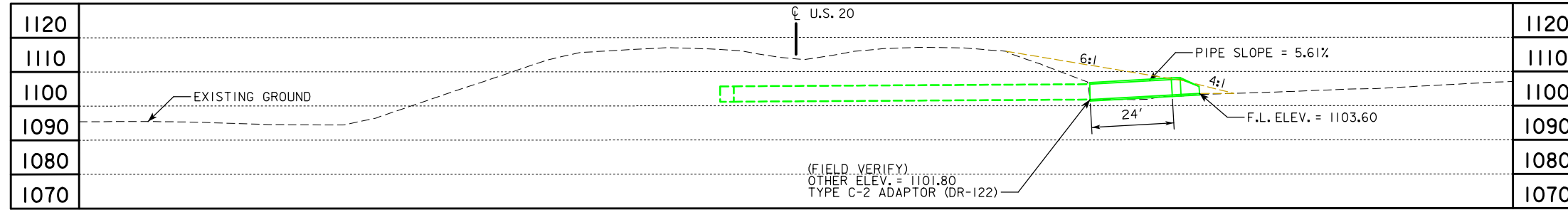
CLASS E REVETMENT: 10.5 TONS  
ENGINEERING FABRIC: 20 S.Y.

NOTE:  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

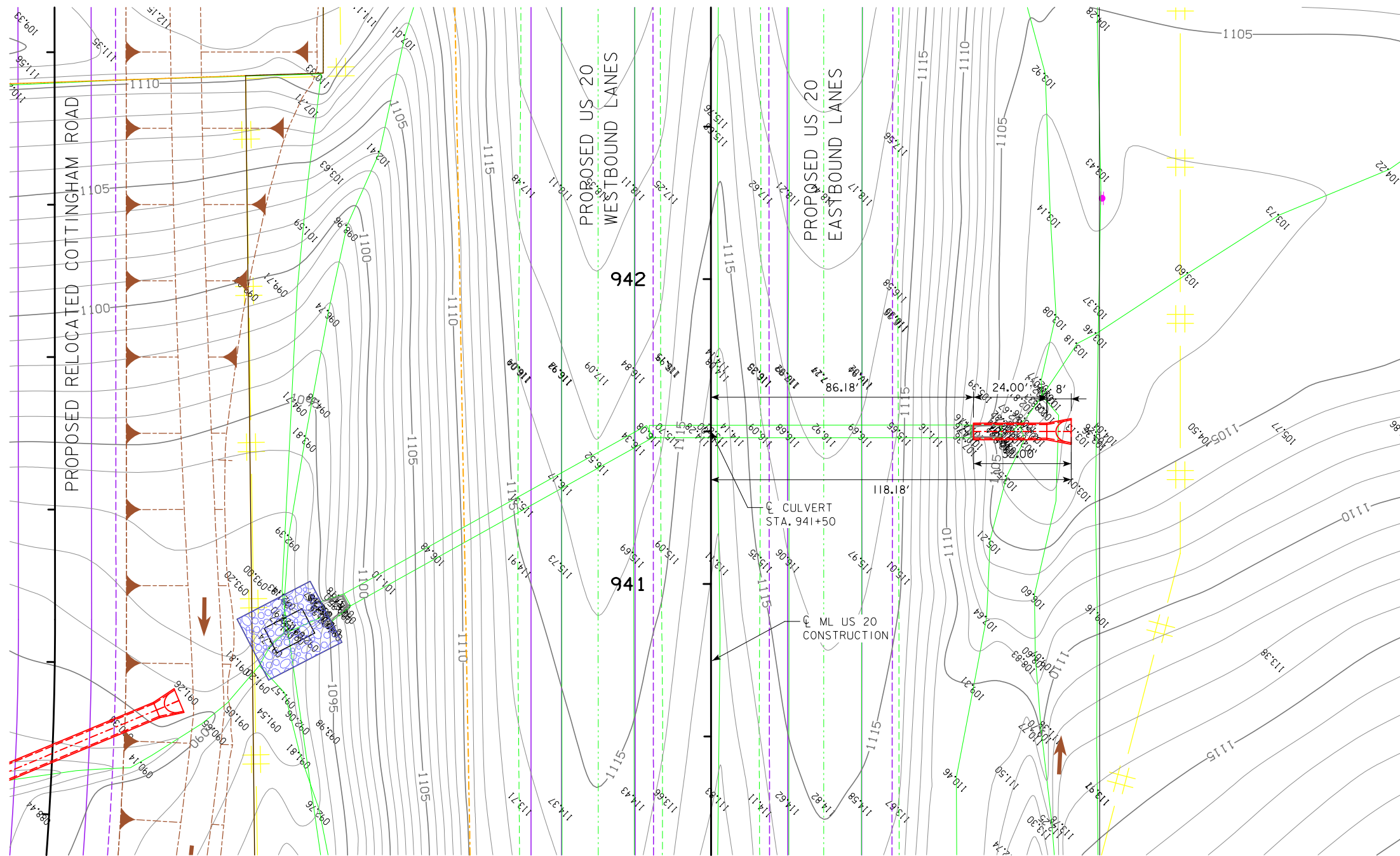
DESIGN FOR A 0° SKEW  
**24 in. x 107 ft.**  
**UNCLASSIFIED LETDOWN PIPE**

**PLAT PLAN**  
STA. 918+00 - 37' LT. ( $\phi$  US20) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_





LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN



**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017 AADT          | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALs | --    |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 13  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'23.19"N  
 LONGITUDE 90°47'51.19"W

**HYDRAULIC DATA**

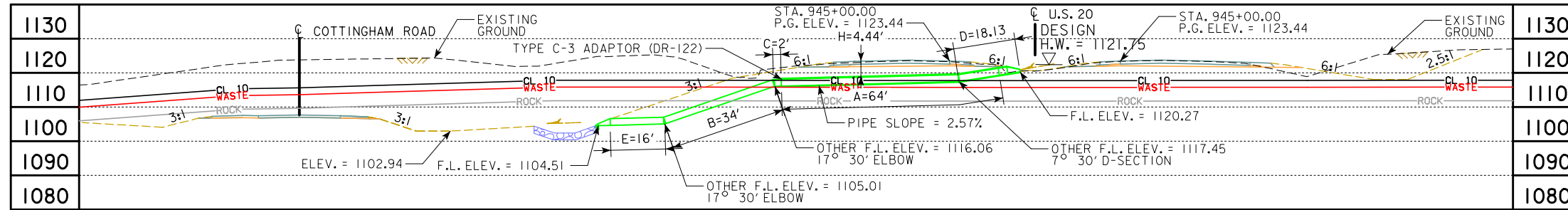
DRAINAGE AREA = 53 ACRES - HILLY  
 Q<sub>50</sub> = 123 CFS  
 HW ELEV. = 1109.00

NOTE:  
 ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

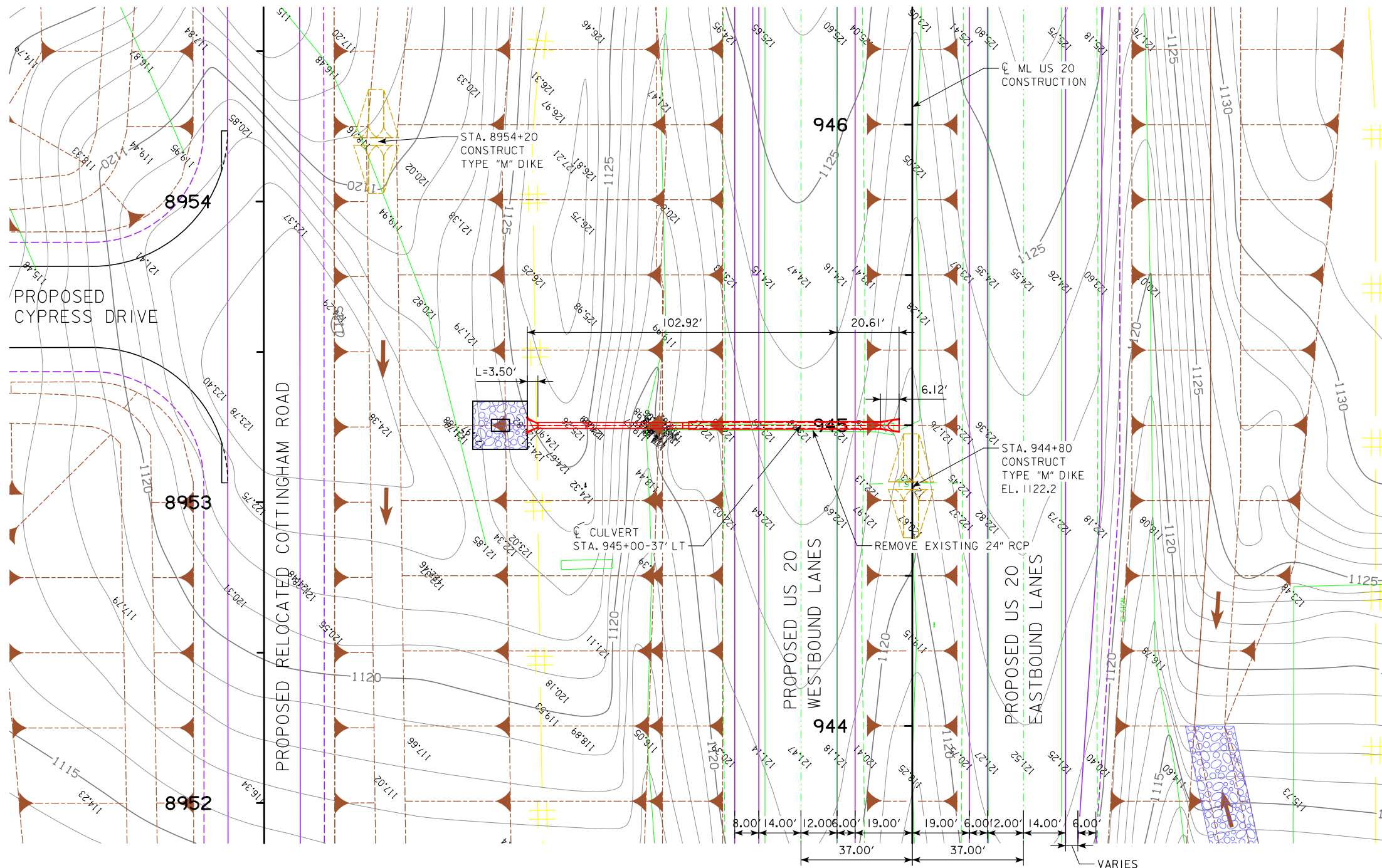
DESIGN FOR A 0° SKEW  
**54 in. x 24 ft. EXT. RIGHT REINFORCED CONCRETE PIPE**

**PLAT PLAN**  
 STA. 941+50.00 (CL US20) MAY, 2019  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_

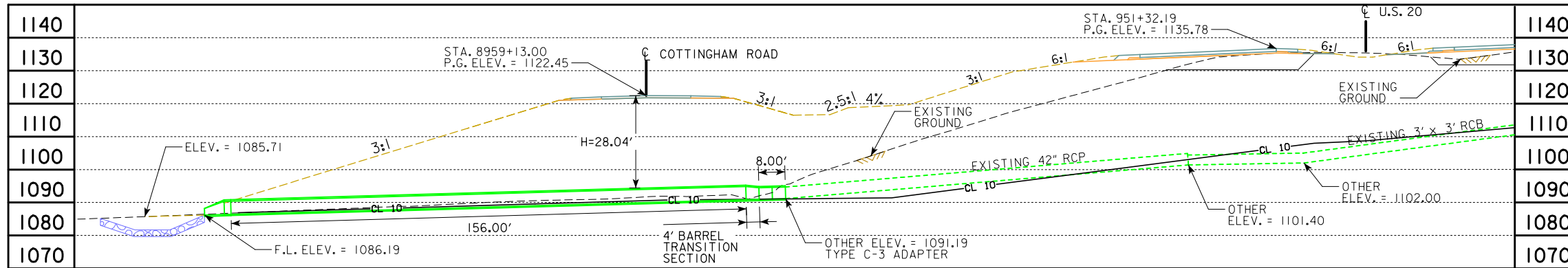




LONGITUDINAL SECTION ALONG  $\bar{C}$  CULVERT







LONGITUDINAL SECTION AT CULVERT INVERTS



**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017AADT           | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALS | --    |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'23.07"N  
 LONGITUDE 90°47'38.12"W

**HYDRAULIC DATA**

DRAINAGE AREA = 12.0 ACRES - HILLY  
 Q<sub>50</sub> = 39 CFS

SCOUR HOLE: A=28, C=31.5, D=2, E=3.5, F=3.5  
 (SEE U SHEETS FOR DETAILS)

**QUANTITIES**

CLASS E REVETMENT: 97.2 TONS  
 ENGINEERING FABRIC: 103 SQ. YDS.

NOTE:  
 ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

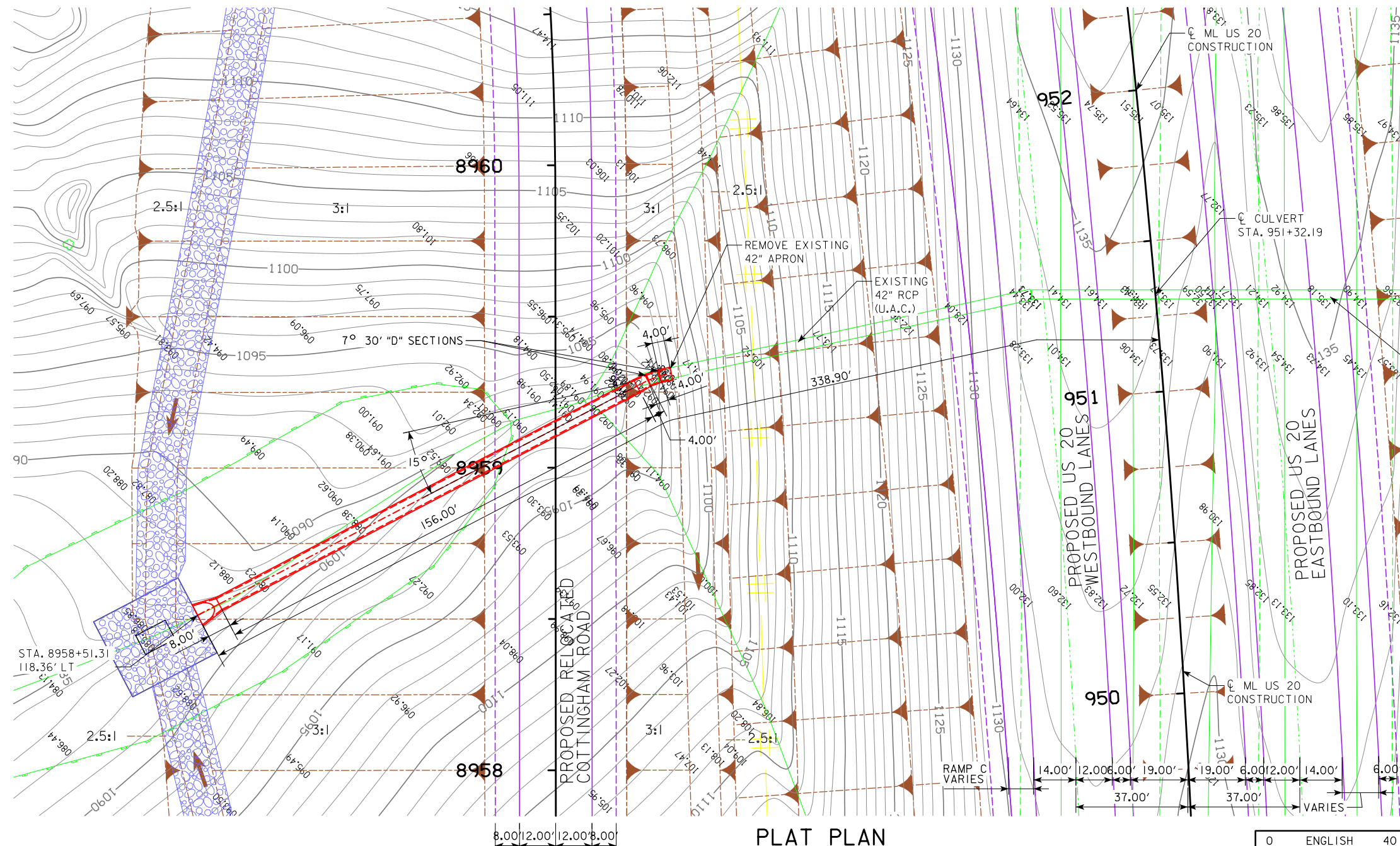
DESIGN FOR A 15° LEFT EXTENSION SKEW

**42 in. x 12 ft. & 48 in. x 156 ft.  
 EXTENSION LEFT  
 REINFORCED CONCRETE PIPE  
 PLAT PLAN**

STA. 951+32.19 LEFT (CL US20) MAY, 2019

**DUBUQUE COUNTY**

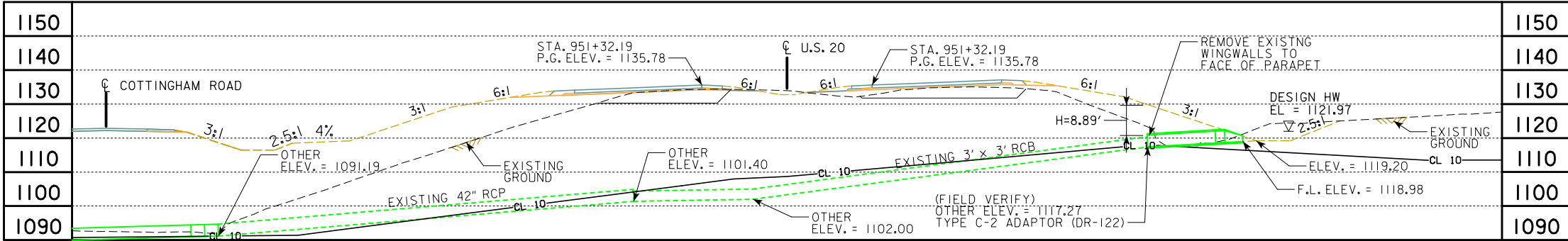
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.



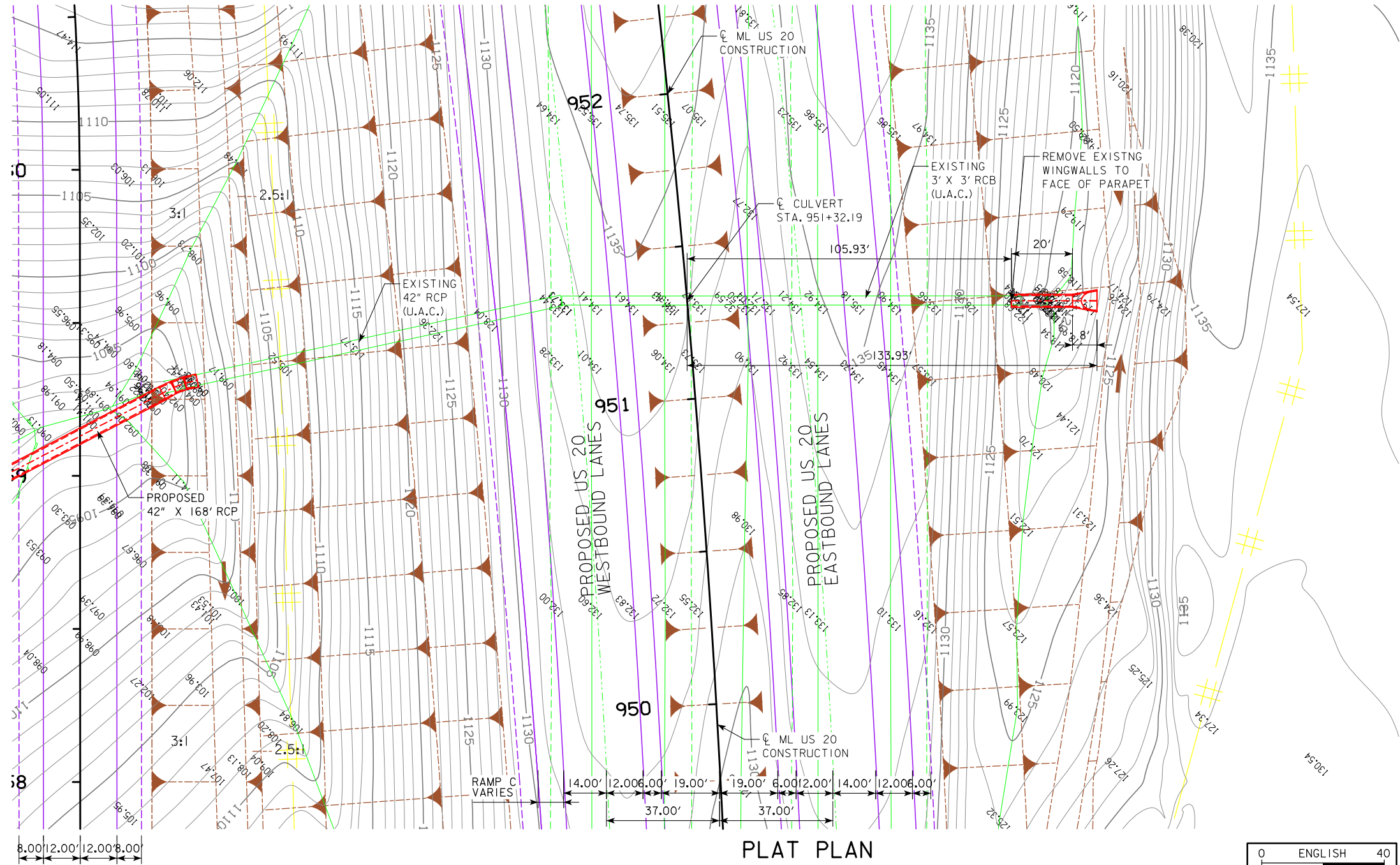
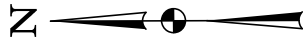
PLAT PLAN







LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017 AADT          | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALS | --    |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 13  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'23.07"N  
 LONGITUDE 90°47'38.12"W

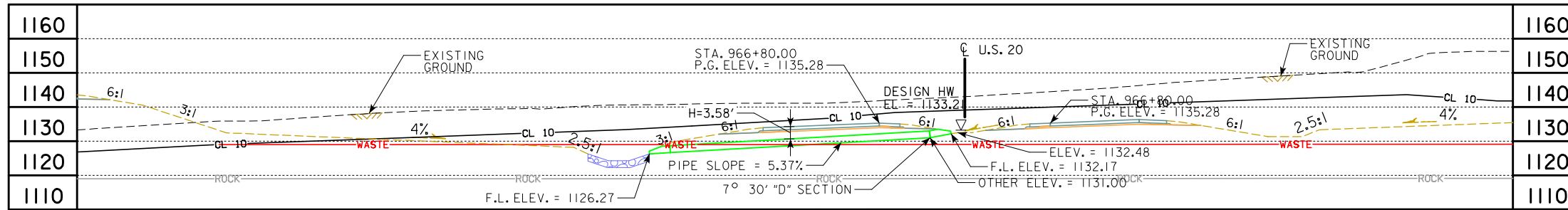
**HYDRAULIC DATA**

DRAINAGE AREA = 12.0 ACRES - HILLY  
 Q<sub>50</sub> = 39 CFS  
 HW ELEV. = 1121.97

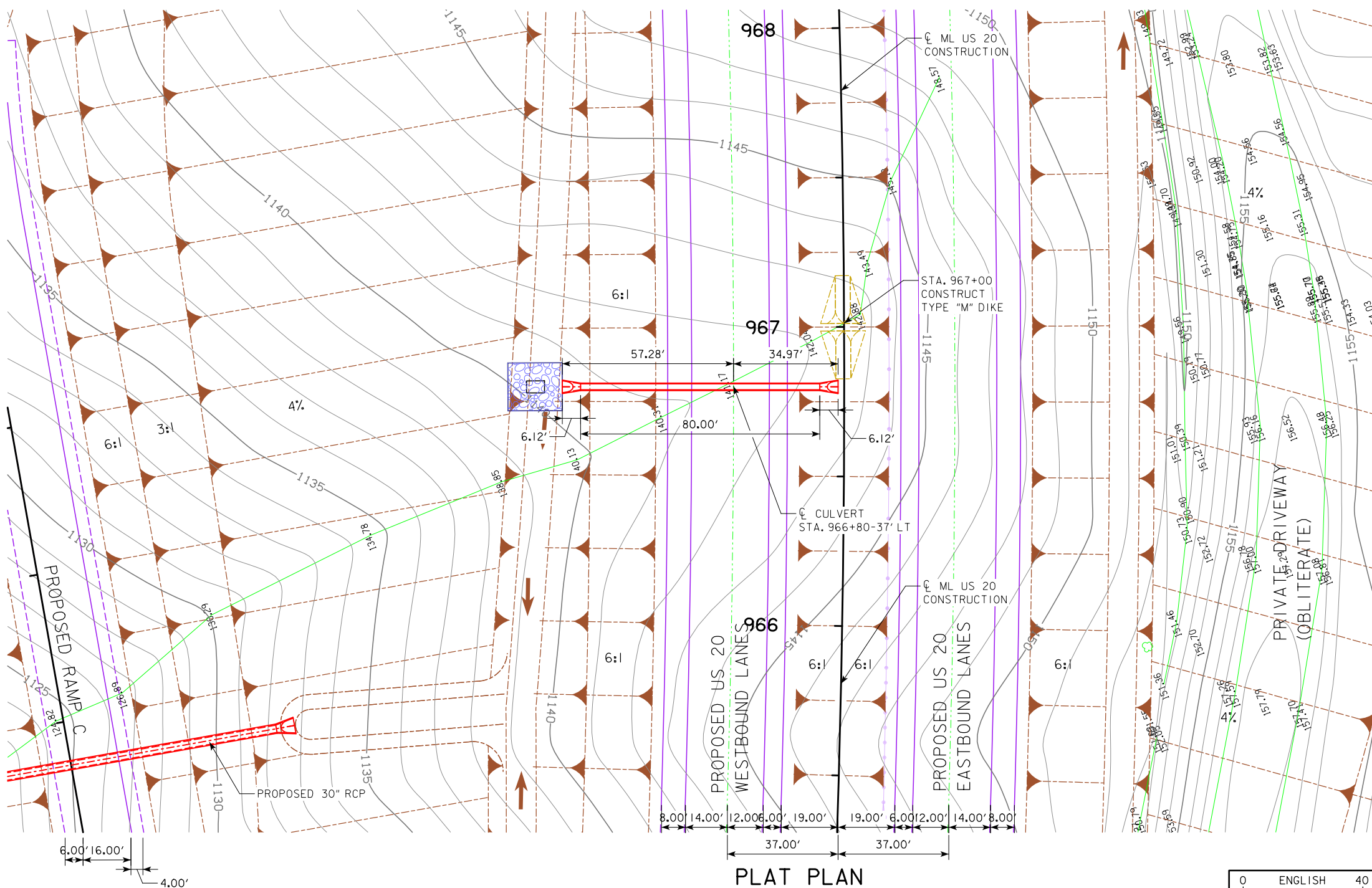
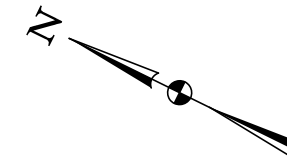
NOTE:  
 ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0°  
**42 in. x 20 ft. EXT. RIGHT REINFORCED CONCRETE PIPE**  
**PLAT PLAN**  
 STA. 951+32.19 RIGHT (C US20) MAY, 2019  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_





LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017 AADT          | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALS | --    |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'26.47"N  
 LONGITUDE 90°47'18.10"W

**HYDRAULIC DATA**

DRAINAGE AREA = 1.4 ACRES - ROLLING  
 Q<sub>50</sub> = 5 CFS  
 HW ELEV. = 1133.21

SCOUR HOLE: A=16, C=18, D=2, E=2, F=2  
 (SEE U SHEET FOR DETAILS)

**QUANTITIES**

CLASS E REVETMENT: 31.7 TONS  
 ENGINEERING FABRIC: 34 SQ.YDS

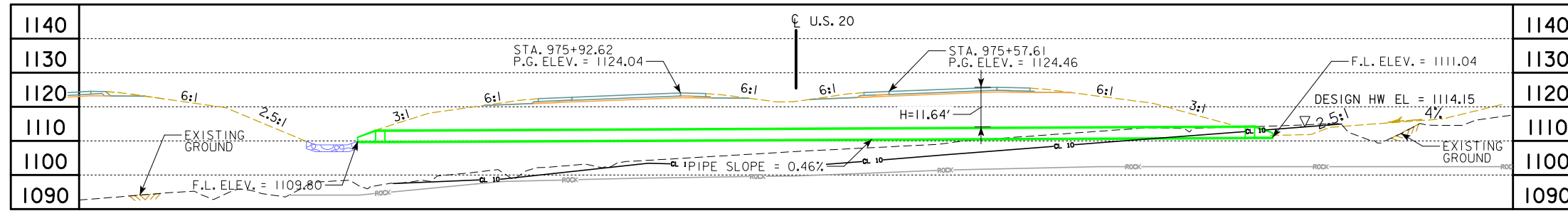
NOTE:  
 ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0° SKEW  
**24 in. x 80 ft.**  
**REINFORCED CONCRETE PIPE**

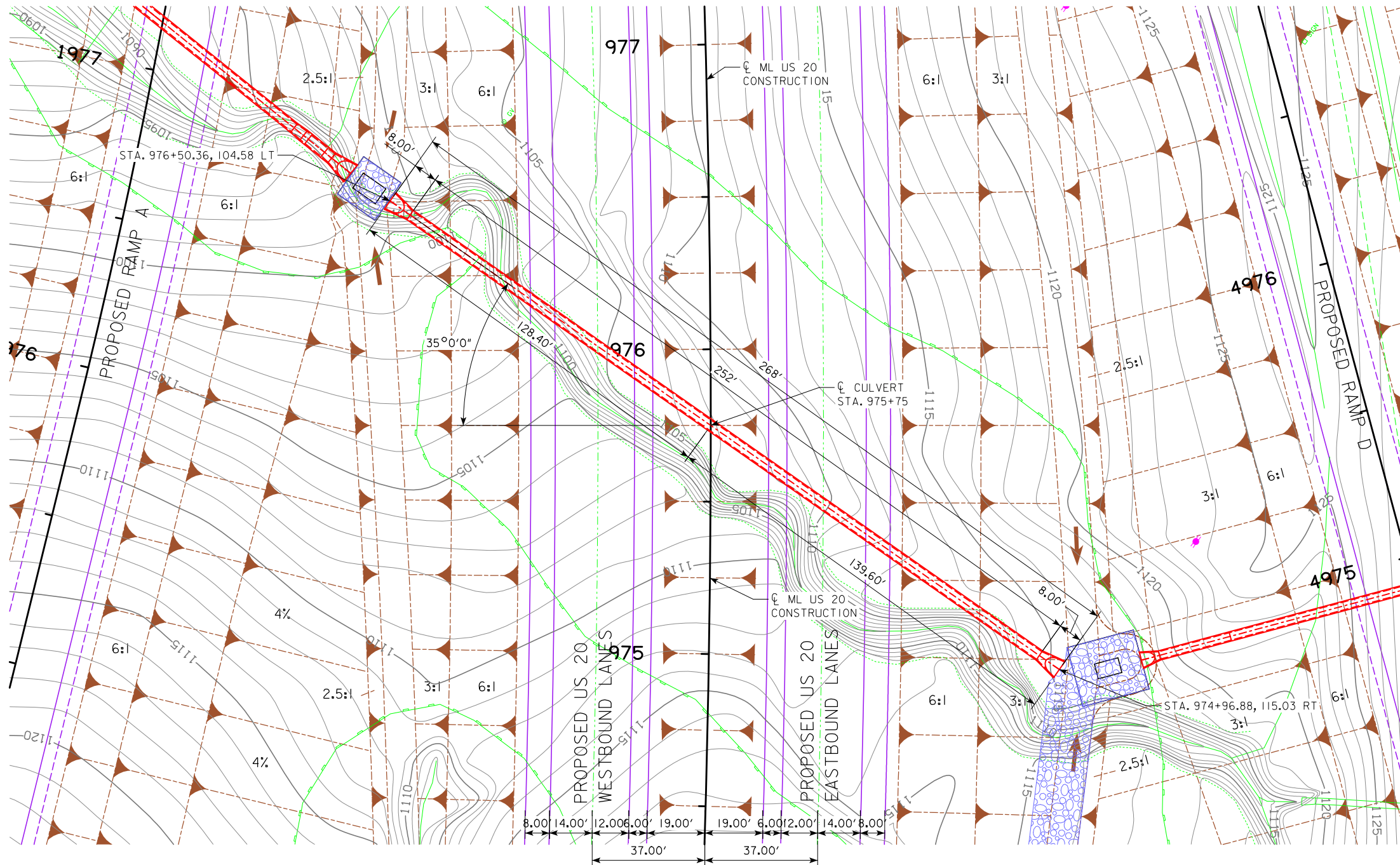
**PLAT PLAN**  
 STA. 966+80 - 37' LT. (CL US20) MAY, 2019  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.







LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017 AADT          | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALS | --    |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'30.64"N  
 LONGITUDE 90°47'7.54"W

**HYDRAULIC DATA**

DRAINAGE AREA = 16.0 ACRES - ROLLING  
 $Q_{50} = 37$  CFS  
 HW ELEV. = 1114.15

SCOUR HOLE: A=15', C=15', D=2', E=3', F=1'  
 (SEE U SHEETS FOR DETAIL)

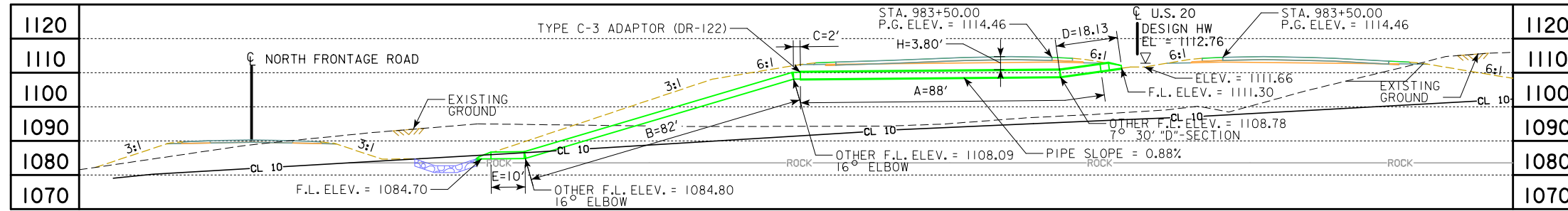
**QUANTITIES**

CLASS E REVETMENT: 20.6 TONS  
 ENGINEERING FABRIC: 22 SQ.YDS.

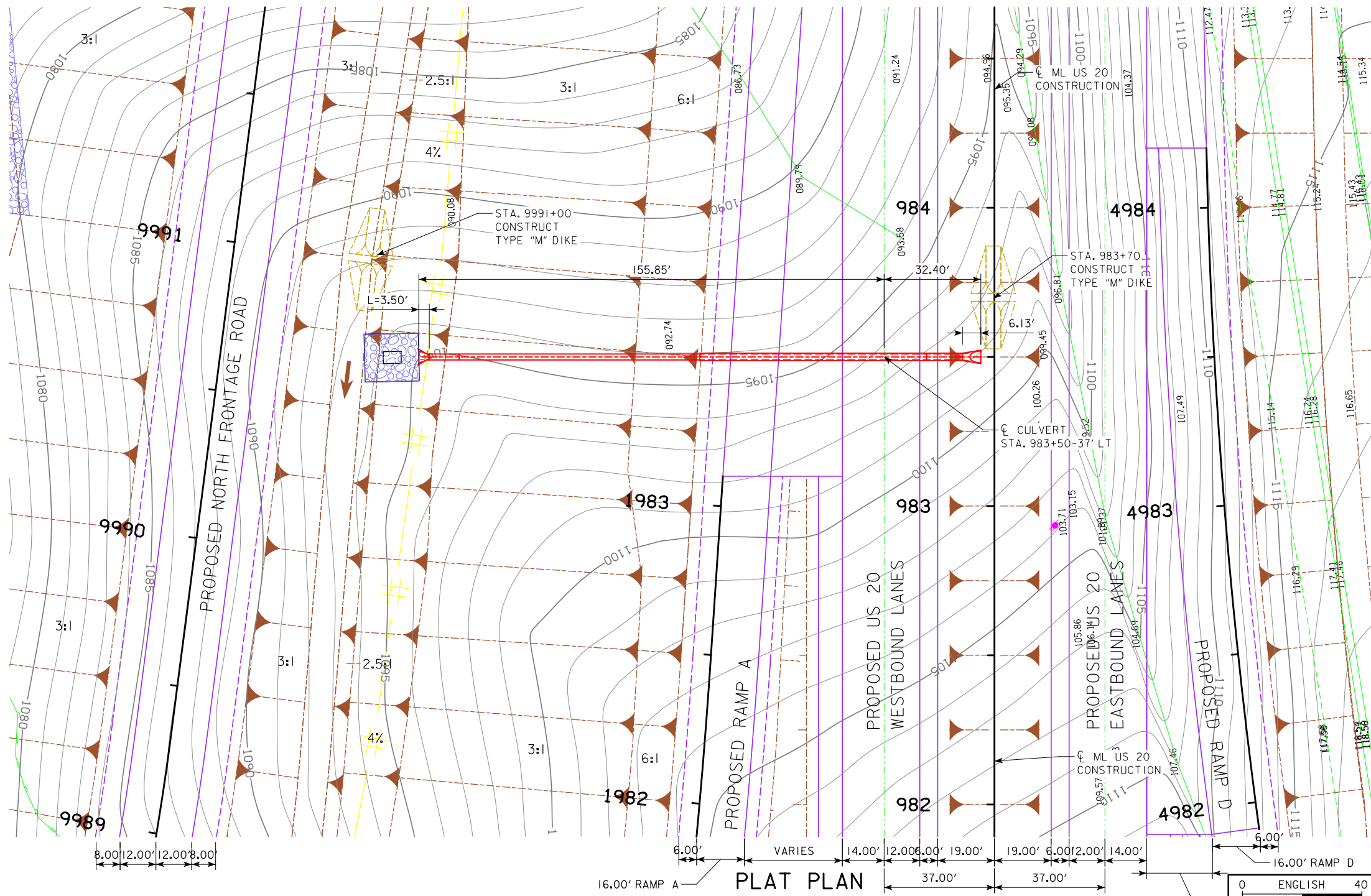
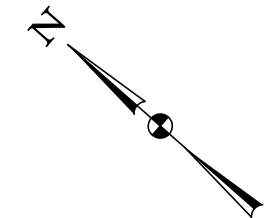
NOTE:  
 ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 35° SKEW LT. AHD.  
**36 in. x 252 ft.**  
**REINFORCED CONCRETE PIPE**

**PLAT PLAN**  
 STA. 975+75 (CL US20) MAY, 2019  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG CULVERT



**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017 AADT          | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALs | --    |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'35.58"N  
 LONGITUDE 90°46'59.70"W

**HYDRAULIC DATA**

DRAINAGE AREA = 2.8 ACRES - ROLLING  
 Q<sub>50</sub> = 9 CFS  
 HW ELEV. = 1112.76

SCOUR HOLE: A=16', C=18', D=2', E=2', F=2'  
 (SEE U SHEETS FOR DETAIL)

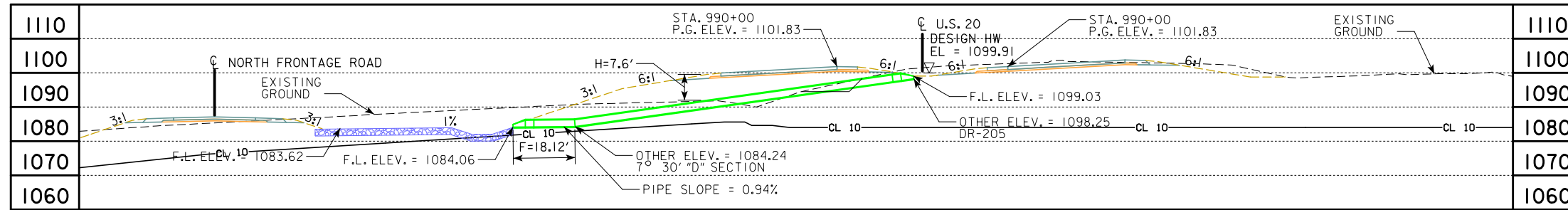
**QUANTITIES**

CLASS E REVETMENT: 31.7 TONS  
 ENGINEERING FABRIC: 34 SQ.YDS.

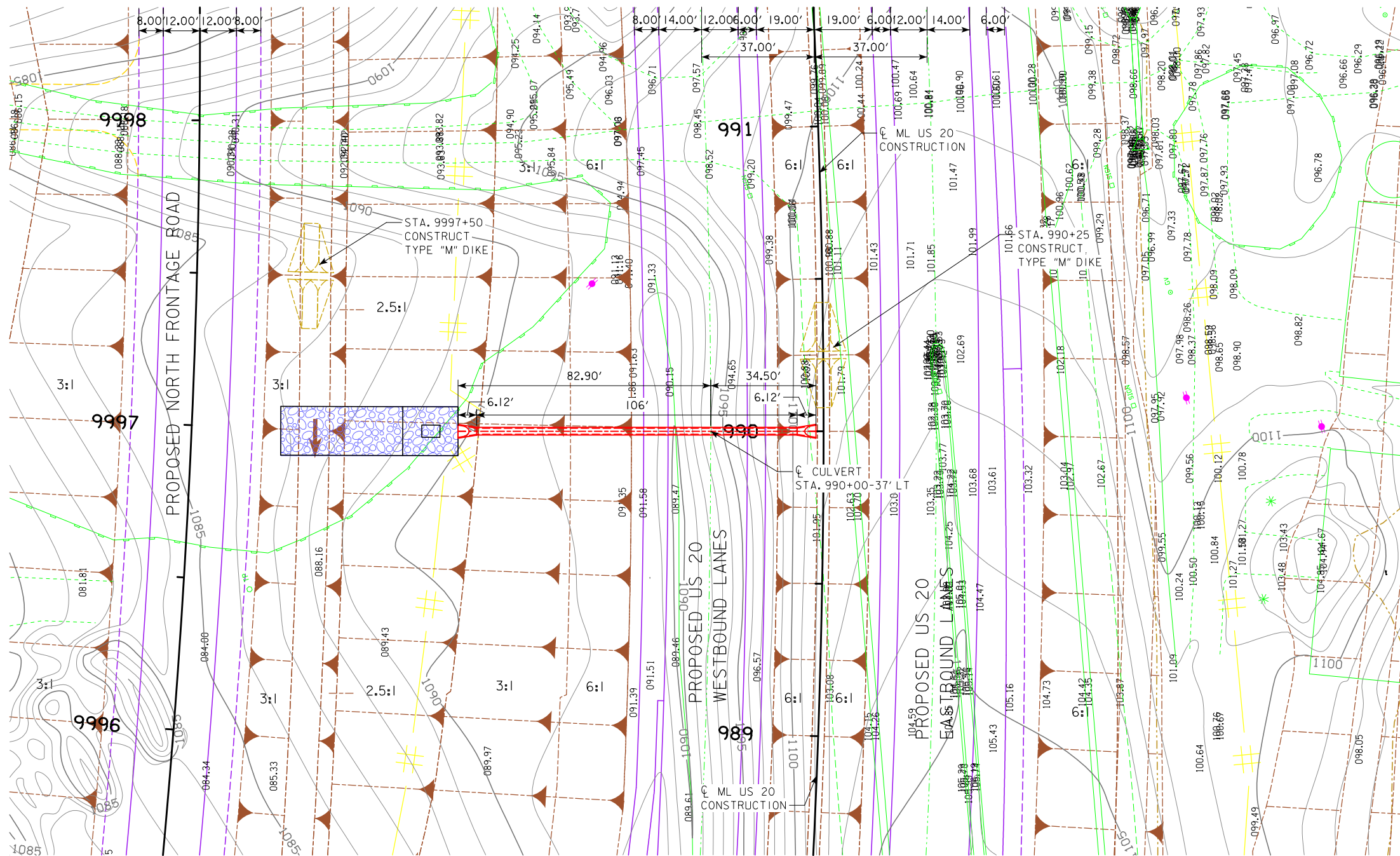
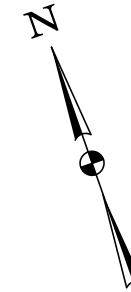
NOTE:  
 ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0° SKEW  
**24 in. x 182 ft.**  
**REINFORCED CONC. & UNCLASSIFIED**  
**LETDOWN PIPE**  
**PLAT PLAN**  
 STA. 983+50 - 37' LT. (C US20)  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_





LONGITUDINAL SECTION ALONG CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017 AADT          | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALS | --    |        |

**LOCATION**

US 20  
T-88 N R-2 E  
SECTION 7  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'39.71"N  
LONGITUDE 90°46'53.10"W

**HYDRAULIC DATA**

DRAINAGE AREA = 1.0 ACRES - ROLLING  
Q<sub>50</sub> = 4 CFS  
HW ELEV. = 1099.91

SCOUR HOLE: A=16, C=18, D=2, E=2, F=2  
(SEE U SHEETS FOR DETAIL)

ADD 16' WIDE BY 40' LONG  
EXTENDED REVETMENT APRON

**QUANTITIES**

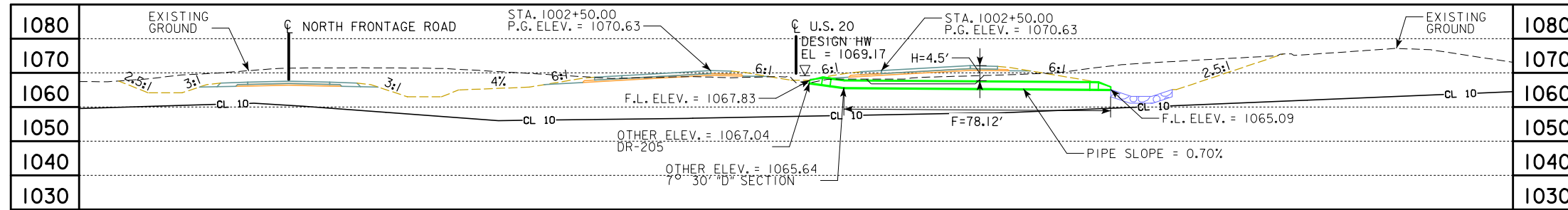
CLASS E REVETMENT: 99 TONS  
ENGINEERING FABRIC: 105 SQ. YDS.

**NOTE:**  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

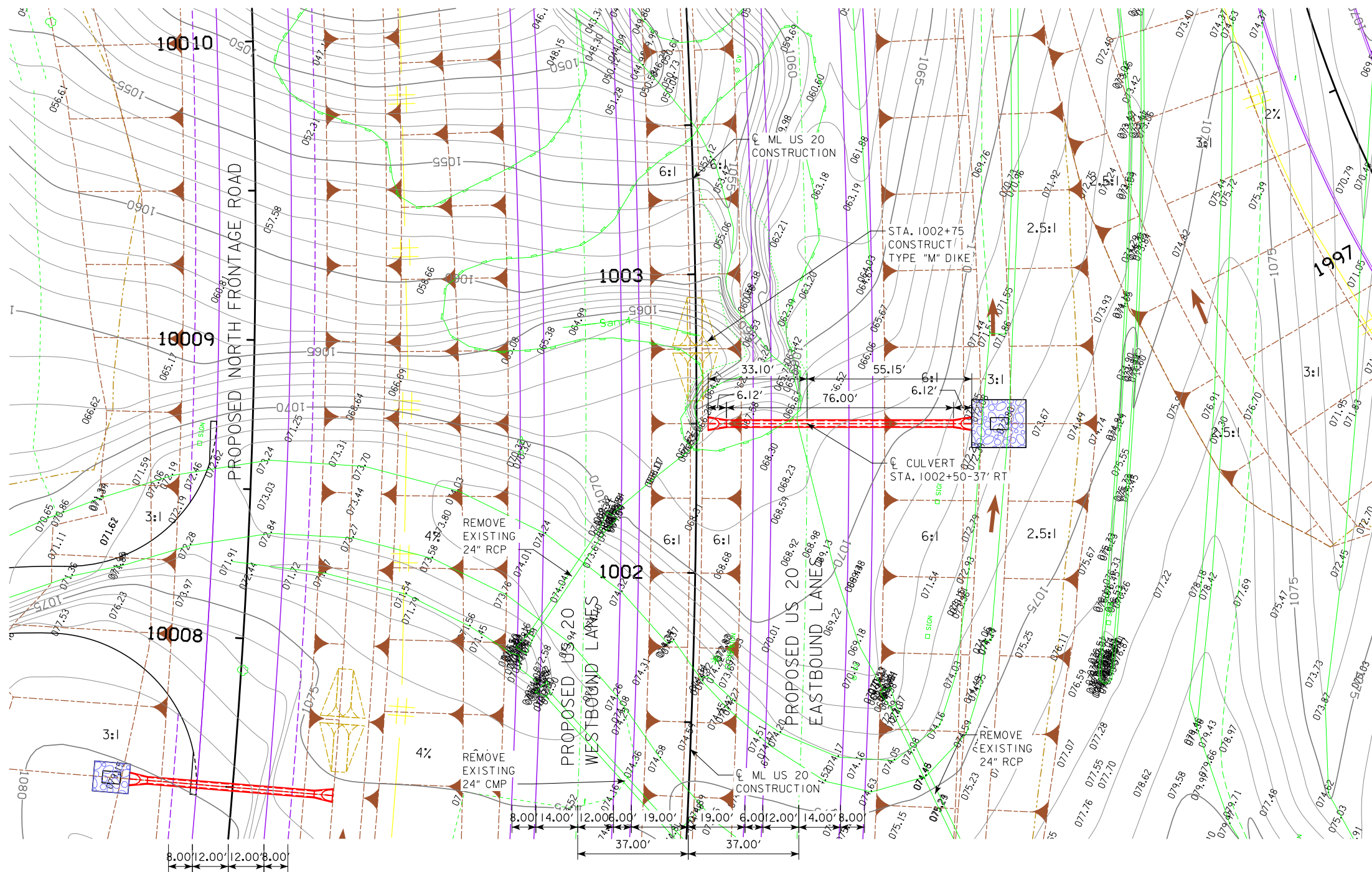
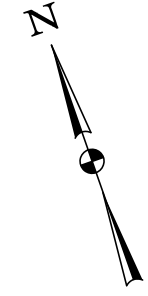
DESIGN FOR A 0° SKEW  
**24 in. x 106 ft.**  
**REINFORCED CONC. PIPE LETDOWN**

**PLAT PLAN**  
STA. 990+00 - 37' LT. (C US20) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.





LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017 AADT          | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALS | --    |        |

**LOCATION**

US 20  
T-88 N R-2 E  
SECTION 7  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'49.50"N  
LONGITUDE 90°46'43.12"W

**HYDRAULIC DATA**

DRAINAGE AREA = 2.2 ACRES - ROLLING  
Q<sub>50</sub> = 7 CFS  
HW ELEV. = 1069.17

SCOUR HOLE: A=16', C=18', D=2', E=2', F=2'  
(SEE U SHEETS FOR DETAIL)

**QUANTITIES**

CLASS E REVETMENT: 31.7 TONS  
ENGINEERING FABRIC: 34 SQ. YDS.

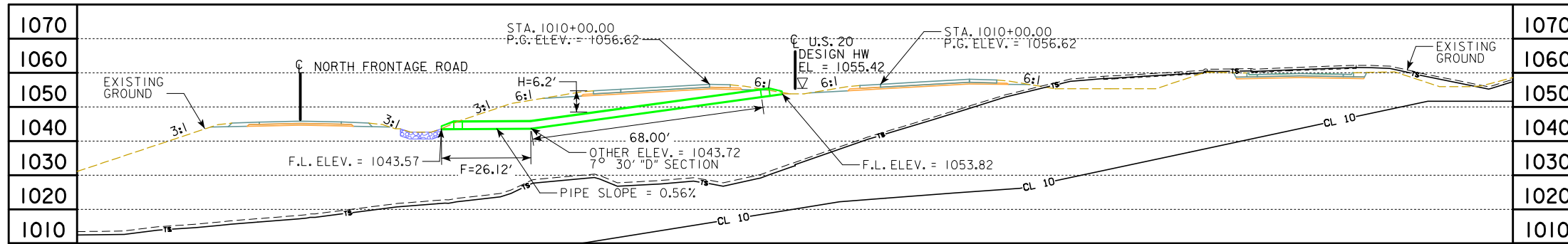
NOTE:  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0° SKEW  
**24 in. x 76 ft.  
REINFORCED CONC. PIPE LETDOWN**

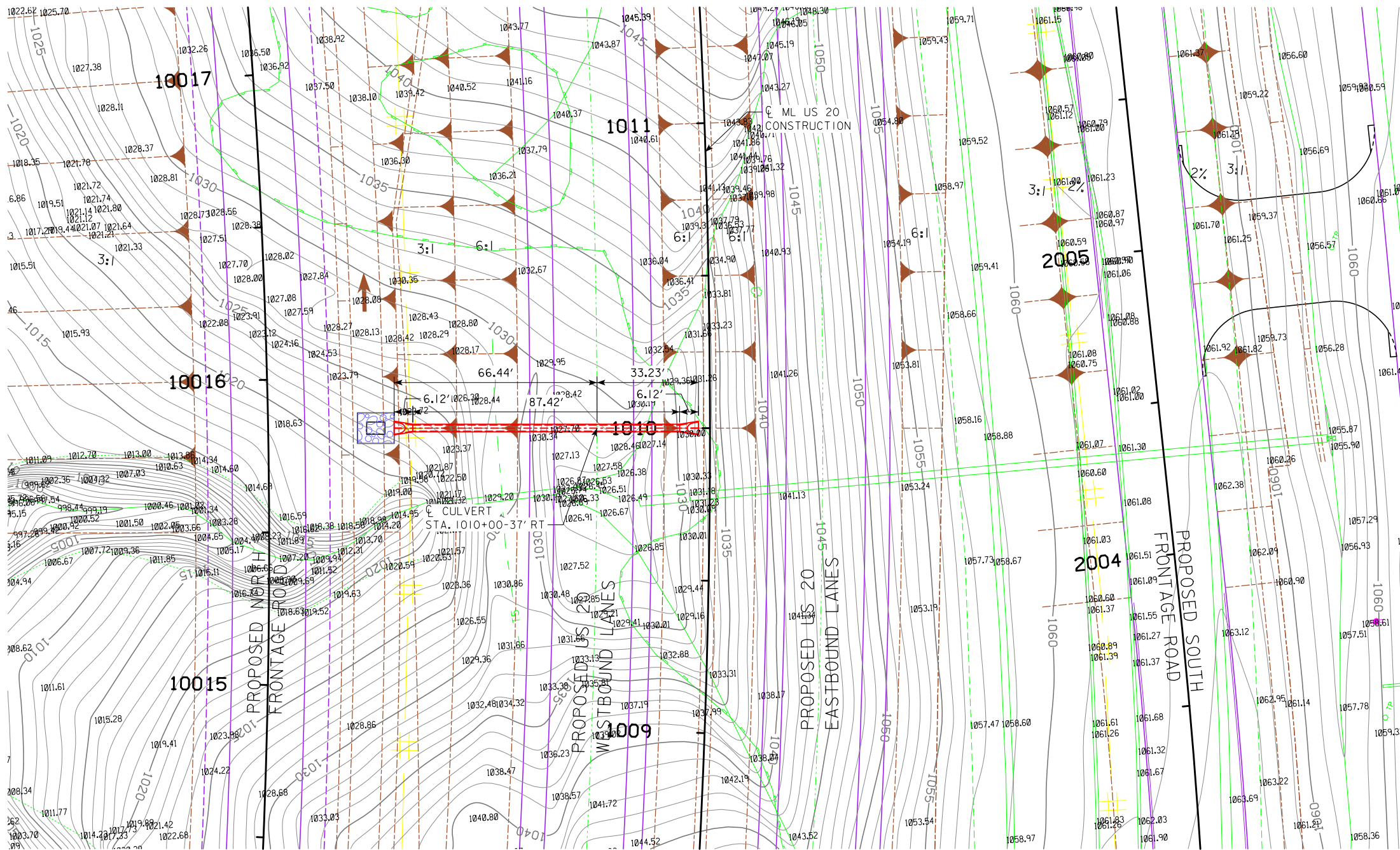
**PLAT PLAN**  
STA. 1002+50 - 37' RT. (CL US20) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.







LONGITUDINAL SECTION ALONG CL CULVERT



SITUATION PLAN



**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017 AADT          | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALS | --    |        |

**LOCATION**

US 20  
T-88 N R-2 E  
SECTION 7  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'56.85"N  
LONGITUDE 90°46'41.72"W

**HYDRAULIC DATA**

DRAINAGE AREA = 2.1 ACRES - HILLY  
Q<sub>50</sub> = 10 CFS  
HW ELEV. = 1055.42

SCOUR HOLE: A=10', C=12', D=2', E=2', F=1'  
(SEE U SHEETS FOR DETAIL)

**QUANTITIES**

CLASS E REVETMENT: 13.2 TONS  
ENGINEERING FABRIC: 14 SQ. YDS.

NOTE:  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT).

DESIGN FOR A 0° SKEW  
**24 in. x 88 ft.**  
**REINFORCED CONC. PIPE LETDOWN**

**PLAT PLAN**  
STA. 1010+00 - 37' LT. (CL US20) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_

**ESTIMATED CAST IN PLACE CULVERT QUANTITIES**

| ITEM NO. | ITEM CODE    | ITEM                              | UNIT | TOTAL  | AS BUILT QUANTITY |
|----------|--------------|-----------------------------------|------|--------|-------------------|
| 1        | 2403-0100020 | STRUCTURAL CONCRETE (RCB CULVERT) | CY   | 126.2  |                   |
| 2        | 2404-7775000 | REINFORCING STEEL                 | LB   | 19,610 |                   |
|          |              |                                   |      |        |                   |
|          |              |                                   |      |        |                   |

**ESTIMATE REFERENCE INFORMATION**

| ITEM NO. | ITEM CODE    | DESCRIPTION                       |
|----------|--------------|-----------------------------------|
| 1        | 2403-0100020 | STRUCTURAL CONCRETE (RCB CULVERT) |
| 2        | 2404-7775000 | REINFORCING STEEL                 |
|          |              |                                   |

NOTE:  
ROADWAY QUANTITIES SHOWN  
ELSEWHERE IN THESE PLANS.

**STRUCTURAL DESIGN**



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

*Aleksander T. Nelson* 5/6/19

Signature Aleksander T. Nelson Date  
Printed or Typed Name

My license renewal date is December 31, 2020

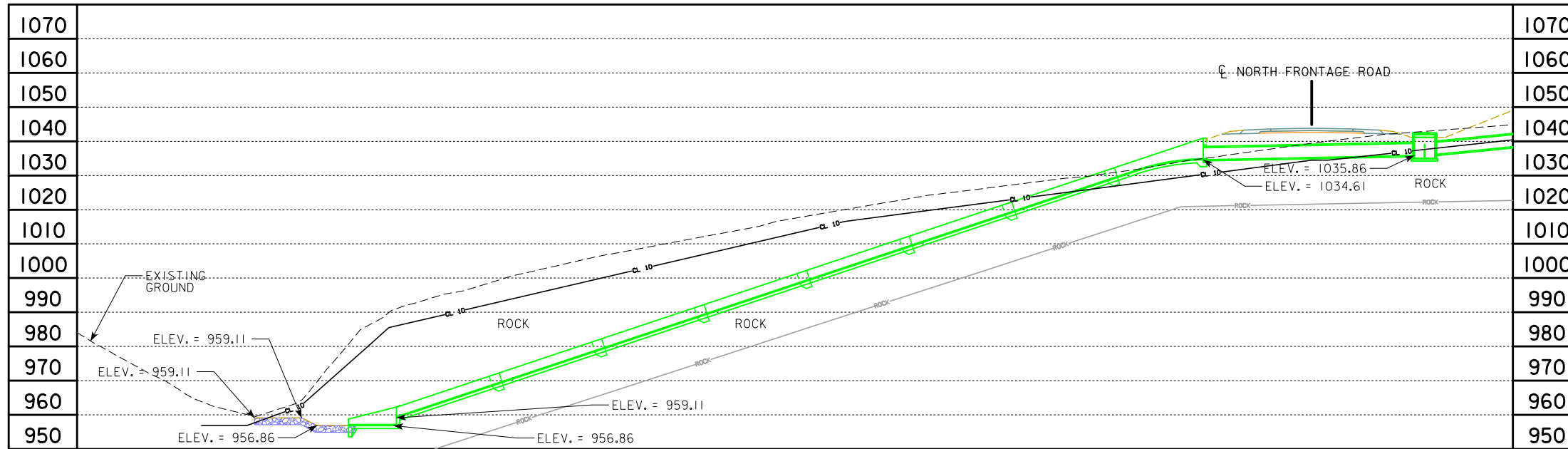
Pages or sheets covered by this seal: SHEETS V.12, V.13, V.16, V.17, V.14 & V.15 (EXCLUDING ROADWAY AND HYDRAULICS)

DESIGN FOR 0° SKEW  
**5'-0 X 4'-0 REINFORCED CONCRETE  
3:1 FLUME & BASIN FOR A 42" Φ RC PIPE**  
**ESTIMATED QUANTITIES**  
10017+95.73 (NORTH FRONTAGE ROAD) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 6 FILE NO. 30069 DESIGN NO. 0218

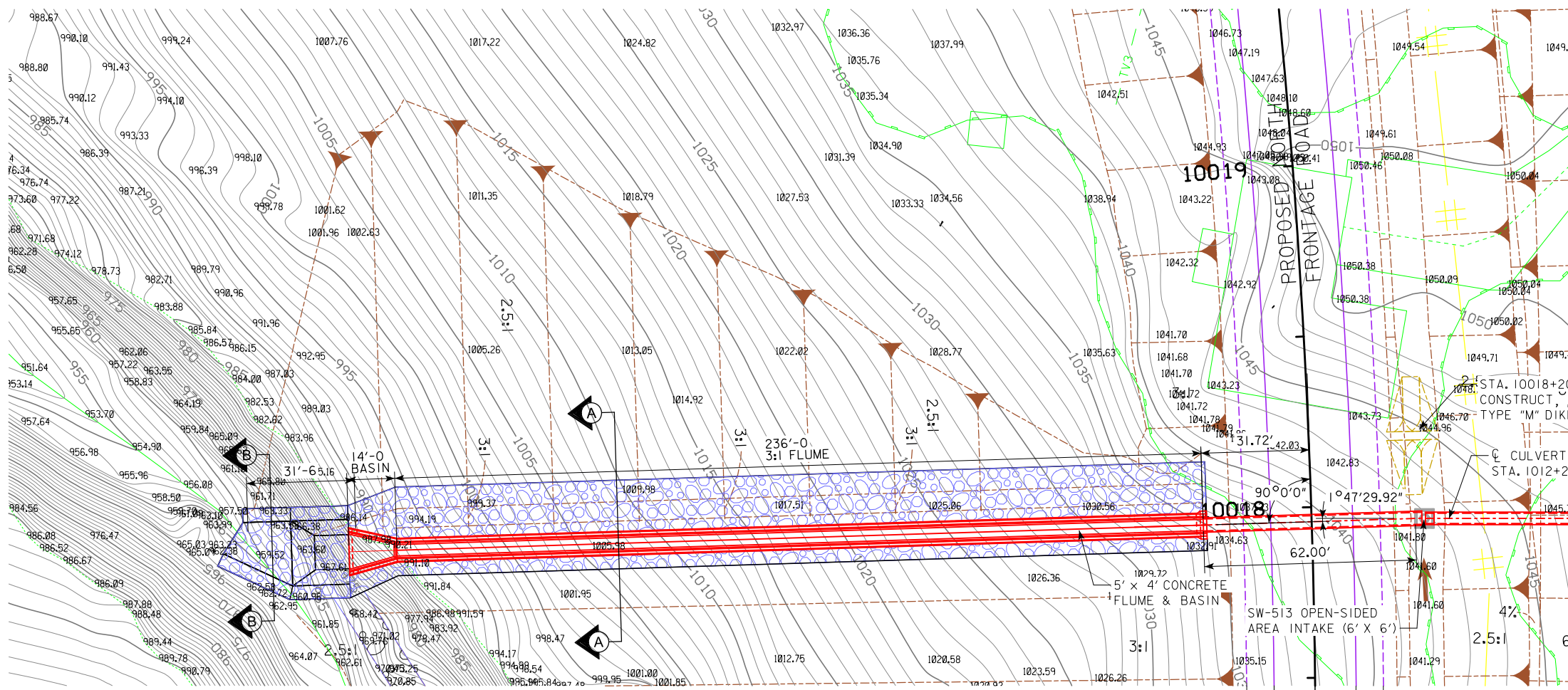




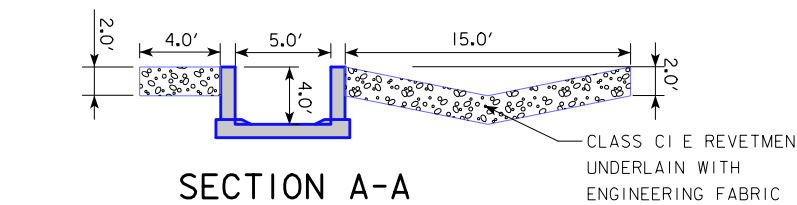




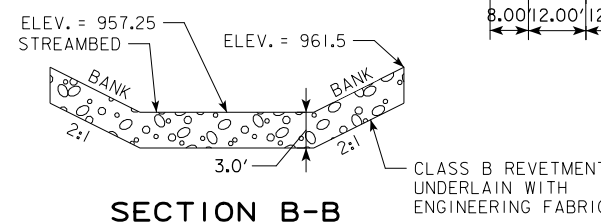
LONGITUDINAL SECTION ALONG CULVERT



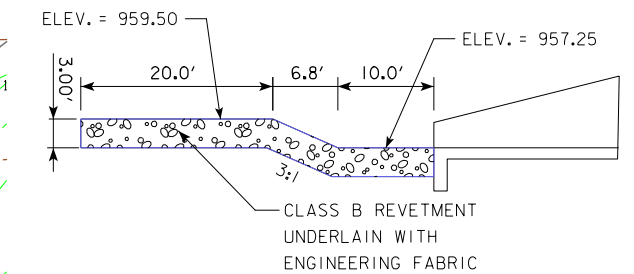
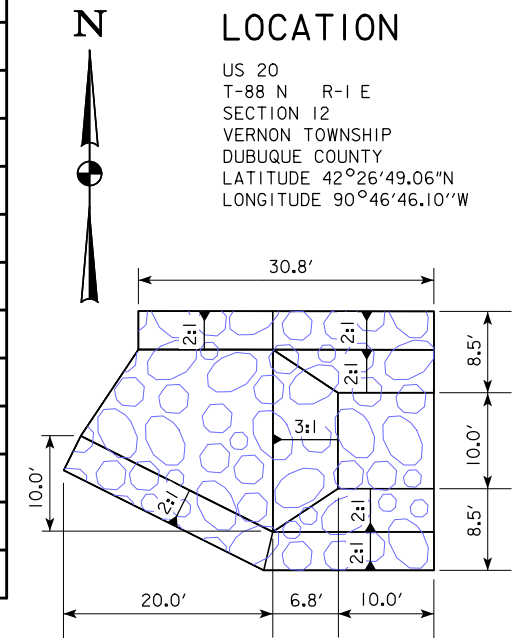
SITUATION PLAN



SECTION A-A



SECTION B-B



PLUNGE BASIN

HYDRAULIC DATA

OUTLET PIPE DRAINAGE AREA = 34.1 ACRES - HILLY  
 $Q_{50} = 123$  CFS

QUANTITIES

CLASS B REVETMENT (PLUNGE BASIN): 576 TONS  
 CLASS E REVETMENT (FLUME SIDES): 496 TONS  
 ENGINEERING FABRIC: 912 SQ. YDS.  
 SEE C SHEETS.

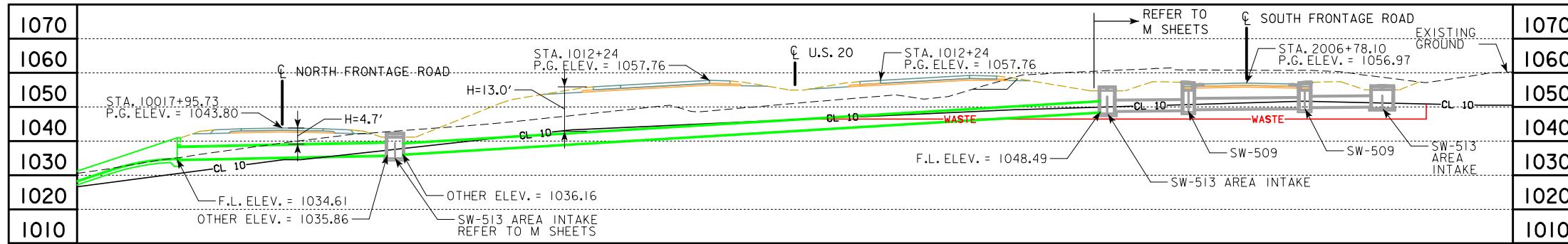
NOTES:  
 ALL DIMENSIONS ARE IN FEET (++) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATIONS AND STATIONS ARE IN FEET (FT).

DESIGN FOR A 0° SKEW  
**5'-0" X 4'-0" REINFORCED CONCRETE 3:1 FLUME & BASIN FOR A 42" ΦRCP**

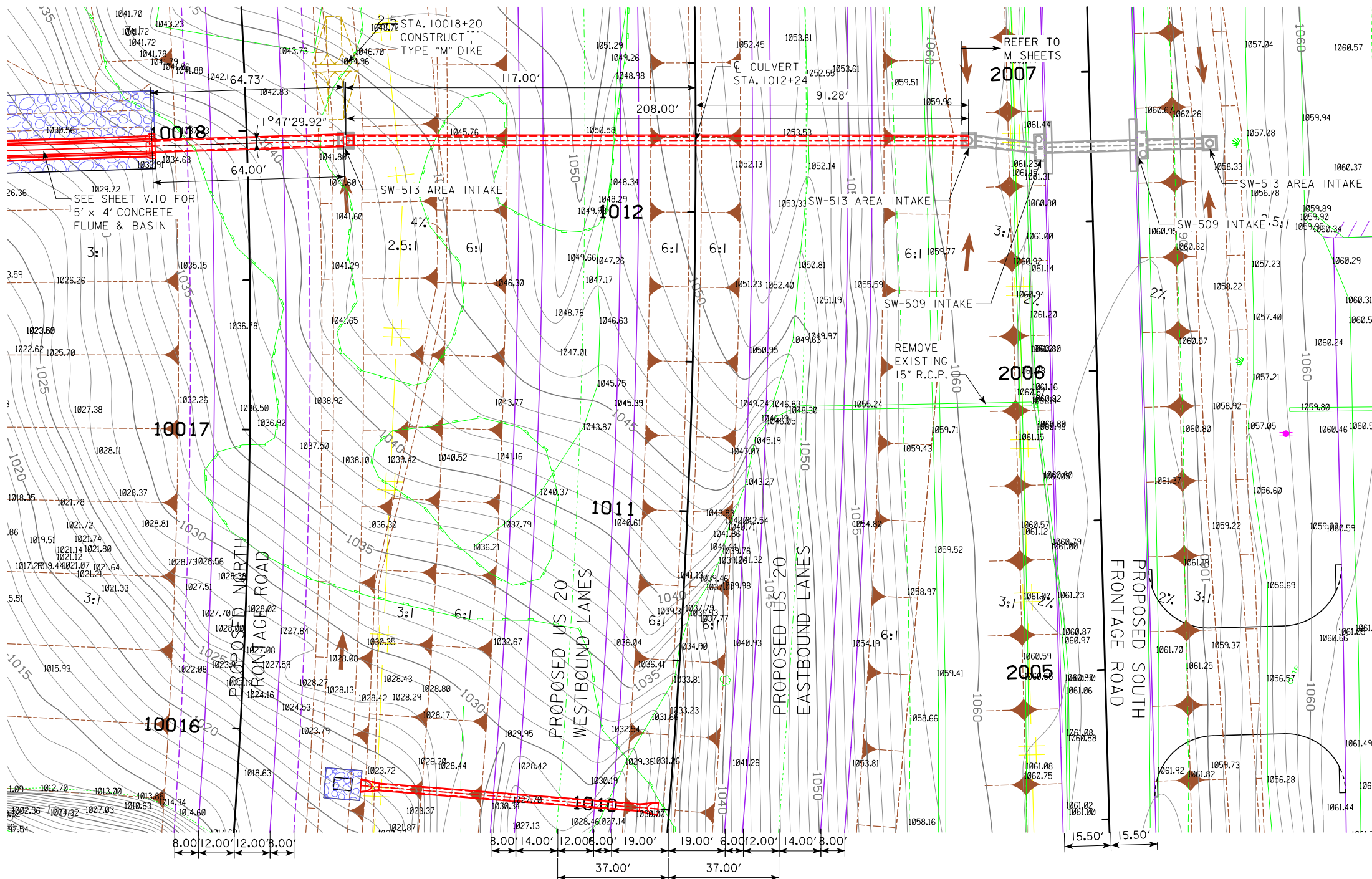
**SITUATION PLAN**  
 STA. 10017+95.73 (CULVERT NORTH FRONTAGE ROAD) MAY, 2019  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 3 OF 6 FILE NO. 30069 DESIGN NO. 0218







LONGITUDINAL SECTION ALONG CULVERT



SITUATION PLAN



**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017 AADT          | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALS | --    |        |

**LOCATION**

US 20  
T-88 N R-2 E  
SECTION 7  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'59.02"N  
LONGITUDE 90°46'41.03"W

**HYDRAULIC DATA**

INLET INTAKE  
DRAINAGE AREA = 12.8 ACRES - HILLY  
Q<sub>50</sub> = 41 CFS  
HW ELEV. = 1055.63

RIGHT DITCH INTAKE  
DRAINAGE AREA = 16.3 ACRES - HILLY  
Q<sub>50</sub> = 50 CFS  
HW ELEV. = 1055.46

LEFT DITCH INTAKE  
DRAINAGE AREA = 5 ACRES - HILLY  
Q<sub>50</sub> = 12 CFS  
HW ELEV. = 1041.43

OUTLET PIPE  
Q<sub>50</sub> = 113 CFS

NOTE:  
REFER TO M SHEETS FOR STORM SEWER DESIGN PORTION

NOTE:  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT).

DESIGN FOR A 0° SKEW  
**36" φ × 208'**  
**42" φ × 64' RCP & INTAKES**  
**SITUATION PLAN**  
STA. 1012+24 (C U.S.20)  
STA. 10017+95.73 (C NORTH FRONTAGE ROAD) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 4 OF 6 FILE NO. 30069 DESIGN NO. 0218

### REINFORCING BAR LIST - FLUME

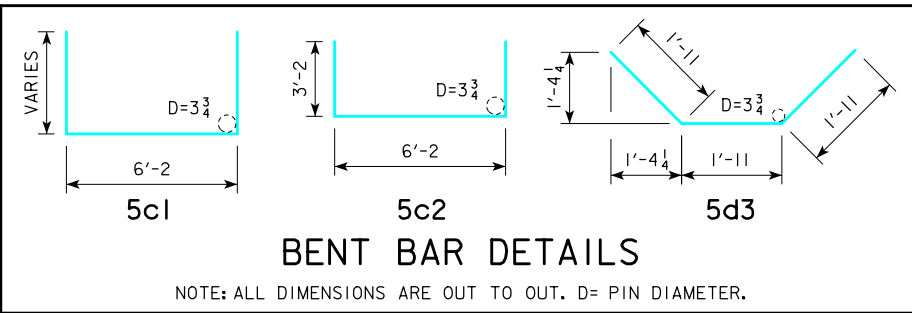
| BAR          | LOCATION                               | SHAPE | NO. | LENGTH          | WEIGHT |
|--------------|----------------------------------------|-------|-----|-----------------|--------|
| 4a1          | WALLS FFV                              |       | 470 | LISTED          | 1178   |
| 5b1          | WALLS FFH - SECTION 1                  |       | 4   | 28'-4": 28'-8"  | 119    |
| 4b2          | WALLS BFH - SECTION 1                  |       | 4   | 28'-4": 28'-8"  | 76     |
| 5b3          | WALLS FFH - SECTION 2-7                |       | 24  | 31'-2"          | 780    |
| 4b4          | WALLS BFH - SECTION 2-7                |       | 24  | 31'-2"          | 500    |
| 5b5          | WALLS FFH - SECTION 8                  |       | 4   | 30'-7": 30'-11" | 128    |
| 4b6          | WALLS BFH - SECTION 8                  |       | 4   | 30'-7": 30'-11" | 82     |
| 5d7          | WALLS FFH - SECTION 1                  |       | 4   | LISTED          | 40     |
| 4d8          | WALLS BFH - SECTION 1                  |       | 4   | LISTED          | 25     |
| 5c1          | BOTT. FLOOR & WALLS BFV                |       | 457 | LISTED          | 6,487  |
| 5c2          | BOTT. FLOOR & WALLS BFV - SPLICED      |       | 5   | 12'-6"          | 65     |
| 5c3          | WALLS BFV                              |       | 10  | LISTED          | 56     |
| 6f1          | FLOOR LONGIT. TOP - SECTION 1          |       | 6   | 27'-3"          | 246    |
| 5f2          | FLOOR LONGIT. BOT. - SECTION 1         |       | 6   | 27'-3"          | 171    |
| 6f3          | FLOOR LONGIT. TOP - SECTION 2-7        |       | 36  | 31'-2"          | 1685   |
| 5f4          | FLOOR LONGIT. BOT. - SECTION 2-7       |       | 36  | 31'-2"          | 1170   |
| 6f5          | FLOOR LONGIT. BOT. - SECTION 8         |       | 6   | 31'-4"          | 282    |
| 5f6          | FLOOR LONGIT. BOT. - SECTION 8         |       | 6   | 31'-4"          | 196    |
| 6m1          | FLOOR TRANSV. TOP                      |       | 238 | 6'-8"           | 2383   |
| 5s1          | WALLS BOTH F ALONG SLOPE - SECTION 1   |       | 4   | 29'-0"          | 121    |
| 5s2          | WALLS BOTH F ALONG SLOPE - SECTION 2-7 |       | 24  | 31'-2"          | 780    |
| 5s3          | WALLS BOTH F ALONG SLOPE - SECTION 8   |       | 4   | 30'-4"          | 127    |
| 5d1          | PIPE COLLAR, VERT; BOTH FACES          |       | 12  | 6'-9"           | 84     |
| 5d2          | PIPE COLLAR, VERT; BOTH FACES          |       | 8   | LISTED          | 20     |
| 5d3          | PIPE COLLAR, PIPE OPENING; BOTH FACES  |       | 8   | 5'-9"           | 48     |
| 5e1          | PIPE COLLAR, HORIZ; BOTH FACES         |       | 6   | 6'-2"           | 39     |
| 5e2          | PIPE COLLAR, HORIZ; BOTH FACES         |       | 16  | LISTED          | 17     |
| 5e3          | PIPE COLLAR, HORIZ, BOT; BOTH FACES    |       | 4   | 2'-1"           | 9      |
| 5e4          | PIPE COLLAR, HORIZ, BOT; BOTH FACES    |       | 2   | 6'-8"           | 14     |
| TOTAL (LBS.) |                                        |       |     |                 | 16,928 |

### LISTED BARS

|                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                            |                                                                                                                                                                                                     |                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| 5c1 BARS<br>457 BARS<br>429 @ 13'-6"<br>28 VAR.<br>18'-0"<br>17'-8"<br>17'-4"<br>17'-2"<br>16'-10"<br>16'-8"<br>16'-6"<br>16'-2"<br>16'-0"<br>15'-10"<br>15'-8"<br>15'-6"<br>15'-4"<br>15'-2"<br>15'-0"<br>14'-10"<br>14'-8"<br>14'-6"<br>14'-4"<br>14'-2"<br>14'-2"<br>14'-0"<br>14'-0"<br>13'-10"<br>13'-10"<br>13'-8"<br>13'-8"<br>13'-8" | 4a1 BARS<br>470 BARS<br>438 @ 3'-8"<br>32 VAR.<br>6'-7"<br>6'-7"<br>6'-4"<br>6'-0"<br>5'-9"<br>5'-6"<br>5'-3"<br>5'-1"<br>4'-10"<br>4'-8"<br>4'-6"<br>4'-4"<br>4'-2"<br>4'-1"<br>3'-11"<br>3'-10"<br>3'-9" | BARS 5b7 & 4b8<br>4 BARS<br>2 EACH LGTH.<br>4 @ 2'-2"<br>6'-7"<br>6'-7"<br>6'-4"<br>6'-0"<br>10 BARS<br>10 VAR.<br>2 EACH LGTH.<br>4 @ 1'-1"<br>5'-8"<br>8 @ 10<br>5'-6"<br>5'-4"<br>5'-3"<br>5'-1" | 5d2 BARS<br>8 BARS<br>4 @ 2'-7"<br>4 @ 2'-2"<br>16 BARS<br>4 @ 1'-4"<br>4 @ 1'-1"<br>8 @ 10 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|

### CONCRETE PLACEMENT QUANTITIES

| LOCATION               | FOOTING | WALLS | TOTAL |
|------------------------|---------|-------|-------|
| FLUME - SECTION 1      | 7.3     | 5.2   | 12.5  |
| FLUME - SECTIONS 2 - 7 | 52.8    | 28.2  | 81.0  |
| FLUME - SECTION 8      | 8.8     | 4.7   | 13.5  |
| COLLAR FOR PIPE        | -       | 1.2 * | 1.2 * |
| CHUTE BELL JOINT (7)   | 5.6     | 2.1   | 7.7   |
| BASIN CURTAIN          | 0.3     | -     | 0.3   |
| TOTAL (CY)             | 74.8    | 41.4  | 116.2 |

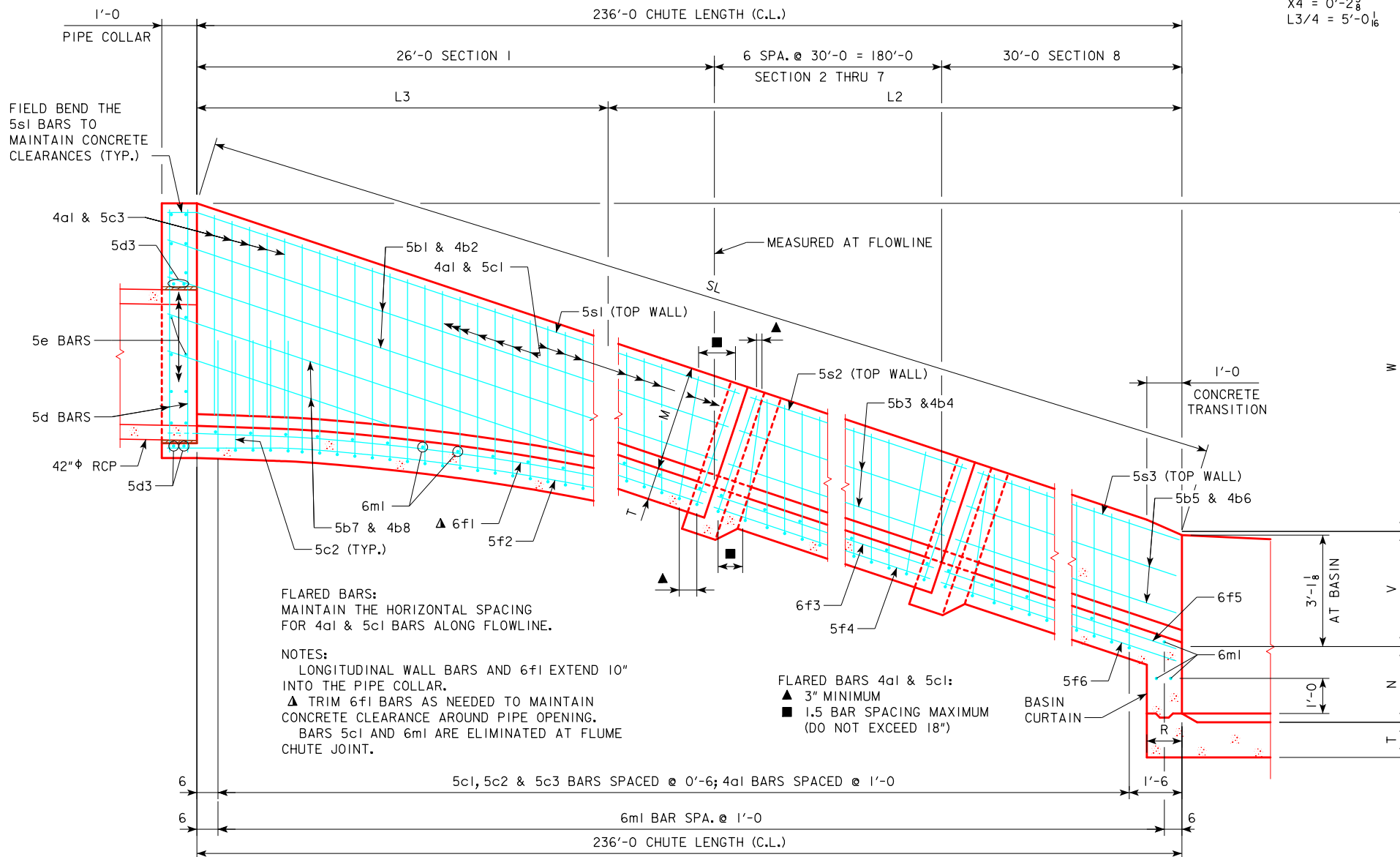


### FLUME DATA

$\angle A = 18^{\circ}26'$   
 $\angle C = 1^{\circ}00'$   
 $B = 10'-6\frac{5}{16}$   
 $SL = 248'-9\frac{3}{16}$   
 $V = 3'-2$   
 $W = 78'-8$   
 $M = 3'-0$   
 $T = 0'-11$   
 $H = 4'-0$

### CURVE DATA

$C.L. = 236'-0$   
 $L2 = 215'-11\frac{3}{4}$   
 $L3 = 20'-0\frac{1}{4}$   
 $D = 10'-0\frac{7}{16}$   
 $E = 9'-11\frac{13}{16}$   
 $P.C. ELEV. = 1034.61$   
 $P.I. ELEV. = 1034.43$   
 $P.P. ELEV. = 1034.26$   
 $P.T. ELEV. = 1031.09$   
 $X1 = 3'-1\frac{7}{8}$   
 $X2 = 1'-9\frac{1}{4}$   
 $X3 = 0'-9\frac{1}{16}$   
 $X4 = 0'-2\frac{3}{8}$   
 $L3/4 = 5'-0\frac{1}{16}$



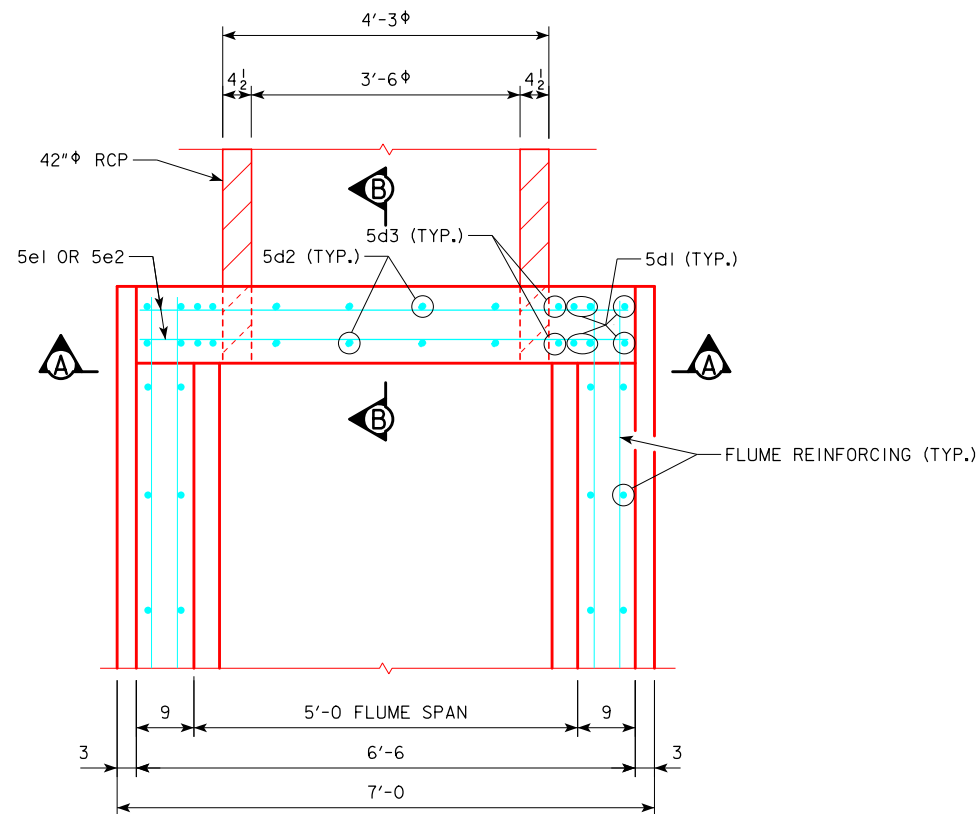
### 5' x 4' FLUME CHUTE - LONGITUDINAL SECTION

**NOTES:**  
 SEE SHEETS RCF-01-12 & RCF-02-12 FOR FLUME INFORMATION AND DETAILS NOT SHOWN.  
 SEE SHEET FBJ-01-12 FOR BELL JOINT INFORMATION AND DETAILS NOT SHOWN.  
 SEE SHEET RCFB-01-12 FOR FLUME BASIN INFORMATION AND DETAILS NOT SHOWN.  
 FOR PIPE COLLAR DETAILS, SEE DESIGN SHEET 6.  
 \* INCLUDES CONCRETE BELOW PIPE.

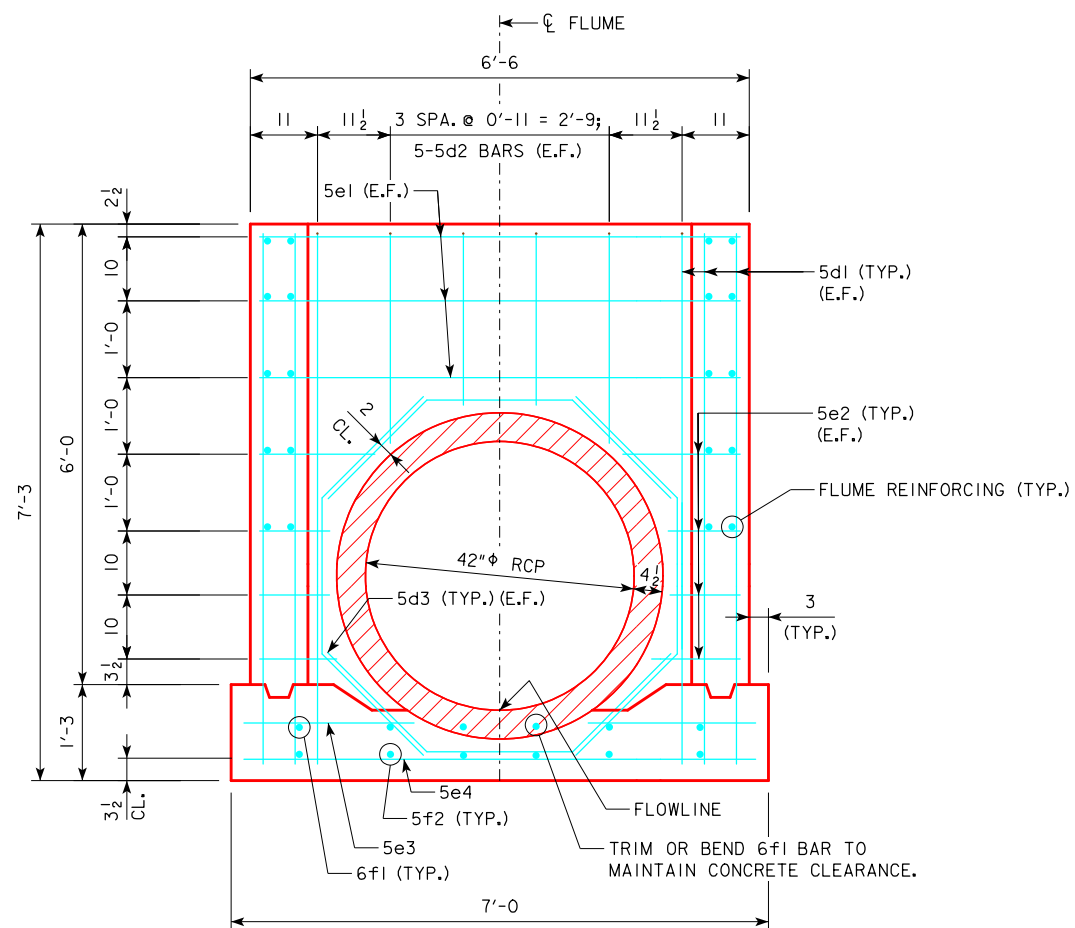
DESIGN FOR 0° SKEW  
**5'-0 X 4'-0 REINFORCED CONCRETE**  
**3:1 FLUME & BASIN FOR A 42" φ RC PIPE**  
**FLUME DETAILS**  
 10017+95.73 (NORTH FRONTAGE ROAD) MAY, 2019  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 5 OF 6 FILE NO. 30069 DESIGN NO. 0218



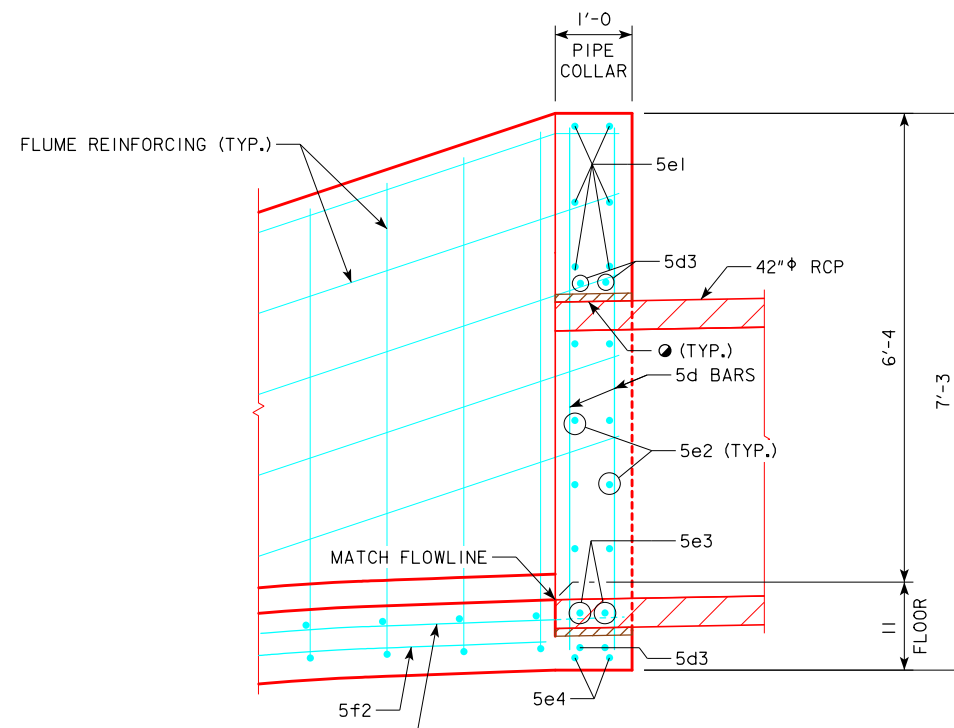




PARTIAL PLAN



SECTION A-A



SECTION B-B

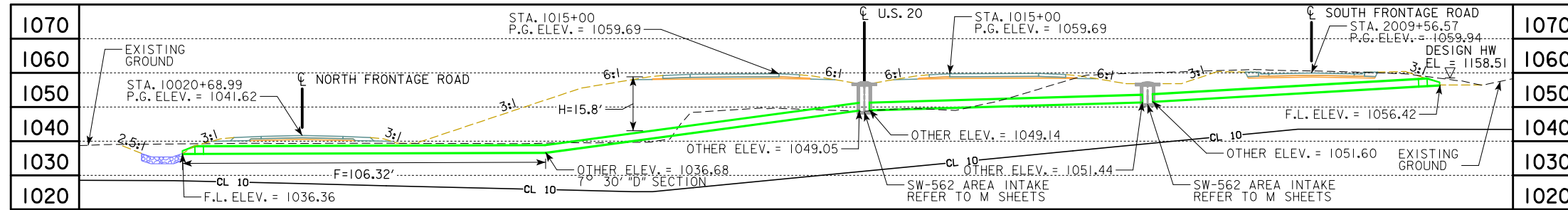
NOTE:  
 FLUME LONGITUDINAL WALL BARS AND 6f1 TO PROJECT 10" INTO RCP COLLAR.  
 TRIM OR BEND 5d2, 5e2 AND 6f1 BARS TO MAINTAIN CONCRETE CLEARANCE.

● INSTALL 1/2" RESILIENT JOINT FILLER AROUND PIPE

NOTES:  
 FOR FLUME DETAILS, SEE DESIGN SHEET 5 AND LISTED FLUME STANDARDS IN THESE PLANS.  
 SEE DESIGN SHEET 5 FOR REINFORCING BAR LIST.

DESIGN FOR 0° SKEW  
**5'-0 X 4'-0 REINFORCED CONCRETE  
 3:1 FLUME & BASIN FOR A 42" RC PIPE**  
**FLUME PIPE COLLAR DETAILS**  
 10017+95.73 (NORTH FRONTAGE ROAD) MAY, 2019  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 6 OF 6 FILE NO. 30069 DESIGN NO. 0218





LONGITUDINAL SECTION ALONG CL CULVERT



**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017 AADT          | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALS | --    |        |

**LOCATION**

US 20  
T-88 N R-2 E  
SECTION 7  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°27'01.75"N  
LONGITUDE 90°46'41.02"W

**HYDRAULIC DATA**

**INLET APRON**  
DRAINAGE AREA = 4.9 ACRES - ROLLING  
Q<sub>50</sub> = 14 CFS  
HW ELEV. = 1158.51

**RIGHT DITCH INTAKE**  
DRAINAGE AREA = 1.0 ACRES - ROLLING  
Q<sub>50</sub> = 4 CFS  
HW ELEV. = 1057.07

**MEDIAN INTAKE**  
DRAINAGE AREA = 1.0 ACRES - ROLLING  
Q<sub>50</sub> = 4 CFS  
HW ELEV. = 1057.13

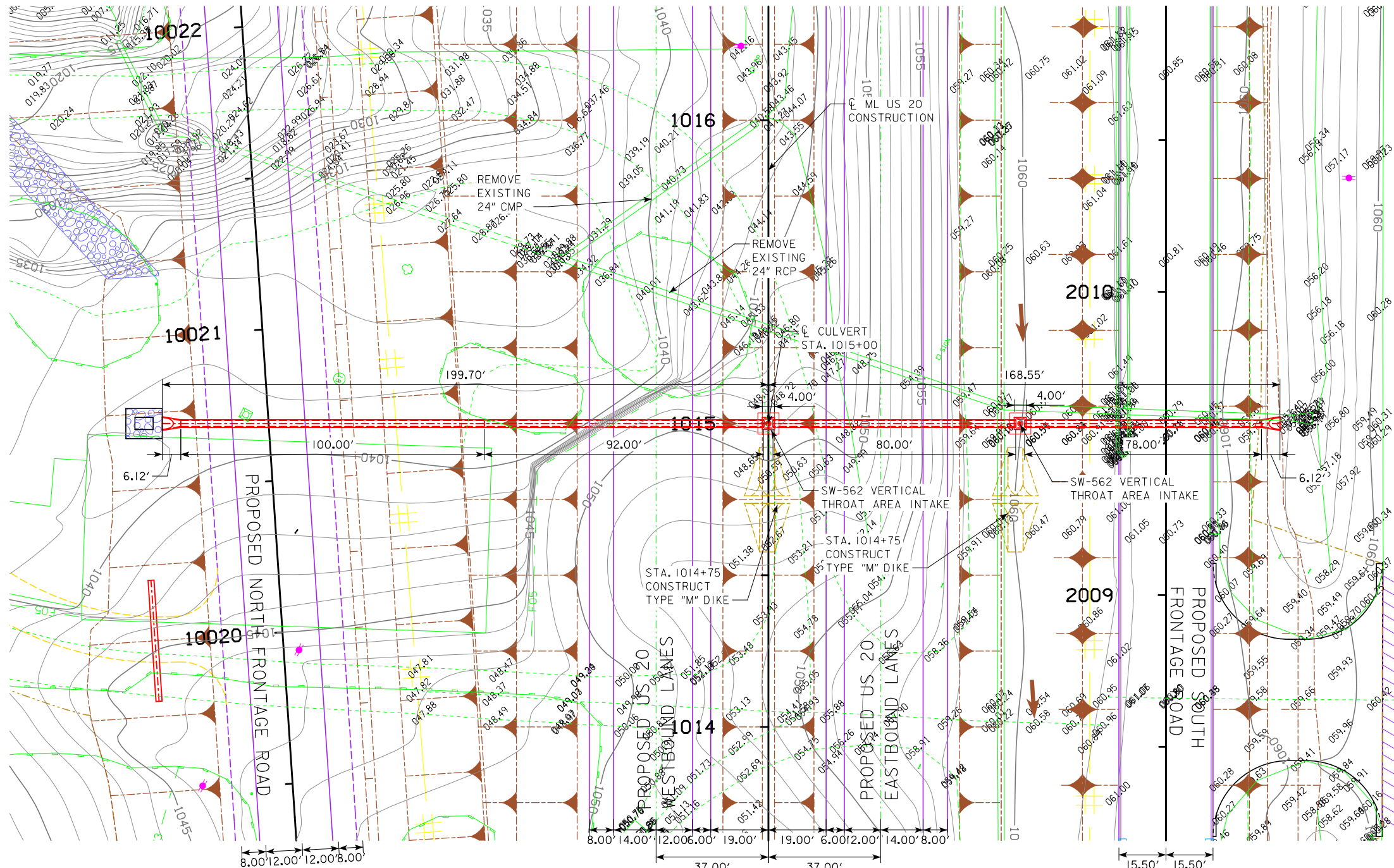
**OUTLET PIPE**  
Q<sub>50</sub> = 22 CFS

SCOUR HOLE: A=10', C=12', D=2', E=2', F=1'  
(SEE U SHEETS FOR DETAIL)

**QUANTITIES**

CLASS E REVETMENT: 13.2 TONS  
ENGINEERING FABRIC: 14 SQ. YDS.

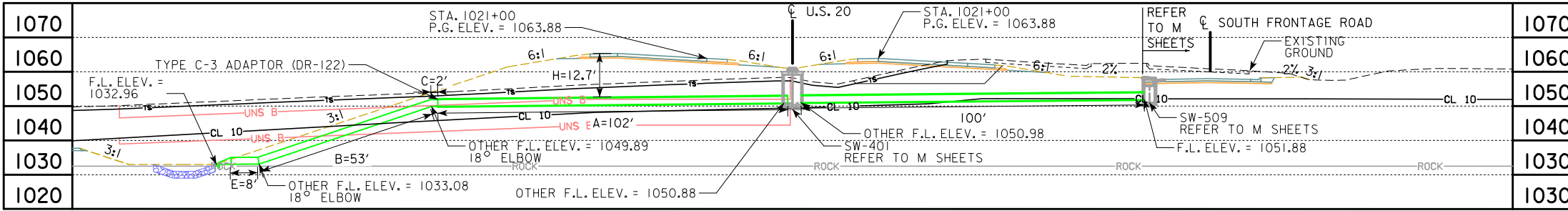
**NOTE:**  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.



PLAT PLAN



DESIGN FOR A 0° SKEW  
**24 in. x 350 ft.**  
**REINFORCED CONCRETE PIPE**  
**LETDOWN WITH INTAKES**  
**PLAT PLAN**  
STA. 1015+00 (CL US20) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.



LONGITUDINAL SECTION ALONG CULVERT



**TRAFFIC ESTIMATE**

|                    |       |        |
|--------------------|-------|--------|
| 2017 AADT          | 15200 | V.P.D. |
| 2040 AADT          | 33900 | V.P.D. |
| 2040 DHV           | 3675  | V.P.H. |
| TRUCKS             | 9     | %      |
| TOTAL DESIGN ESALS | --    |        |

**LOCATION**

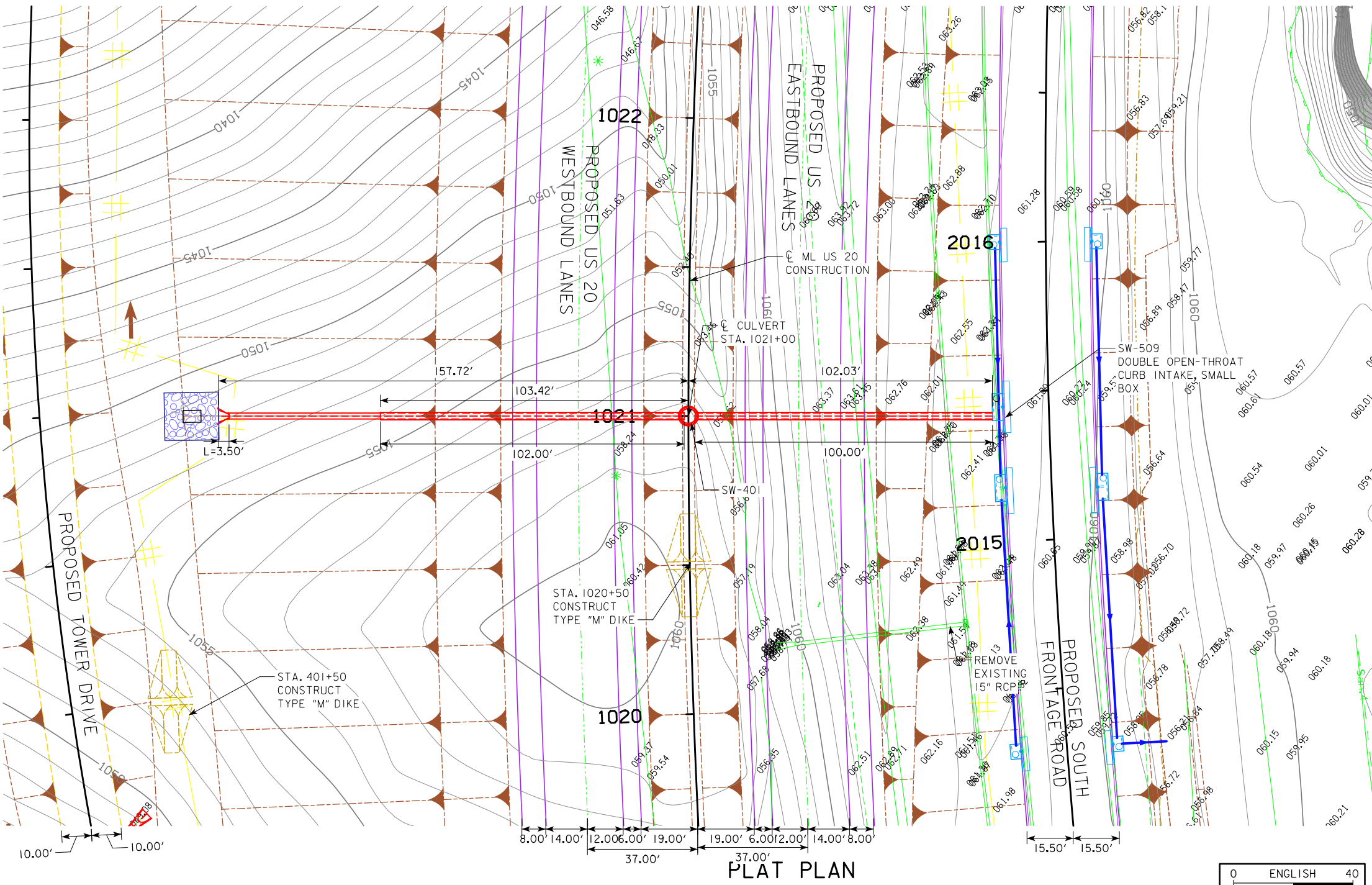
US 20  
T-88 N R-2 E  
SECTION 7  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°27'07.66"N  
LONGITUDE 90°46'40.74"W

**HYDRAULIC DATA**

CURB INTAKE  
DRAINAGE AREA = 3.5 ACRES - ROLLING  
Q<sub>50</sub> = 11 CFS

MEDIAN INTAKE  
DRAINAGE AREA = 2.2 ACRES - ROLLING  
Q<sub>50</sub> = 7 CFS  
HW ELEV. = 1061.26

OUTLET PIPE  
Q<sub>50</sub> = 18 CFS



SCOUR HOLE: A=16', C=18', D=2', E=2', F=2'  
(SEE U SHEETS FOR DETAIL)

**QUANTITIES**

|                     |             |
|---------------------|-------------|
| CLASS E REVETMENT:  | 31.7 TONS   |
| ENGINEERING FABRIC: | 34 SQ. YDS. |

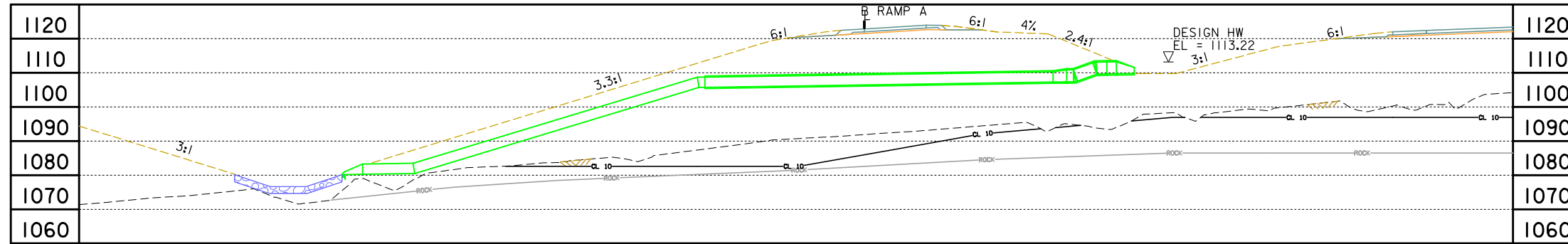
**NOTE:**  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0° SKEW

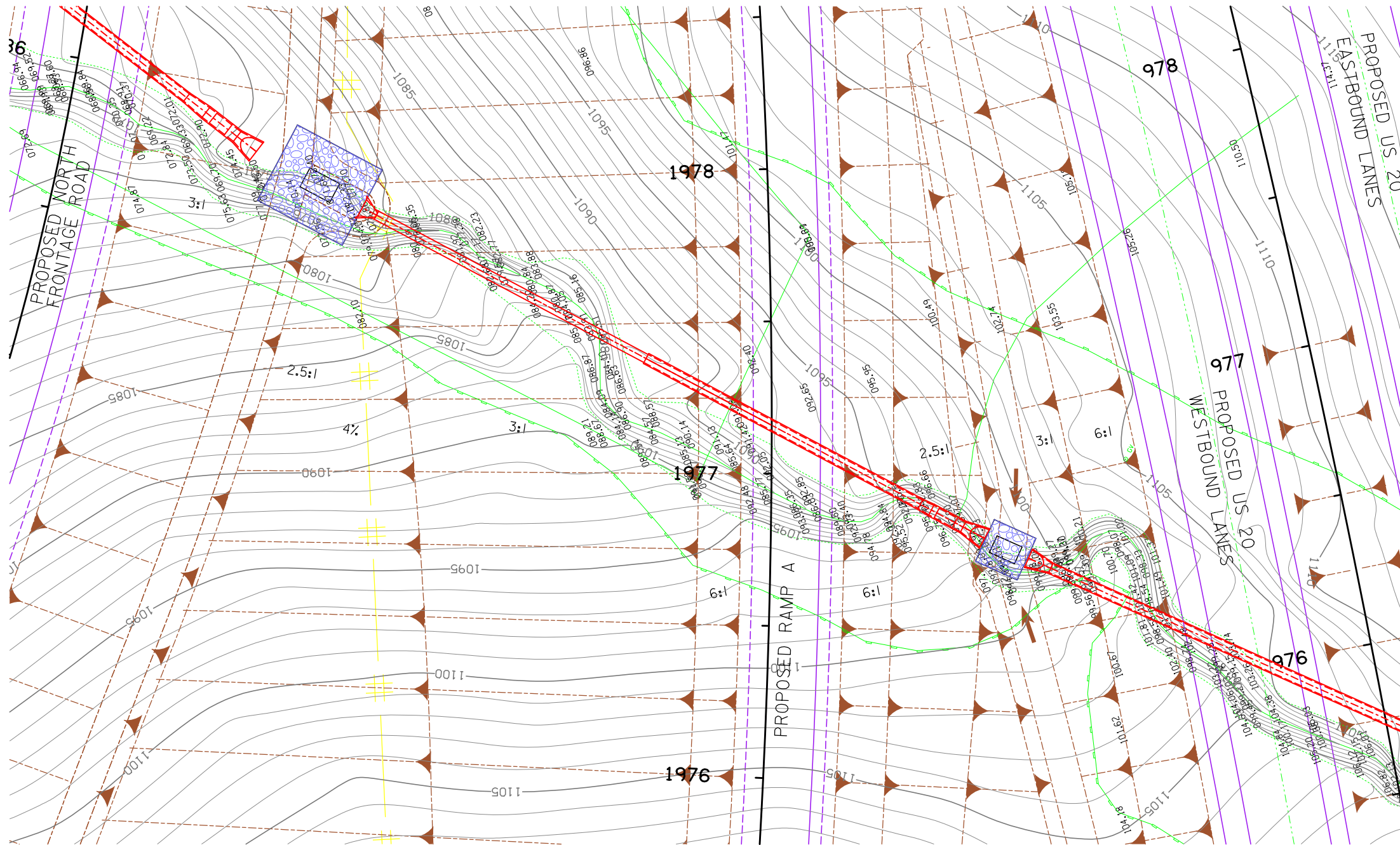
**24 in. x 265 ft.**  
**REINFORCED CONC. & UNCLASSIFIED**  
**LETDOWN PIPE WITH INTAKES**  
**PLAT PLAN**

STA. 1021+00 (CULVERT)  
MAY, 2019  
DUBUQUE COUNTY  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.





LONGITUDINAL SECTION ALONG  $\bar{C}$  CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |      |        |
|--------------------|------|--------|
| 2017 AADT          | N/A  | V.P.D. |
| 2030 AADT          | 2111 | V.P.D. |
| 2030 DHV           | 239  | V.P.H. |
| TRUCKS             | 10   | %      |
| TOTAL DESIGN ESALs | --   |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'32.81"N  
 LONGITUDE 90°47'7.39"W

**HYDRAULIC DATA**

DRAINAGE AREA = 20.9 ACRES - ROLLING  
 Q<sub>50</sub> = 45 CFS  
 HW ELEV. = 1113.22

SCOUR HOLE: A=28', C=31.5', D=2', E=3.5', F=3.5'  
 (SEE U SHEETS FOR DETAIL)

**QUANTITIES**

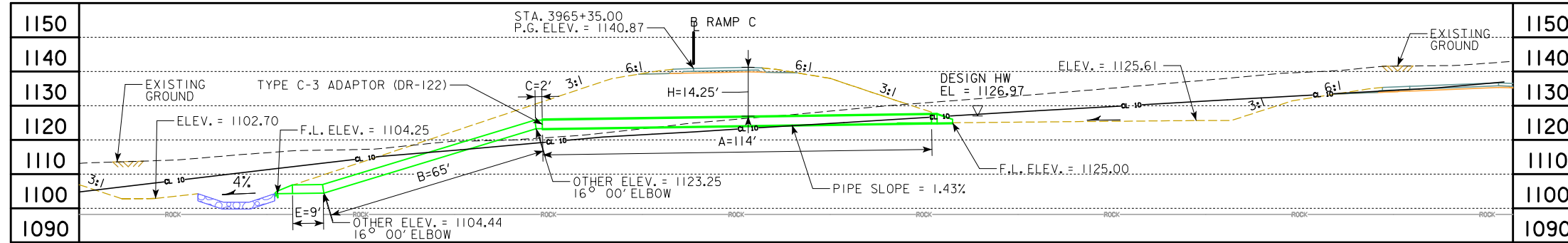
CLASS E REVETMENT: 97.2 TONS  
 ENGINEERING FABRIC: 103 SQ.YDS.

NOTE:  
 ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

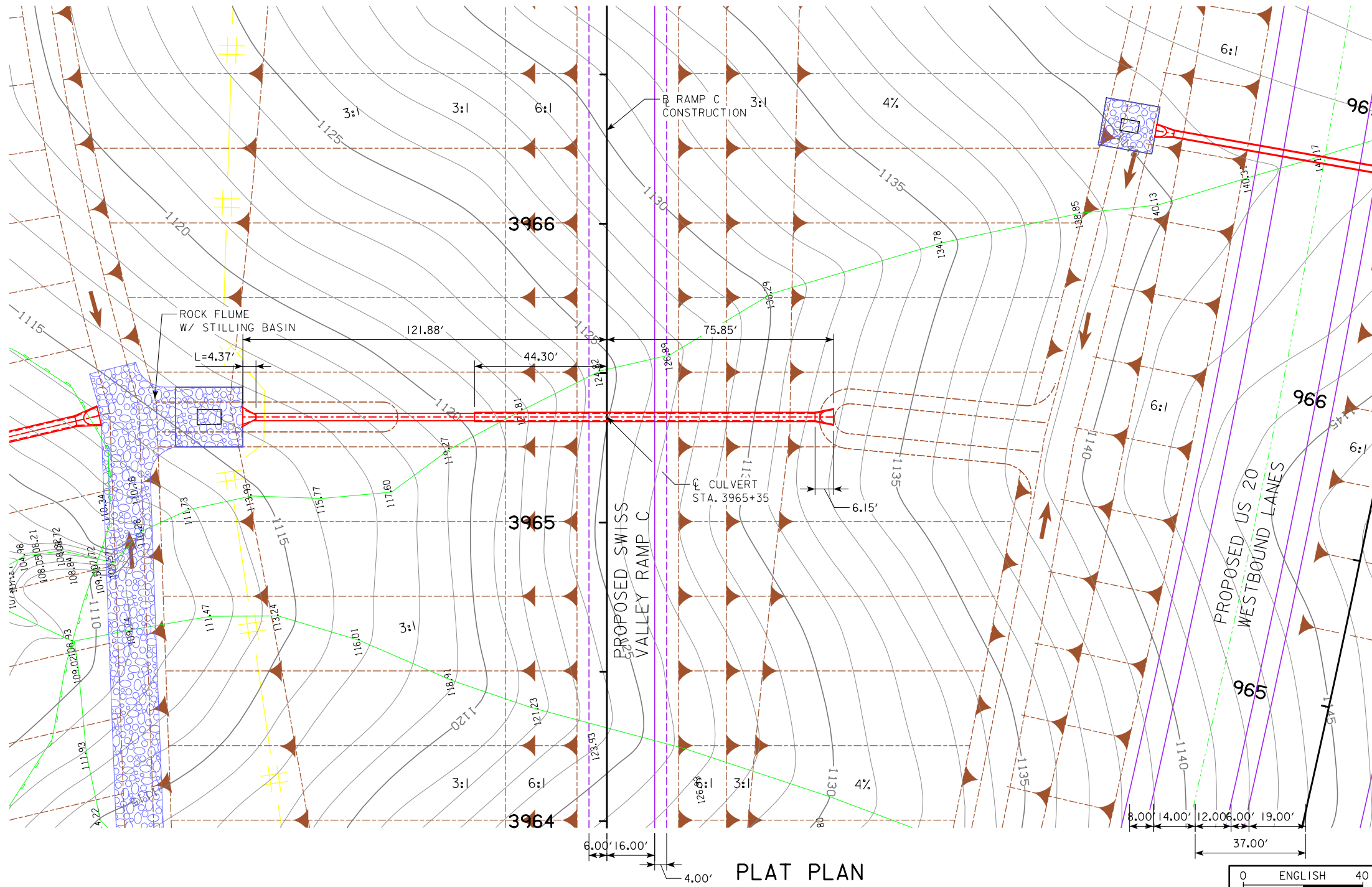
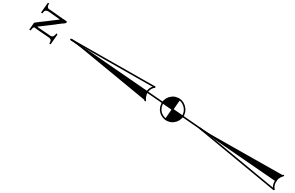
DESIGN FOR A 28° SKEW LT. AHD.  
**42 in. to 36 in. SLOPE TAPERED REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE**  
**PLAT PLAN**  
 STA. 1977+16 ( $\bar{C}$  RAMP A) MAY, 2019  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_







LONGITUDINAL SECTION ALONG CULVERT



PLAT PLAN

TRAFFIC ESTIMATE

|                    |      |        |
|--------------------|------|--------|
| 2017 AADT          | N/A  | V.P.D. |
| 2040 AADT          | 1344 | V.P.D. |
| 2040 DHV           | 156  | V.P.H. |
| TRUCKS             | 10   | %      |
| TOTAL DESIGN ESALs | --   |        |

LOCATION

US 20  
T-88 N R-1 E  
SECTION 12  
VERNON TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'28.37"N  
LONGITUDE 90°47'21.02"W

HYDRAULIC DATA

DRAINAGE AREA = 5.8 ACRES - ROLLING  
Q<sub>50</sub> = 17 CFS  
HW ELEV. = 1126.97

SCOUR HOLE: A=20', C=22.5', D=2', E=2.5', F=2.5'  
(SEE U SHEETS FOR DETAIL)

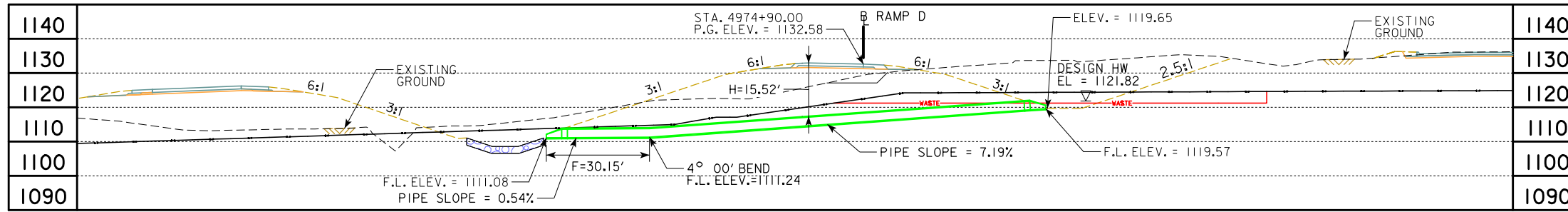
QUANTITIES

CLASS E REVETMENT: 49.6 TONS  
ENGINEERING FABRIC: 52 SQ.YDS

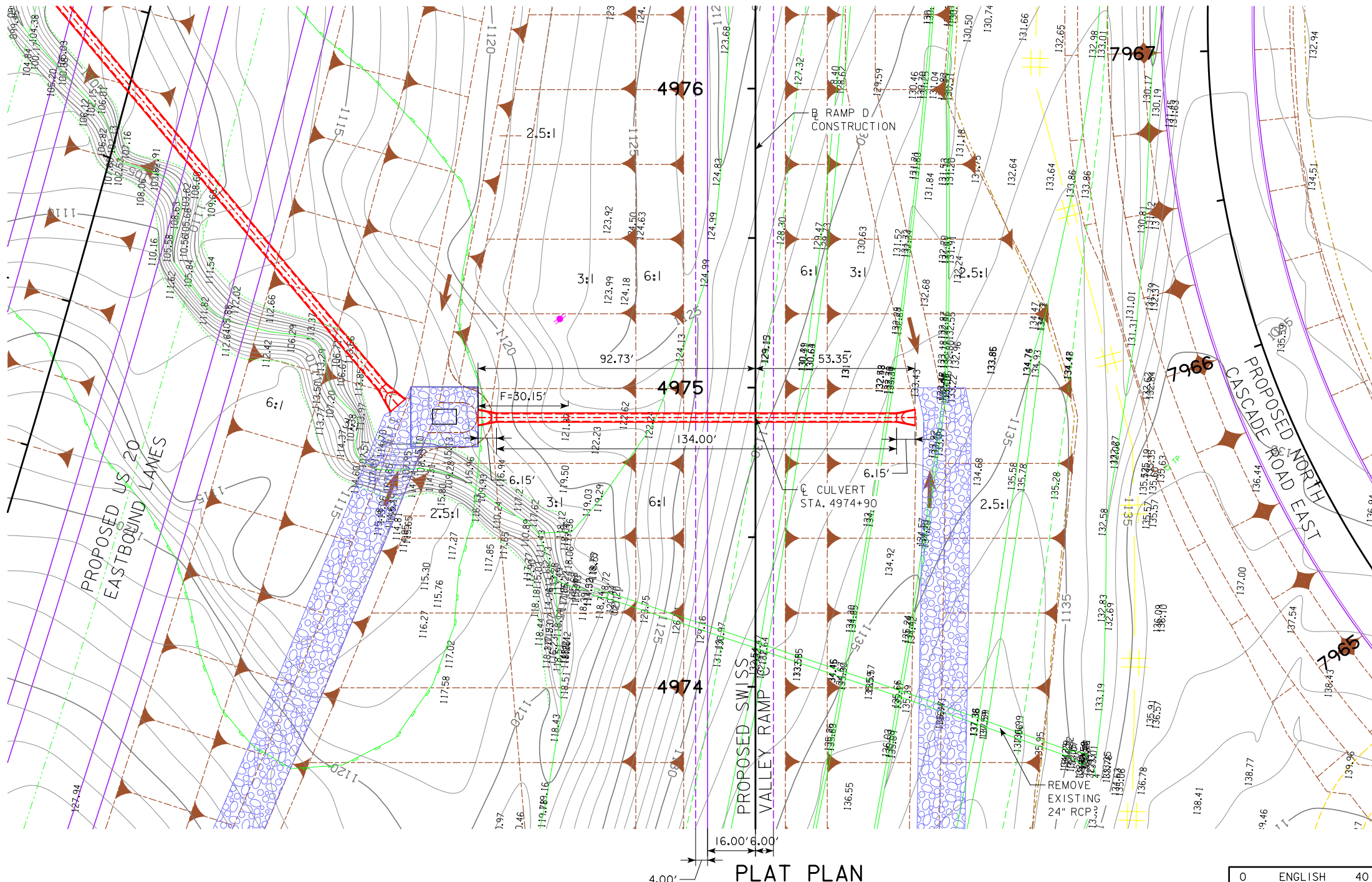
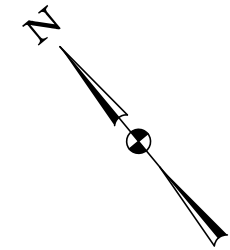
NOTE:  
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0° SKEW  
**30 in. x 190 ft.**  
**REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE**  
**PLAT PLAN**  
STA. 3965+35 (CULVERT) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.





LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



**TRAFFIC ESTIMATE**

| Year | AADT               | N/A  | V.P.D. |
|------|--------------------|------|--------|
| 2017 | AADT               | N/A  | V.P.D. |
| 2040 | AADT               | 2360 | V.P.D. |
| 2040 | DHV                | 266  | V.P.H. |
|      | TRUCKS             | 10   | %      |
|      | TOTAL DESIGN ESALS | --   |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'28.43"N  
 LONGITUDE 90°47'6.45"W

**HYDRAULIC DATA**

DRAINAGE AREA = 7.4 ACRES - ROLLING  
 Q<sub>50</sub> = 20 CFS  
 HW ELEV. = 1121.82

SCOUR HOLE: A=20', C=22.5', D=2', E=2.5', F=2.5'  
 (SEE U SHEETS FOR DETAILS)

**QUANTITIES**

CLASS E REVETMENT: 49.6 TONS  
 ENGINEERING FABRICS: 52 SQ.YDS.

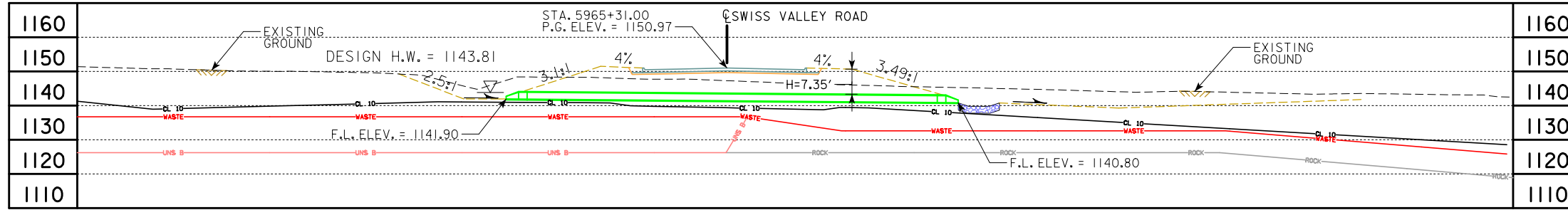
NOTE:  
 ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0° SKEW  
**30 in. x 134 ft.**  
**REINFORCED CONC. PIPE LETDOWN**

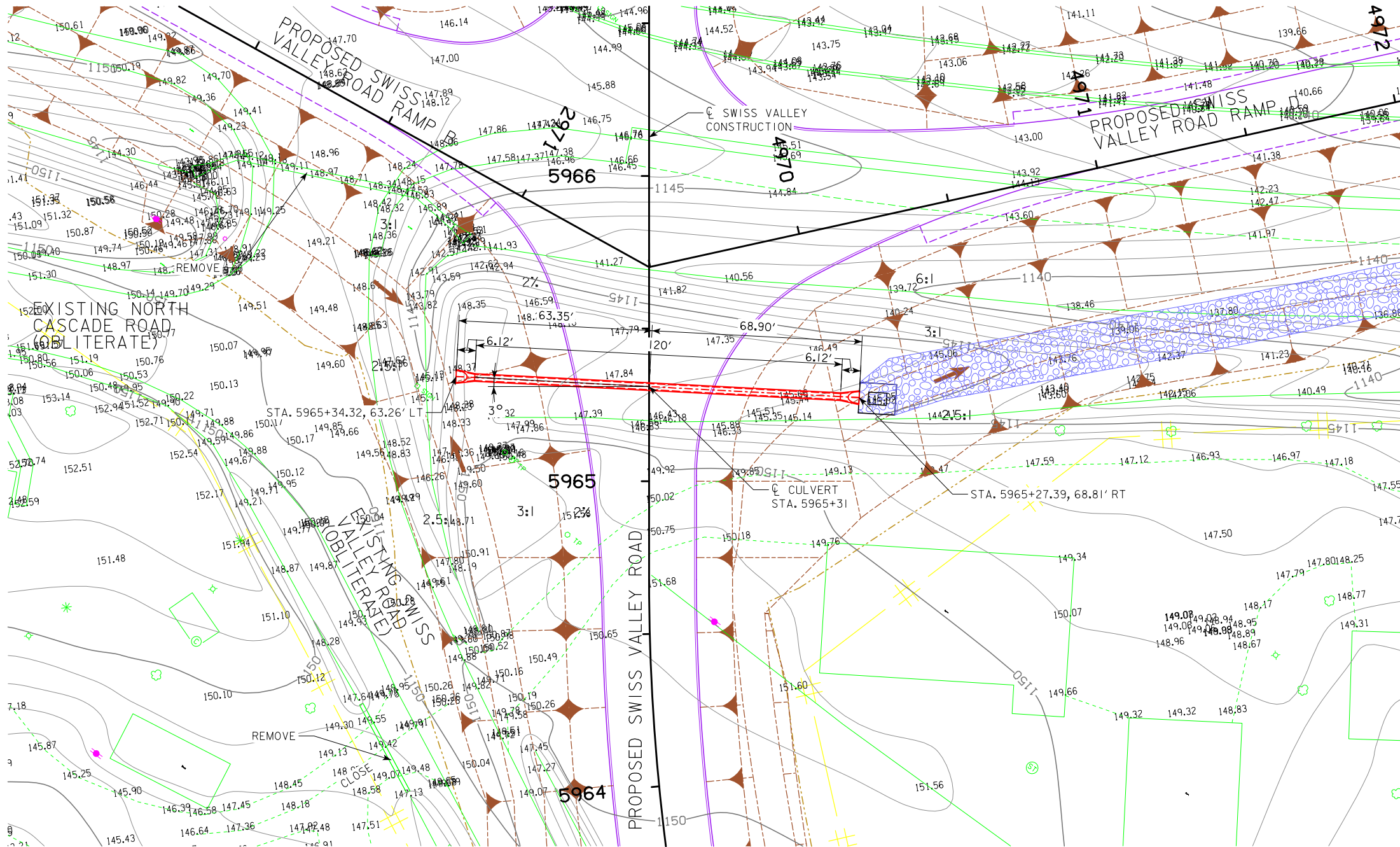
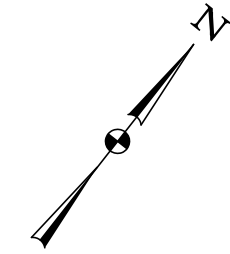
**PLAT PLAN**  
 STA. 4974+90 ( $\phi$  RAMP D) MAY, 2019  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_







LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |      |        |
|--------------------|------|--------|
| 2017 AADT          | 952  | V.P.D. |
| 2040 AADT          | 3088 | V.P.D. |
| 2040 DHV           | 381  | V.P.H. |
| TRUCKS             | 4    | %      |
| TOTAL DESIGN ESALs | --   |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'24.14"N  
 LONGITUDE 90°47'10.89"W

**HYDRAULIC DATA**

DRAINAGE AREA = 4.6 ACRES - ROLLING  
 Q<sub>50</sub> = 12 CFS  
 HW ELEV. = 1143.81

SCOUR NOTES: A=10', C=12', D=2', E=2', F=1'  
 (SEE U SHEETS FOR DETAILS)

**QUANTITIES**

|                     |             |
|---------------------|-------------|
| CLASS E REVETMENT:  | 13.2 TONS   |
| ENGINEERING FABRIC: | 14 SQ. YDS. |

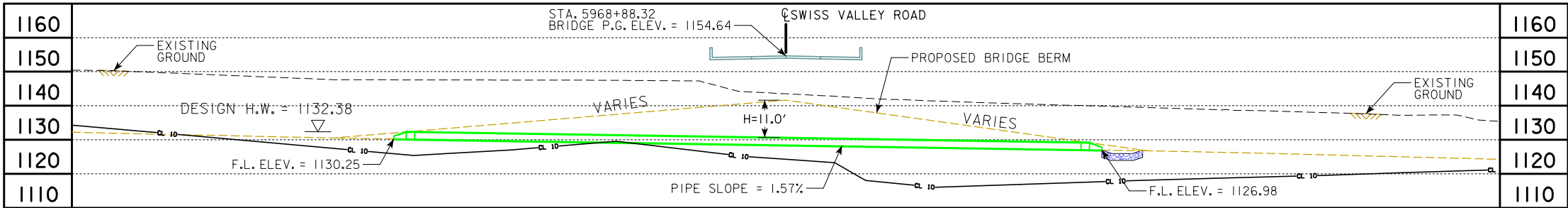
**NOTE:**  
 ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 3° SKEW LT. AHD.  
**24 in. x 120 ft.**  
**REINFORCED CONCRETE PIPE**

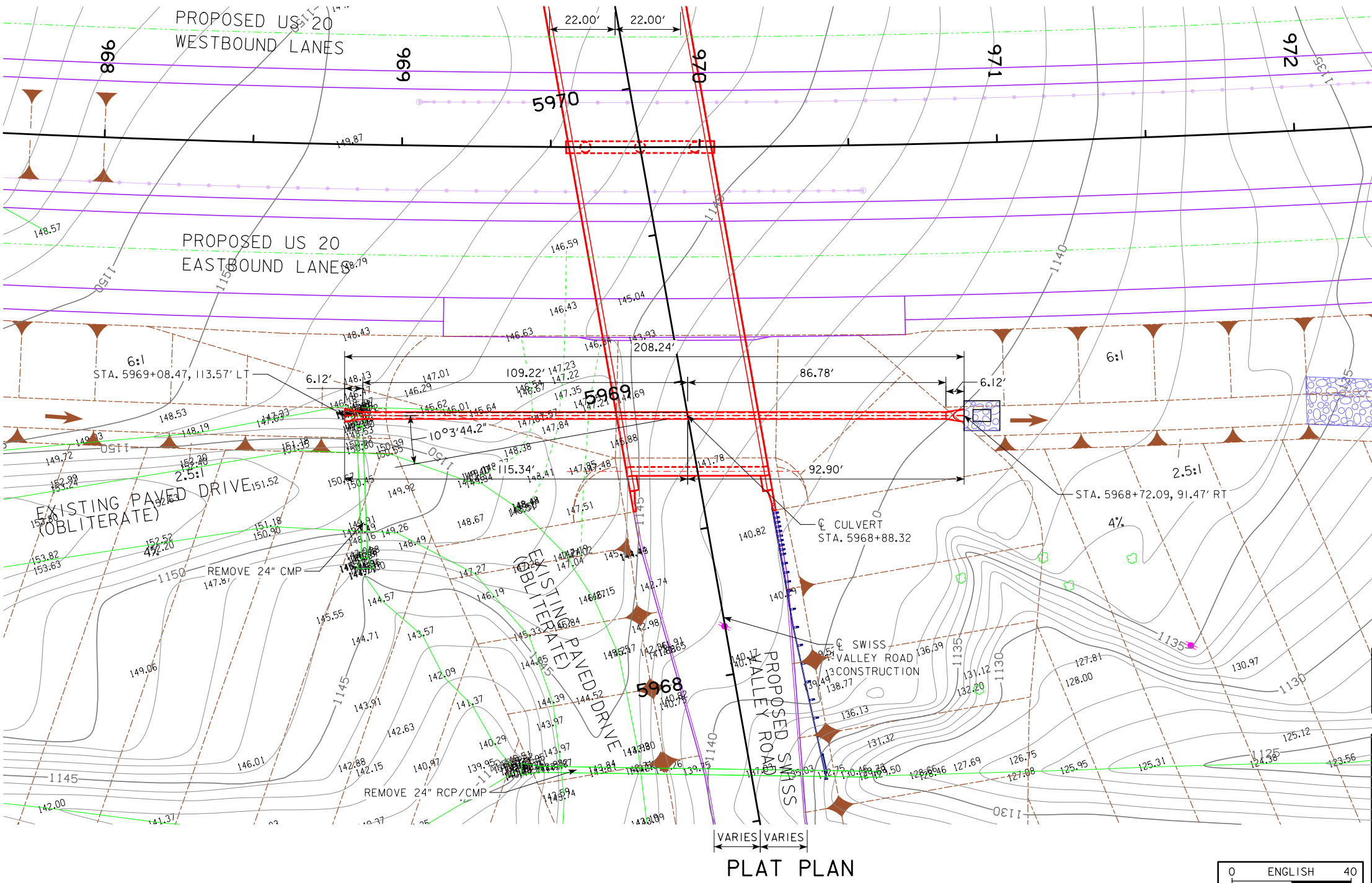
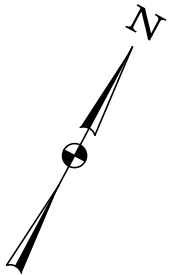
**PLAT PLAN**  
 STA. 5965+31 (CL SWISS VALLEY ROAD)  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_

MAY, 2019





LONGITUDINAL SECTION ALONG CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |      |        |
|--------------------|------|--------|
| 2017 AADT          | 952  | V.P.D. |
| 2040 AADT          | 3088 | V.P.D. |
| 2040 DHV           | 381  | V.P.H. |
| TRUCKS             | 4    | %      |
| TOTAL DESIGN ESALs | --   |        |

**LOCATION**

US 20  
T-88 N R-1 E  
SECTION 12  
VERNON TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'26.96"N  
LONGITUDE 90°47'13.70"W

**HYDRAULIC DATA**

DRAINAGE AREA = 4.6 ACRES - ROLLING  
Q<sub>50</sub> = 14 CFS  
HW ELEV. = 1132.38

SCOUR NOTES: A=10', C=12', D=2', E=2', F=1'  
(SEE U SHEETS FOR DETAILS)

**QUANTITIES**

CLASS E REVETMENT: 13.2 TONS  
ENGINEERING FABRIC: 14 SQ. YDS.

NOTE:  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

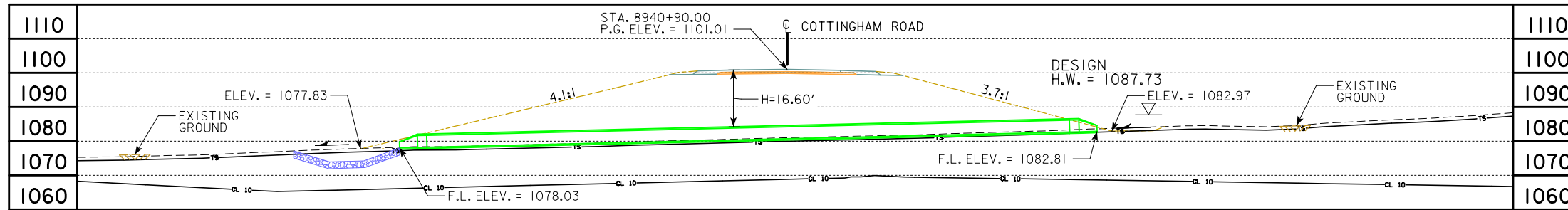
DESIGN FOR A 10° SKEW LT. AHD.  
**24 in. x 196 ft.**  
**REINFORCED CONCRETE PIPE**

**PLAT PLAN**  
STA. 5968+88.32 (C SWISS VALLEY ROAD)  
**DUBUQUE COUNTY**

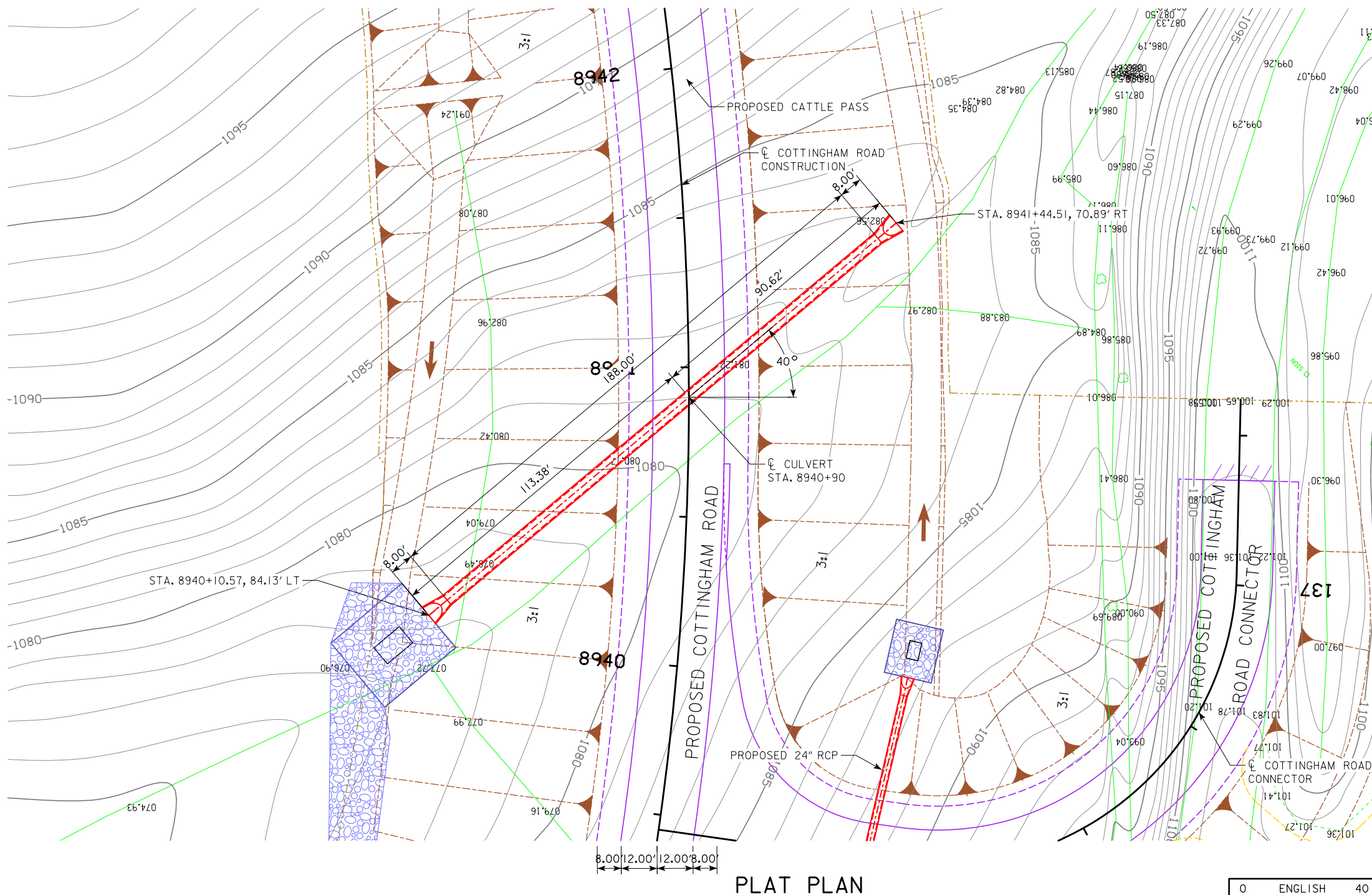
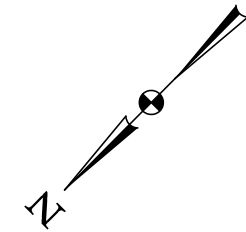
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_







LONGITUDINAL SECTION ALONG CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 215 | V.P.D. |
| 2040 AADT          | 589 | V.P.D. |
| 2040 DHV           | 77  | V.P.H. |
| TRUCKS             | 10  | %      |
| TOTAL DESIGN ESALS | --  |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'28.56"N  
 LONGITUDE 90°48'1.63"W

**HYDRAULIC DATA**

DRAINAGE AREA = 29.4 ACRES - HILLY  
 Q<sub>50</sub> = 78 CFS  
 HW ELEV. = 1087.73

SCOUR NOTES: A=28', C=31', D=2', E=3.5', F=3.5'  
 (SEE U SHEETS FOR DETAILS)

**QUANTITIES**

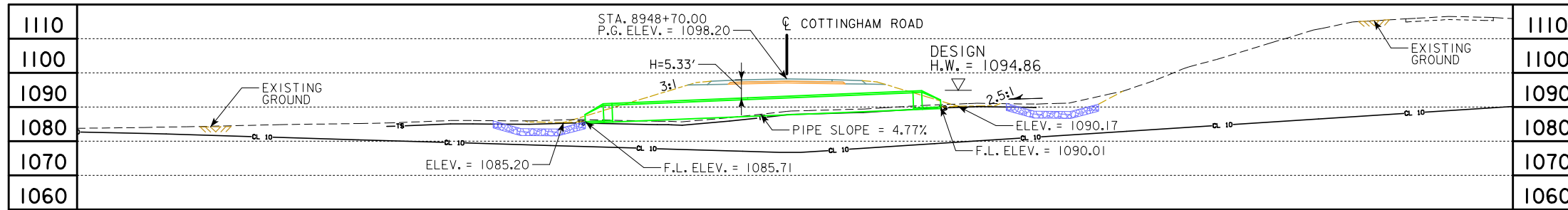
CLASS E REVETMENT: 96.6 TONS  
 ENGINEERING FABRIC: 102 YDS.

NOTE:  
 ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

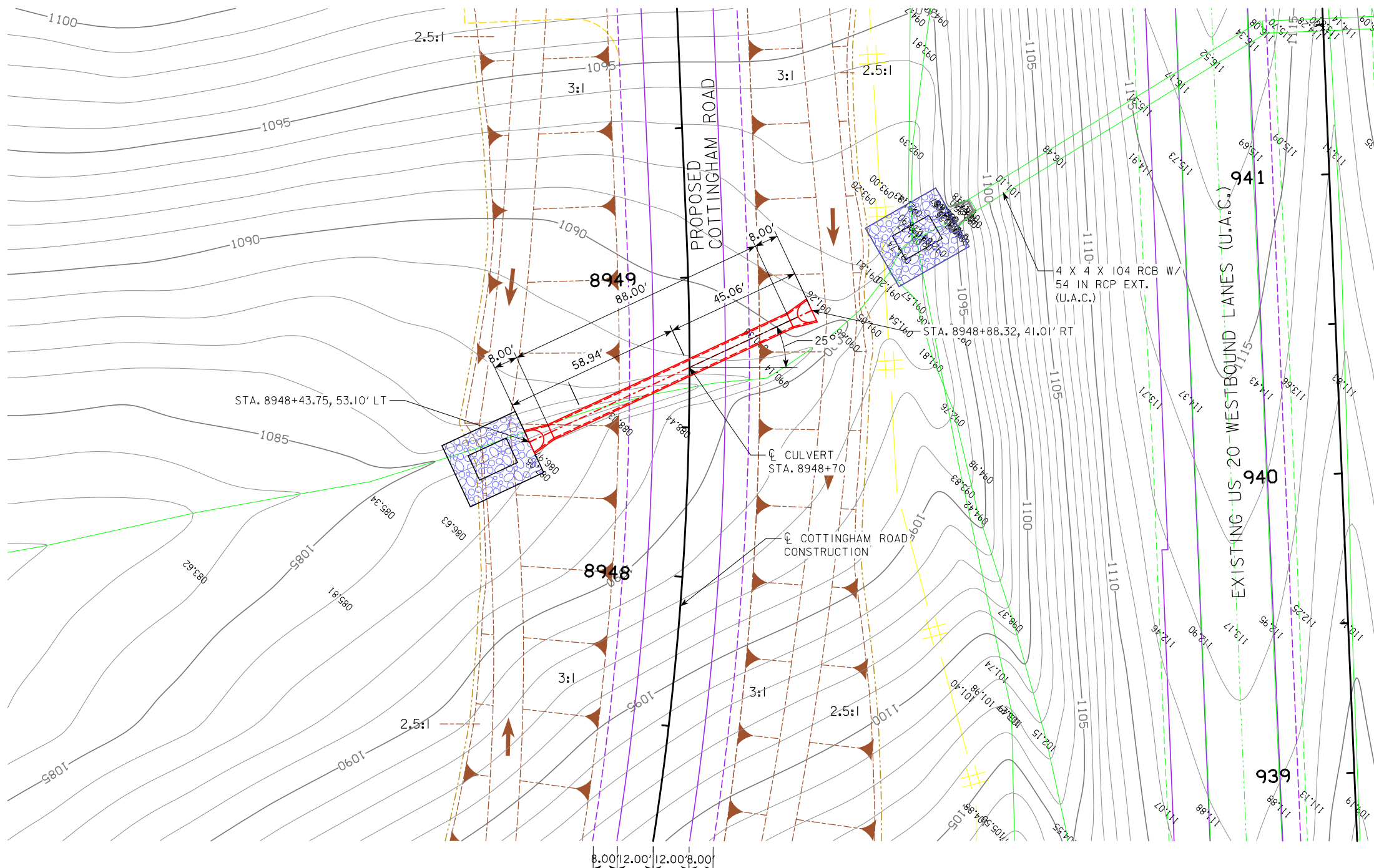
DESIGN FOR A 40° SKEW RT. AHD.  
**42 in. x 188 ft.**  
**REINFORCED CONCRETE PIPE**

**PLAT PLAN**  
 STA. 8940+90 (C COTTINGHAM) MAY, 2019

DUBUQUE COUNTY  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG CULVERT



PLAT PLAN

TRAFFIC ESTIMATE

|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 215 | V.P.D. |
| 2040 AADT          | 589 | V.P.D. |
| 2040 DHV           | 77  | V.P.H. |
| TRUCKS             | 10  | %      |
| TOTAL DESIGN ESALs | --  |        |

LOCATION

US 20  
T-88 N R-1 E  
SECTION 12  
VERNON TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'25.36"N  
LONGITUDE 90°47'52.53"W

HYDRAULIC DATA

DRAINAGE AREA = 45.9 ACRES - HILLY  
Q<sub>50</sub> = 110.2 CFS  
HW ELEV. = 1094.86

SCOUR HOLES: A=22.5', C=27', D=2', E=4.5', F=2.25'  
(SEE U SHEETS FOR DETAIL)

QUANTITIES

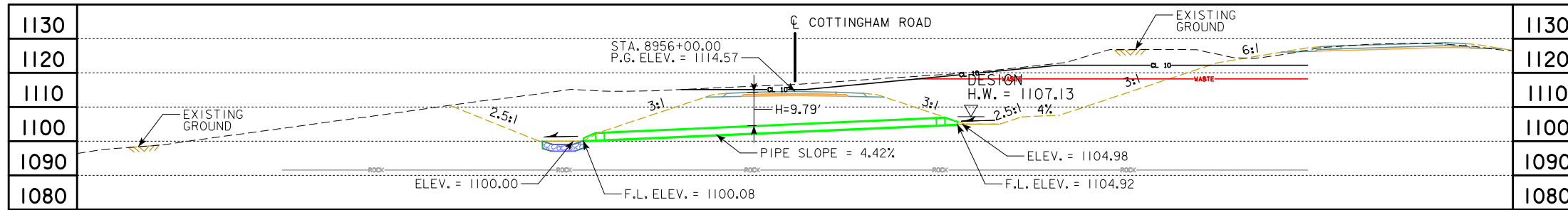
CLASS E REVETMENT: 133.1 TONS (FOR 2 HOLES)  
ENGINEERING FABRIC: 140 SQ. YDS. (FOR 2 HOLES)

NOTE:  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

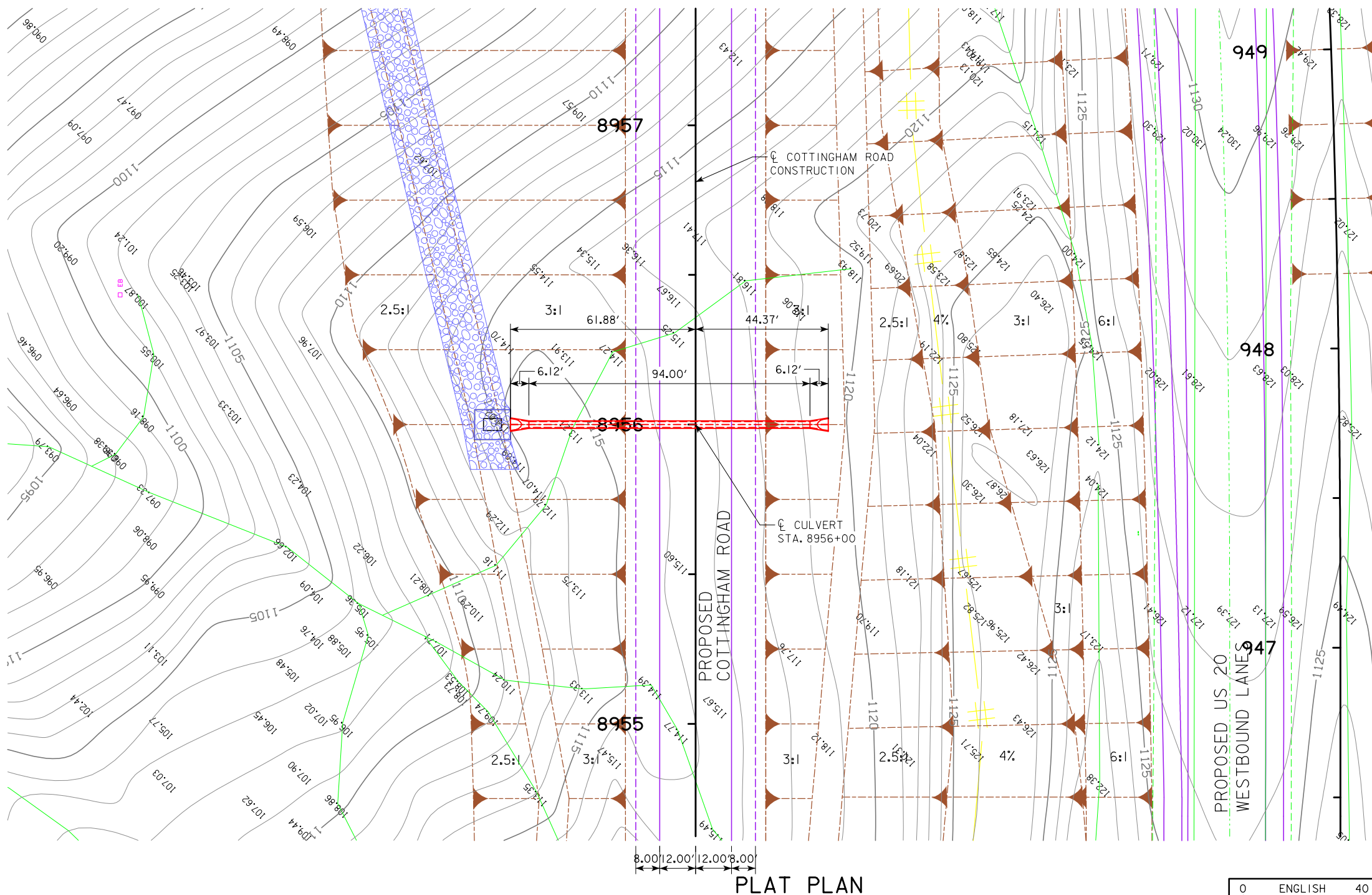
DESIGN FOR A 25° SKEW RT. AHD.  
**54 in. x 88 ft.**  
**REINFORCED CONCRETE PIPE**  
**PLAT PLAN**  
STA. 8948+70 (C COTTINGHAM) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_







LONGITUDINAL SECTION ALONG CULVERT



PLAT PLAN

TRAFFIC ESTIMATE

|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 215 | V.P.D. |
| 2040 AADT          | 589 | V.P.D. |
| 2040 DHV           | 77  | V.P.H. |
| TRUCKS             | 10  | %      |
| TOTAL DESIGN ESALS | --  |        |

LOCATION

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'25.14"N  
 LONGITUDE 90°47'42.78"W

HYDRAULIC DATA

DRAINAGE AREA = 3.7 ACRES - HILLY  
 Q<sub>50</sub> = 15 CFS  
 HW ELEV. = 1107.13

SCOUR NOTES: A=10', C=12', D=2', E=2', F=1'  
 (SEE U SHEETS FOR DETAILS)

QUANTITIES

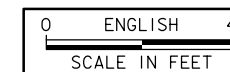
CLASS E REVETMENT: 13.2 TONS  
 ENGINEERING FABRIC: 14 SQ. YDS.

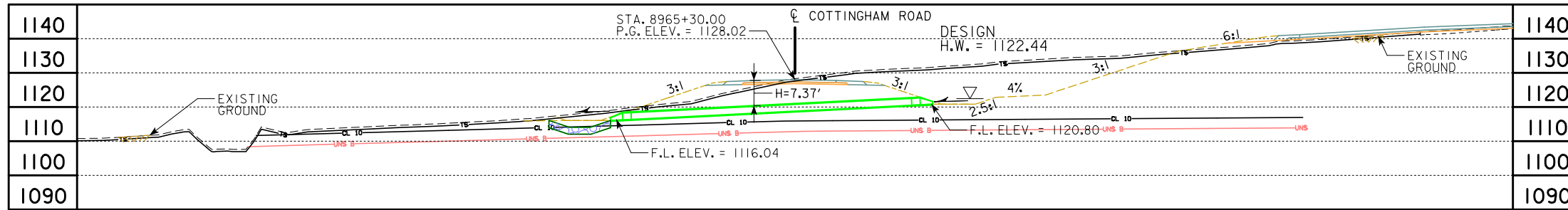
NOTE:  
 ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0° SKEW  
**24 in. x 94 ft.**  
**REINFORCED CONCRETE PIPE**

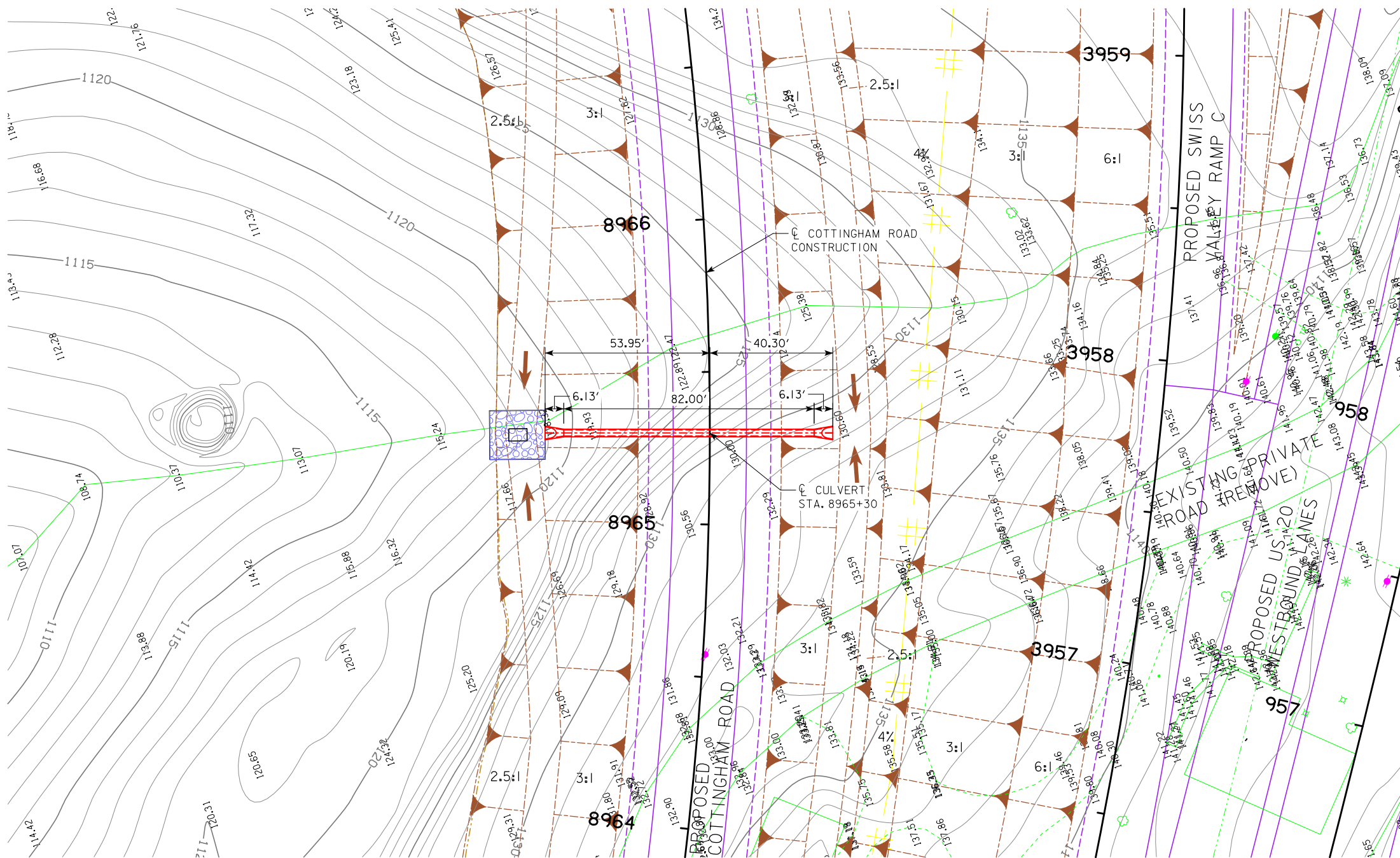
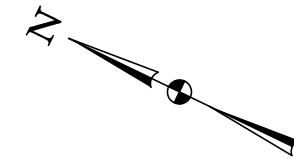
PLAT PLAN  
 STA. 8956+00 (C COTTINGHAM) MAY, 2019  
**DUBUQUE COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_





LONGITUDINAL SECTION ALONG CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 215 | V.P.D. |
| 2040 AADT          | 589 | V.P.D. |
| 2040 DHV           | 77  | V.P.H. |
| TRUCKS             | 10  | %      |
| TOTAL DESIGN ESALs | --  |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'25.04"N  
 LONGITUDE 90°47'38.60"W

**HYDRAULIC DATA**

DRAINAGE AREA = 2.3 ACRES - HILLY  
 Q<sub>50</sub> = 10 CFS  
 HW ELEV. = 1122.44

SCOUR HOLE: A=16', C=18', D=2', E=2', F=2'  
 (SEE U SHEETS FOR DETAIL)

**QUANTITIES**

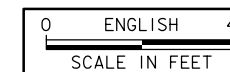
CLASS E REVETMENT: 31.7 TONS  
 ENGINEERING FABRIC: 34 SQ. YDS.

NOTE:  
 ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

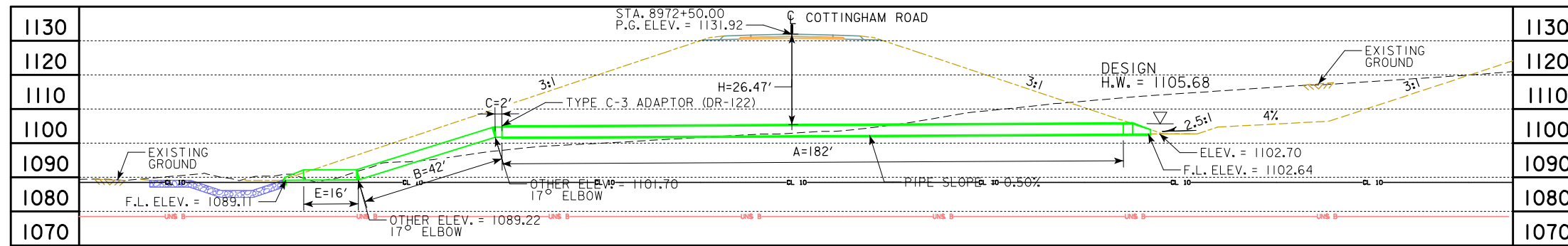
DESIGN FOR A 0° SKEW  
**24 in. x 82 ft.**  
**REINFORCED CONCRETE PIPE**

**PLAT PLAN**  
 STA. 8965+30 (C COTTINGHAM) MAY, 2019  
**DUBUQUE COUNTY**

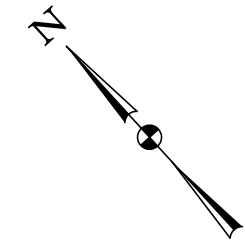
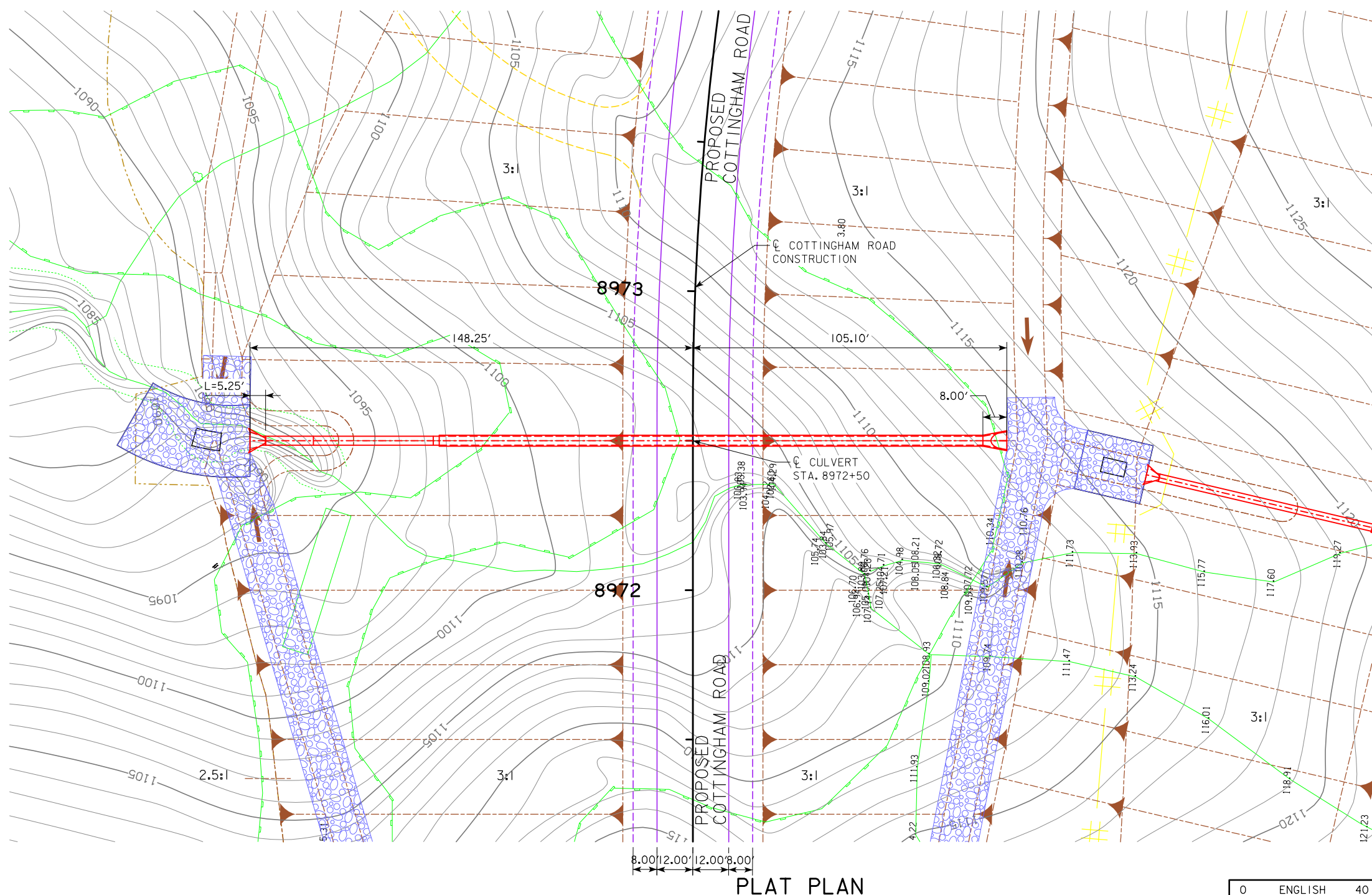
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.







LONGITUDINAL SECTION ALONG C CULVERT



TRAFFIC ESTIMATE

|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 215 | V.P.D. |
| 2040 AADT          | 589 | V.P.D. |
| 2040 DHV           | 77  | V.P.H. |
| TRUCKS             | 10  | %      |
| TOTAL DESIGN ESALs | --  |        |

LOCATION

US 20  
T-88 N R-1 E  
SECTION 12  
VERNON TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'30.51"N  
LONGITUDE 90°47'23.16"W

HYDRAULIC DATA

DRAINAGE AREA = 11.2 ACRES - HILLY  
Q<sub>50</sub> = 37 CFS  
HW ELEV. = 1105.68

SCOUR HOLE: A=24', C=27', D=2', E=3', F=3'  
(SEE U SHEETS FOR DETAIL)

ADD 24' WIDE BY 12' LONG EXTENDED  
REVETMENT APRON

QUANTITIES

CLASS E REVETMENT: 101.7 TONS  
ENGINEERING FABRIC: 108 YDS.

NOTE:  
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0° SKEW

**36 in. x 242 ft.**

**REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE**

**PLAT PLAN**

STA. 8972+50 (C COTTINGHAM)

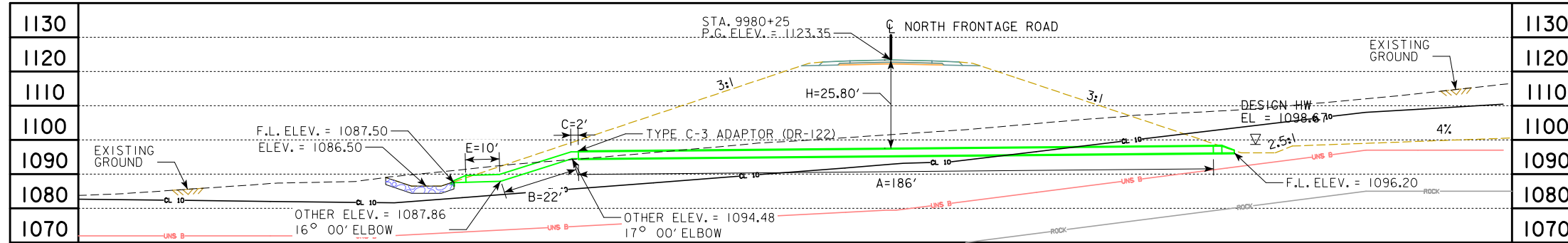
**DUBUQUE COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

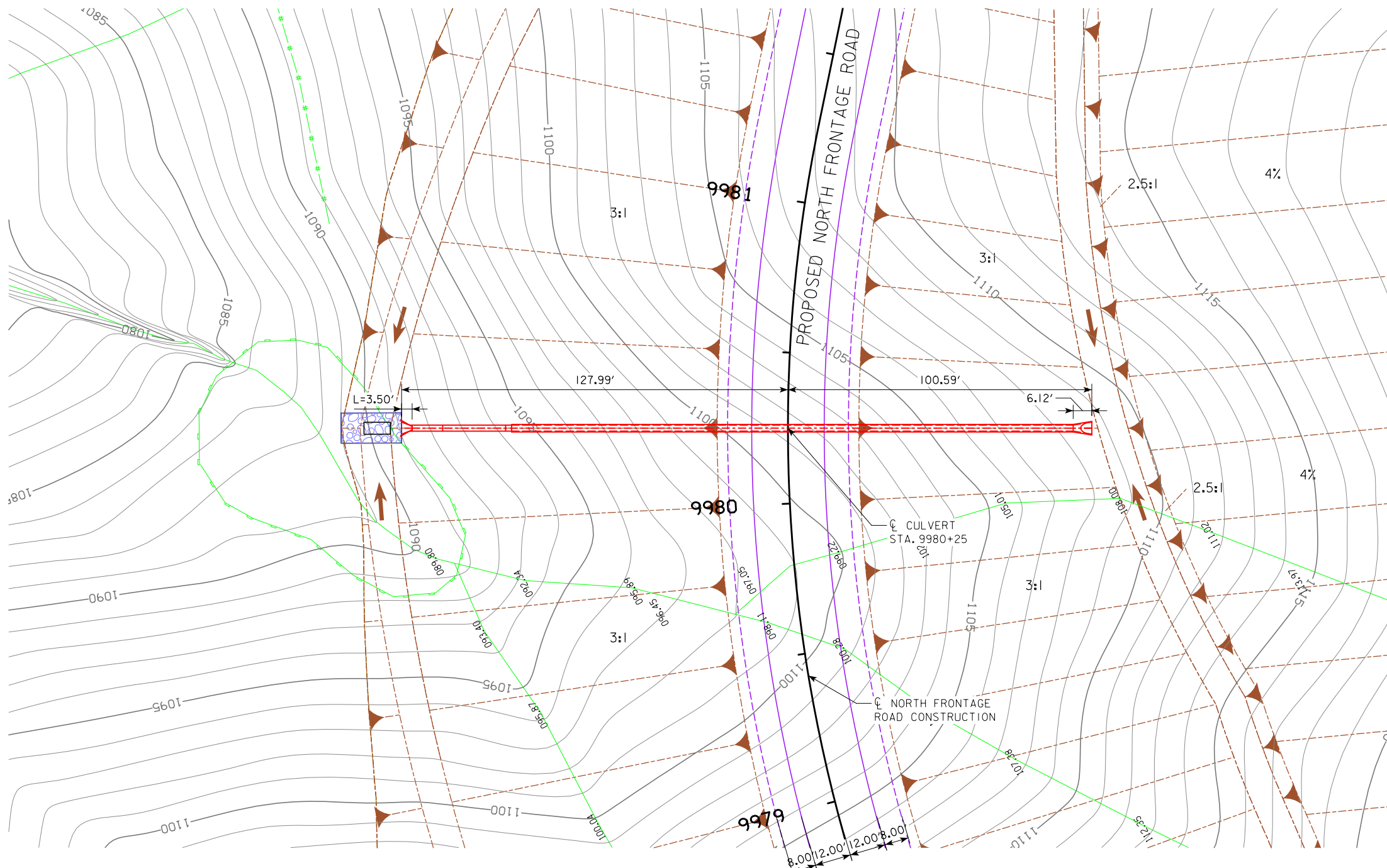
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_

MAY, 2019

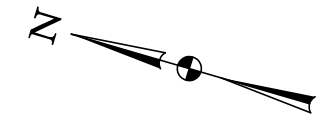




LONGITUDINAL SECTION ALONG  $\bar{C}$  CULVERT



PLAT PLAN



**TRAFFIC ESTIMATE**

|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 142 | V.P.D. |
| 2040 AADT          | 197 | V.P.D. |
| 2040 DHV           | 29  | V.P.H. |
| TRUCKS             | 4   | %      |
| TOTAL DESIGN ESALs | --  |        |

**LOCATION**

US 20  
T-88 N R-2 E  
SECTION 7  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'34.82"N  
LONGITUDE 90°47'14.74"W

**HYDRAULIC DATA**

DRAINAGE AREA = 4.3 ACRES - HILLY  
Q<sub>50</sub> = 17 CFS  
HW ELEV. = 1098.67

SCOUR HOLE: A=10', C=20', D=2', E=2', F=1'  
(SEE U SHEETS FOR DETAIL)

**QUANTITIES**

CLASS E REVETMENT: 21 TONS  
ENGINEERING FABRIC: 35.6 SQ. YDS.

NOTE:  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

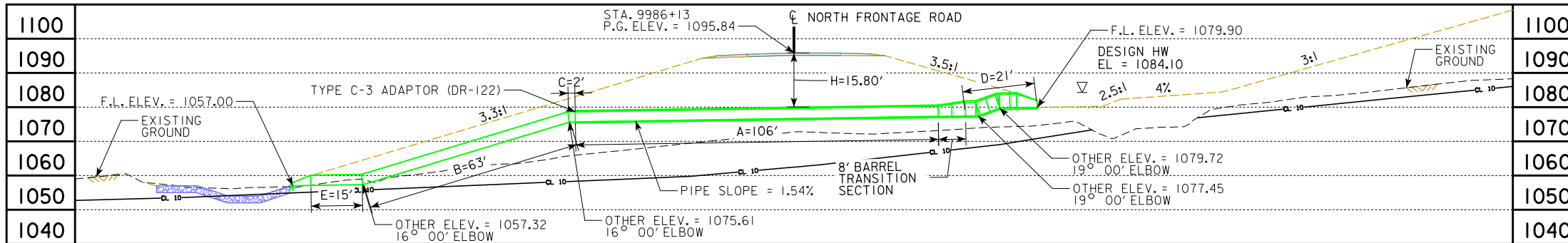
DESIGN FOR A 0° SKEW  
**24 in. x 220 ft. RCP  
& UNCL. LETDOWN STRUCTURE**

**PLAT PLAN**  
STA. 9980+25- ( $\bar{C}$  NORTH FRONTAGE ROAD) NOVEMBER 20, 2019  
**DUBUQUE COUNTY**

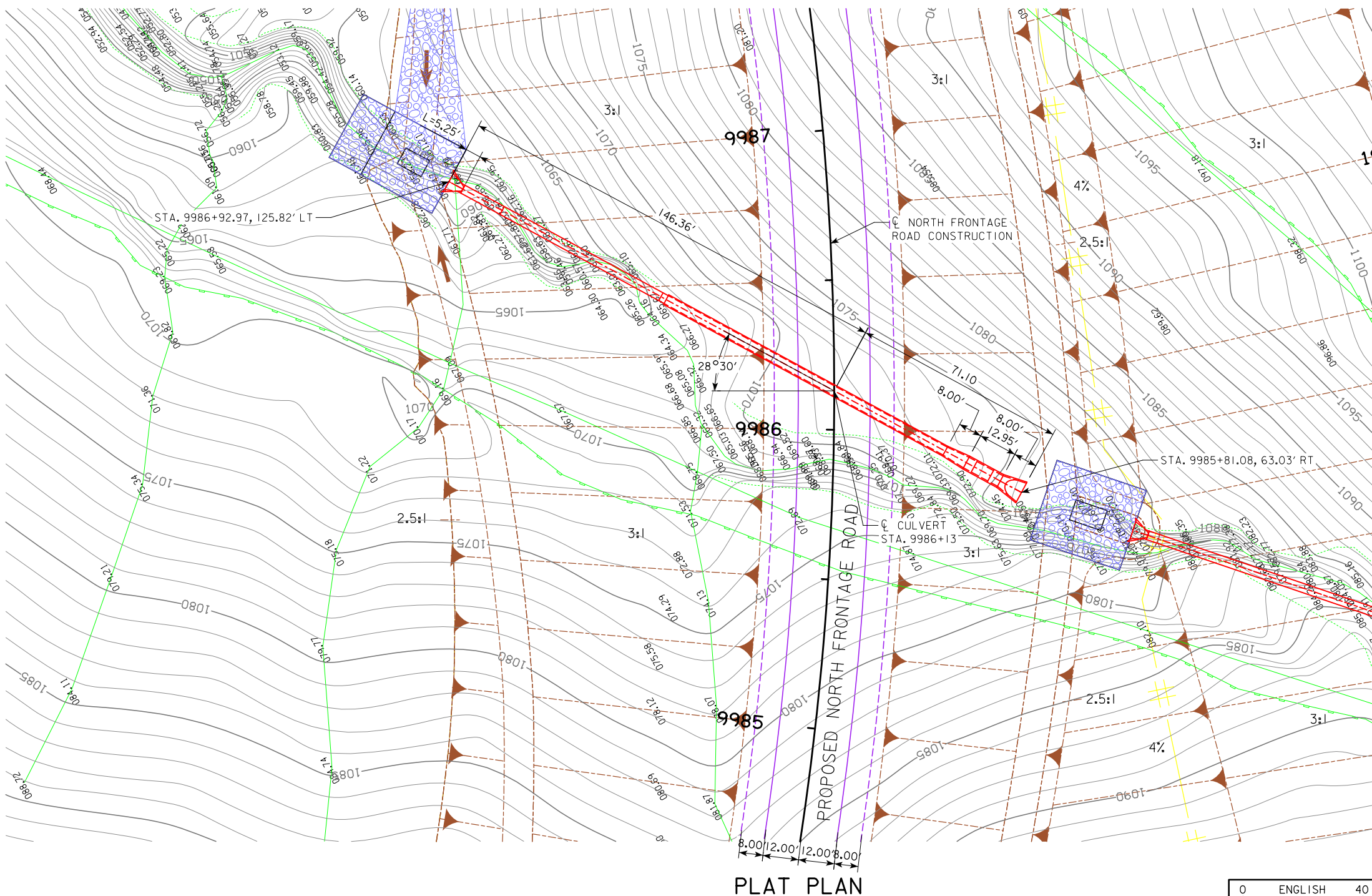
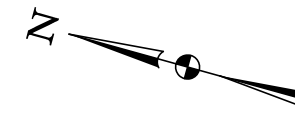
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_







LONGITUDINAL SECTION ALONG CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 142 | V.P.D. |
| 2040 AADT          | 197 | V.P.D. |
| 2040 DHV           | 29  | V.P.H. |
| TRUCKS             | 4   | %      |
| TOTAL DESIGN ESALS | --  |        |

**LOCATION**

US 20  
T-88 N R-2 E  
SECTION 7  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'32.81"N  
LONGITUDE 90°47'7.39"W

**HYDRAULIC DATA**

DRAINAGE AREA = 30 ACRES - HILLY  
Q<sub>50</sub> = 77 CFS  
HW ELEV. = 1084.26

SCOUR HOLE: A=24', C=27', D=2', E=3', F=3'  
(SEE U SHEETS FOR DETAIL)

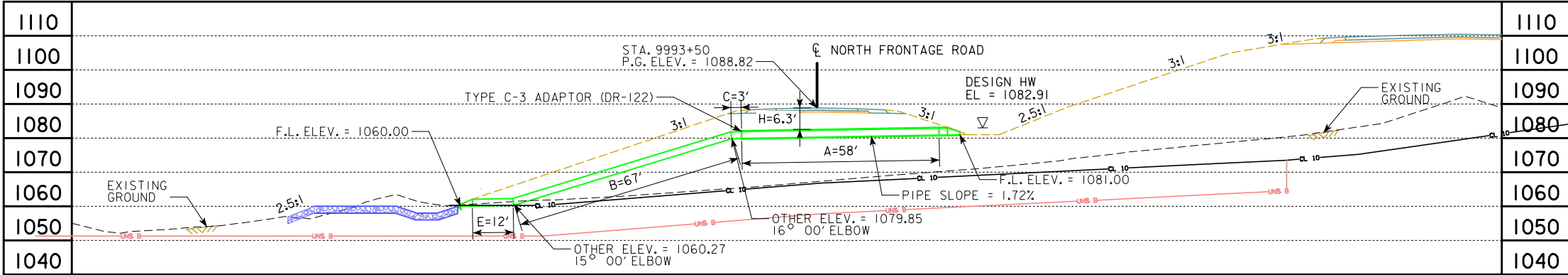
ADD 24' WIDE BY 12' LONG EXTENDED  
REVTMENT APRON

**QUANTITIES**

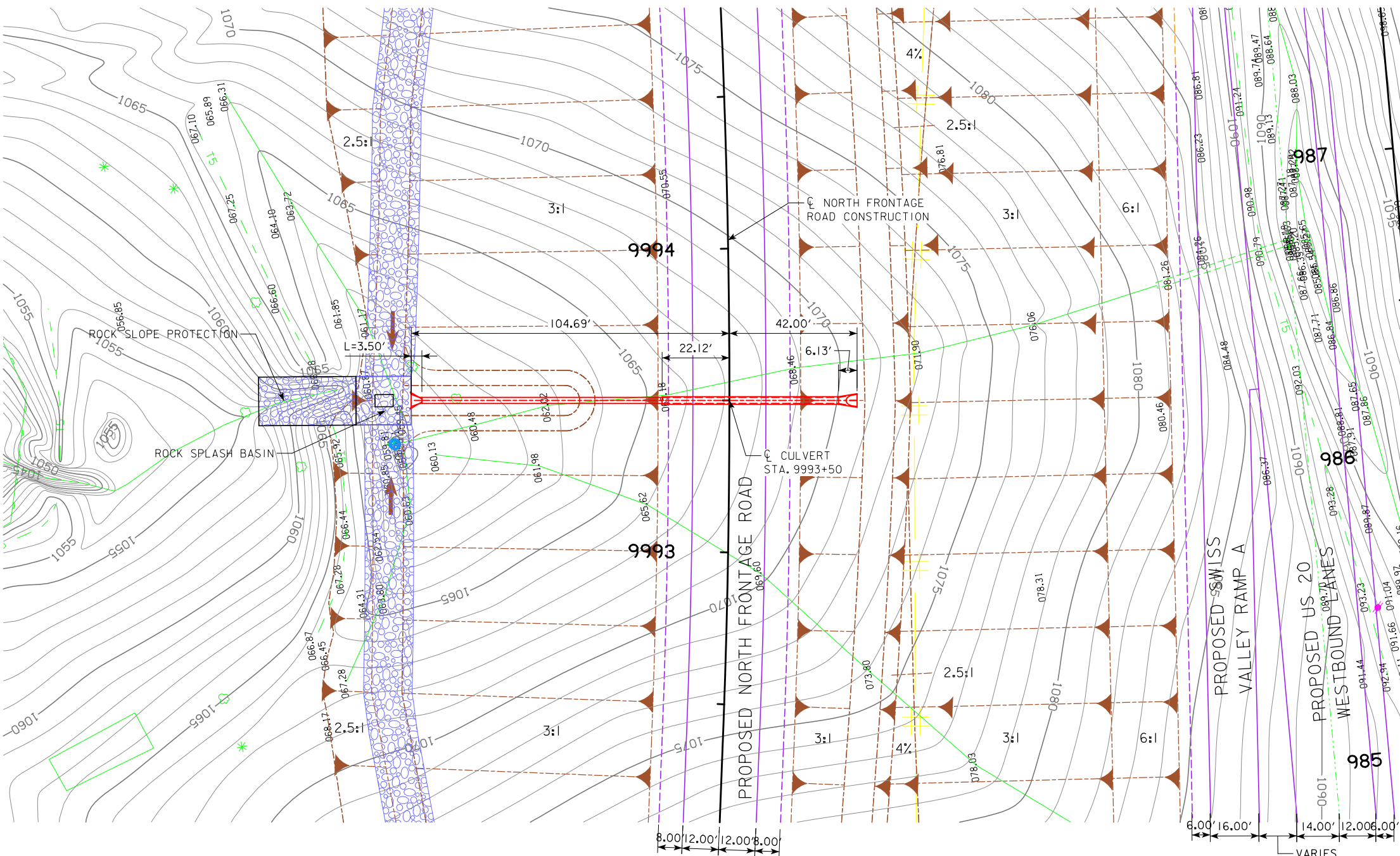
CLASS E REVTMENT: 101.7 TONS  
ENGINEERING FABRIC: 108 YDS.

NOTE:  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 28.5° SKEW LT. AHD.  
**48 in. to 36 in. SLOPE TAPERED REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE**  
**PLAT PLAN**  
STA. 9986+13 (CULVERT NORTH FRONTAGE ROAD) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG  $\bar{C}$  CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 142 | V.P.D. |
| 2040 AADT          | 197 | V.P.D. |
| 2040 DHV           | 29  | V.P.H. |
| TRUCKS             | 4   | %      |
| TOTAL DESIGN ESALs | --  |        |

**LOCATION**

US 20  
T-88 N R-1 E  
SECTION 12  
VERNON TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'36.24"N  
LONGITUDE 90°46'57.88"W

**HYDRAULIC DATA**

DRAINAGE AREA = 4 ACRES - ROLLING  
Q<sub>50</sub> = 12 CFS  
HW ELEV. = 1082.91

SCOUR HOLE: A=16', C=18', D=2', E=2', F=2'  
(SEE U SHEETS FOR DETAIL)

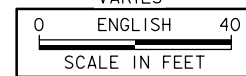
ADD 16' WIDE BY 32' LONG EXTENDED  
REVTMENT APRON

**QUANTITIES**

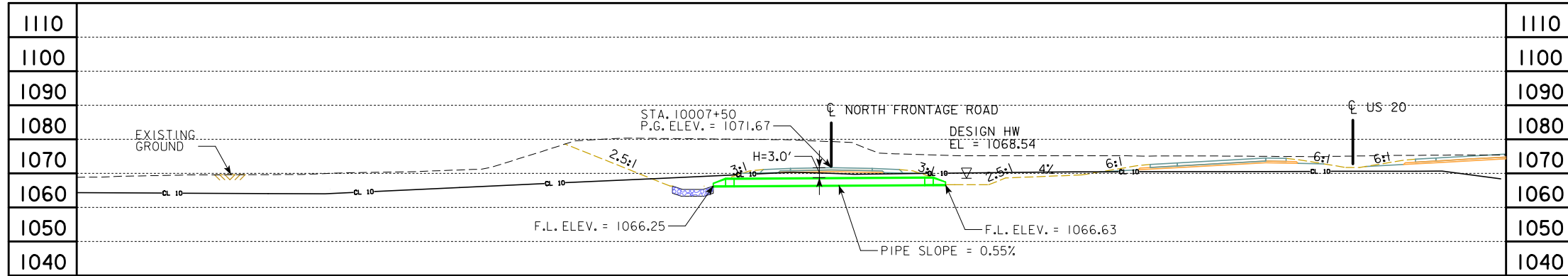
CLASS E REVTMENT: 85.5 TONS  
ENGINEERING FABRIC: 90 YDS.

NOTE:  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

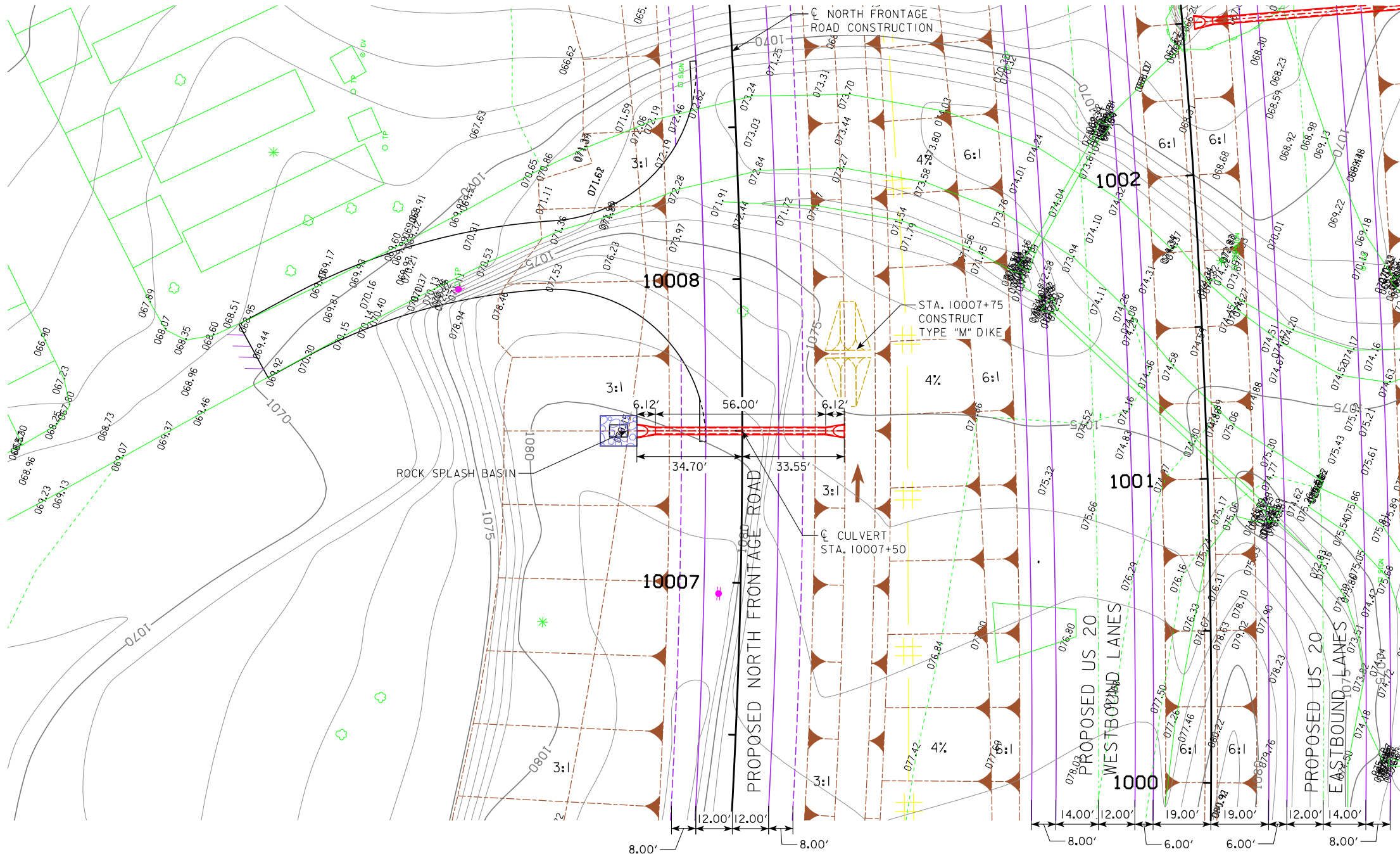
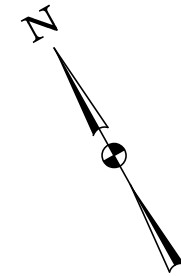
DESIGN FOR A 0° SKEW  
**24 in. x 140 ft.**  
**REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE**  
**PLAT PLAN**  
STA. 9993+50 ( $\bar{C}$  NORTH FRONTAGE ROAD) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_







LONGITUDINAL SECTION ALONG  $\bar{C}$  CULVERT



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 142 | V.P.D. |
| 2040 AADT          | 197 | V.P.D. |
| 2040 DHV           | 29  | V.P.H. |
| TRUCKS             | 4   | %      |
| TOTAL DESIGN ESALs | --  |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'49.06"N  
 LONGITUDE 90°46'46.10"W

**HYDRAULIC DATA**

DRAINAGE AREA = 3.8 ACRES - ROLLING  
 $Q_{50} = 12$  CFS  
 HW ELEV. = 1068.54

SCOUR NOTES: A=10', C=12', D=2', E=2', F=1'  
 (SEE U SHEETS FOR DETAILS)

**QUANTITIES**

CLASS E REVETMENT: 13.2 TONS  
 ENGINEERING FABRIC: 14 SQ. YDS.

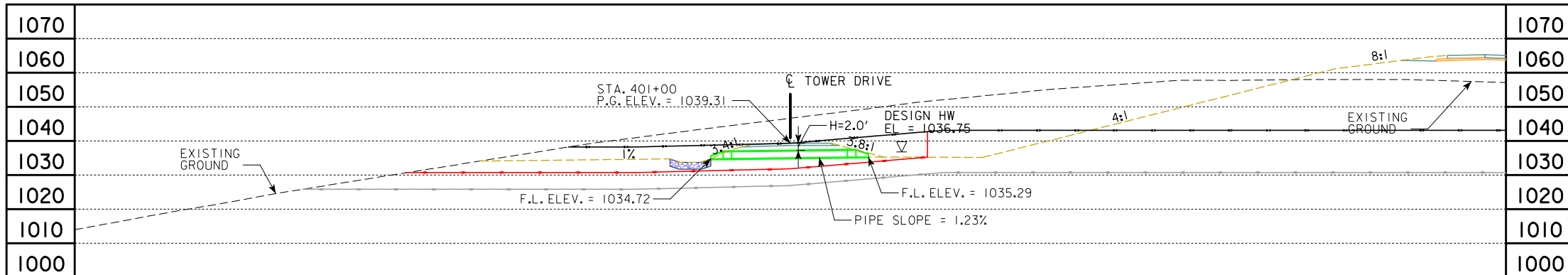
NOTE:  
 ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0° SKEW  
**24 in. x 56 ft.**  
**REINFORCED CONCRETE PIPE**

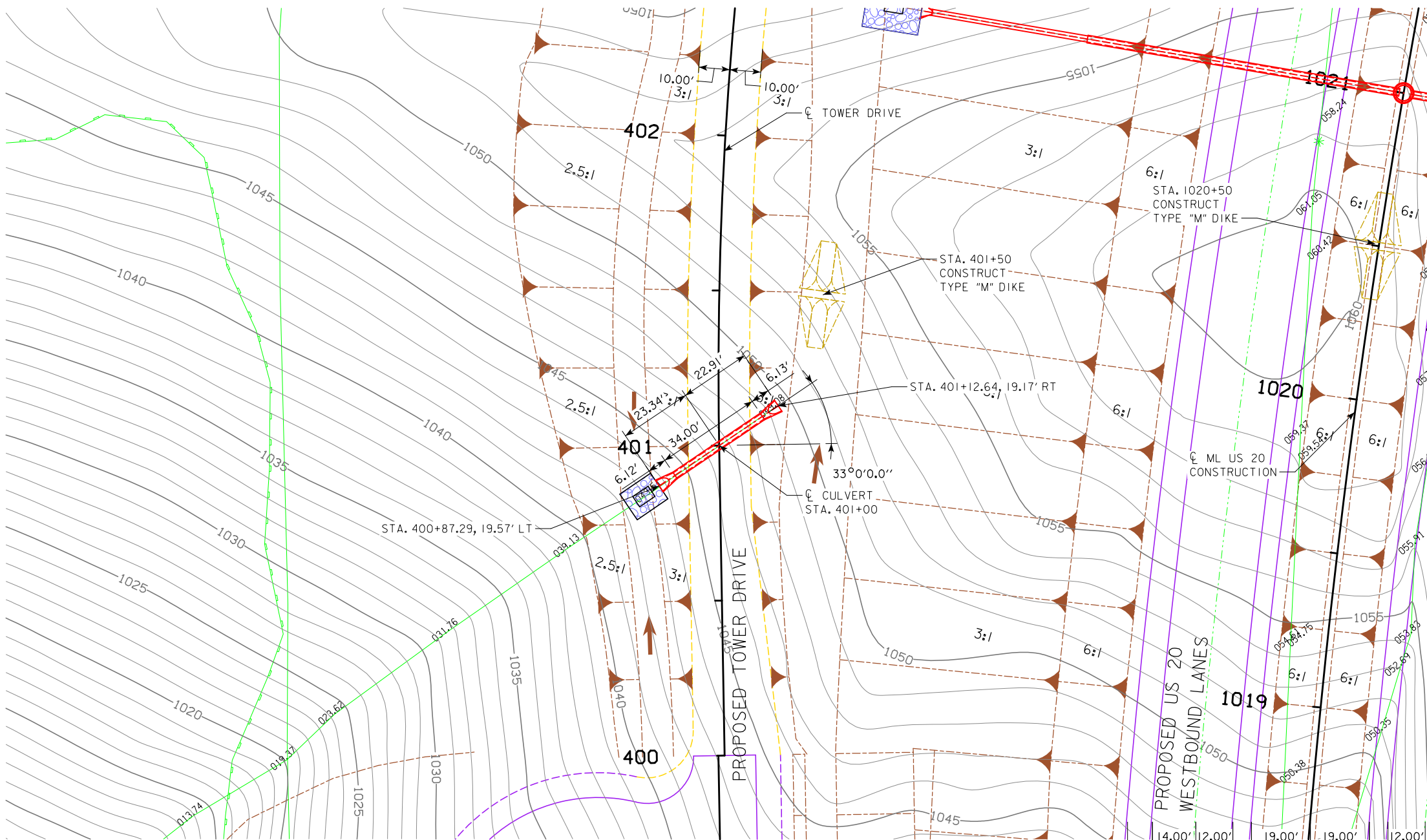
**PLAT PLAN**  
 STA. 10007+50 ( $\bar{C}$  NORTH FRONTAGE ROAD)  
**DUBUQUE COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_





LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

**LOCATION**

US 20  
T-88 N R-2 E  
SECTION 7  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°27'06.43"N  
LONGITUDE 90°46'43.61"W

**HYDRAULIC DATA**

DRAINAGE AREA = 2.3 ACRES - ROLLING  
Q<sub>50</sub> = 8 CFS  
HW ELEV. = 1036.75

SCOUR NOTES: A=10', C=12', D=2', E=2', F=1'  
(SEE U SHEETS FOR DETAILS)

**QUANTITIES**

CLASS E REVETMENT: 13.2 TONS  
ENGINEERING FABRIC: 14 SQ. YDS.

NOTE:  
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 33° SKEW  
**24 in. x 34 ft.**  
**REINFORCED CONCRETE PIPE**

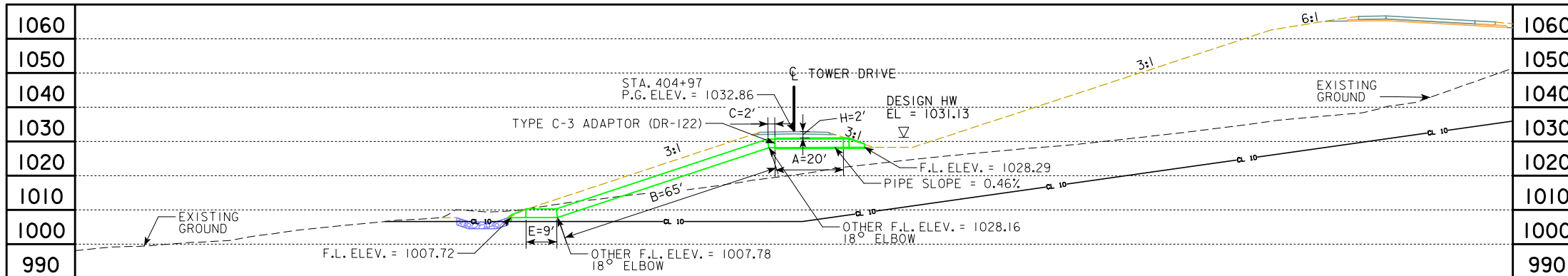
**PLAT PLAN**  
STA. 401+00 ( $\phi$  TOWER DRIVE)  
**DUBUQUE COUNTY**

MAY, 2019

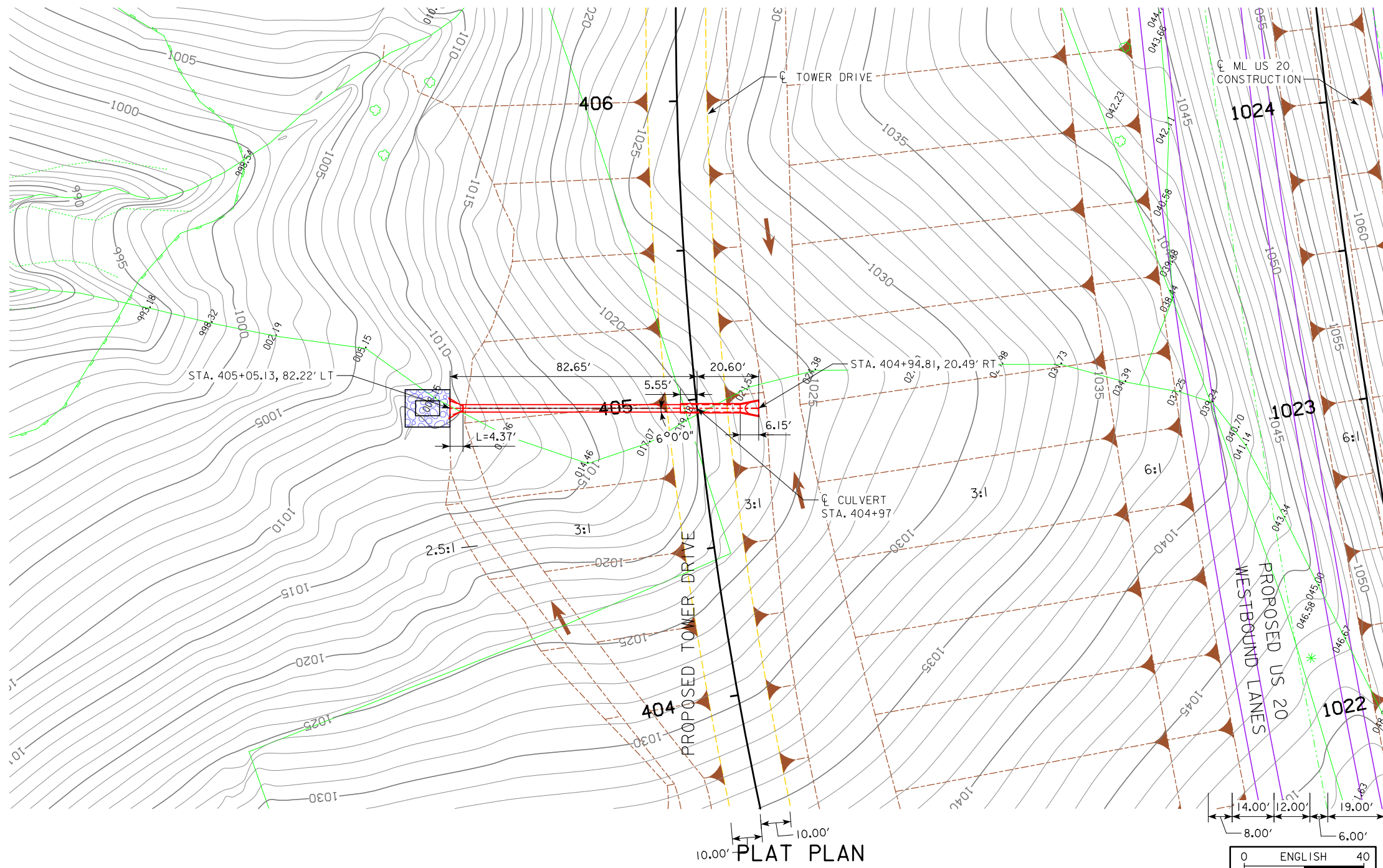
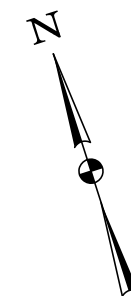
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.







LONGITUDINAL SECTION ALONG  $\bar{C}$  CULVERT



PLAT PLAN

**LOCATION**

US 20  
T-88 N R-2 E  
SECTION 7  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°27'10.33"N  
LONGITUDE 90°46'43.16"W

**HYDRAULIC DATA**

DRAINAGE AREA = 9.7 ACRES - ROLLING  
Q<sub>50</sub> = 25 CFS  
HW ELEV. = 1031.13

SCOUR HOLE: A=12.4', C=15', D=2', E=2.5', F=1.25'  
(SEE U SHEETS FOR DETAIL)

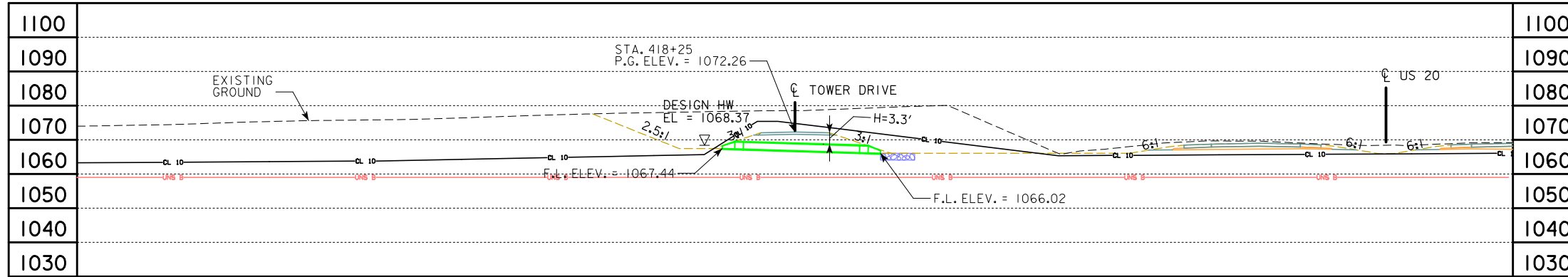
**QUANTITIES**

CLASS E REVETMENT: 20.6 TONS  
ENGINEERING FABRIC: 22 SQ. YDS.

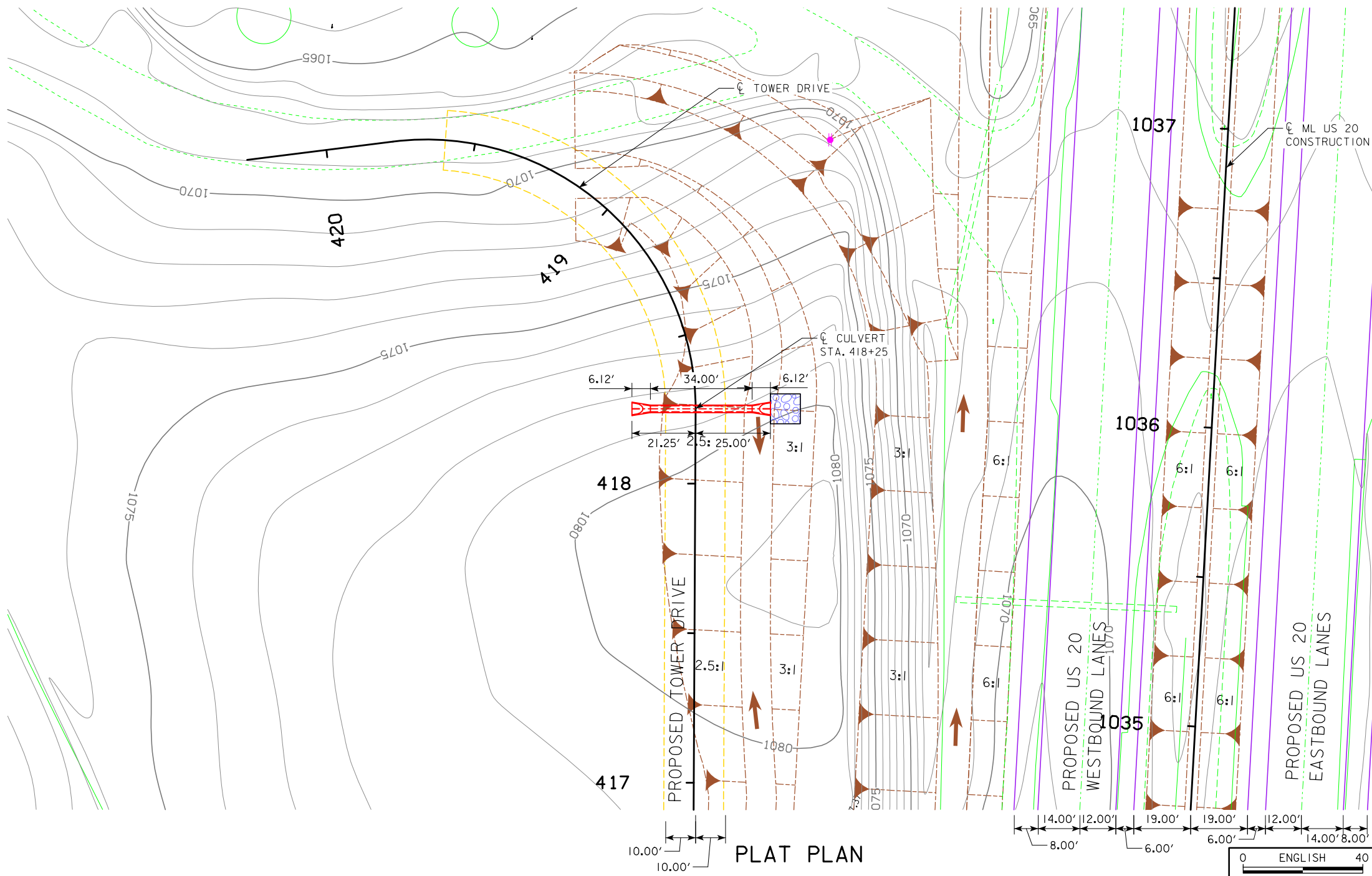
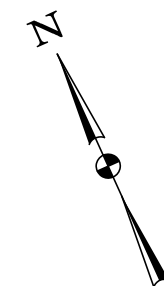
NOTE:  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 6° SKEW  
**30 in. x 96 ft.**  
**REINFORCED CONC. & UNCLASSIFIED LETDOWN PIPE**  
**PLAT PLAN**  
STA. 404+97 ( $\bar{C}$  TOWER DRIVE) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO.





LONGITUDINAL SECTION ALONG CL CULVERT



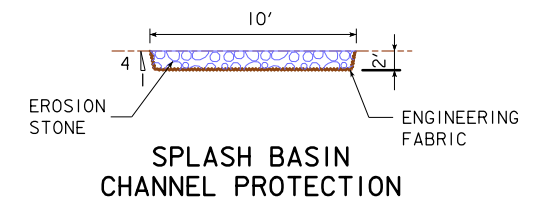
PLAT PLAN

**LOCATION**

US 20  
T-88 N R-2 E  
SECTION 6  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°27'22.19"N  
LONGITUDE 90°46'35.65"W

**HYDRAULIC DATA**

DRAINAGE AREA = 1.0 ACRES - ROLLING  
Q<sub>50</sub> = 4 CFS  
HW ELEV. = 1068.37



SPLASH BASIN CHANNEL PROTECTION

**QUANTITIES**

CLASS E REVETMENT: 10.5 TONS  
ENGINEERING FABRIC: 20 SQ. YDS.

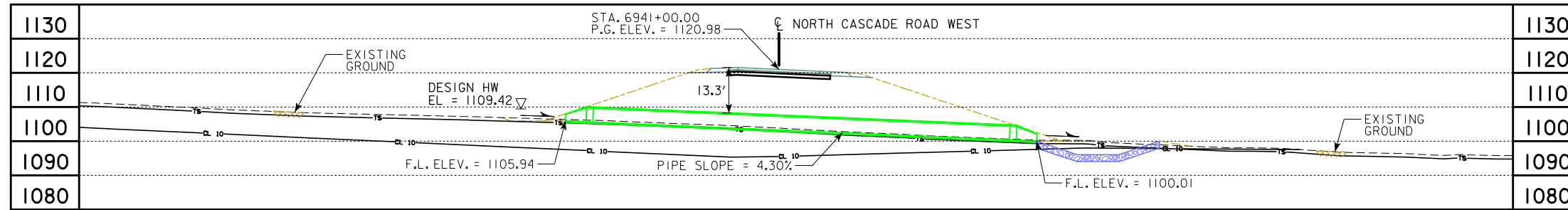
NOTE:  
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0° SKEW  
**24 in. x 34 ft.**  
**REINFORCED CONCRETE PIPE**

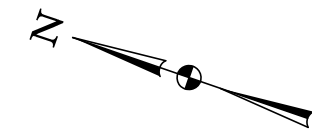
**PLAT PLAN**  
STA. 418+25 (CL TOWER DRIVE) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_







LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



**TRAFFIC ESTIMATE**

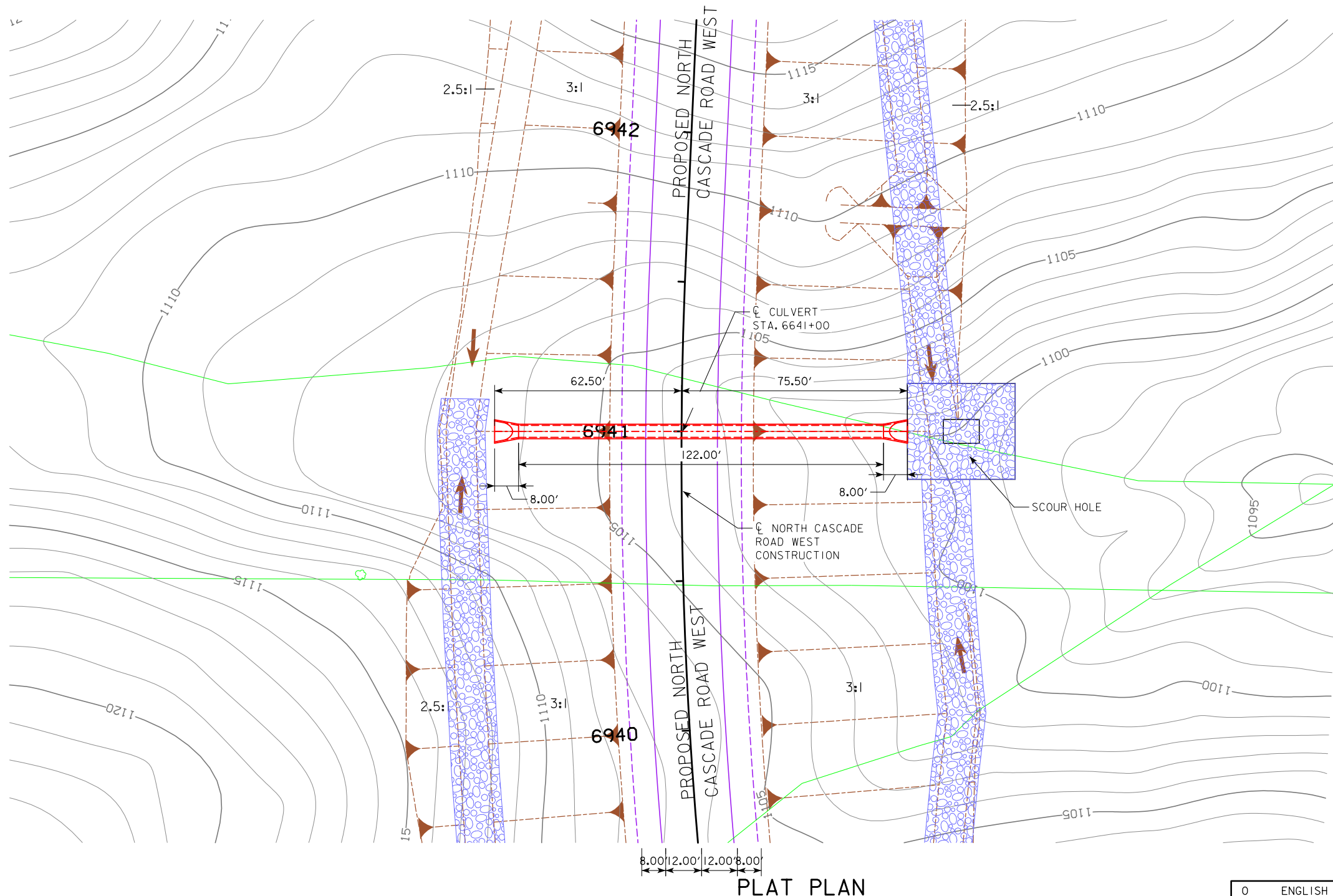
|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 471 | V.P.D. |
| 2040 AADT          | 771 | V.P.D. |
| 2040 DHV           | 99  | V.P.H. |
| TRUCKS             | 7   | %      |
| TOTAL DESIGN ESALs | --  |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 13  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'12.35"N  
 LONGITUDE 90°47'23.97"W

**HYDRAULIC DATA**

DRAINAGE AREA = 31 ACRES - ROLLING  
 $Q_{50}$  = 61 CFS  
 HW ELEV. = 1109.42



PLAT PLAN

SCOUR HOLE: A=32', C=36', D=2', E=4', F=4'  
 (SEE U SHEETS FOR DETAIL)

**QUANTITIES**

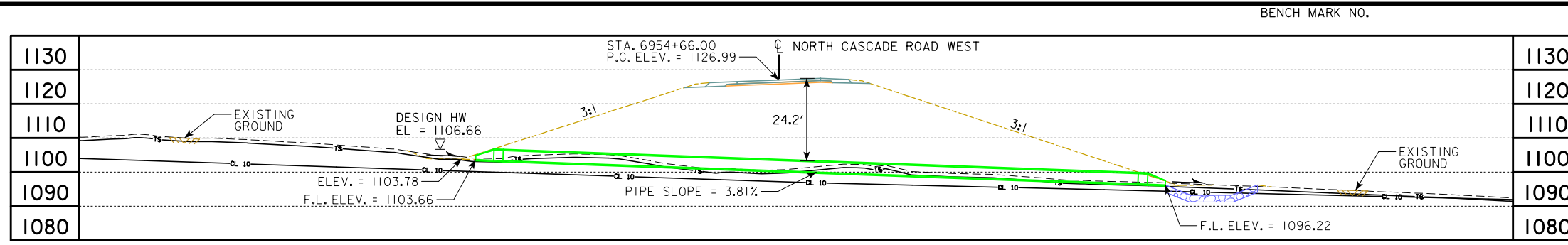
CLASS E REVETMENT: 127 TONS  
 ENGINEERING FABRIC: 134 SQ. YDS.

NOTE:  
 ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

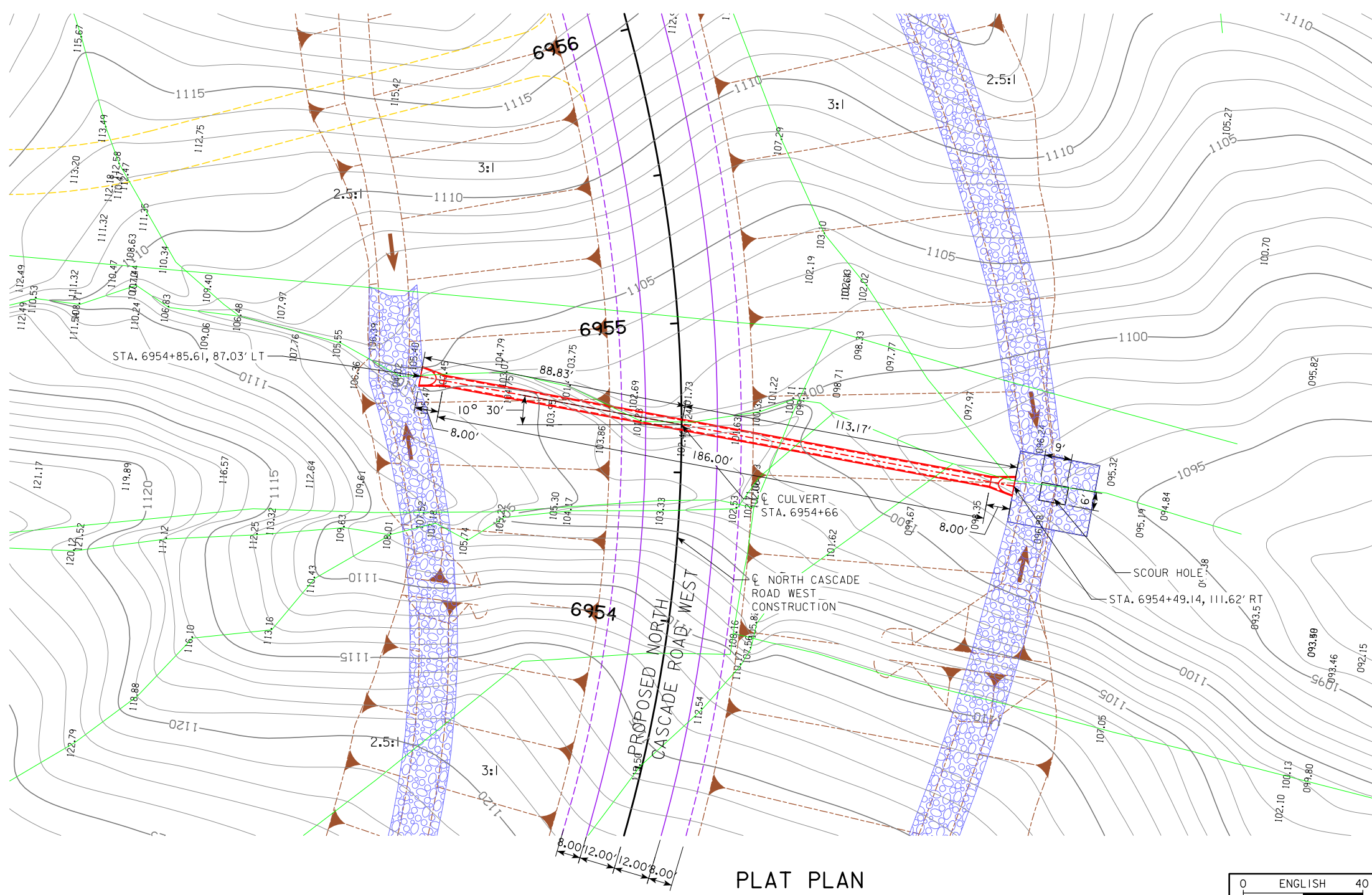
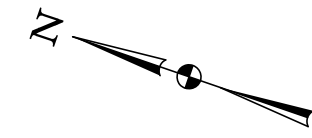
DESIGN FOR A 0° SKEW  
**48 in. x 122 ft.**  
**REINFORCED CONCRETE PIPE**

**PLAT PLAN**  
 STA. 6941+00 ( $\phi$  NORTH CASCADE ROAD) MAY, 2019  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_





BENCH MARK NO.



**TRAFFIC ESTIMATE**

|                    |      |        |
|--------------------|------|--------|
| 2017 AADT          | 1320 | V.P.D. |
| 2040 AADT          | 1877 | V.P.D. |
| 2040 DHV           | 234  | V.P.H. |
| TRUCKS             | 3    | %      |
| TOTAL DESIGN ESALS | --   |        |

**LOCATION**

US 20  
T-88 N R-1 E  
SECTION 13  
VERNON TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°26'16.73"N  
LONGITUDE 90°47'6.94"W

**HYDRAULIC DATA**

DRAINAGE AREA = 15.4 ACRES - ROLLING  
Q<sub>50</sub> = 36 CFS  
HW ELEV. = 1106.66

**QUANTITIES**

CLASS E REVETMENT: 71.4 TONS  
ENGINEERING FABRIC: 76 SQ. YDS.

NOTE:  
ALL DIMENSIONS ARE IN FEET (FT) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

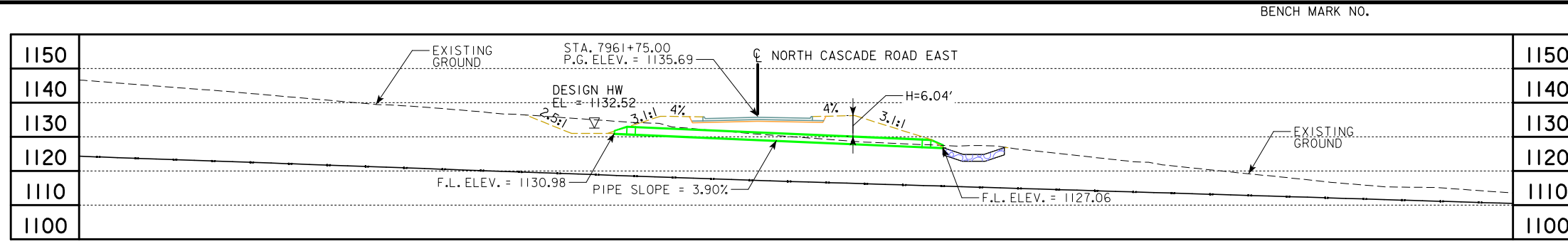
DESIGN FOR A 10°30' SKEW LT. AHD.  
**36 in. x 186 ft.  
REINFORCED CONCRETE PIPE**

**PLAT PLAN**  
STA. 6954+66 ( $\bar{C}$  NORTH CASCADE ROAD)  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_

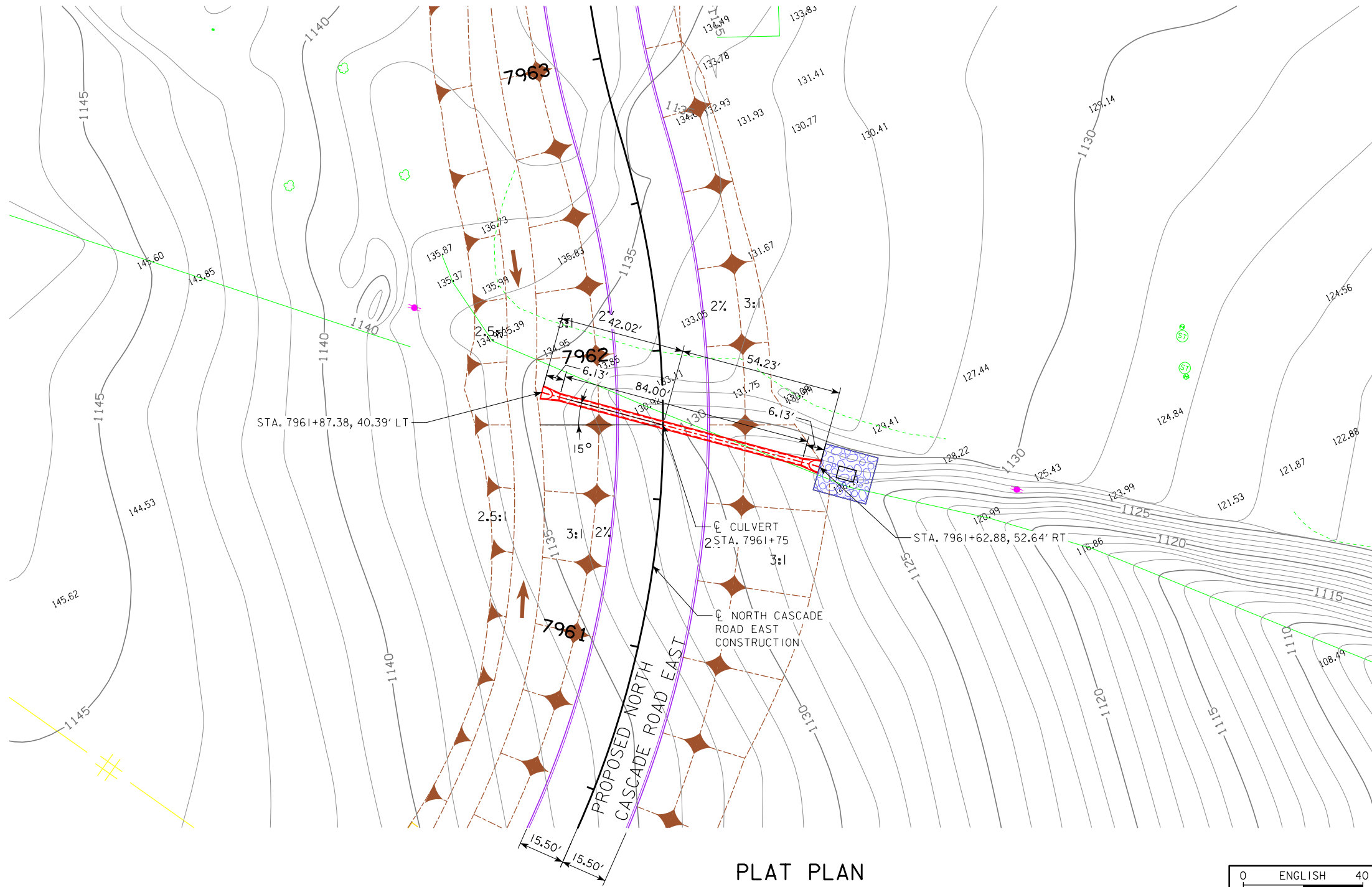
MAY, 2019







LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

TRAFFIC ESTIMATE

|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 471 | V.P.D. |
| 2040 AADT          | 771 | V.P.D. |
| 2040 DHV           | 99  | V.P.H. |
| TRUCKS             | 7   | %      |
| TOTAL DESIGN ESALs | --  |        |

LOCATION

US 20  
 T-88 N R-1 E  
 SECTION 13  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'23.56"N  
 LONGITUDE 90°47'3.54"W

HYDRAULIC DATA

DRAINAGE AREA = 2.6 ACRES - ROLLING  
 Q<sub>50</sub> = 9 CFS  
 HW ELEV. = 1132.52

SCOUR HOLE: A=16', C=19', D=2', E=2', F=2'  
 (SEE U SHEETS FOR DETAIL)

QUANTITIES

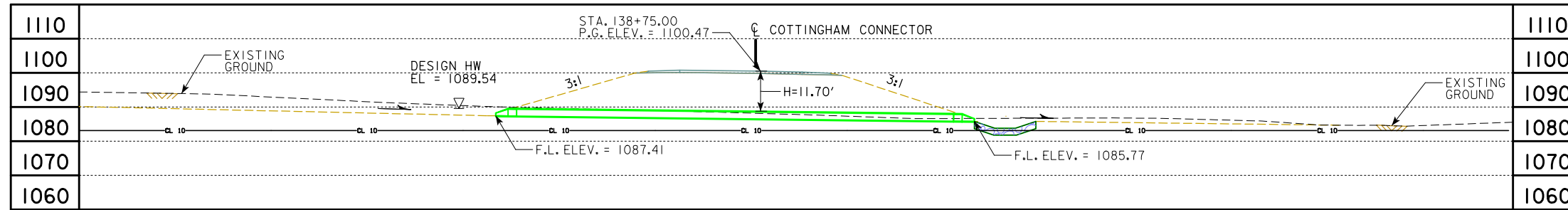
CLASS E REVETMENT: 31.7 TONS  
 ENGINEERING FABRIC: 34 SQ. YDS.

NOTE:  
 ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

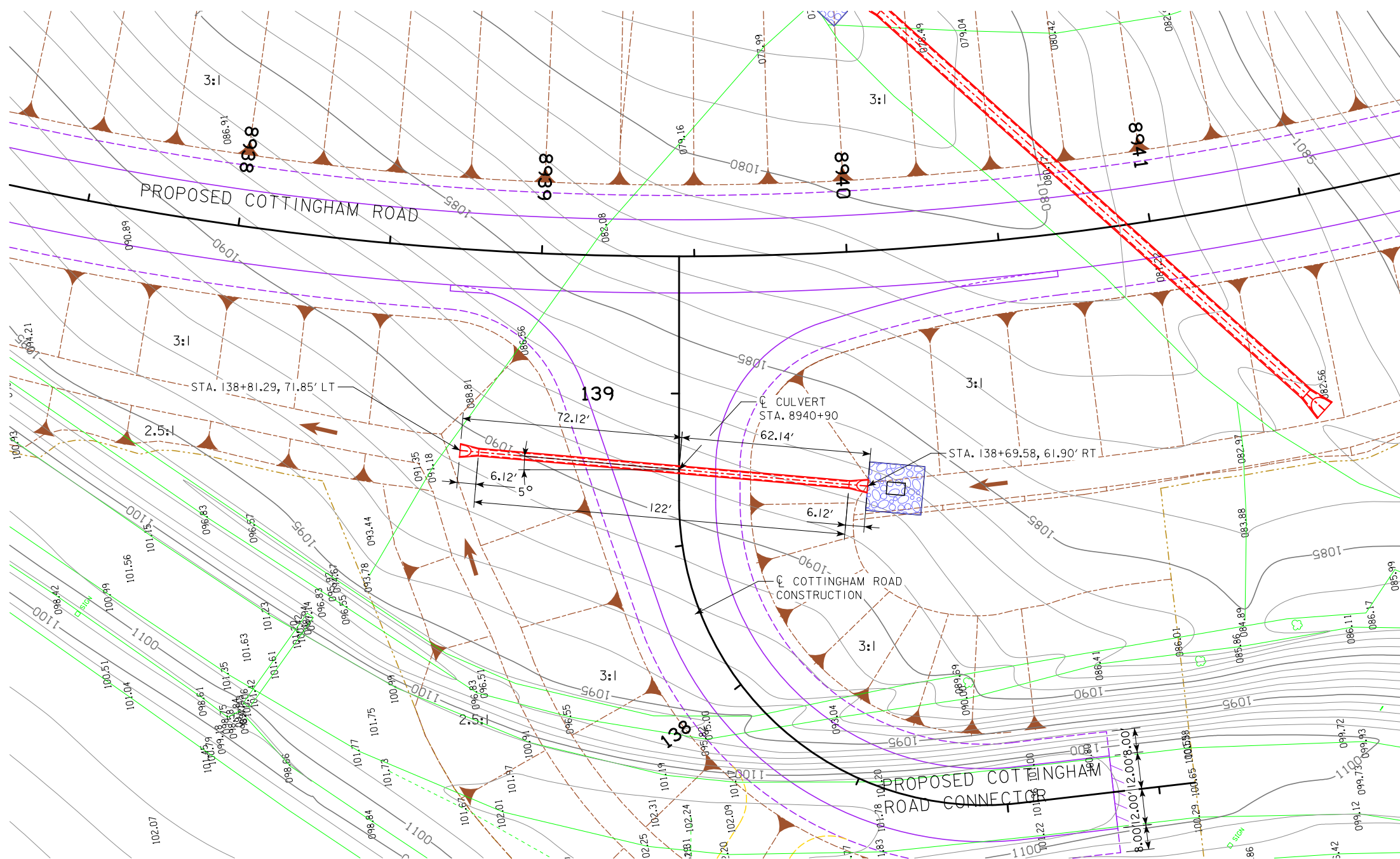
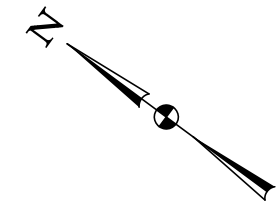
DESIGN FOR A 15° SKEW LT. AHD.  
**24 in. x 84 ft.**  
**REINFORCED CONCRETE PIPE**

PLAT PLAN  
 STA. 7961+75 (C NORTH CASCADE ROAD)  
 DUBUQUE COUNTY  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_





LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN

**TRAFFIC ESTIMATE**

|                    |     |        |
|--------------------|-----|--------|
| 2017 AADT          | 215 | V.P.D. |
| 2040 AADT          | 589 | V.P.D. |
| 2040 DHV           | 77  | V.P.H. |
| TRUCKS             | 10  | %      |
| TOTAL DESIGN ESALs | --  |        |

**LOCATION**

US 20  
 T-88 N R-1 E  
 SECTION 12  
 VERNON TOWNSHIP  
 DUBUQUE COUNTY  
 LATITUDE 42°26'29.22"N  
 LONGITUDE 90°48'3.84"W

**HYDRAULIC DATA**

DRAINAGE AREA = 3.4 ACRES - HILLY  
 Q<sub>50</sub> = 14 CFS  
 HW ELEV. = 1089.54

SCOUR HOLE: A=16', C=18', D=2', E=2', F=2'  
 (SEE U SHEETS FOR DETAIL)

**QUANTITIES**

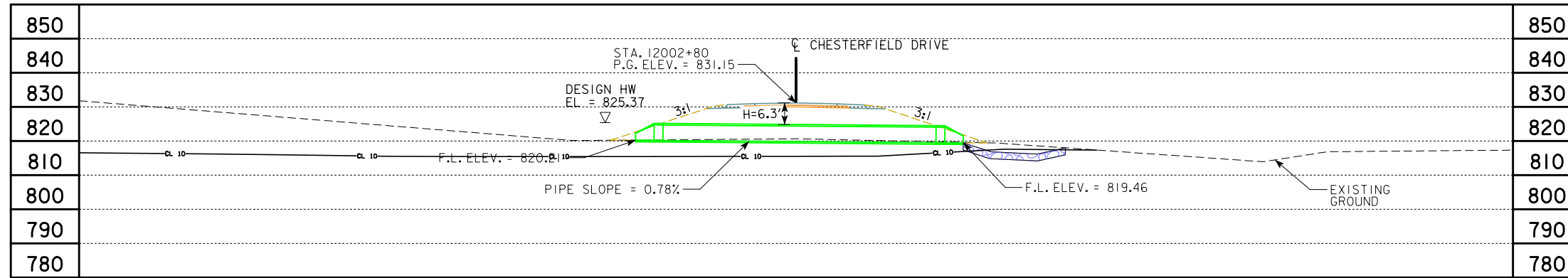
CLASS E REVETMENT: 31.7 TONS  
 ENGINEERING FABRIC: 34 SQ. YDS.

NOTE:  
 ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

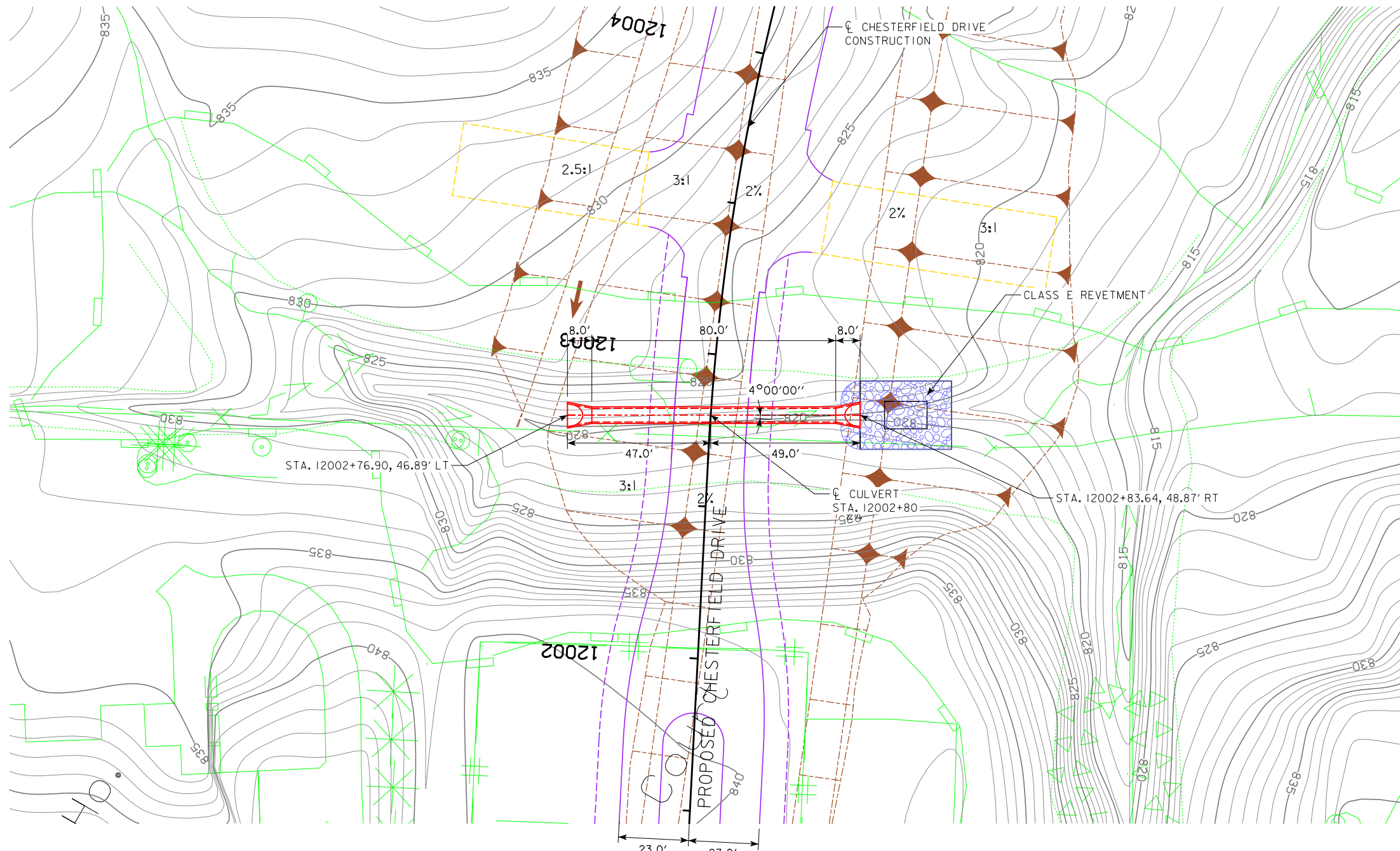
DESIGN FOR A 5° SKEW LT. AHD.  
**24 in. x 122 ft.**  
**REINFORCED CONCRETE PIPE**  
**PLAT PLAN**  
 STA. 138+75 (CL COTTINGHAM CONNECTOR) MAY, 2019  
**DUBUQUE COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_







LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN



**LOCATION**

US 20  
T-88 N R-2 E  
SECTION 6  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°27'42.28"N  
LONGITUDE 90°45'57.44"W

**HYDRAULIC DATA**

DRAINAGE AREA = 49.6 ACRES - HILLY  
 $Q_{50}$  = 117 CFS  
HW ELEV. = 825.37

SCOUR HOLE: A=22.5', C=30', D=2', E=4.5', F=2.25'  
(SEE U SHEETS FOR DETAIL)

**QUANTITIES**

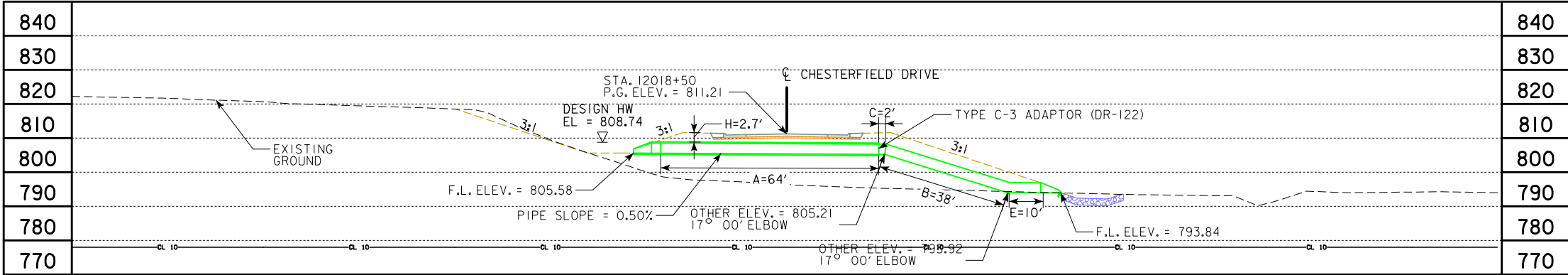
CLASS E REVETMENT: 68.8 TONS  
ENGINEERING FABRIC: 73 SQ. YDS.

NOTE:  
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

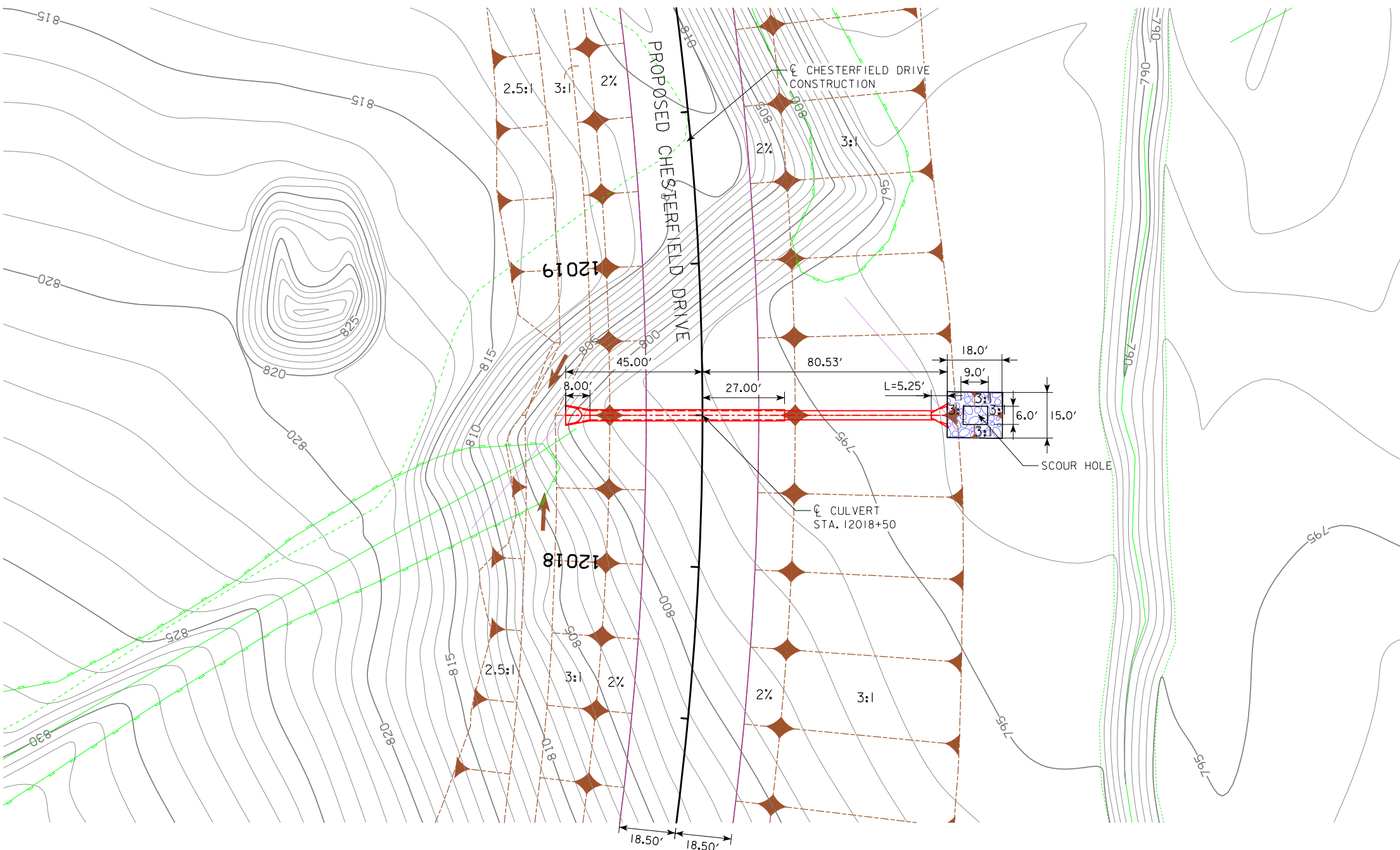
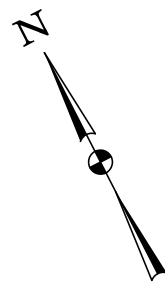
DESIGN FOR A 4° SKEW  
**54 in. x 80 ft.**  
**REINFORCED CONCRETE PIPE**

**PLAT PLAN**  
STA. 12002+80 ( $\phi$  CHESTERFIELD DRIVE) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_





LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

LOCATION

US 20  
T-88 N R-2 E  
SECTION 6  
TABLE MOUND TOWNSHIP  
DUBUQUE COUNTY  
LATITUDE 42°27'55.40"N  
LONGITUDE 90°45'46.78"W

HYDRAULIC DATA

DRAINAGE AREA = 12.3 ACRES - HILLY  
 $Q_{50} = 40$  CFS  
HW ELEV. = 808.74

SCOUR HOLE: A=15', C=18', D=2', E=3', F=1.5'  
(SEE U SHEETS FOR DETAIL)

QUANTITIES

CLASS E REVETMENT: 29.6 TONS  
ENGINEERING FABRIC: 31 SQ. YDS.

NOTE:  
ALL DIMENSIONS ARE IN FEET (ft) UNLESS OTHERWISE NOTED OR SHOWN. ALL ELEVATION AND STATIONS ARE IN FEET (FT). FOR SPOT ELEVATIONS ADD 1000 FT.

DESIGN FOR A 0° SKEW  
**36 in. x 114 ft.**  
**REINFORCED CONC. & UNCLASSIFIED**  
**LETDOWN PIPE**  
**PLAT PLAN**  
STA. 12018+50 ( $\phi$  CHESTERFIELD DRIVE) MAY, 2019  
**DUBUQUE COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. 1 OF 1 FILE NO. 30069 DESIGN NO. \_\_\_\_\_



**LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)**

- Proposed Finished Grade of Adjacent Template
- - - - - Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- - - - - Additional Topsoil Removal
- Subgrade Treatment
- - - - - Granular Shoulder
- Pavement
- - - - - Existing Pipe\RCB
- Proposed Pipe\RCB
- Proposed Dike
- All Elements Associated with Proposed Entrances

**LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)**

- TS ————— Topsoil (Class 10)
- SLOPE DRESSING — Slope Dressing Only
- CL 10 ————— Class 10 Materials
- SEL LO ————— Select Loams And Clay-Loams
- SEL SA ————— Select Sand
- UNS A ————— Unsuitable Type A Disposal
- UNS B ————— Unsuitable Type B Disposal
- UNS C ————— Unsuitable Type C Disposal
- SHALE ————— Shale
- WASTE ————— Waste
- B&W LS ————— Broken and Weathered Rock
- ROCK ————— Solid Rock
- BLDRS ————— Boulders

Note: All layer lines and descriptions identify layers above the line.

Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

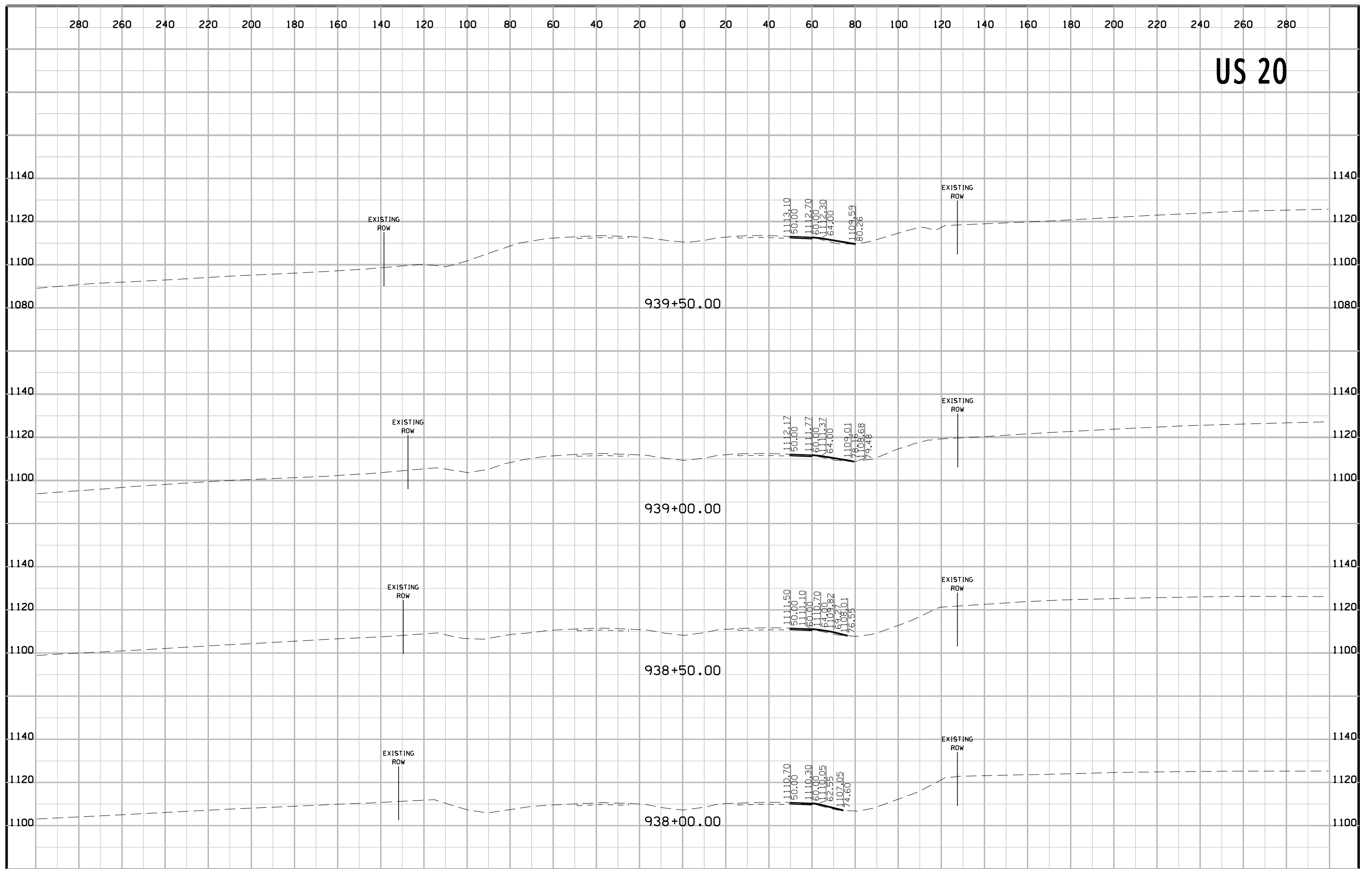
**SYMBOL LEGEND OF CROSS SECTION SHEETS**

- Existing ROW  
|  
: : :  
Existing Right-of-Way Limit
- Proposed ROW  
|  
: : :  
Proposed Right-of-Way Limit
- Temporary ROW  
|  
: : :  
Temporary Right-of-Way Limit

**CROSS SECTION  
LEGEND AND SYMBOL  
INFORMATION SHEET**

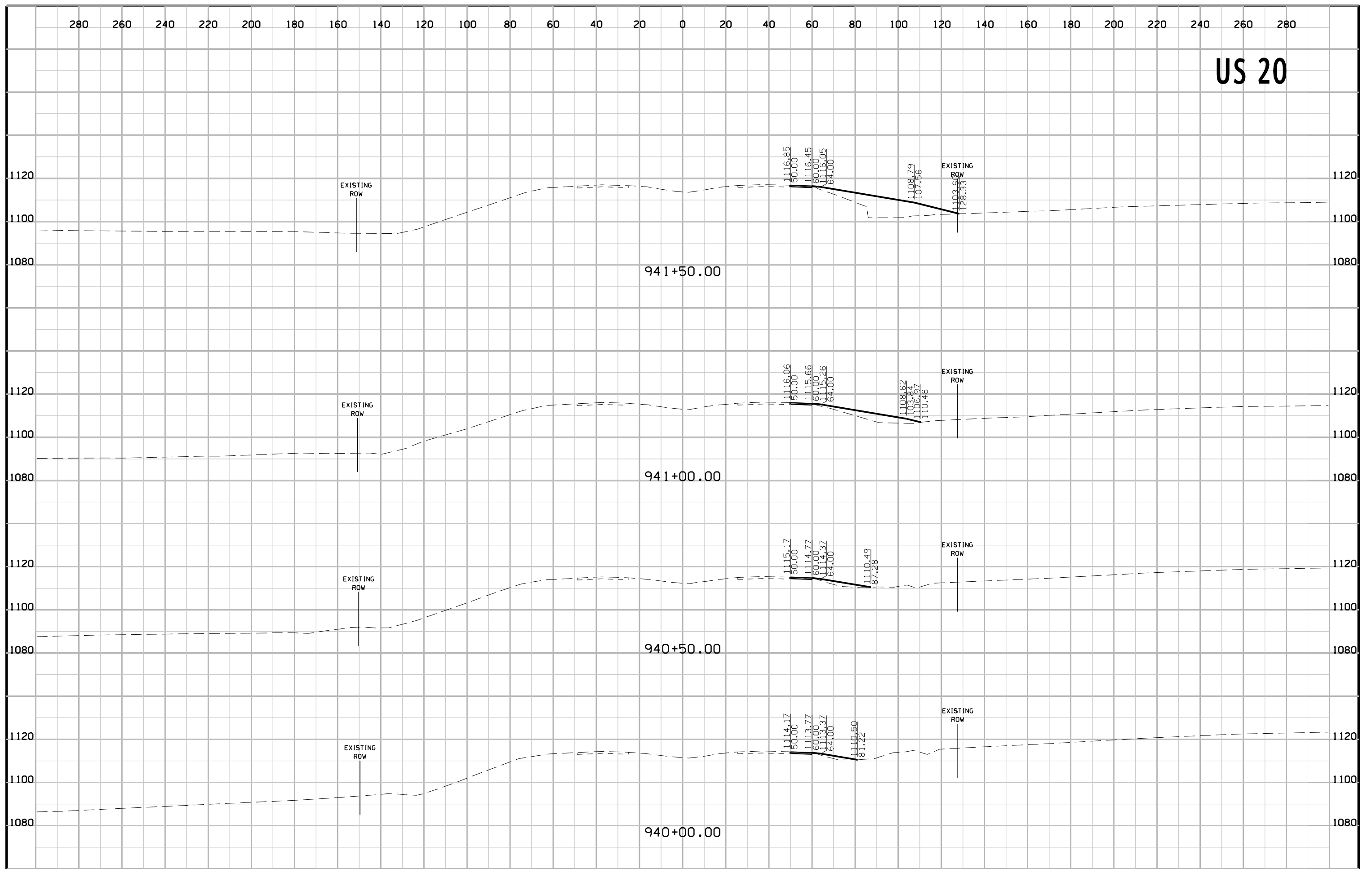
(COVERS SHEET SERIES W, X, Y, & Z)

# US 20

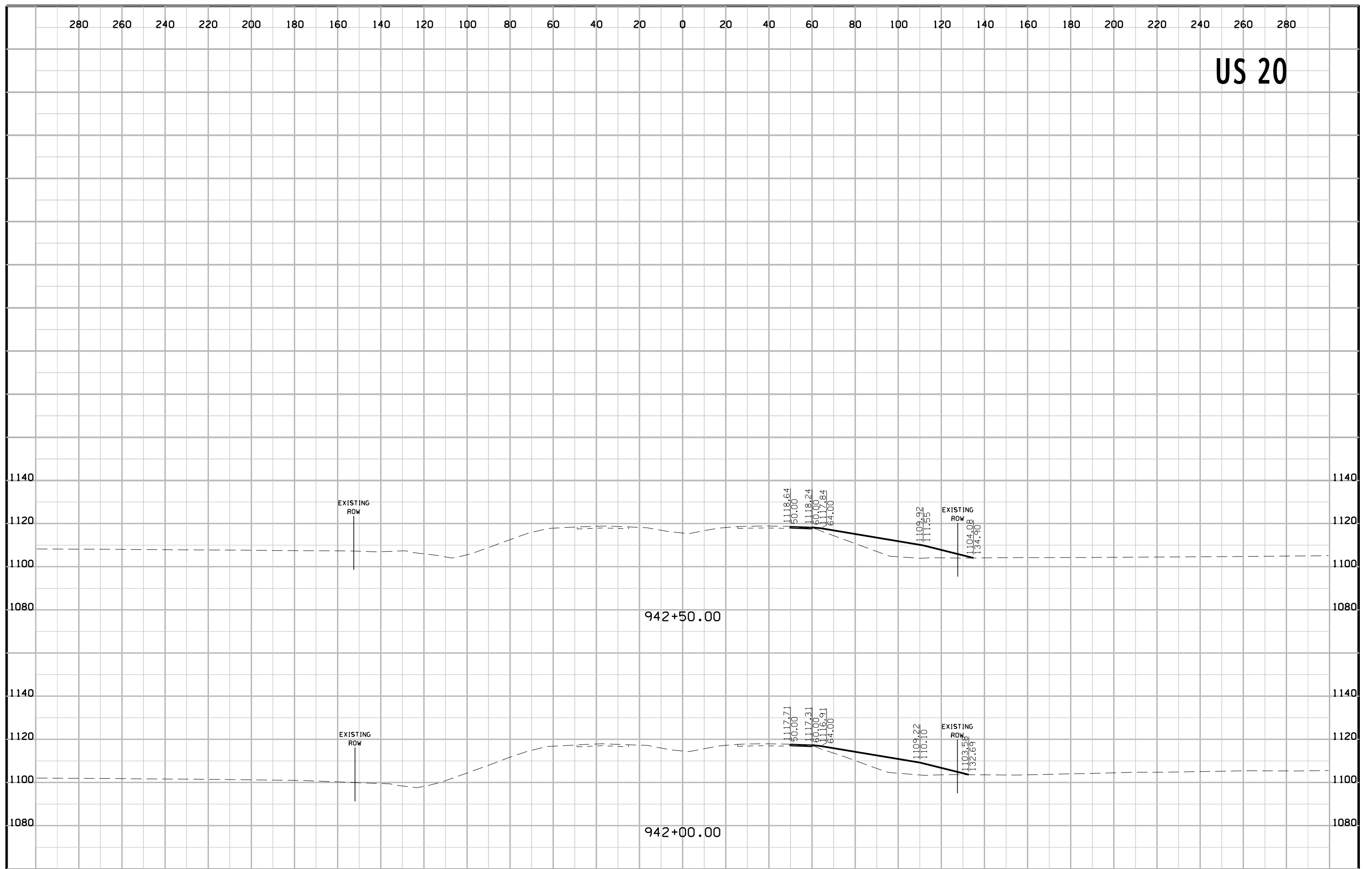




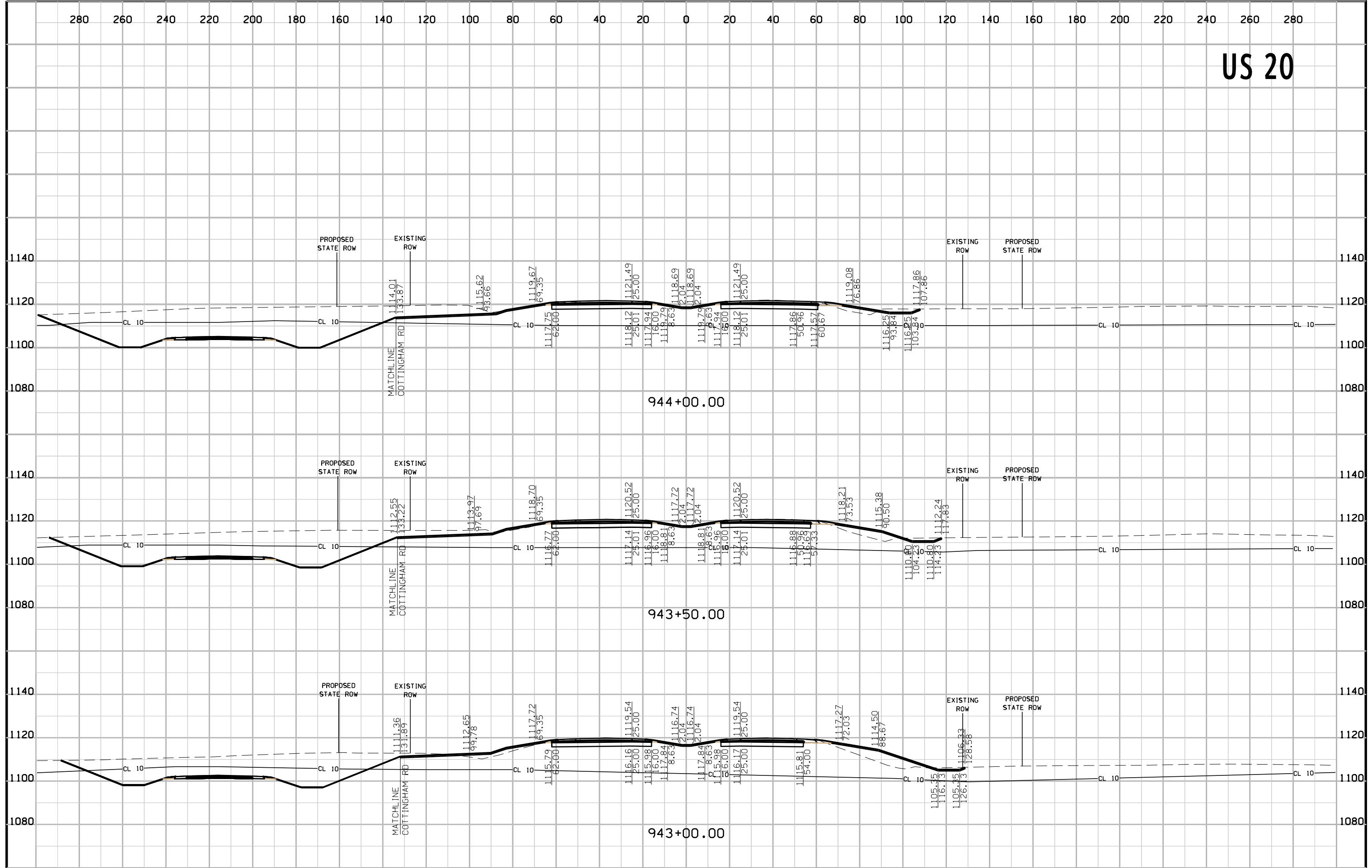
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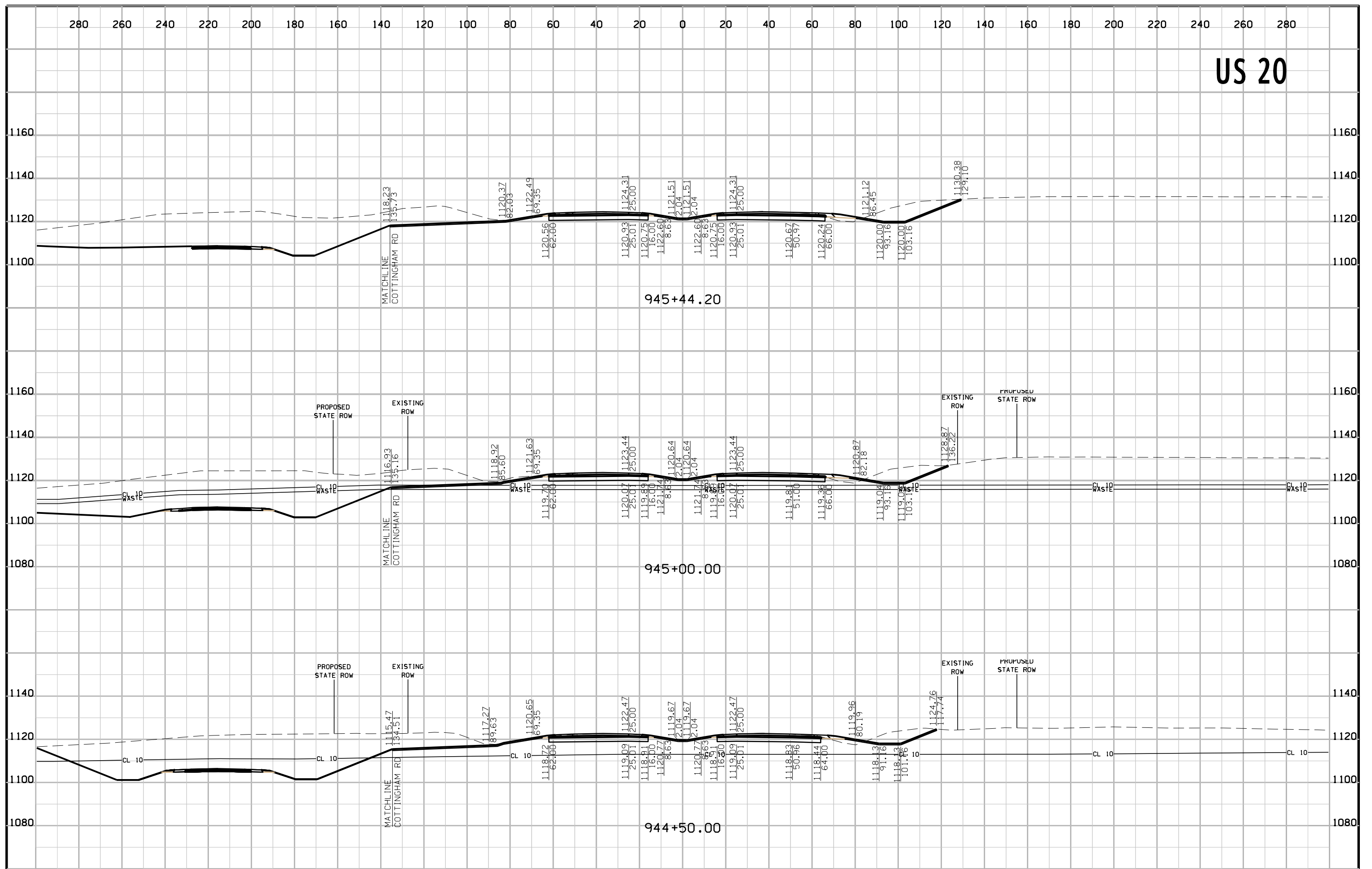
# US 20



# US 20

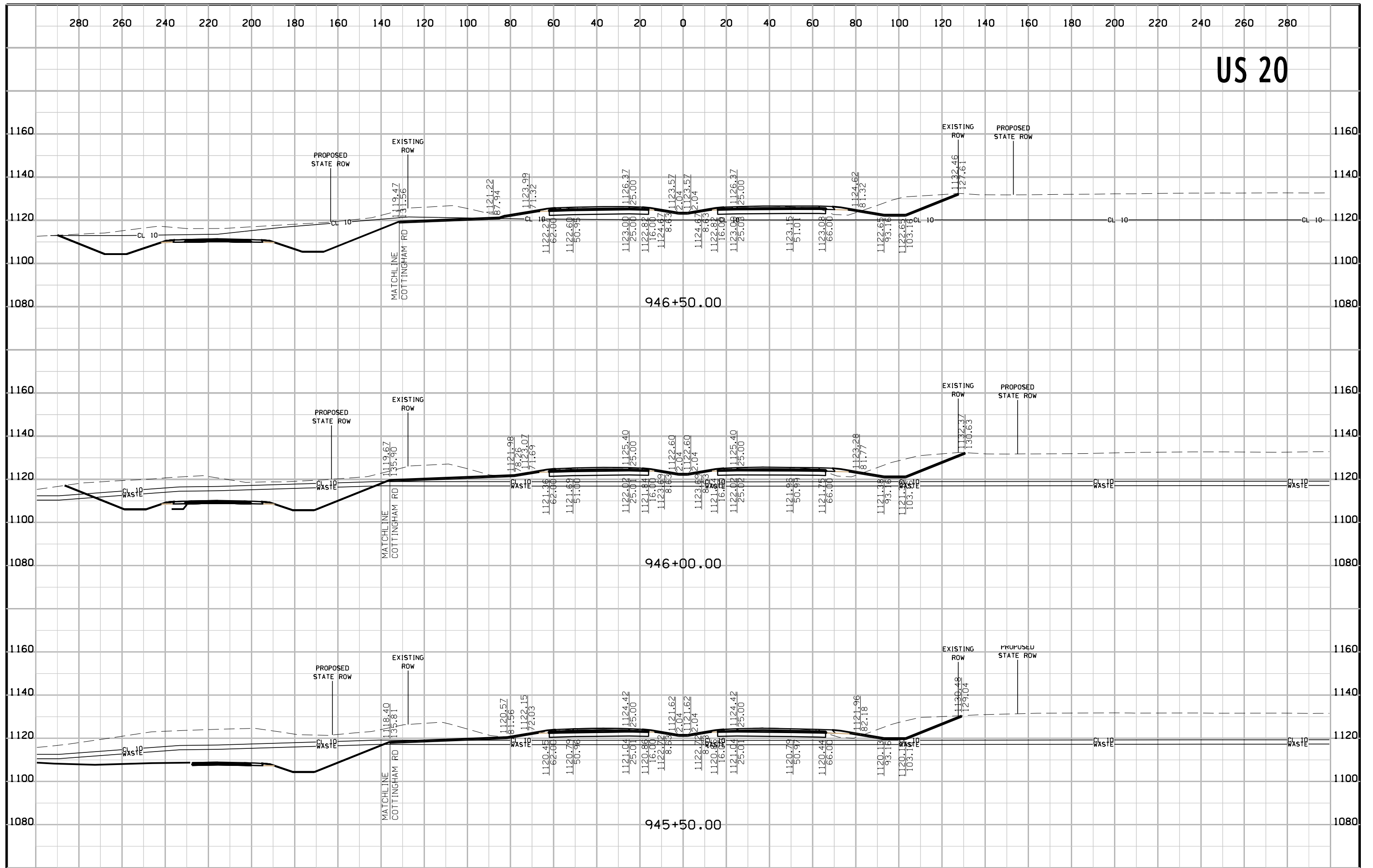


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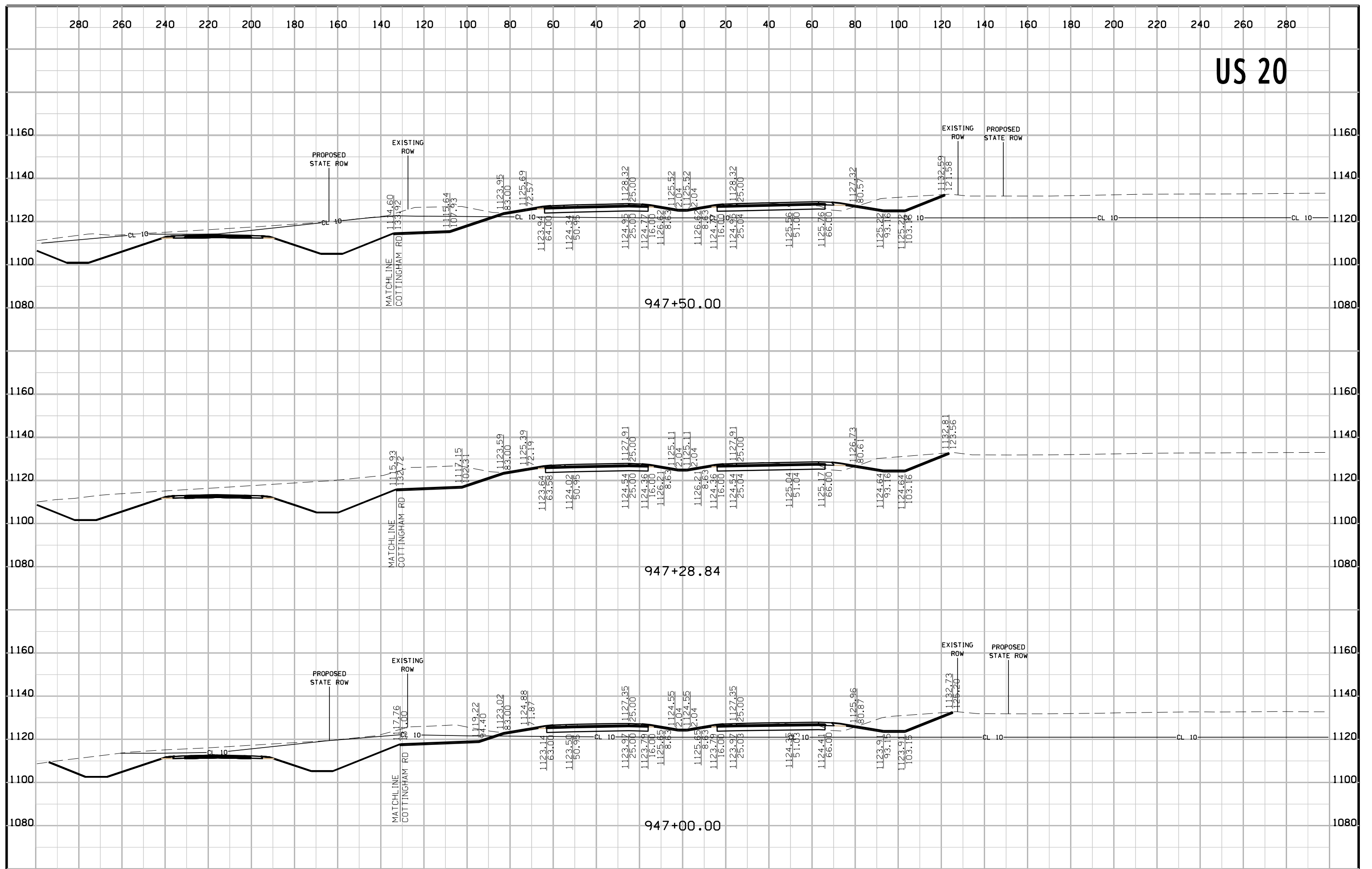




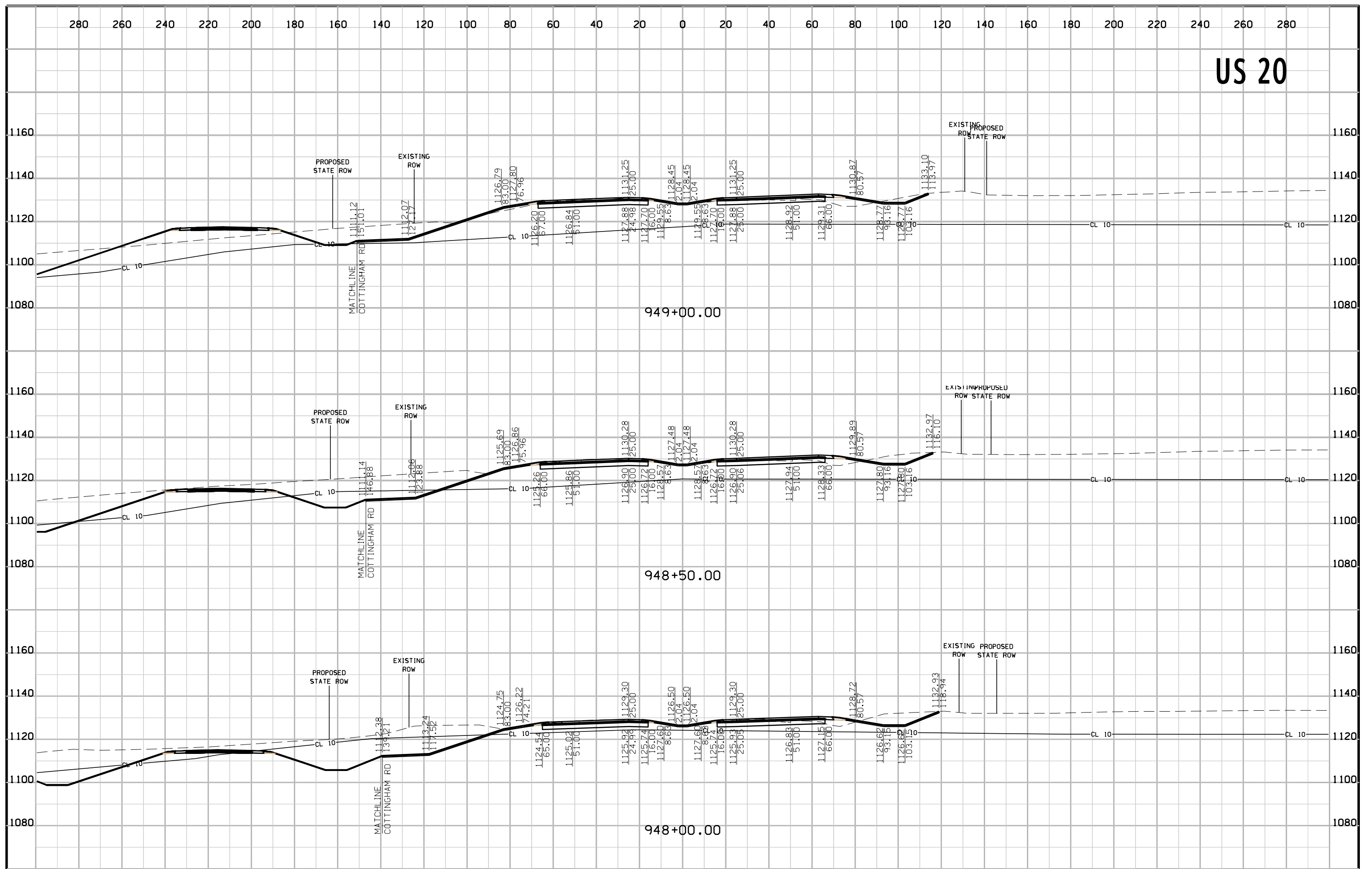
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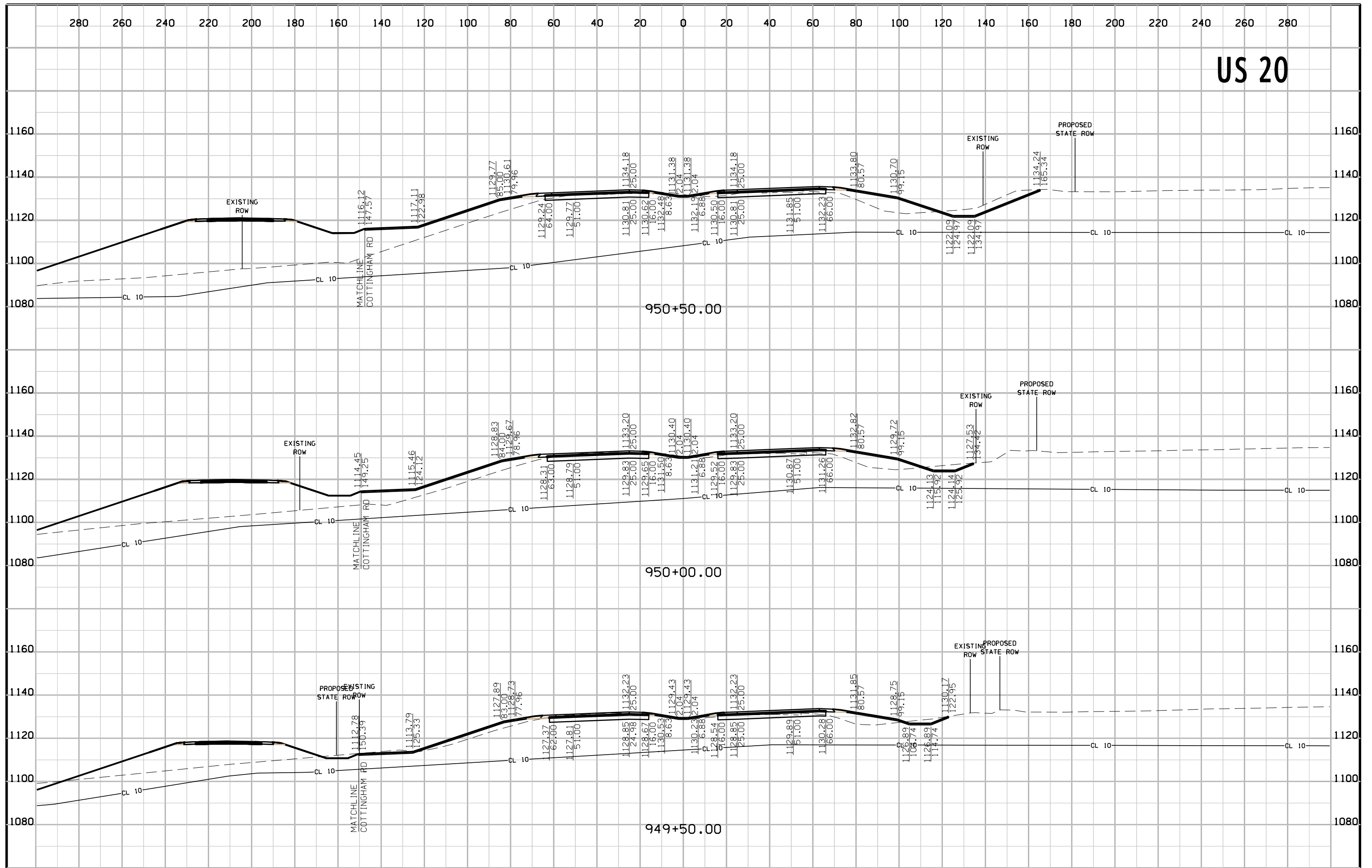
# US 20



# US 20

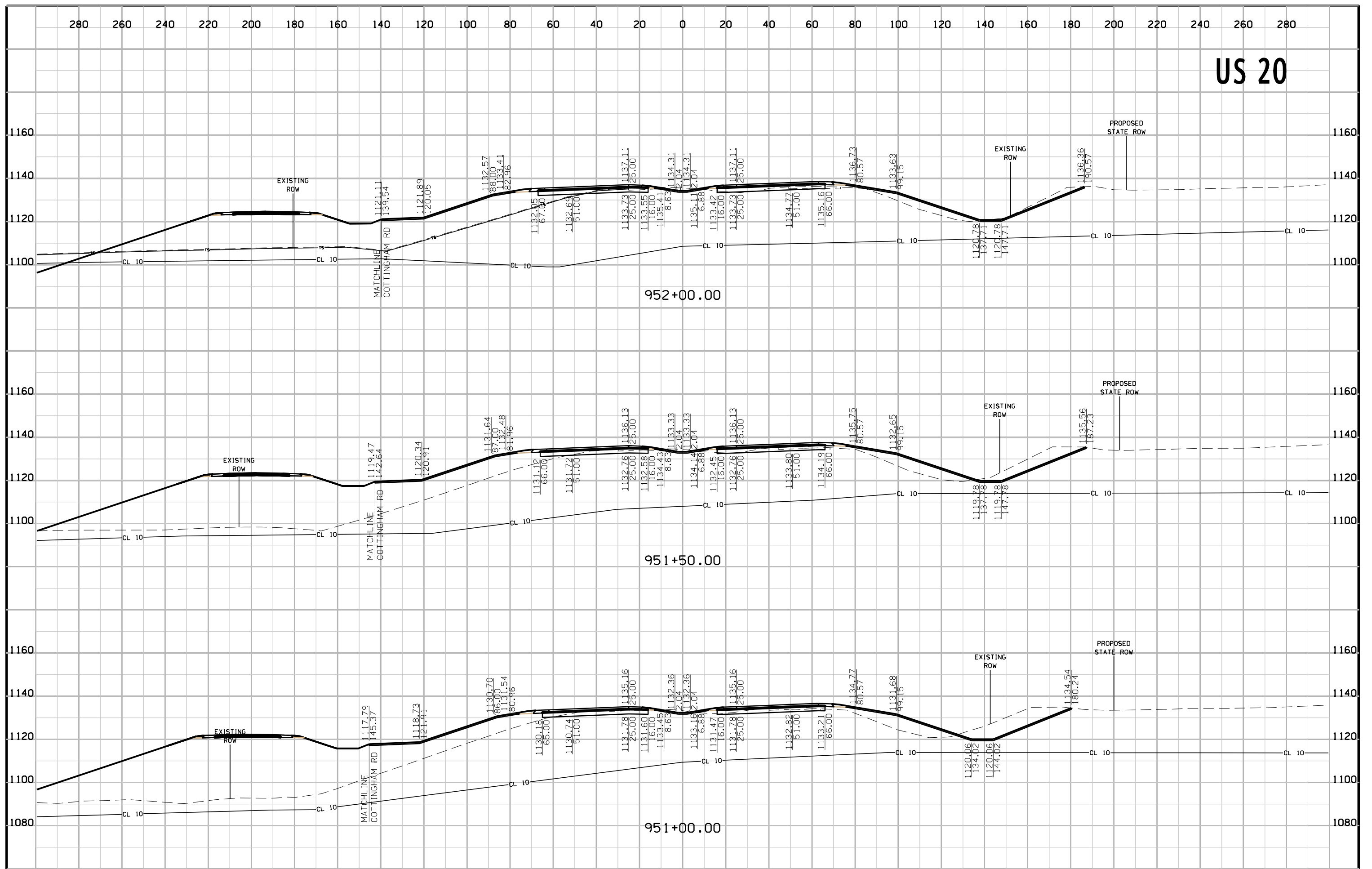


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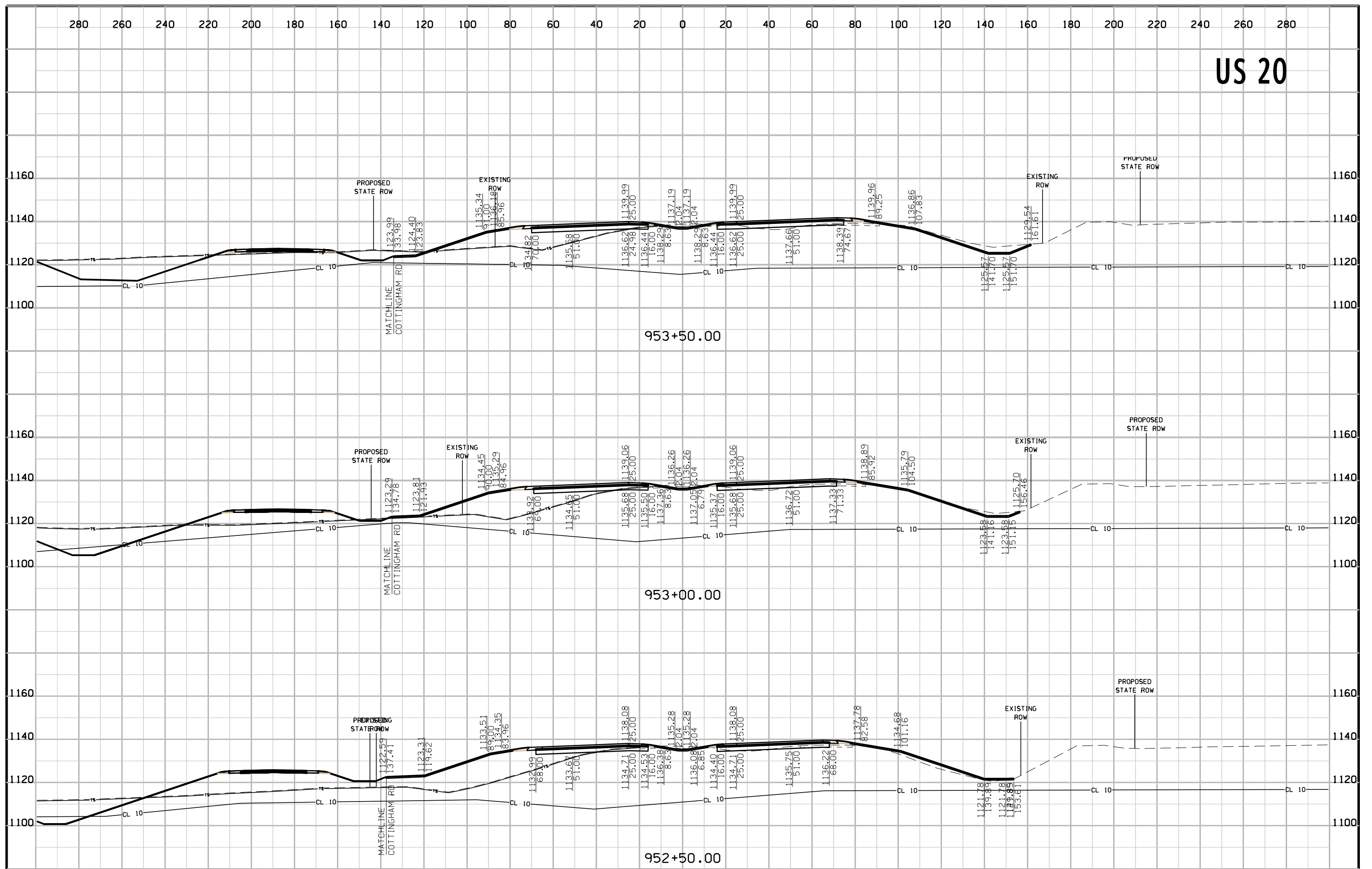




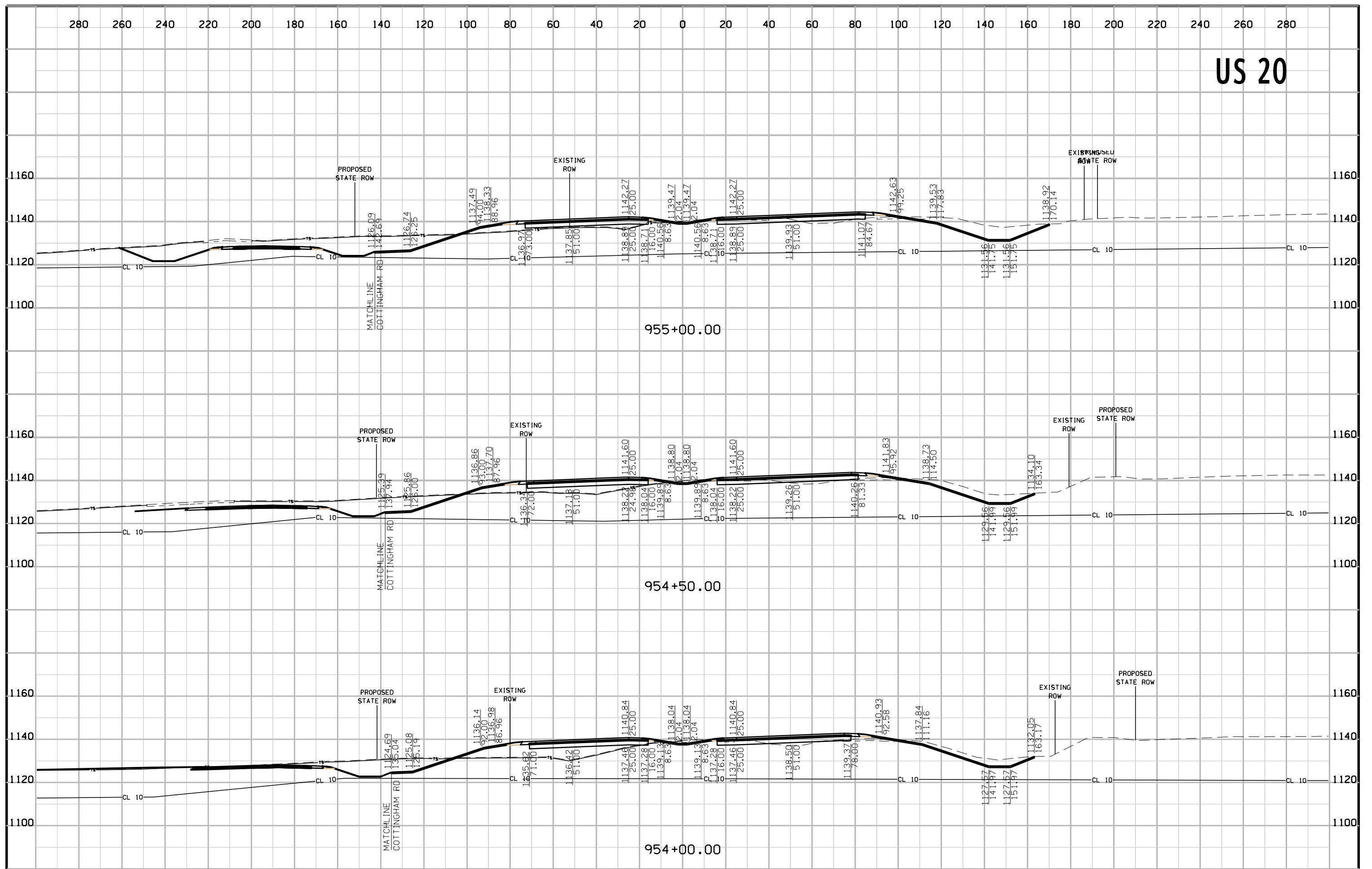
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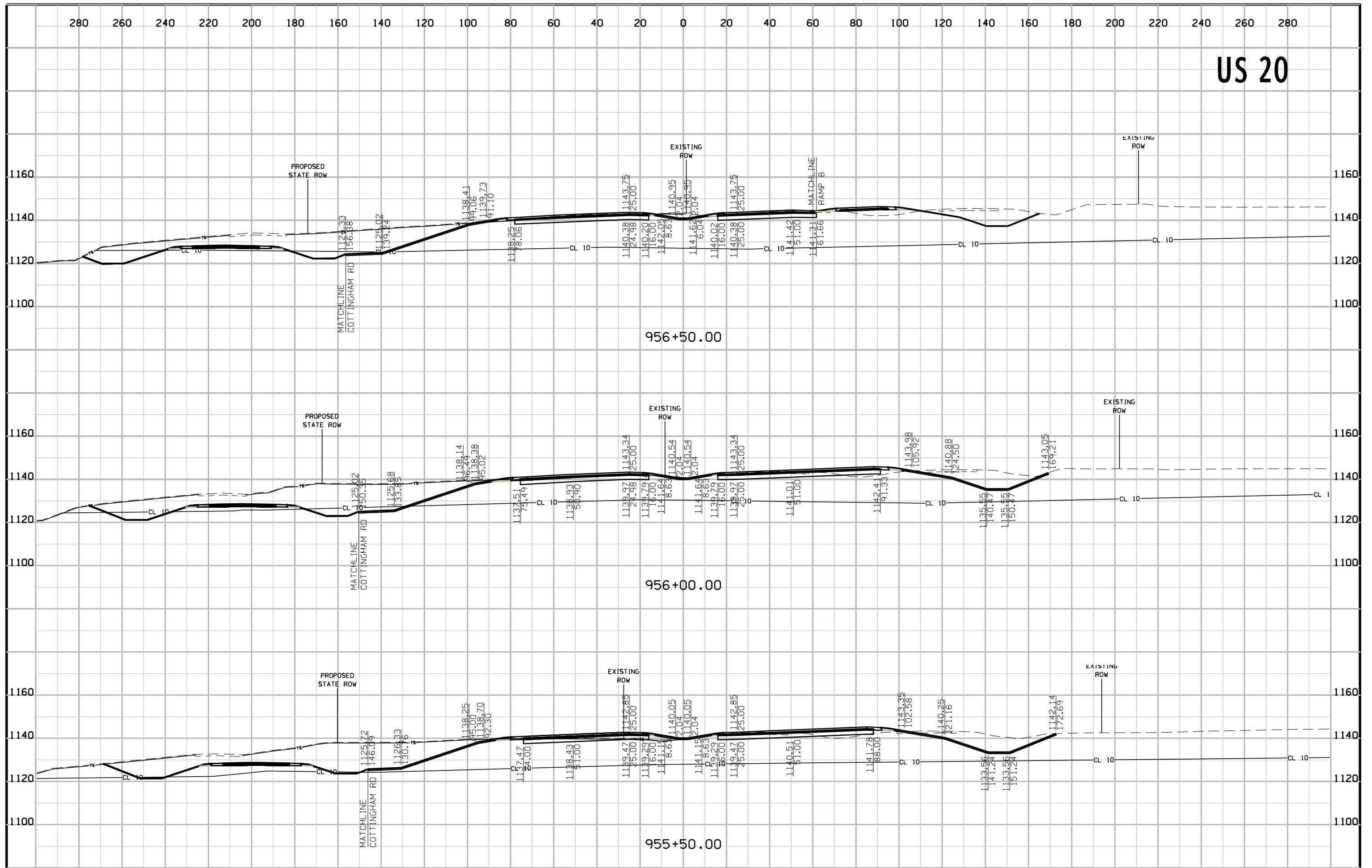
# US 20



# US 20

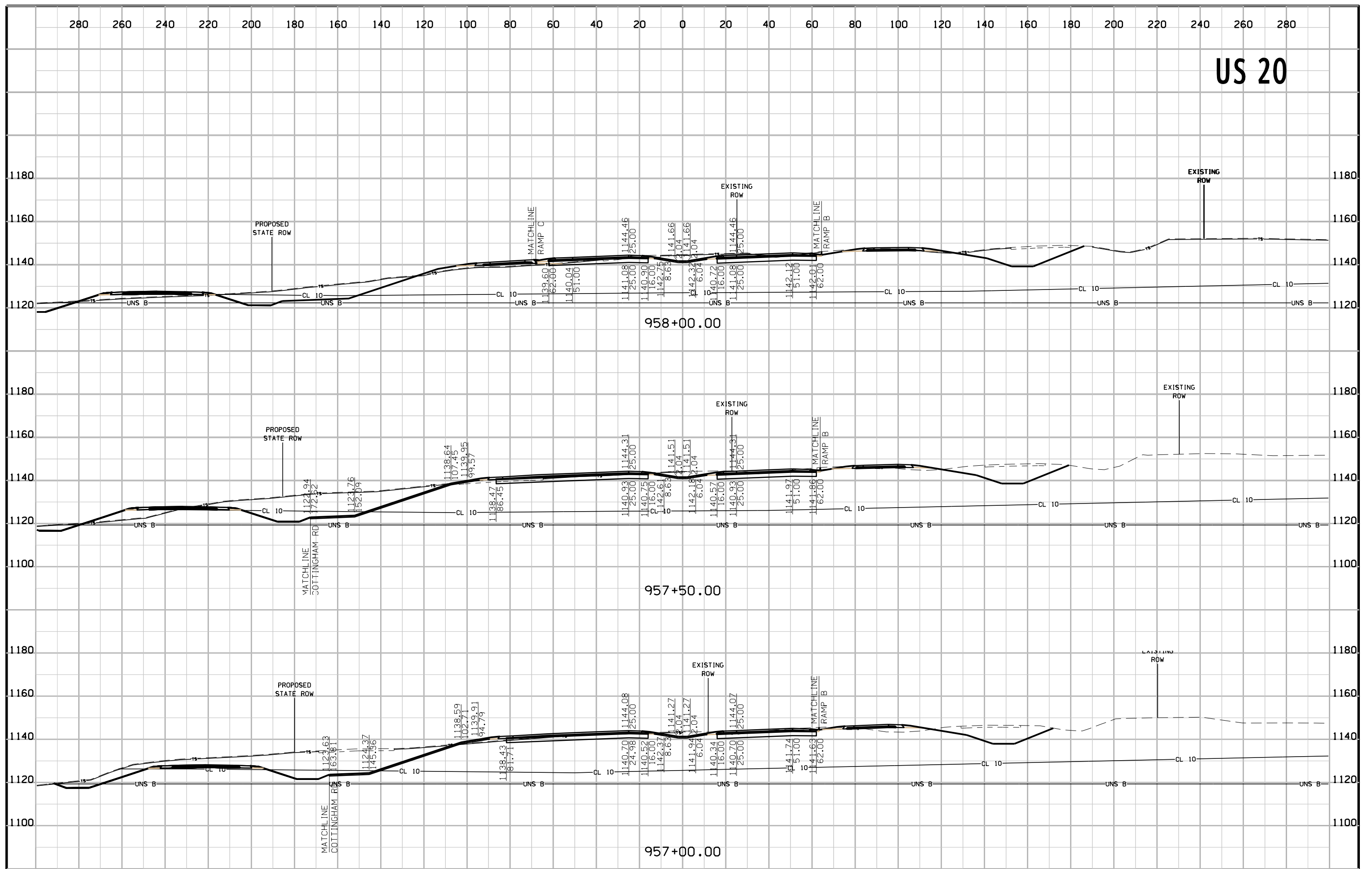


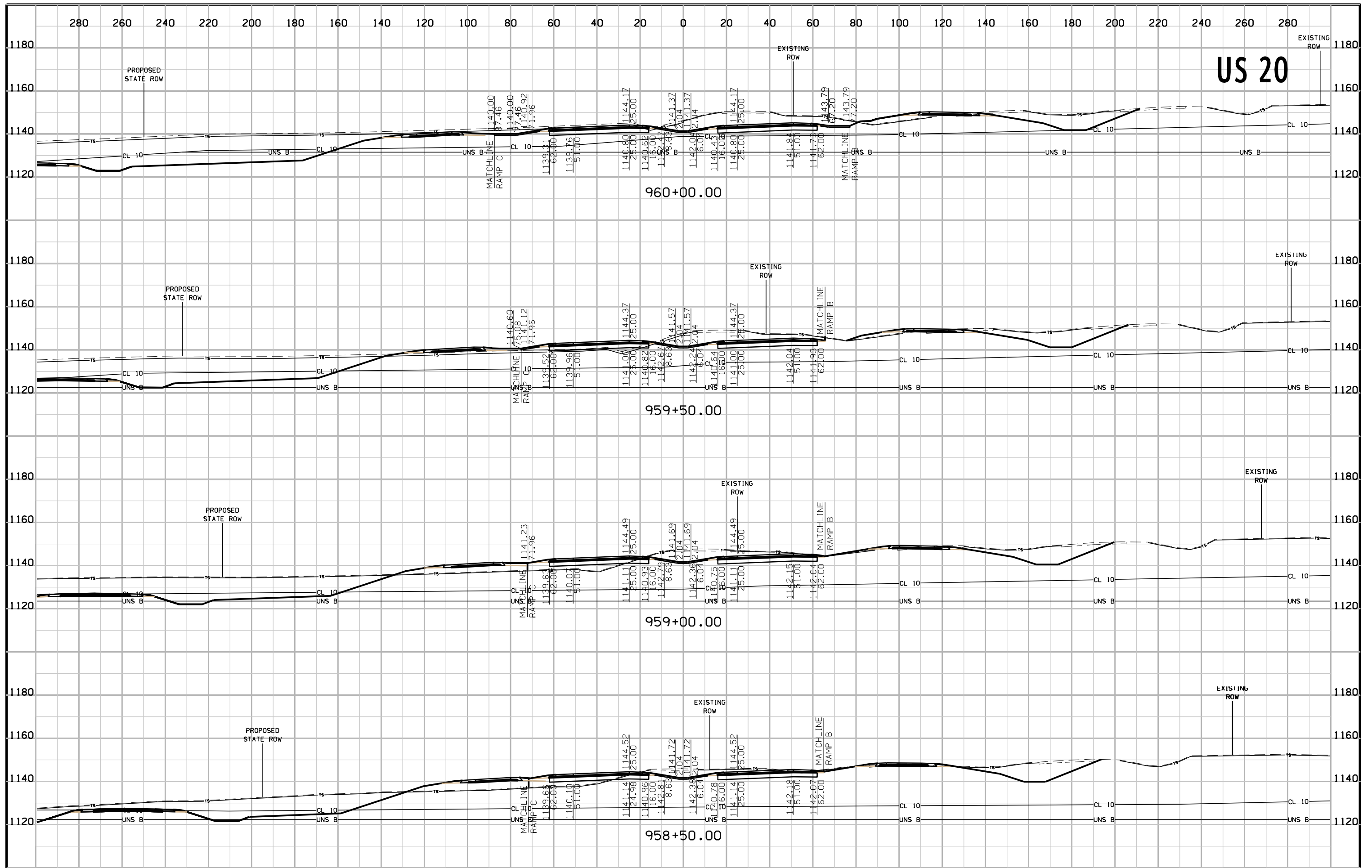
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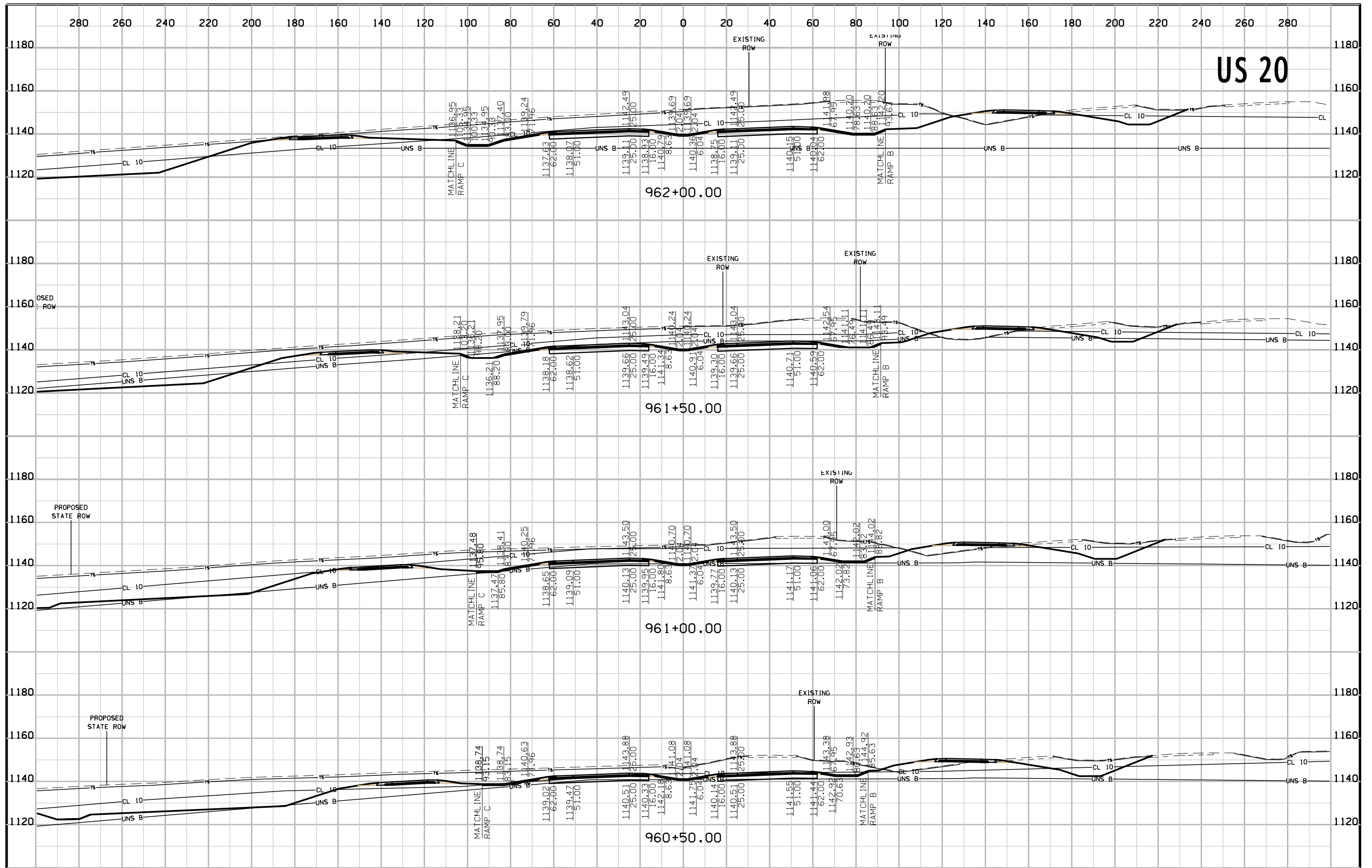


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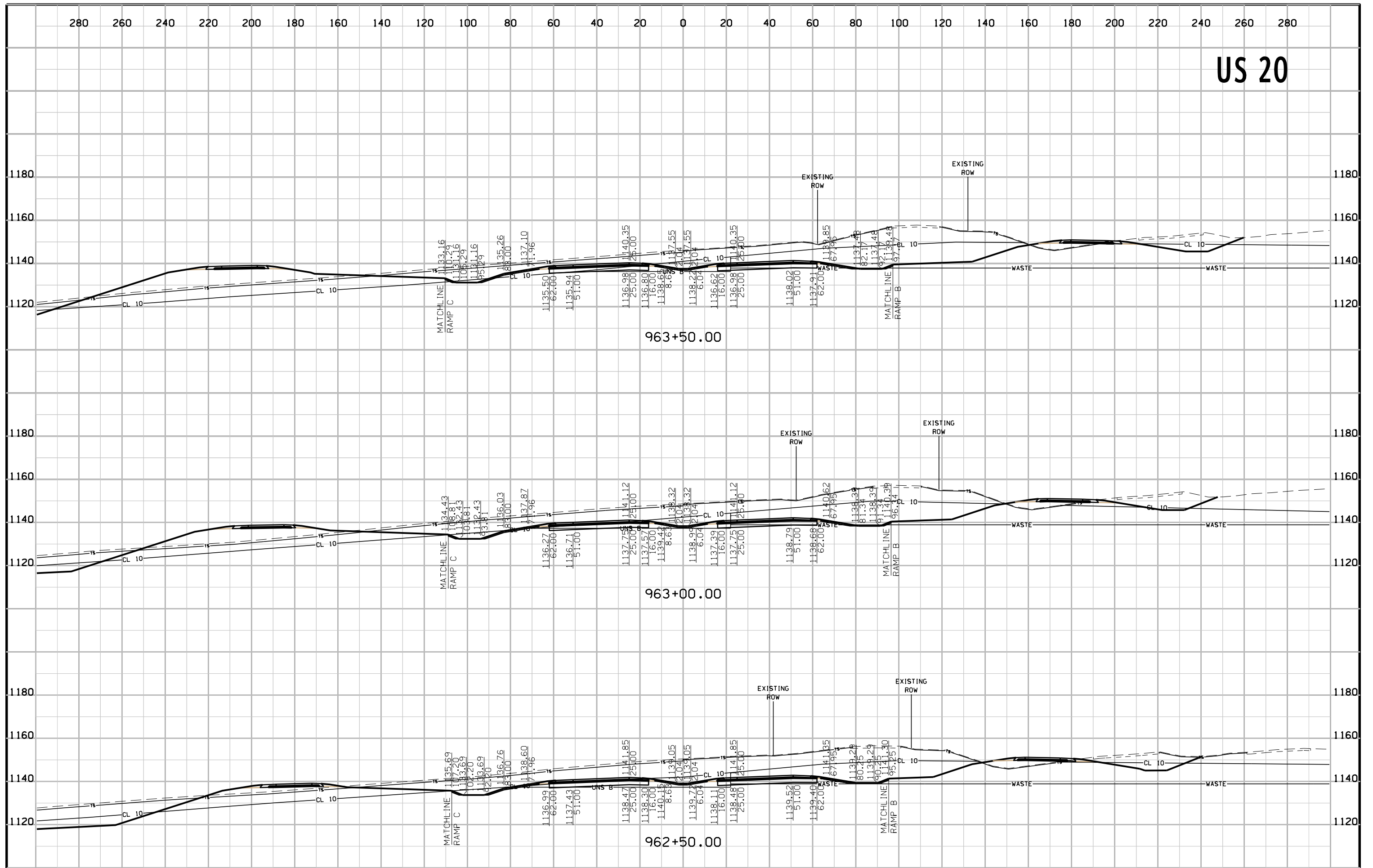


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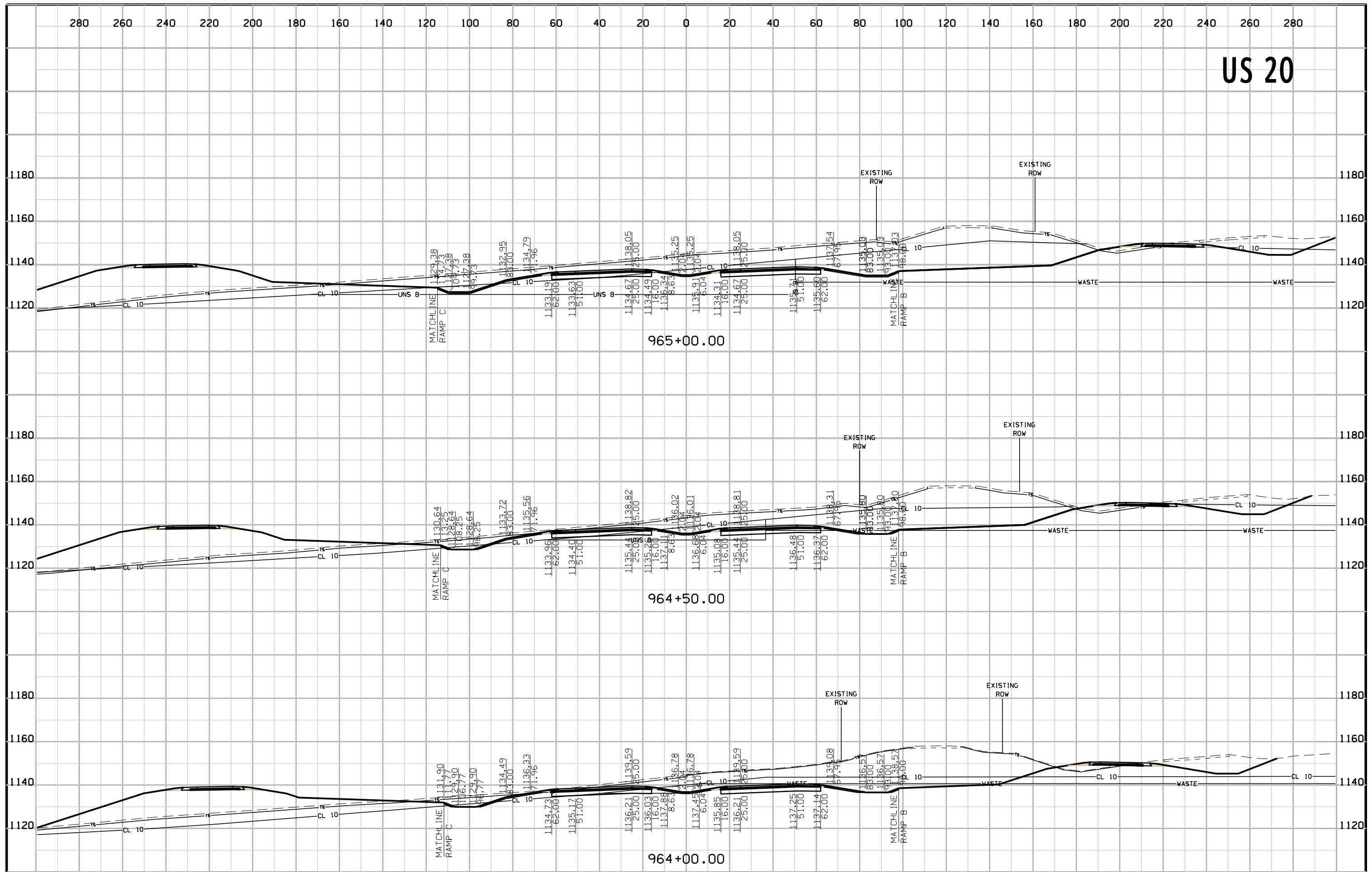
# US 20

# US 20

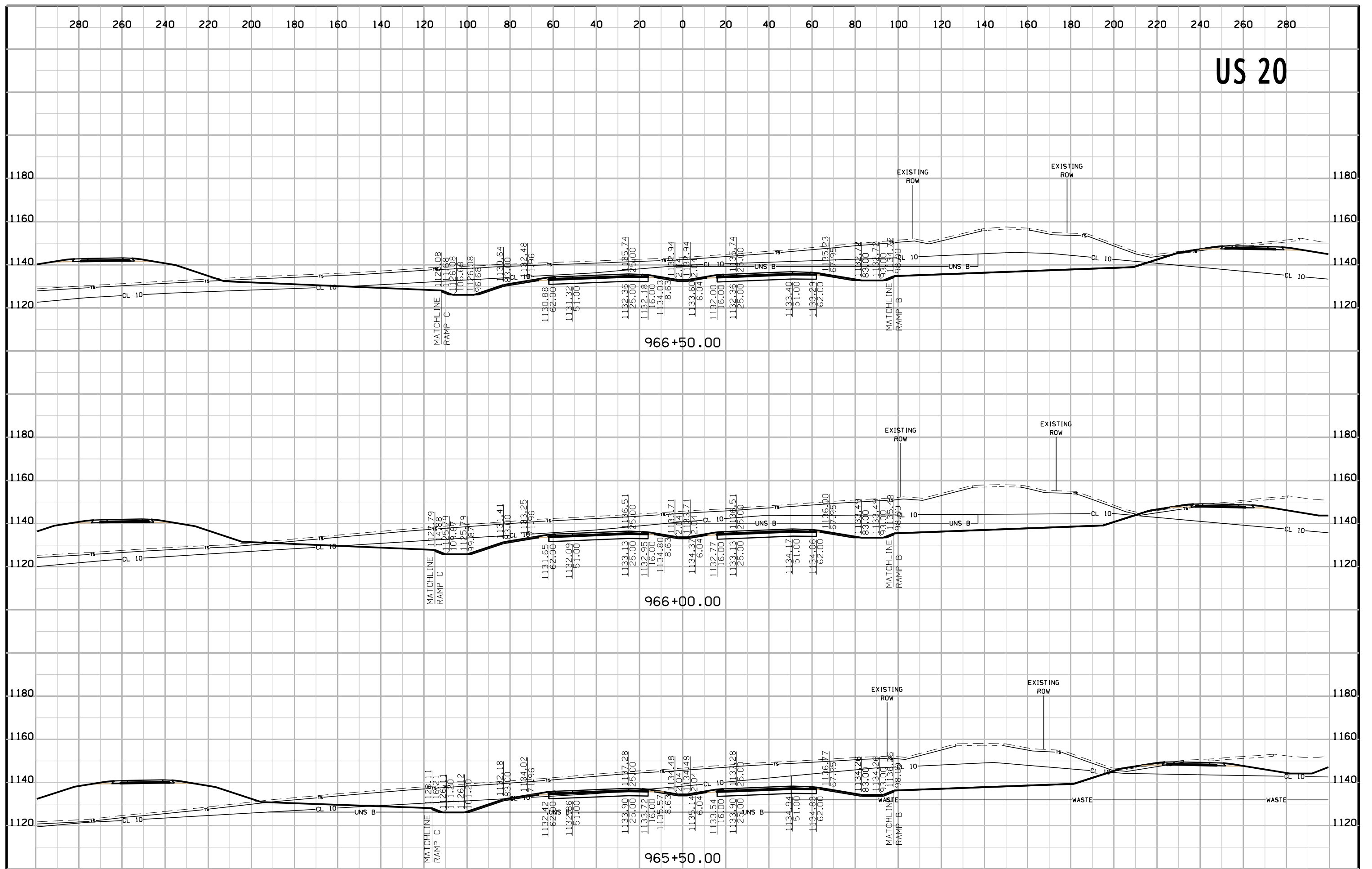




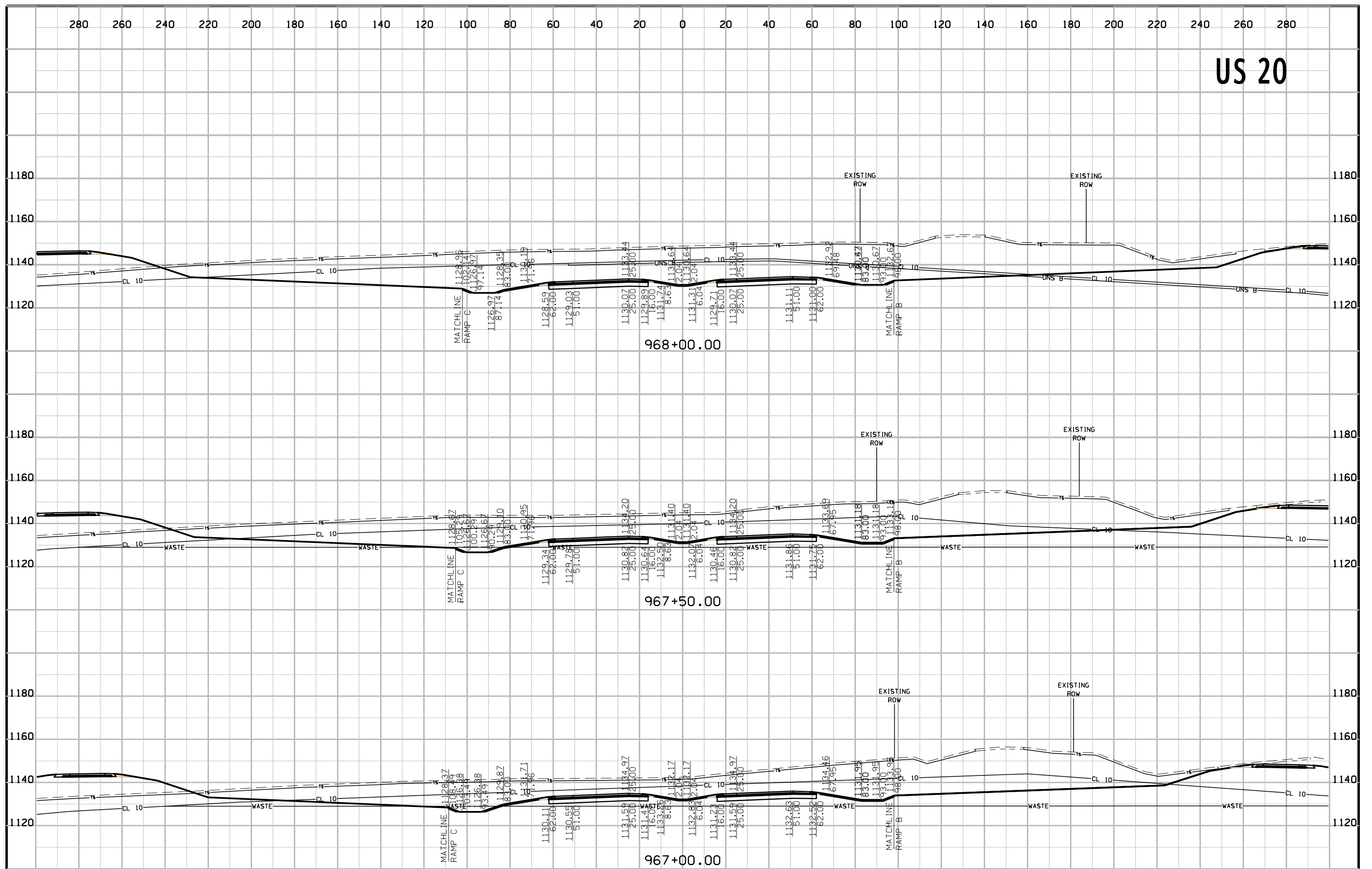
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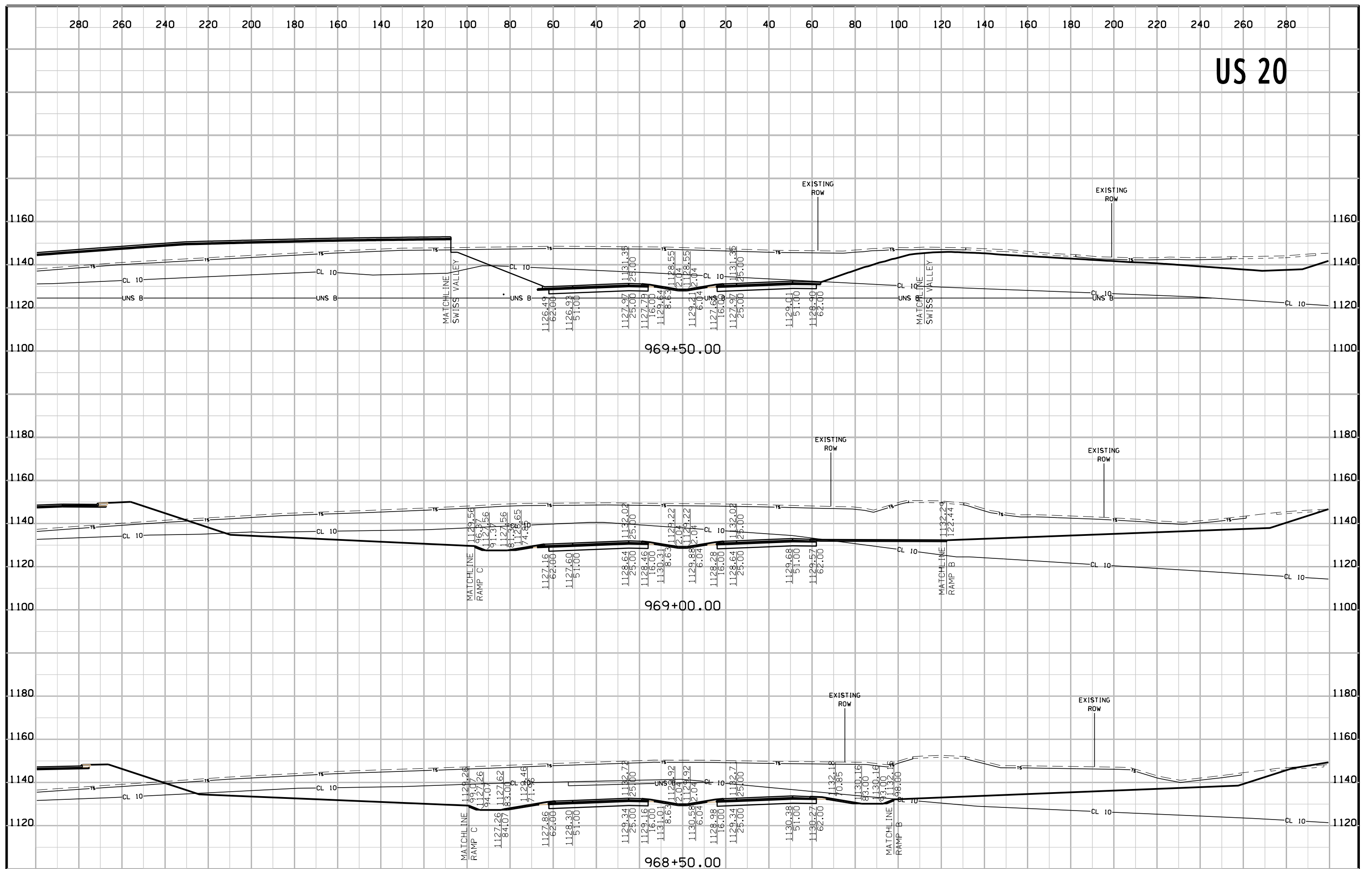
# US 20



# US 20

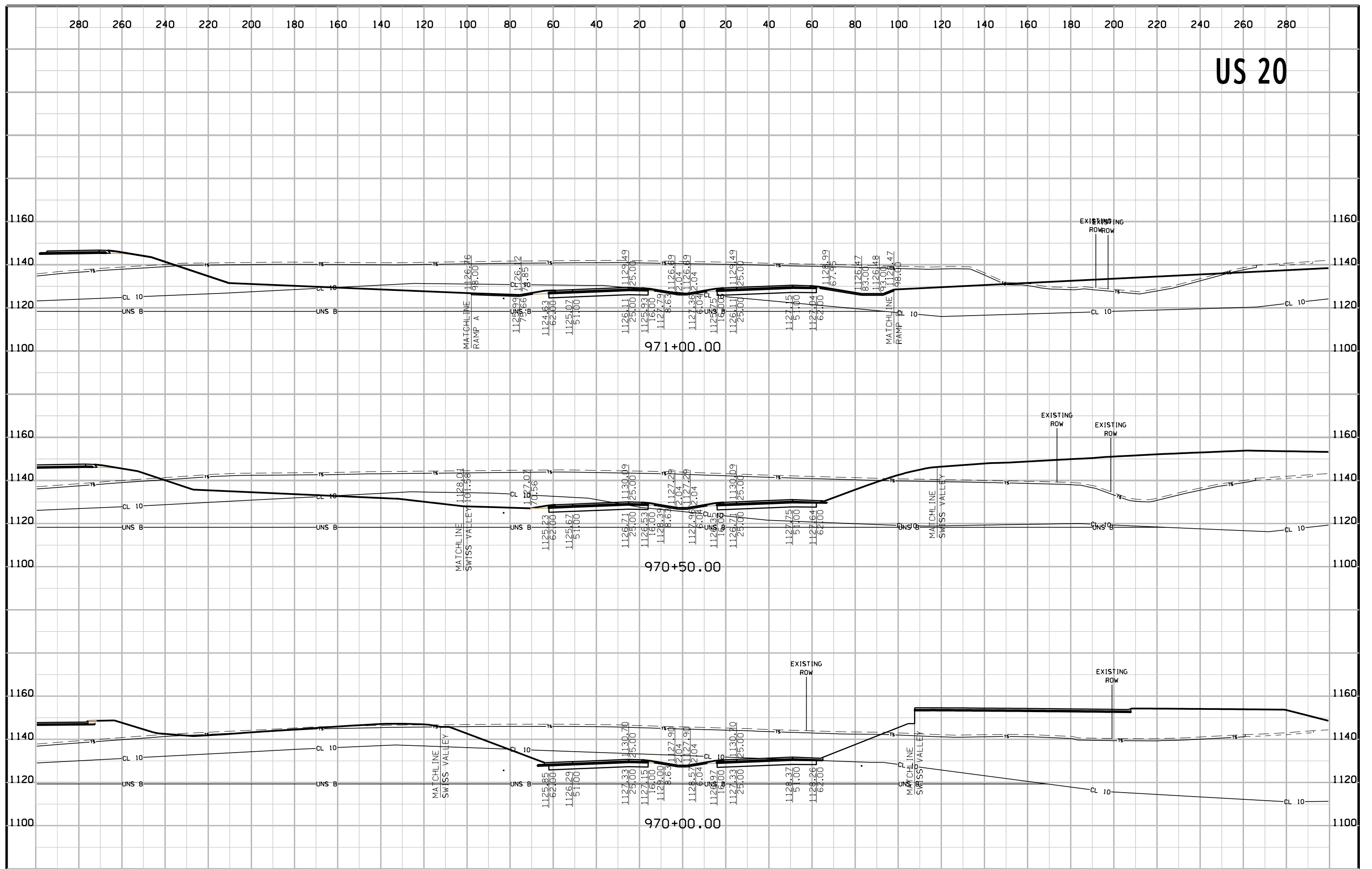


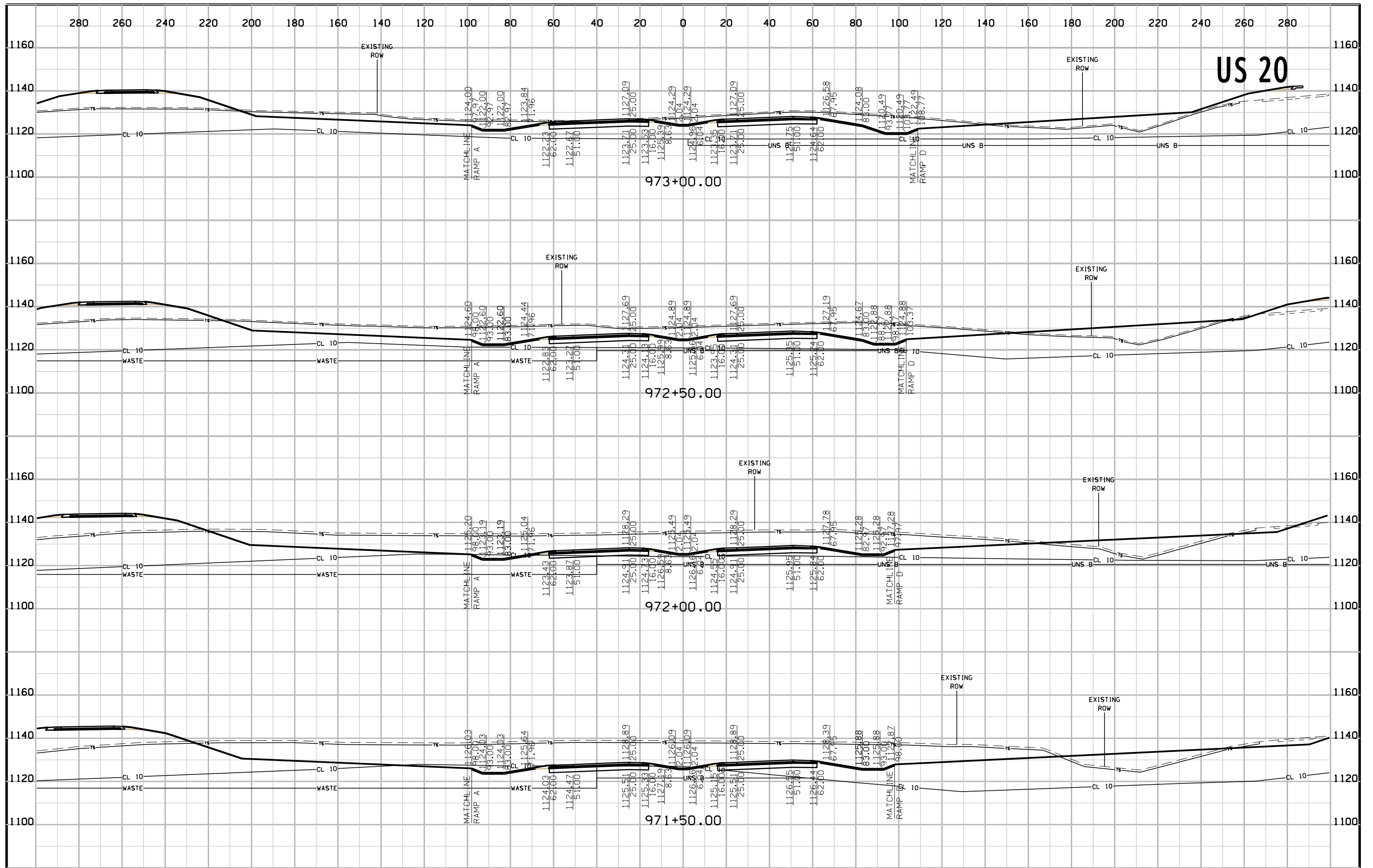
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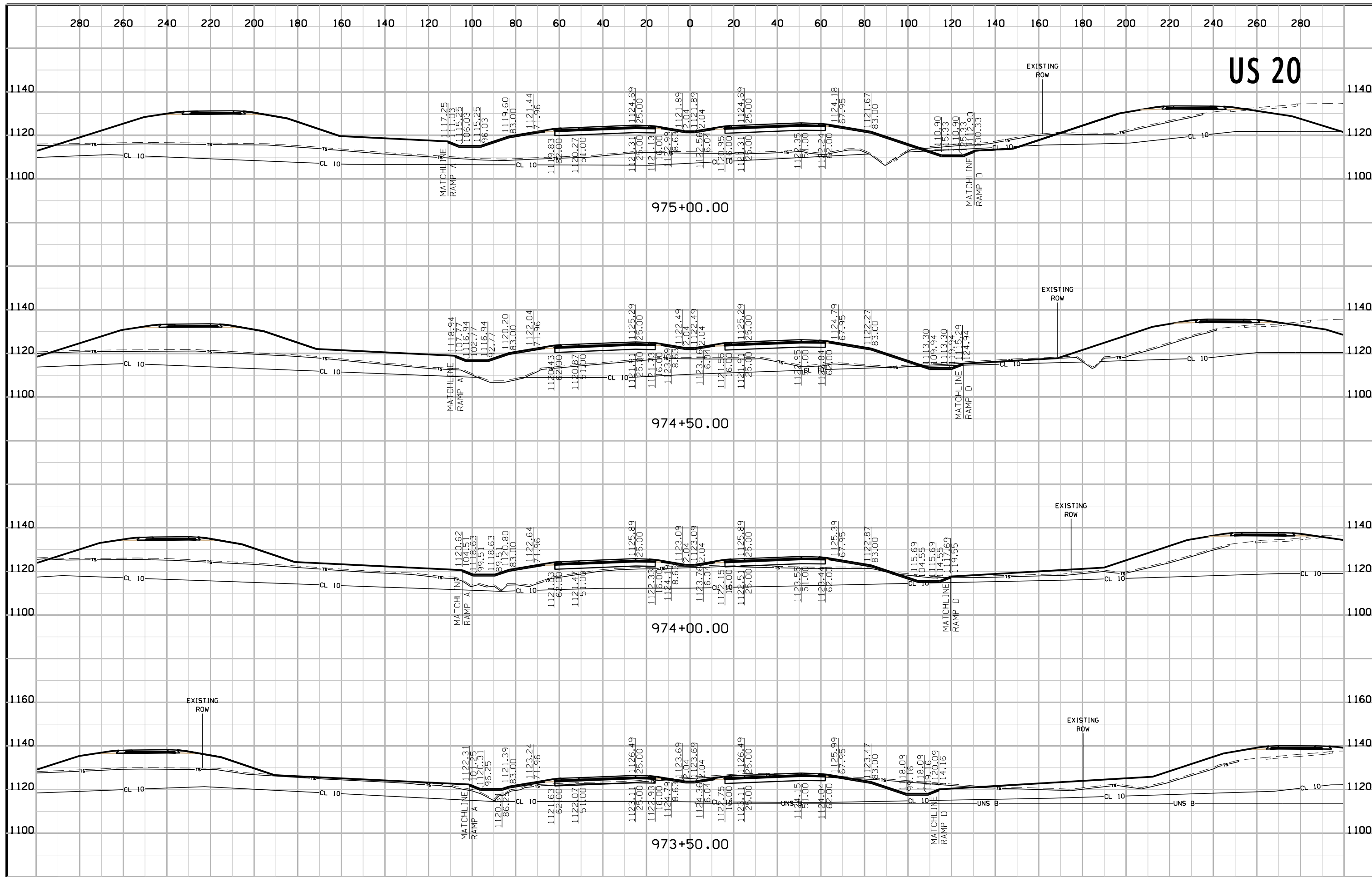


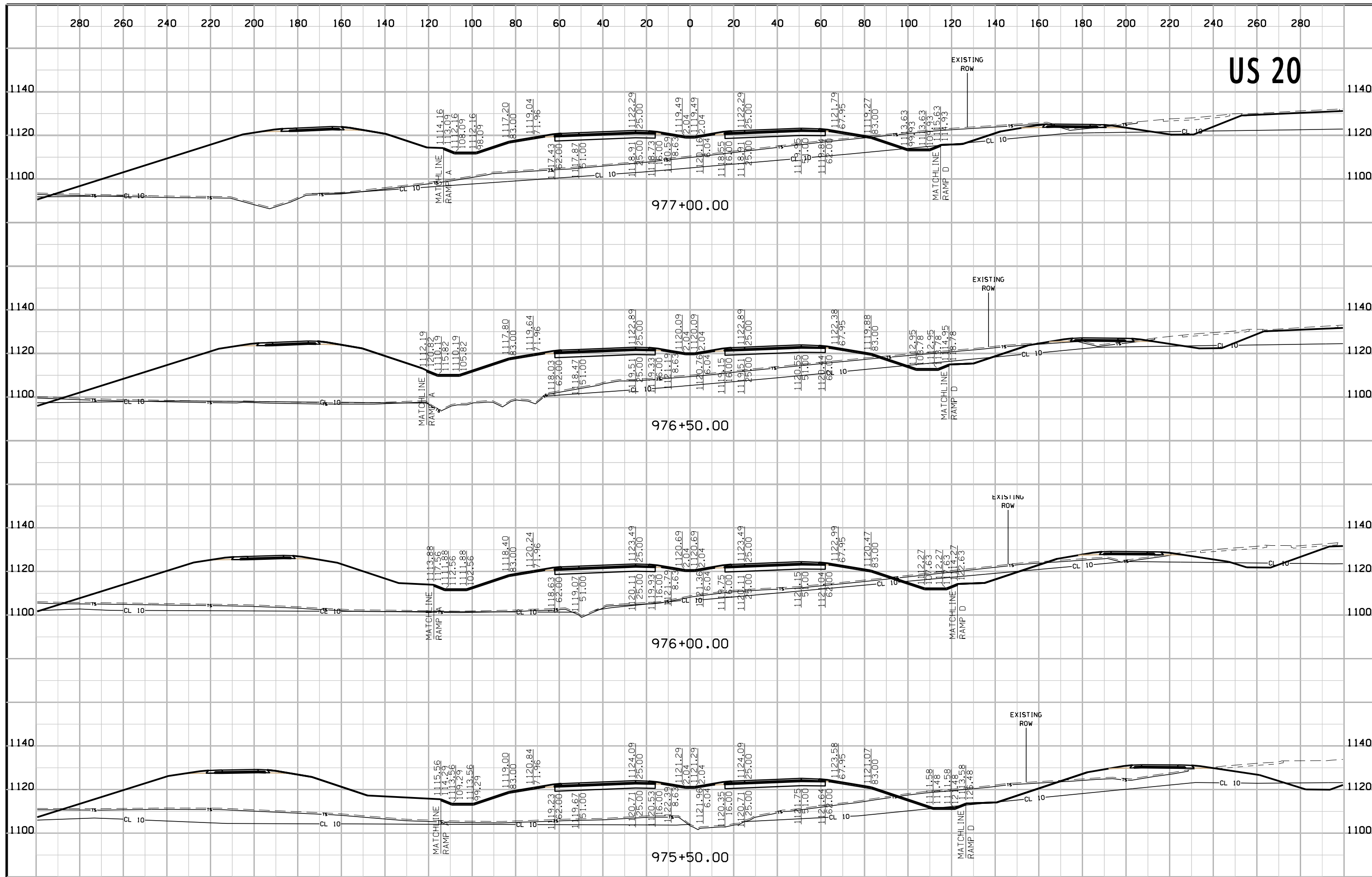
# US 20





# US 20

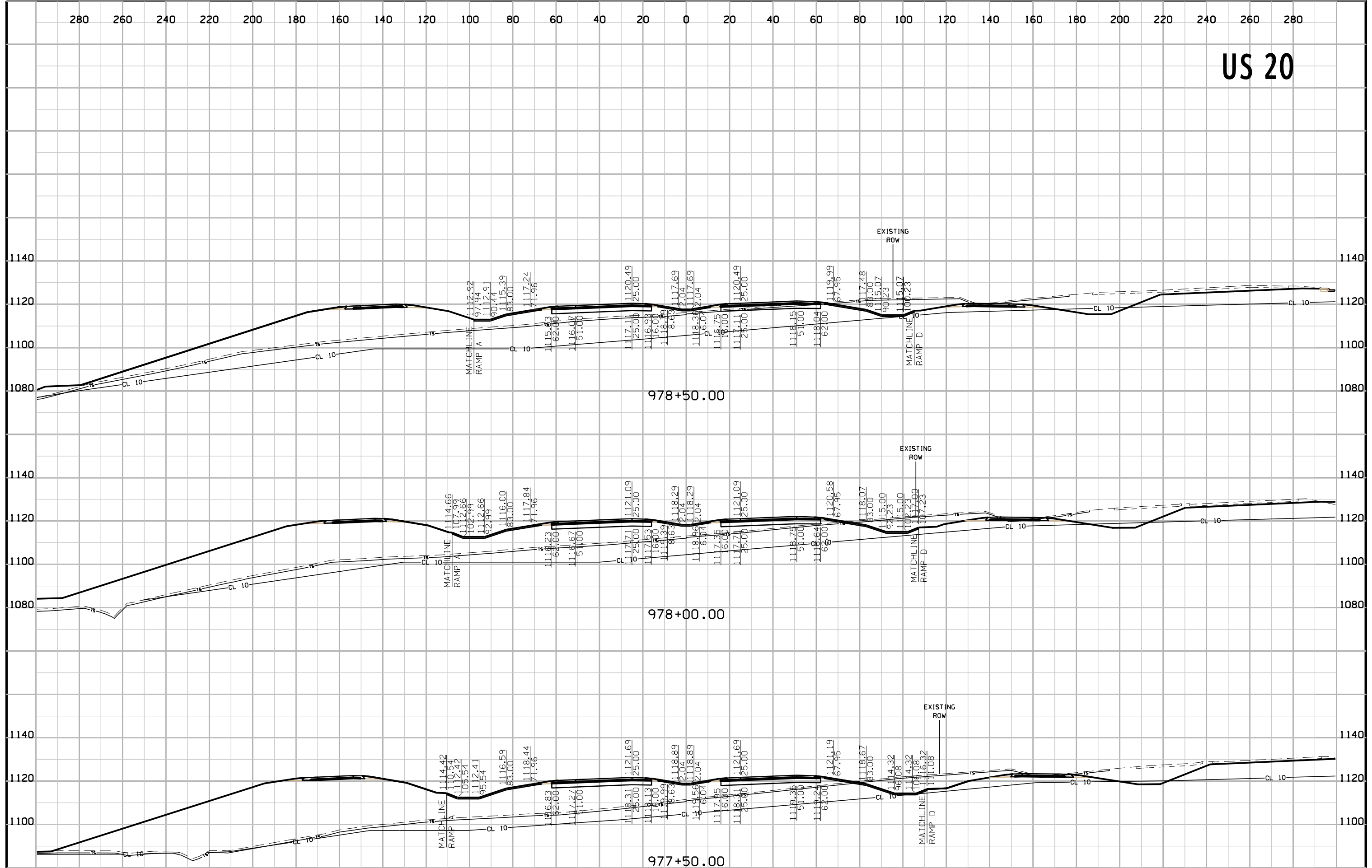




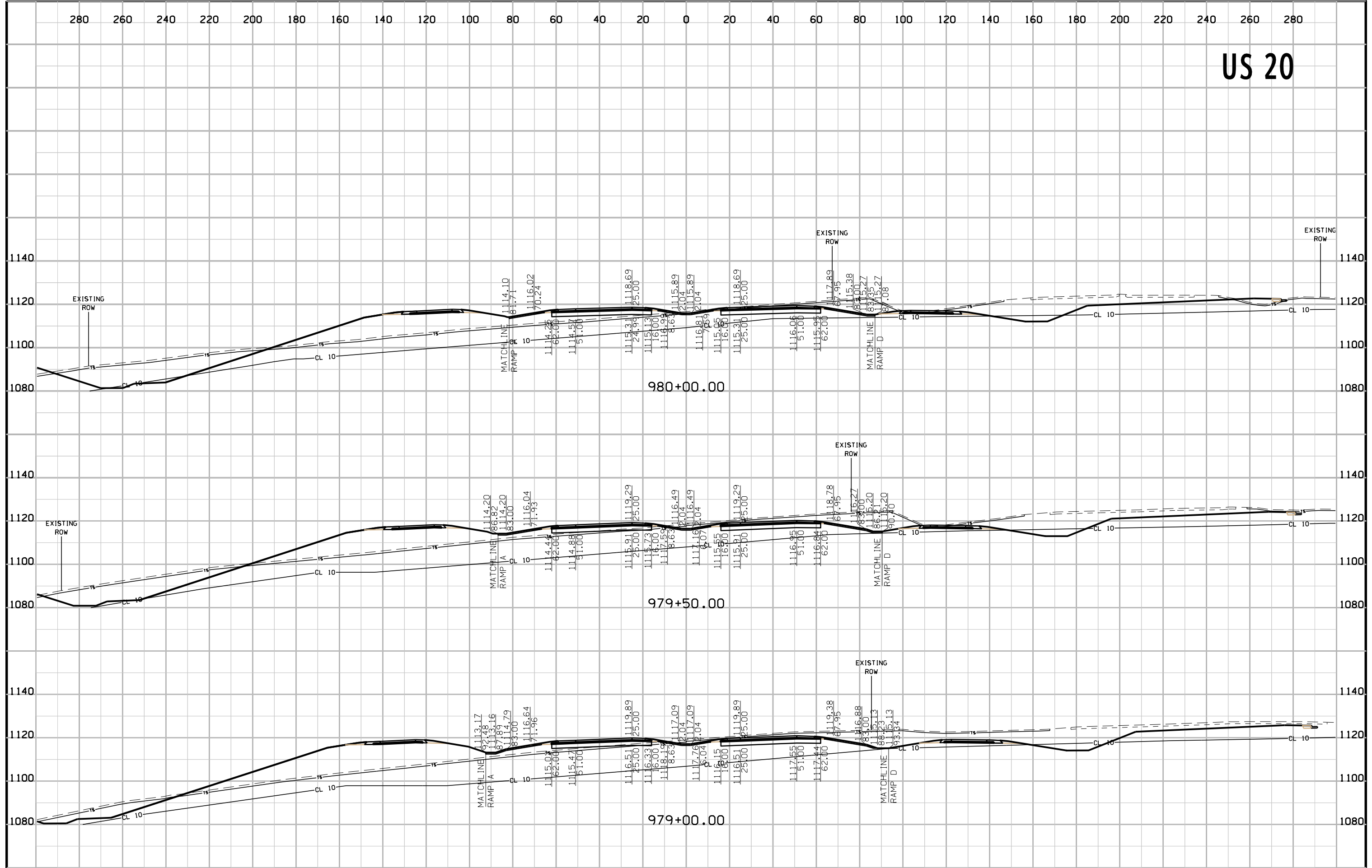
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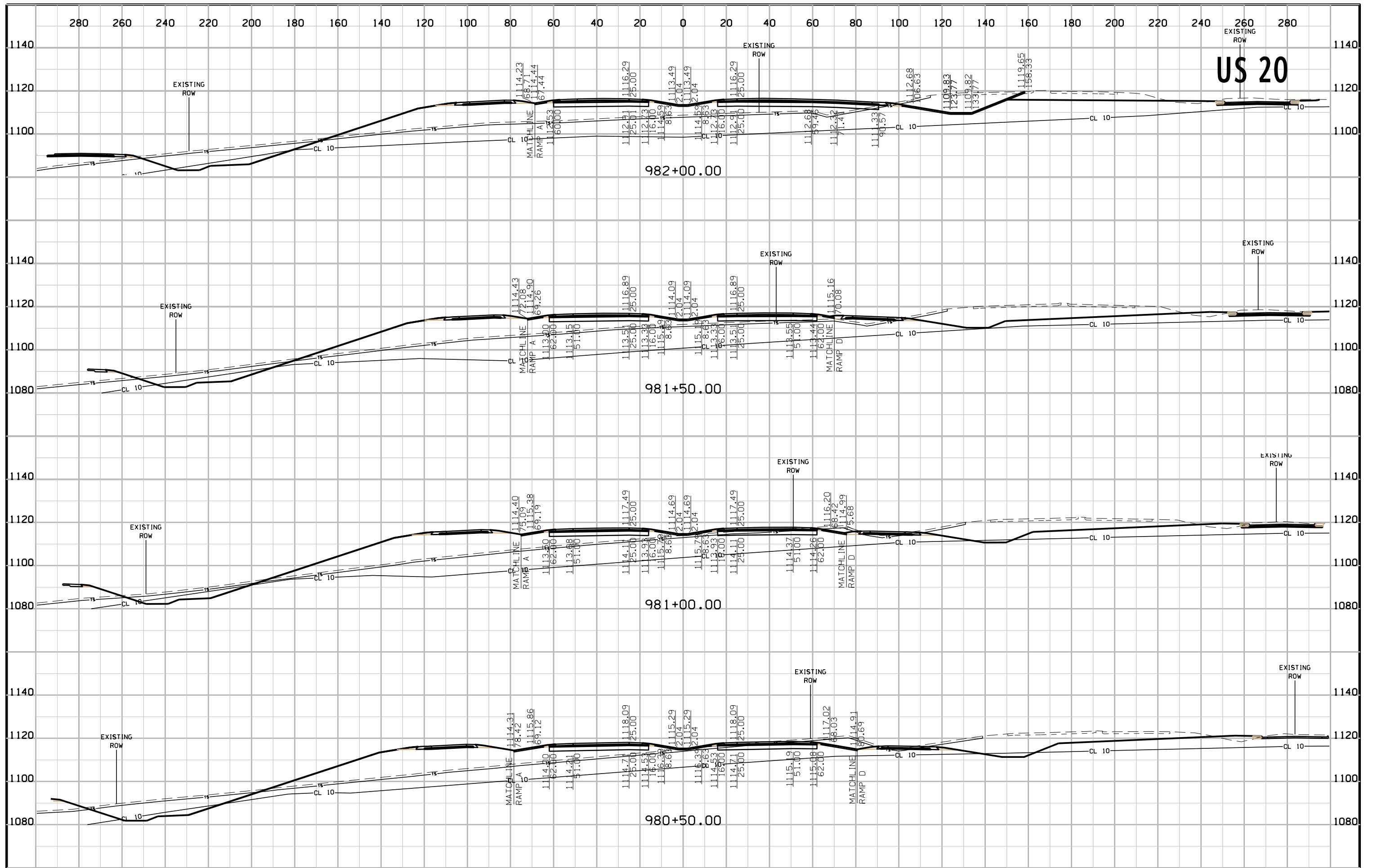


# US 20



# US 20





US 20

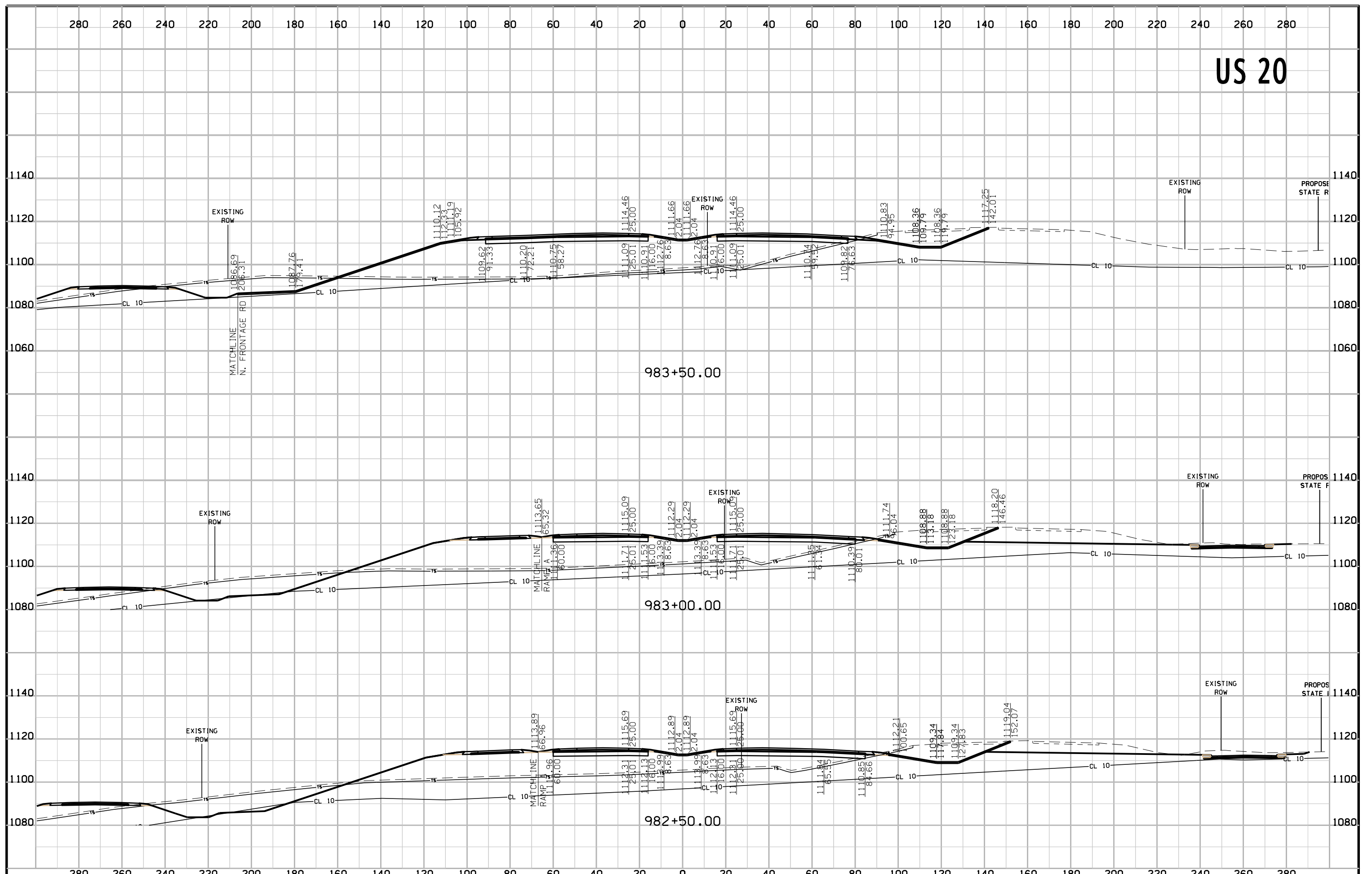
982+00.00

981+50.00

981+00.00

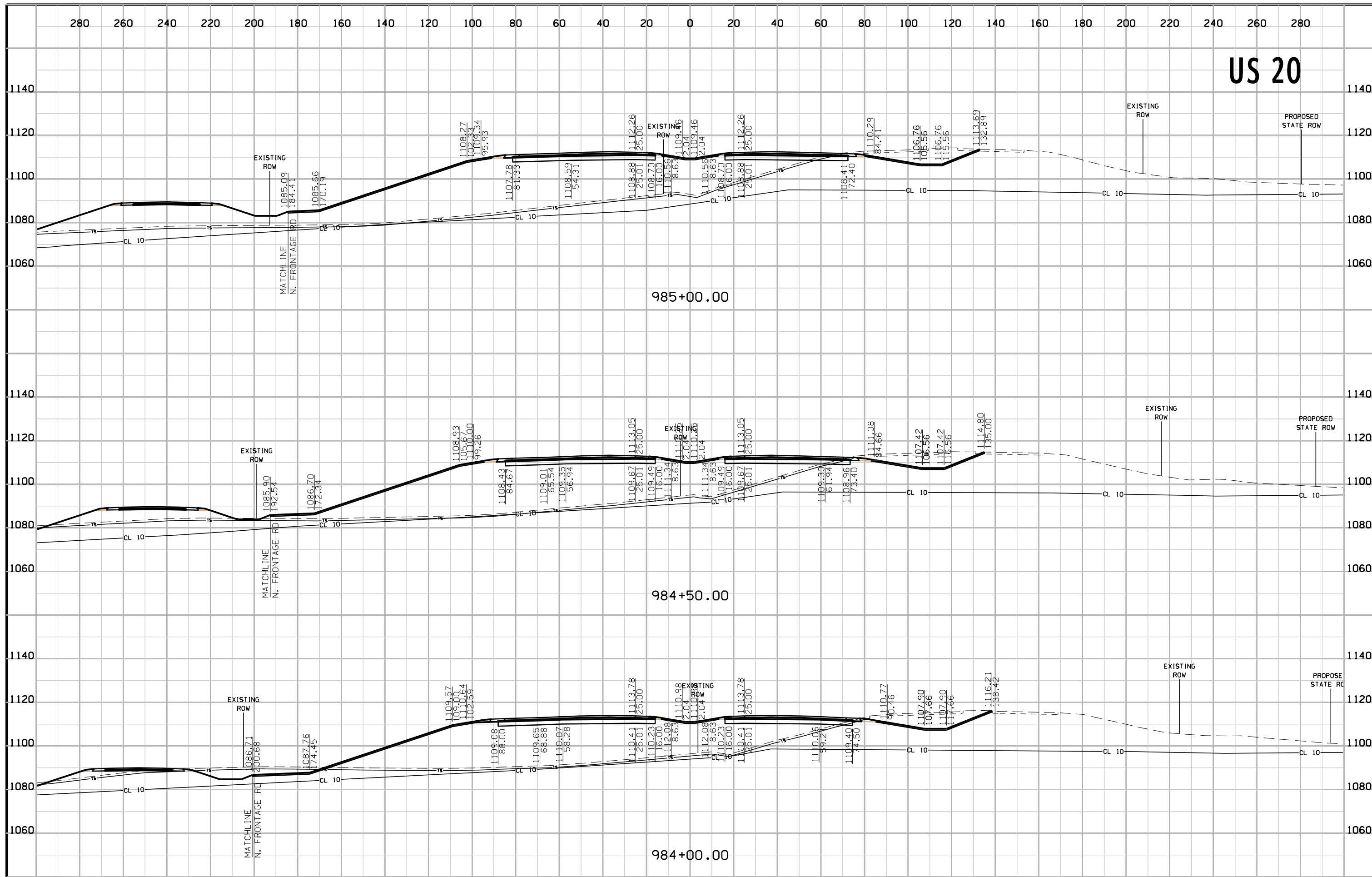
980+50.00

# US 20

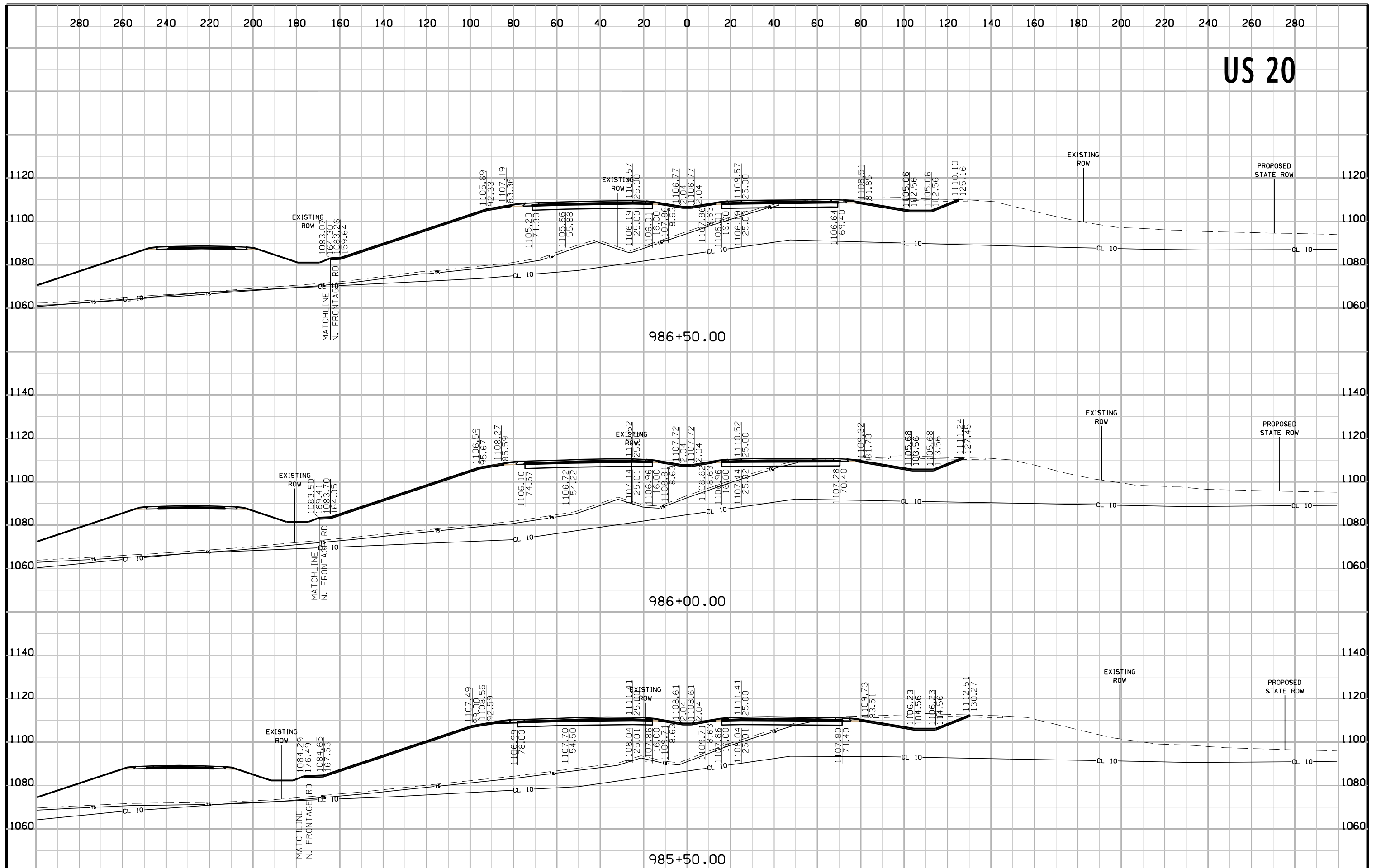




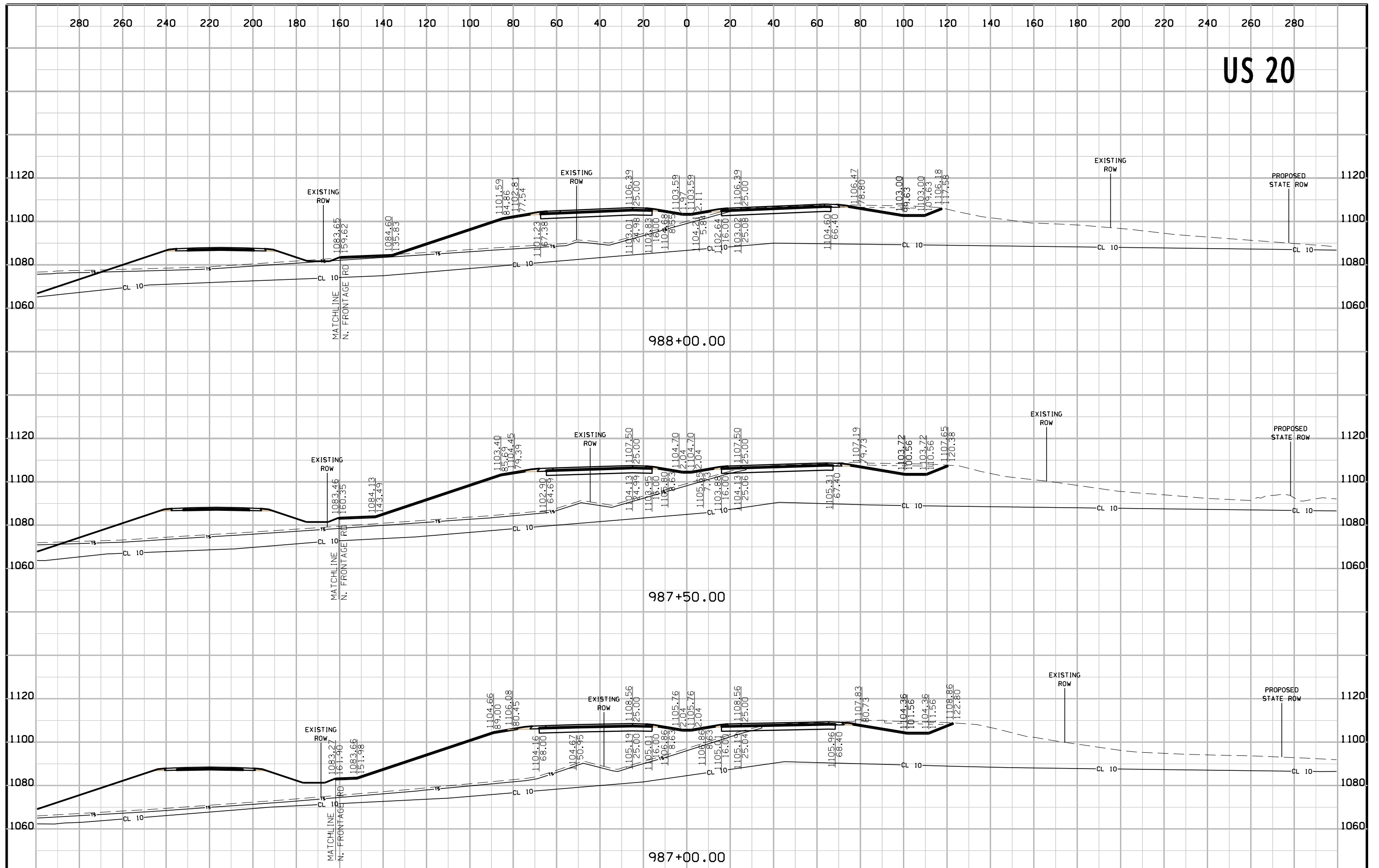
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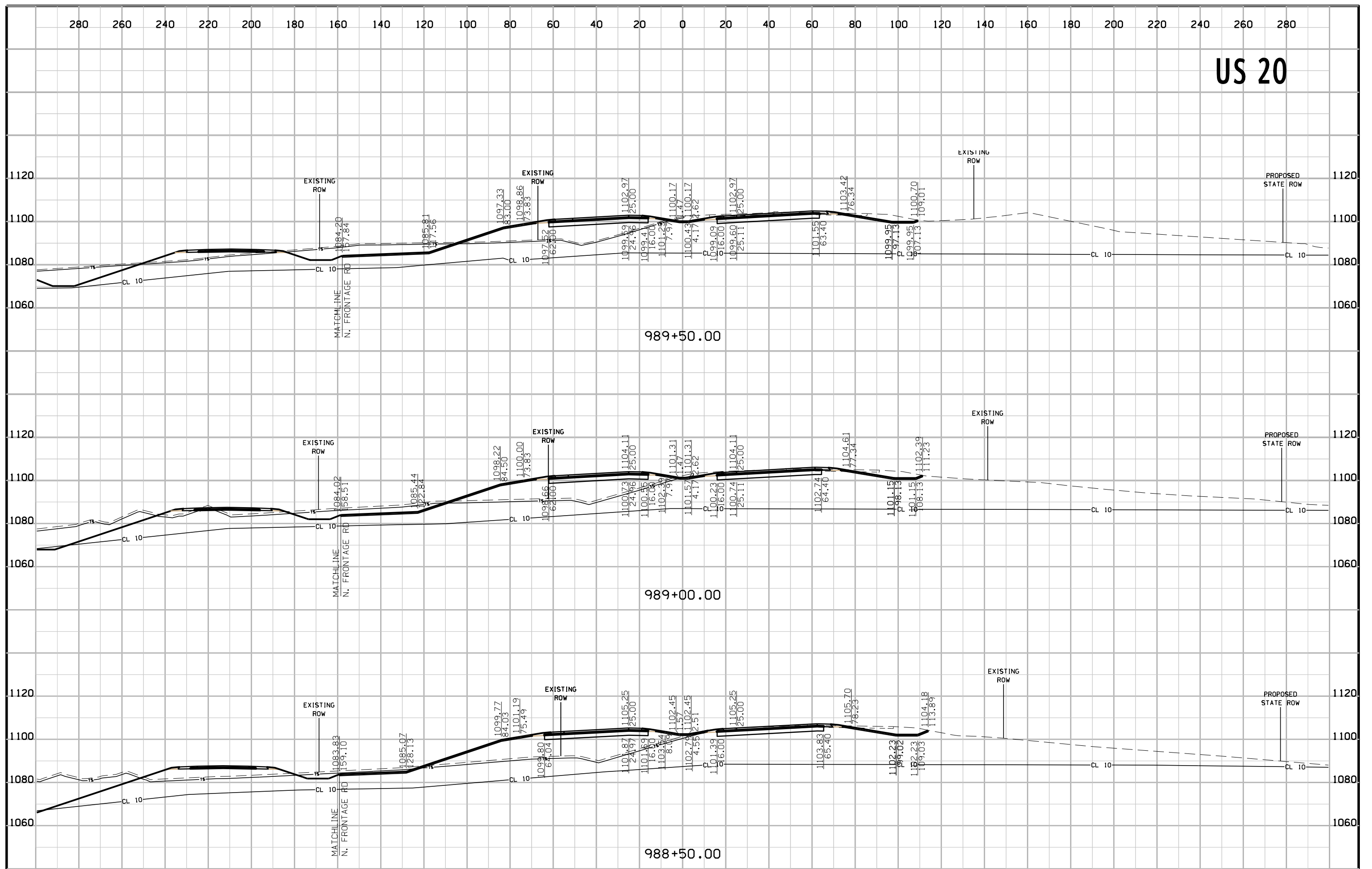
# US 20



# US 20

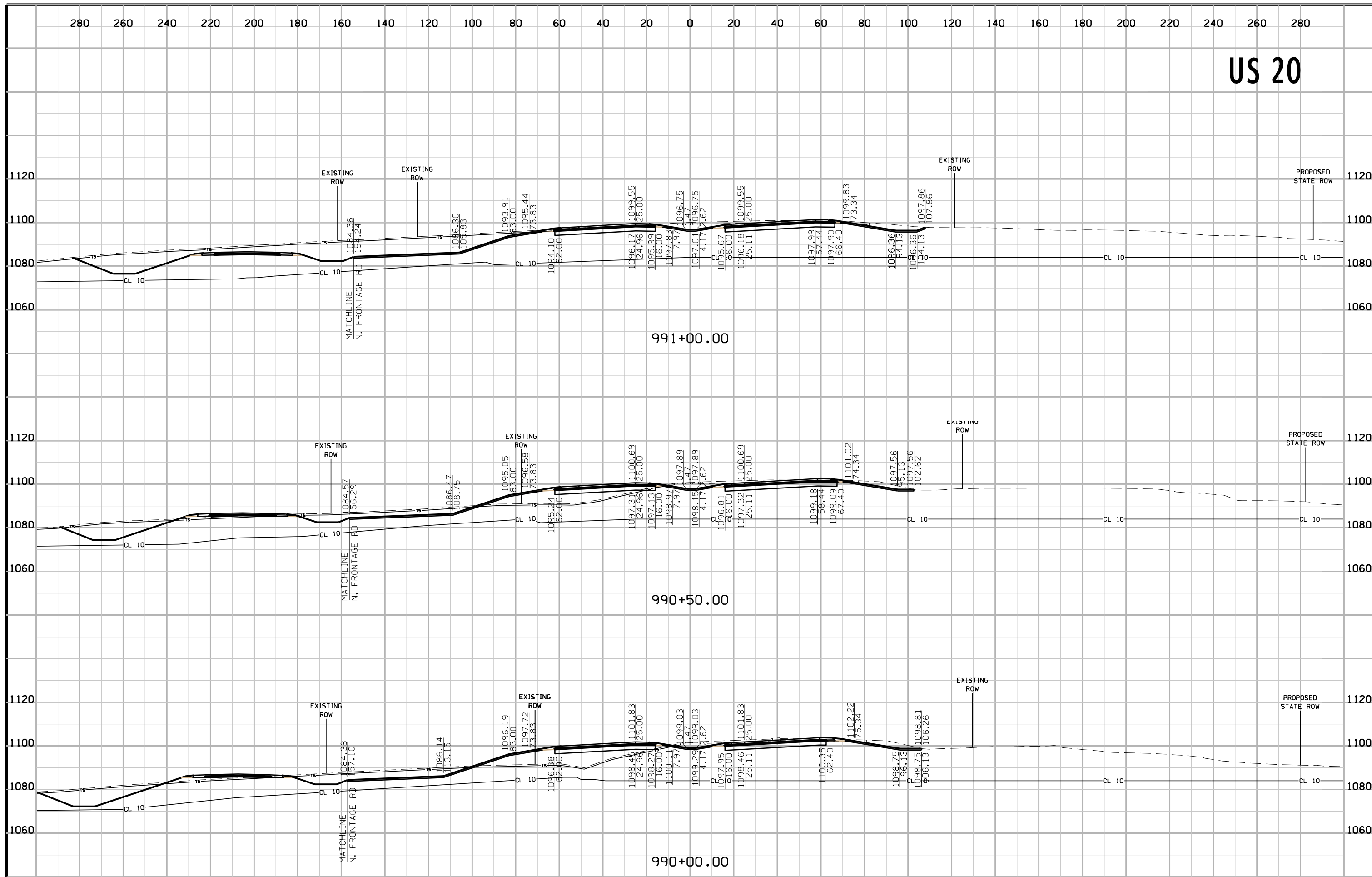


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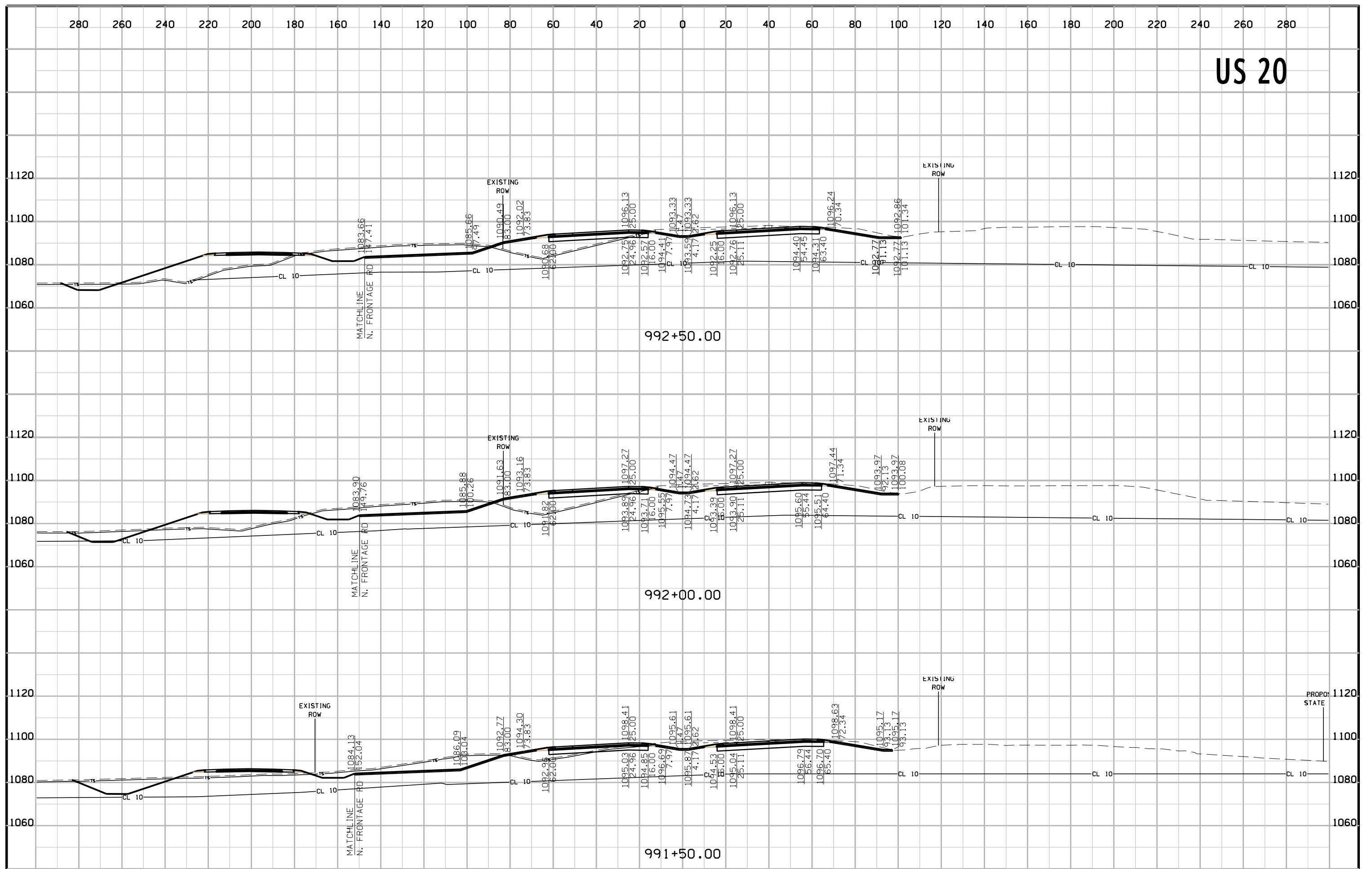




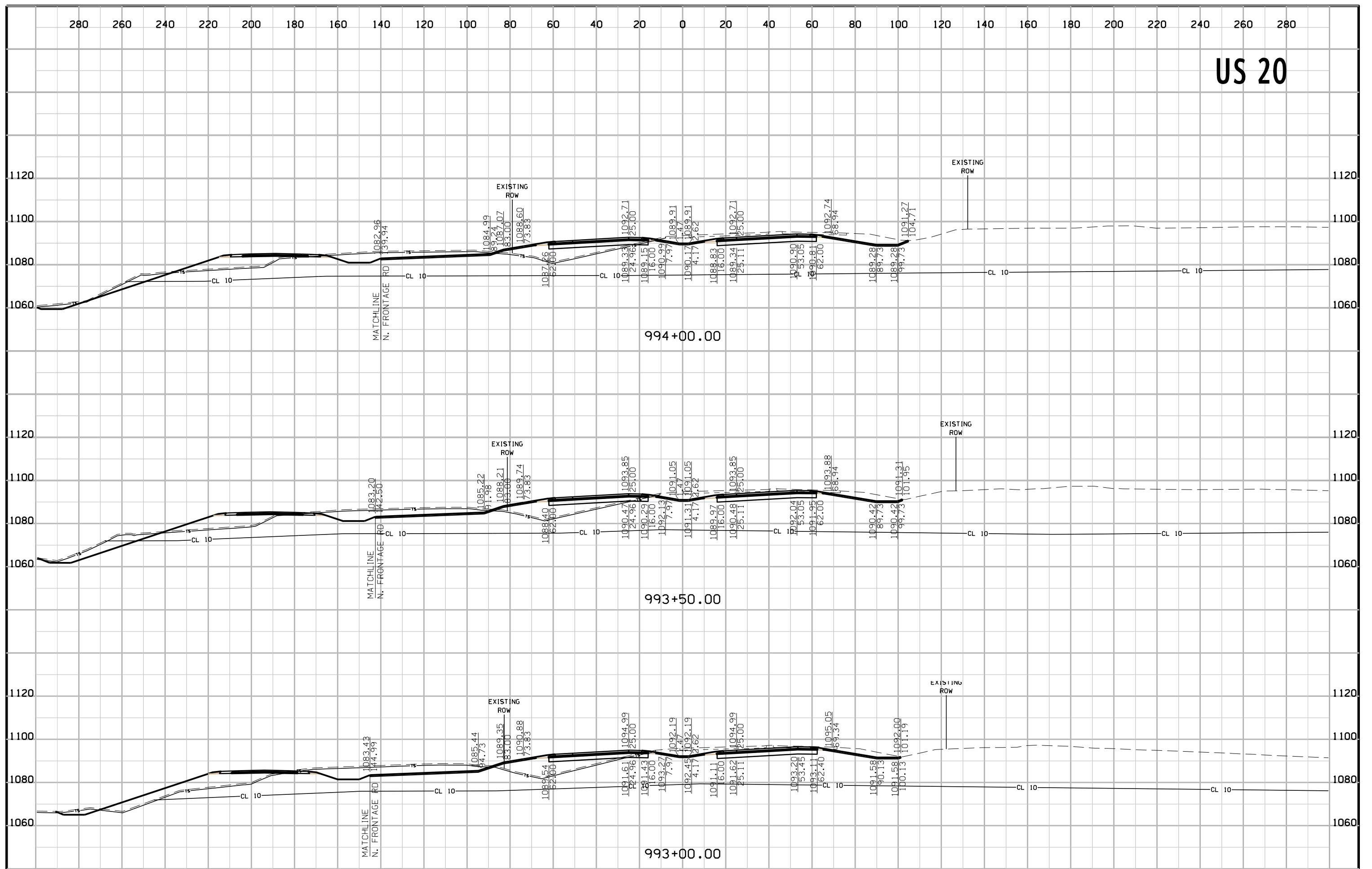
# US 20



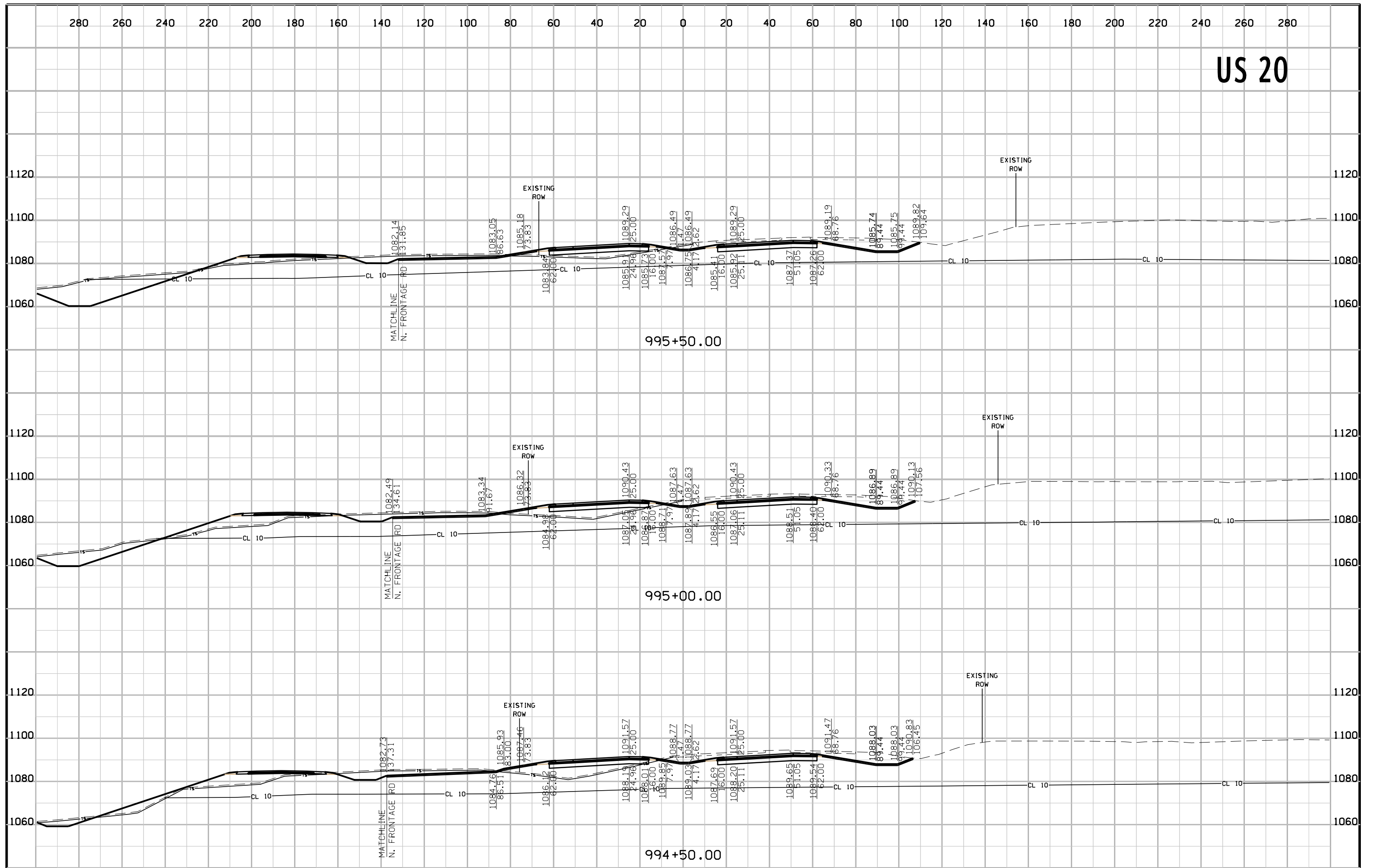
# US 20



# US 20

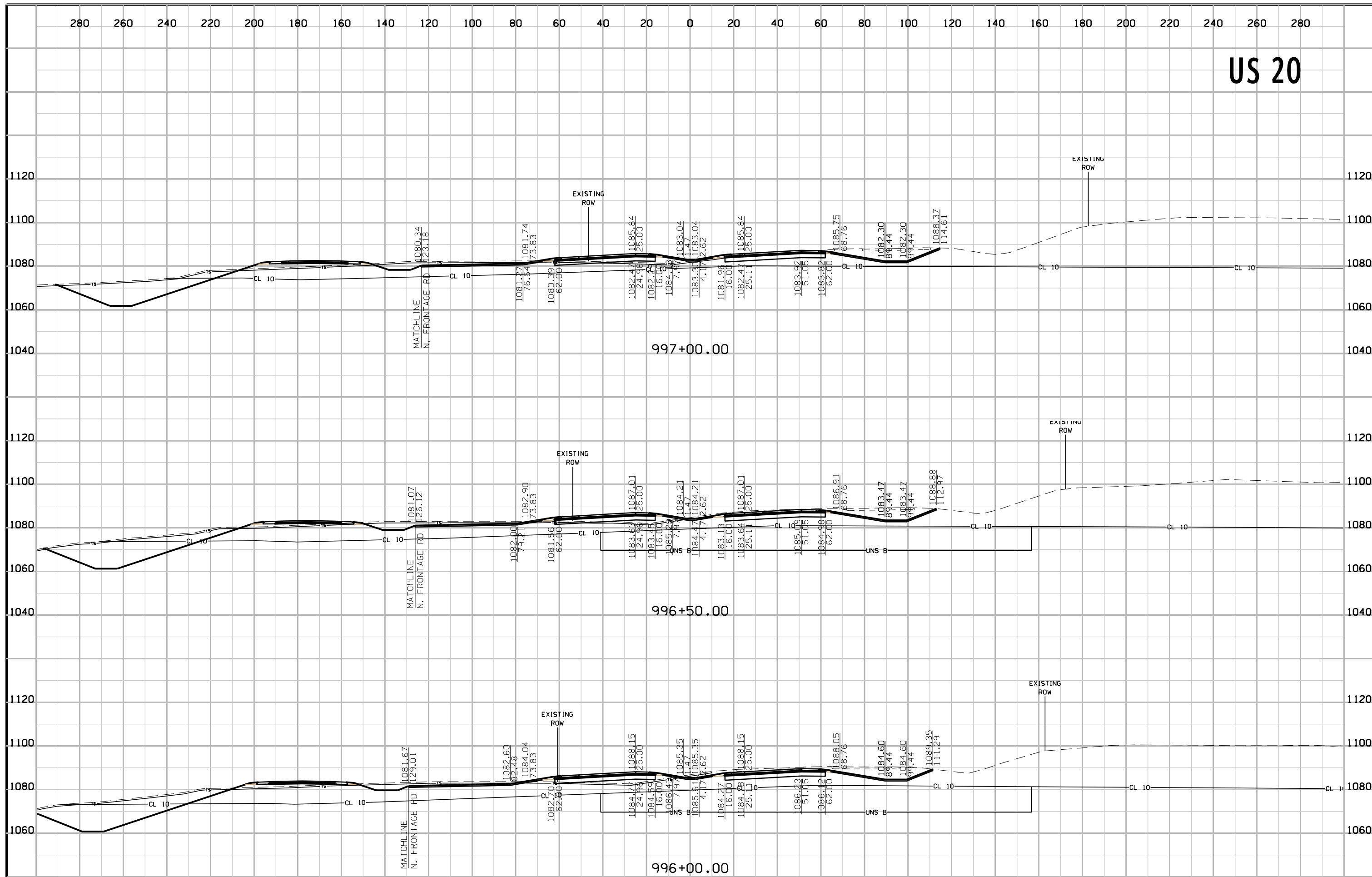


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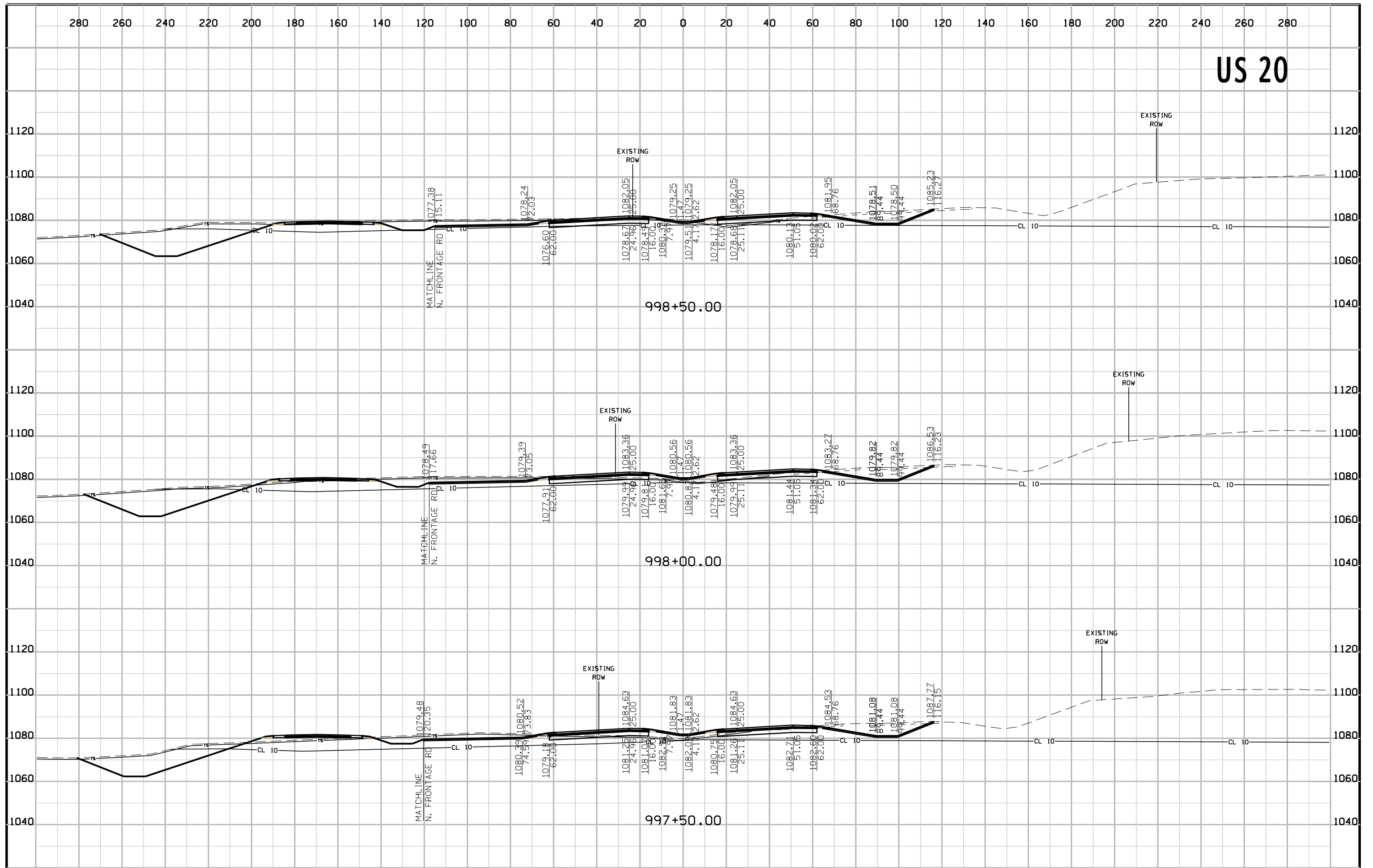




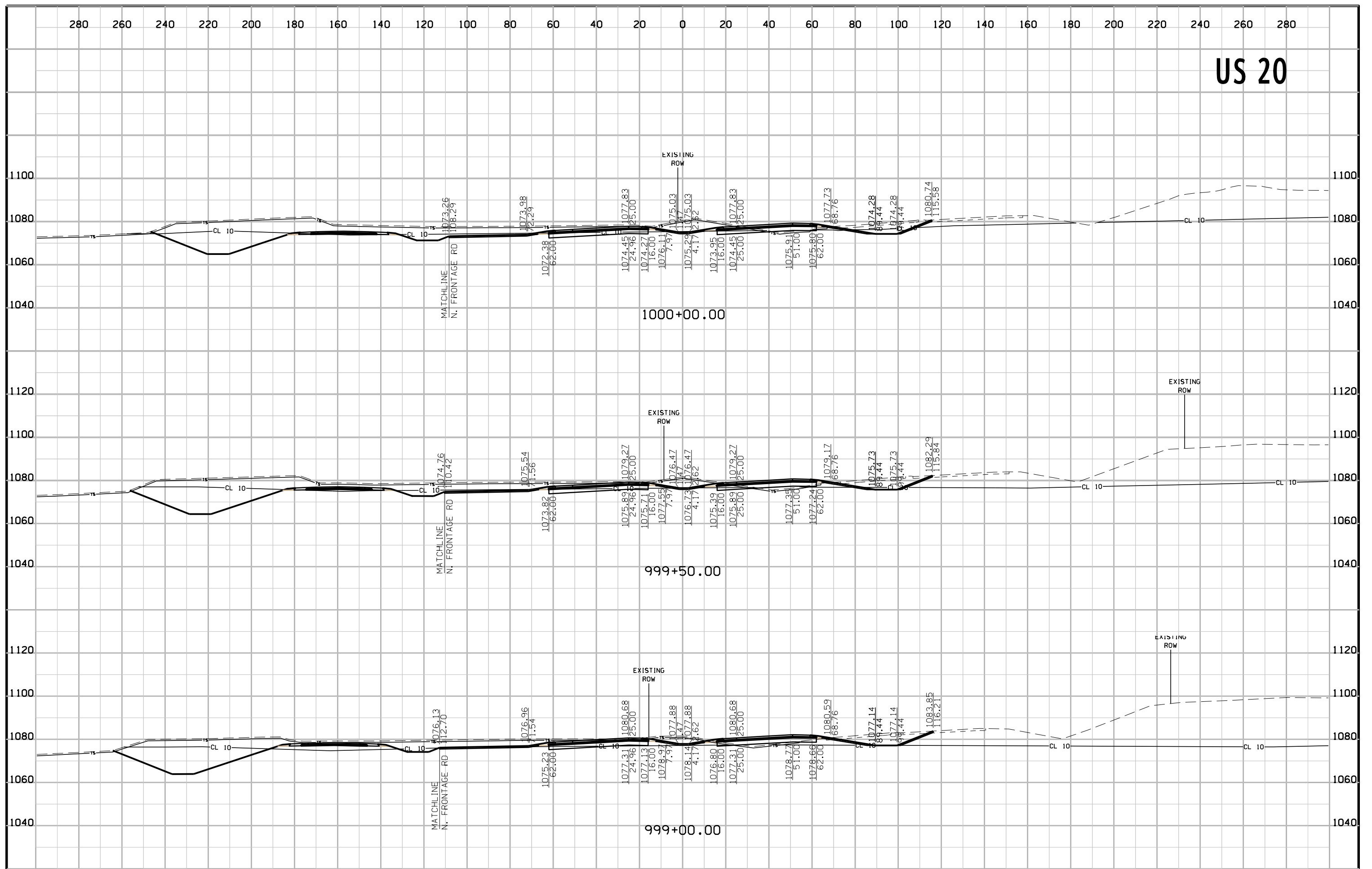
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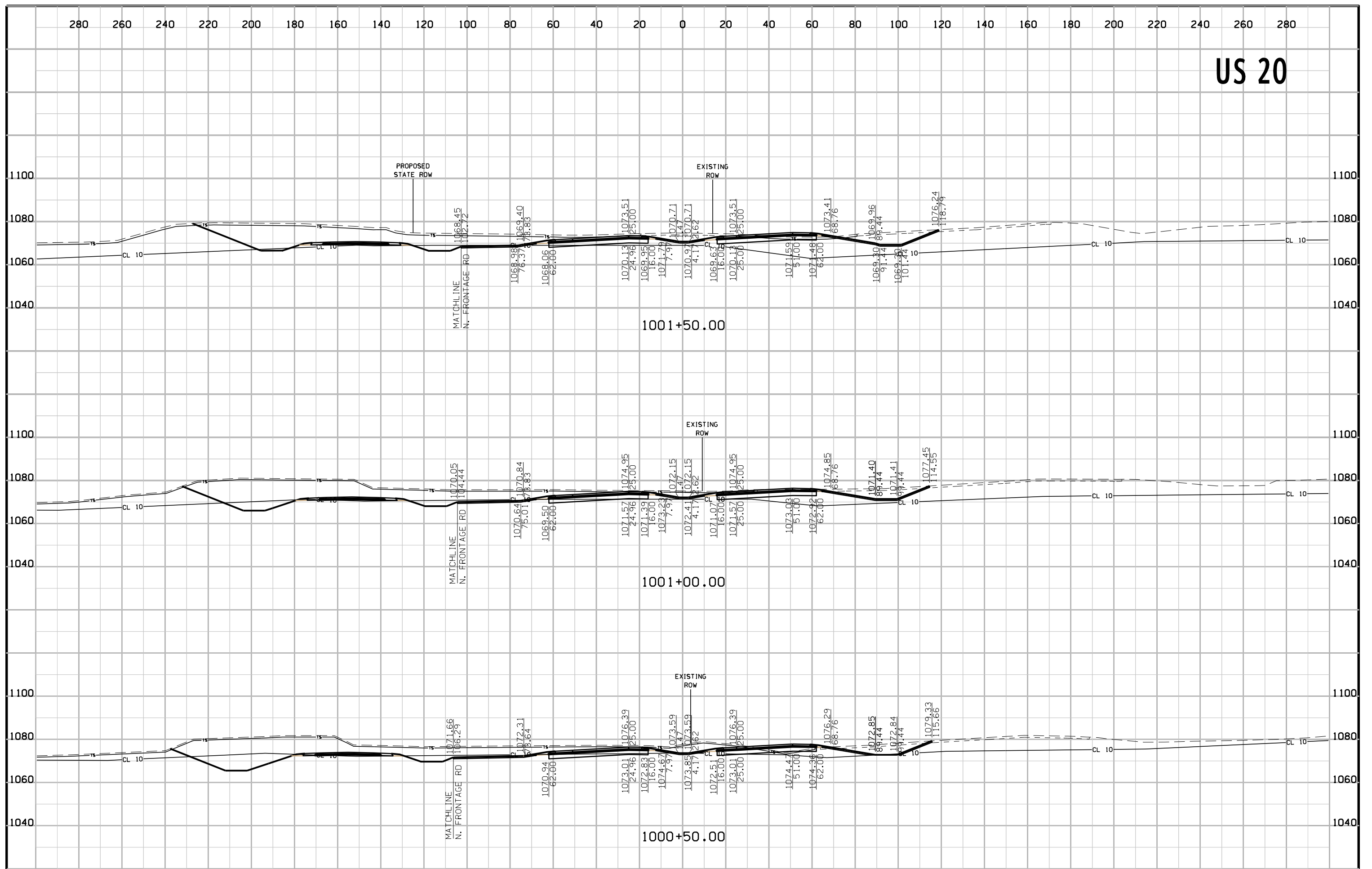
# US 20



# US 20

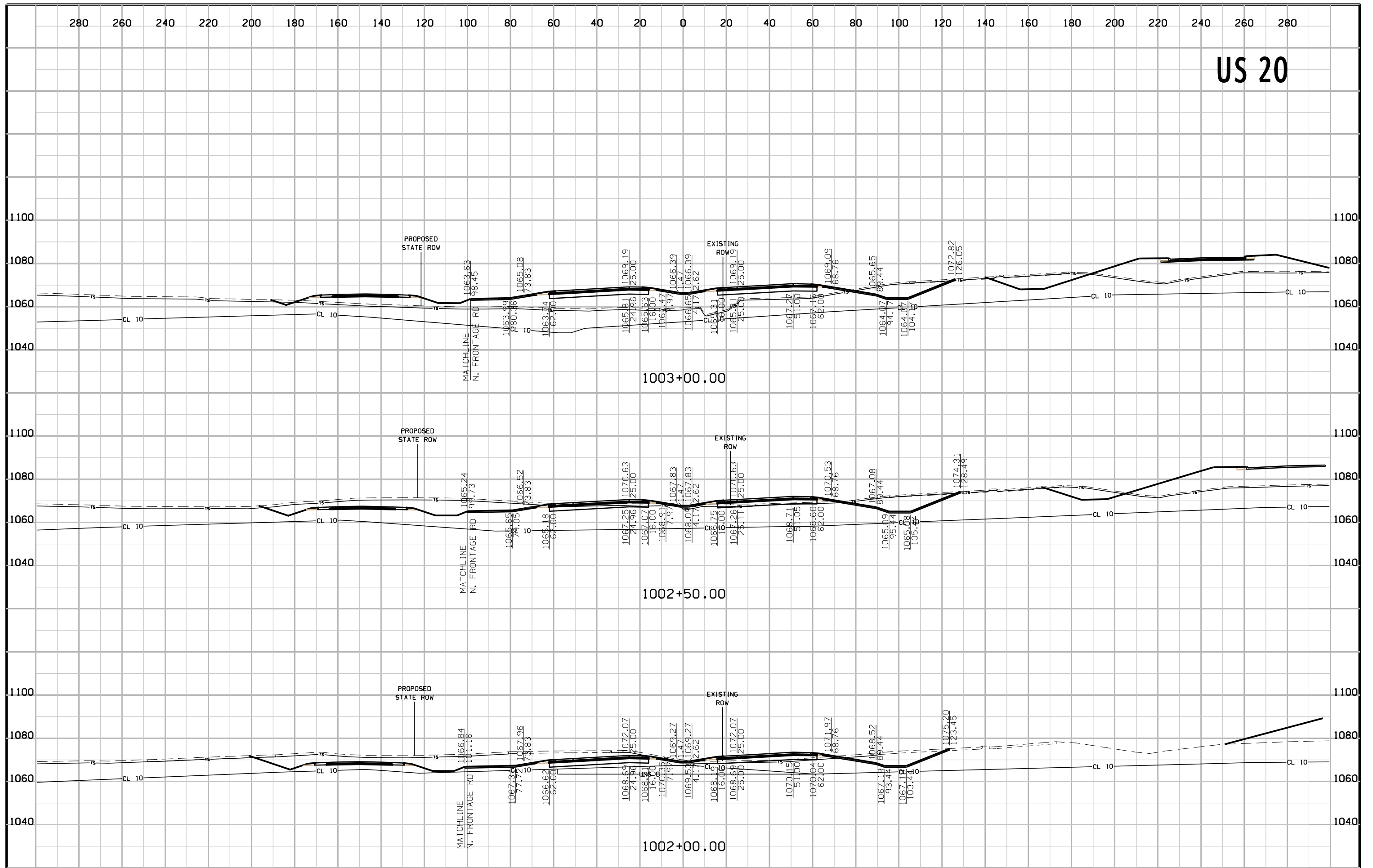


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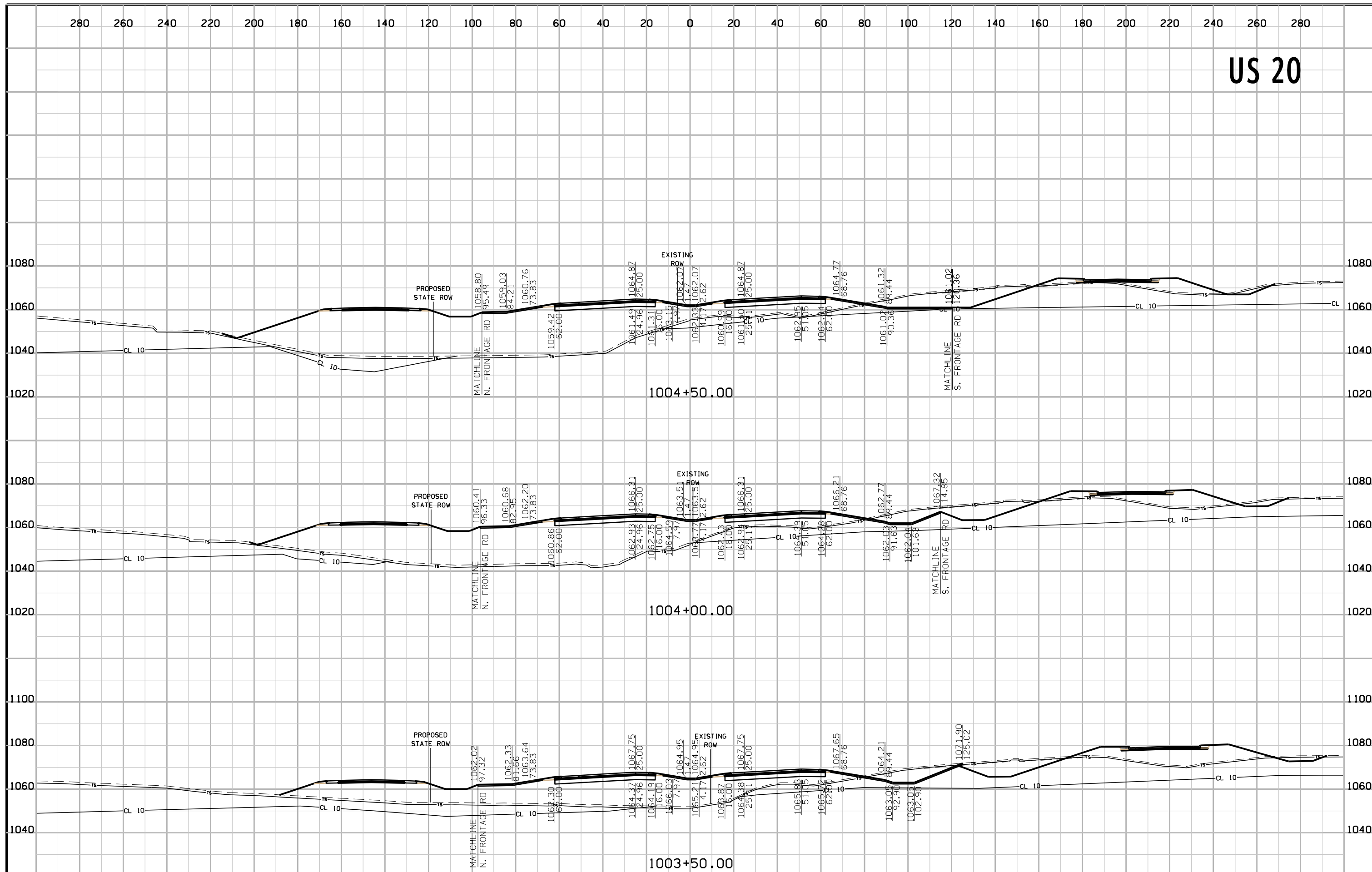




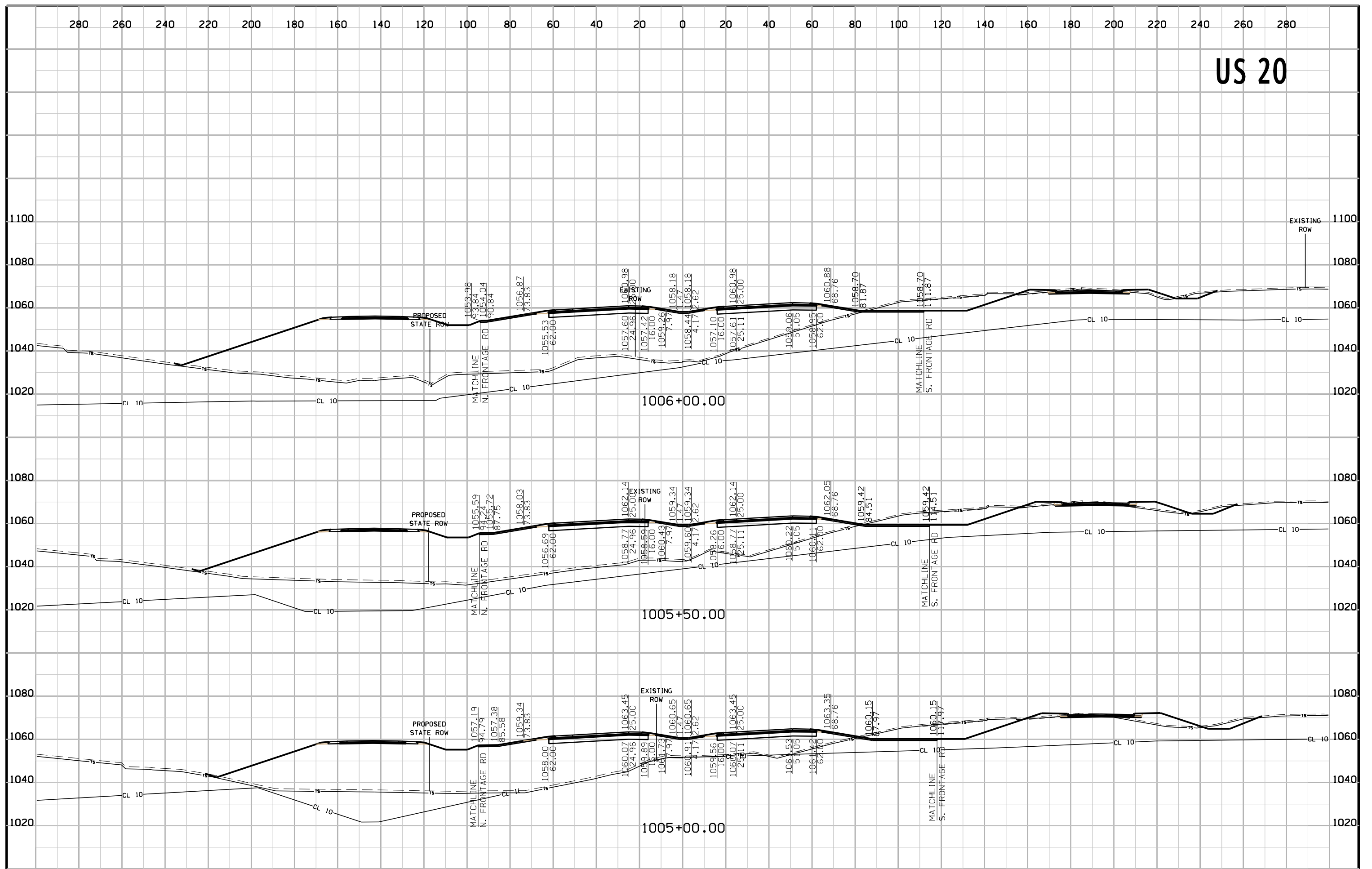
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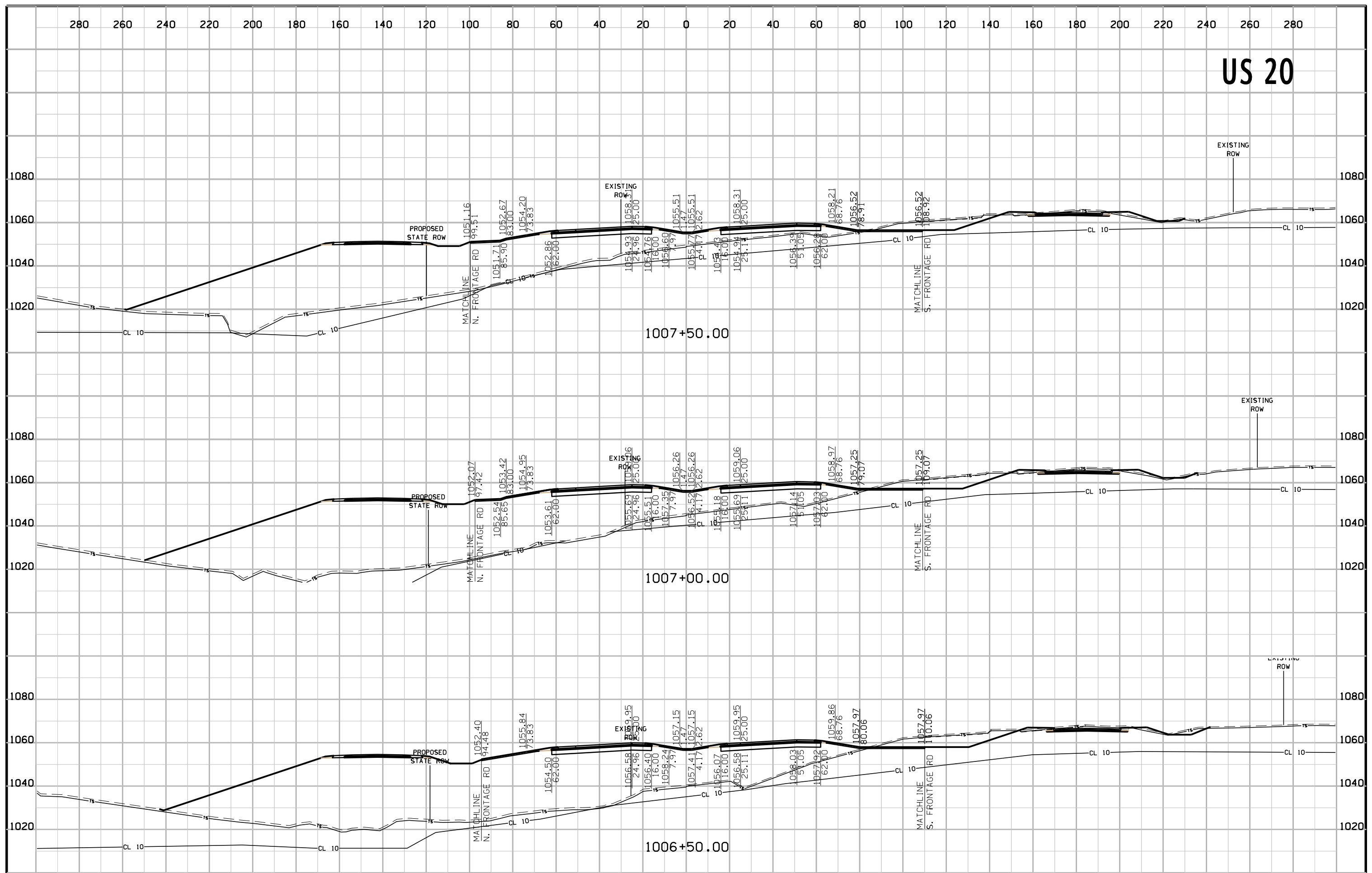
# US 20



# US 20

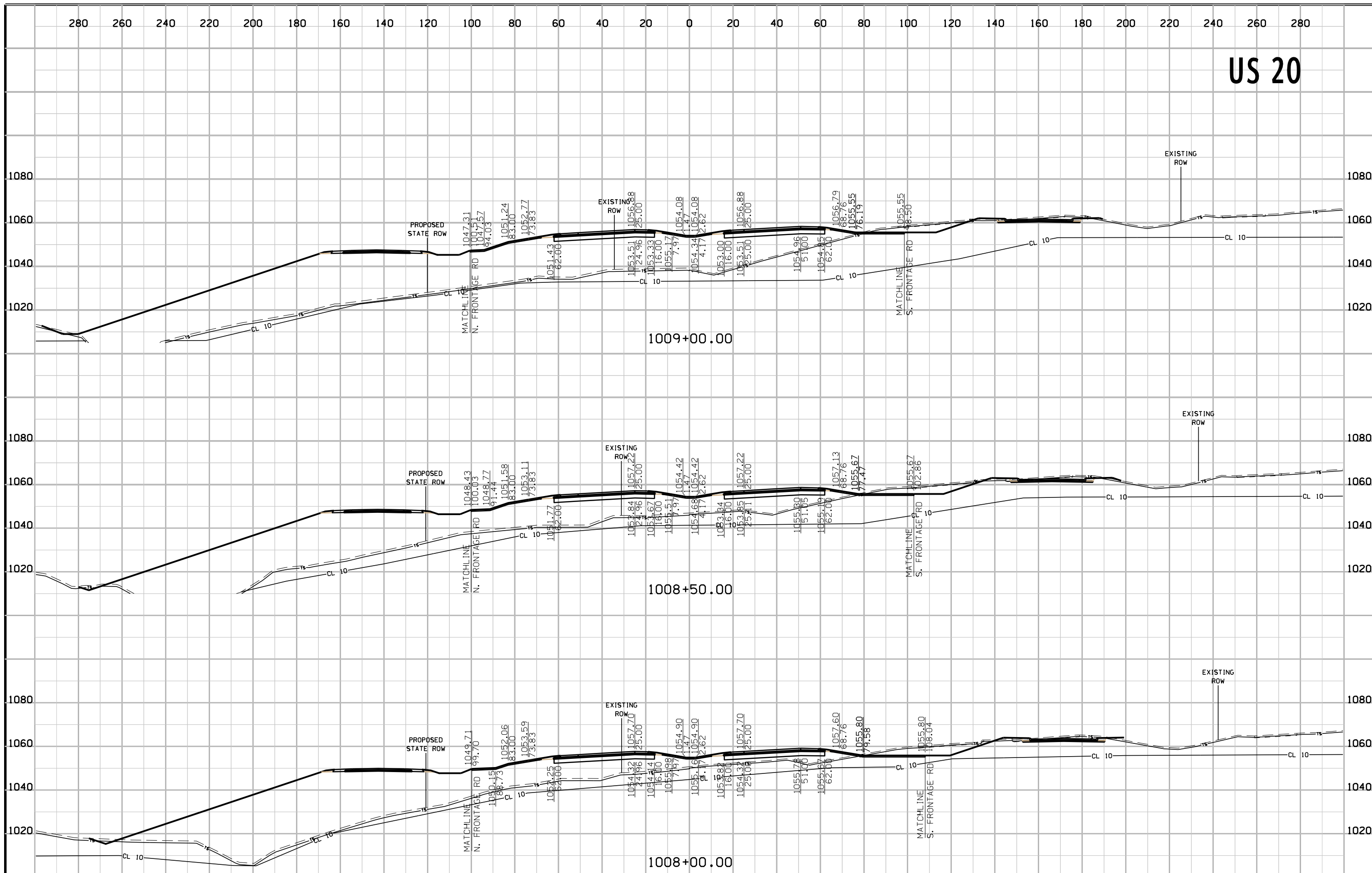


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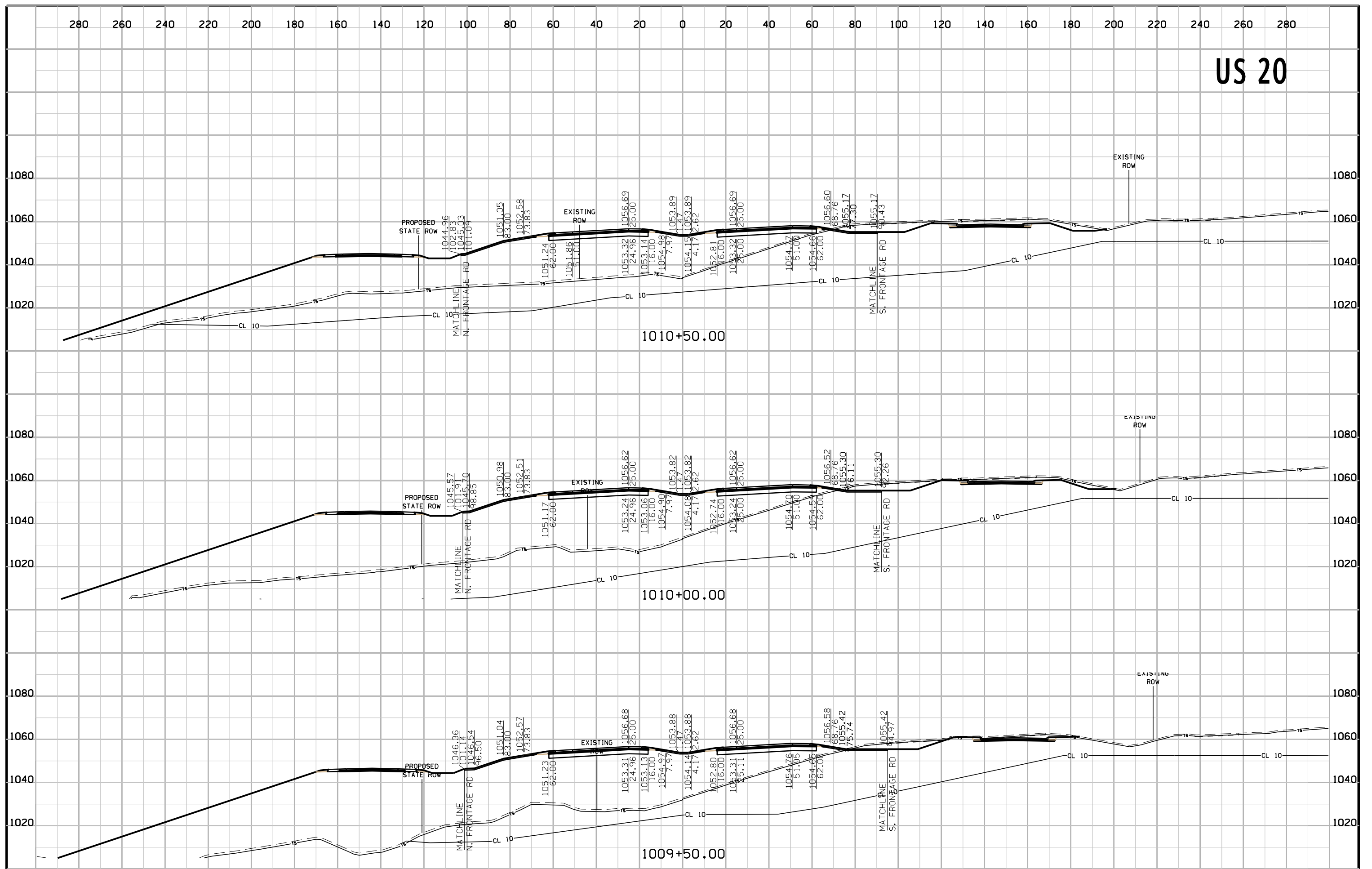




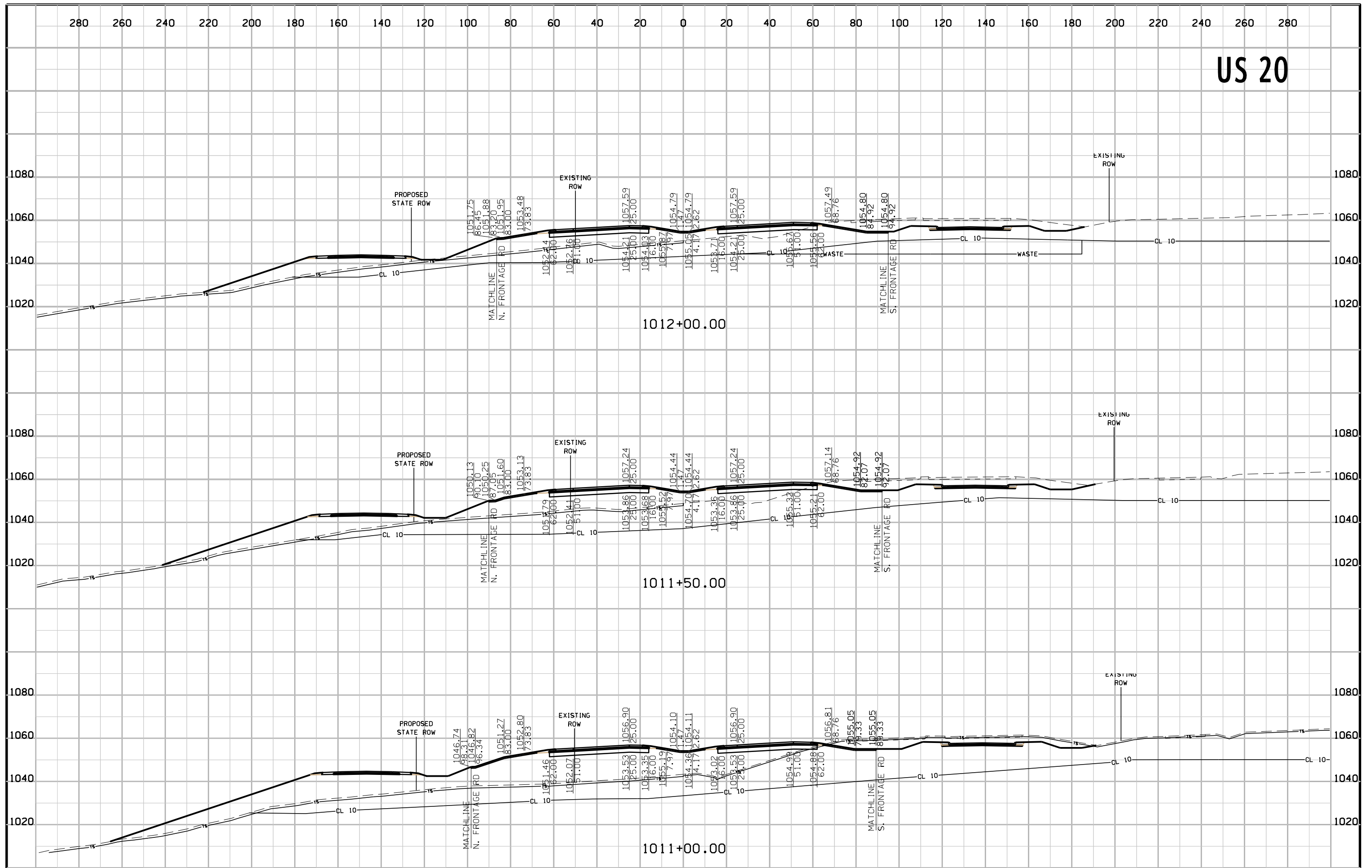
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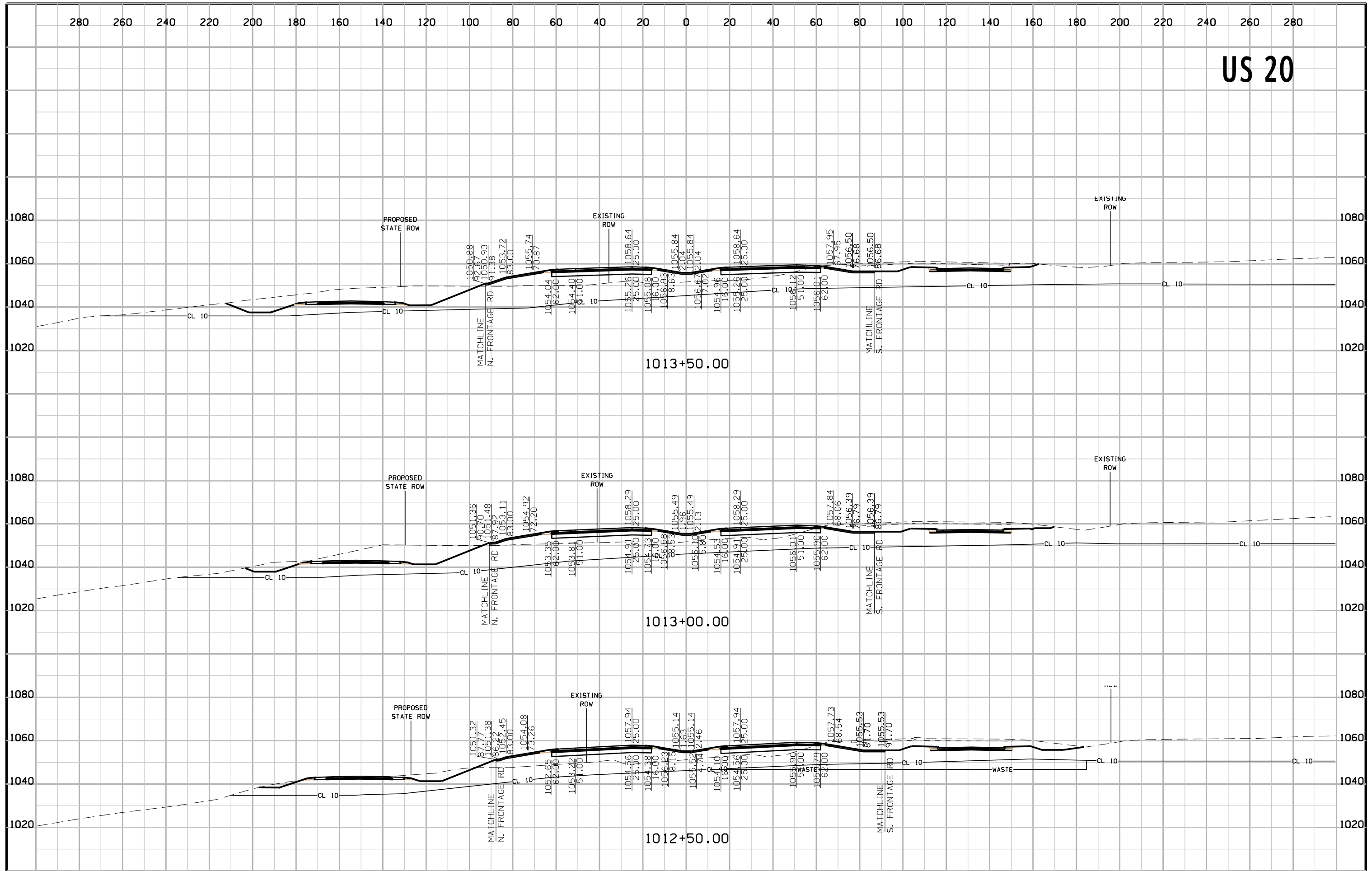
# US 20



# US 20

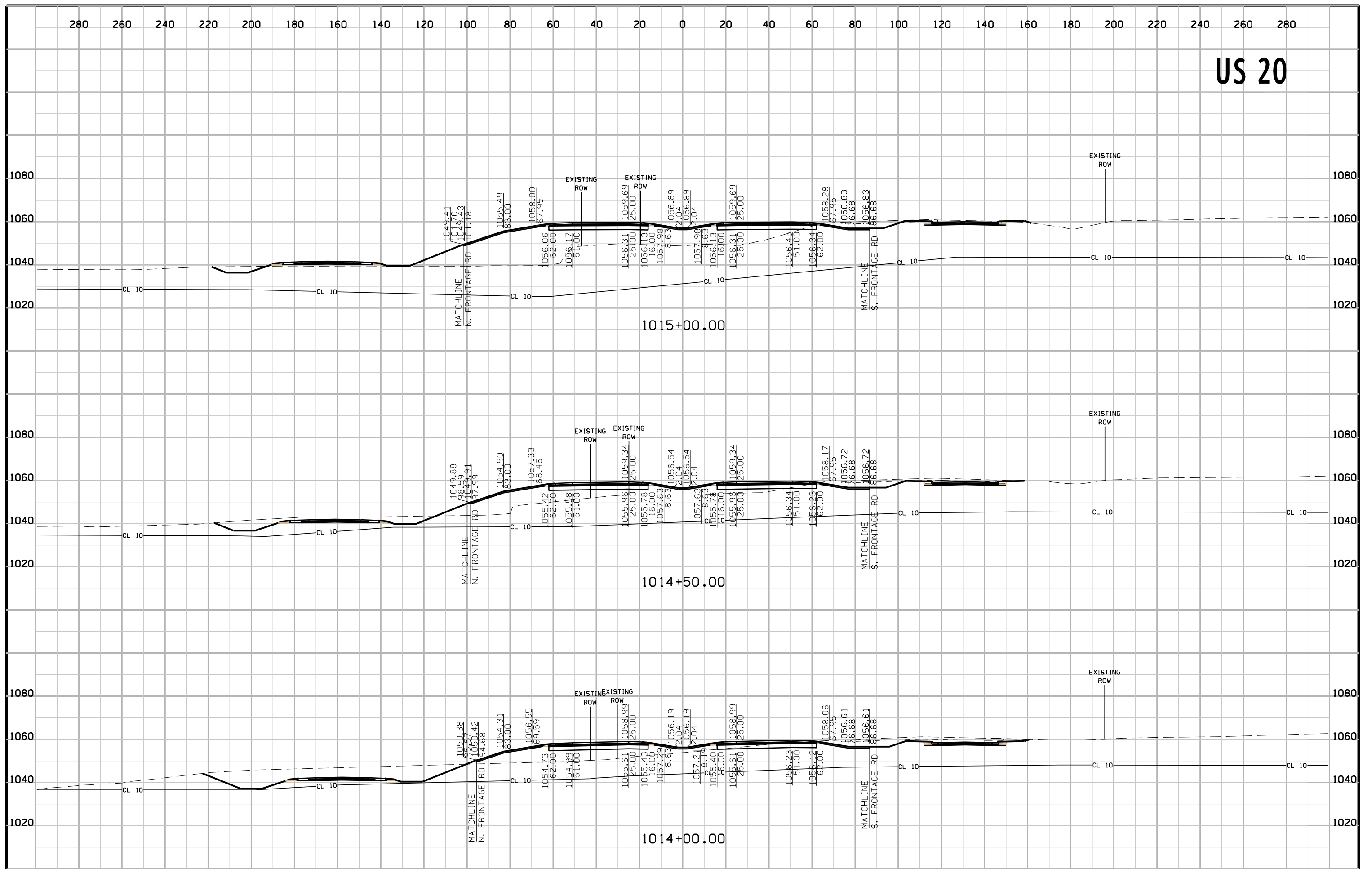


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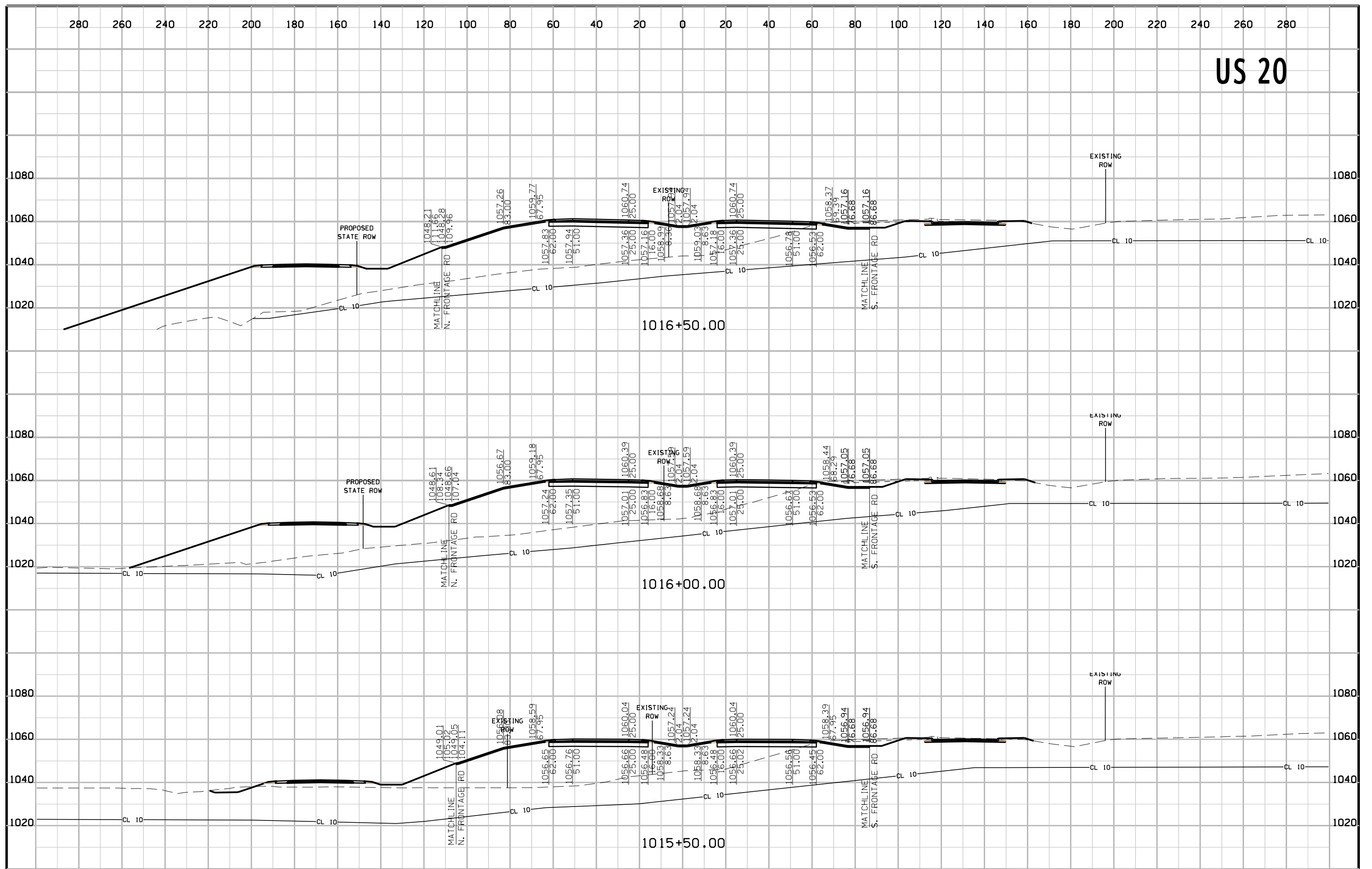




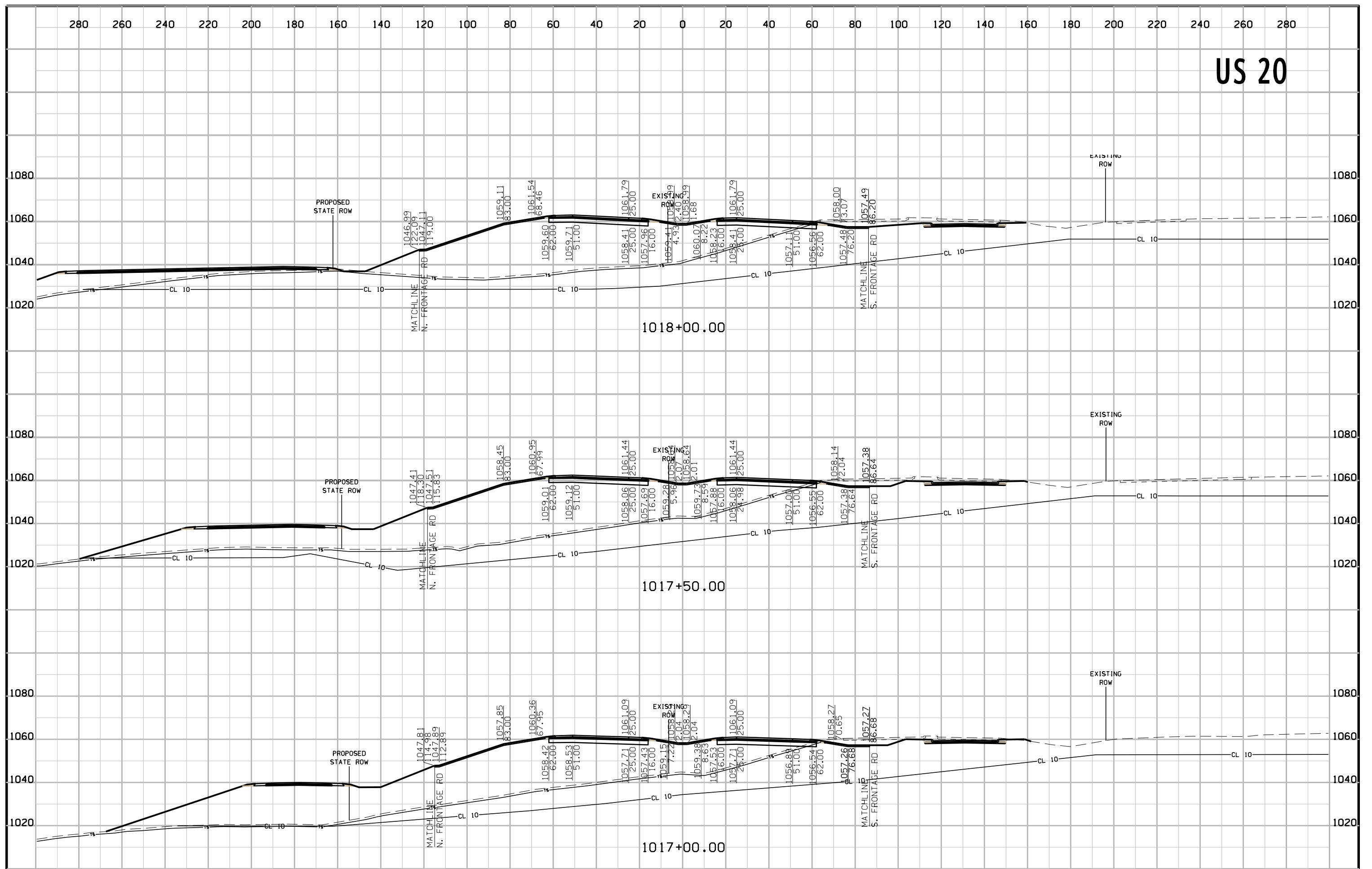
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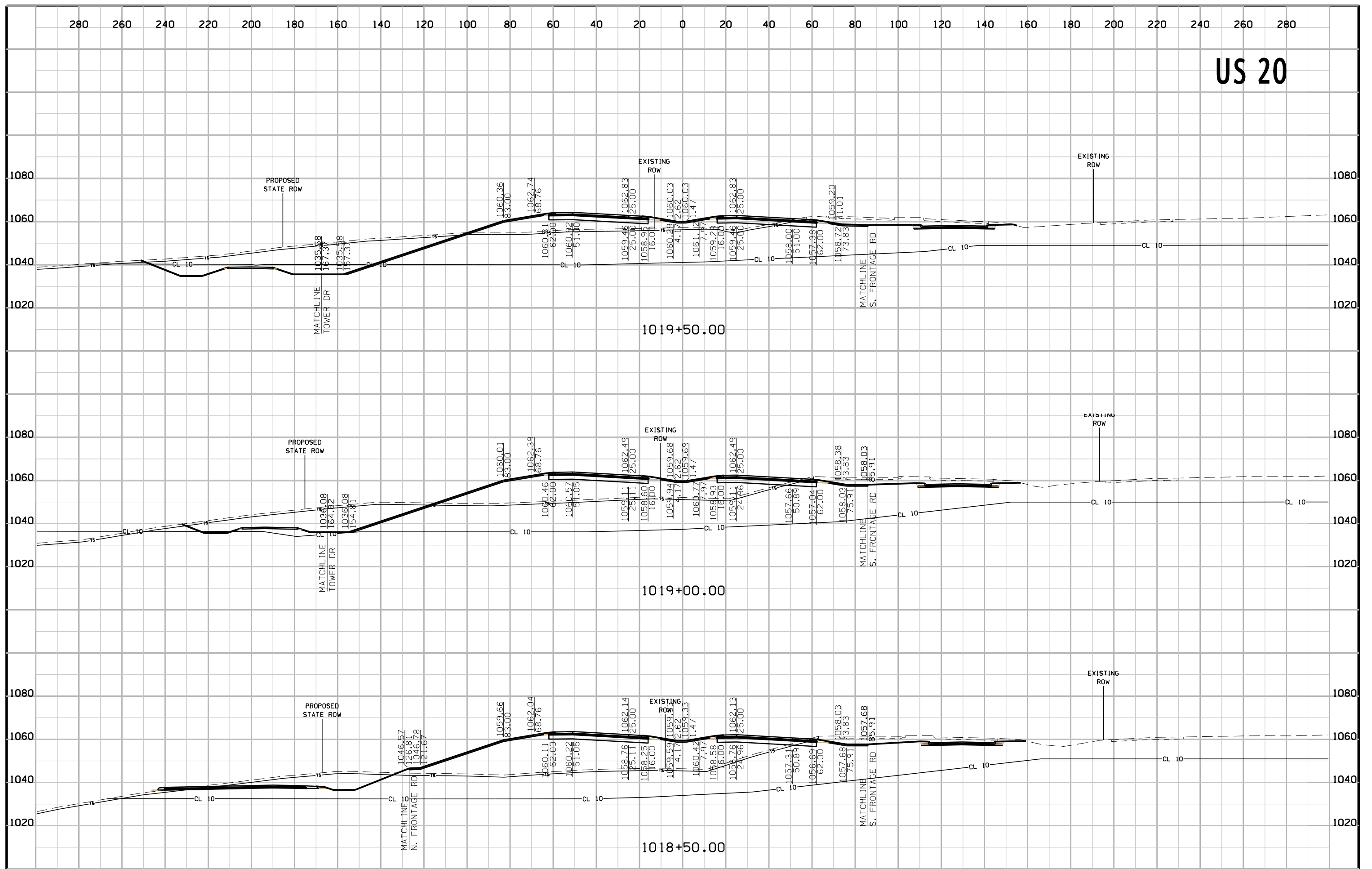
# US 20



# US 20

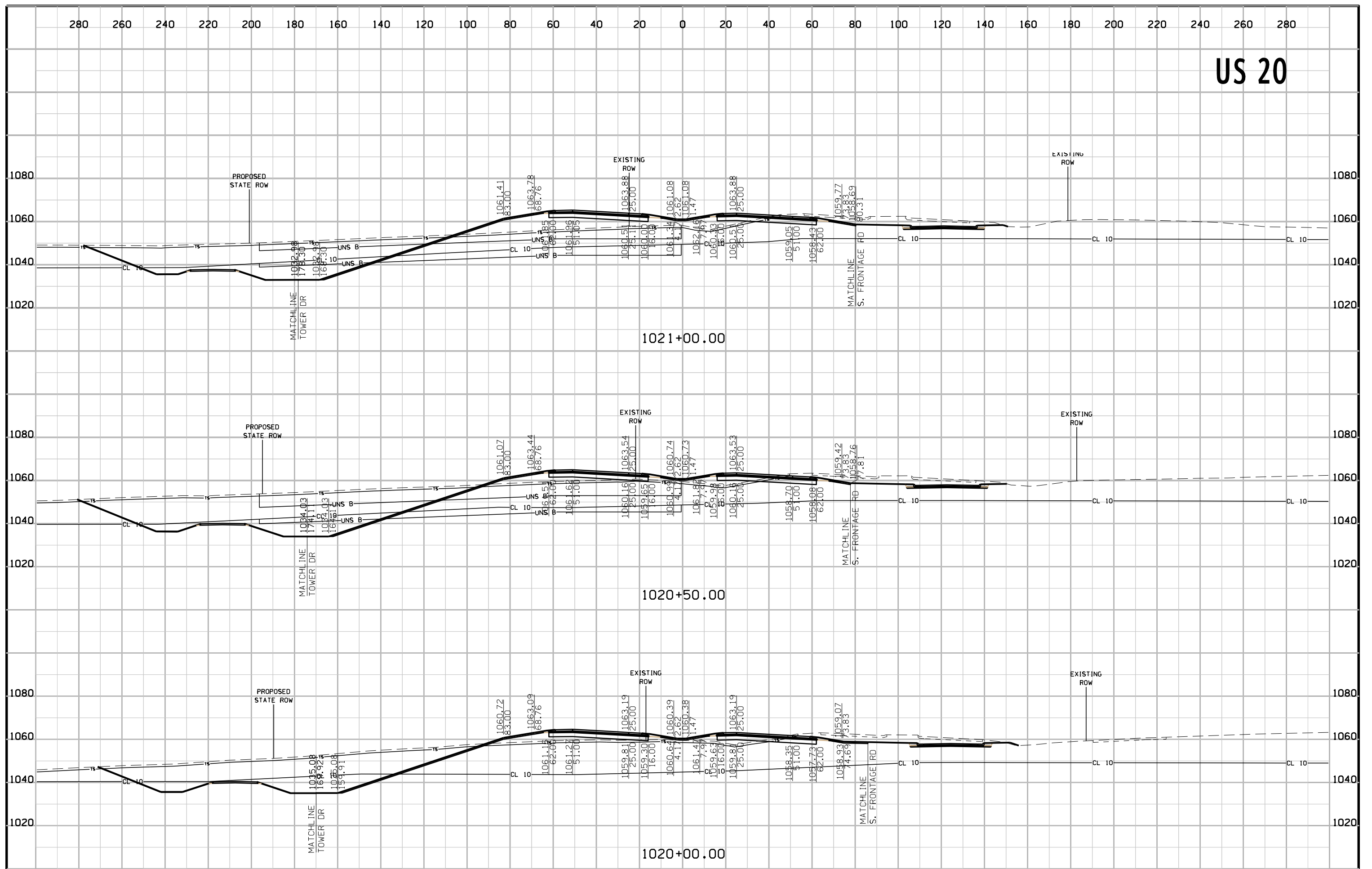


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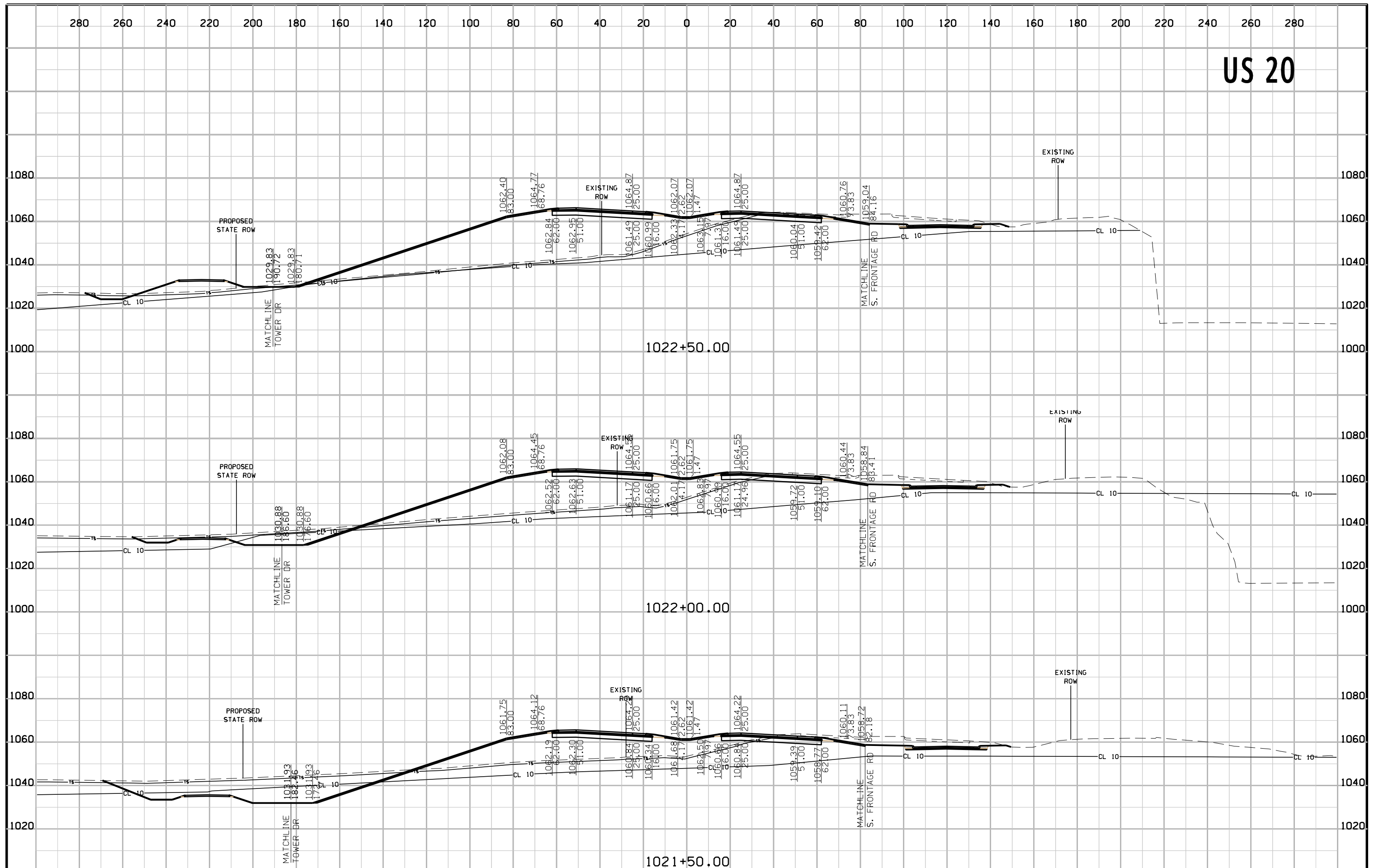




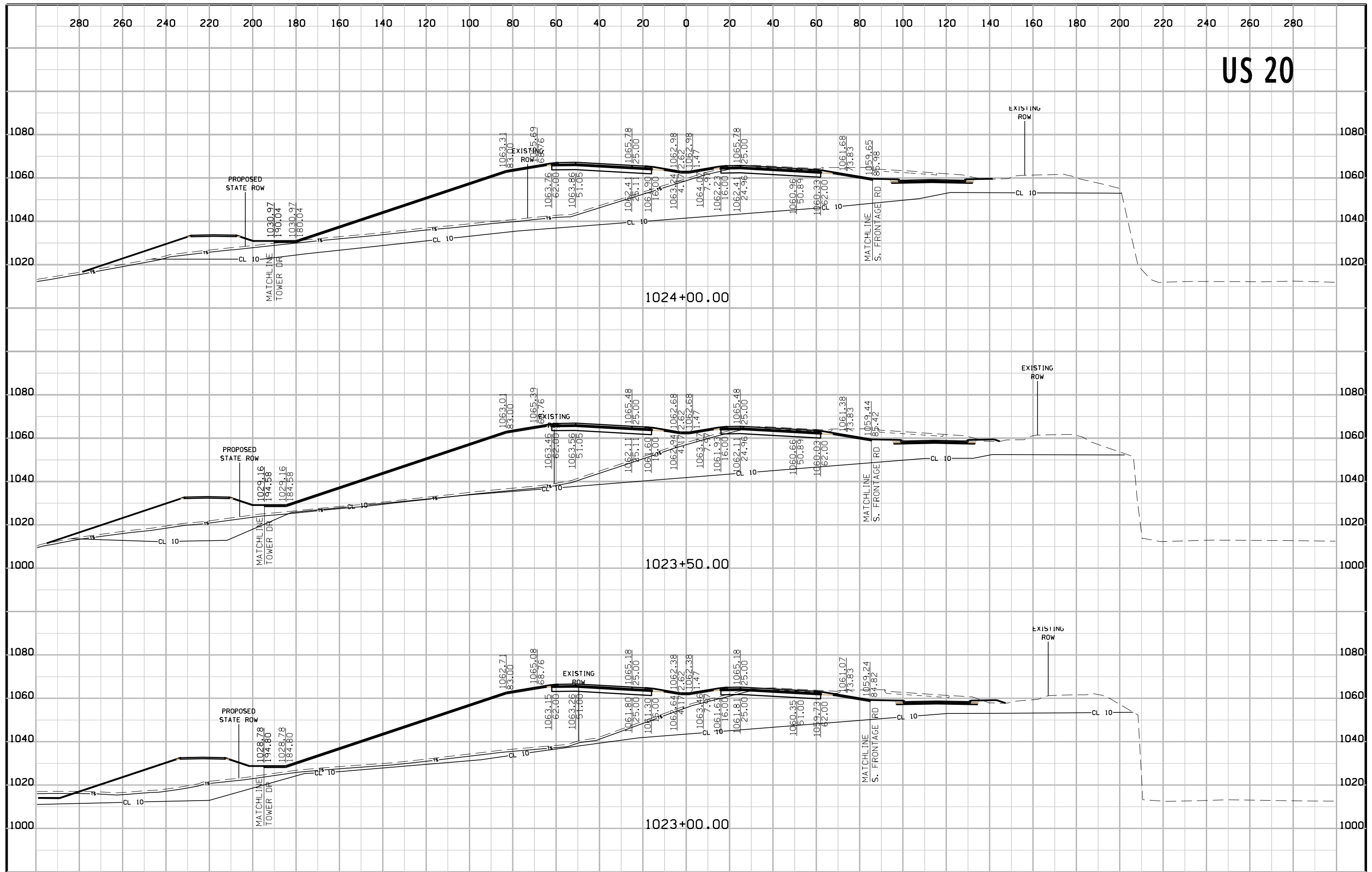
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# US 20



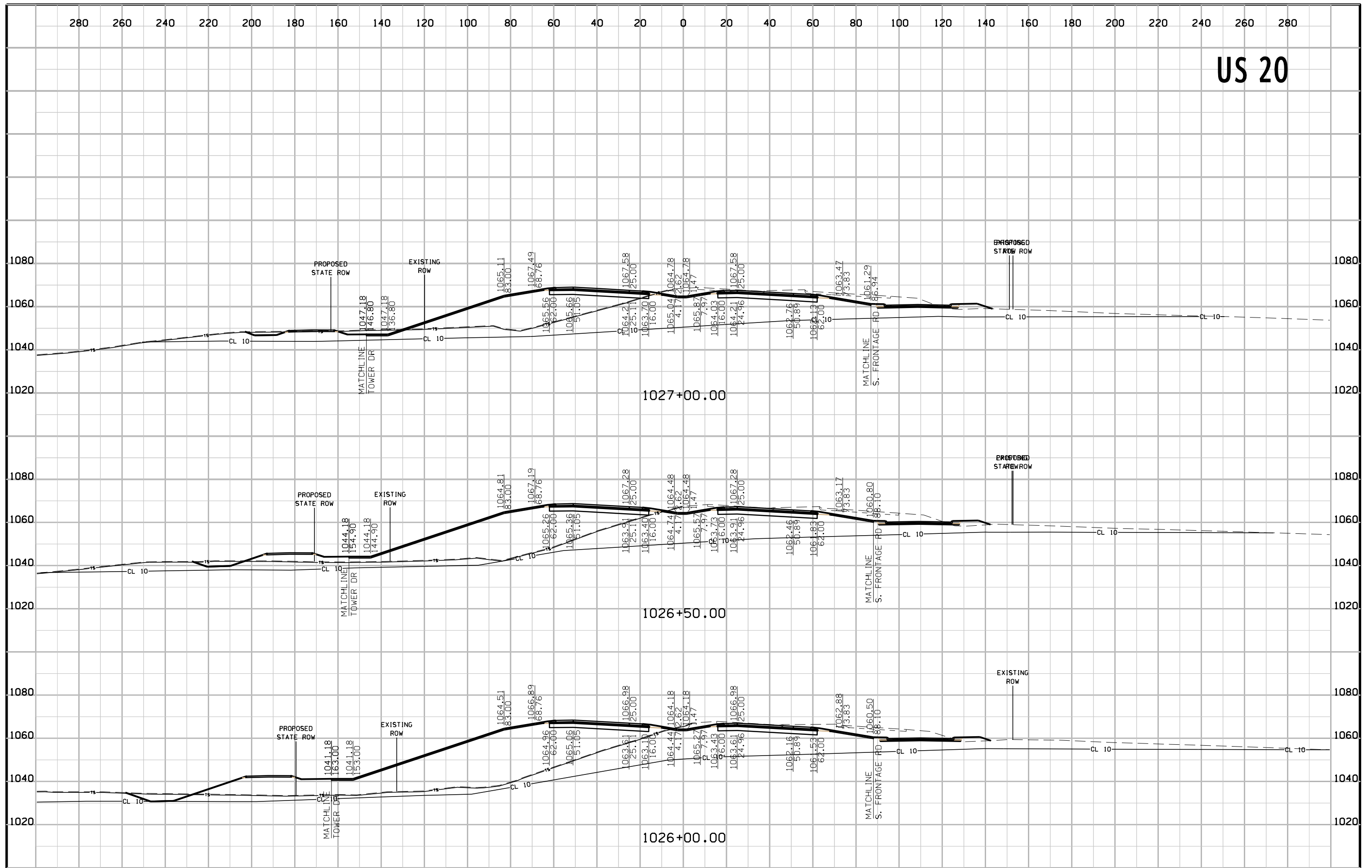
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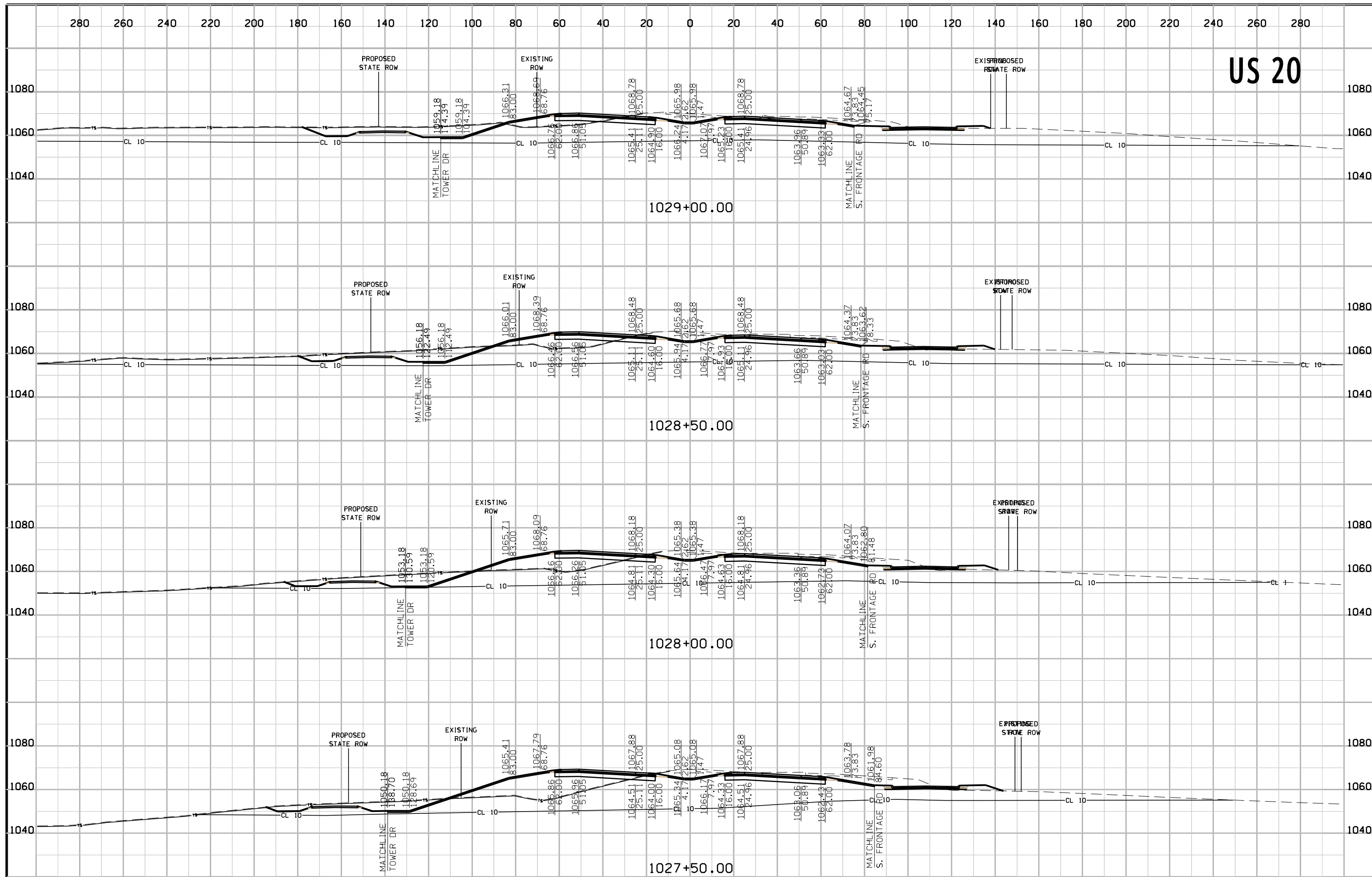




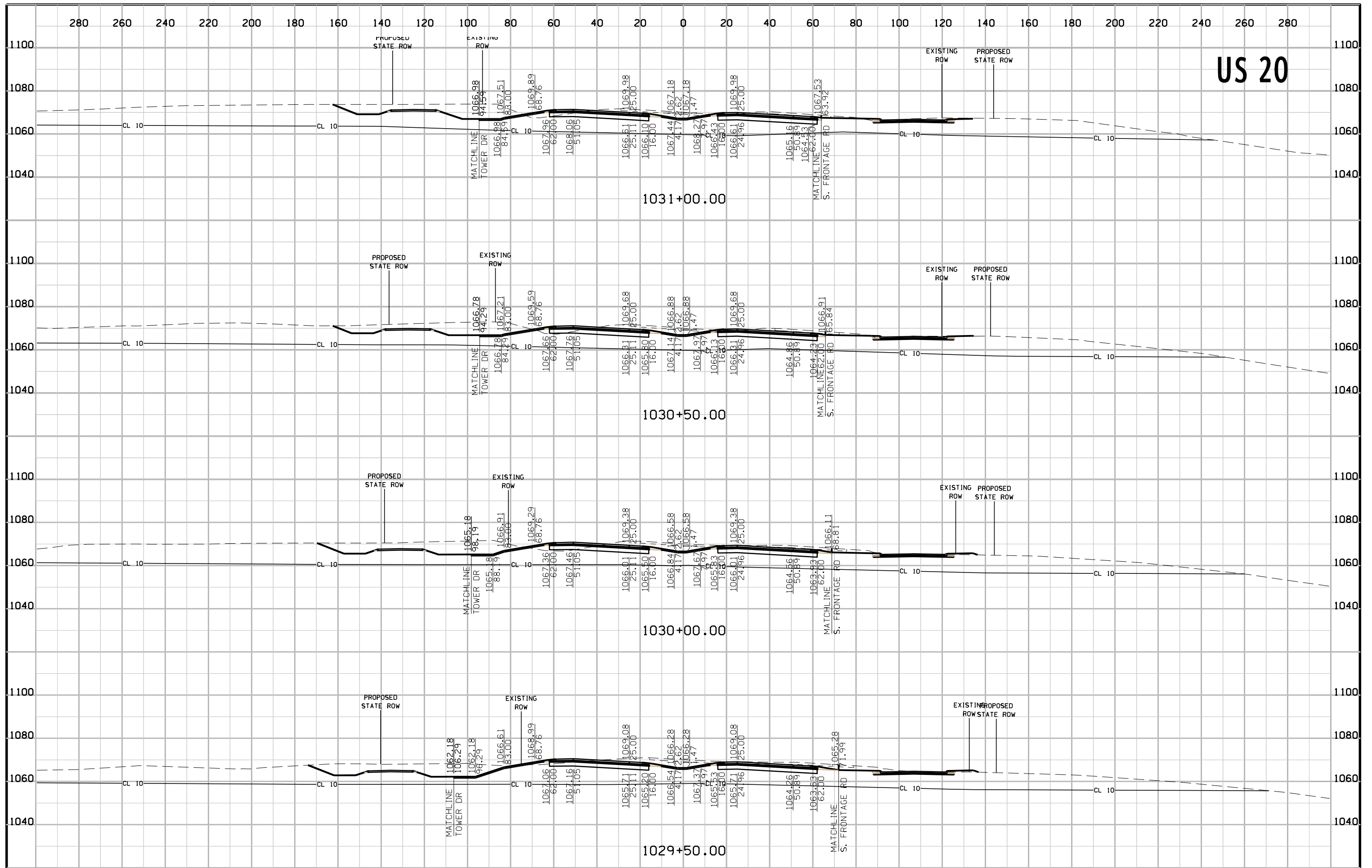


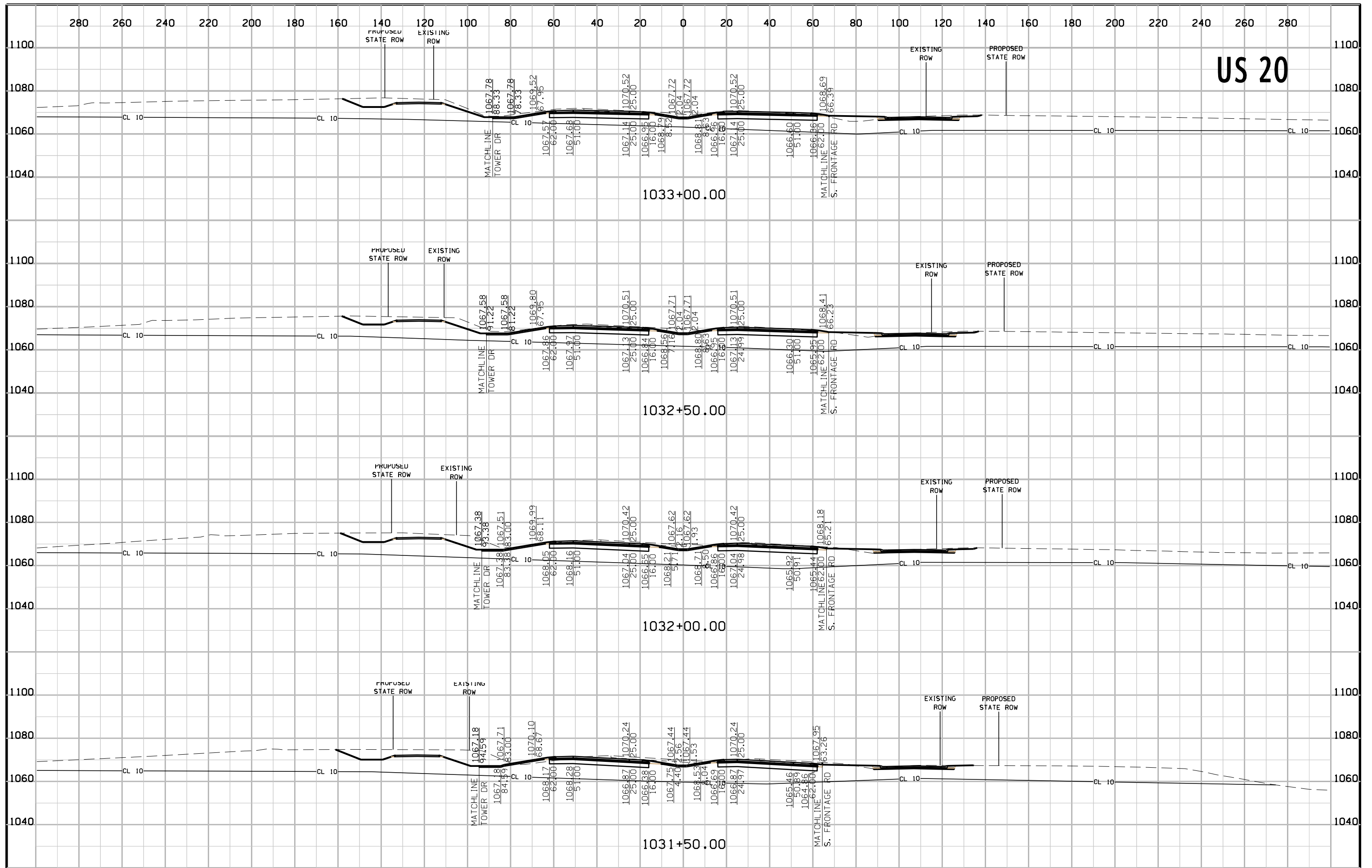
# US 20





# US 20

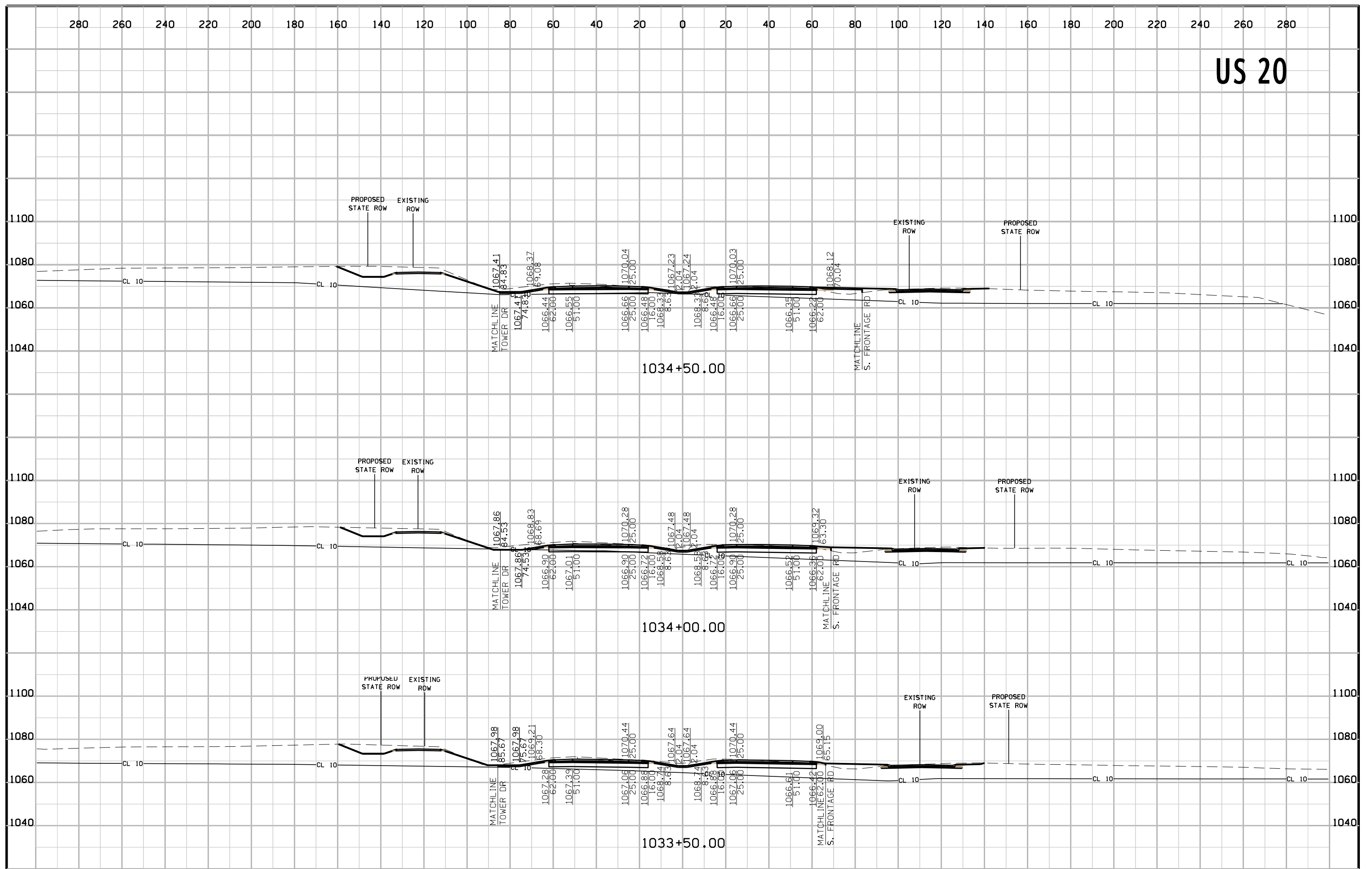




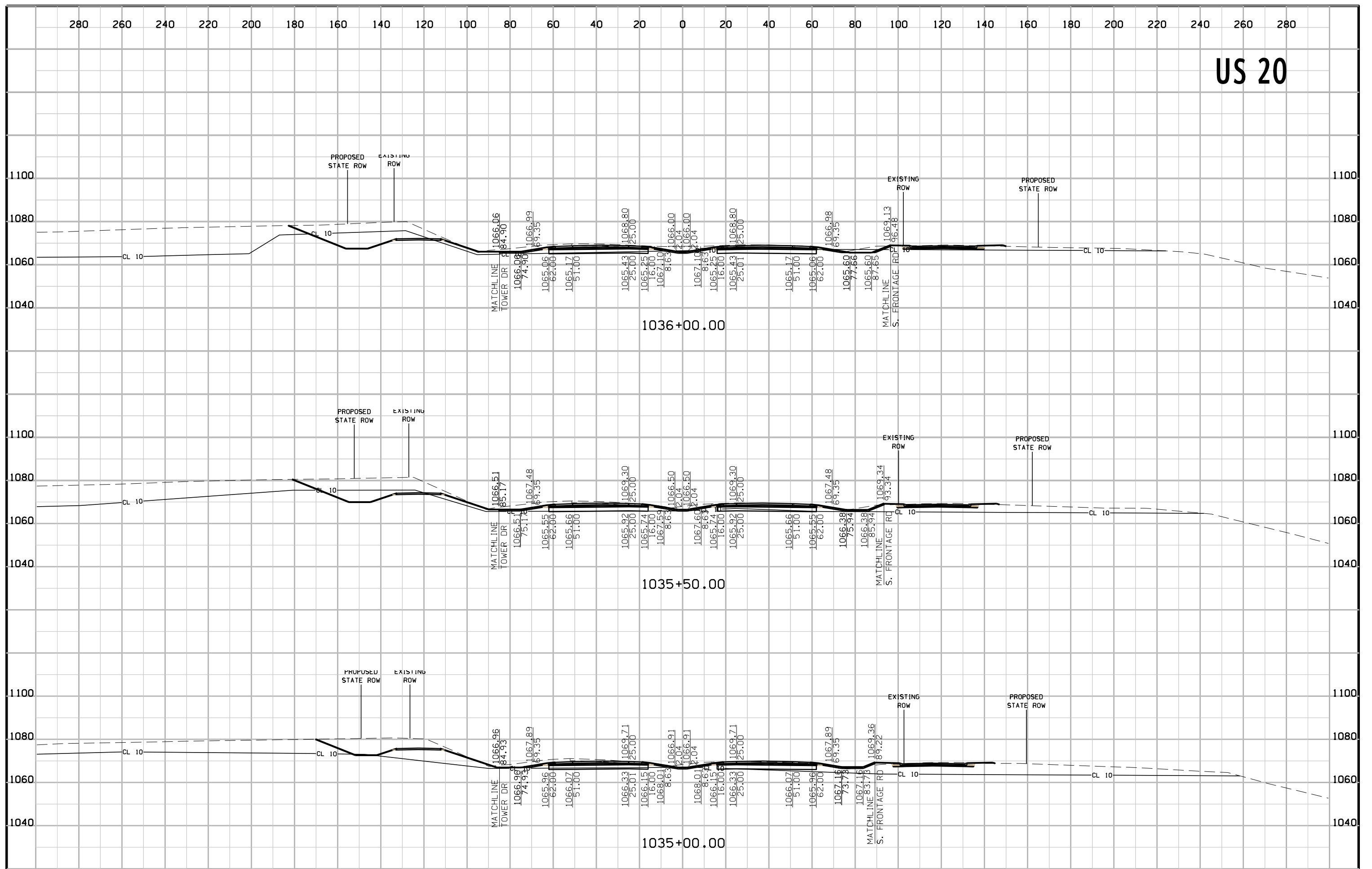
US 20



# US 20

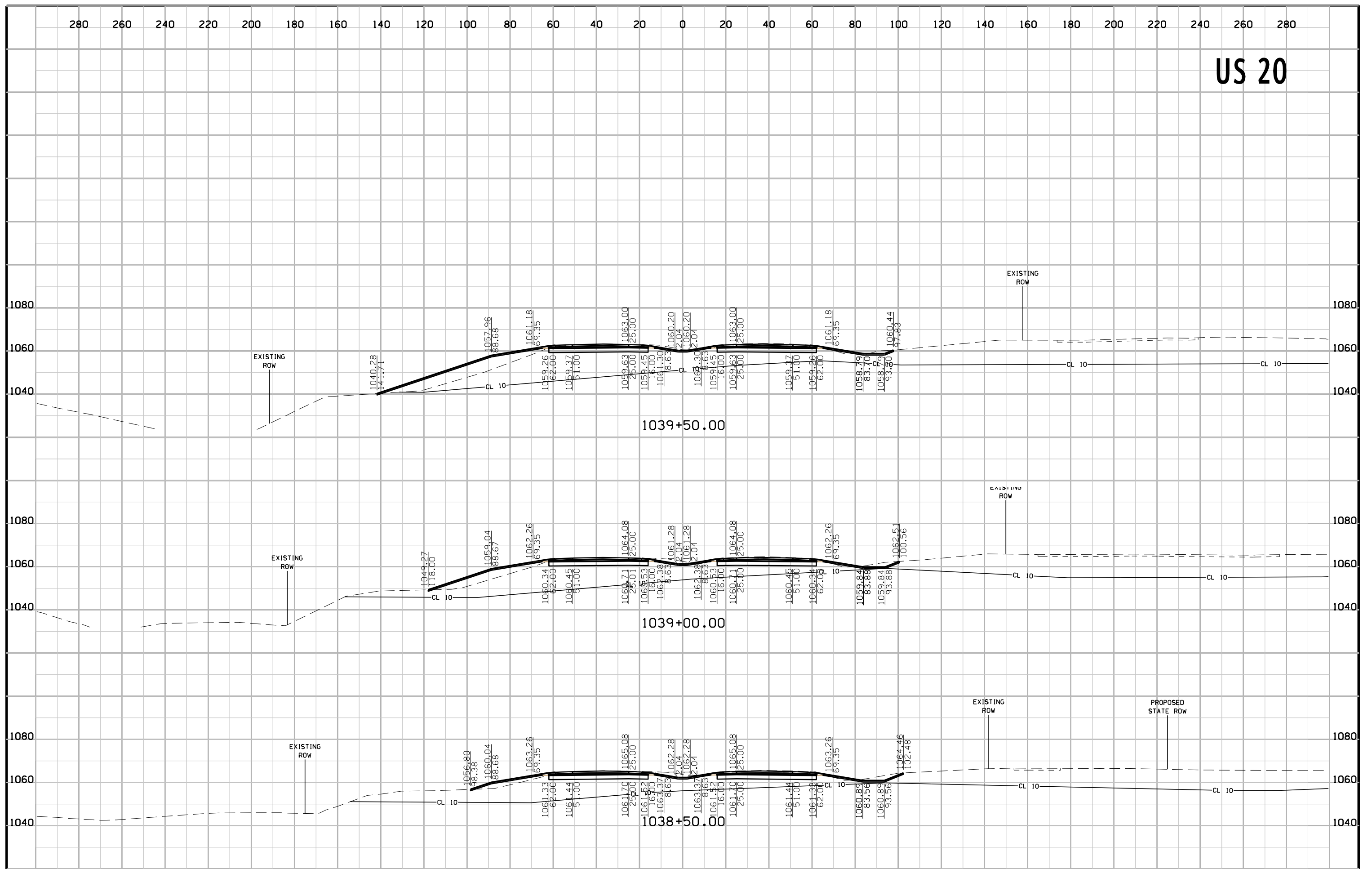


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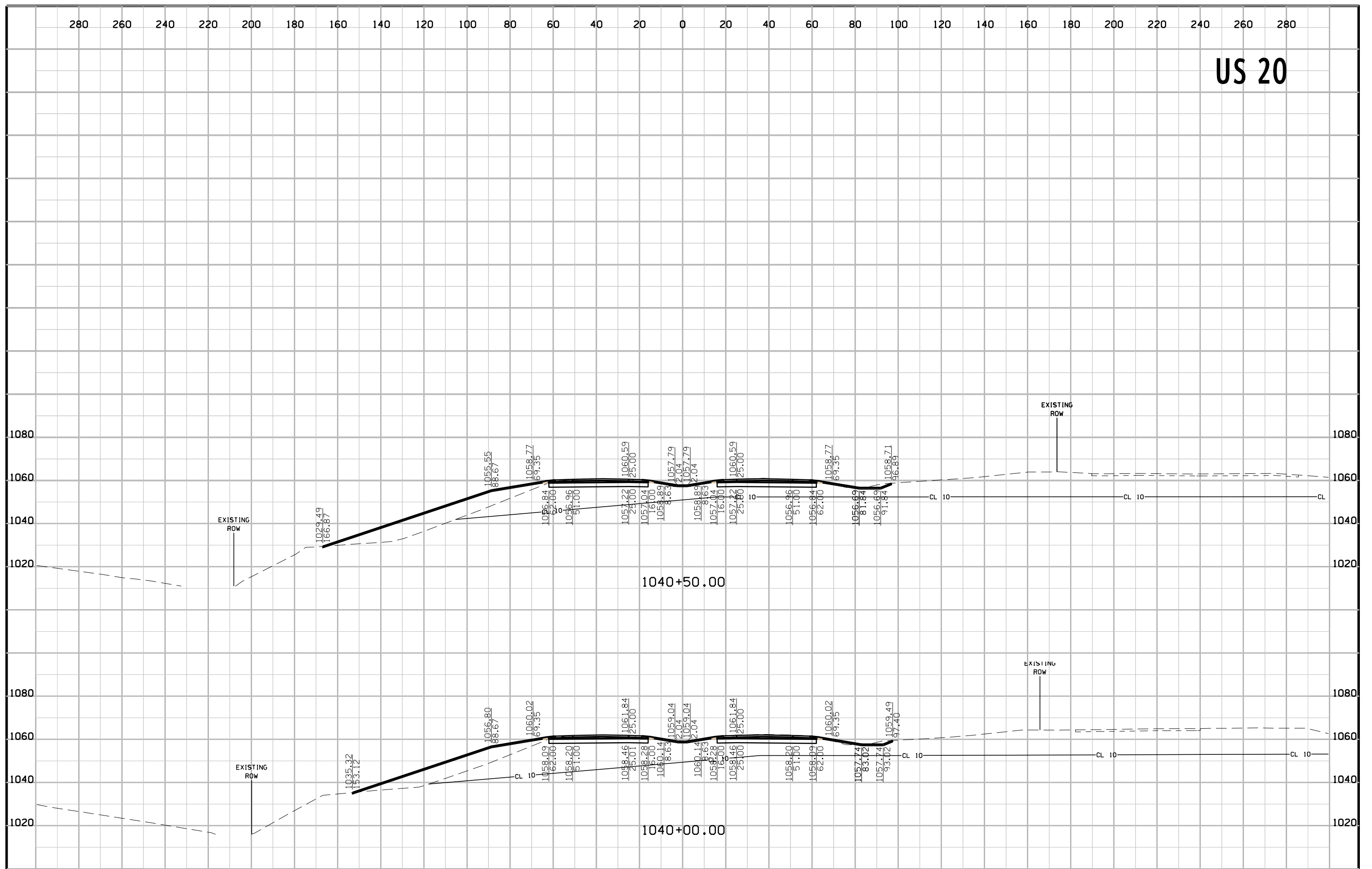


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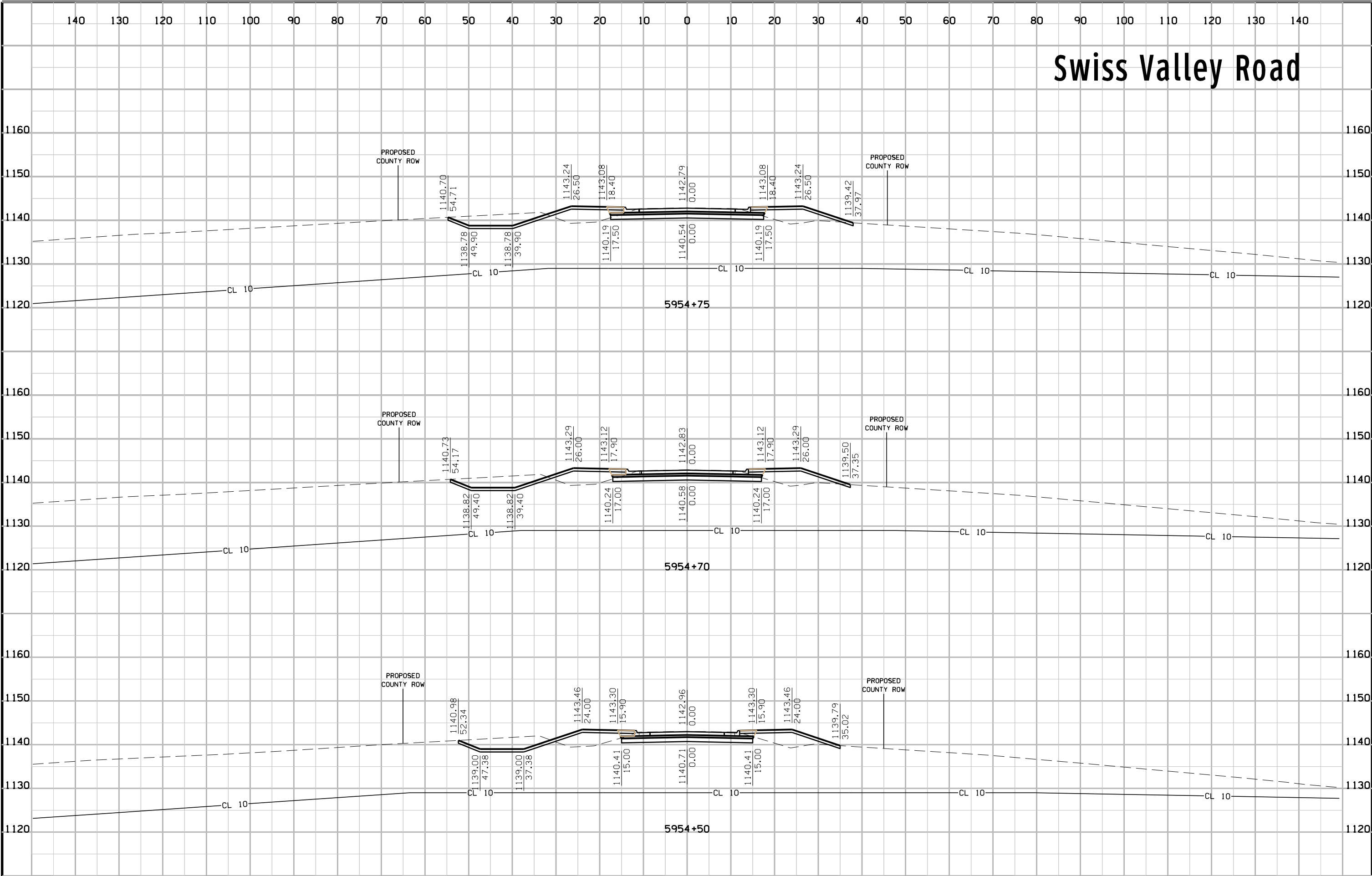




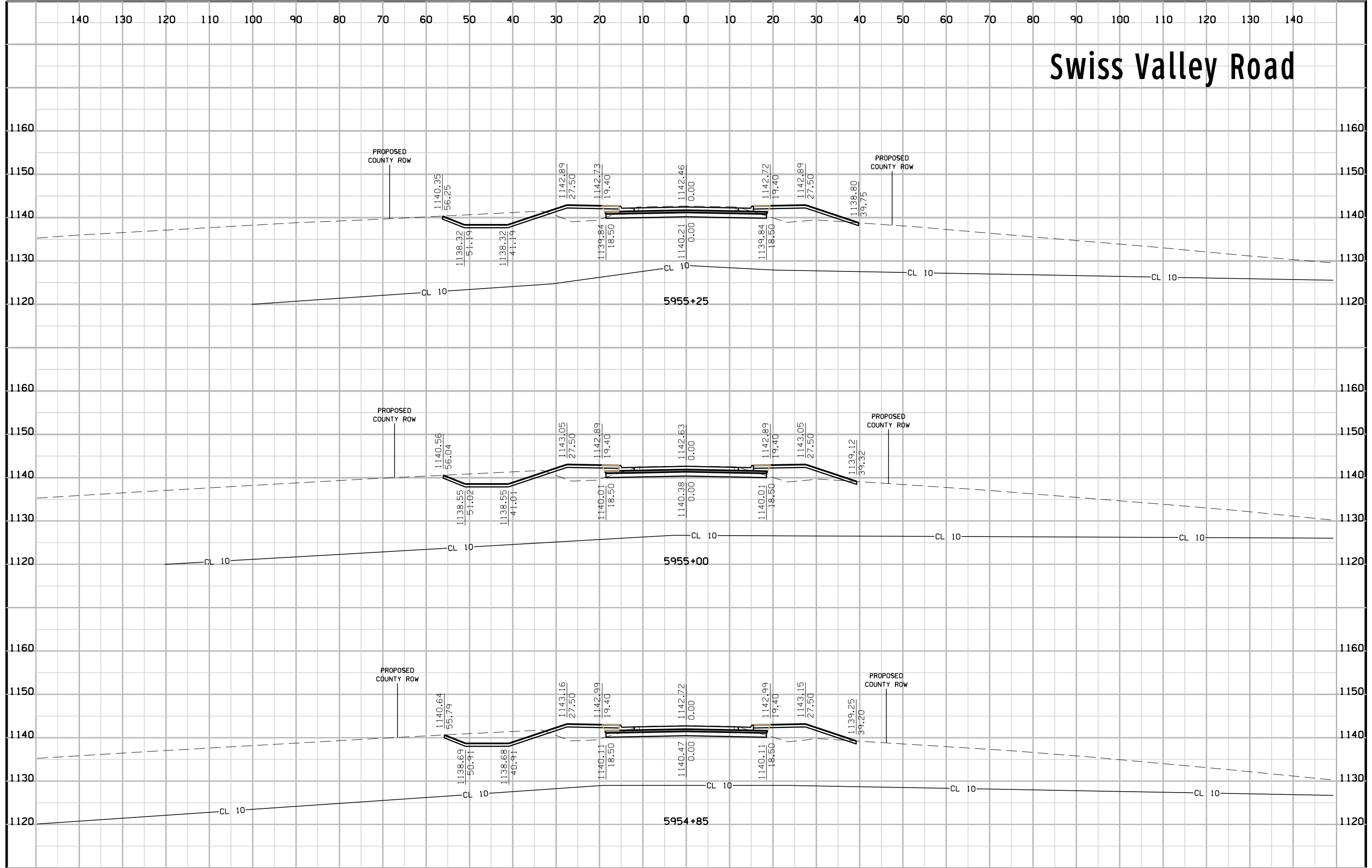
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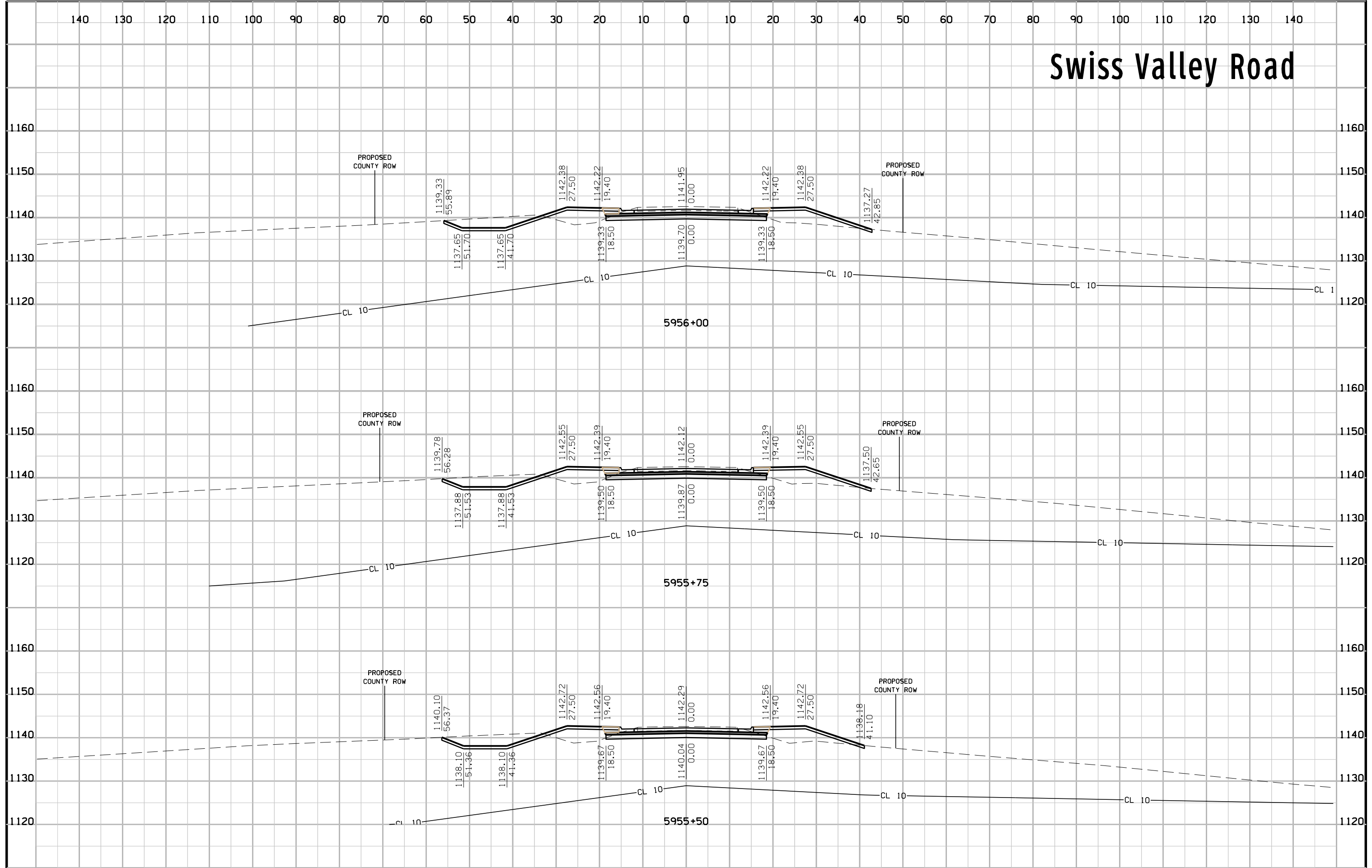
# Swiss Valley Road



# Swiss Valley Road

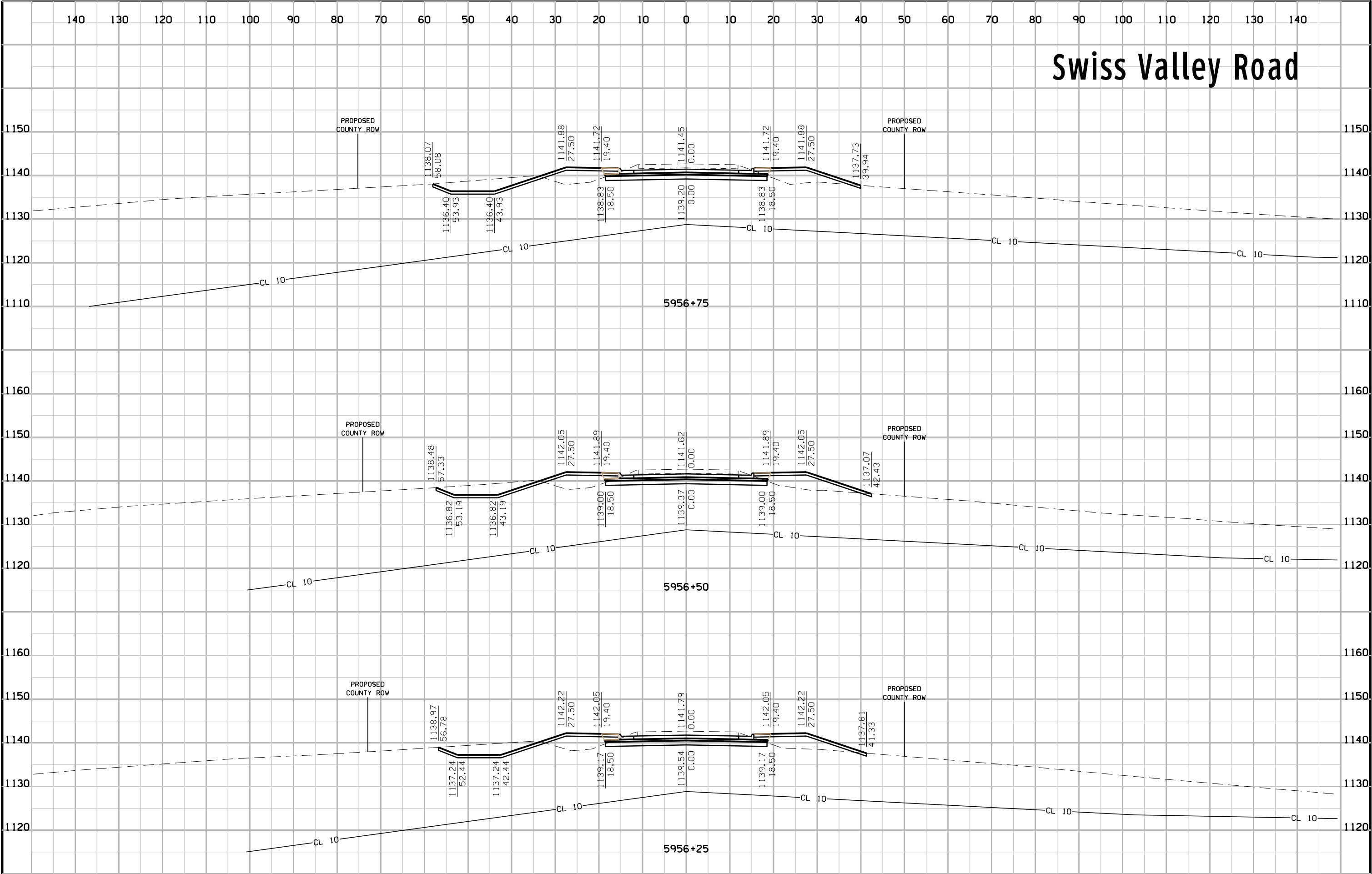


# Swiss Valley Road

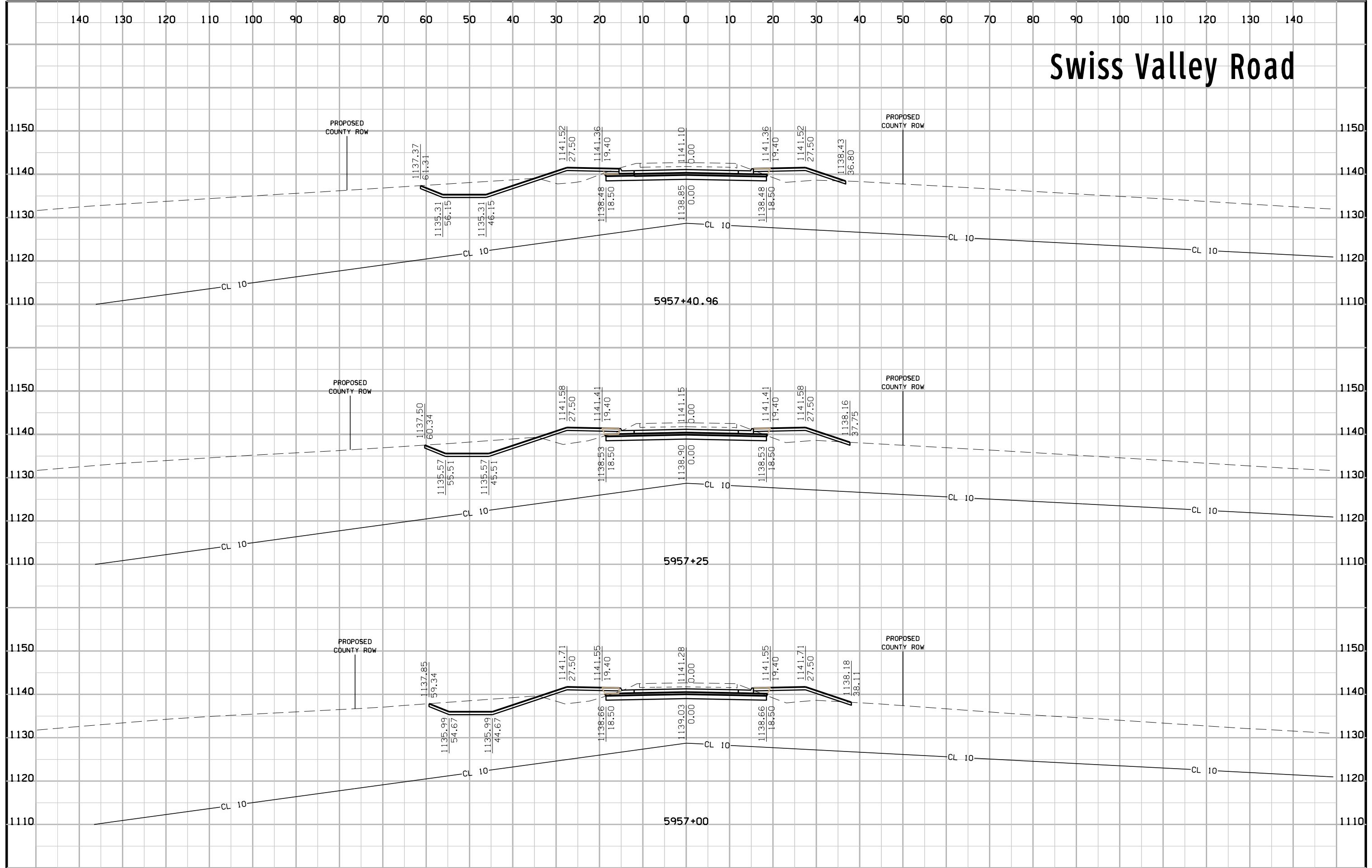




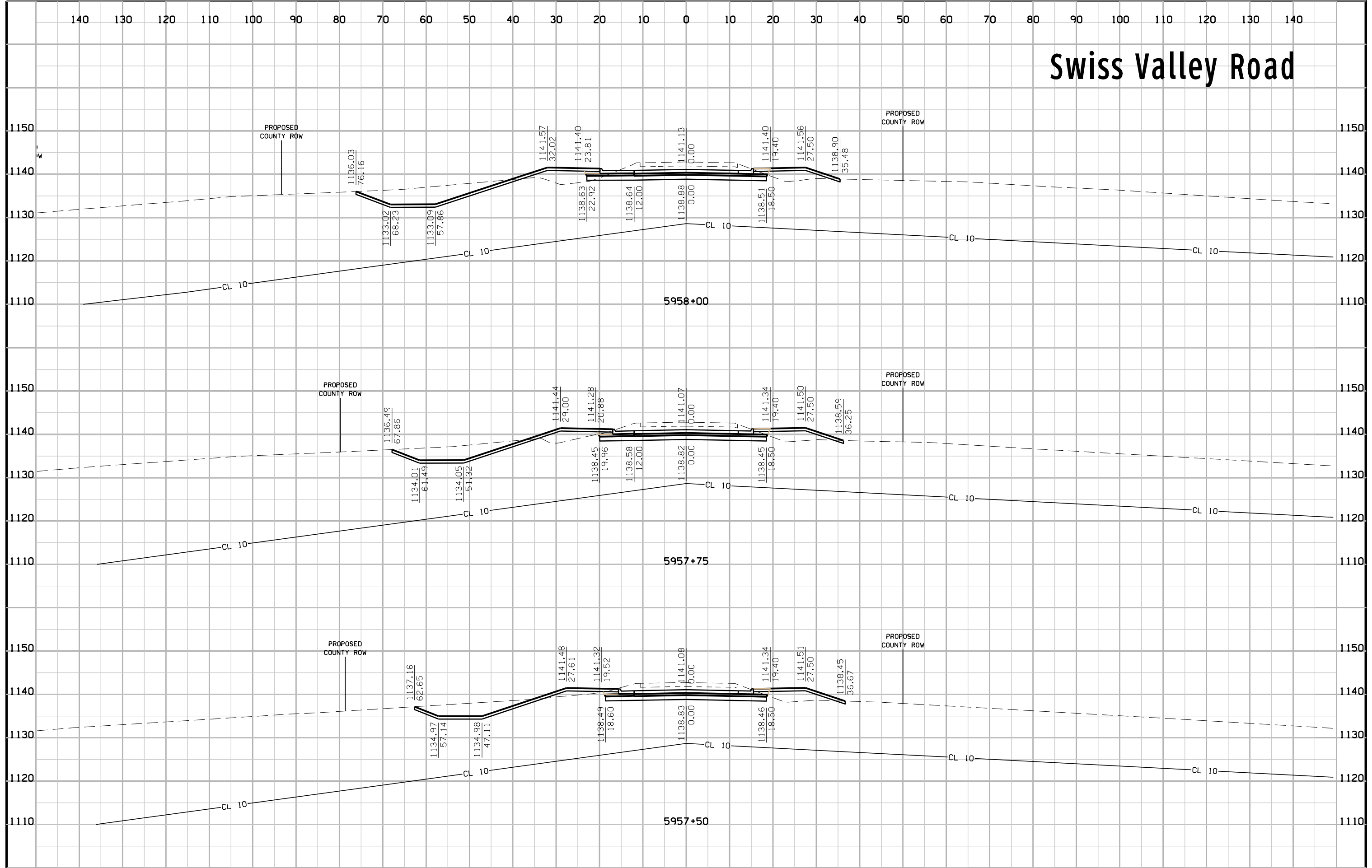
# Swiss Valley Road



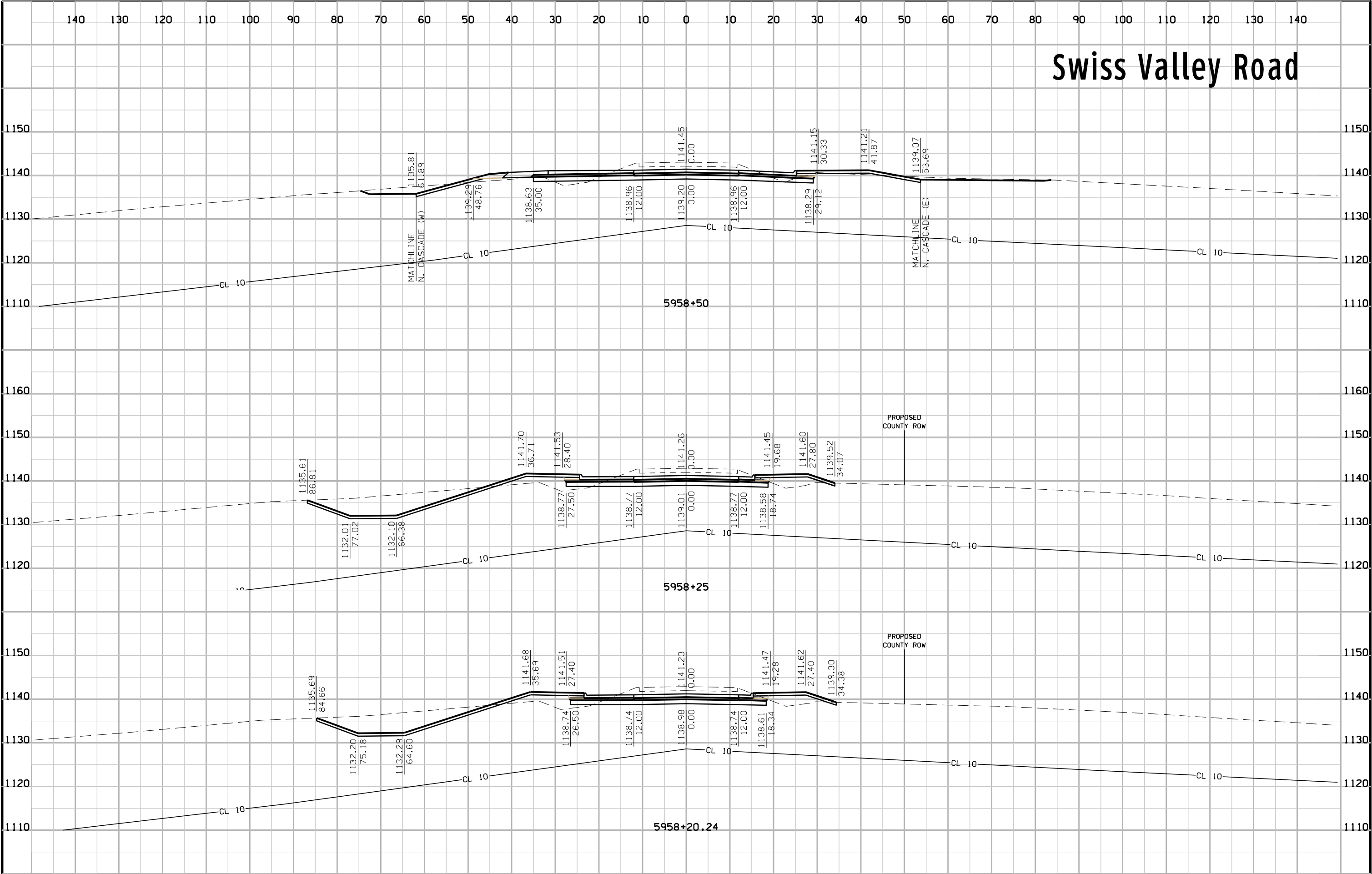
# Swiss Valley Road



# Swiss Valley Road

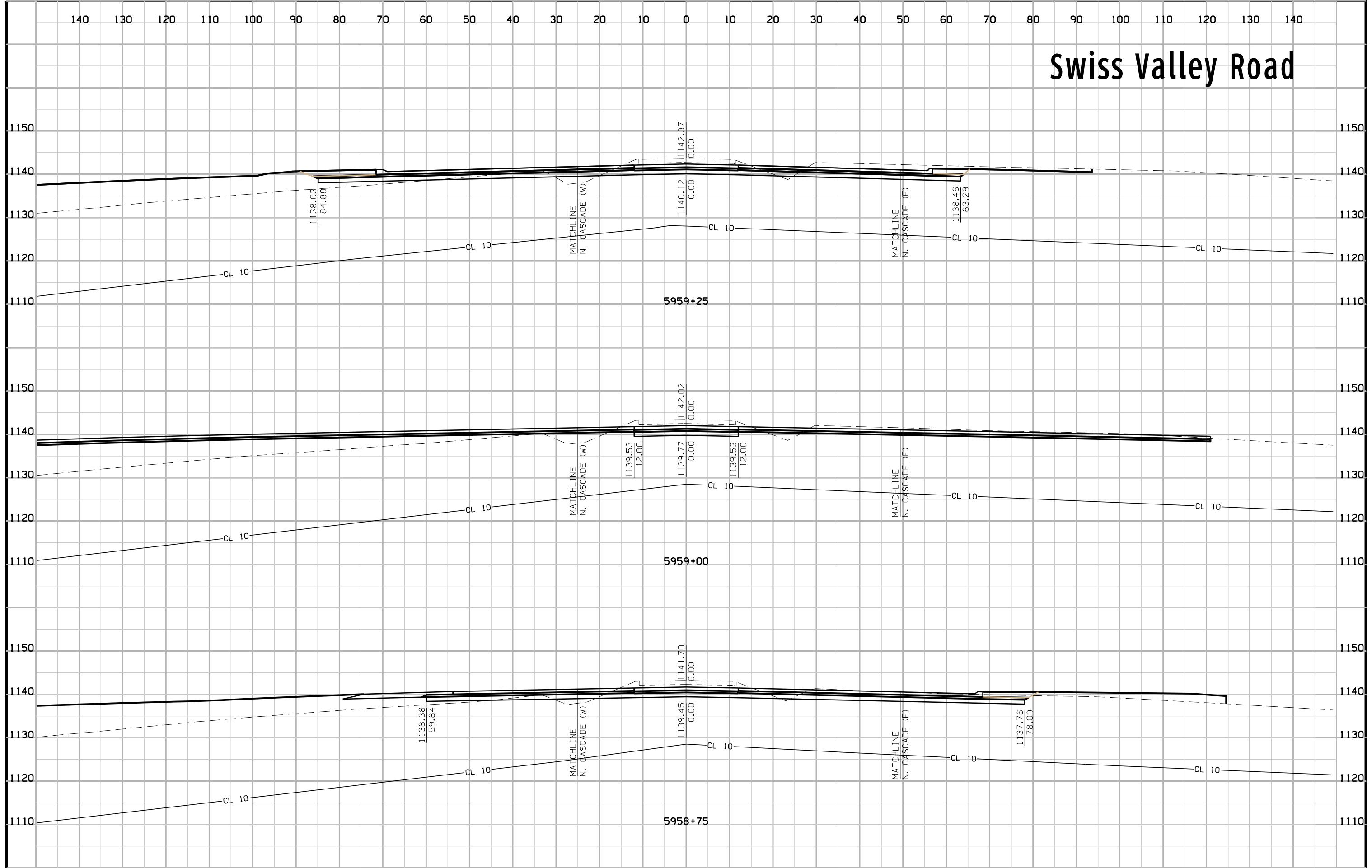


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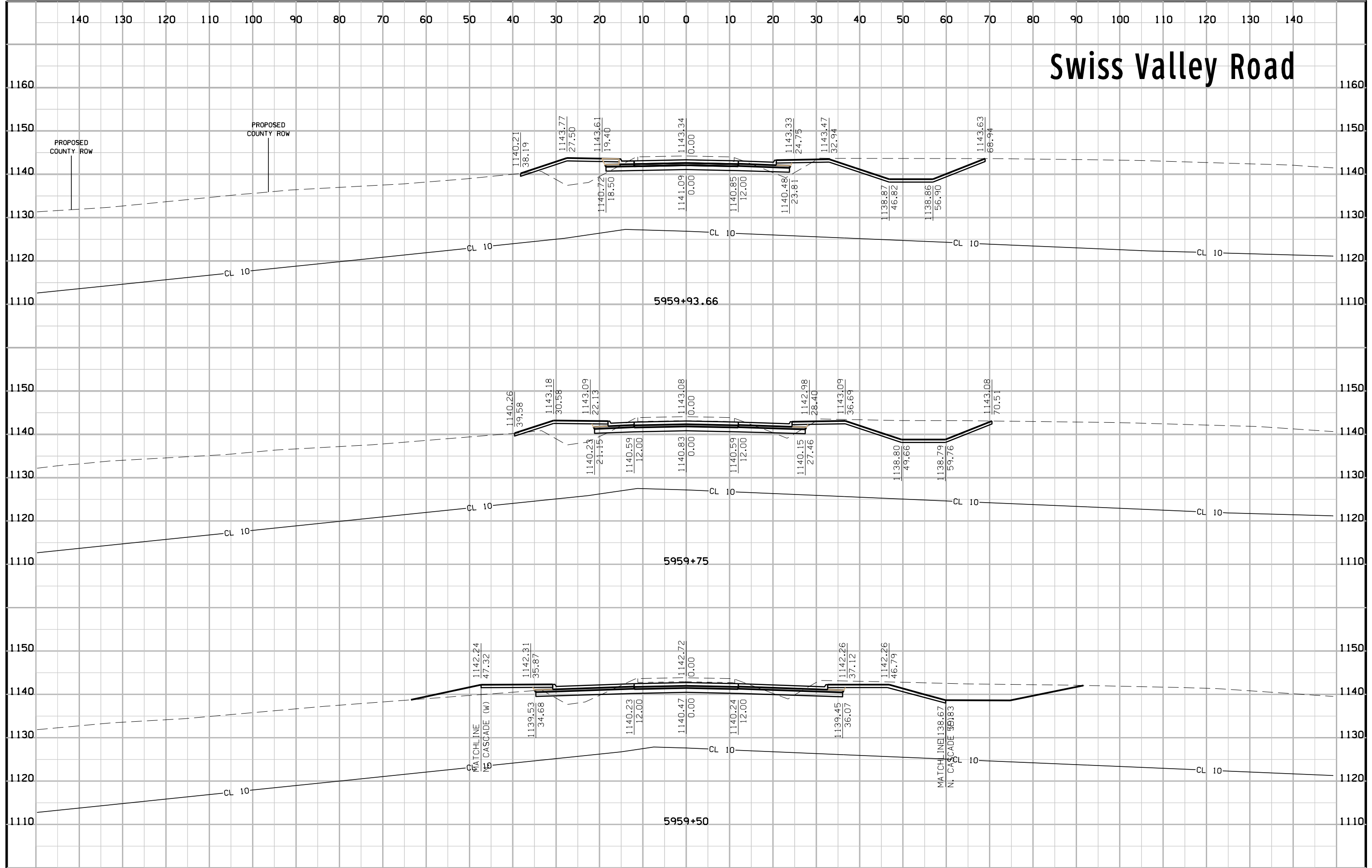




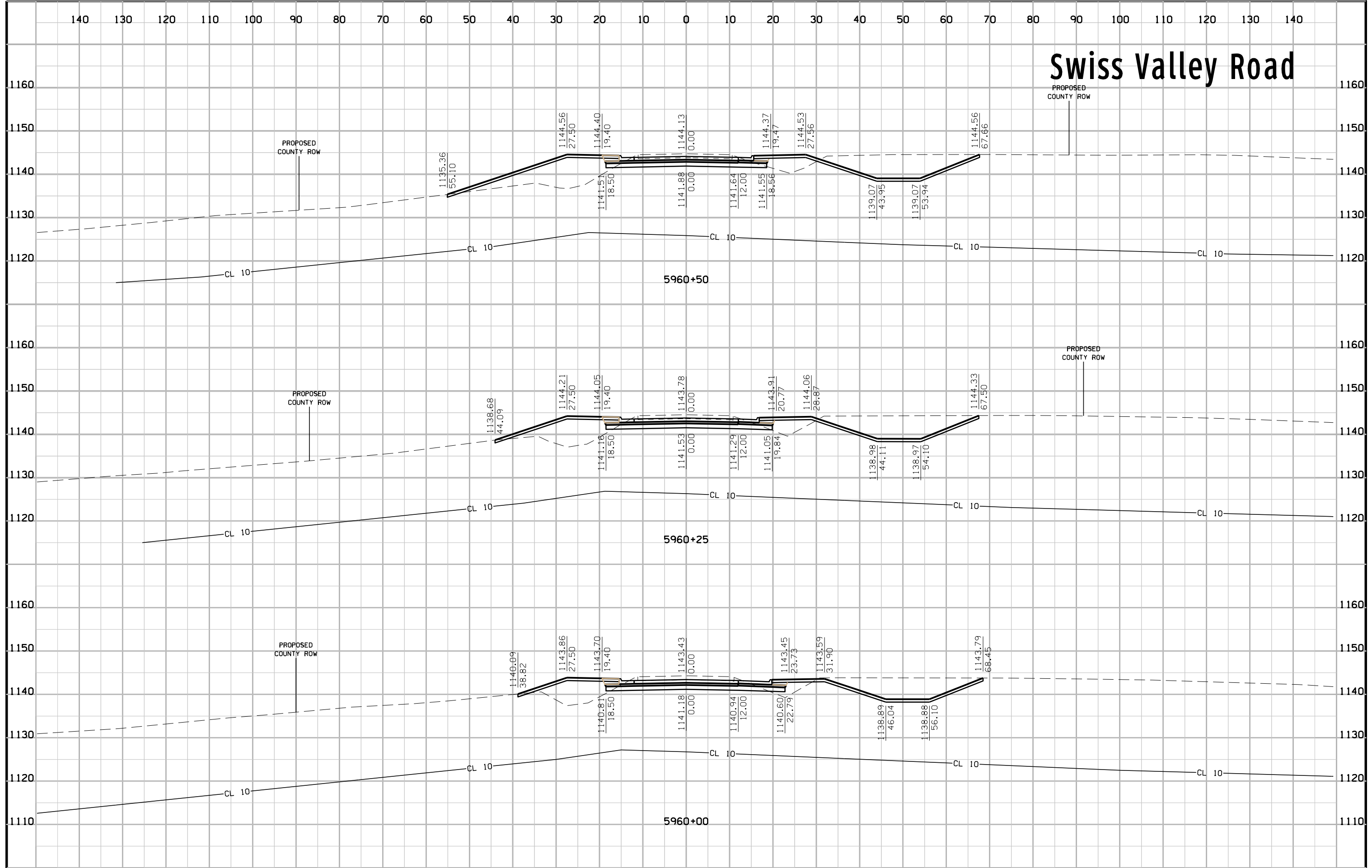
# Swiss Valley Road



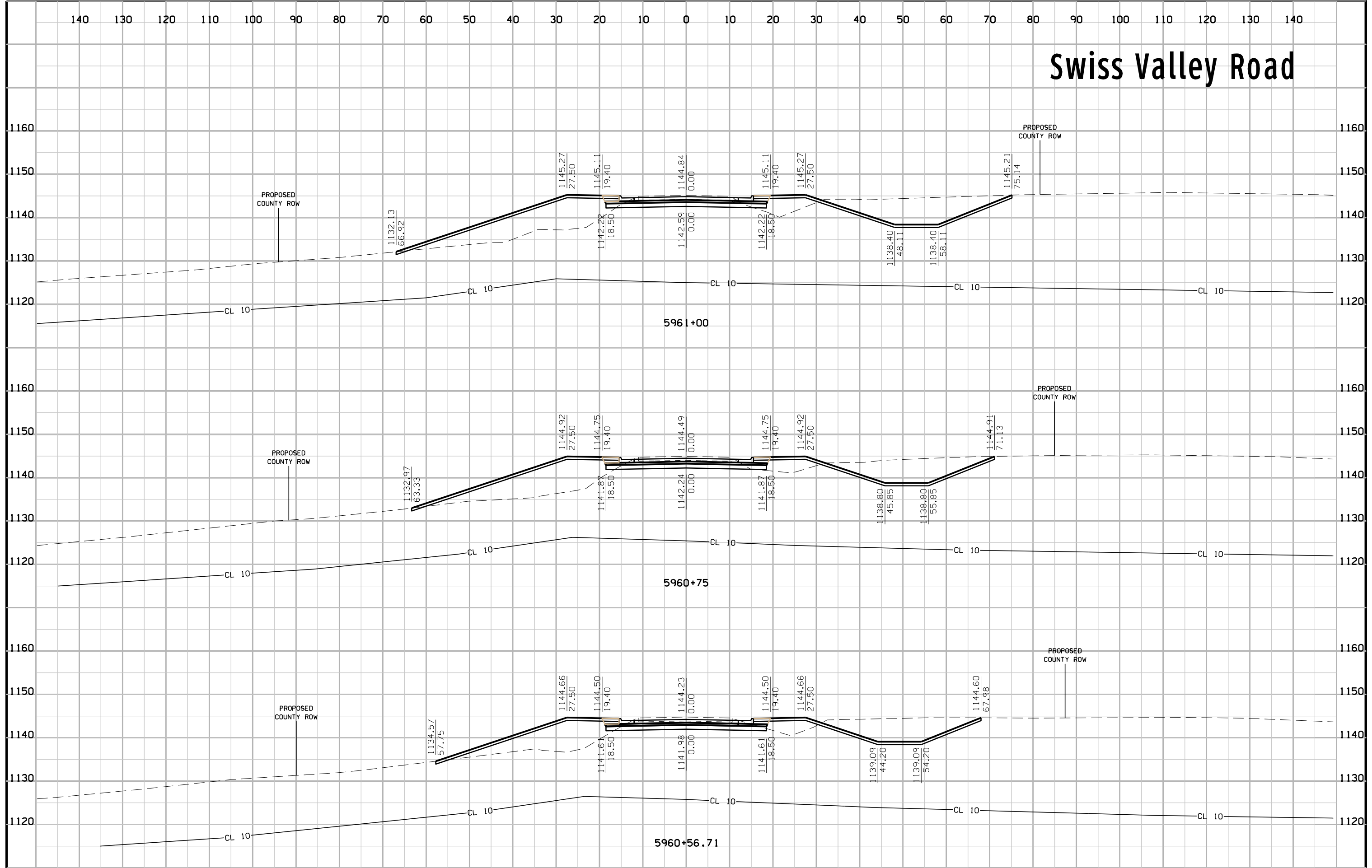
# Swiss Valley Road



# Swiss Valley Road

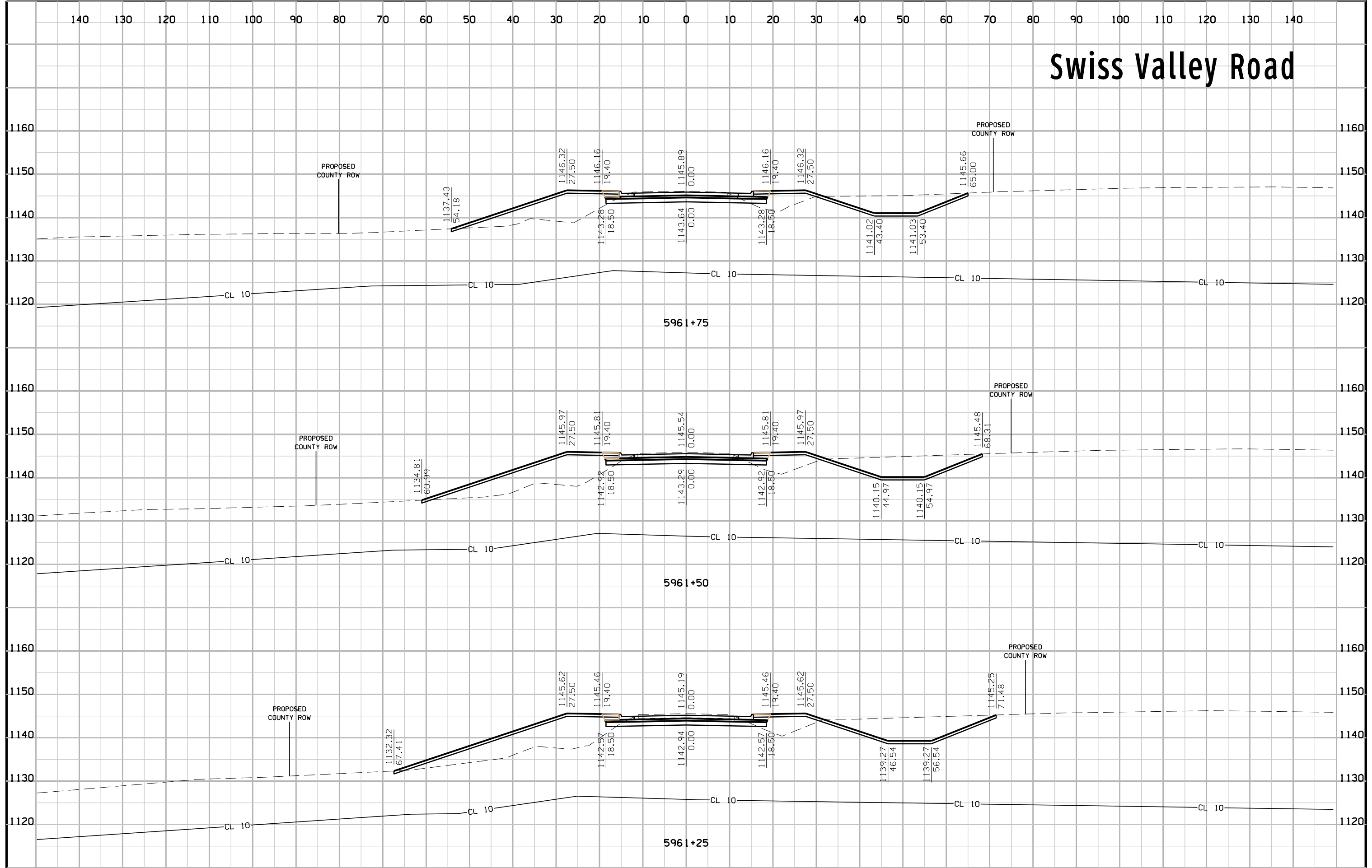


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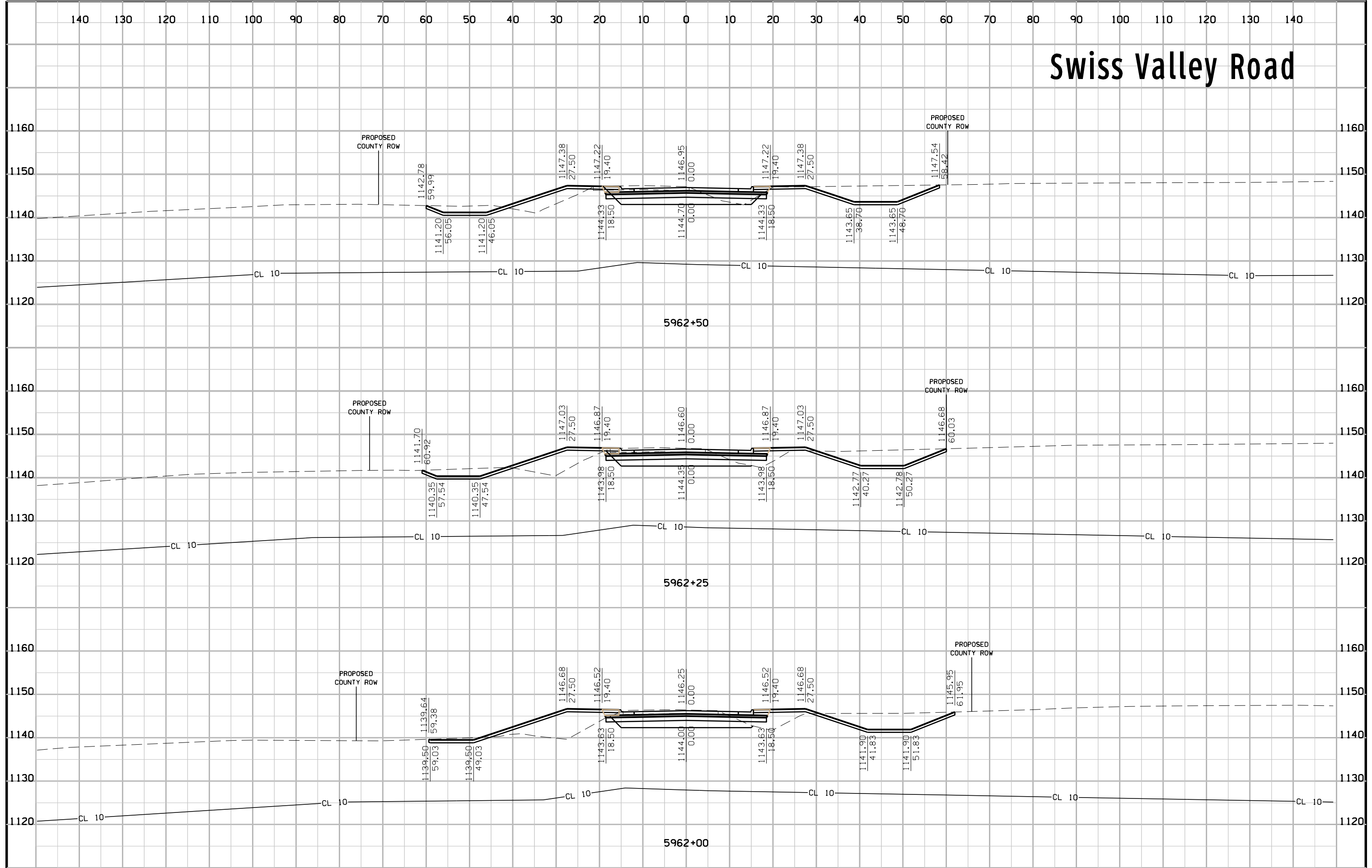




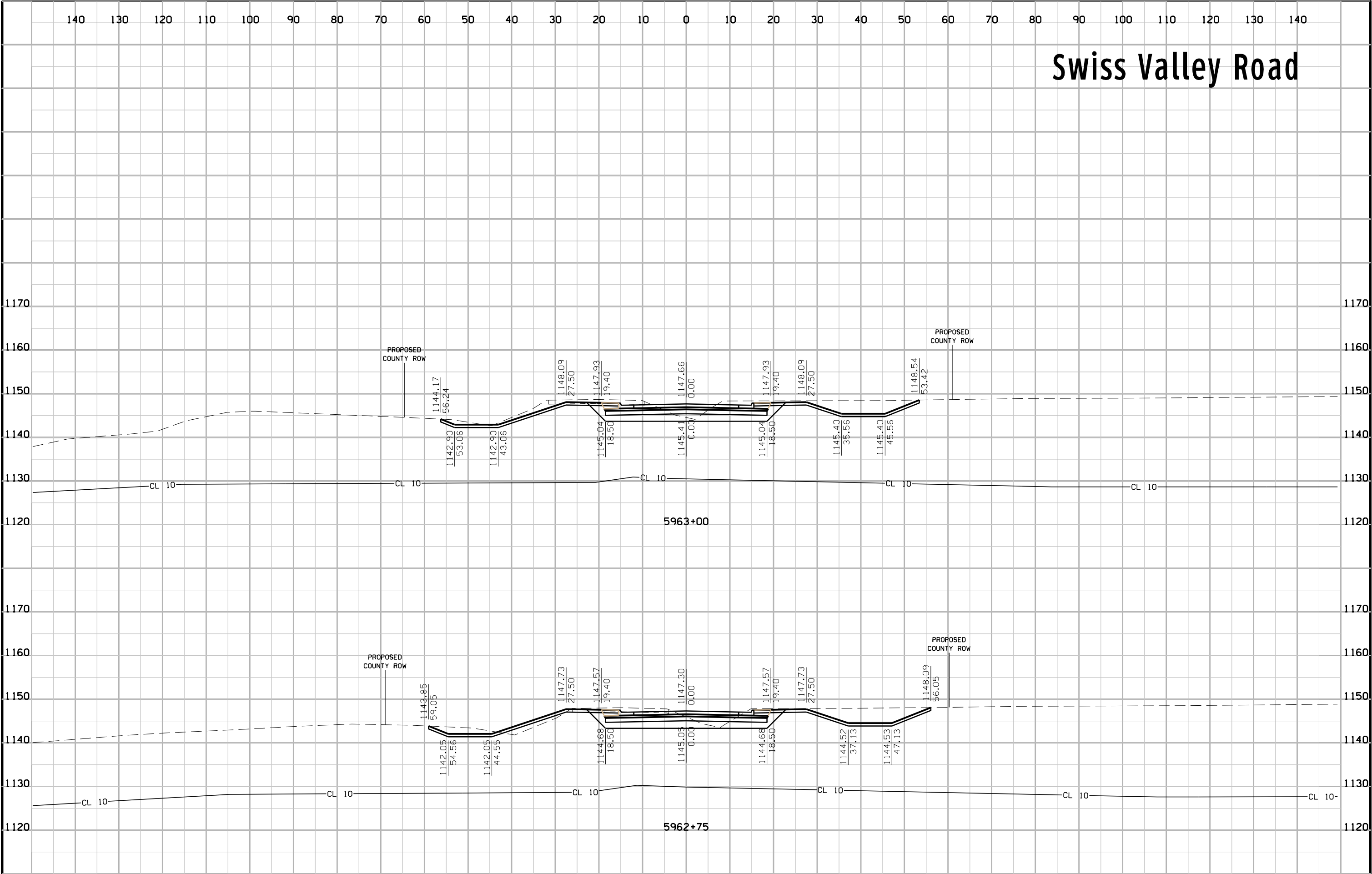
# Swiss Valley Road



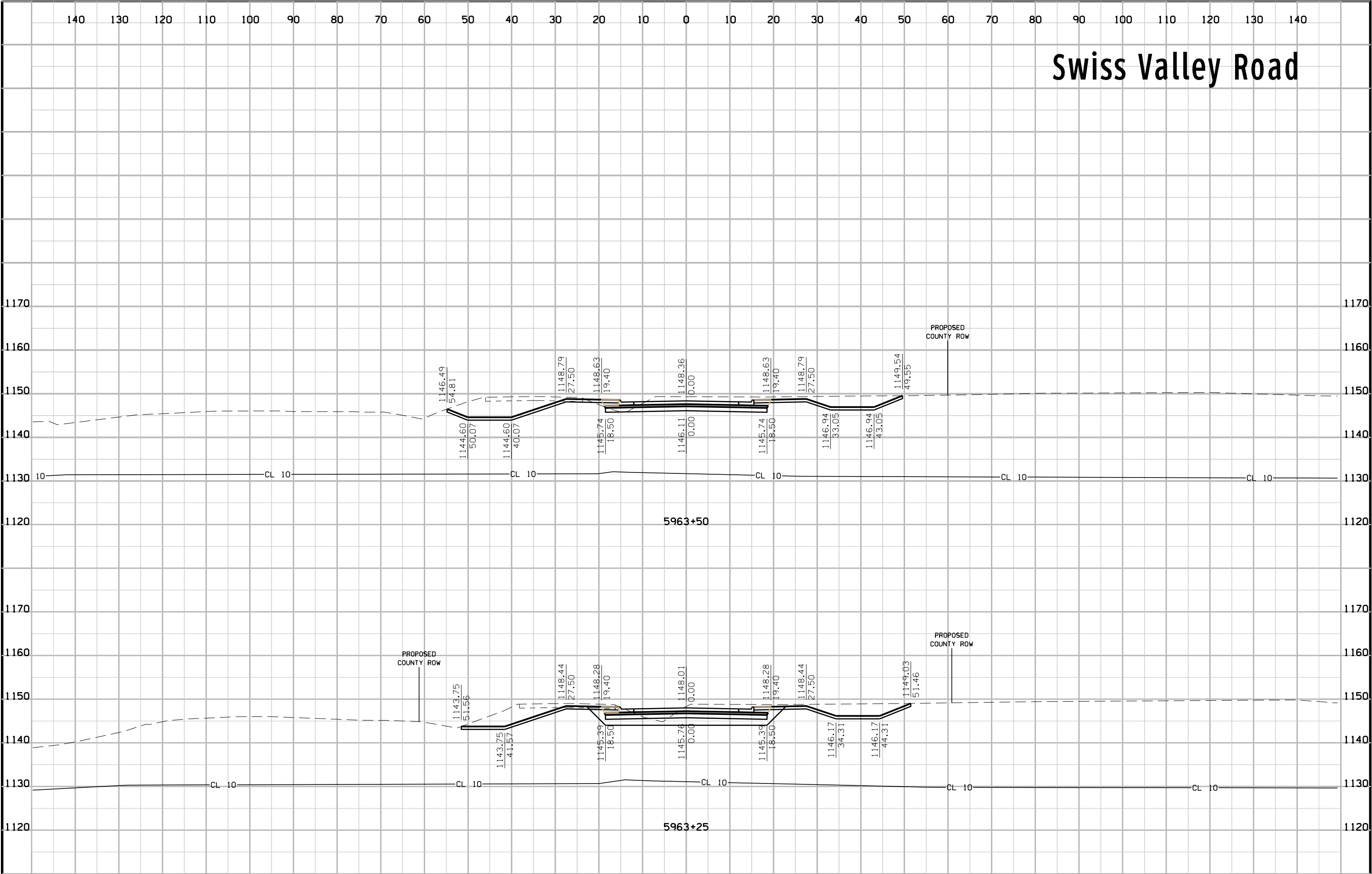
# Swiss Valley Road



# Swiss Valley Road

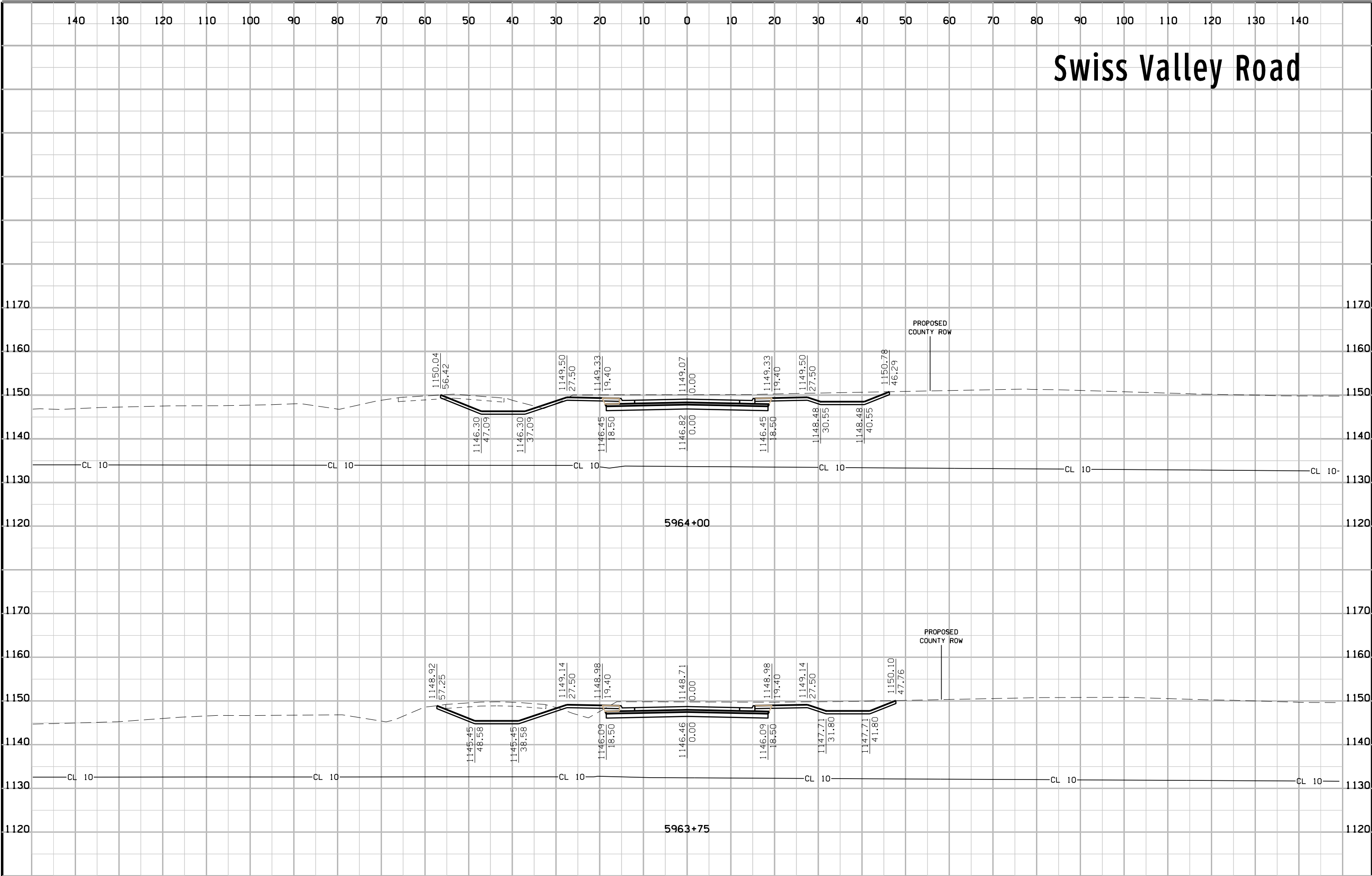


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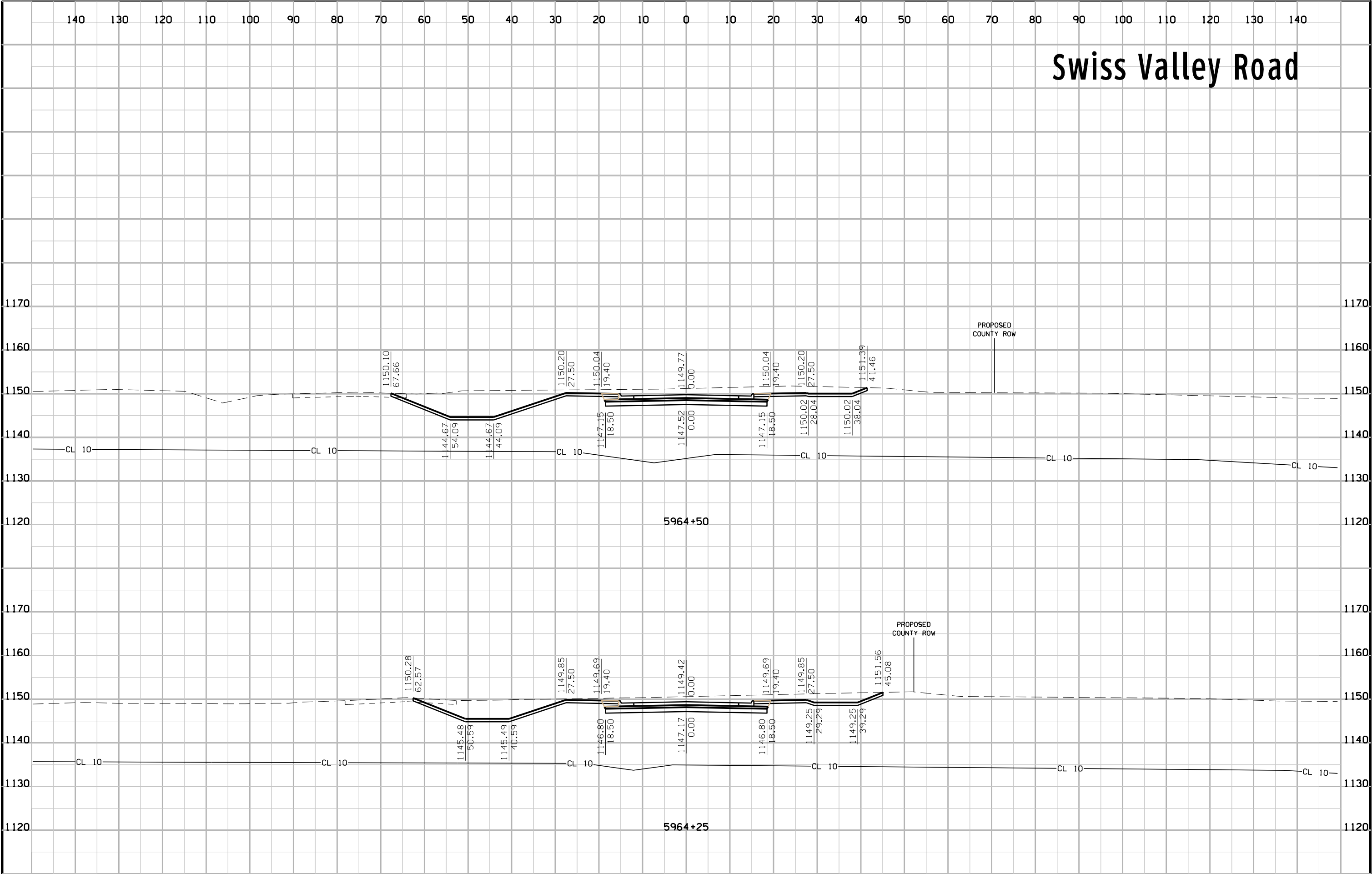




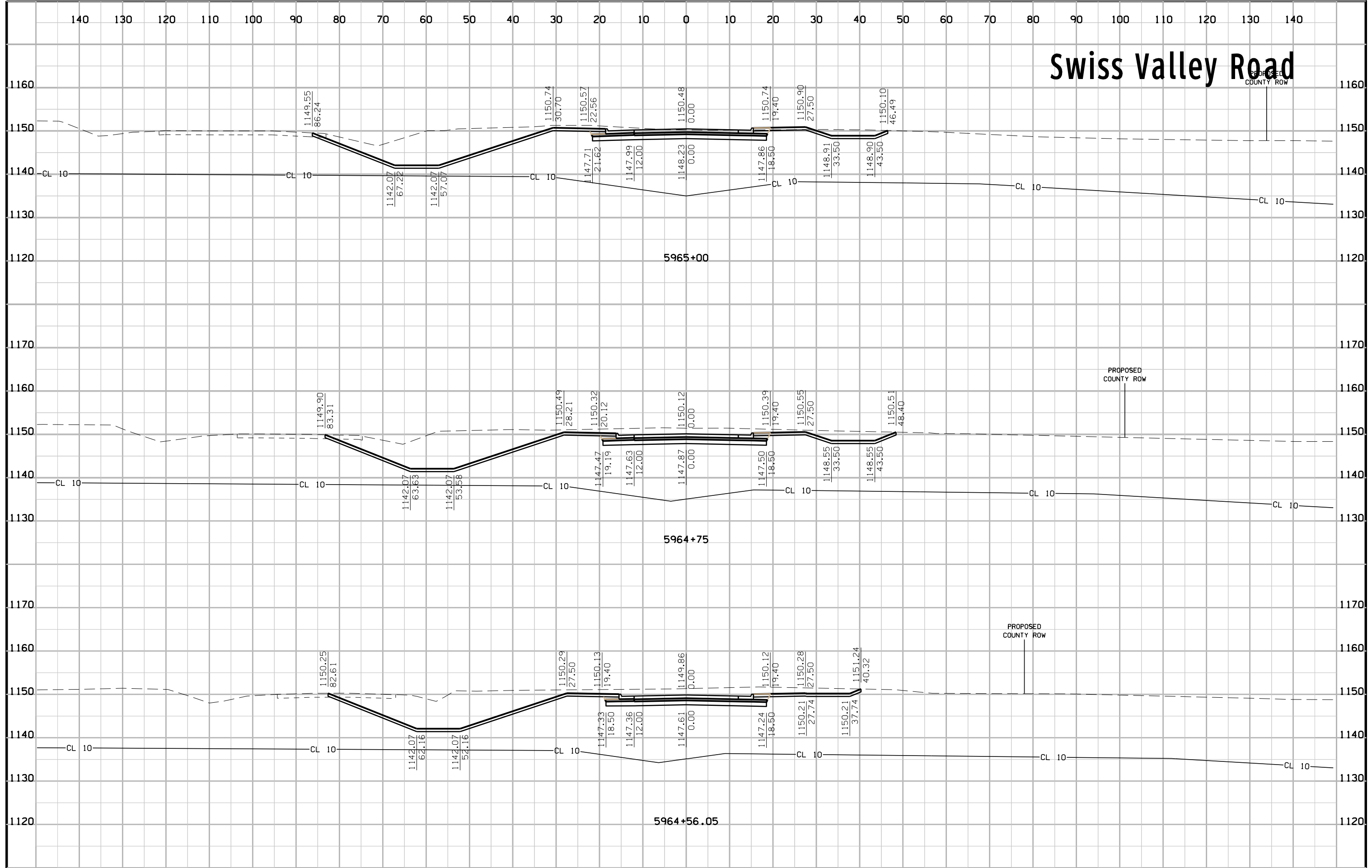
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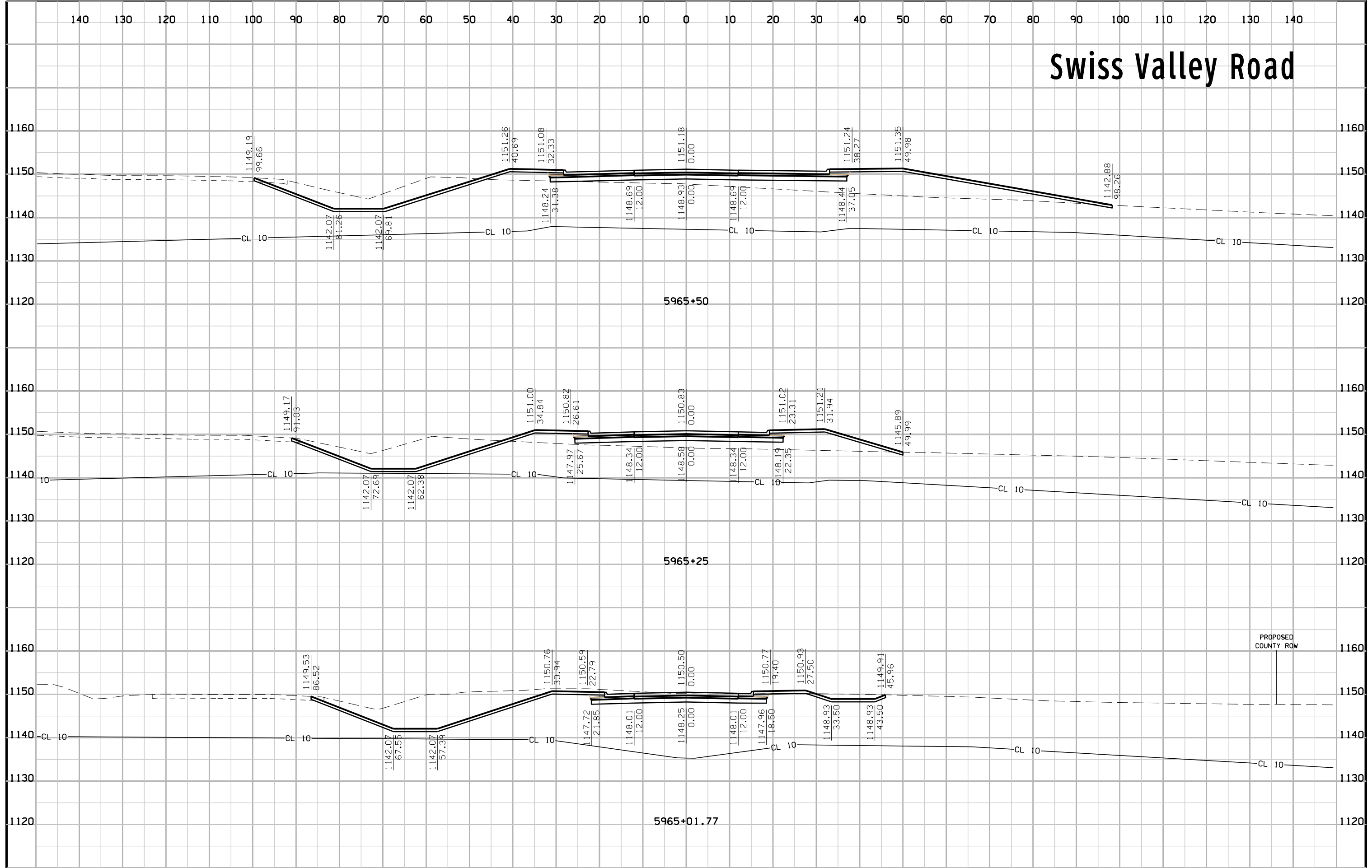
# Swiss Valley Road



# Swiss Valley Road

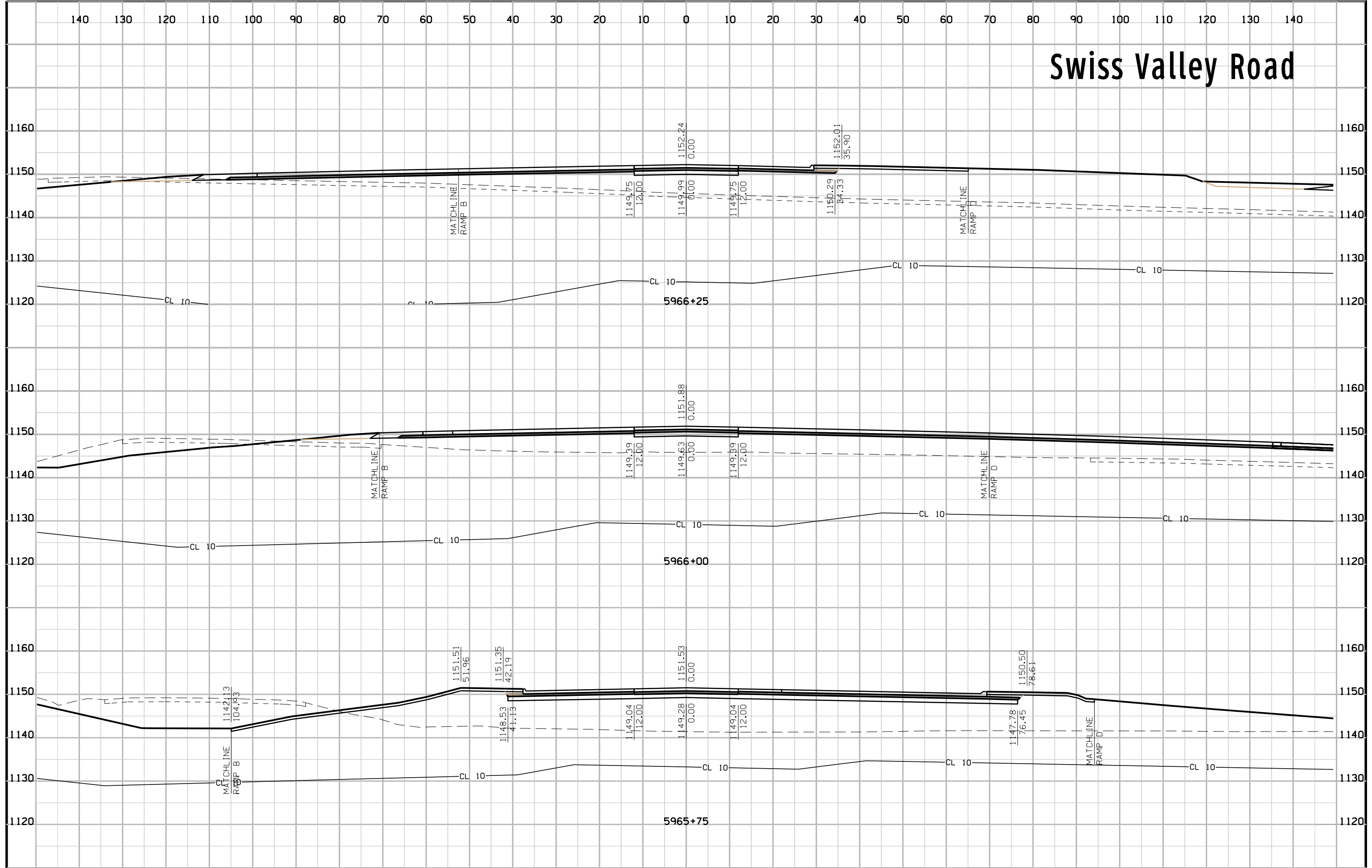


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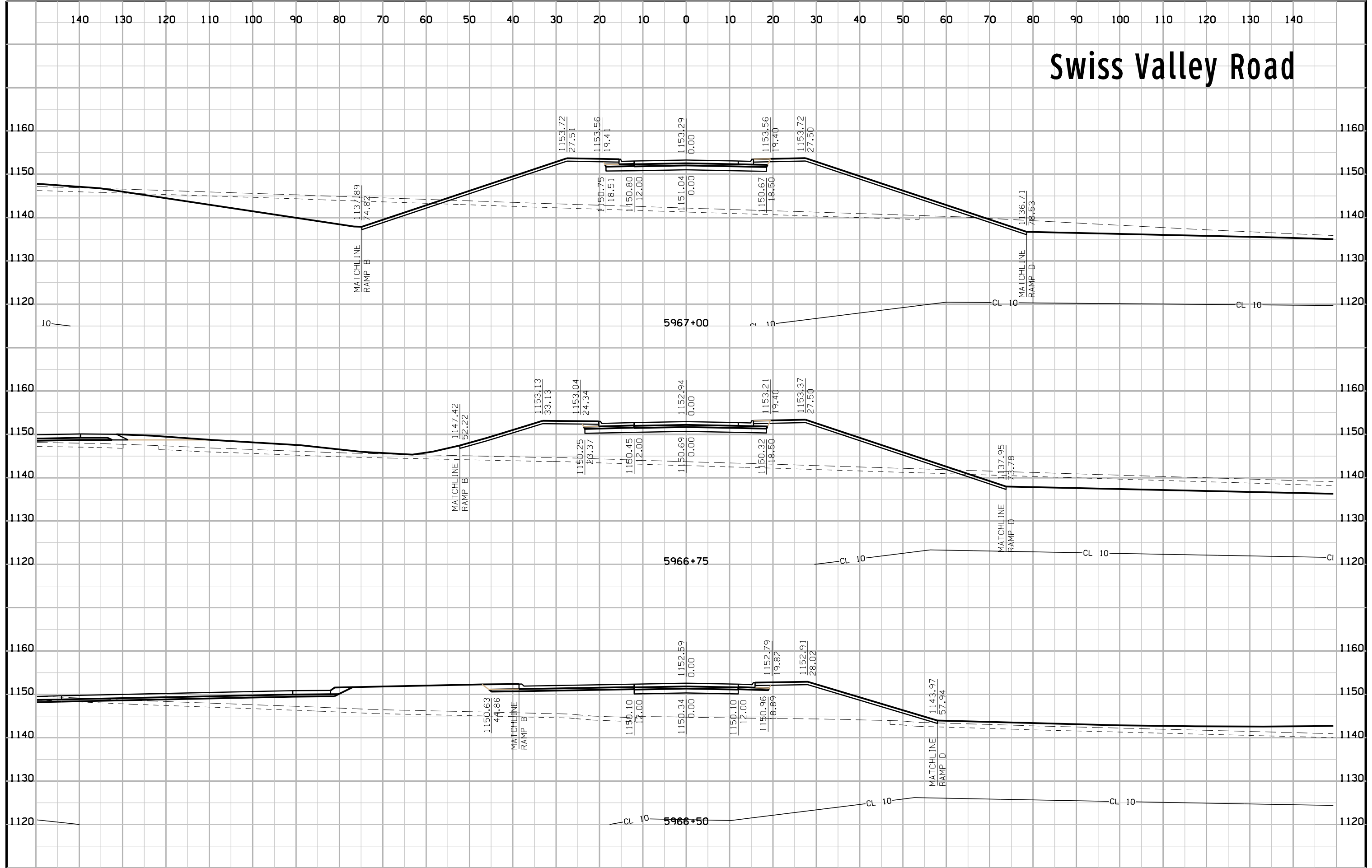




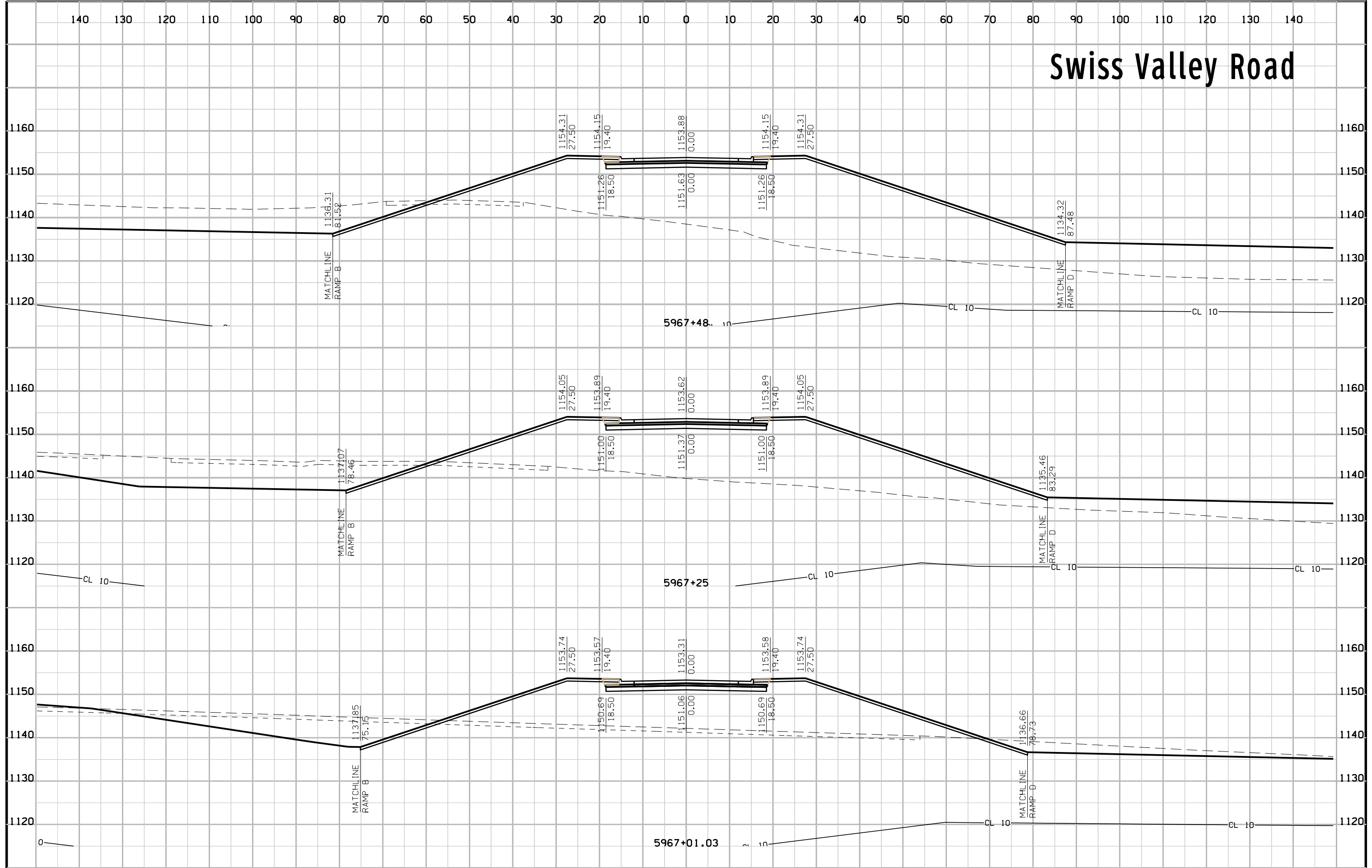
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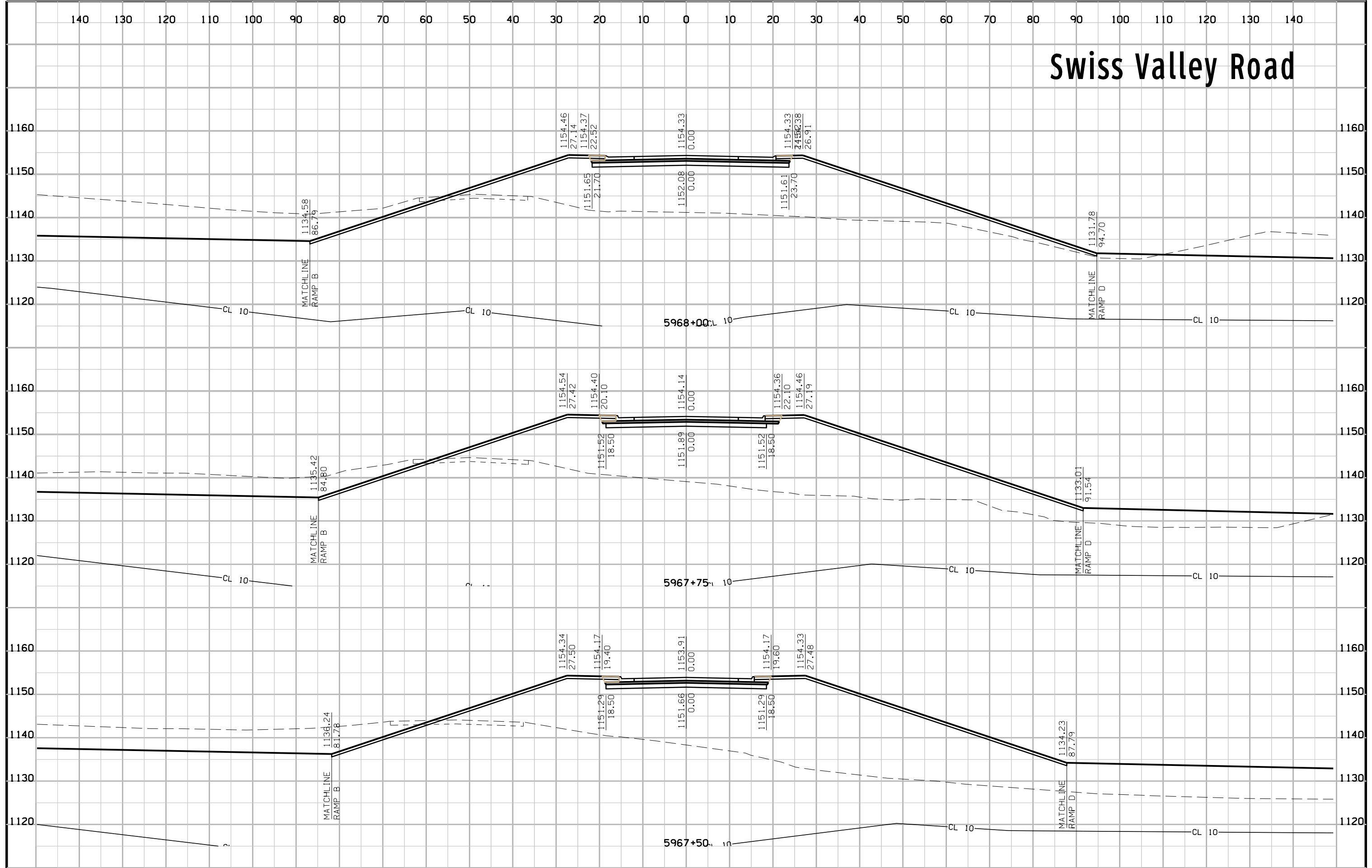
# Swiss Valley Road



# Swiss Valley Road

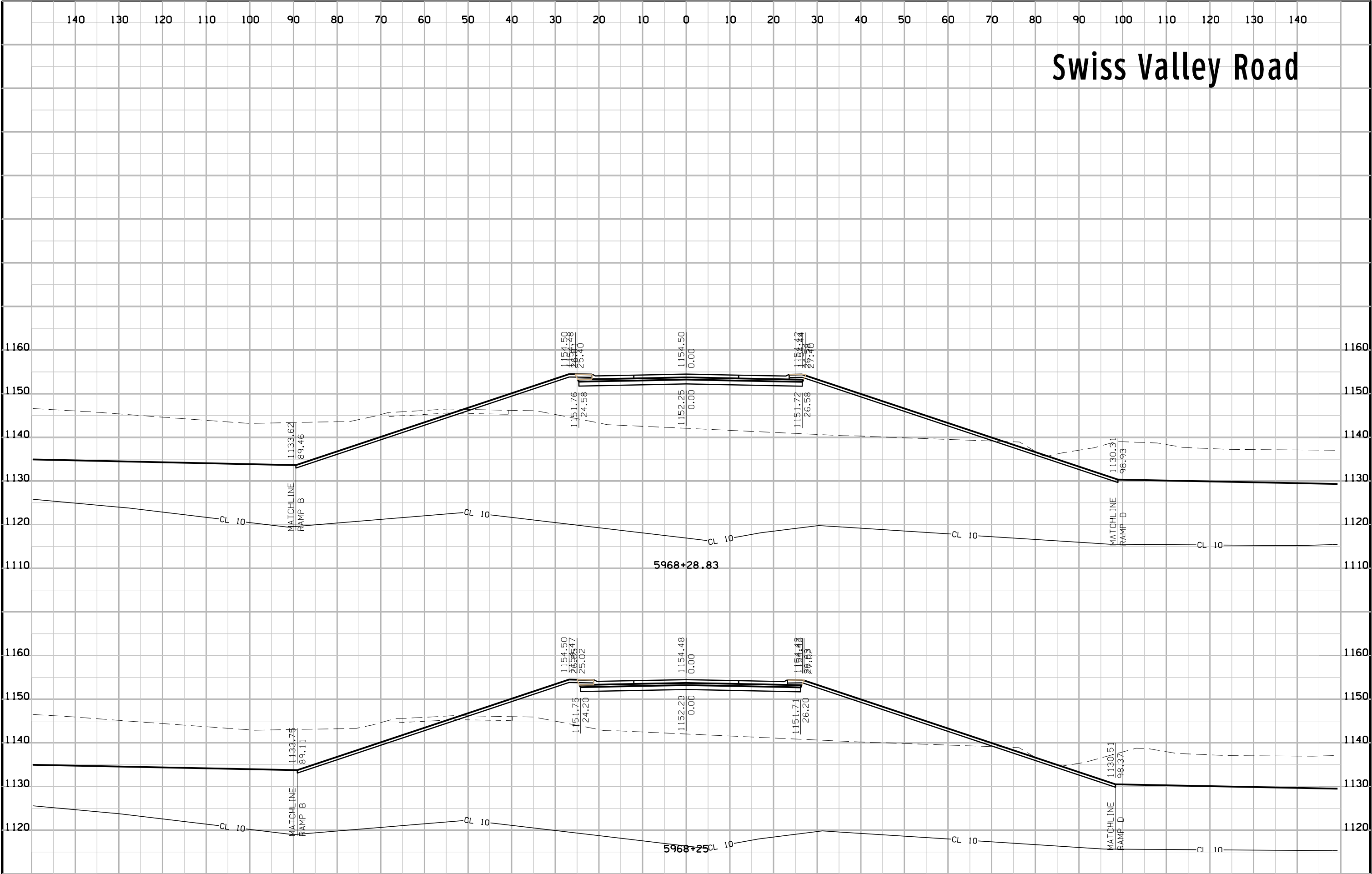


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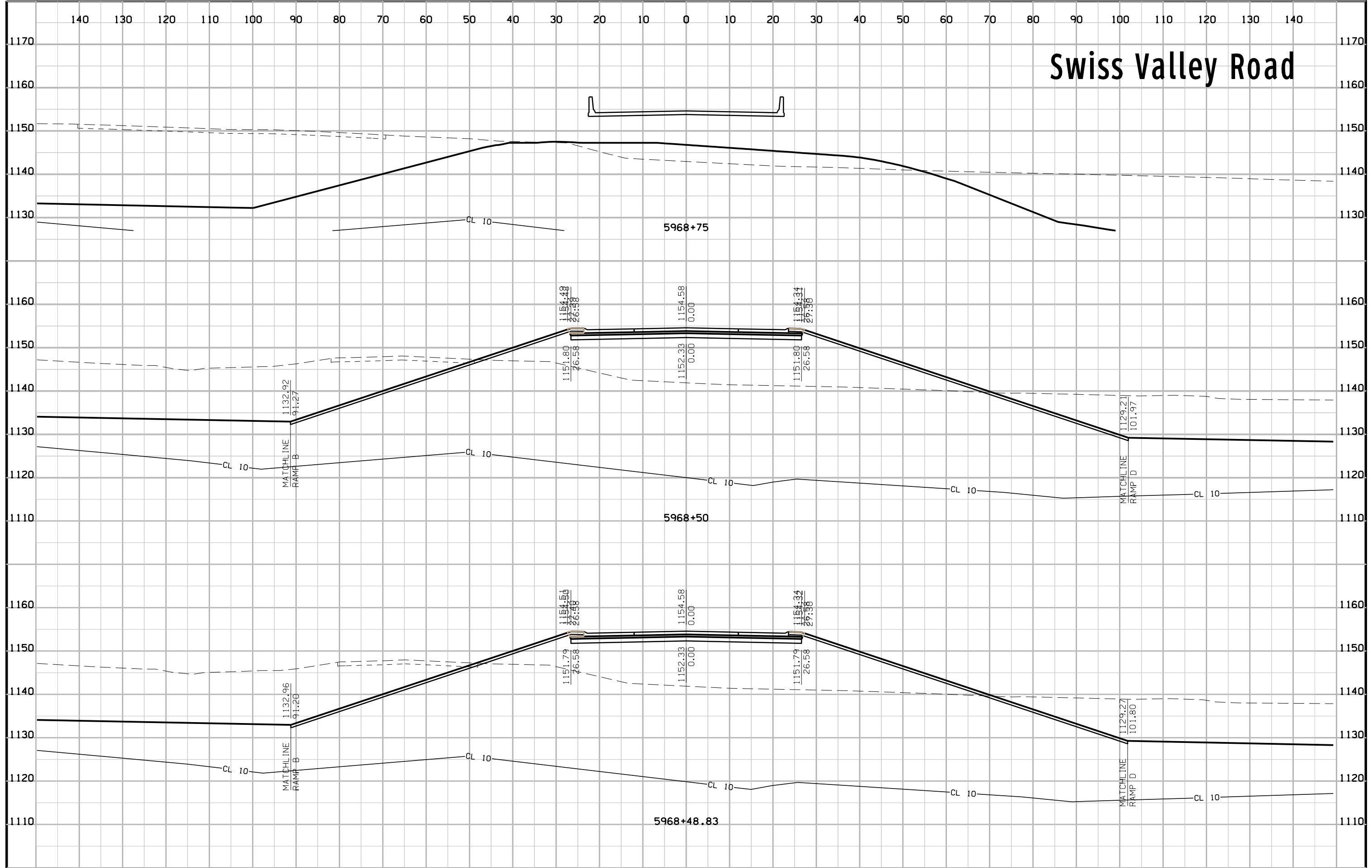




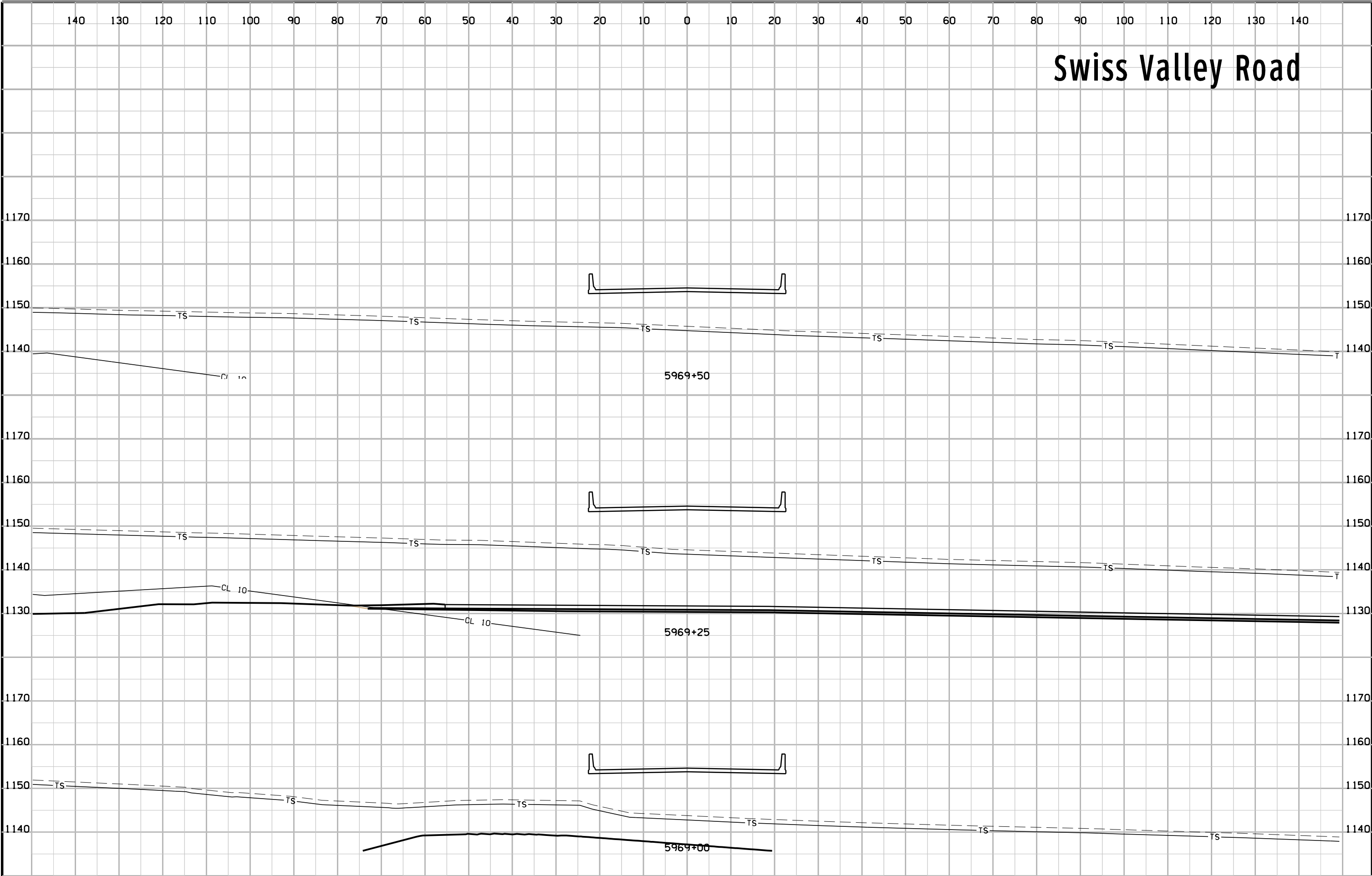
# Swiss Valley Road



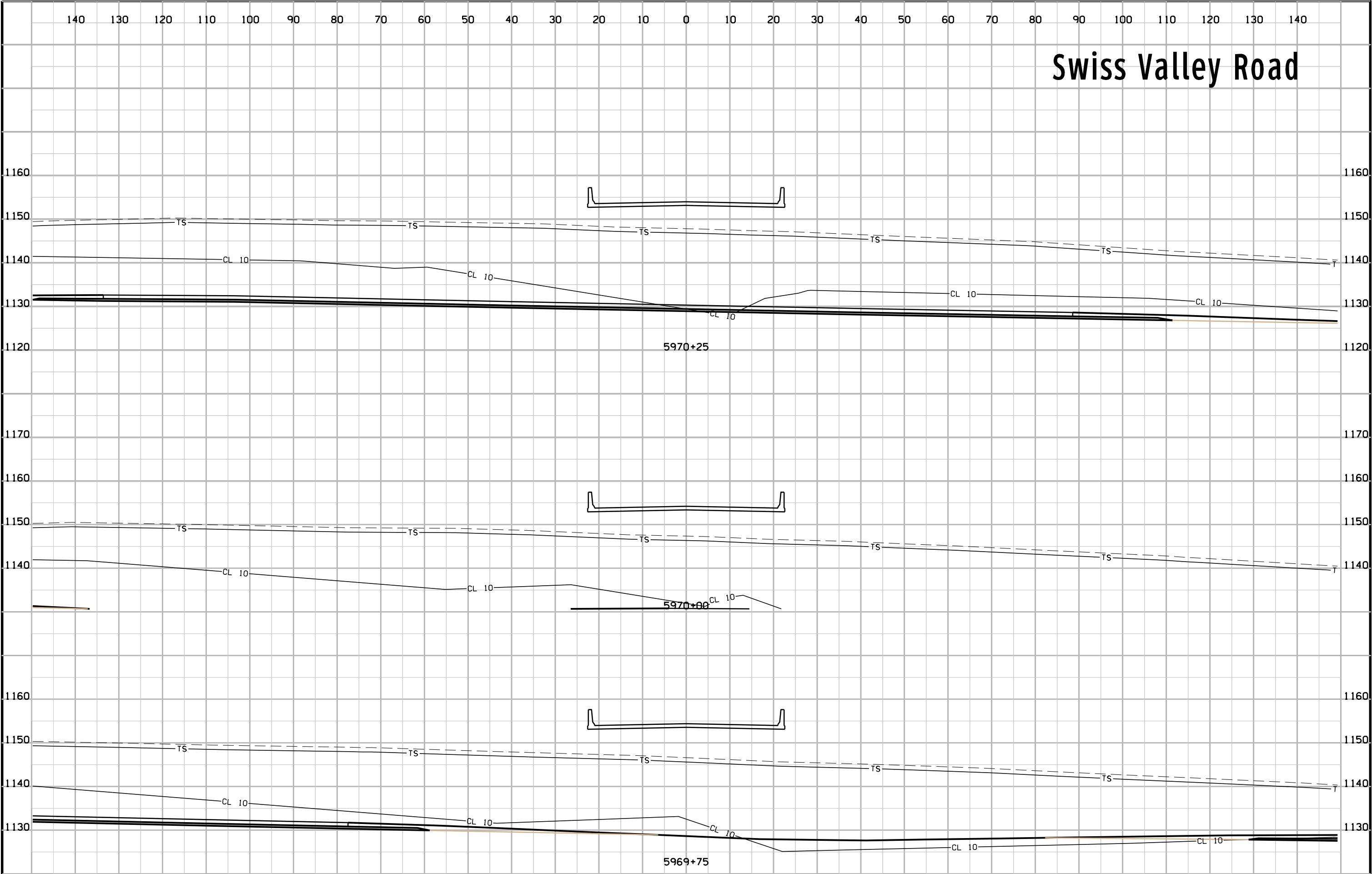
# Swiss Valley Road



# Swiss Valley Road

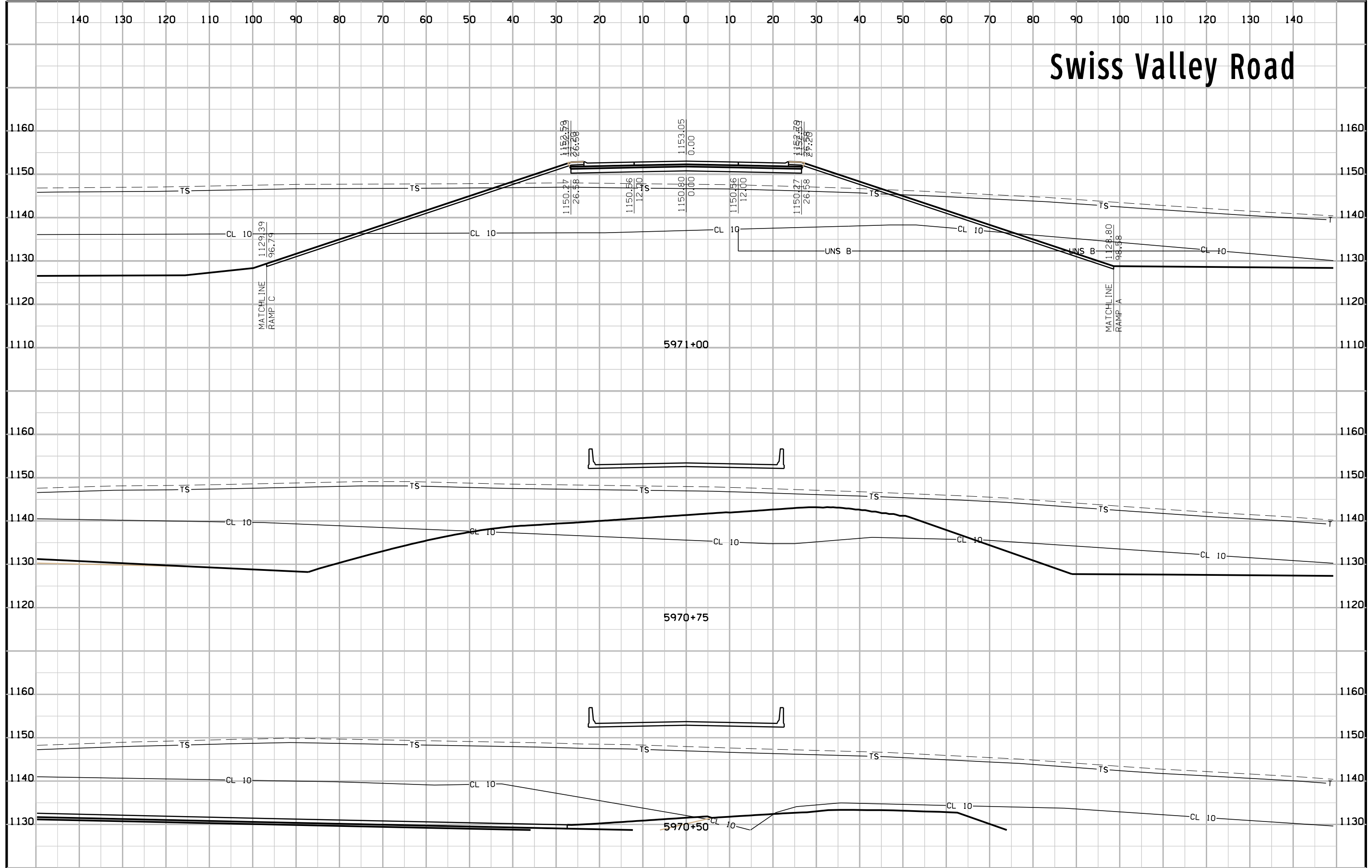


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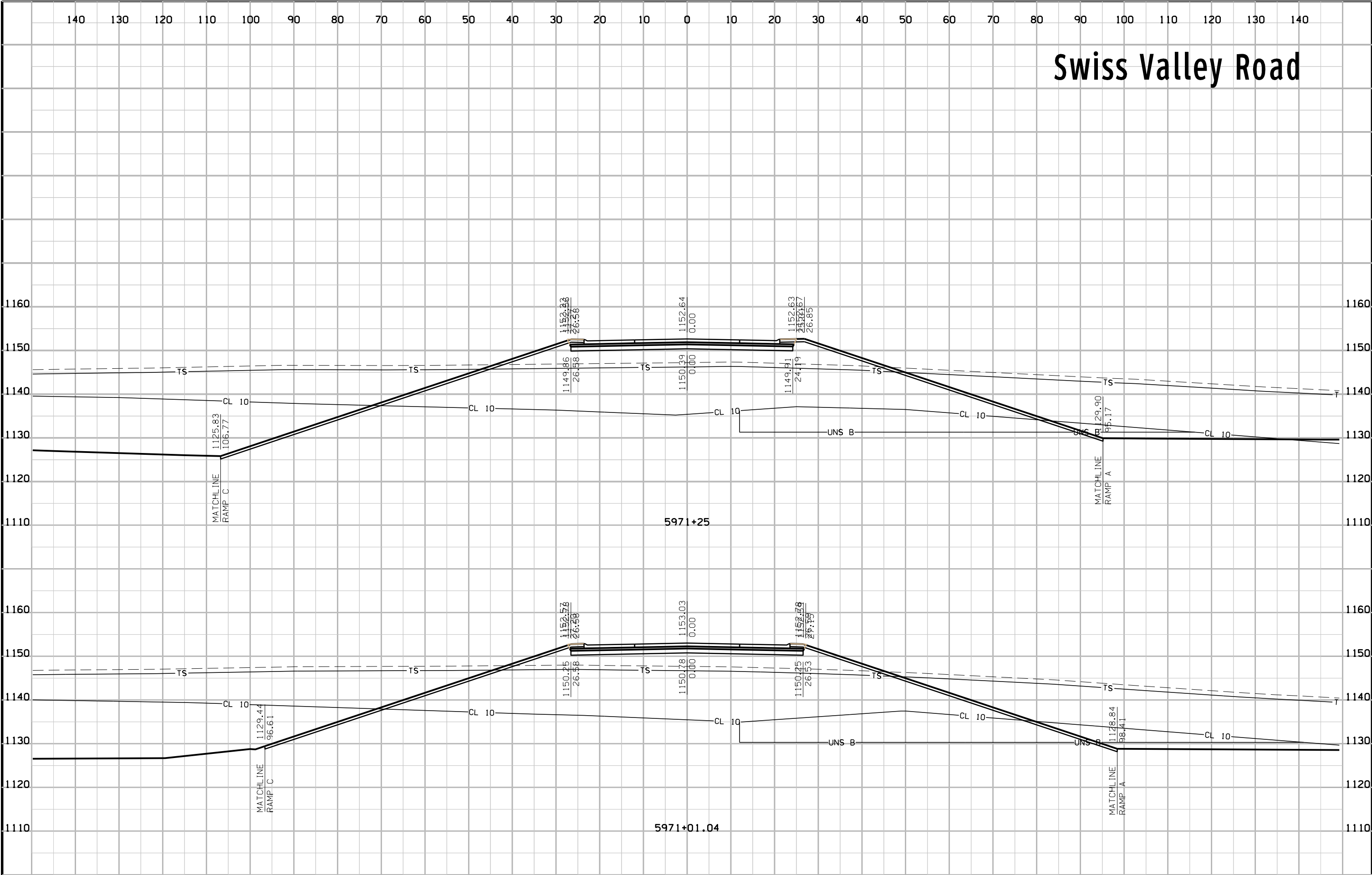




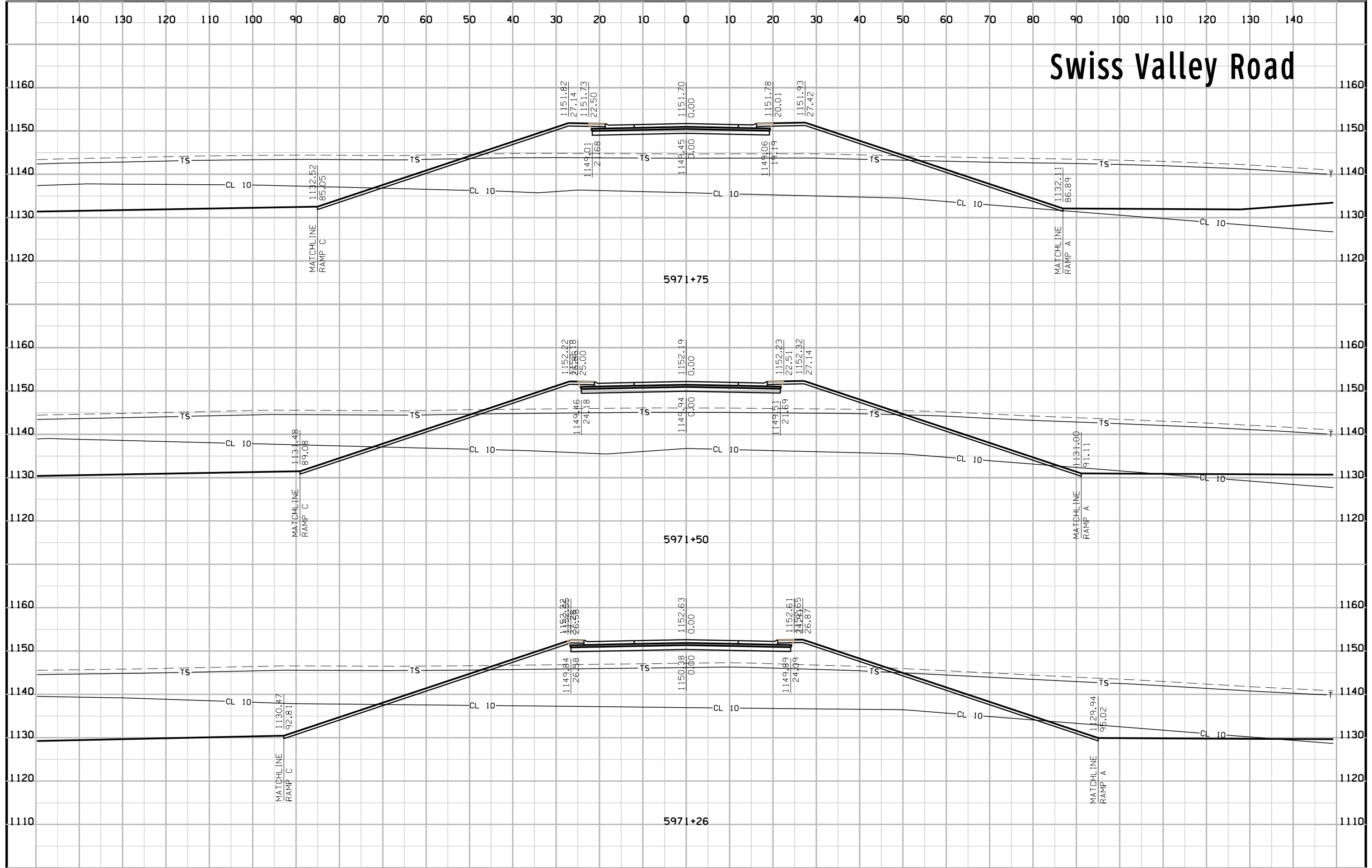
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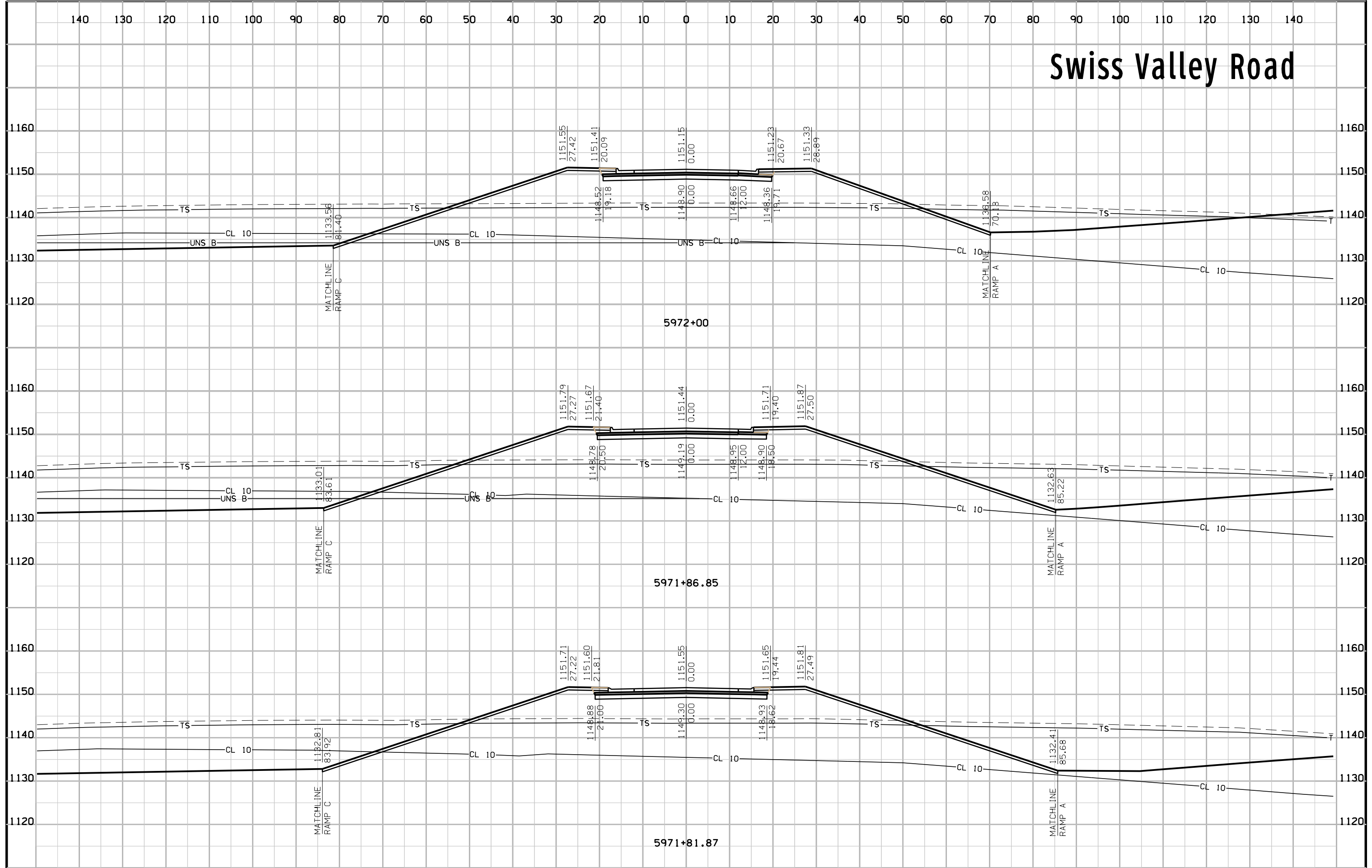
# Swiss Valley Road



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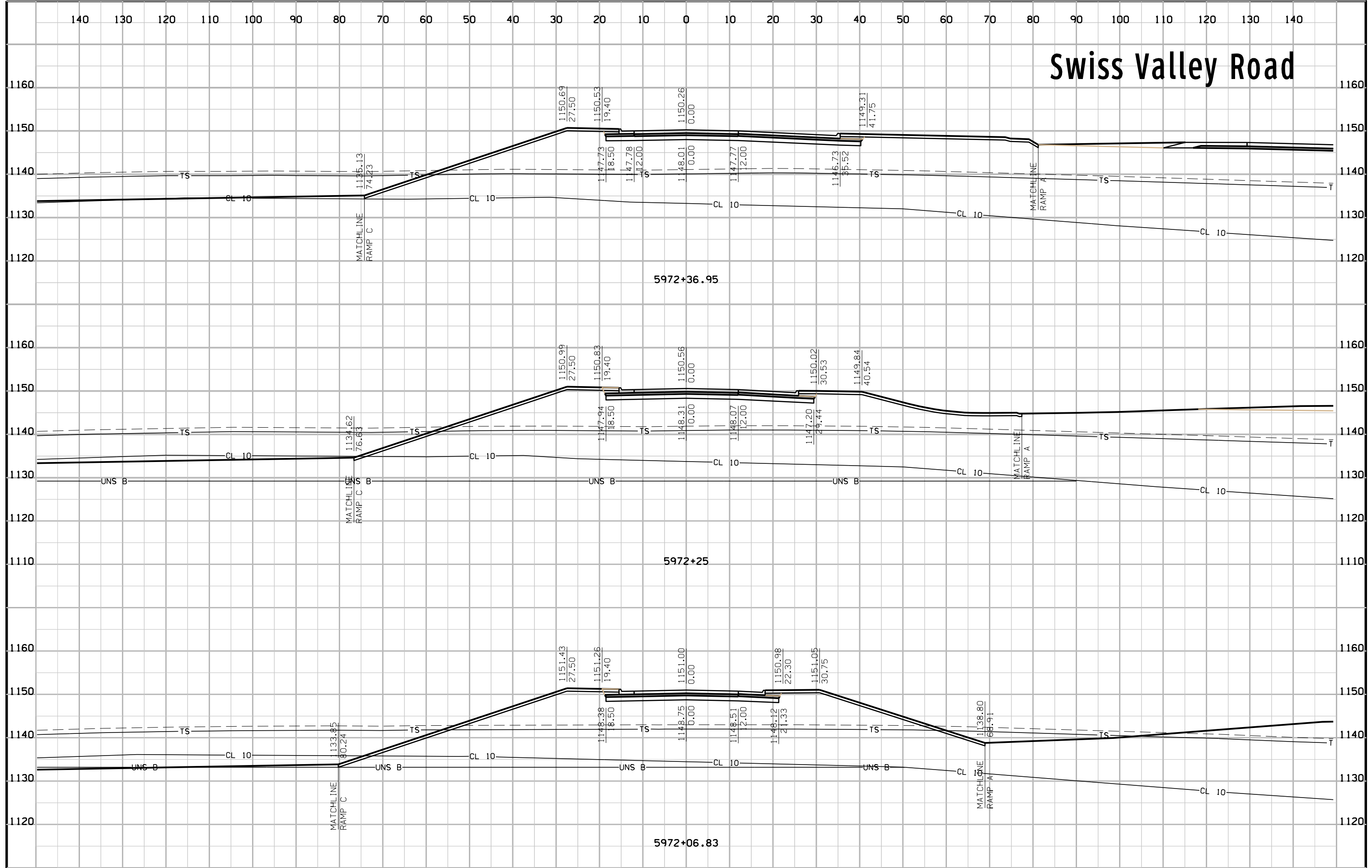


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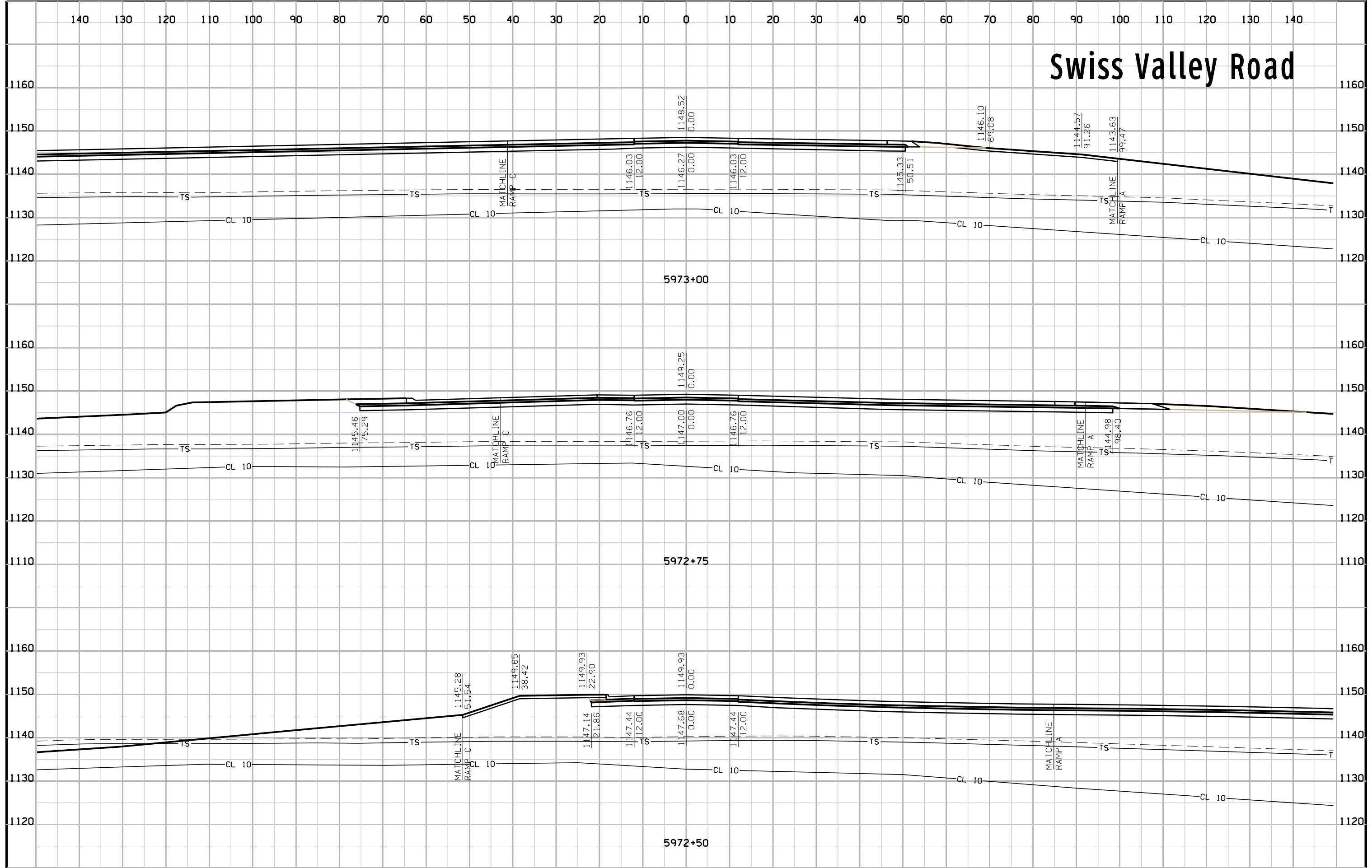




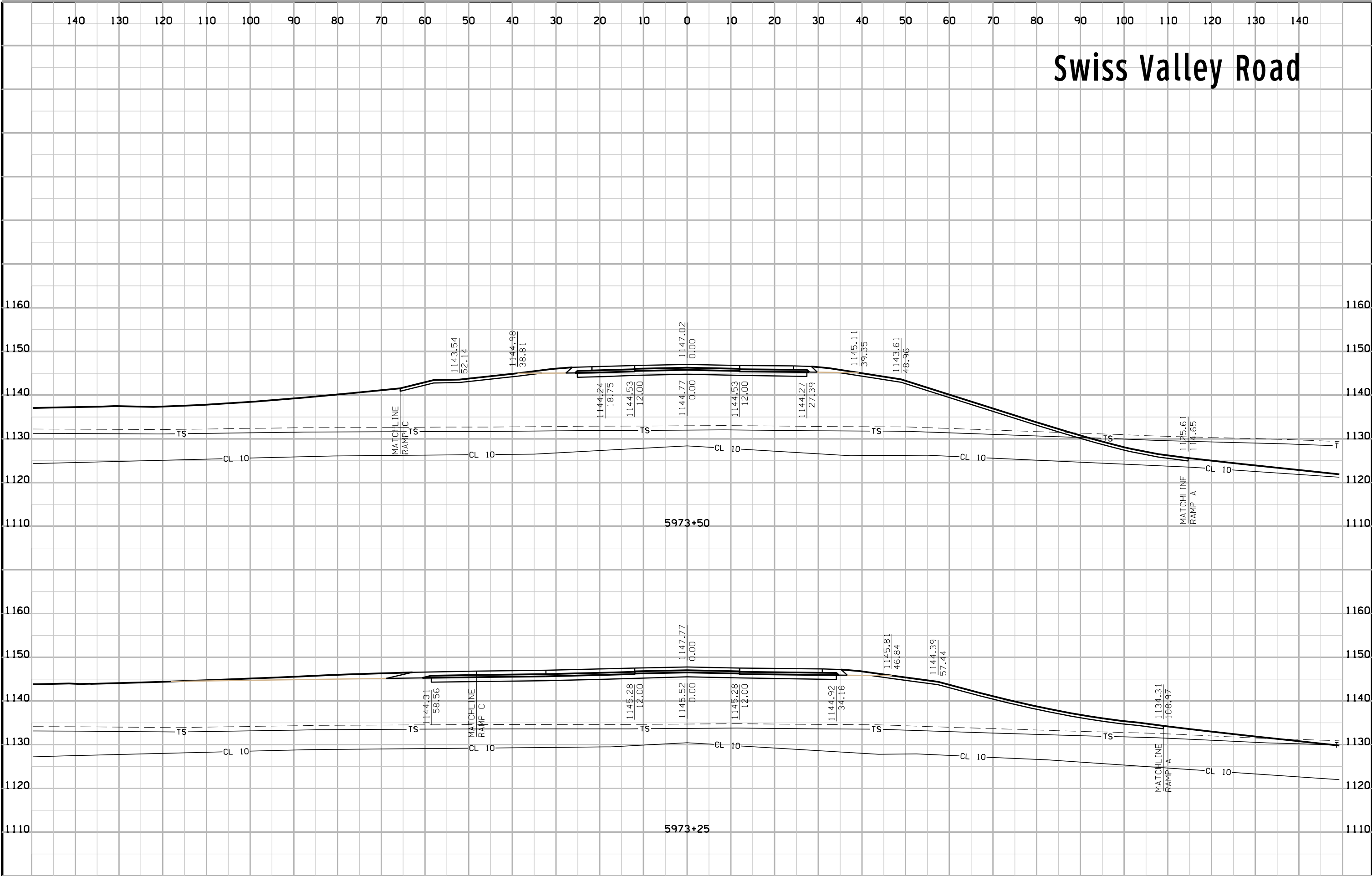
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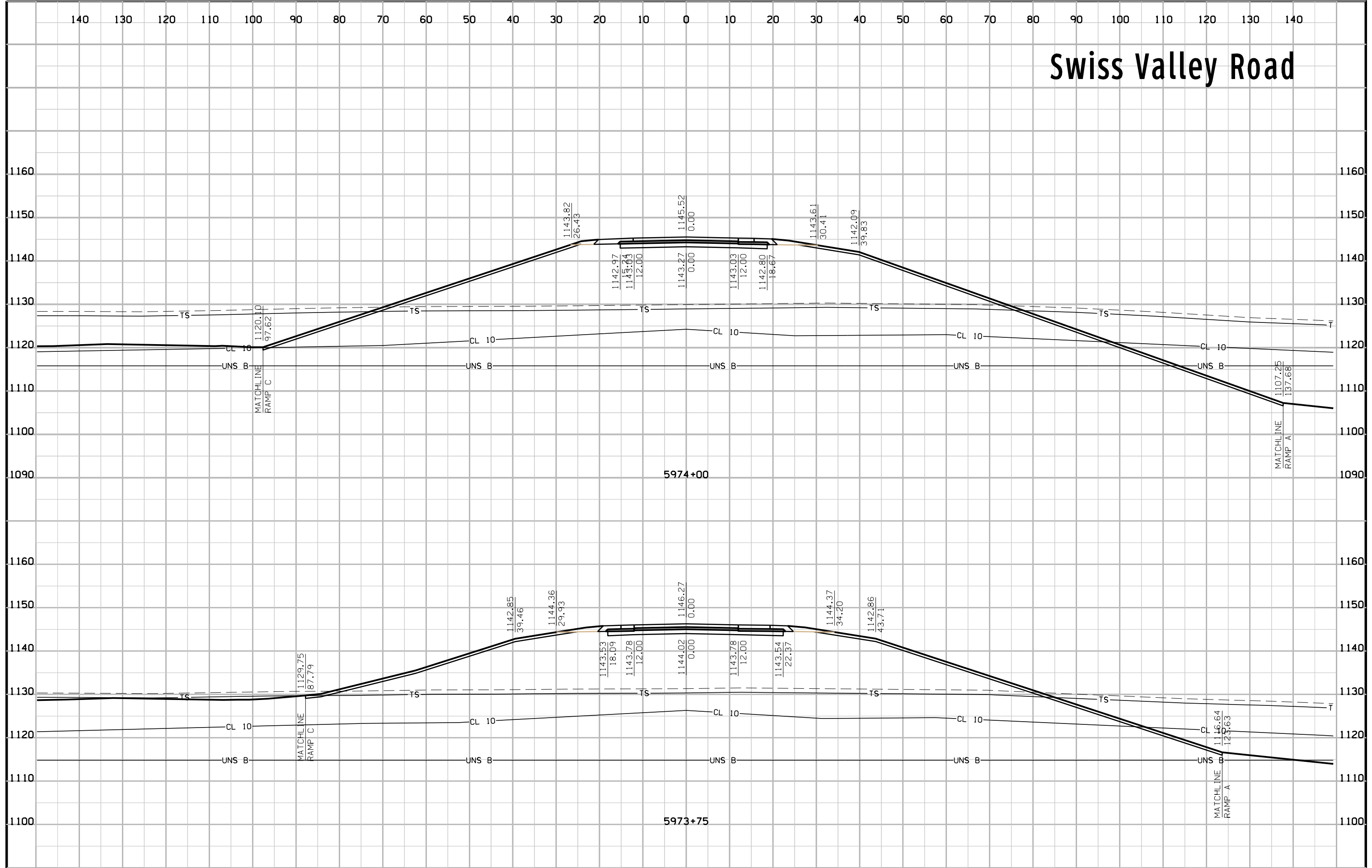
# Swiss Valley Road



# Swiss Valley Road

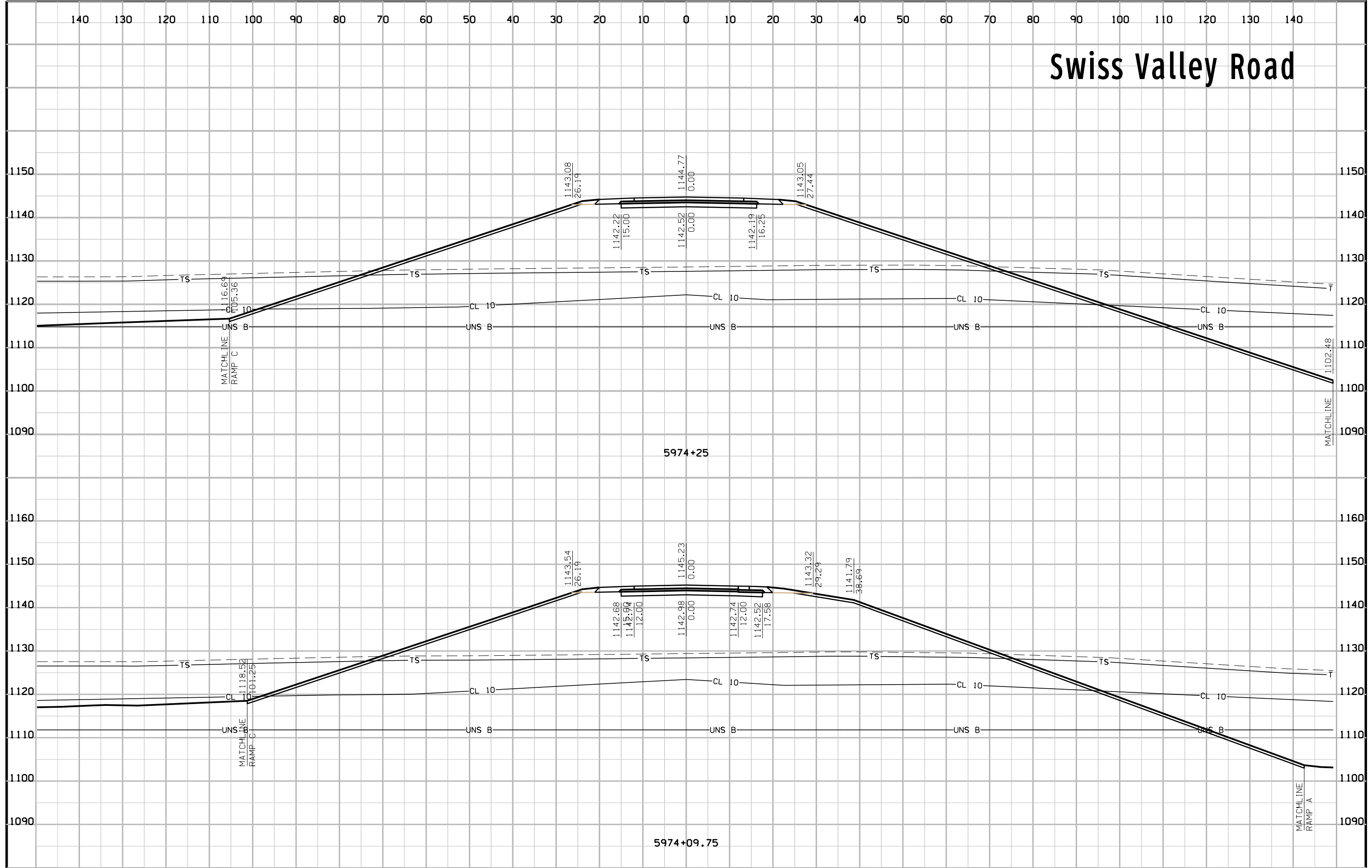


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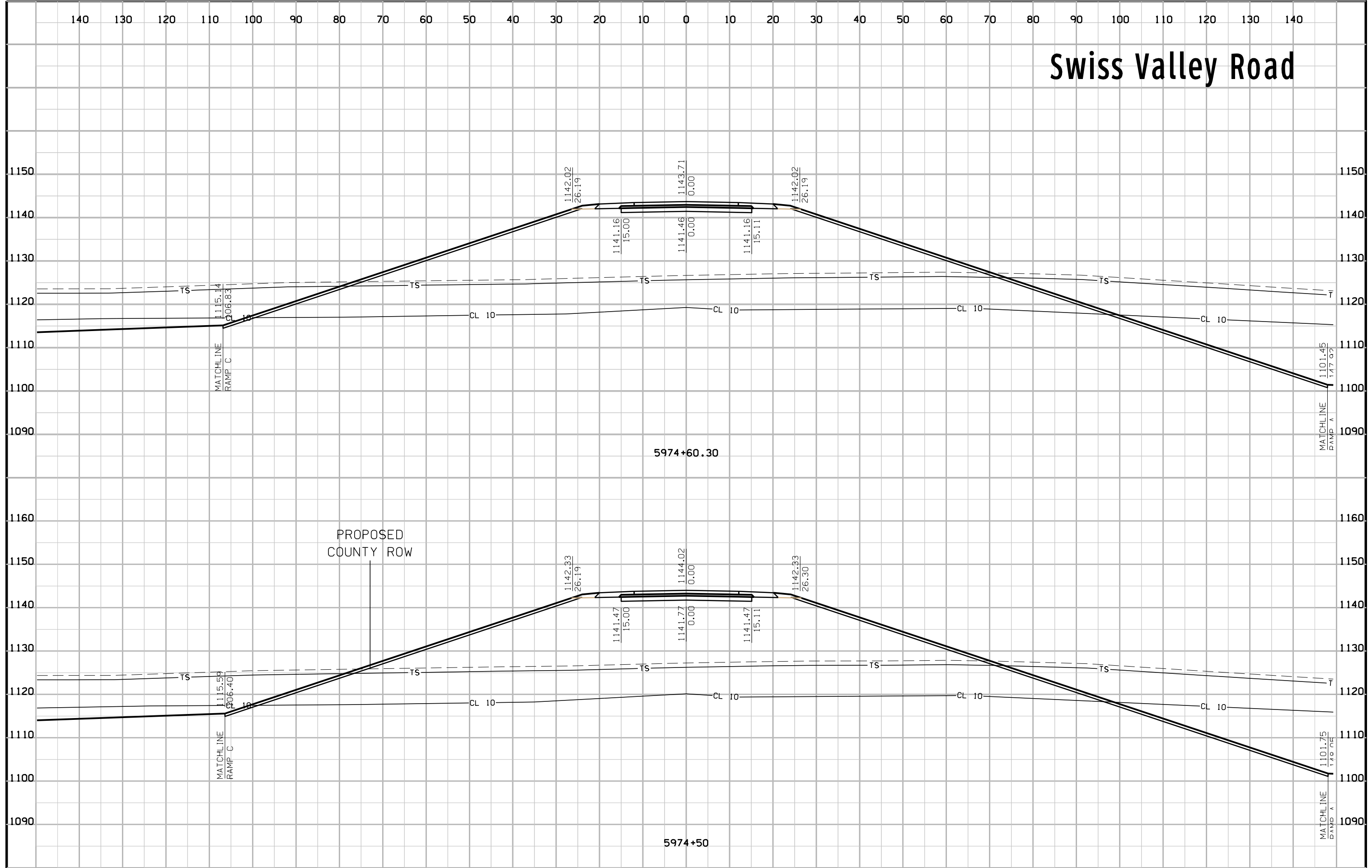




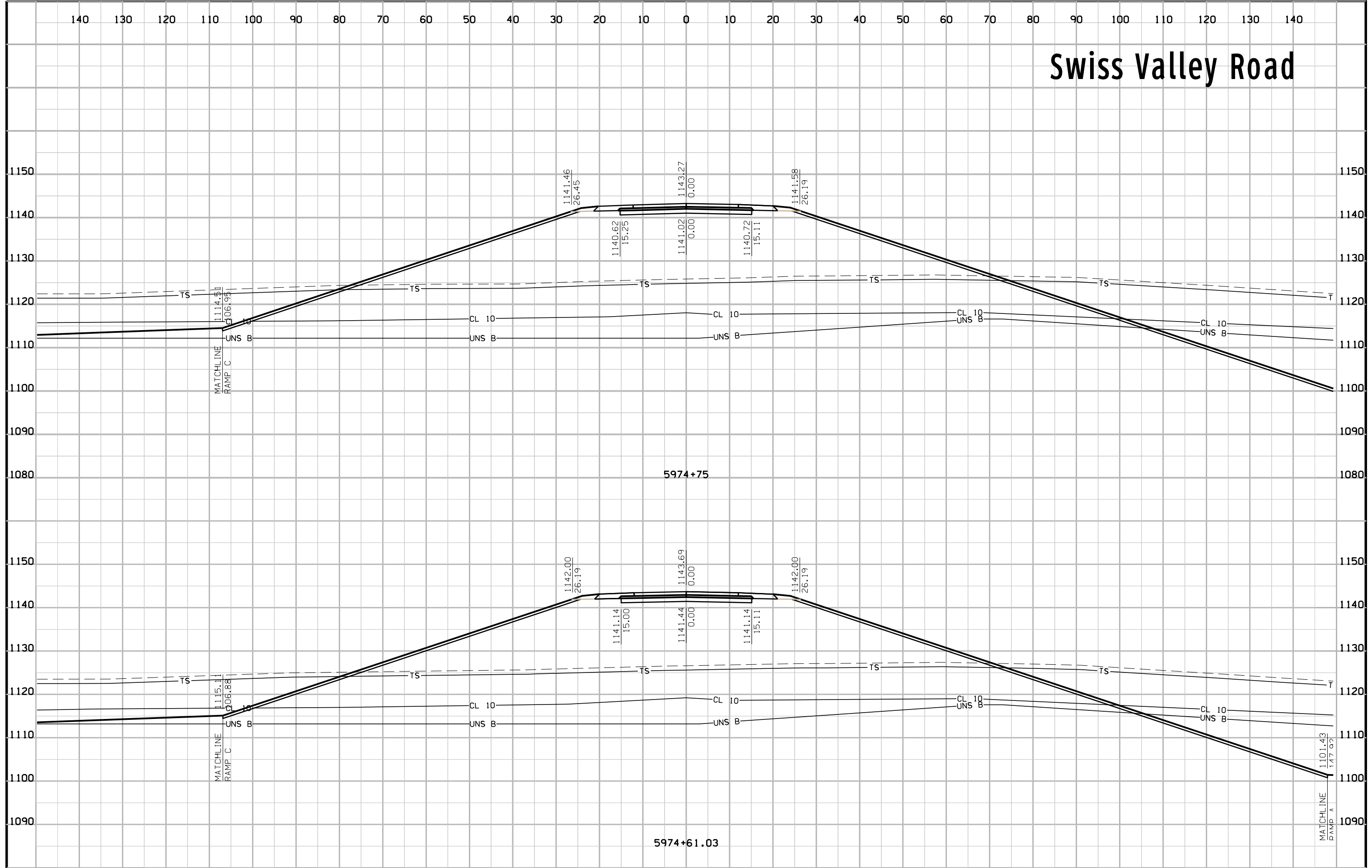
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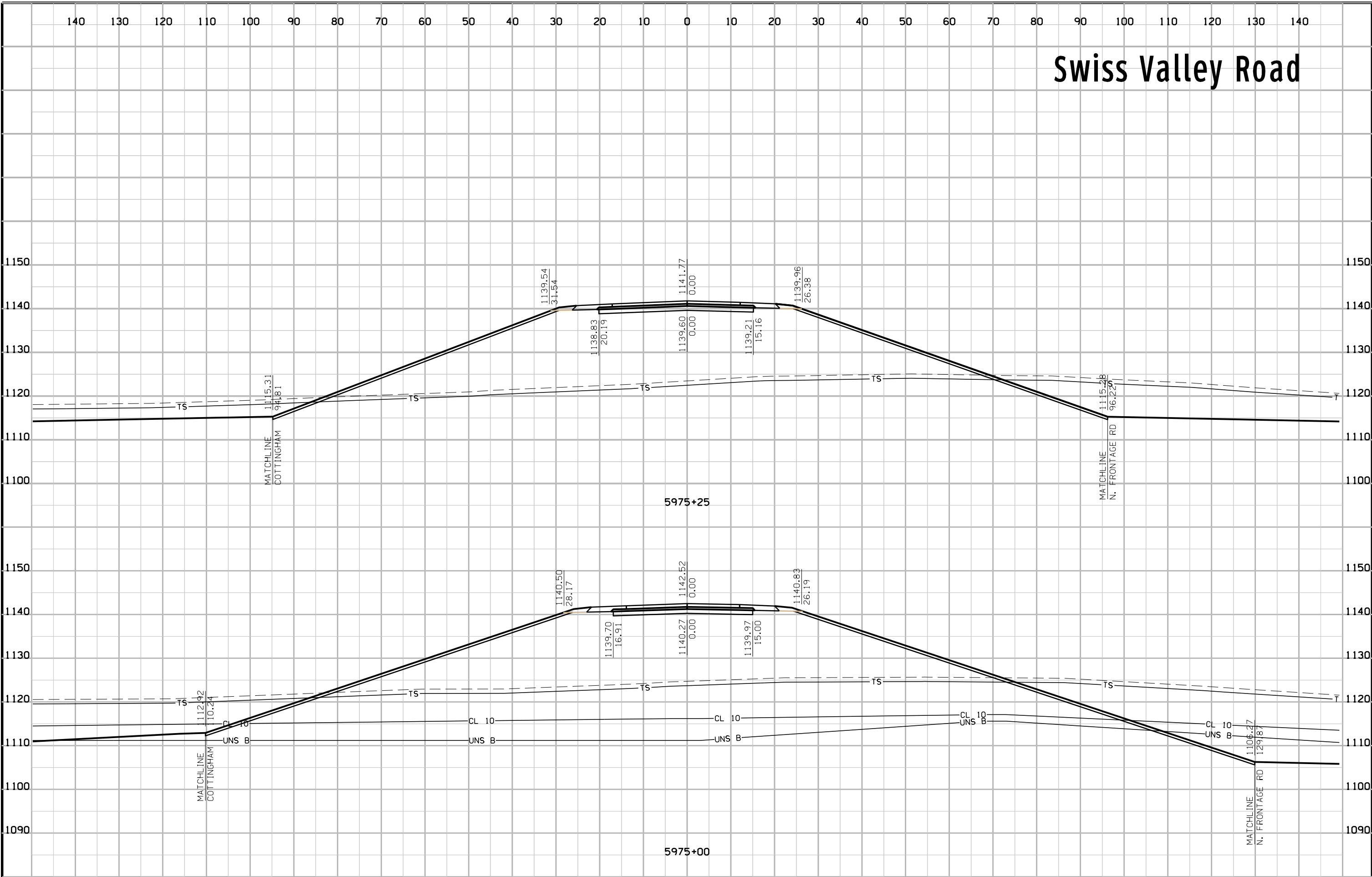
# Swiss Valley Road



# Swiss Valley Road

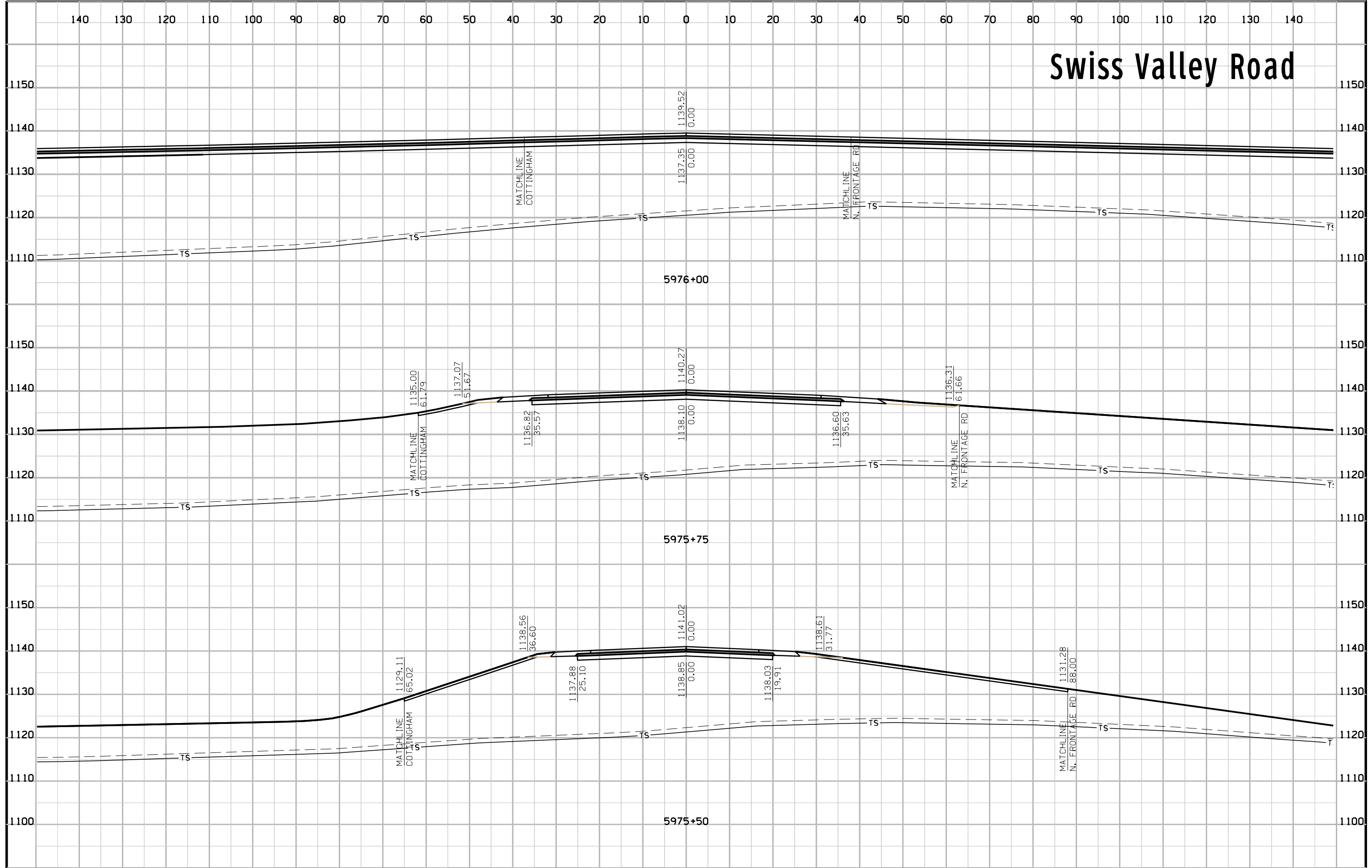


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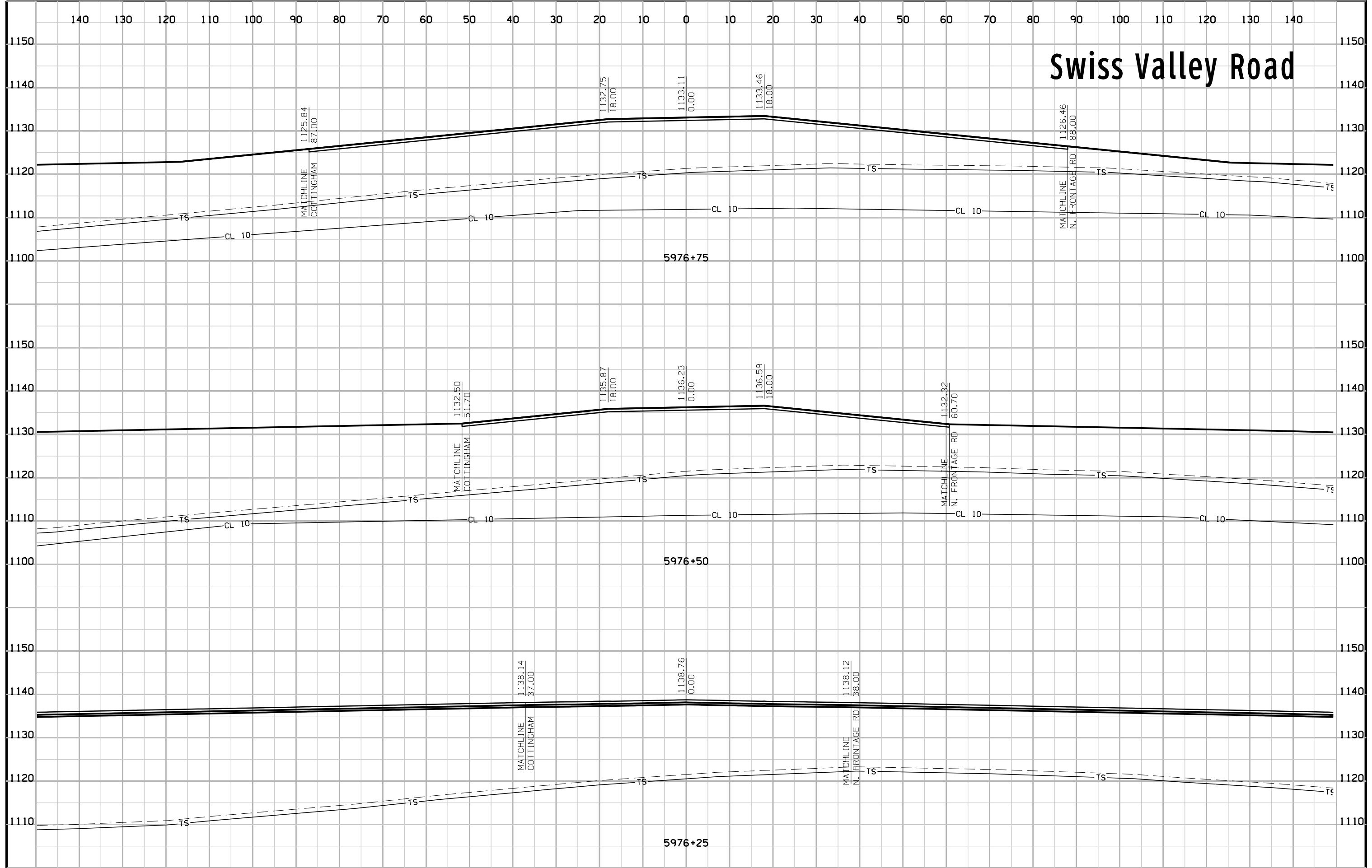




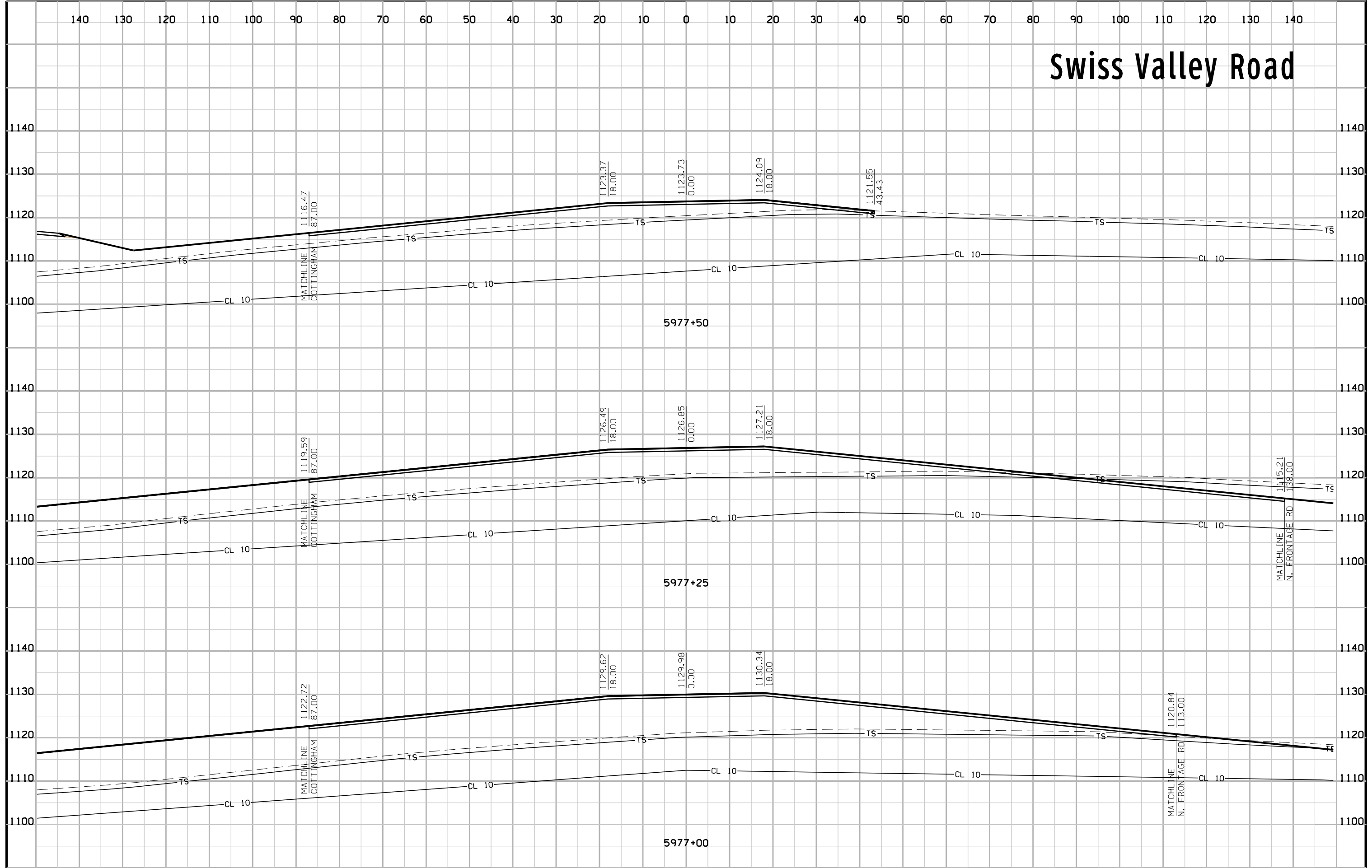
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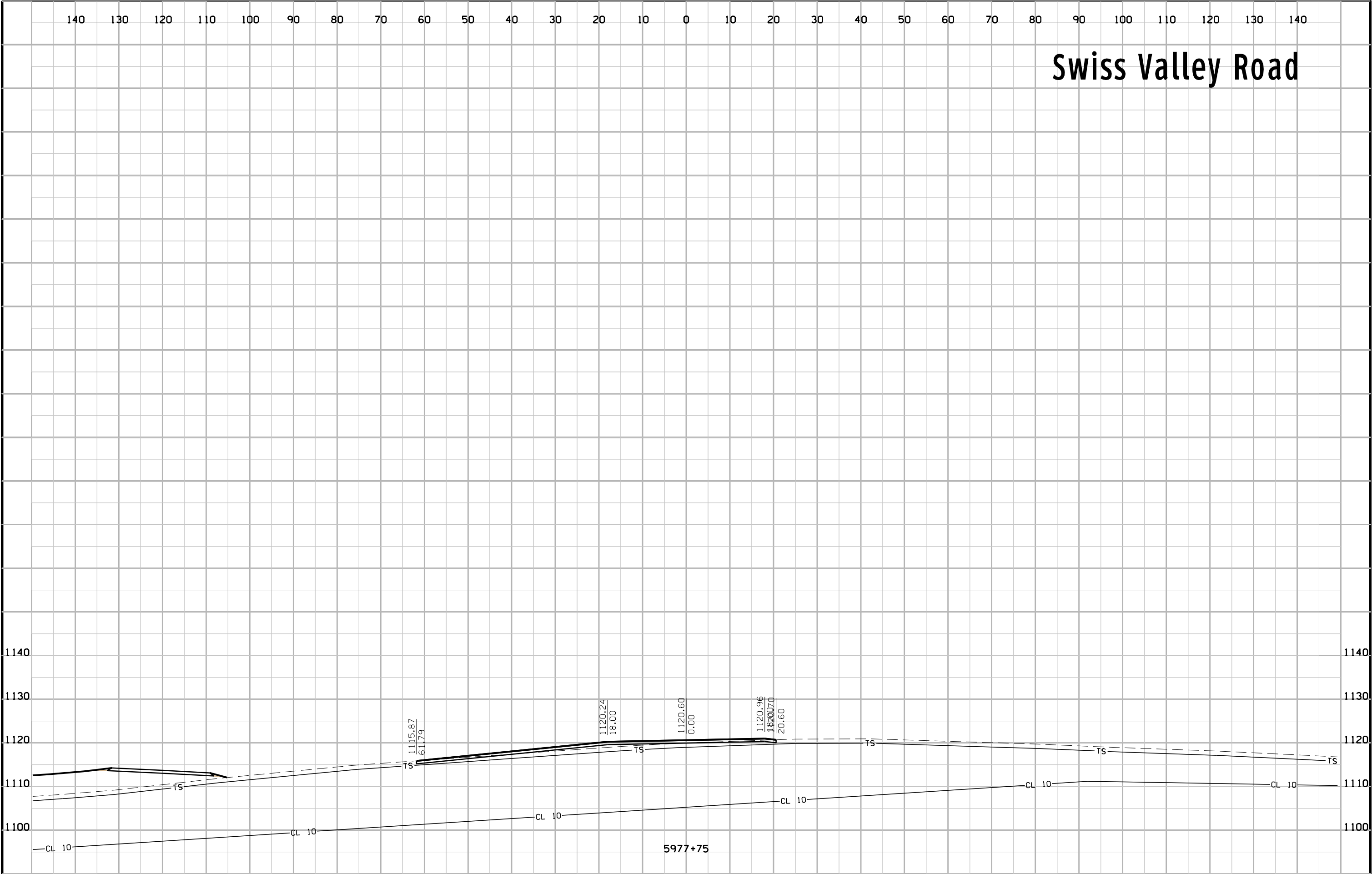
# Swiss Valley Road



# Swiss Valley Road

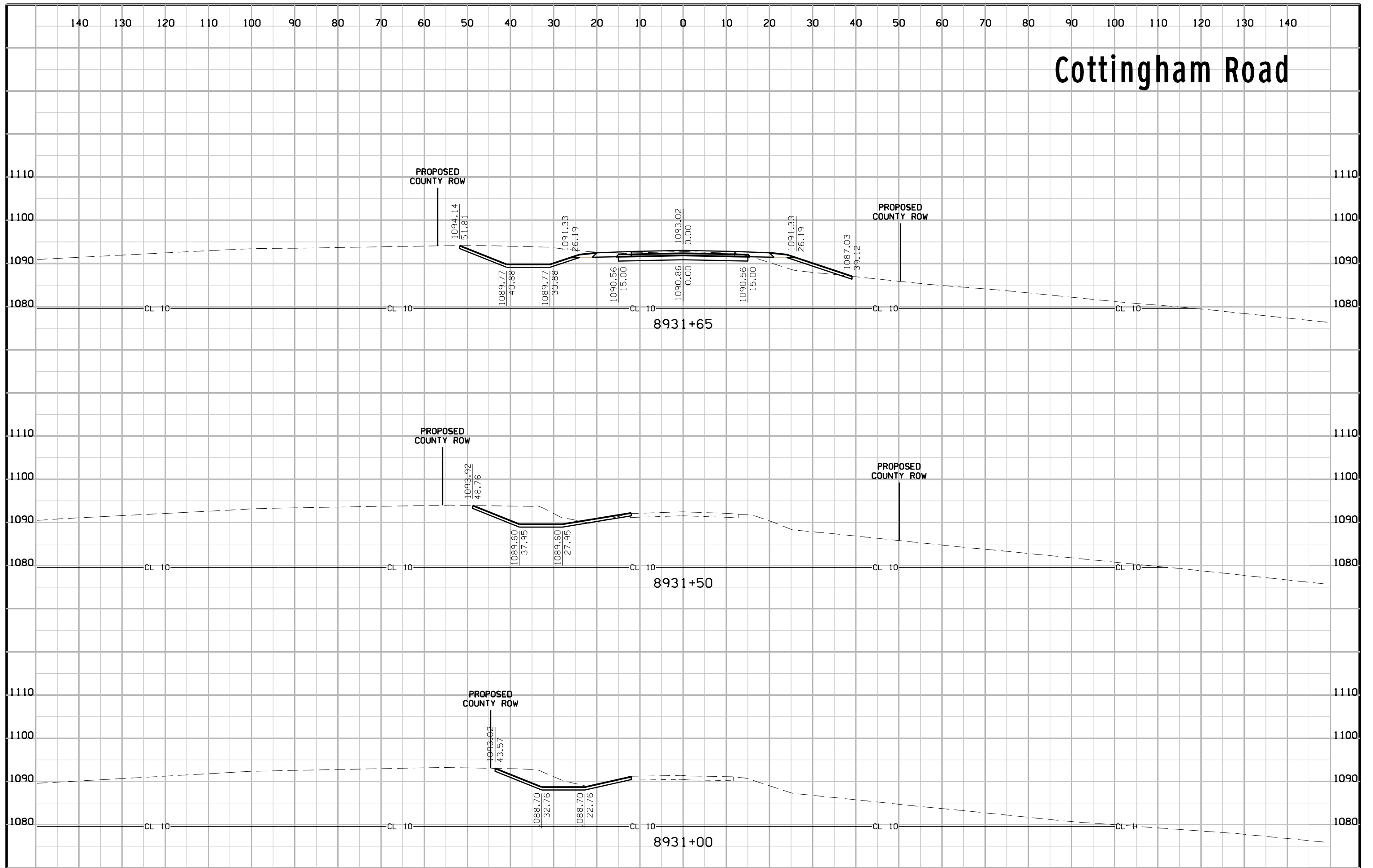


# Swiss Valley Road

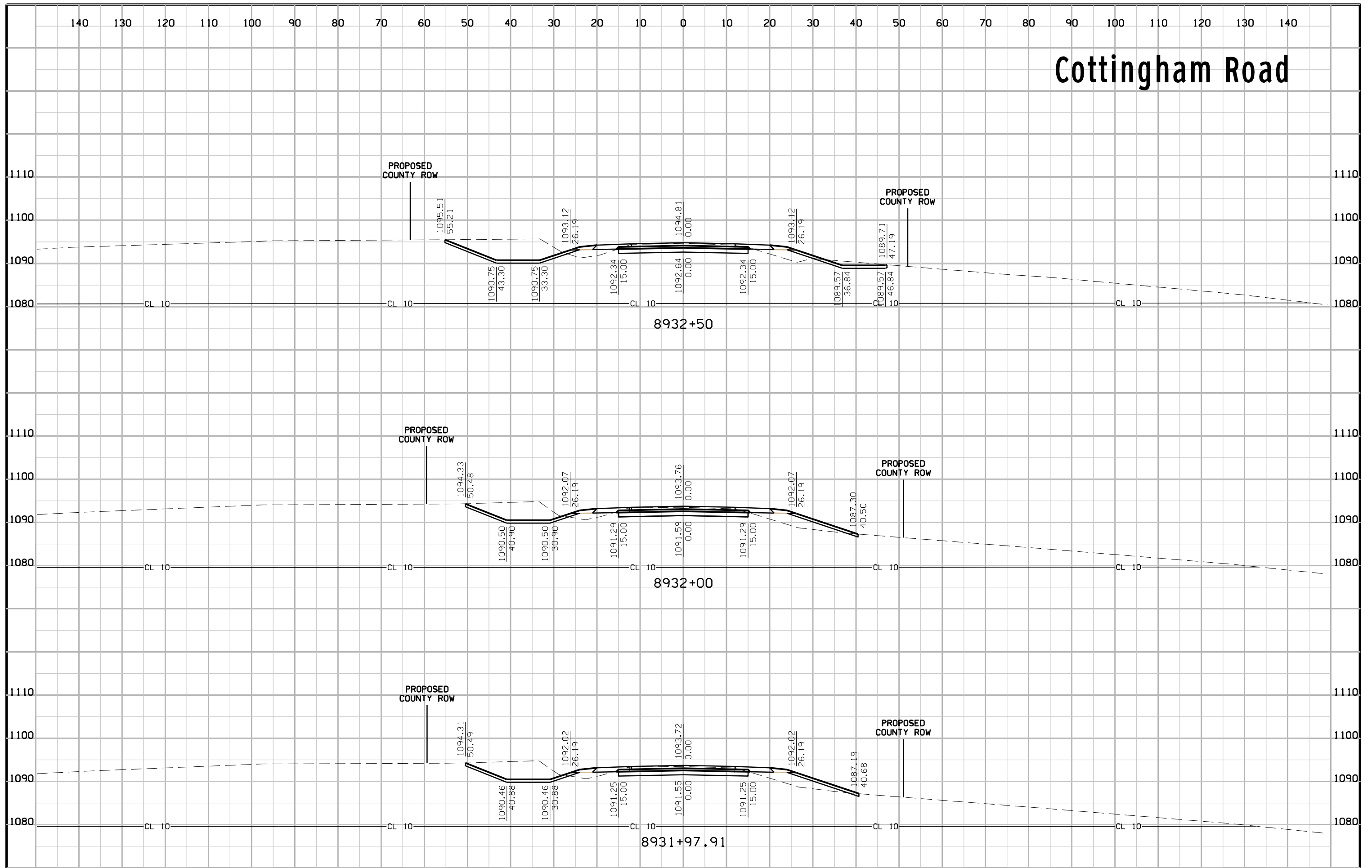




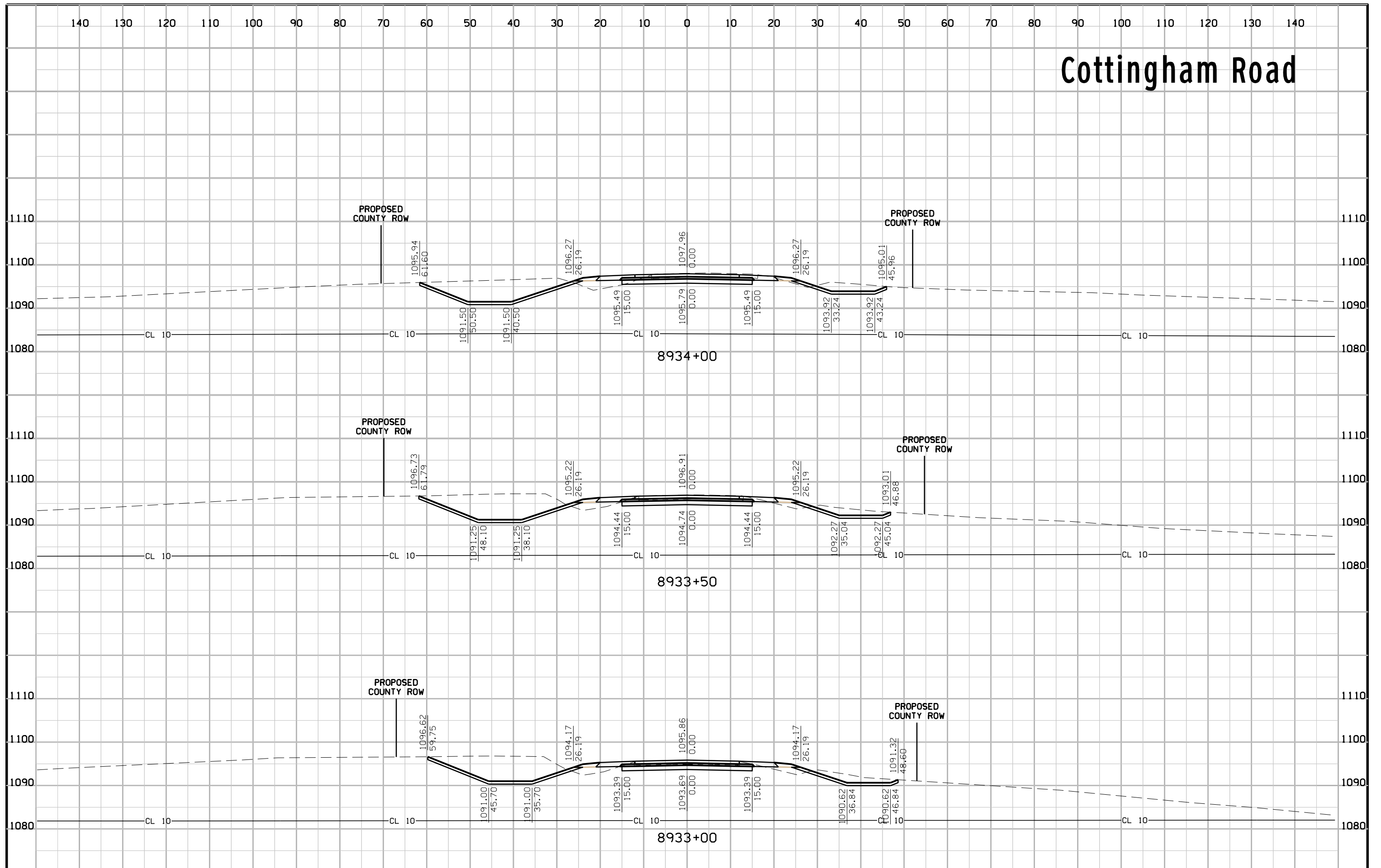
# Cottingham Road



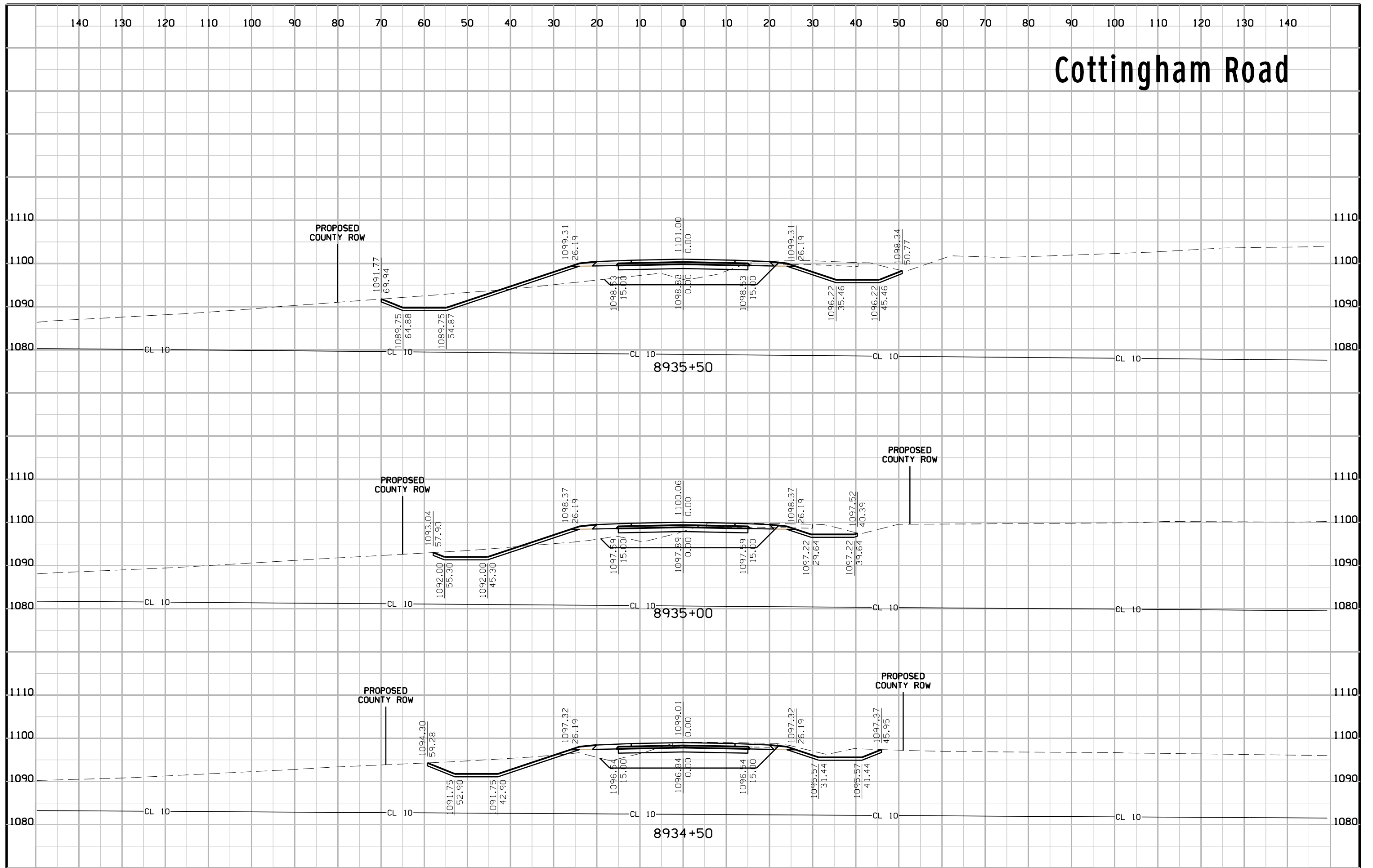
# Cottingham Road



# Cottingham Road

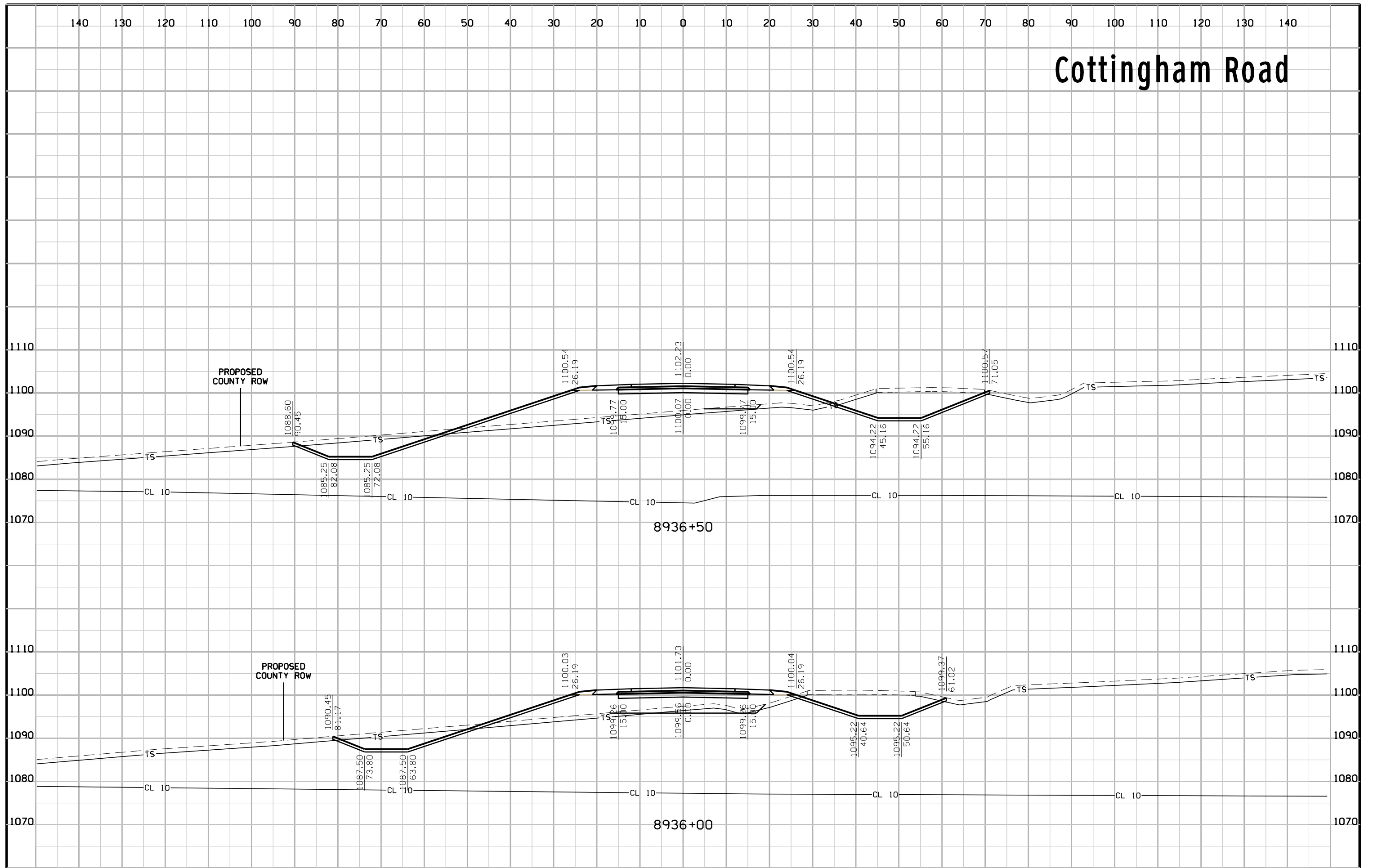


# Cottingham Road

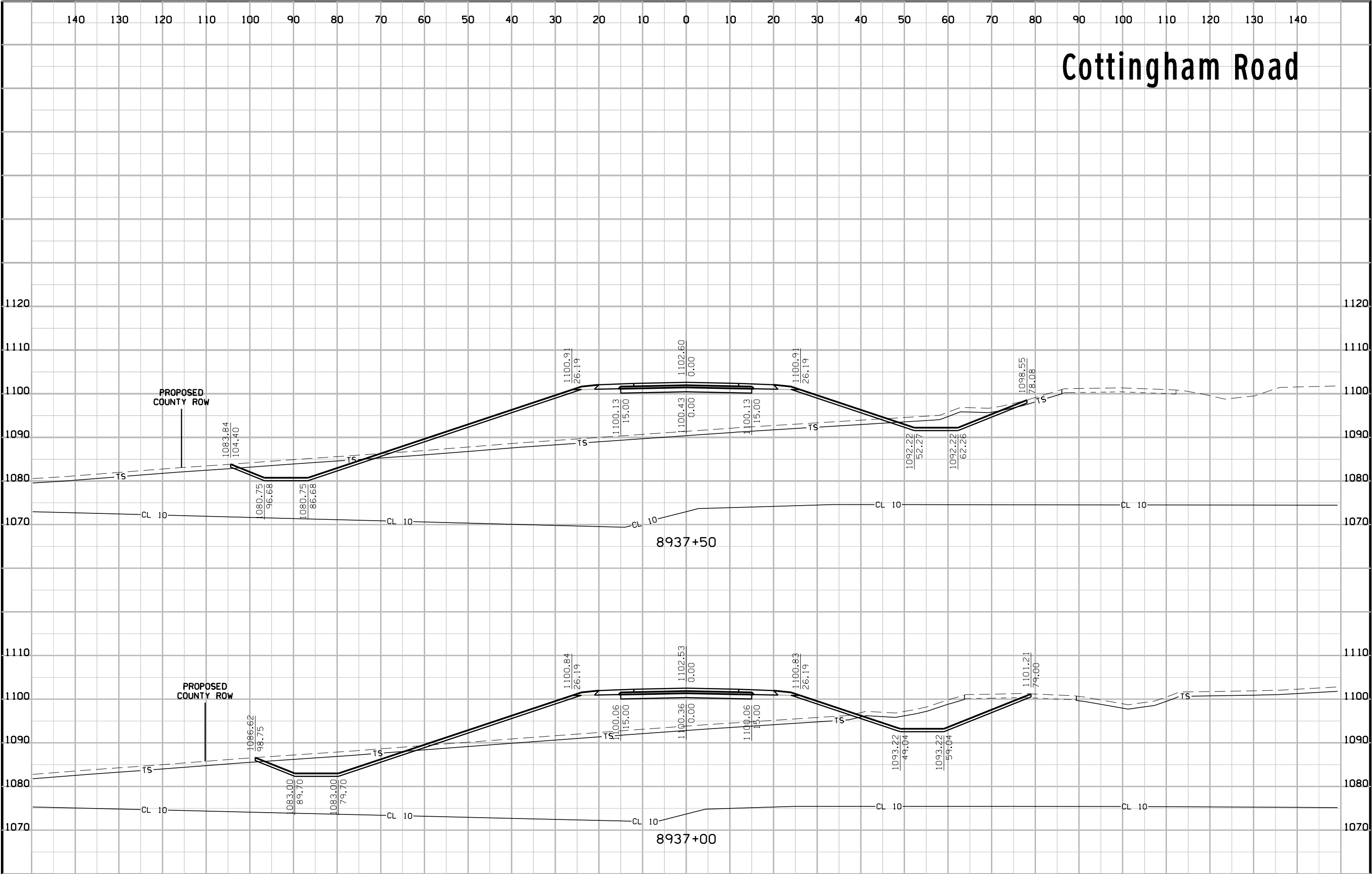




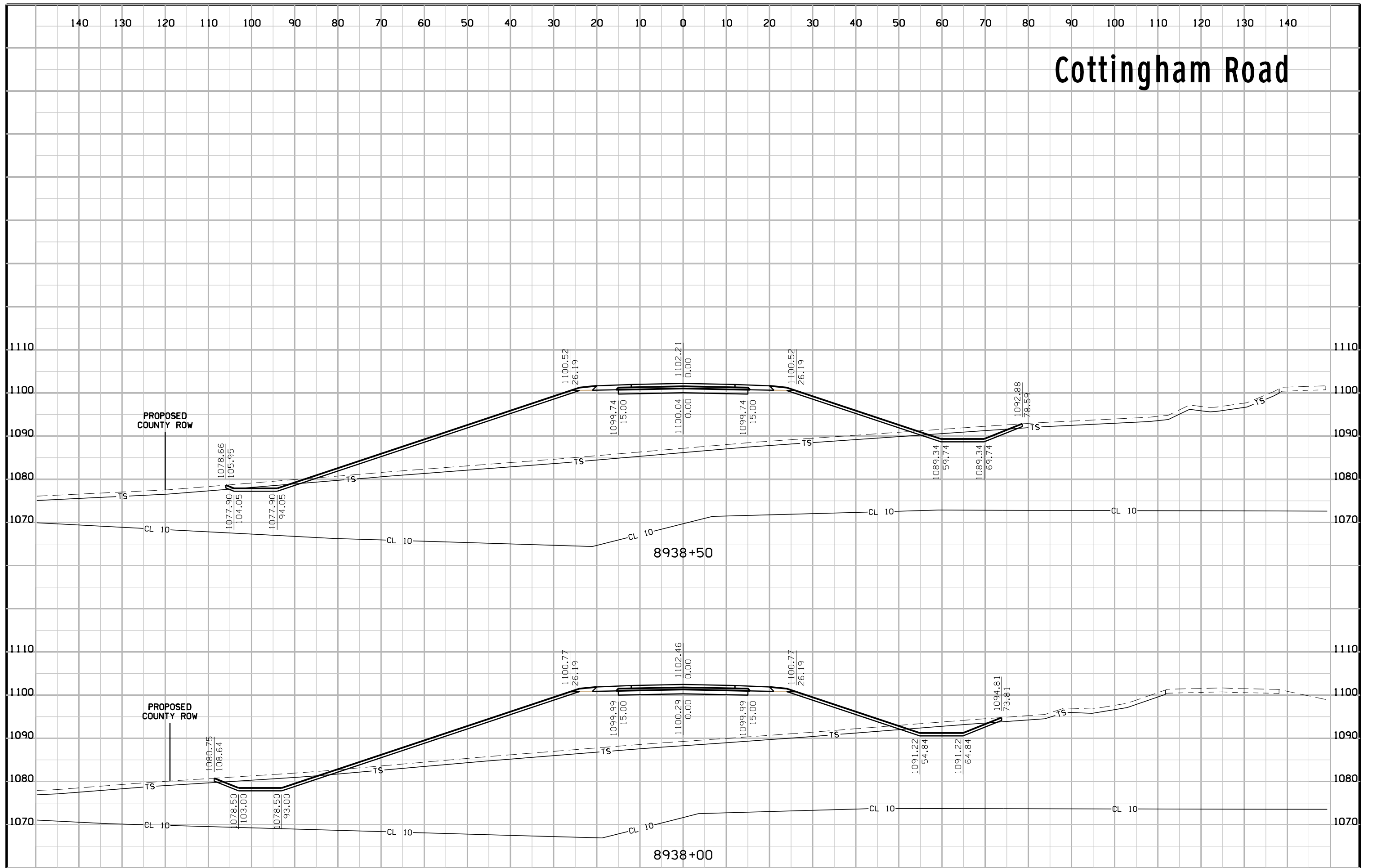
# Cottingham Road



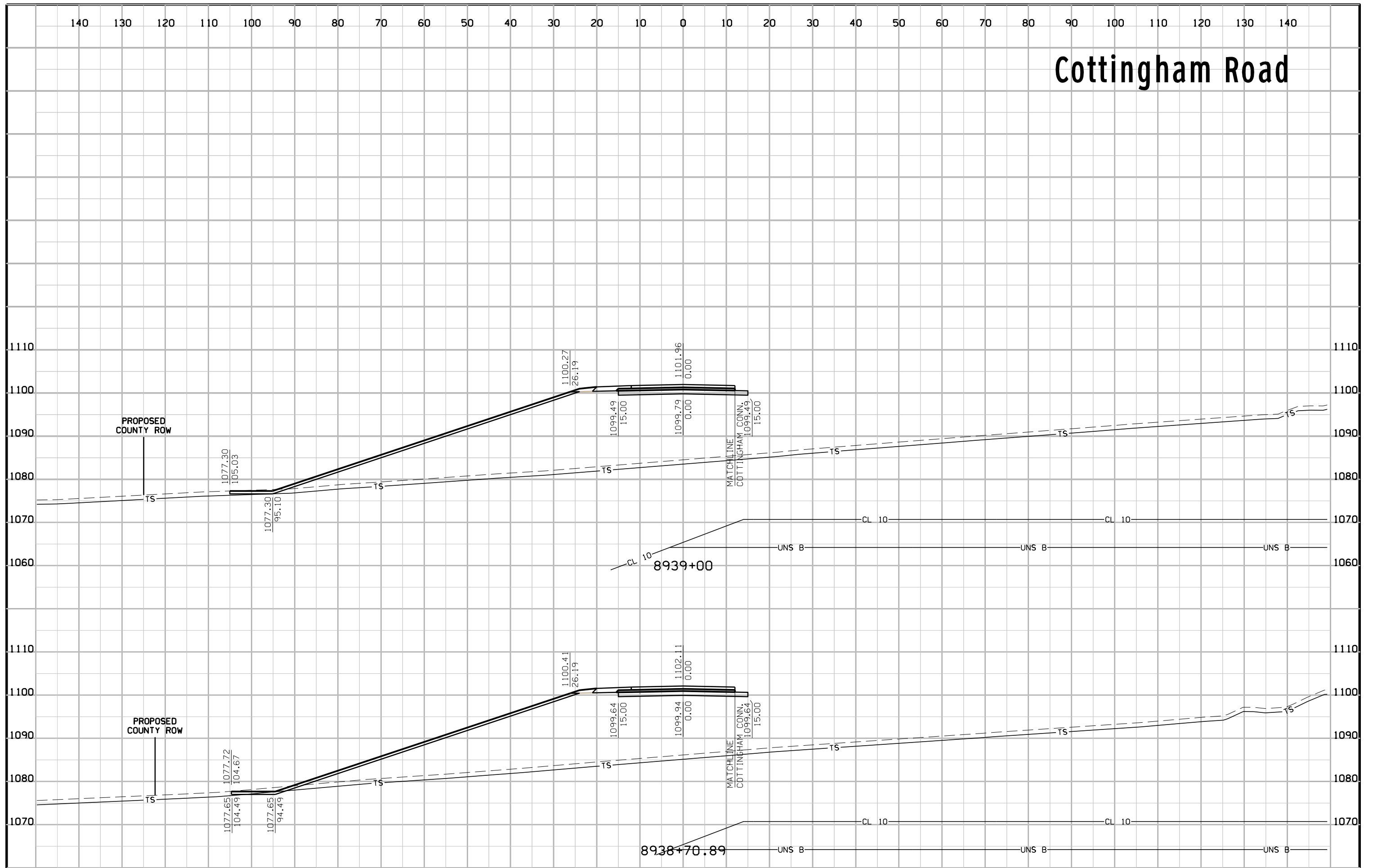
# Cottingham Road



# Cottingham Road

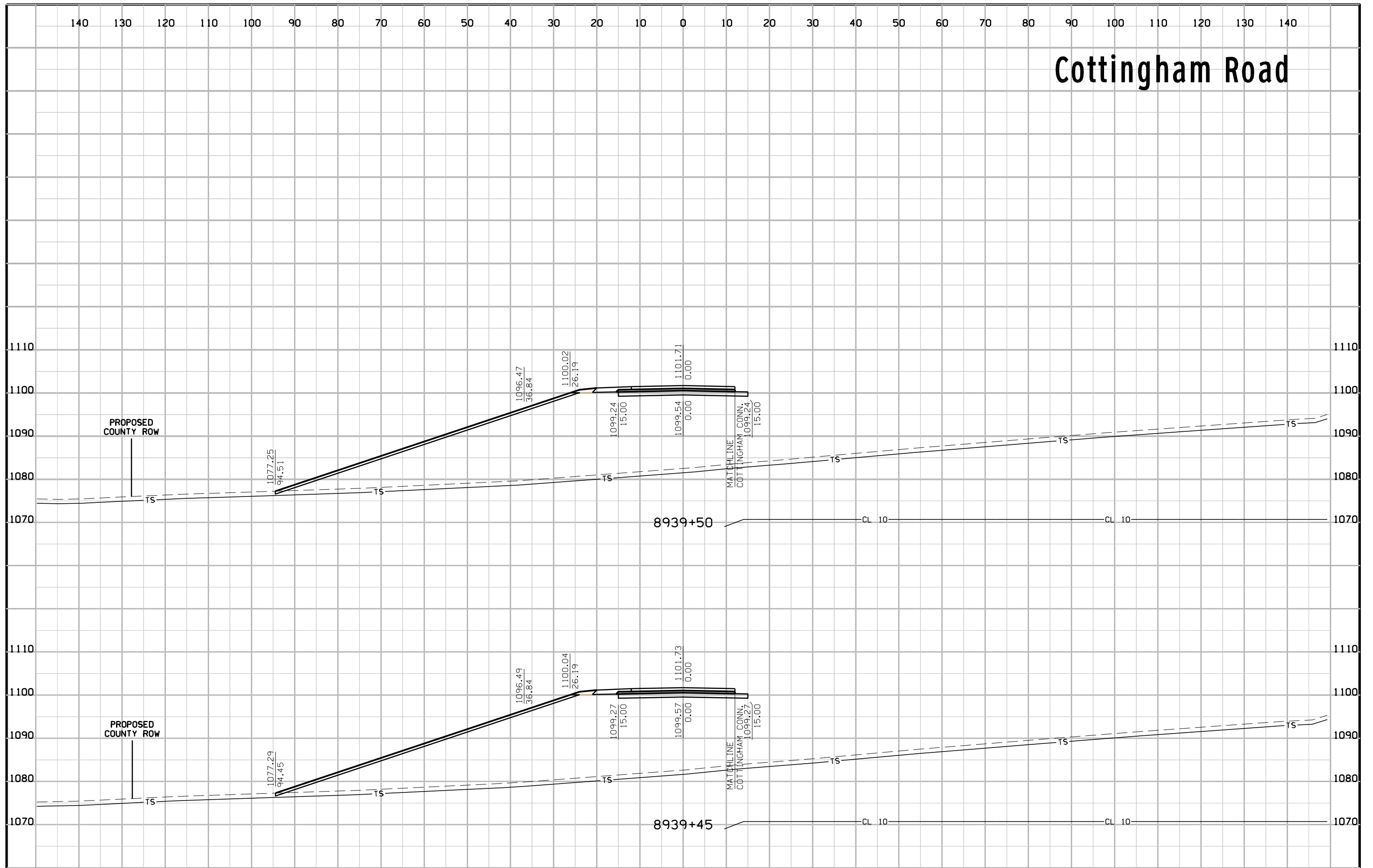


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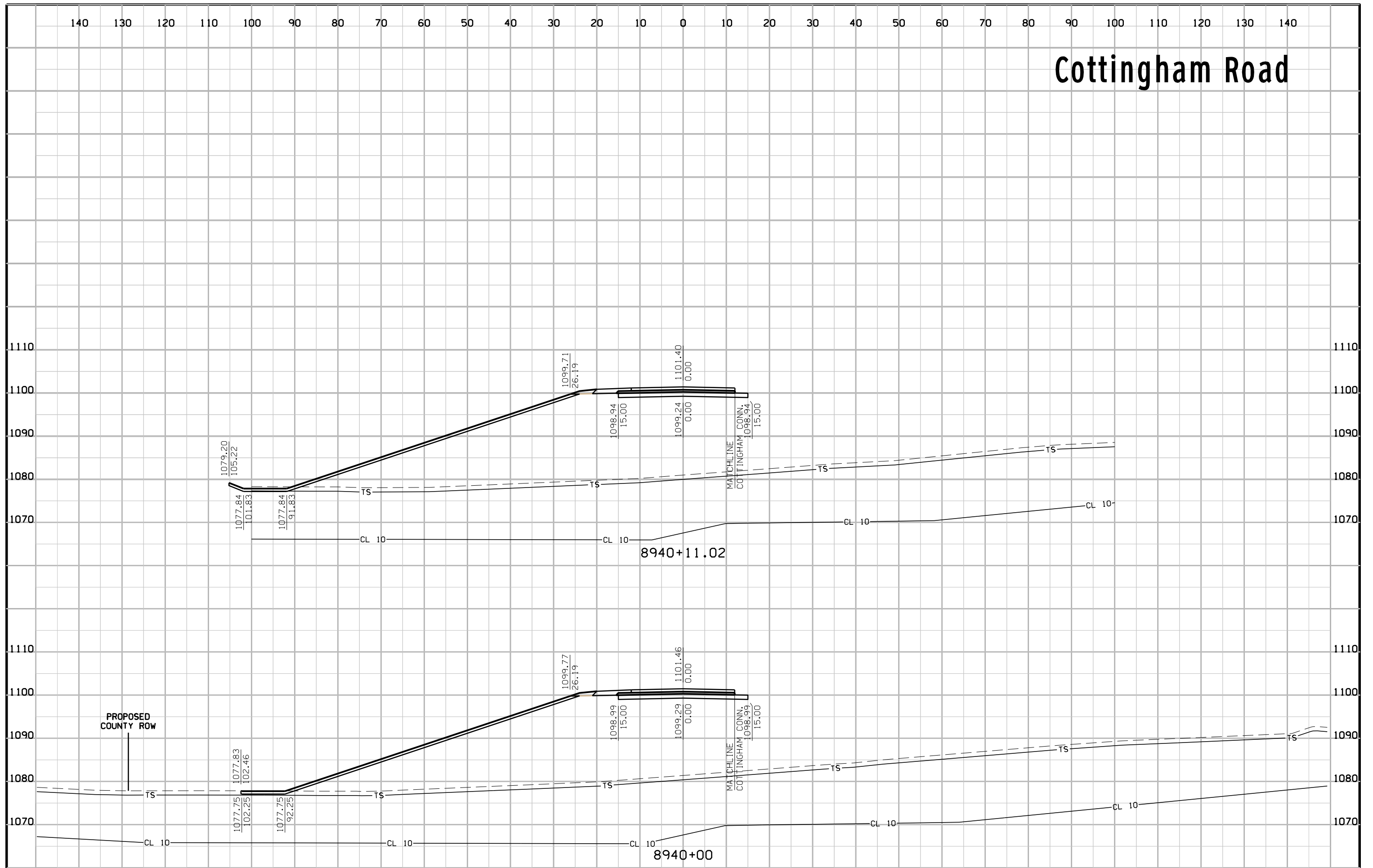




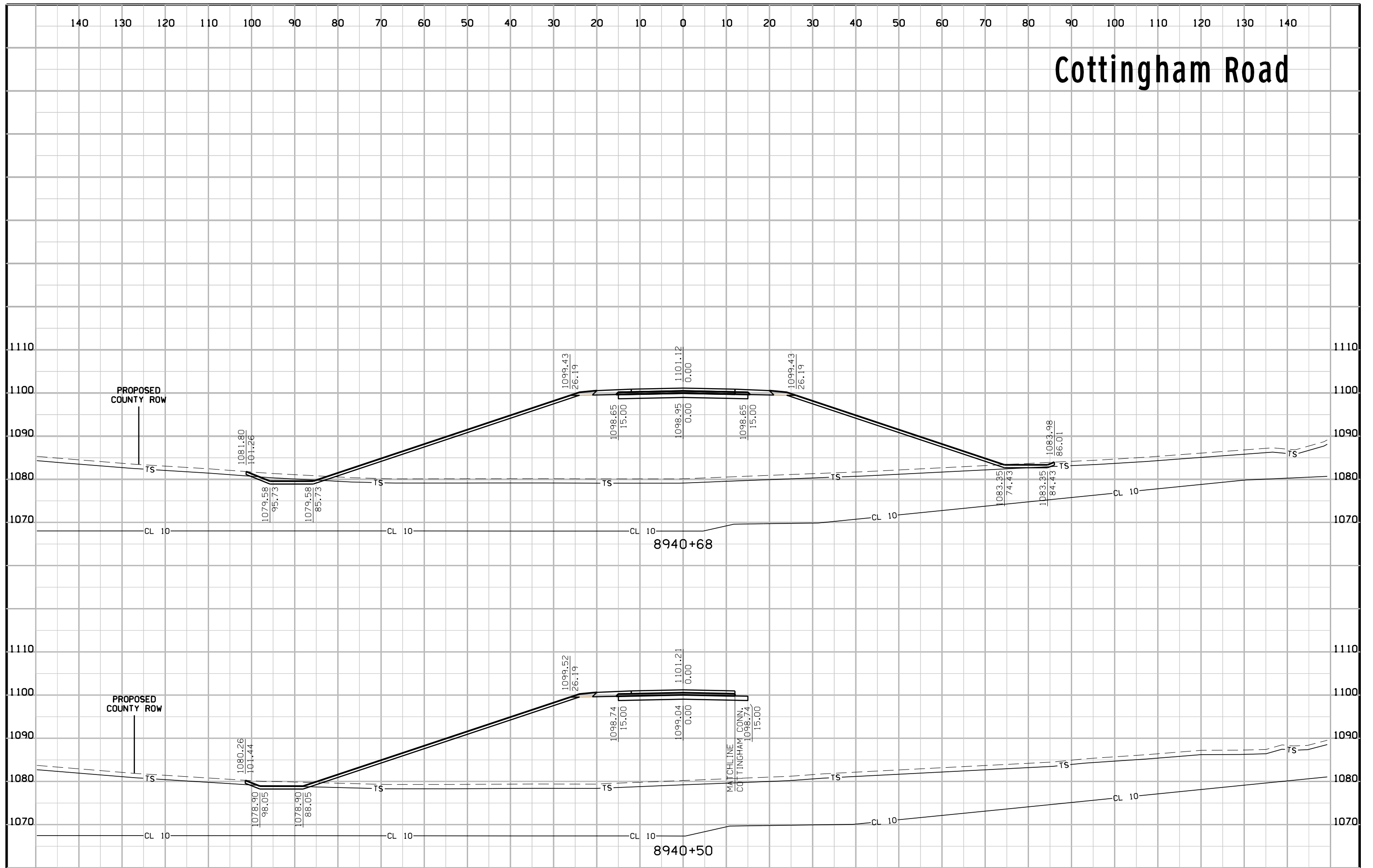
# Cottingham Road



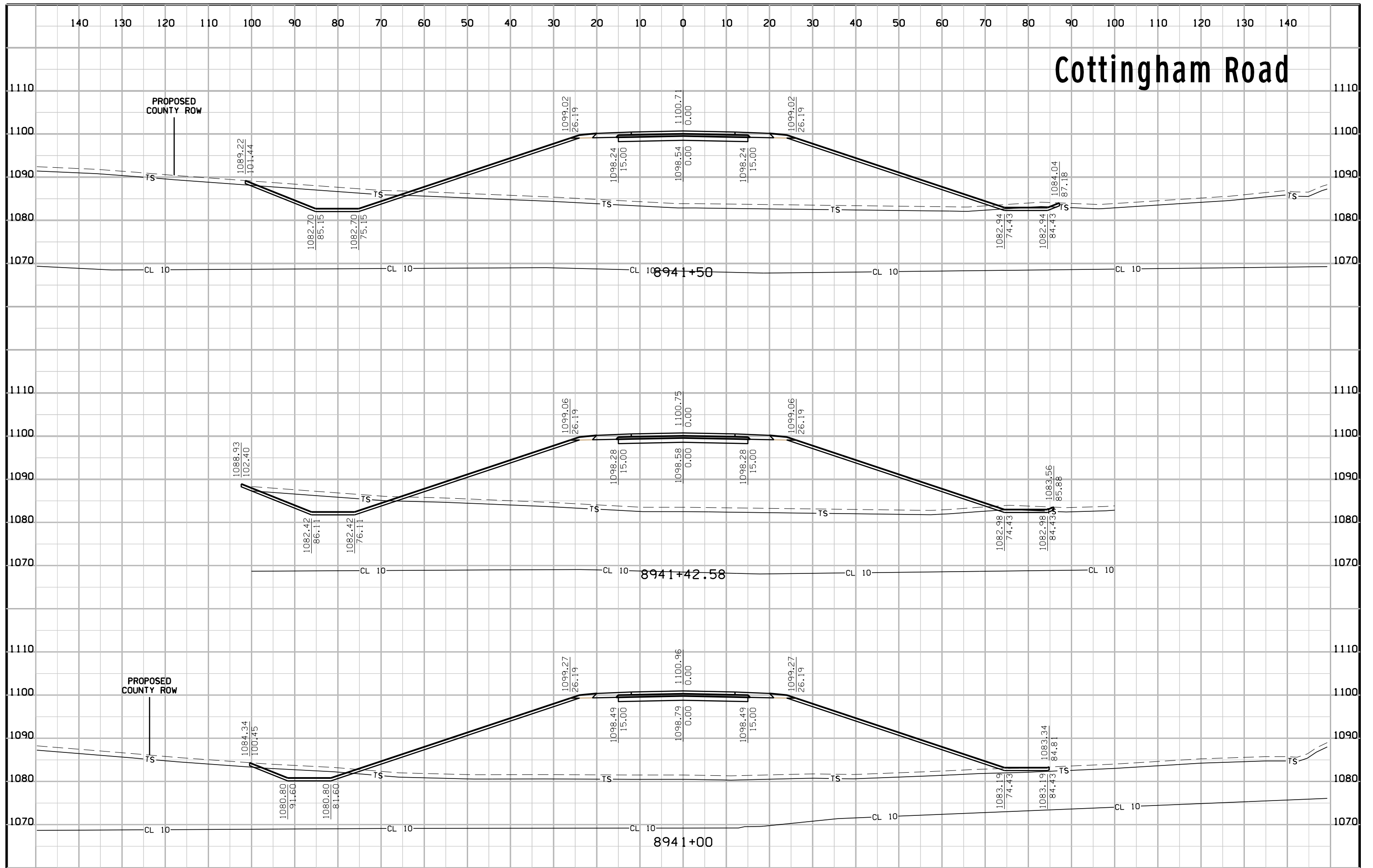
# Cottingham Road



# Cottingham Road

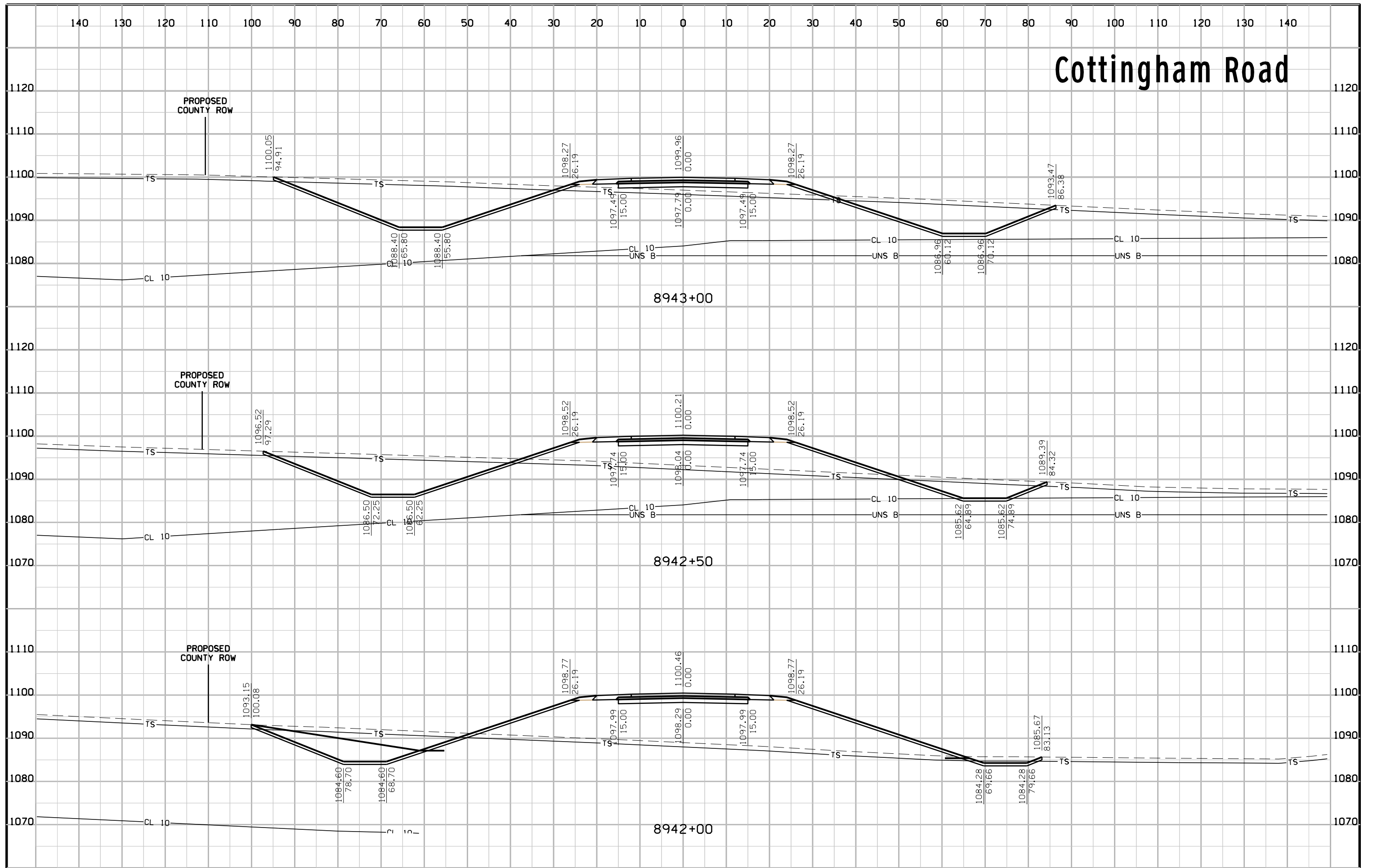


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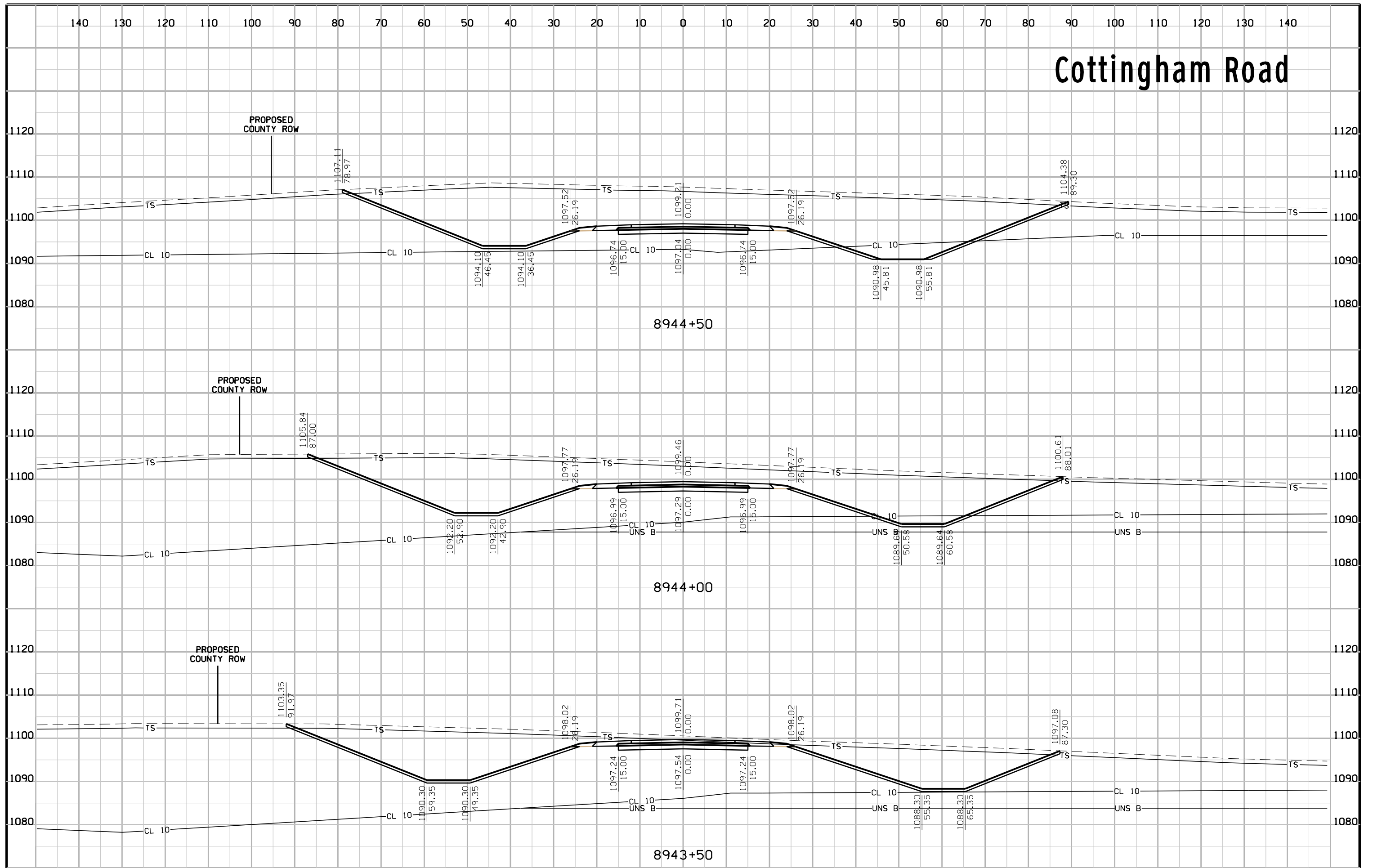


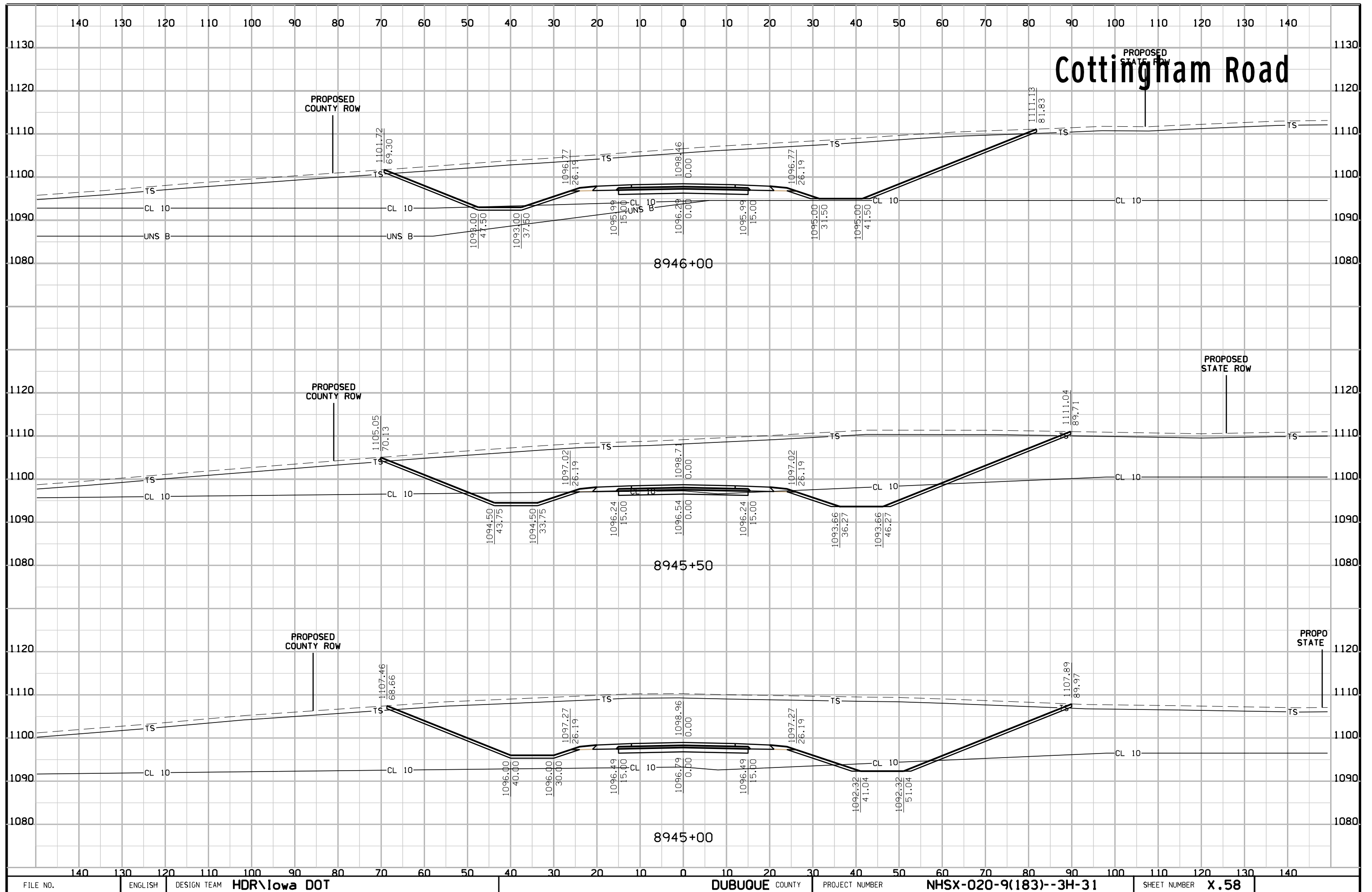


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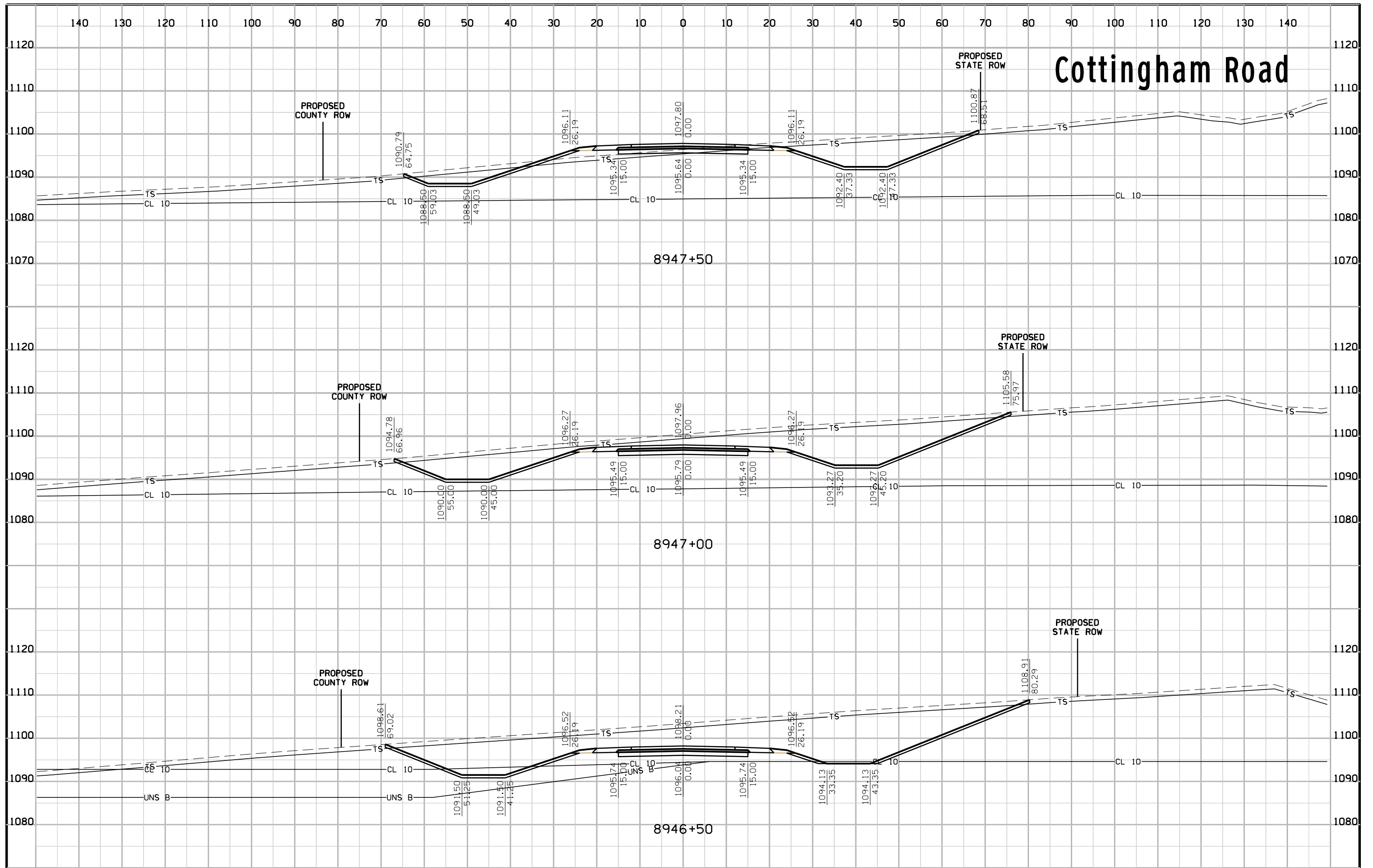


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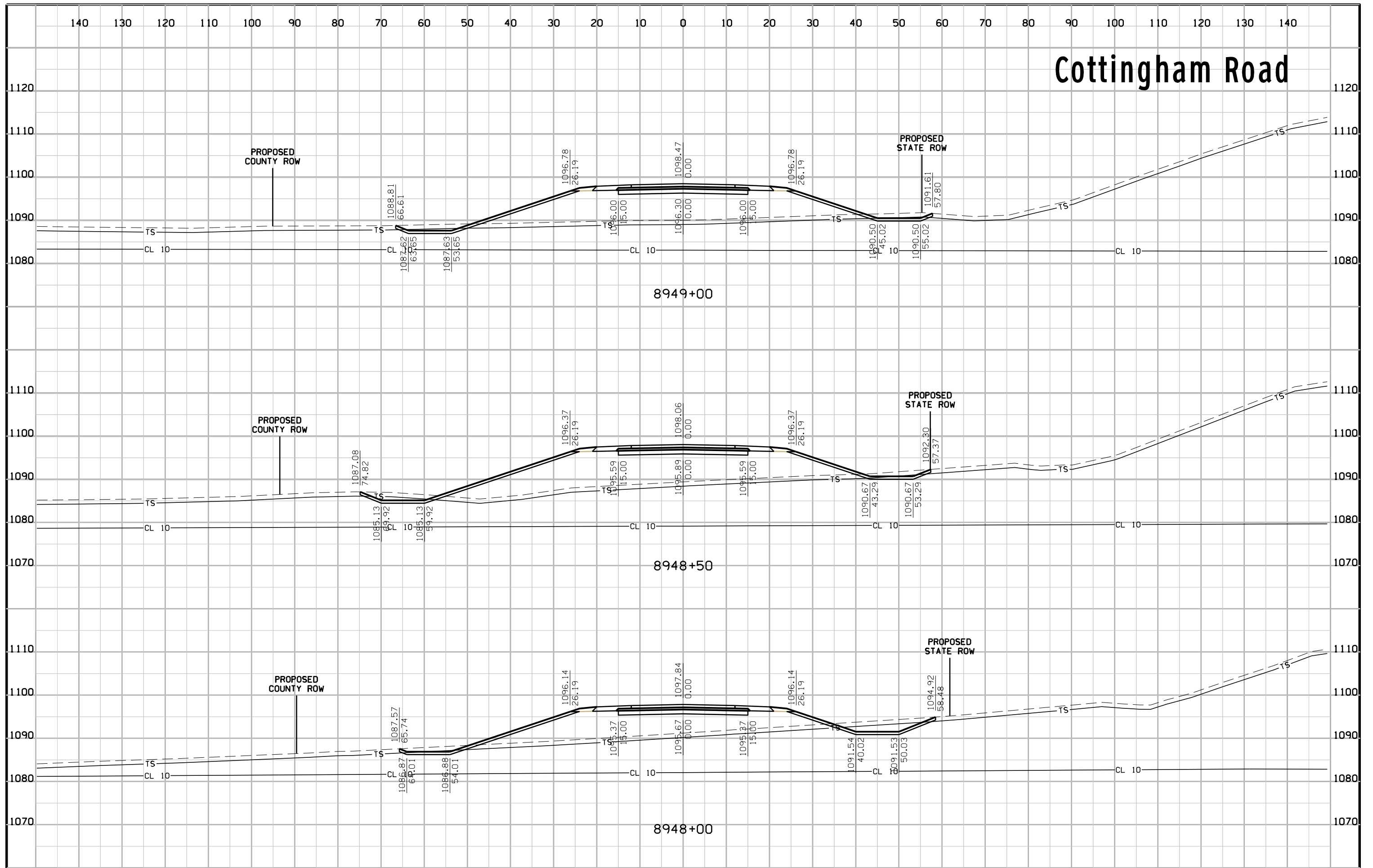


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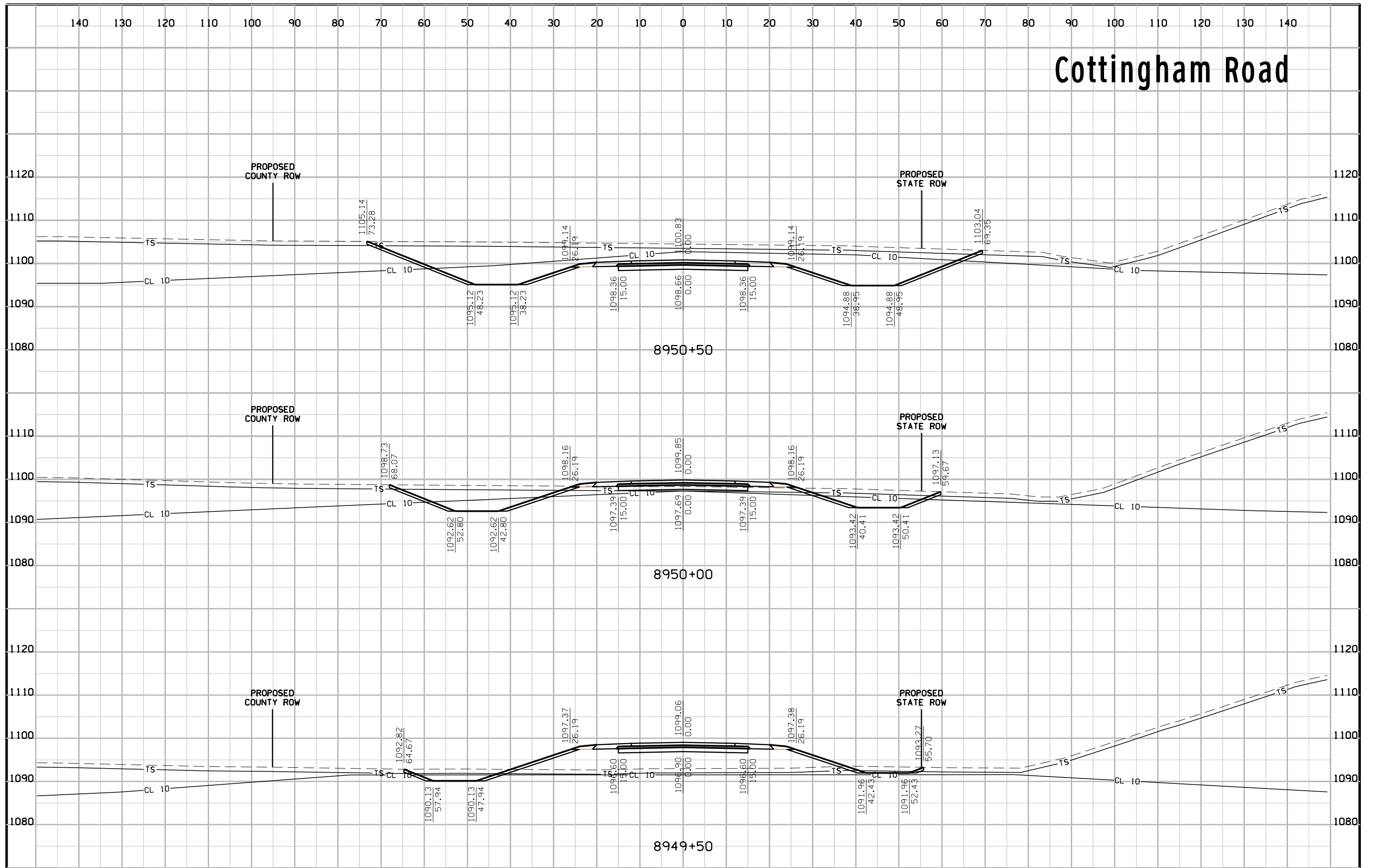




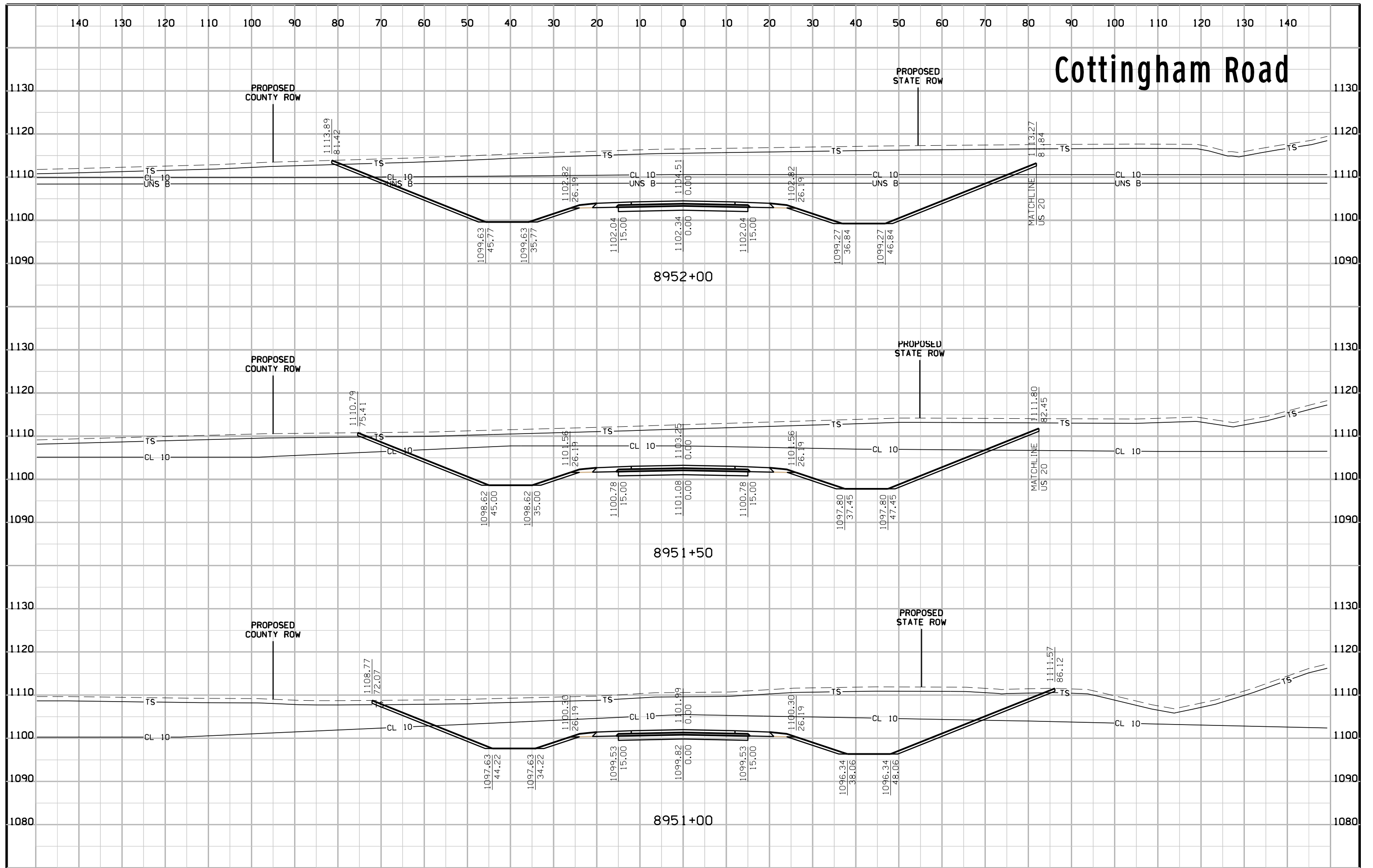
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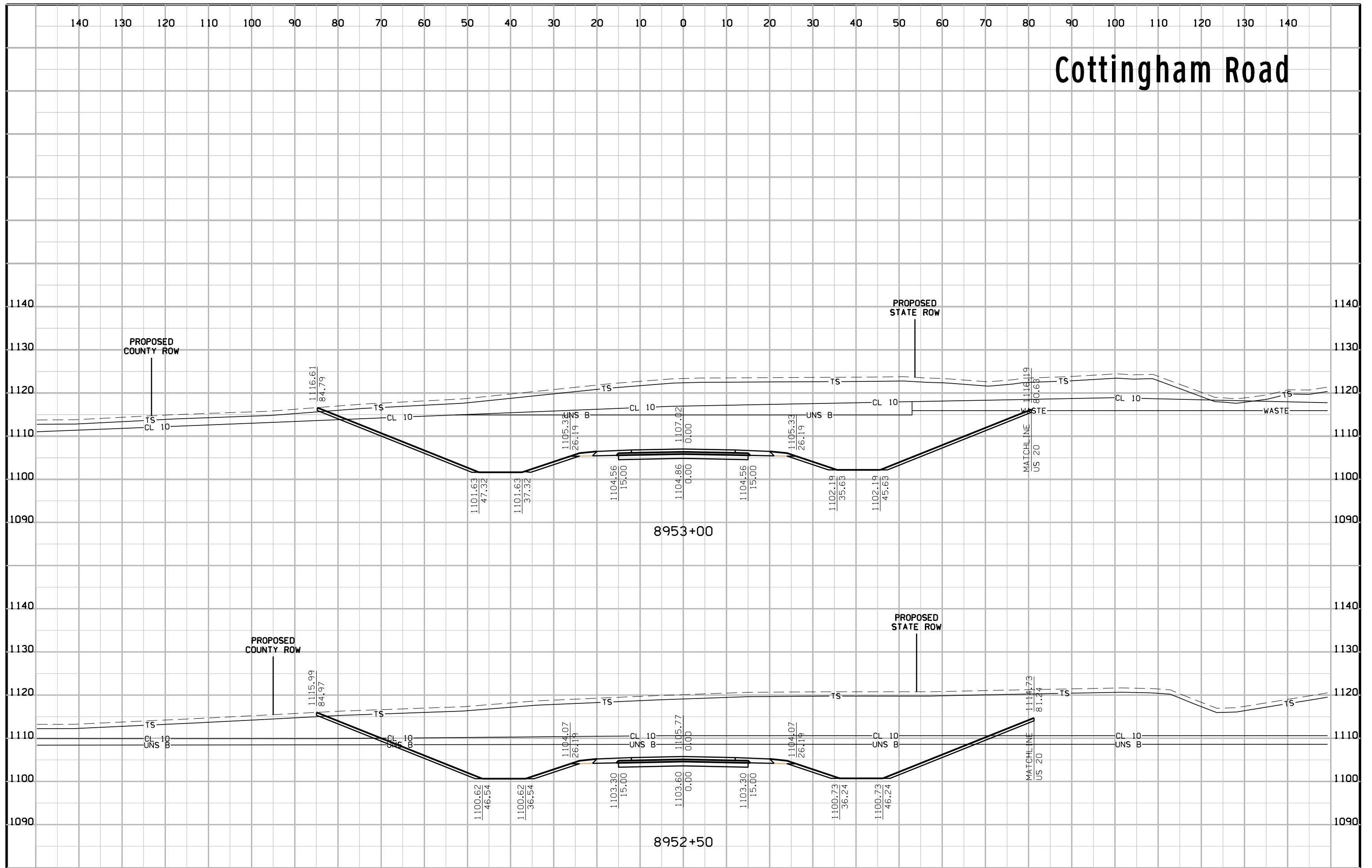
# Cottingham Road



# Cottingham Road

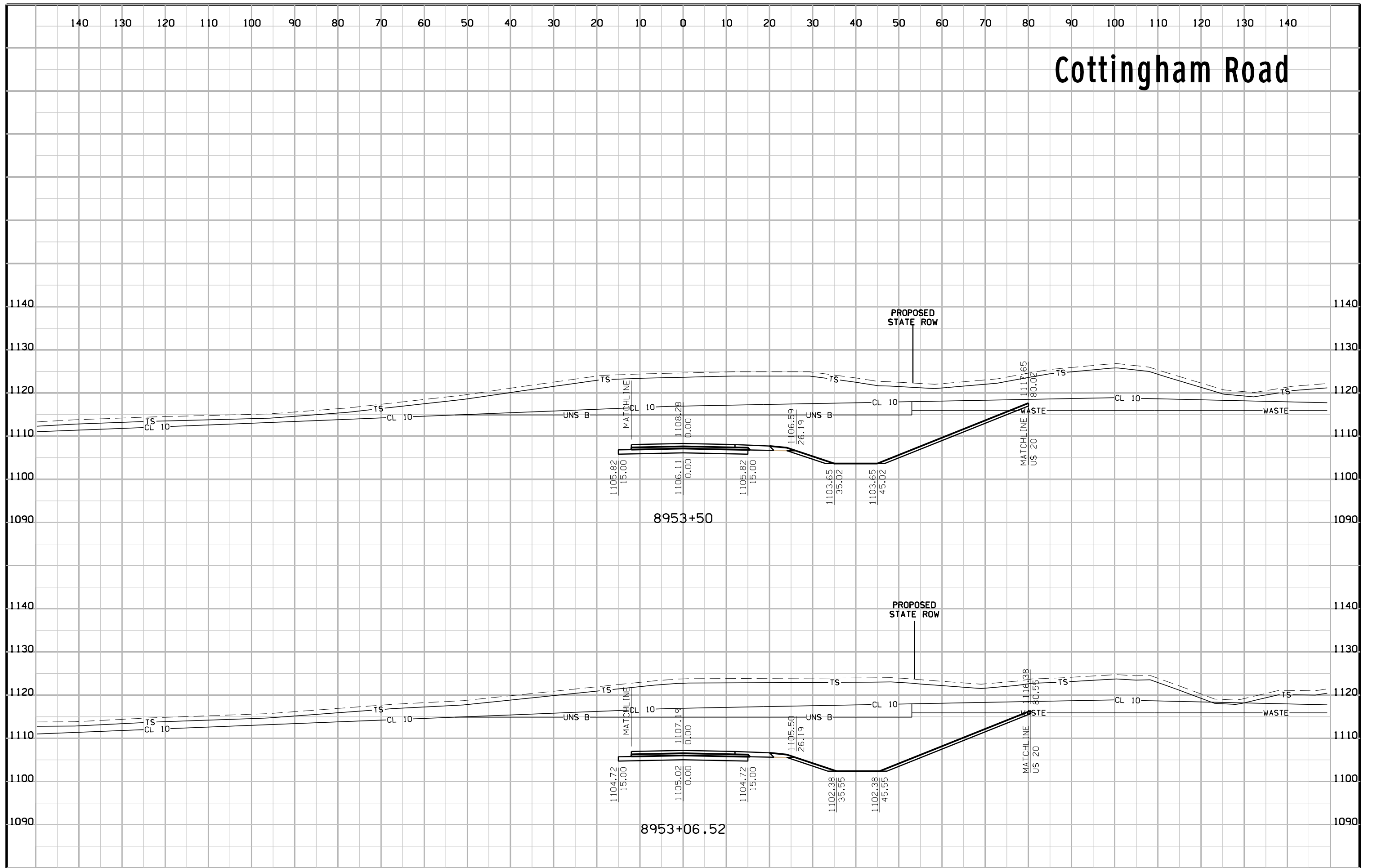


# Cottingham Road

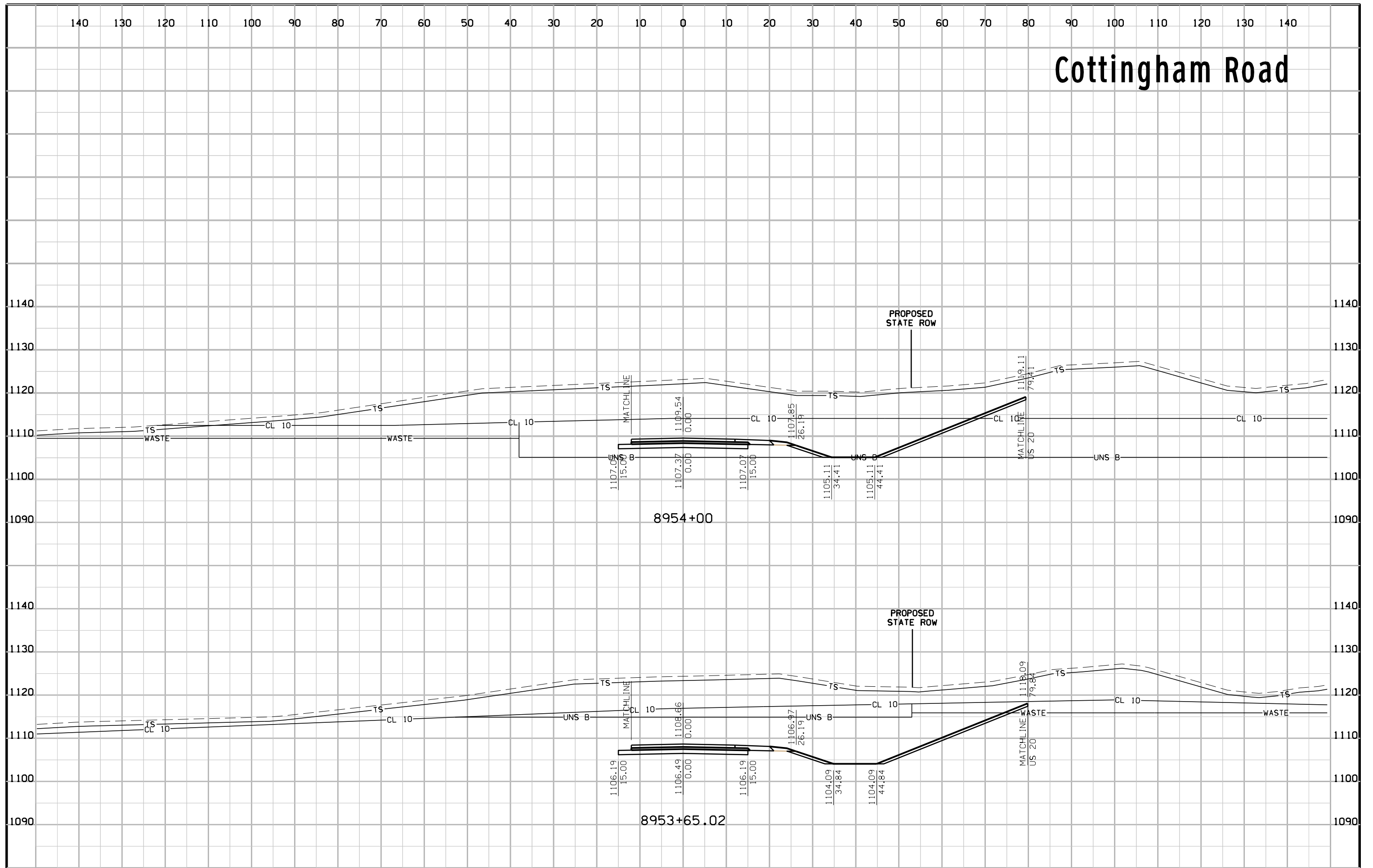




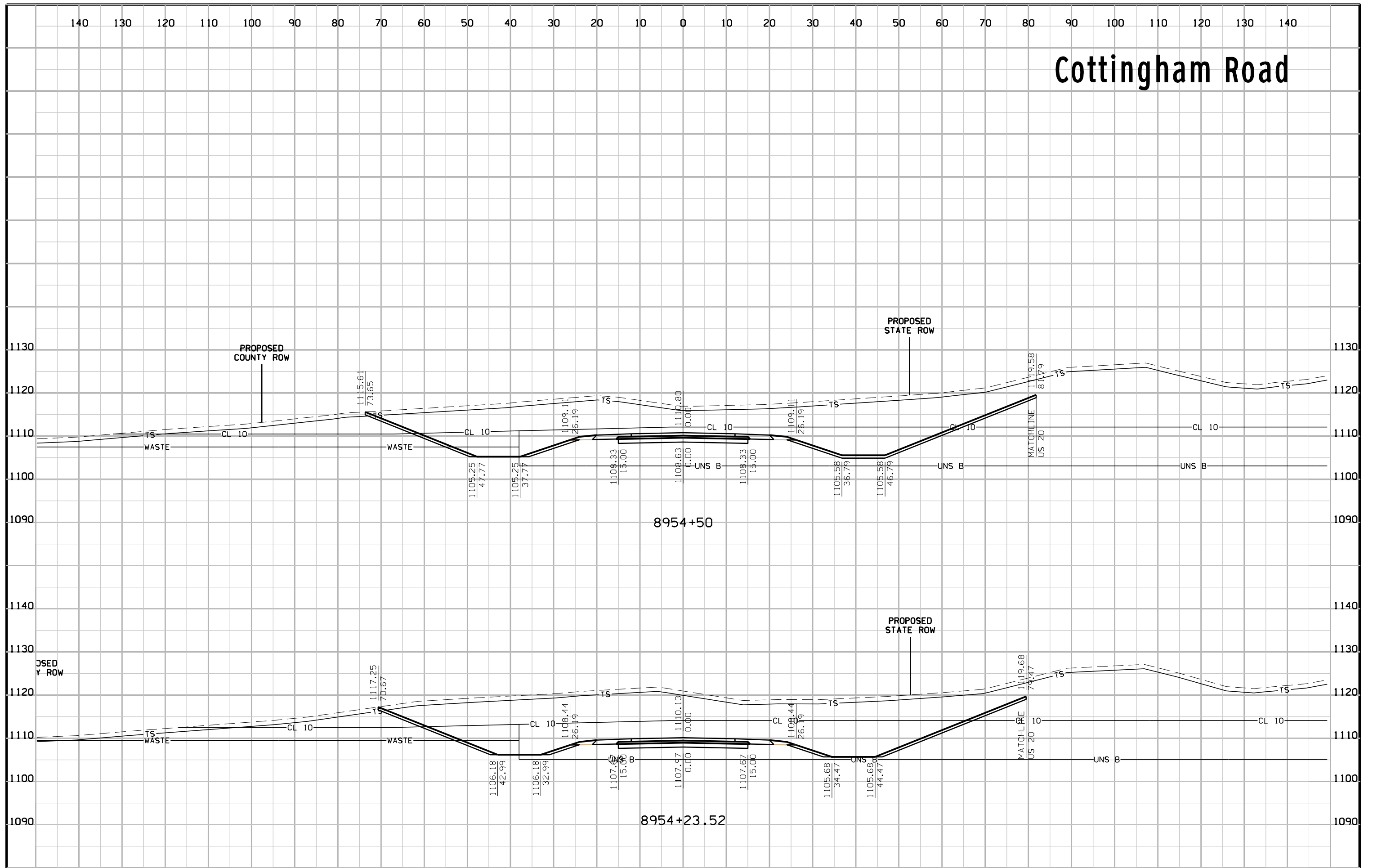
# Cottingham Road



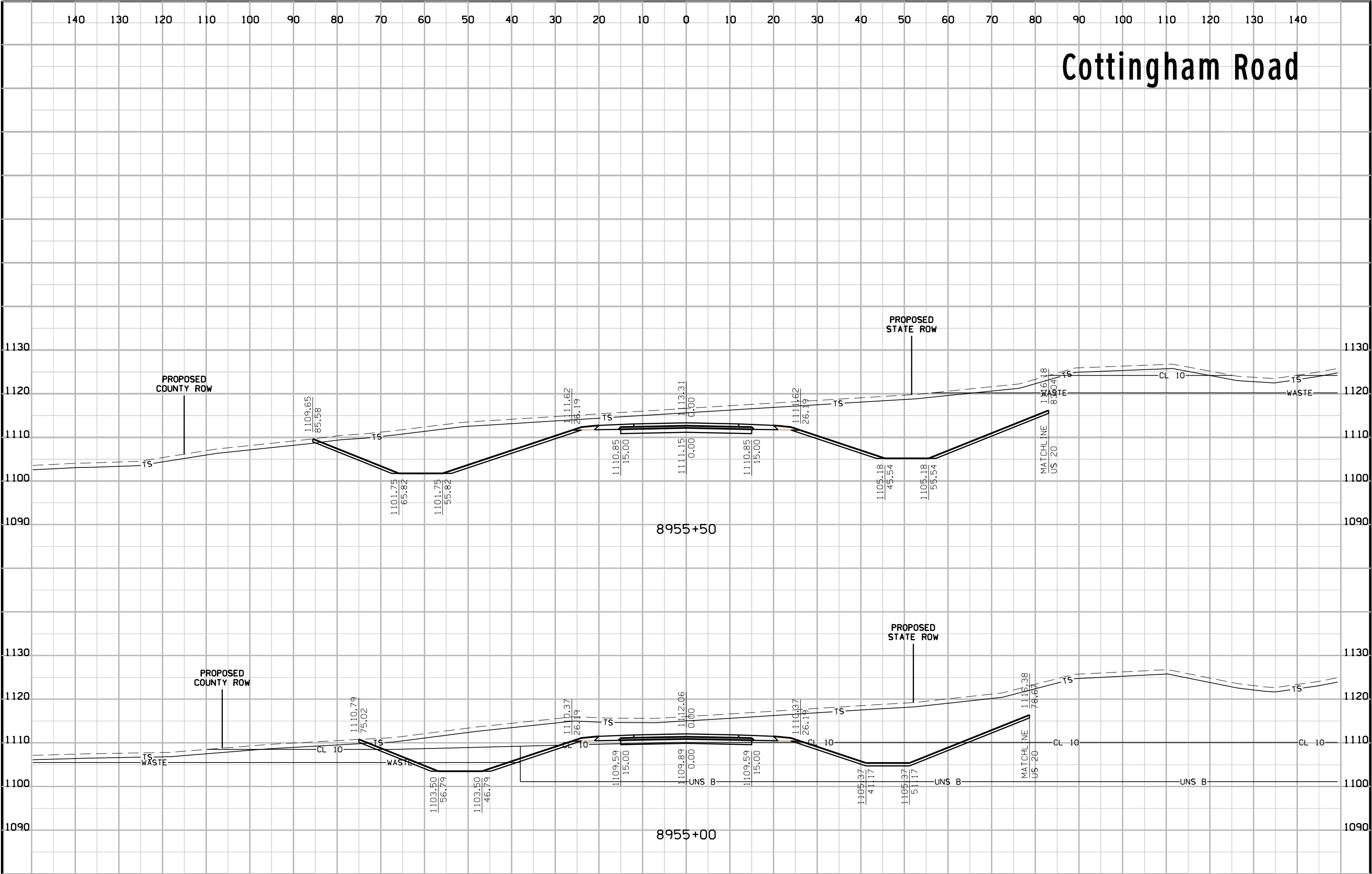
# Cottingham Road



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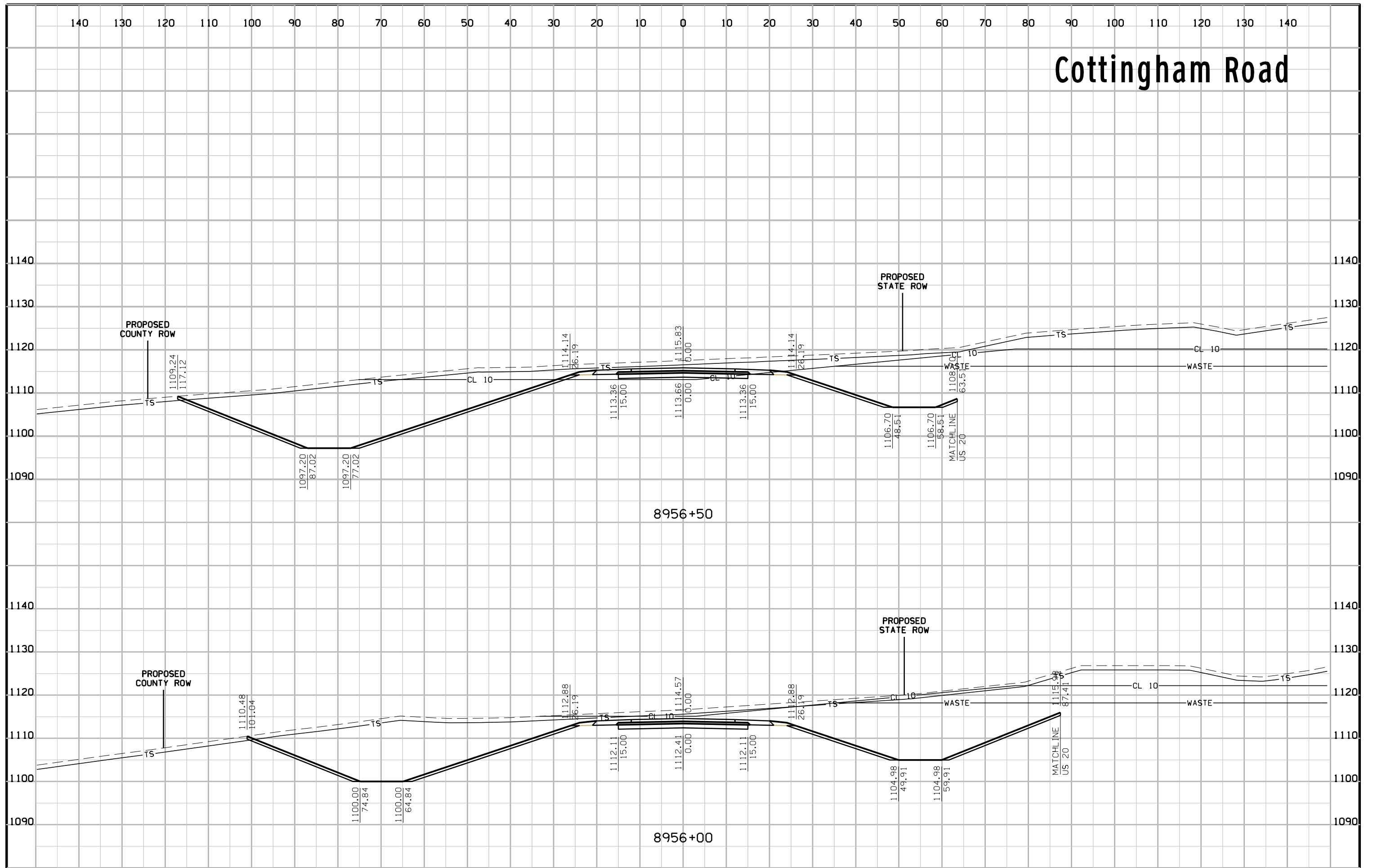


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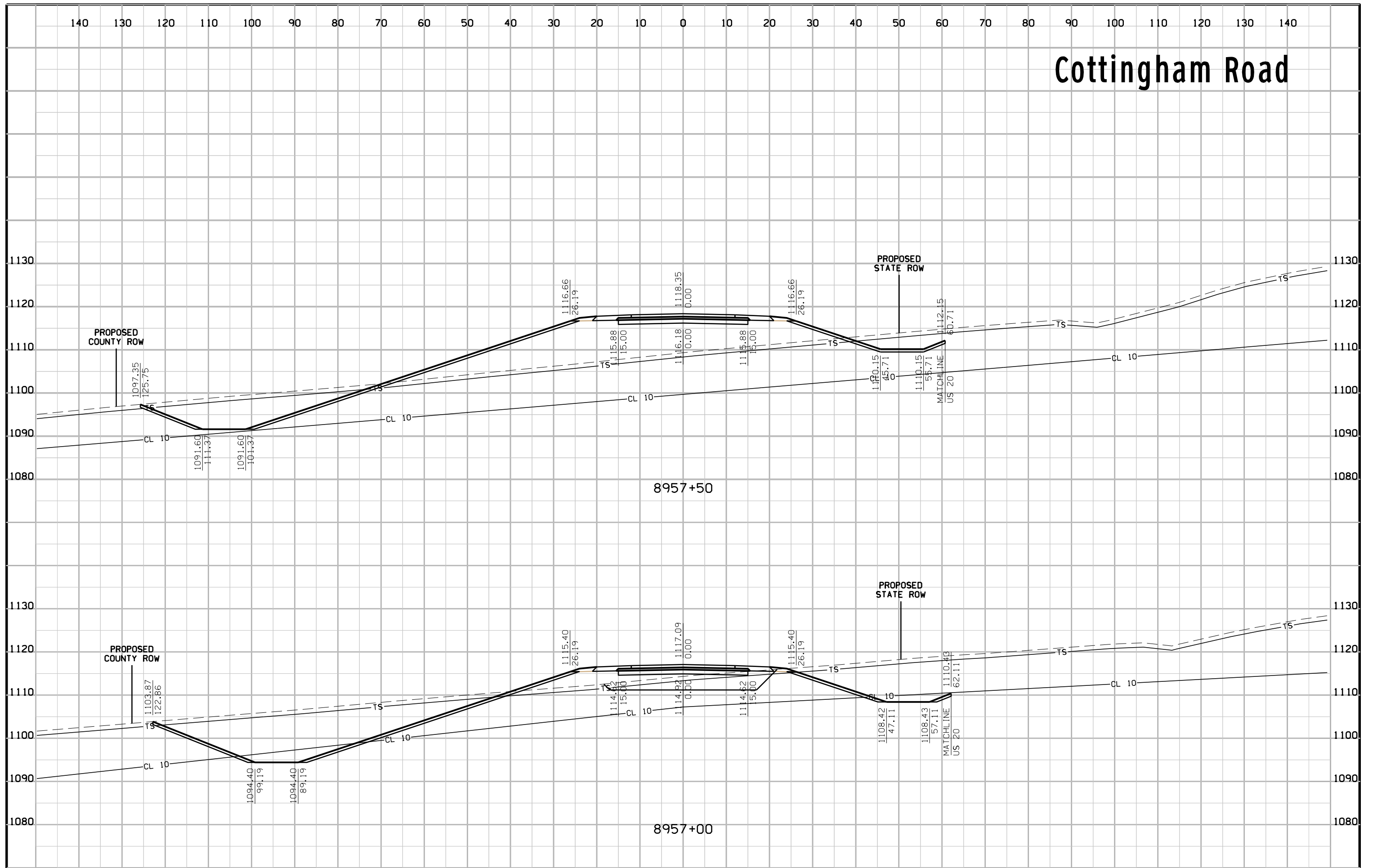




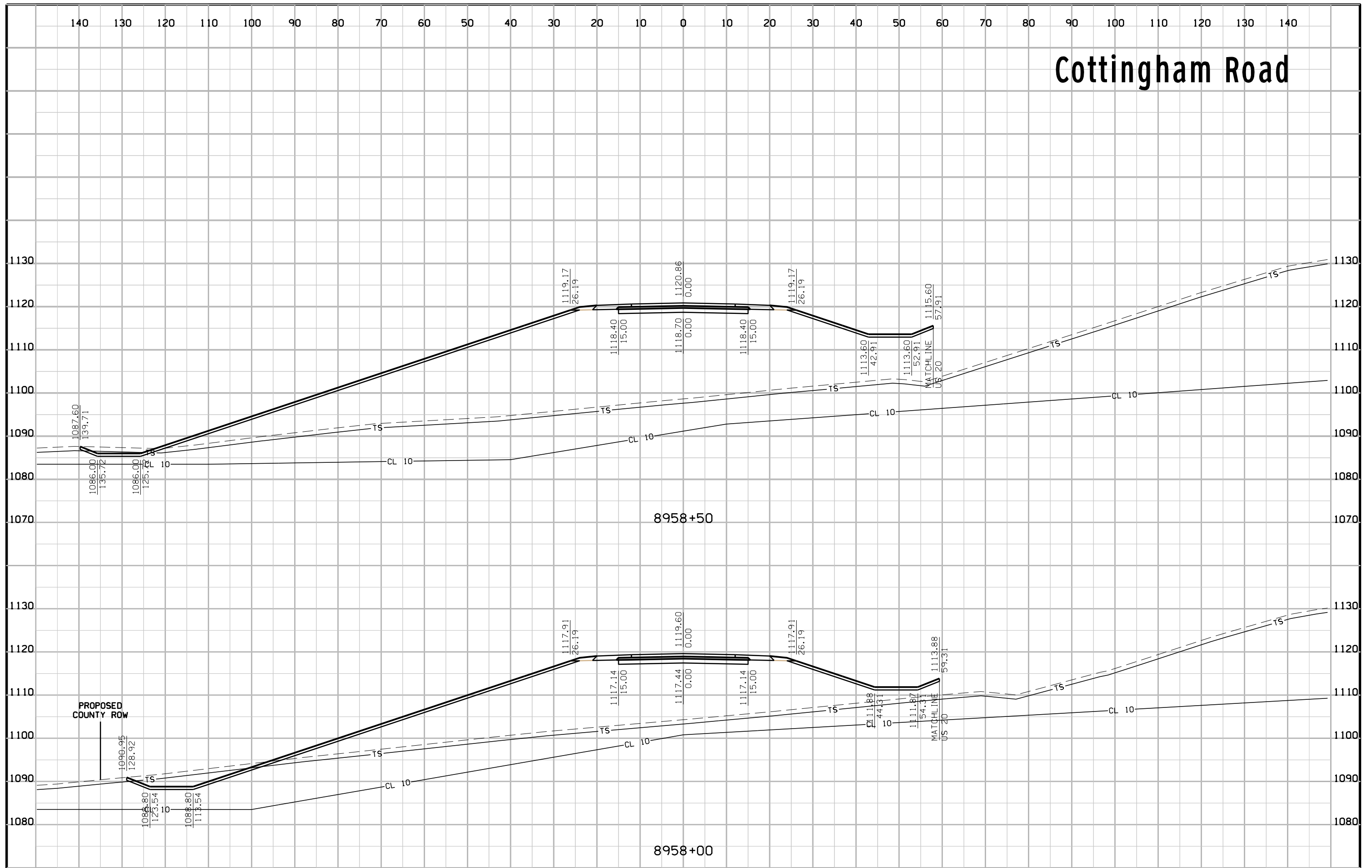
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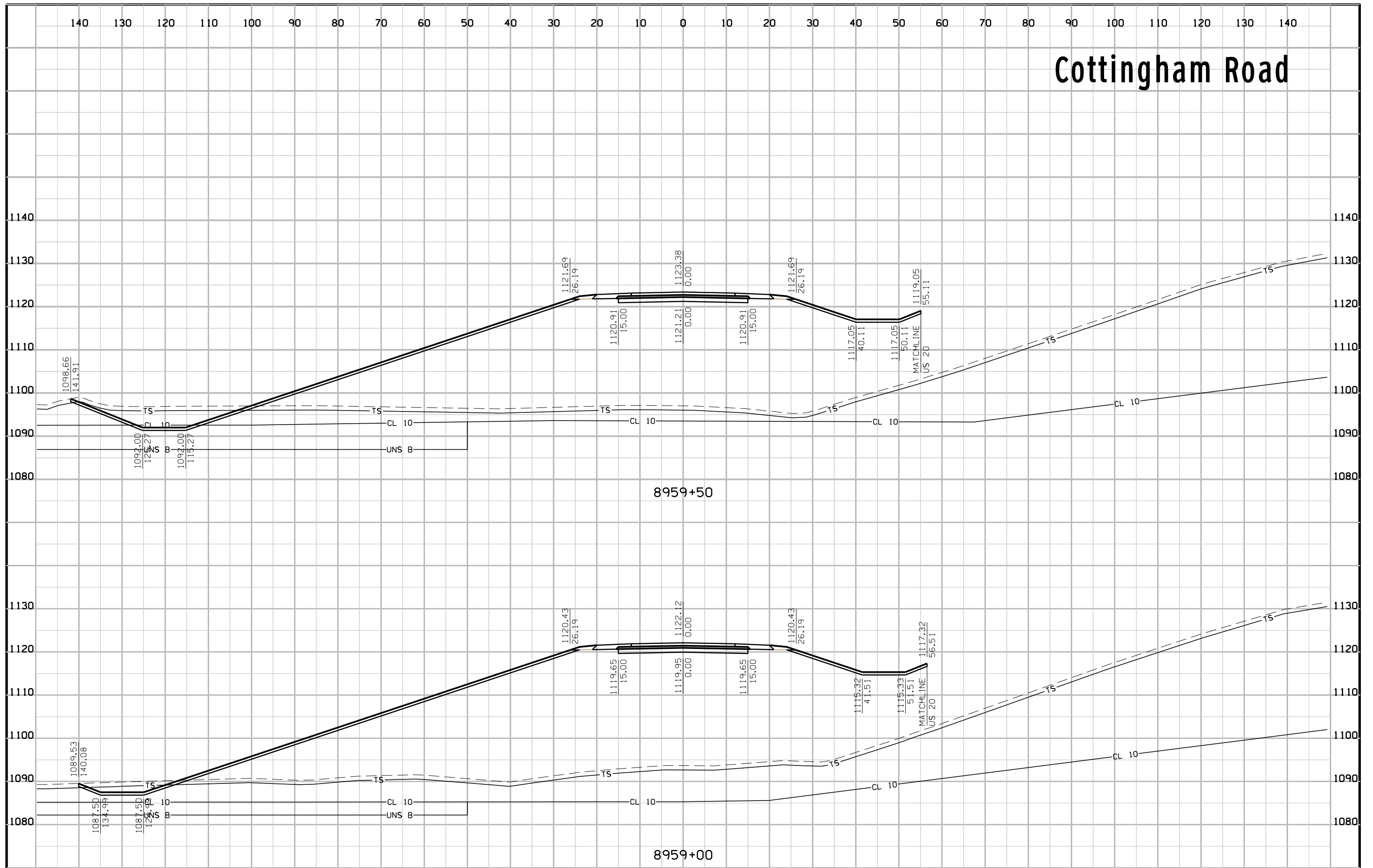
# Cottingham Road



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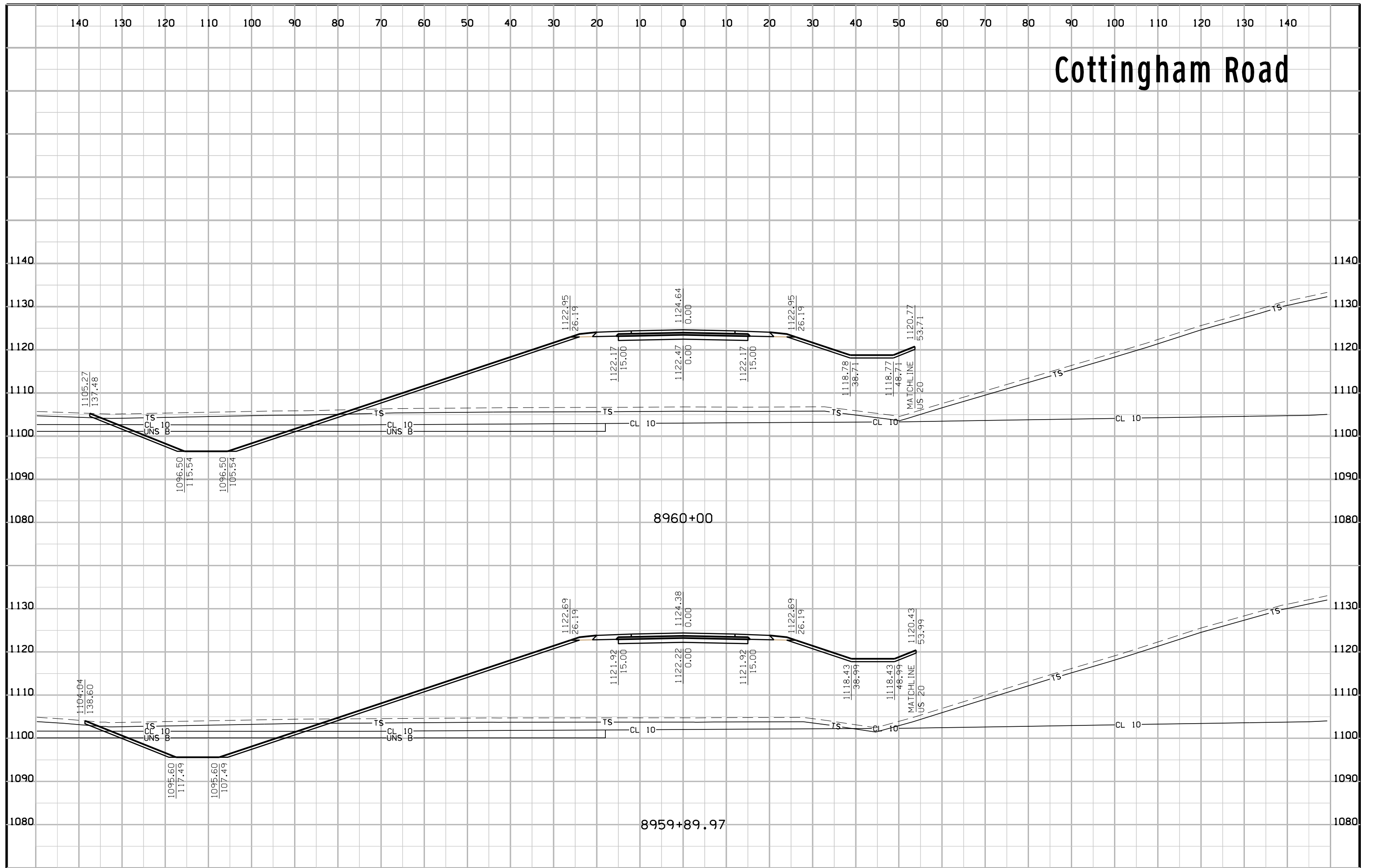


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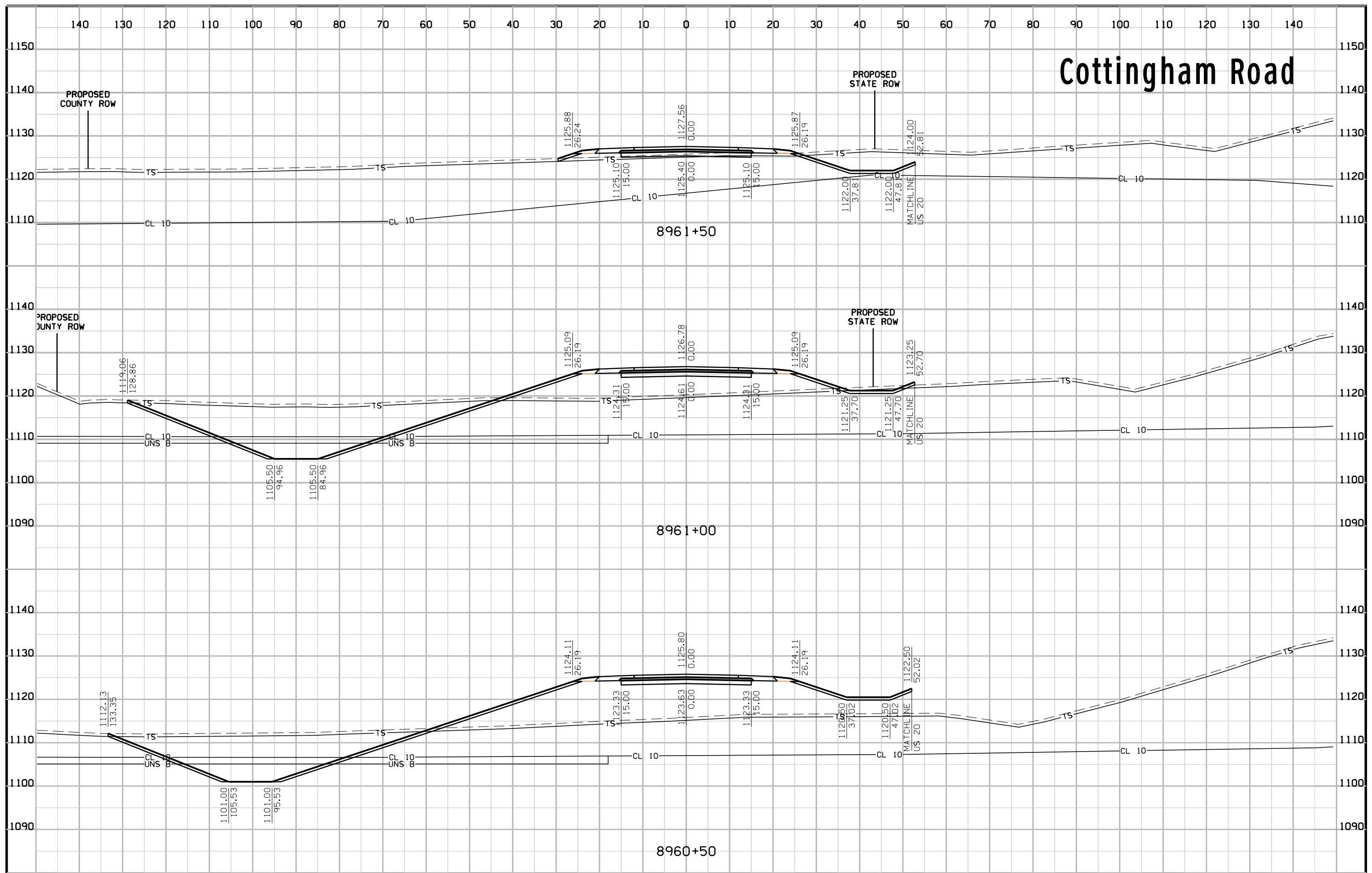




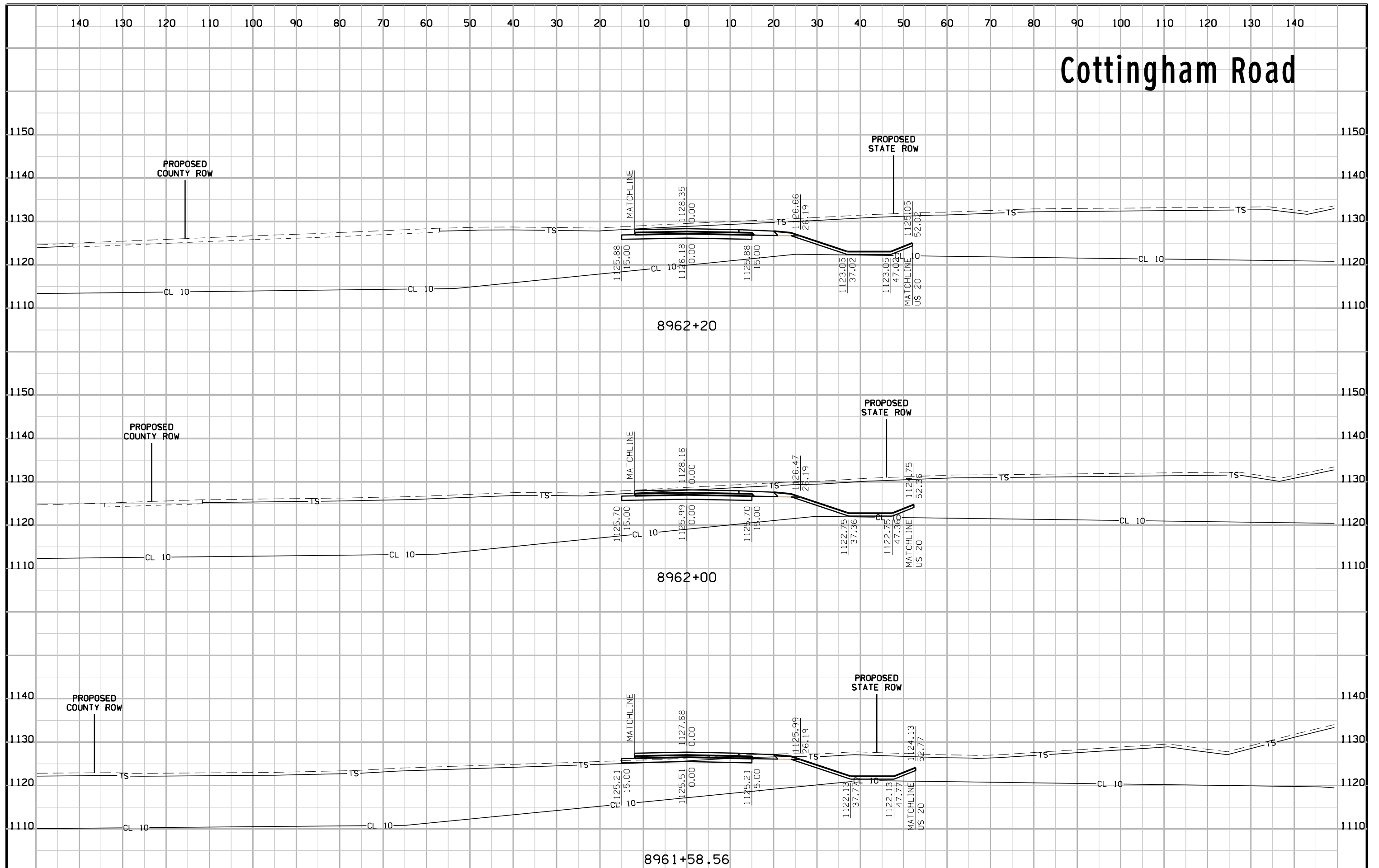
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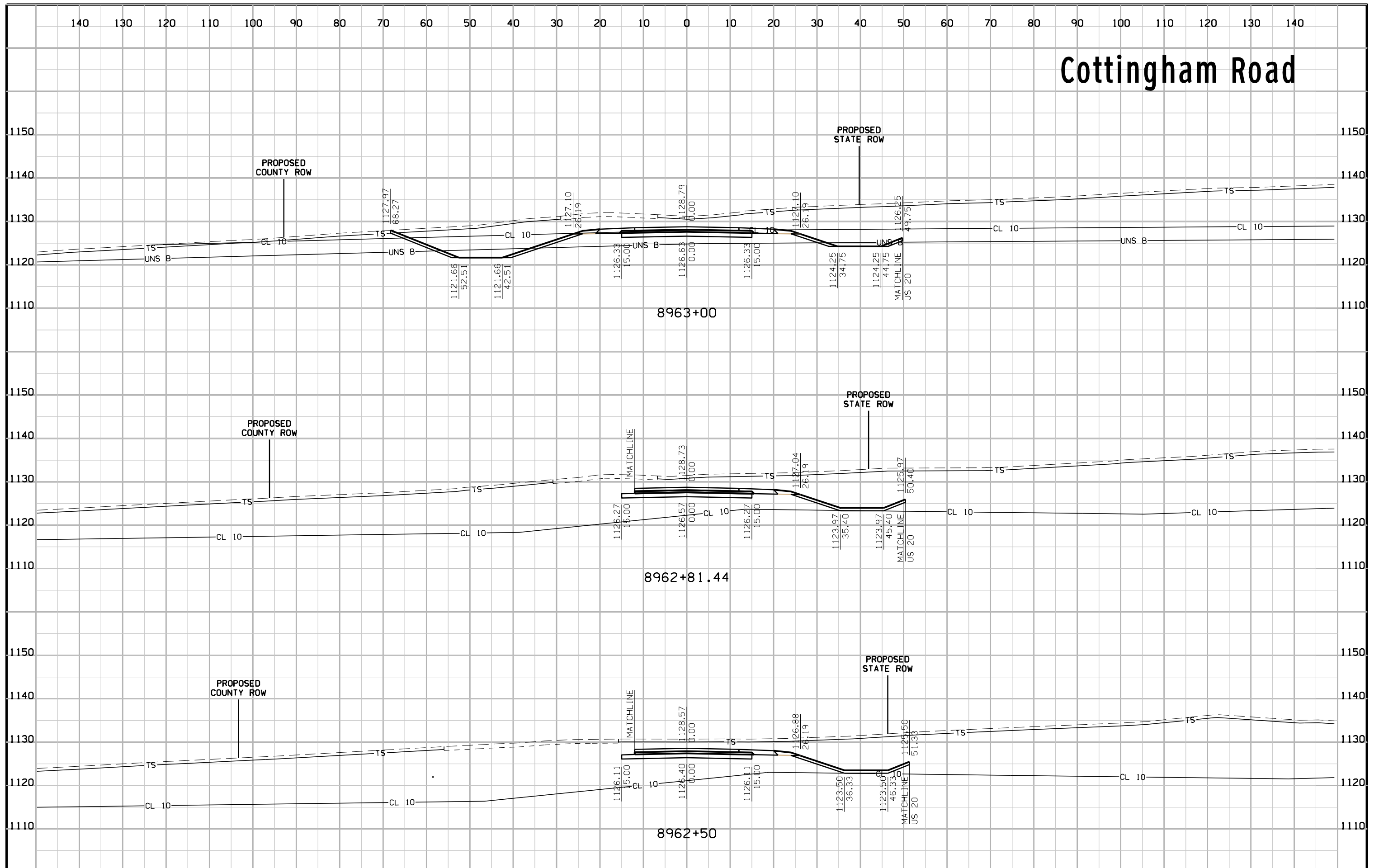
# Cottingham Road



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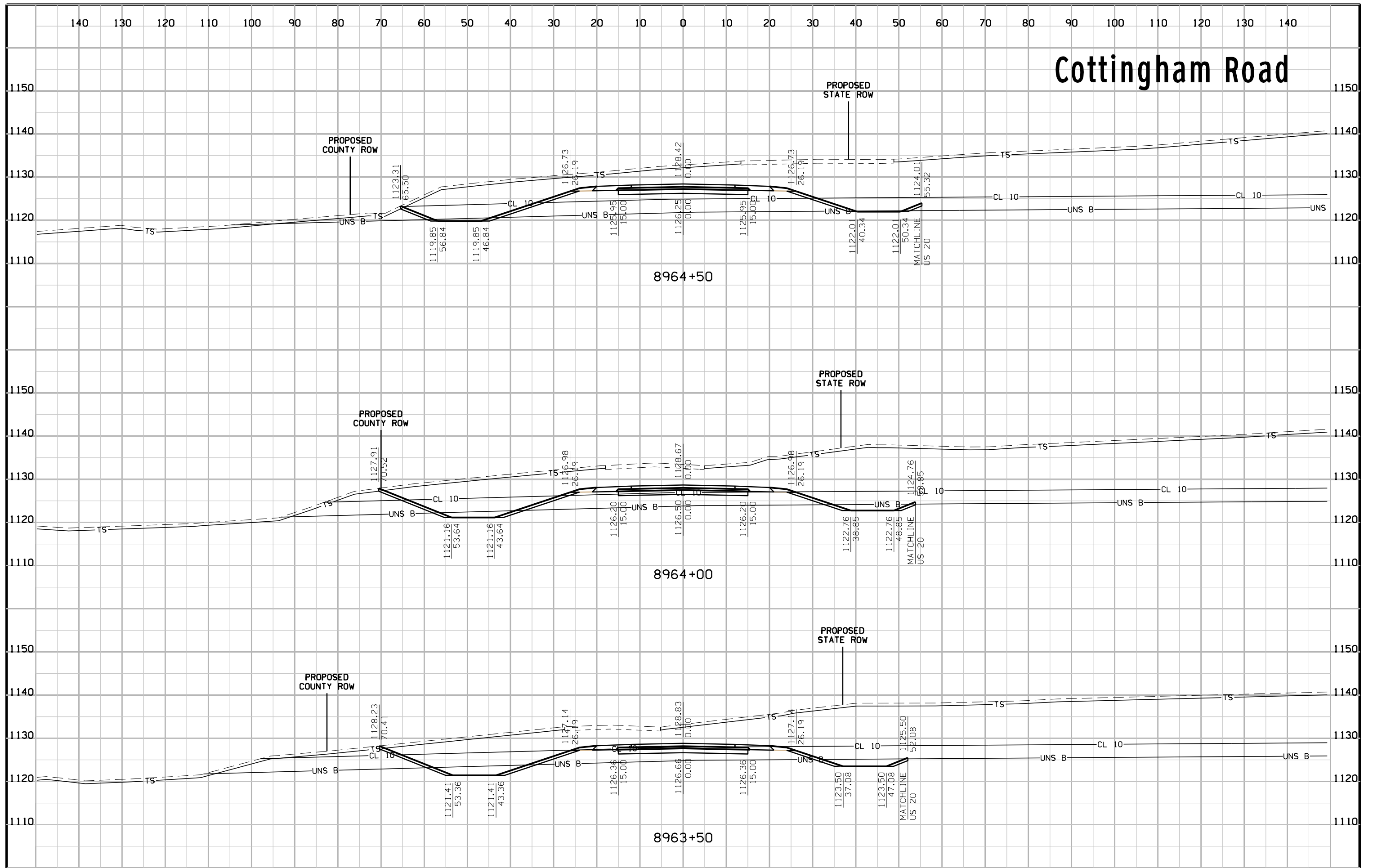


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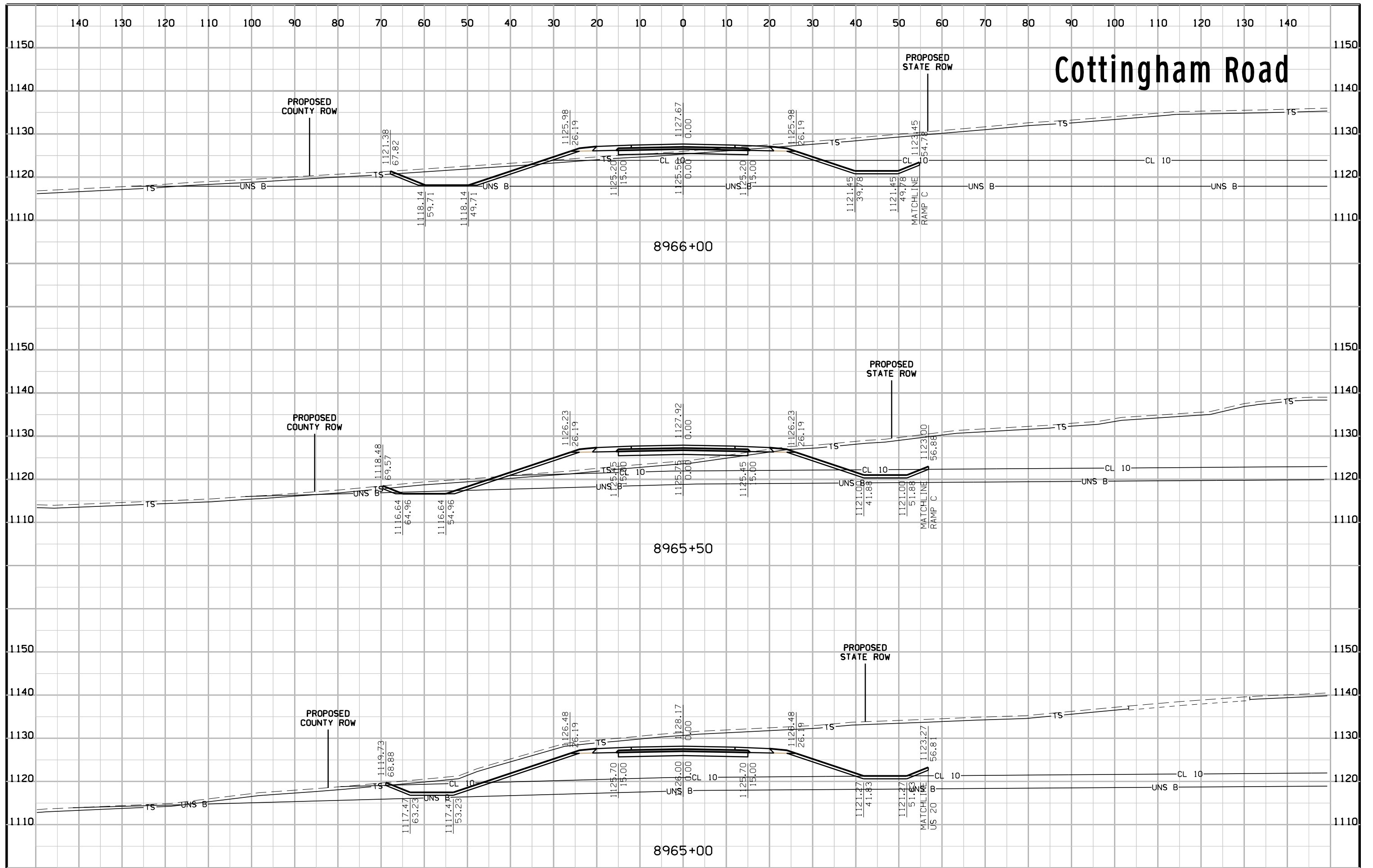




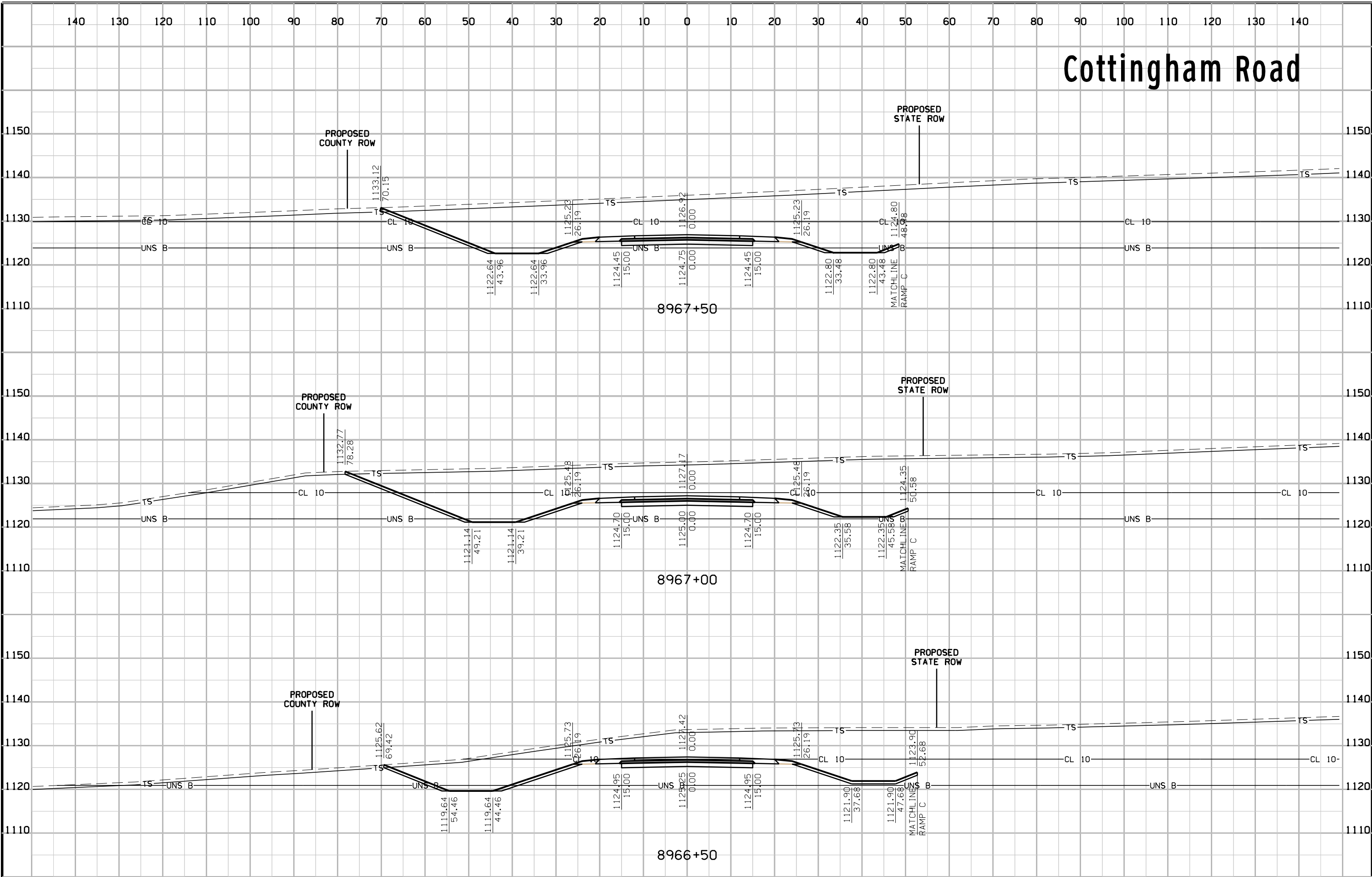
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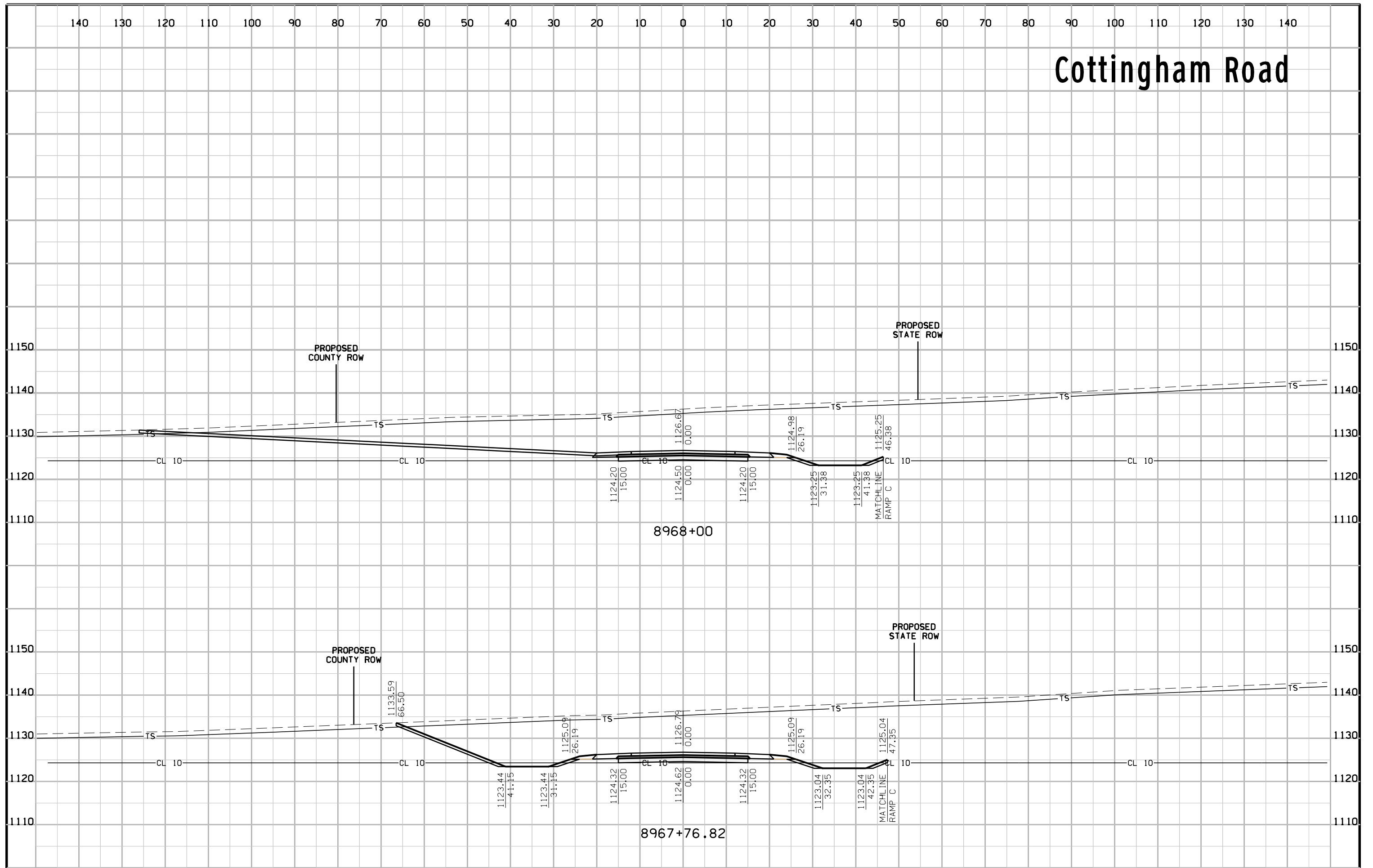
# Cottingham Road



# Cottingham Road

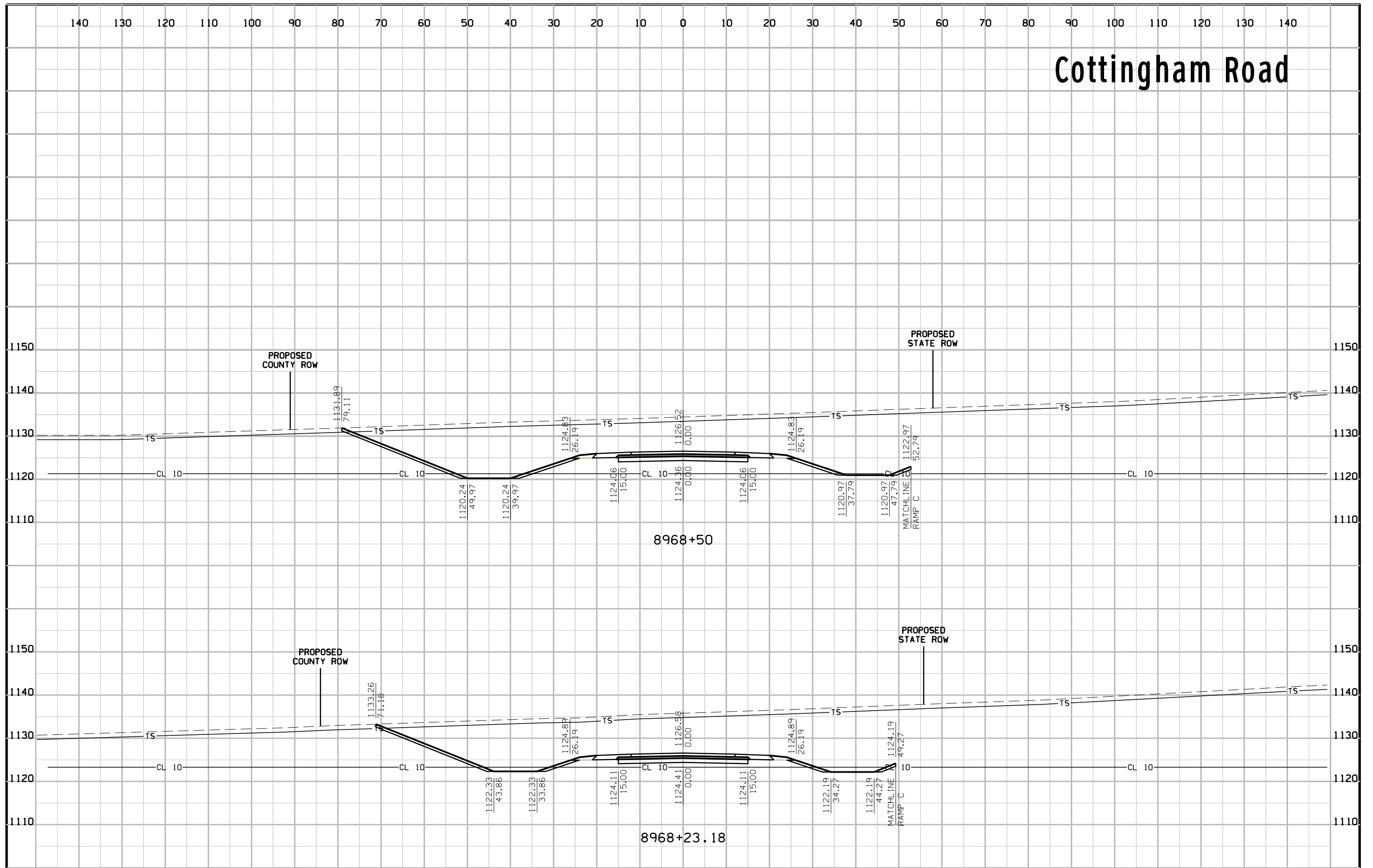


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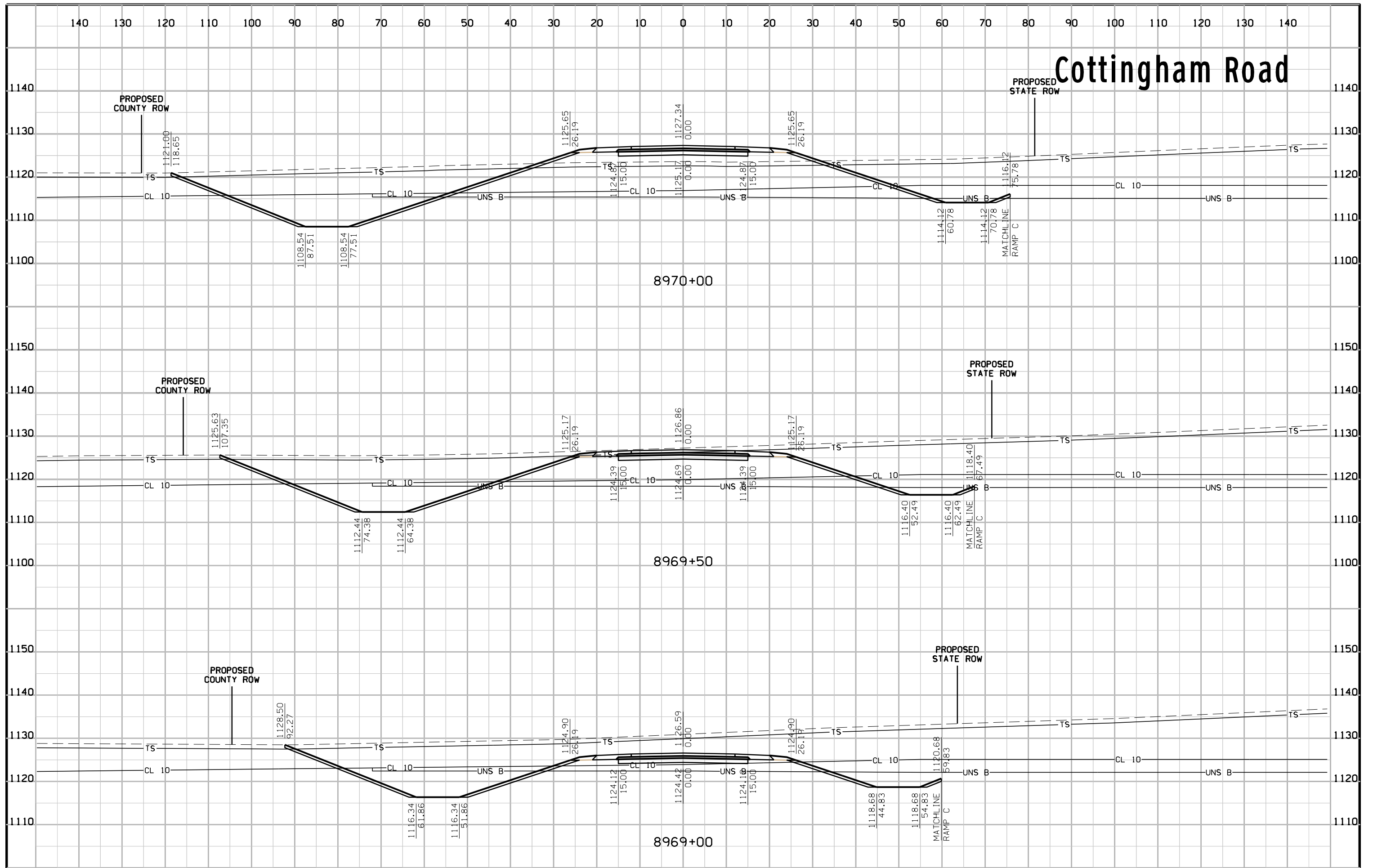




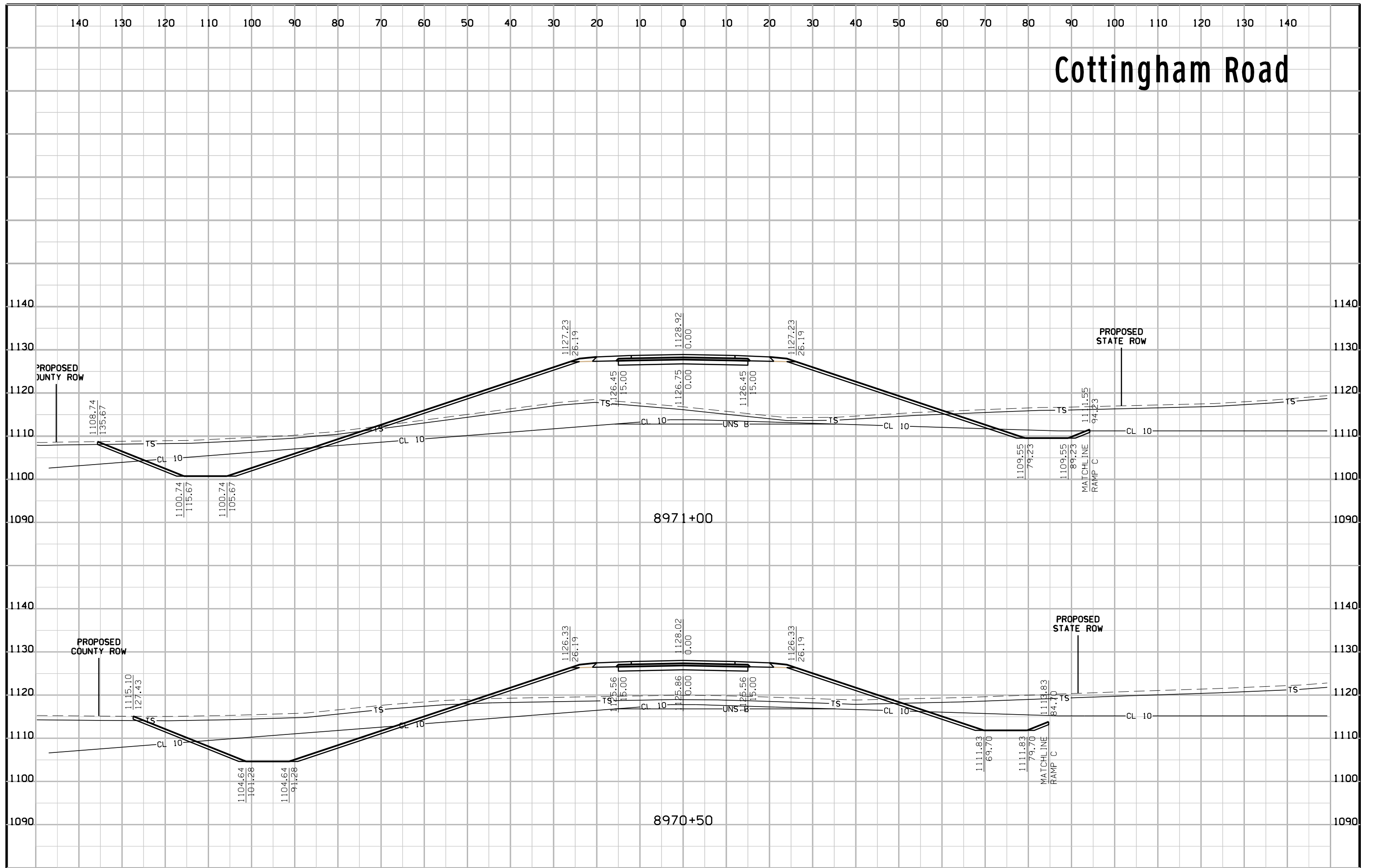
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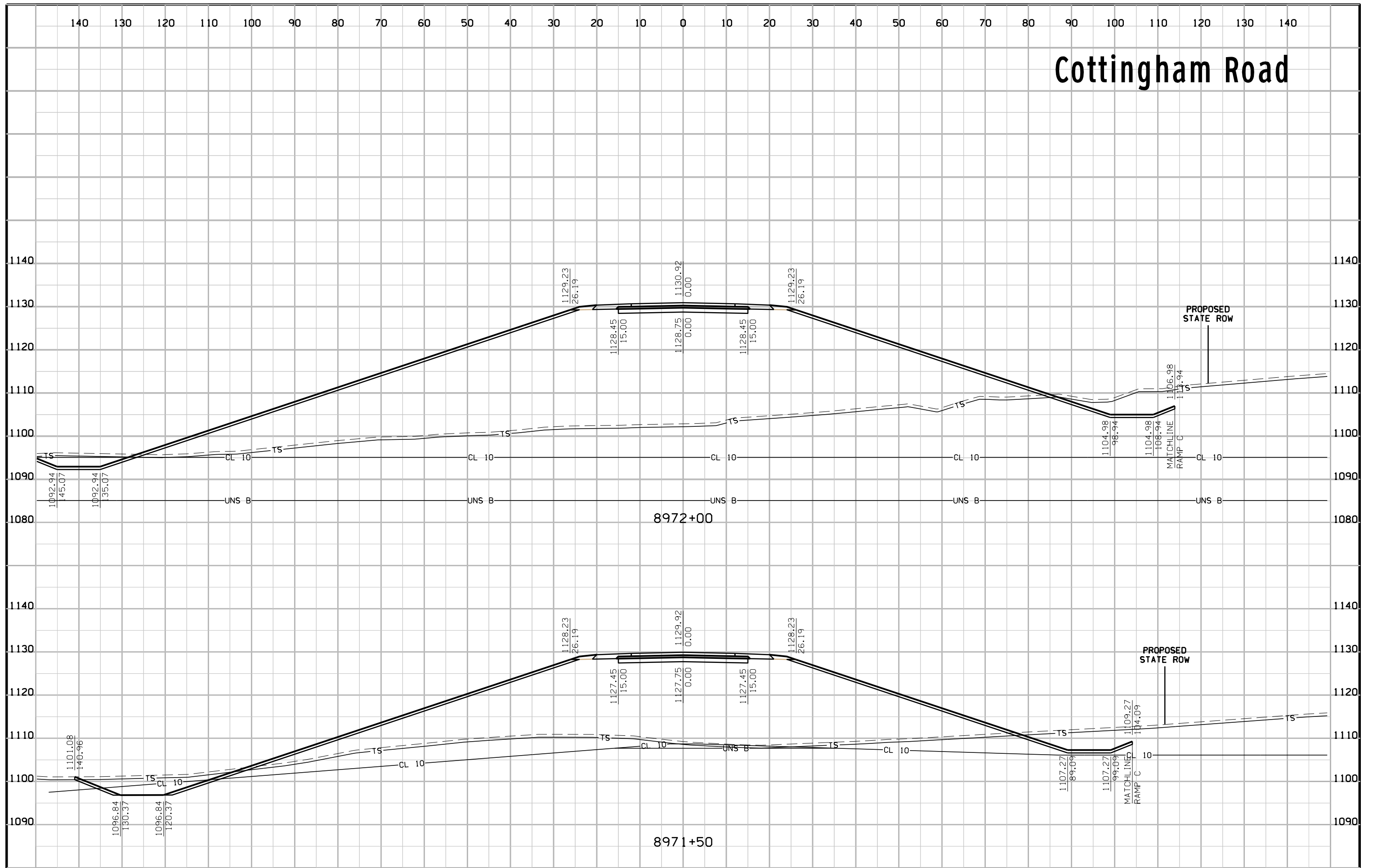
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# Cottingham Road

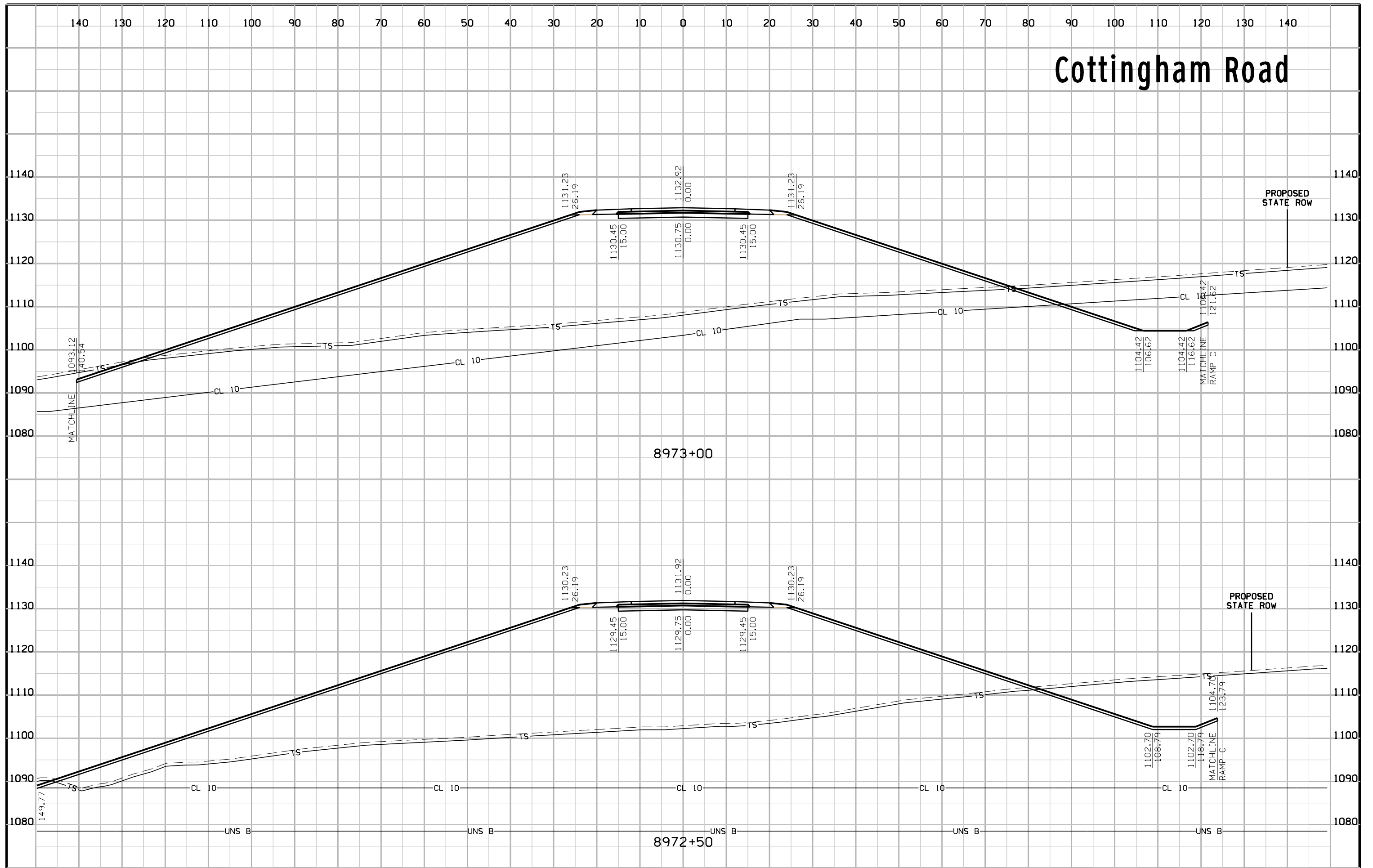


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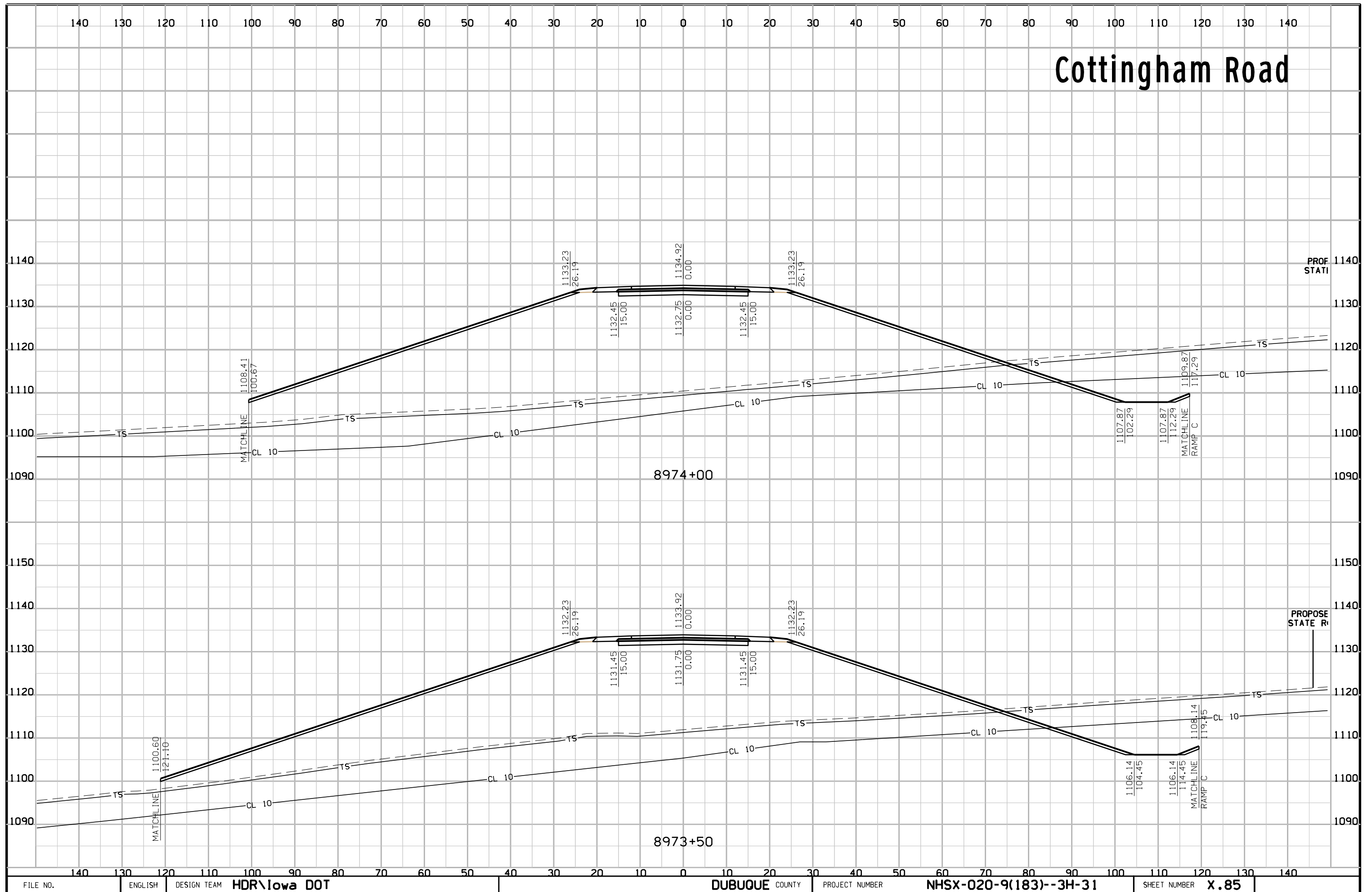




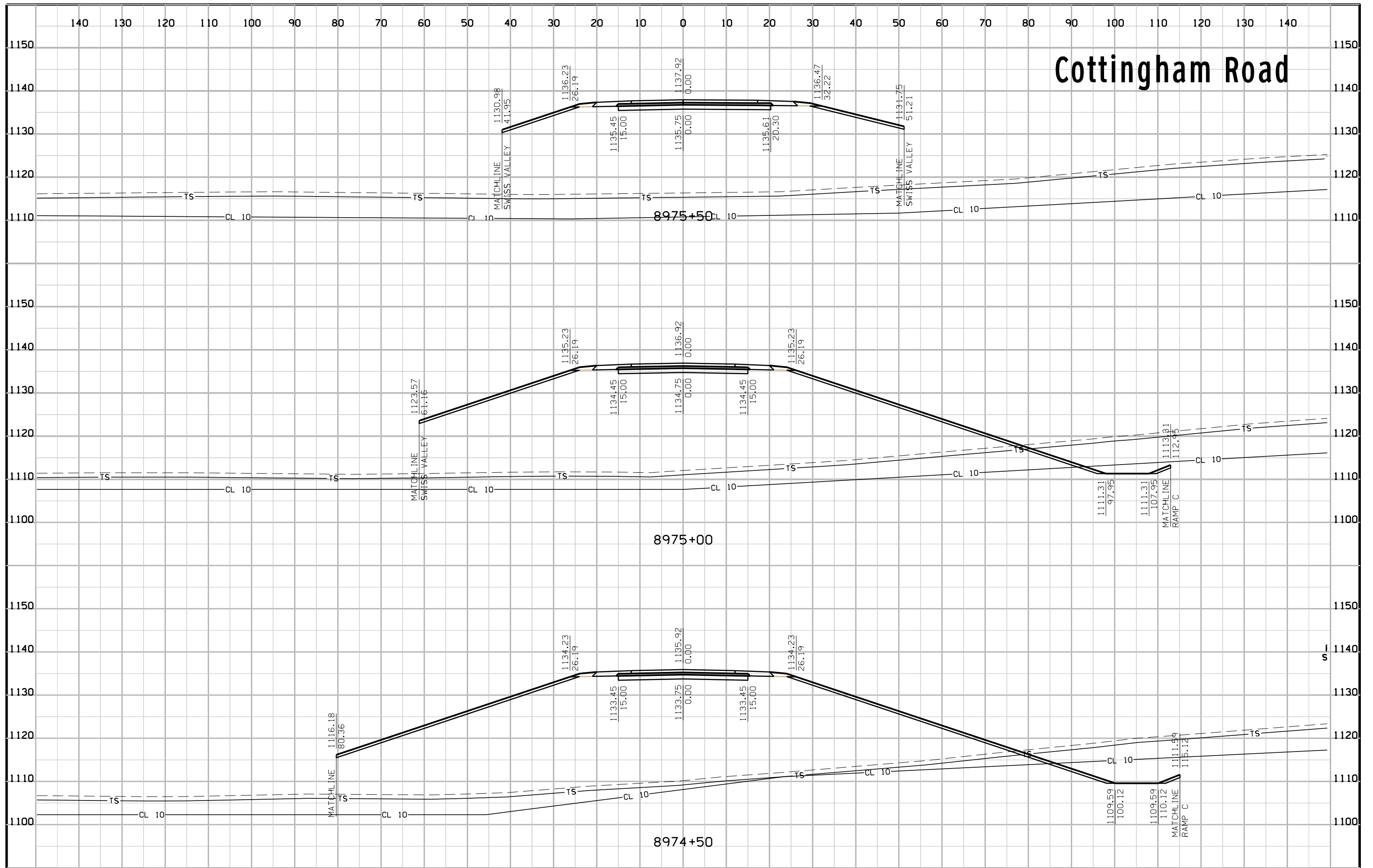
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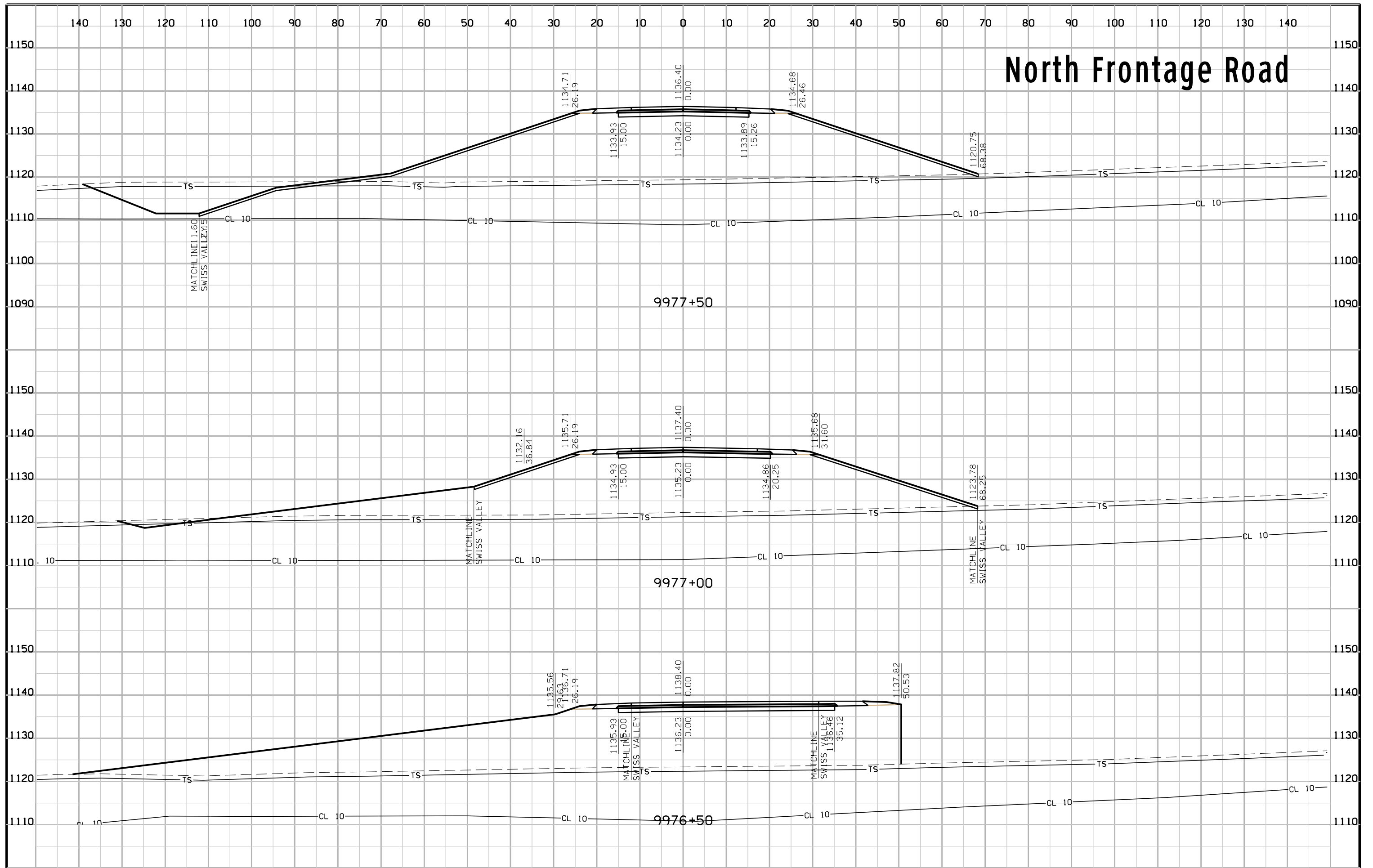
# Cottingham Road



# Cottingham Road

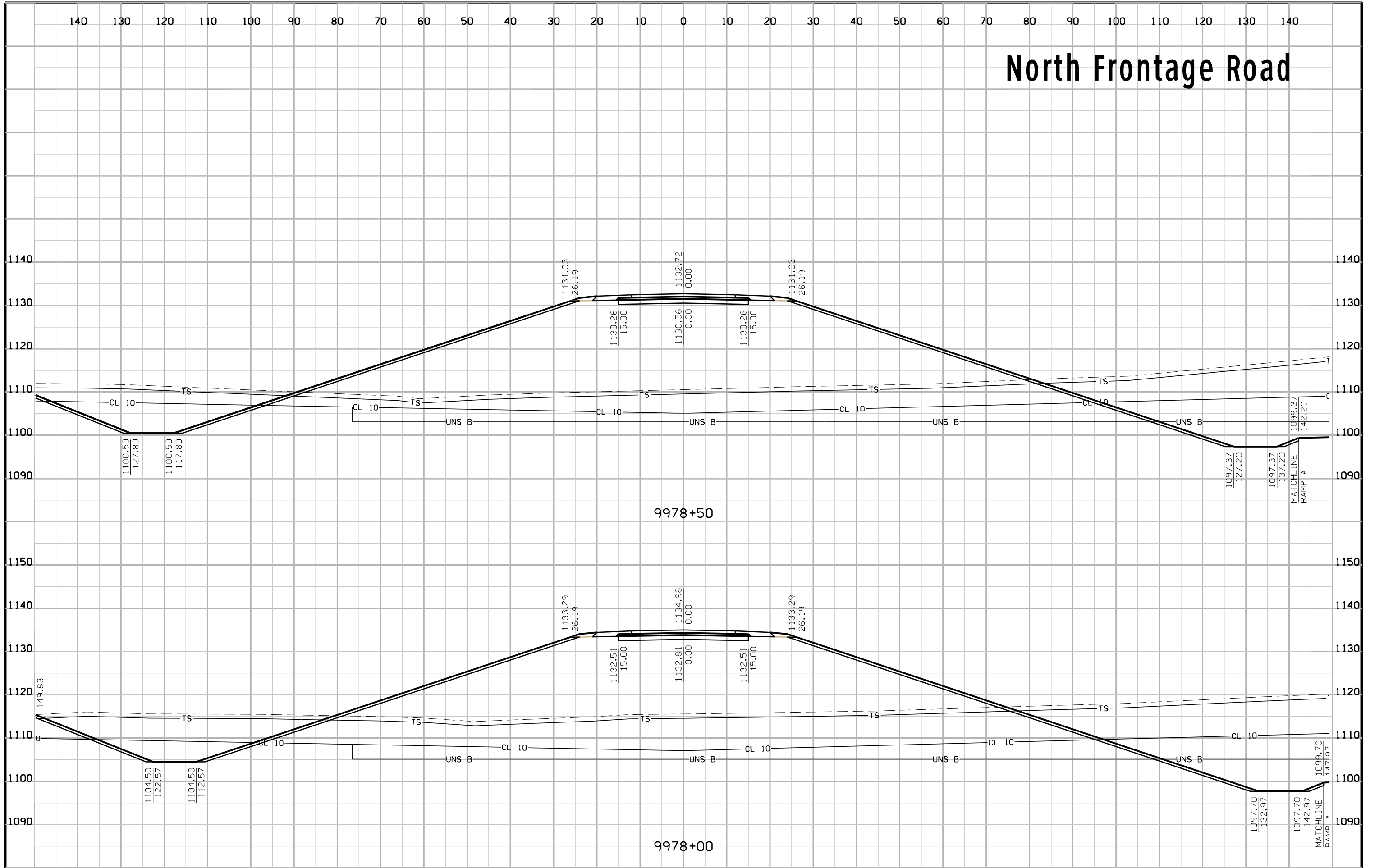


# North Frontage Road

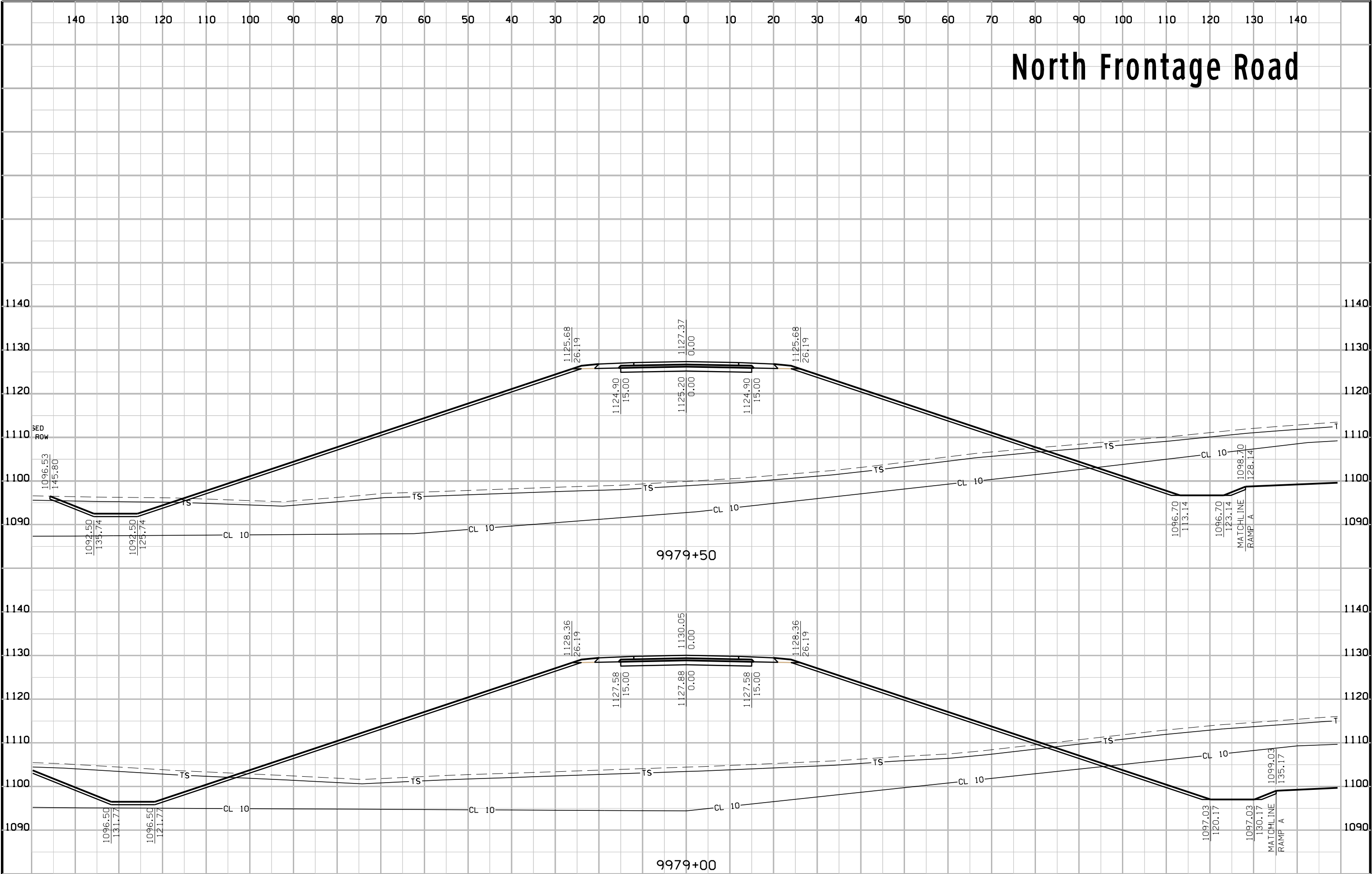




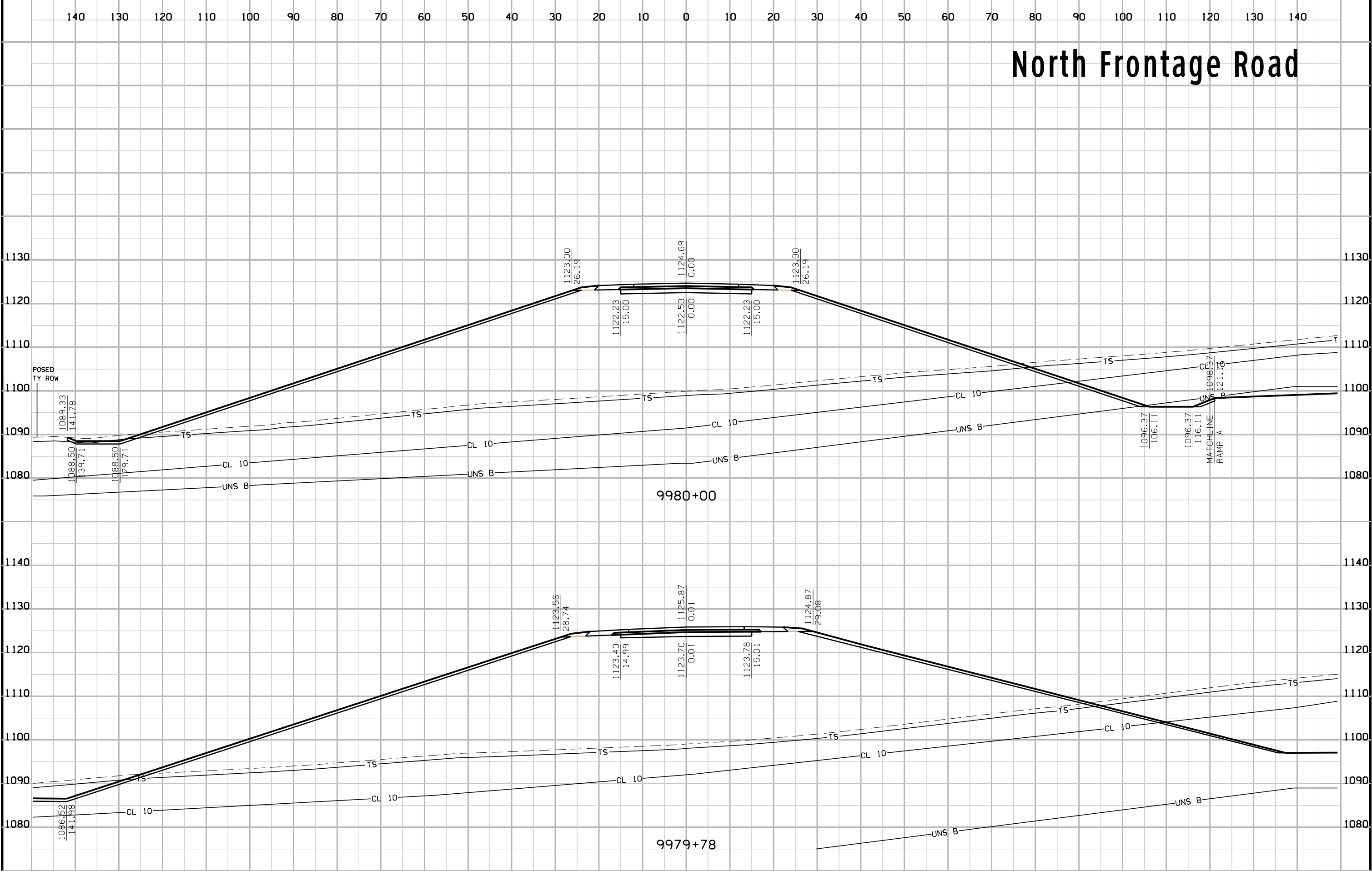
# North Frontage Road



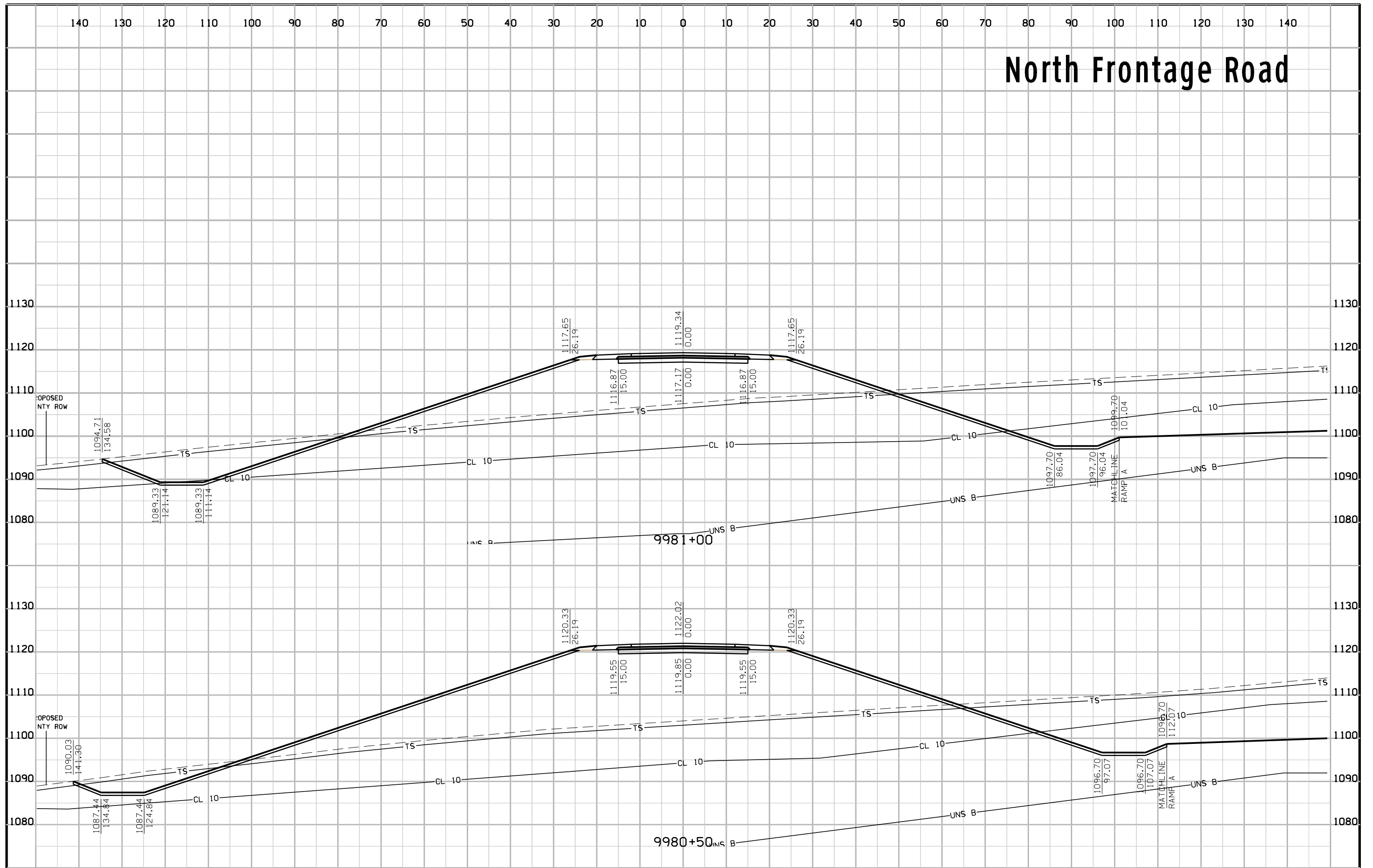
# North Frontage Road



# North Frontage Road

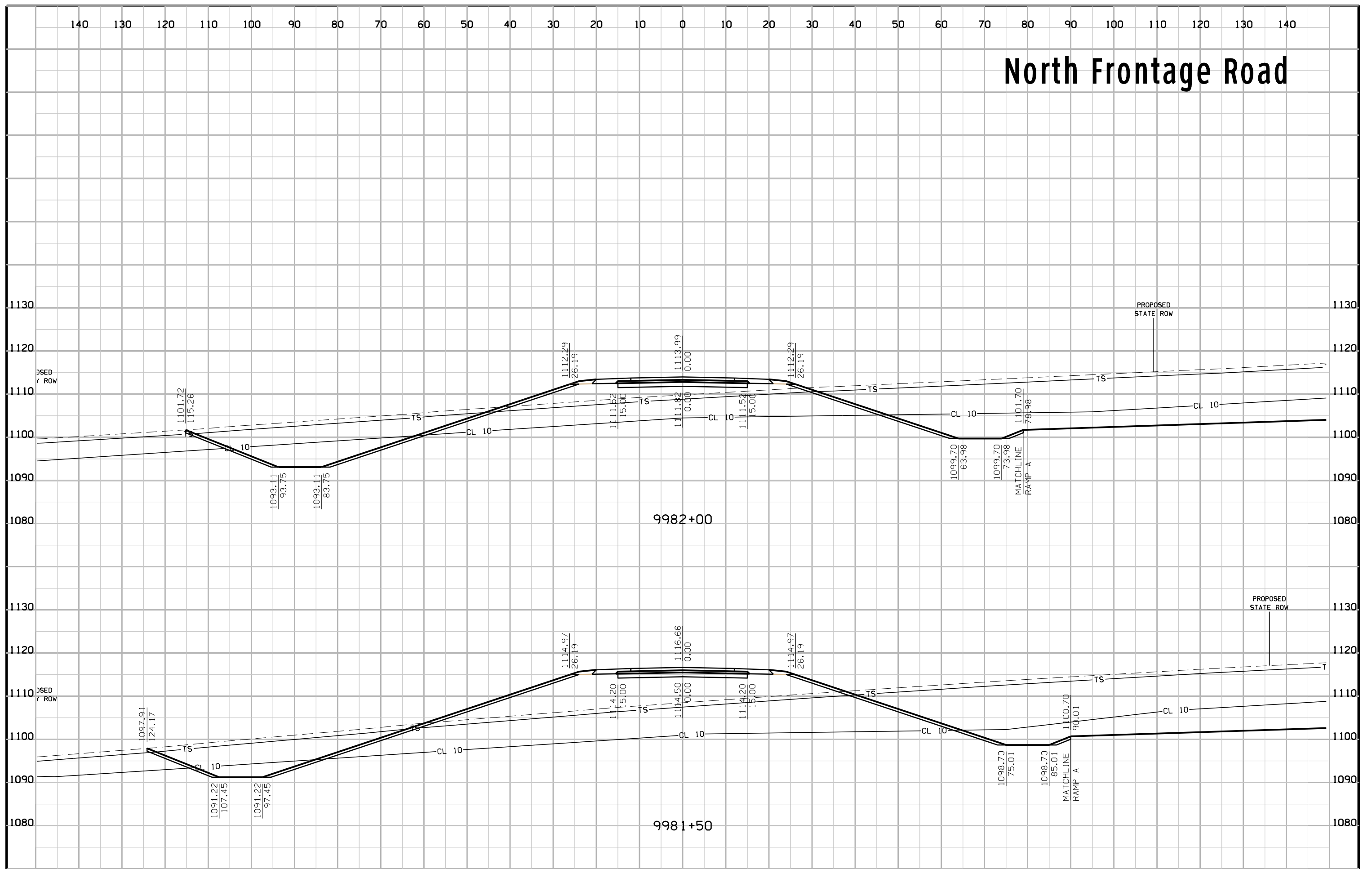


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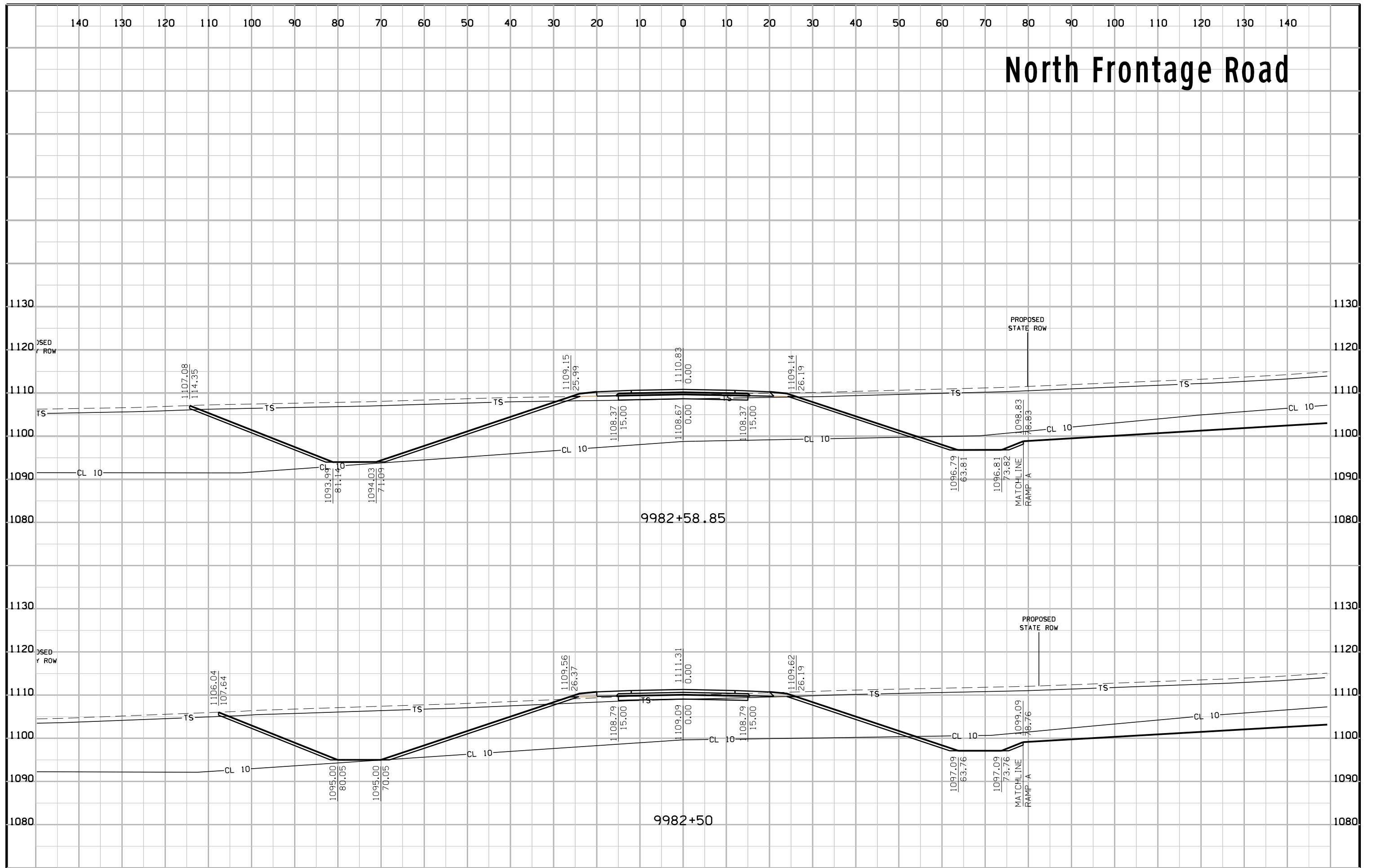




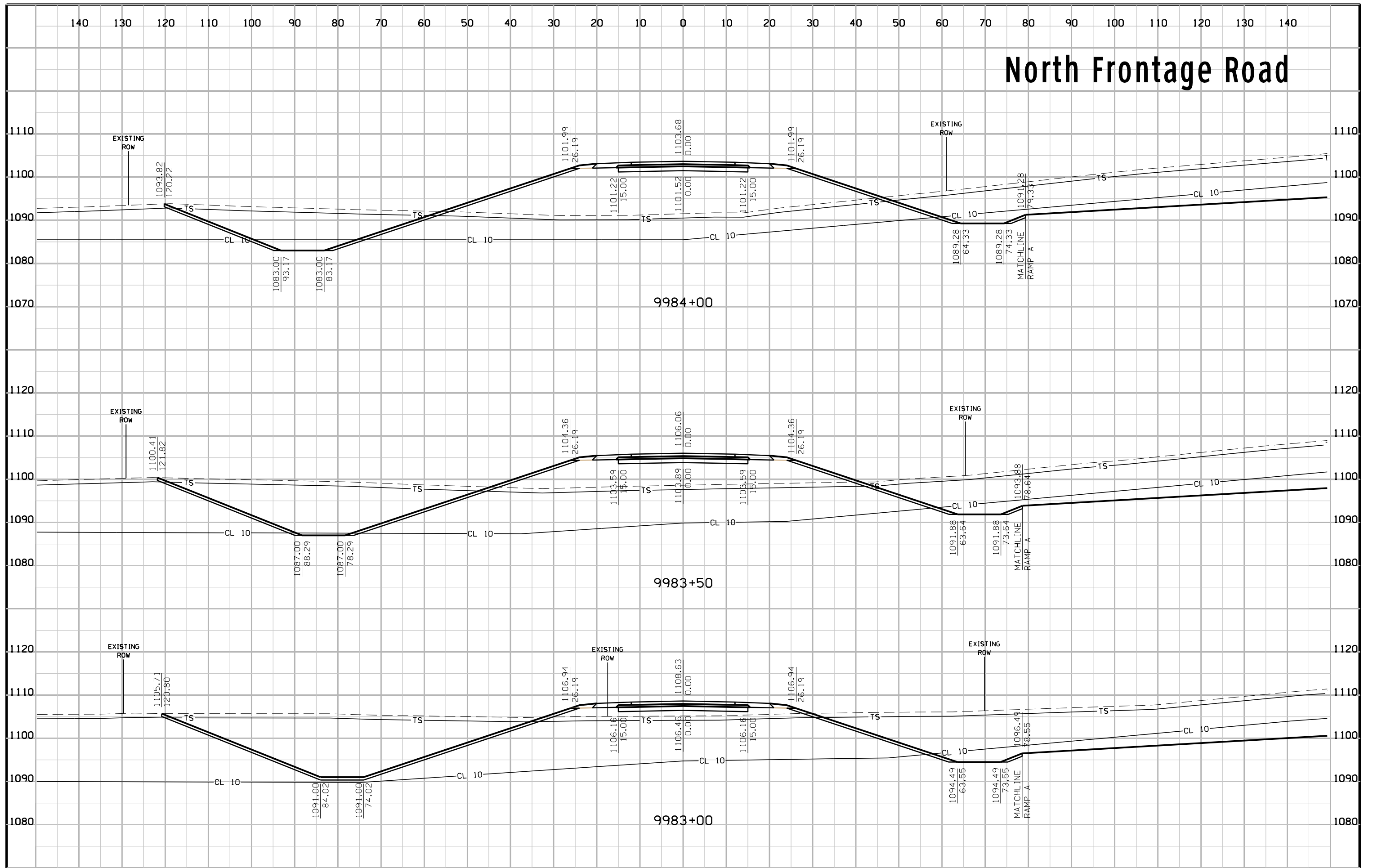
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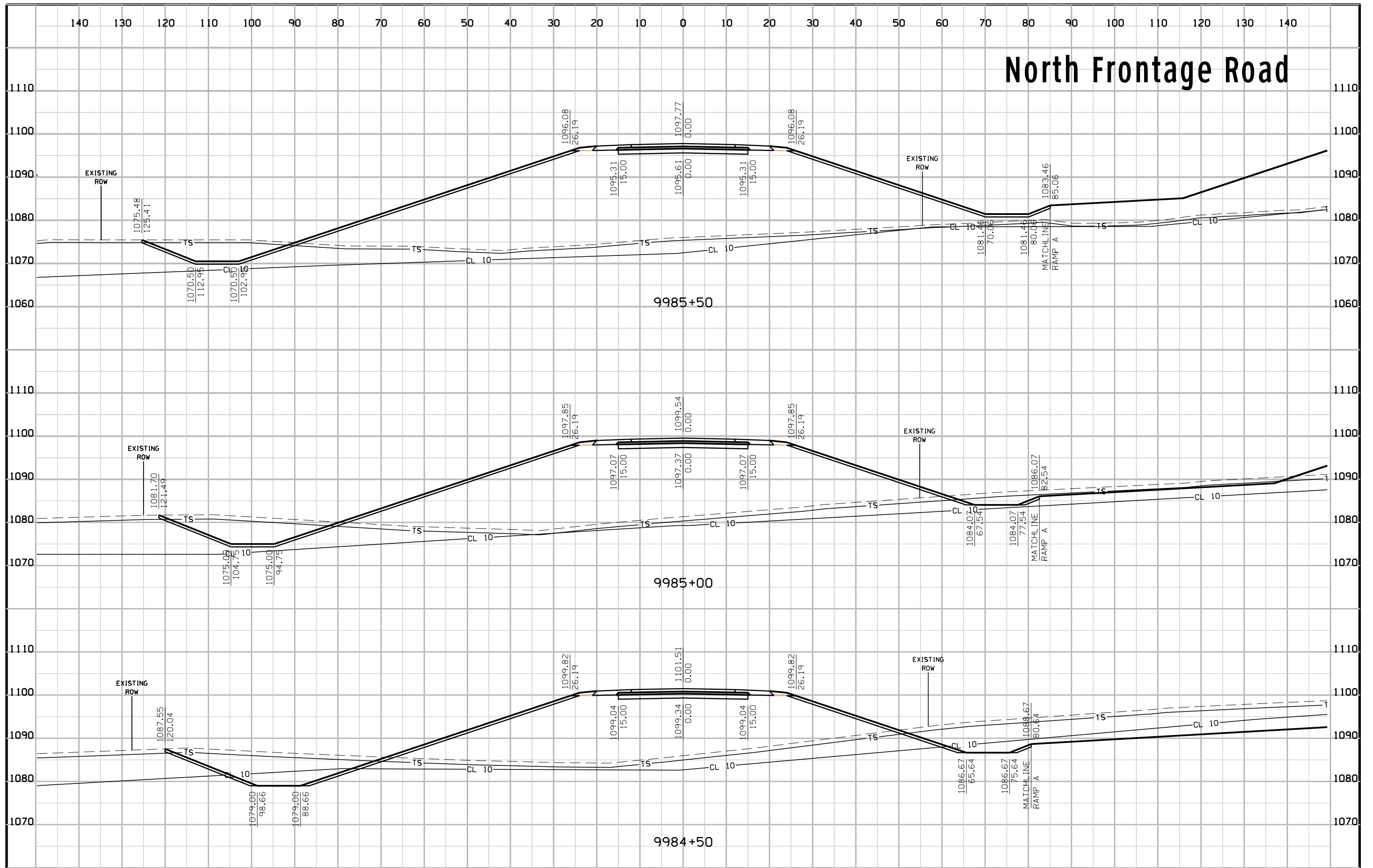
# North Frontage Road



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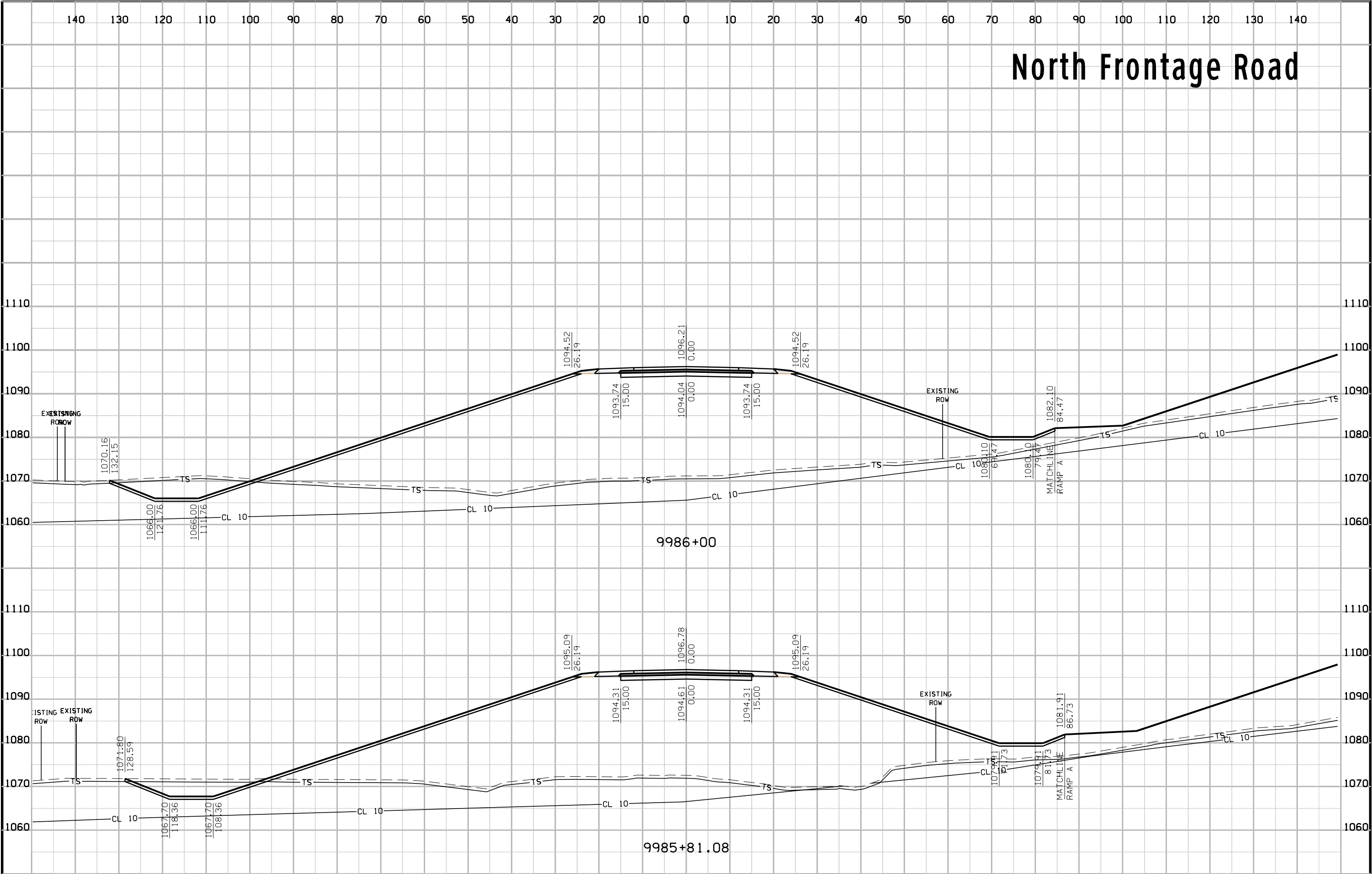


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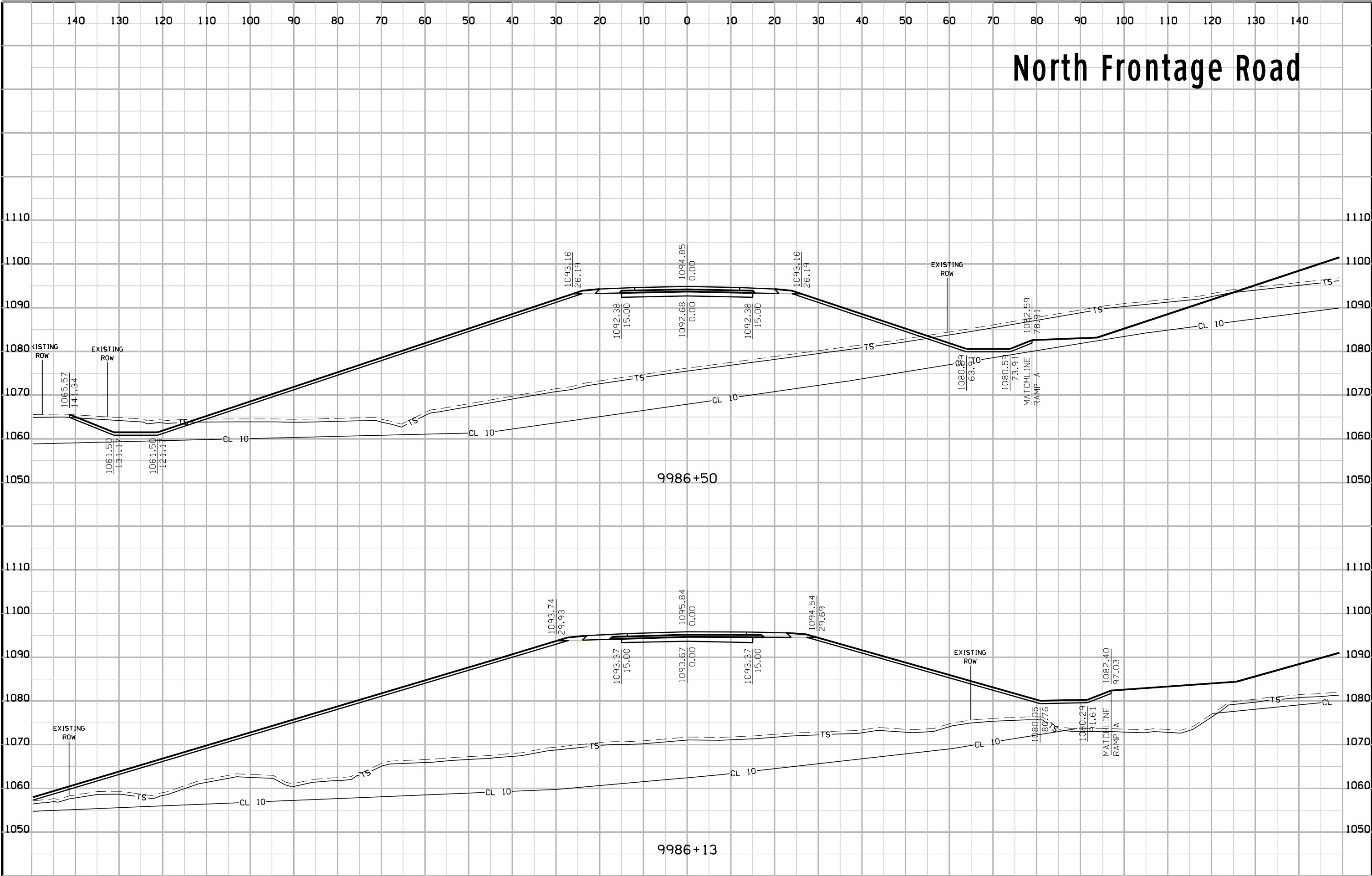




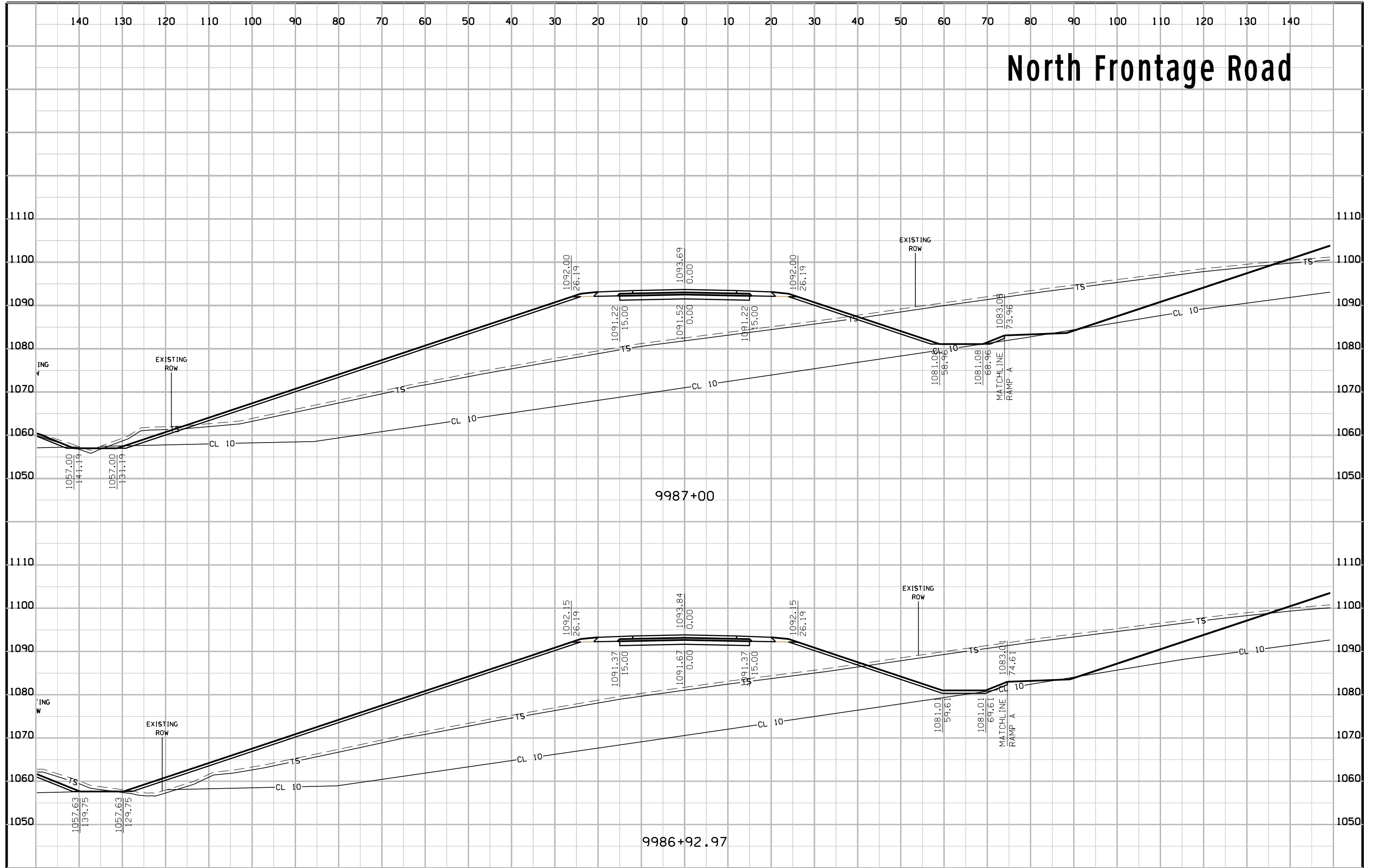
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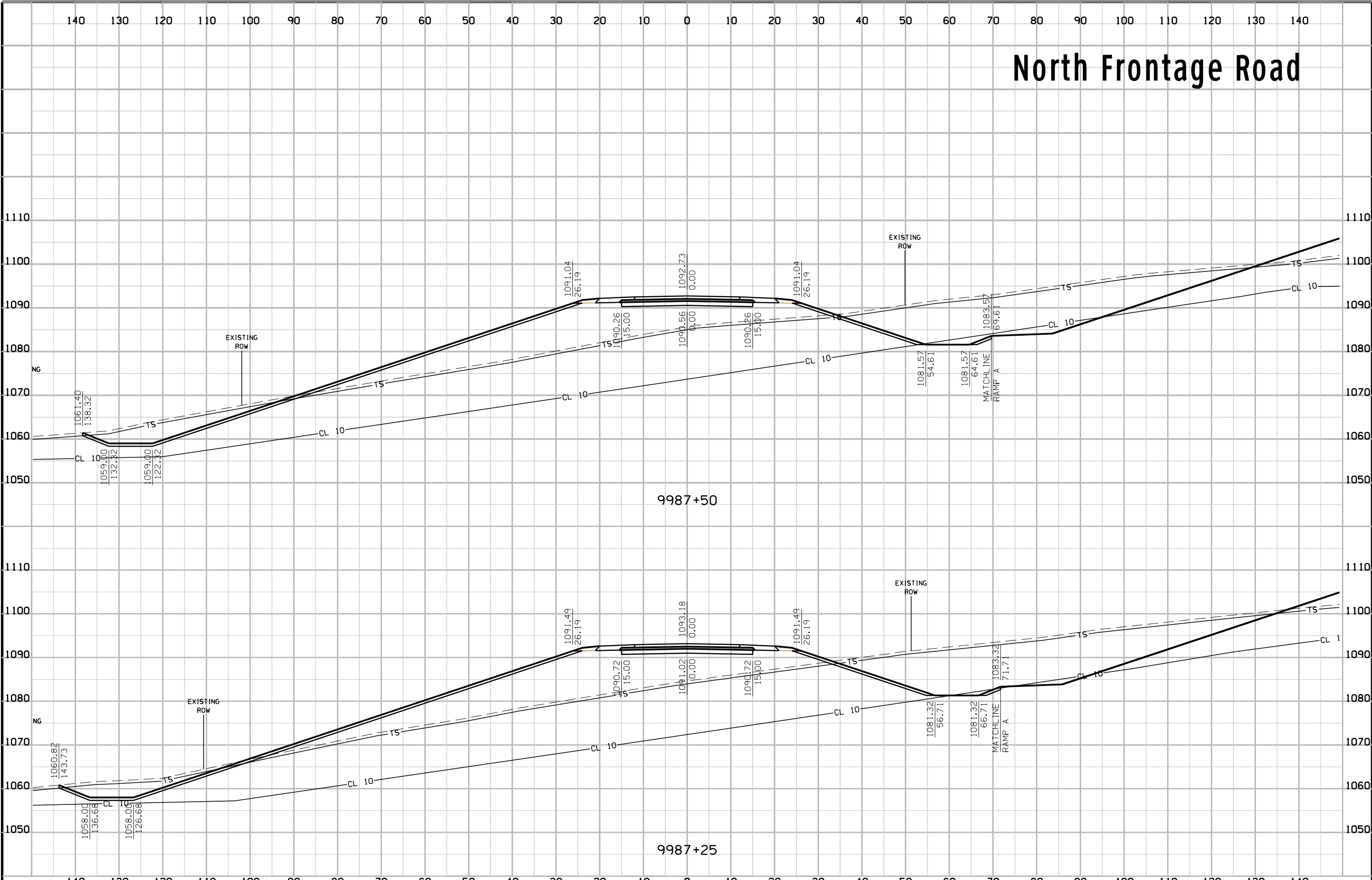
# North Frontage Road



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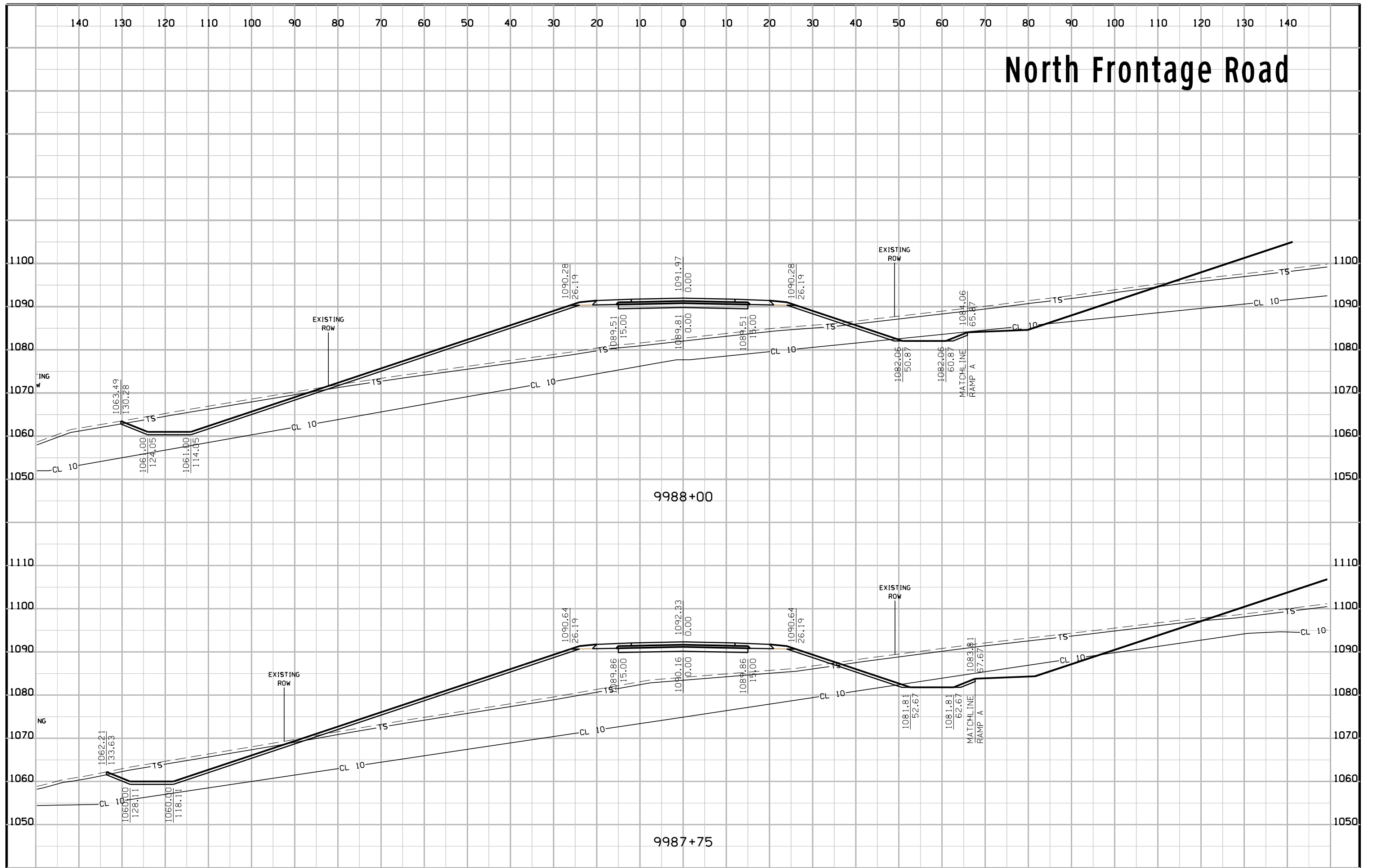


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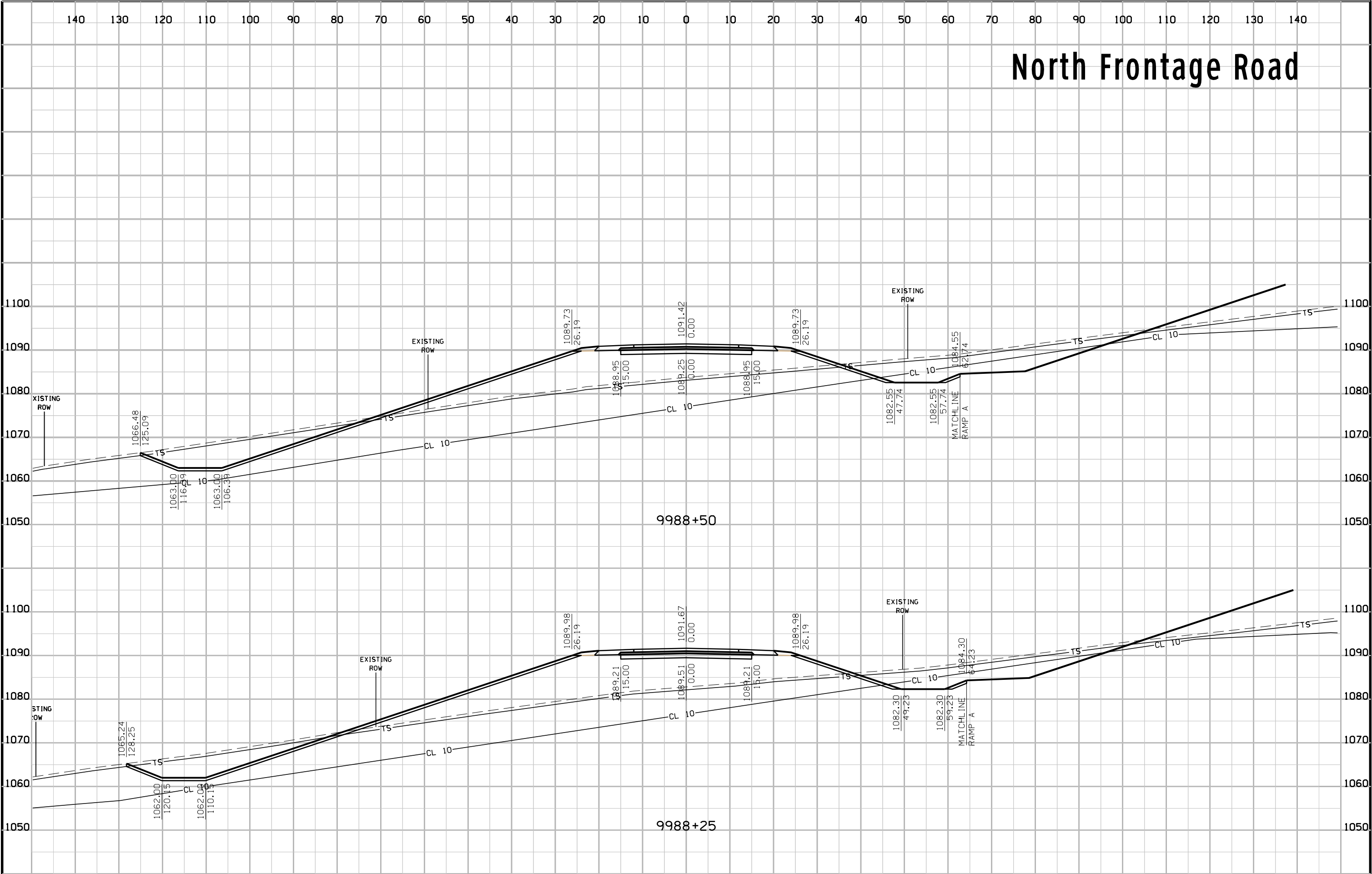




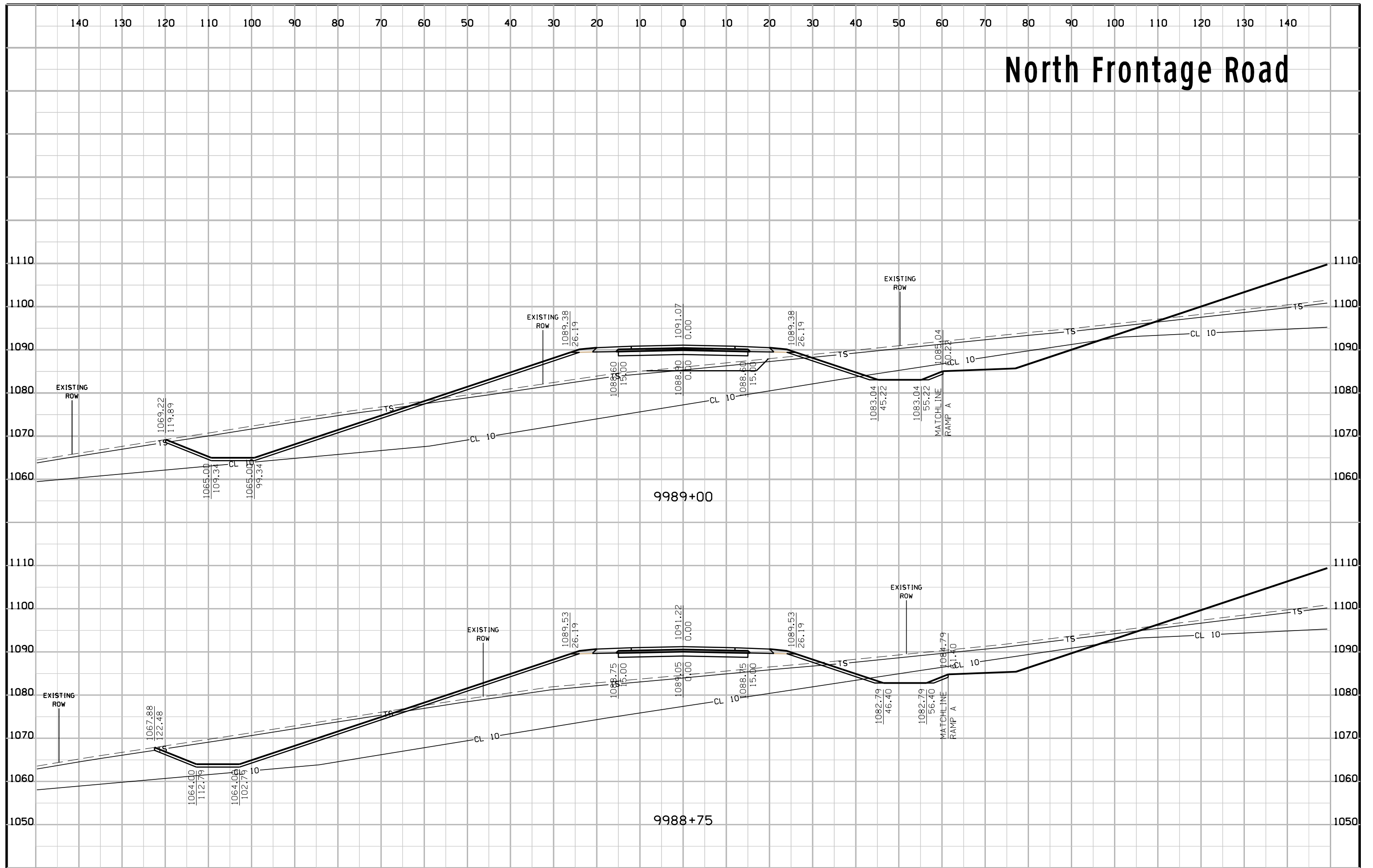
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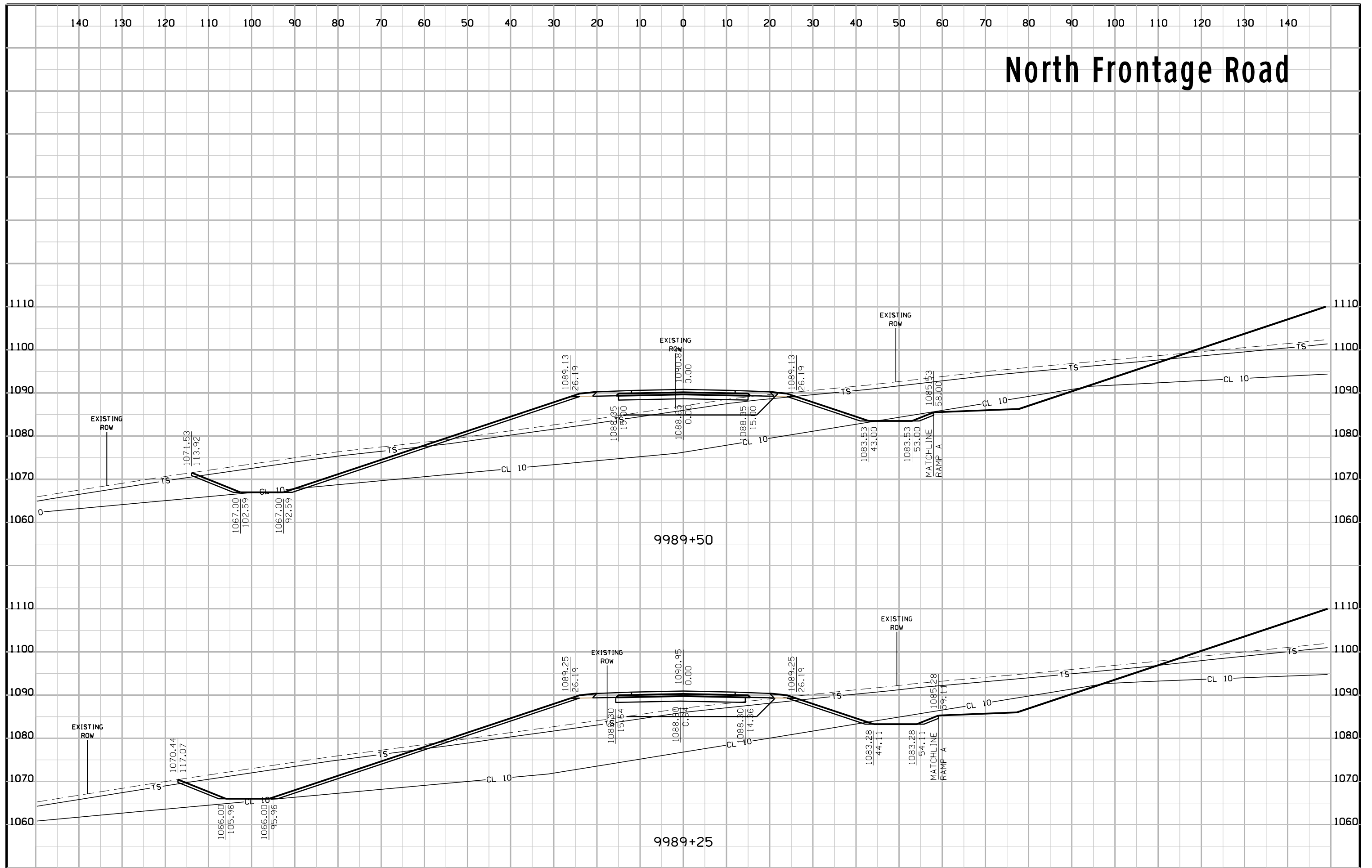
# North Frontage Road



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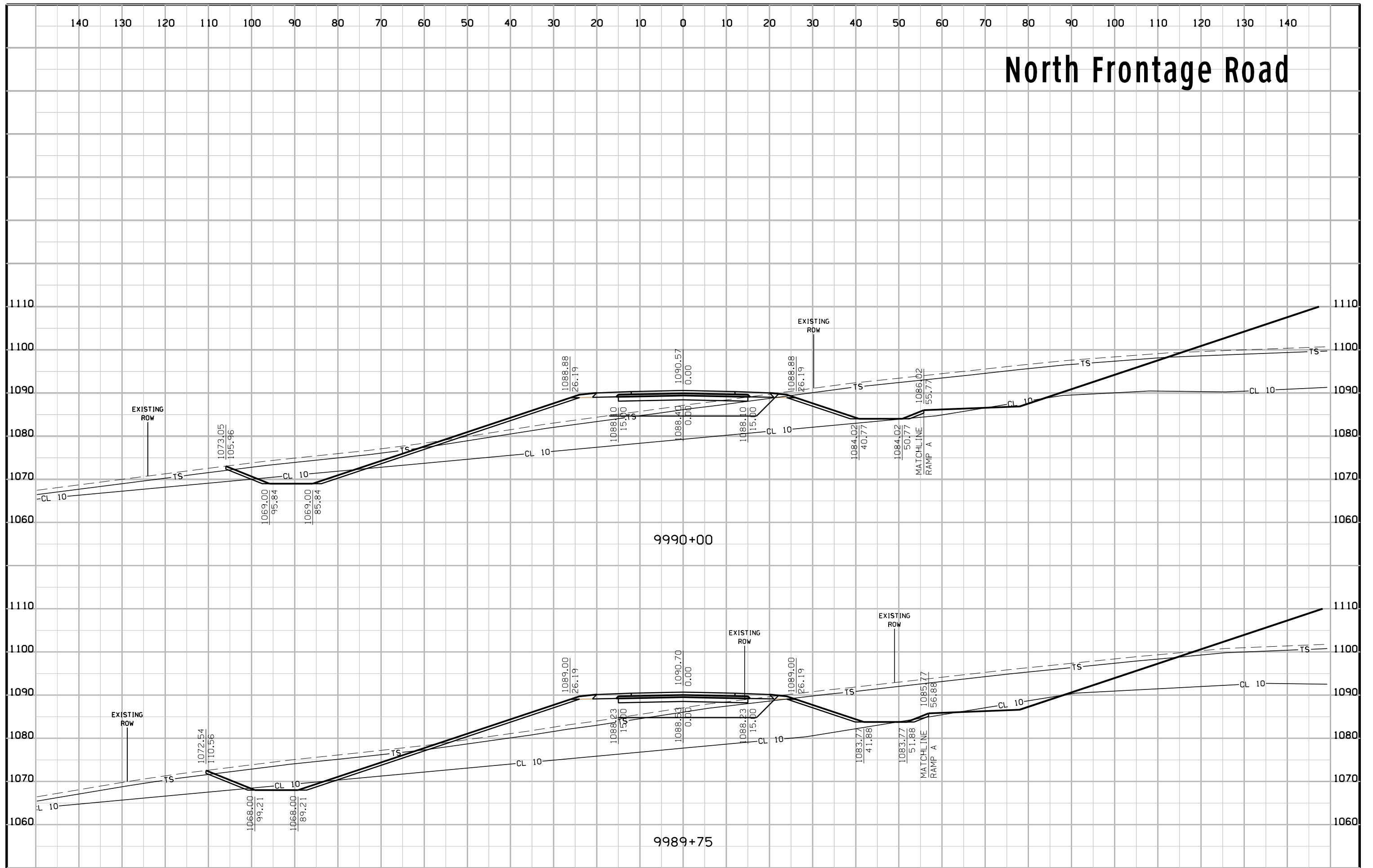


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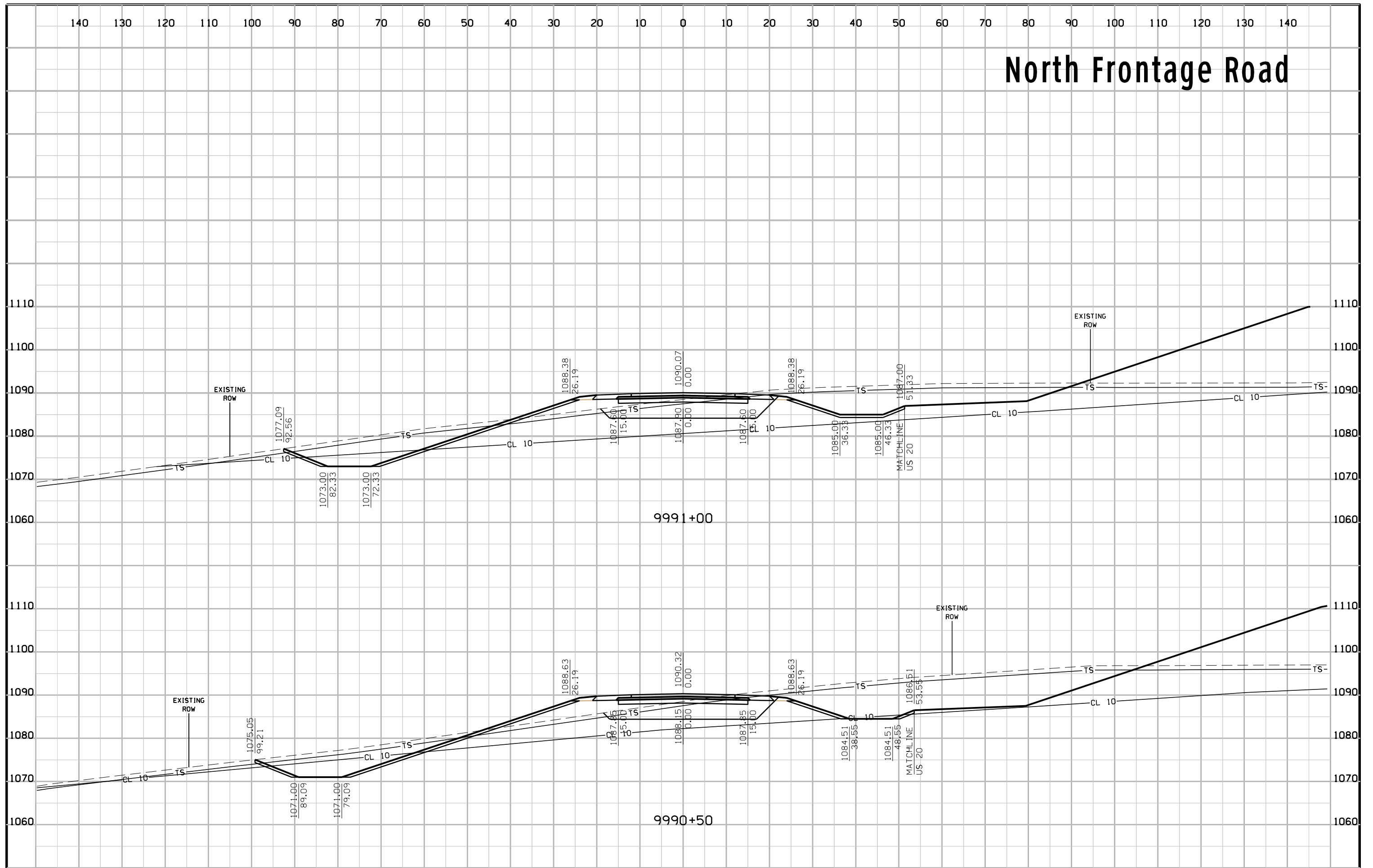




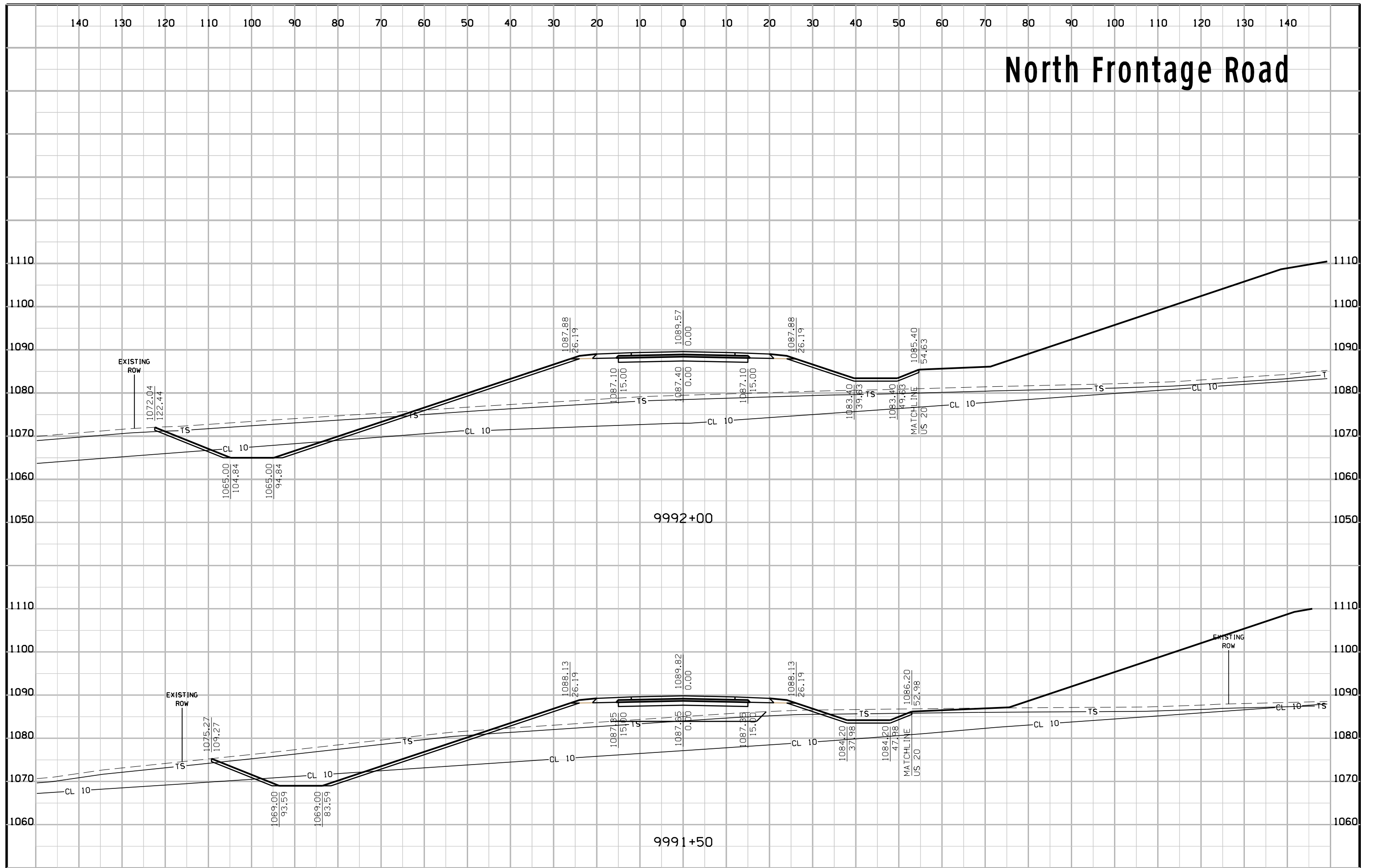
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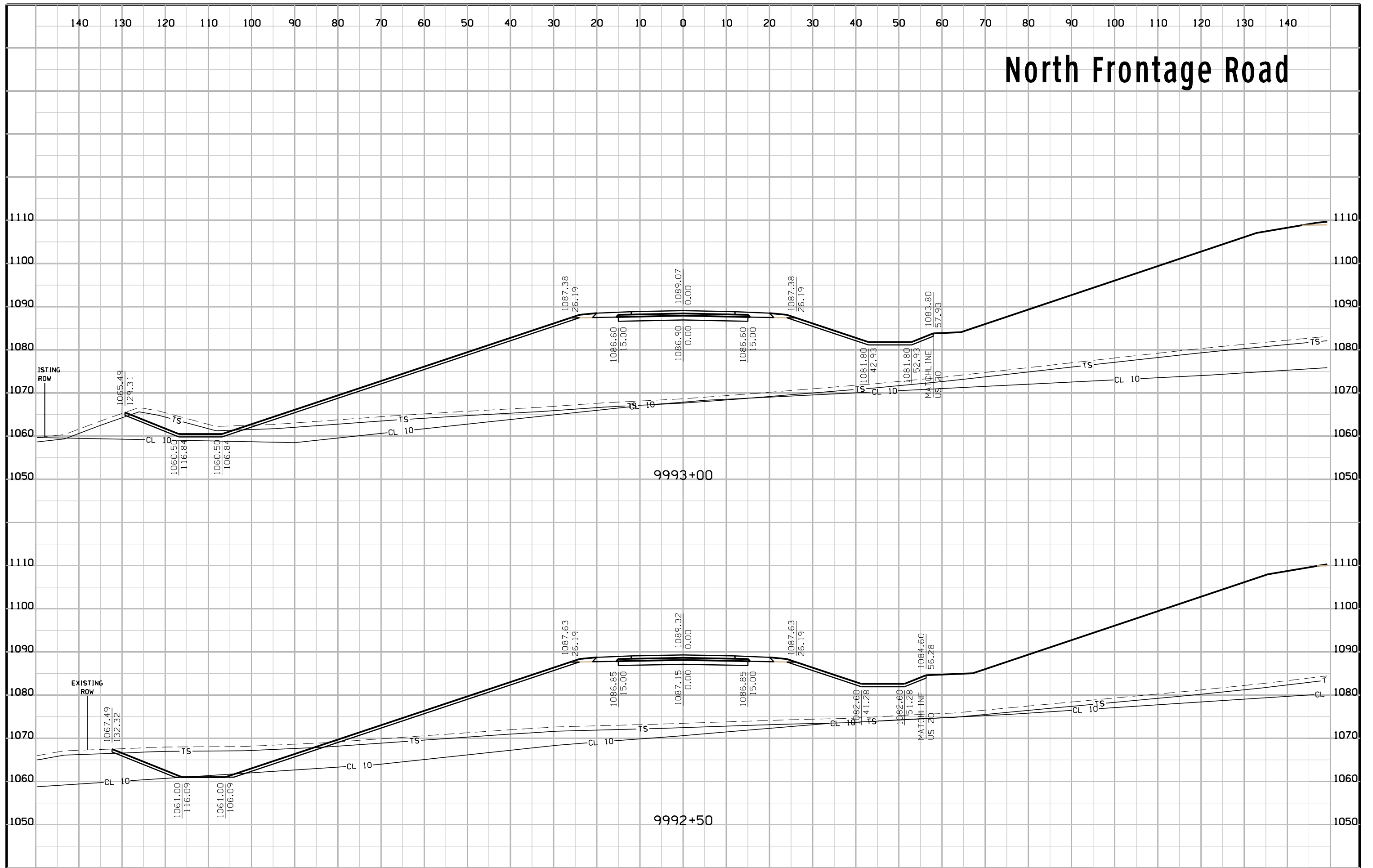
# North Frontage Road



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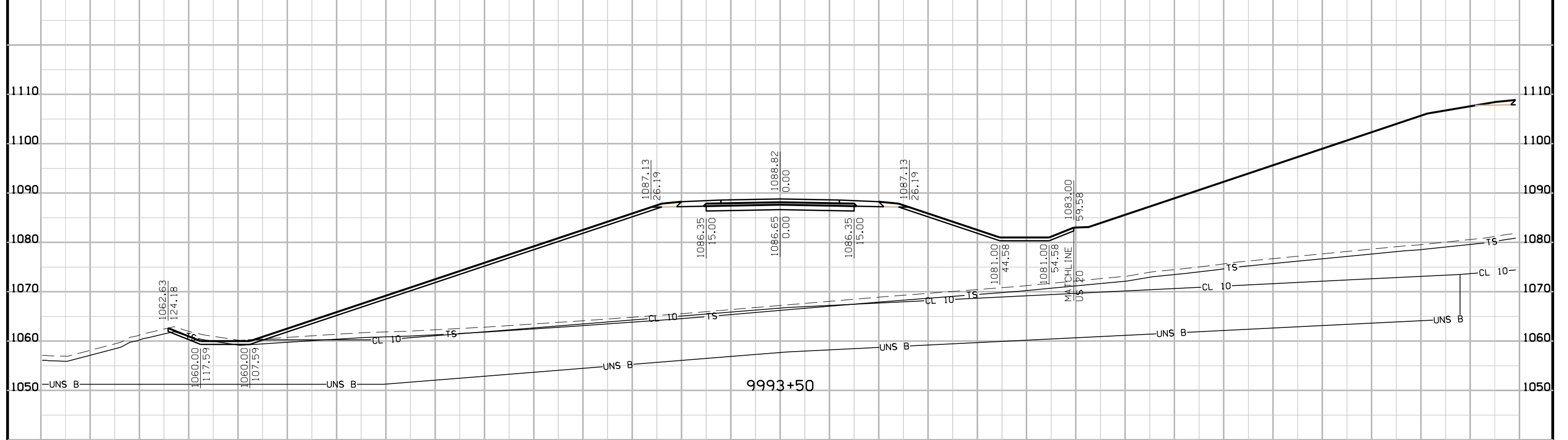
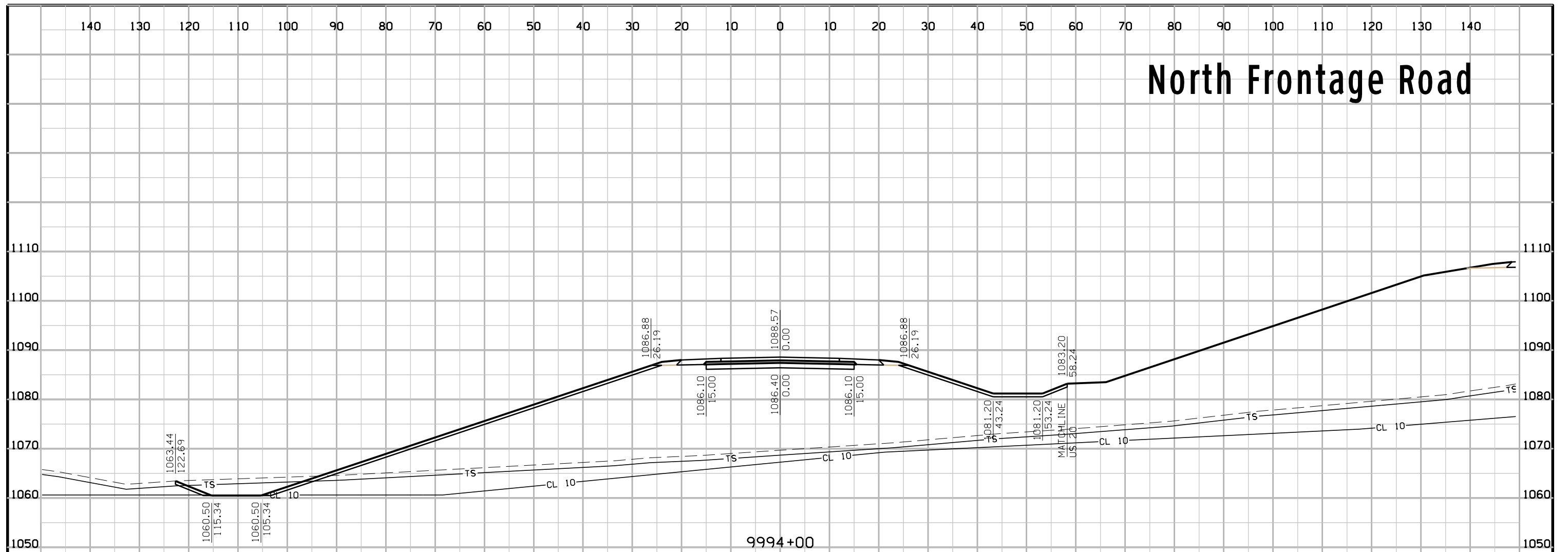


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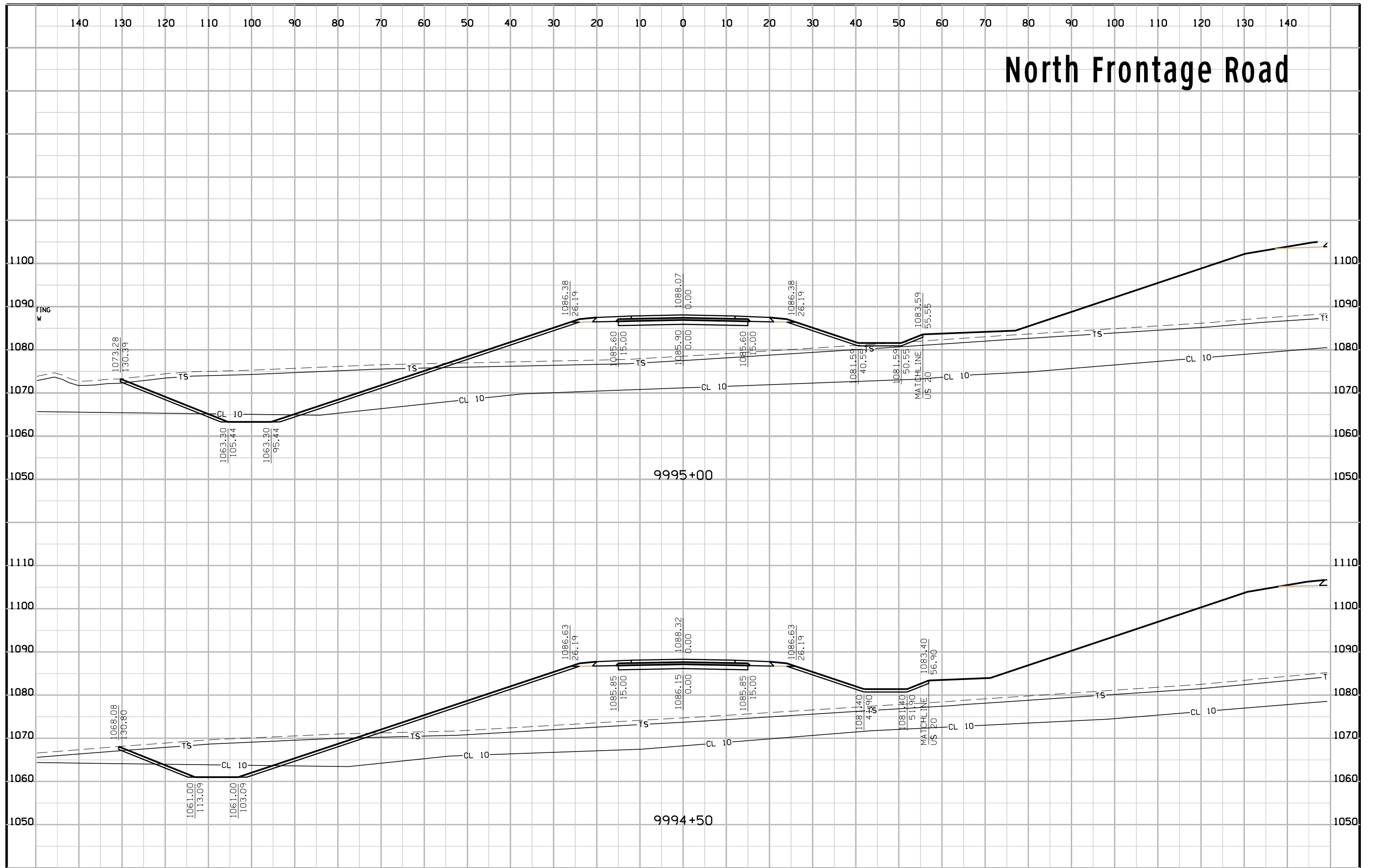




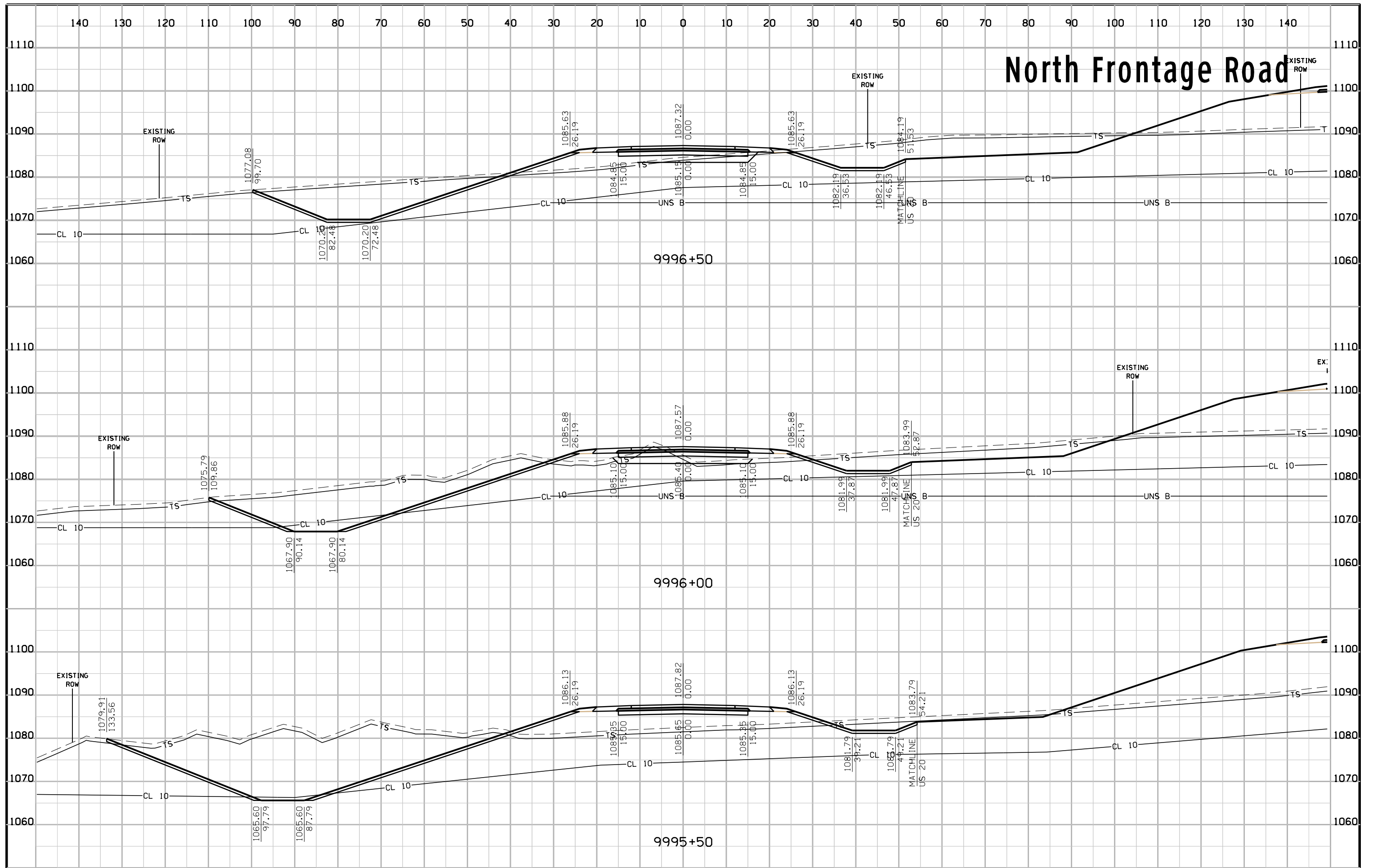
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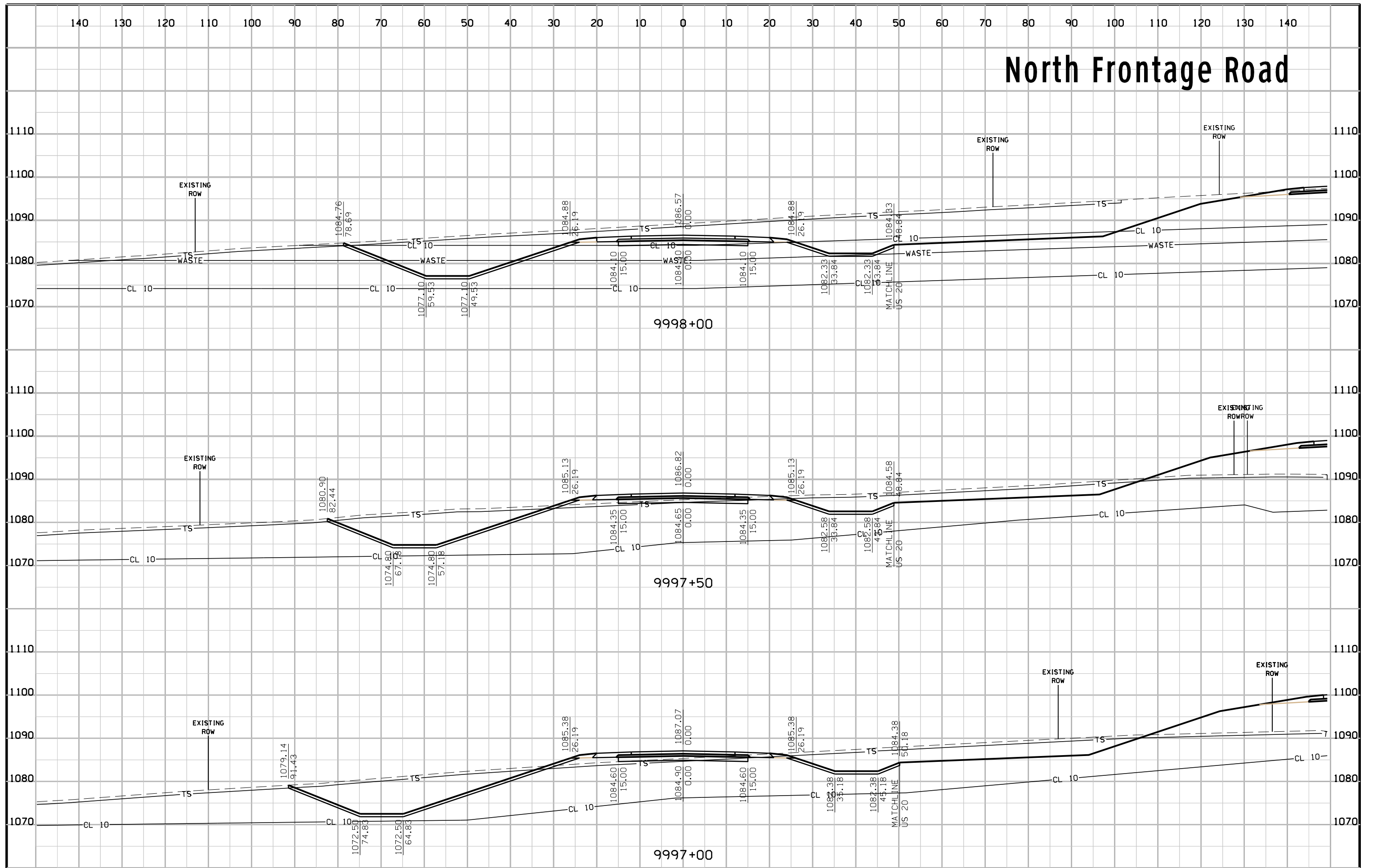
# North Frontage Road



# North Frontage Road

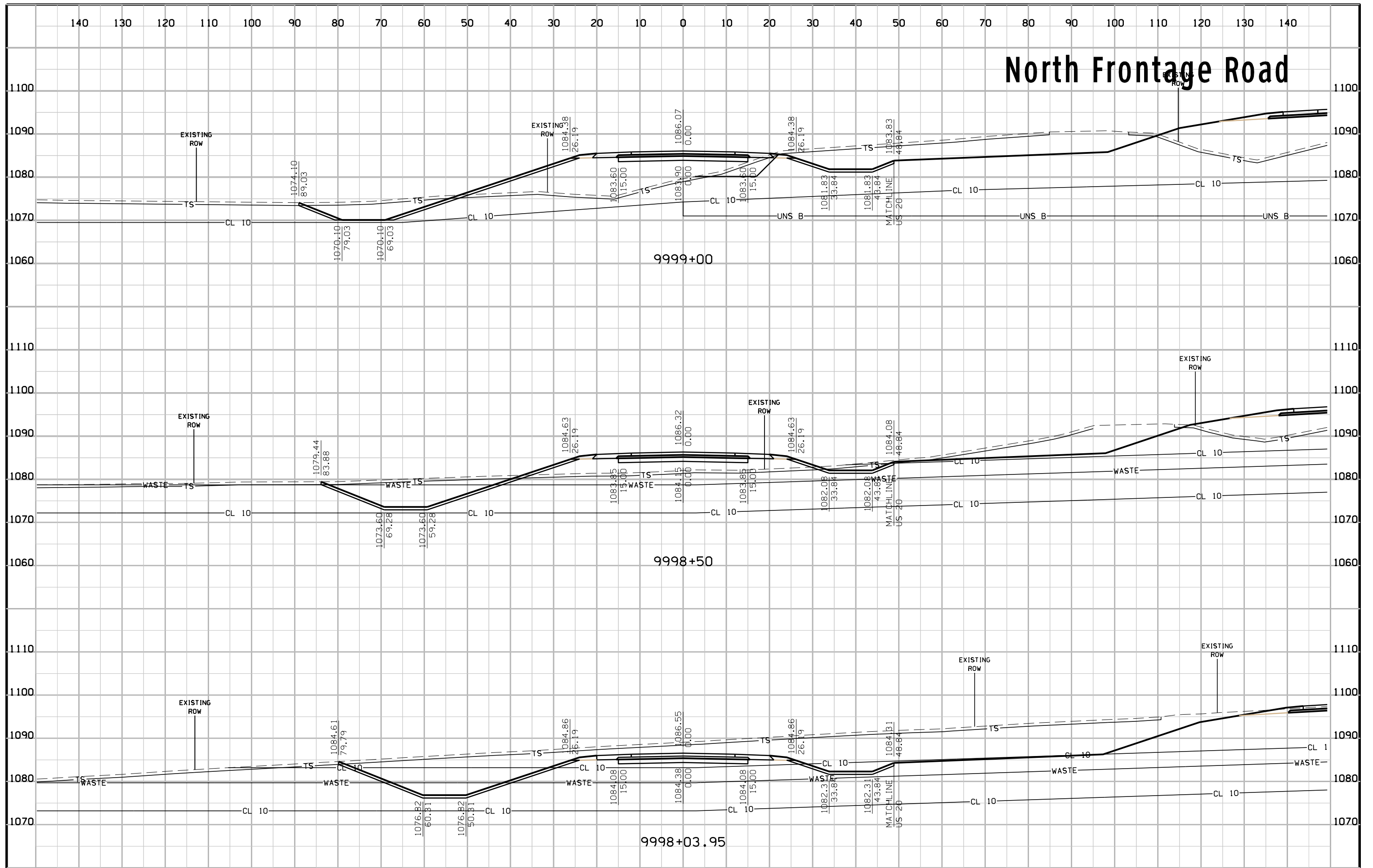


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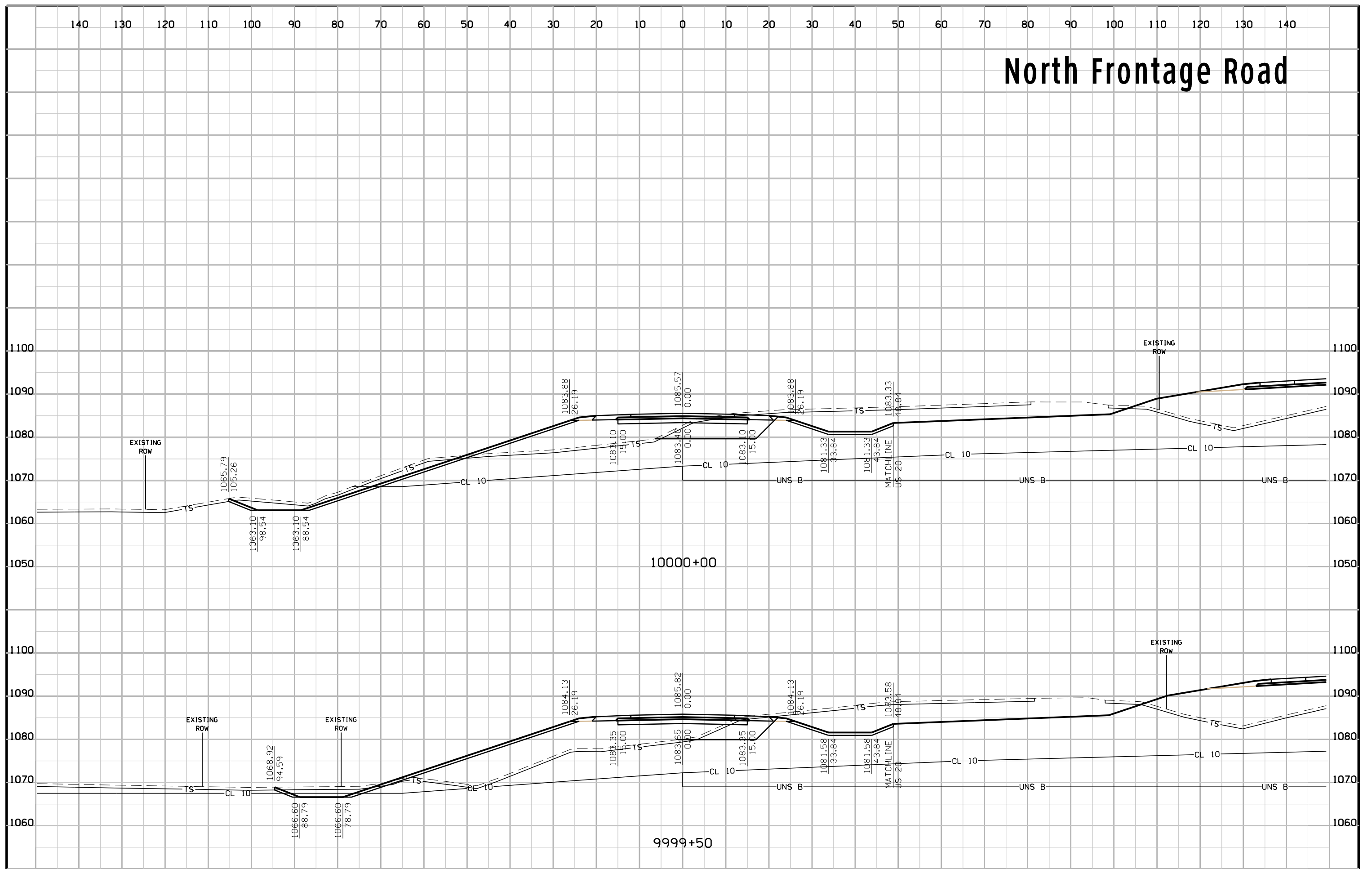


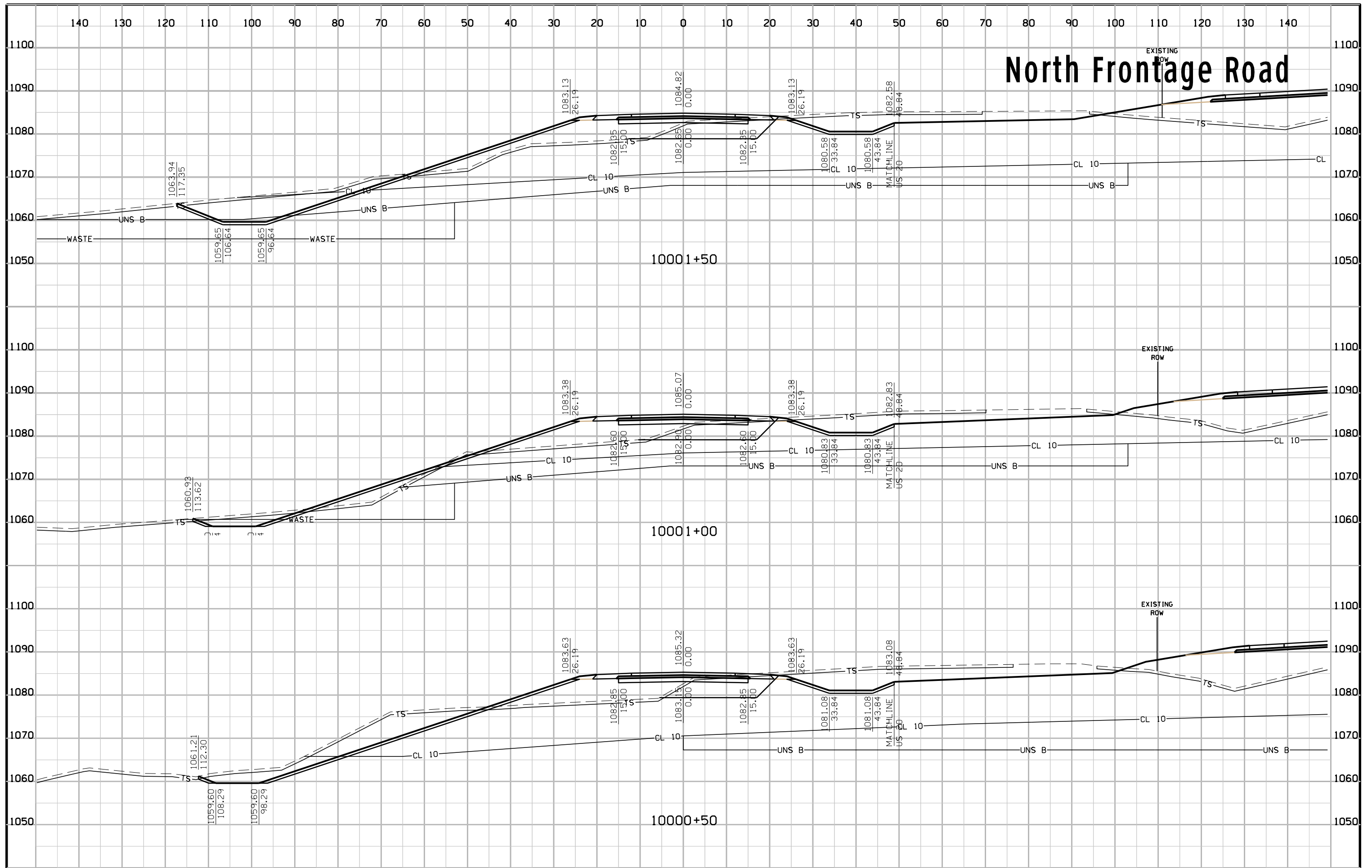


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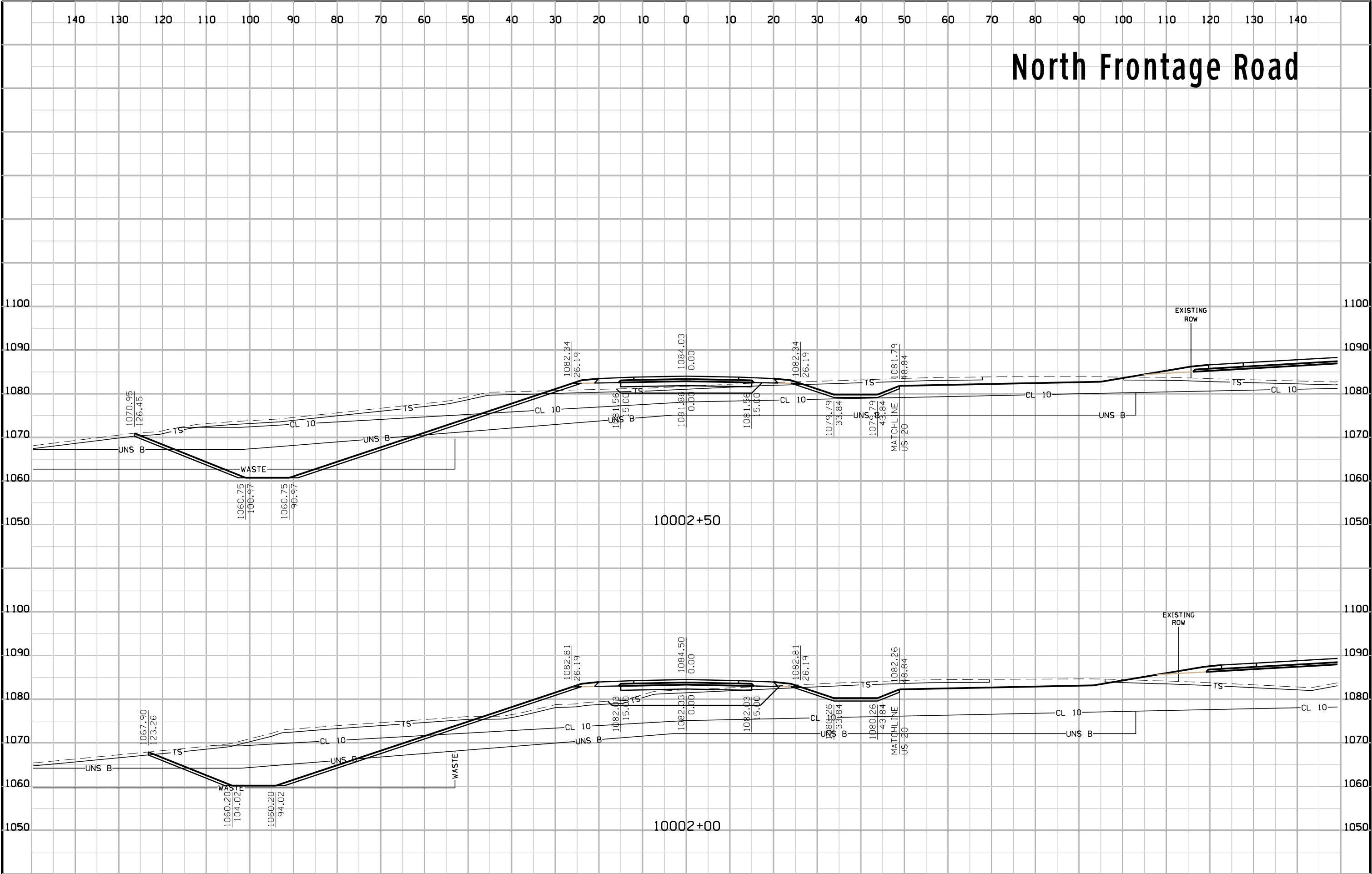


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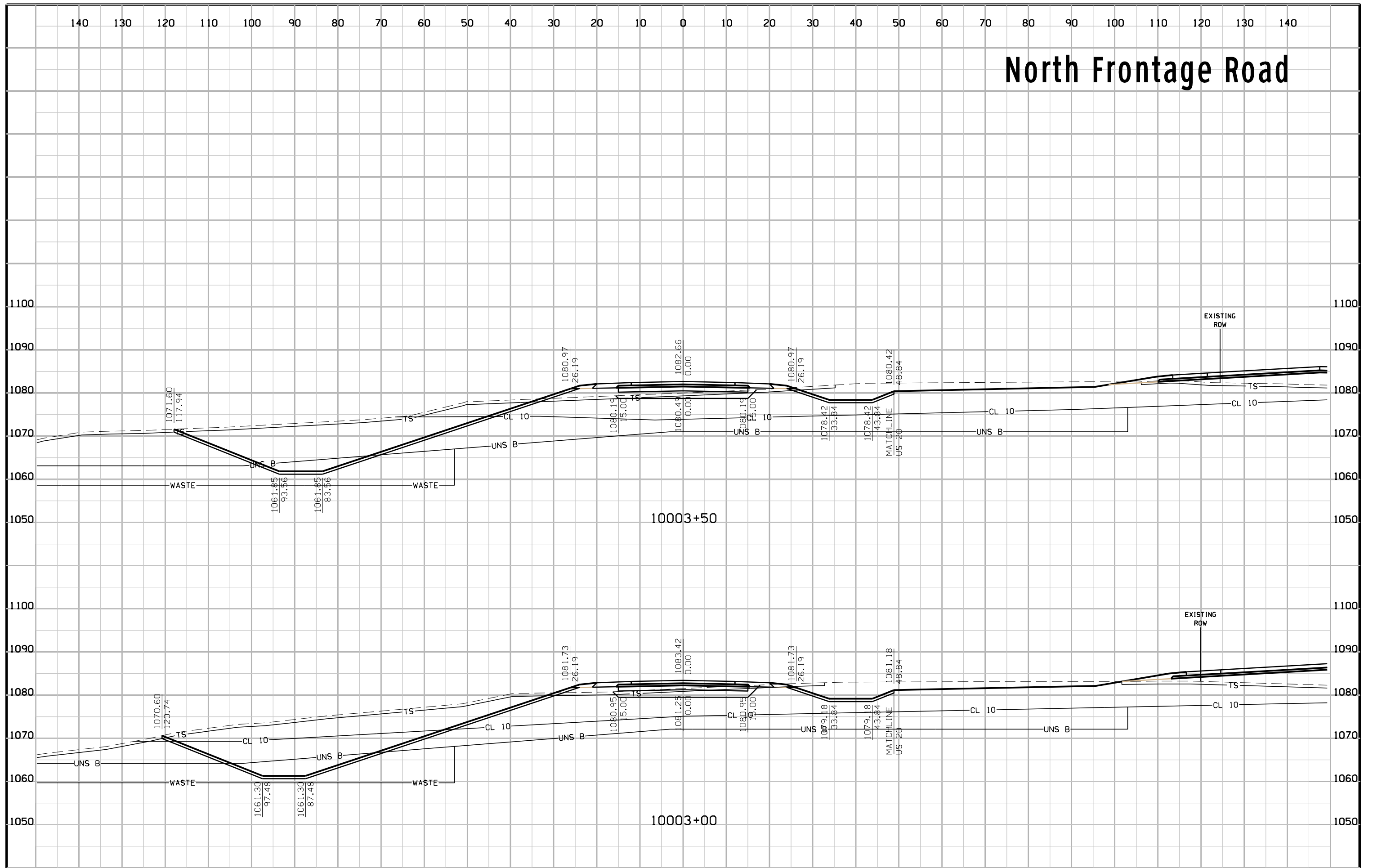


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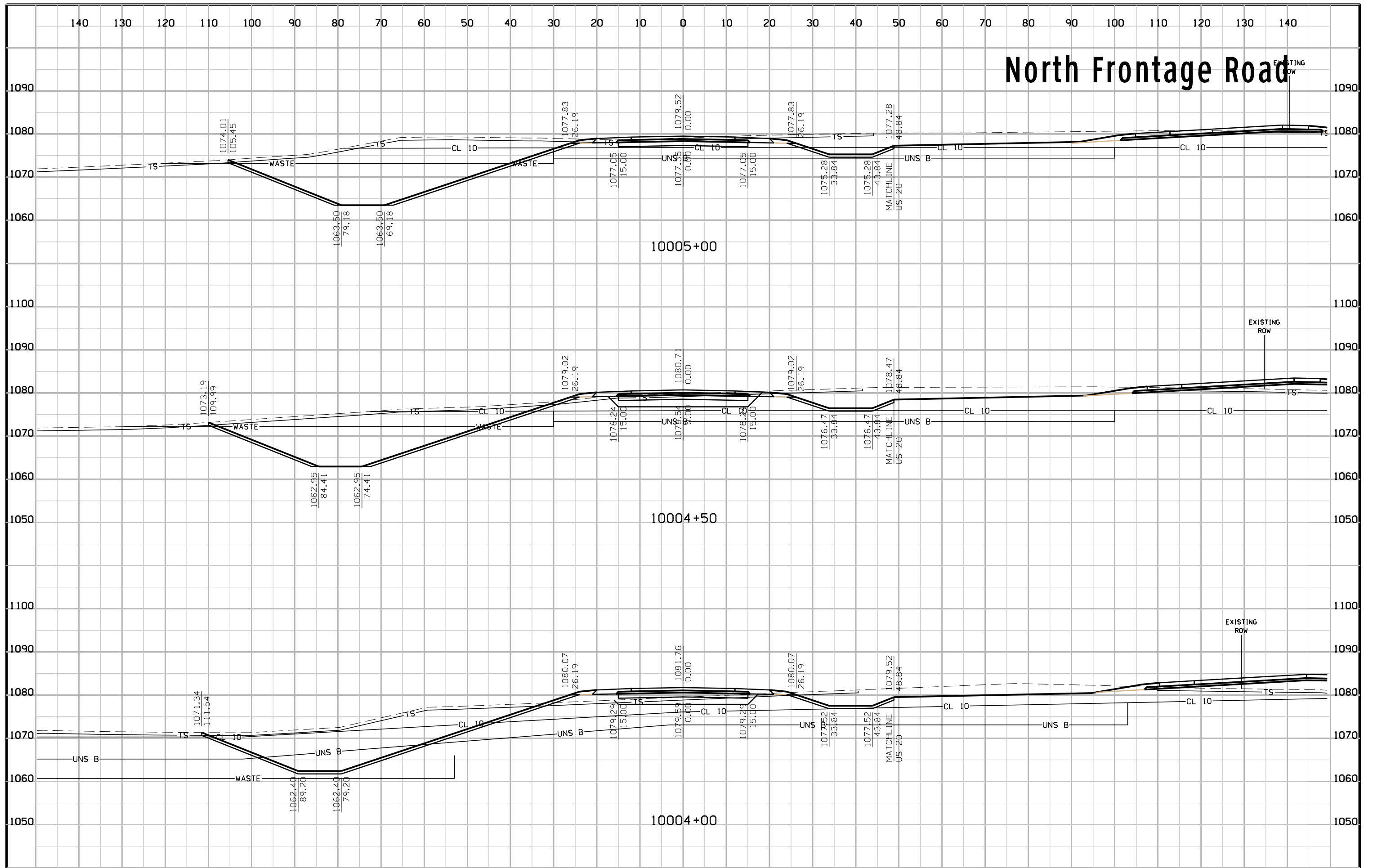




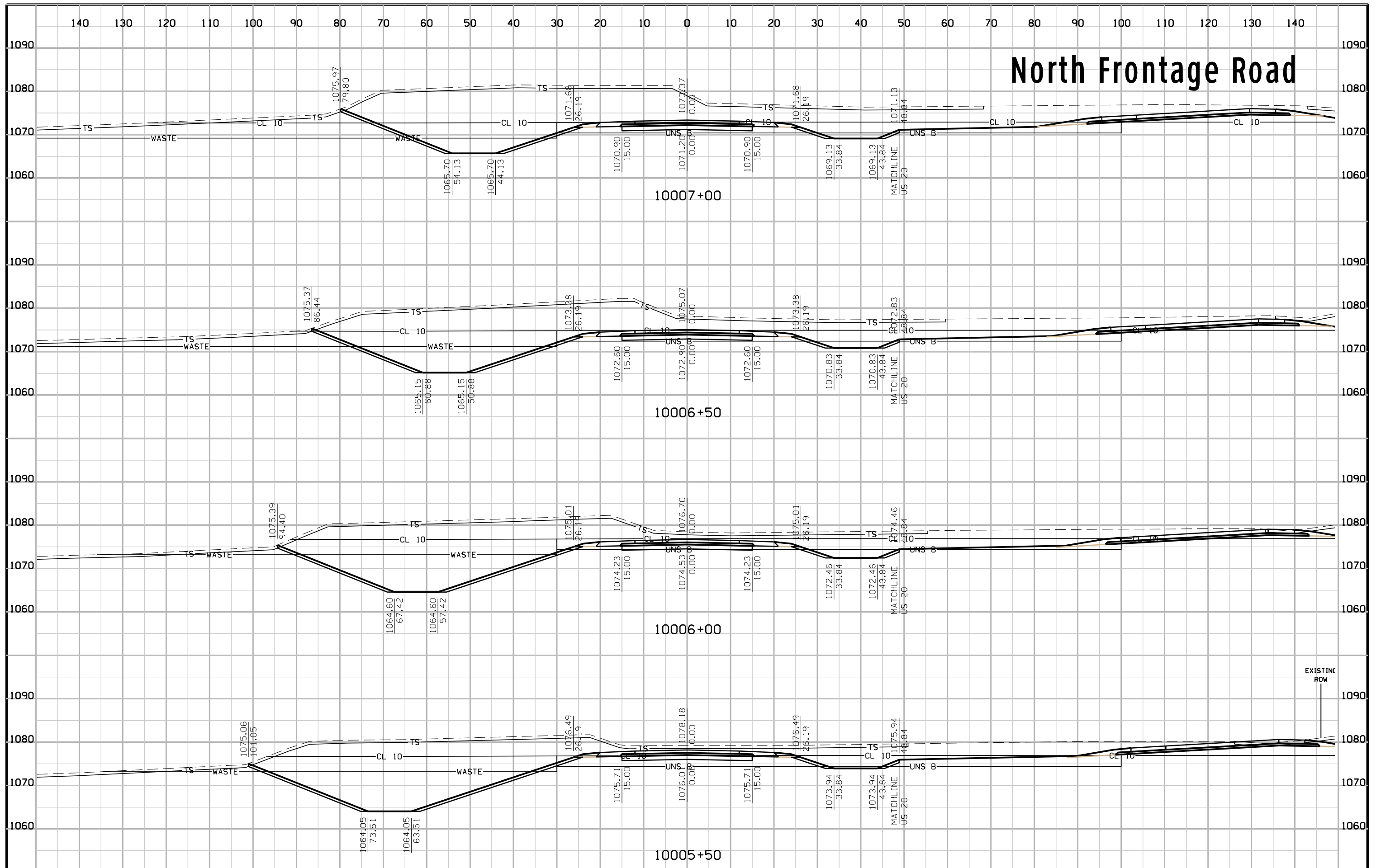
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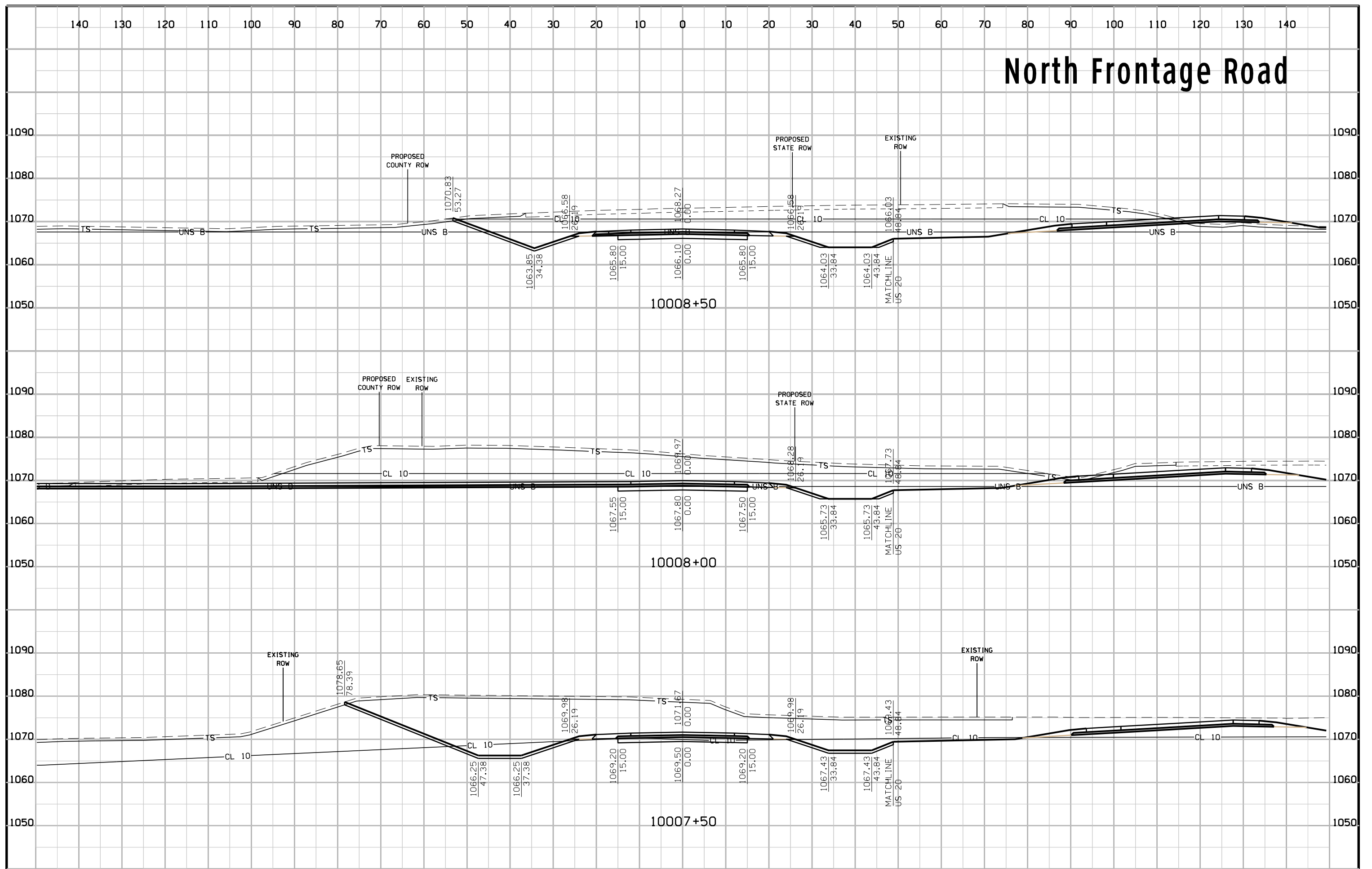
# North Frontage Road



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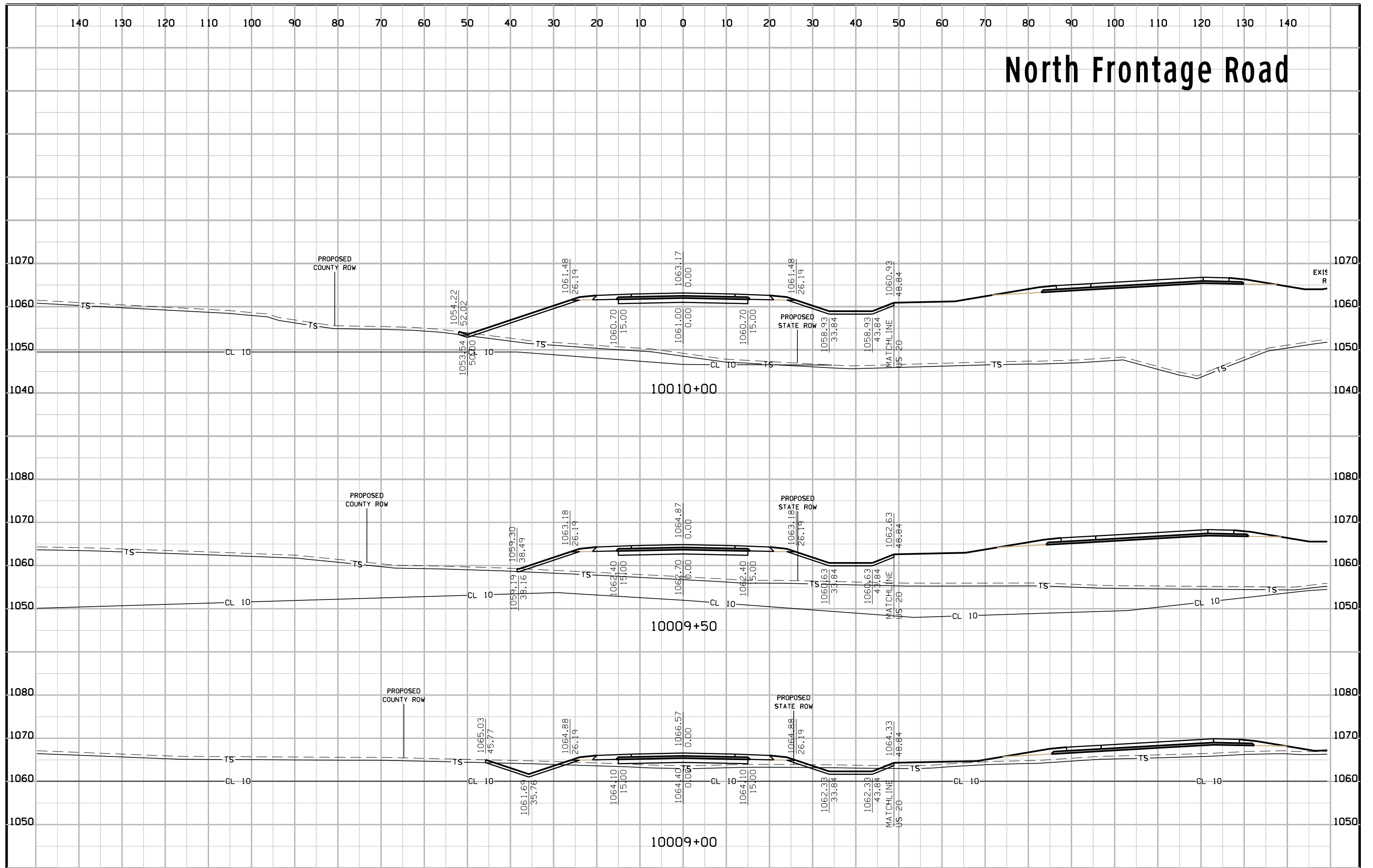


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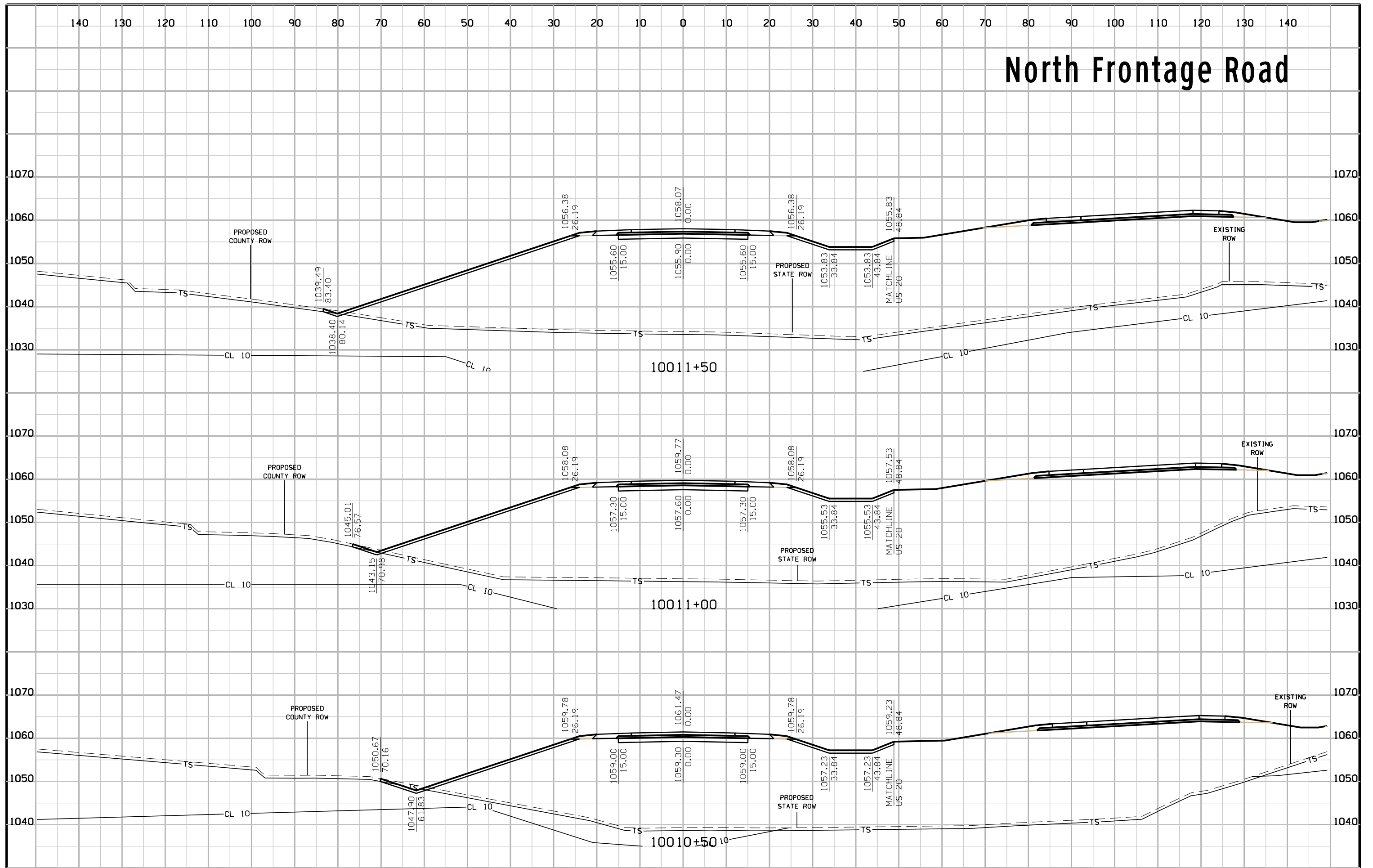




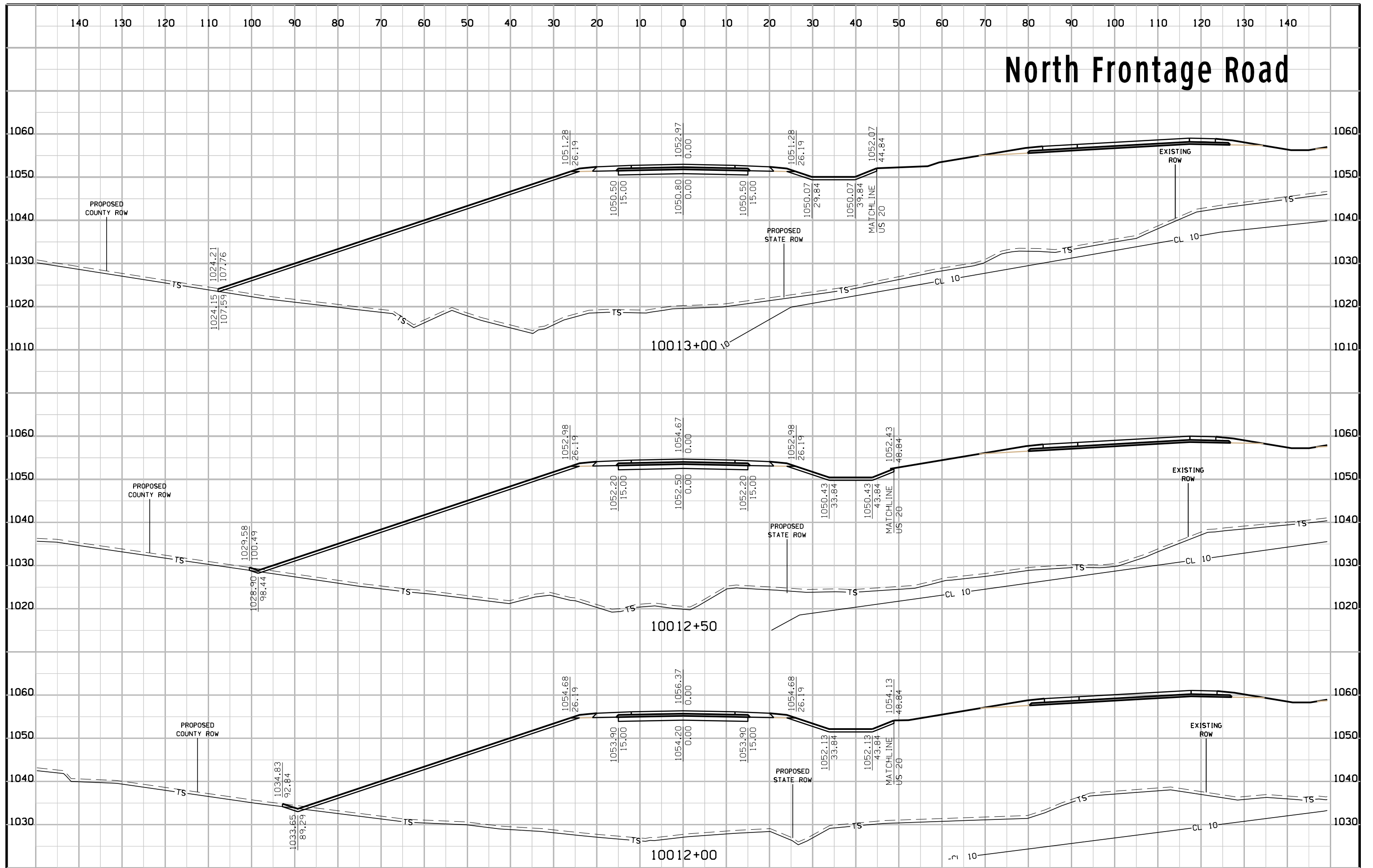
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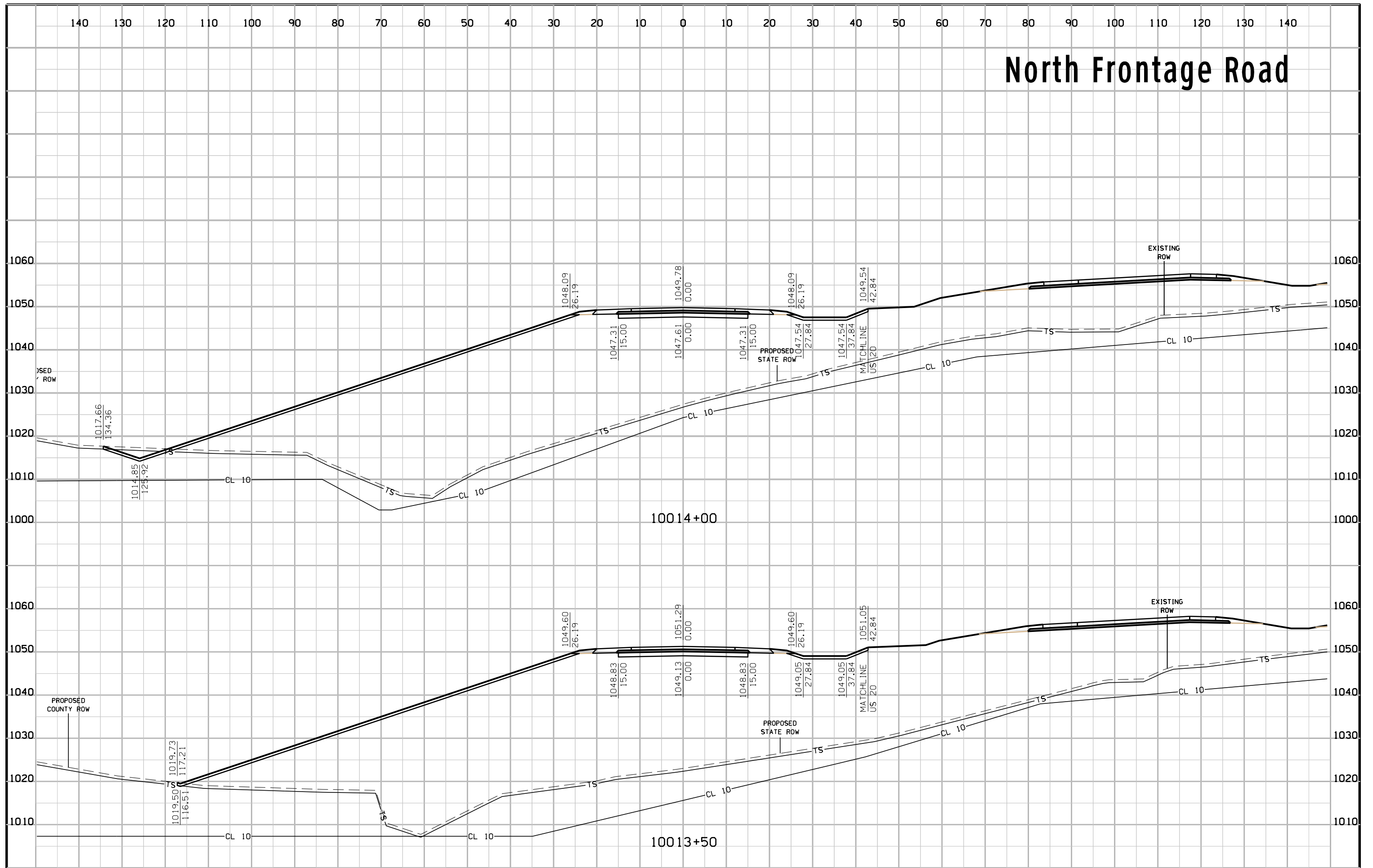
# North Frontage Road



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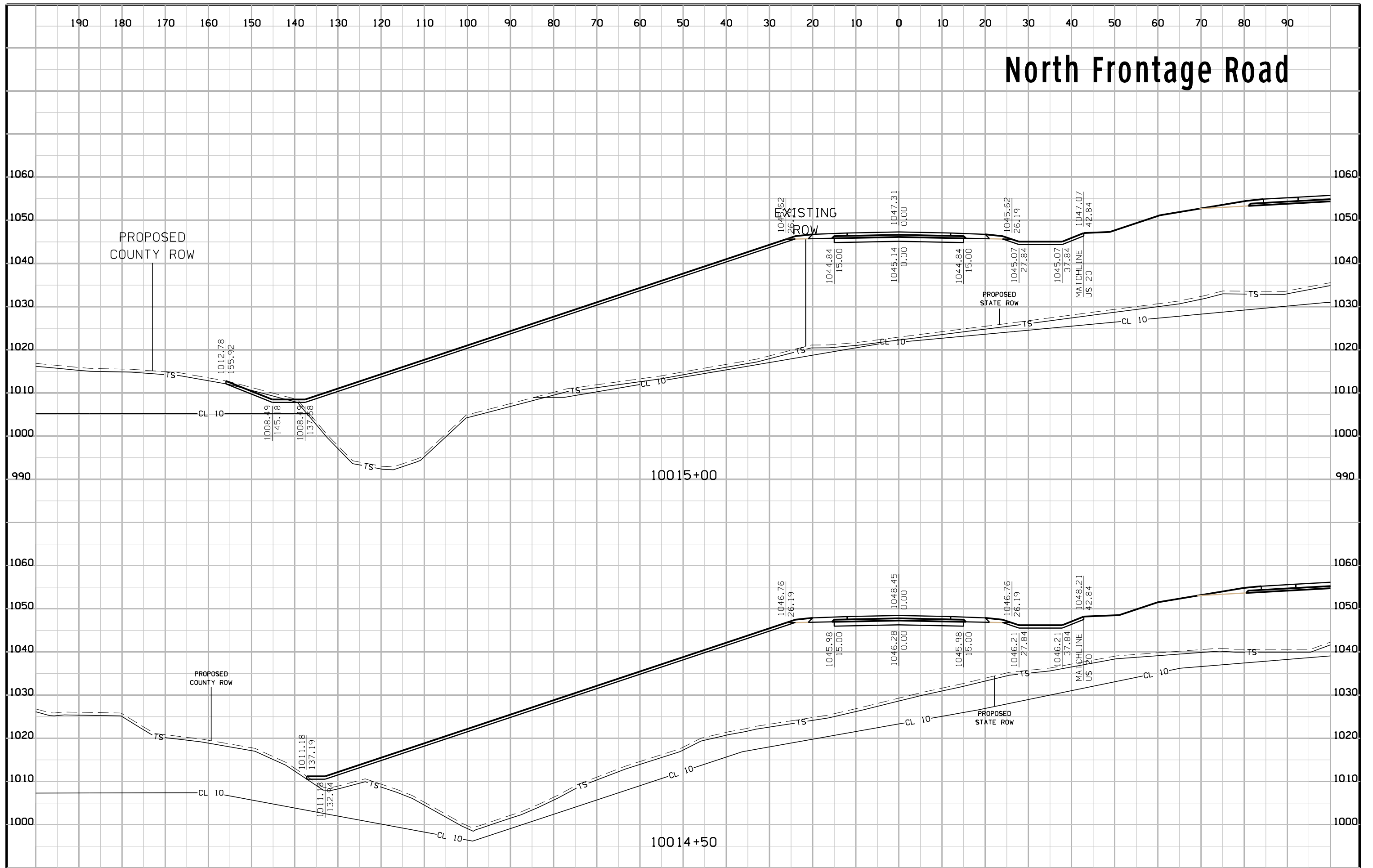


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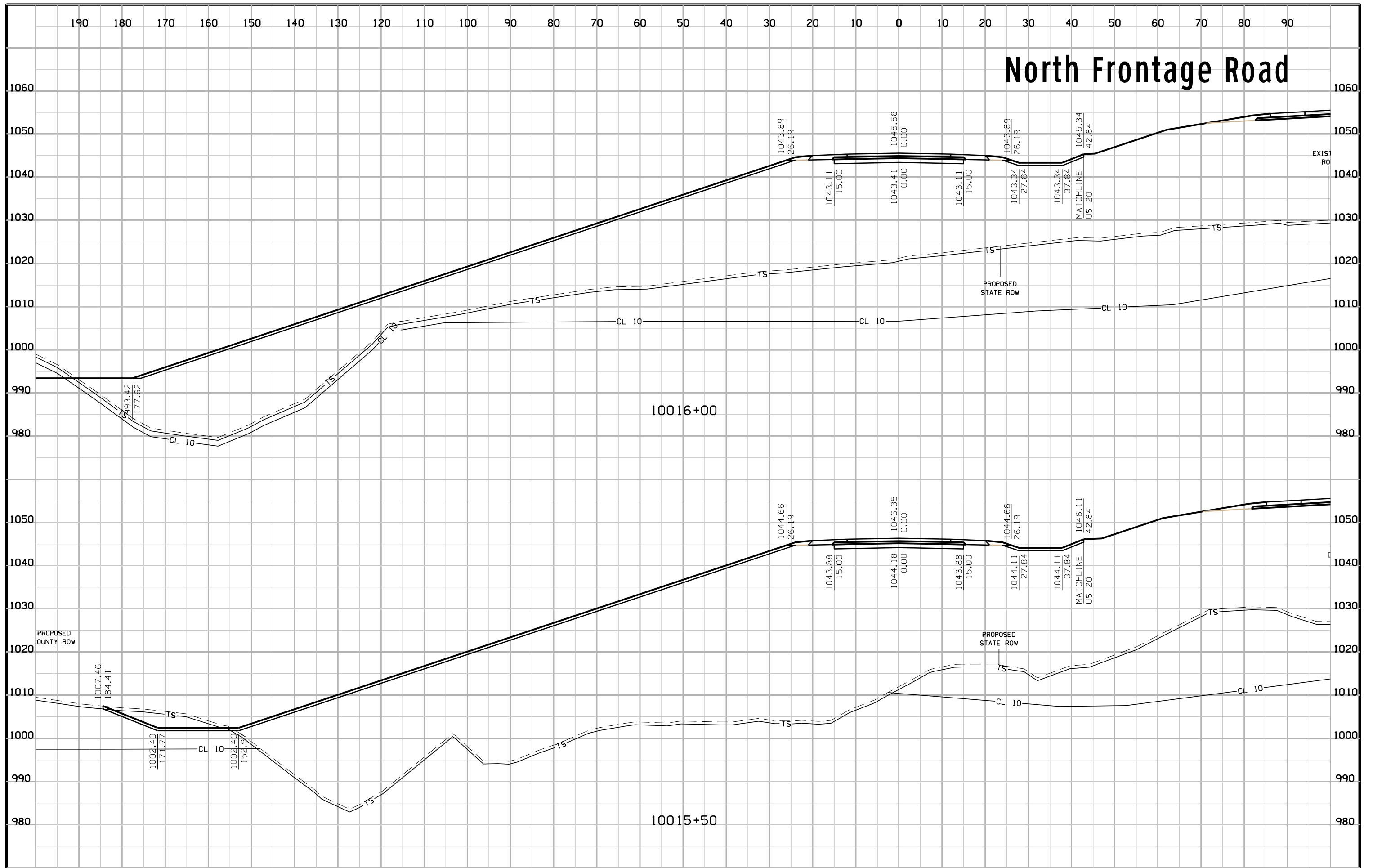




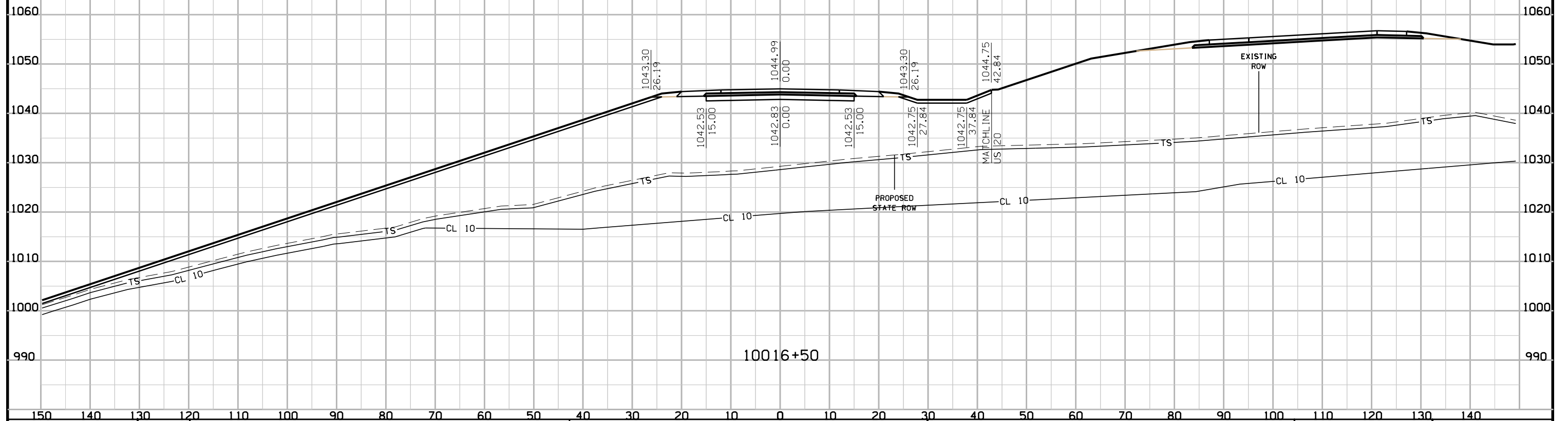
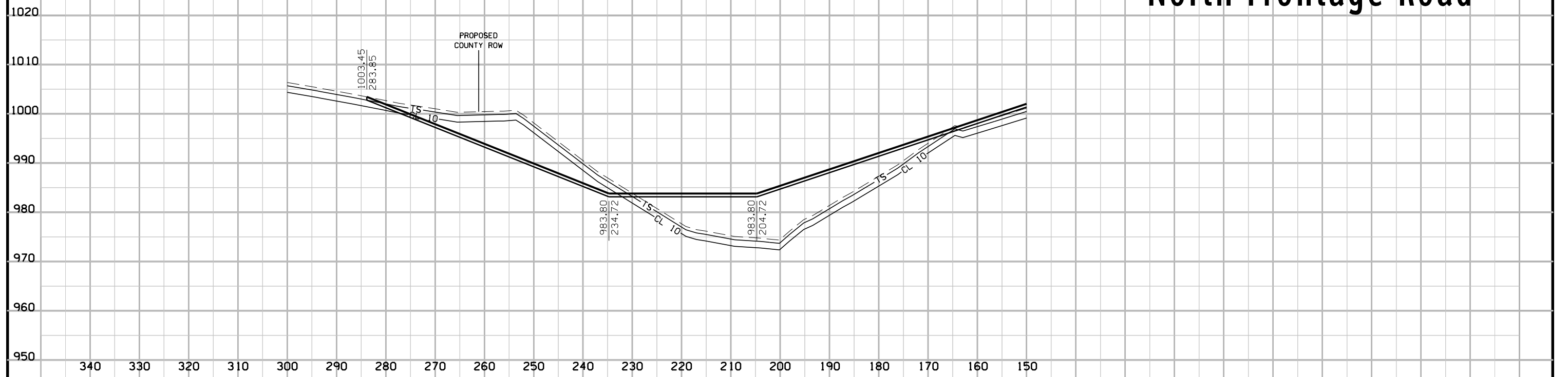
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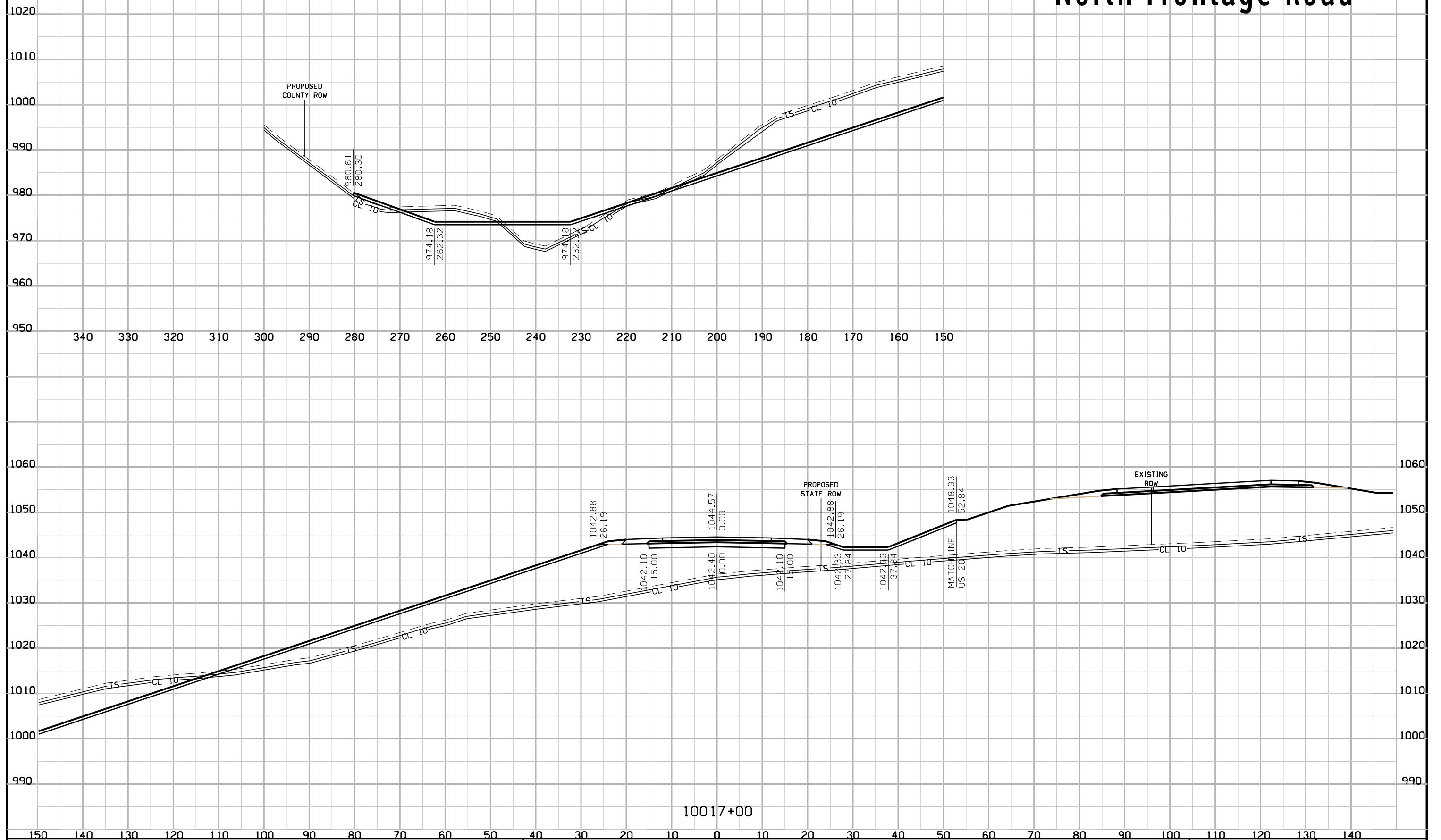
# North Frontage Road



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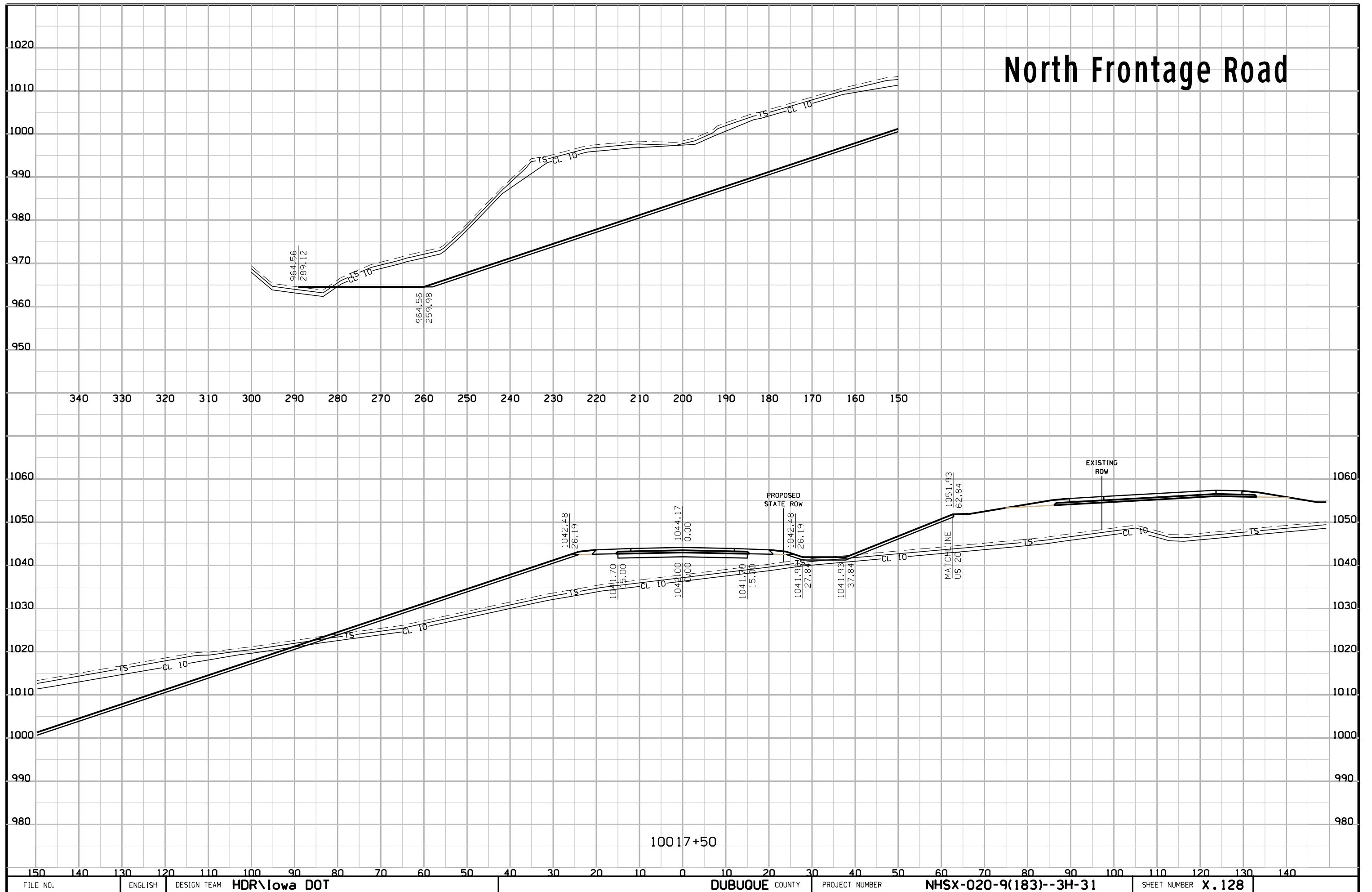
# North Frontage Road



10017+00

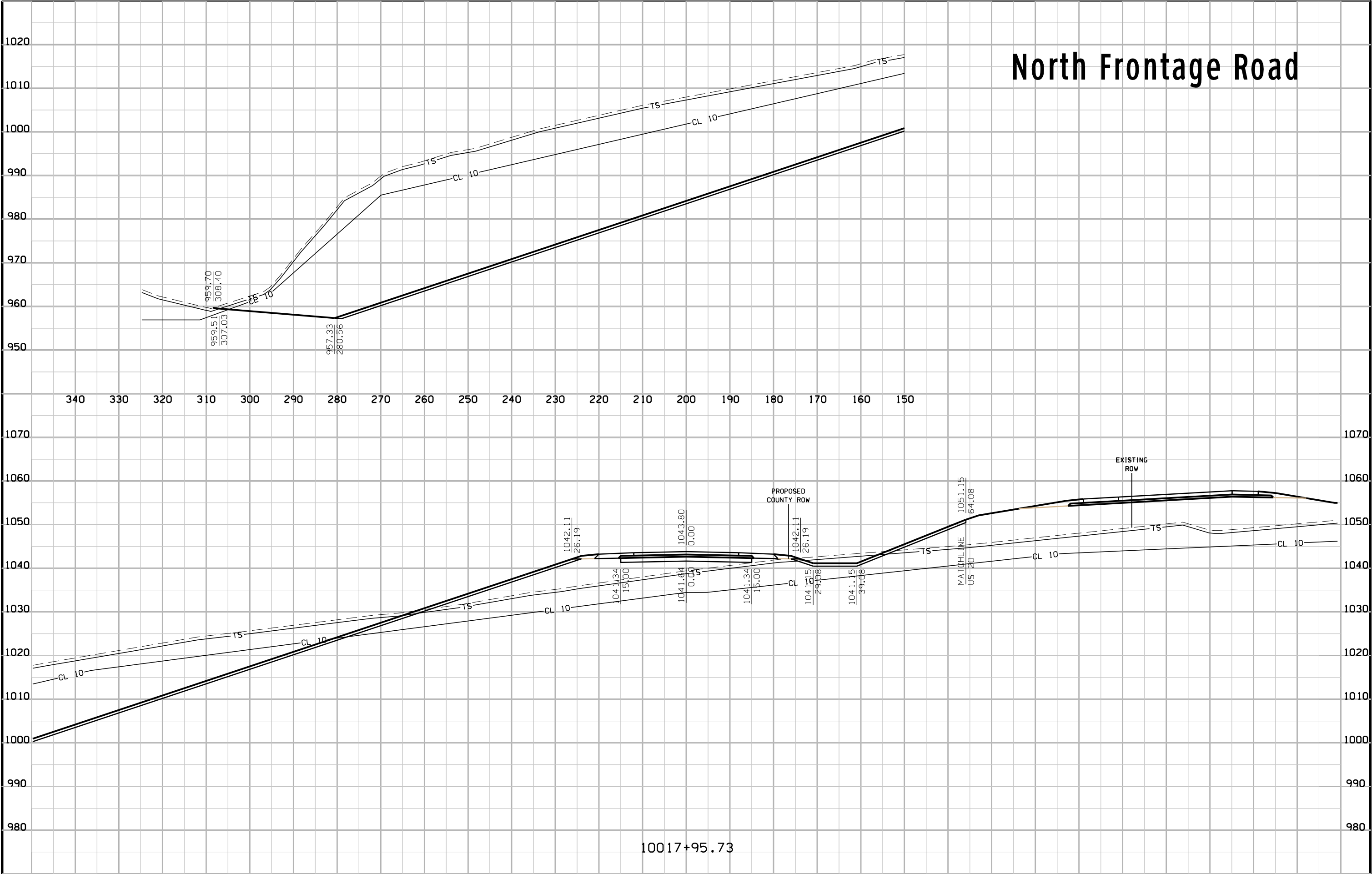


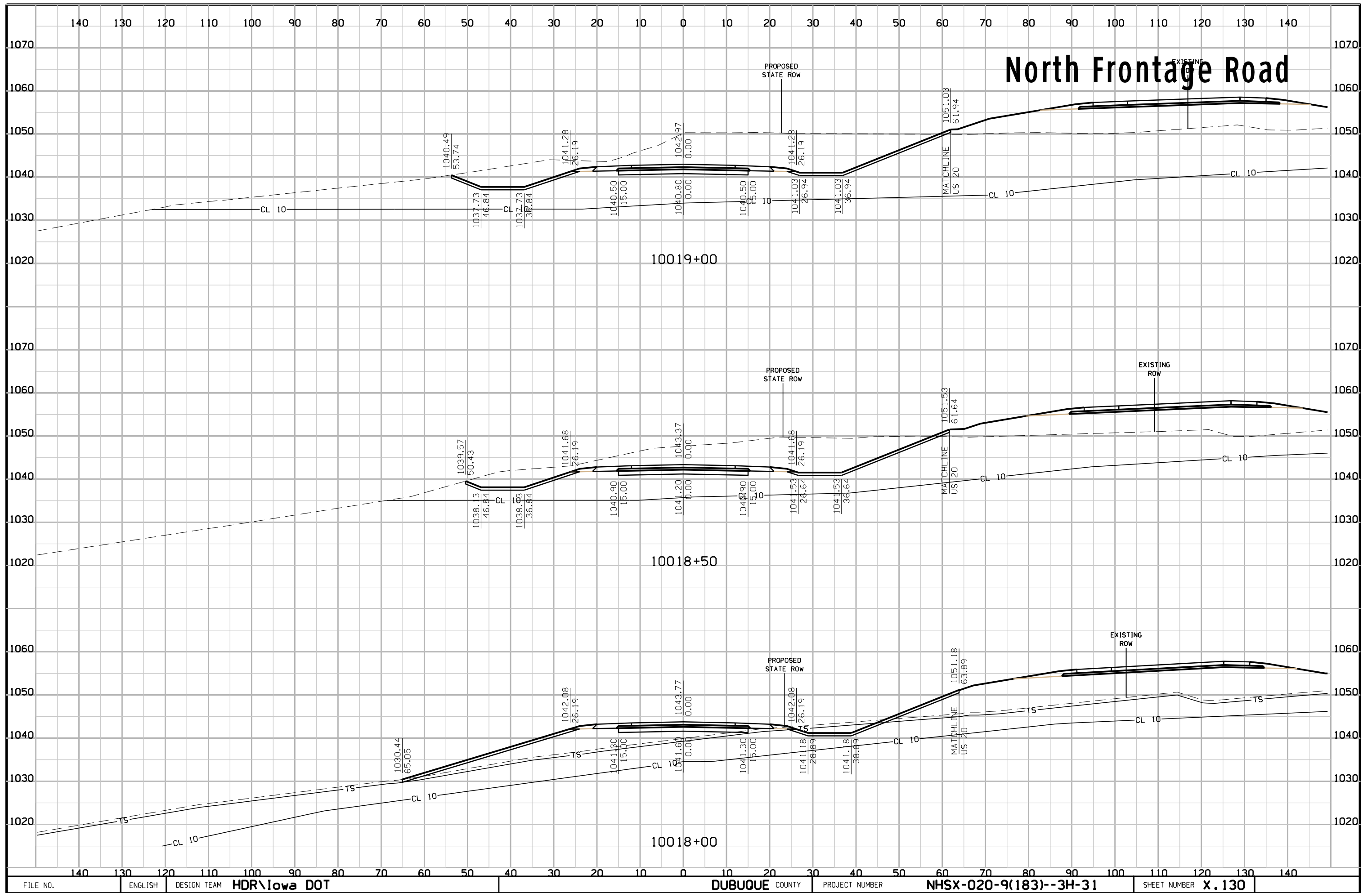
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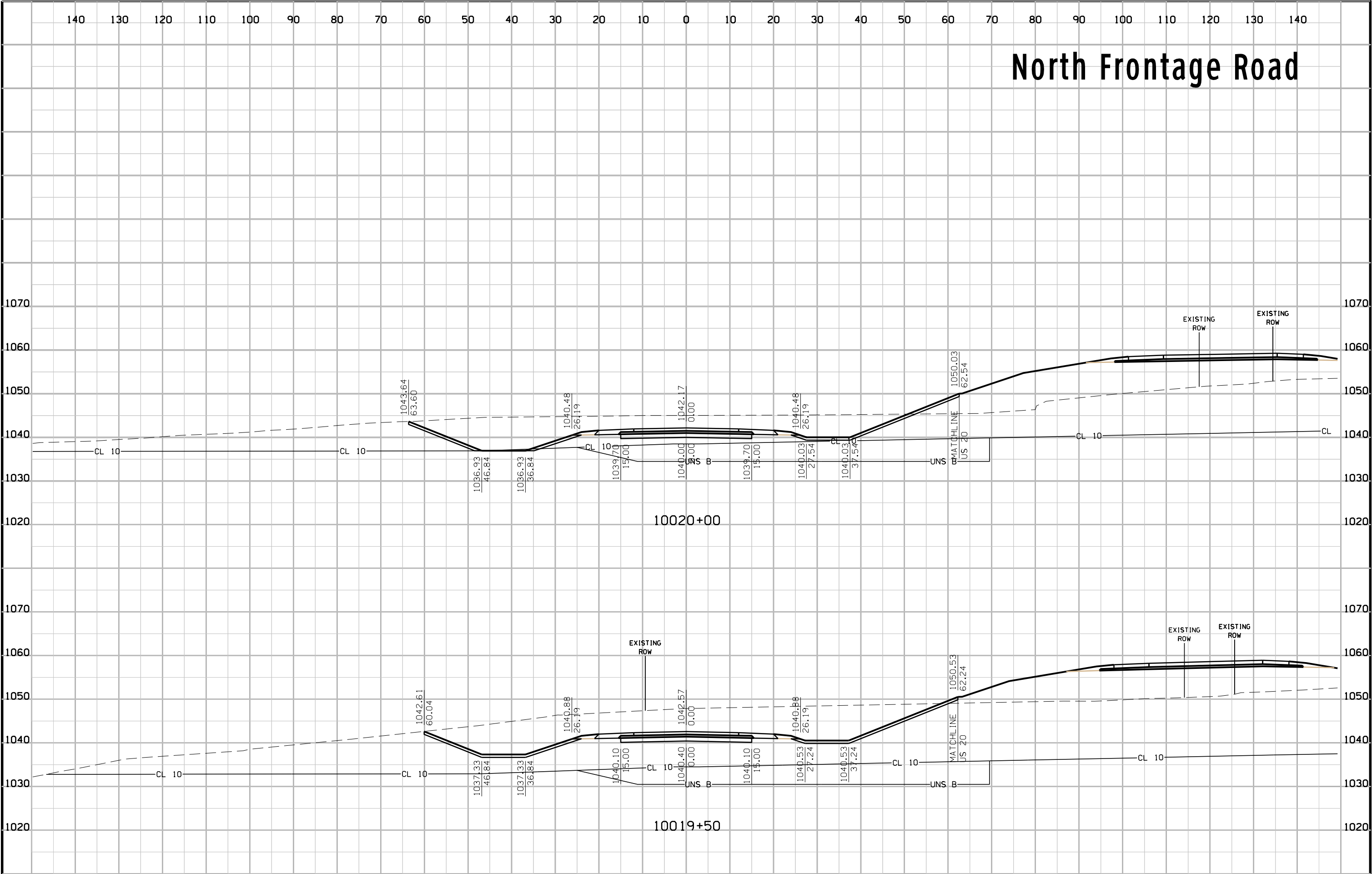
10017+50

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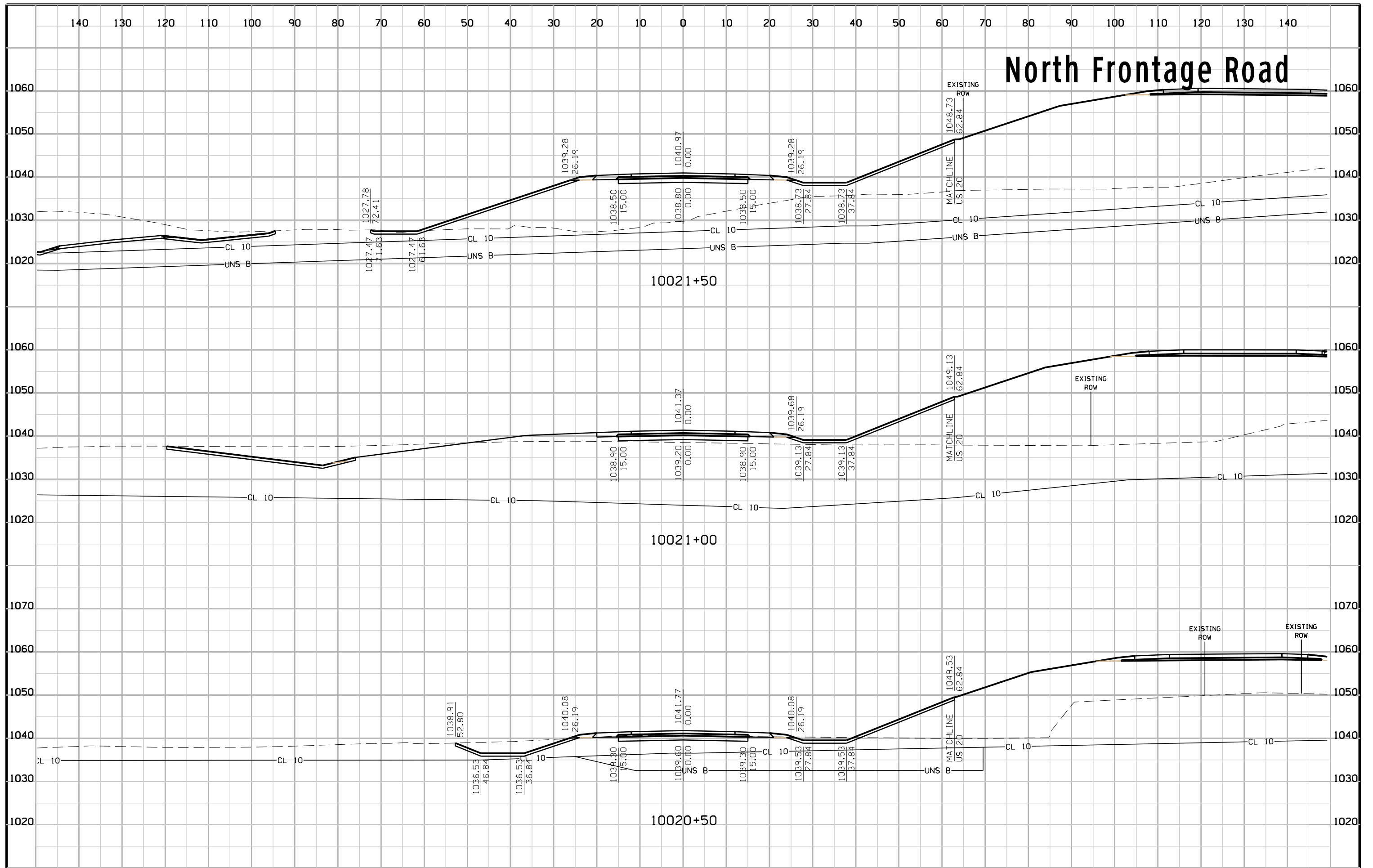


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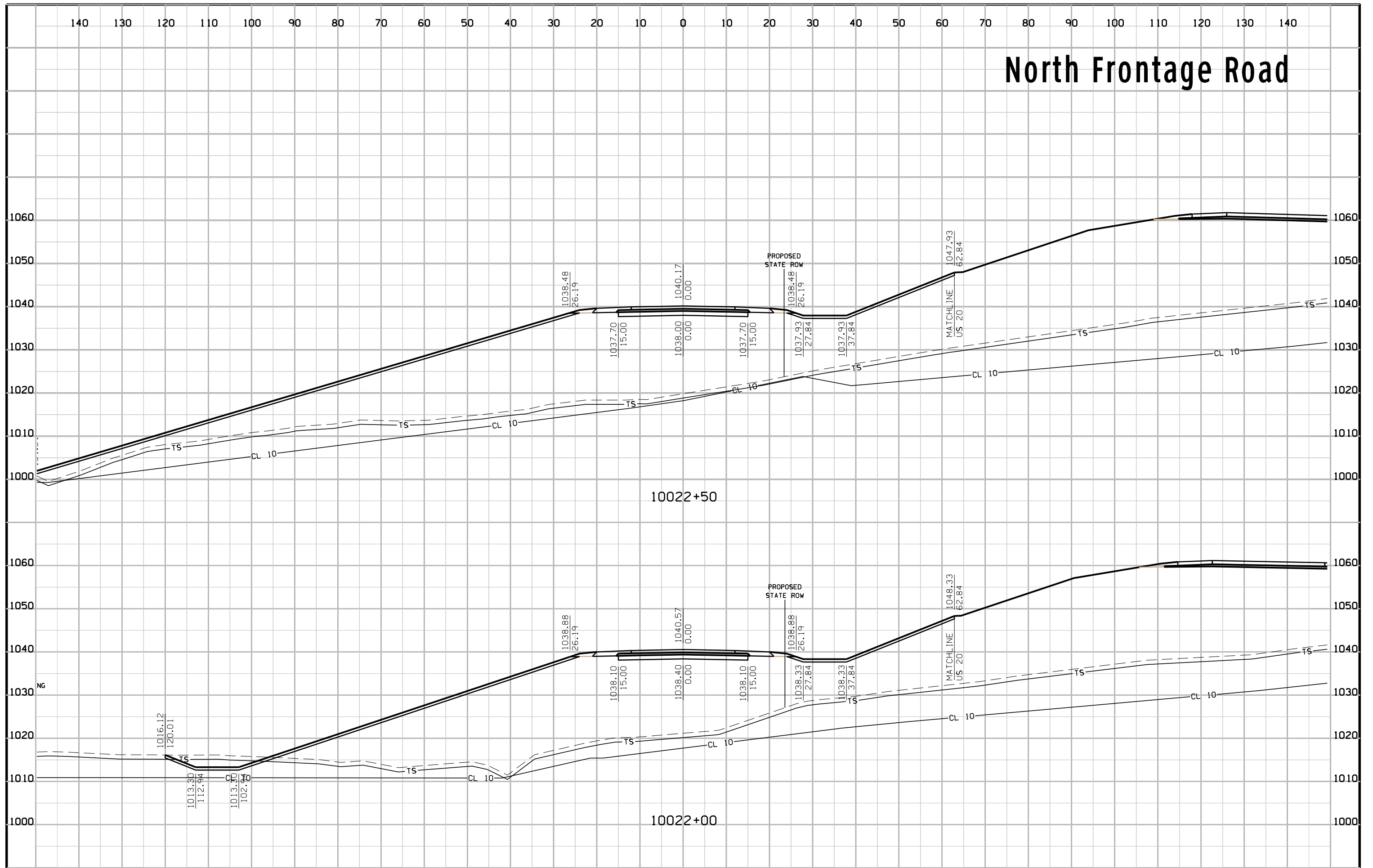




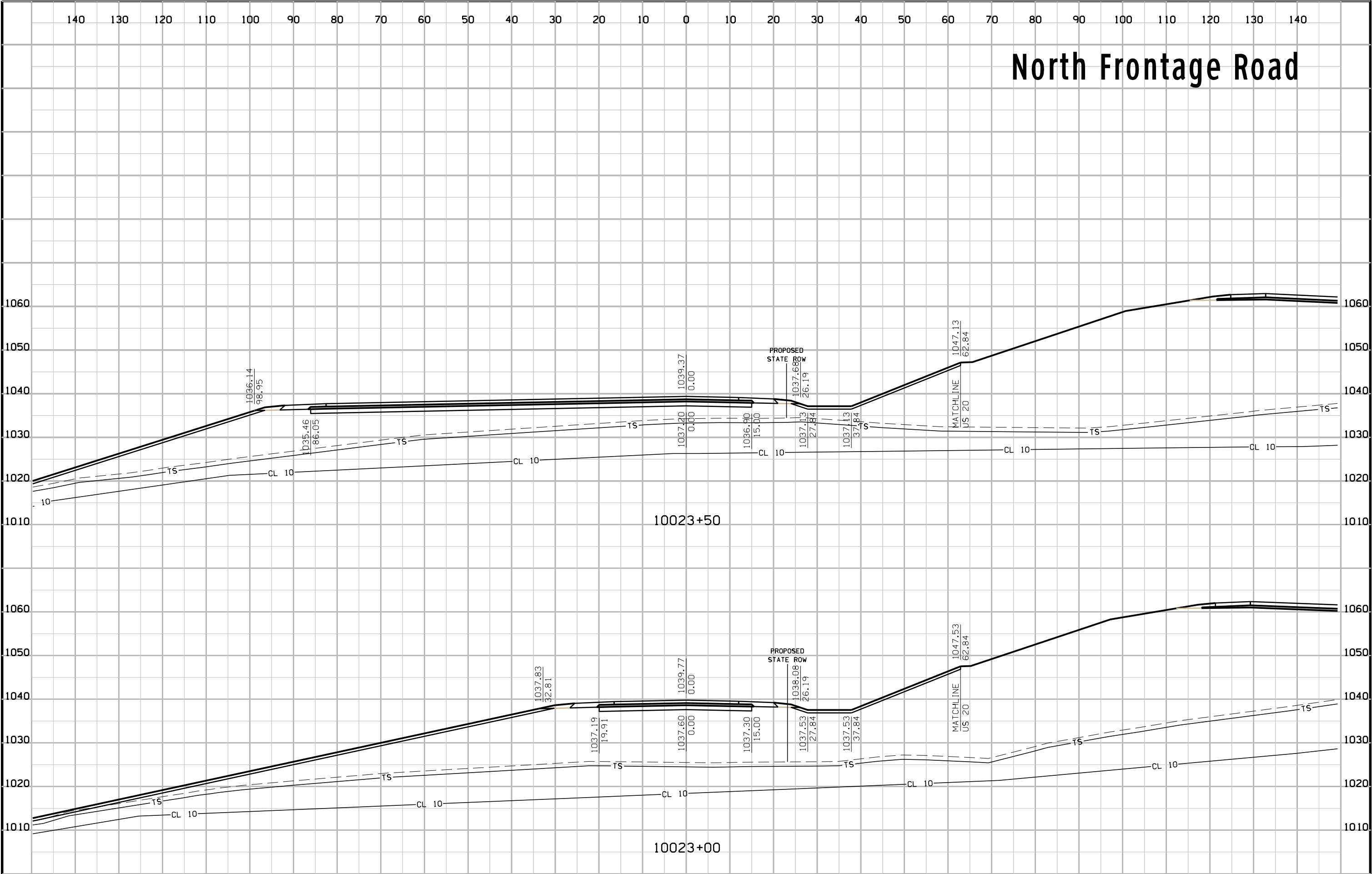
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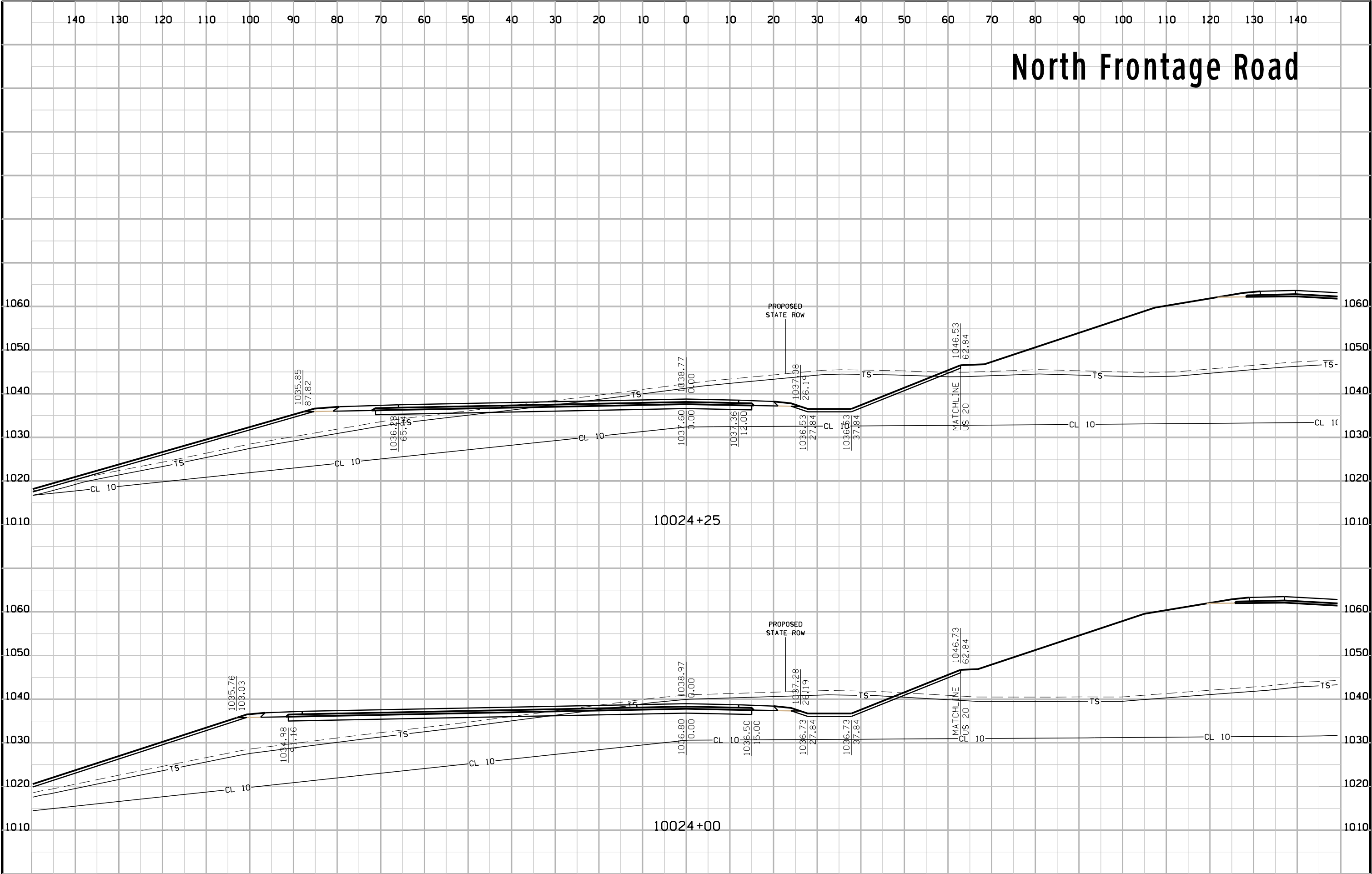
# North Frontage Road



# North Frontage Road

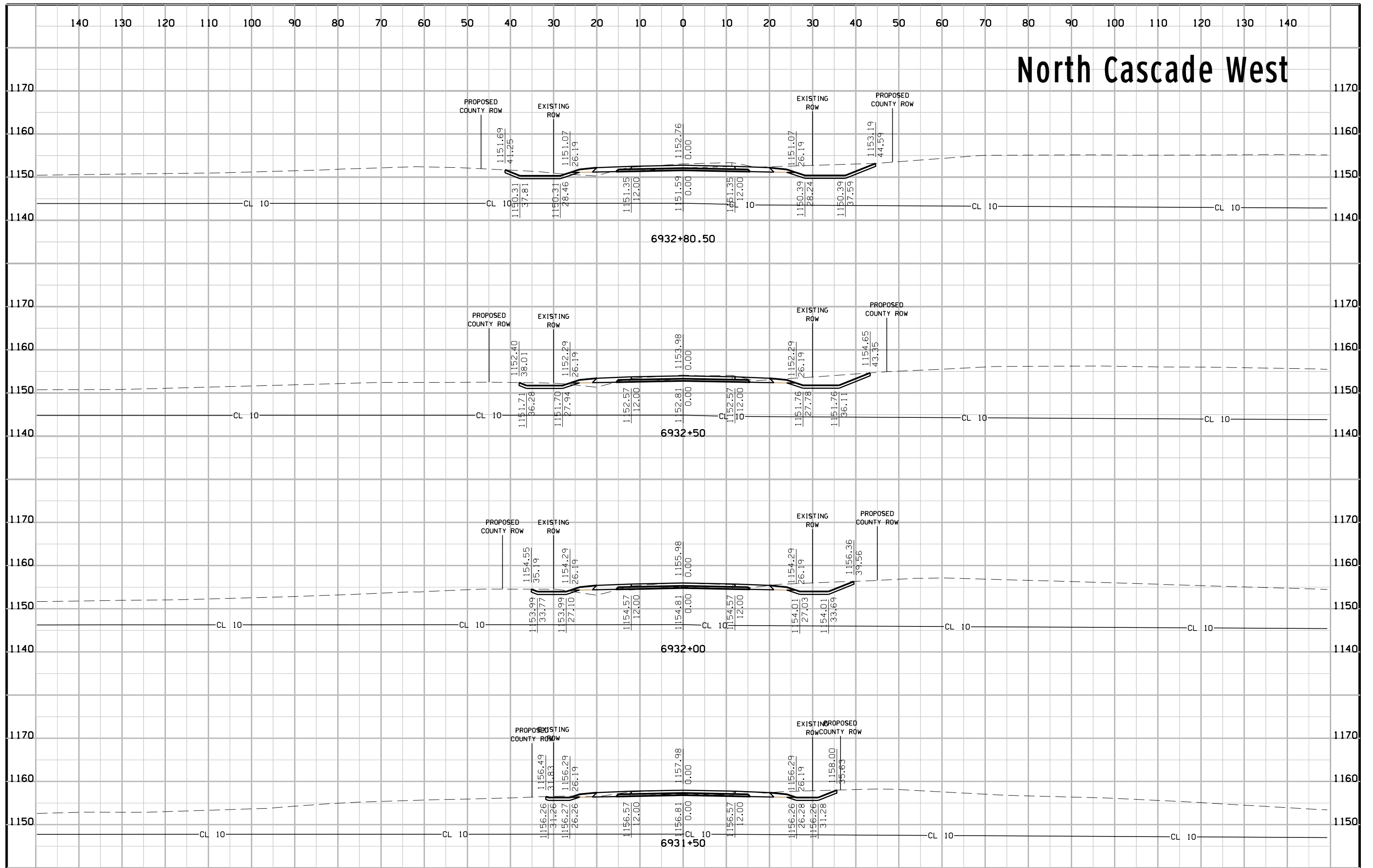


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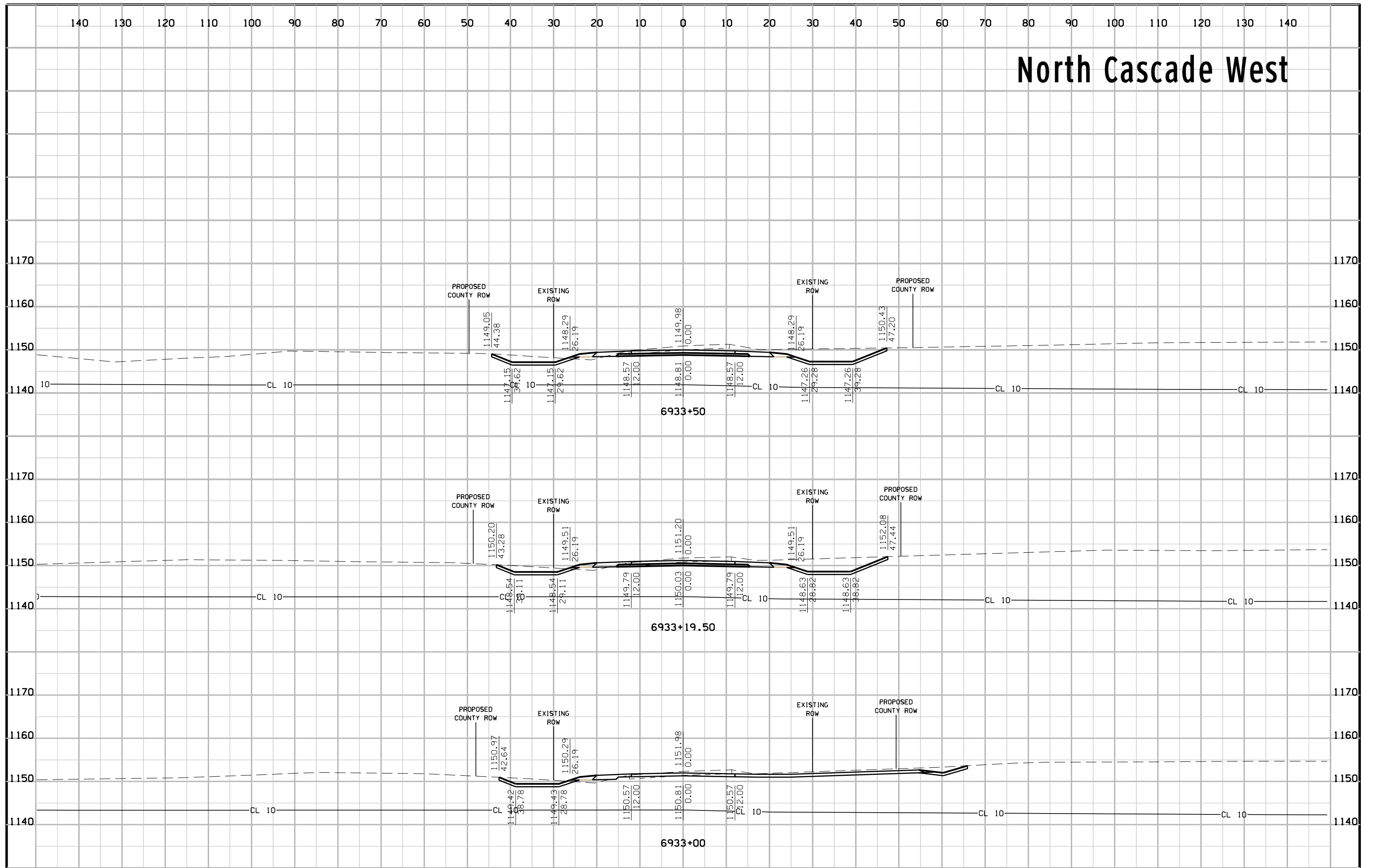




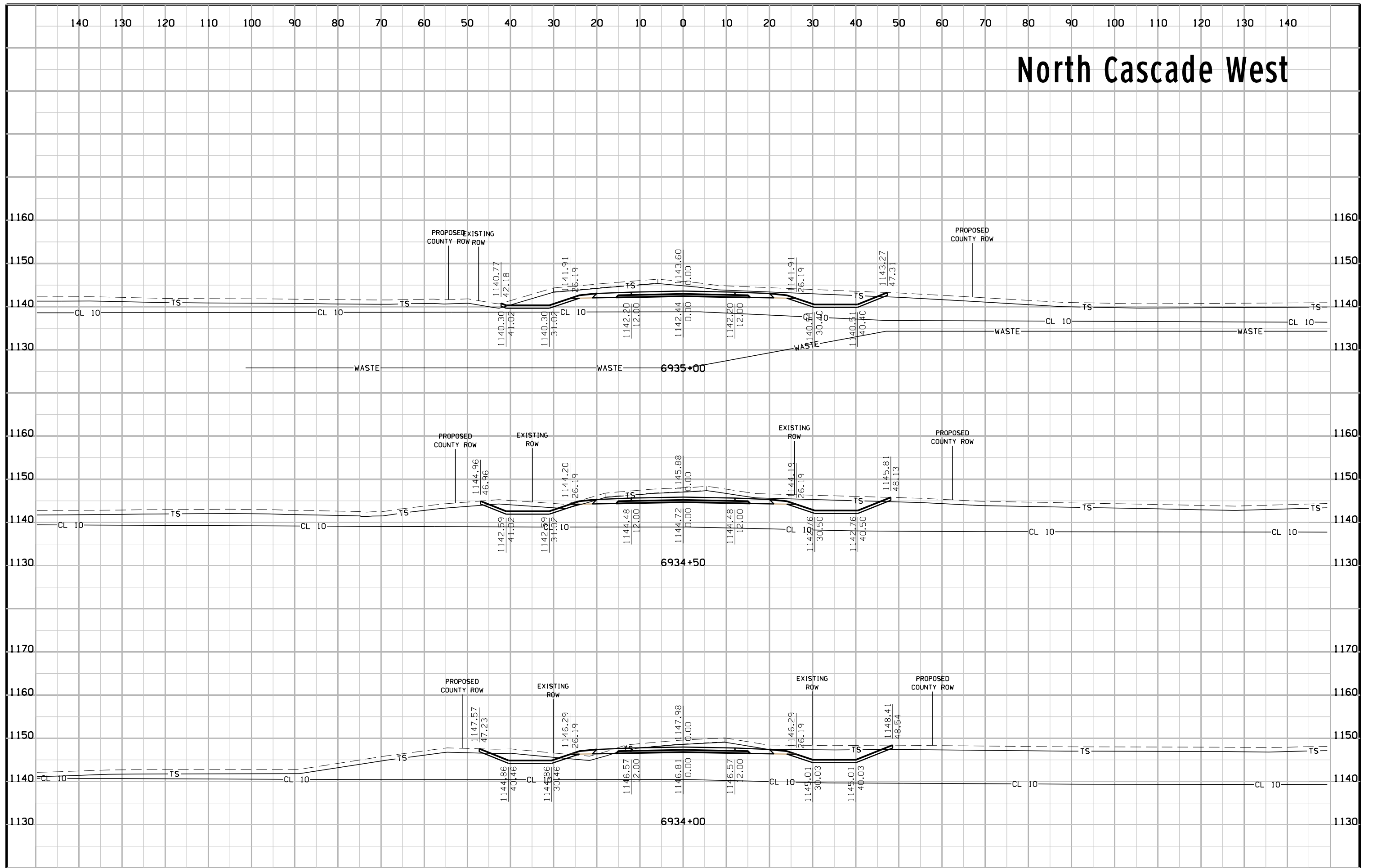
# North Cascade West



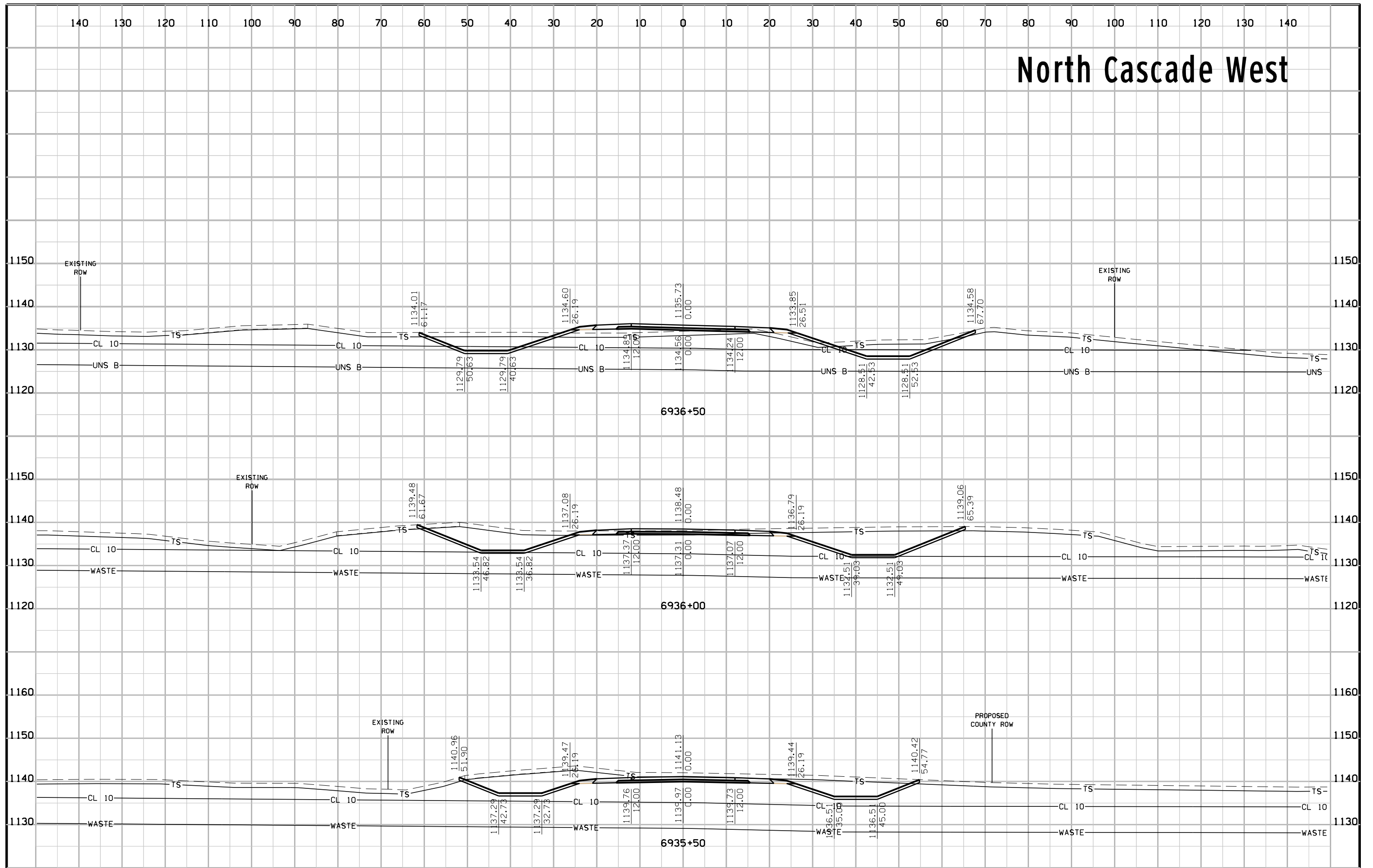
# North Cascade West



# North Cascade West

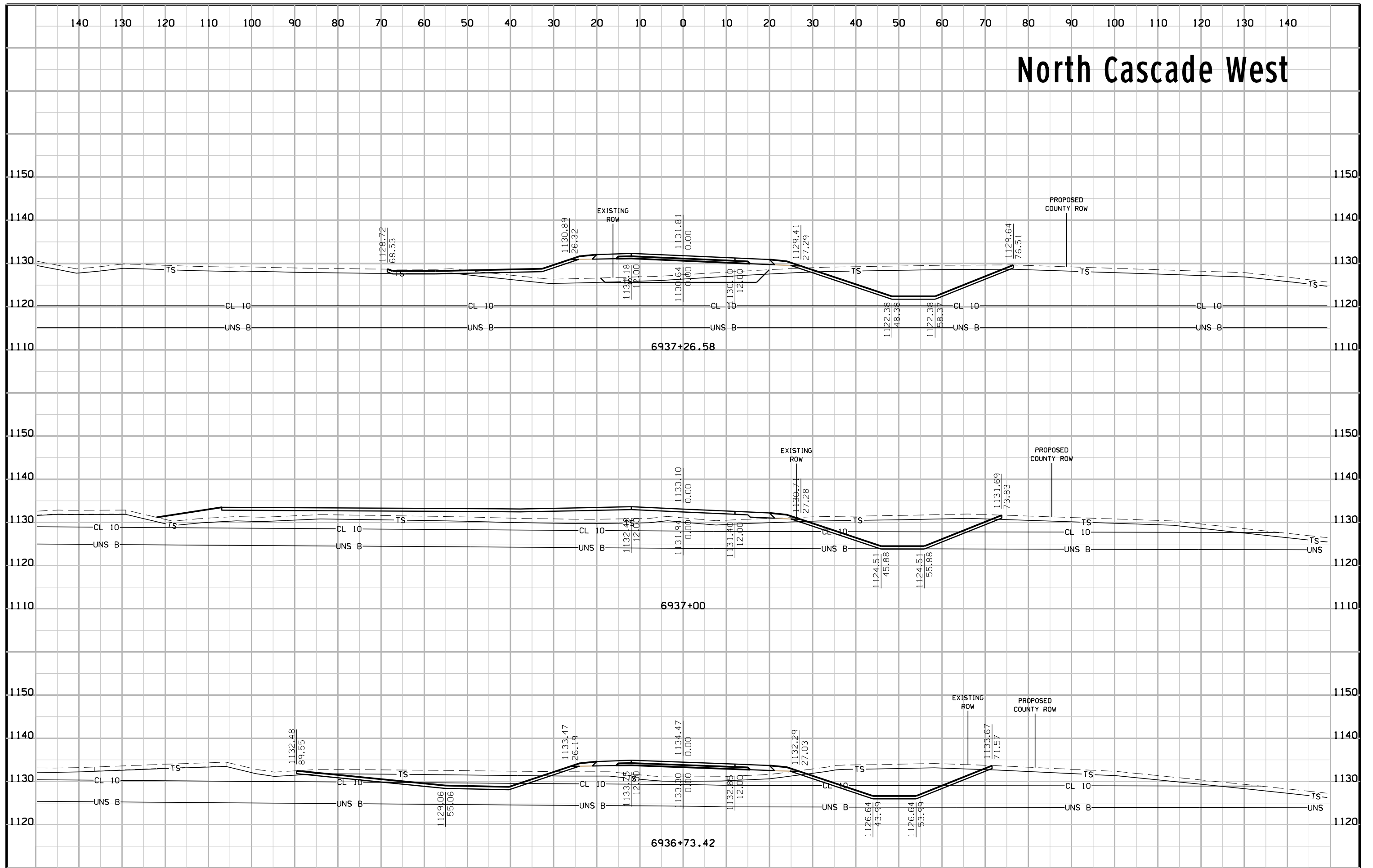


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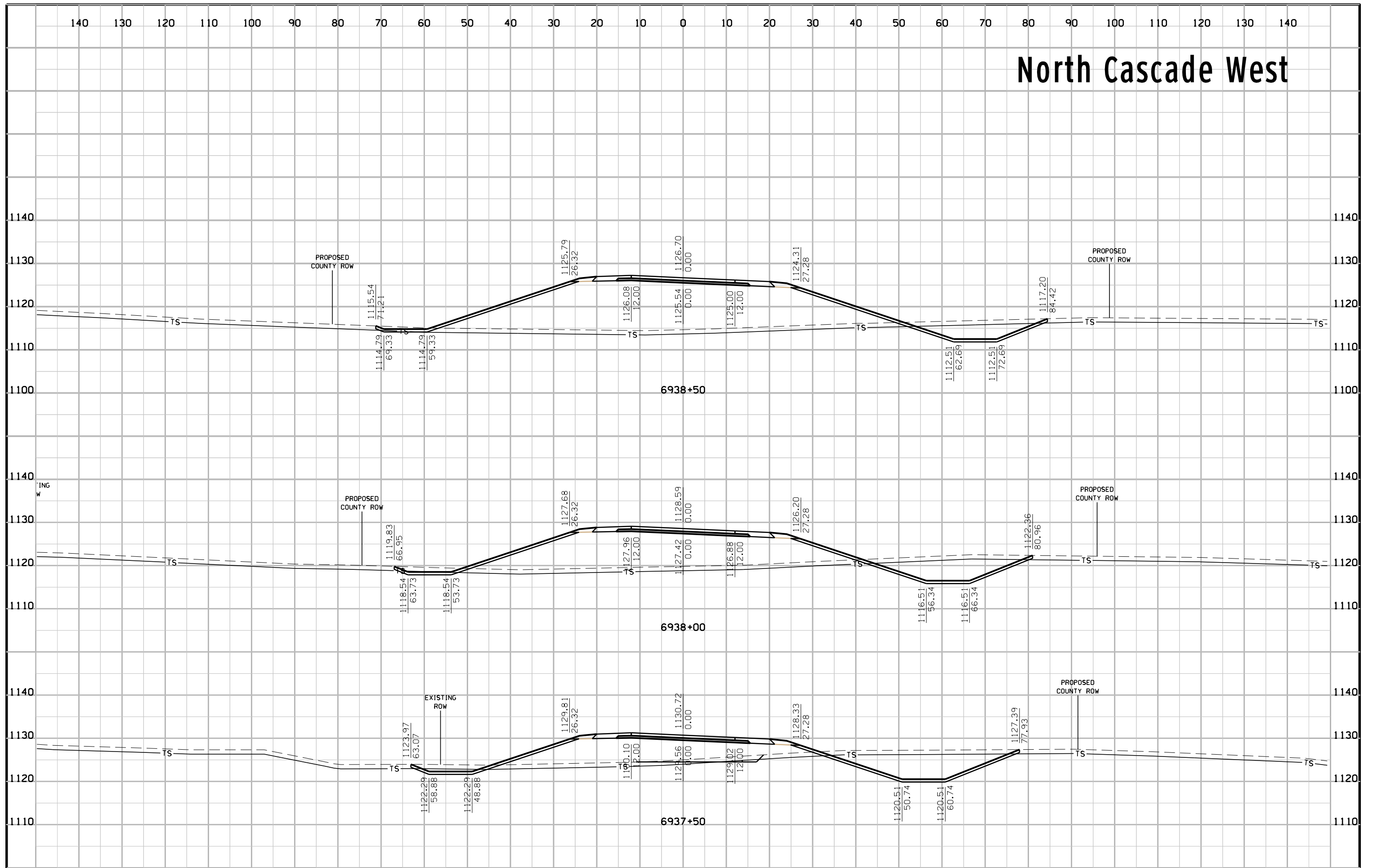




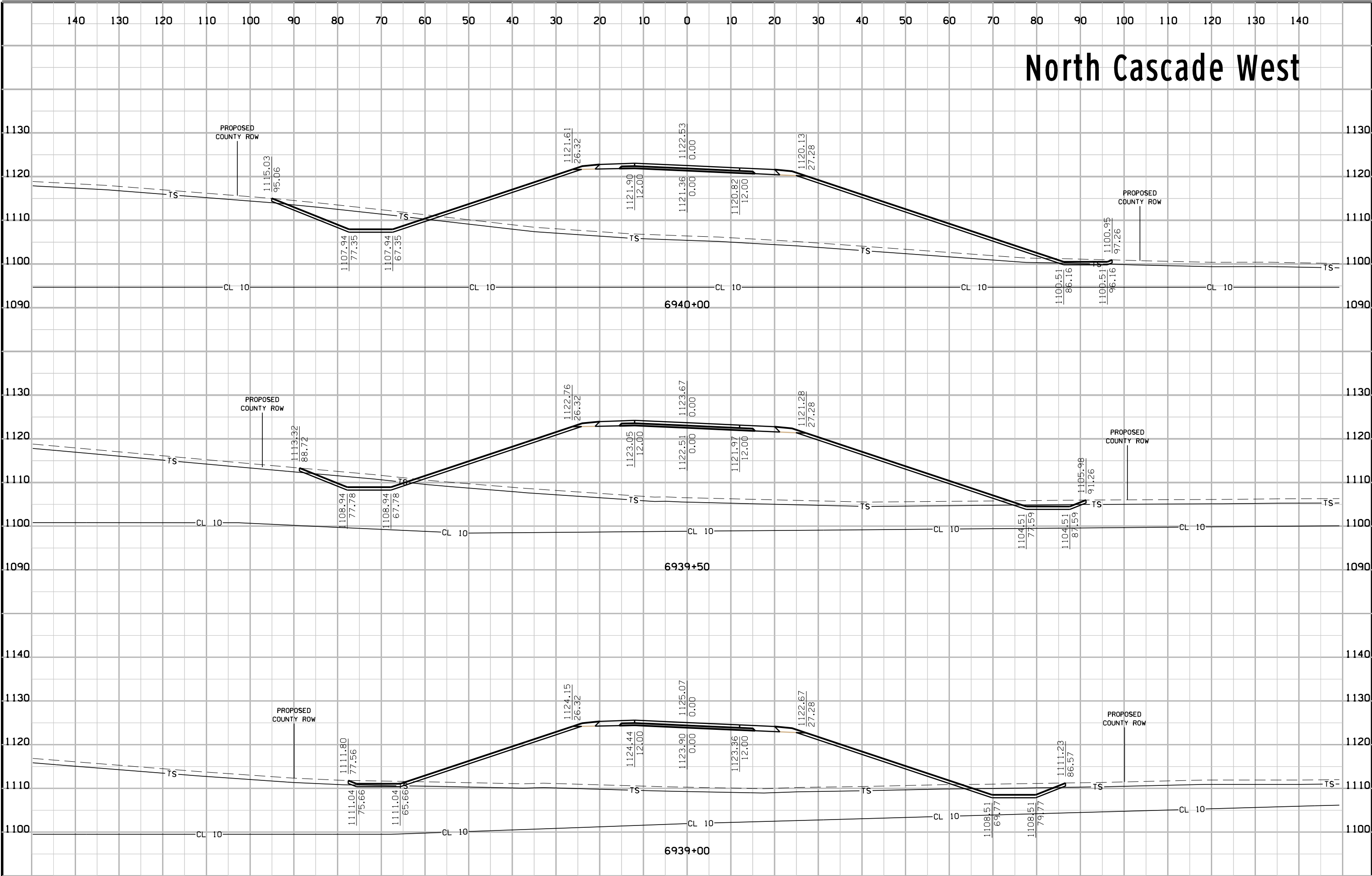
# North Cascade West



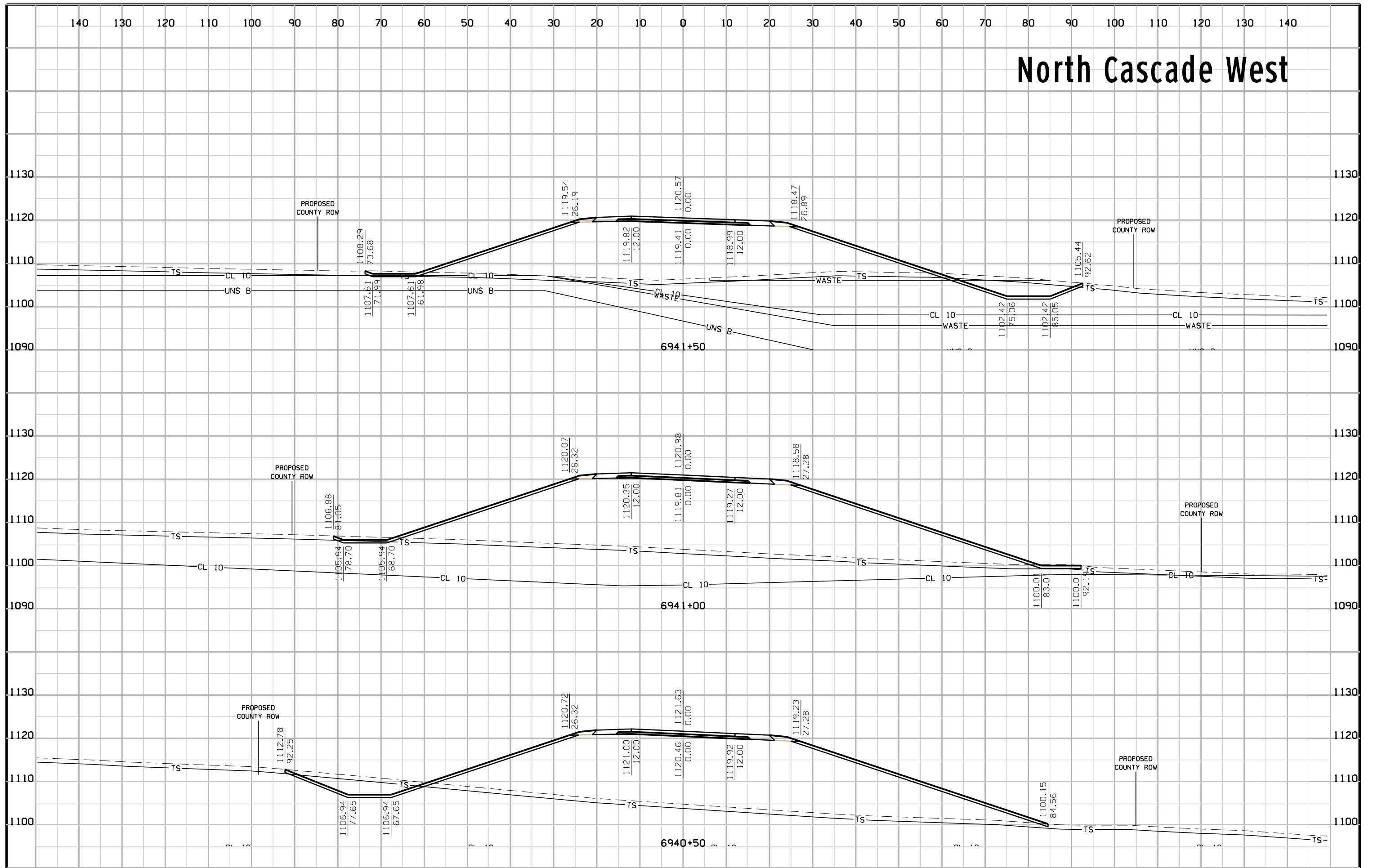
# North Cascade West



# North Cascade West

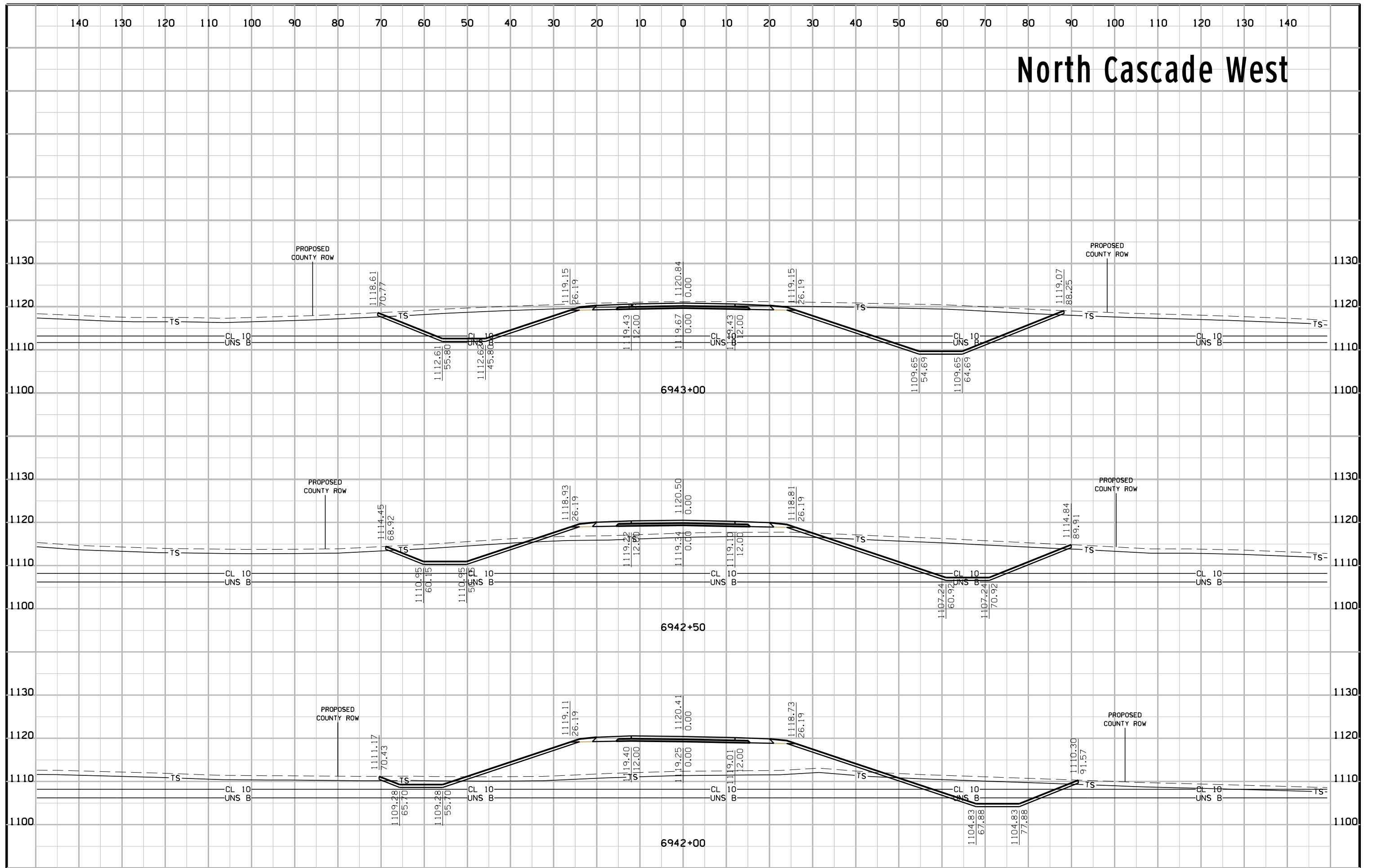


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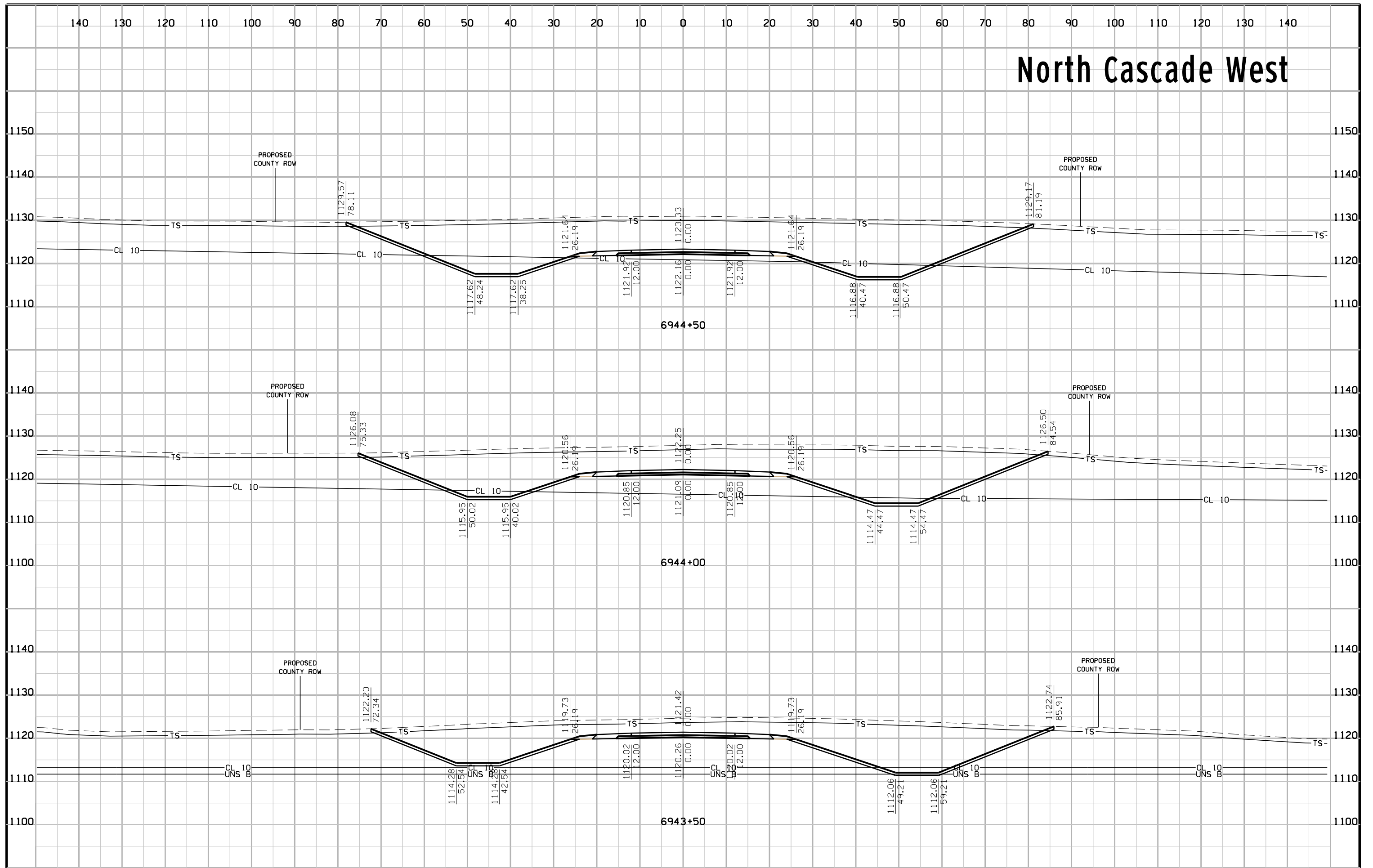




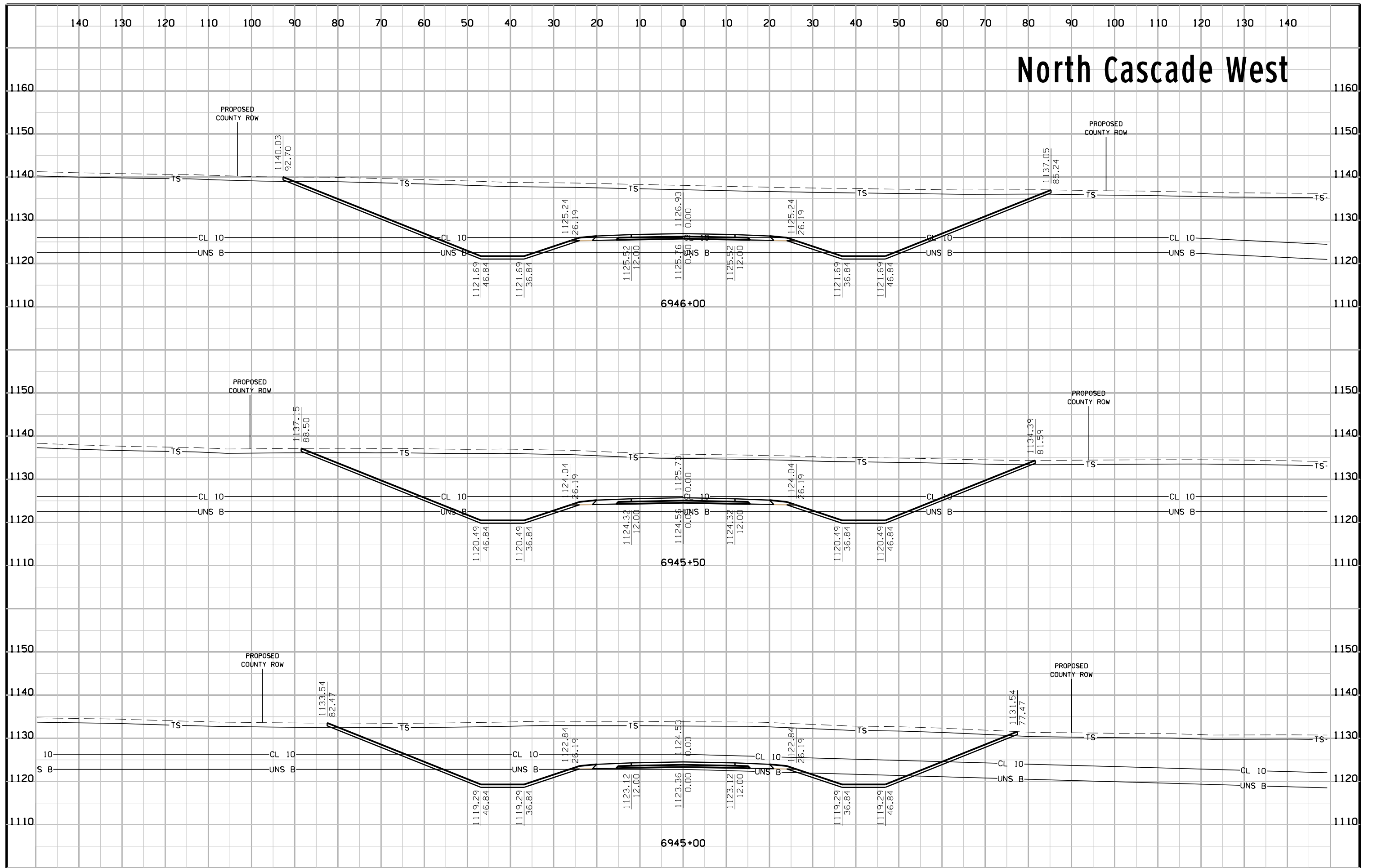
# North Cascade West



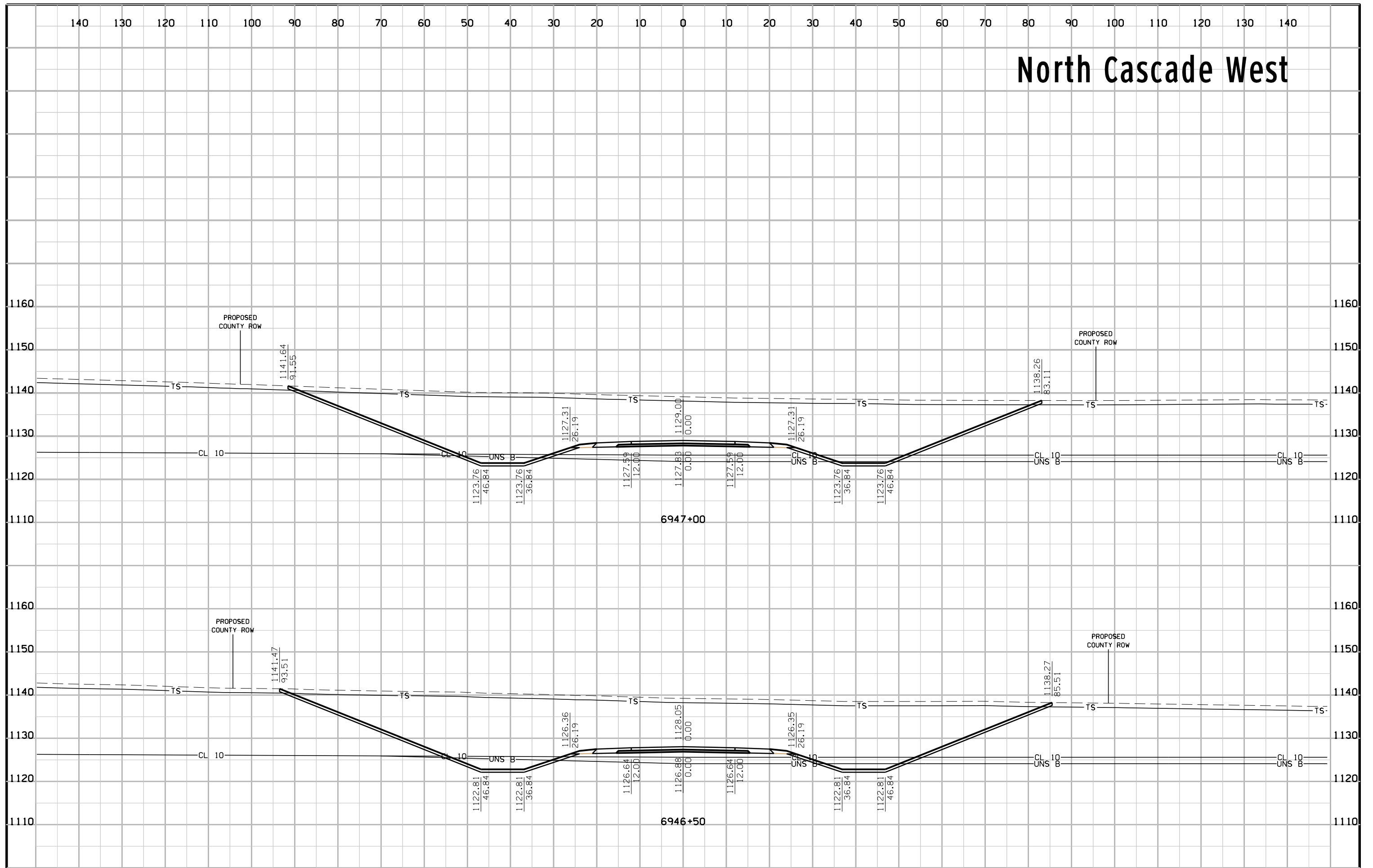
# North Cascade West



# North Cascade West

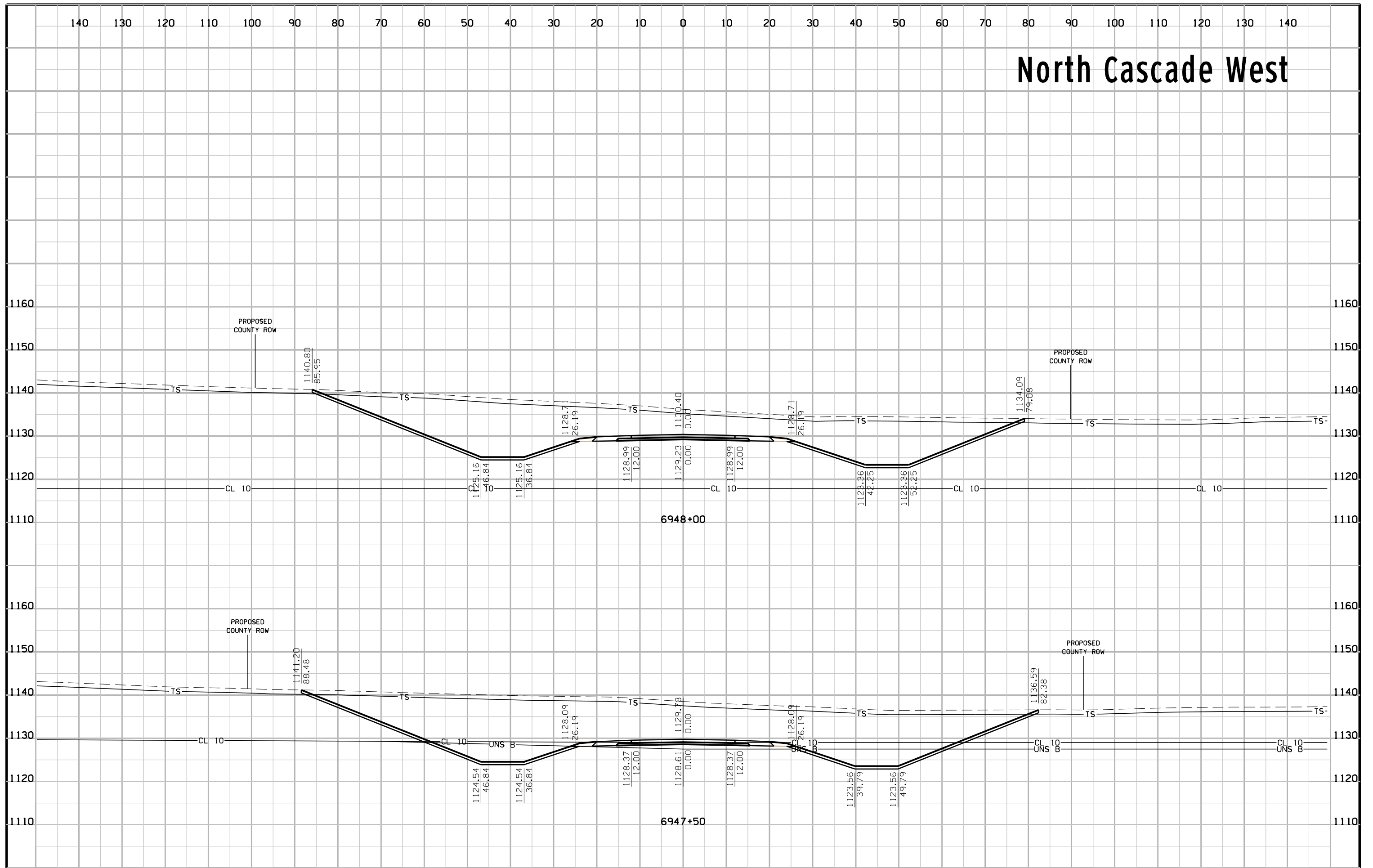


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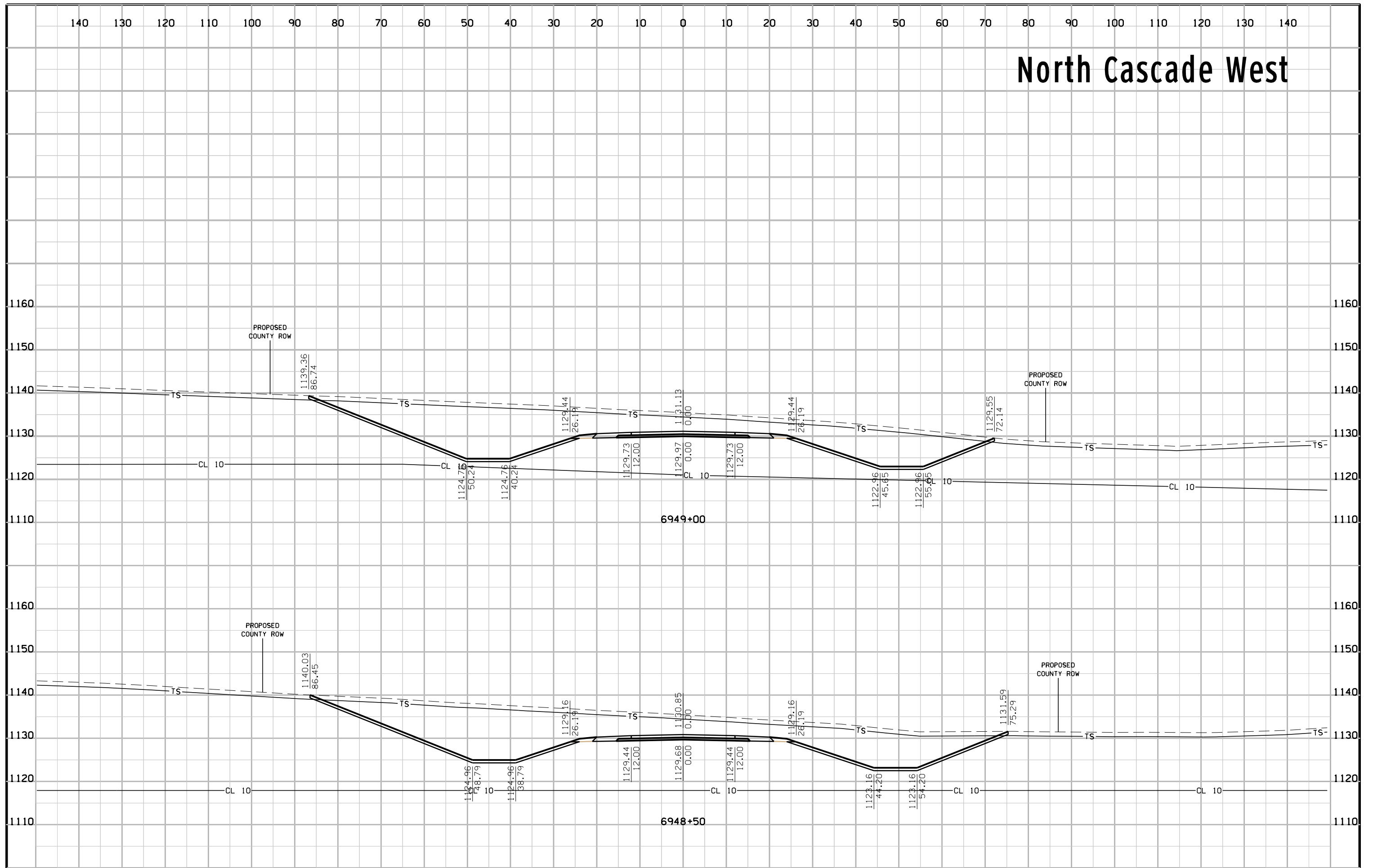




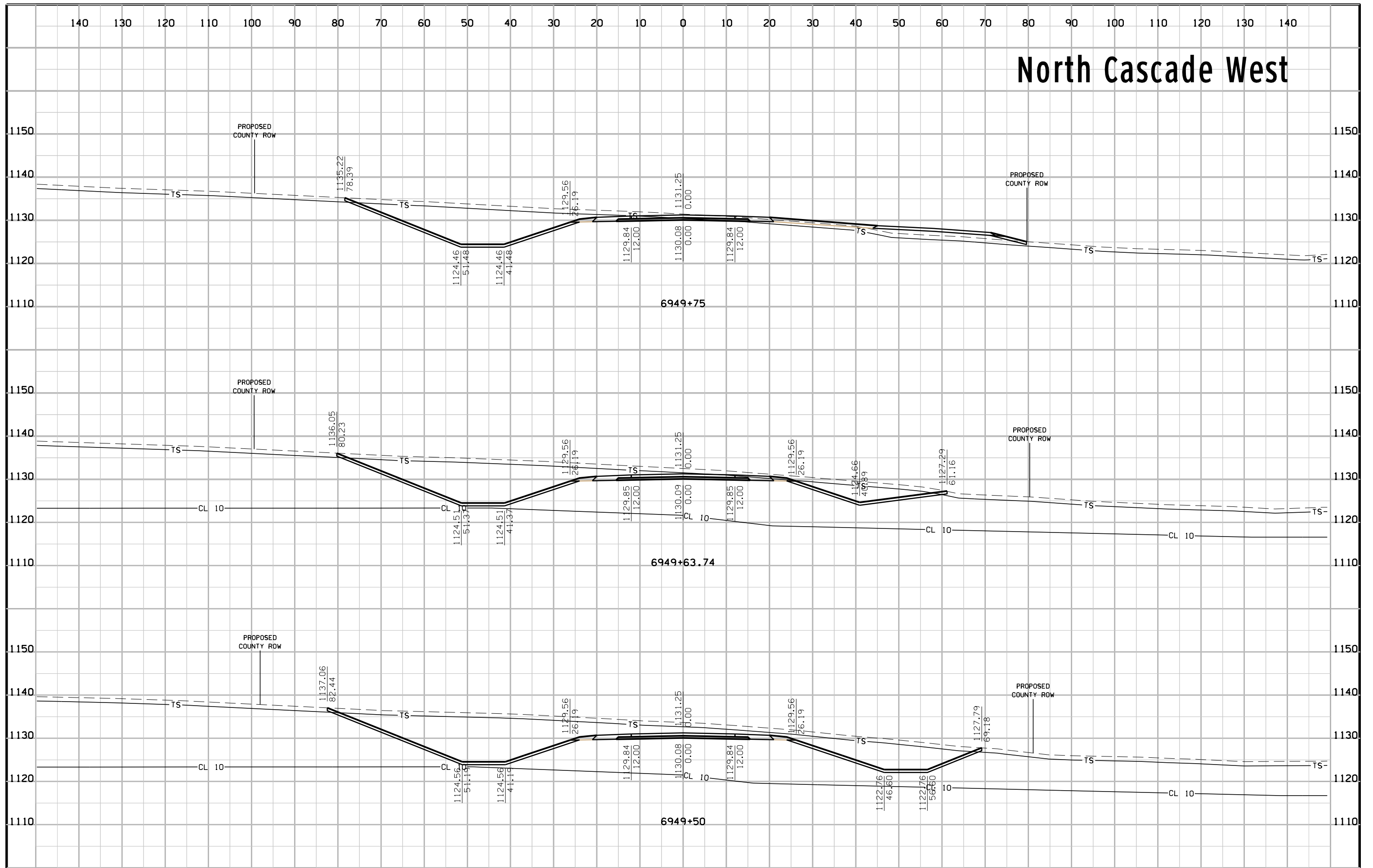
# North Cascade West



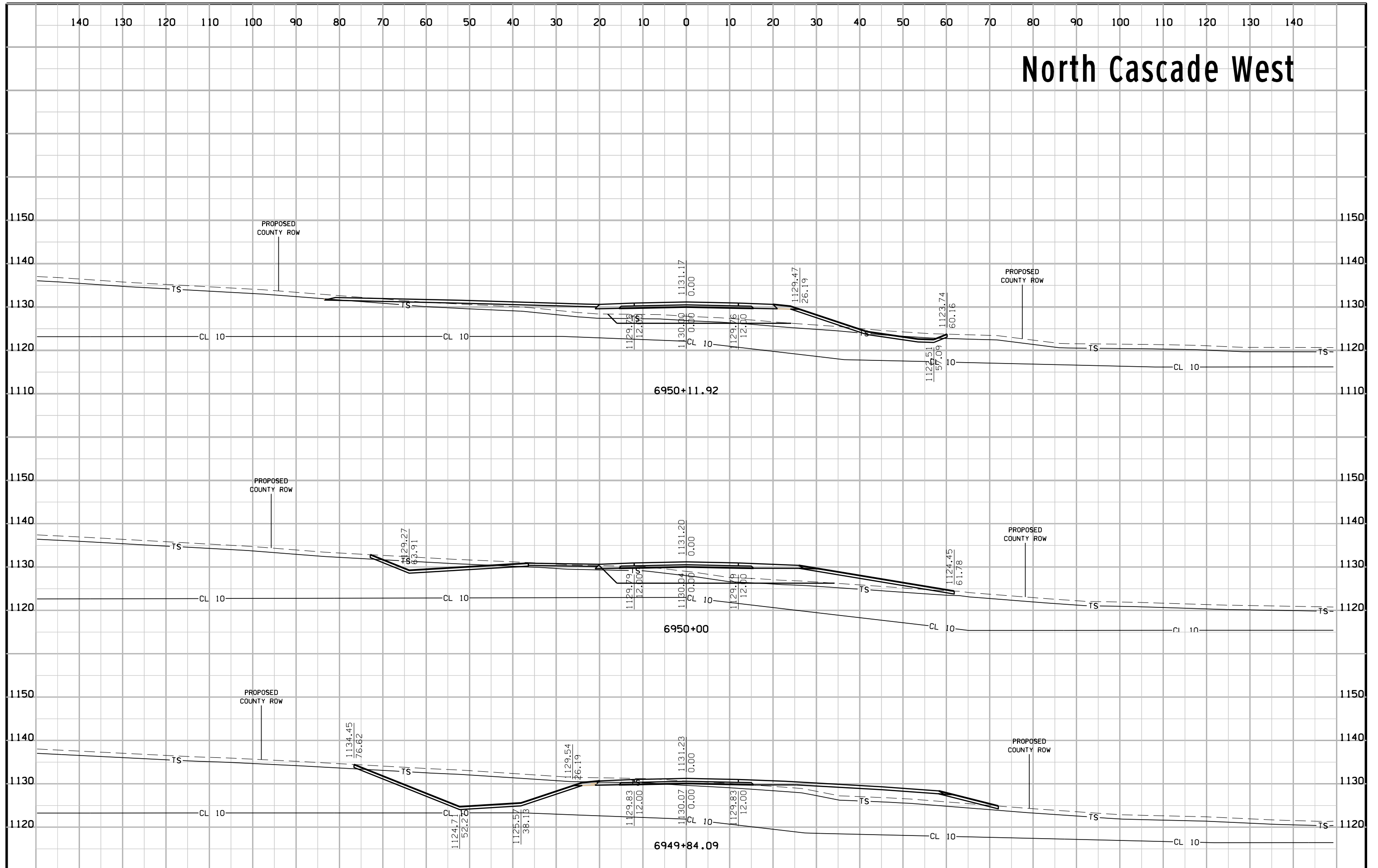
# North Cascade West



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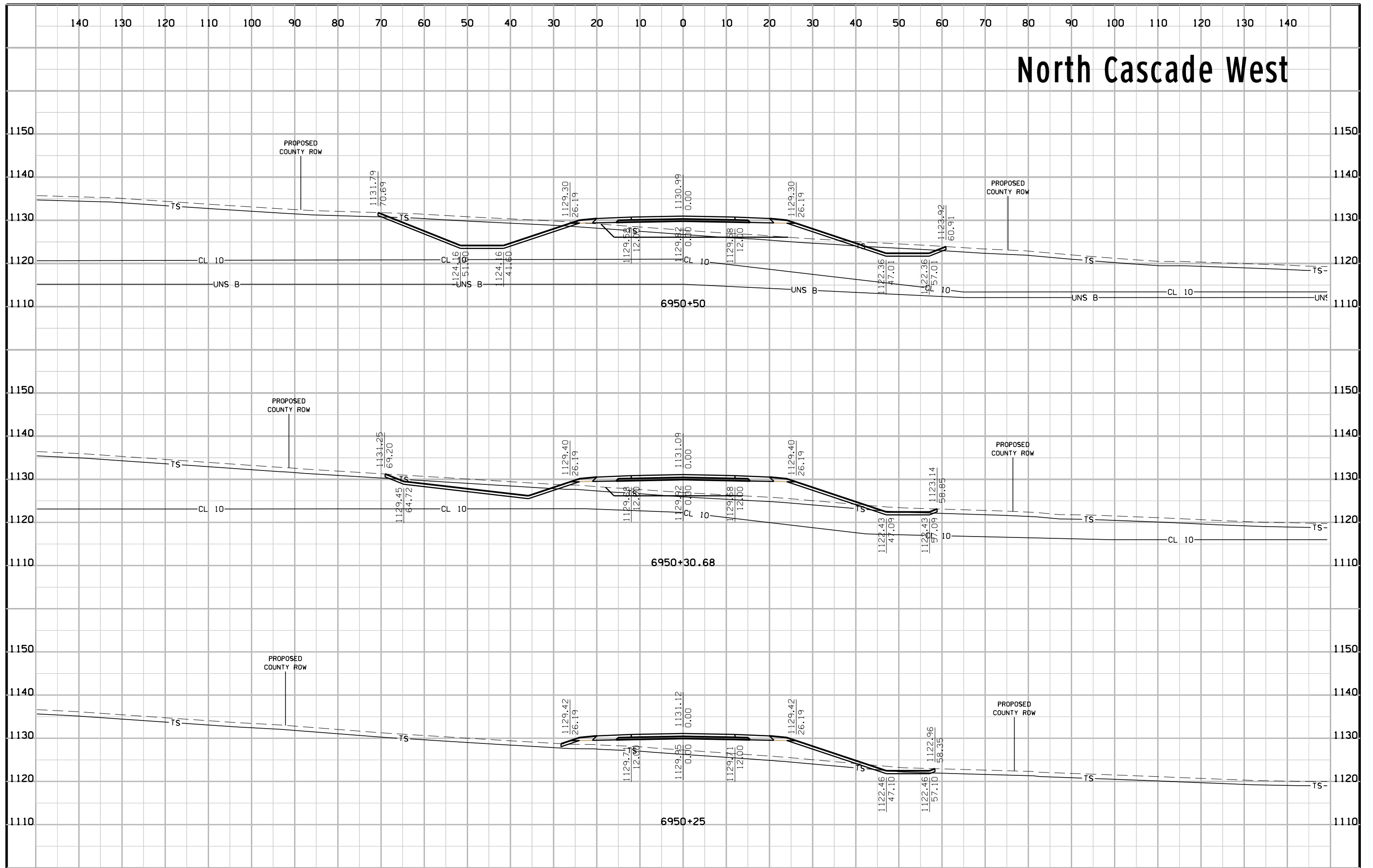


# North Cascade West

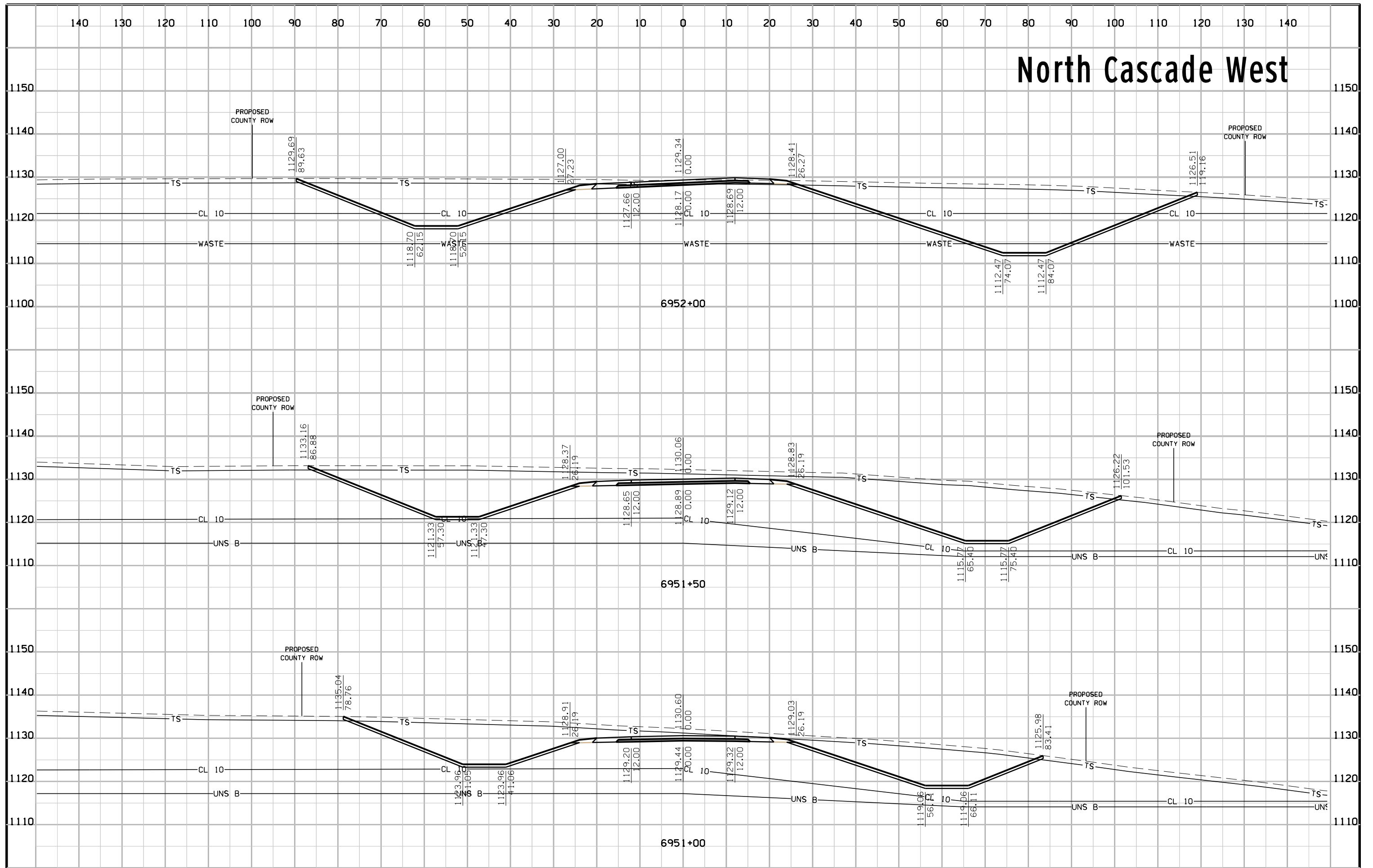




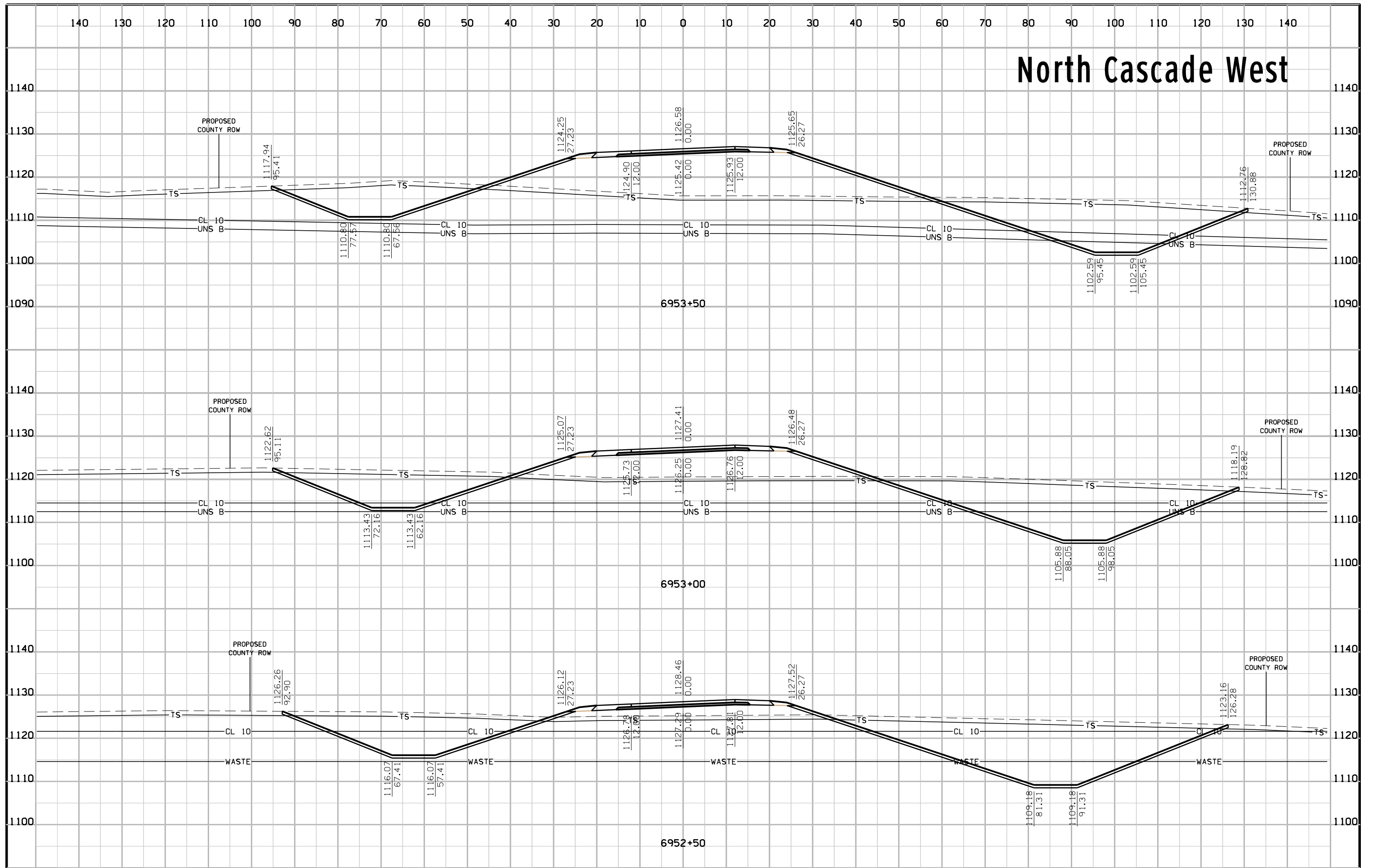
# North Cascade West



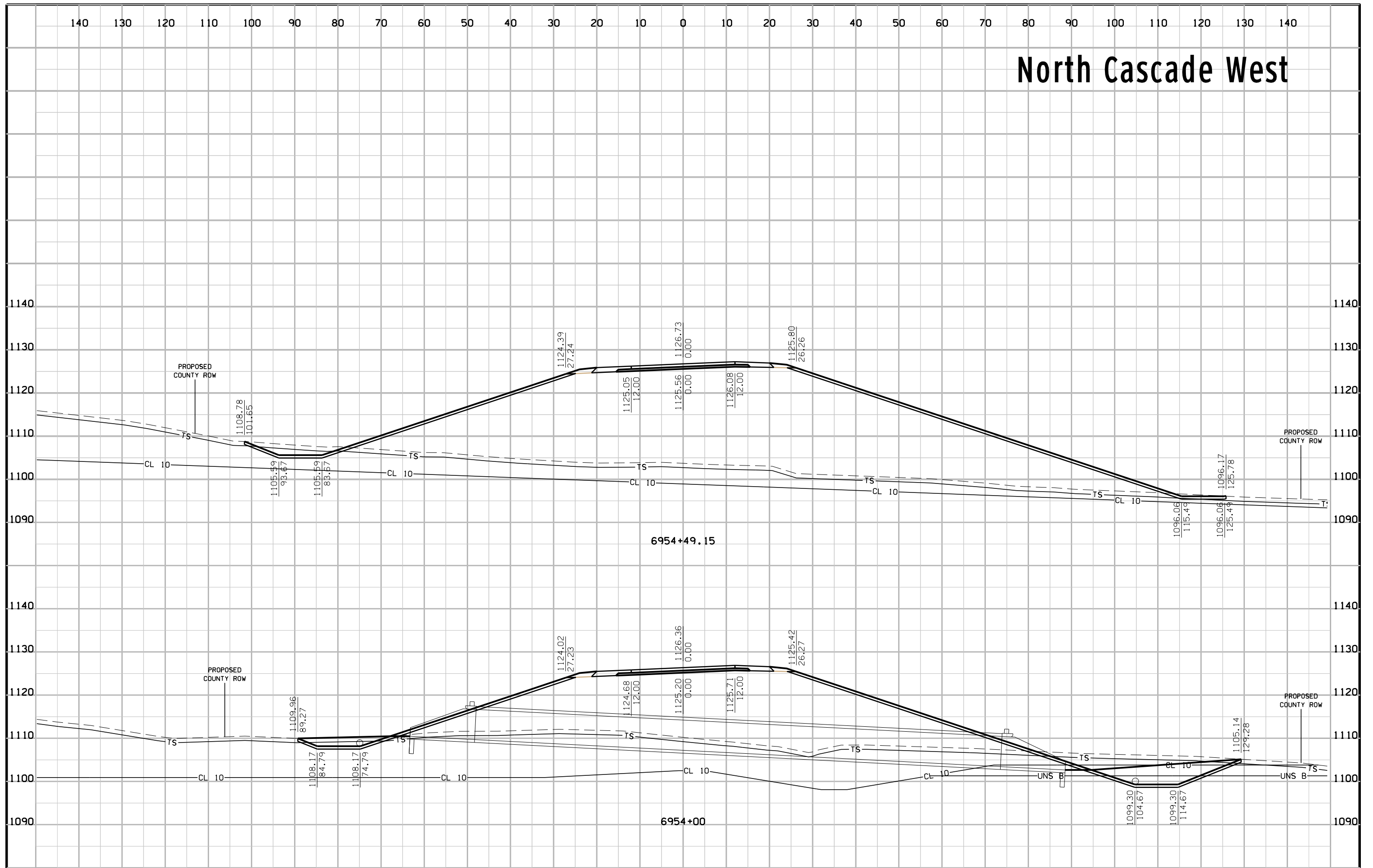
# North Cascade West



# North Cascade West

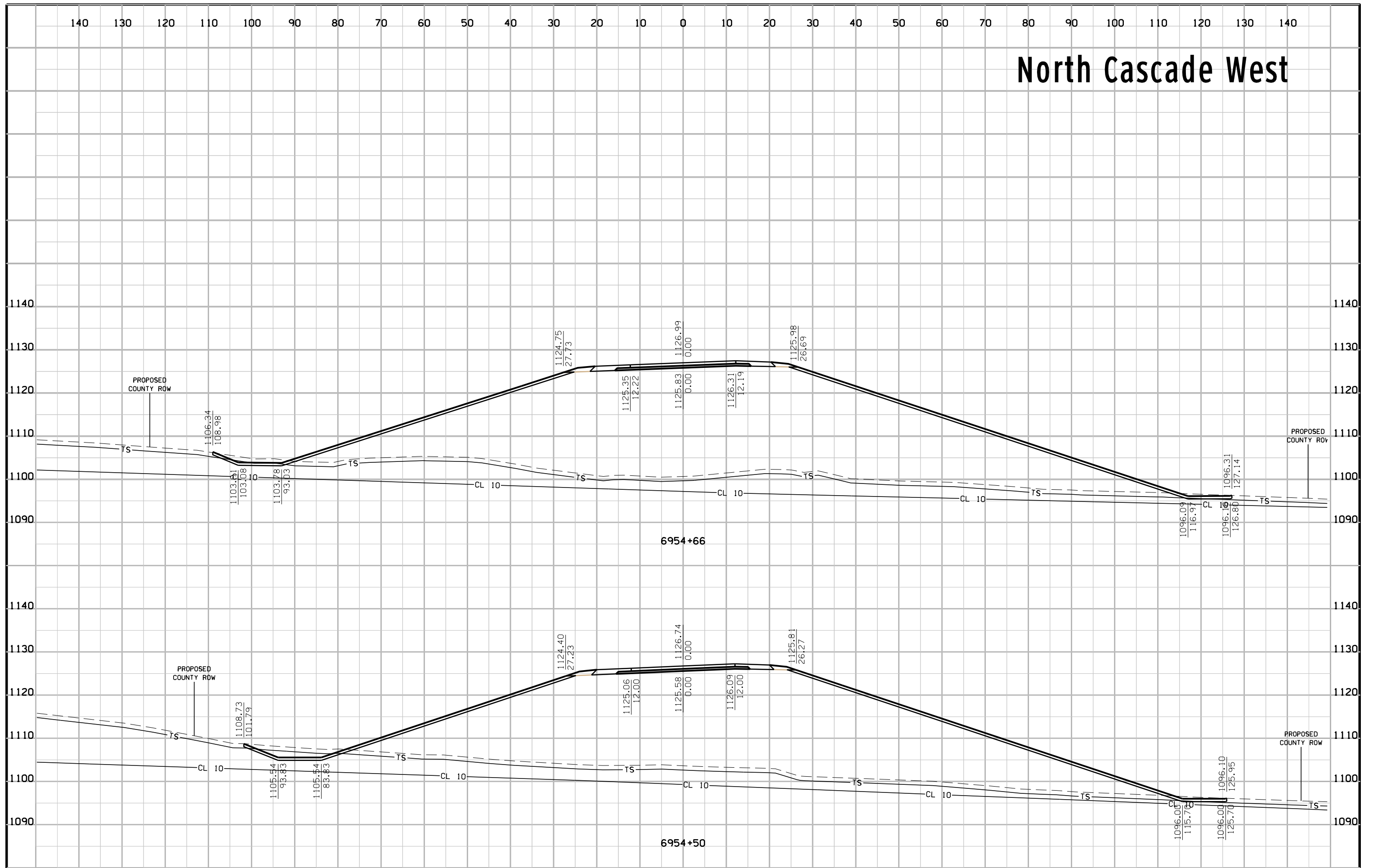


# North Cascade West

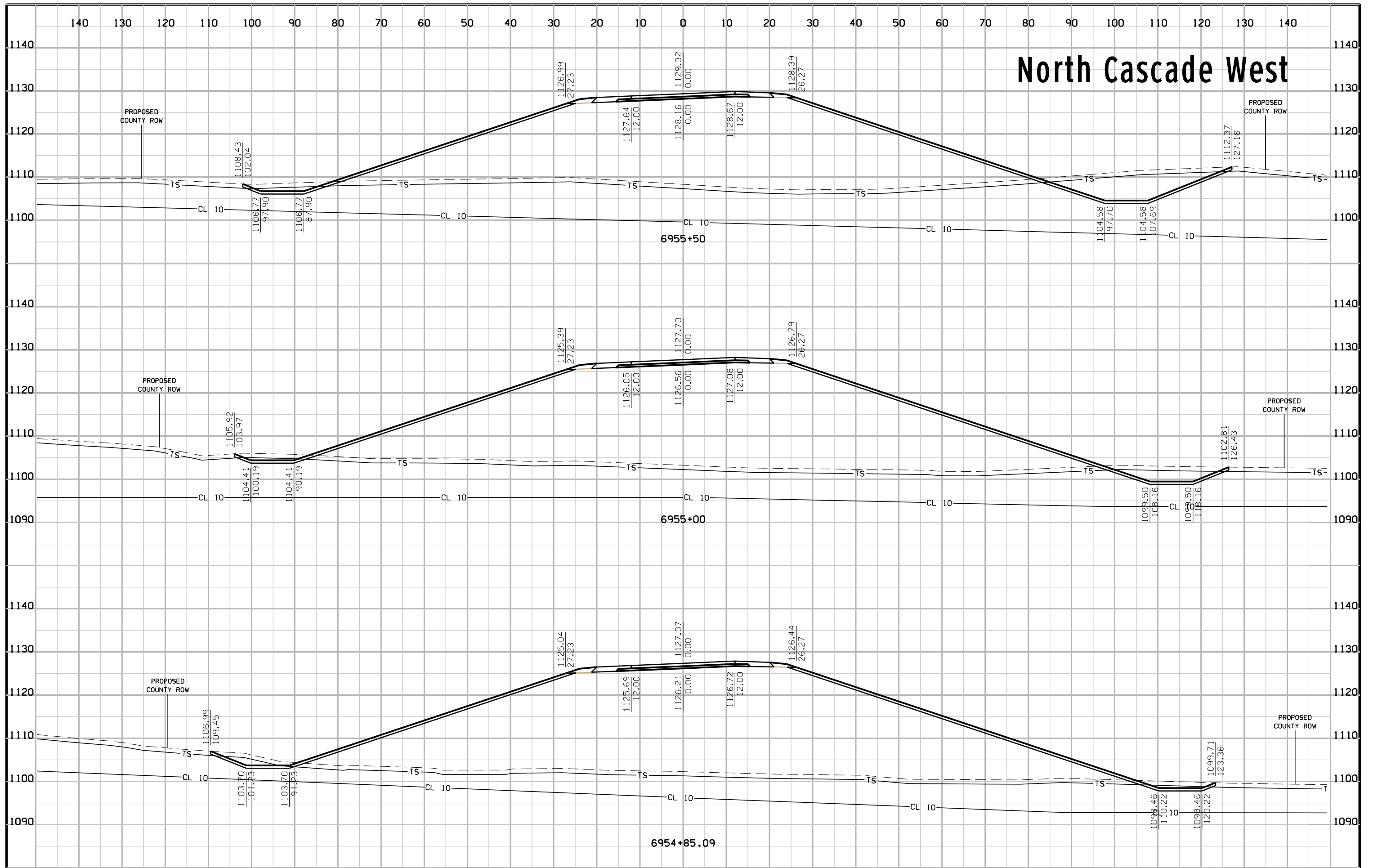




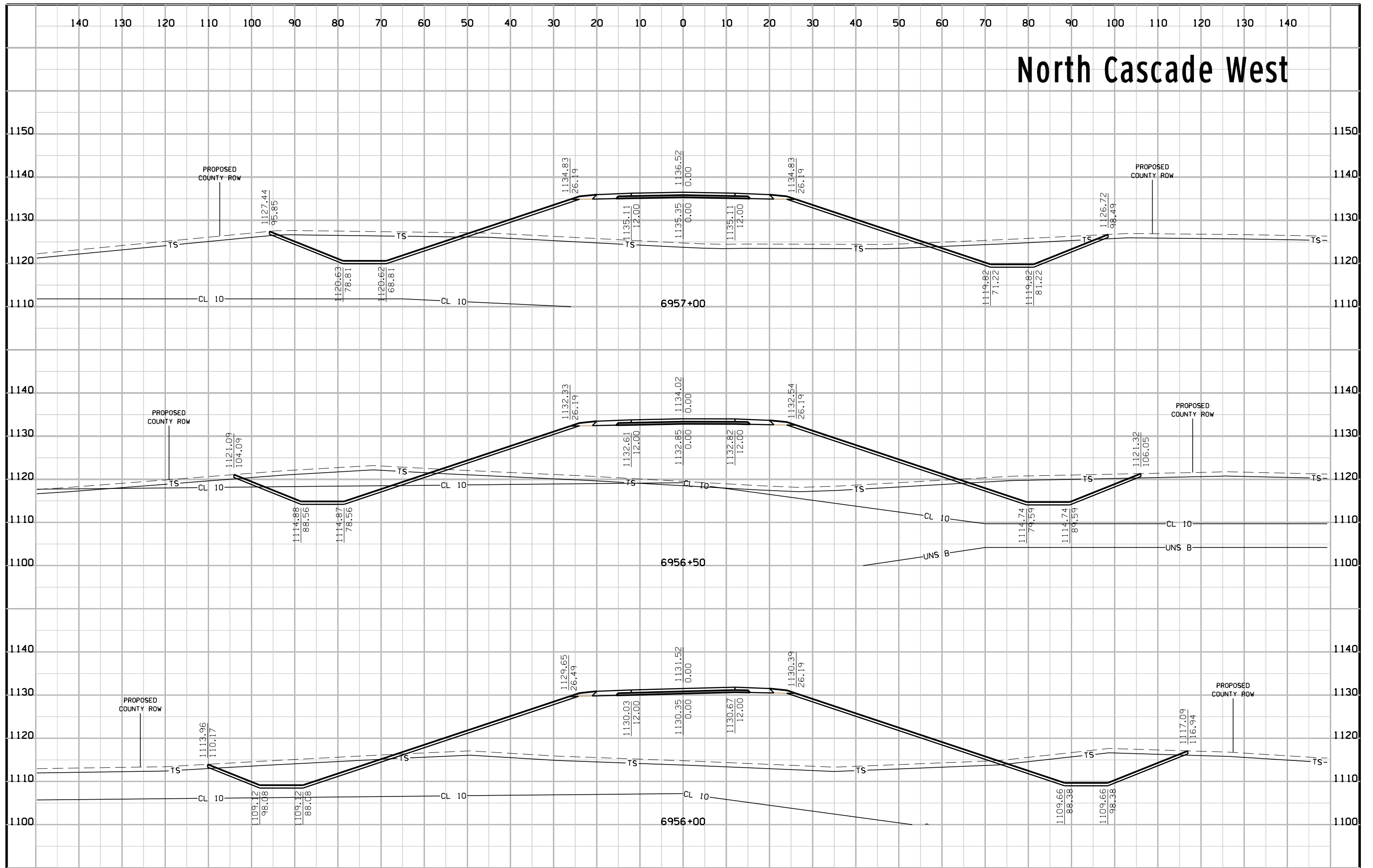
# North Cascade West



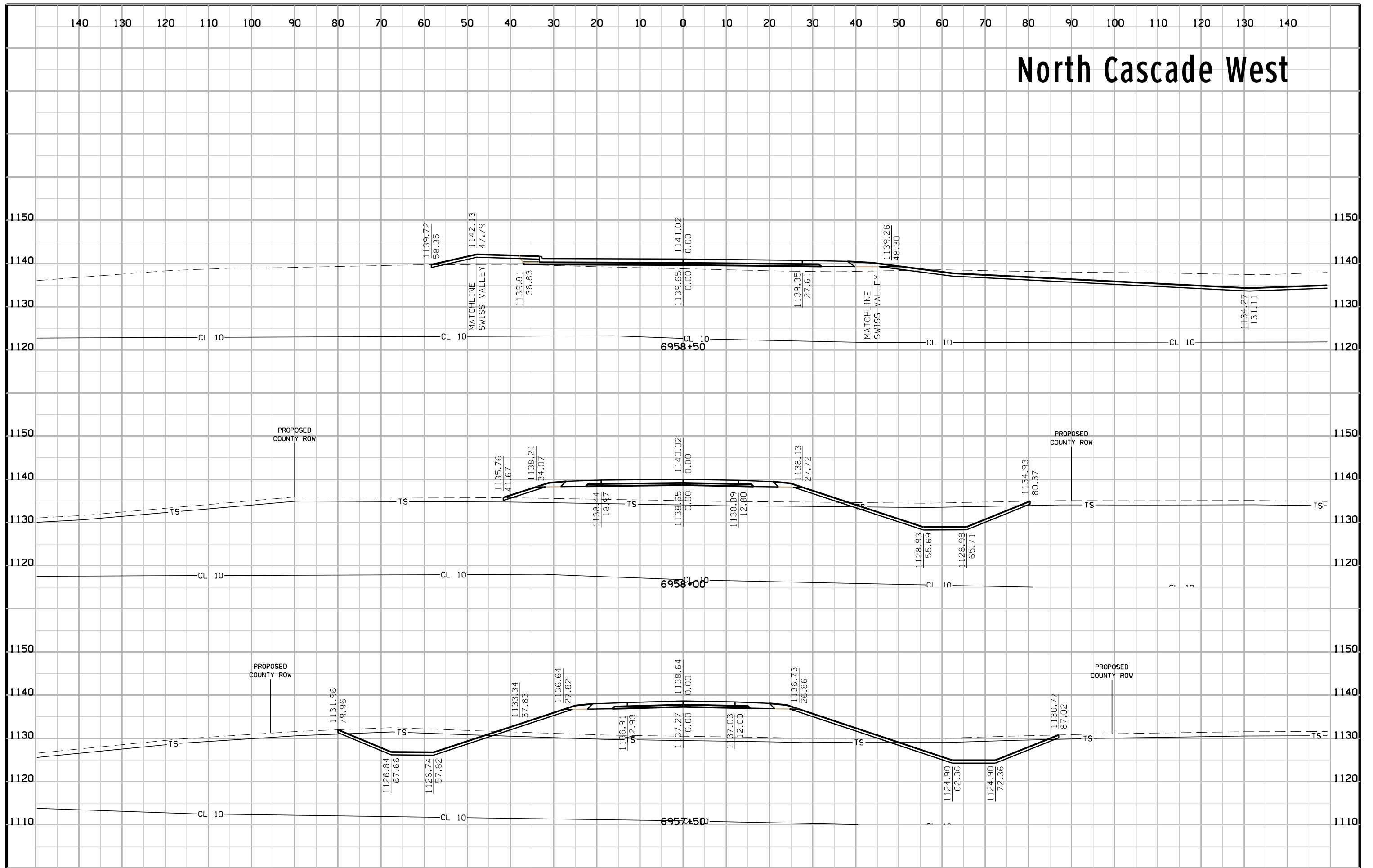
# North Cascade West



# North Cascade West

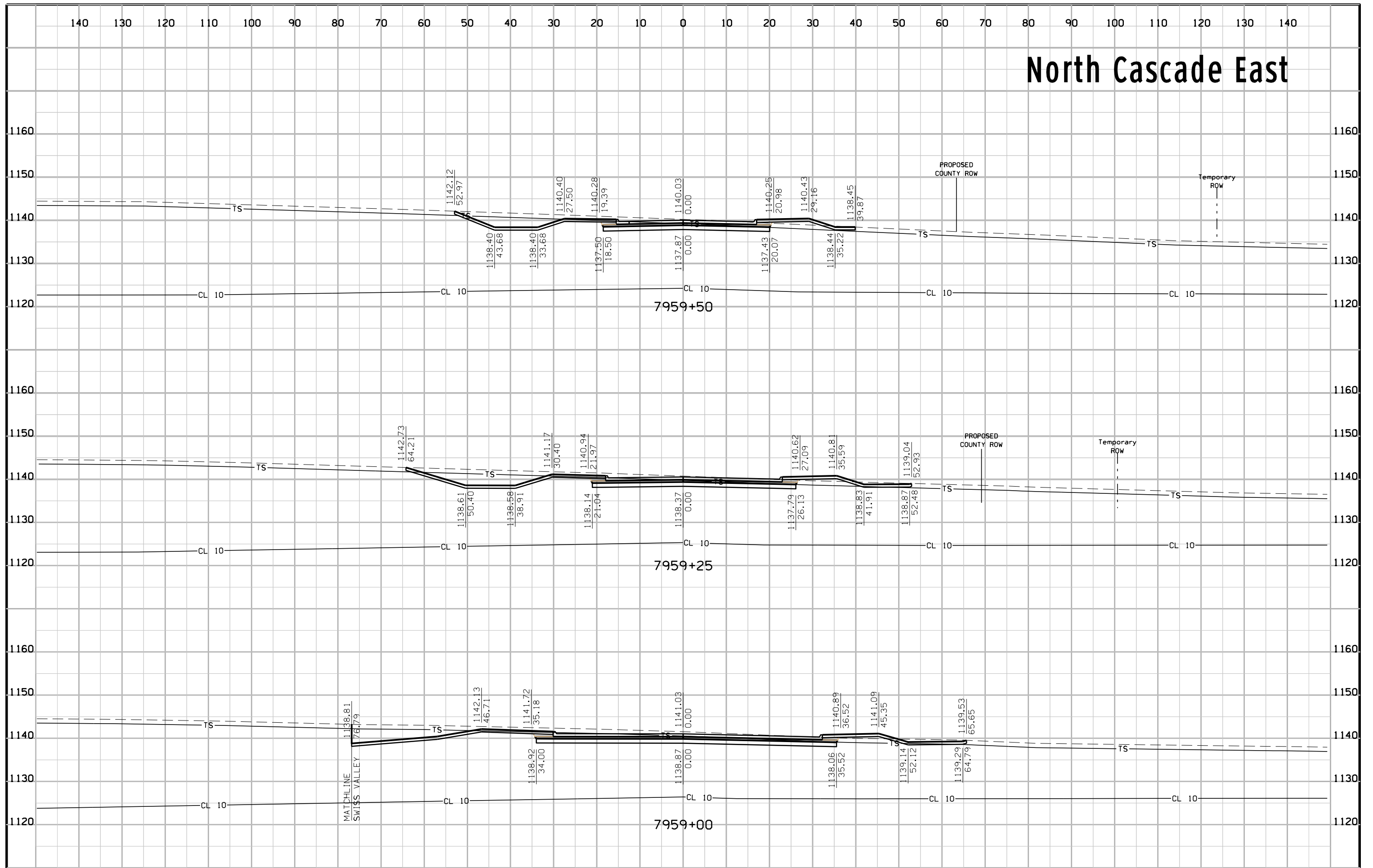


# North Cascade West

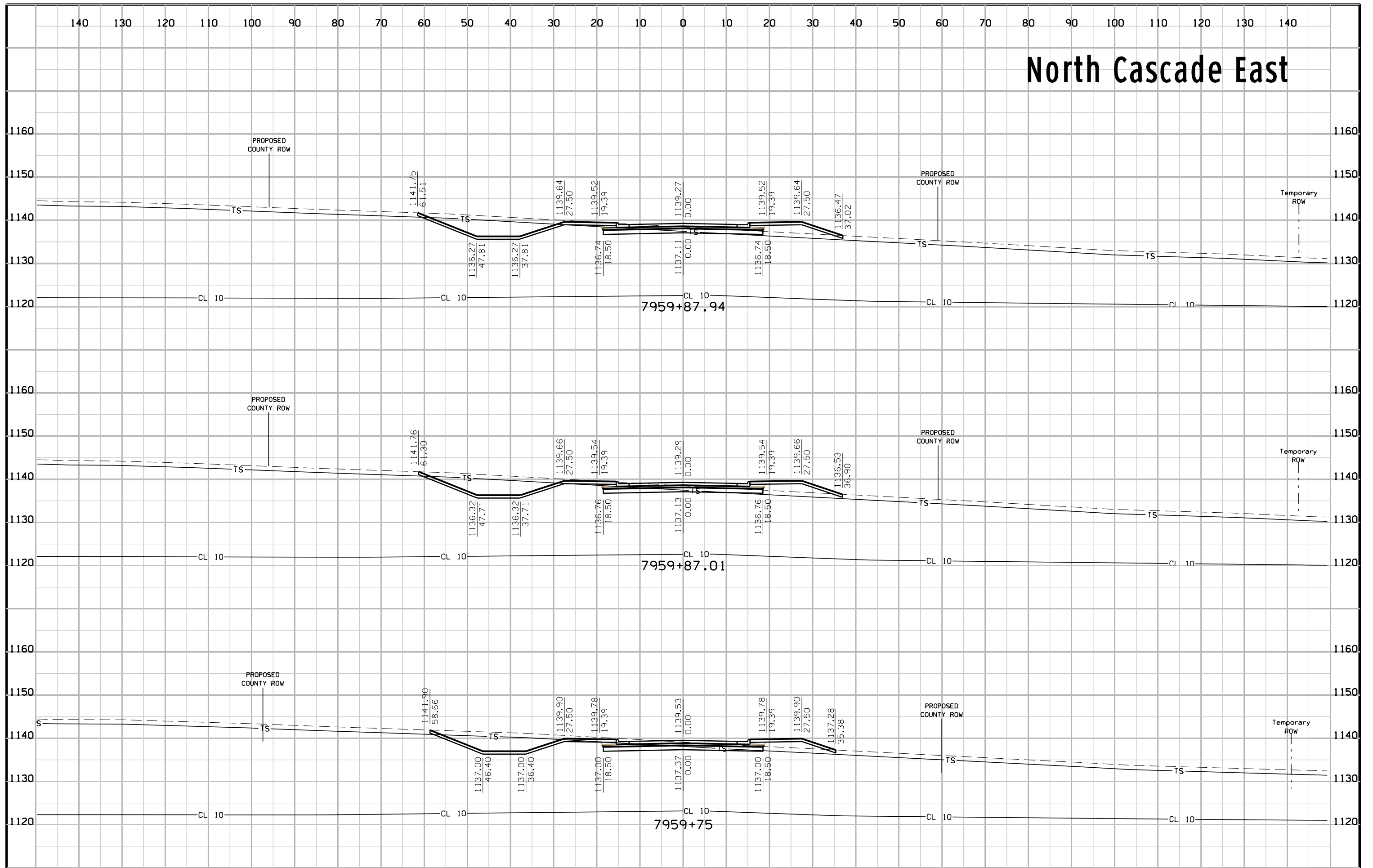




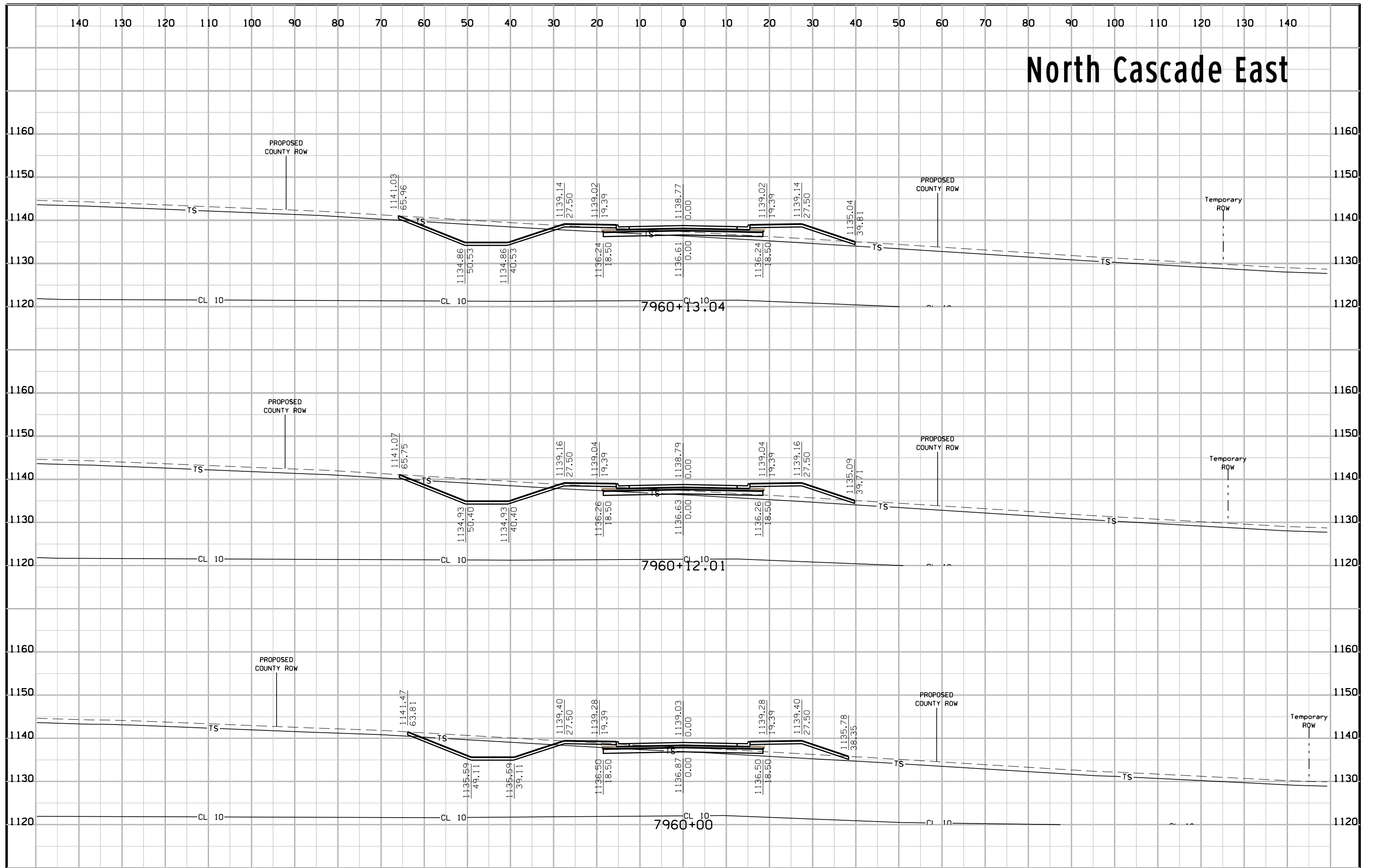
# North Cascade East



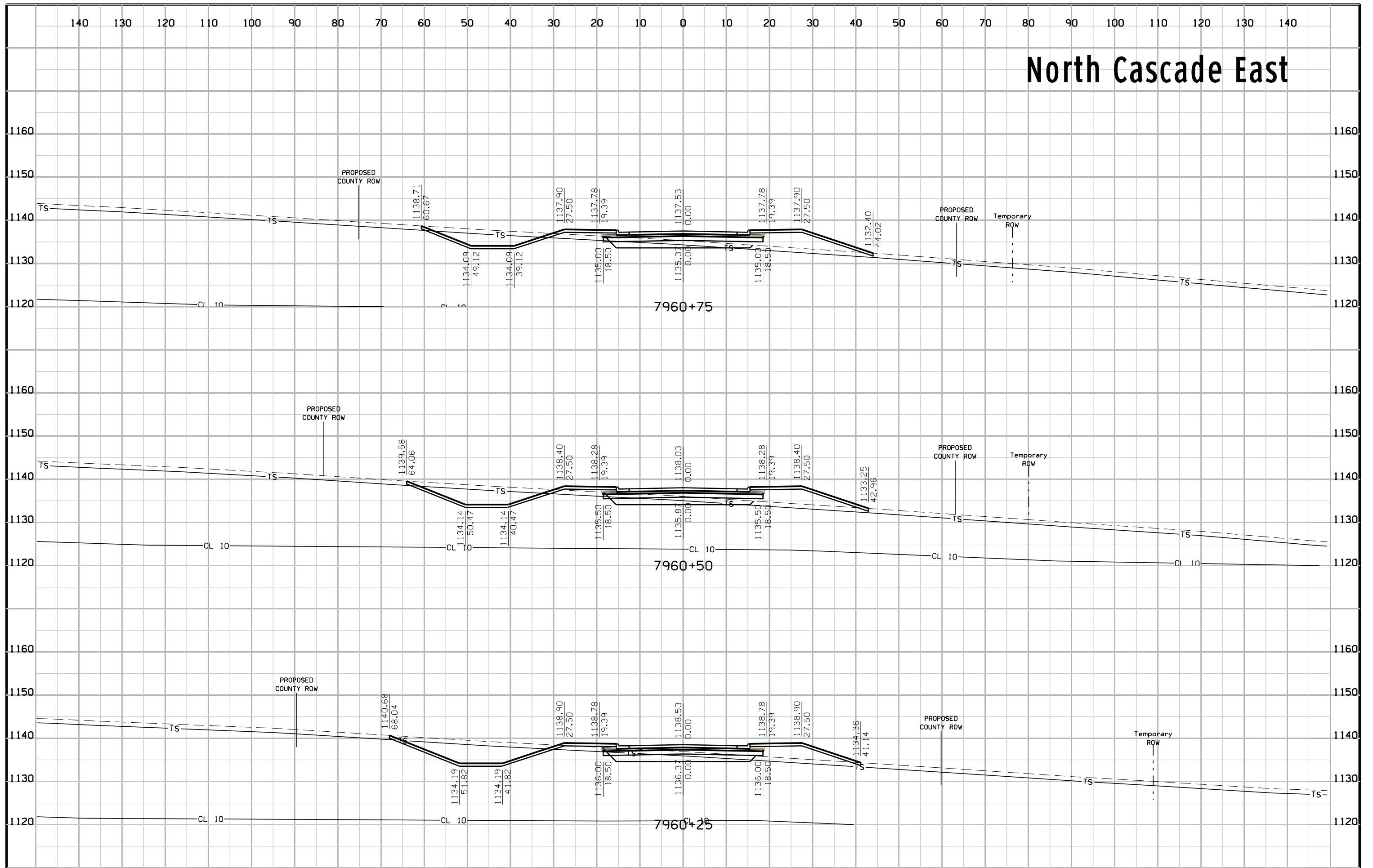
# North Cascade East



# North Cascade East

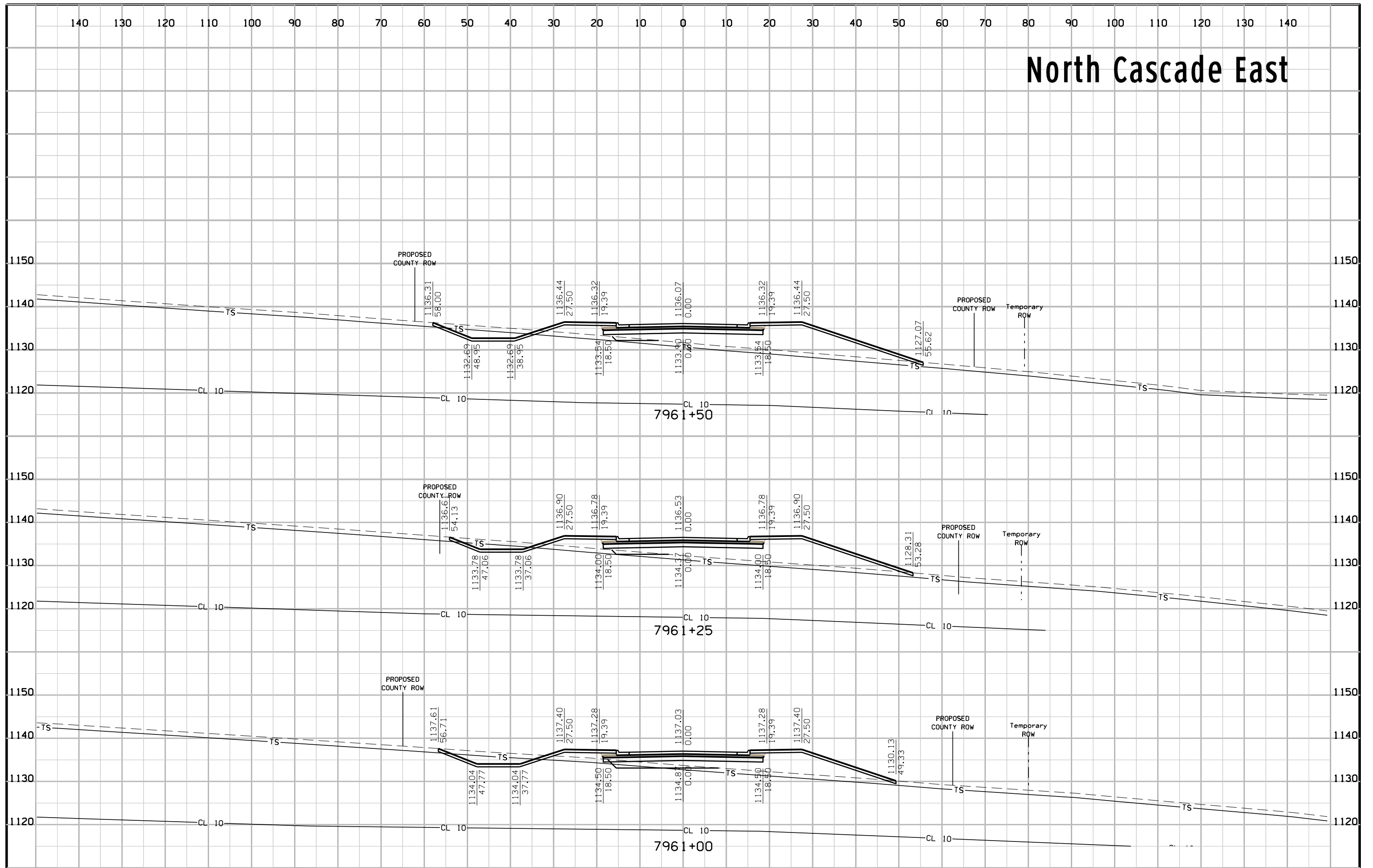


# North Cascade East

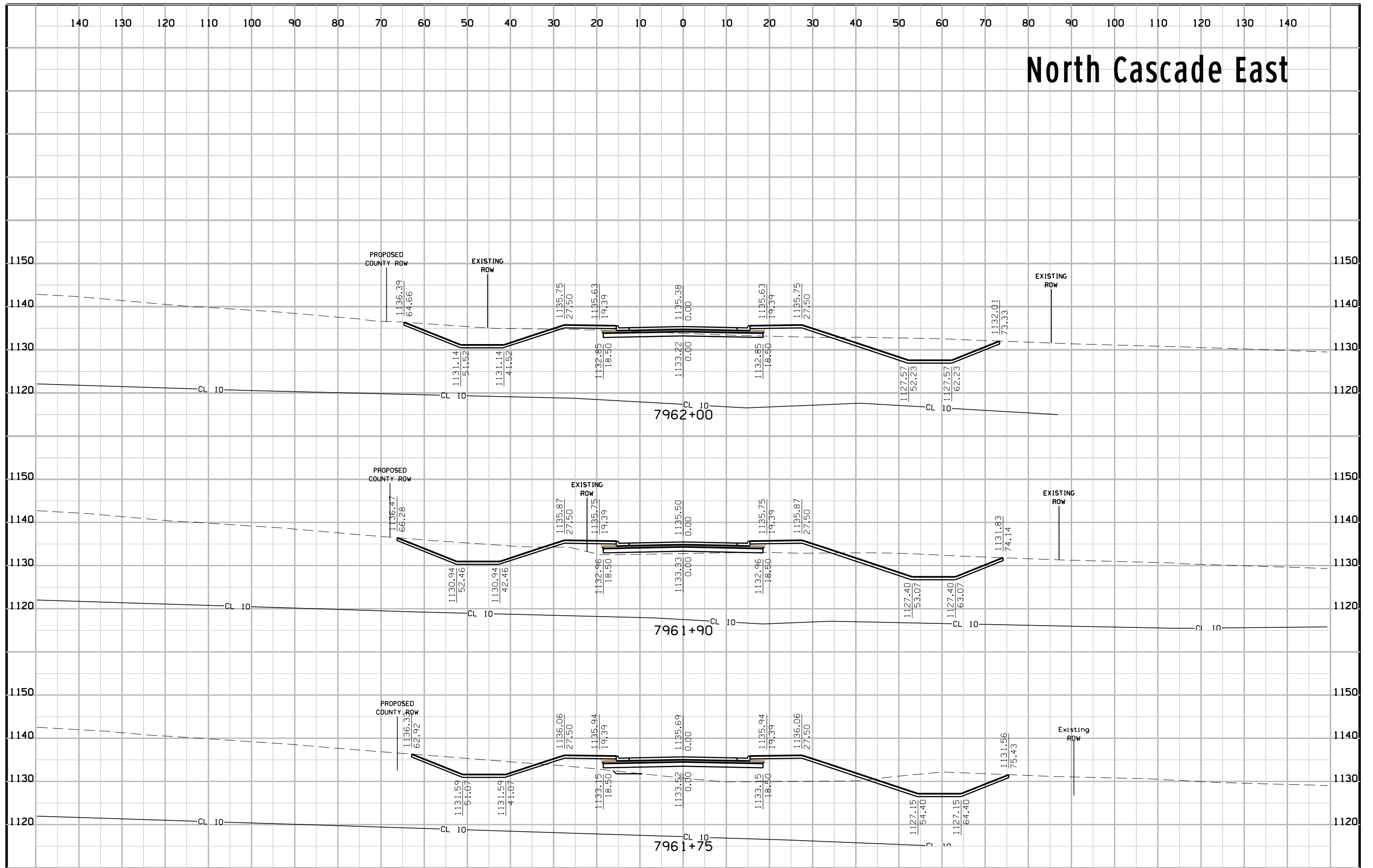




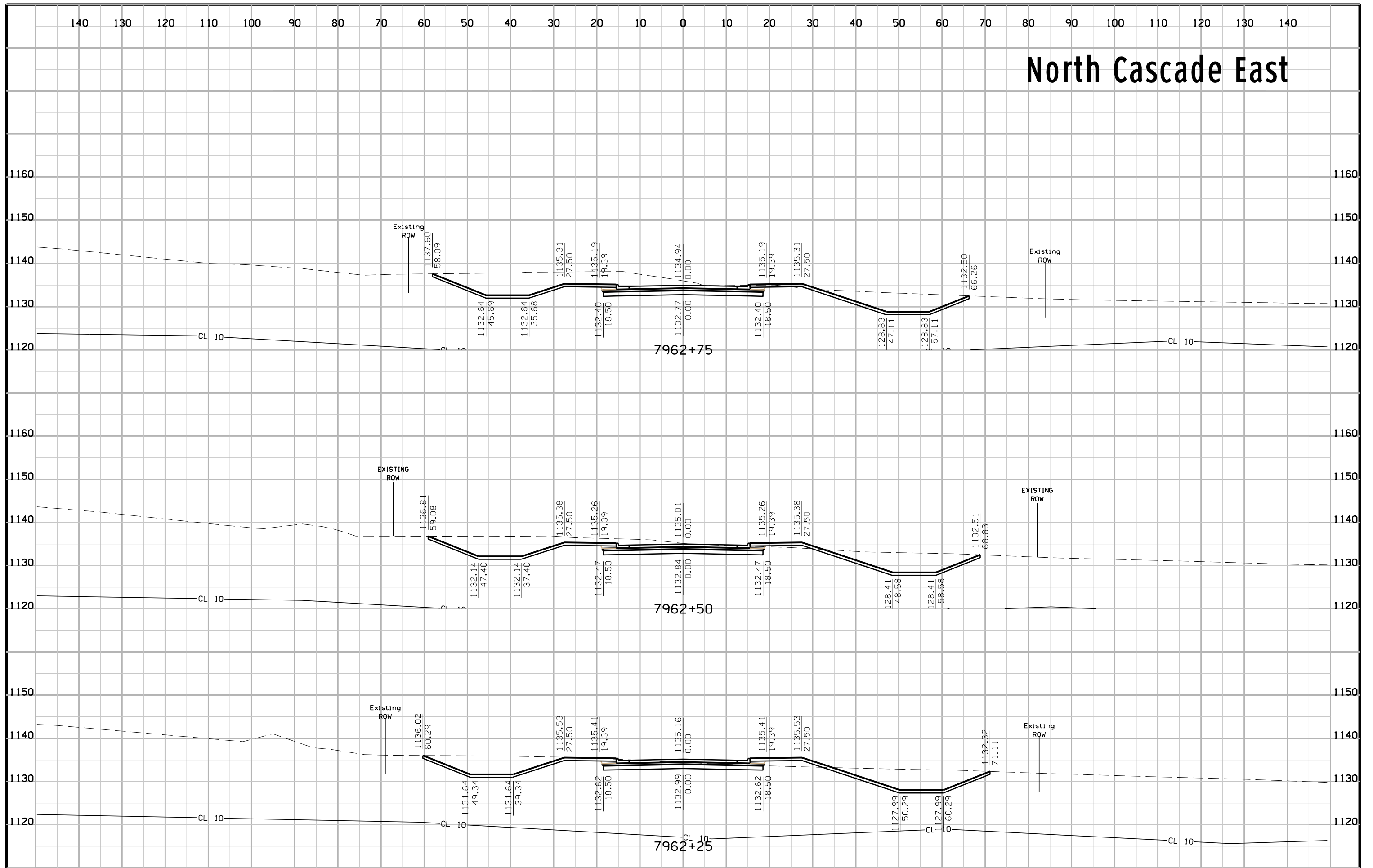
# North Cascade East



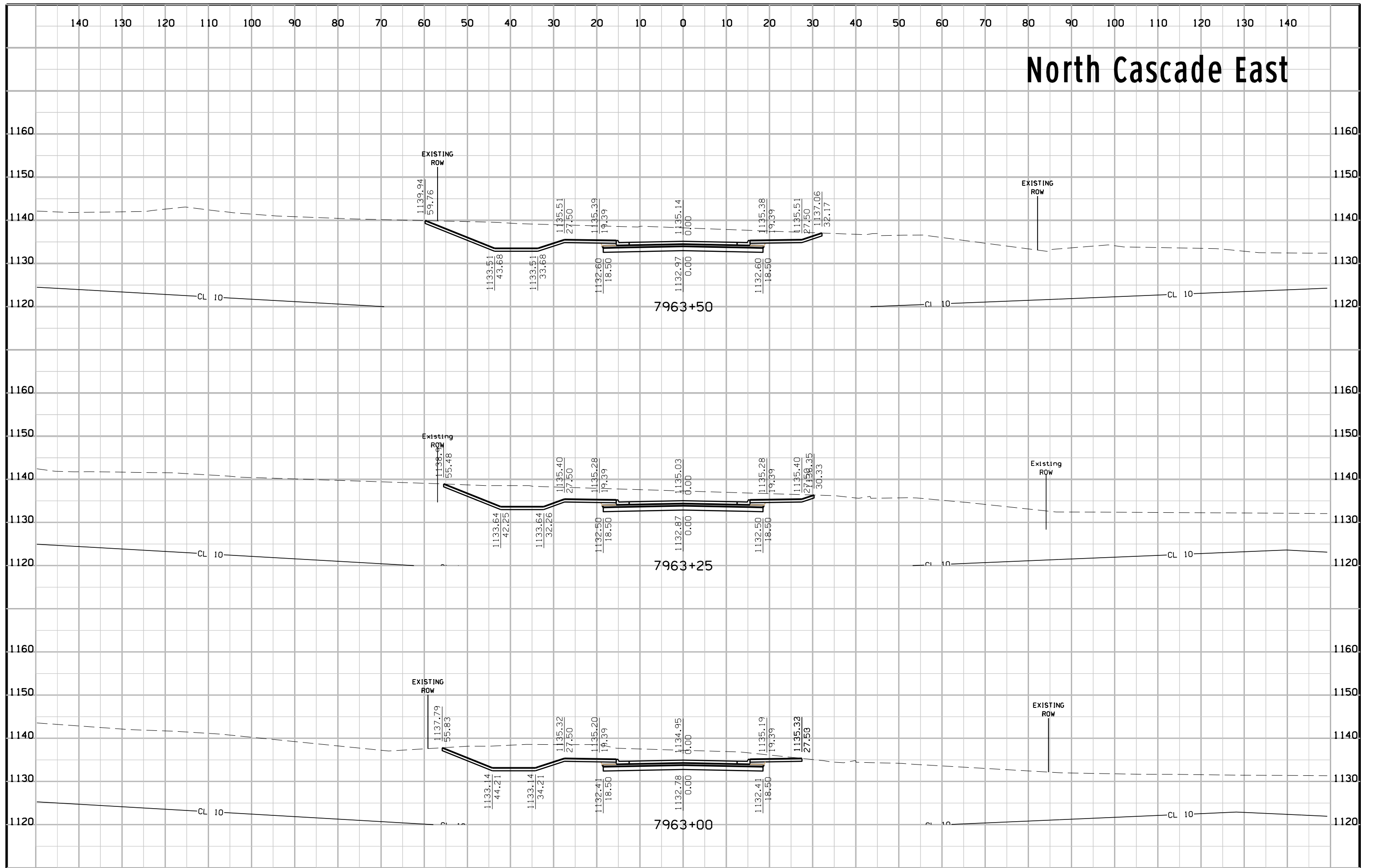
# North Cascade East



# North Cascade East

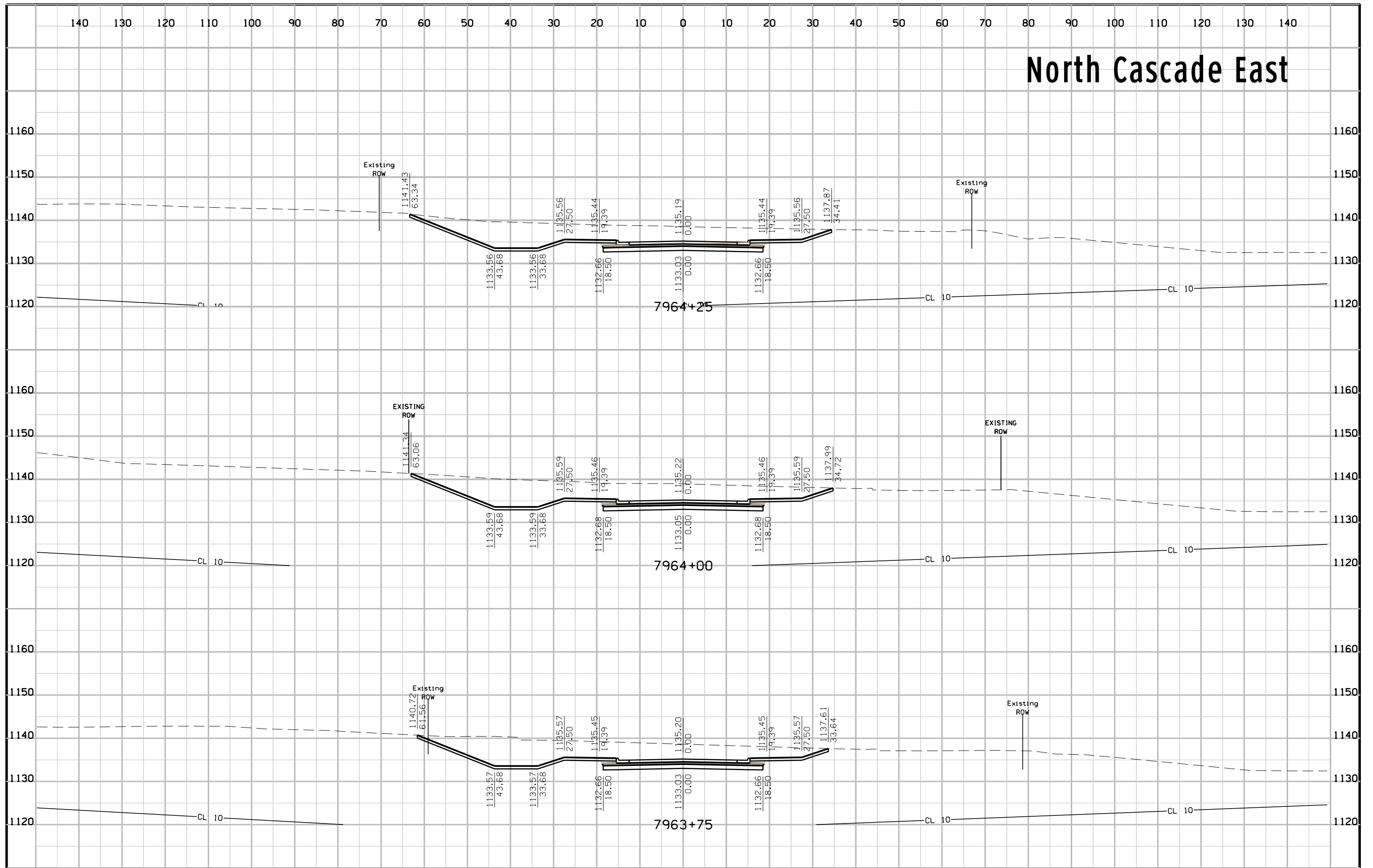


# North Cascade East

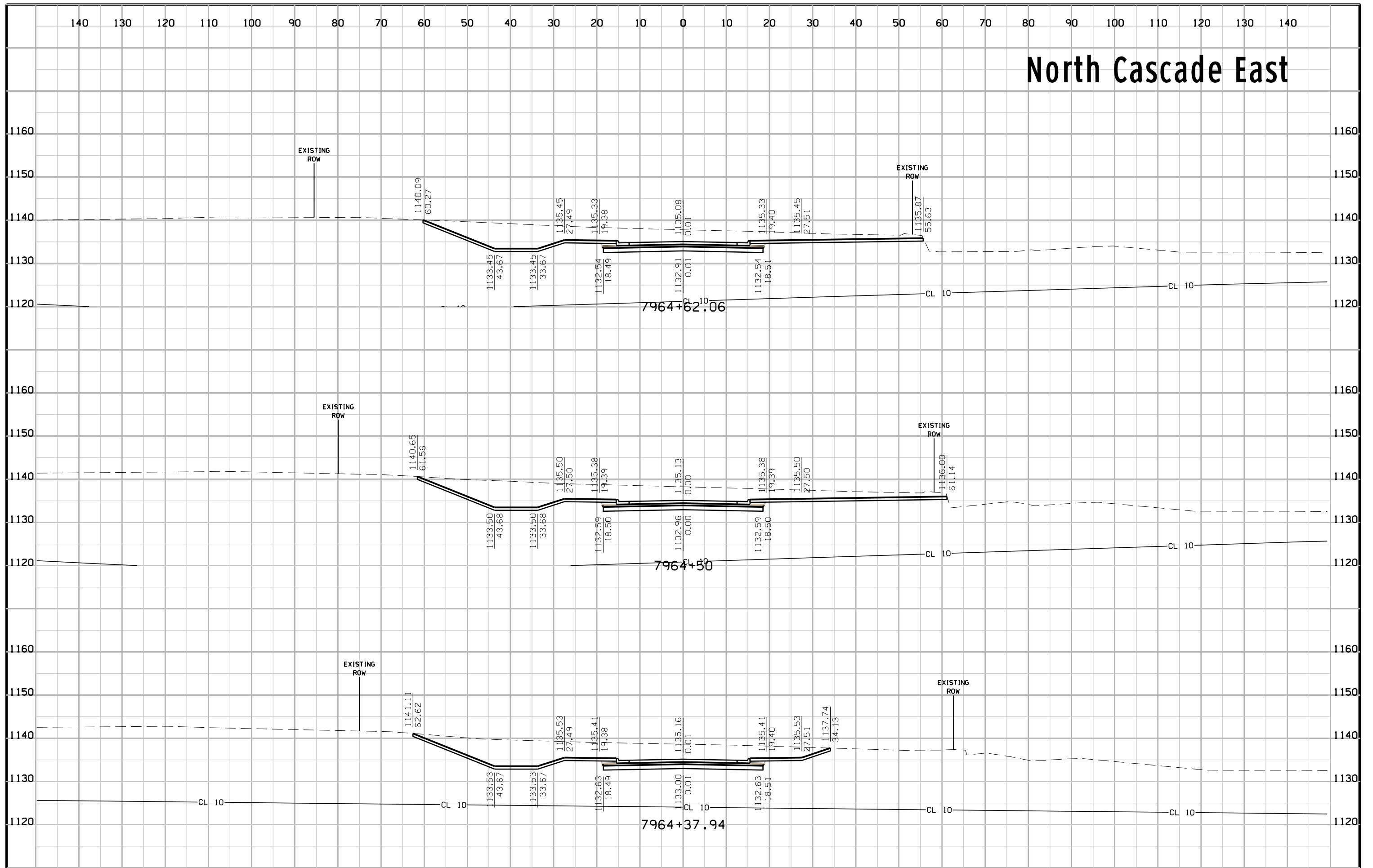




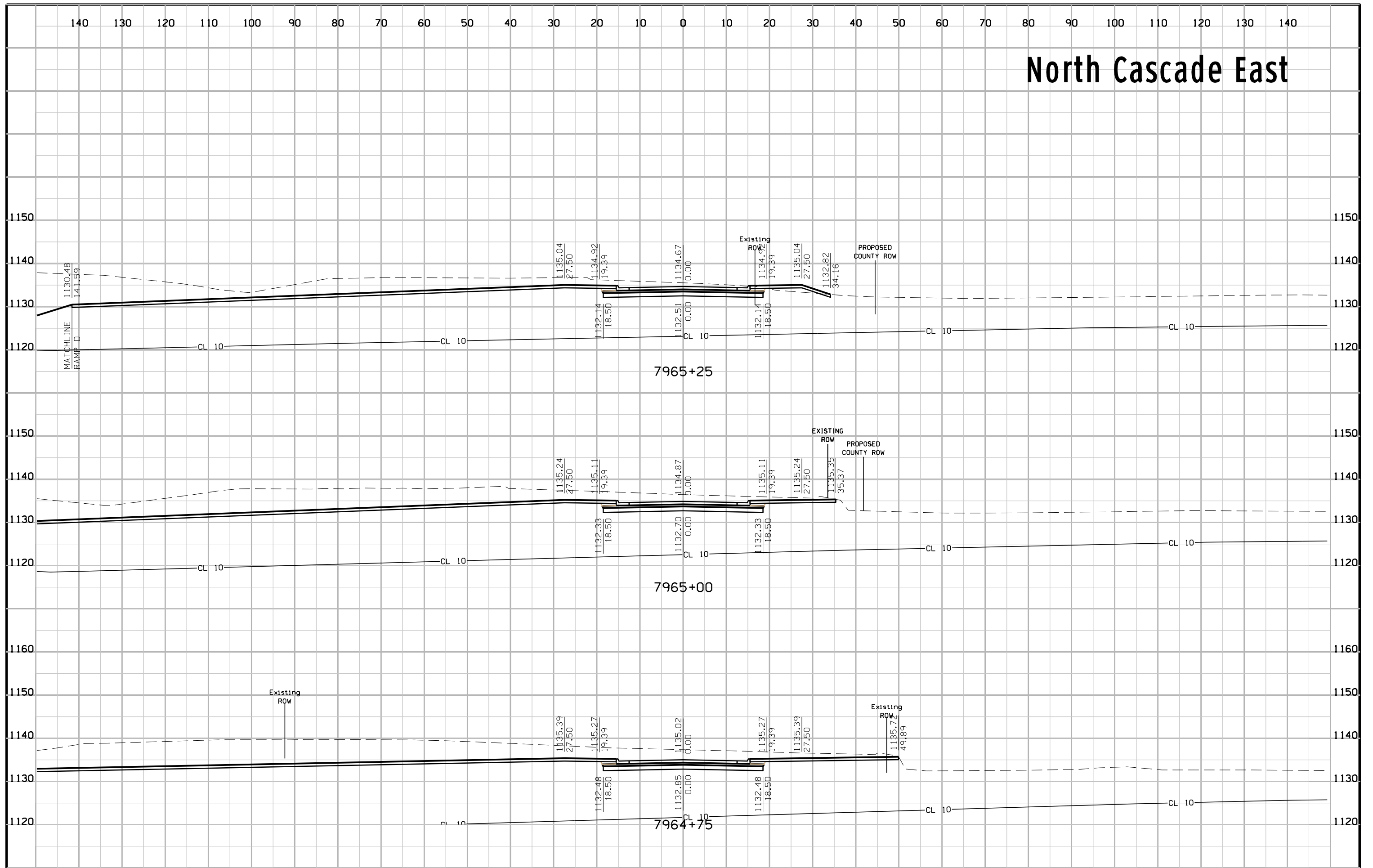
# North Cascade East



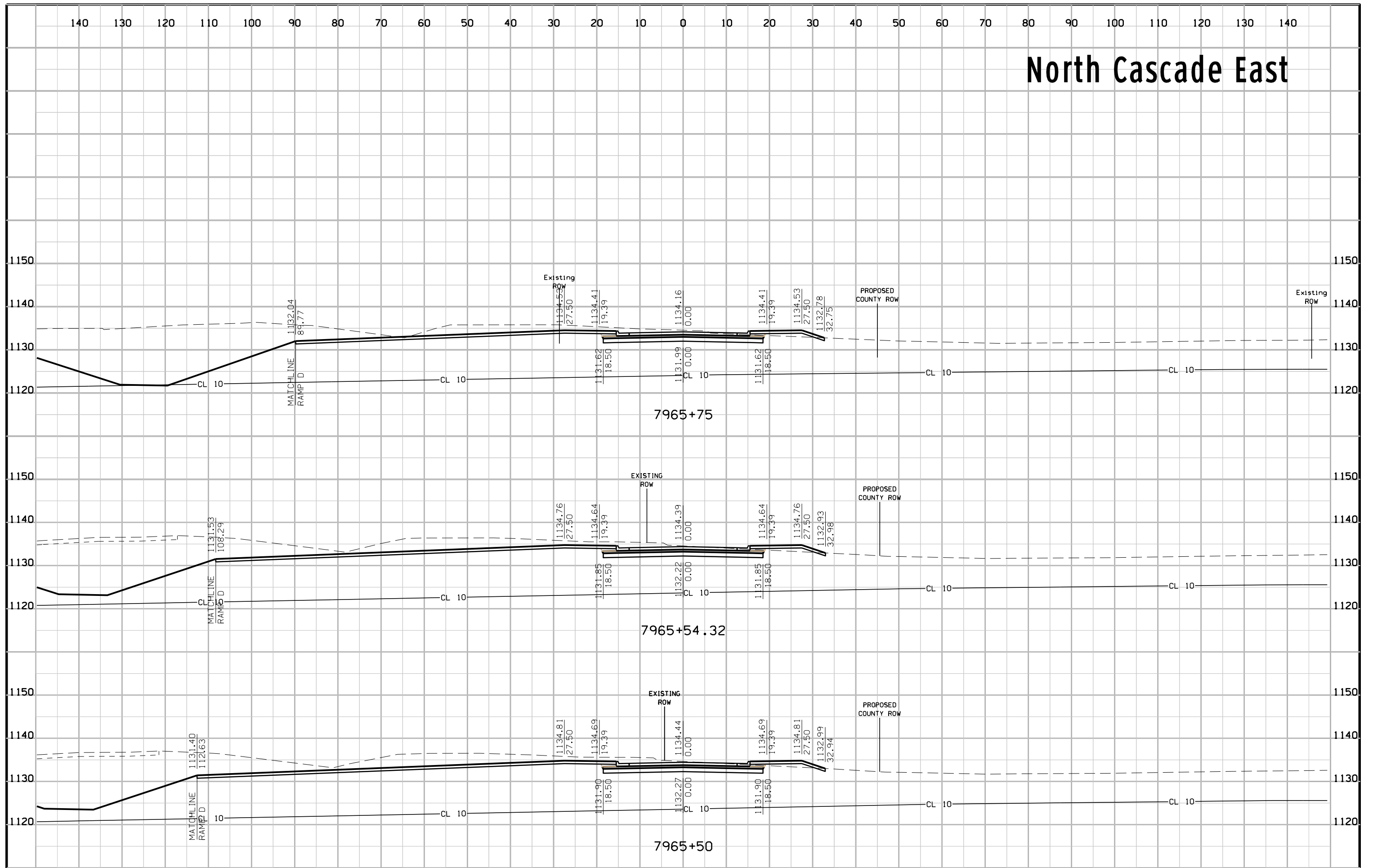
# North Cascade East



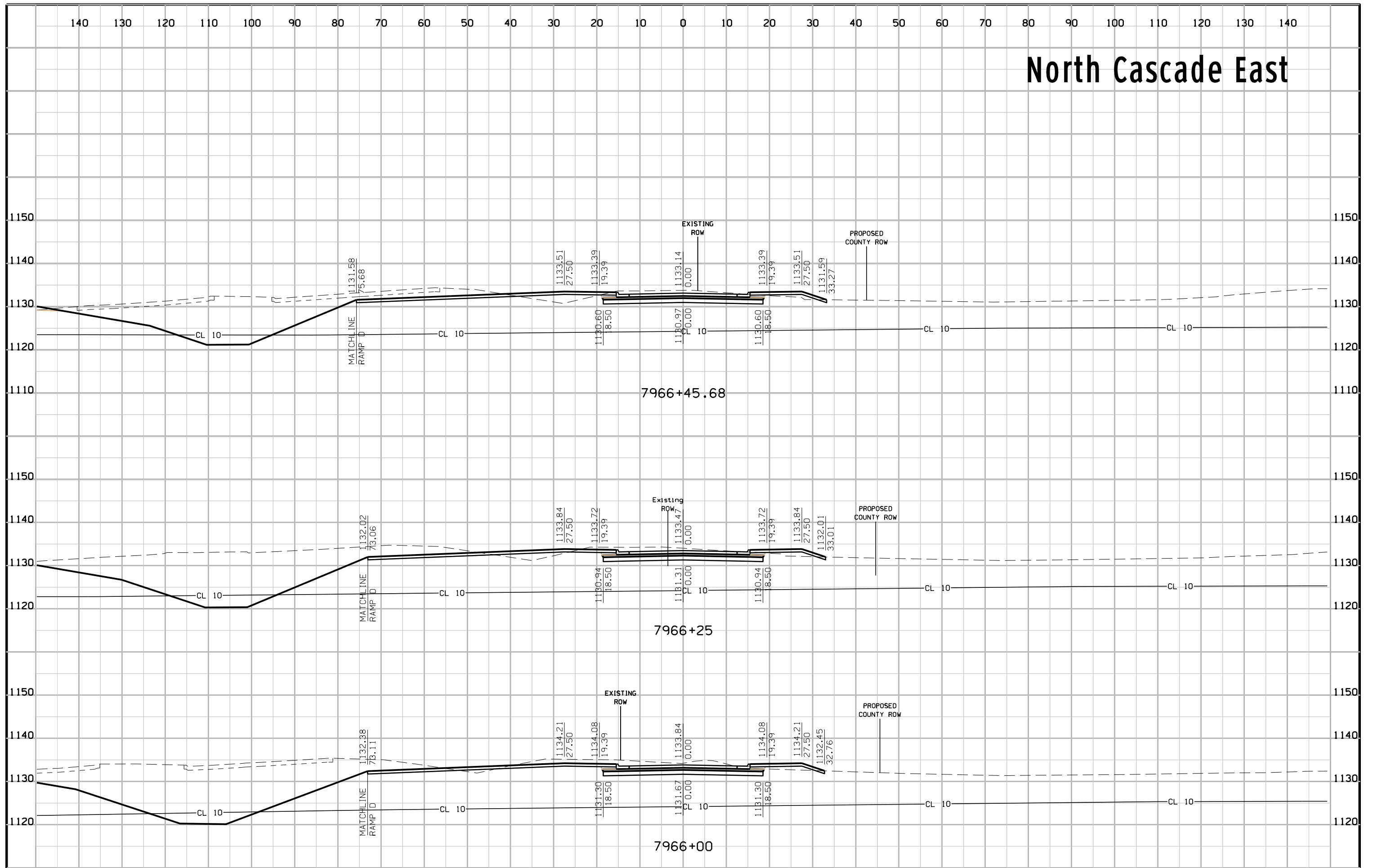
# North Cascade East



# North Cascade East

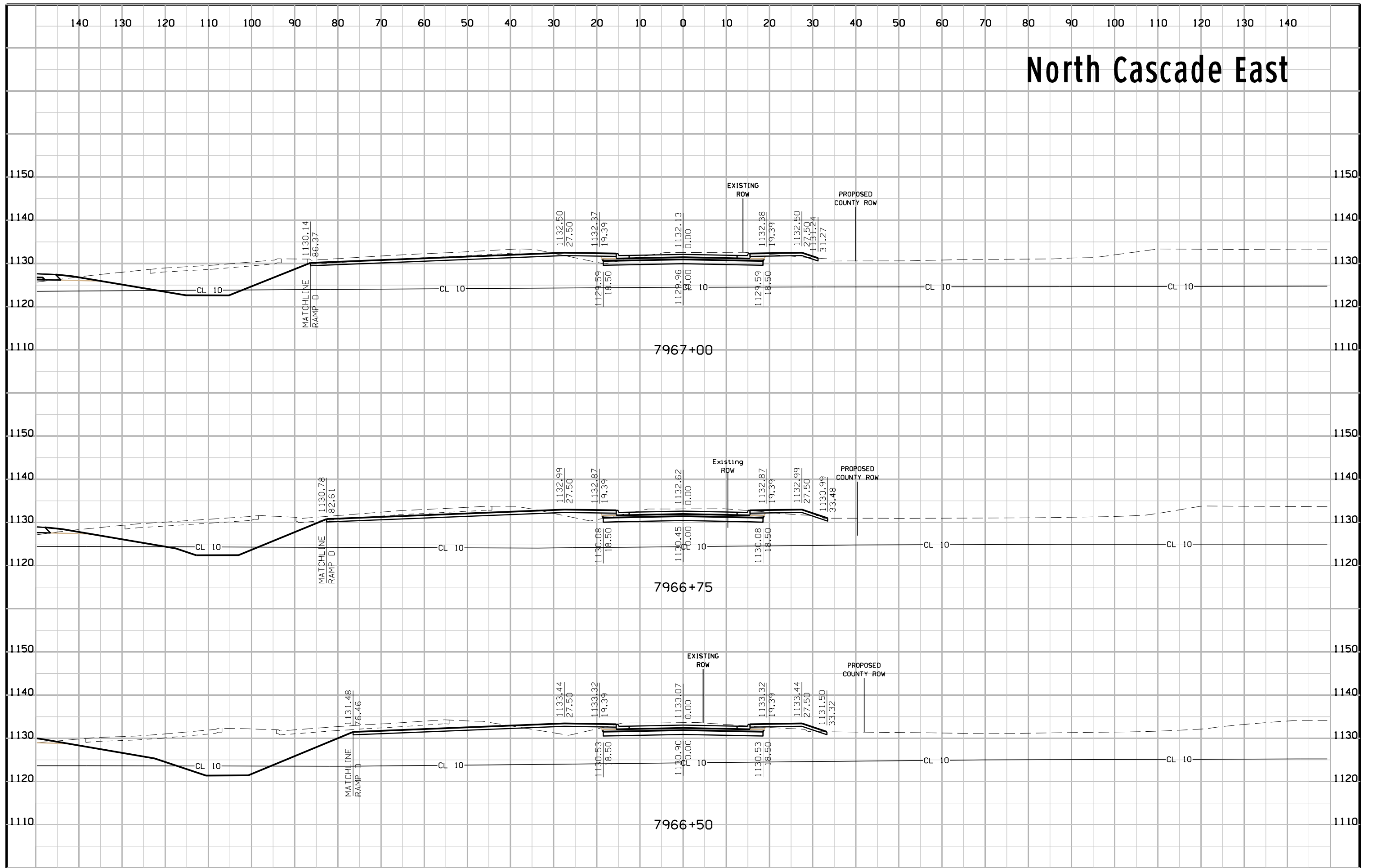


# North Cascade East

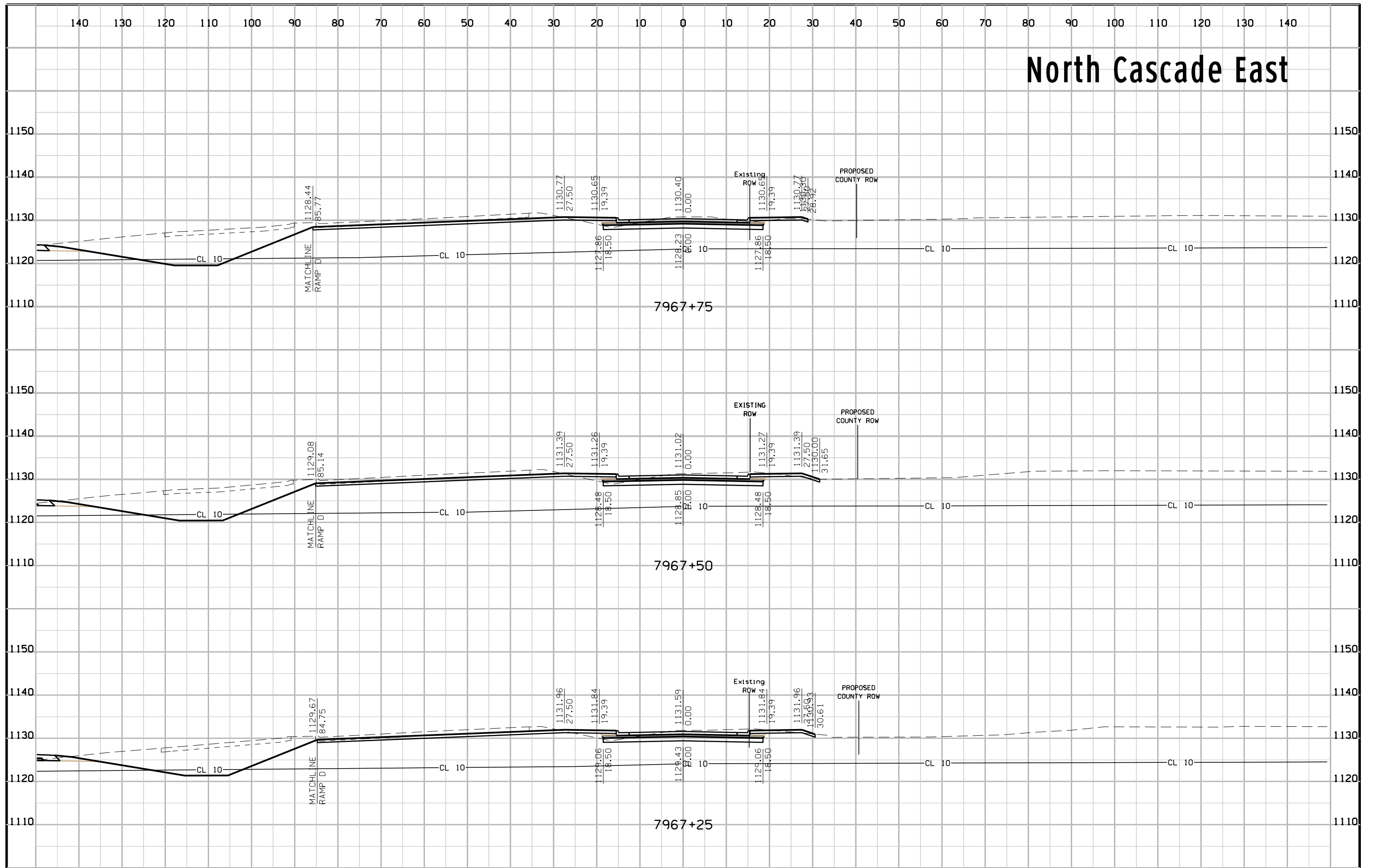




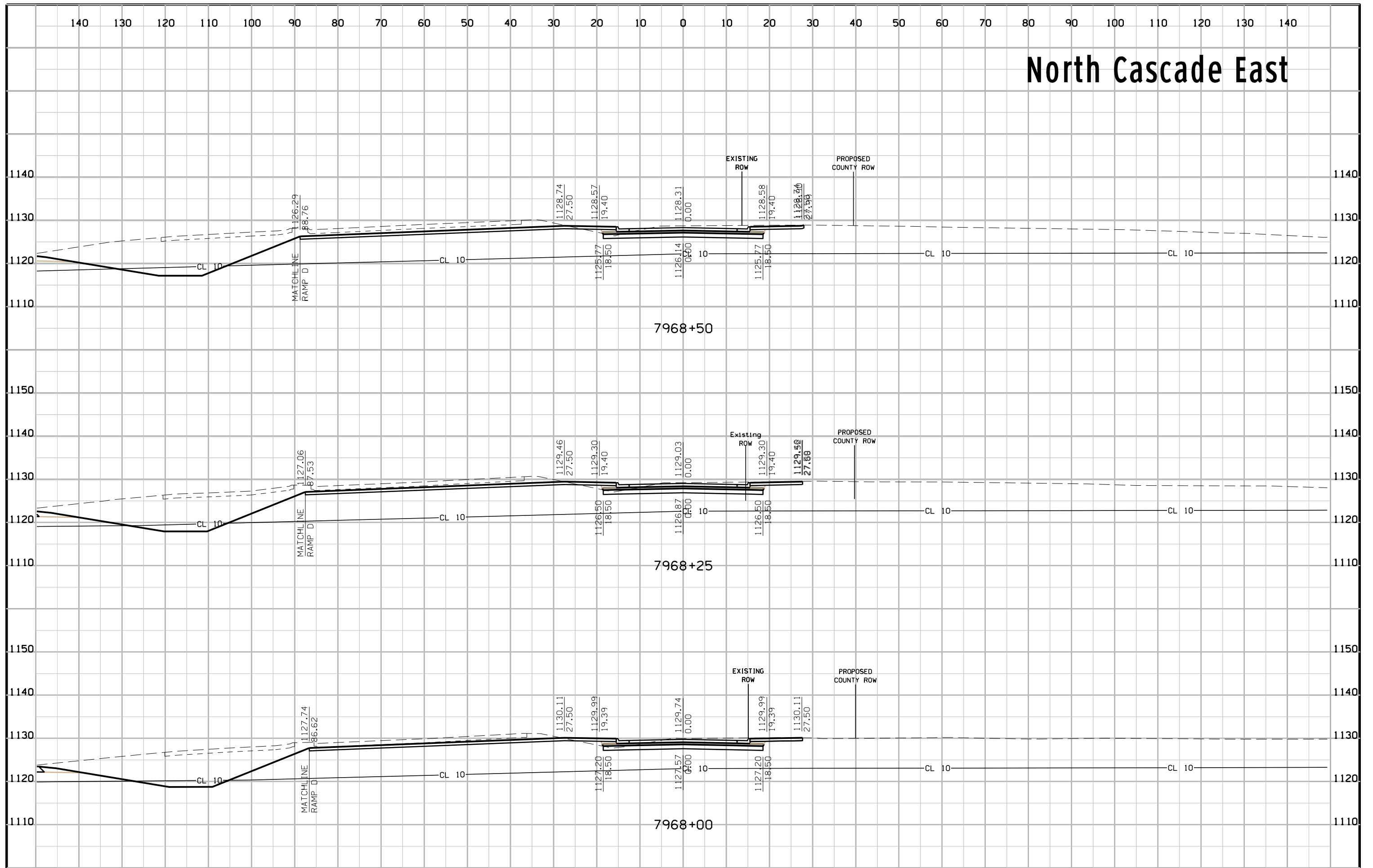
# North Cascade East



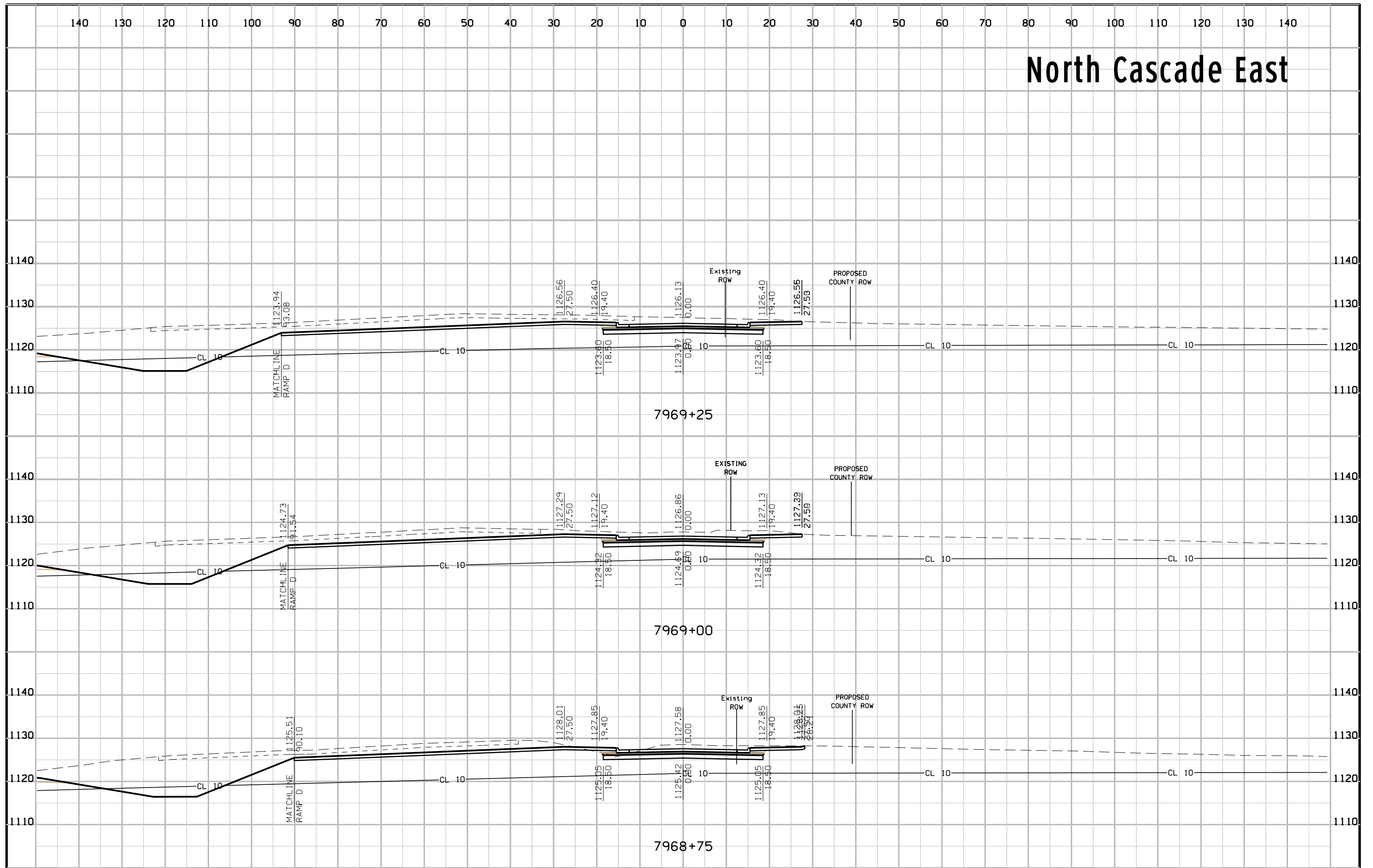
# North Cascade East



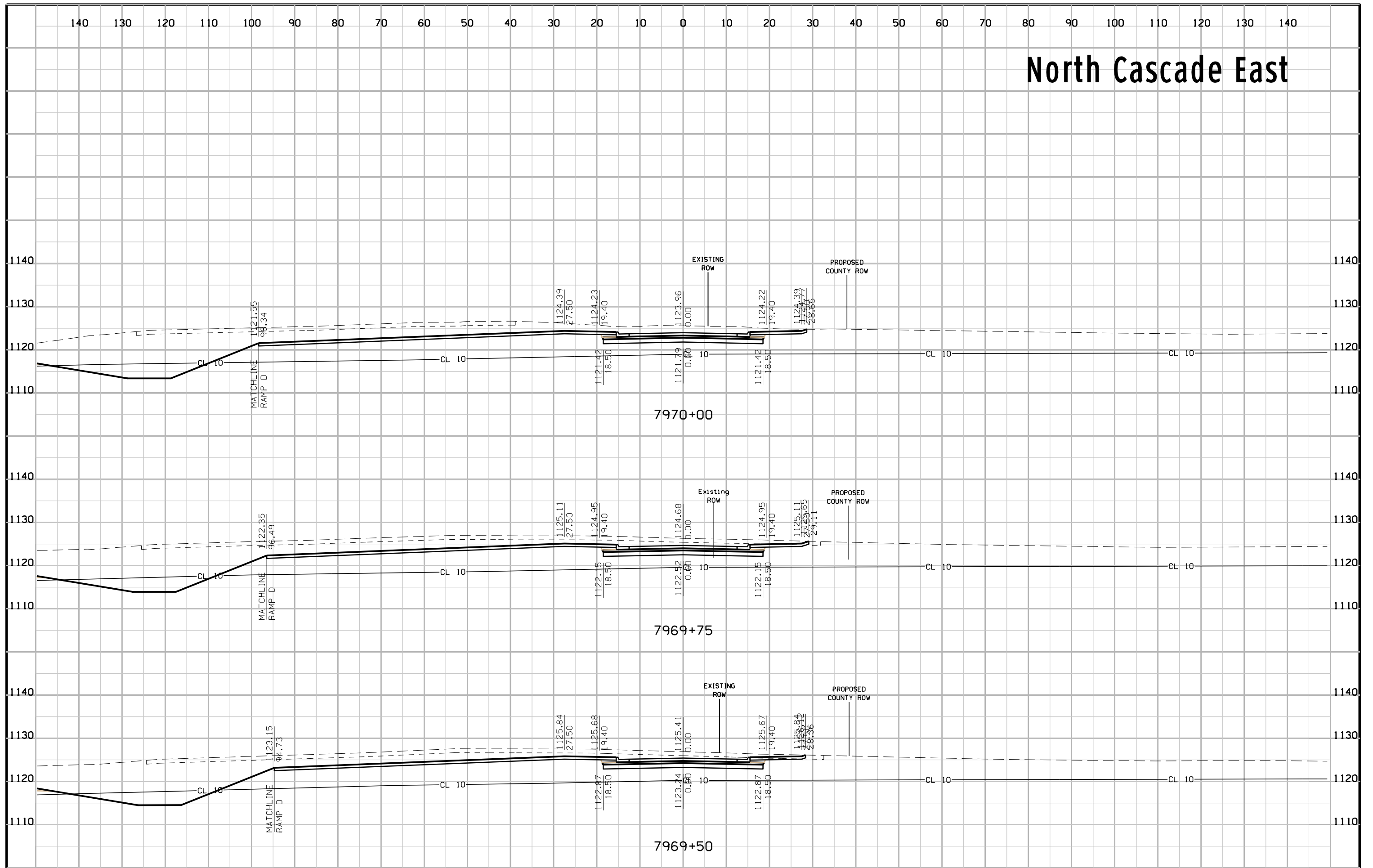
# North Cascade East



# North Cascade East

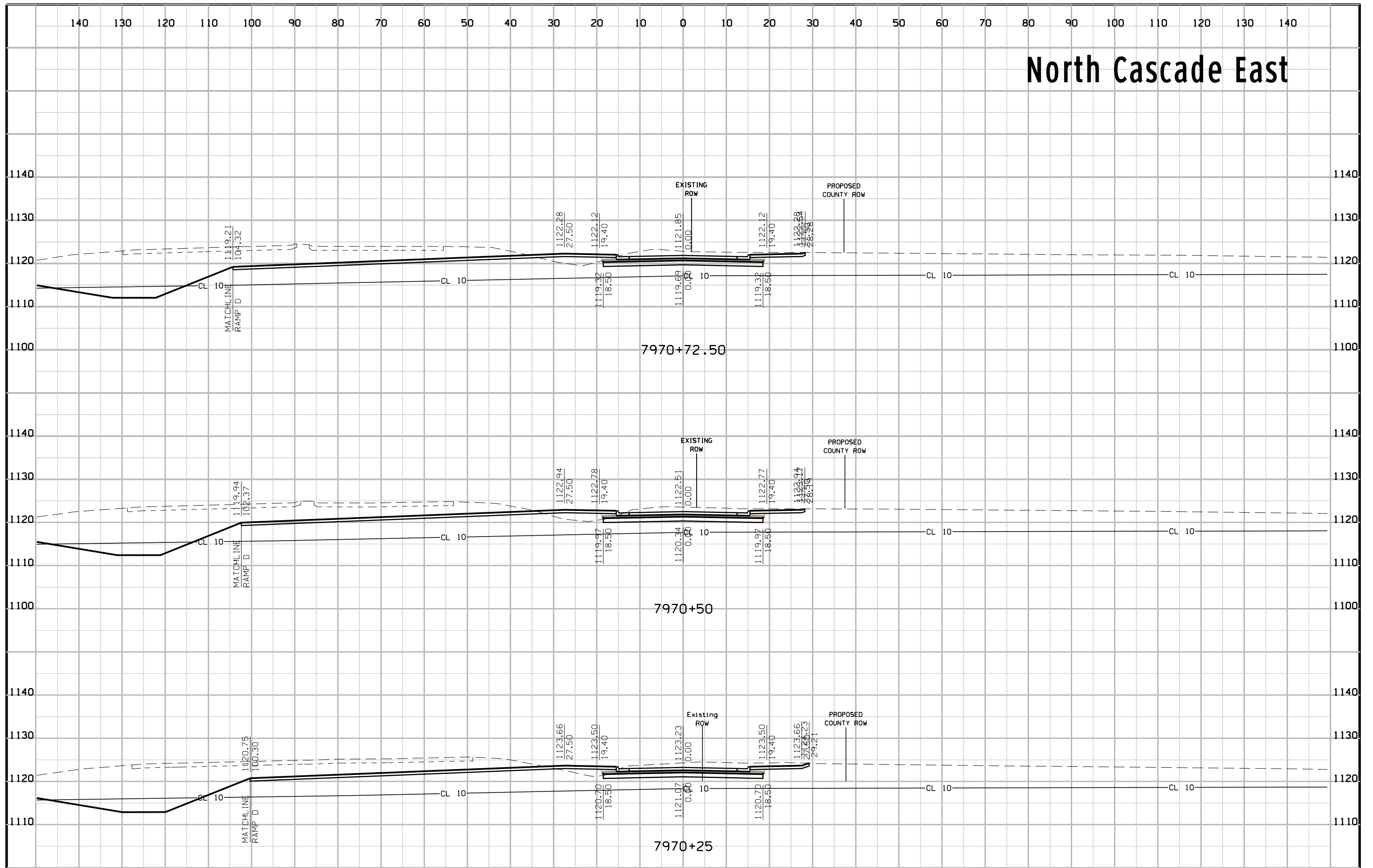


# North Cascade East

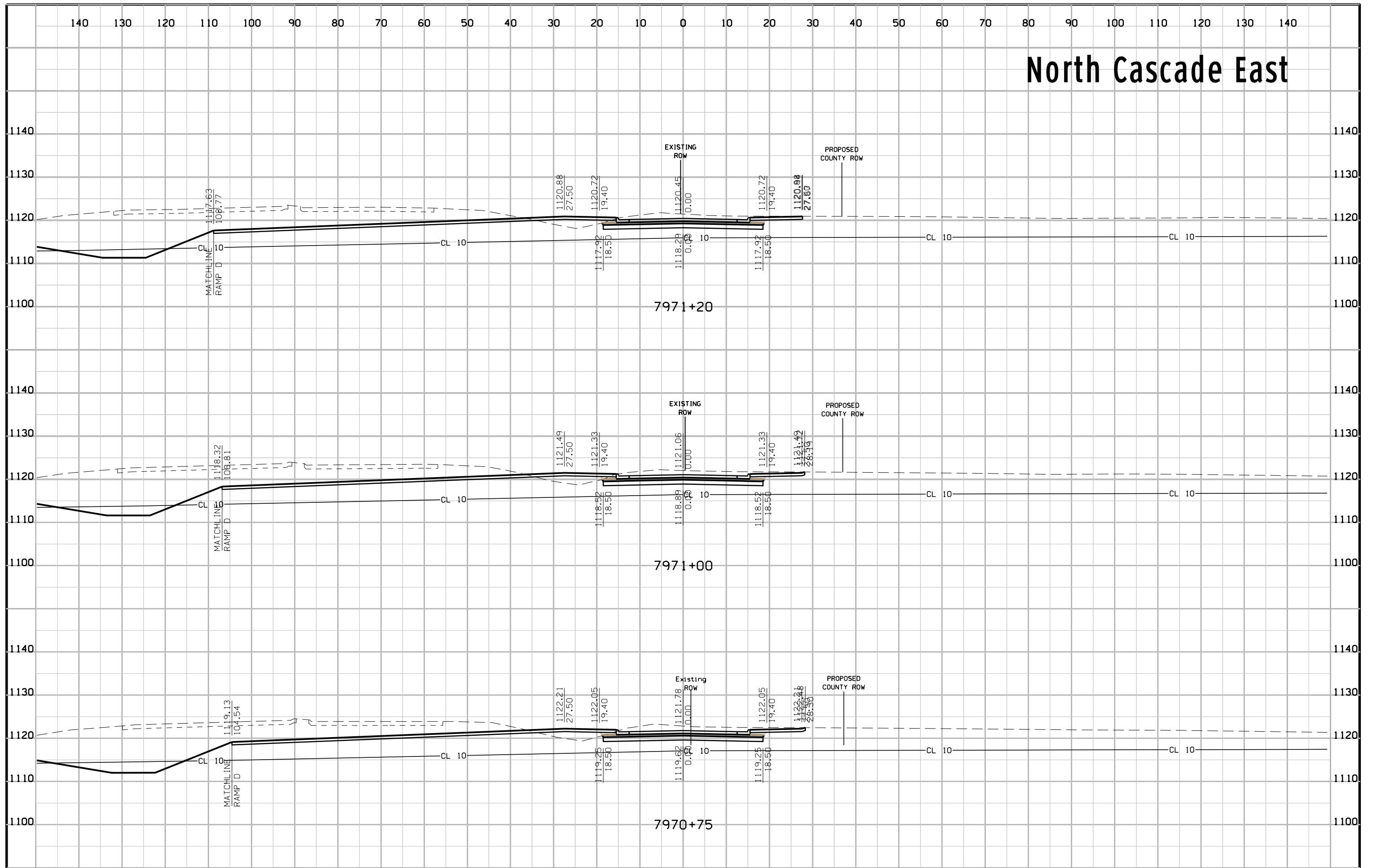




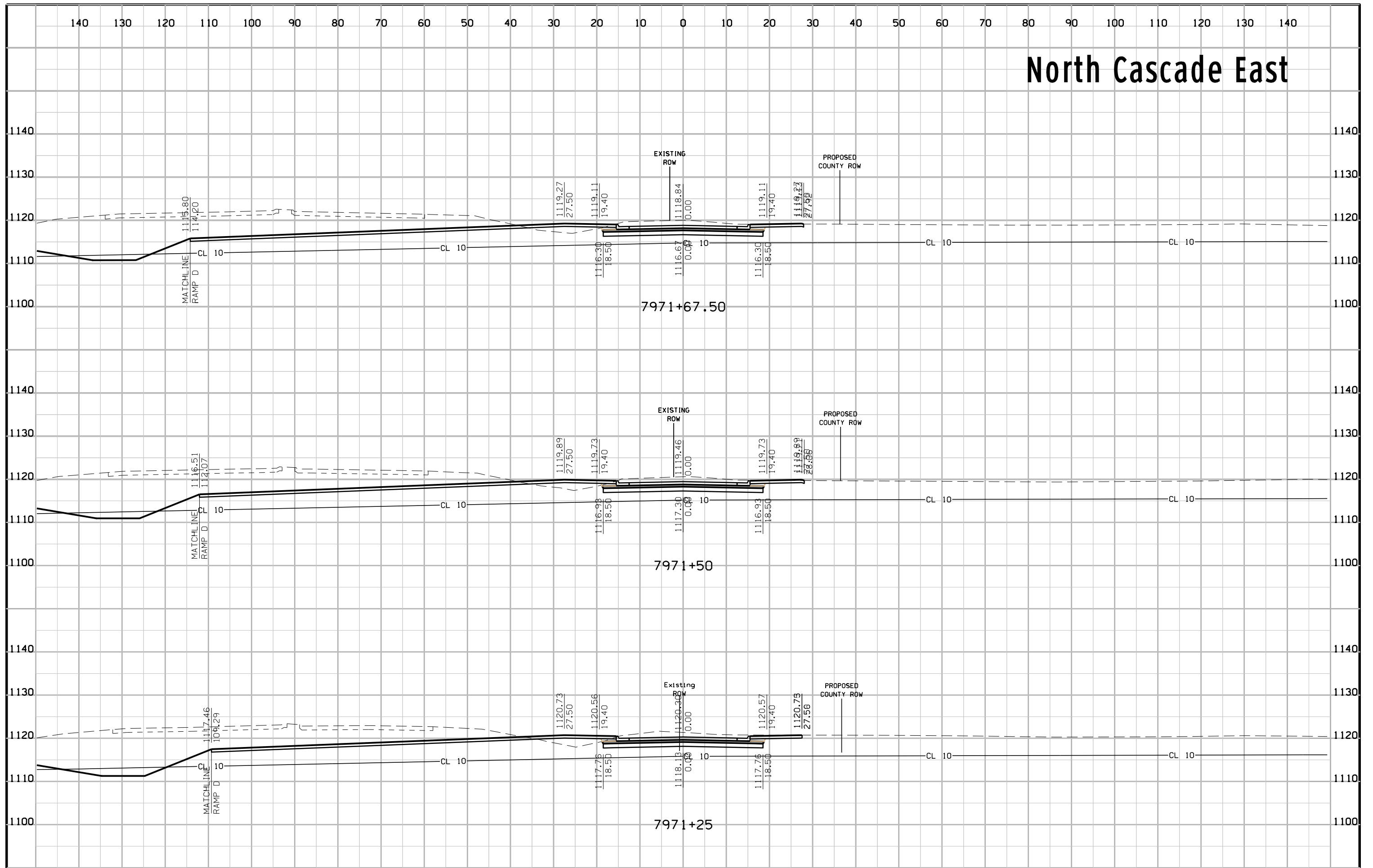
# North Cascade East



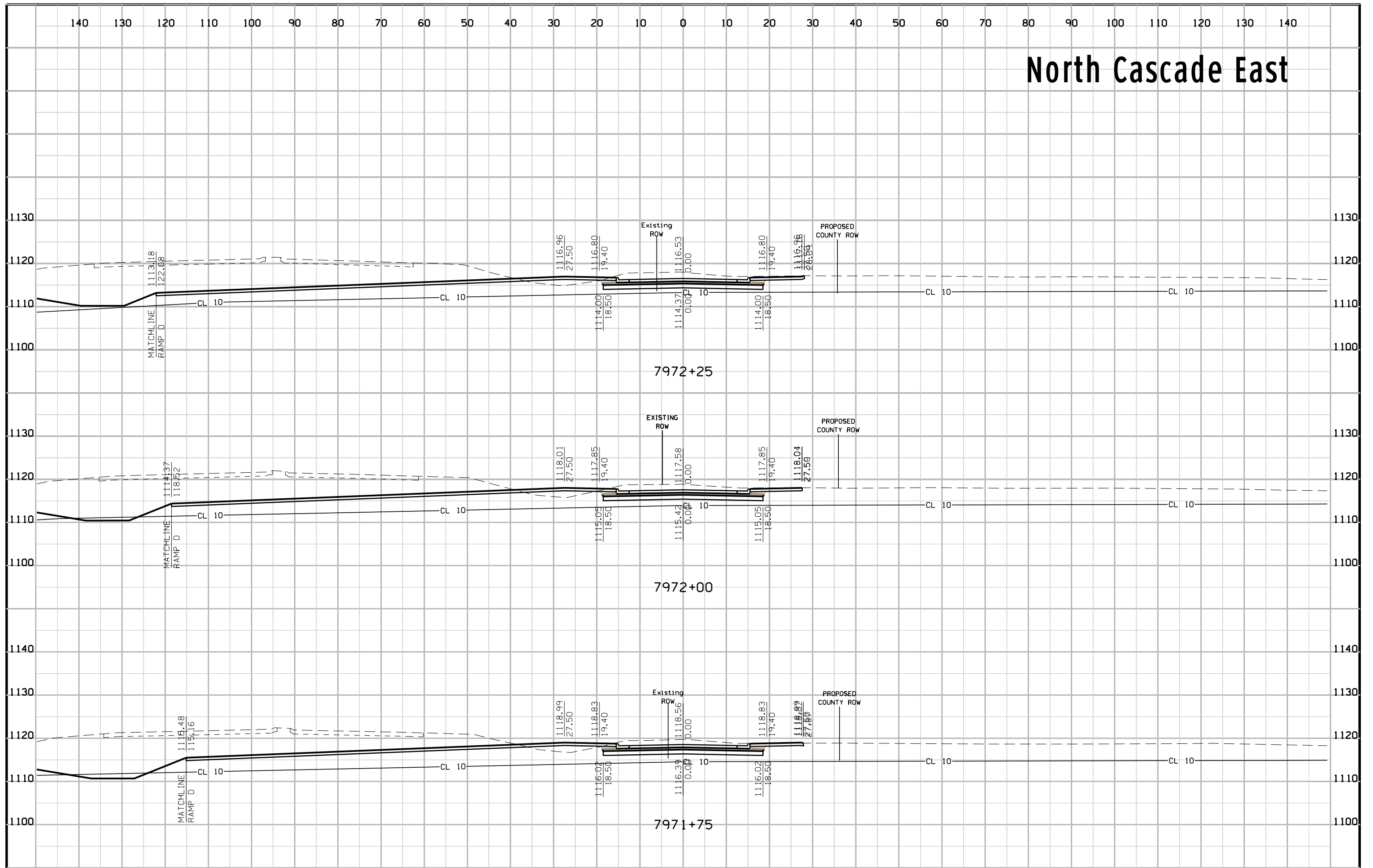
# North Cascade East



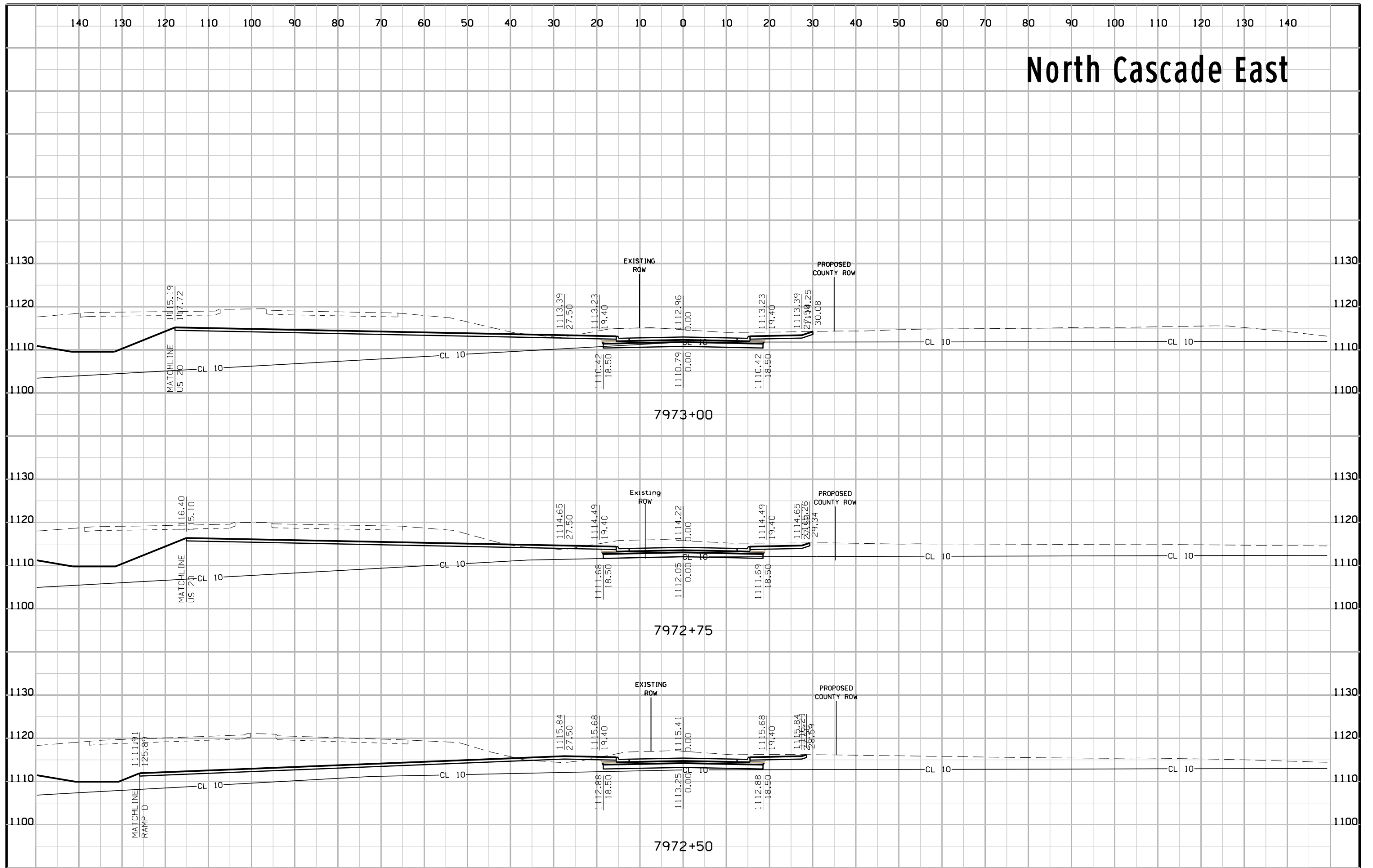
# North Cascade East



# North Cascade East

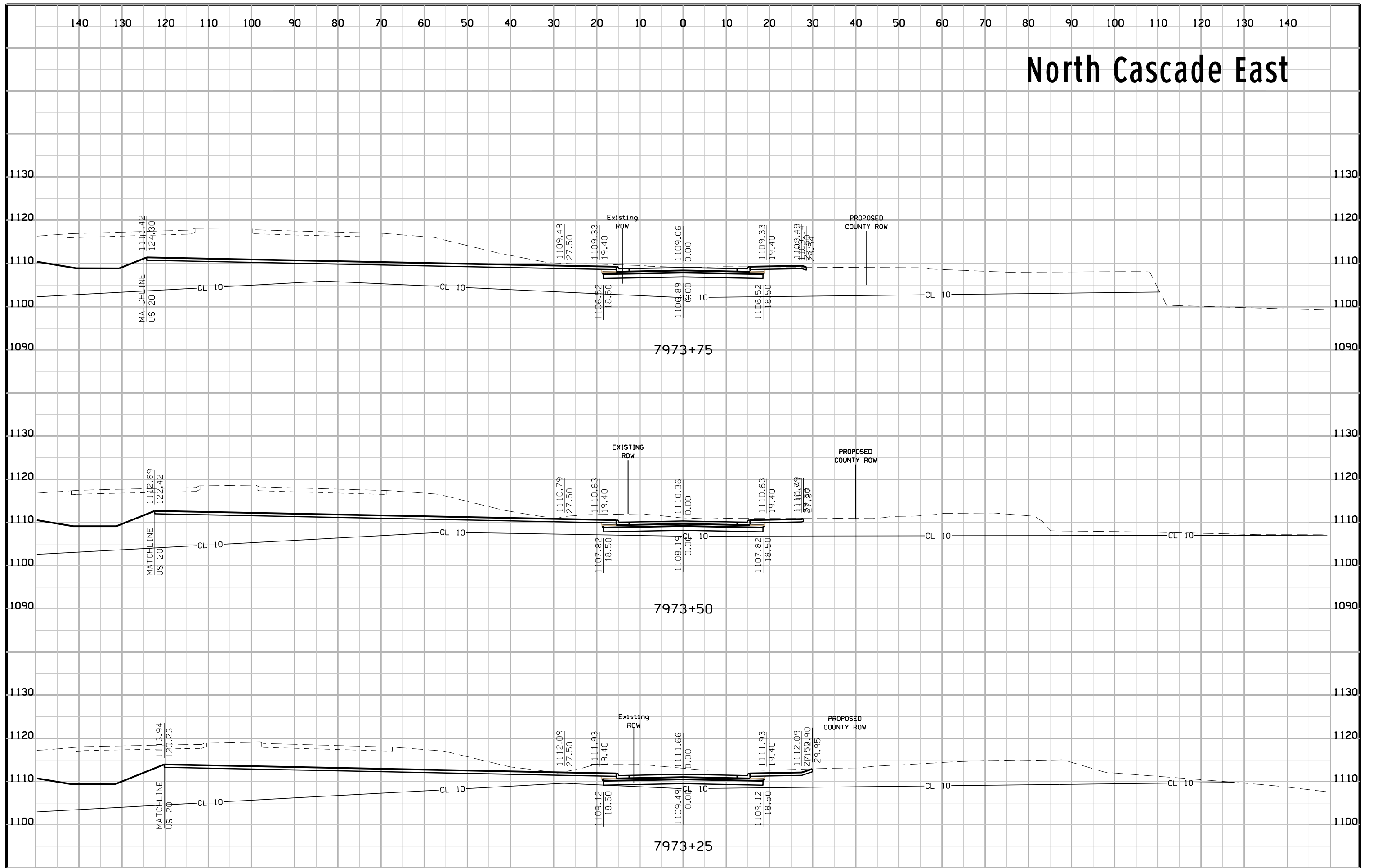


# North Cascade East

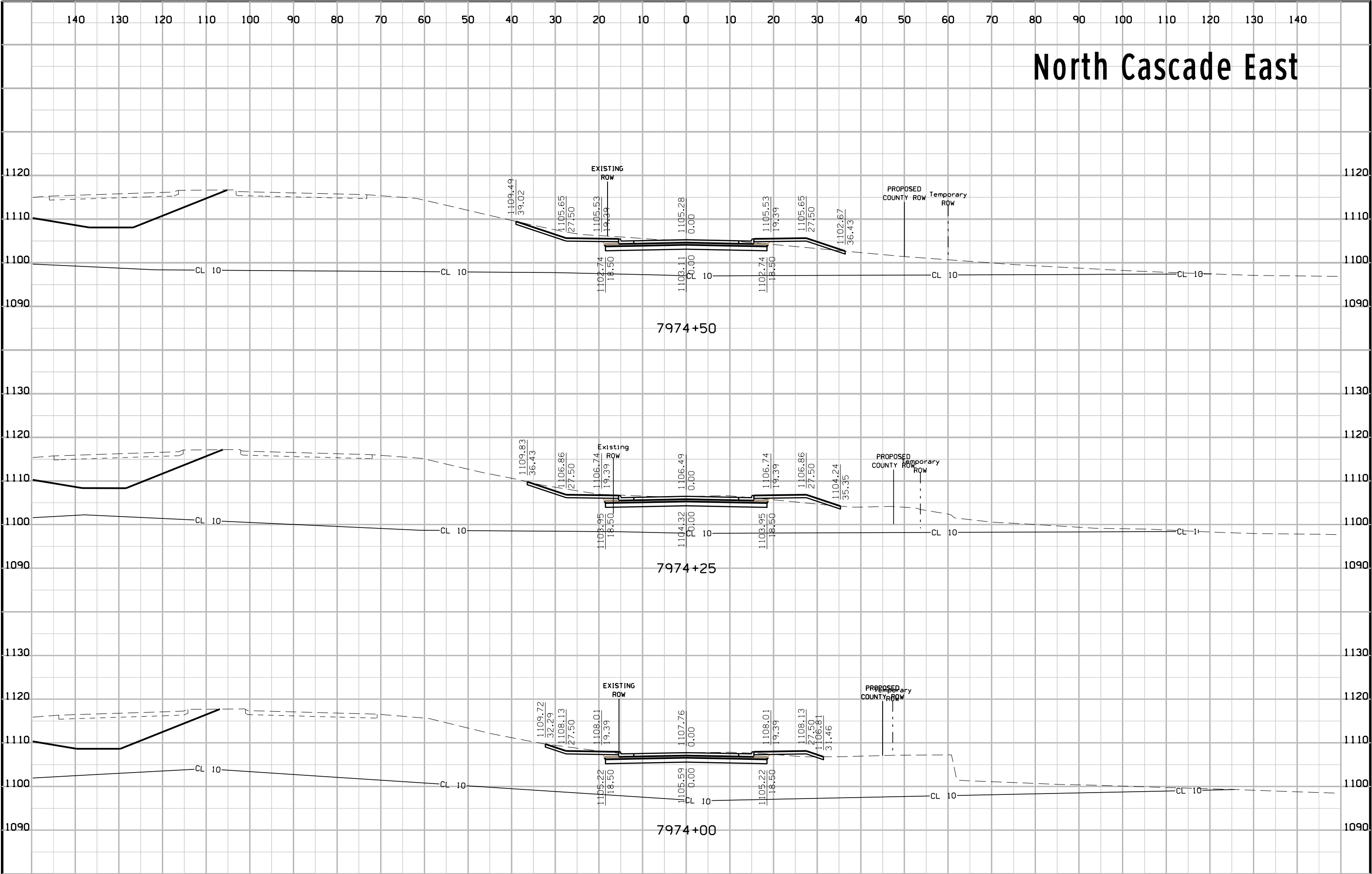




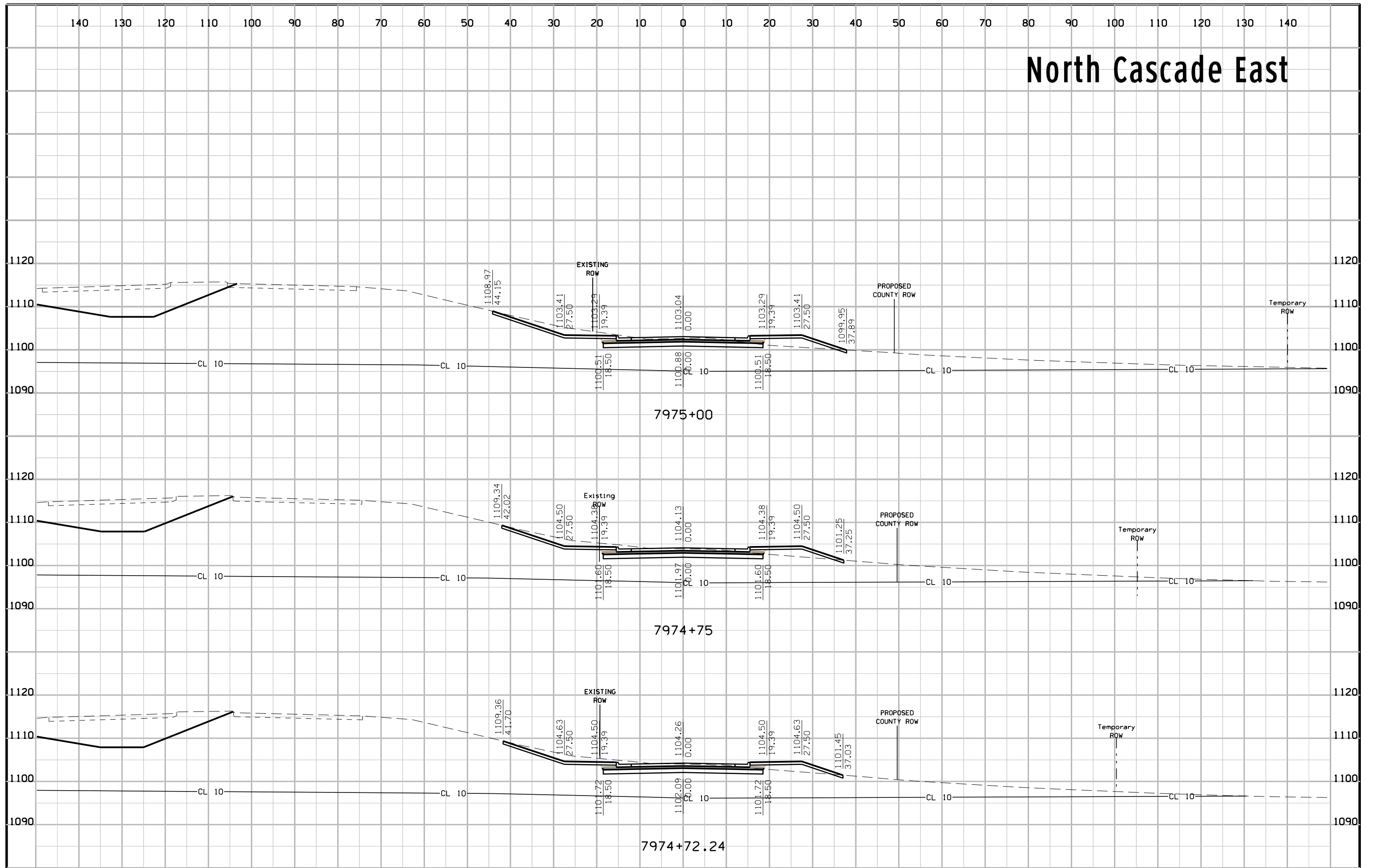
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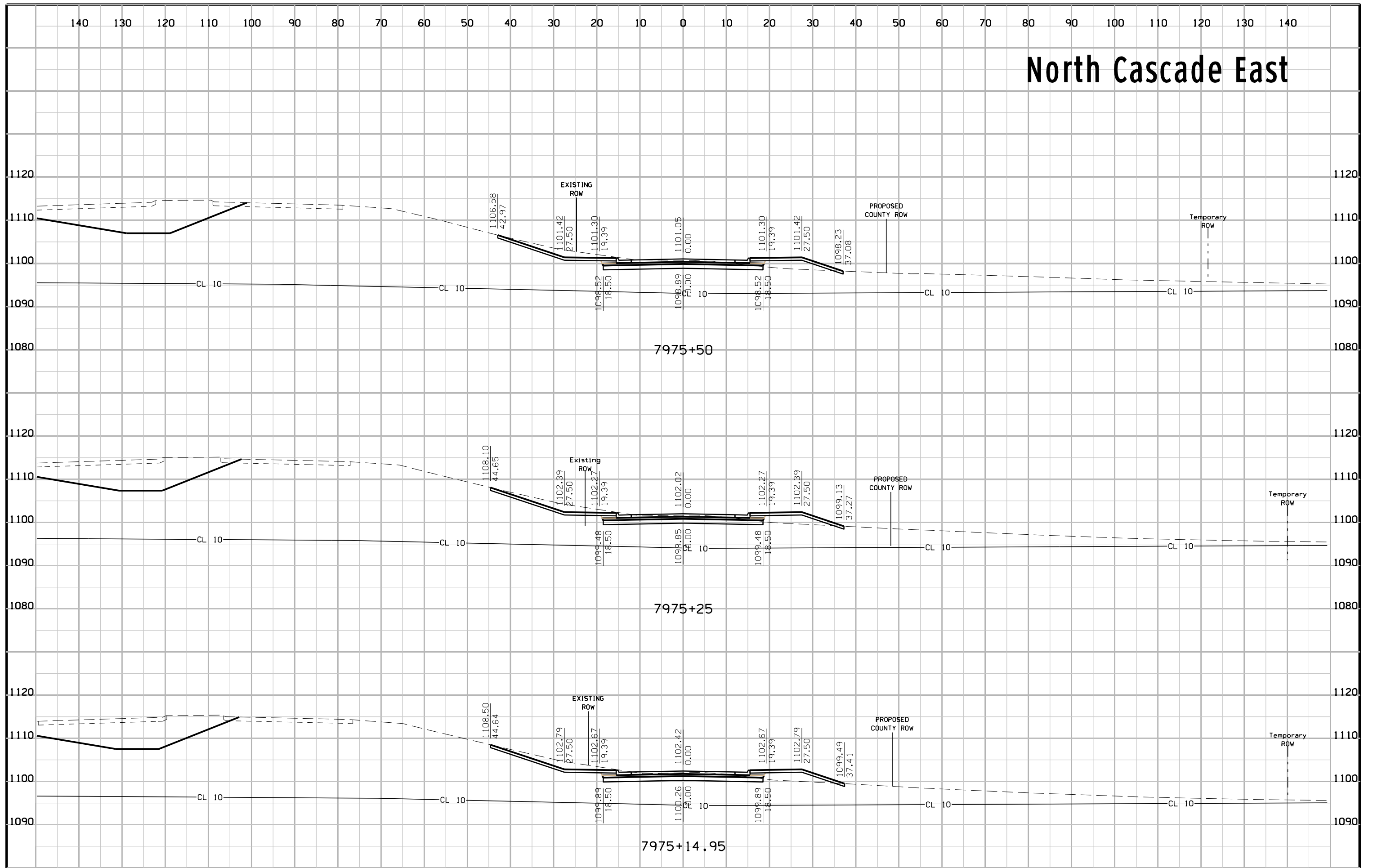
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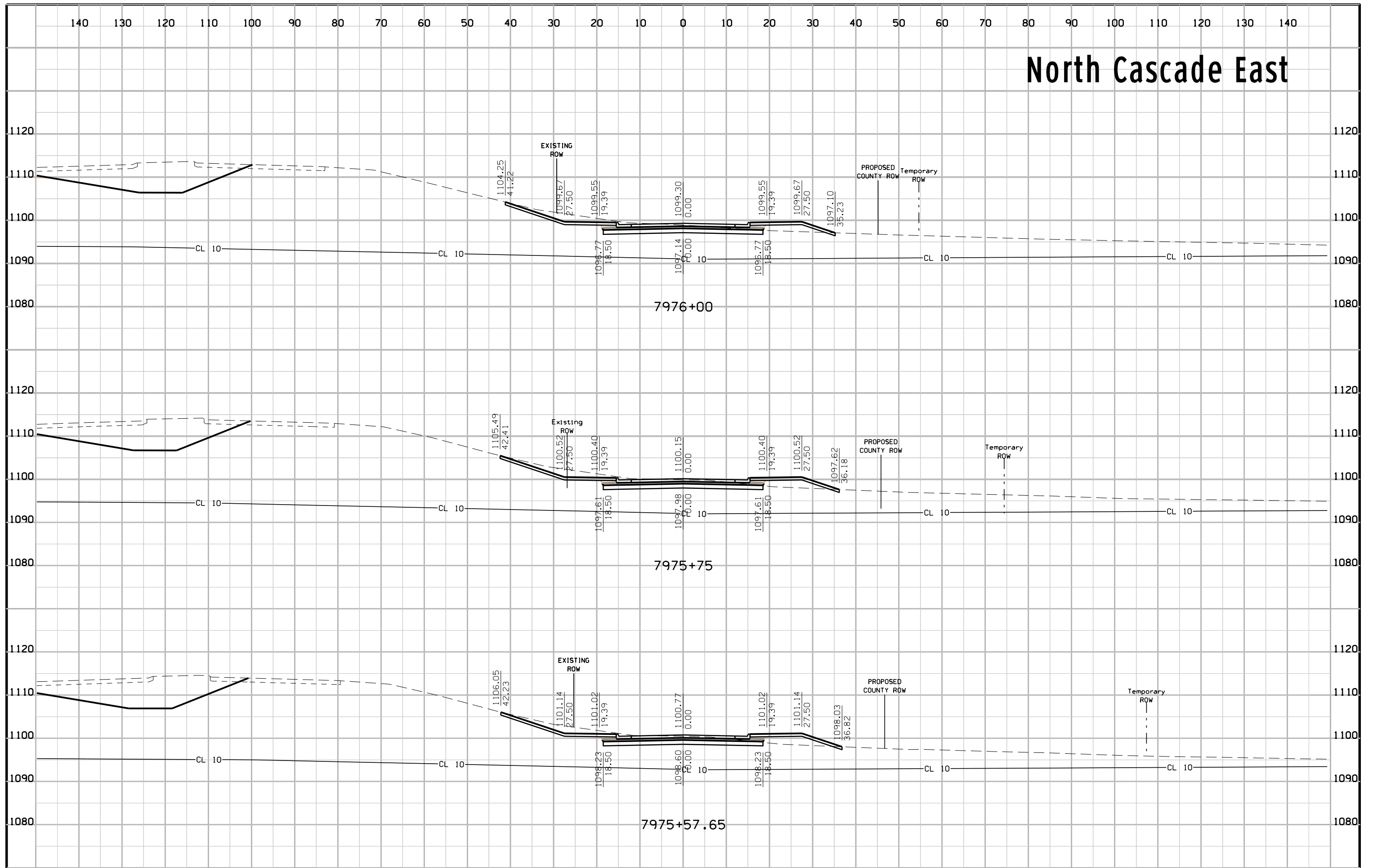
# North Cascade East



# North Cascade East

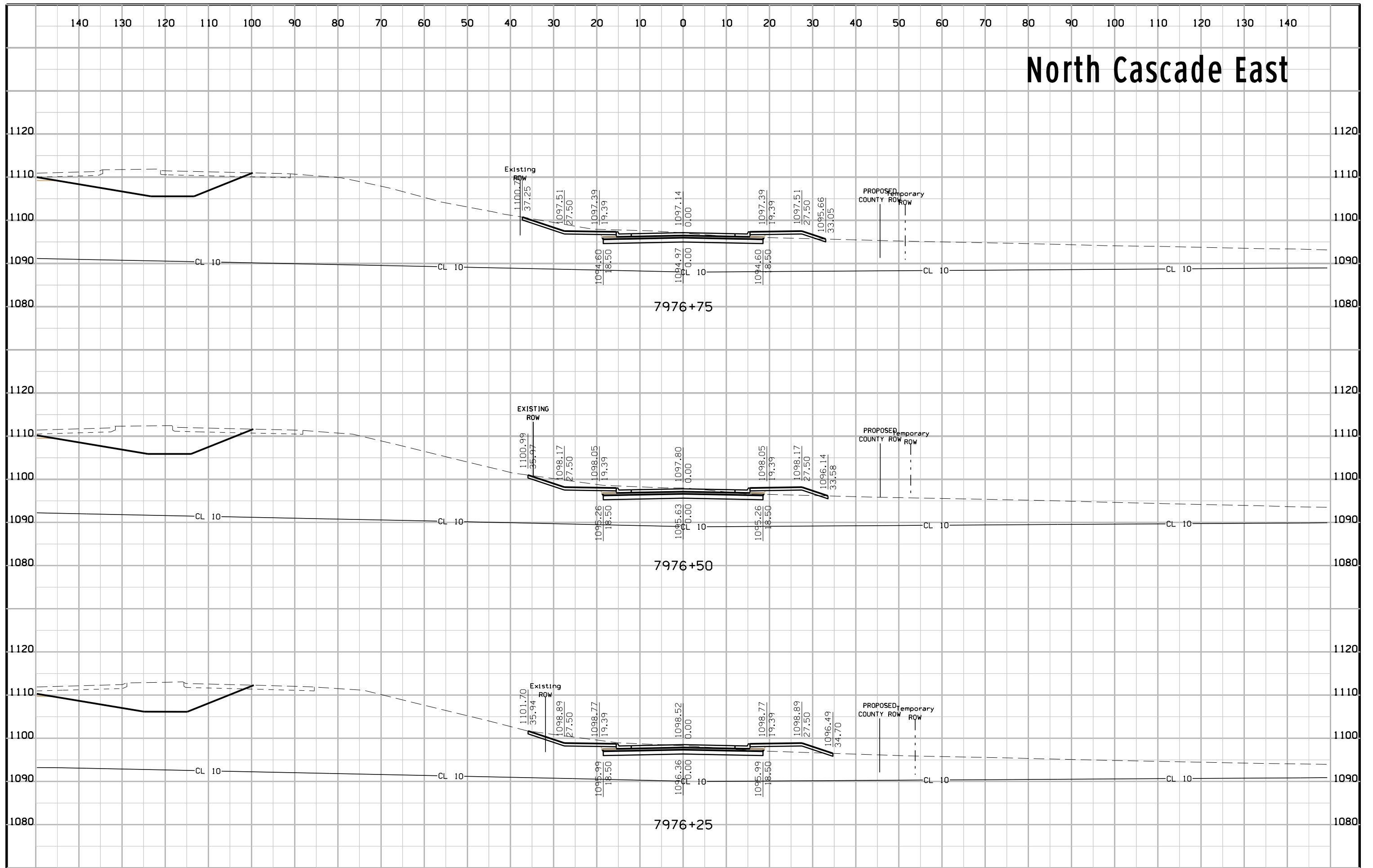


# North Cascade East

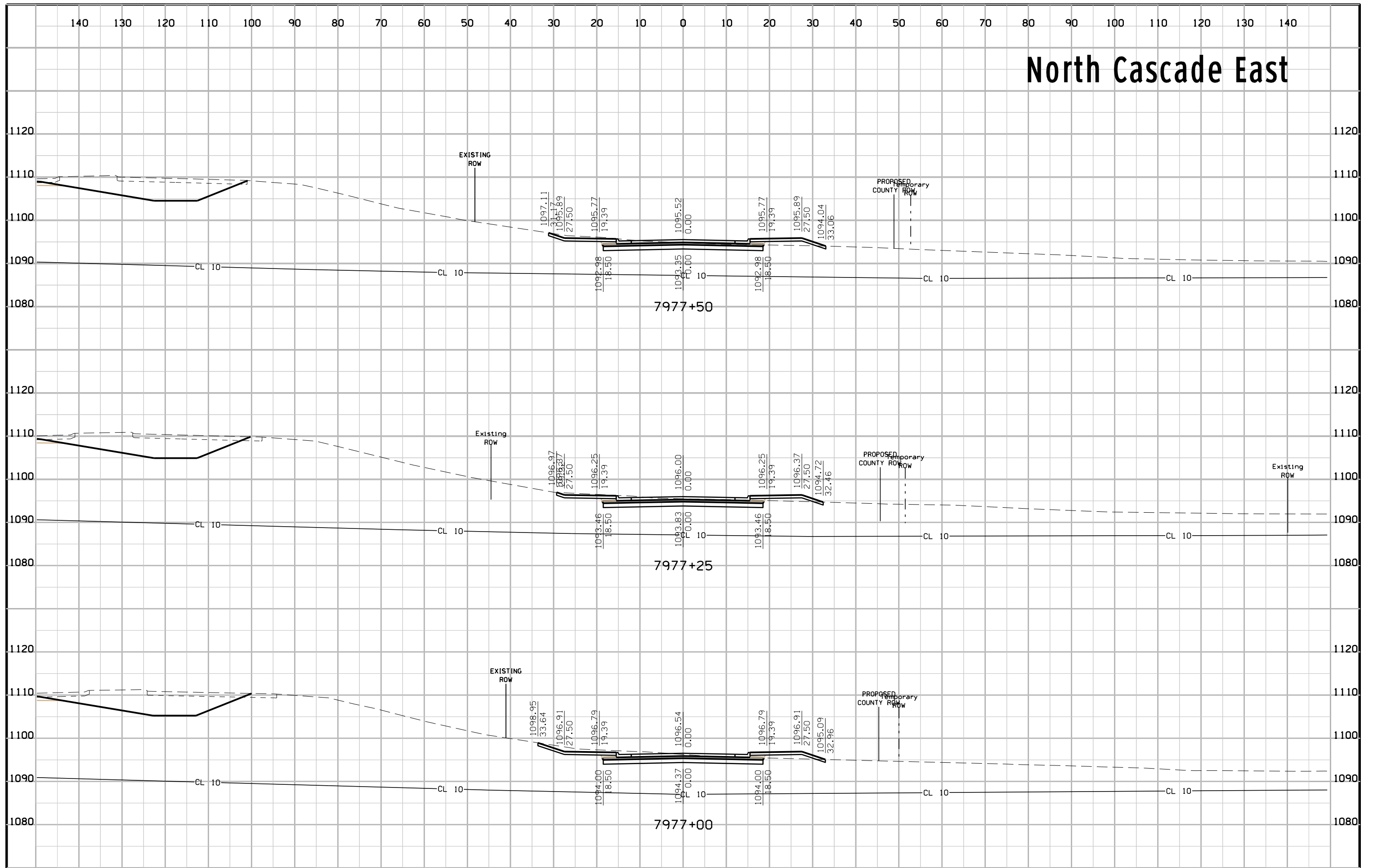




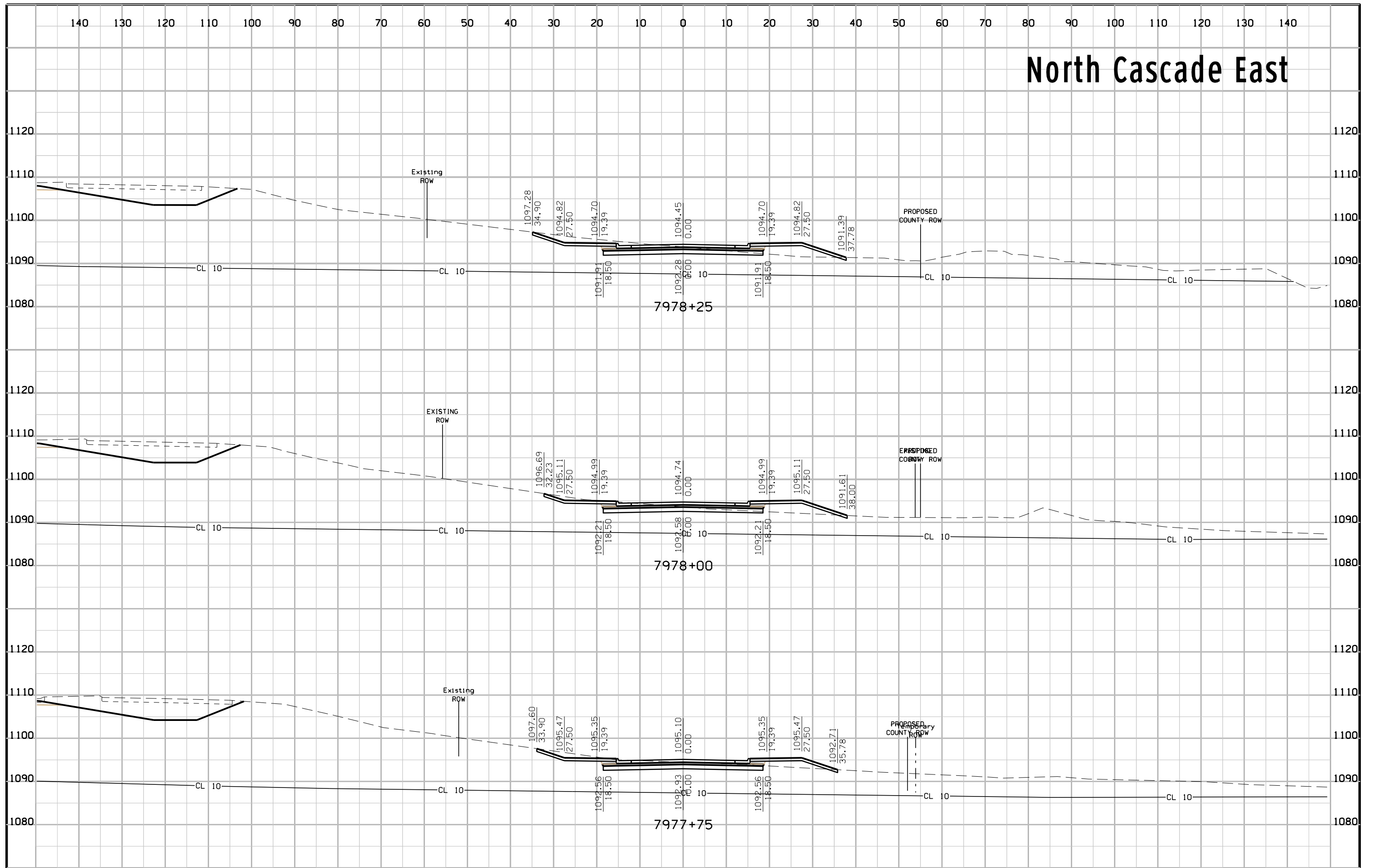
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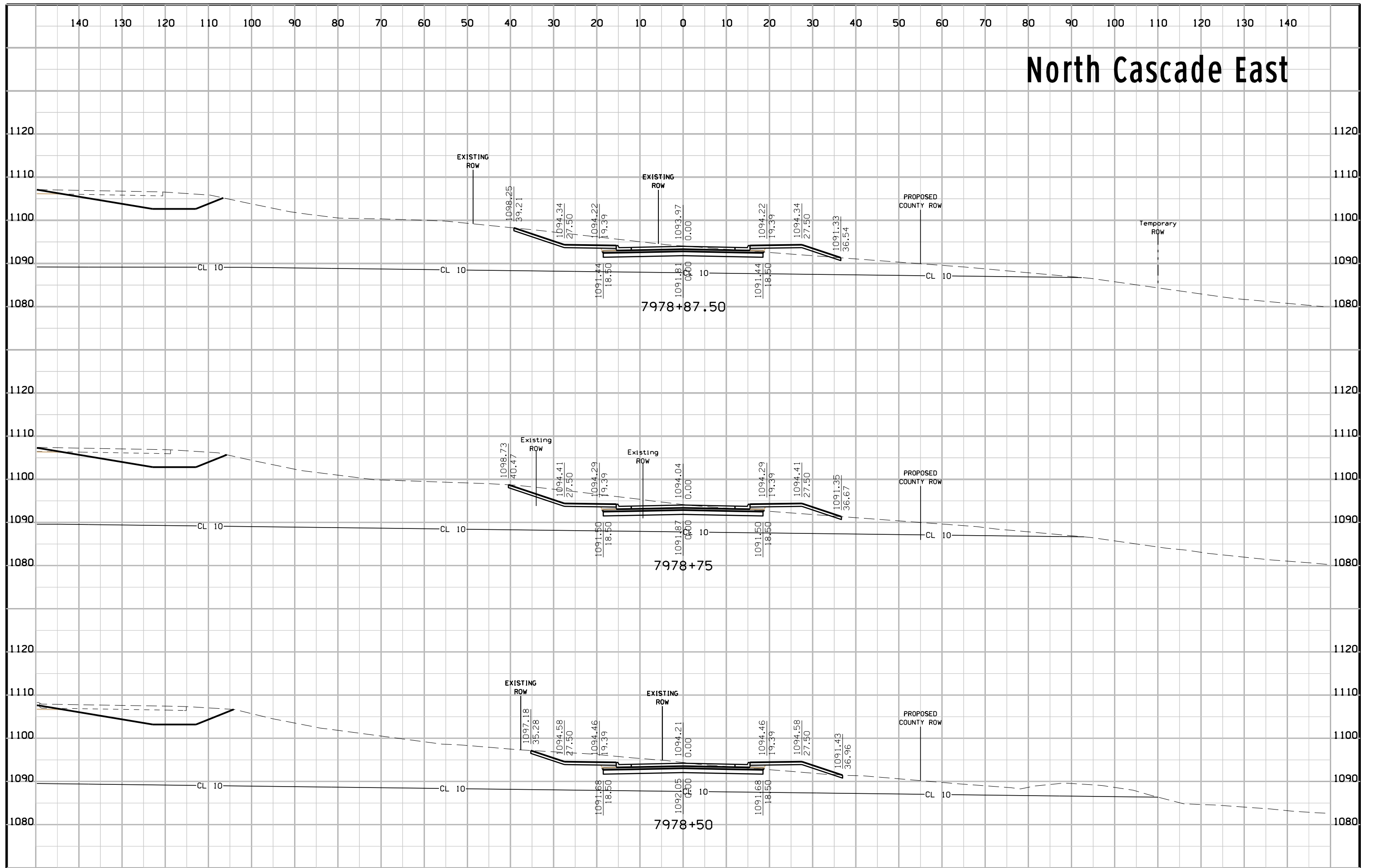
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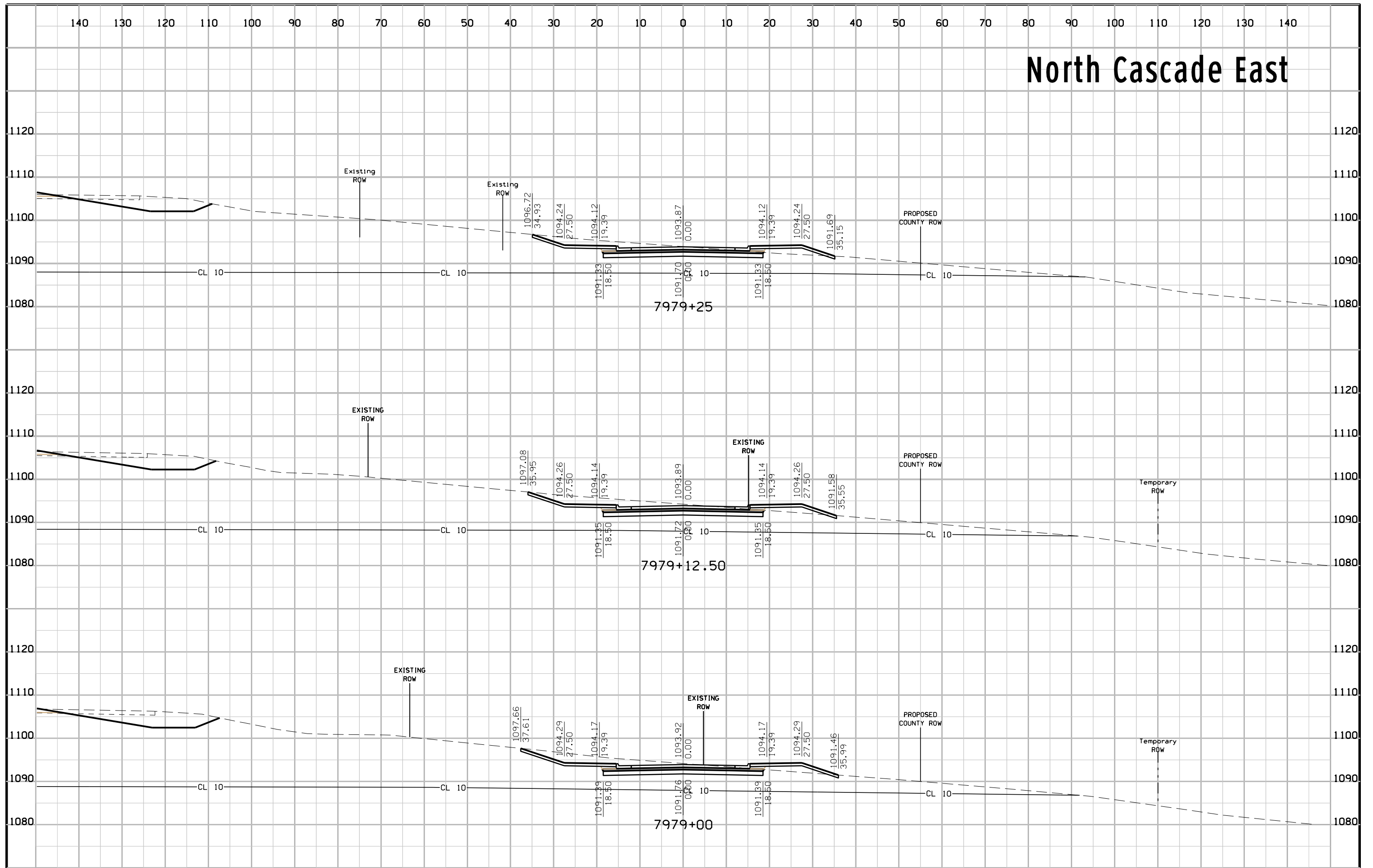
# North Cascade East



# North Cascade East

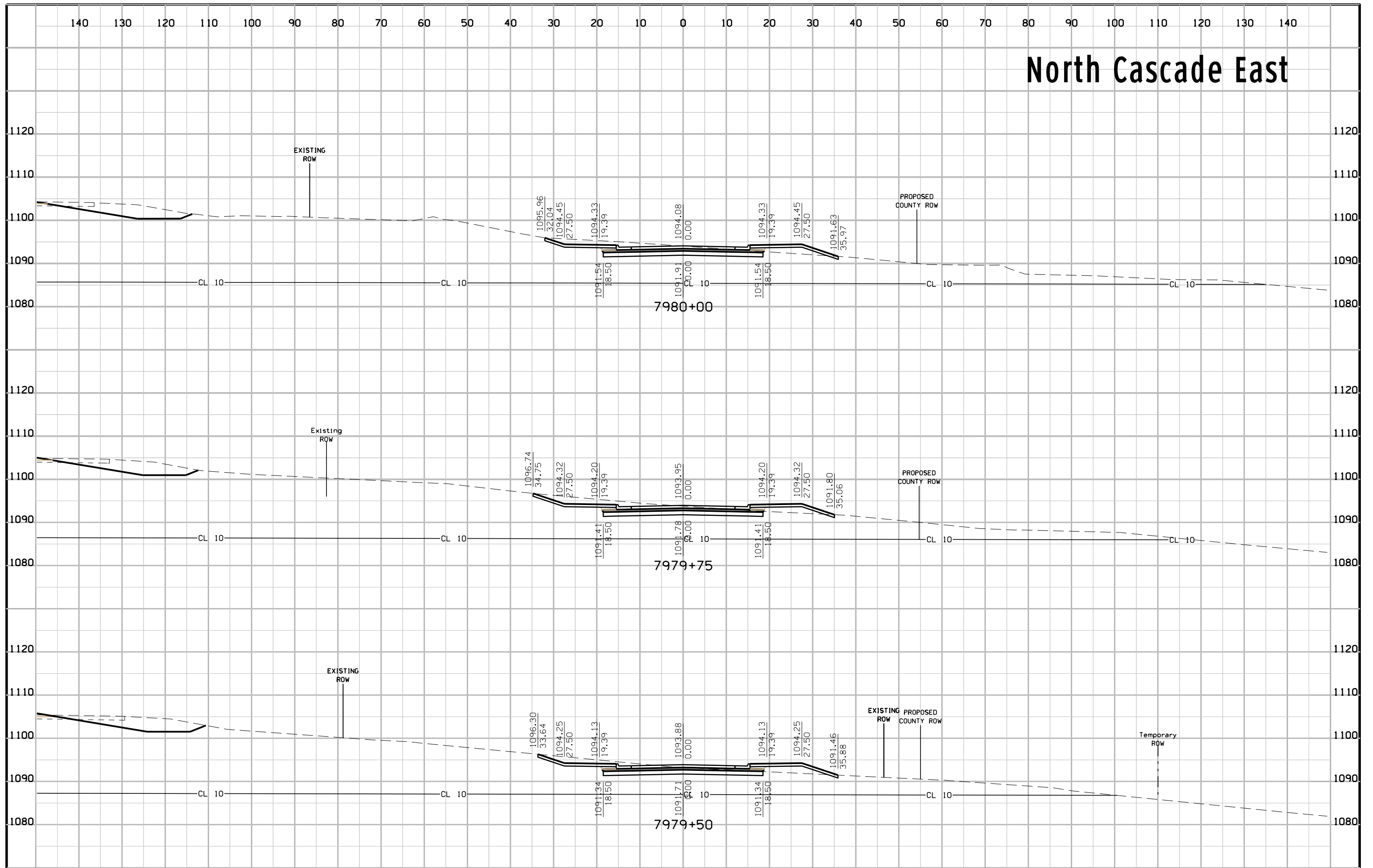


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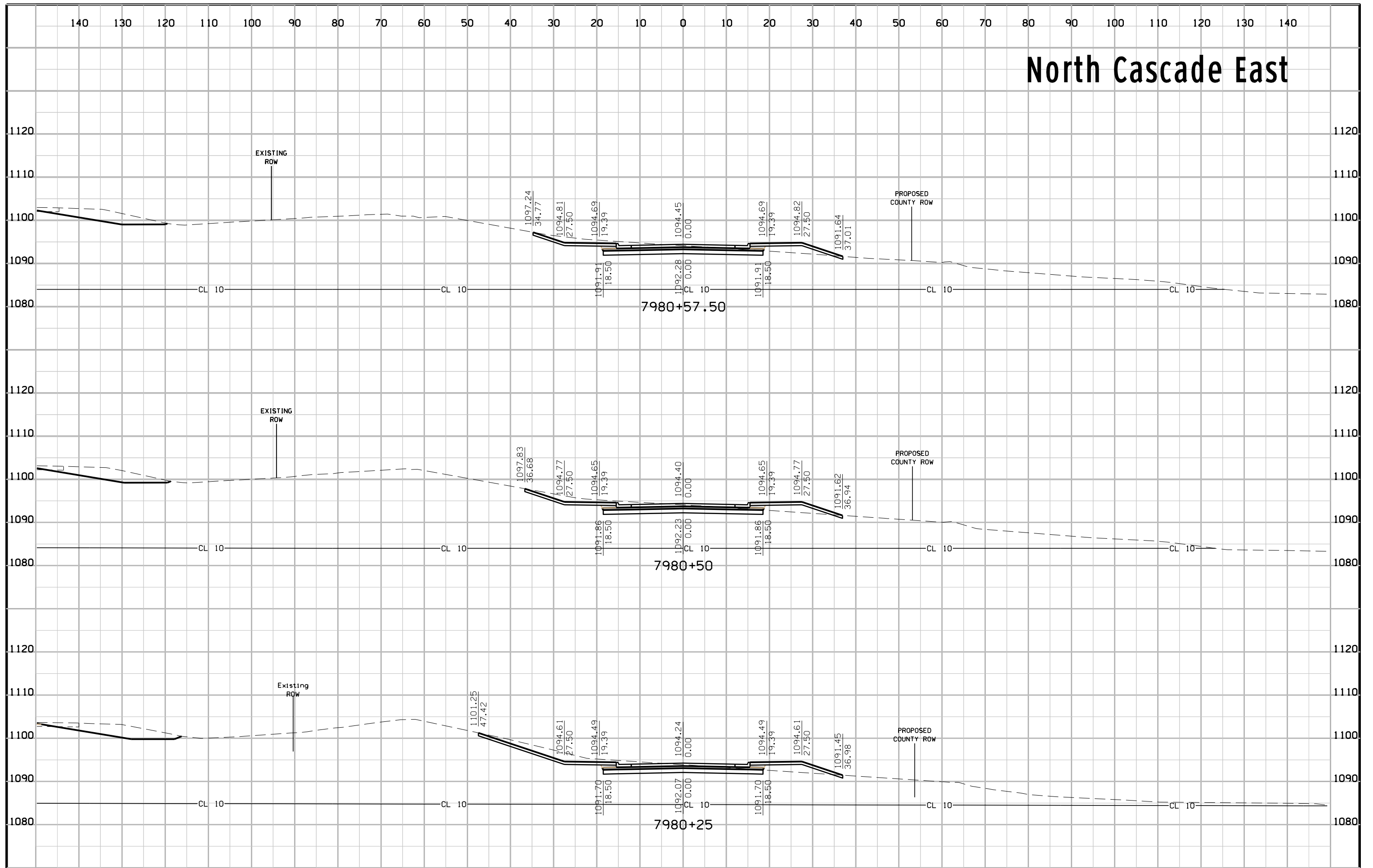




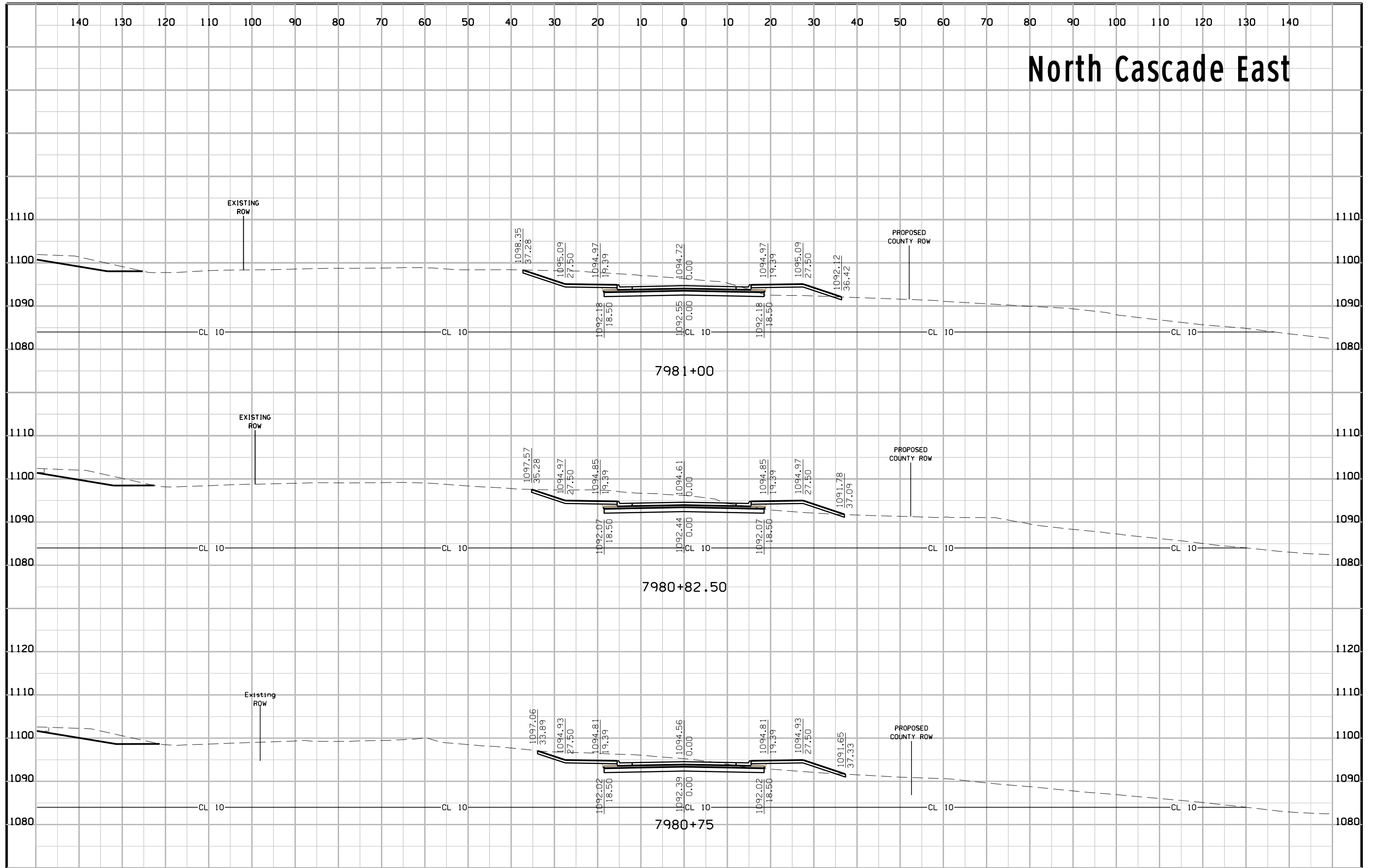
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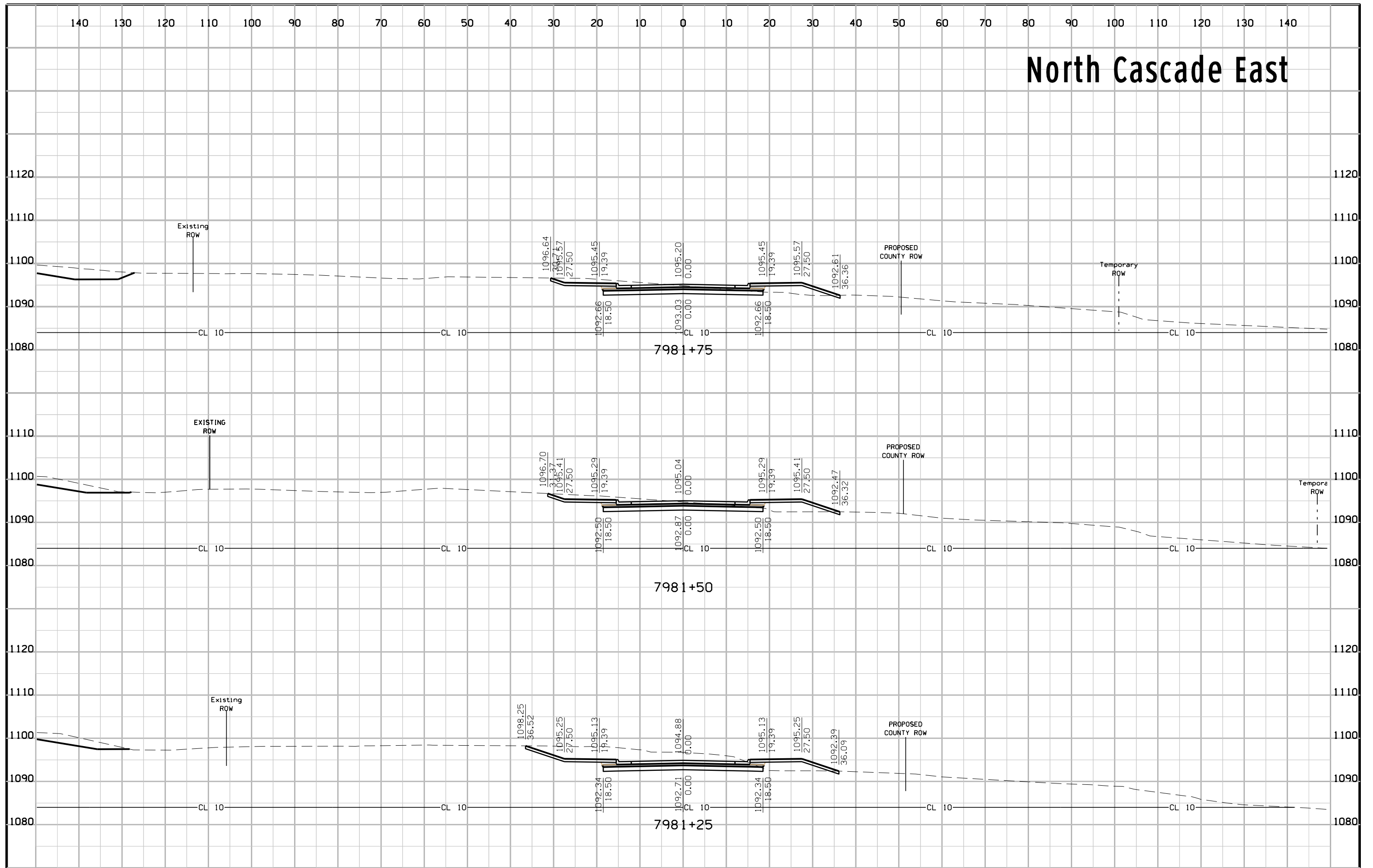
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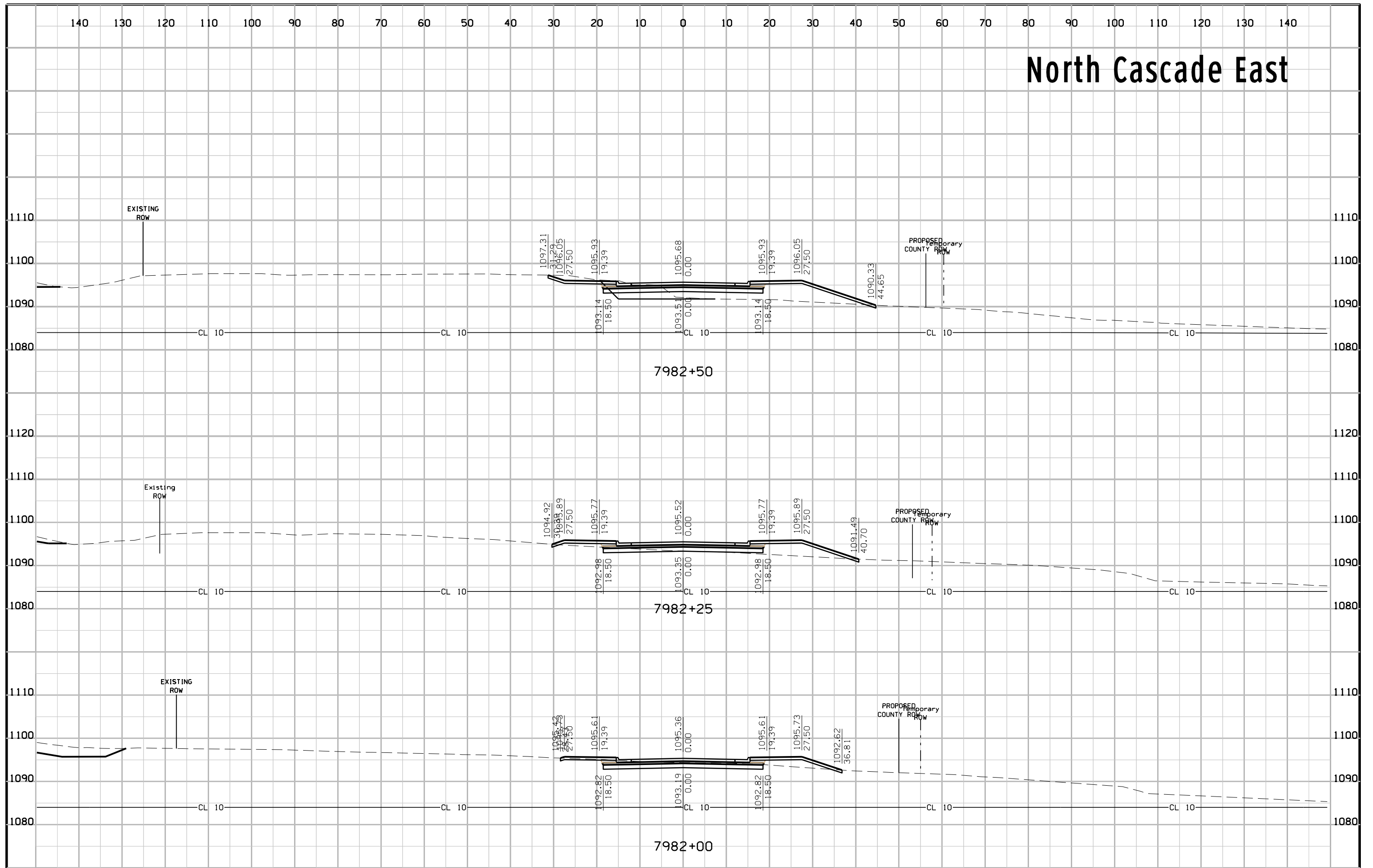
# North Cascade East



# North Cascade East

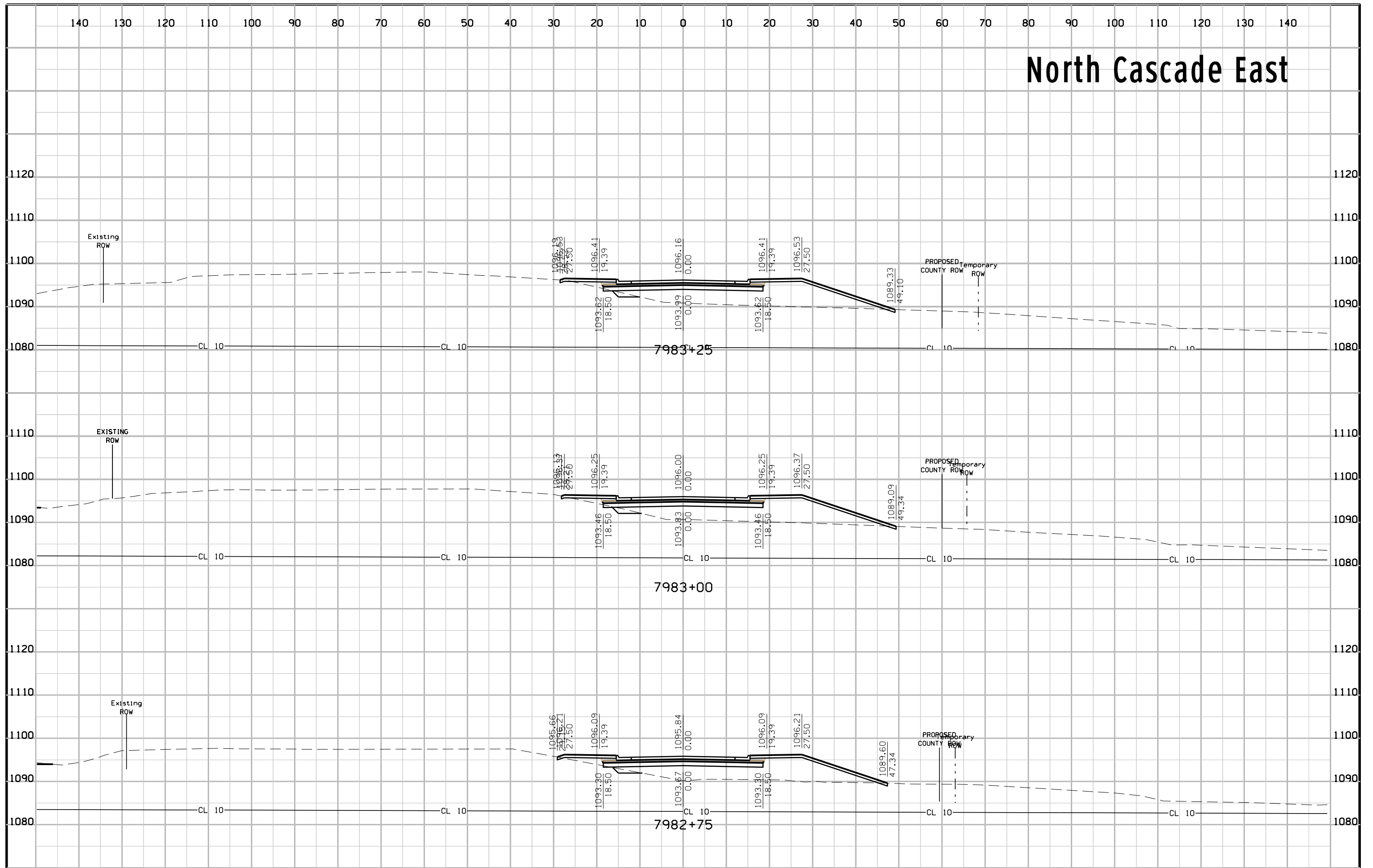


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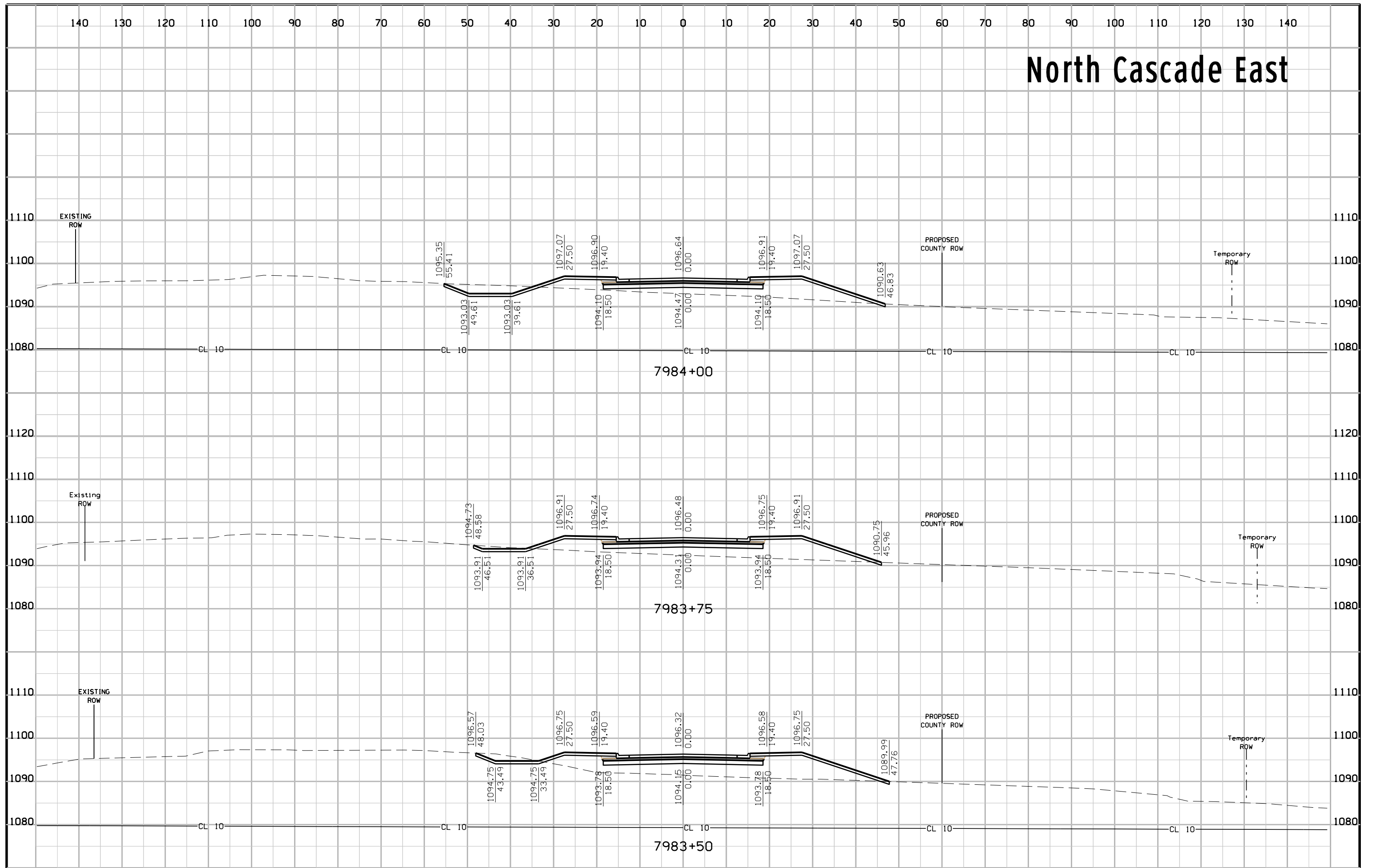




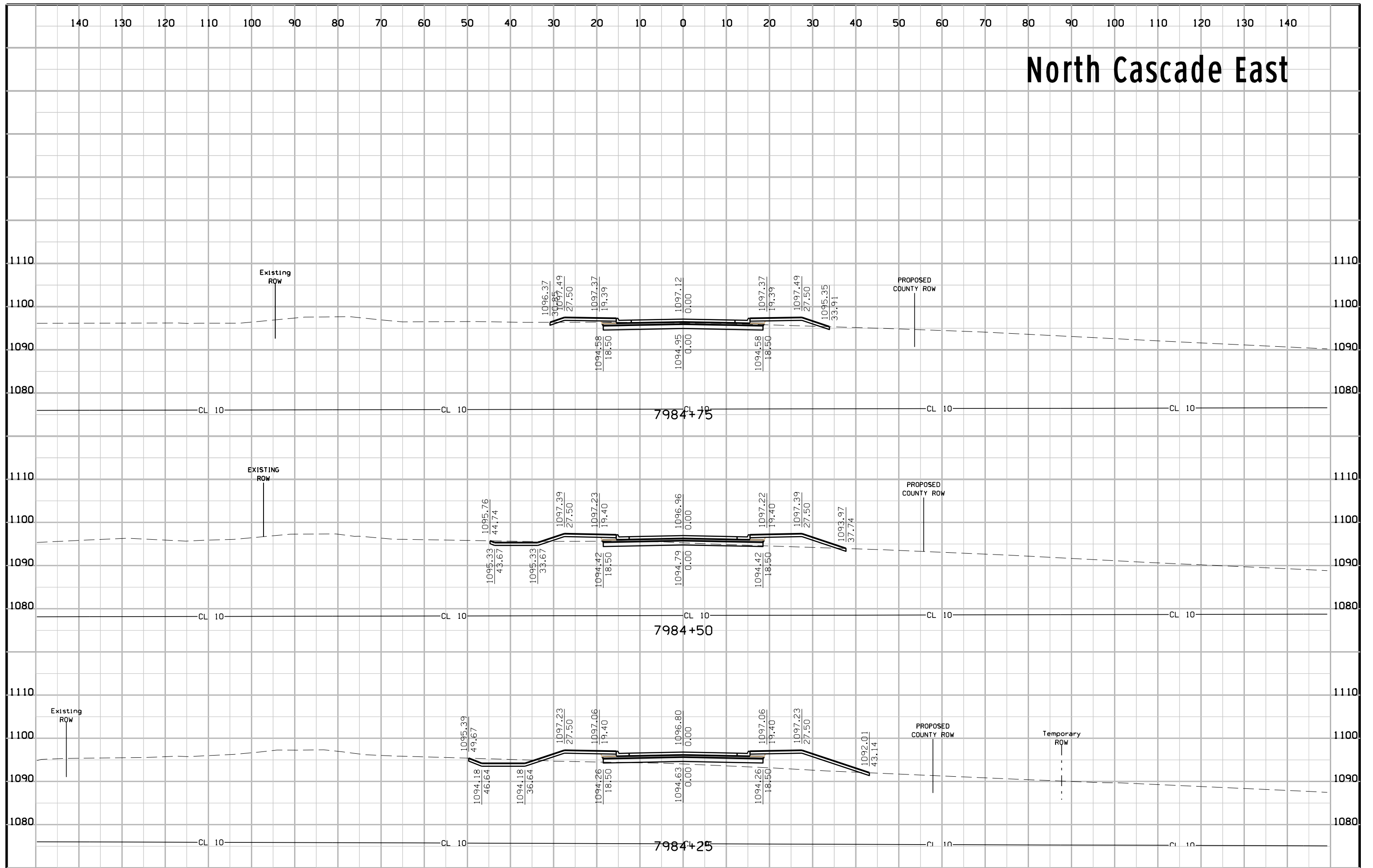
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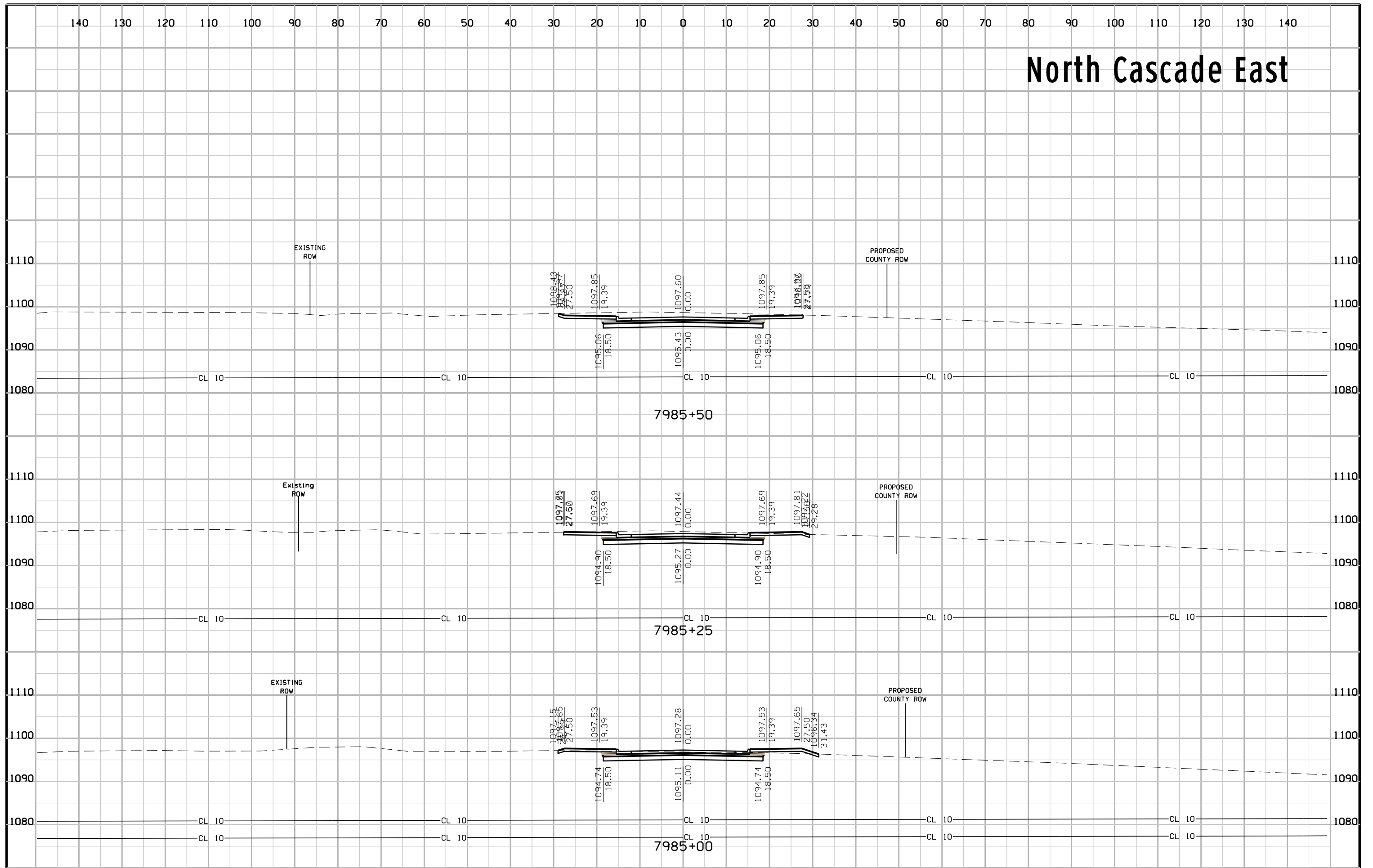
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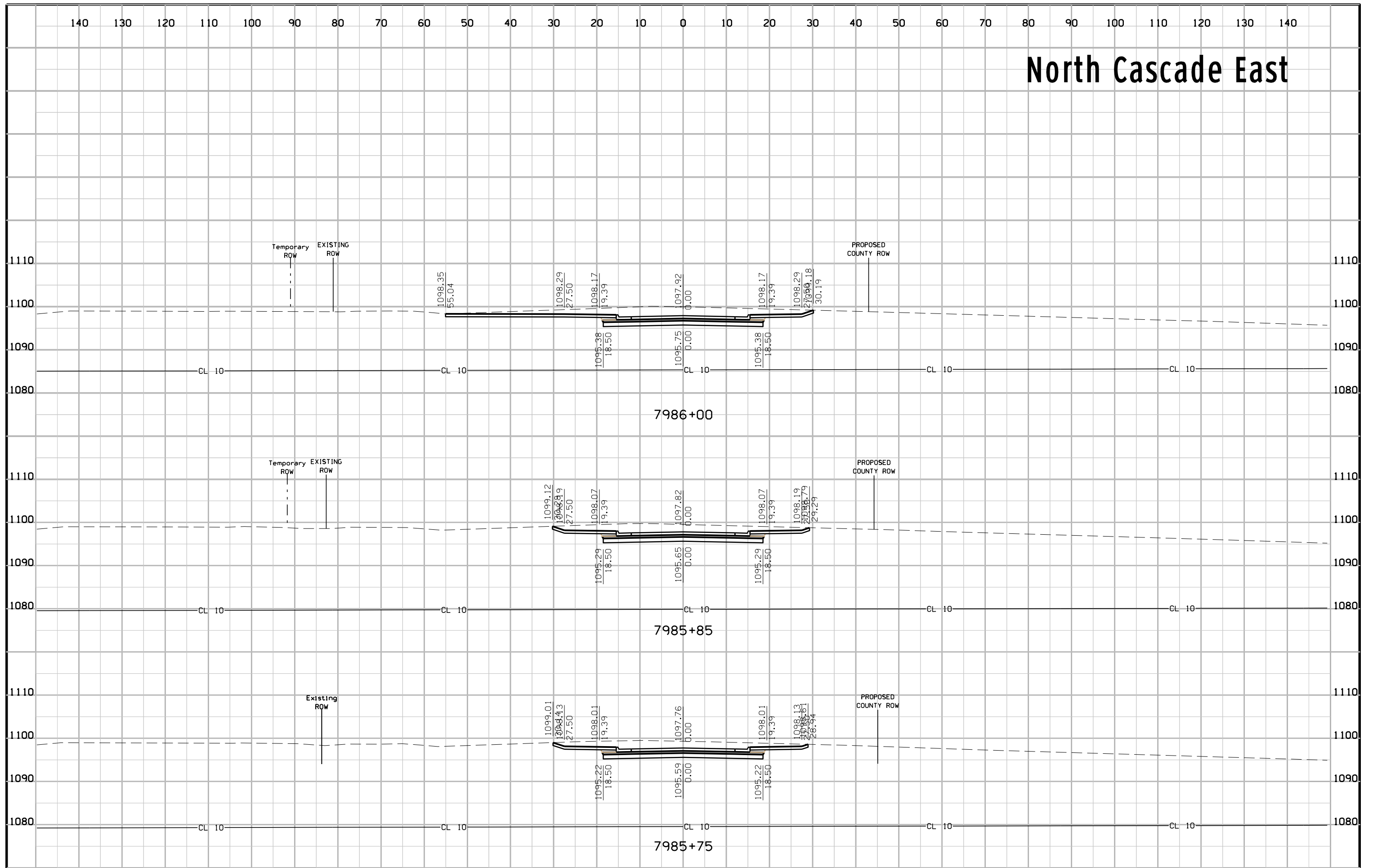
# North Cascade East



# North Cascade East

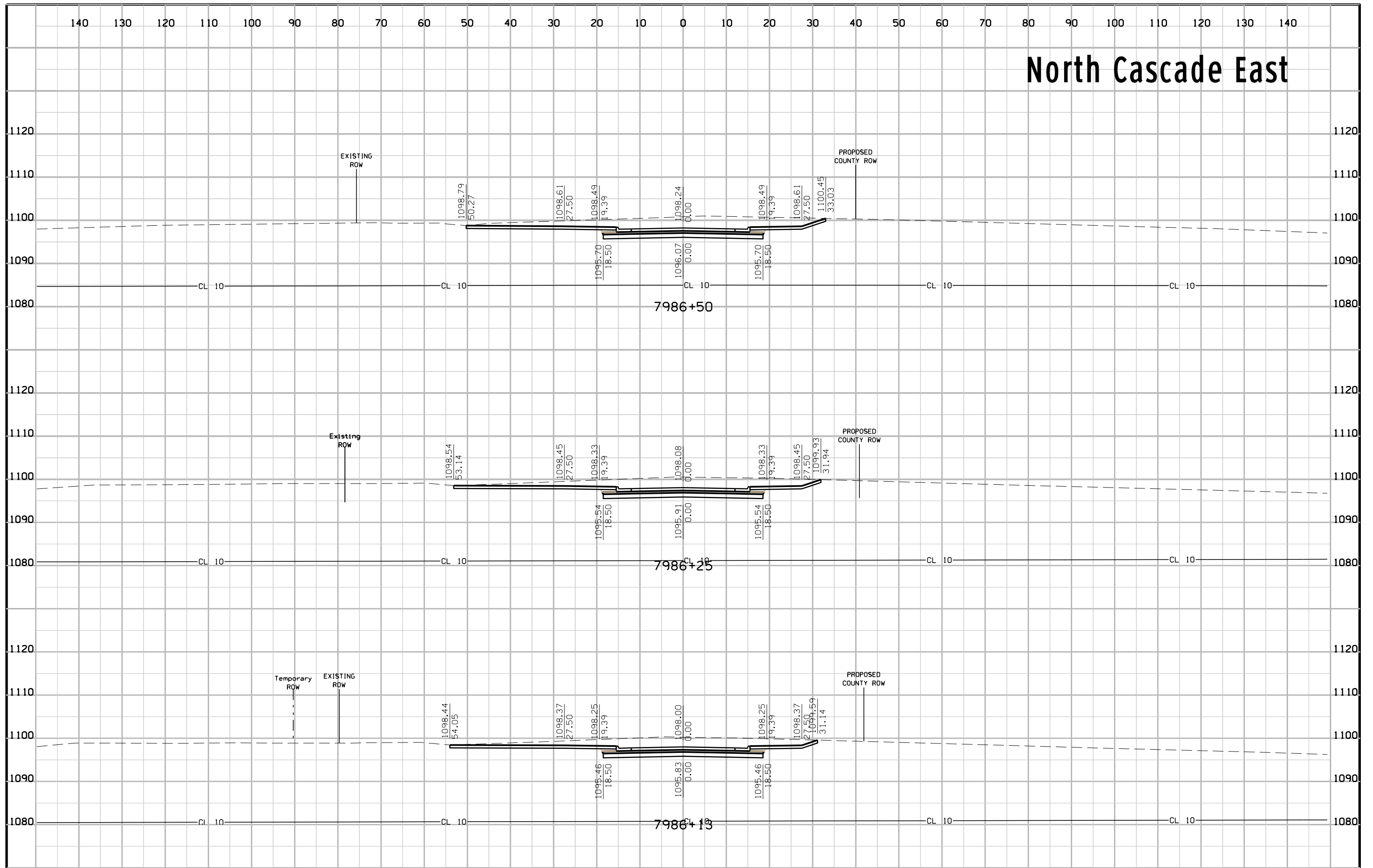


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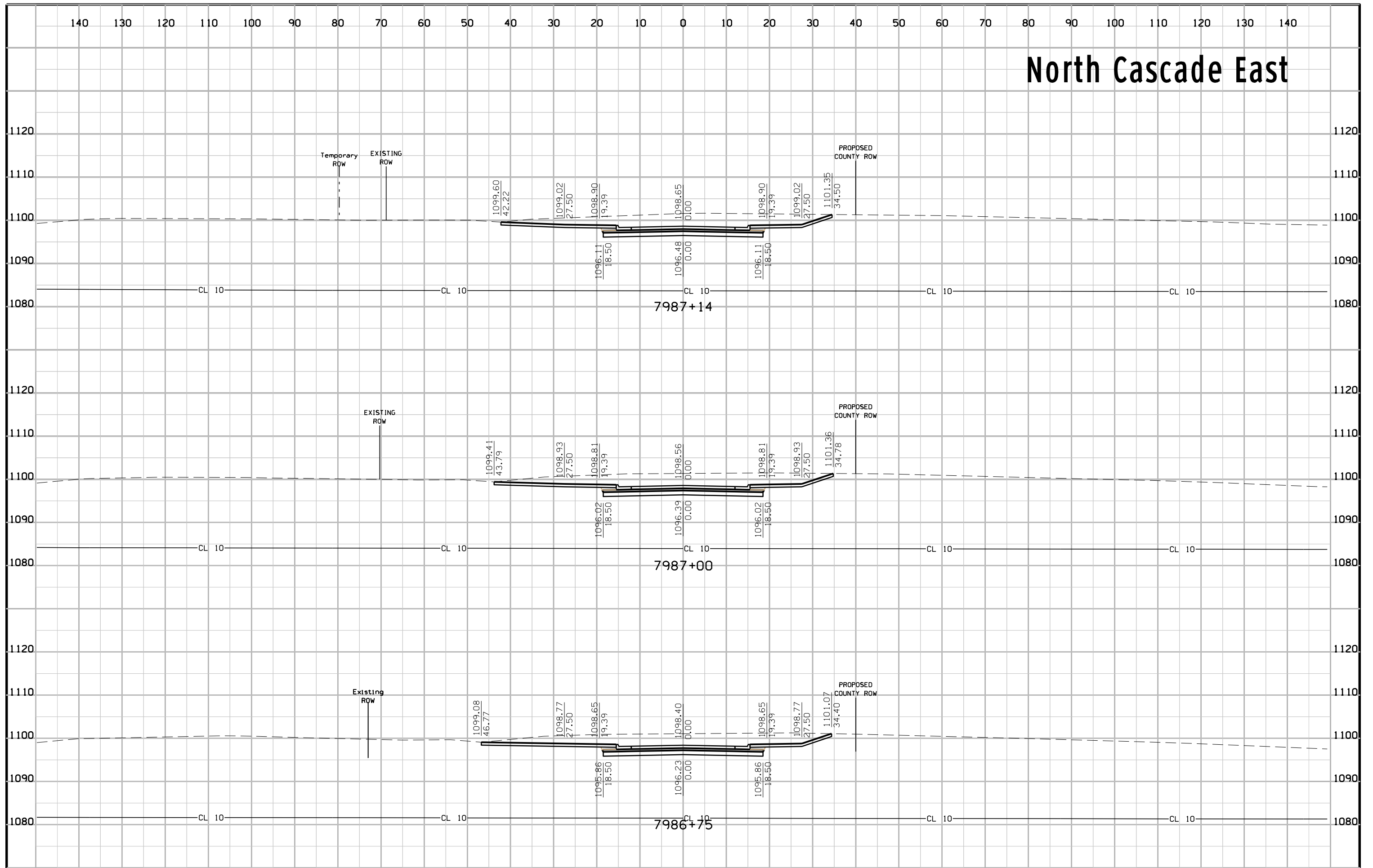




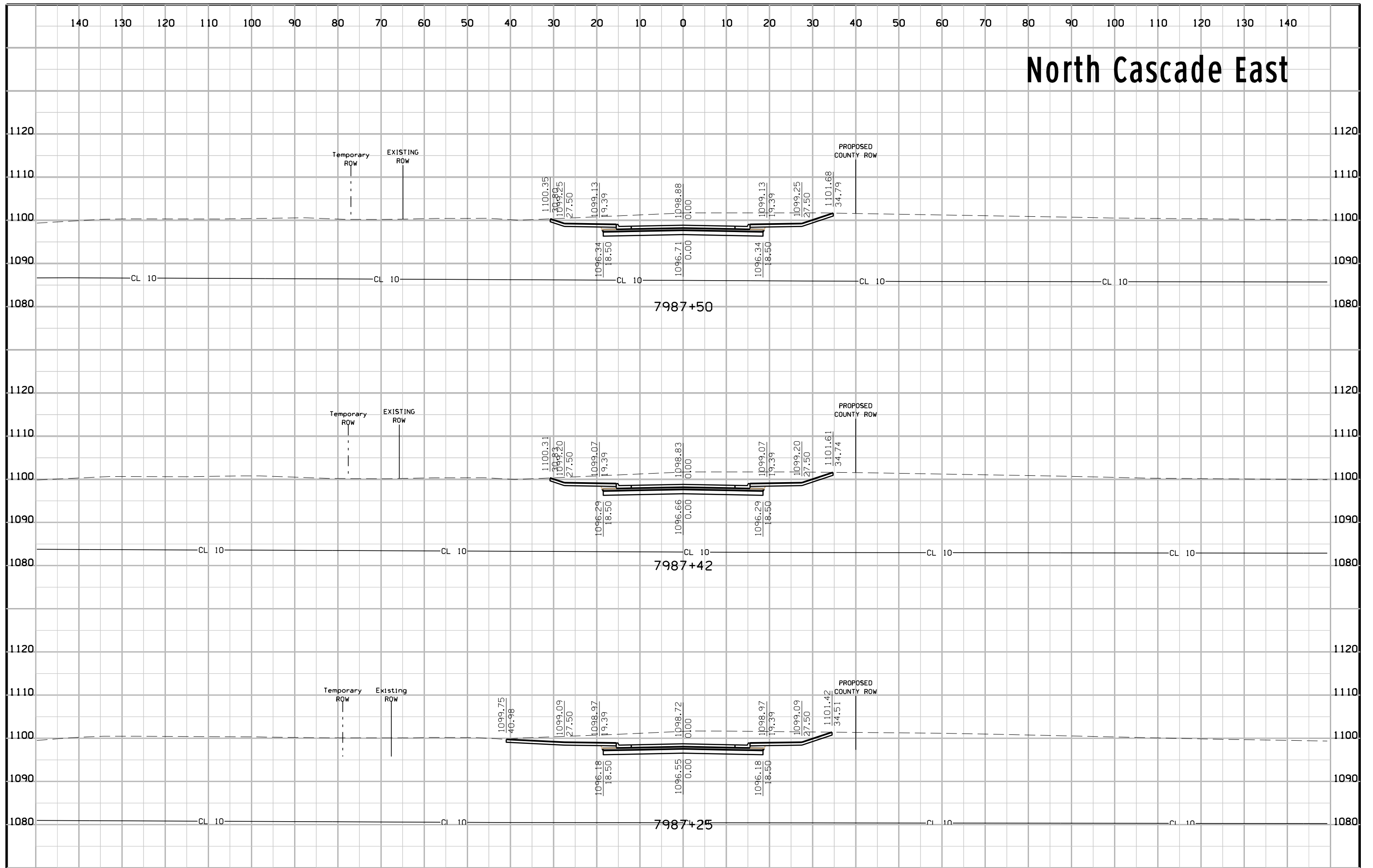
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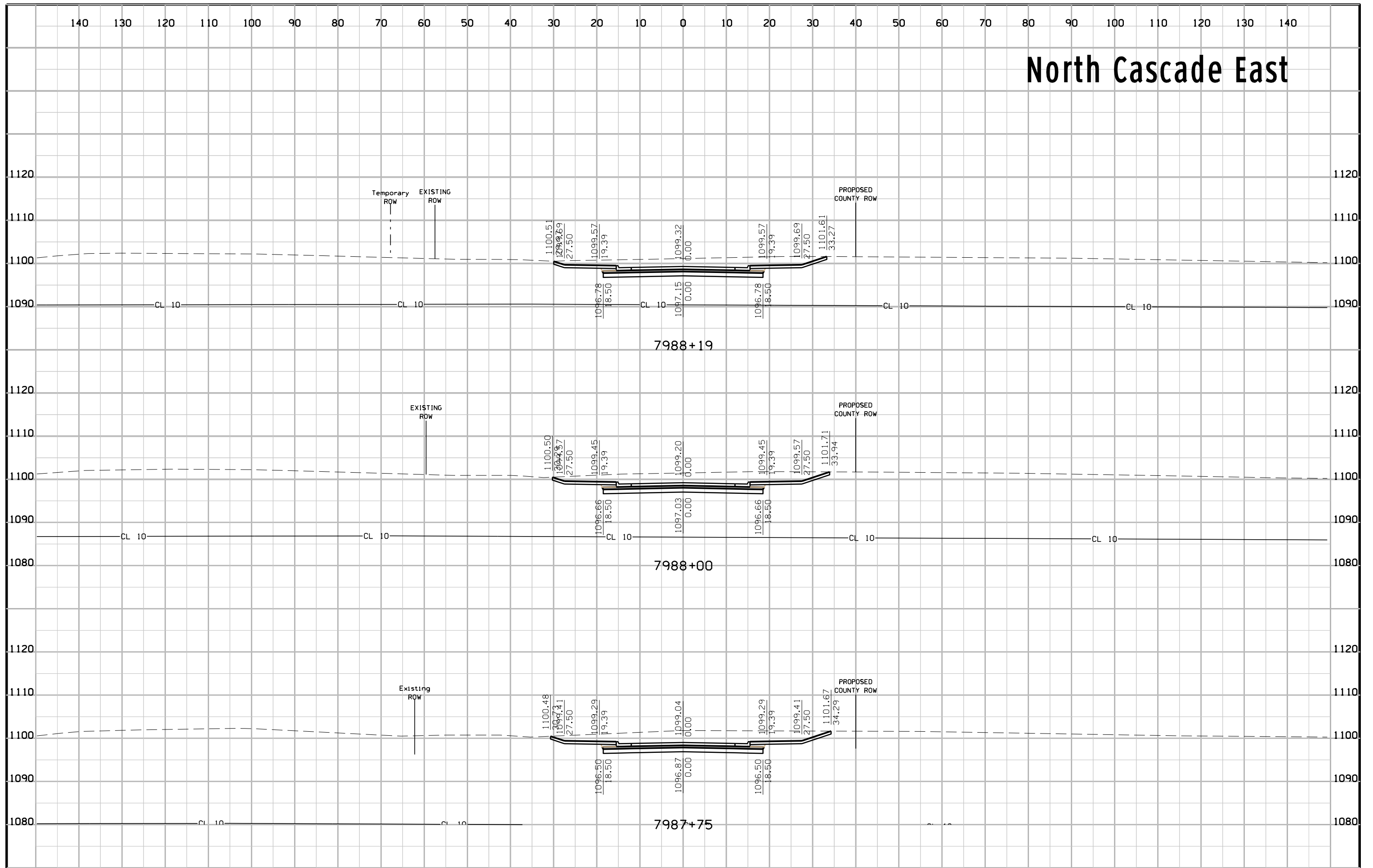
# North Cascade East



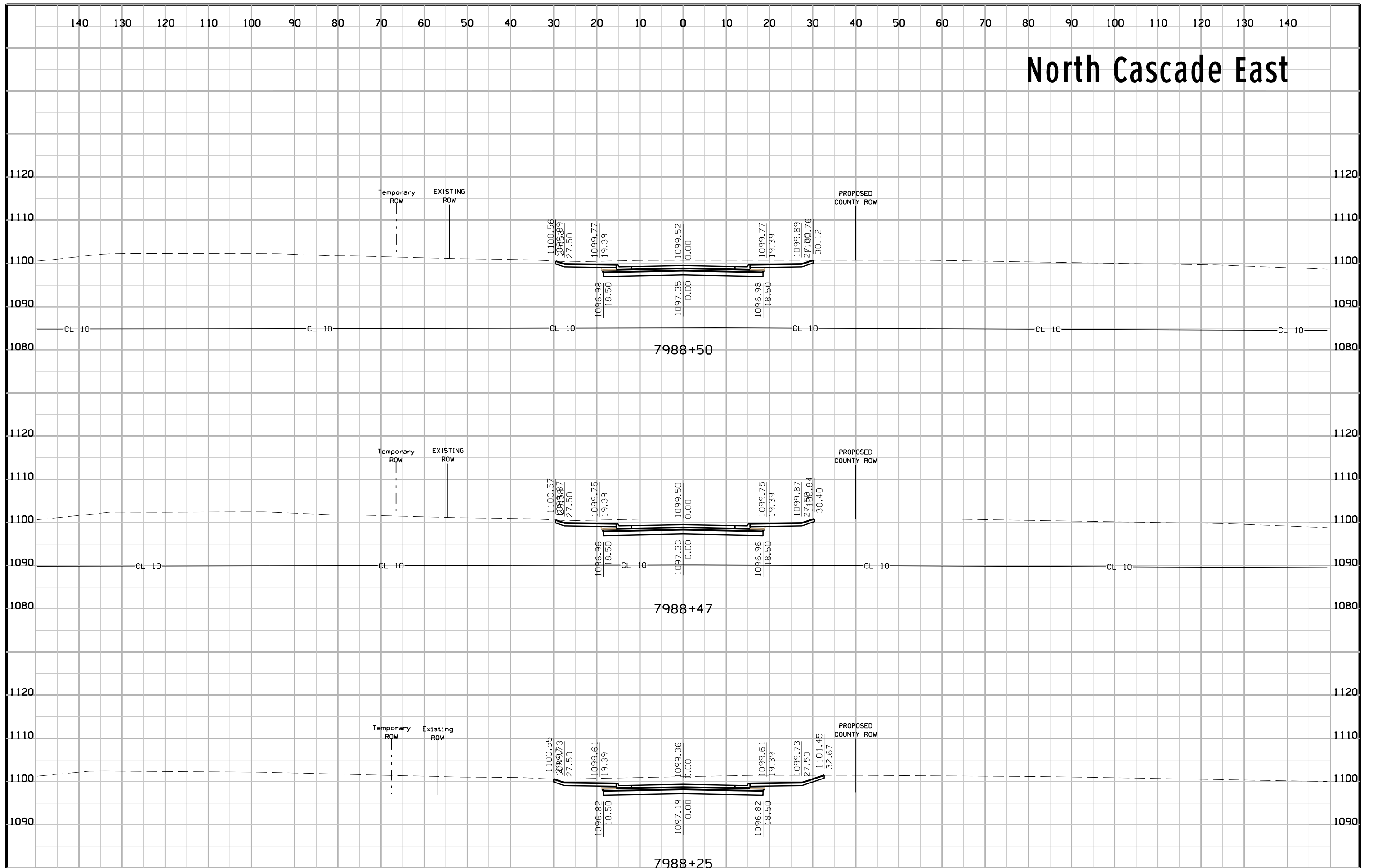
# North Cascade East



# North Cascade East

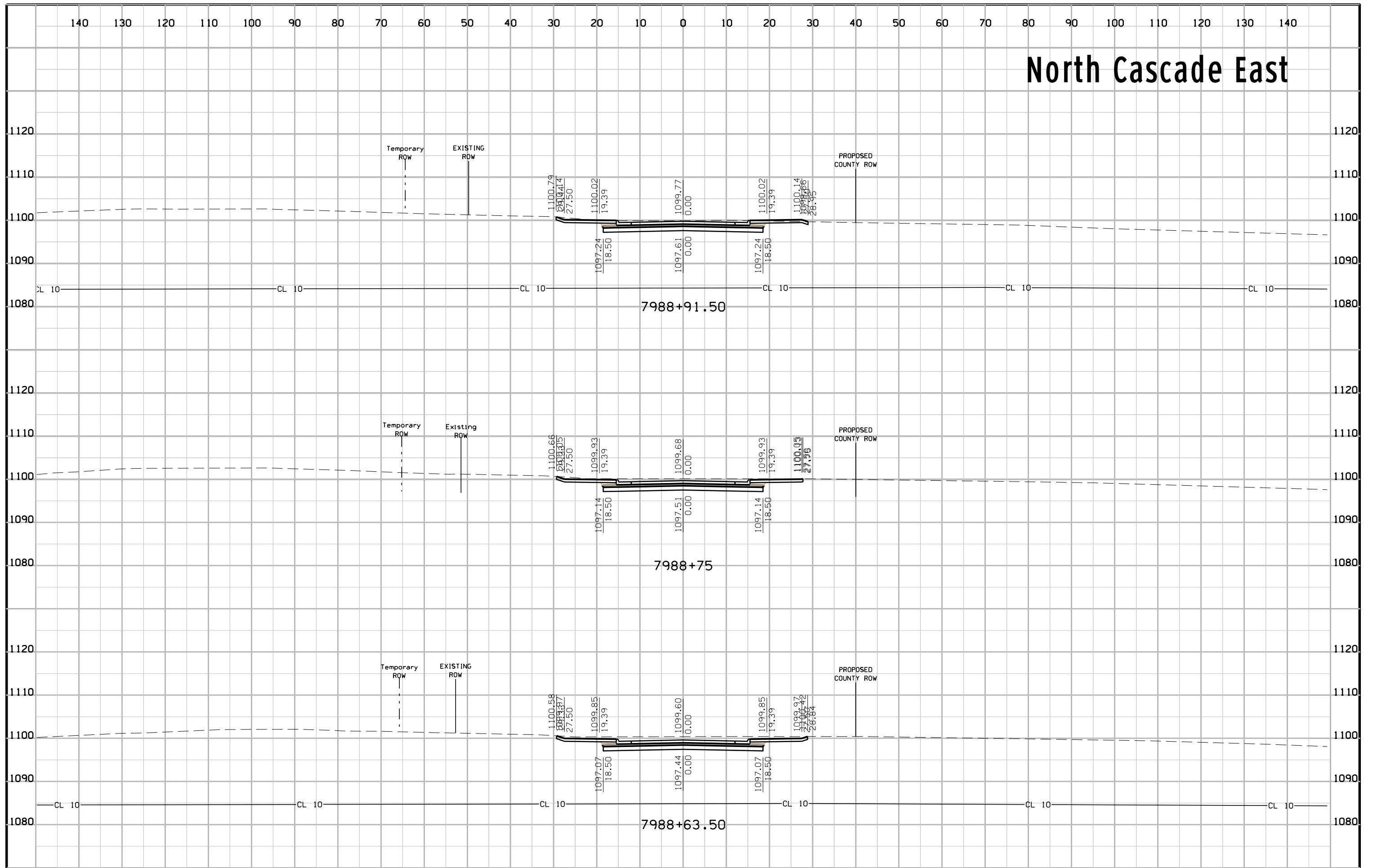


# North Cascade East

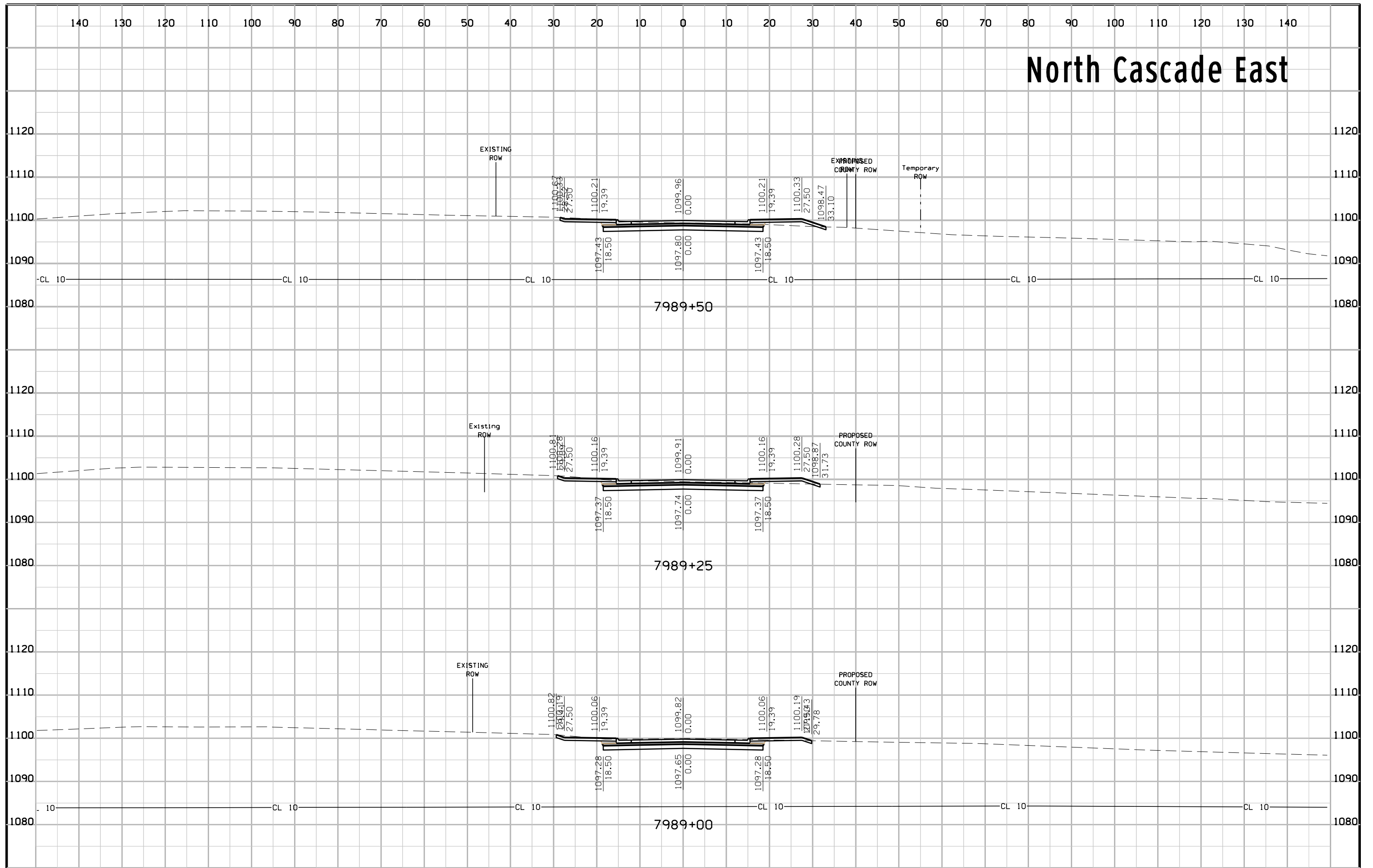




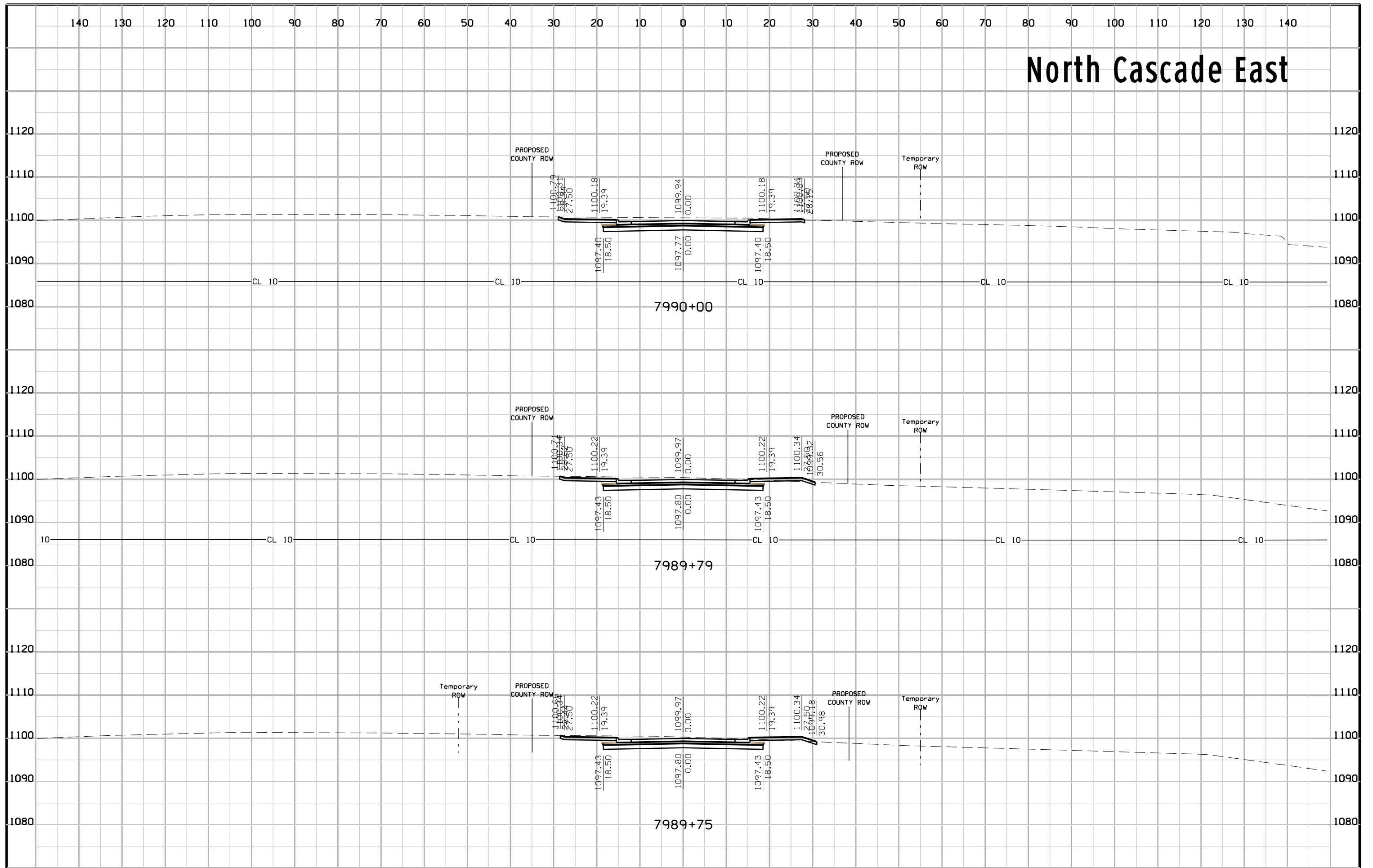
# North Cascade East



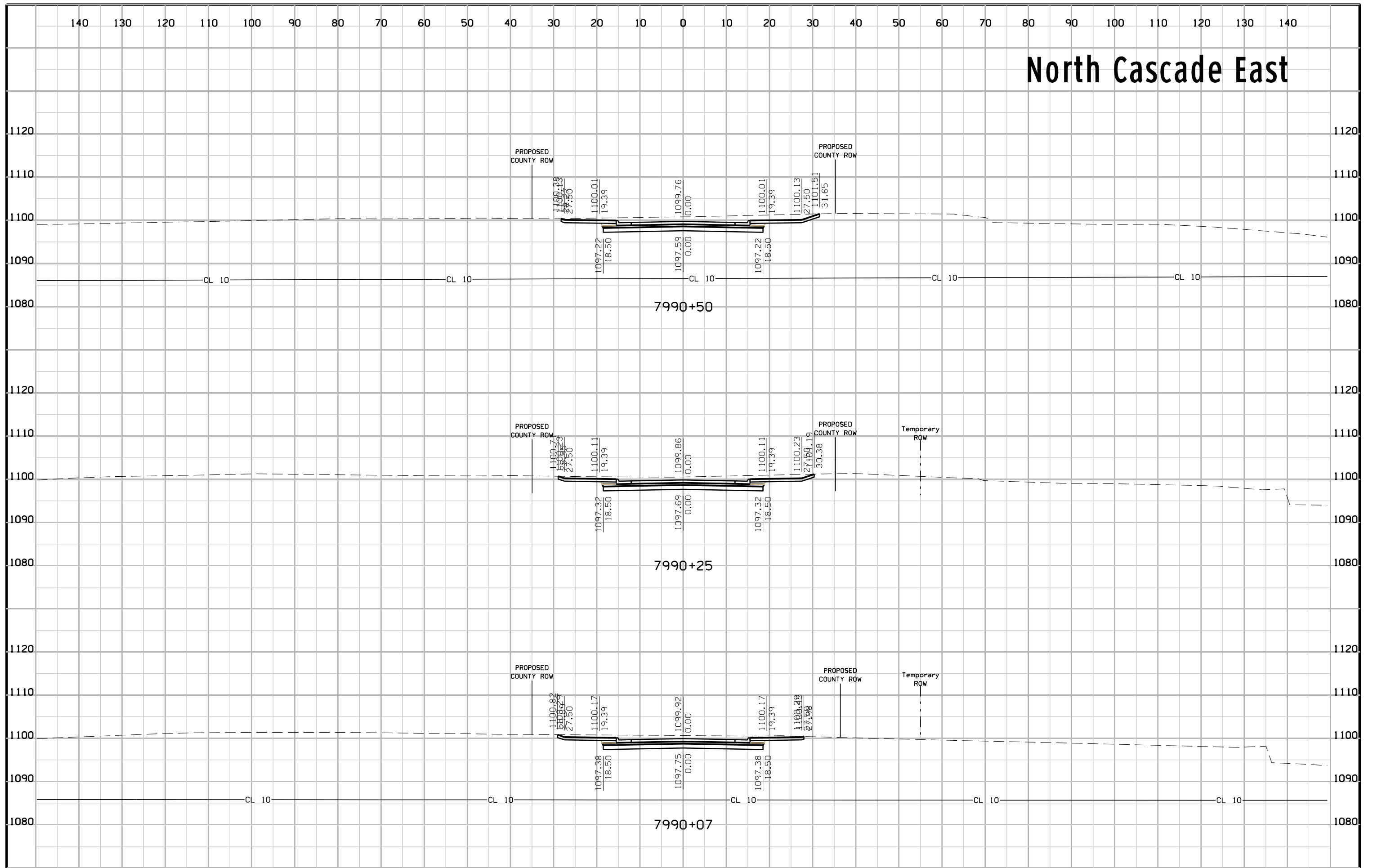
# North Cascade East



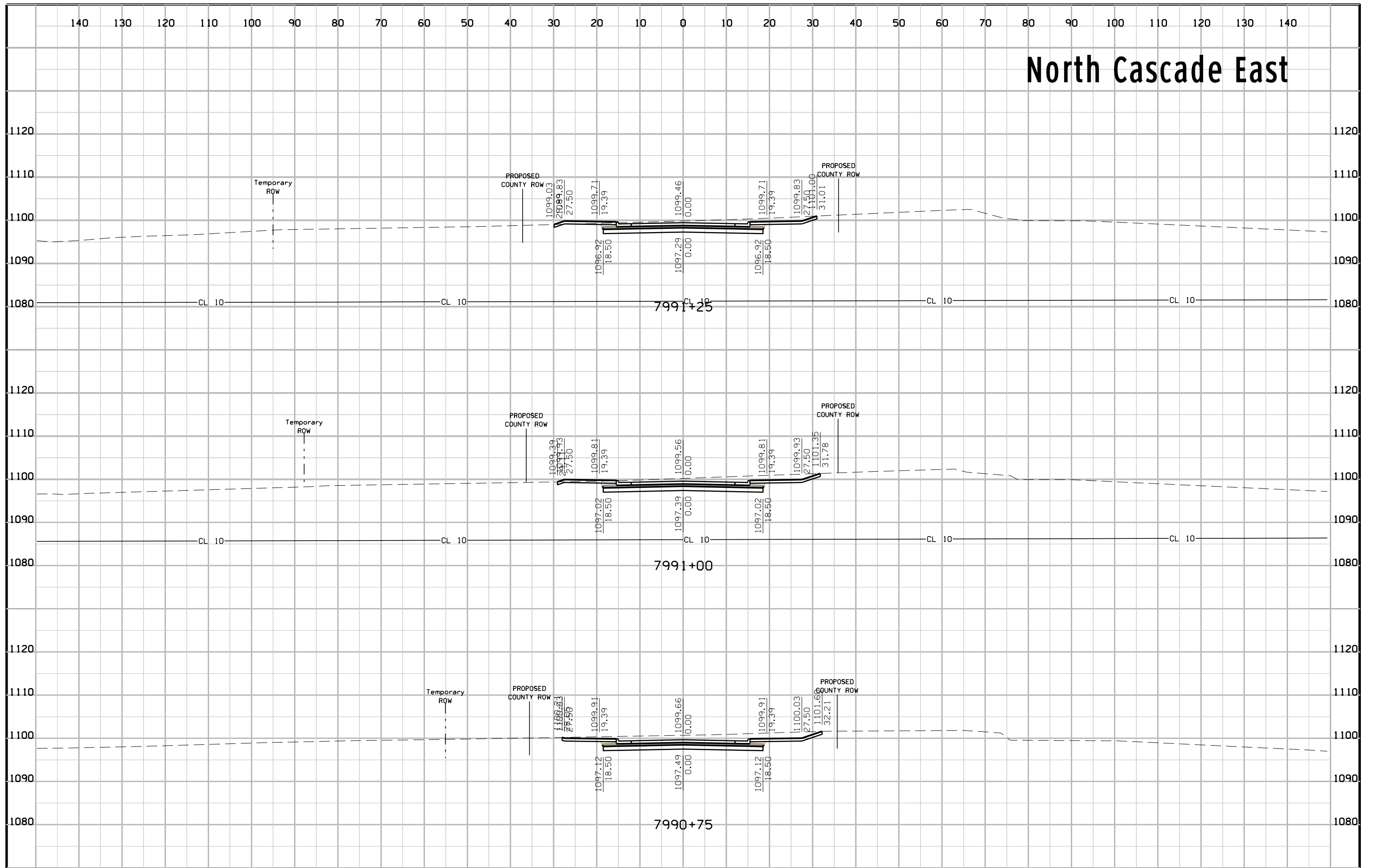
# North Cascade East



# North Cascade East

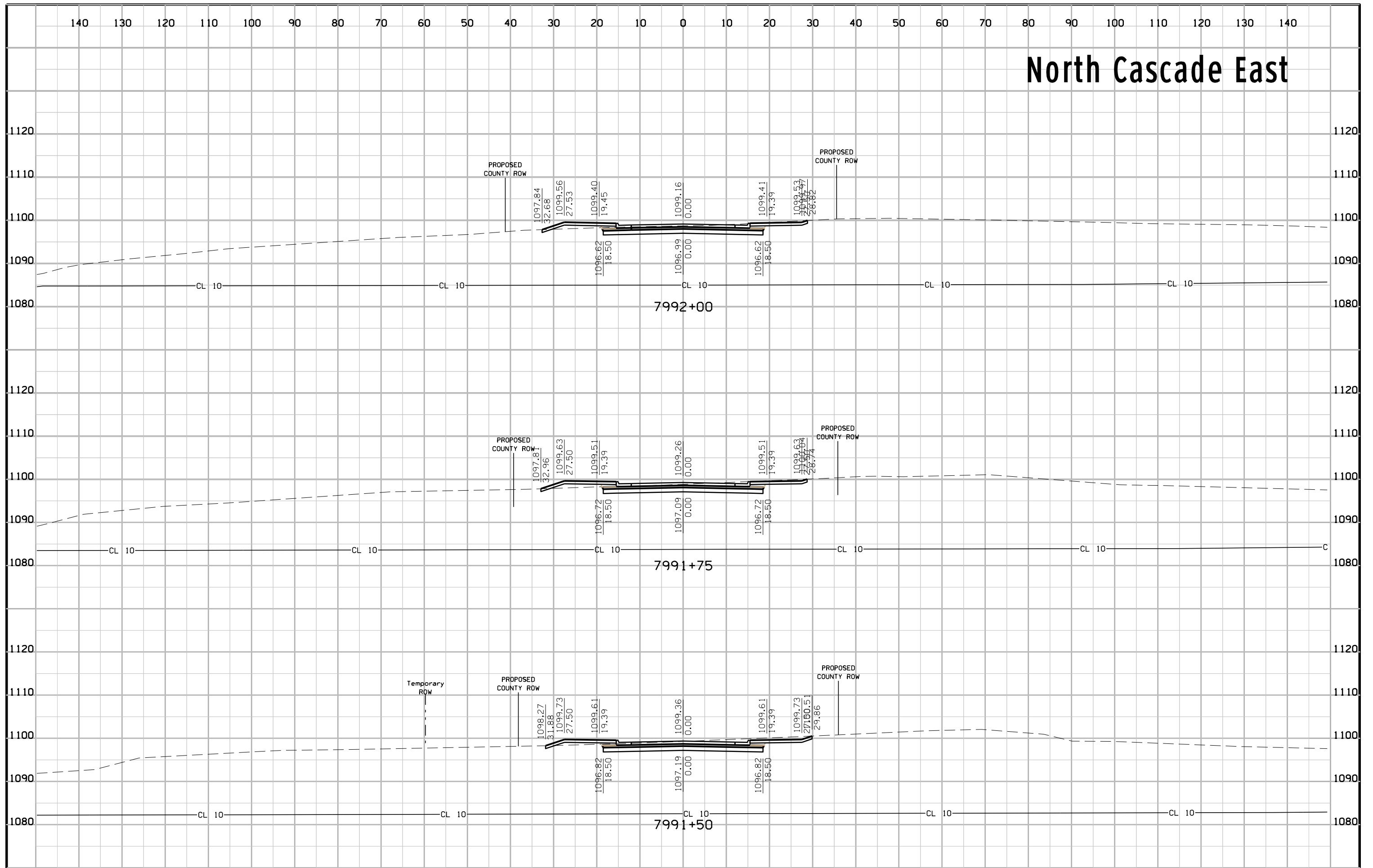


# North Cascade East

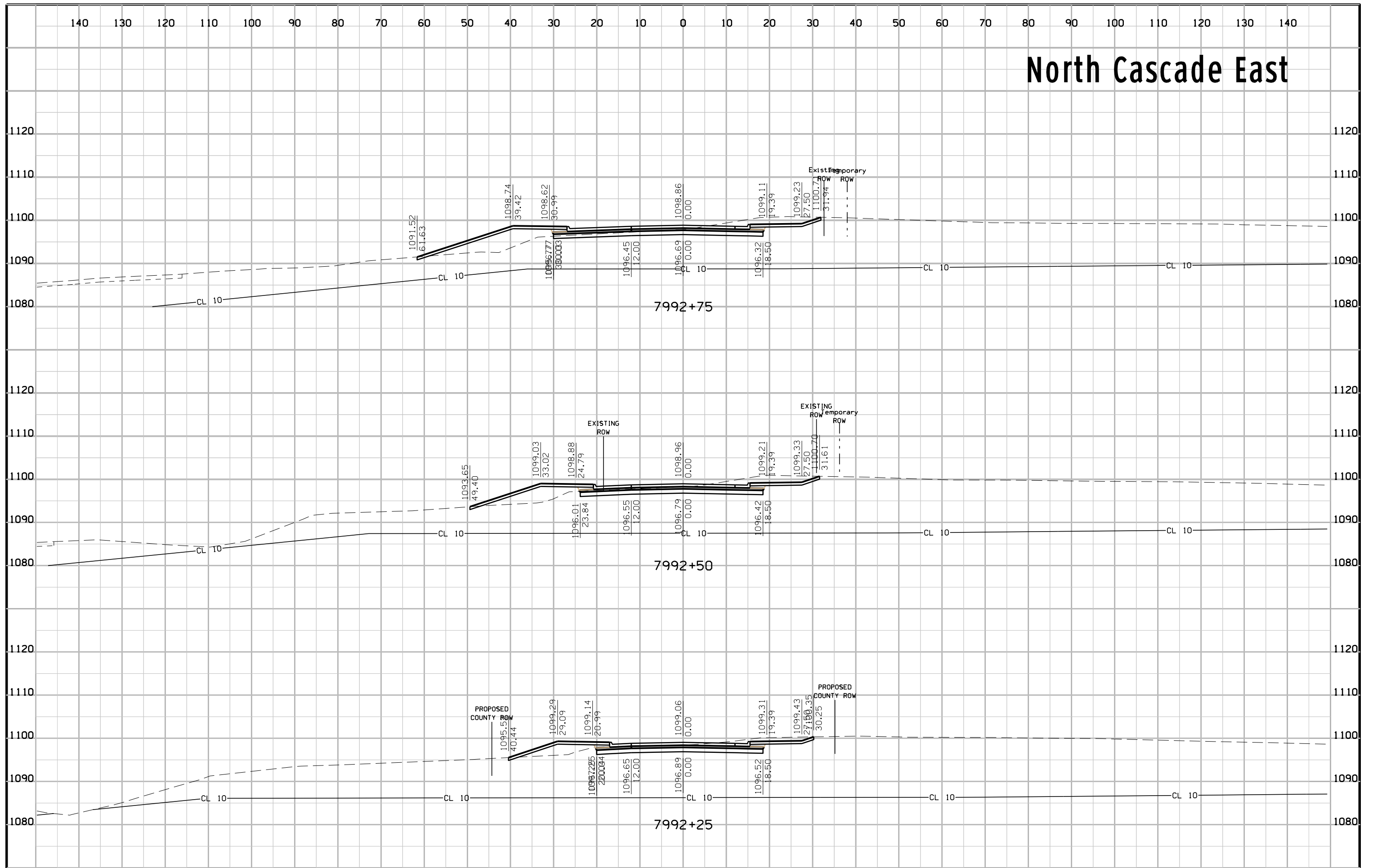




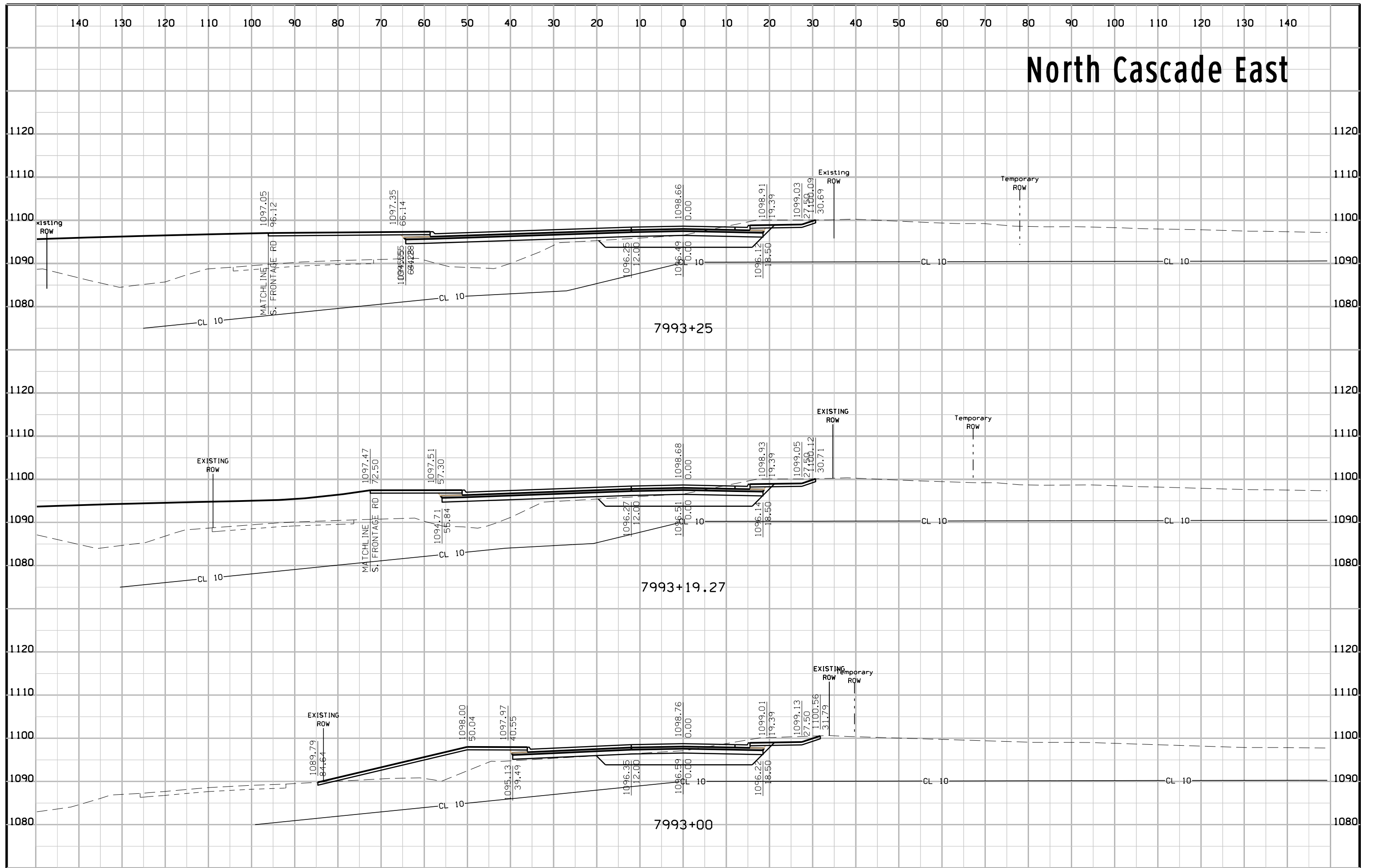
# North Cascade East



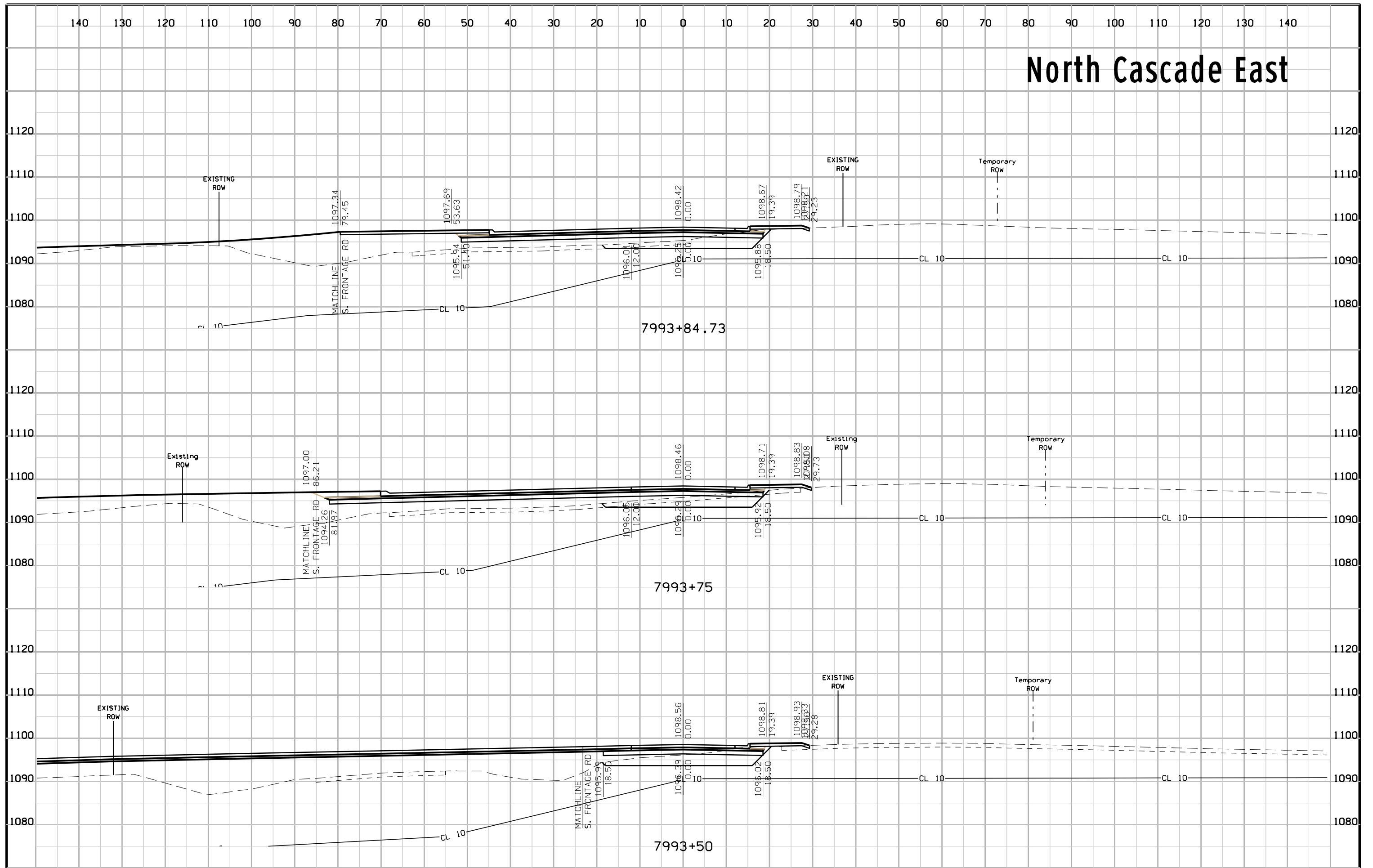
# North Cascade East



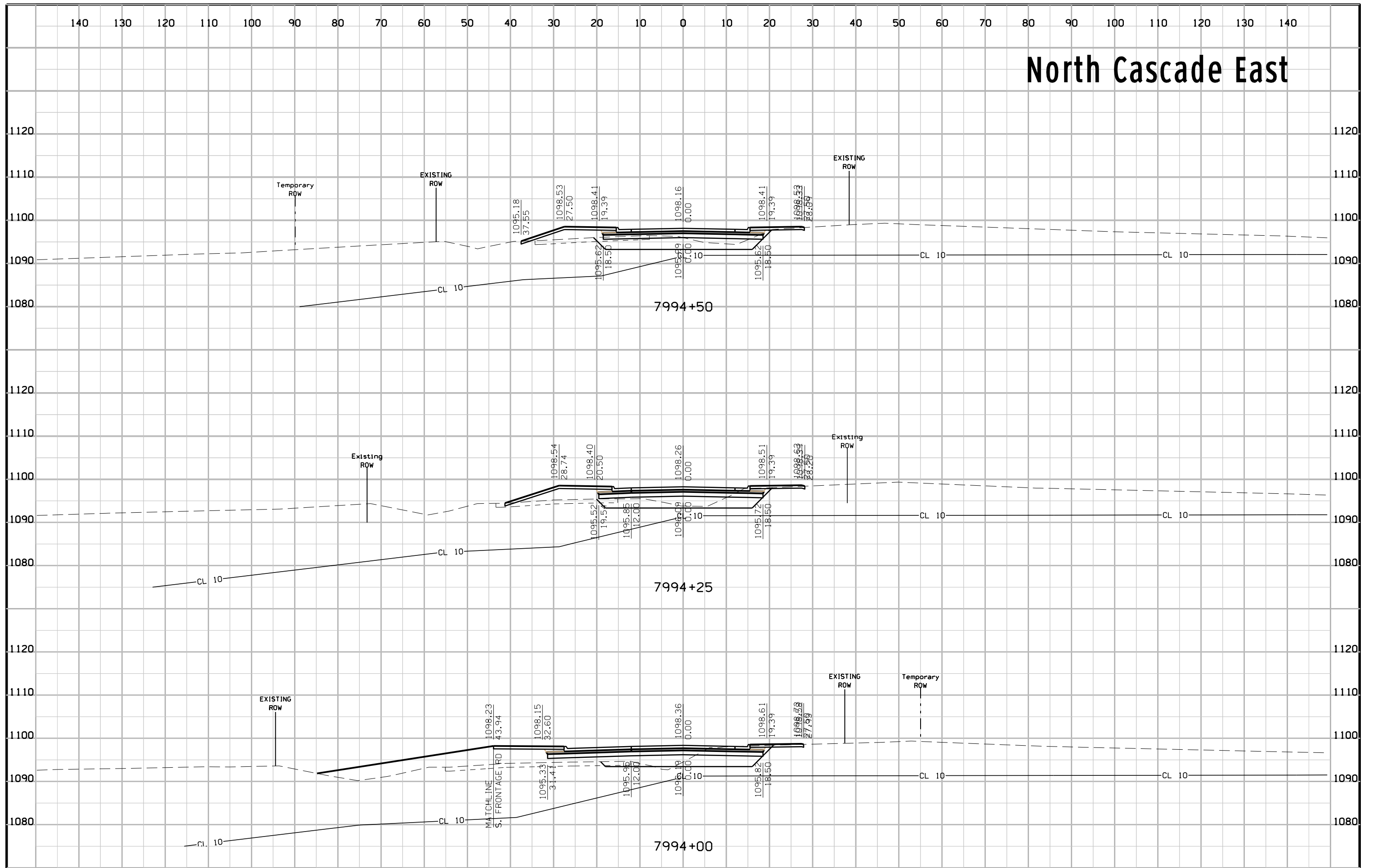
# North Cascade East



# North Cascade East

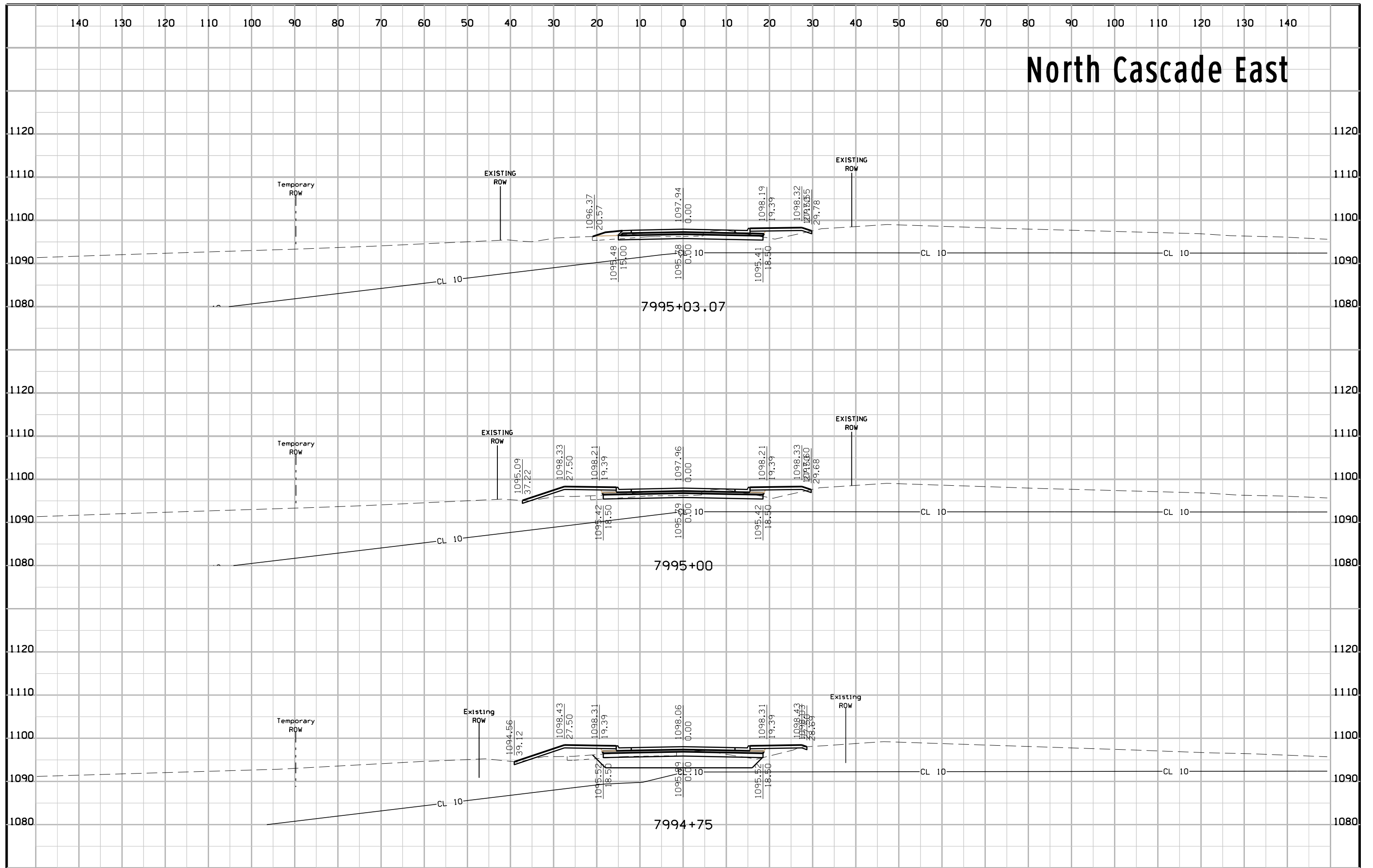


# North Cascade East

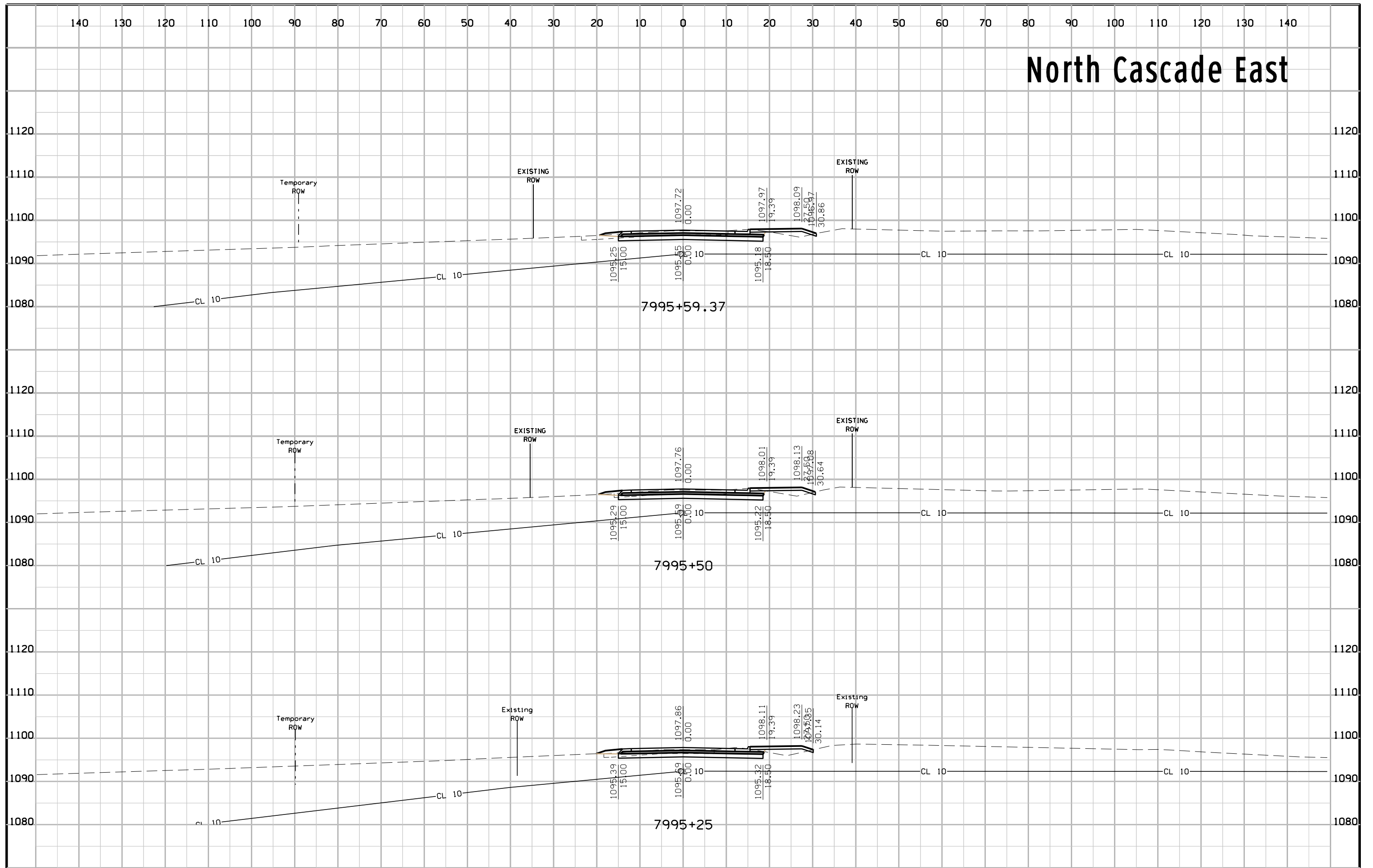




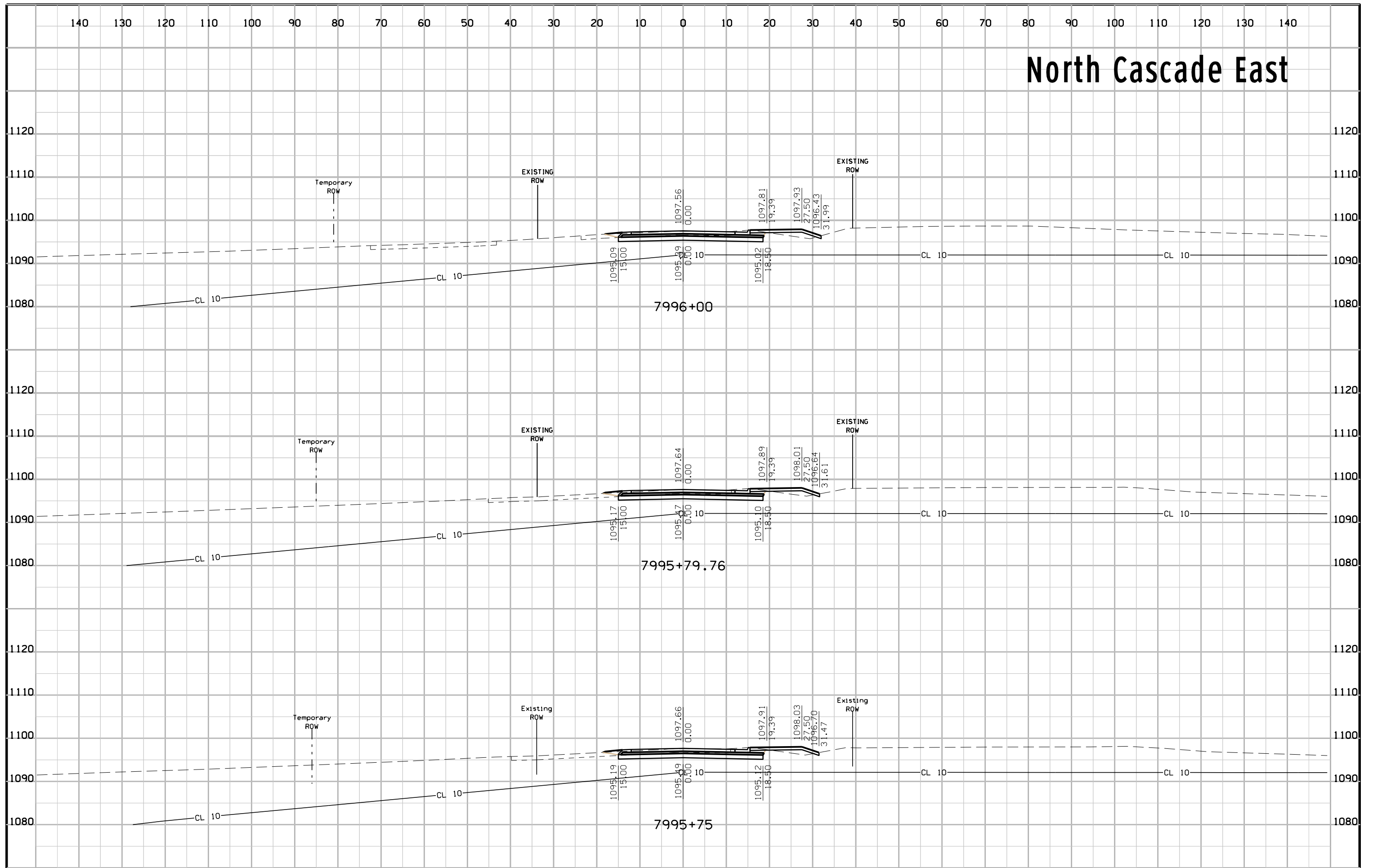
# North Cascade East



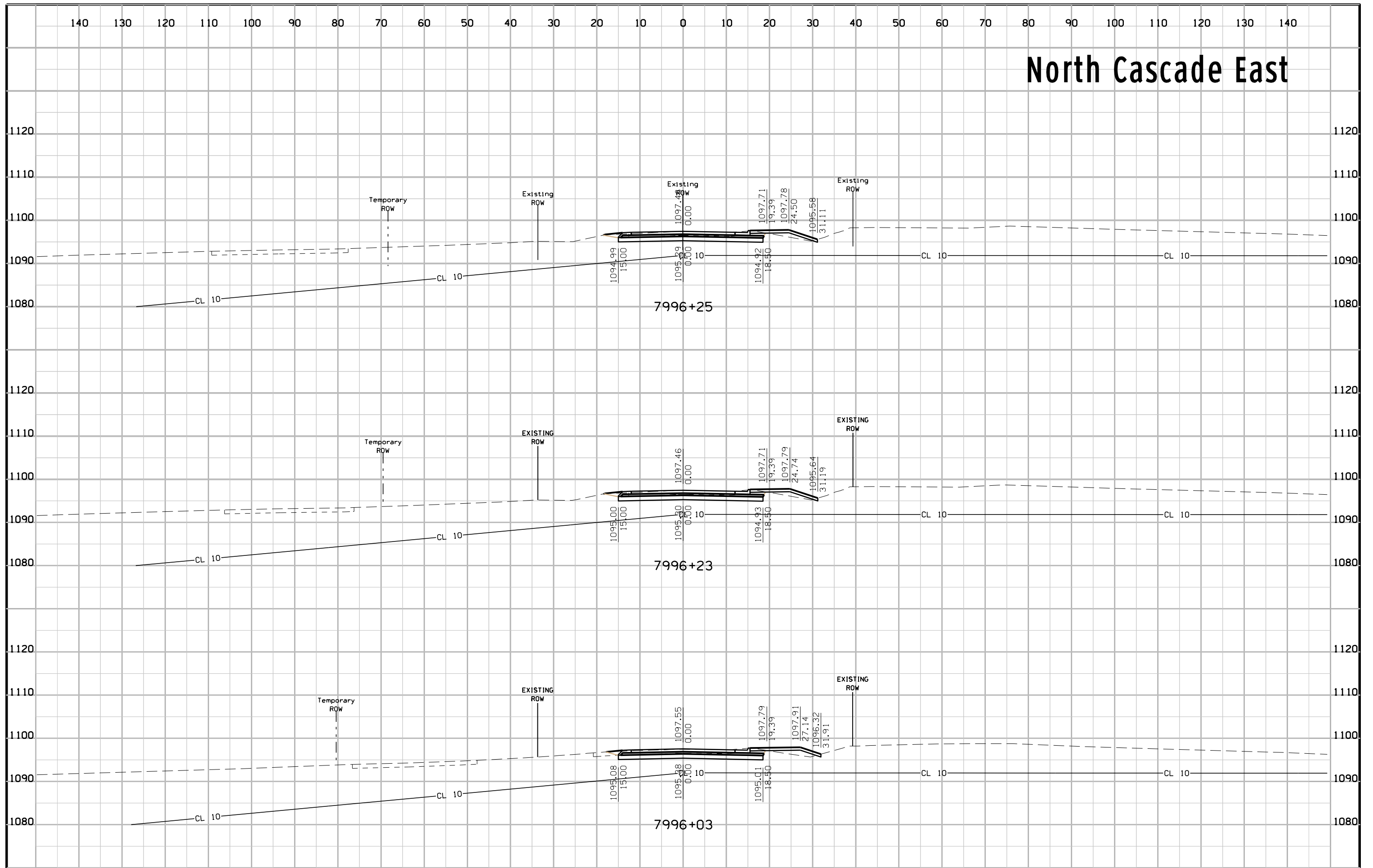
# North Cascade East



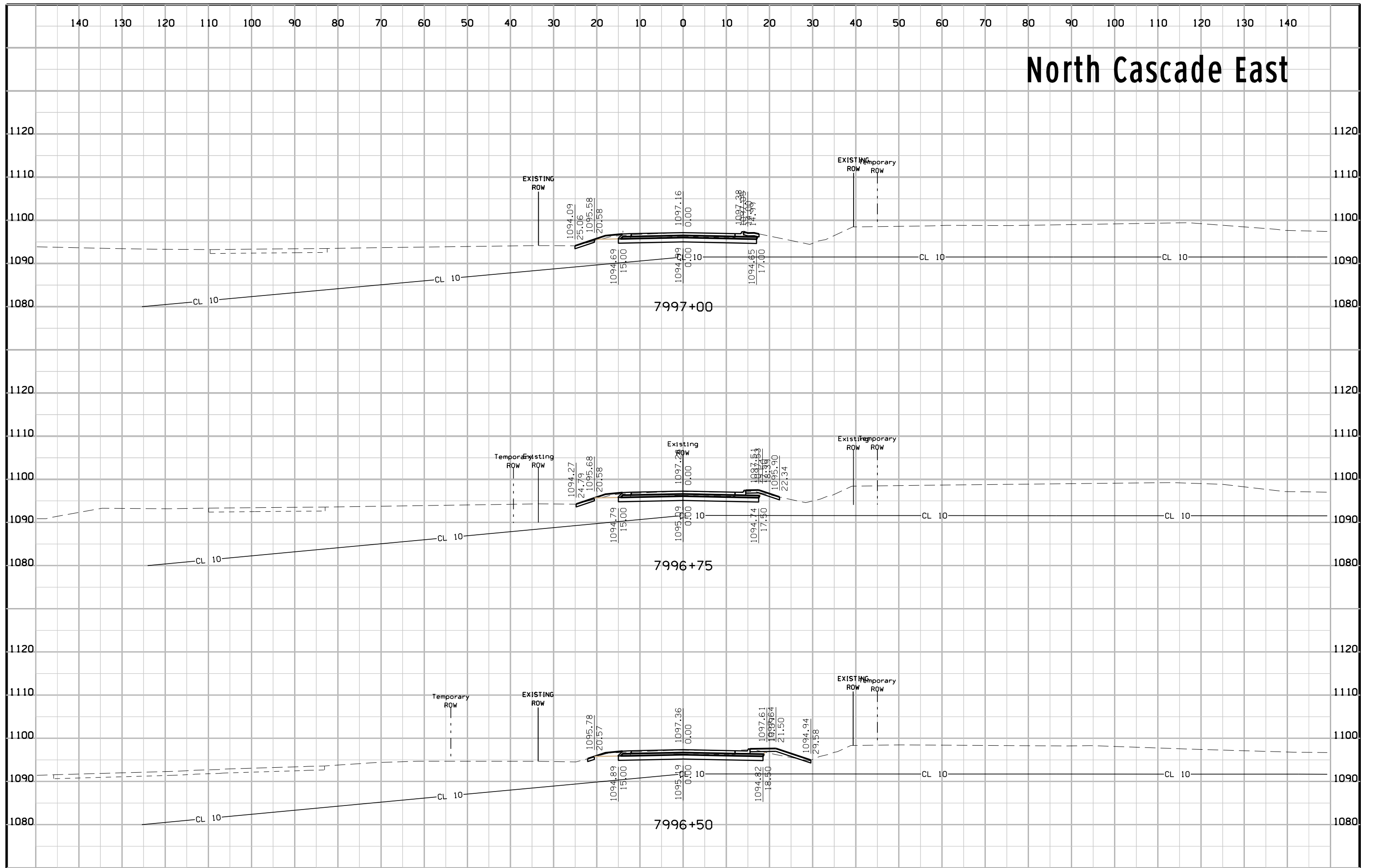
# North Cascade East



# North Cascade East

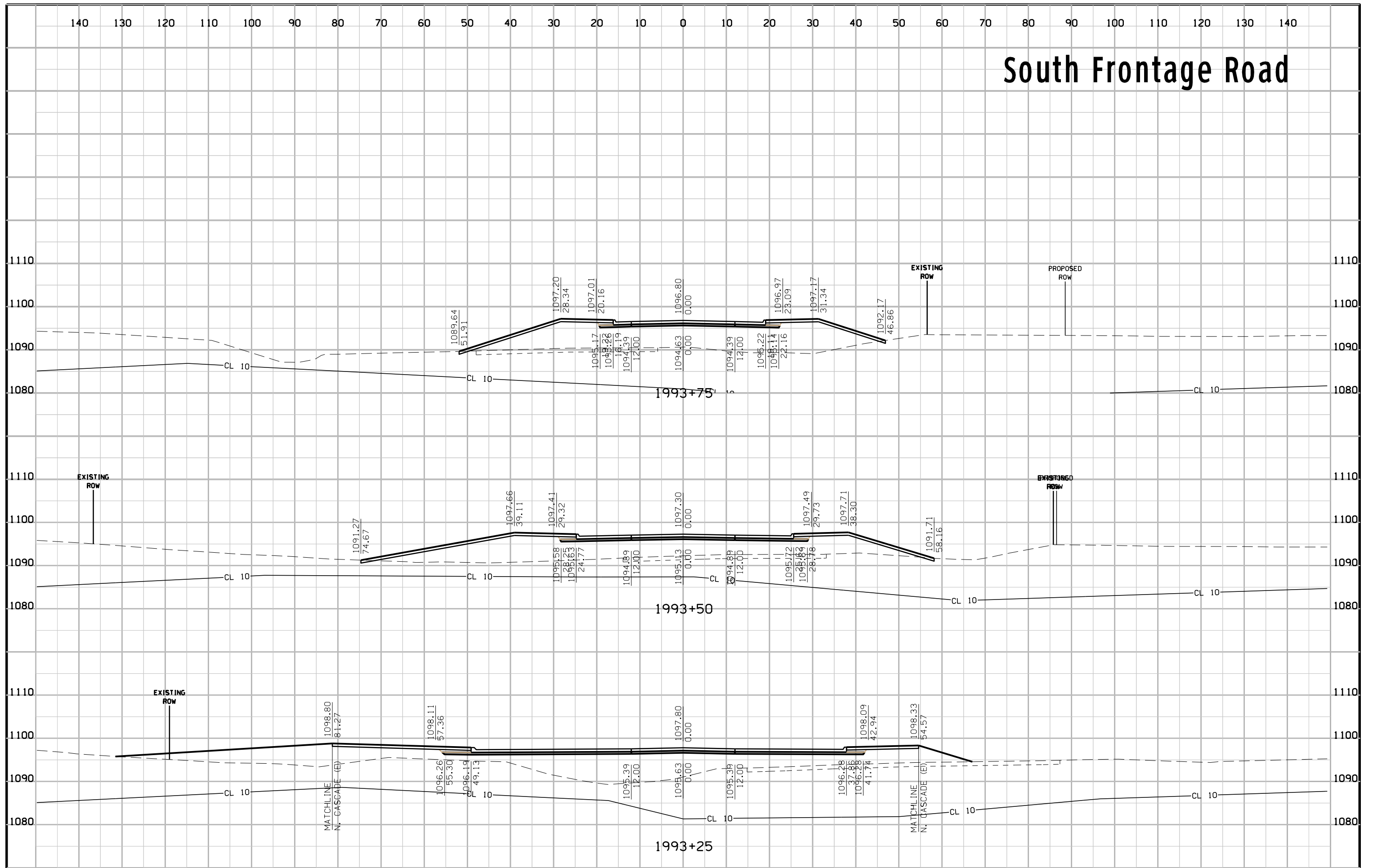


# North Cascade East

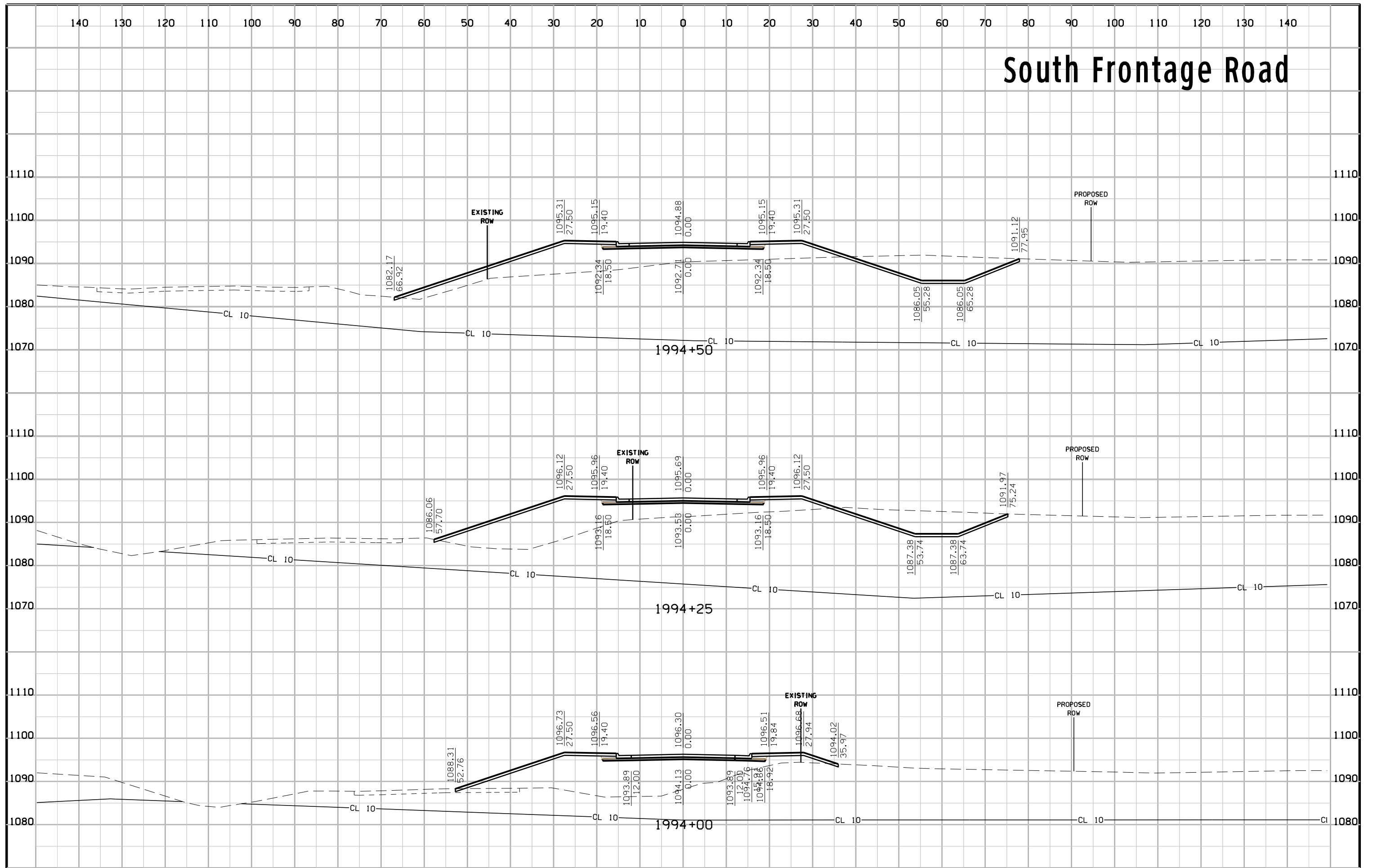




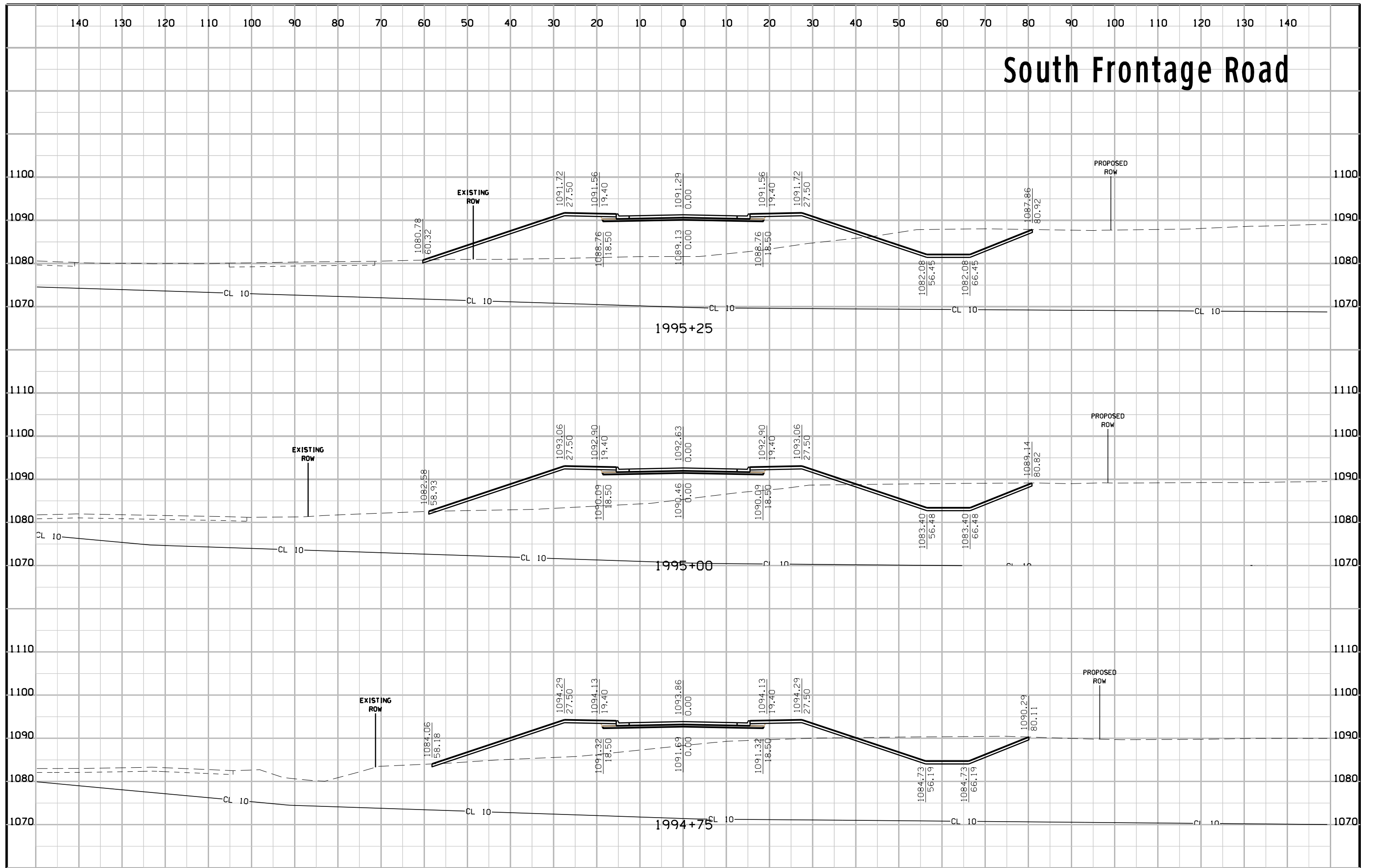
# South Frontage Road



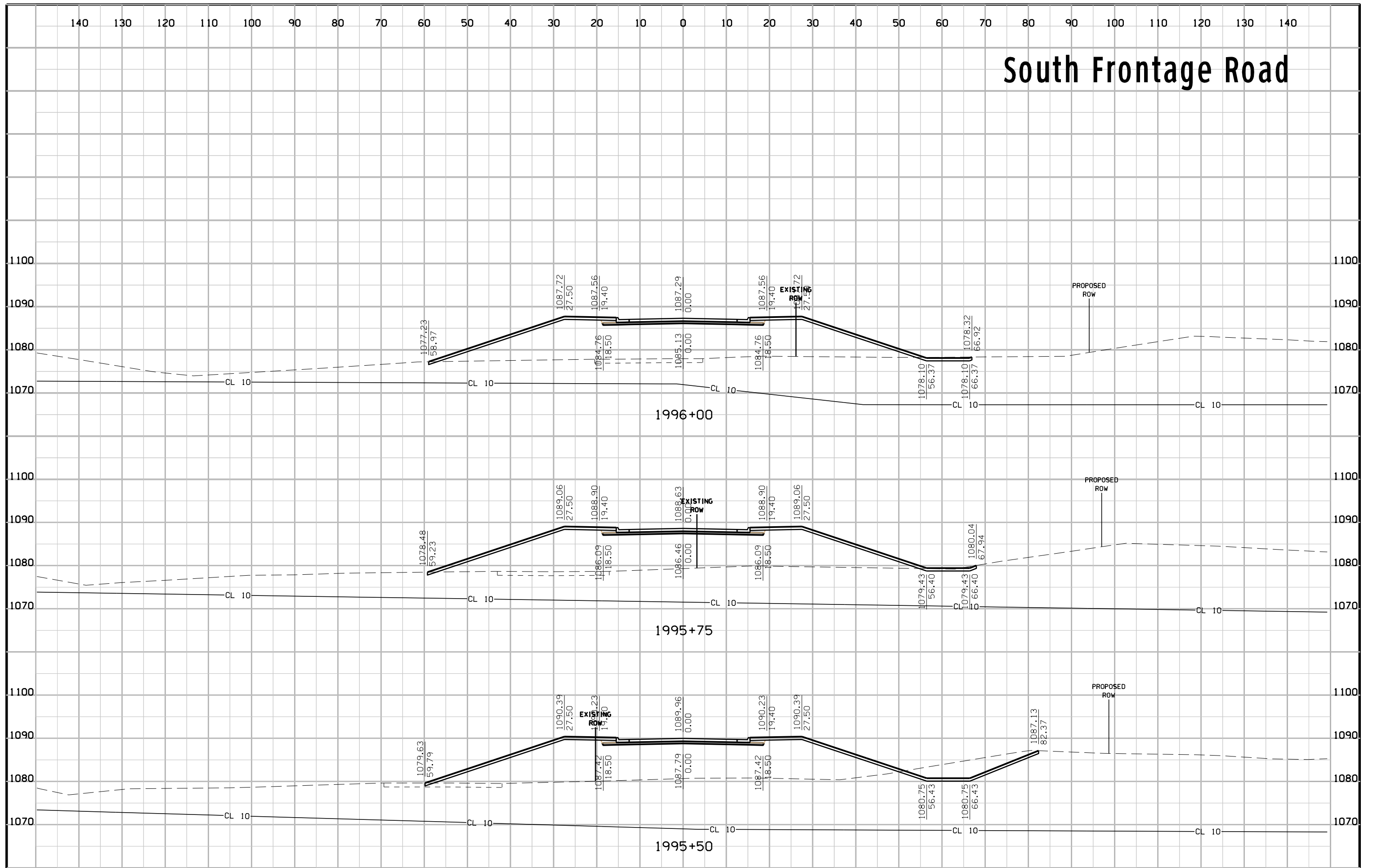
# South Frontage Road



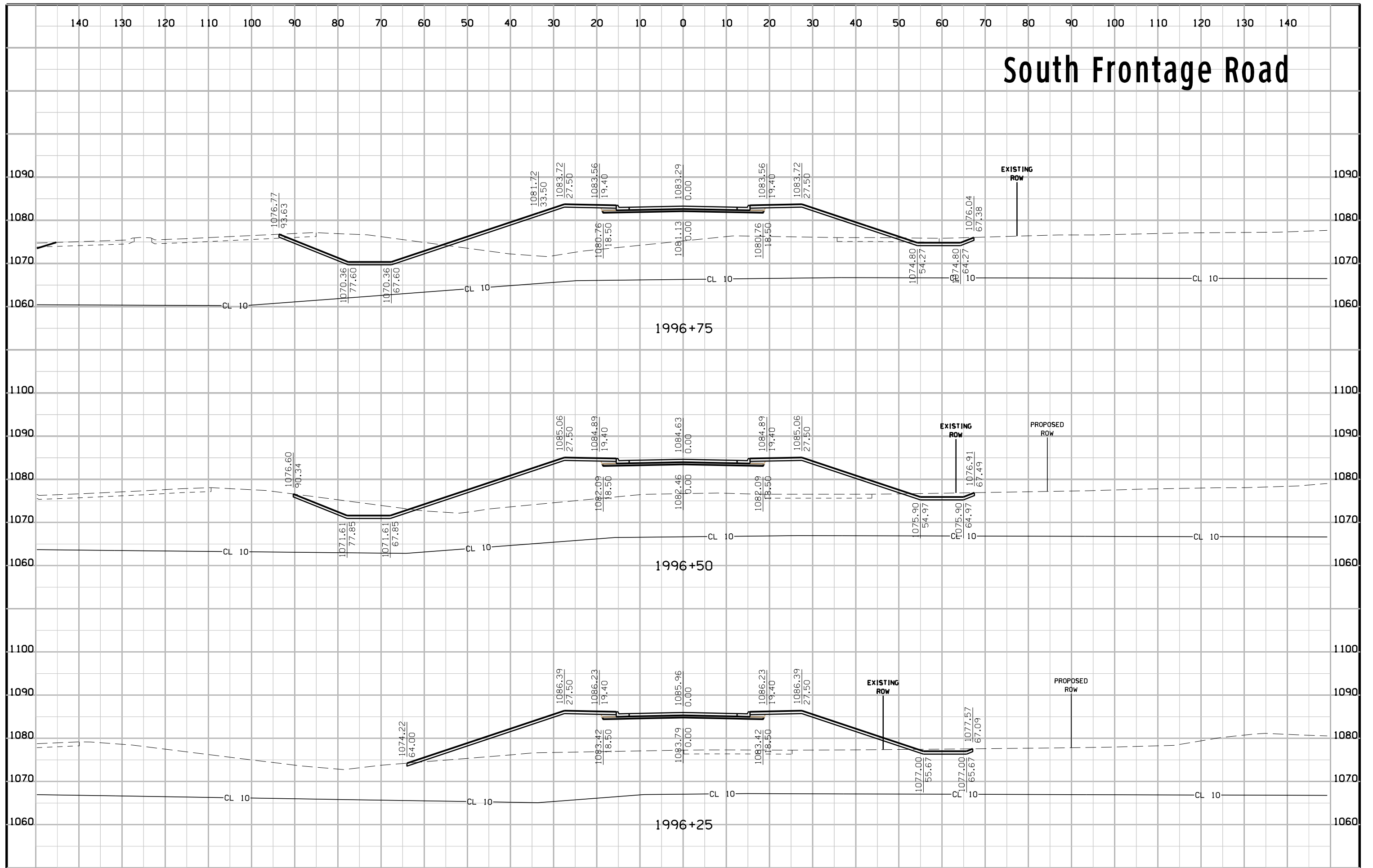
# South Frontage Road



# South Frontage Road

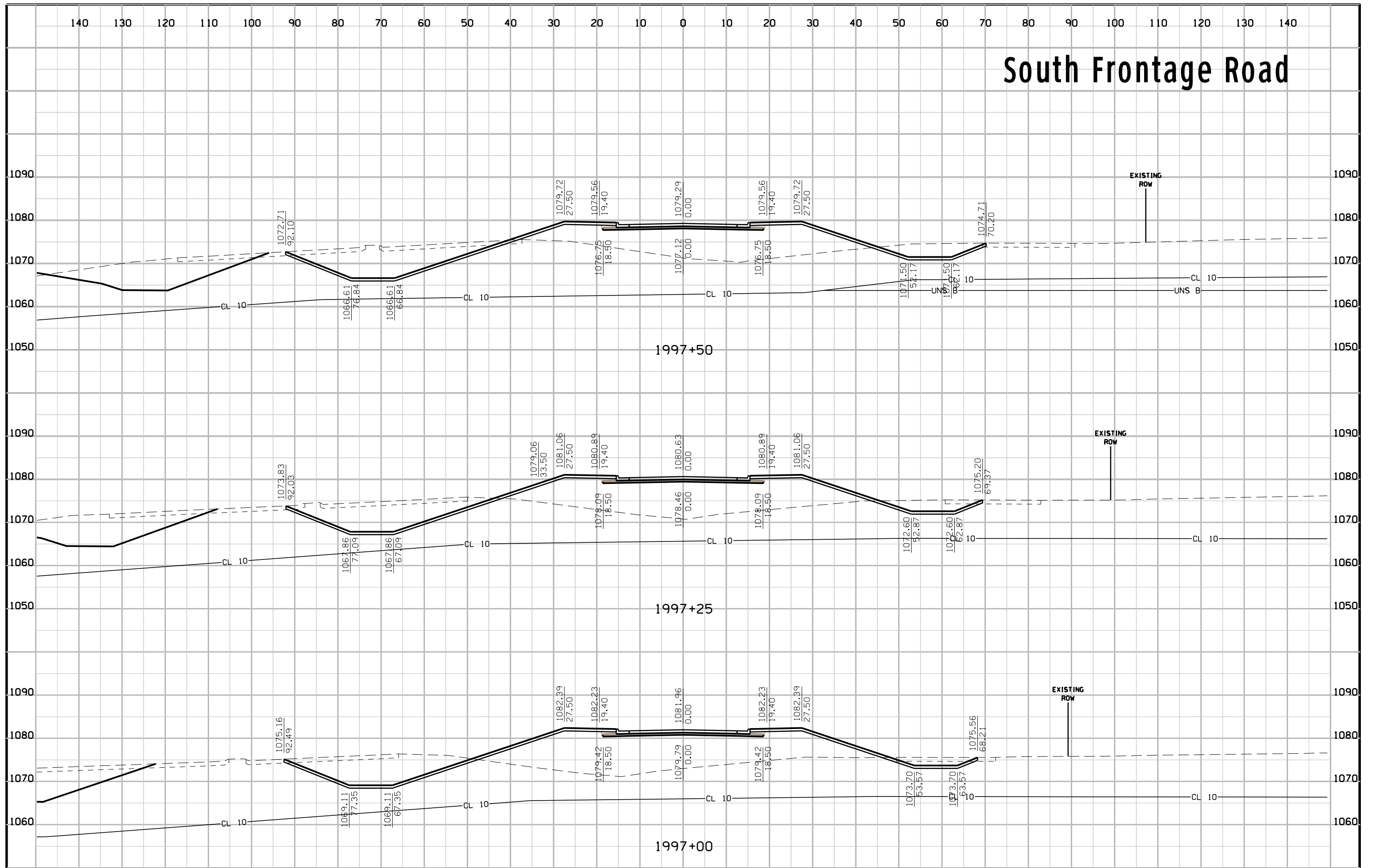


# South Frontage Road

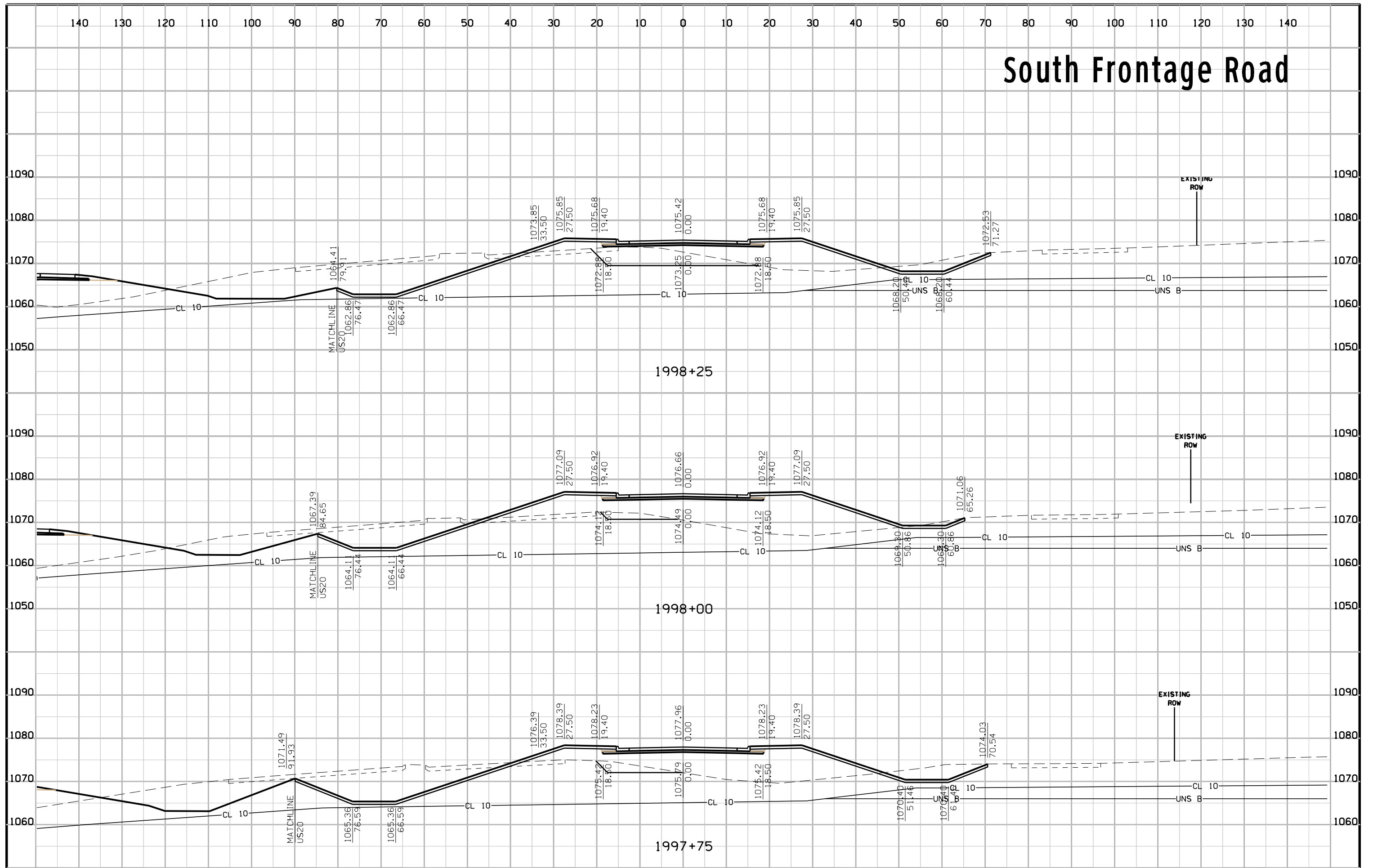




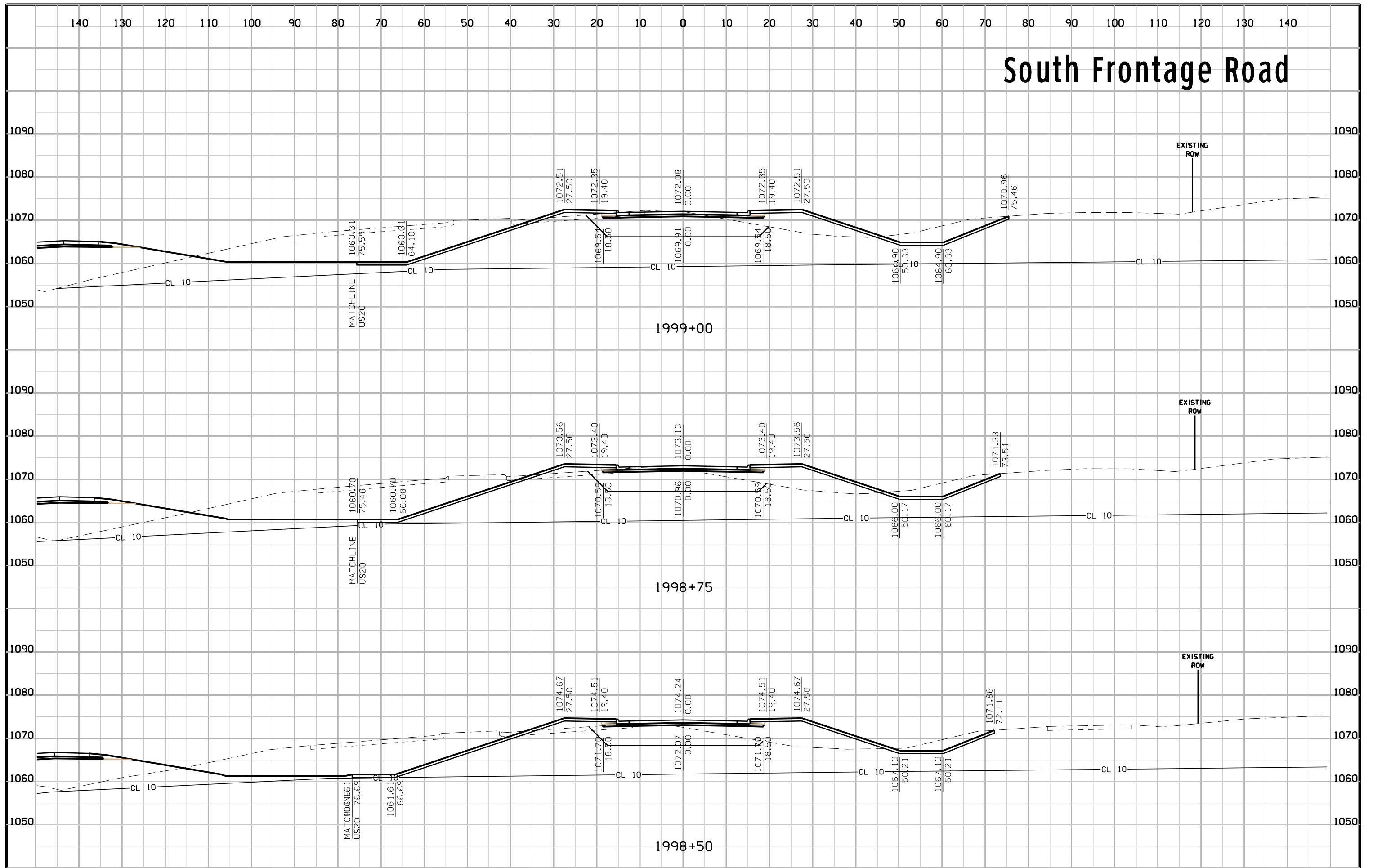
# South Frontage Road



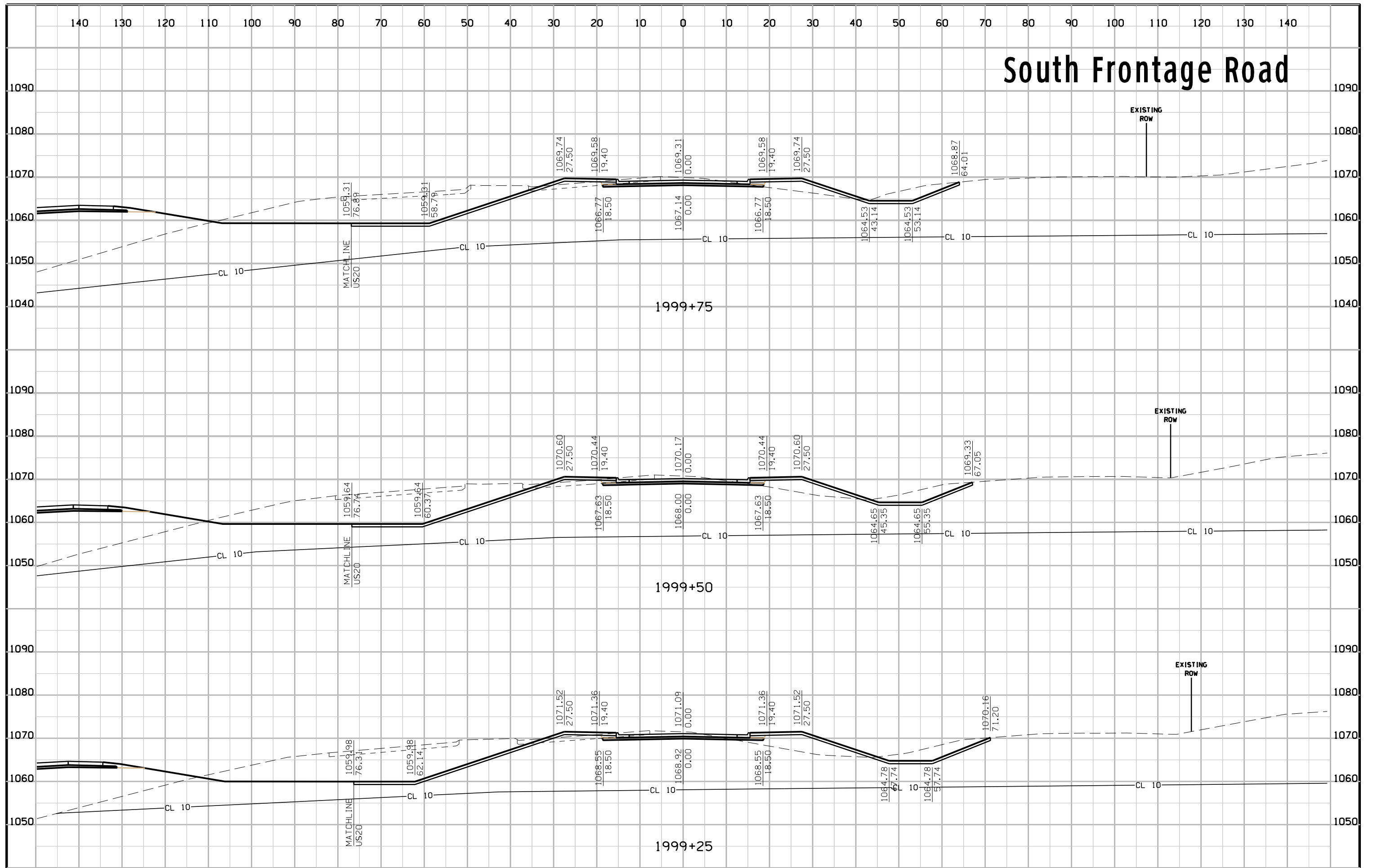
# South Frontage Road



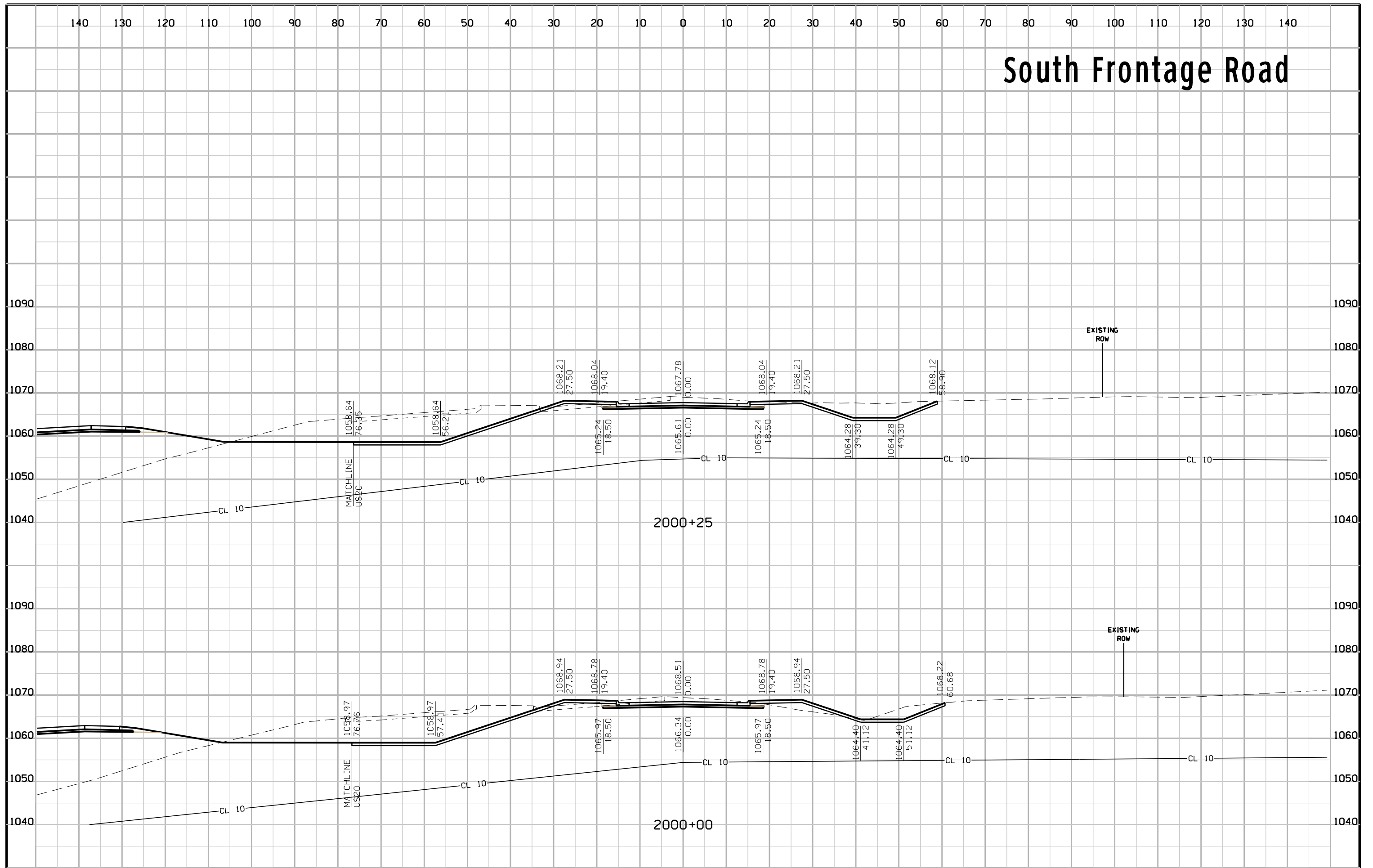
# South Frontage Road



# South Frontage Road

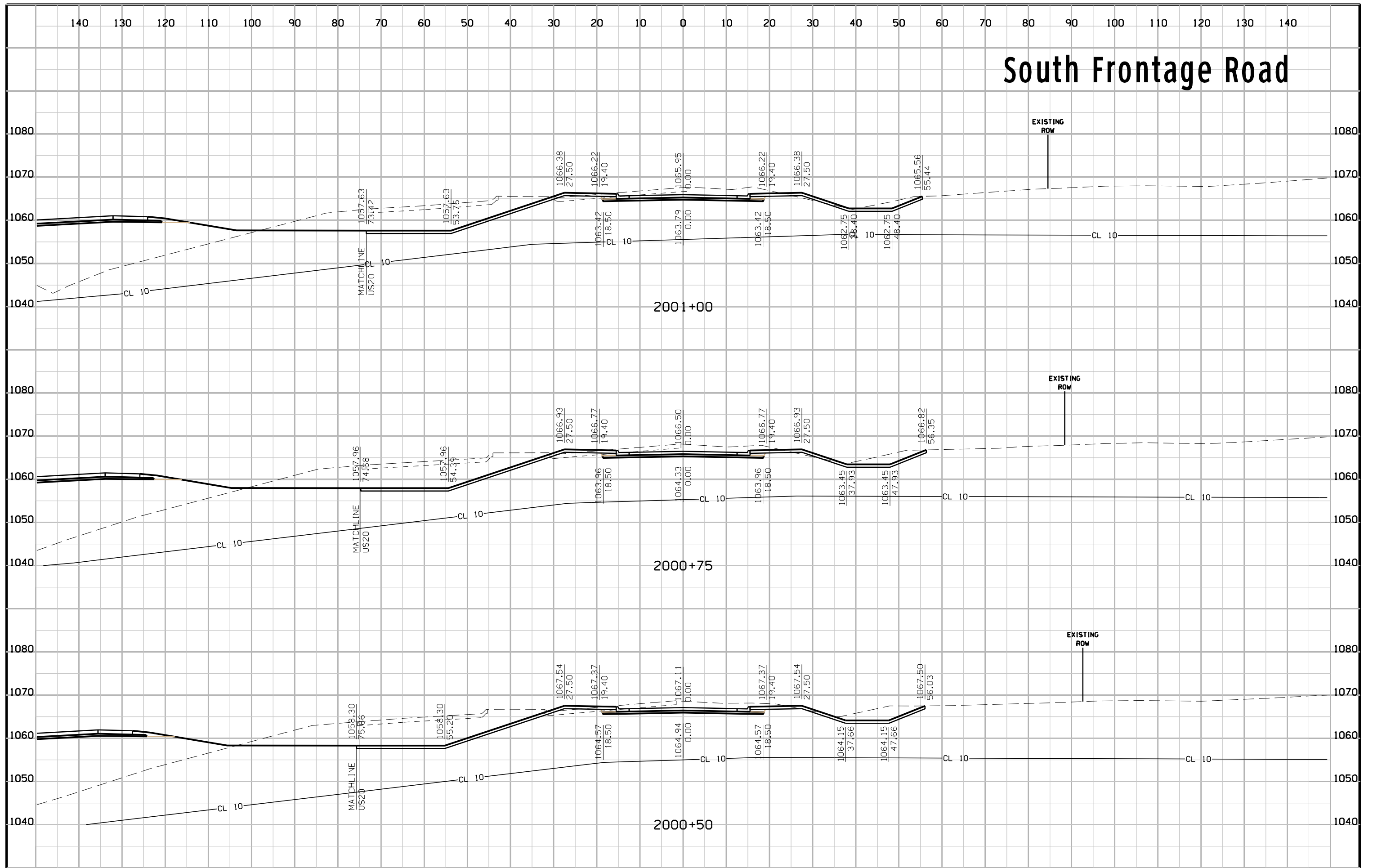


# South Frontage Road

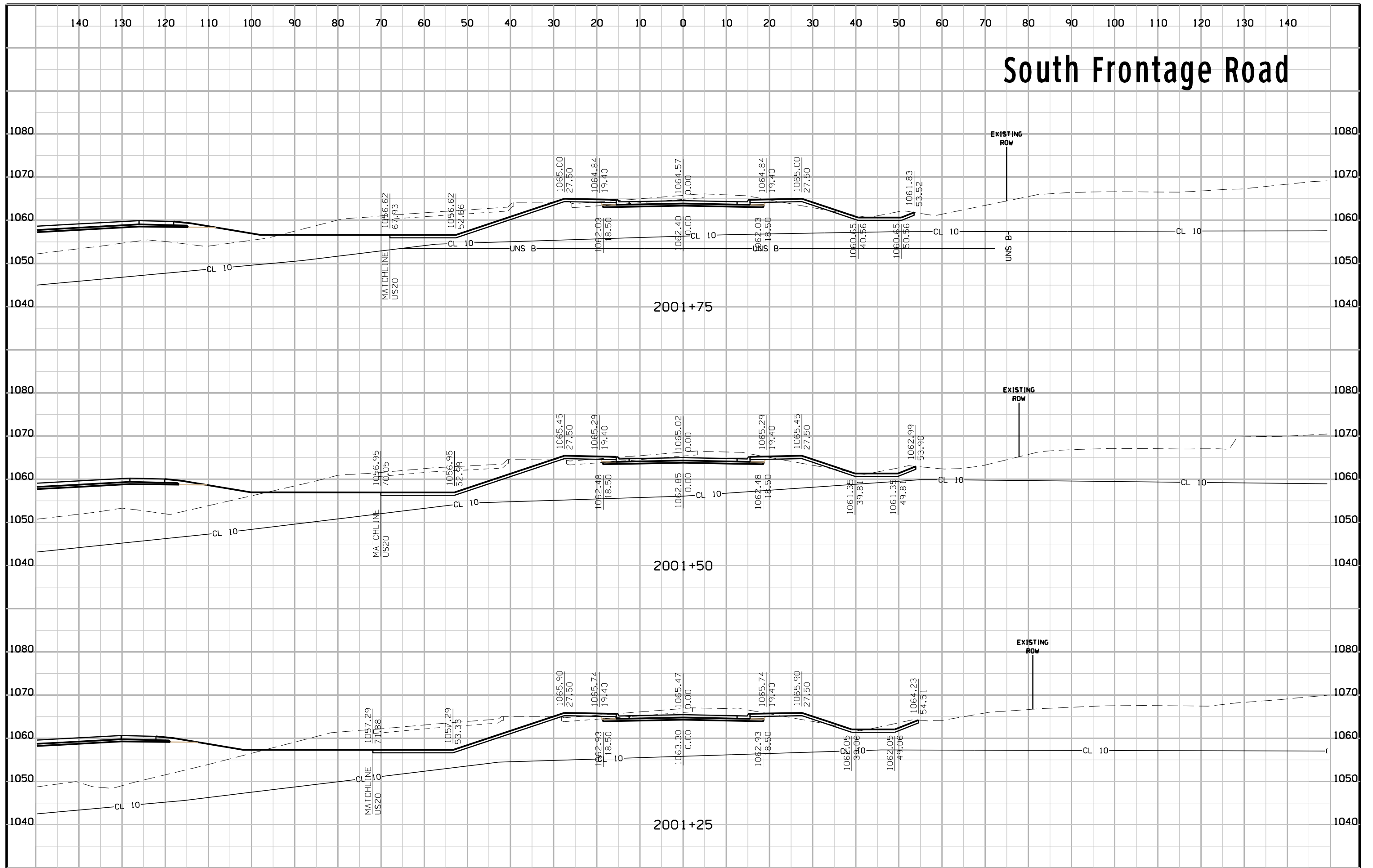




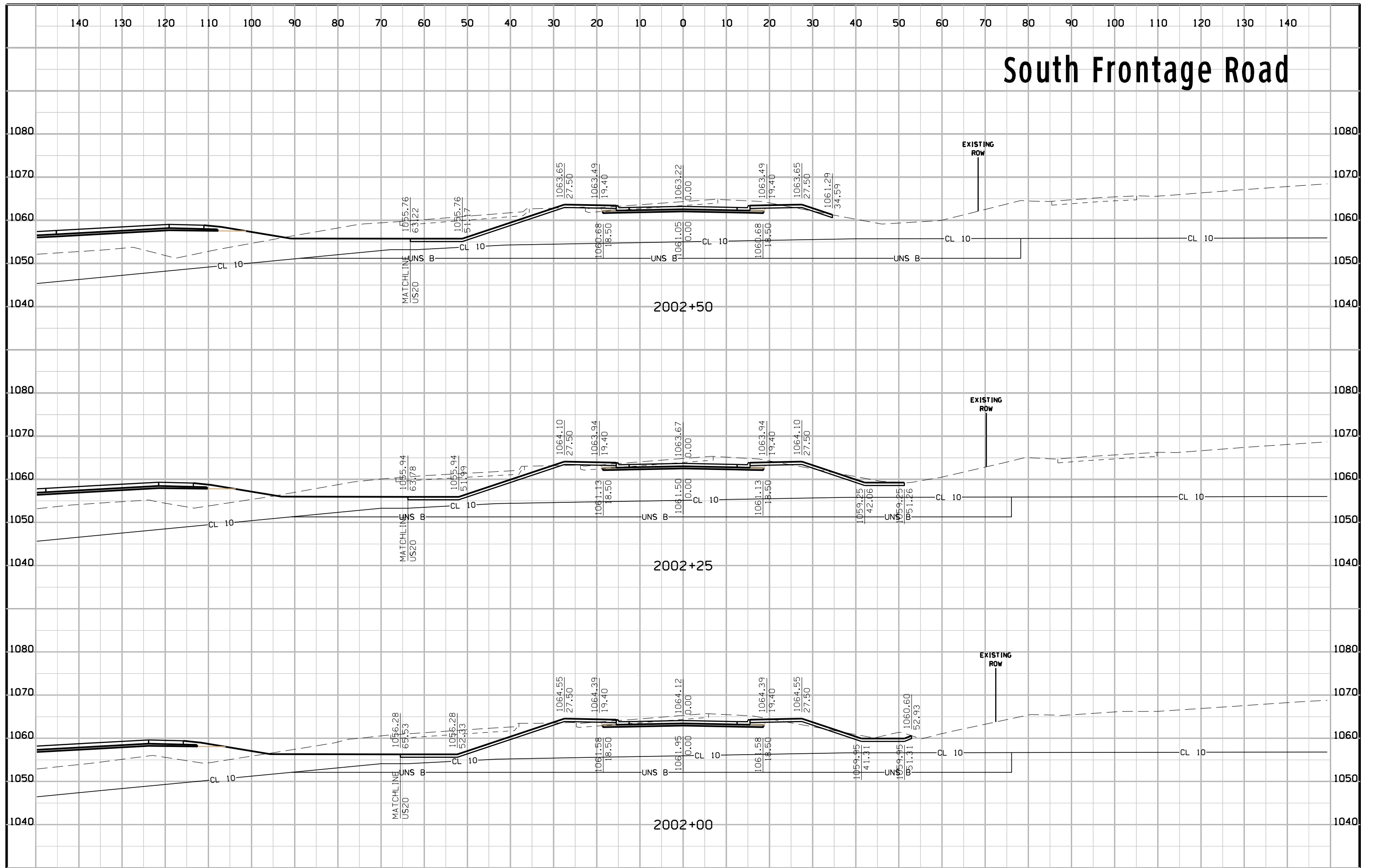
# South Frontage Road



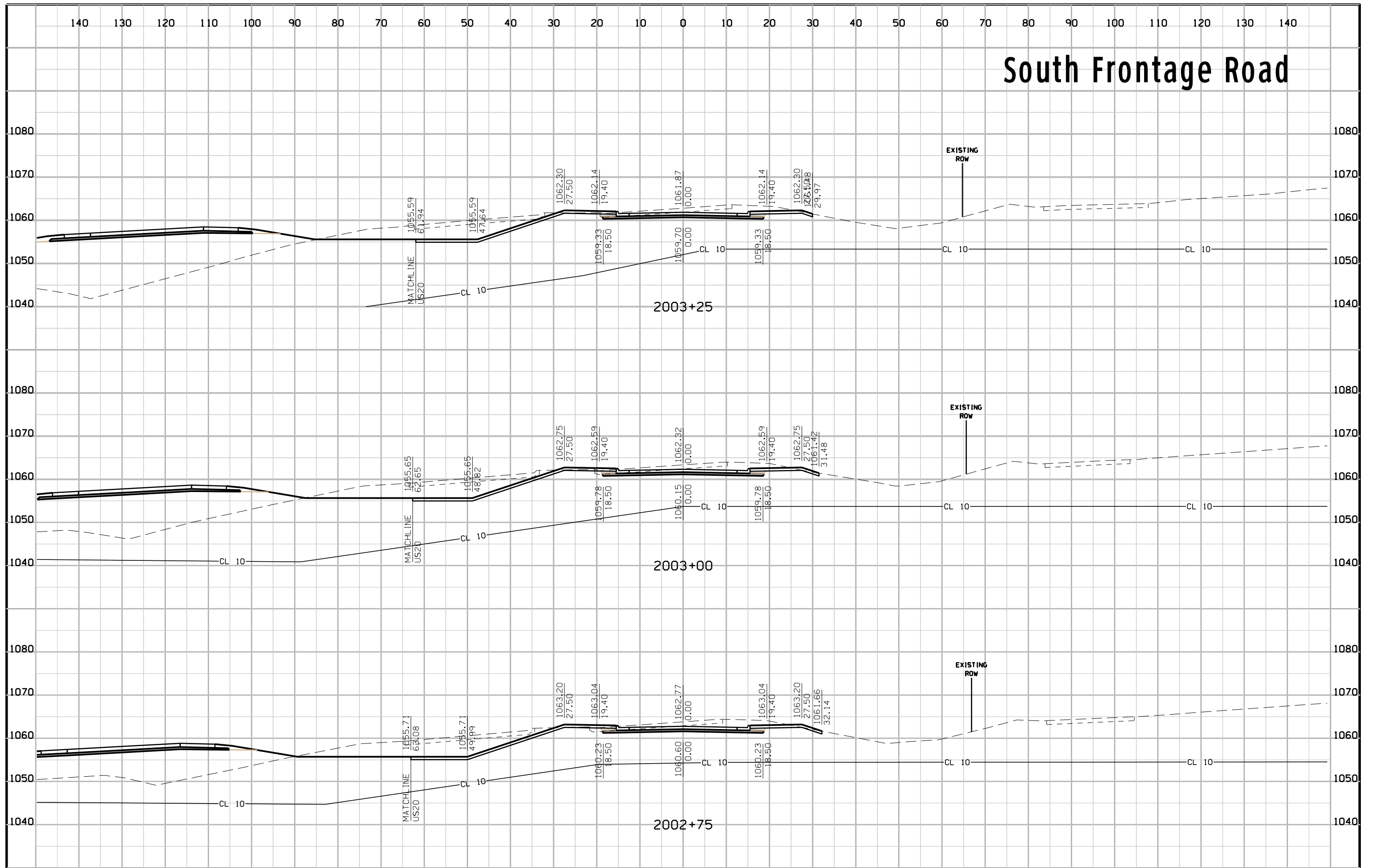
# South Frontage Road



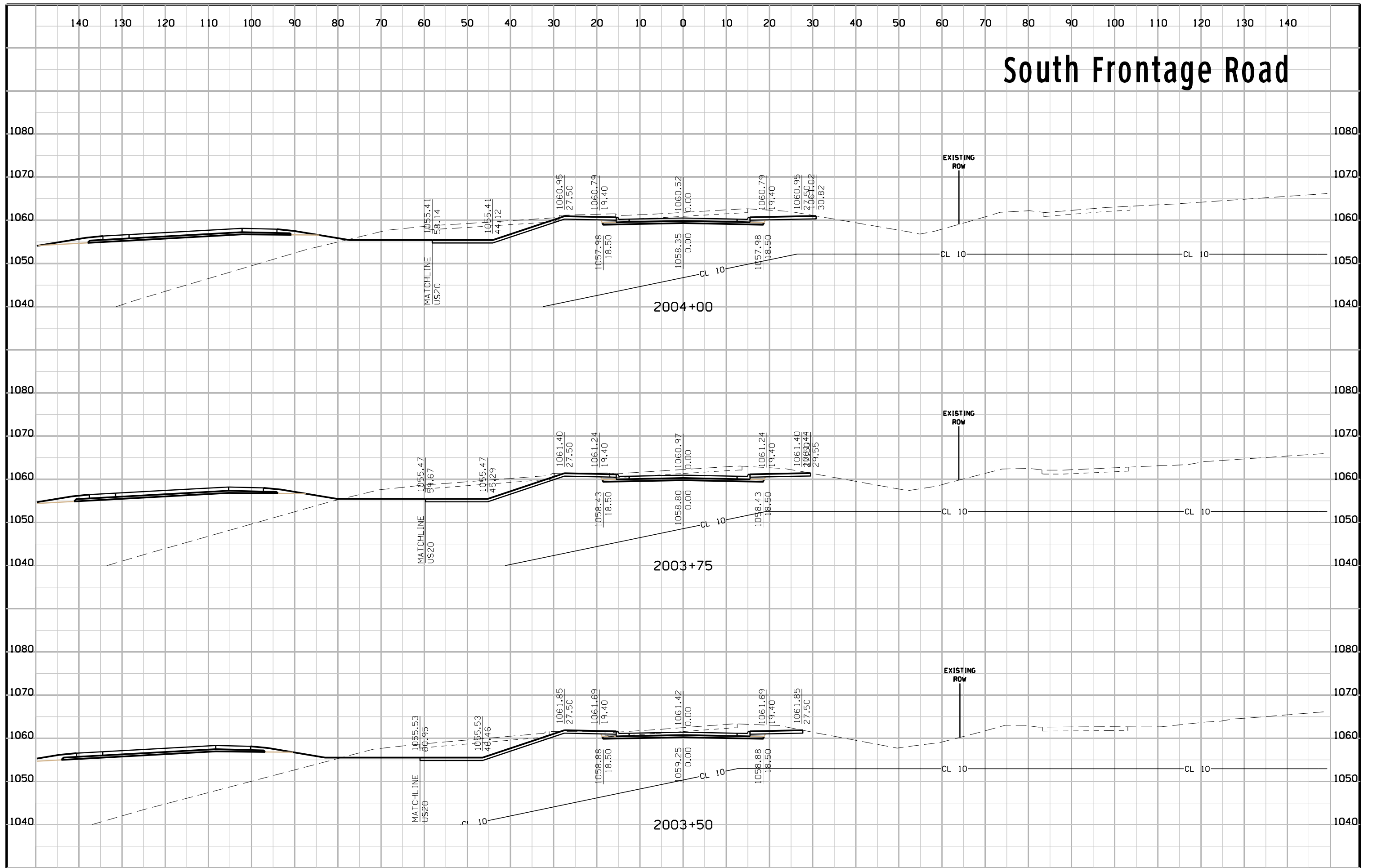
# South Frontage Road



# South Frontage Road

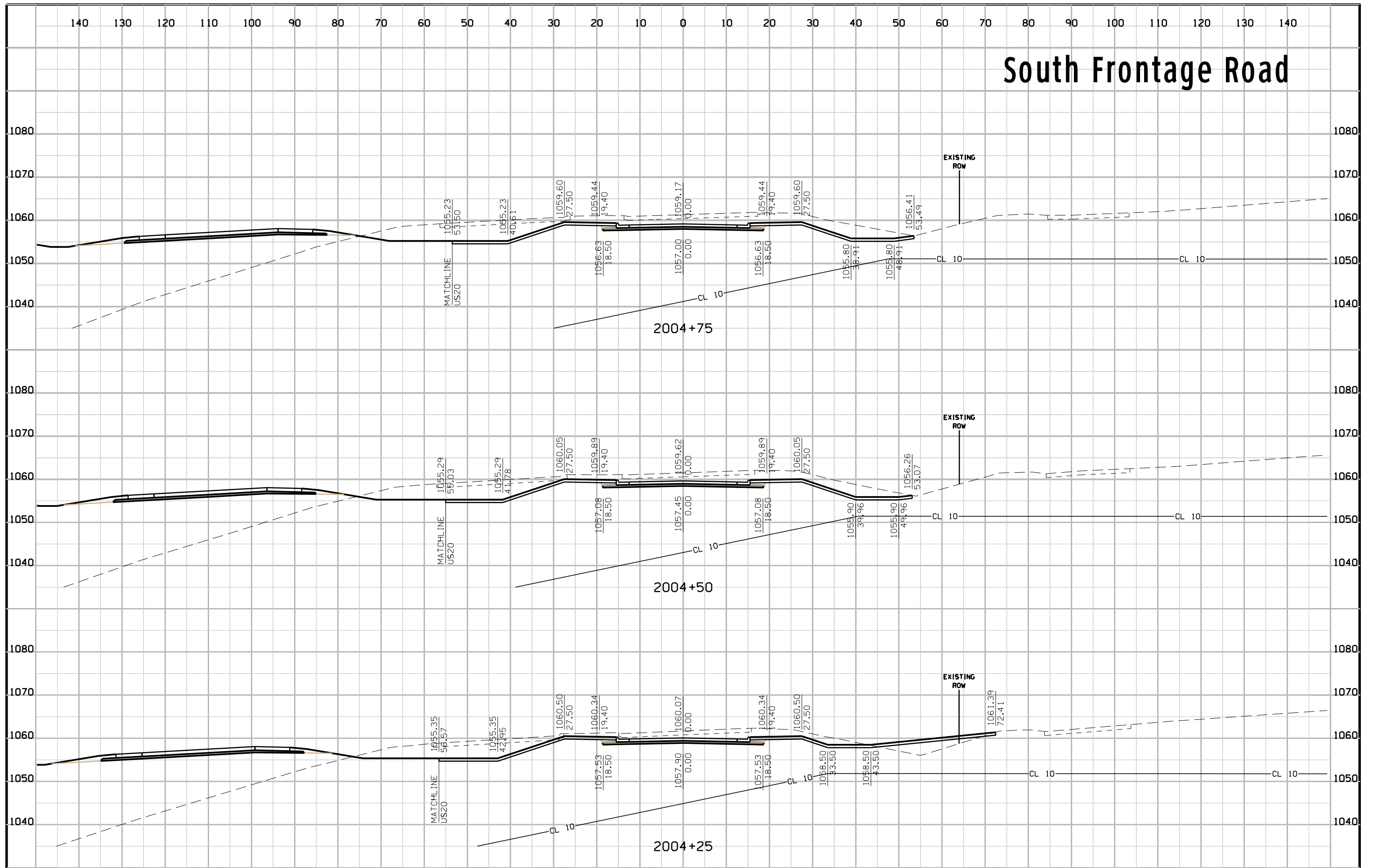


# South Frontage Road

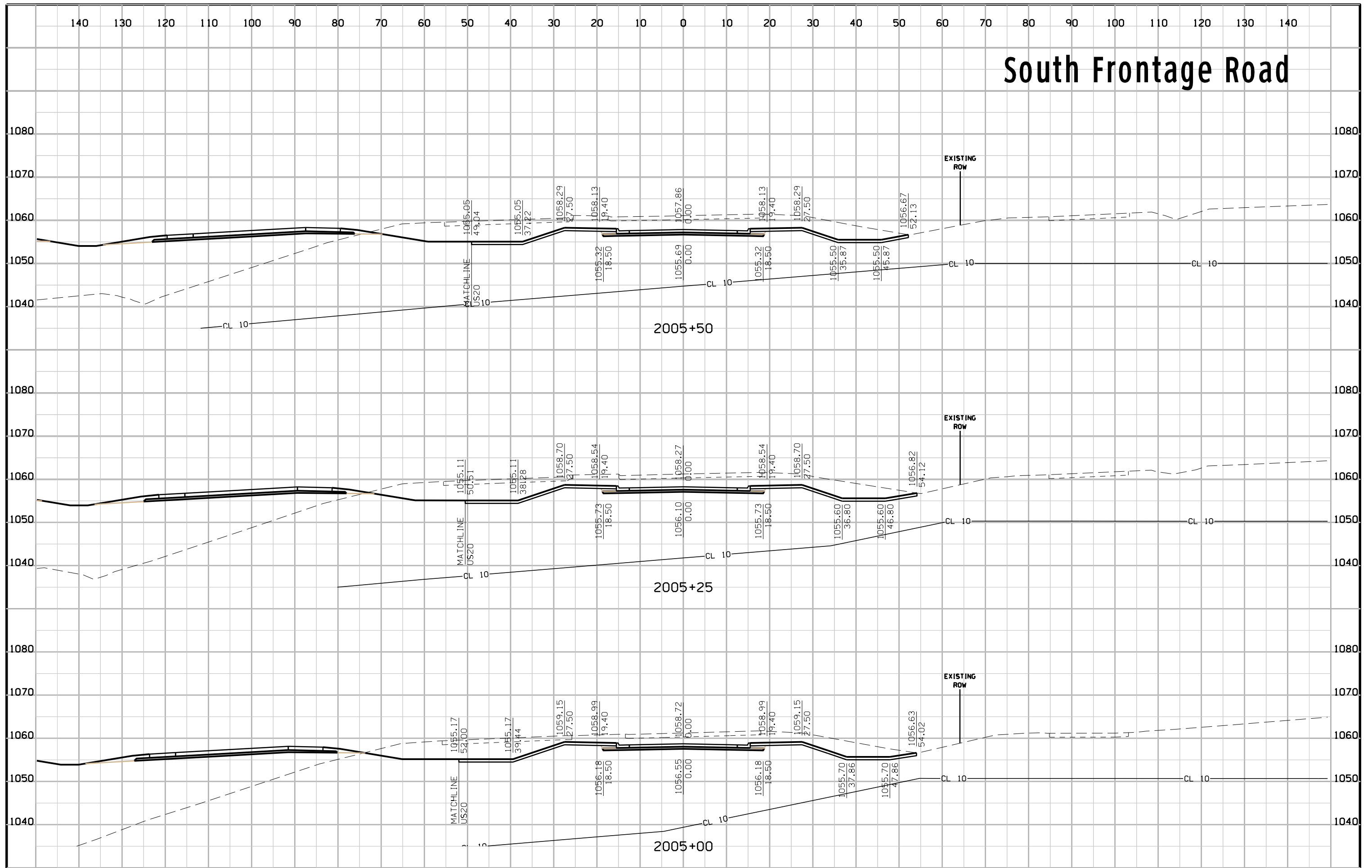




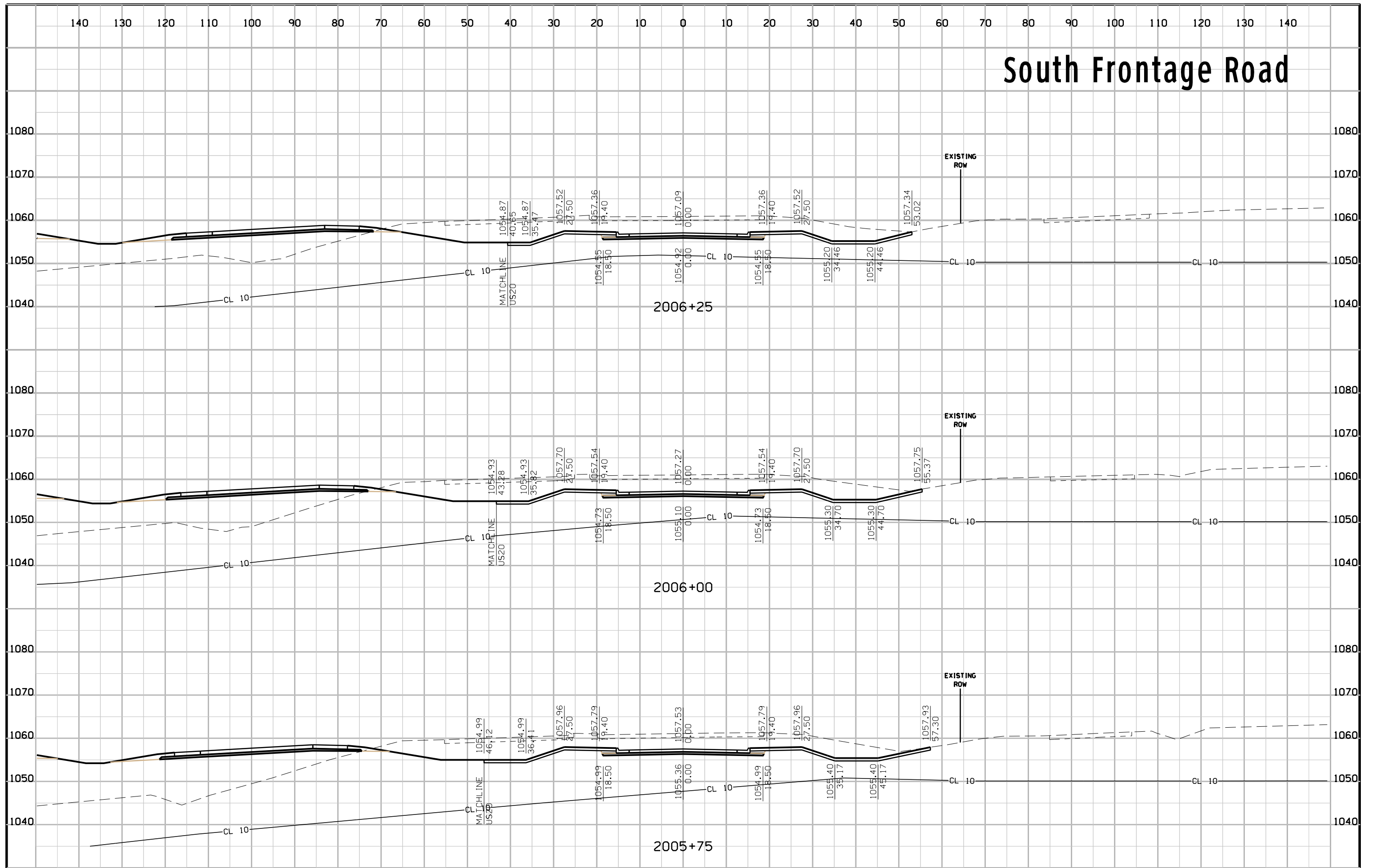
# South Frontage Road



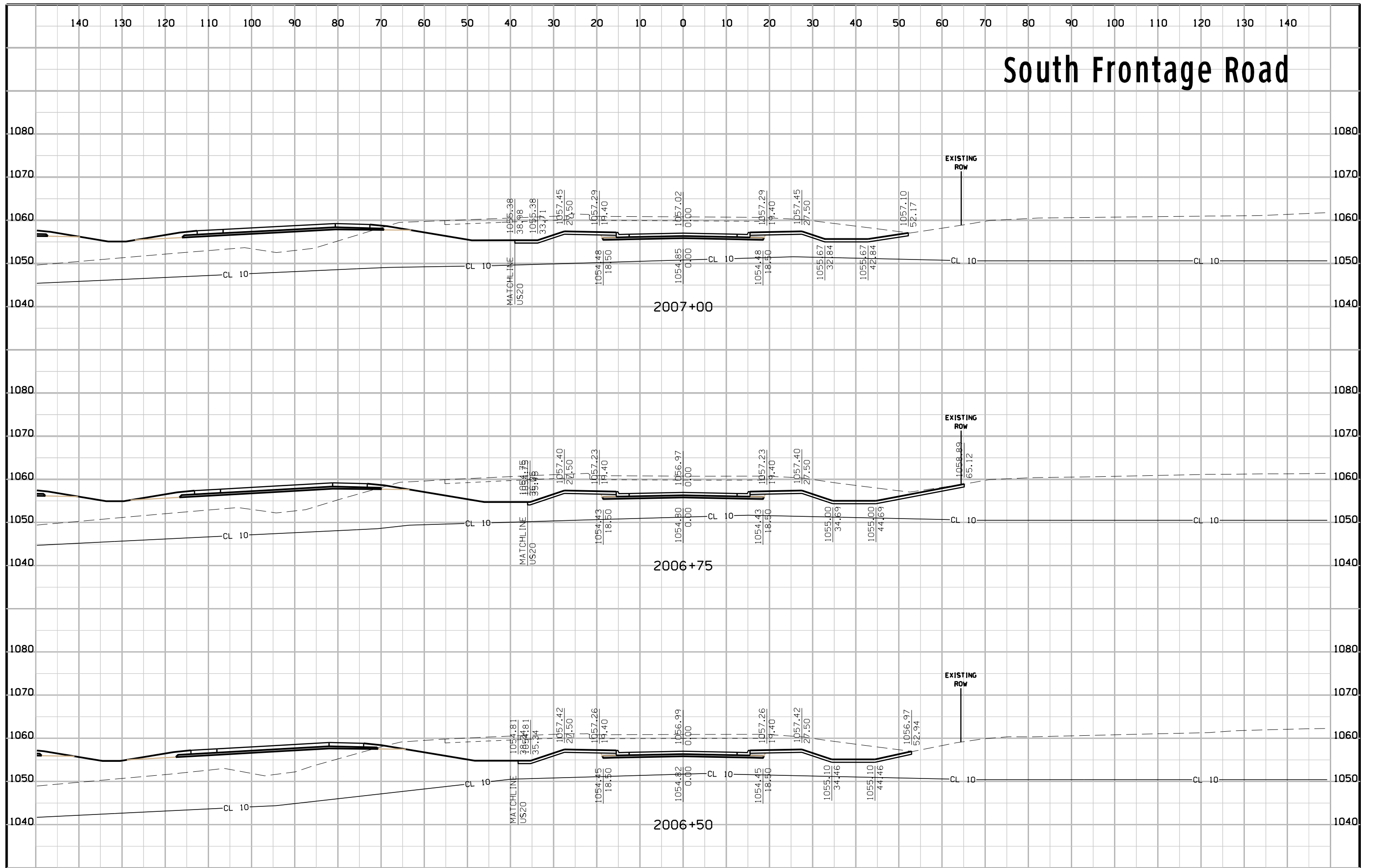
# South Frontage Road



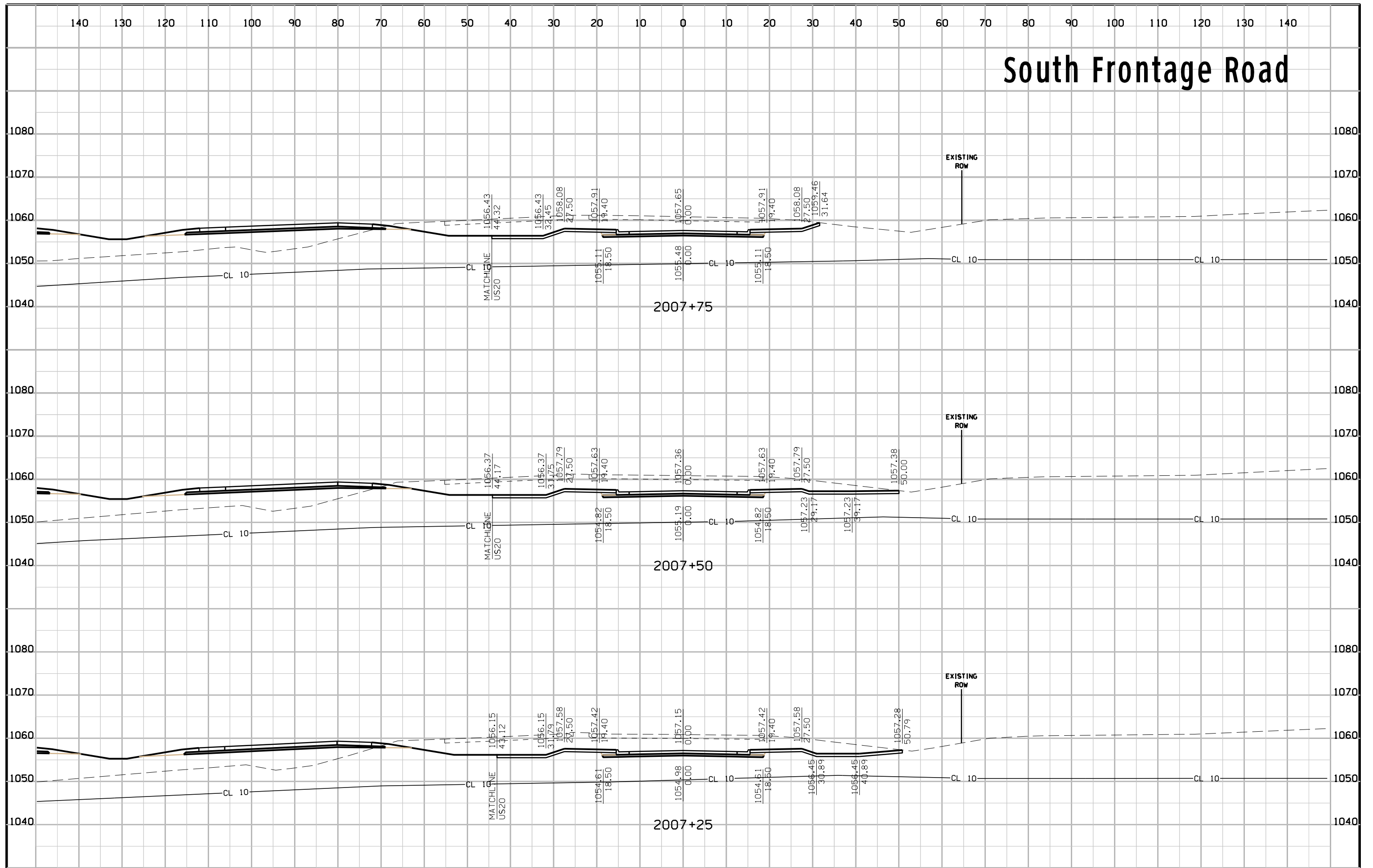
# South Frontage Road



# South Frontage Road

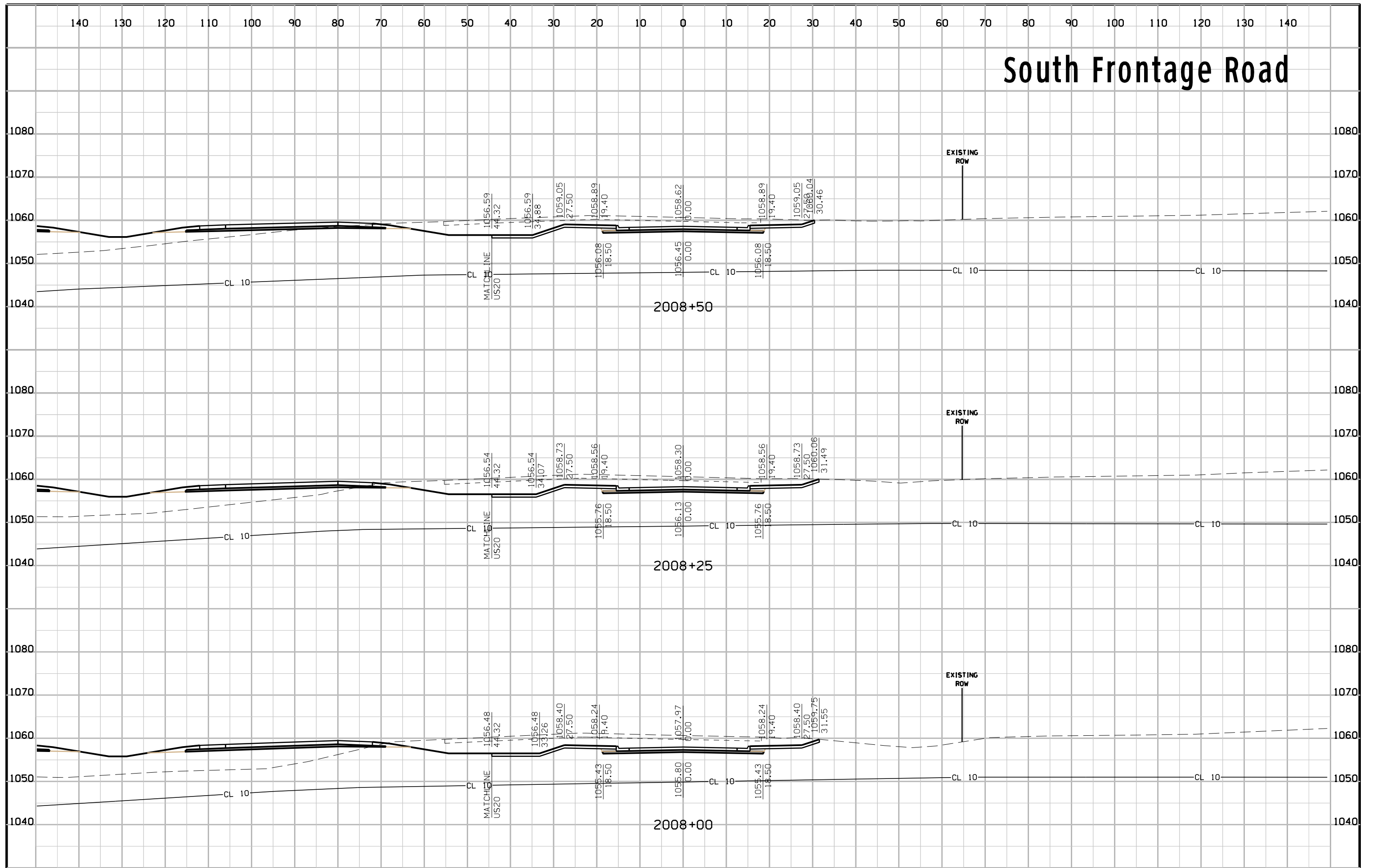


# South Frontage Road

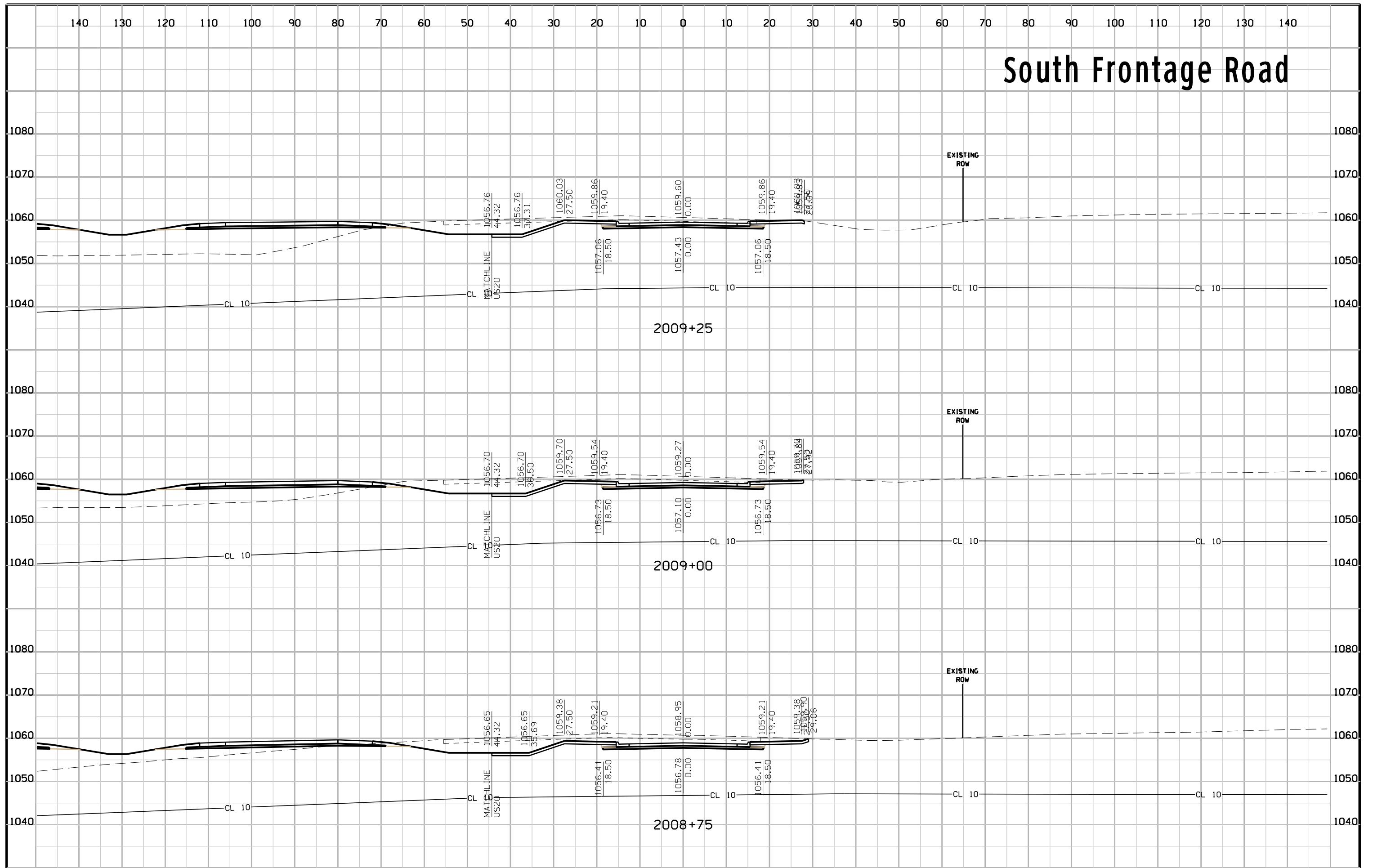




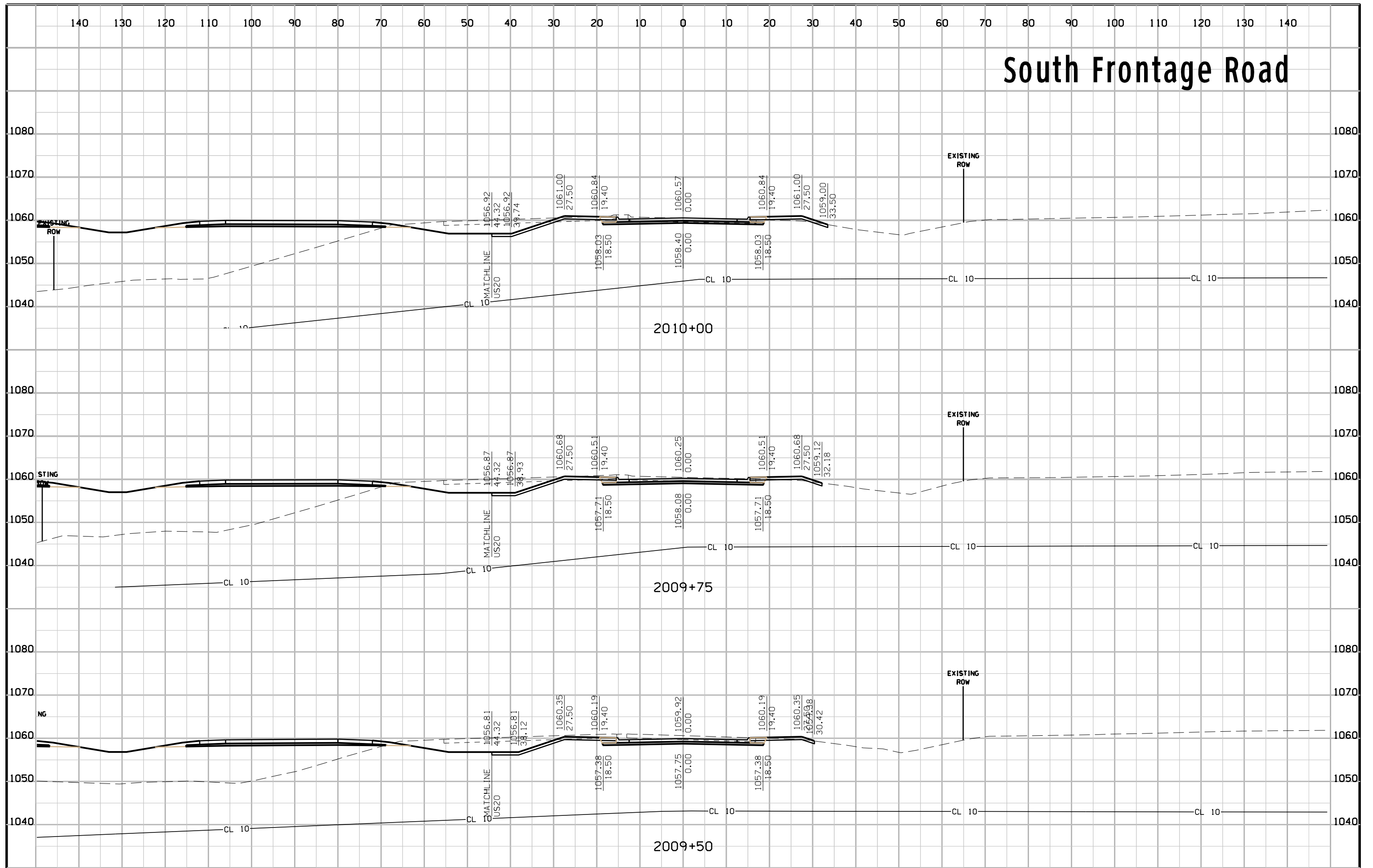
# South Frontage Road



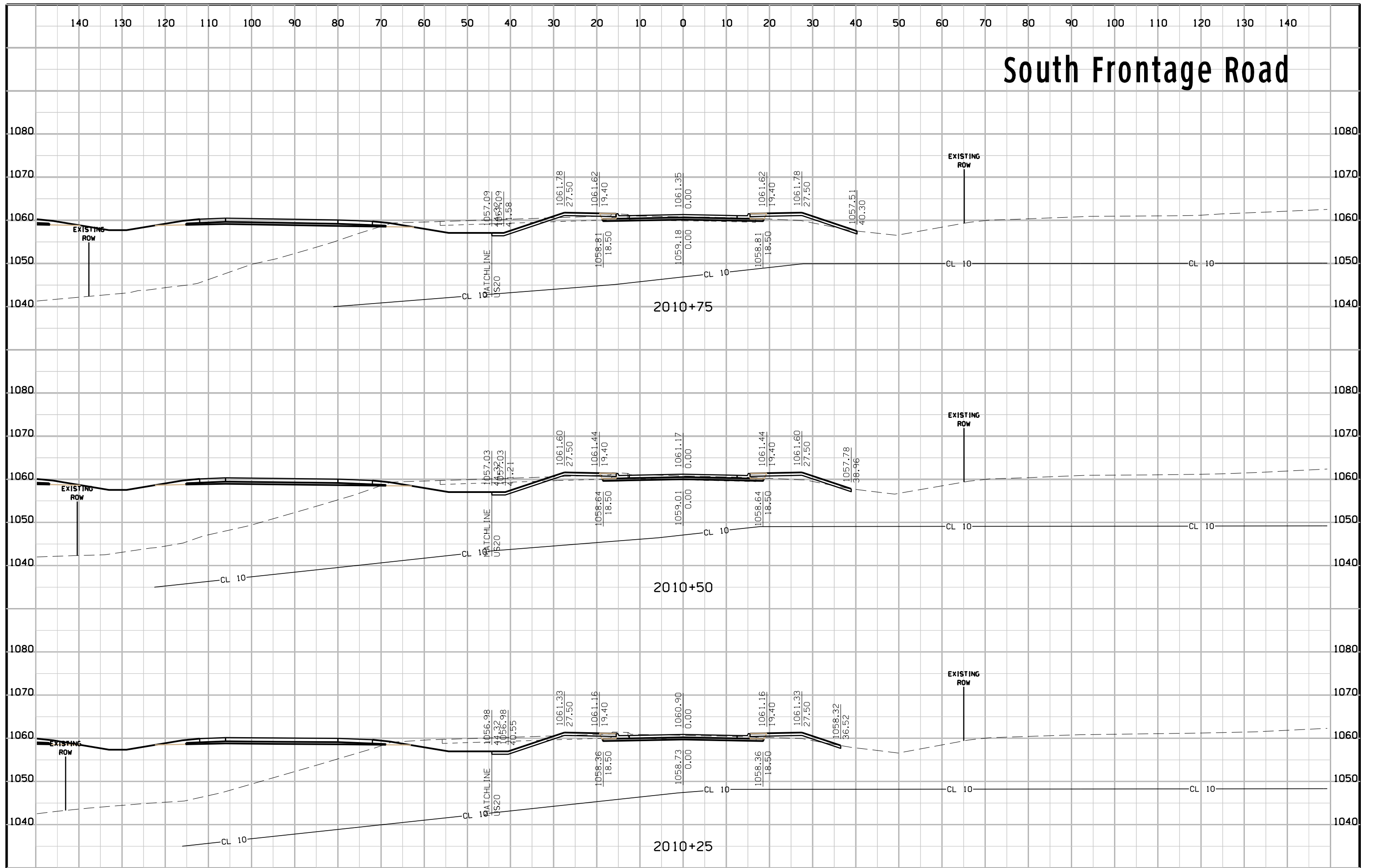
# South Frontage Road



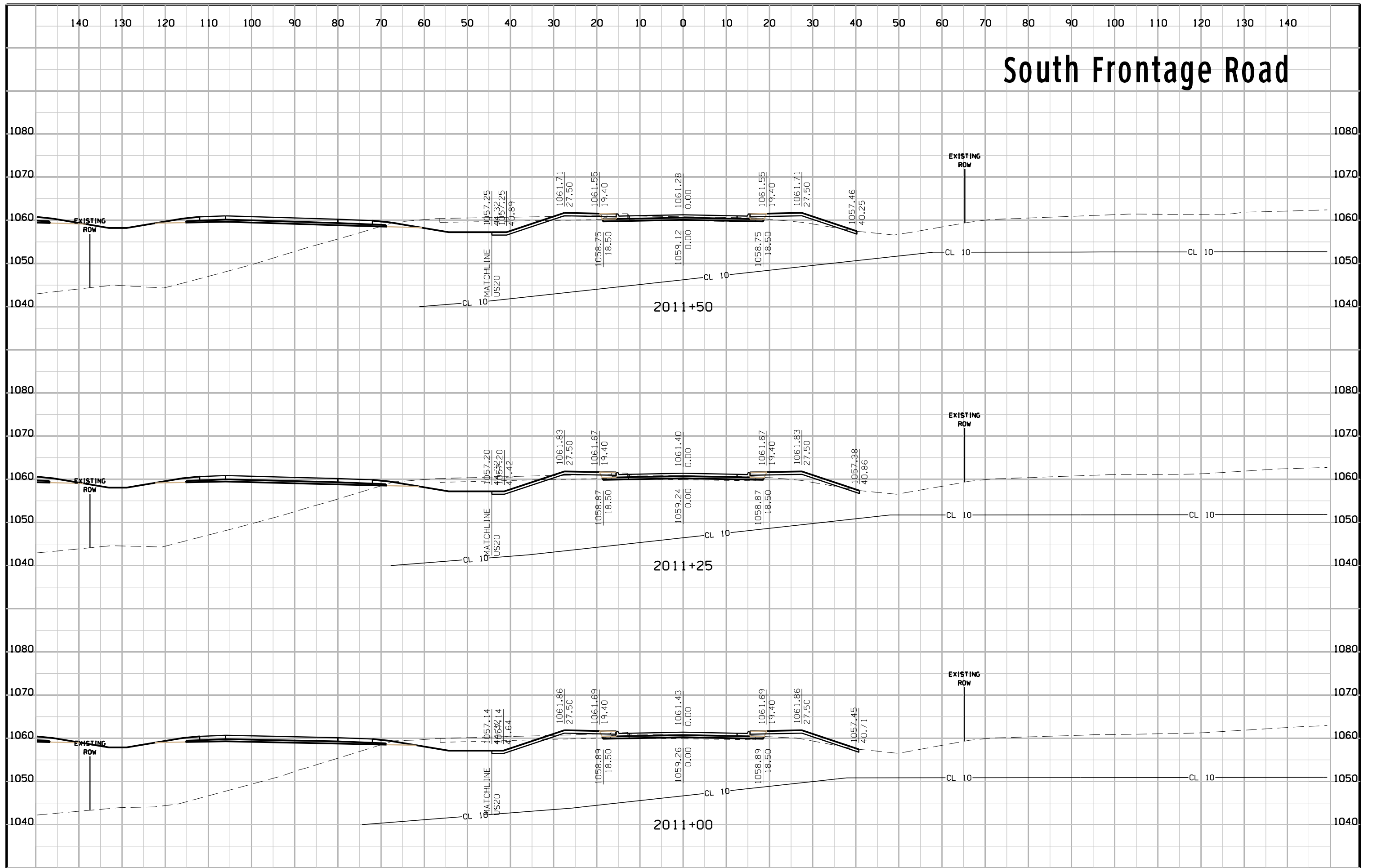
# South Frontage Road



# South Frontage Road

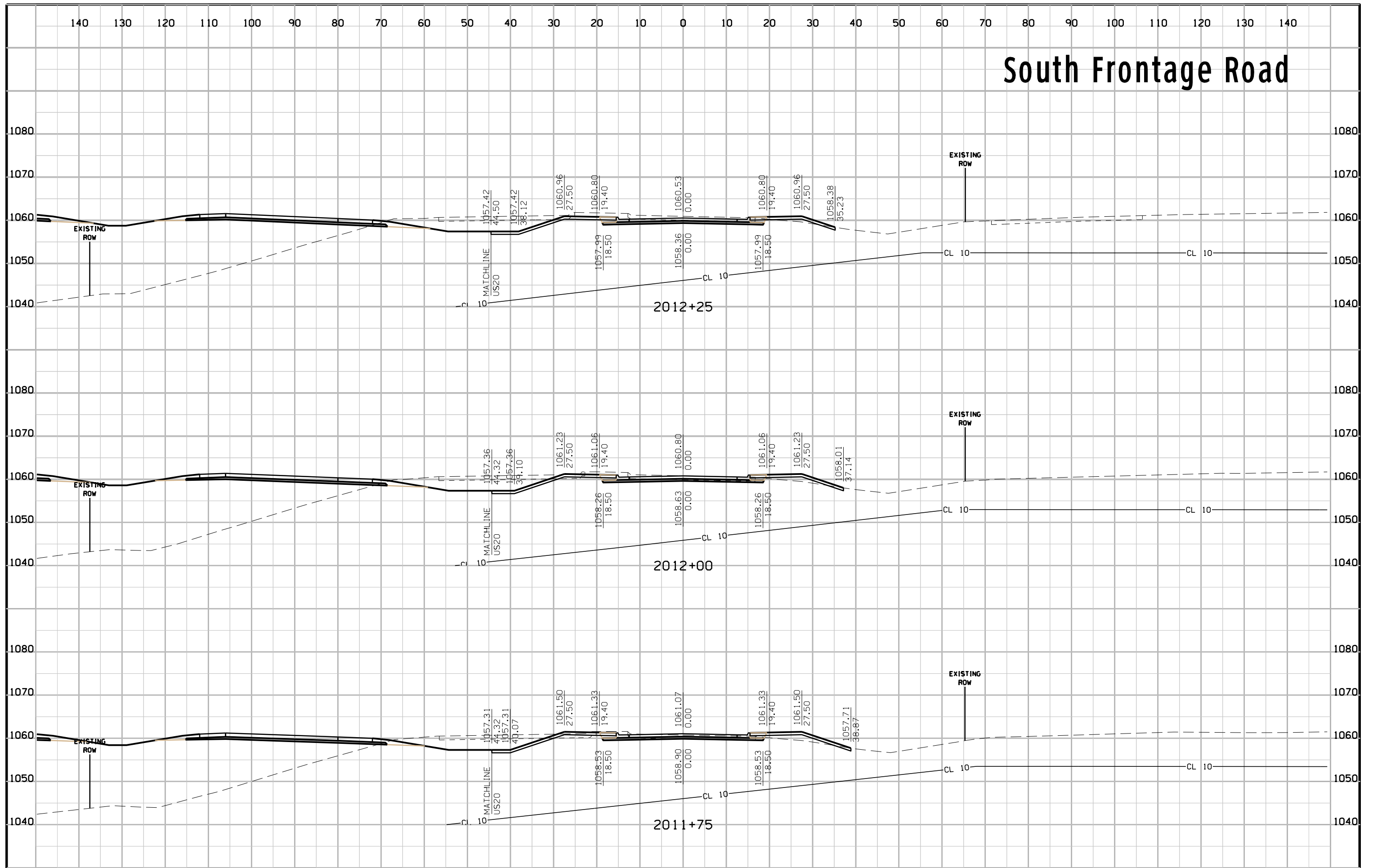


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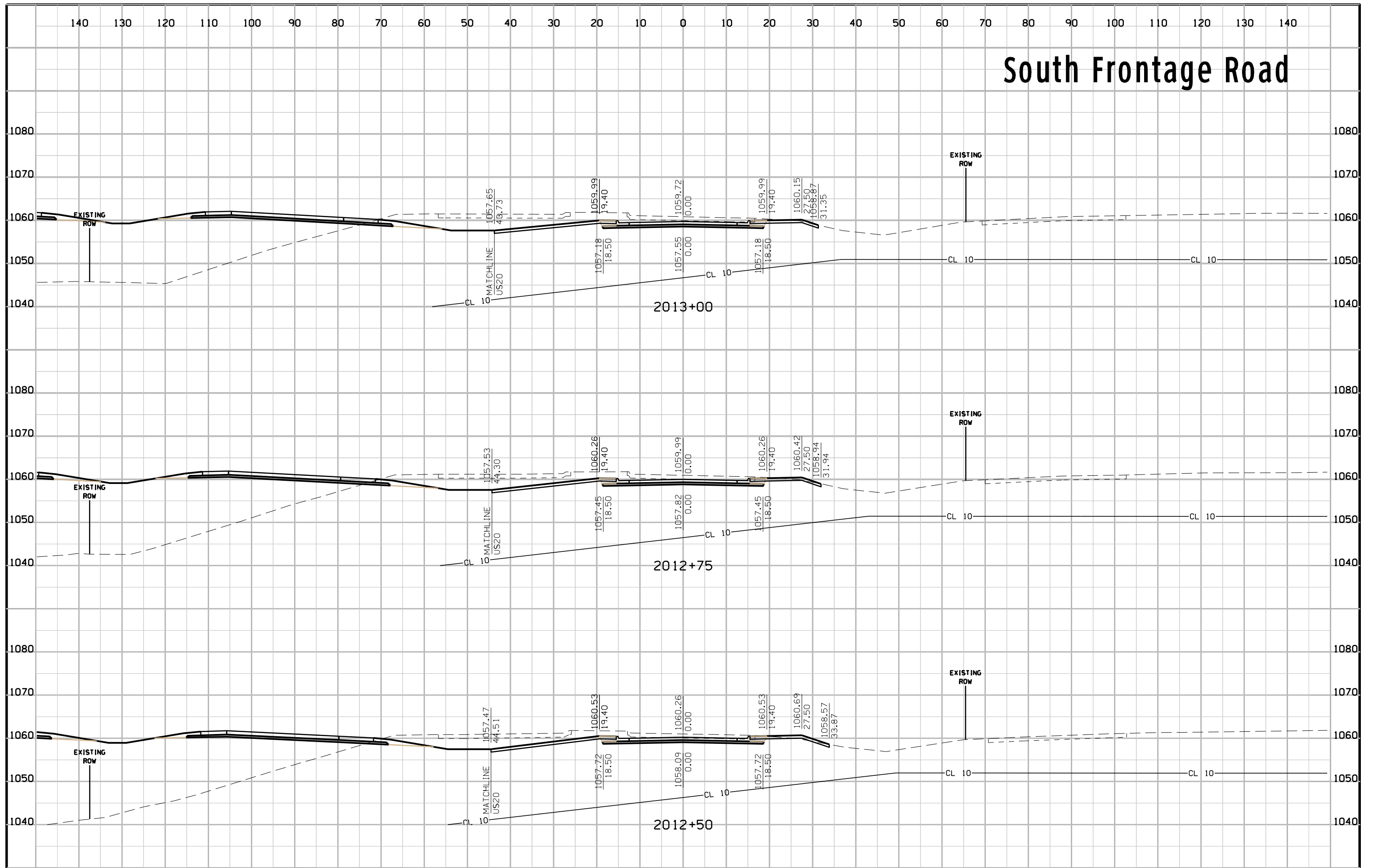




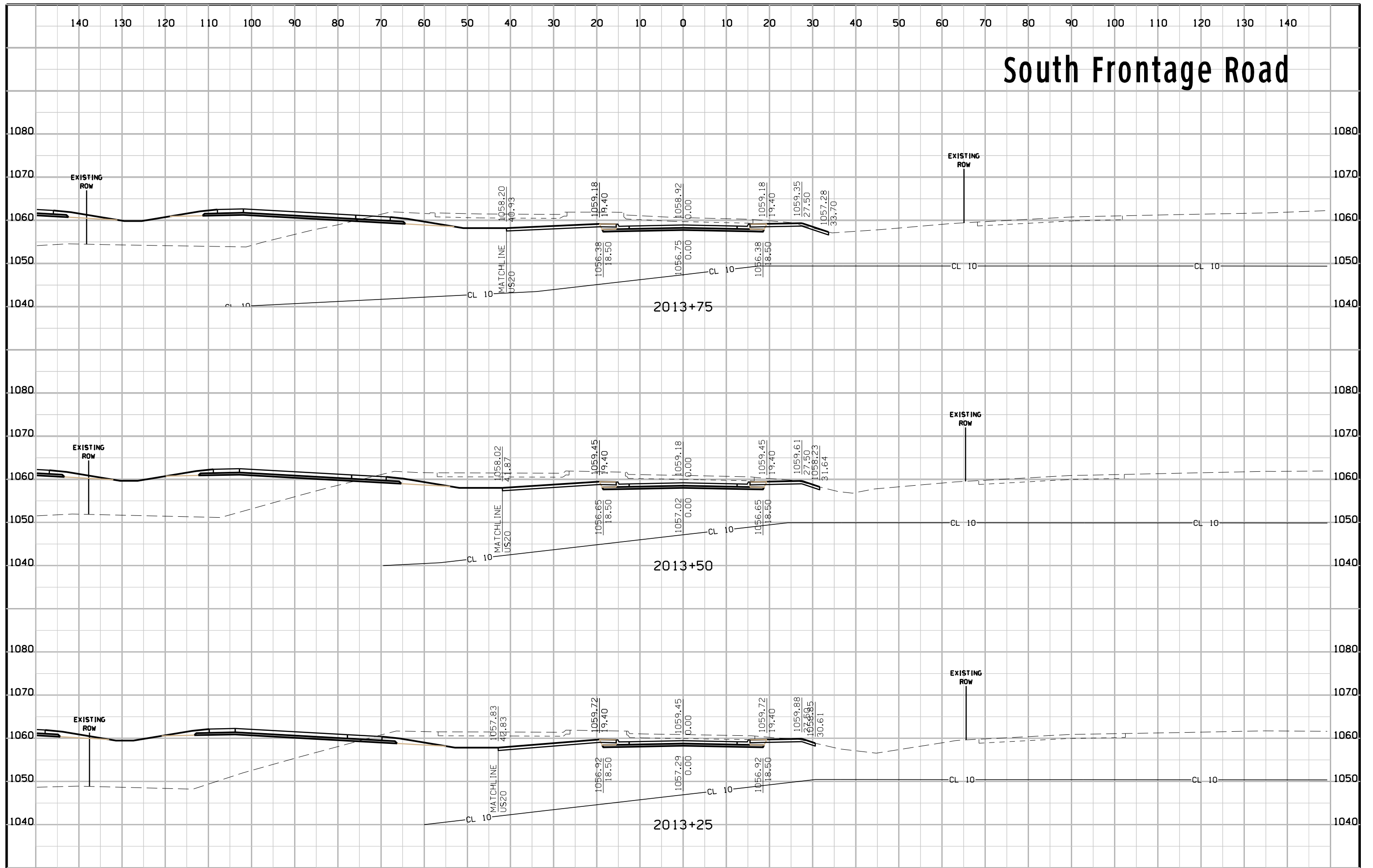
# South Frontage Road



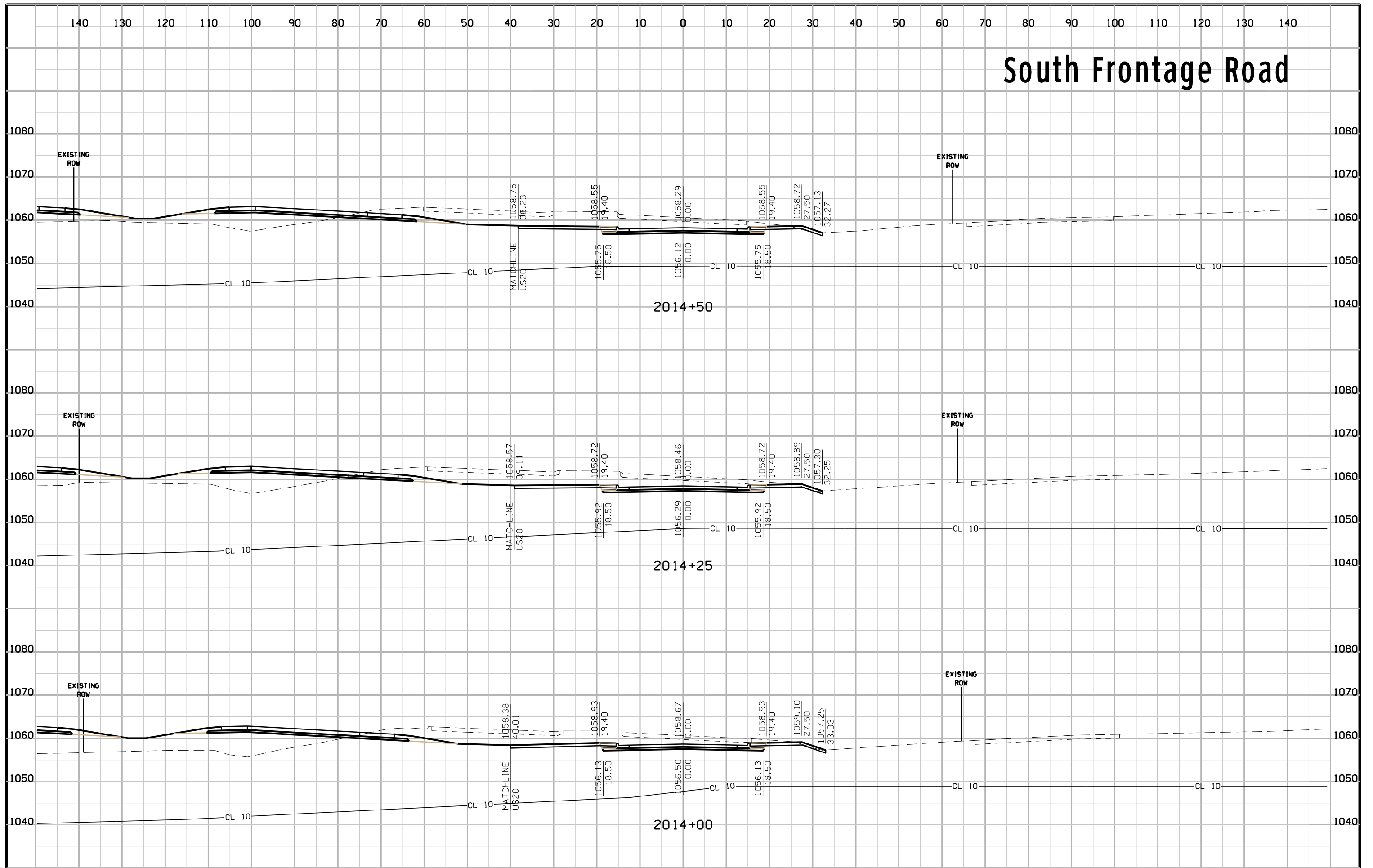
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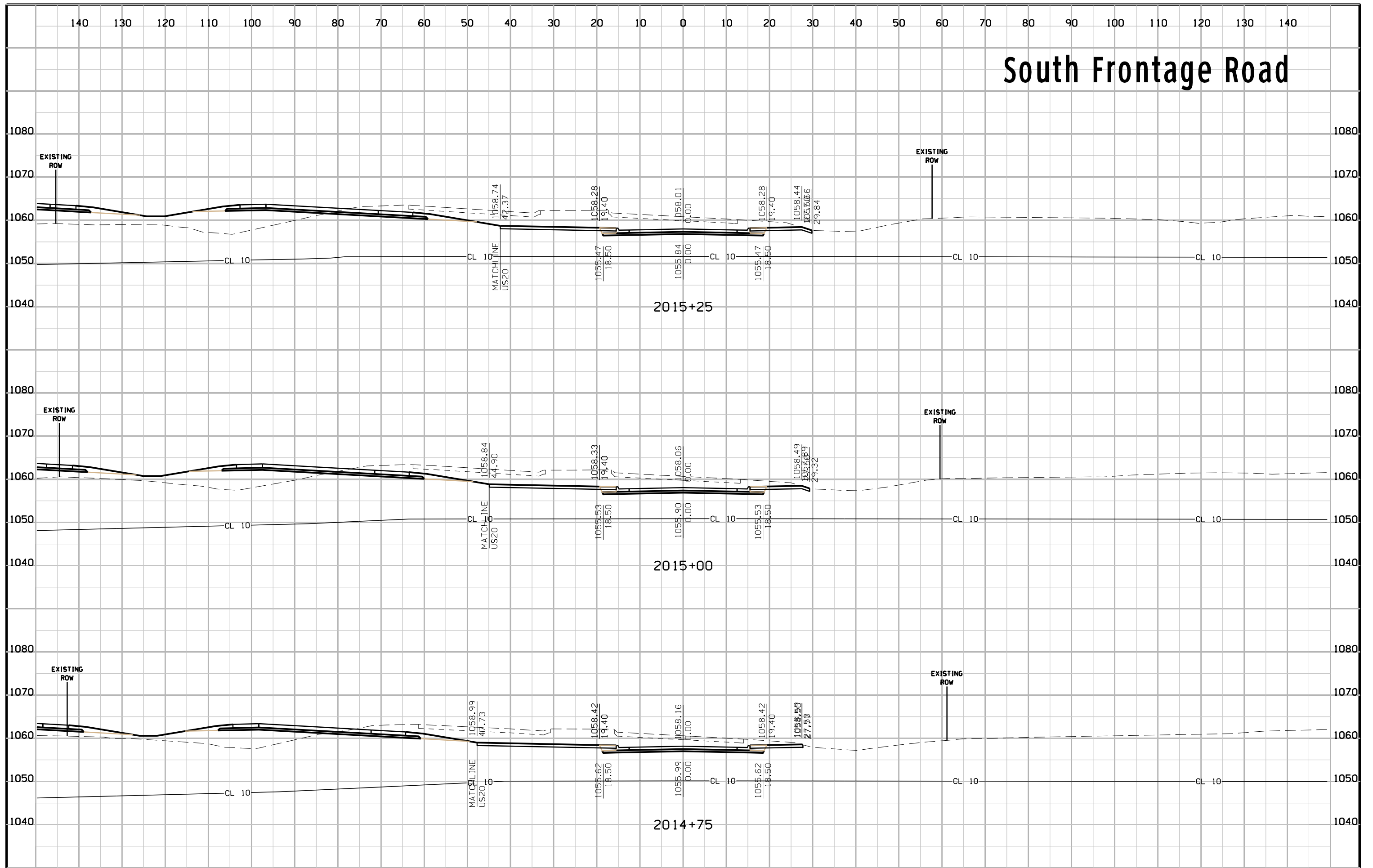
# South Frontage Road



# South Frontage Road

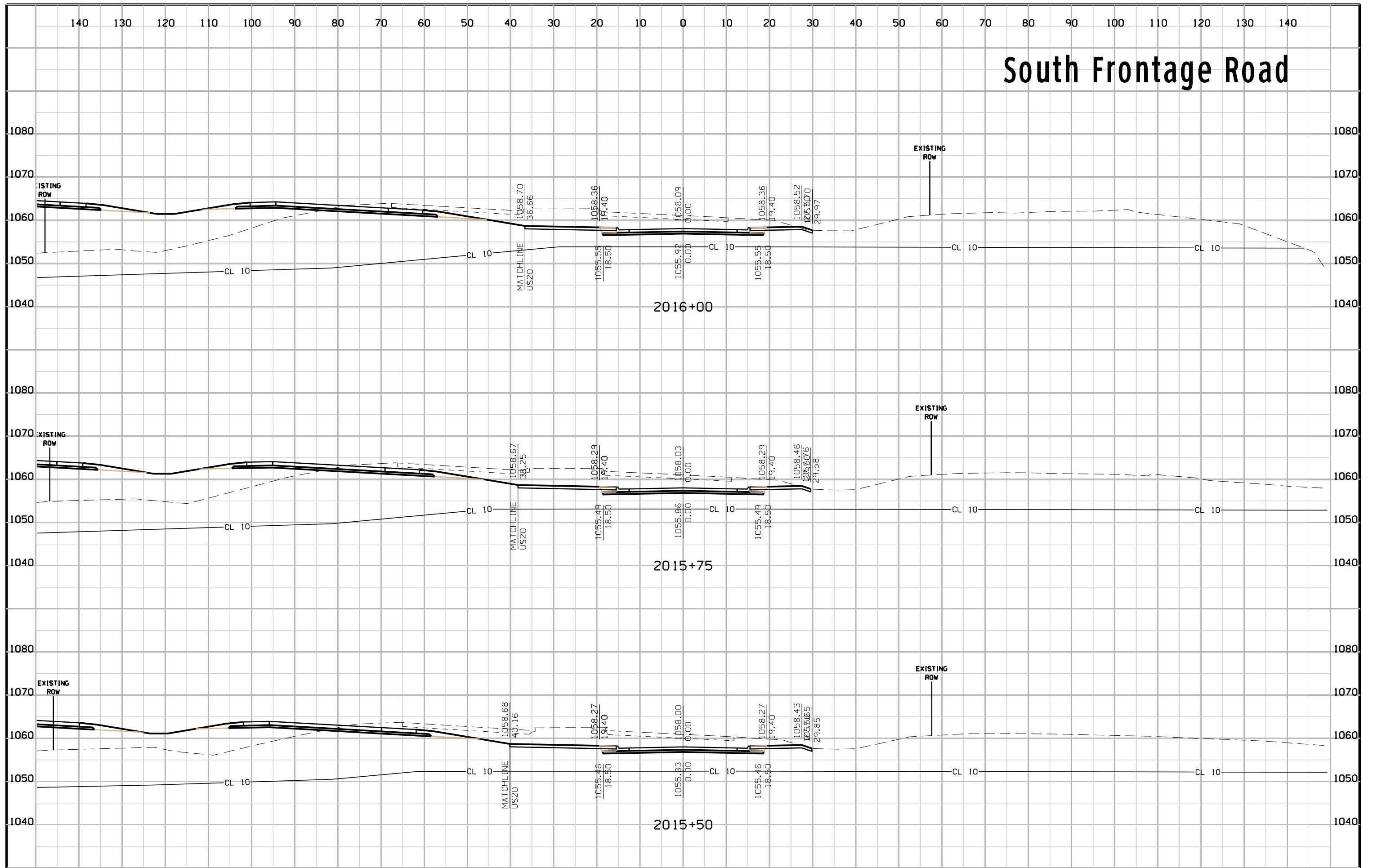


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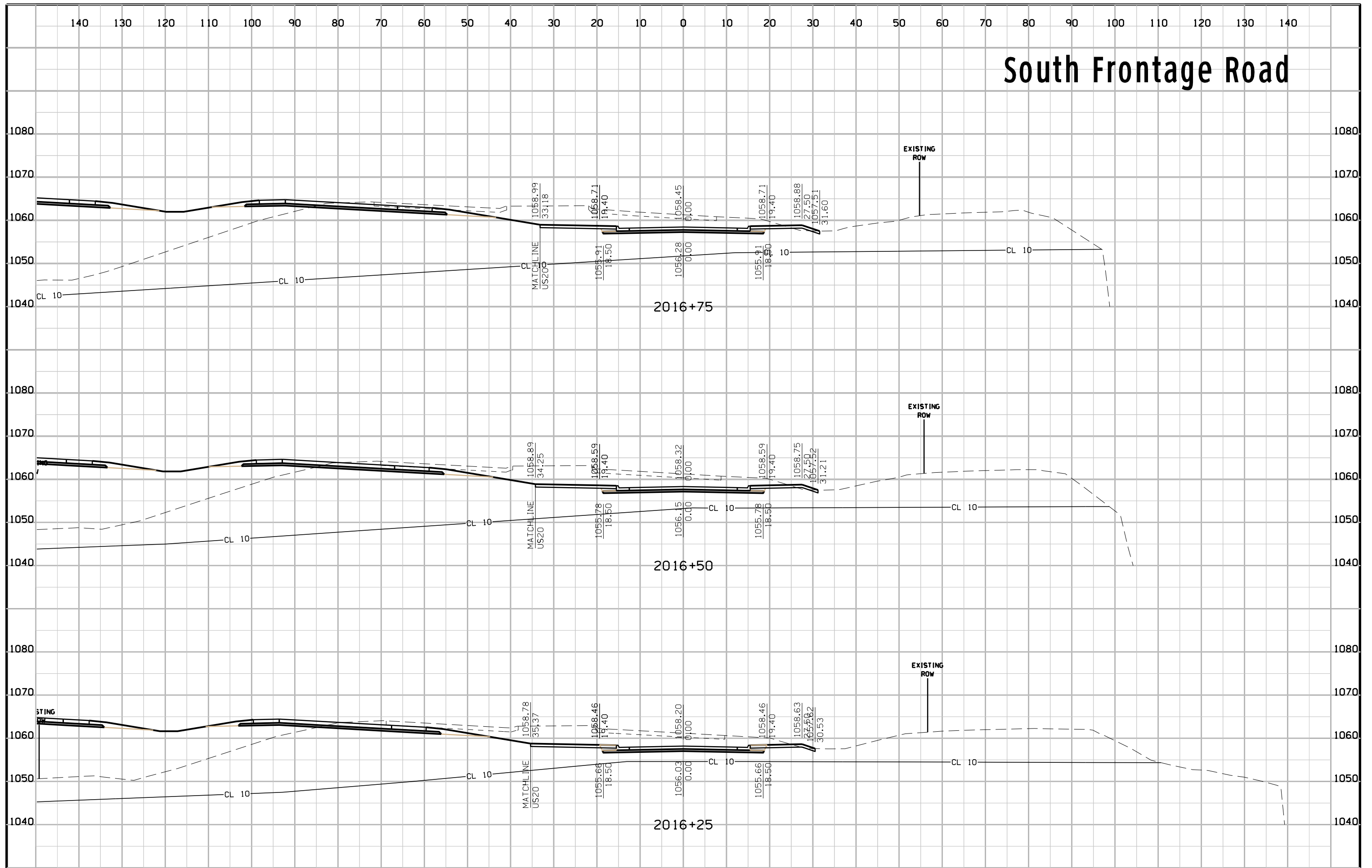




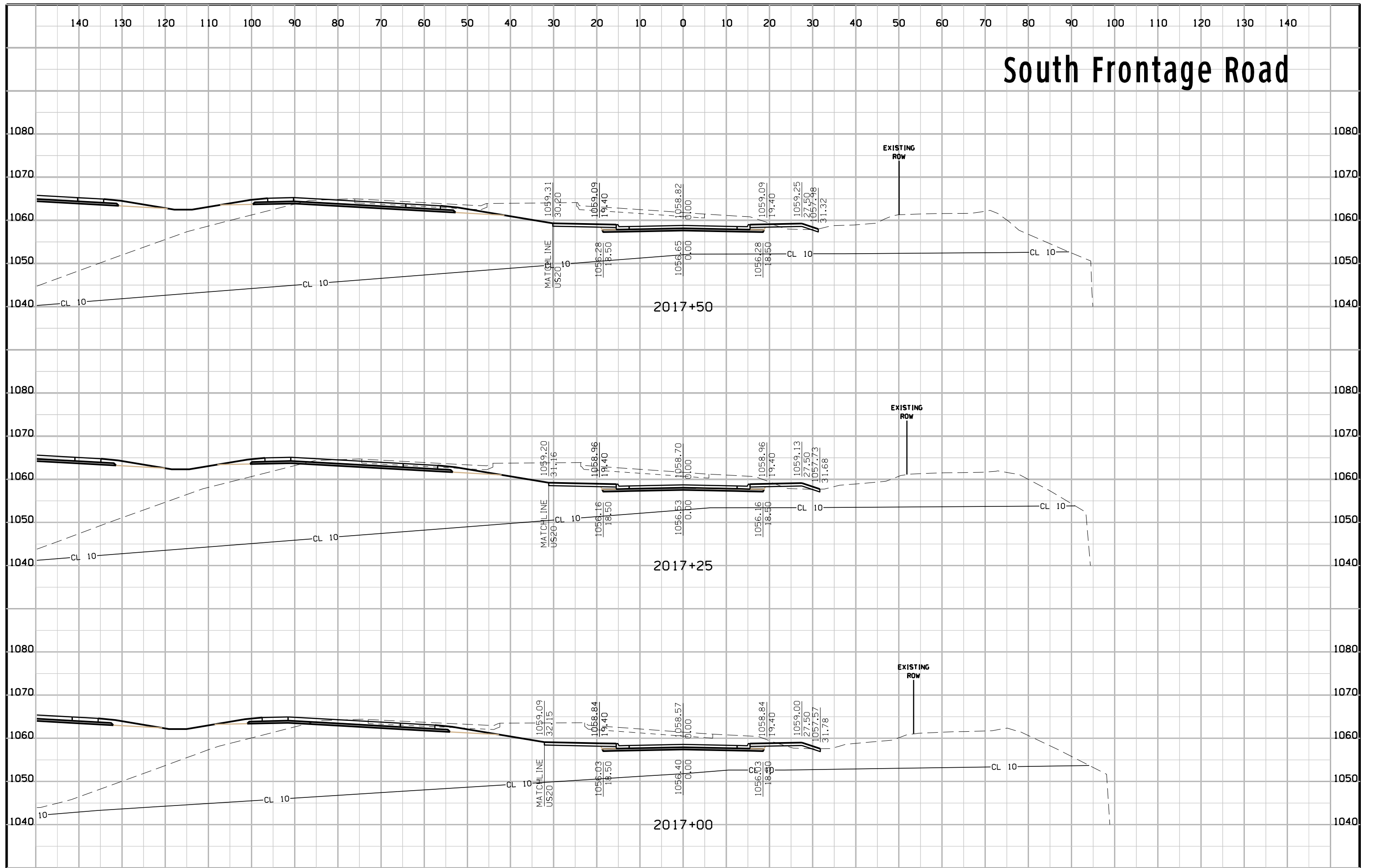
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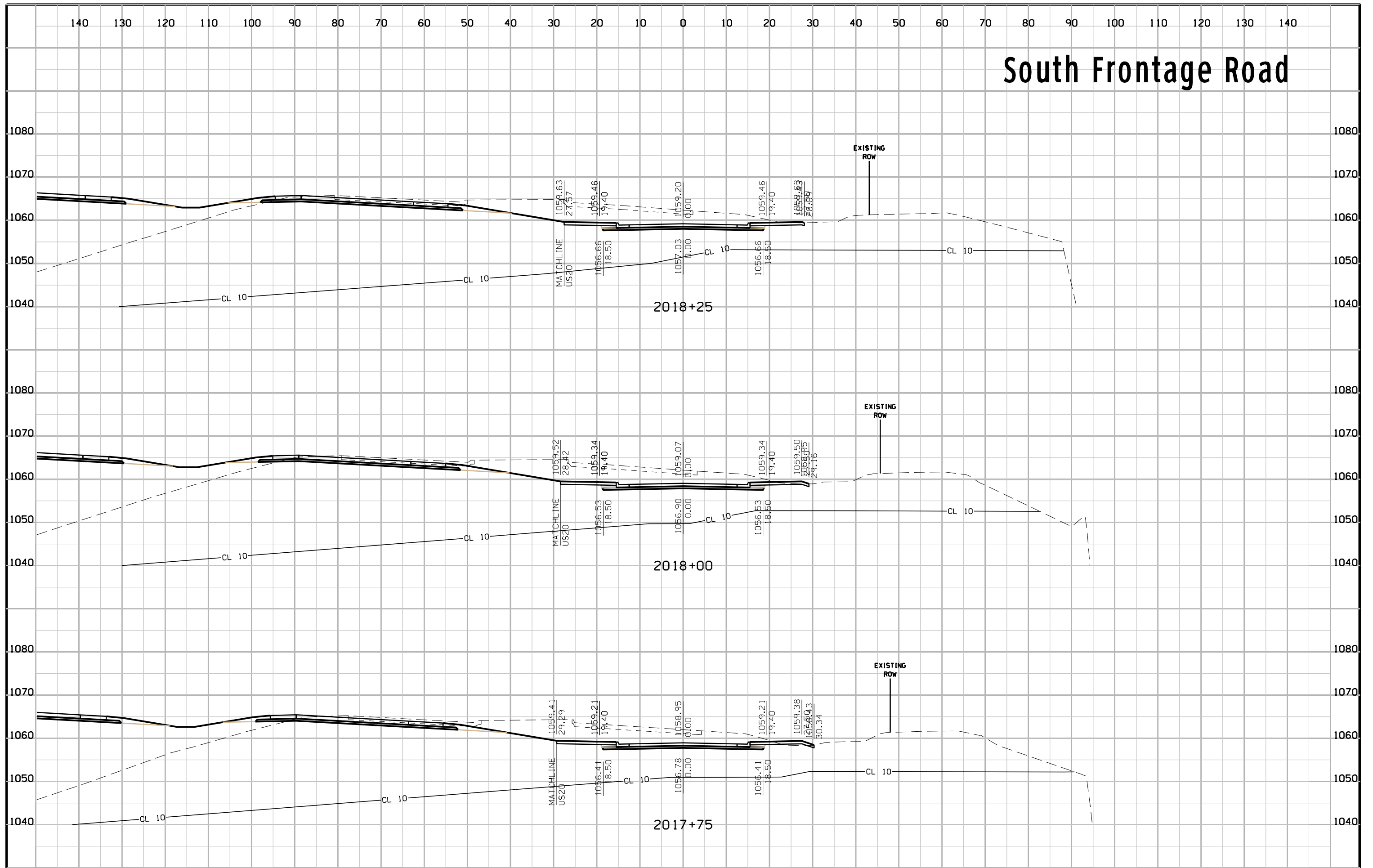
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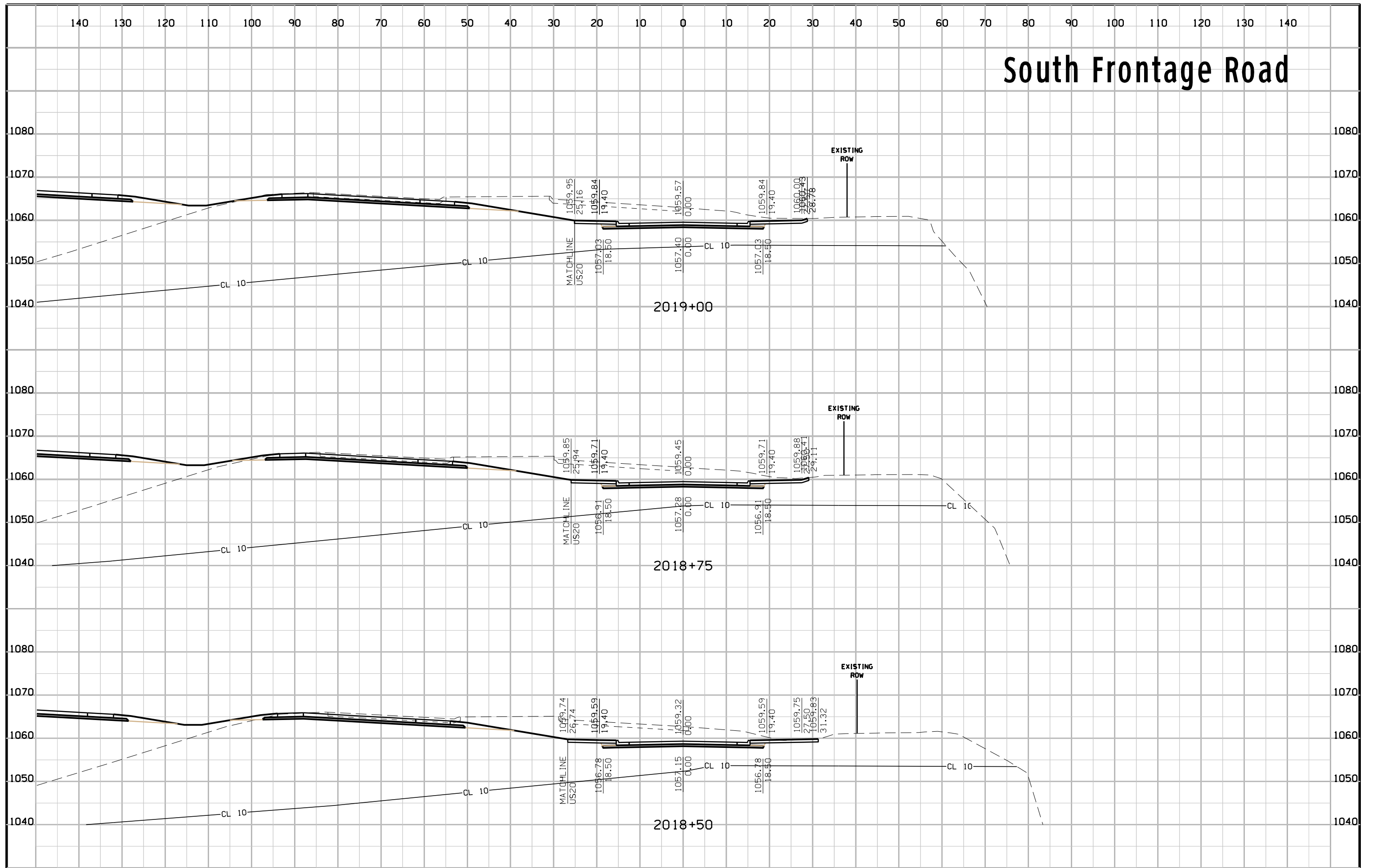
# South Frontage Road



# South Frontage Road

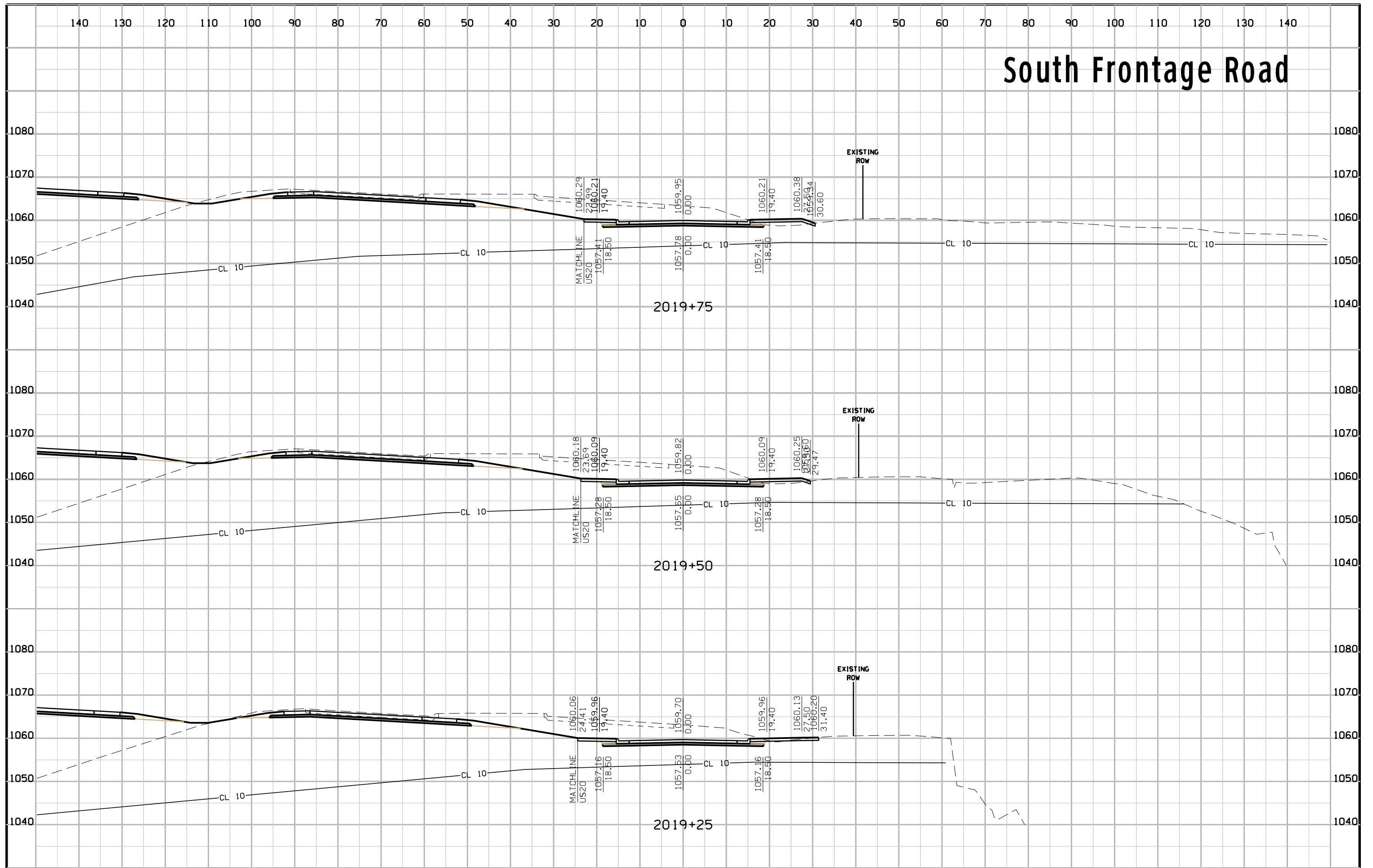


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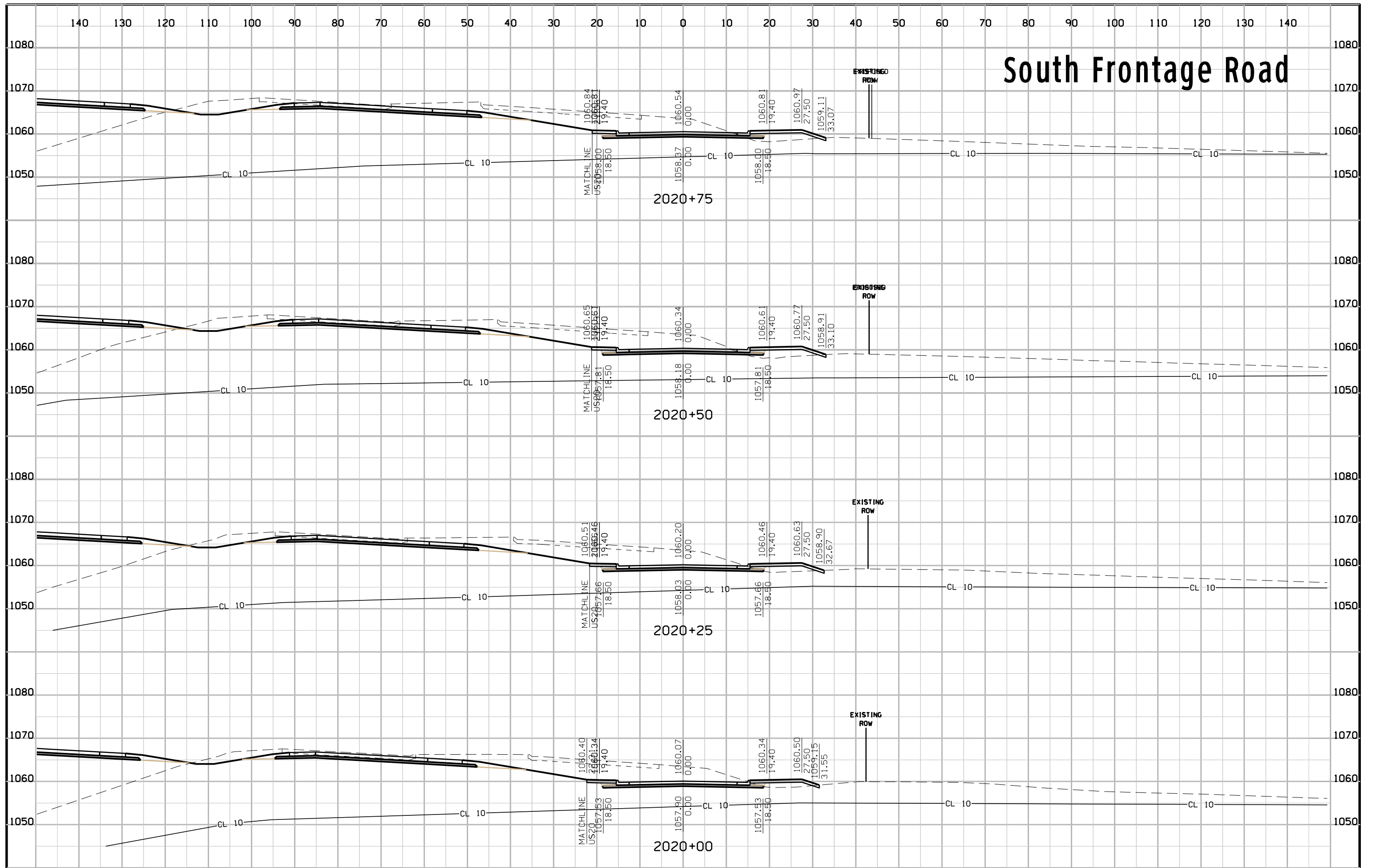




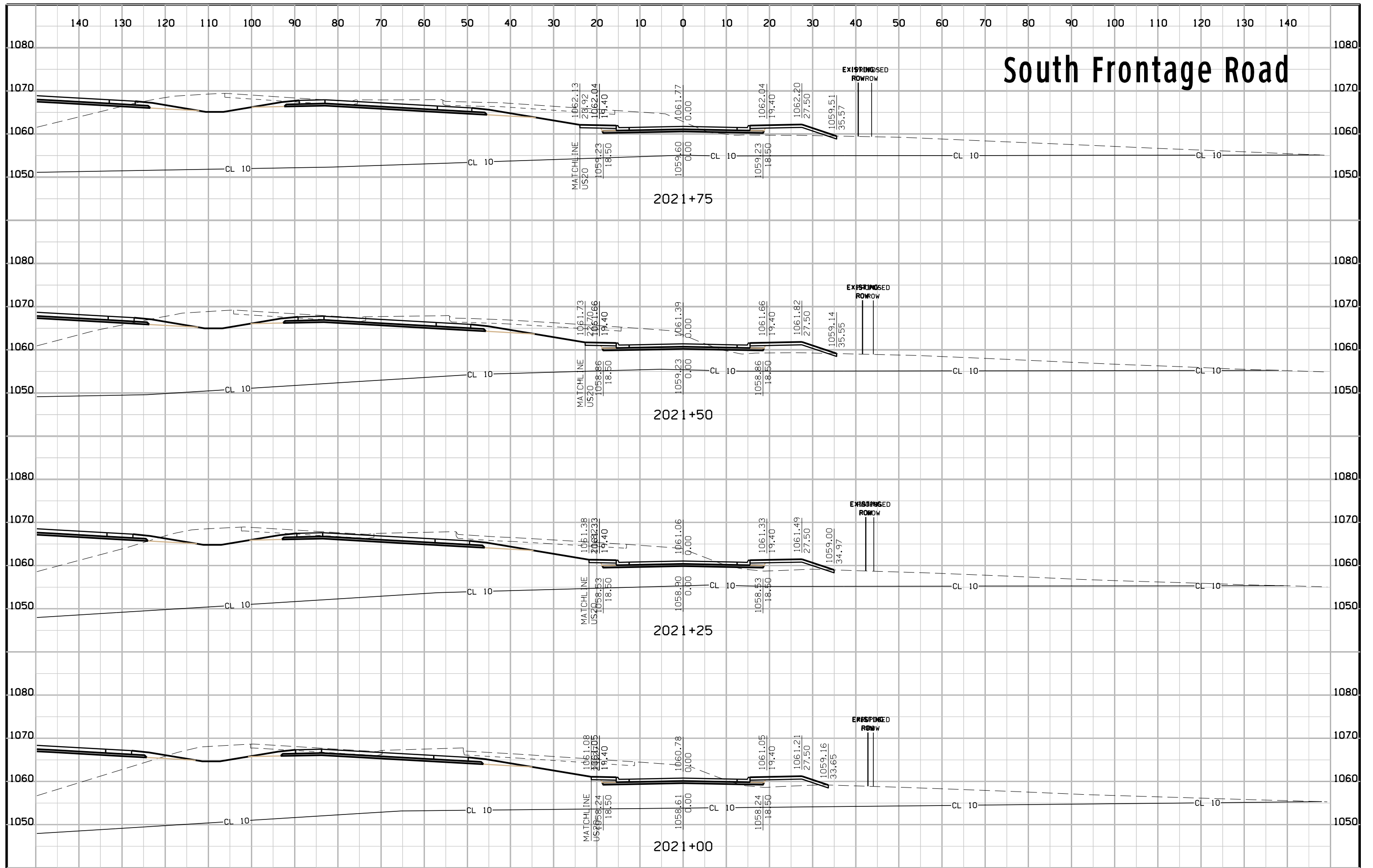
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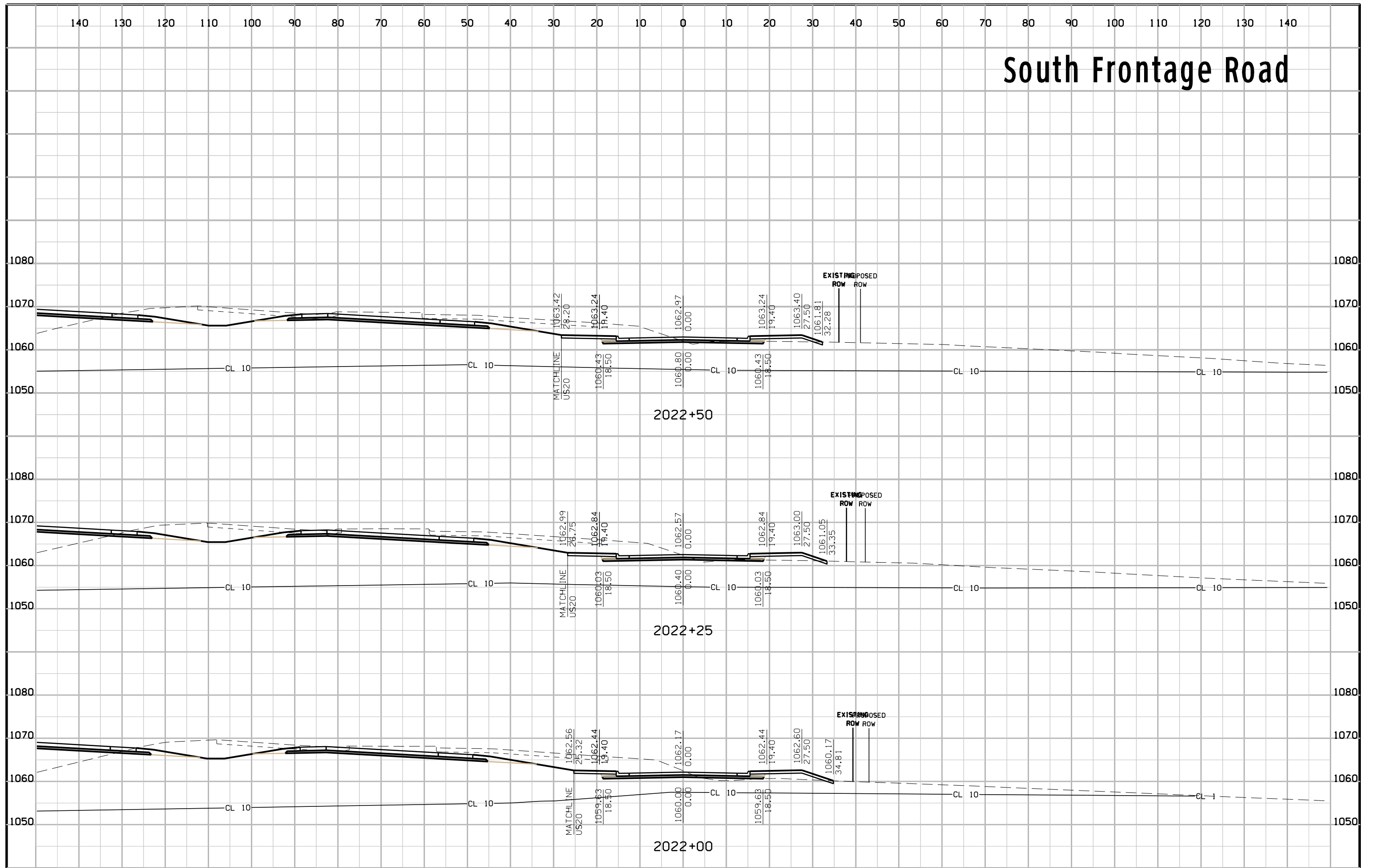
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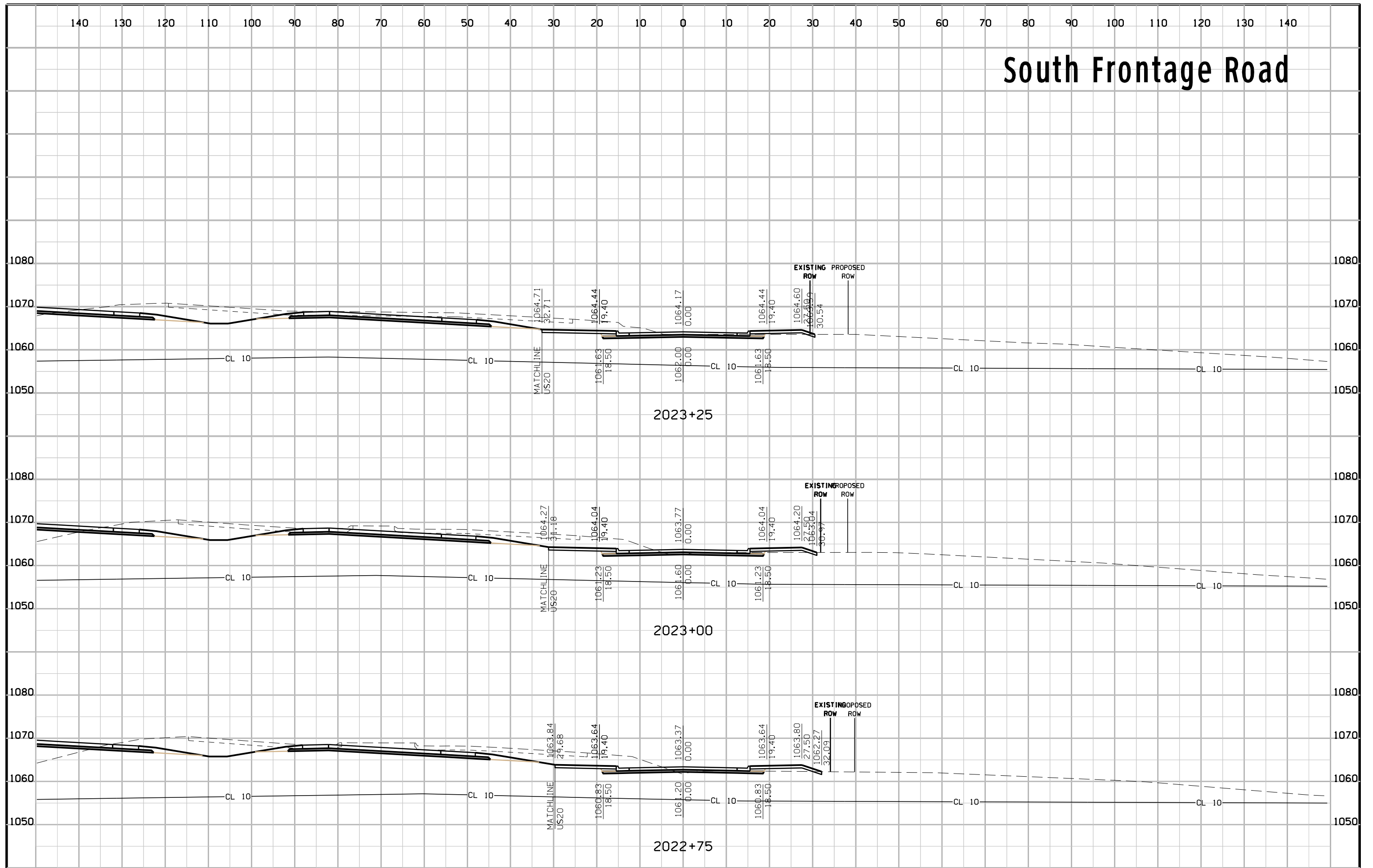
# South Frontage Road



# South Frontage Road

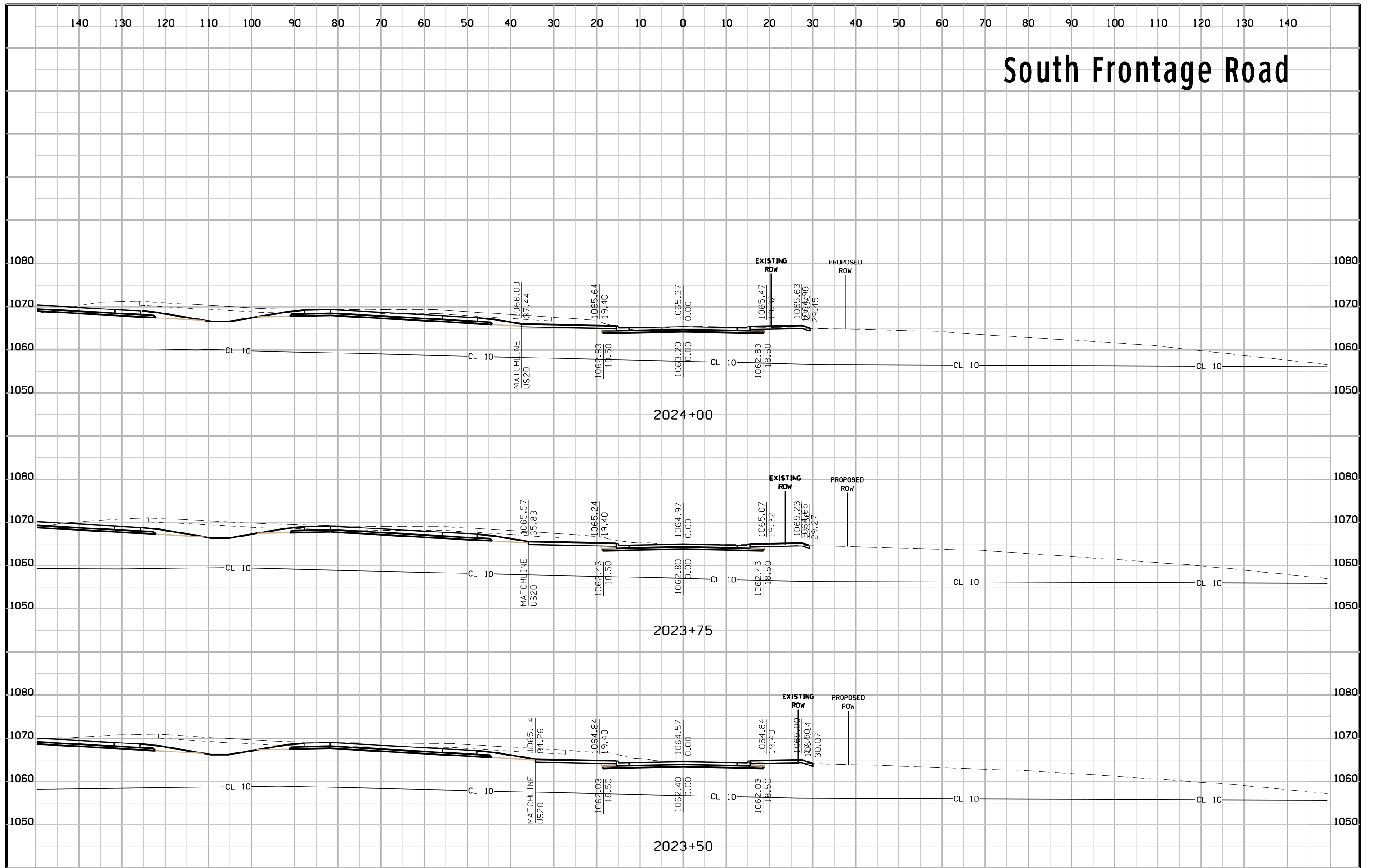


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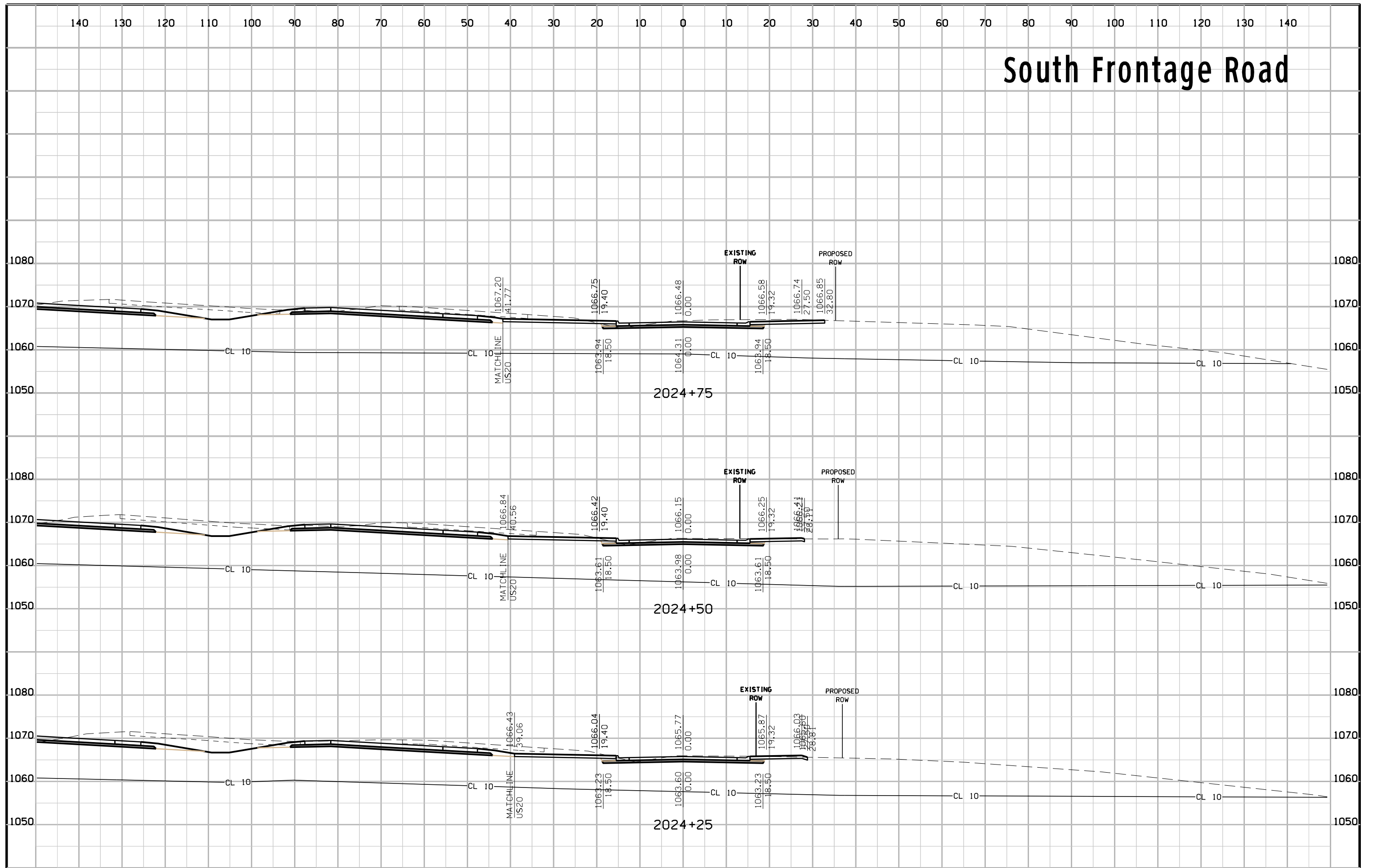




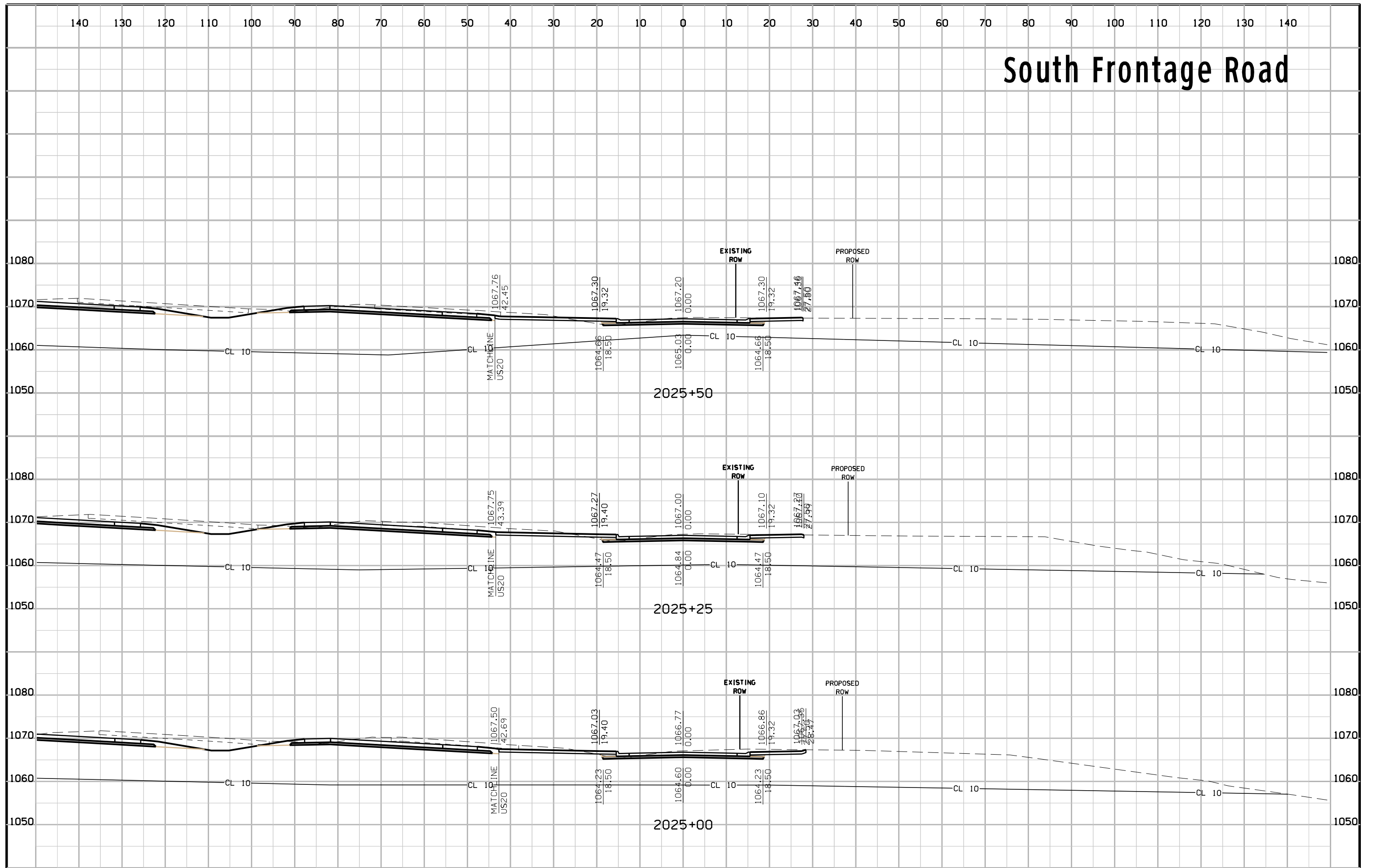
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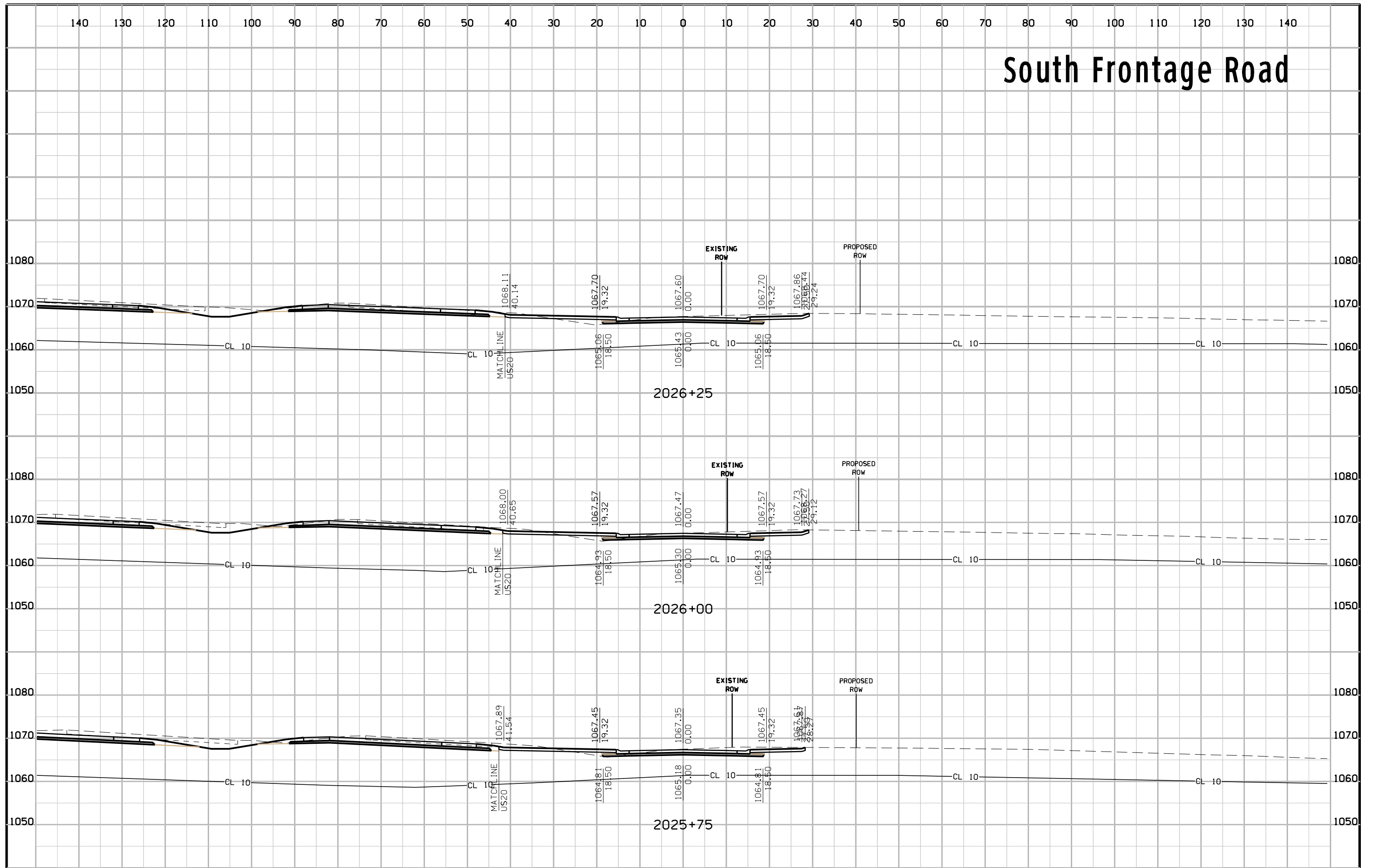
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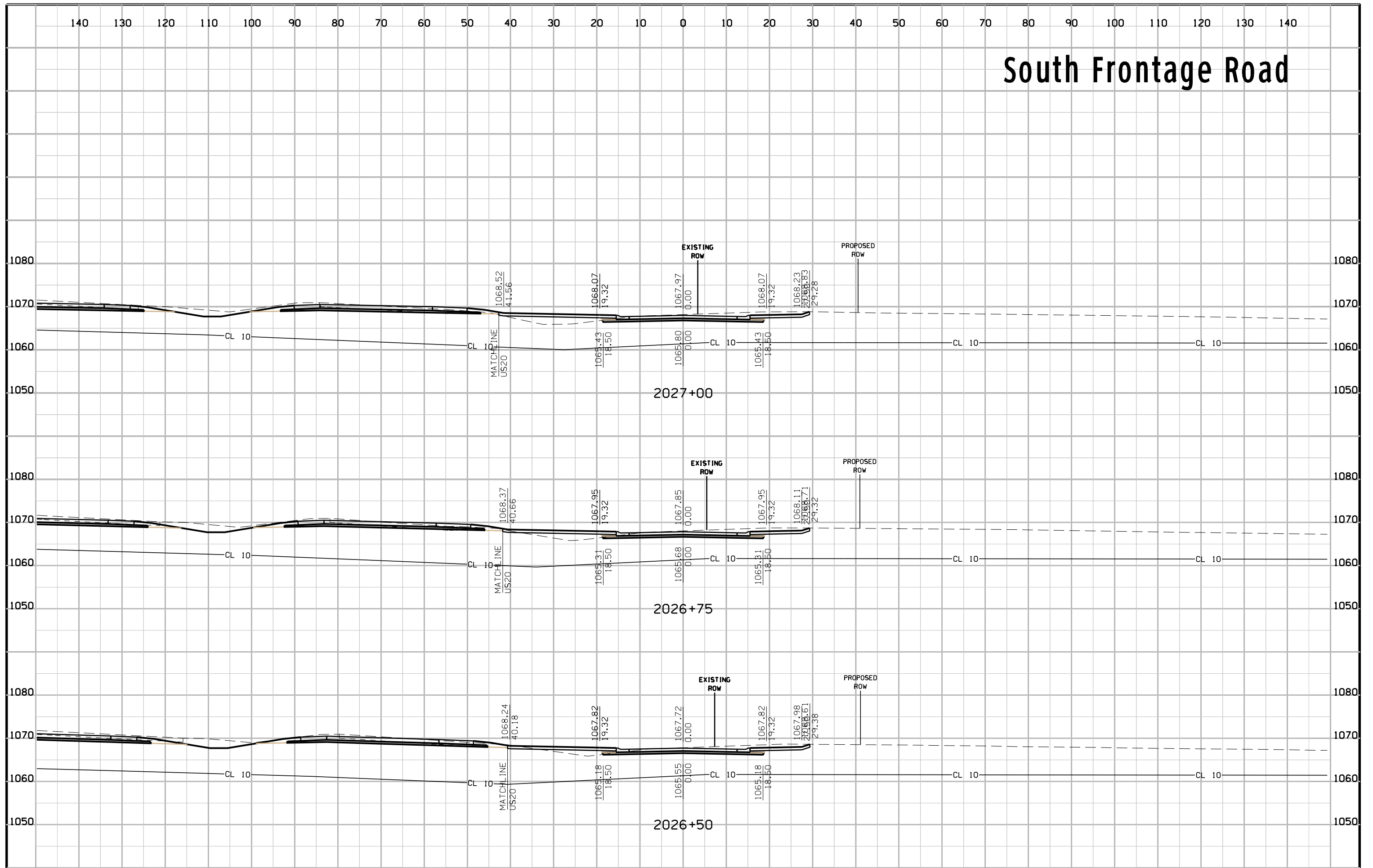
# South Frontage Road



# South Frontage Road

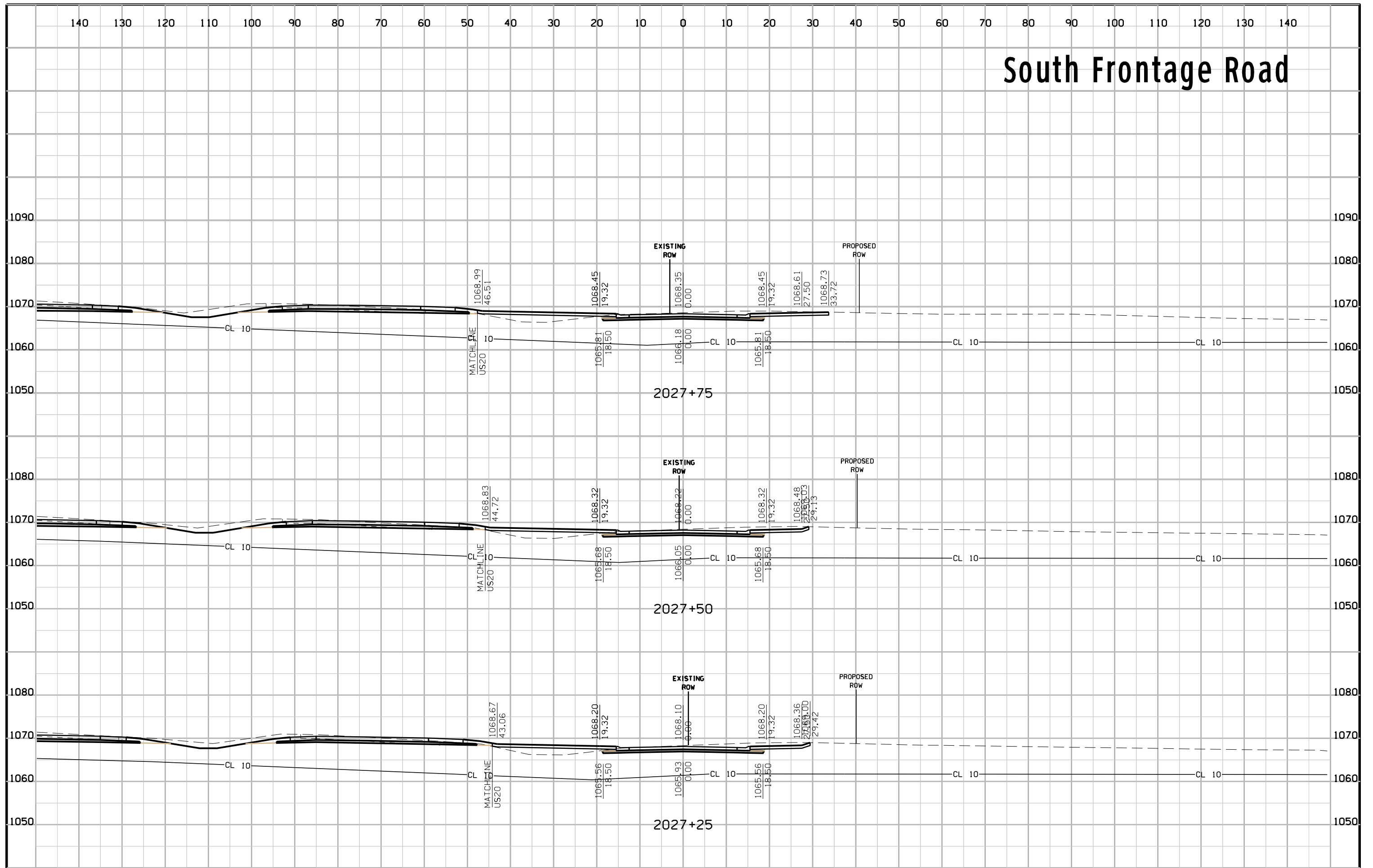


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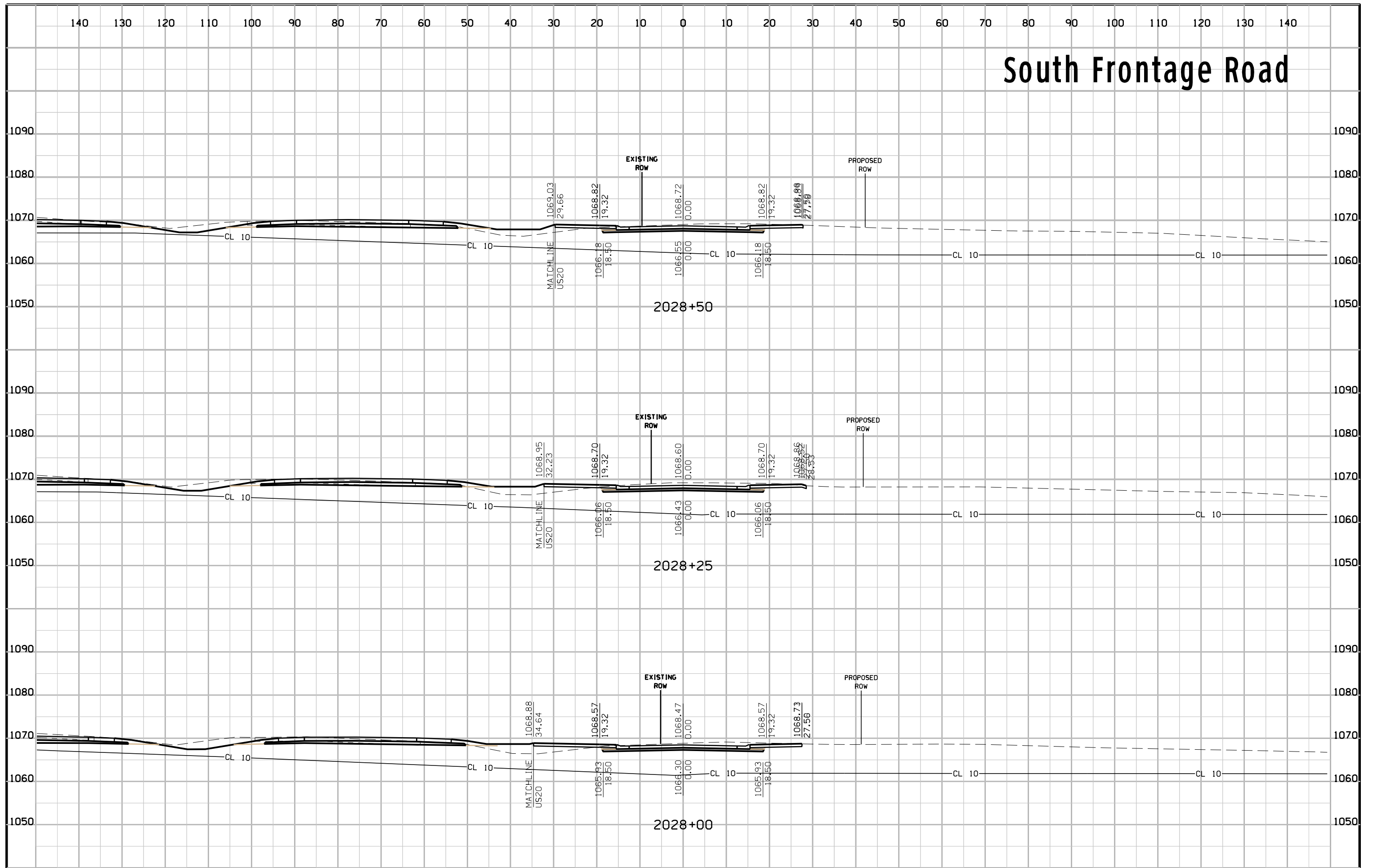




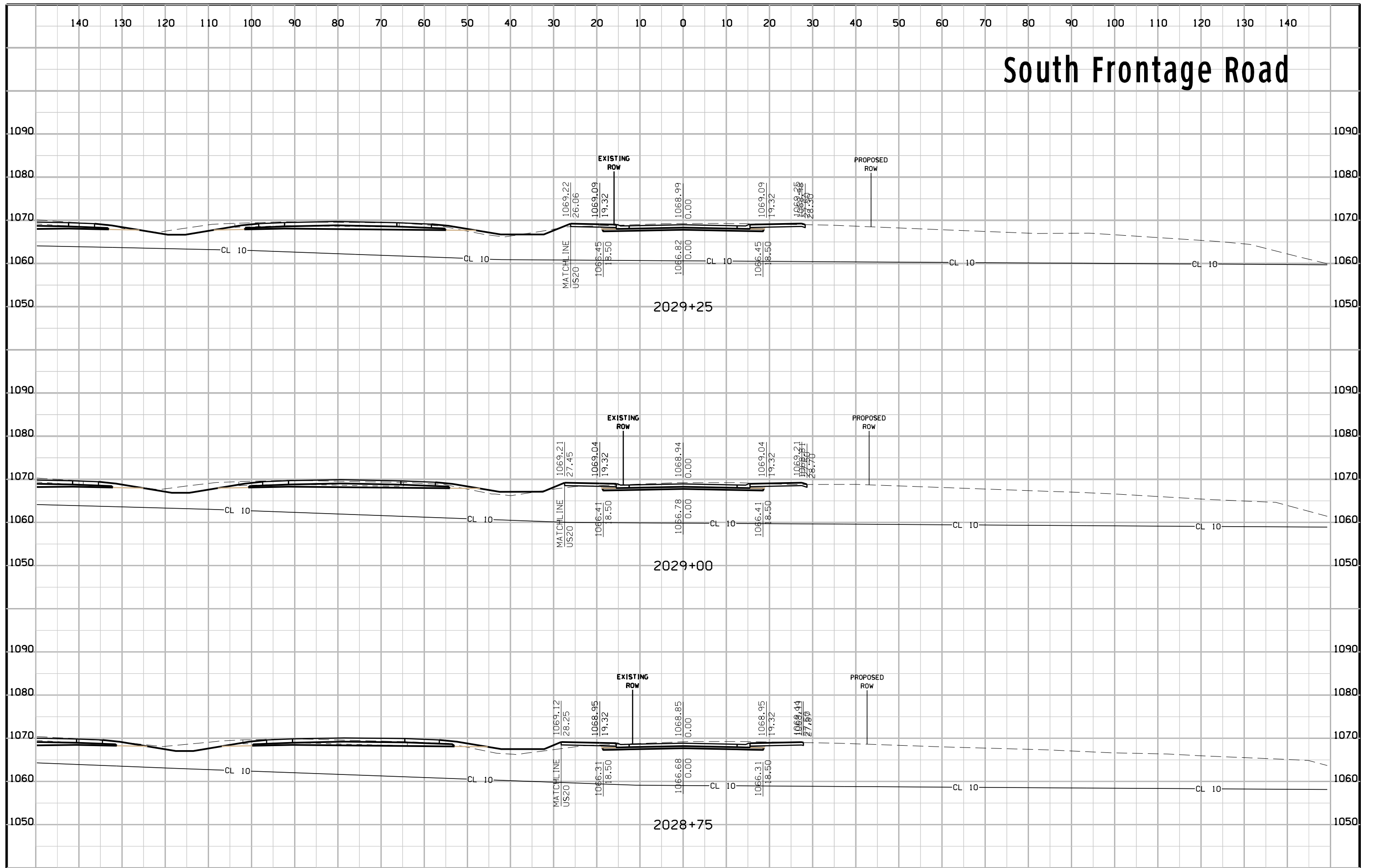
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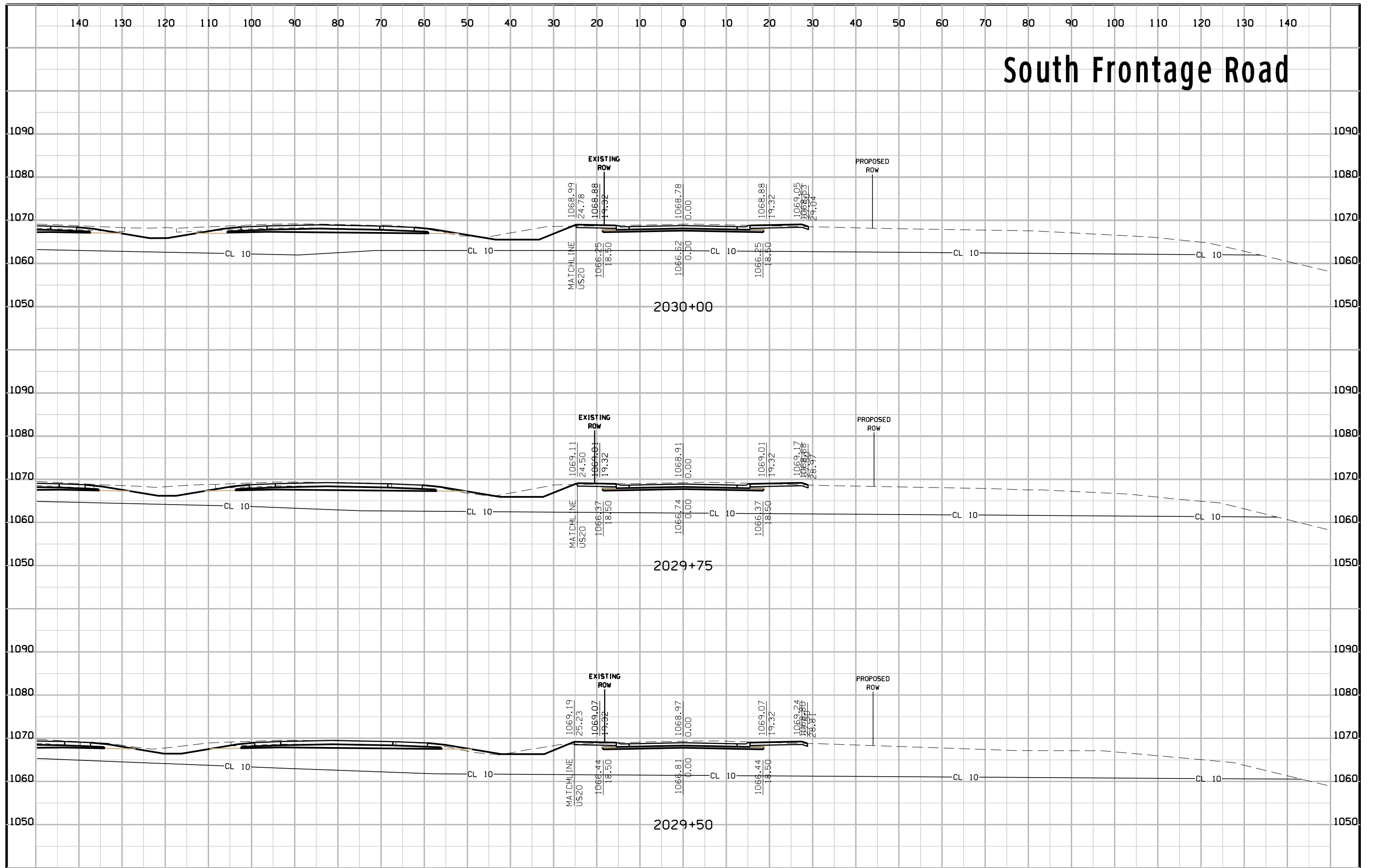
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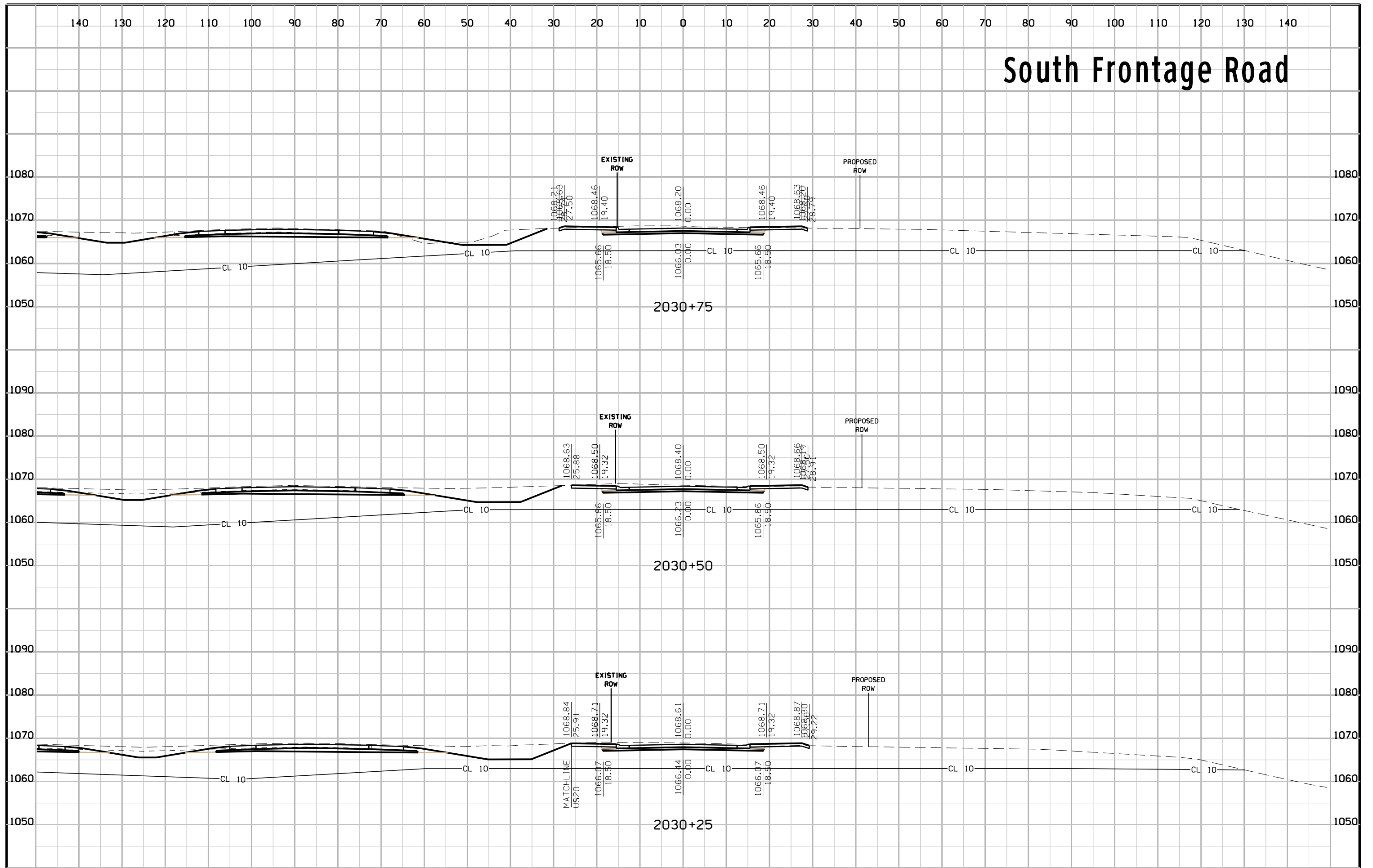
# South Frontage Road



# South Frontage Road

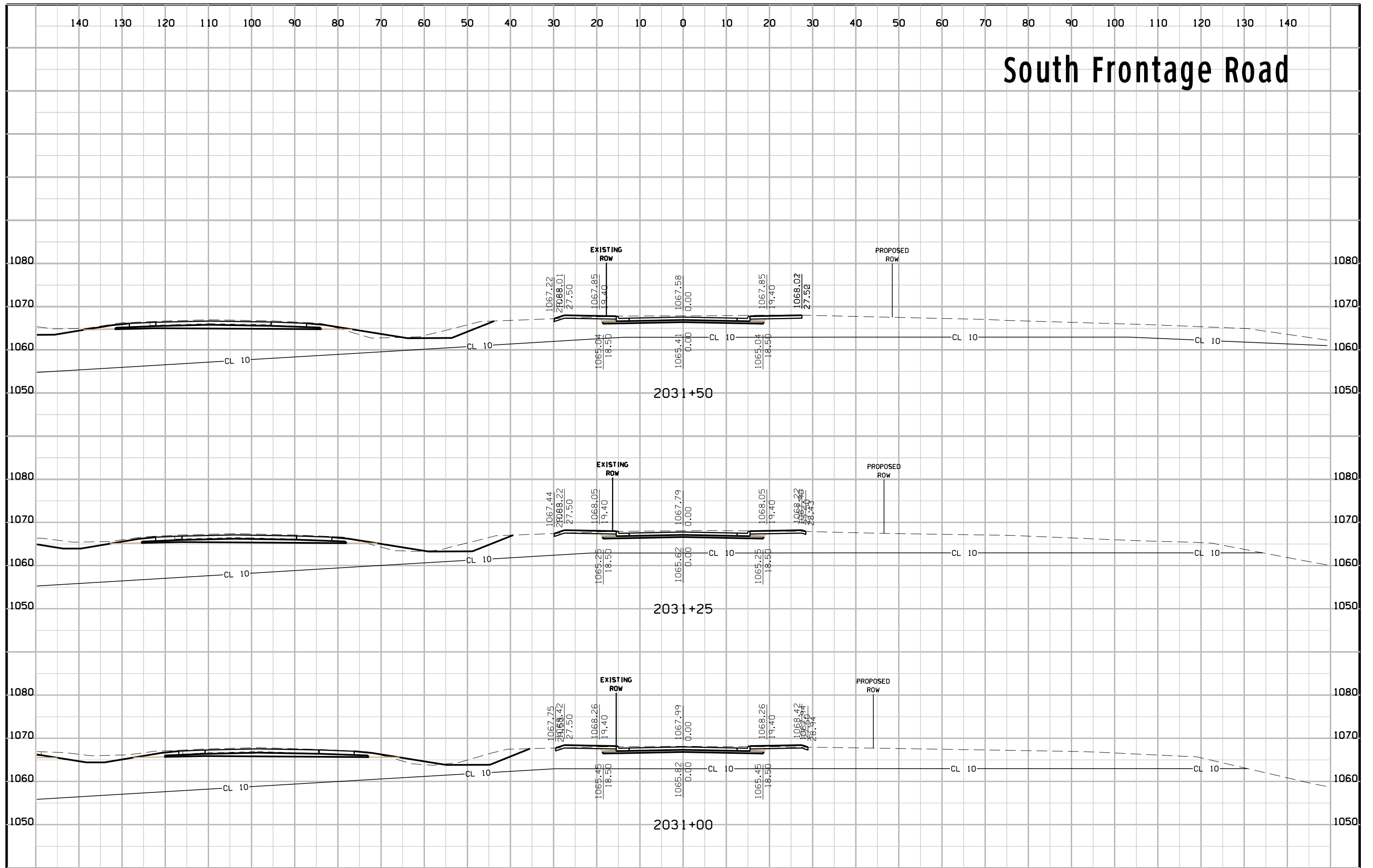


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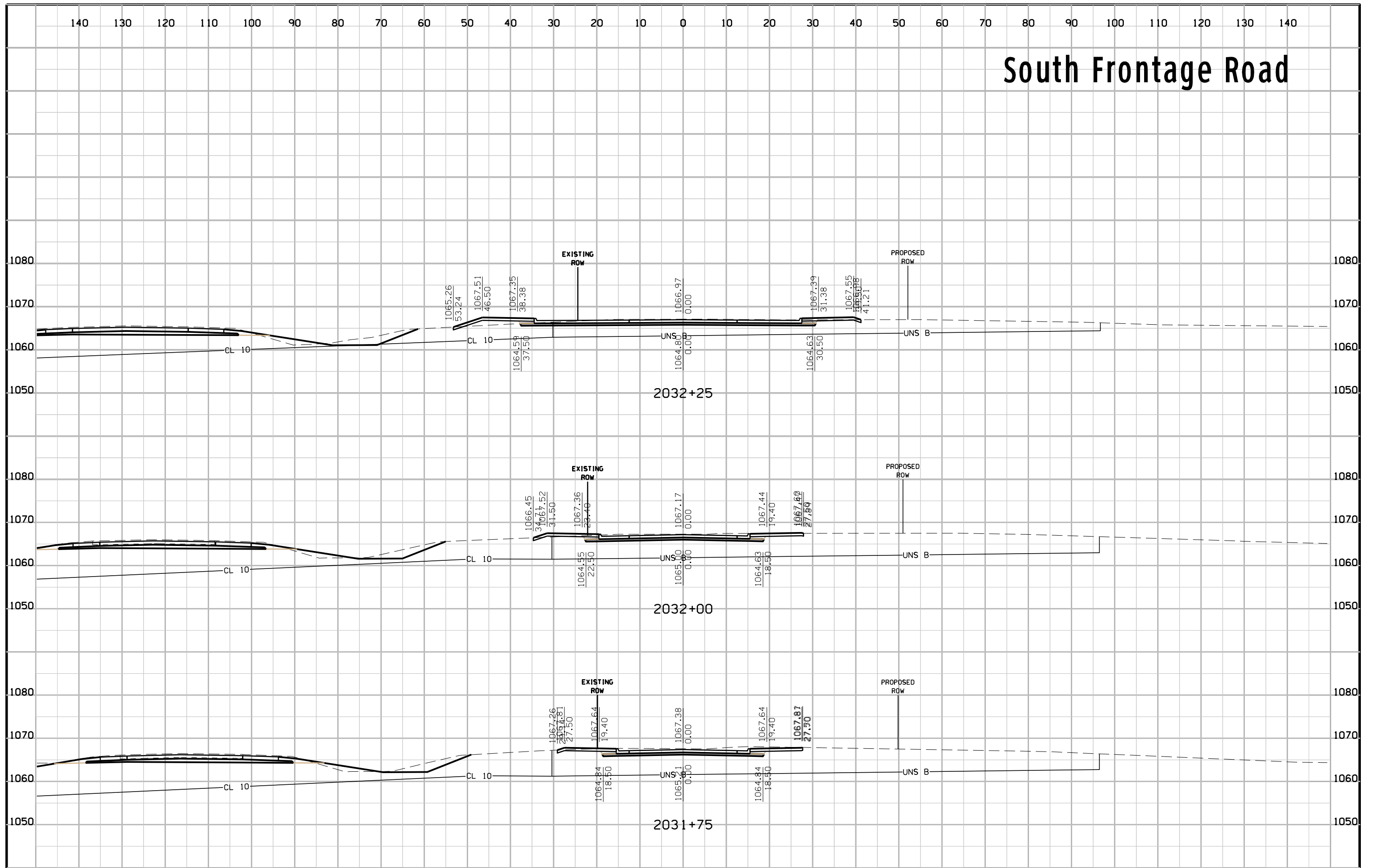




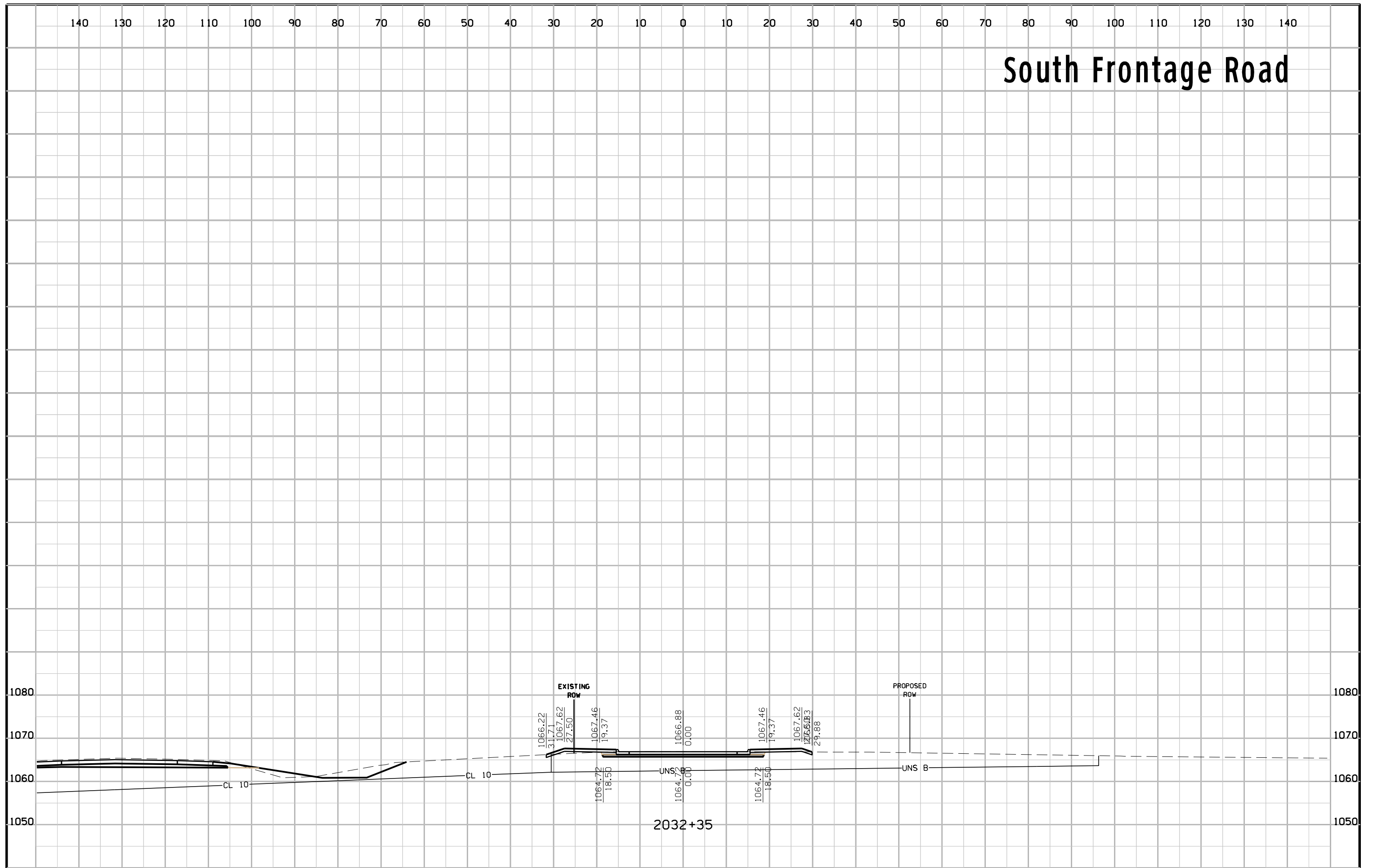
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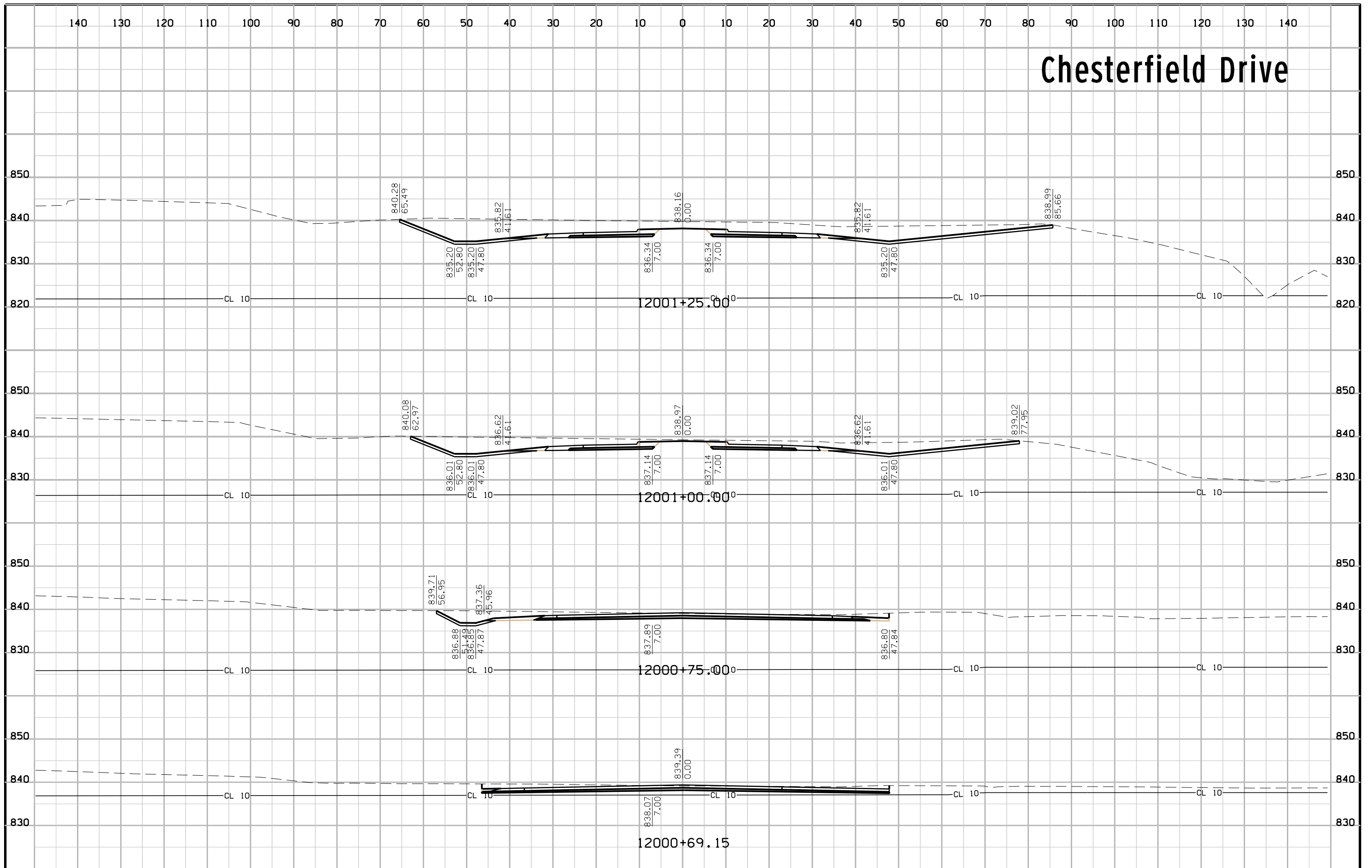
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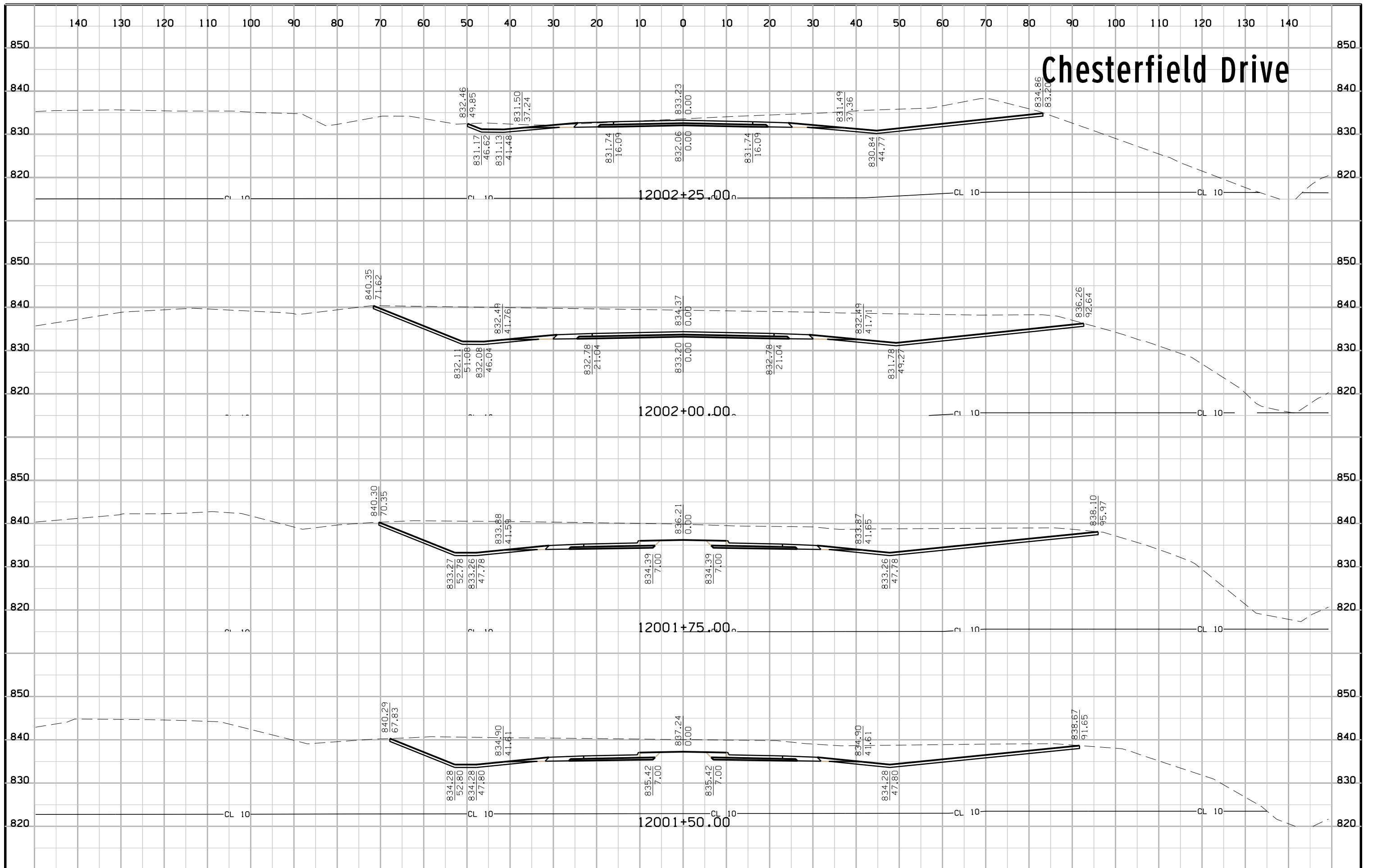
# South Frontage Road



# Chesterfield Drive

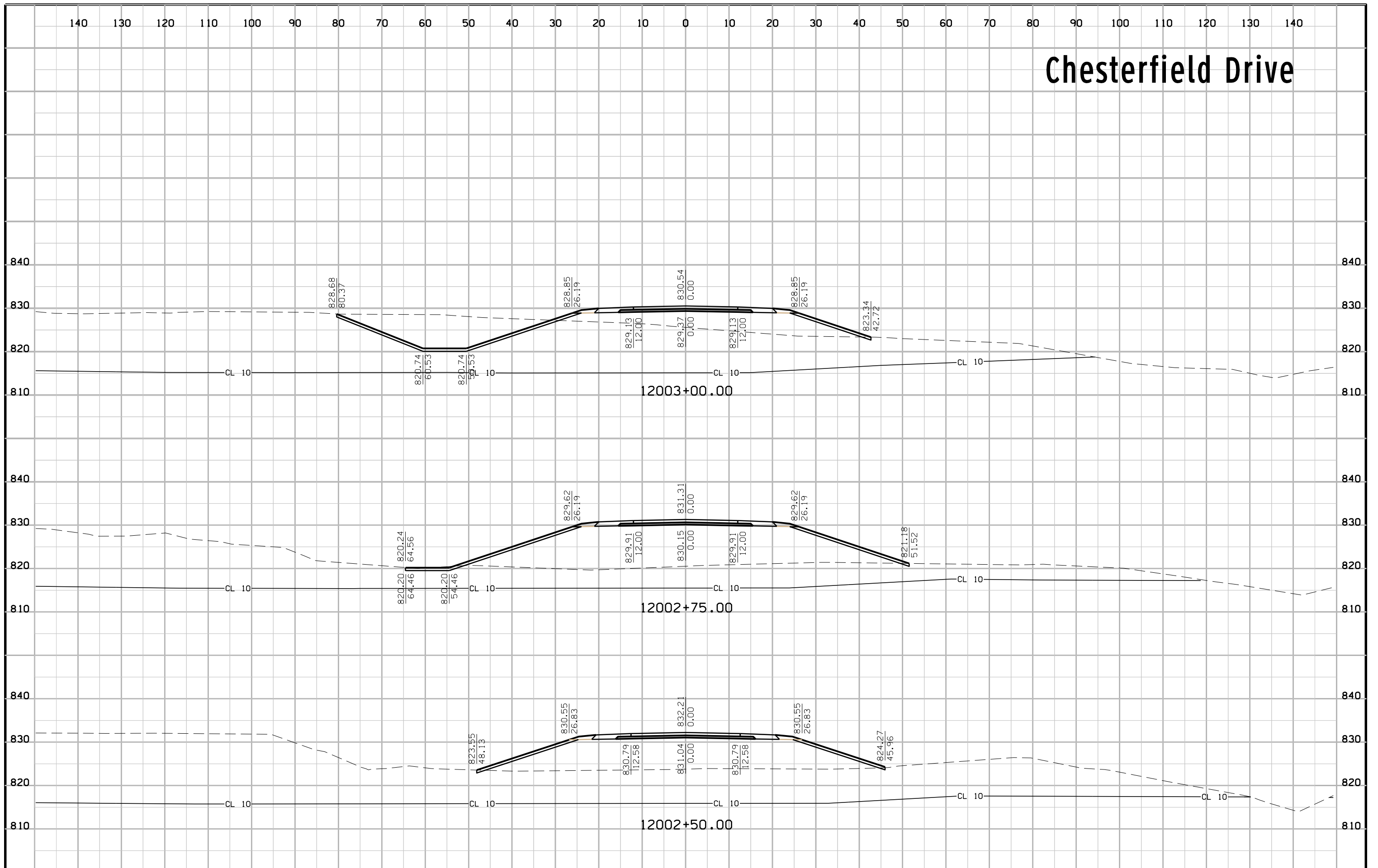


# Chesterfield Drive

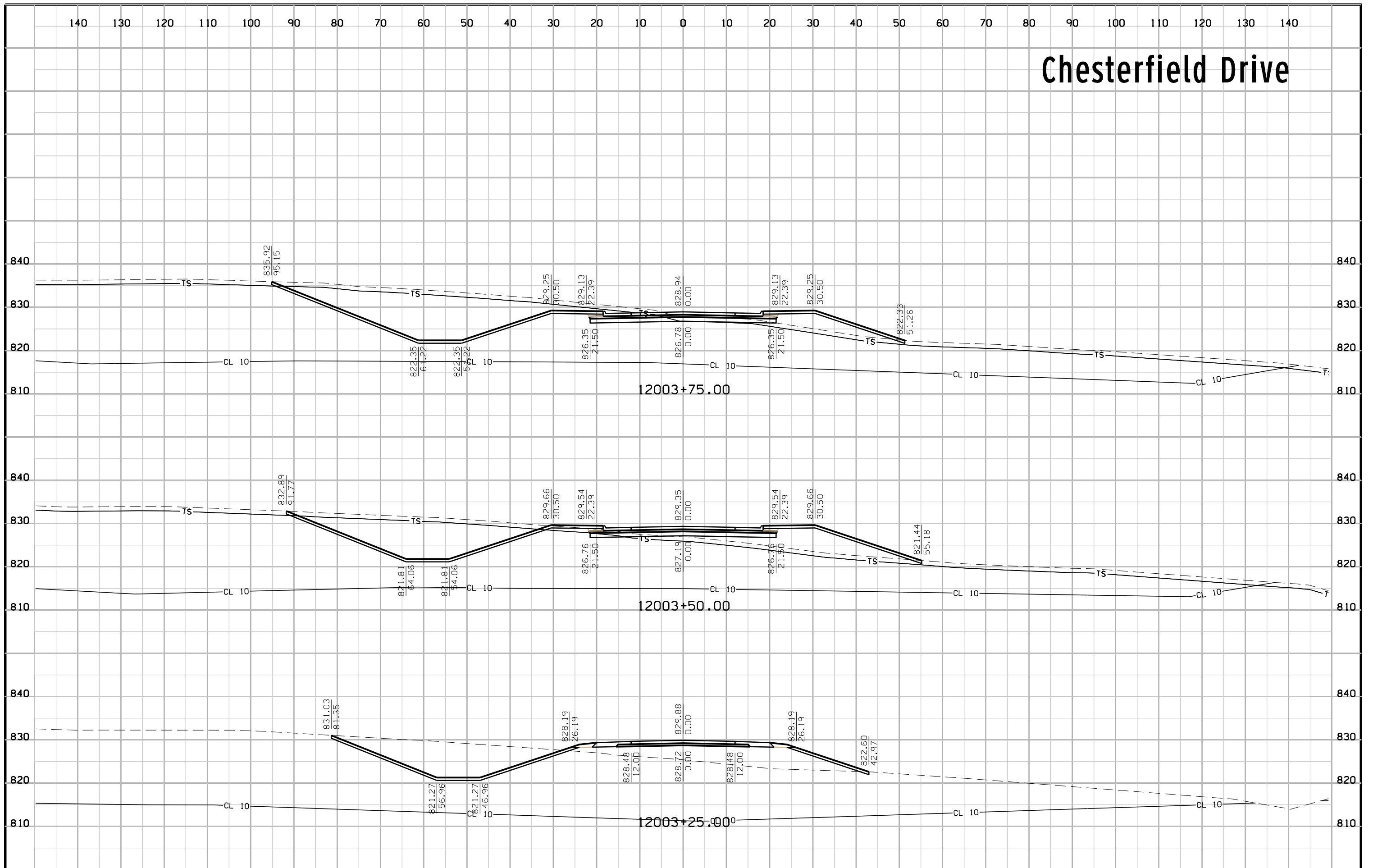




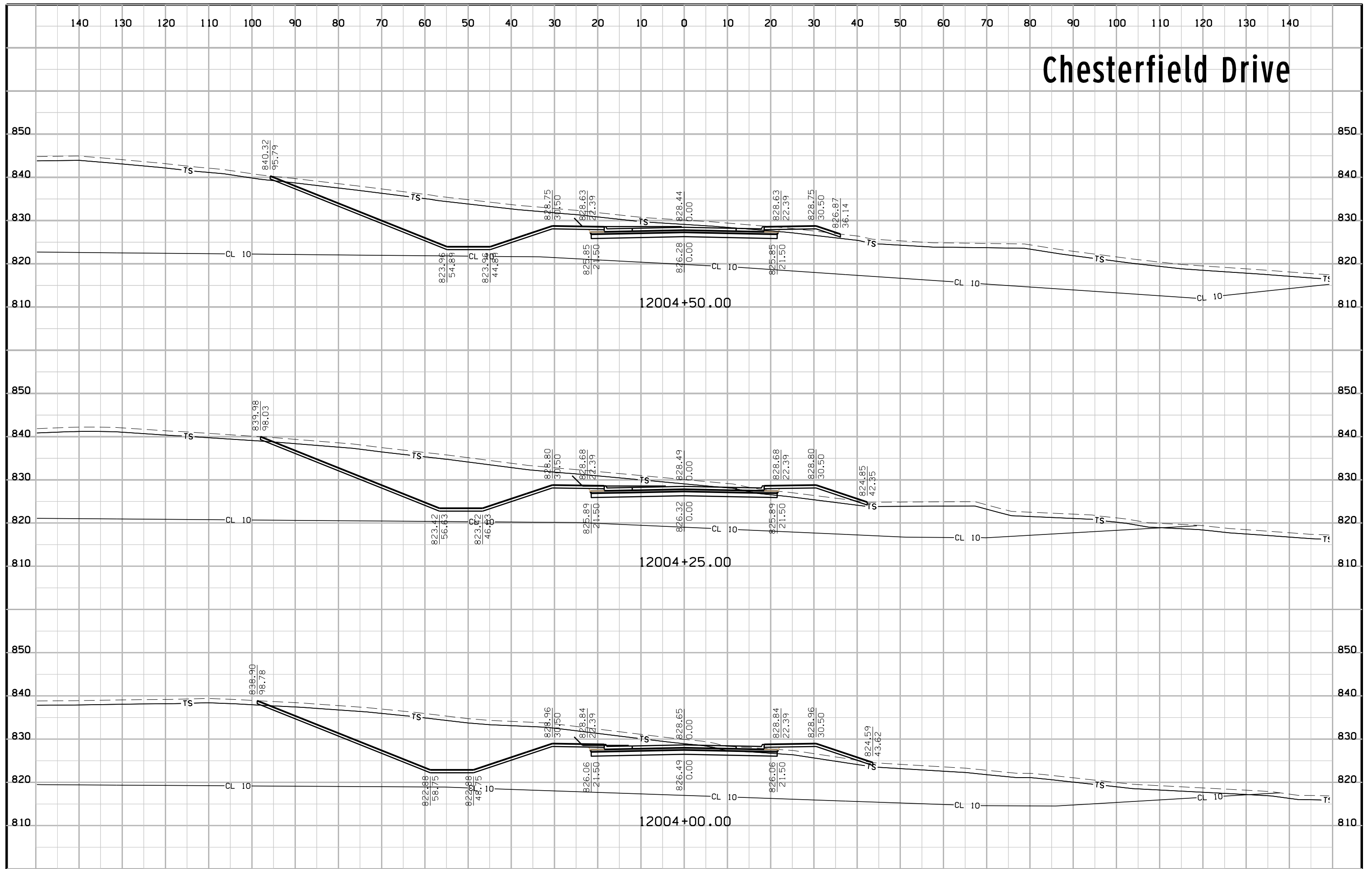
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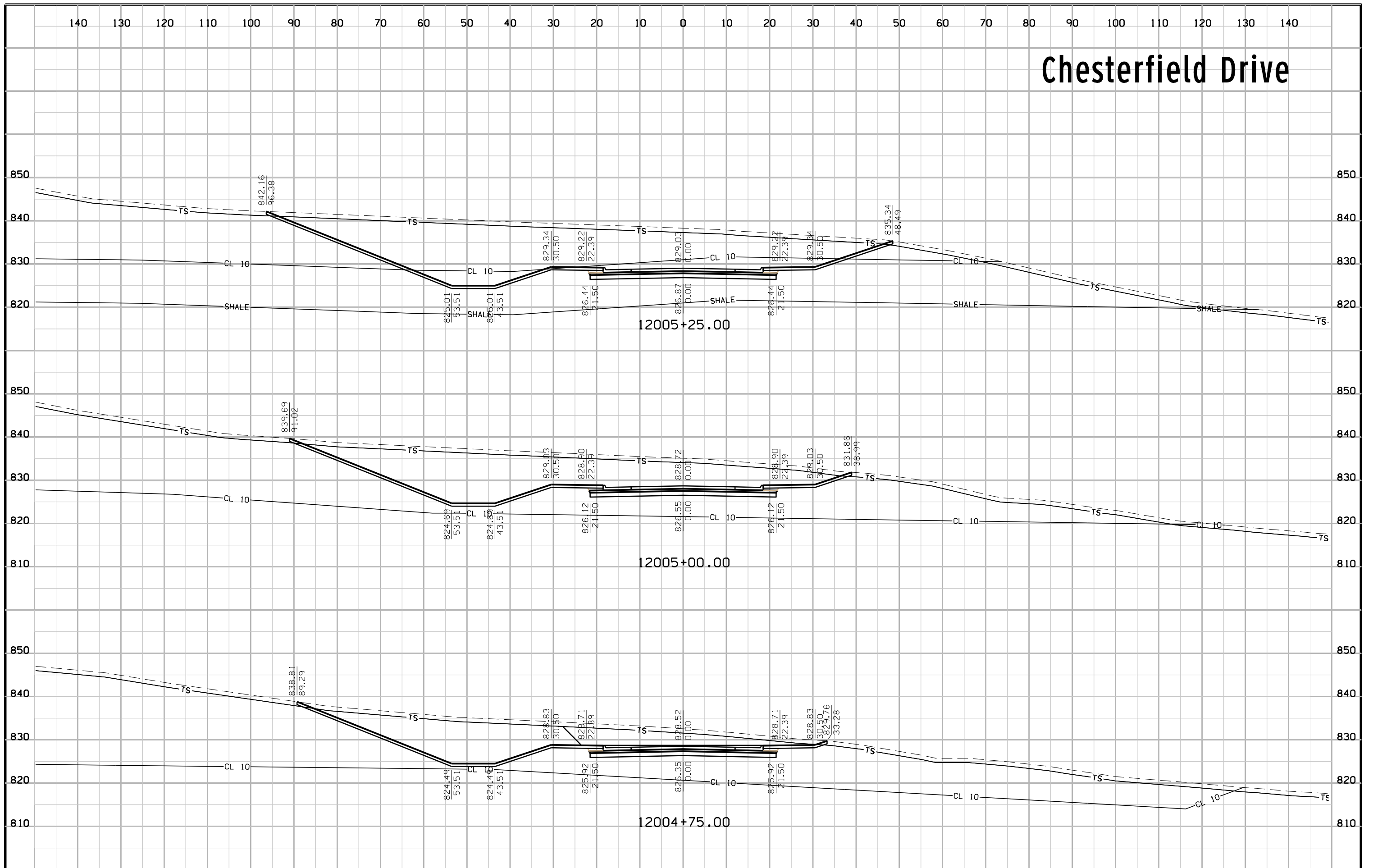
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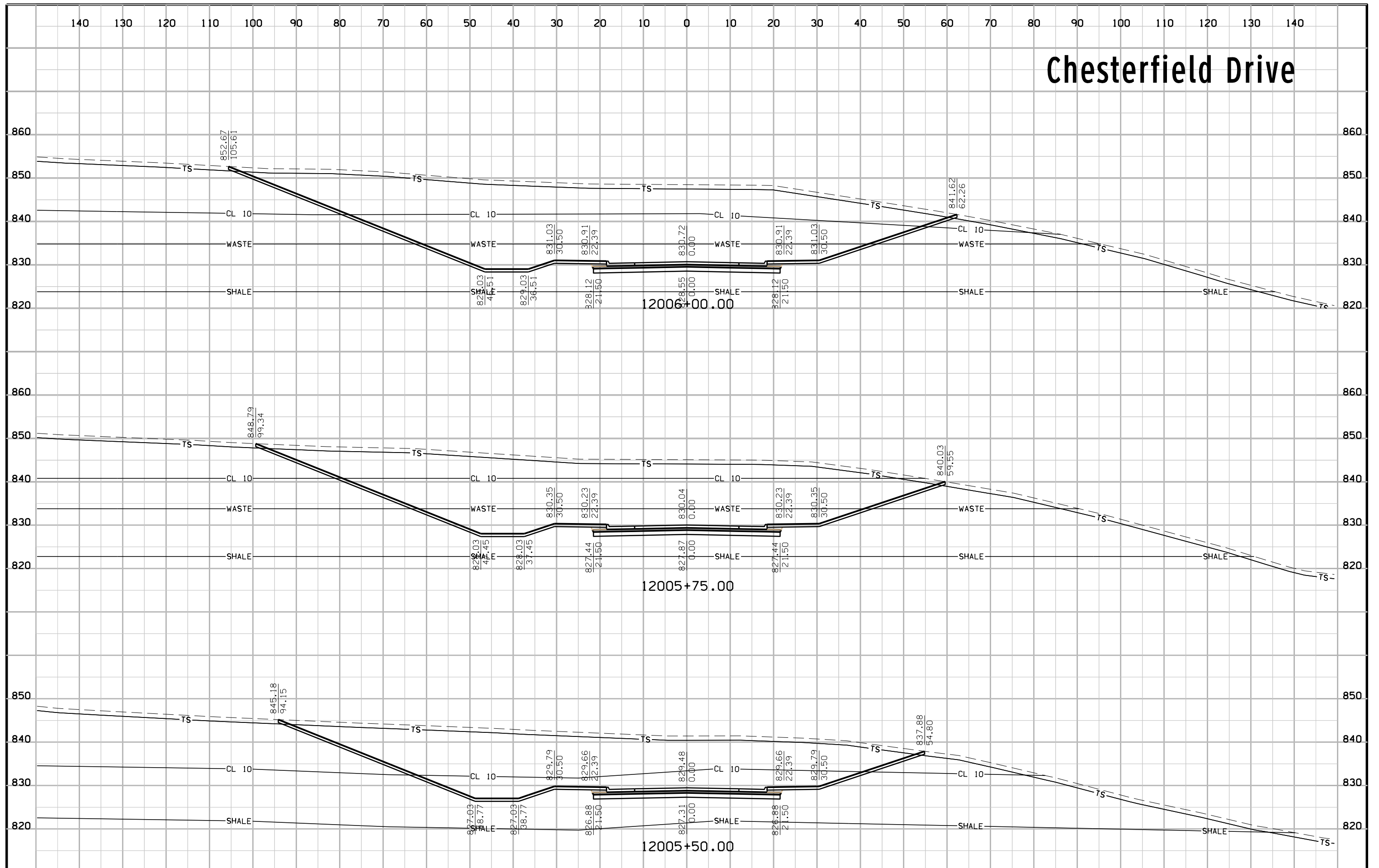
# Chesterfield Drive



# Chesterfield Drive

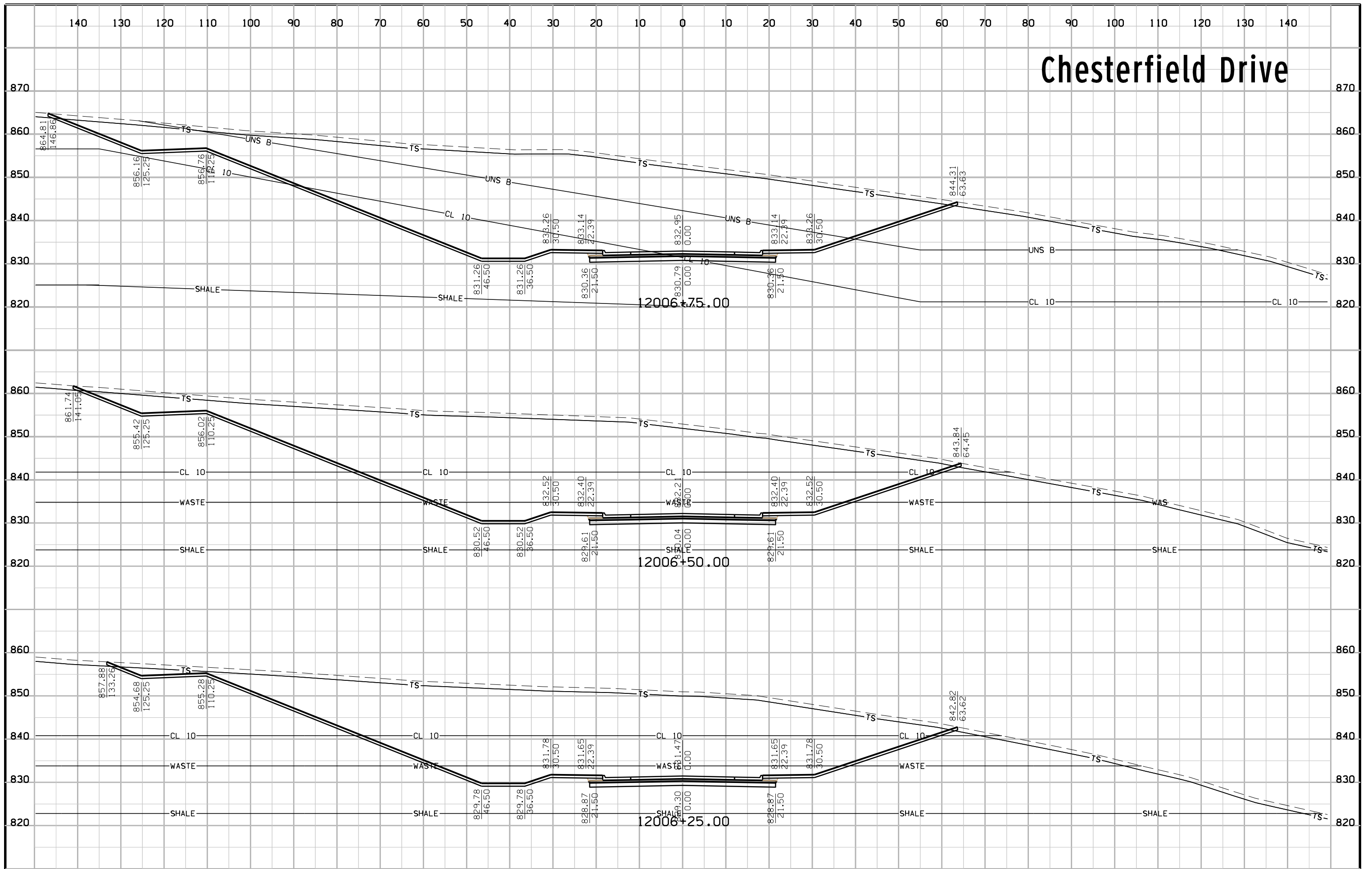


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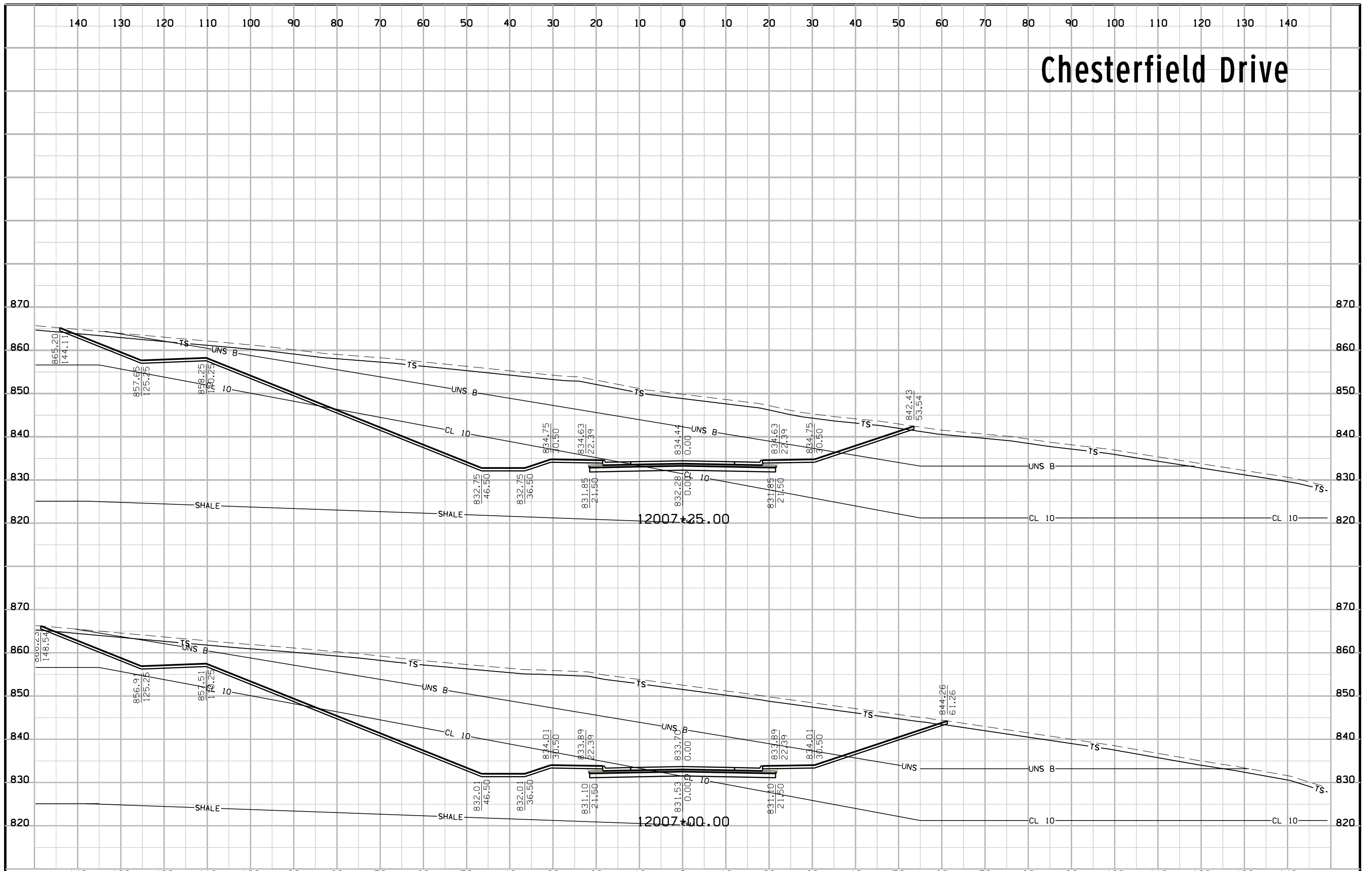




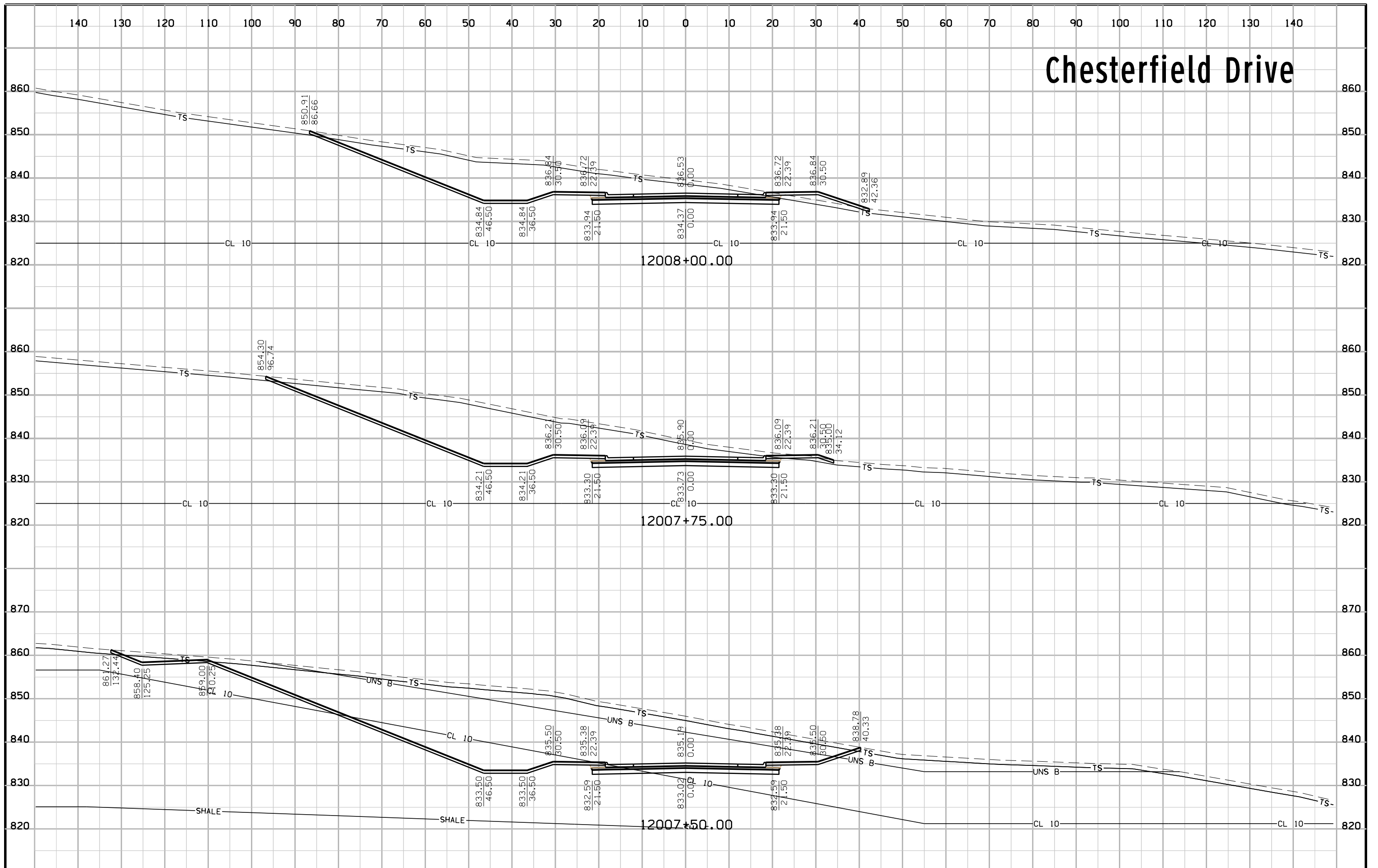
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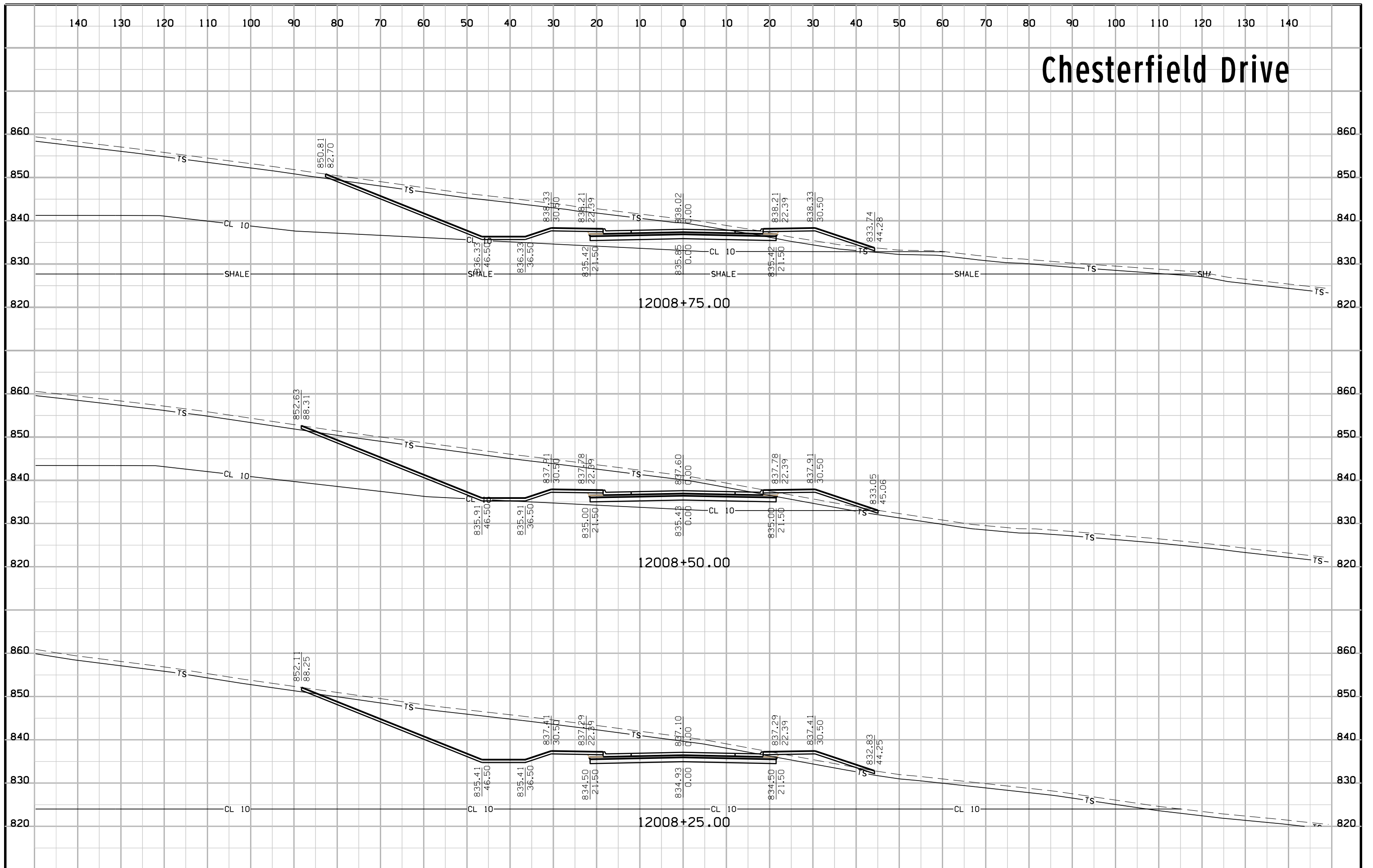
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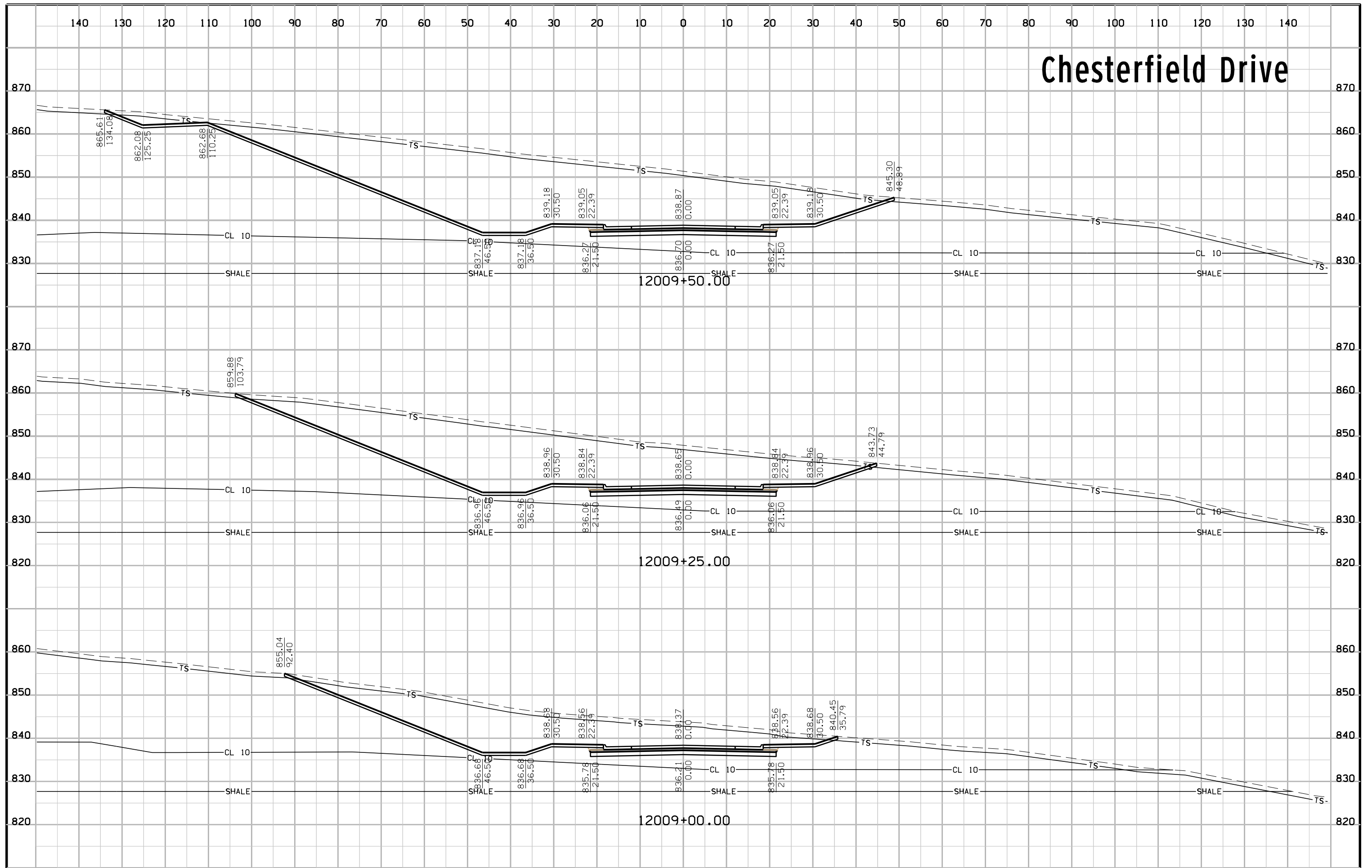
# Chesterfield Drive



# Chesterfield Drive

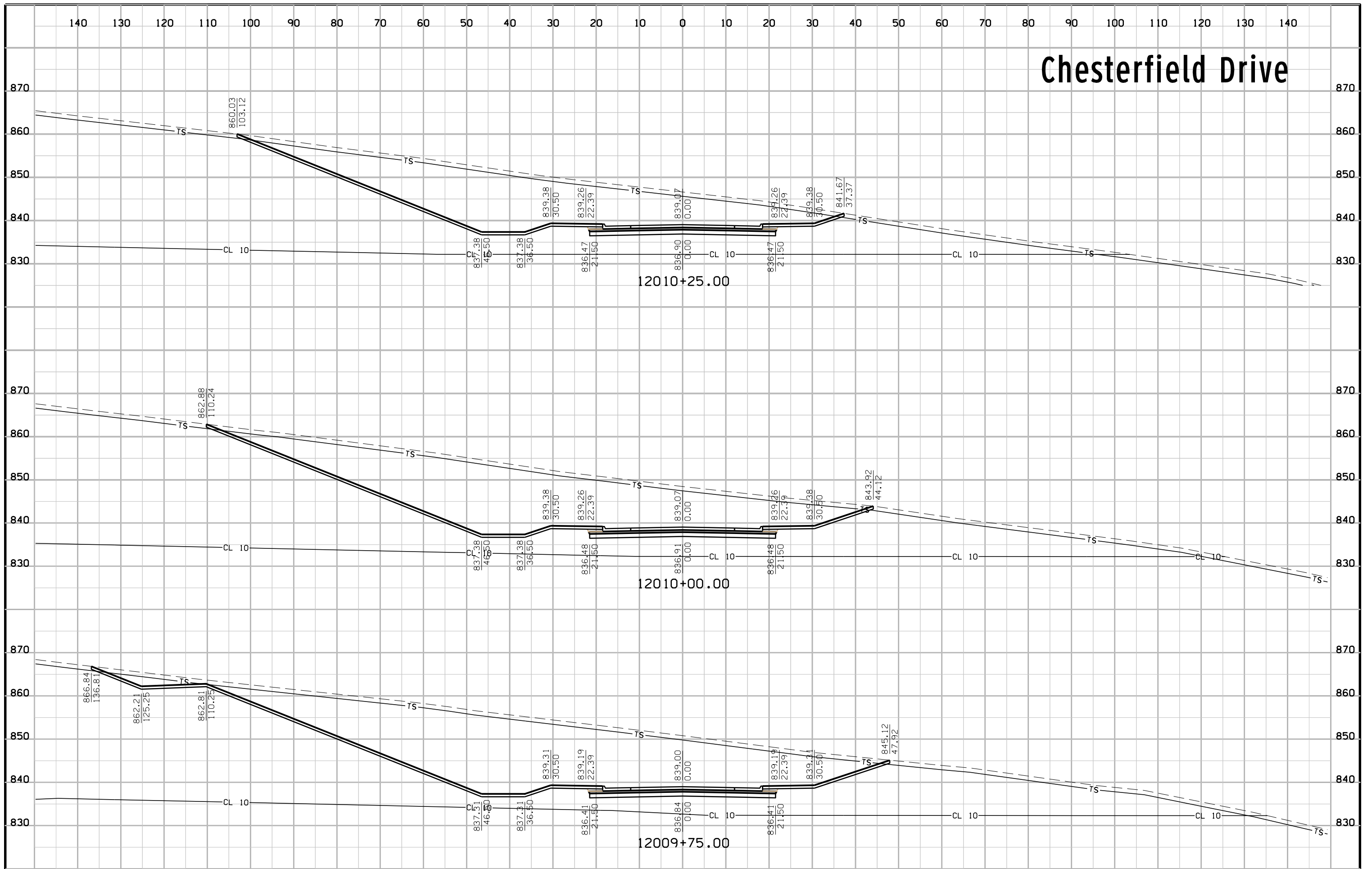


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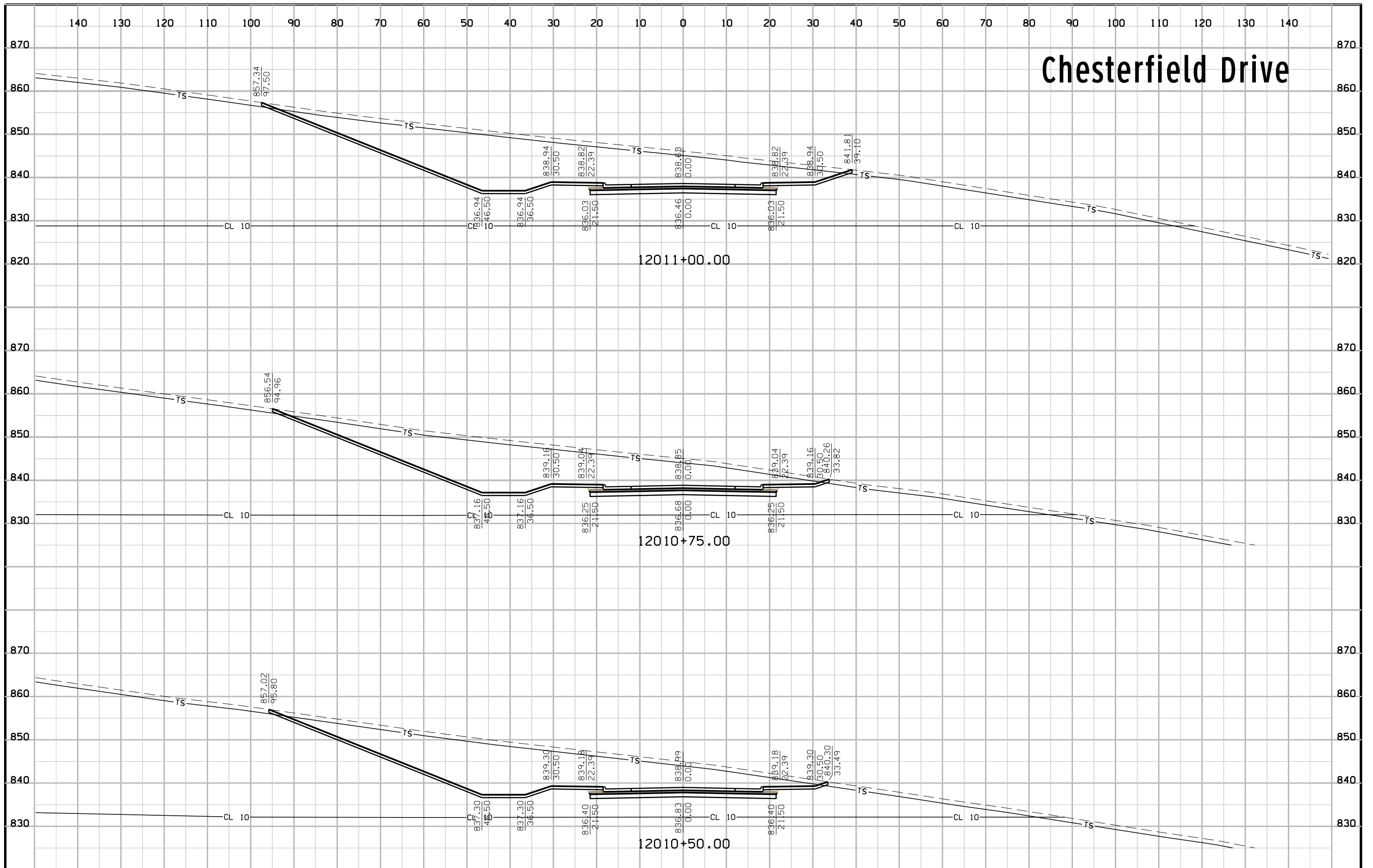




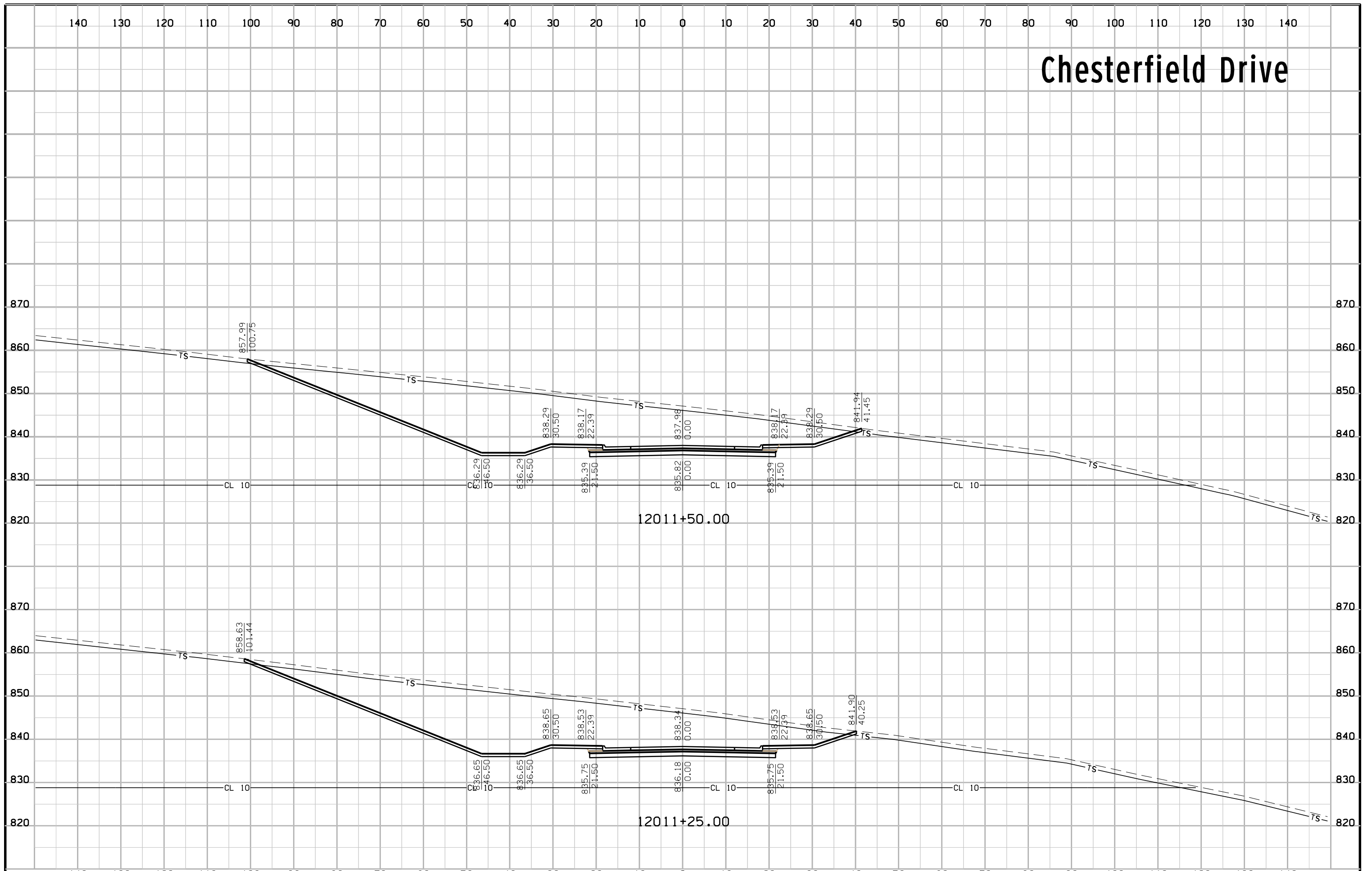
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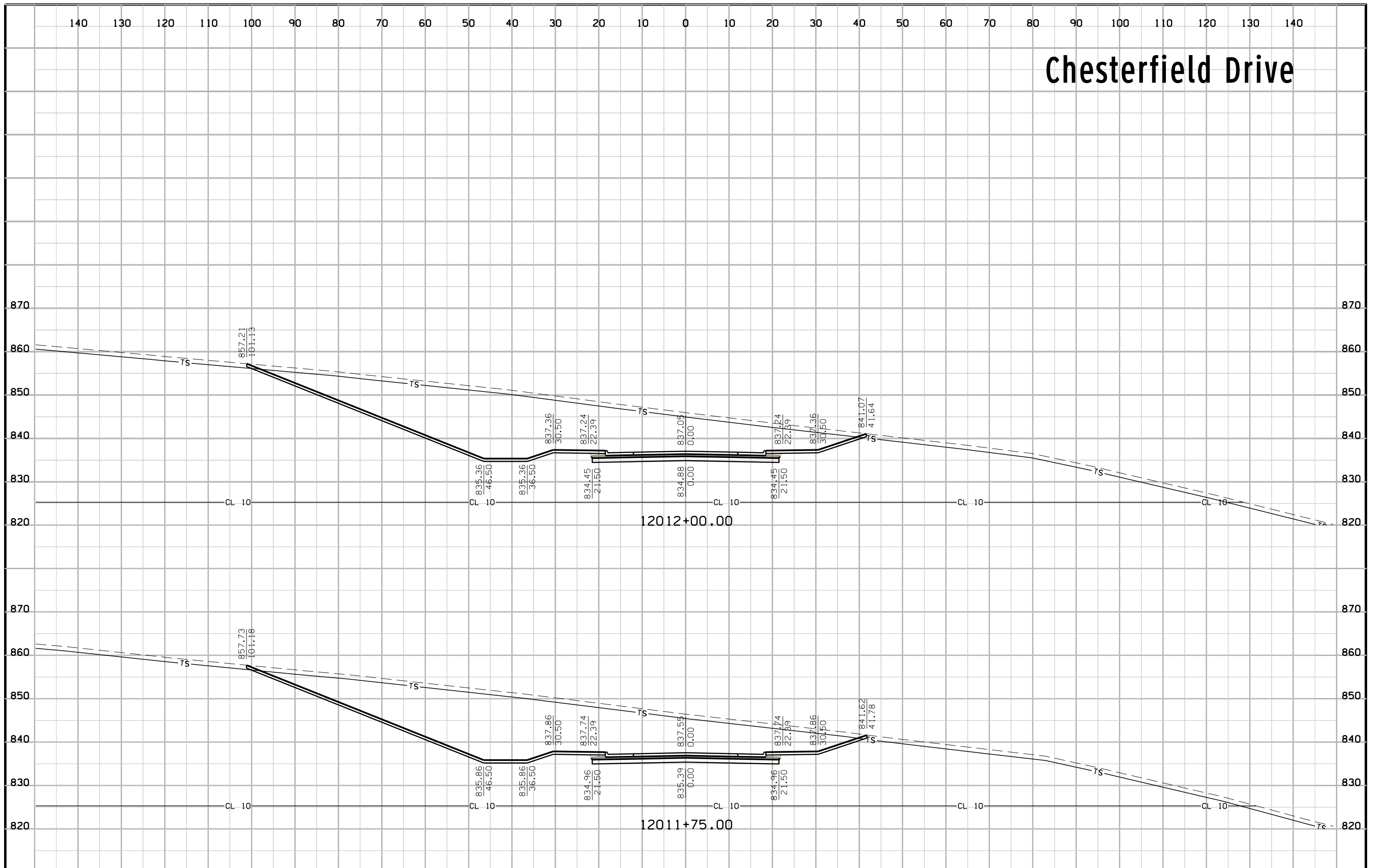
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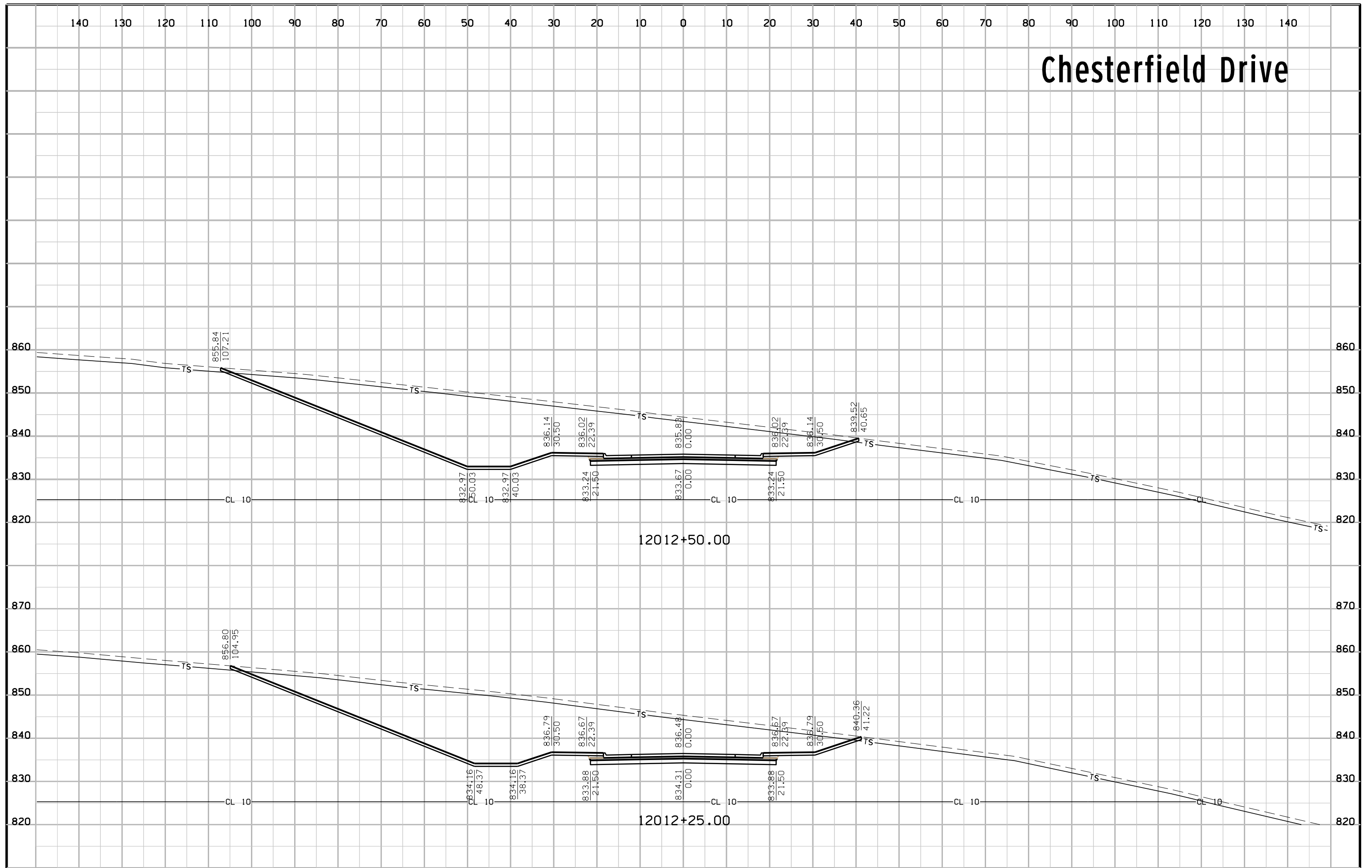
# Chesterfield Drive



# Chesterfield Drive

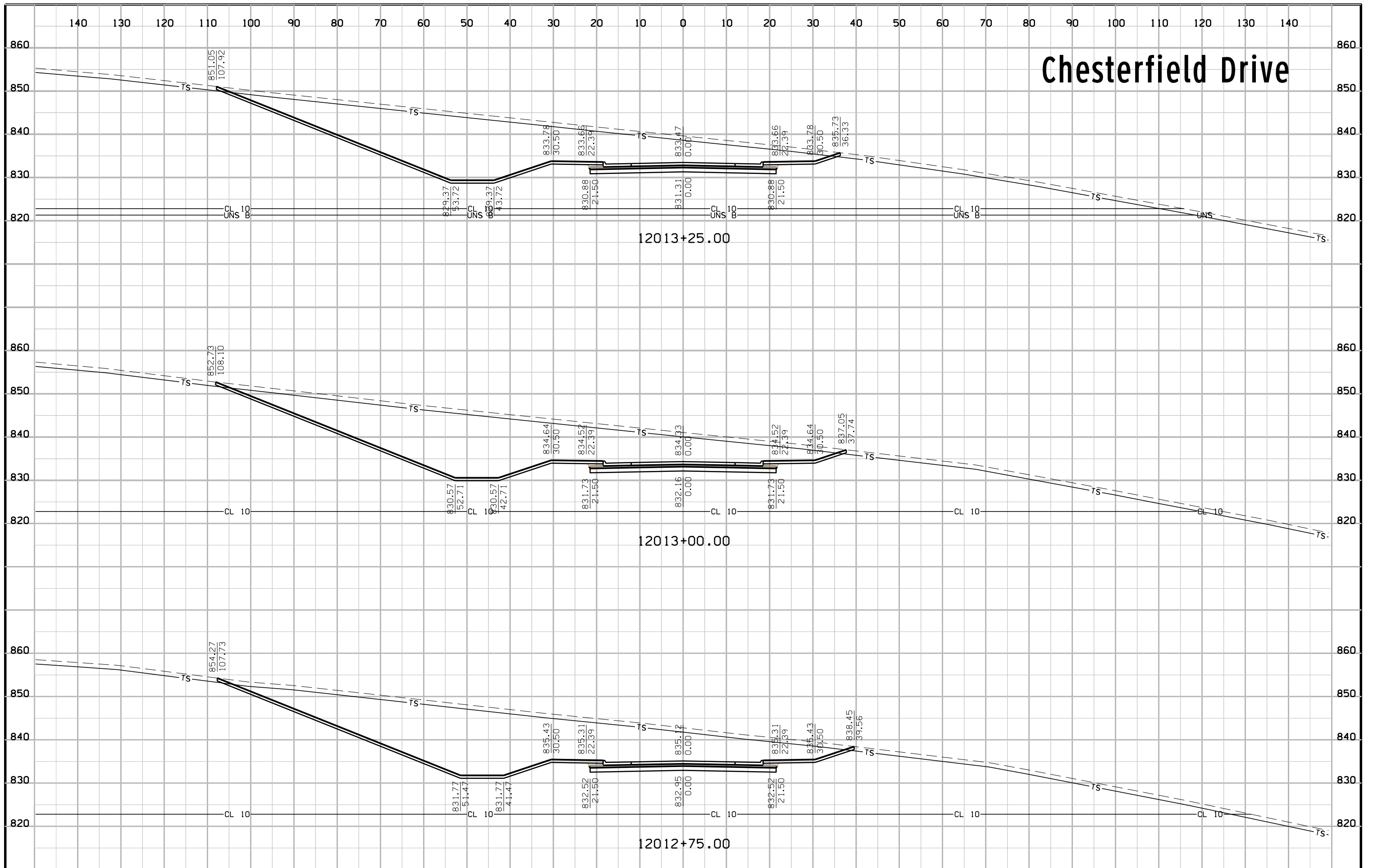


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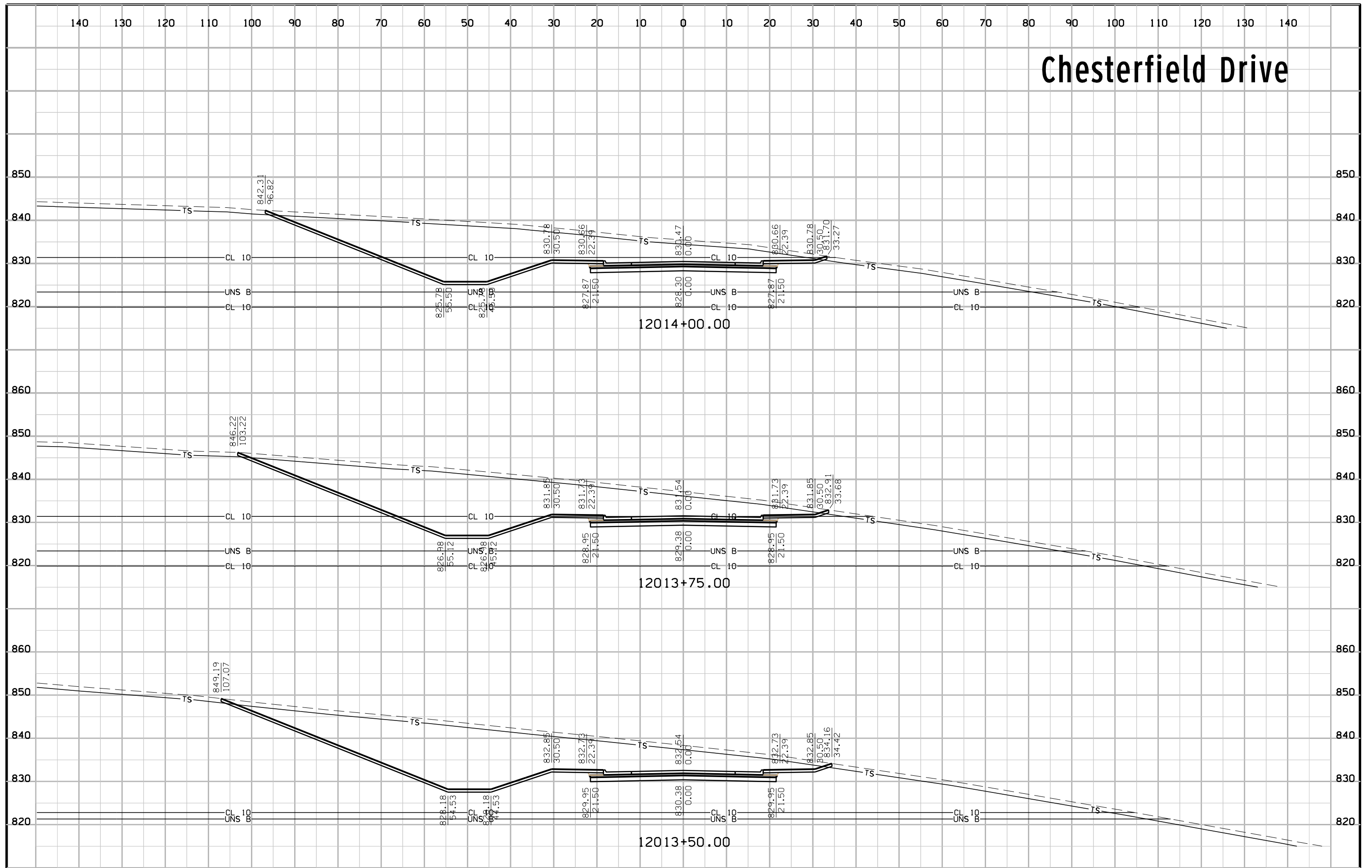




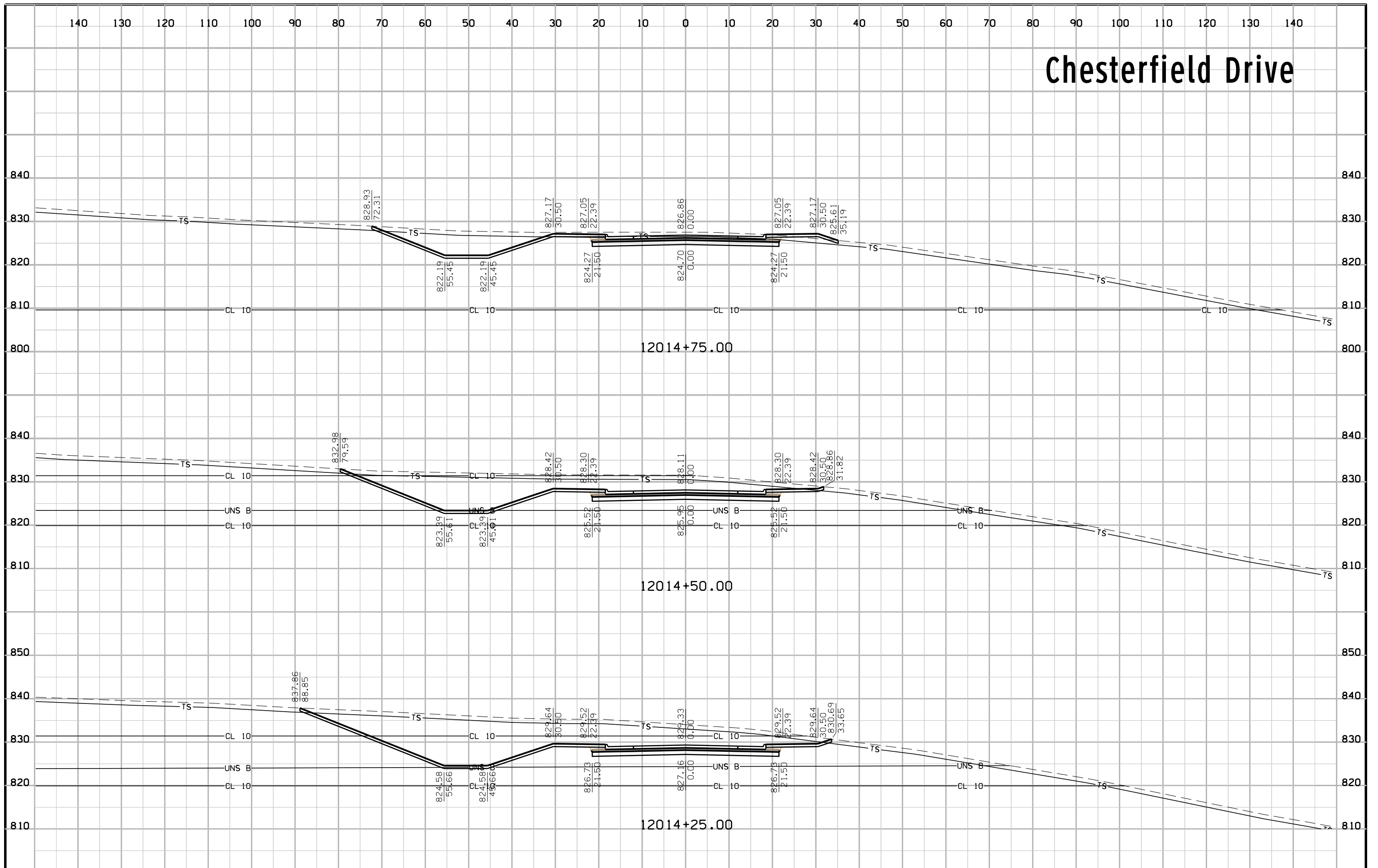
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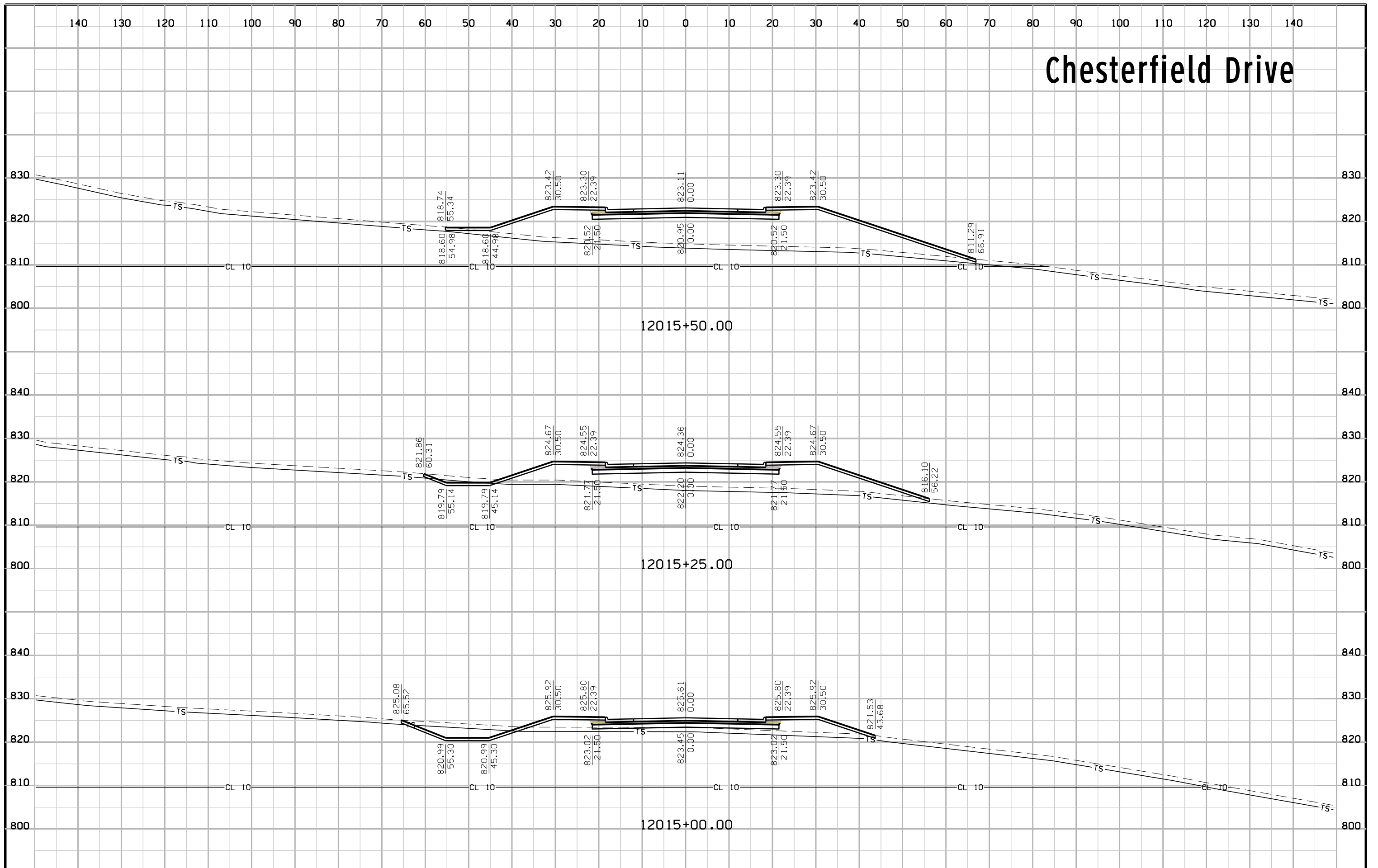
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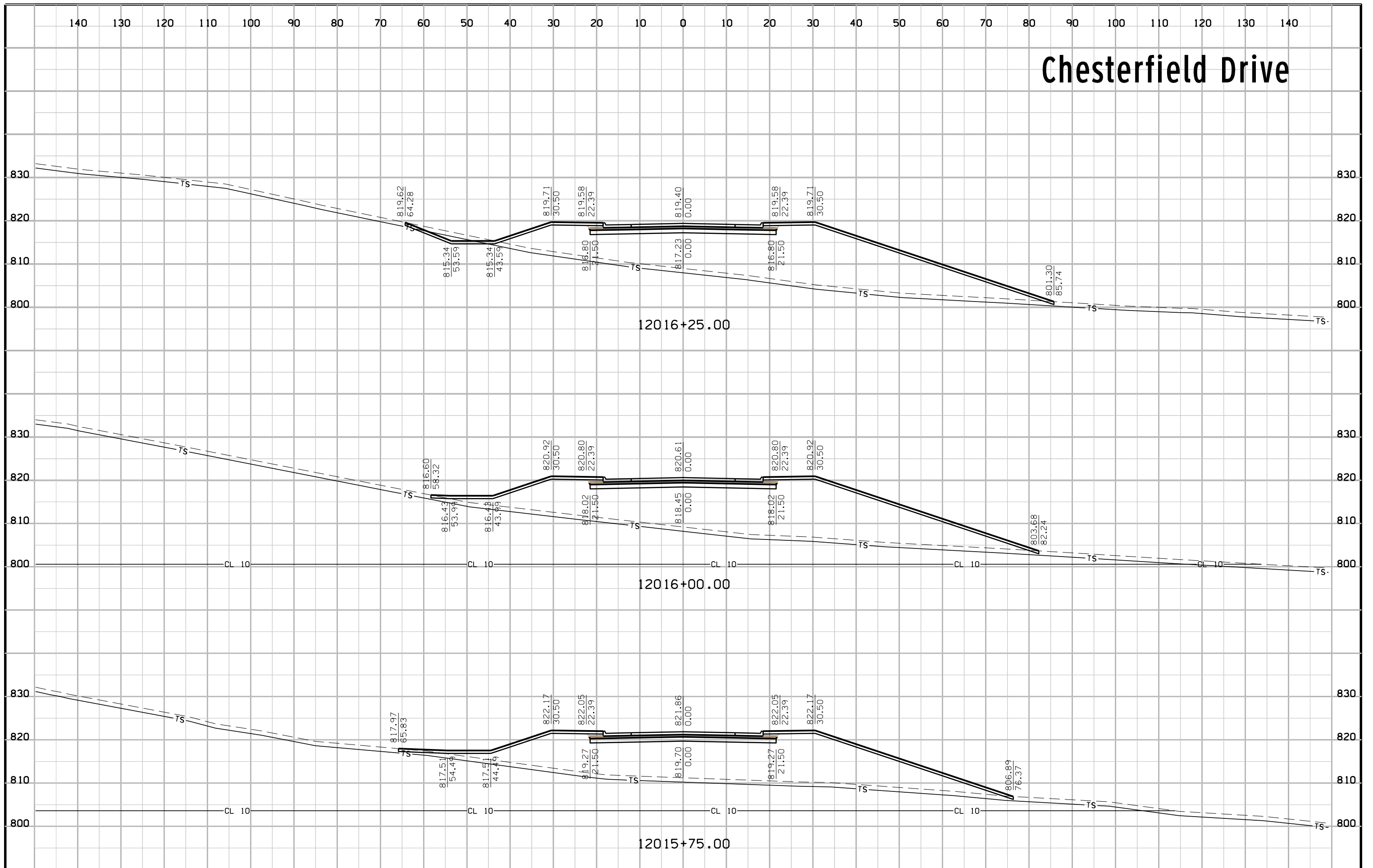
# Chesterfield Drive



# Chesterfield Drive

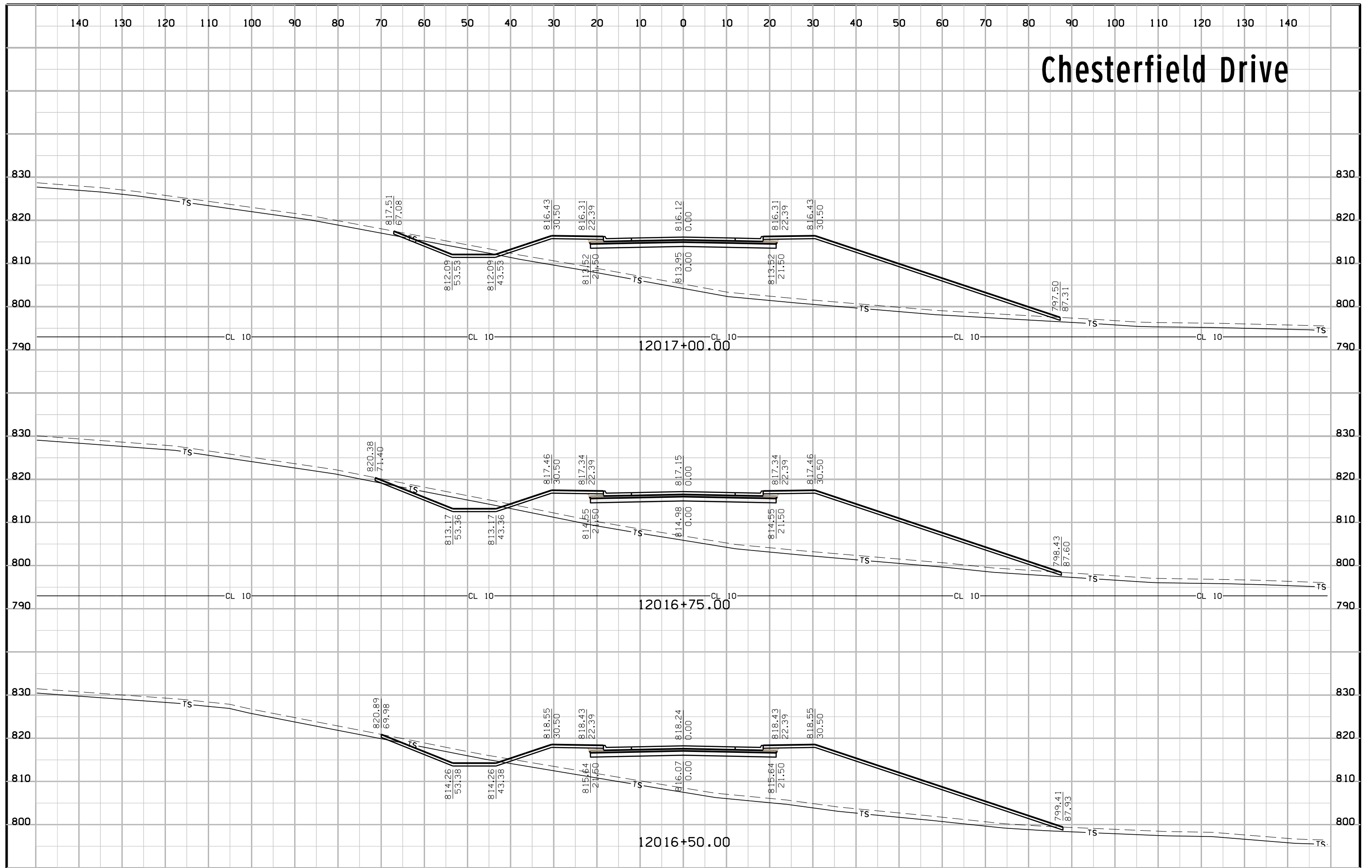


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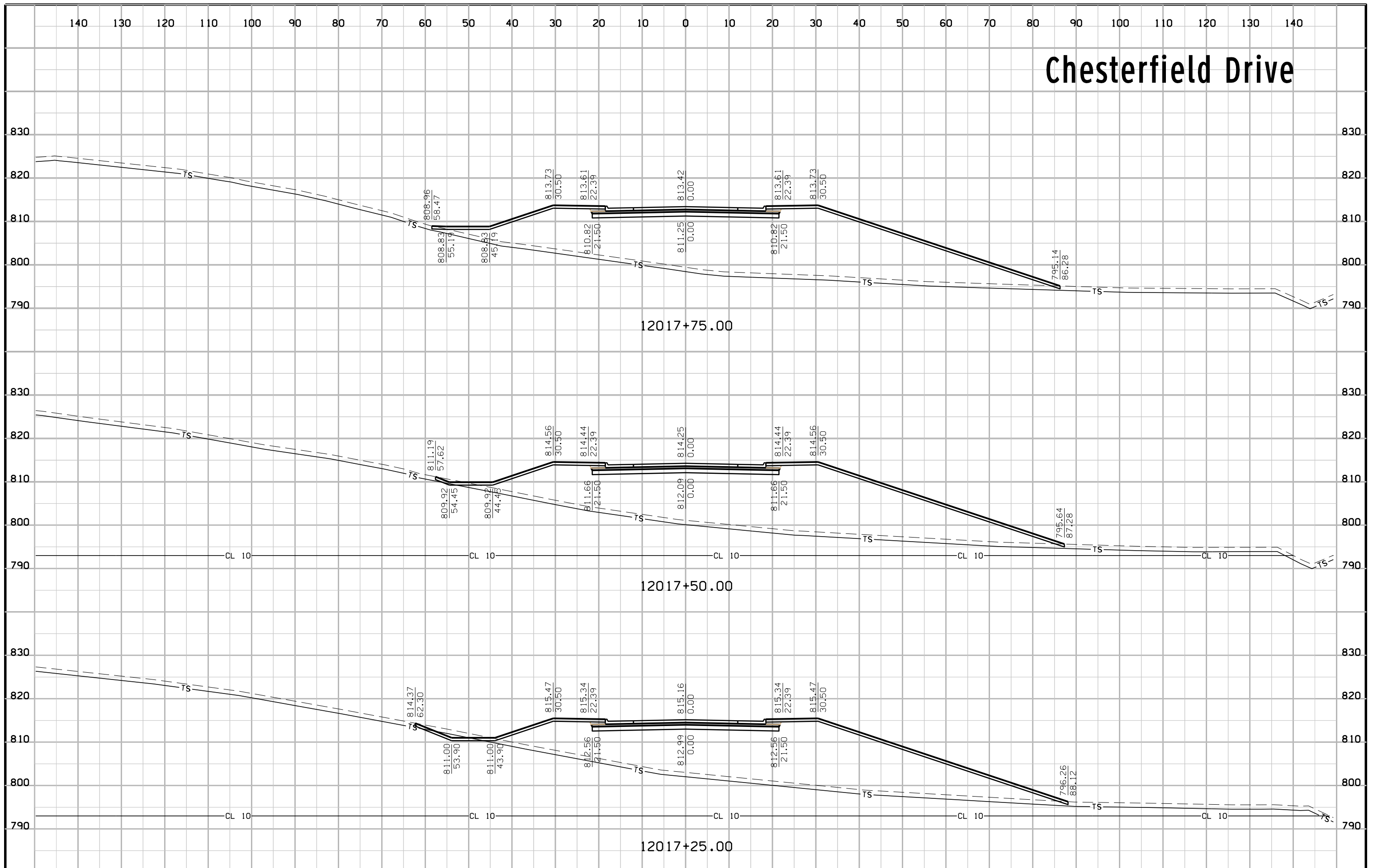




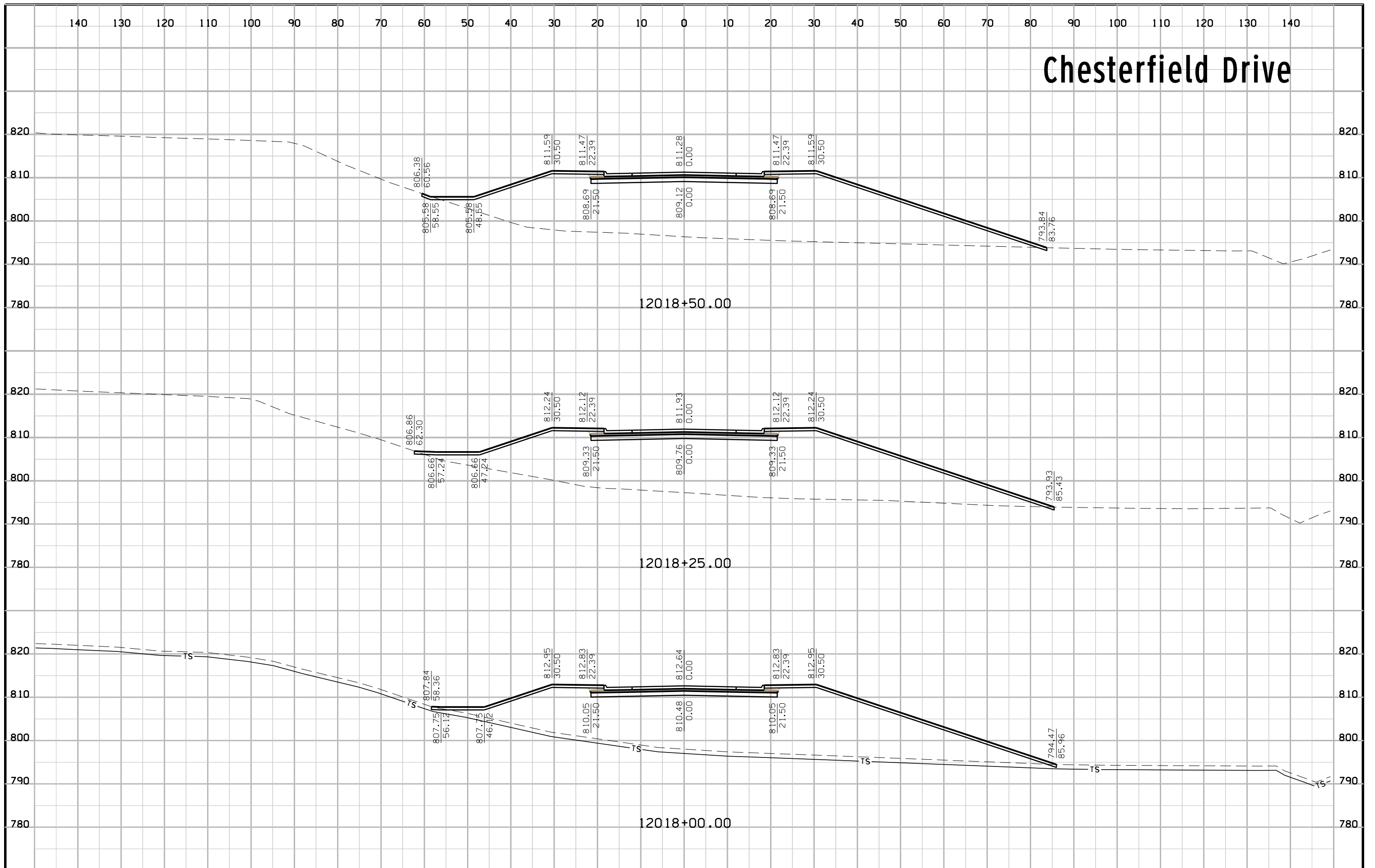
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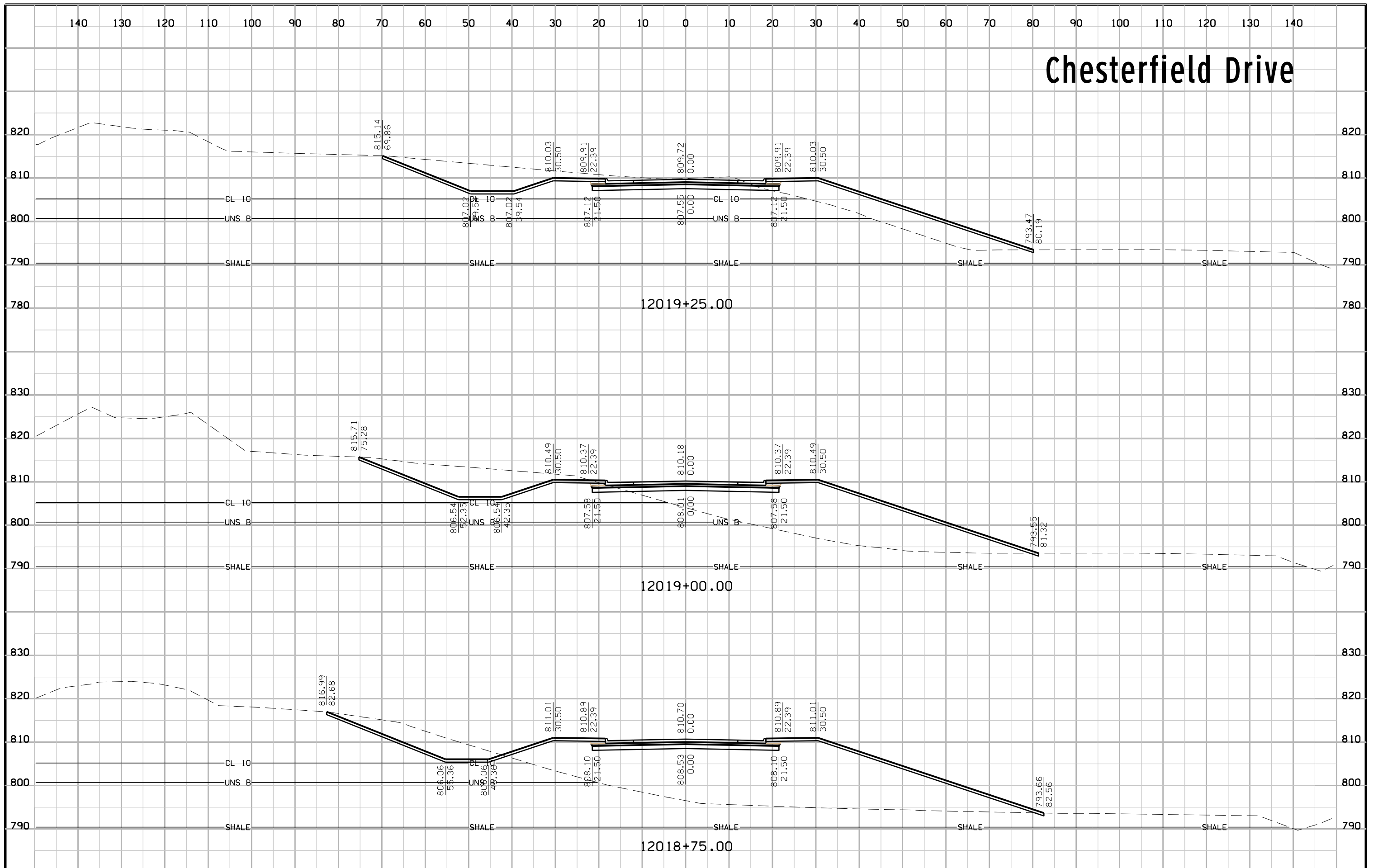
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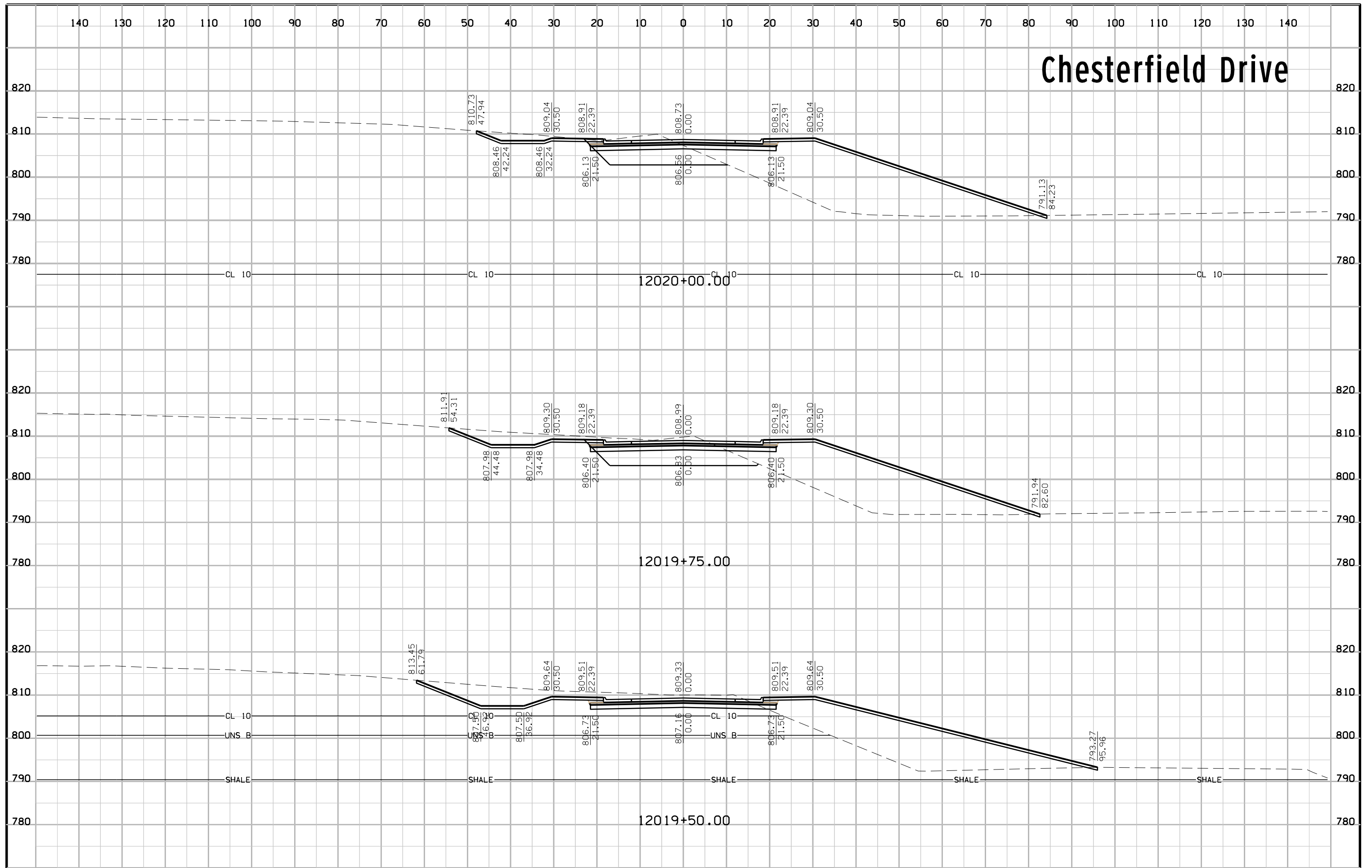
# Chesterfield Drive



# Chesterfield Drive

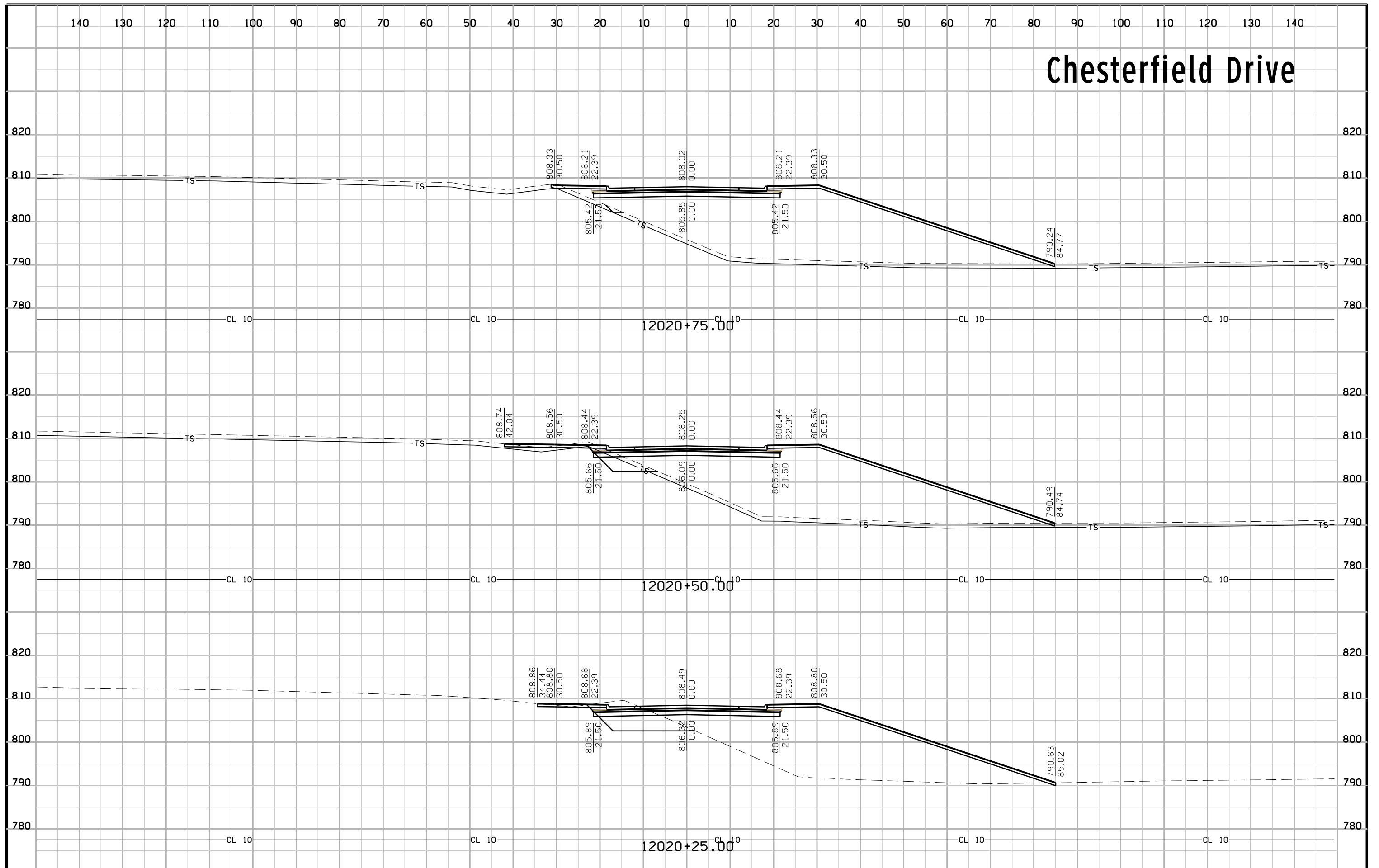


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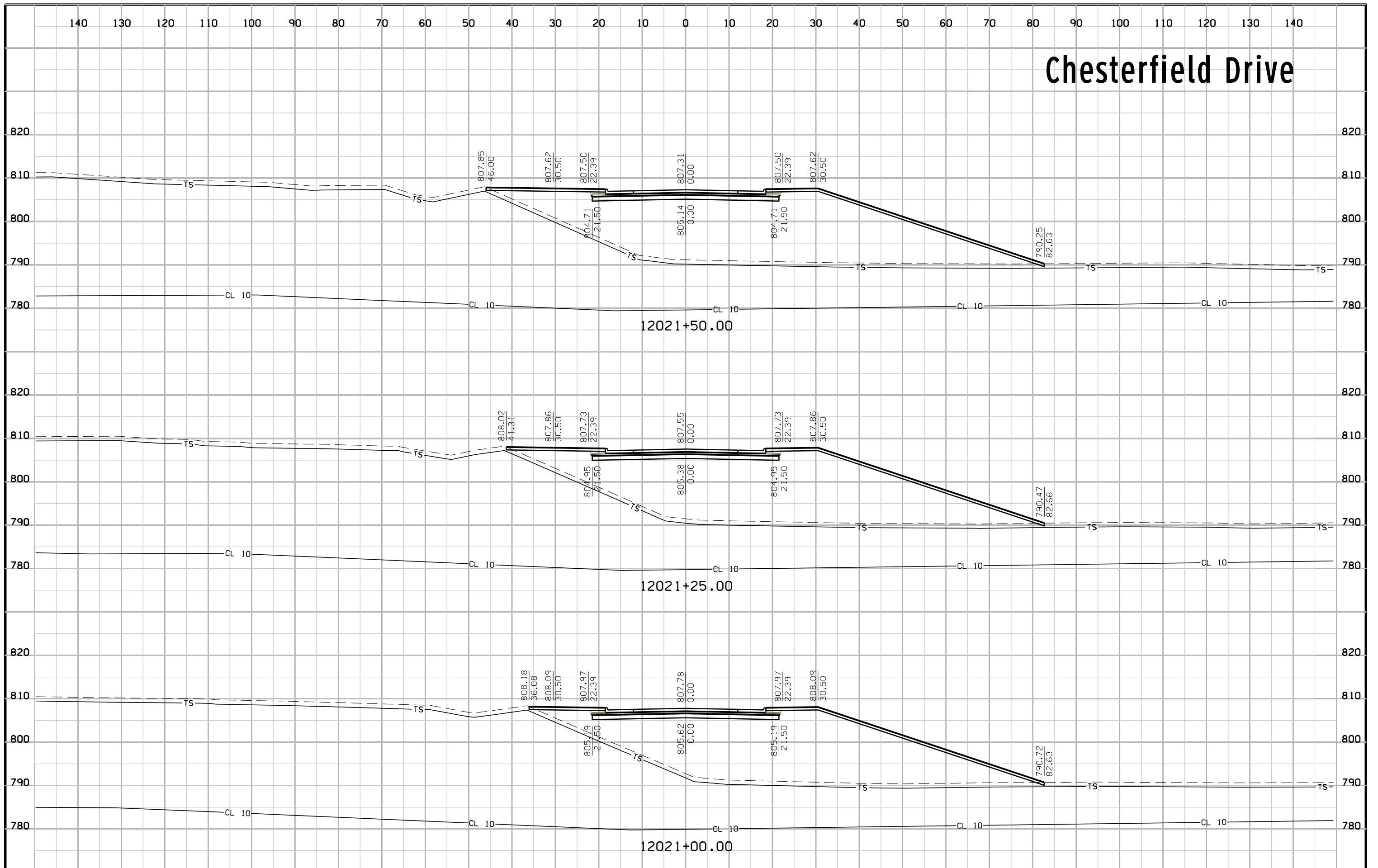




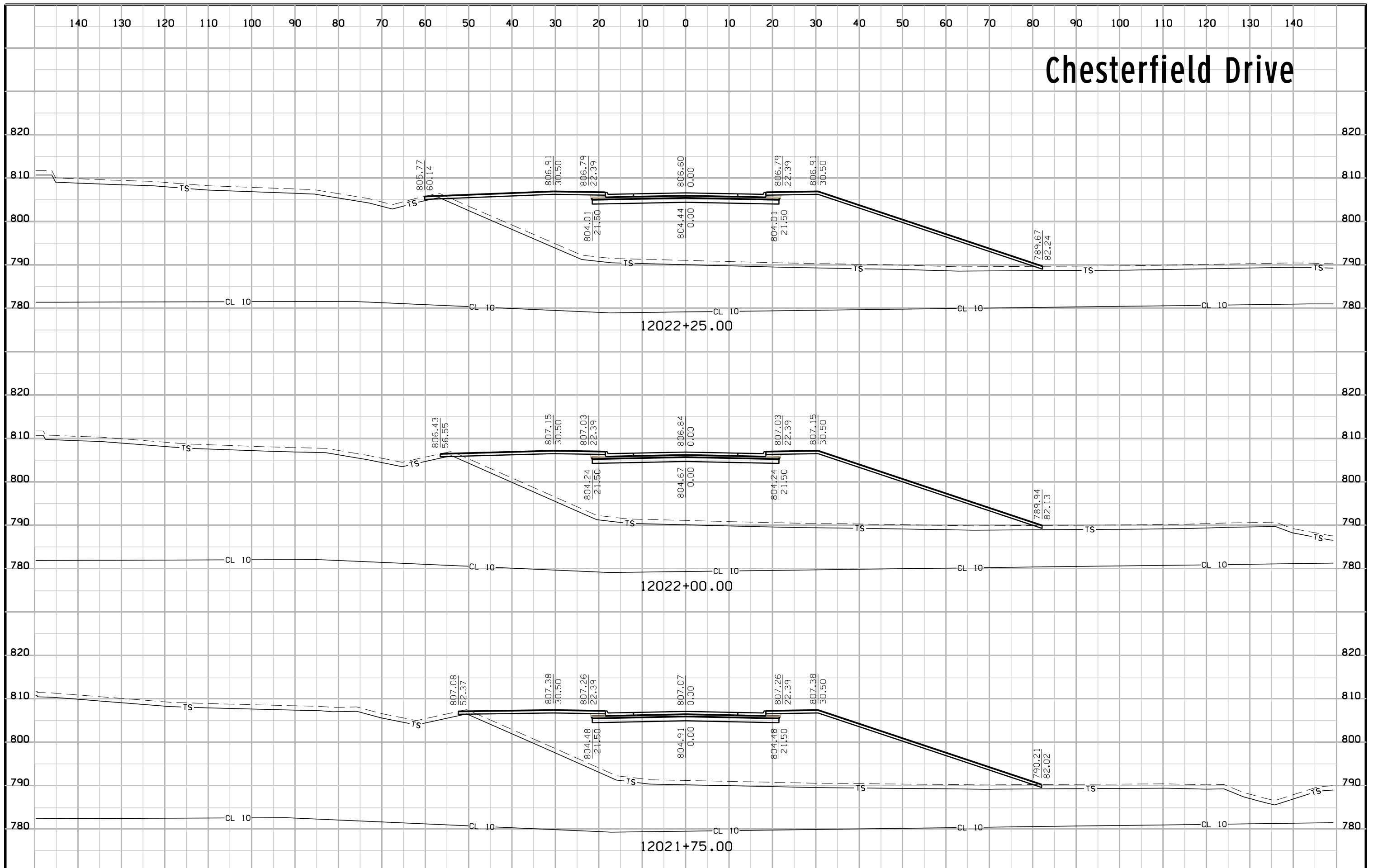
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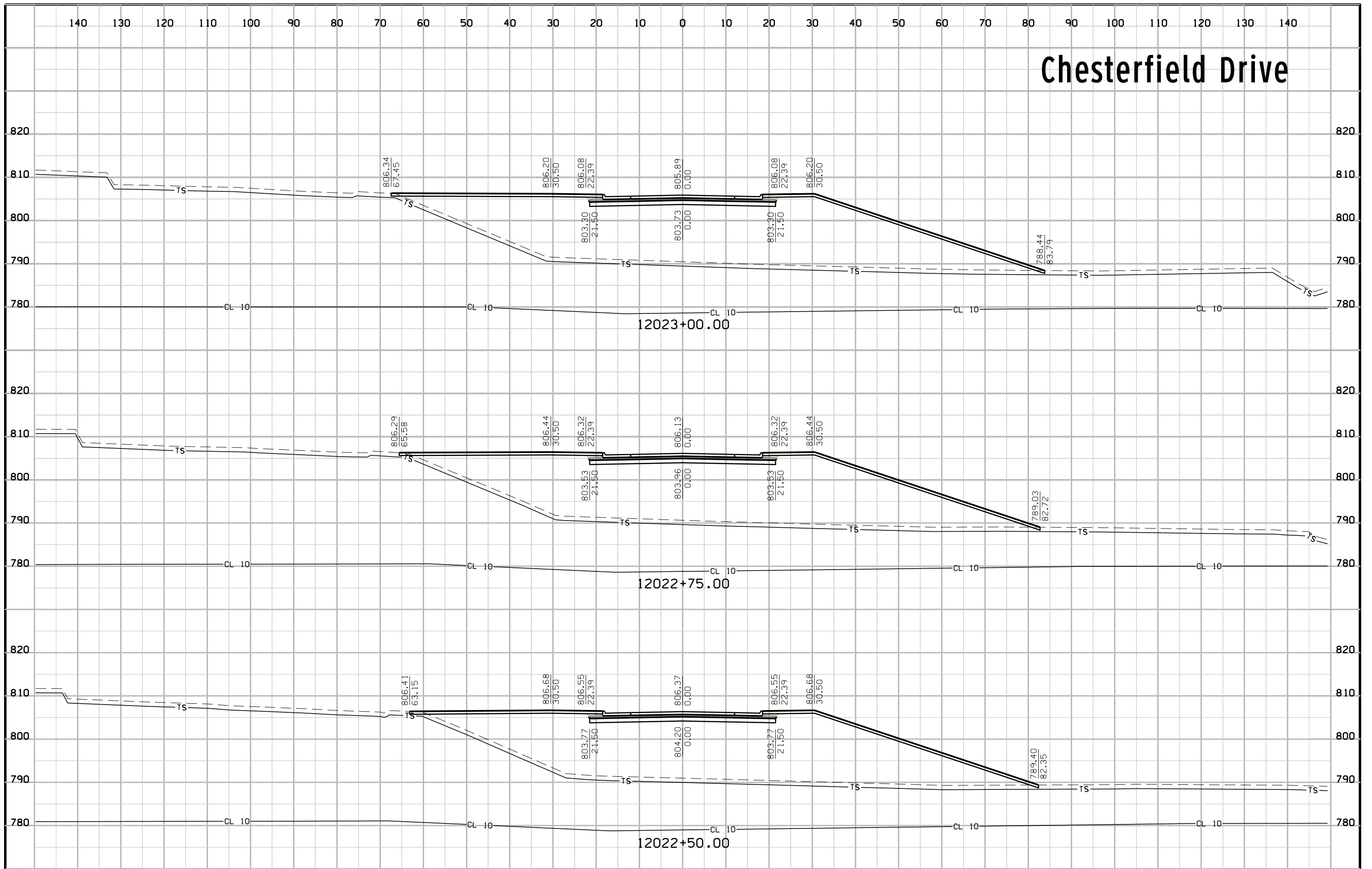
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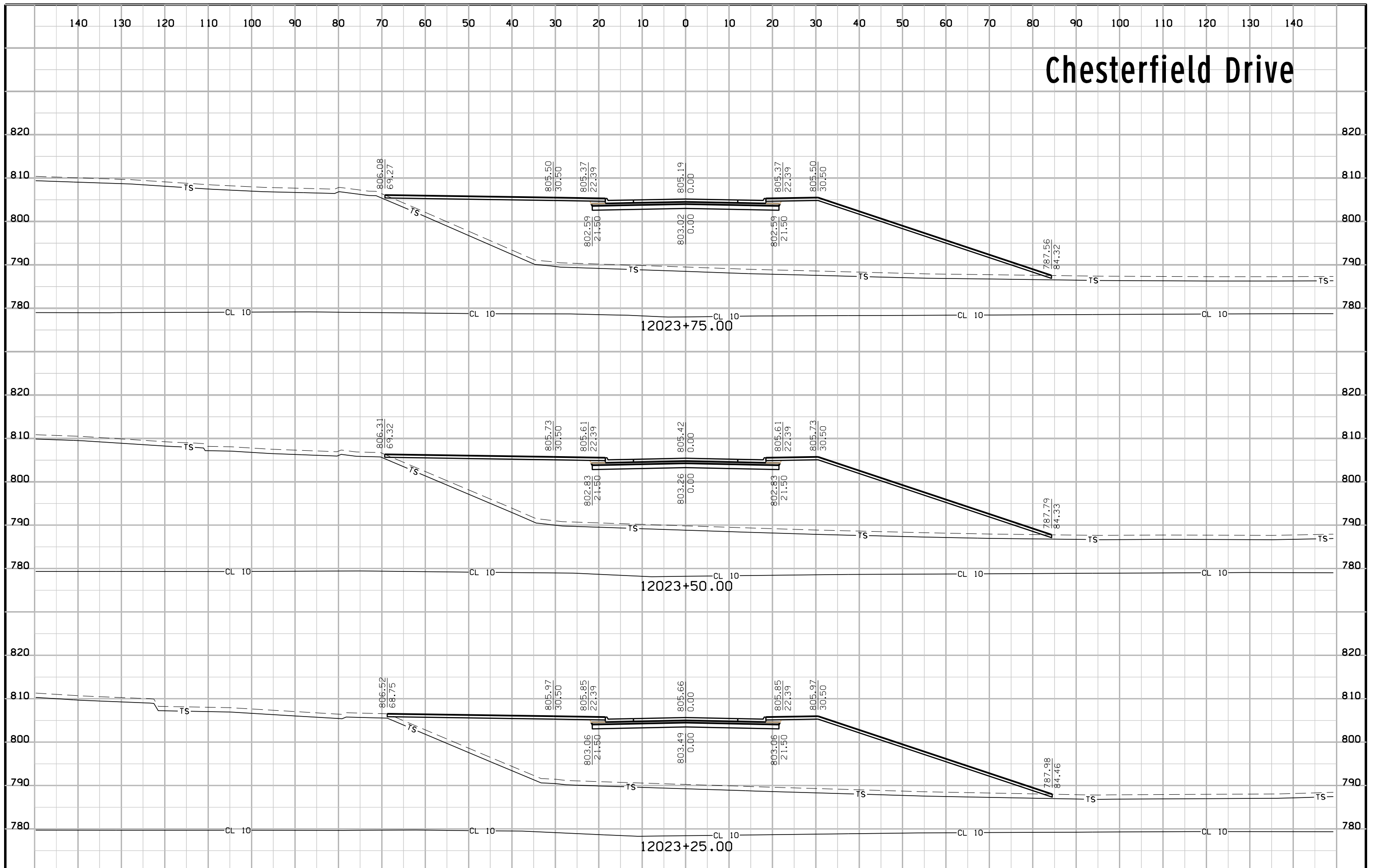
# Chesterfield Drive



# Chesterfield Drive

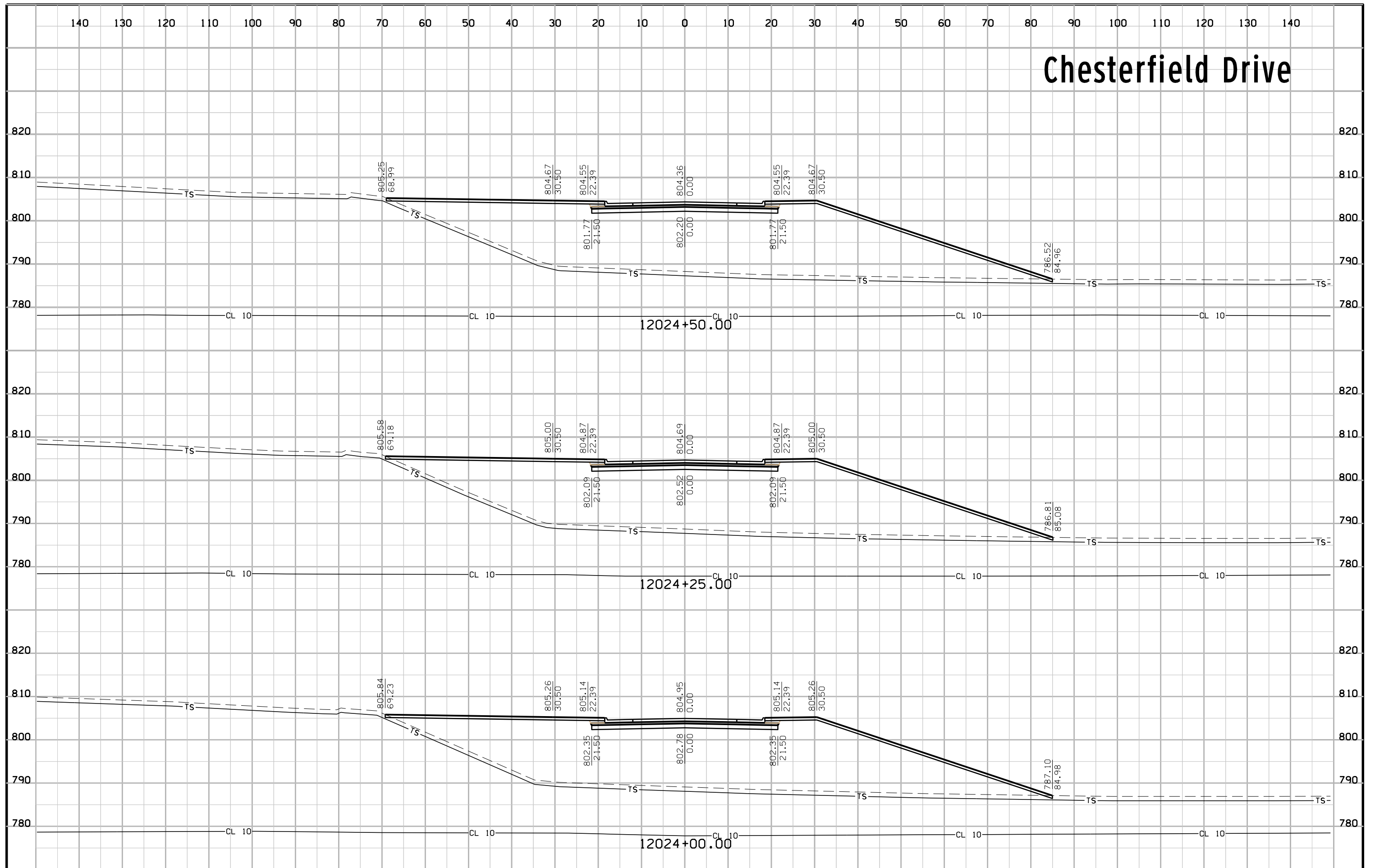


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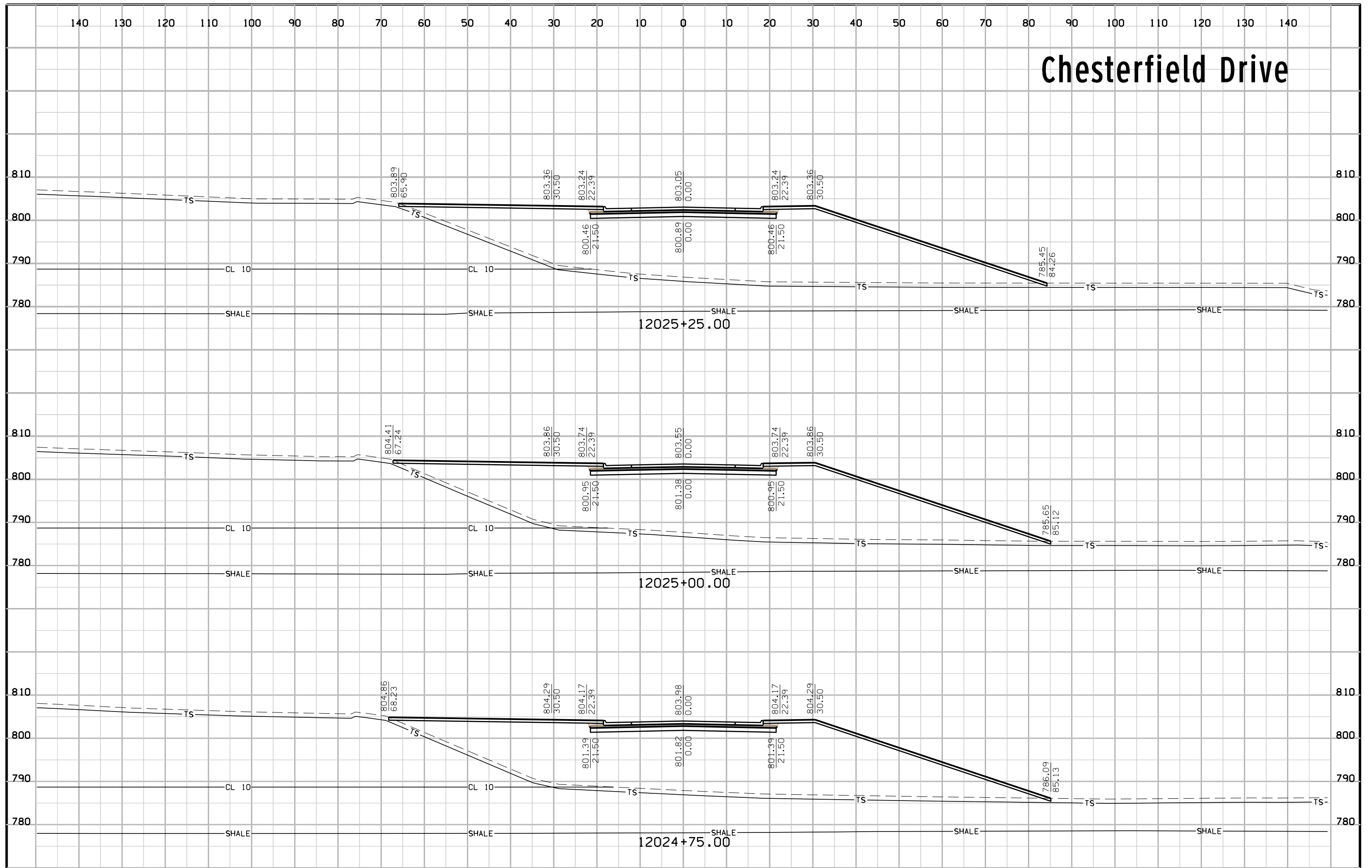




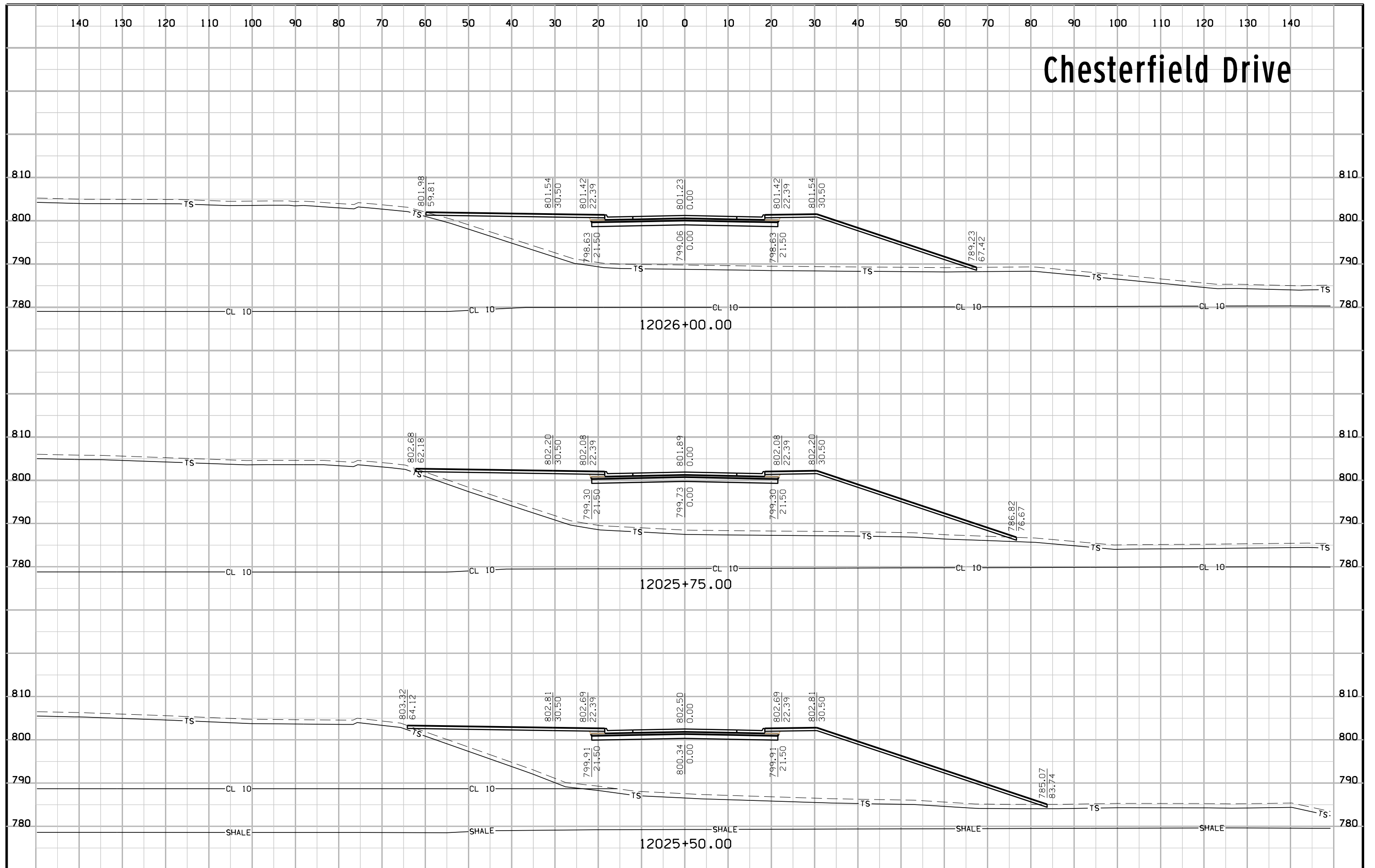
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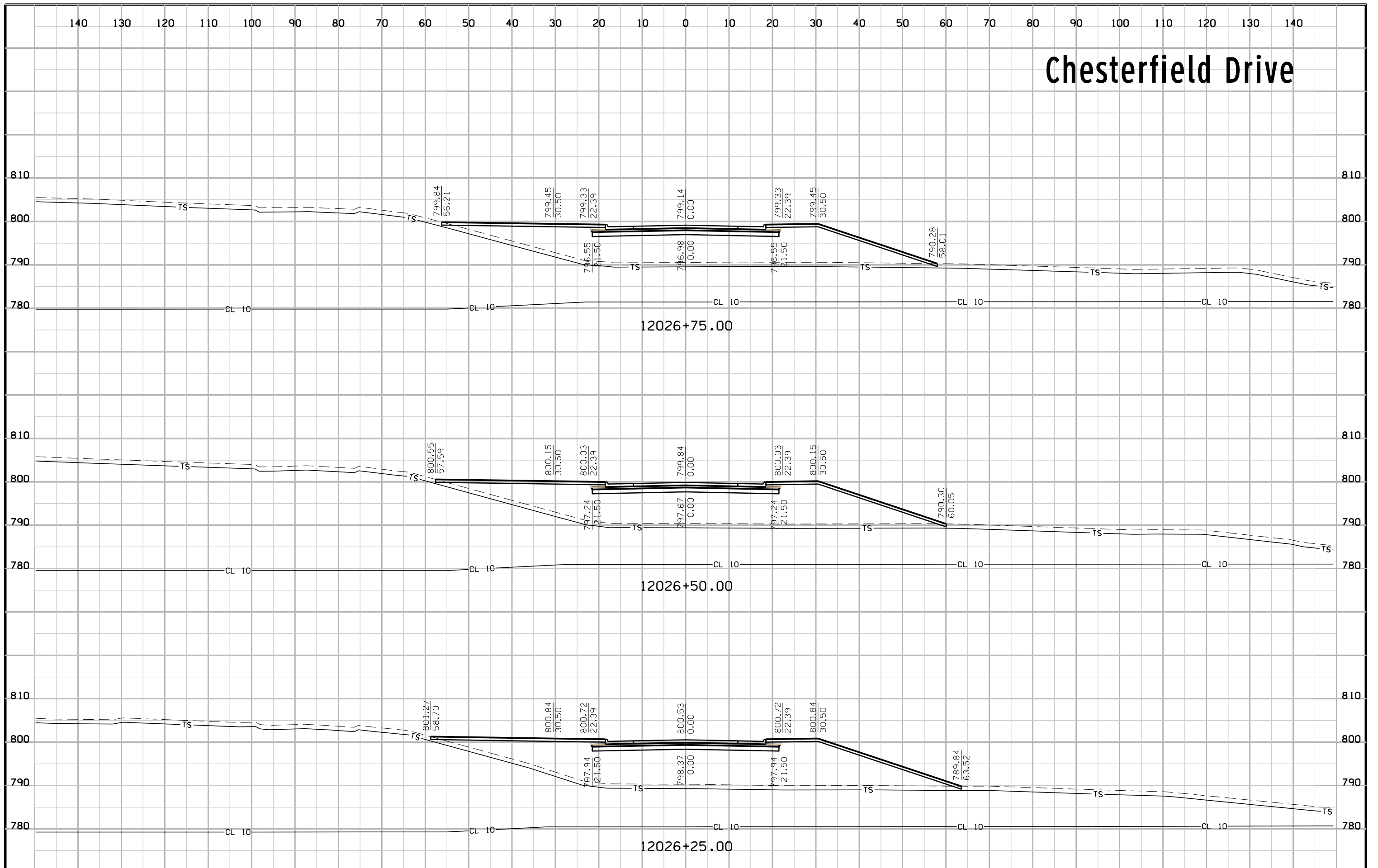
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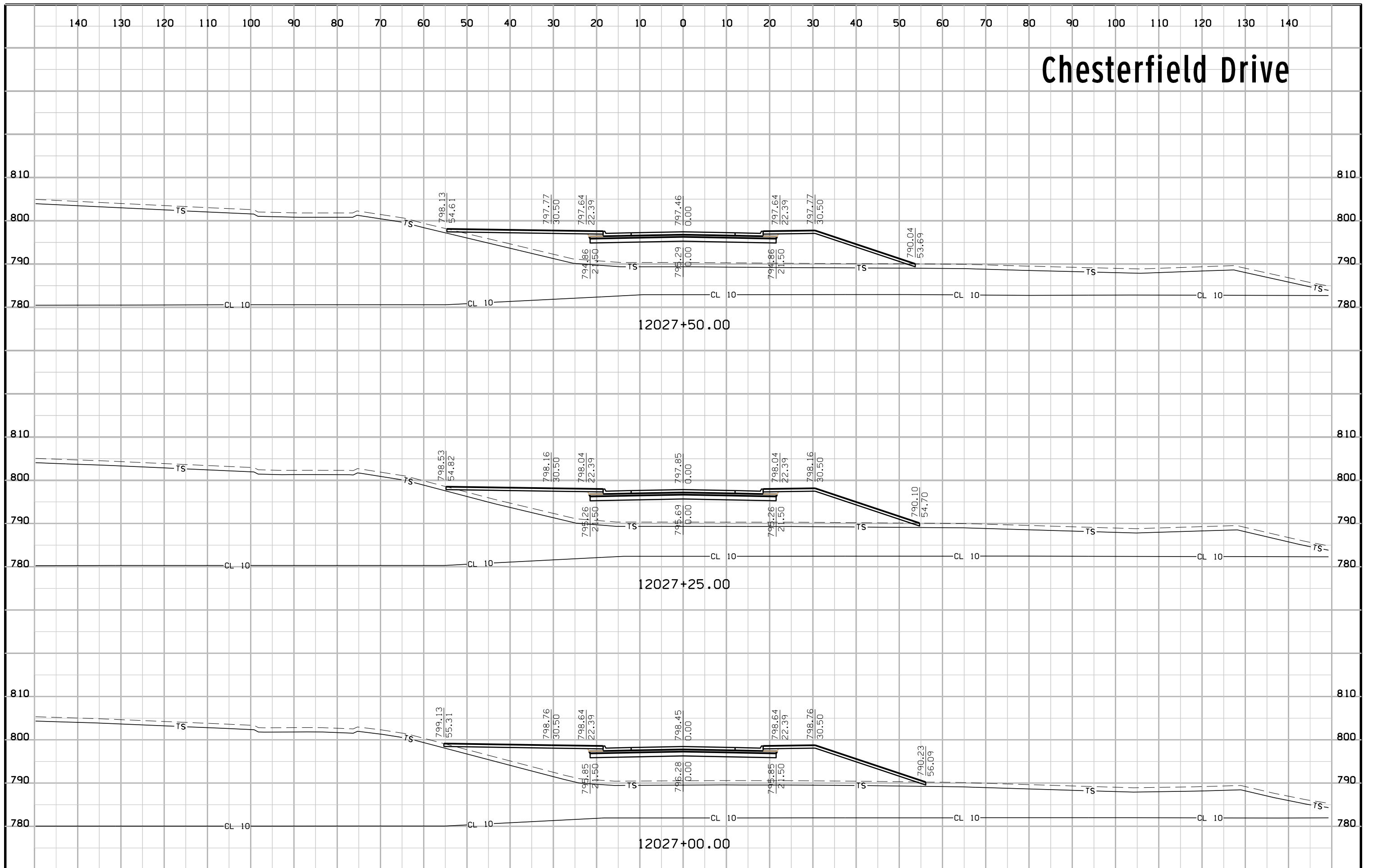
# Chesterfield Drive



# Chesterfield Drive

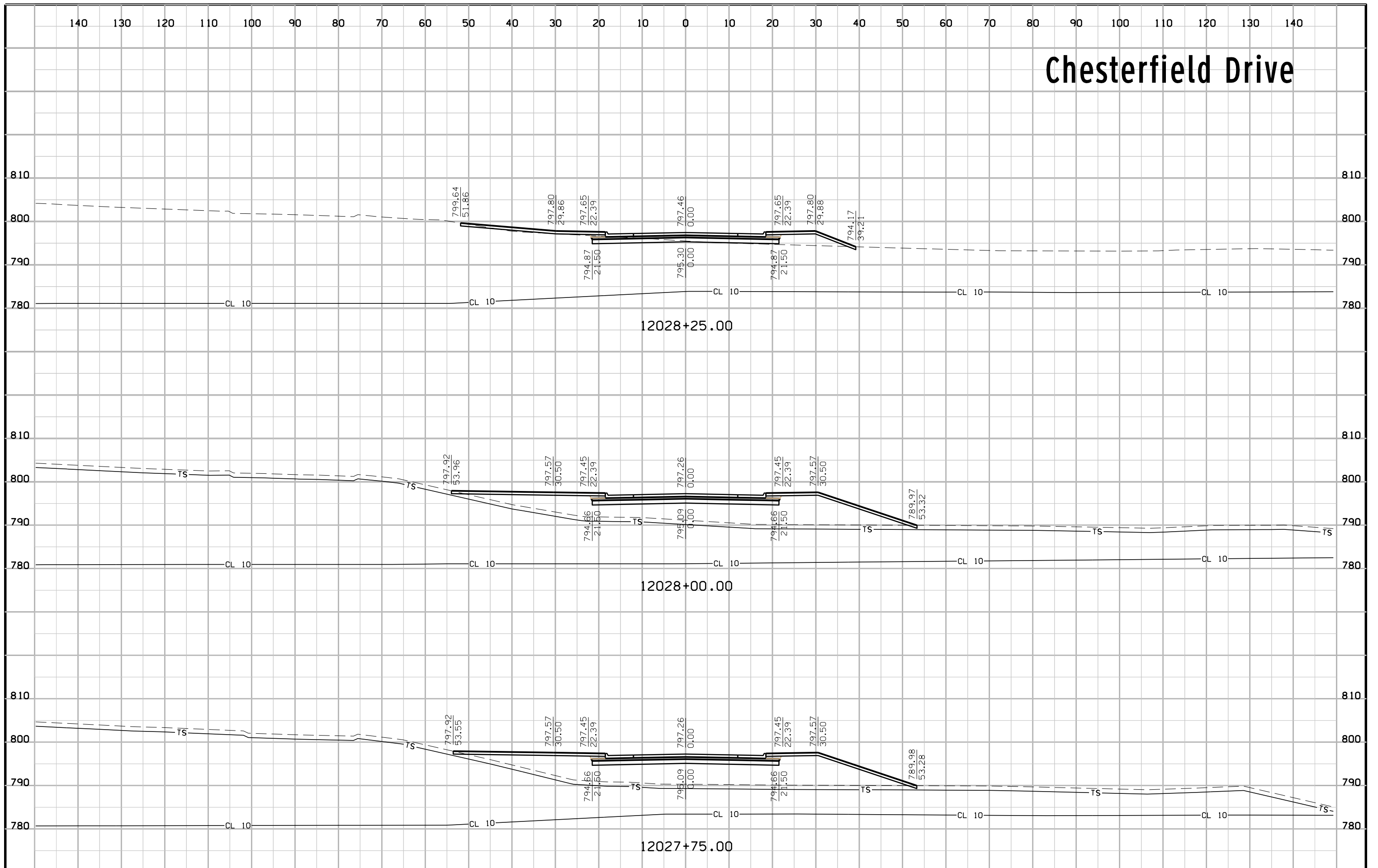


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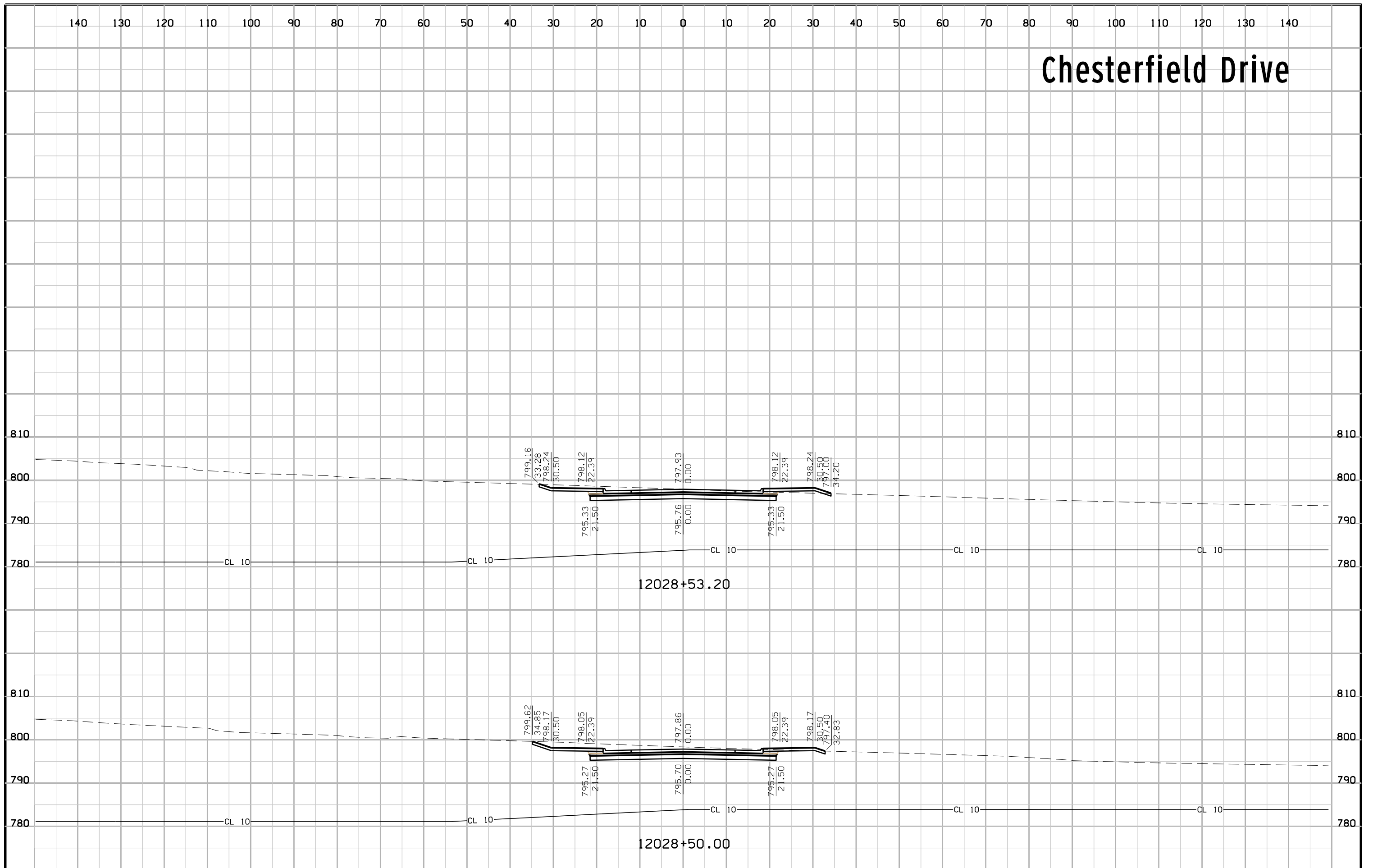




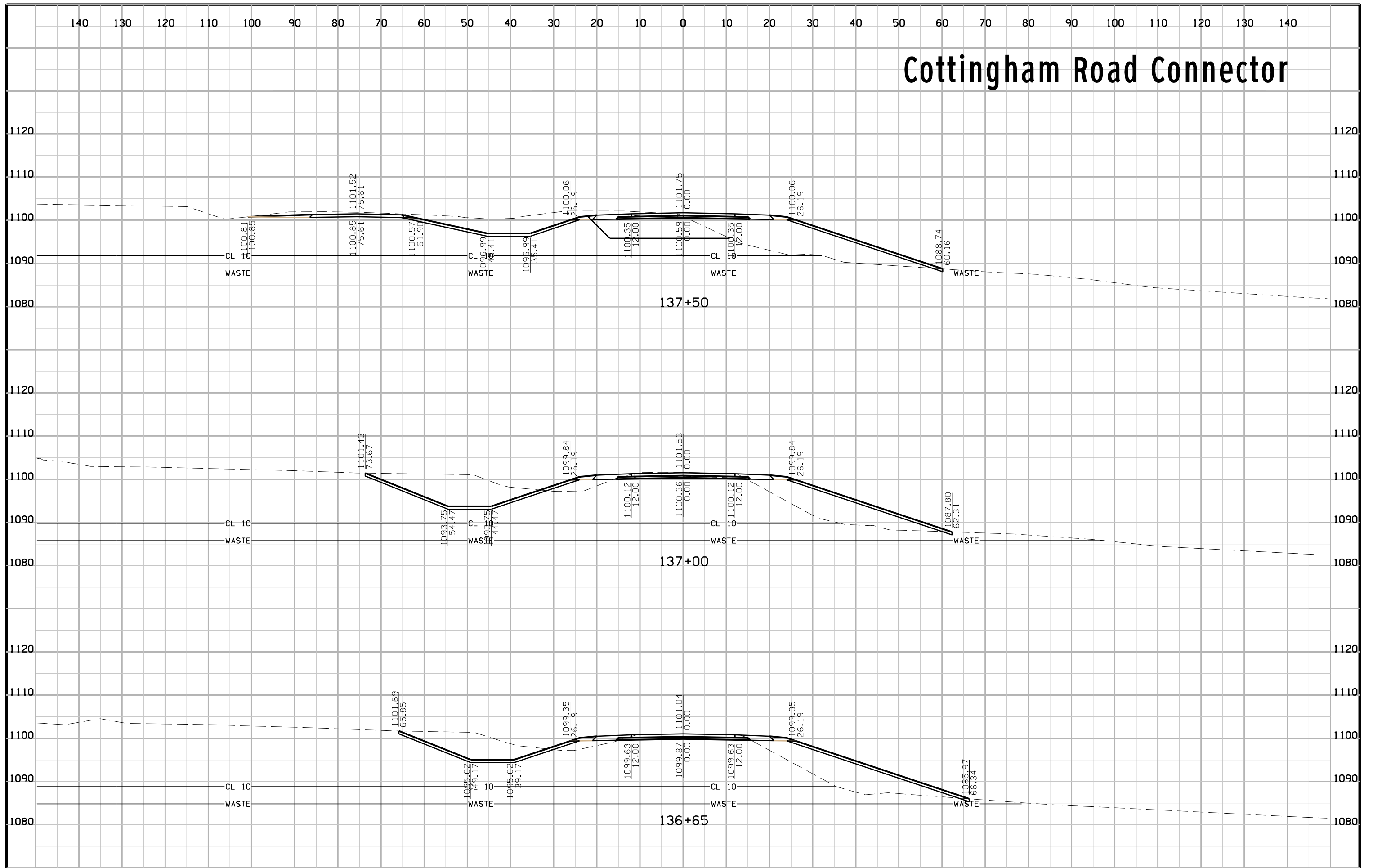
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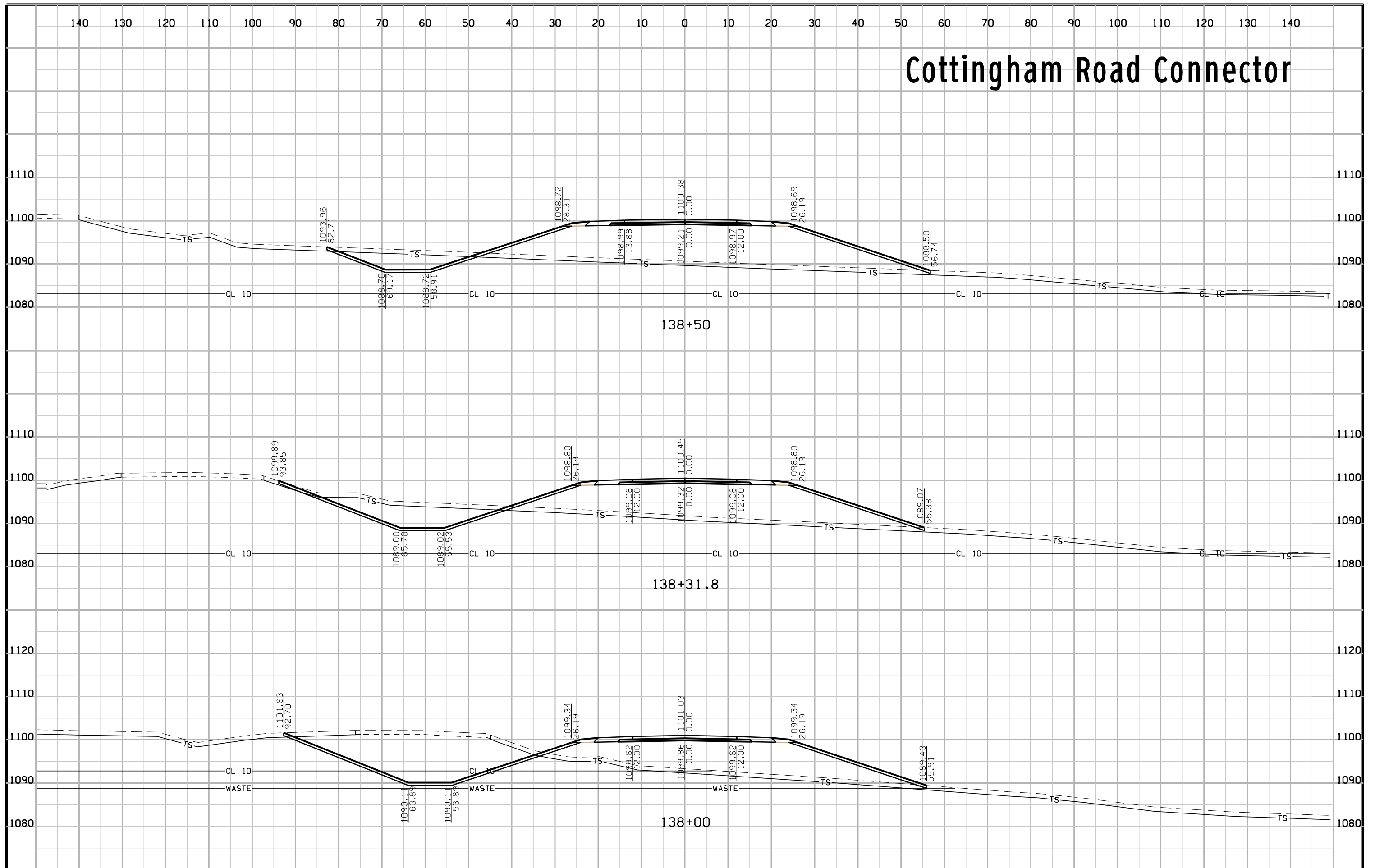
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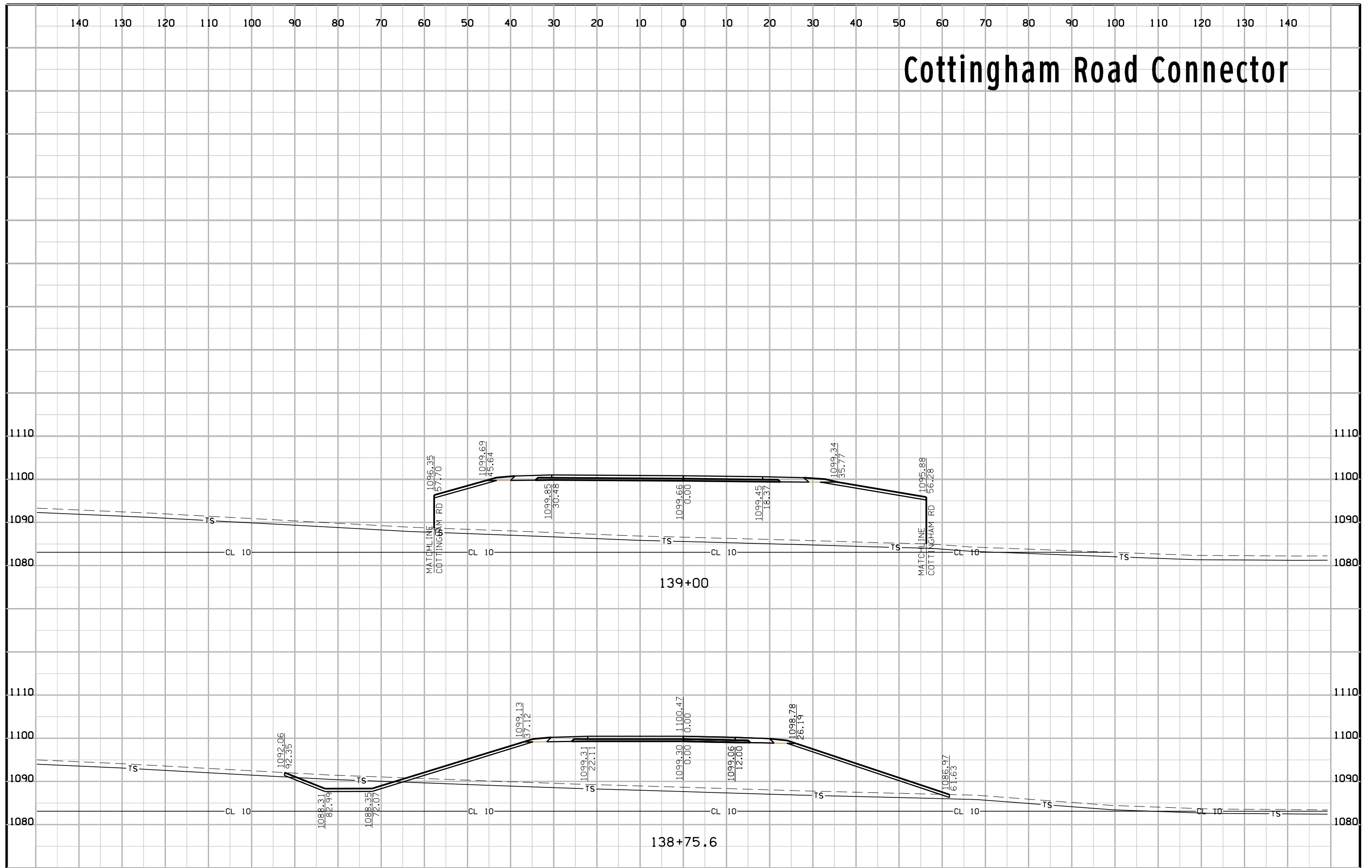
# Cottingham Road Connector



# Cottingham Road Connector

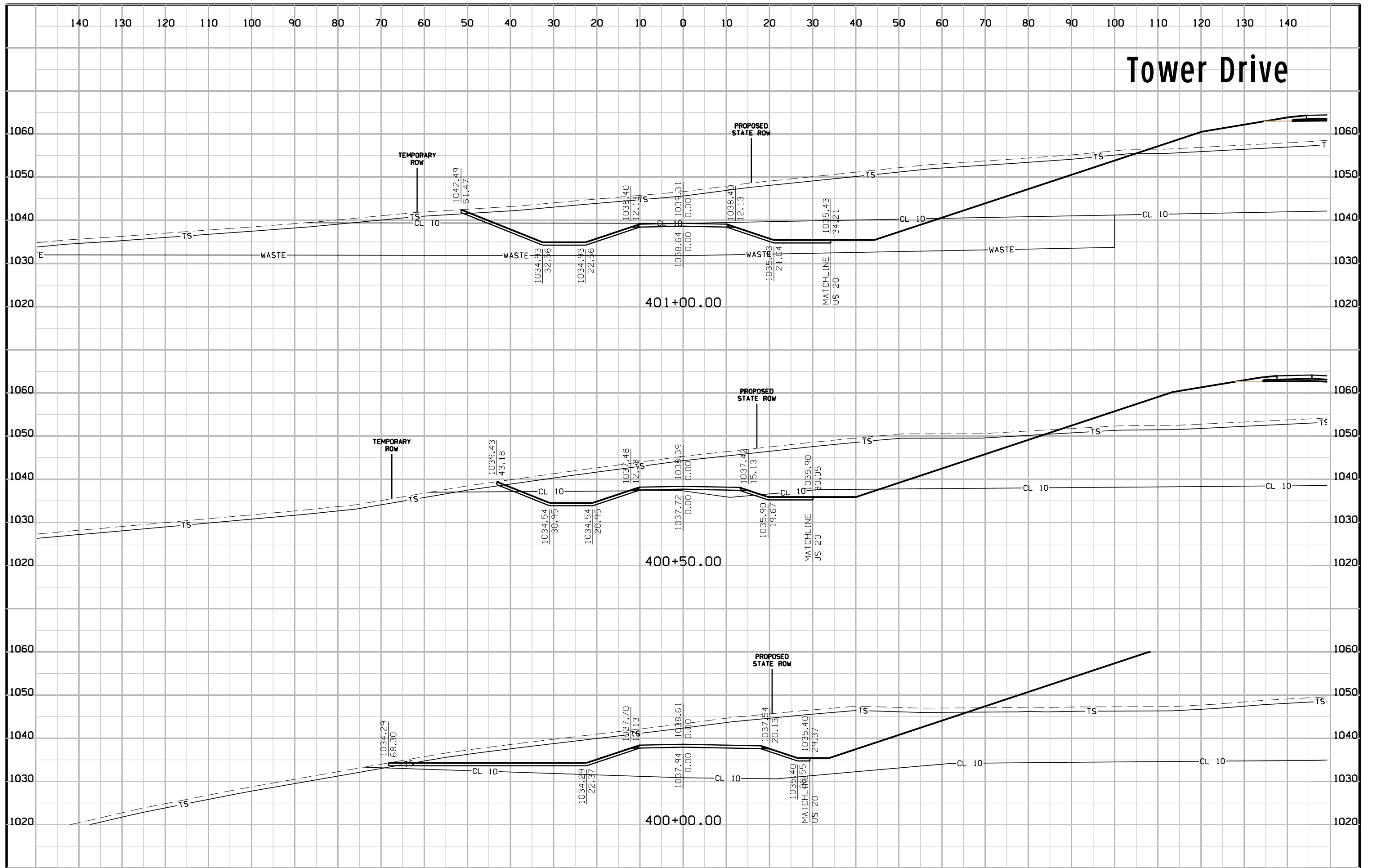


# Cottingham Road Connector

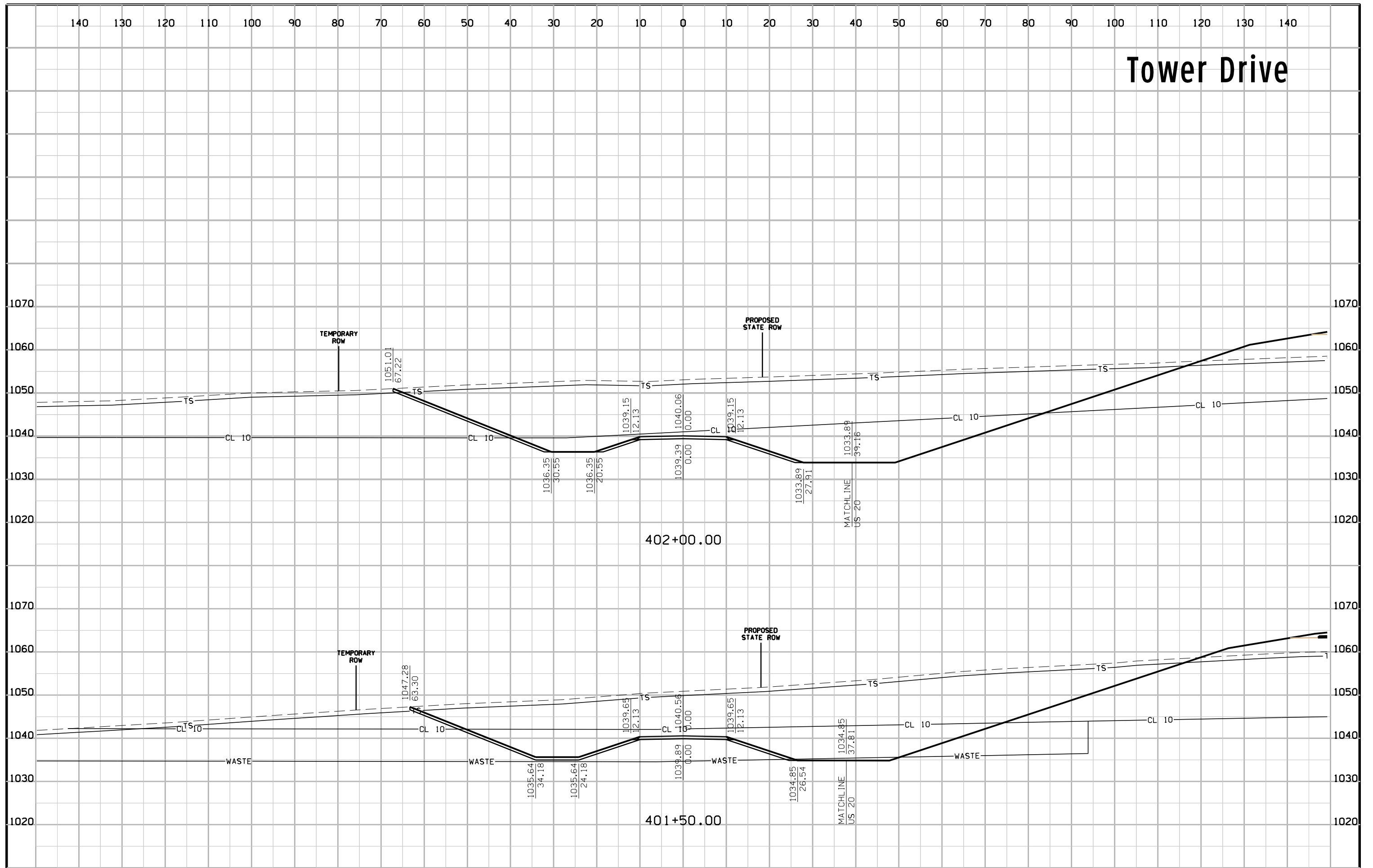




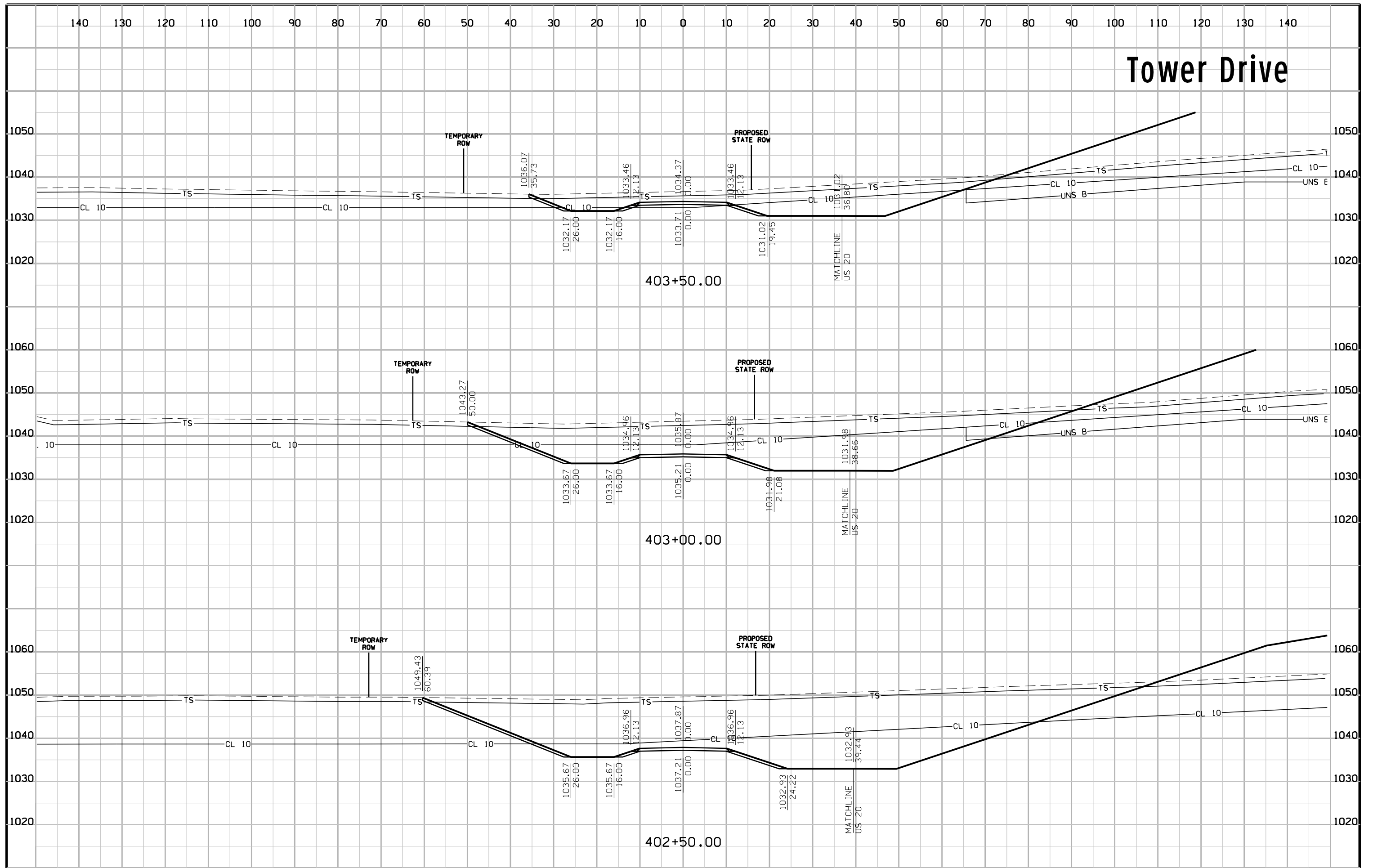
# Tower Drive



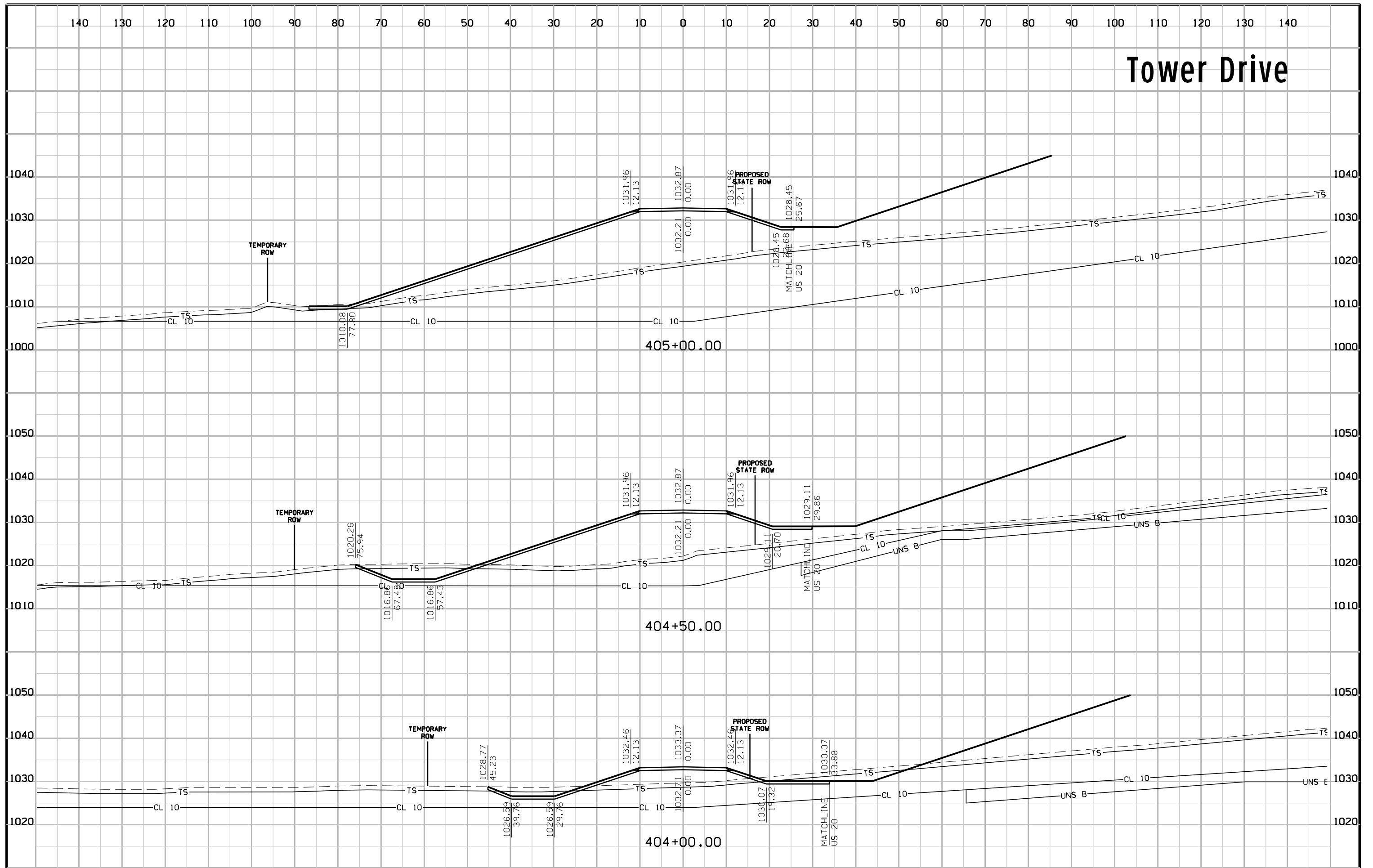
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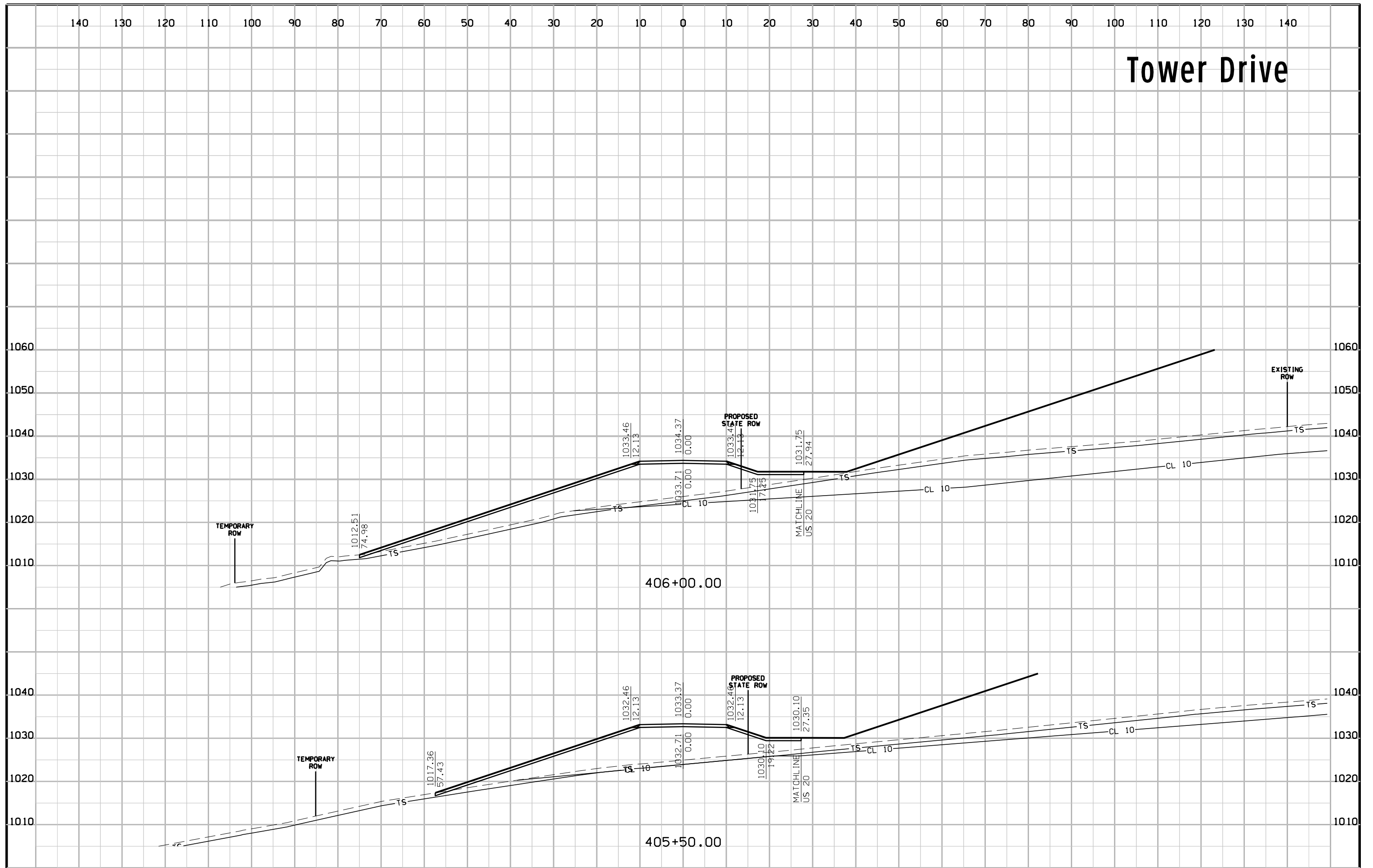
# Tower Drive



# Tower Drive

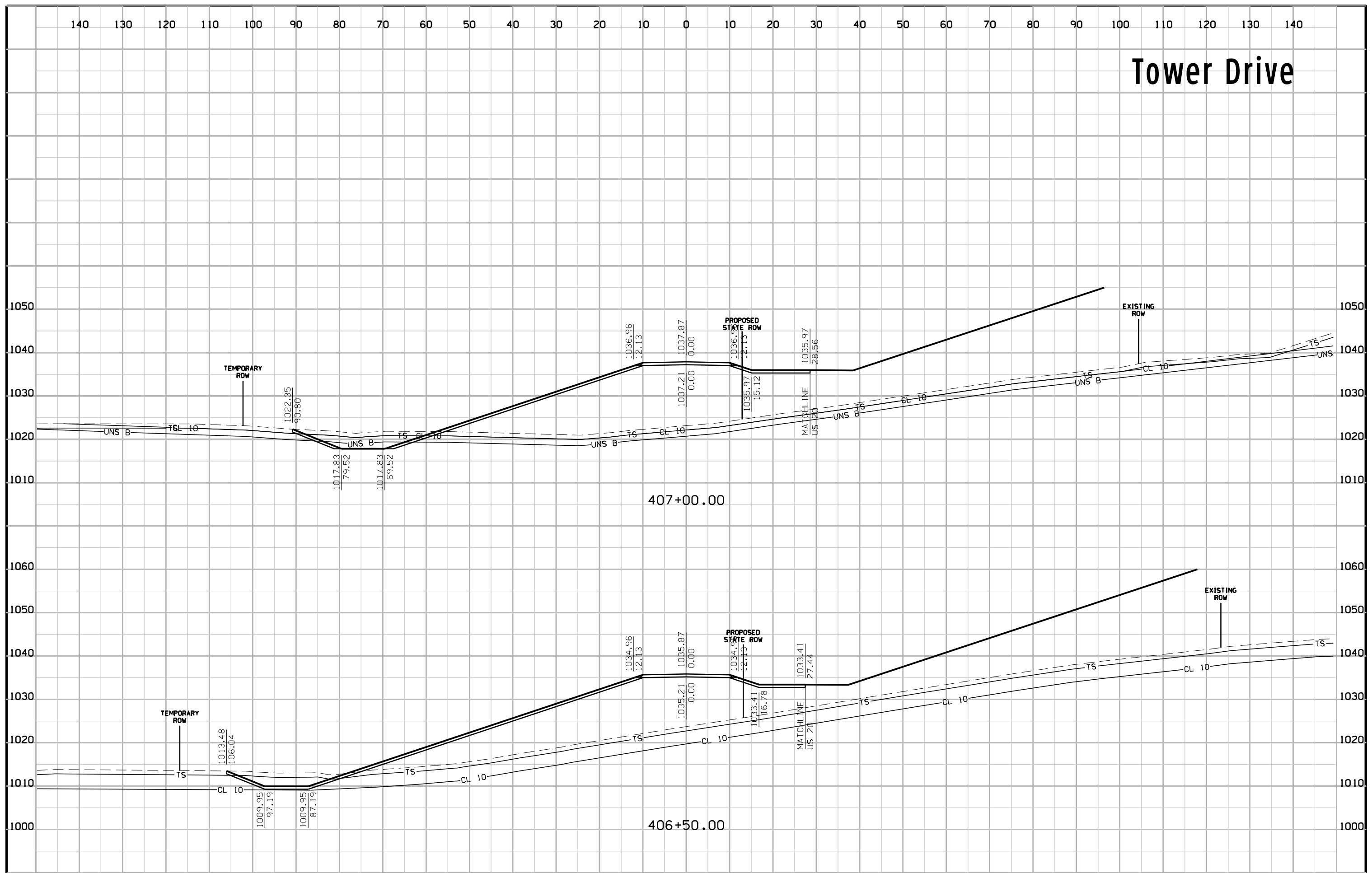


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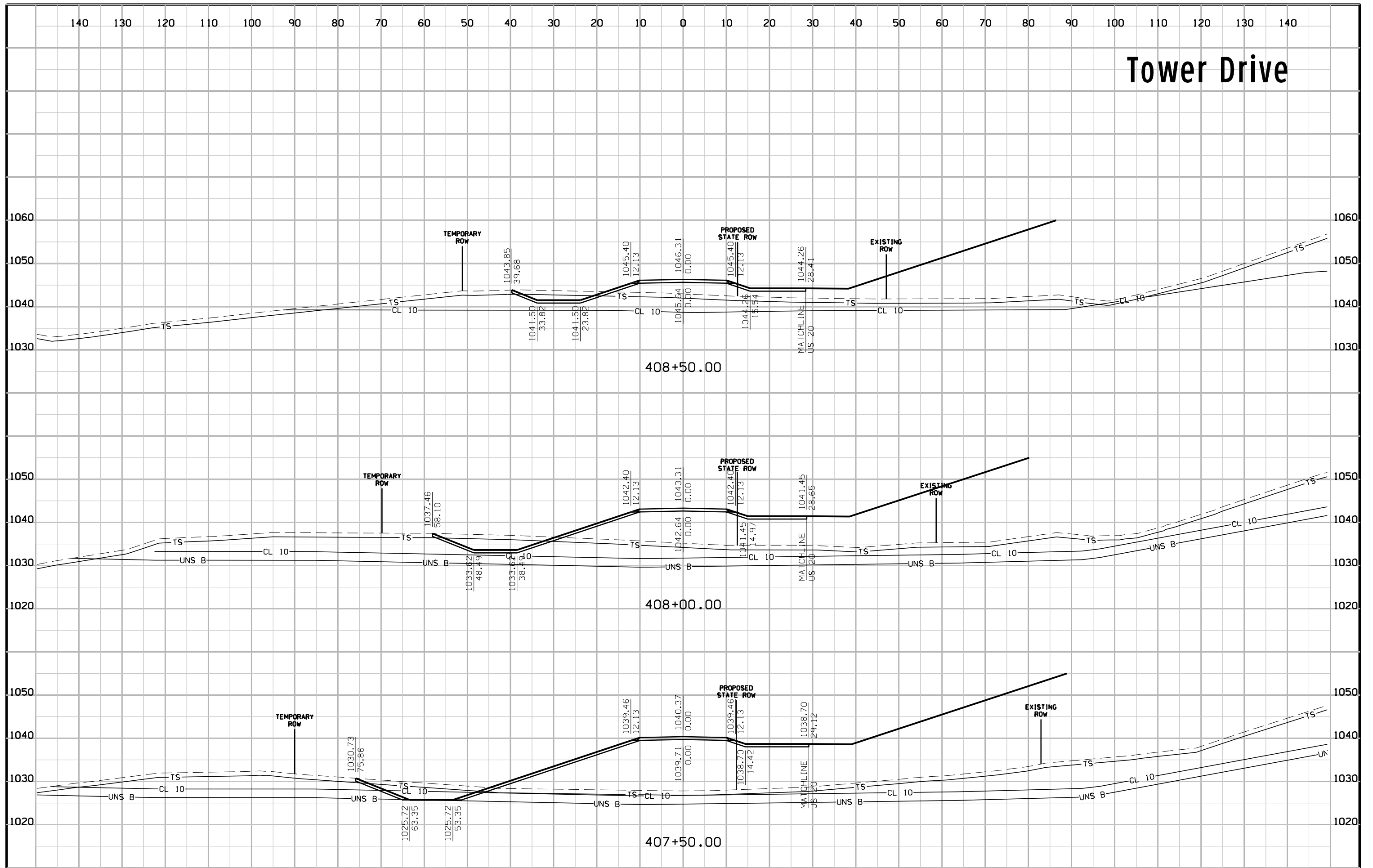




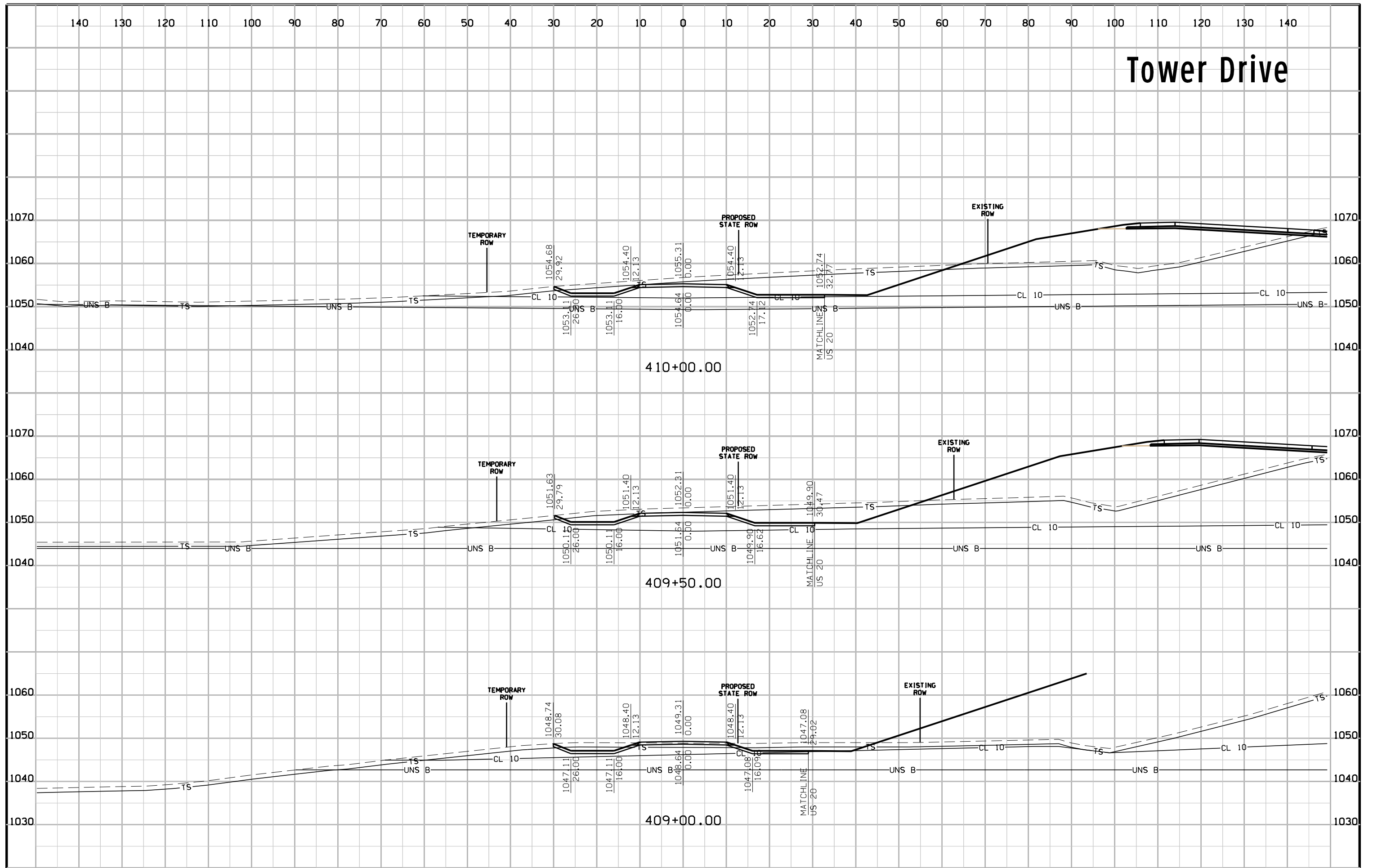
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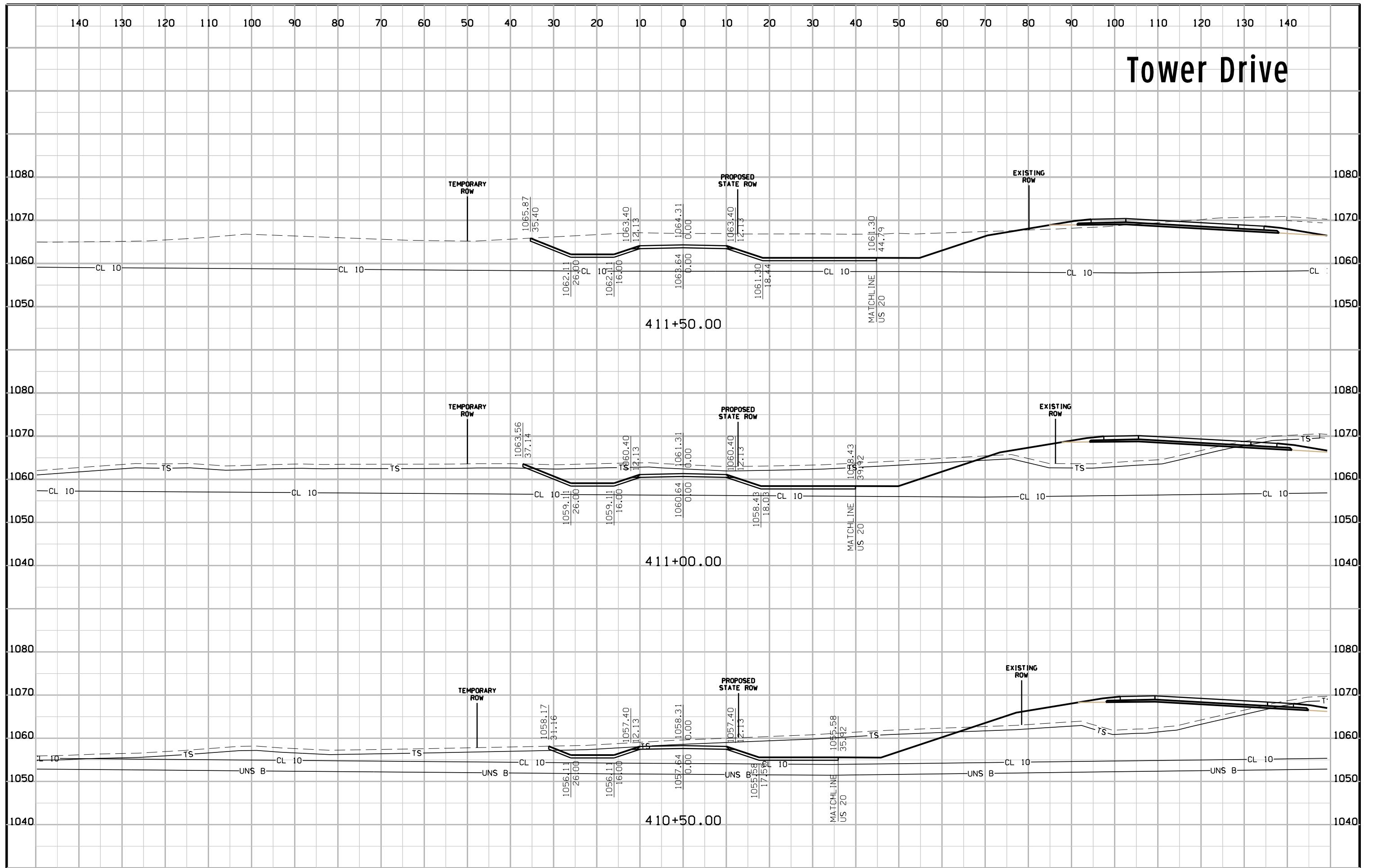
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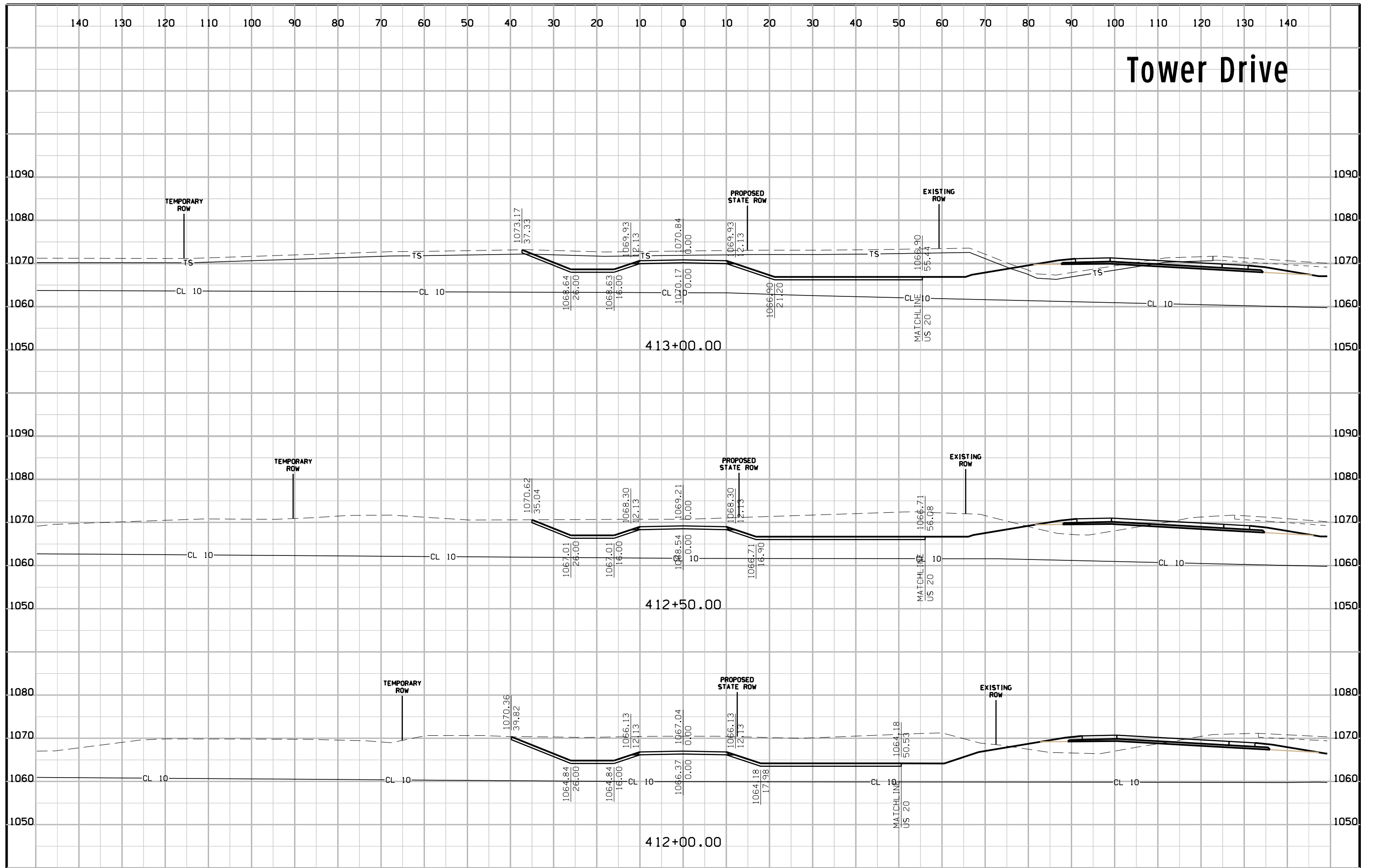
# Tower Drive



# Tower Drive

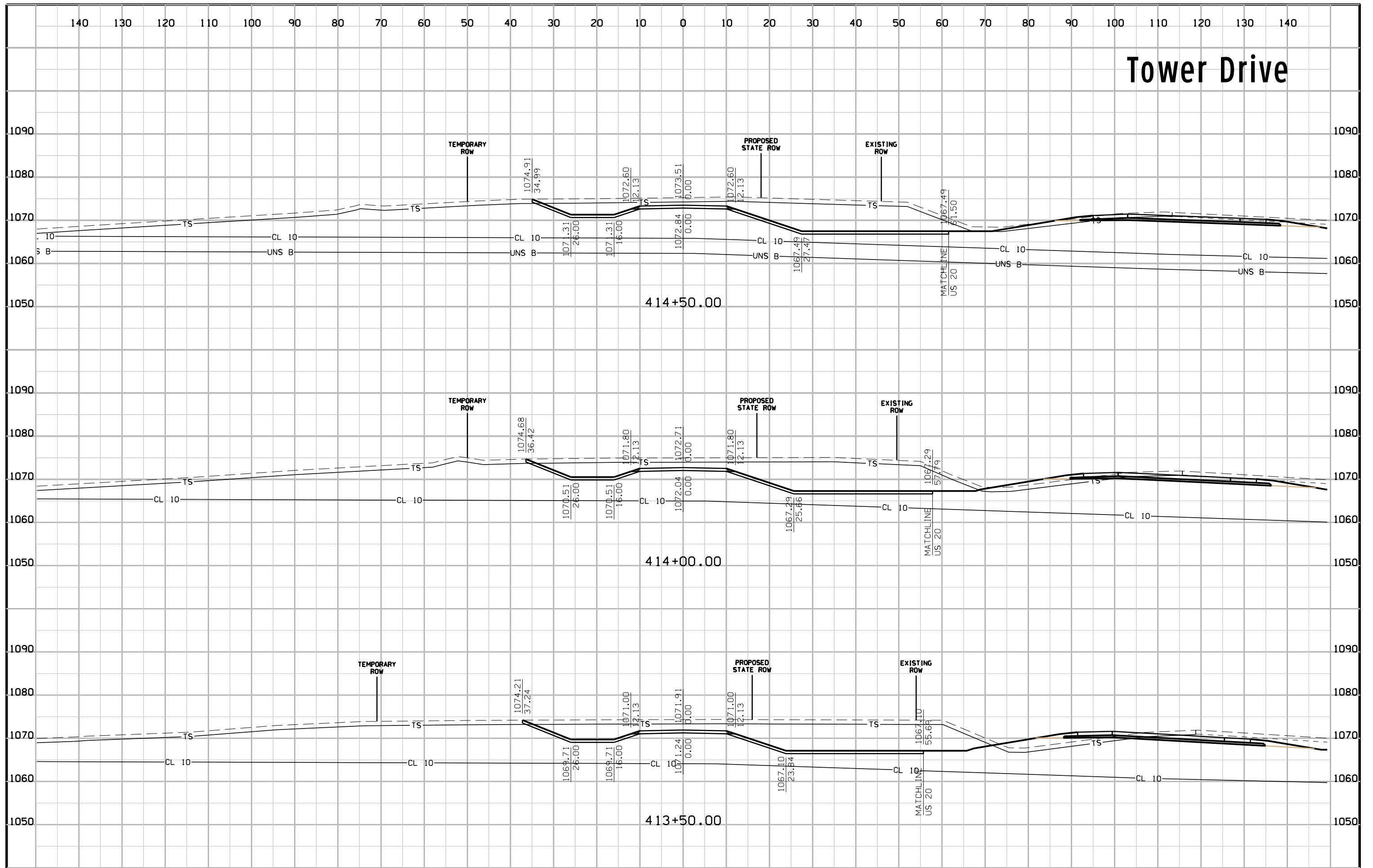


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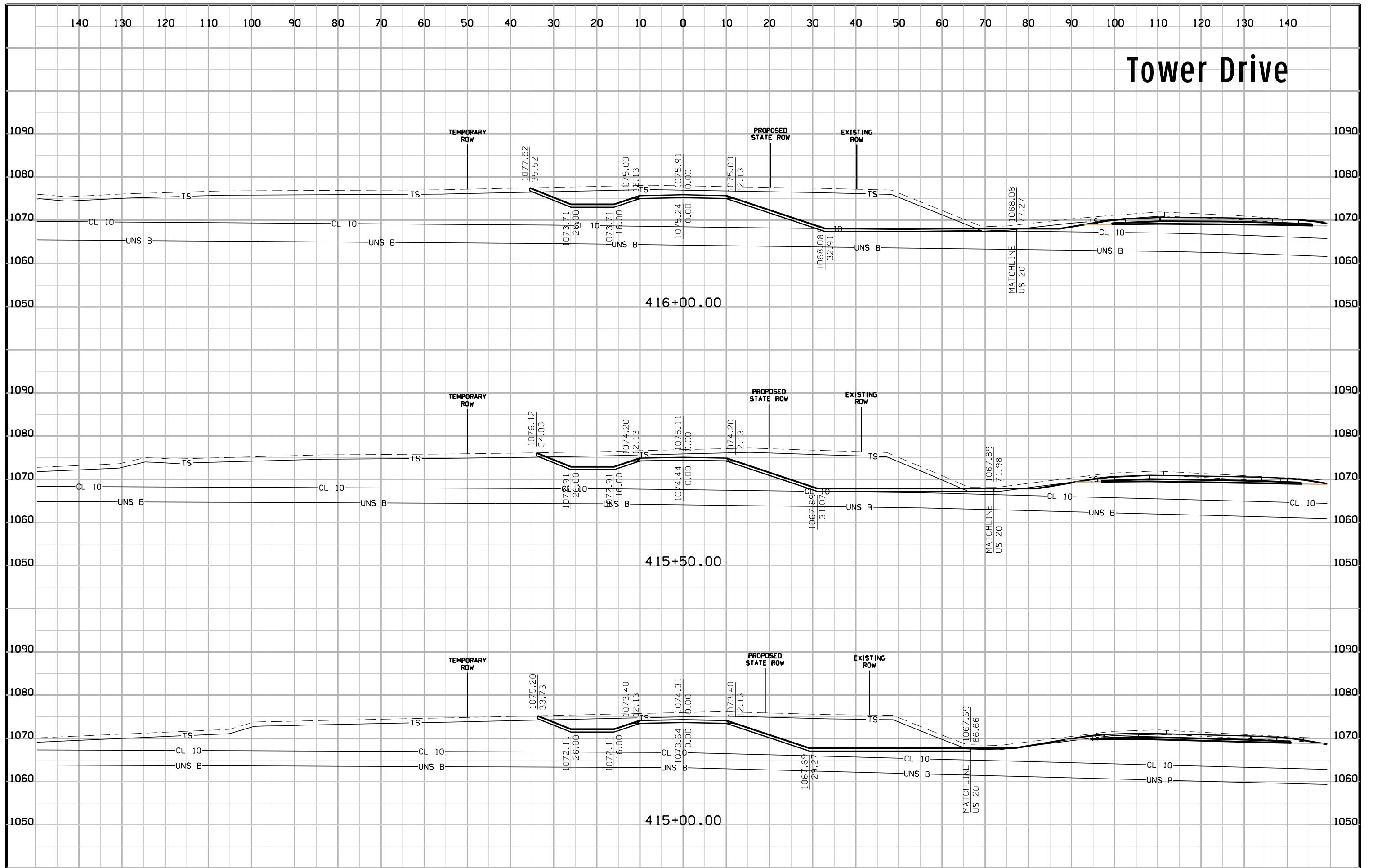




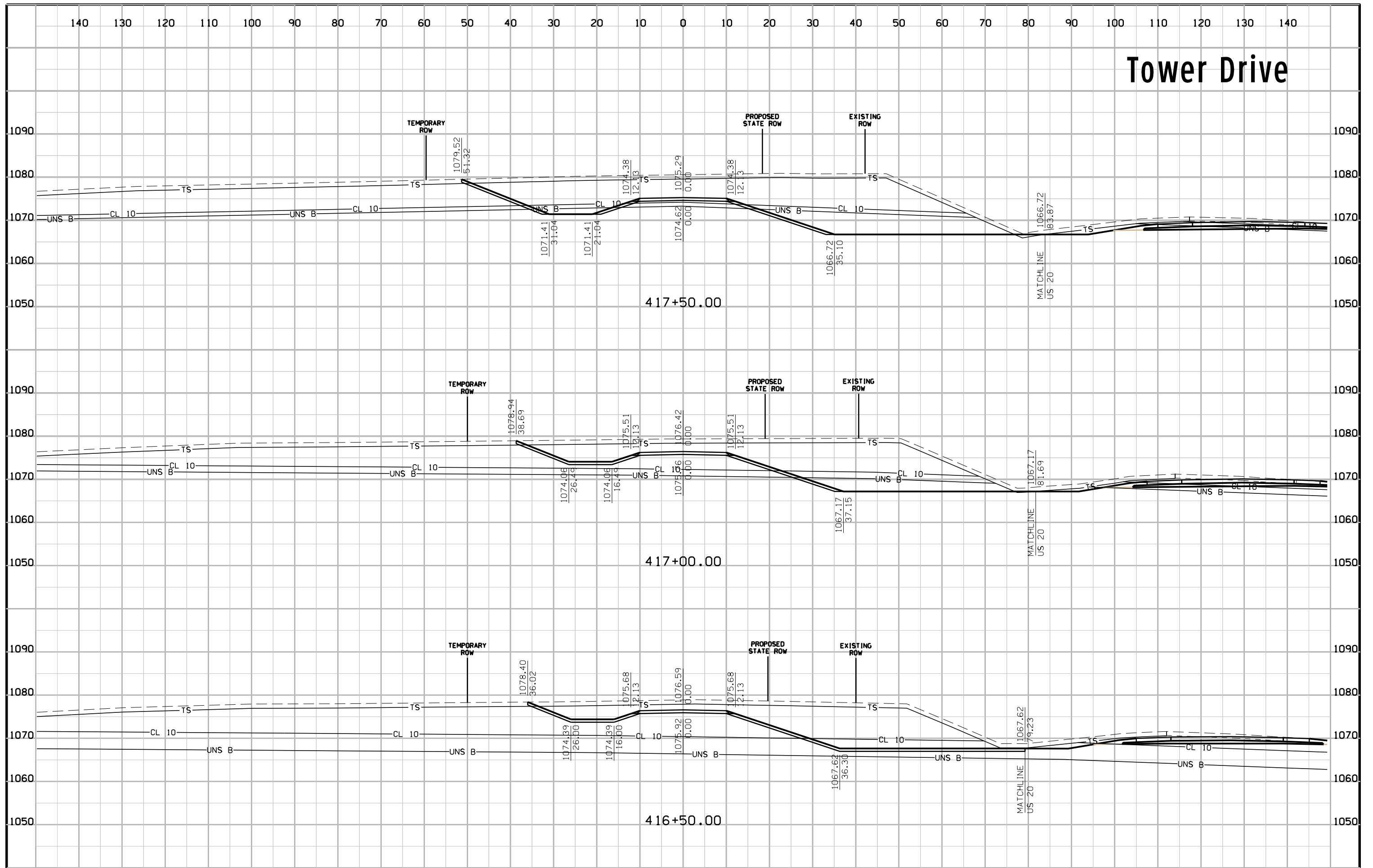
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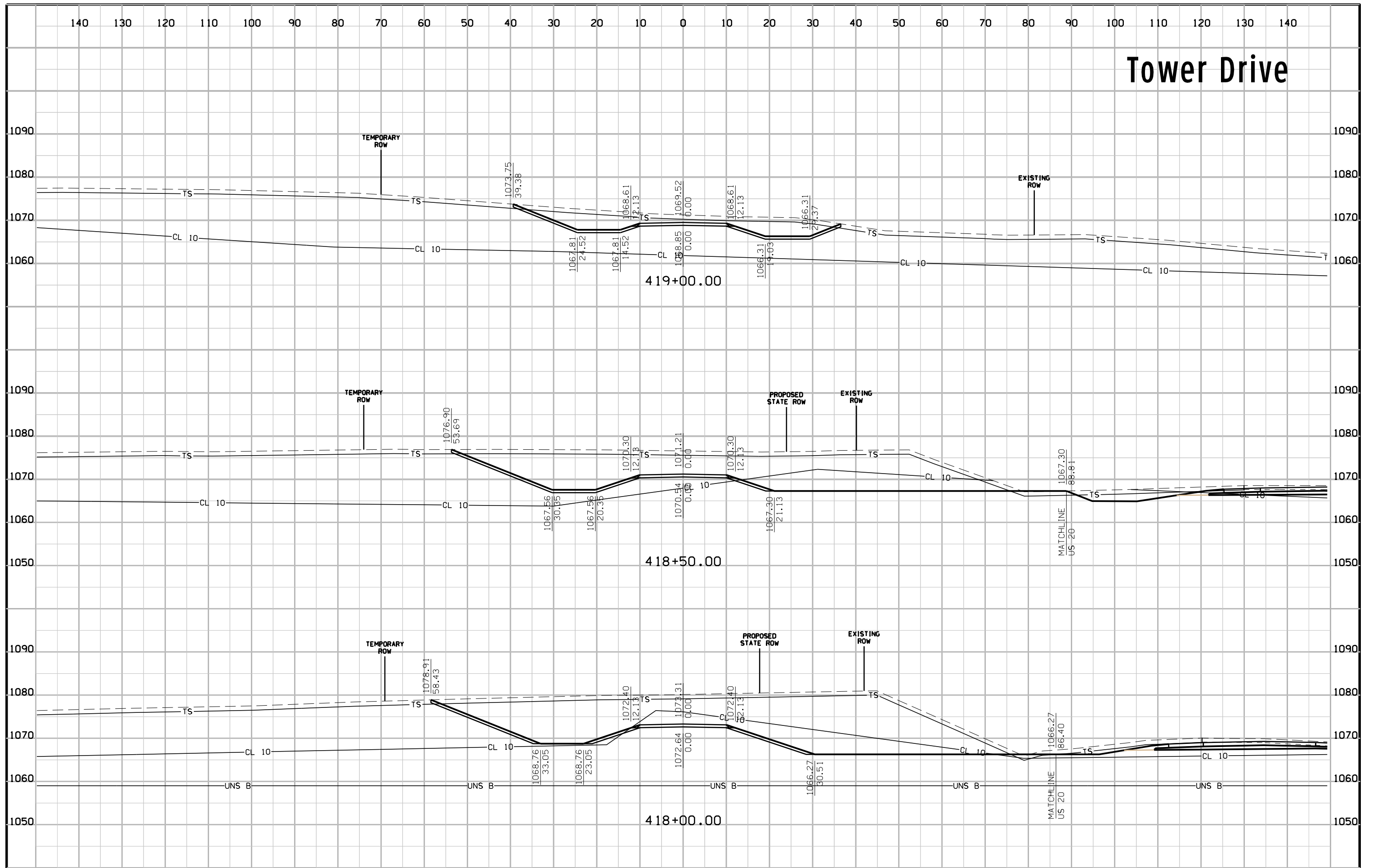
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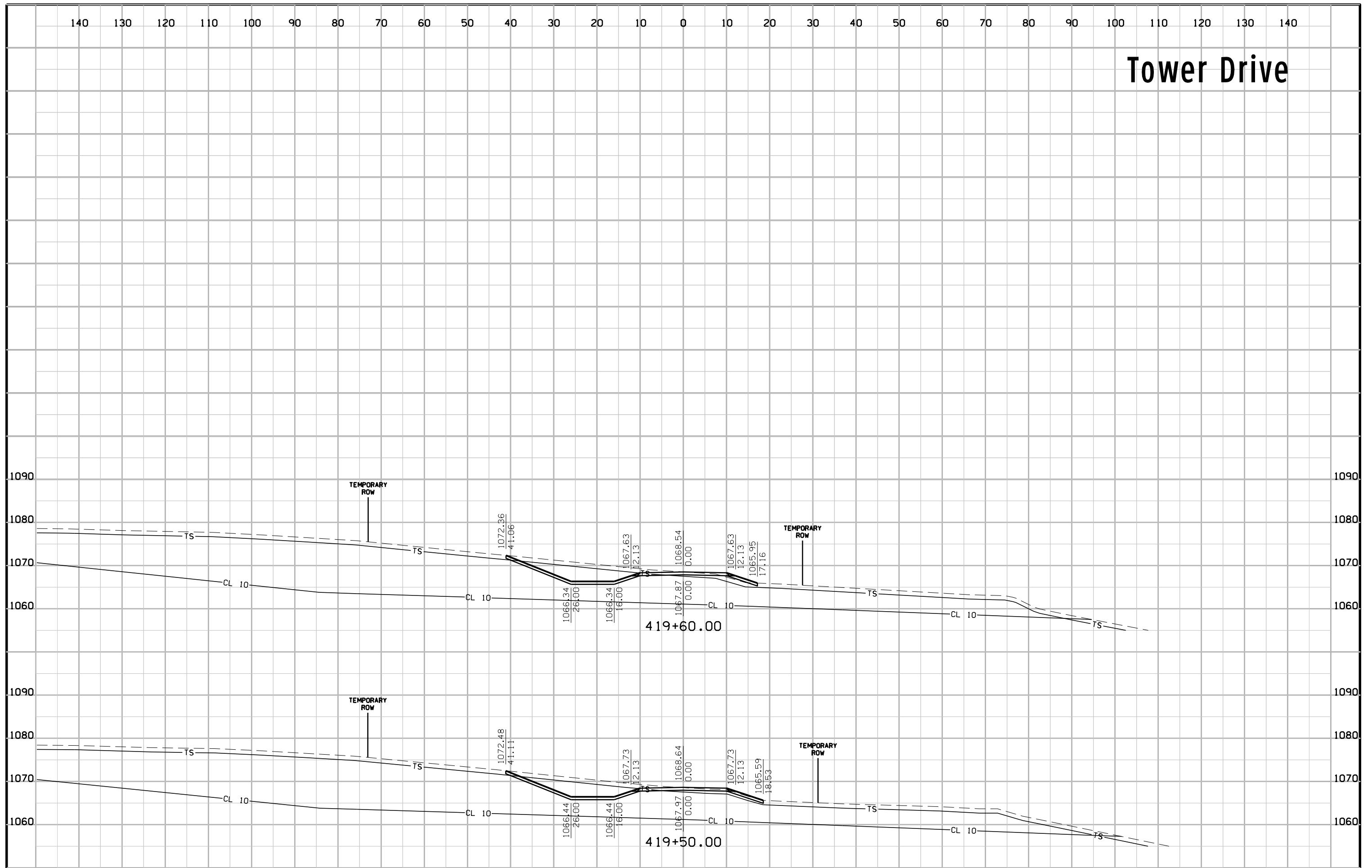
# Tower Drive



# Tower Drive

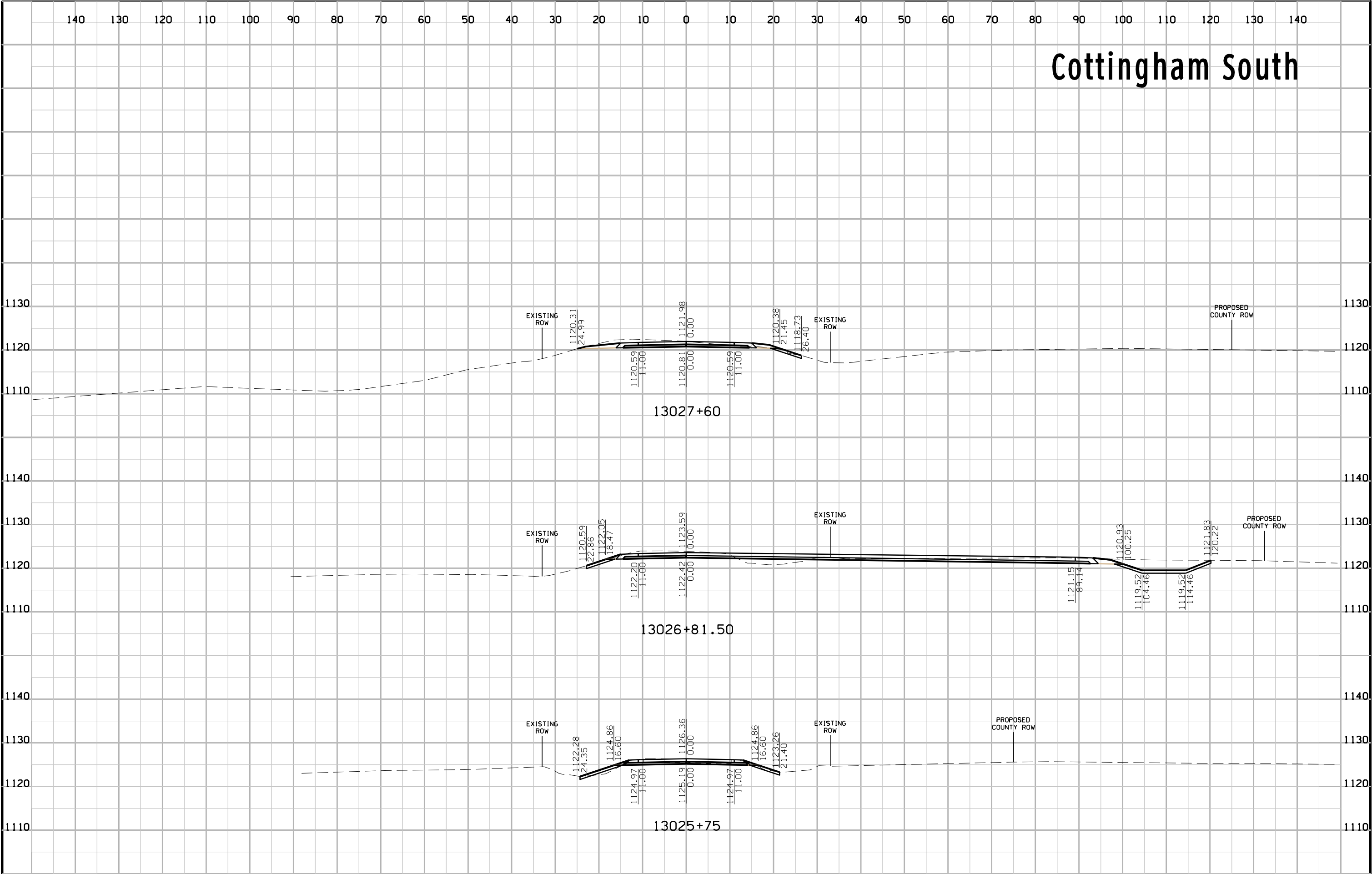


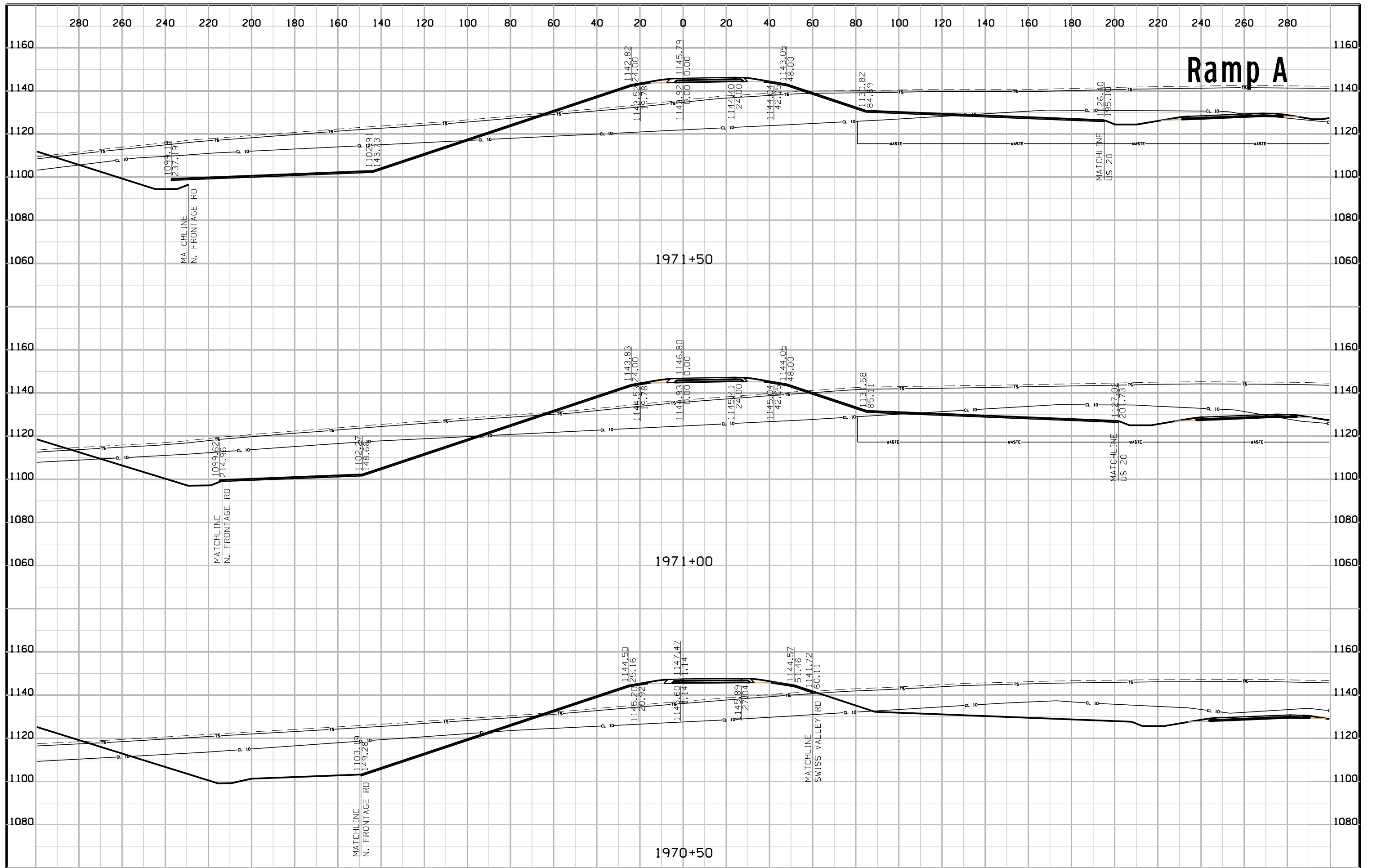
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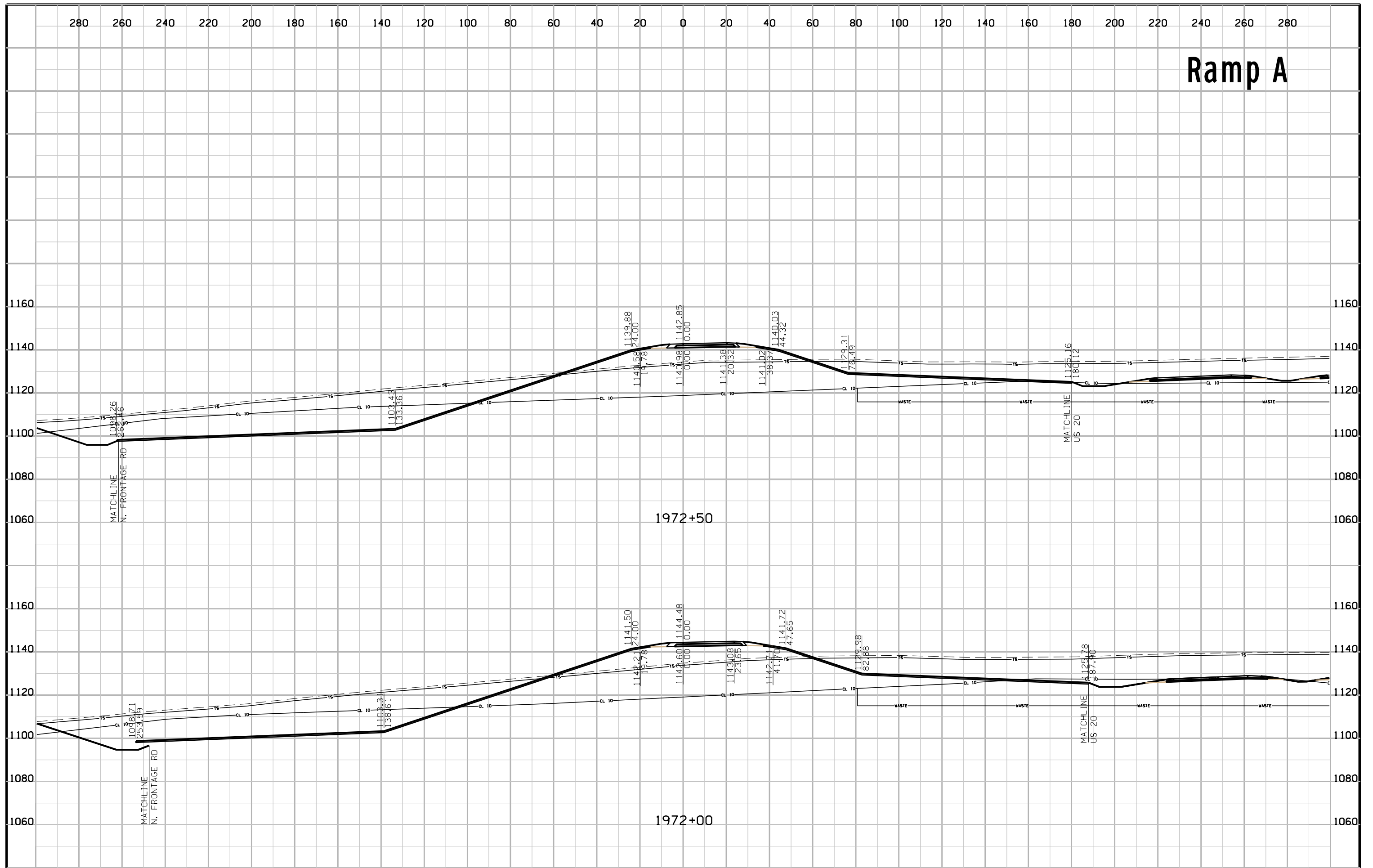


# Cottingham South

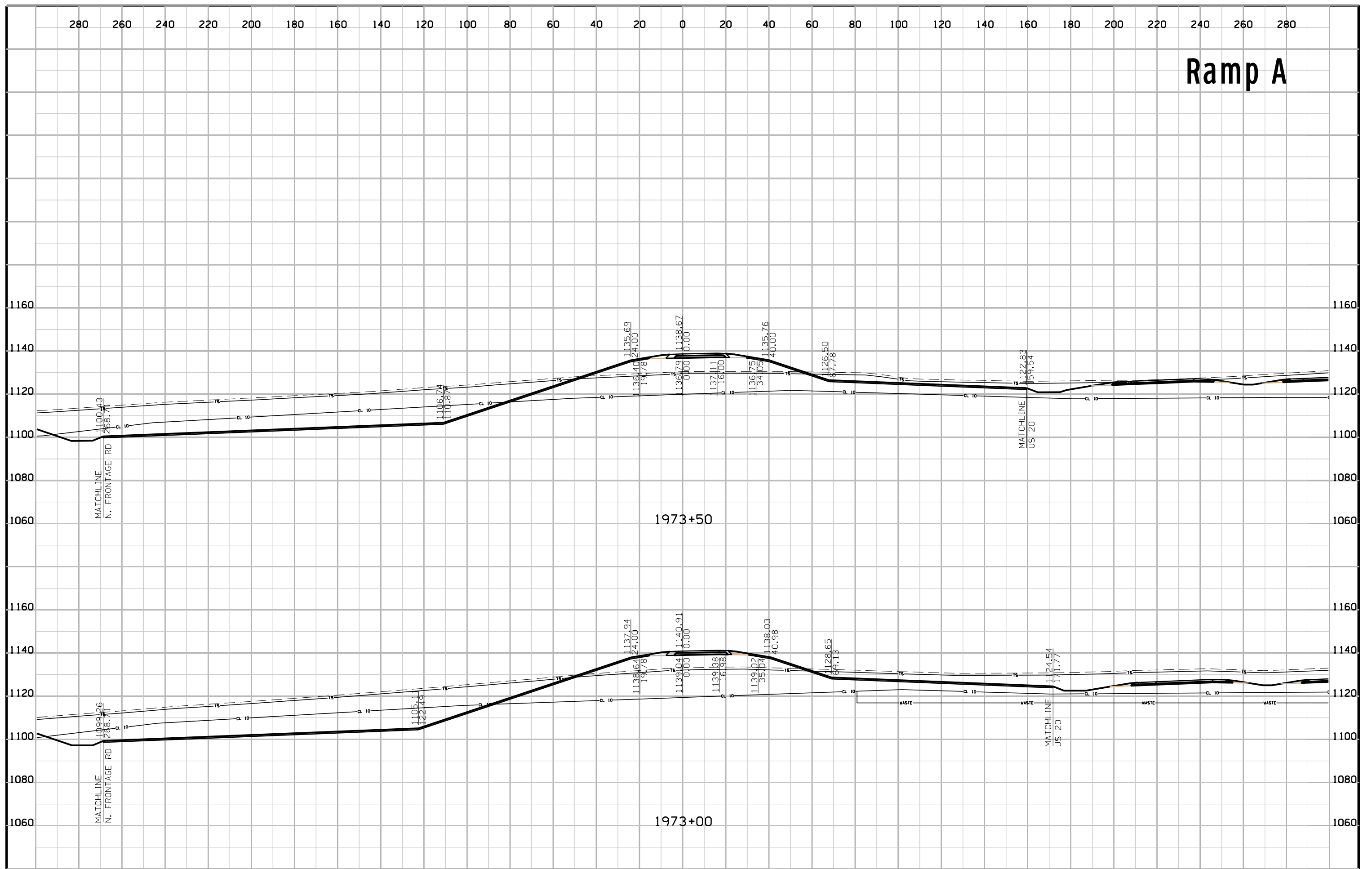




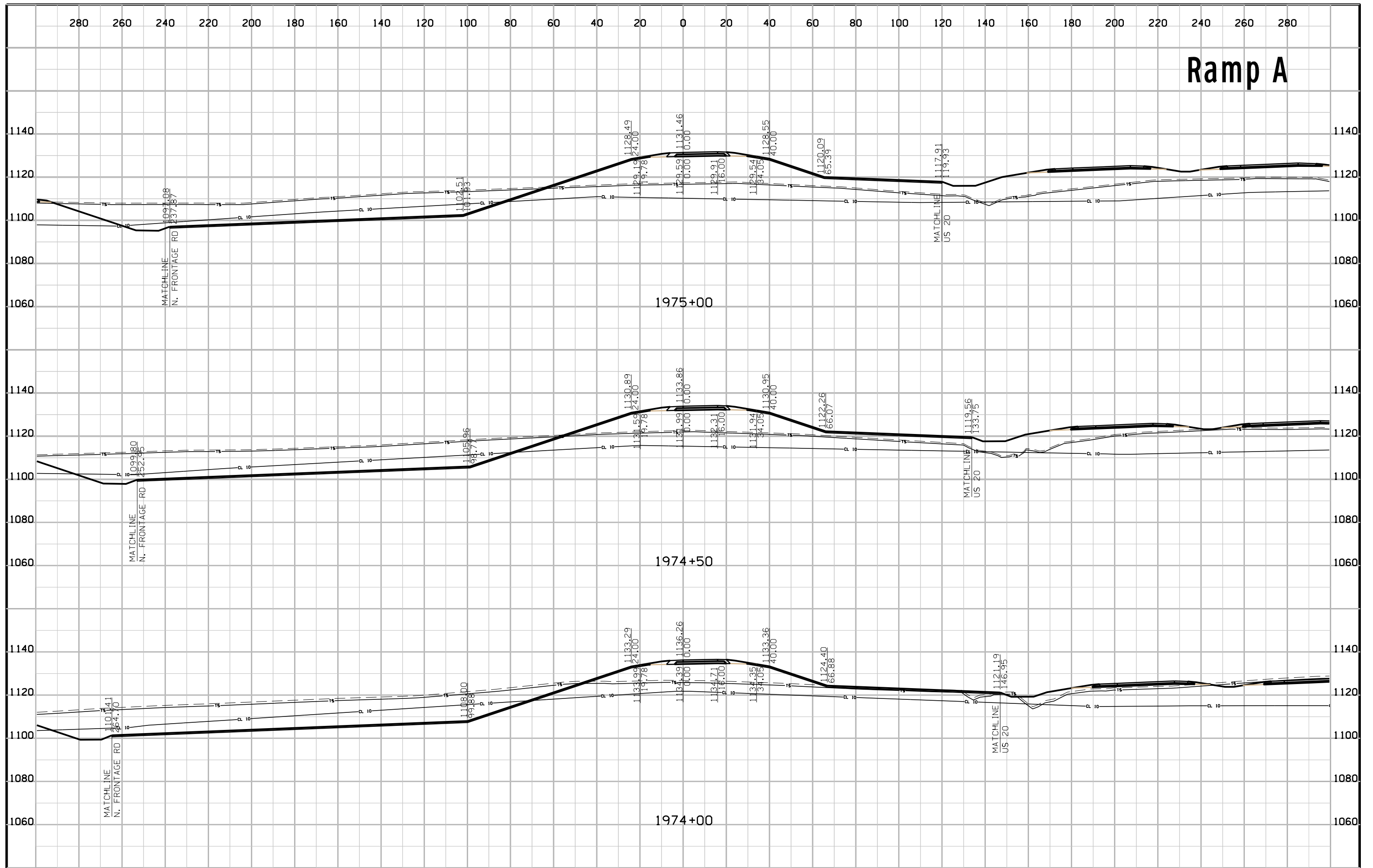
# Ramp A



# Ramp A

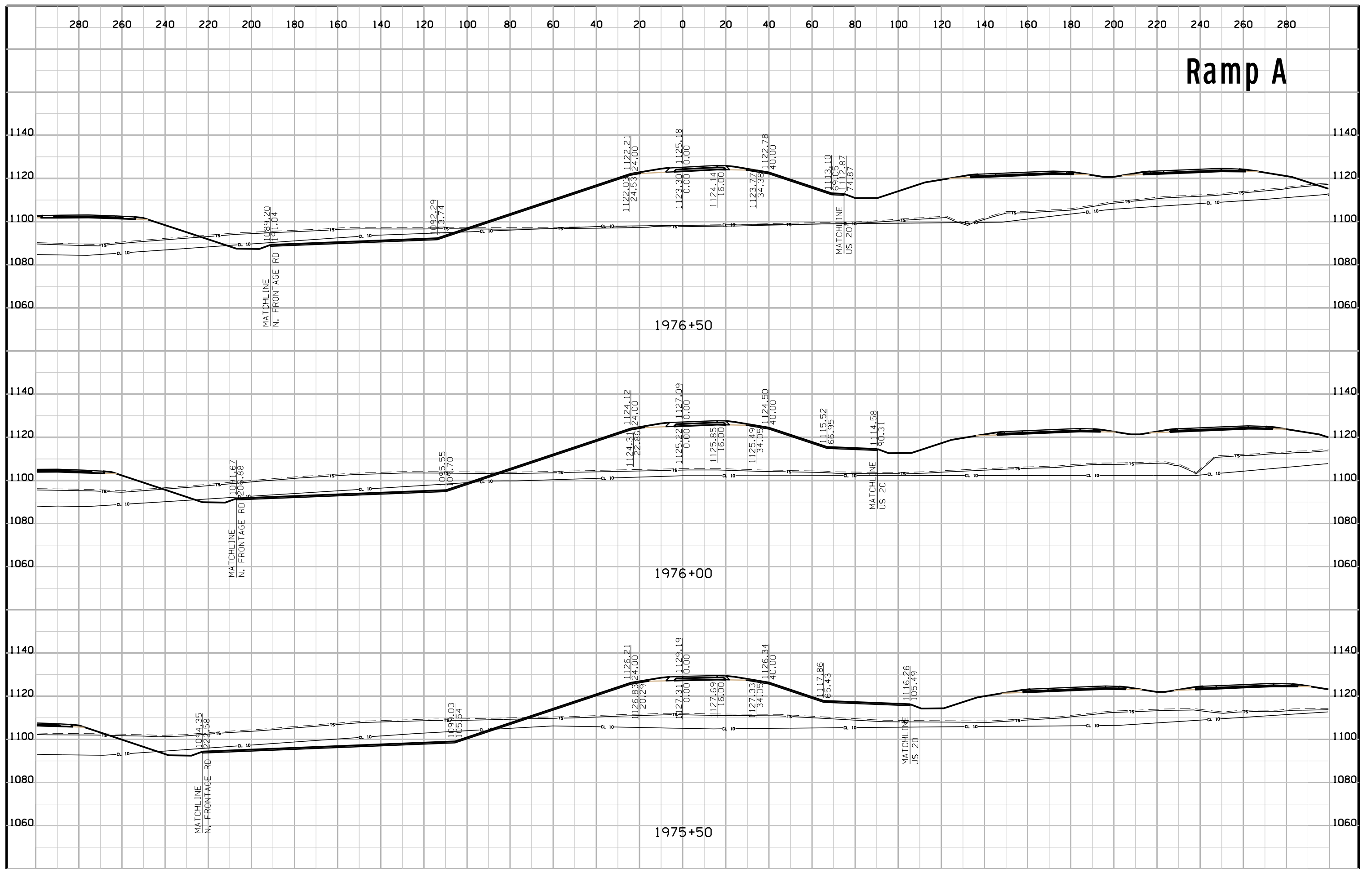


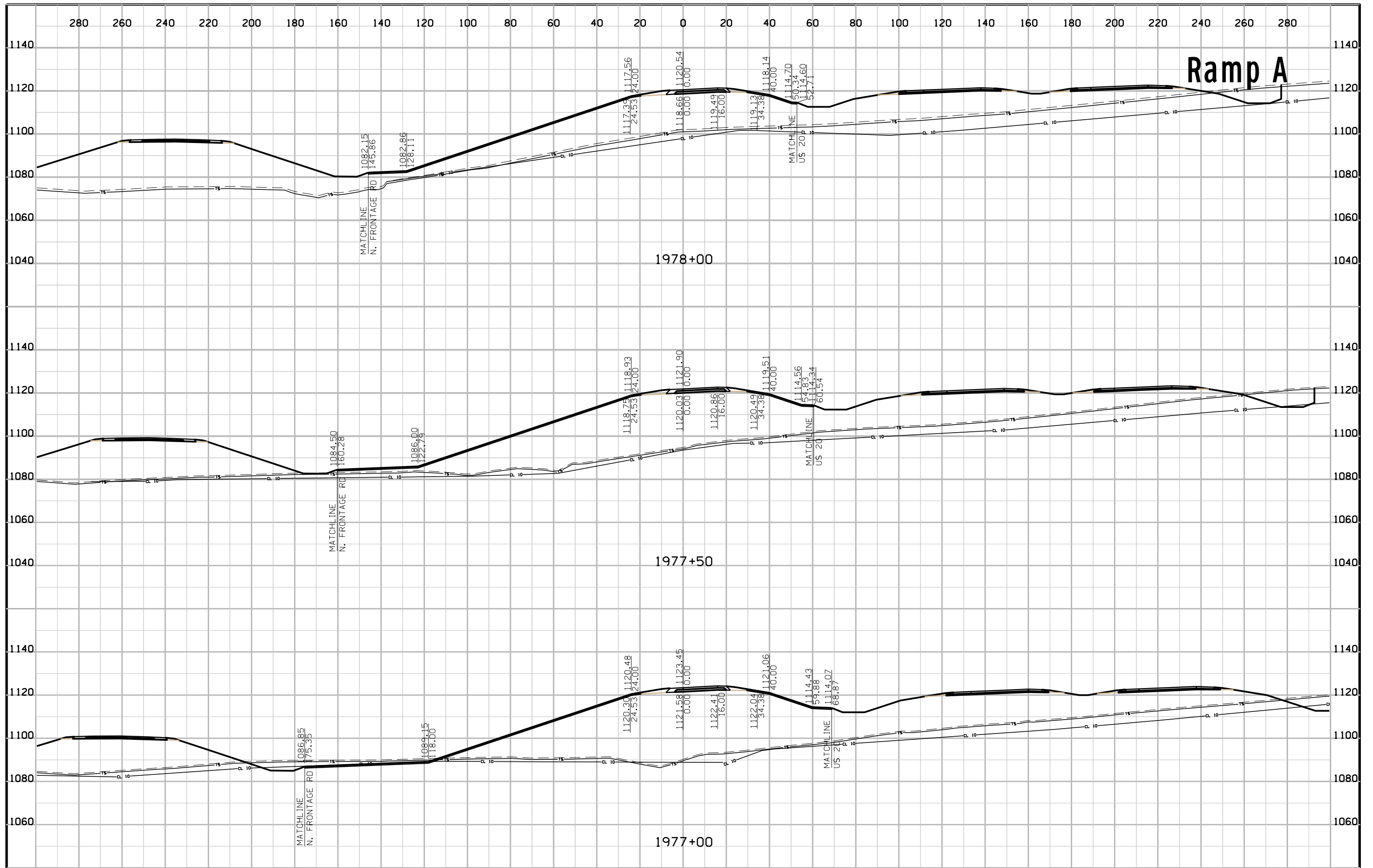
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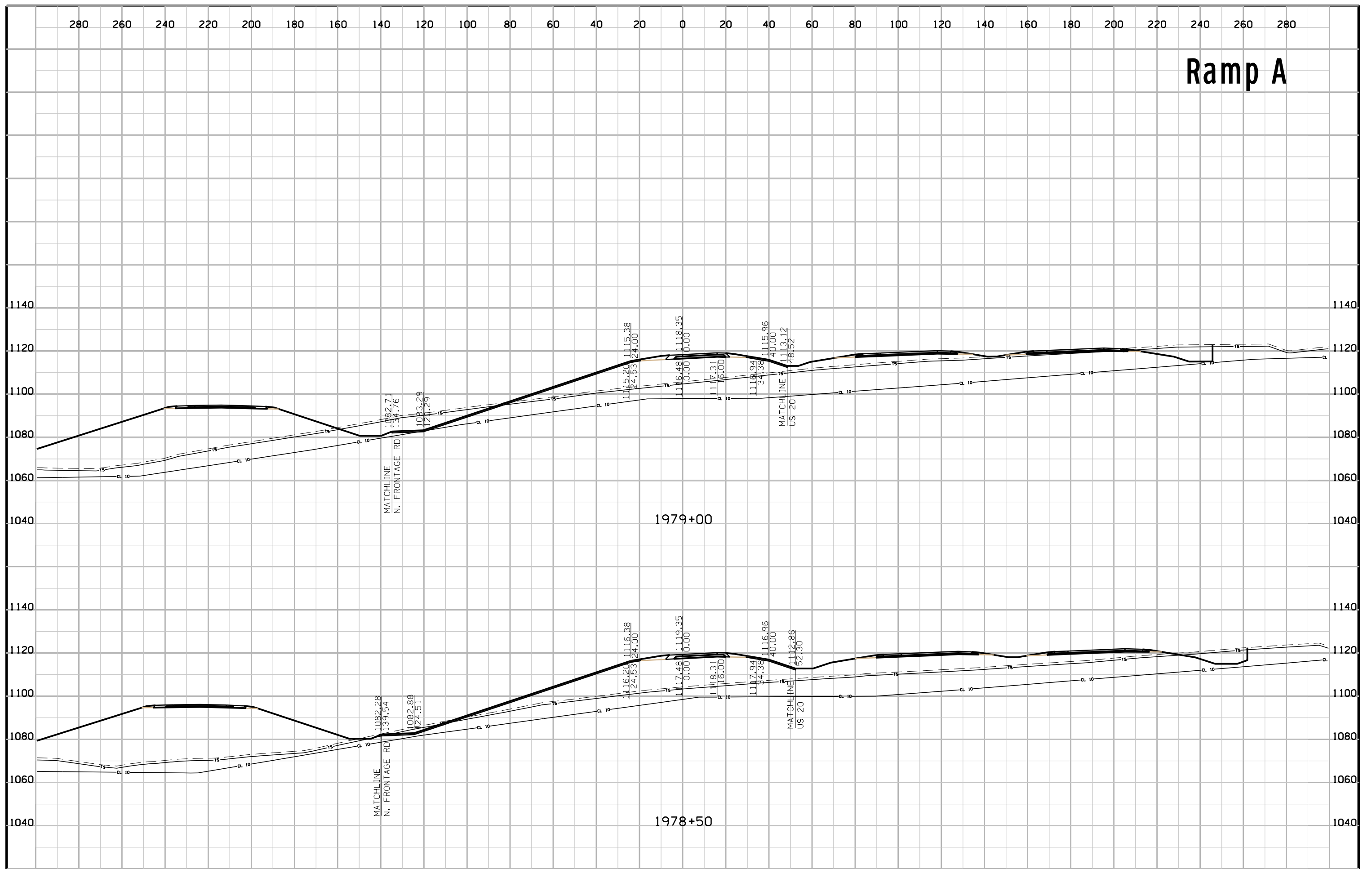


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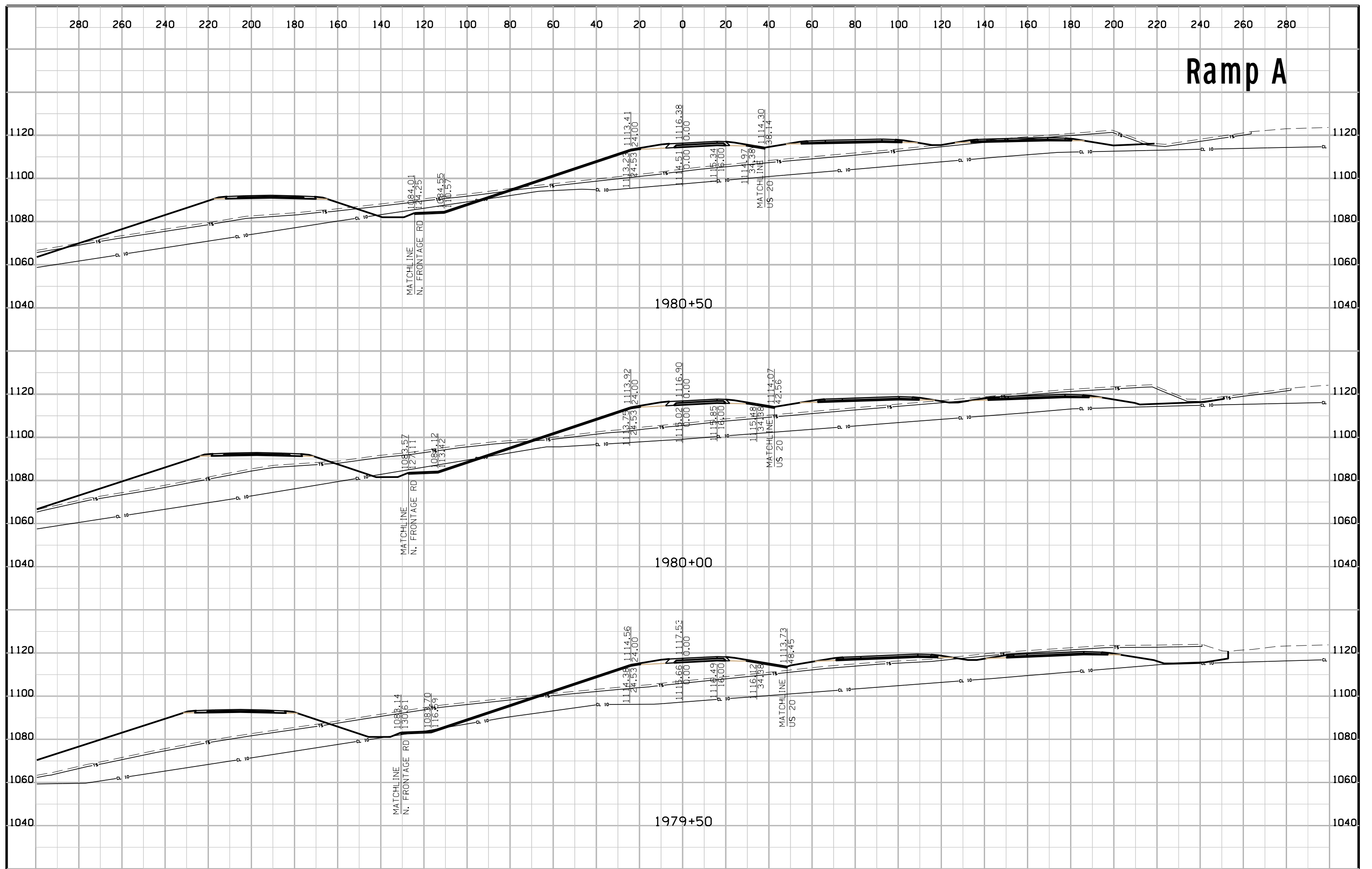




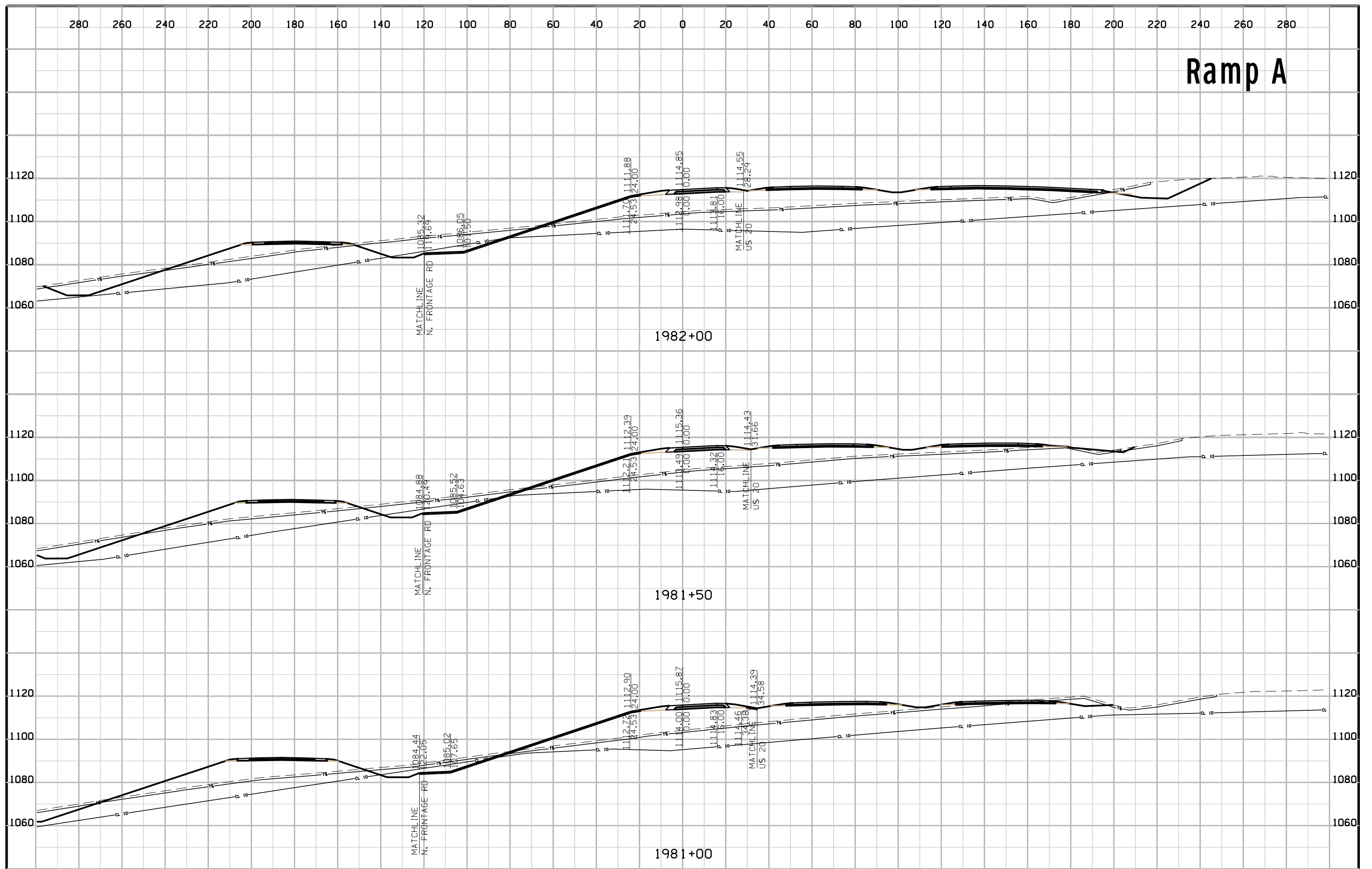
# Ramp A



# Ramp A

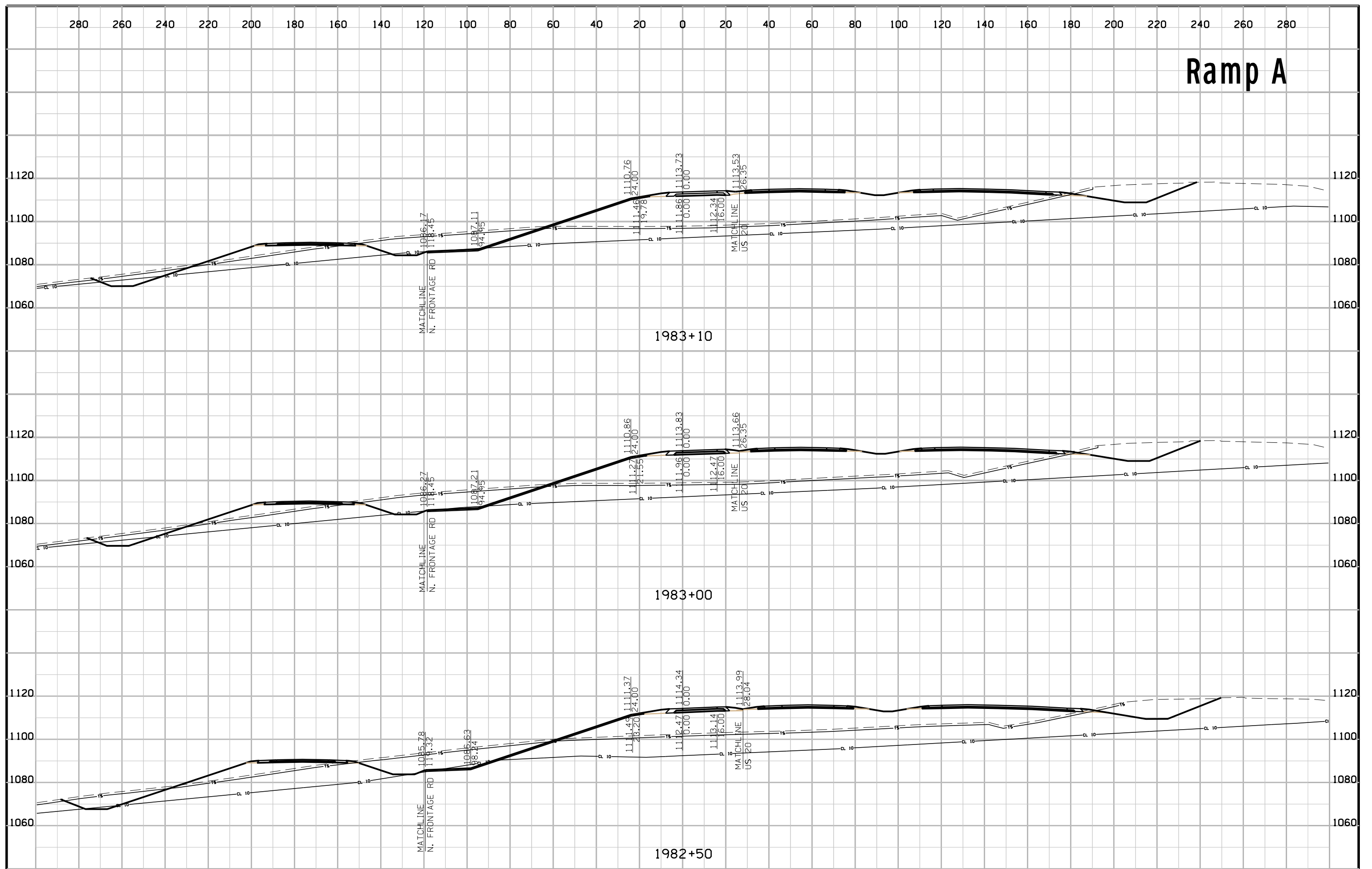


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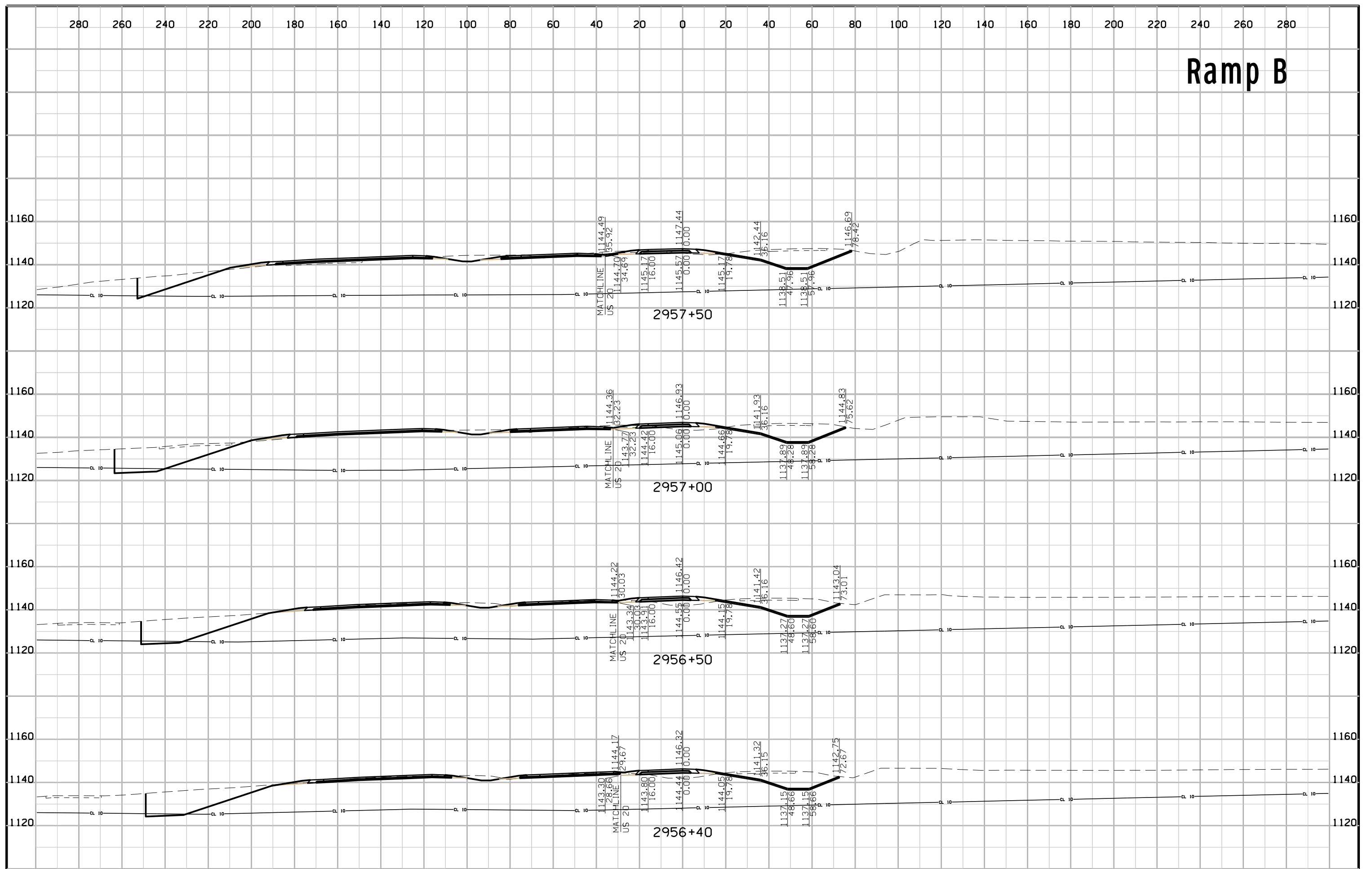




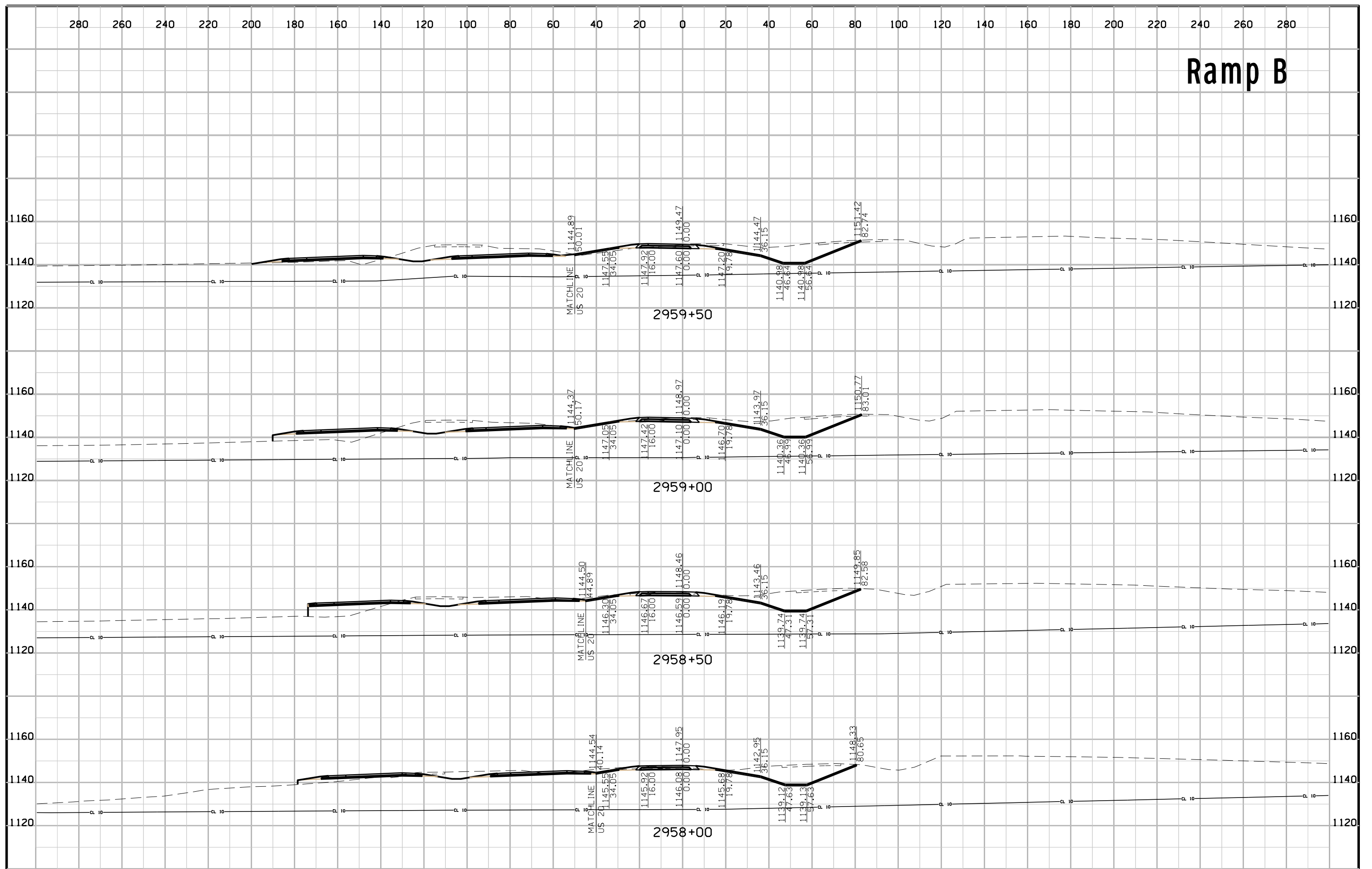
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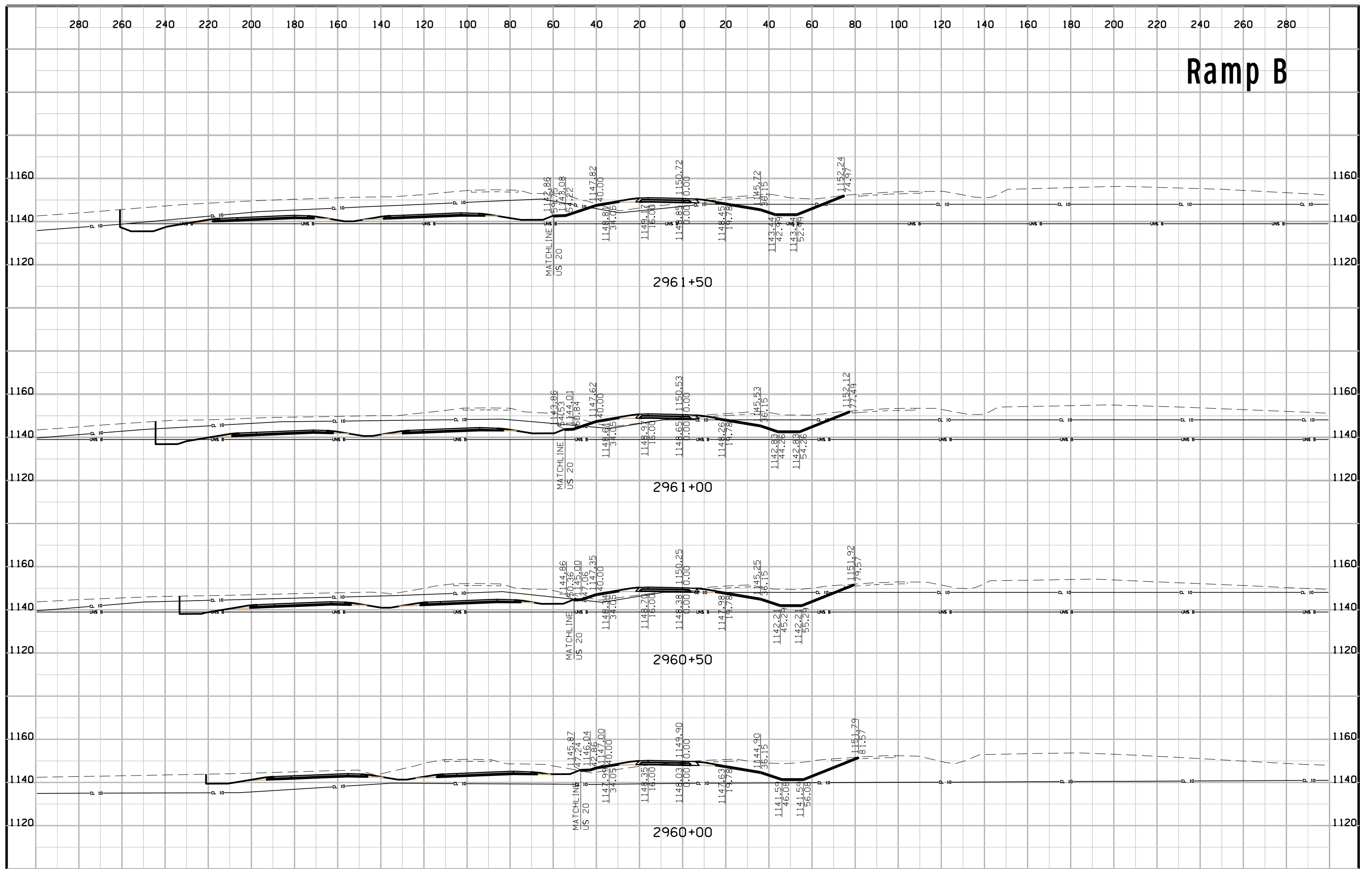
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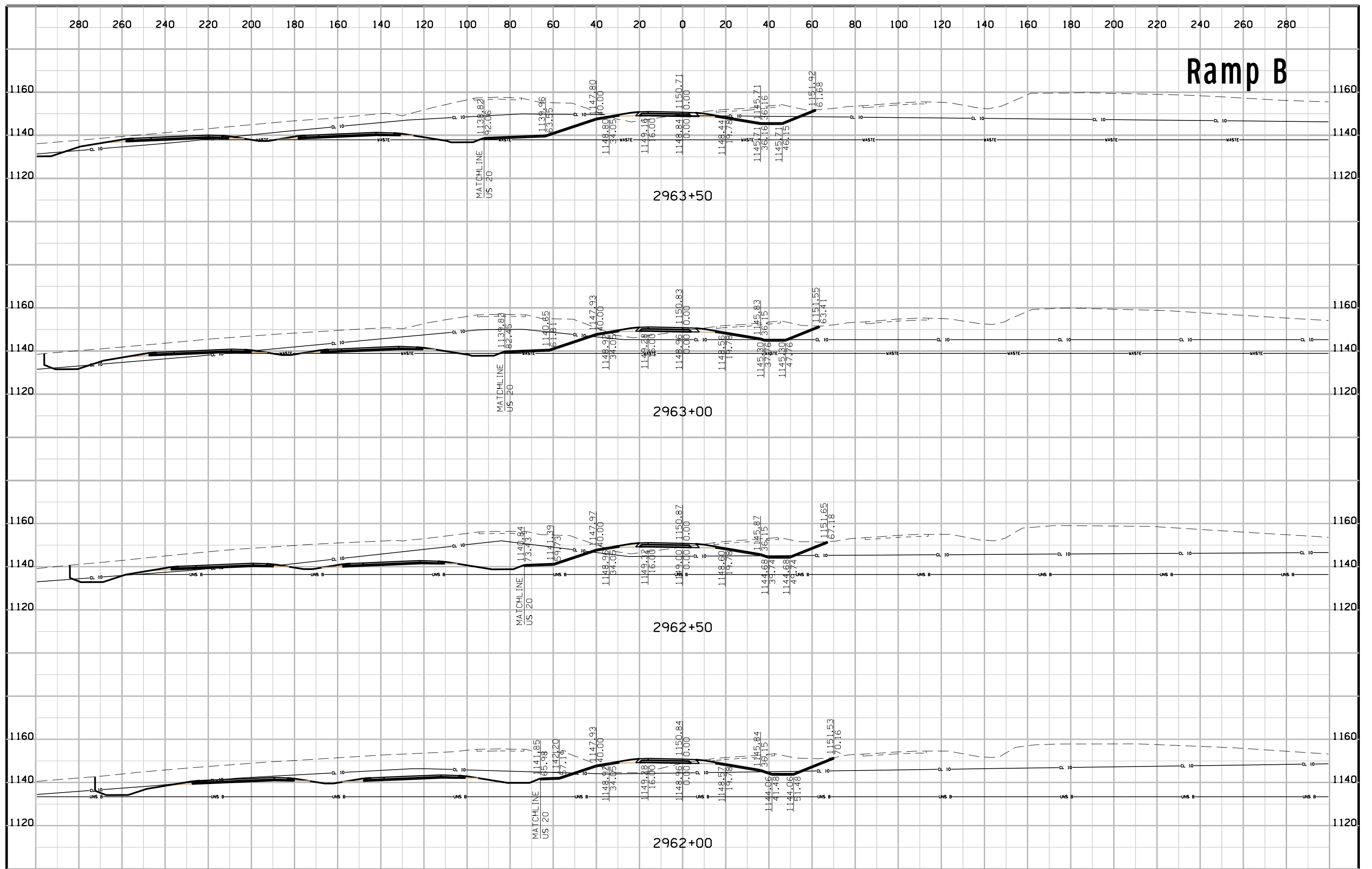
# Ramp B



# Ramp B

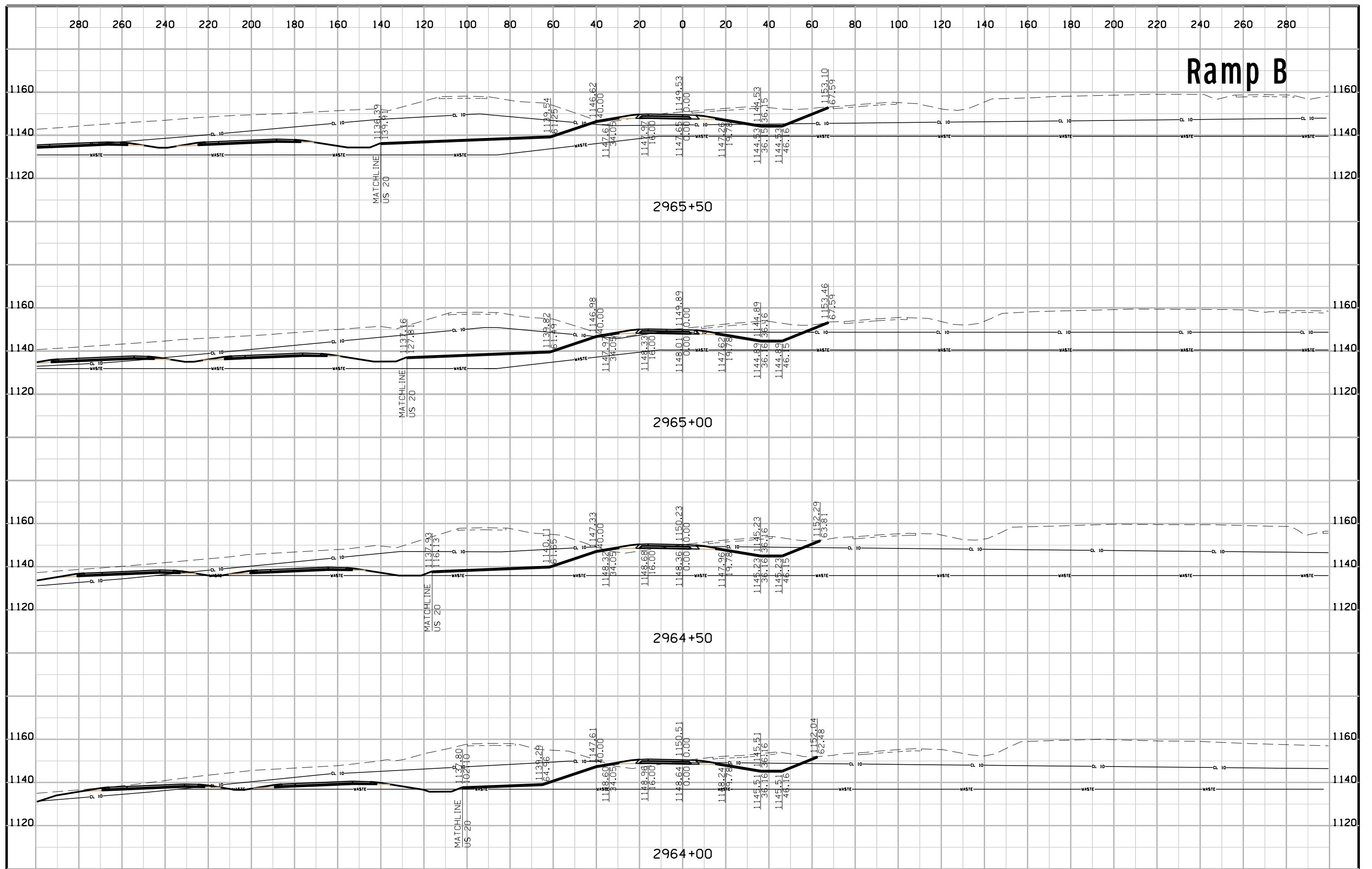


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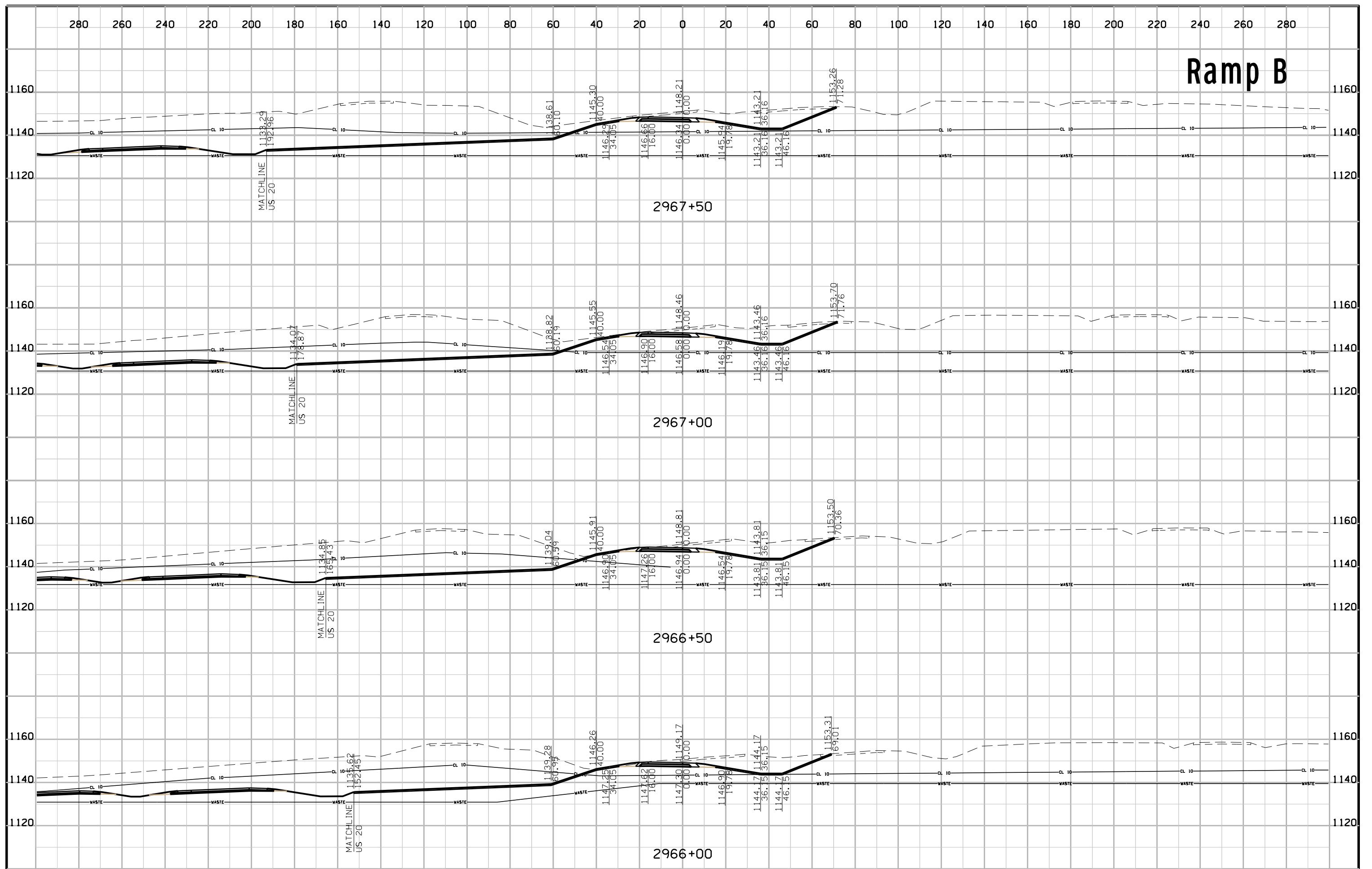




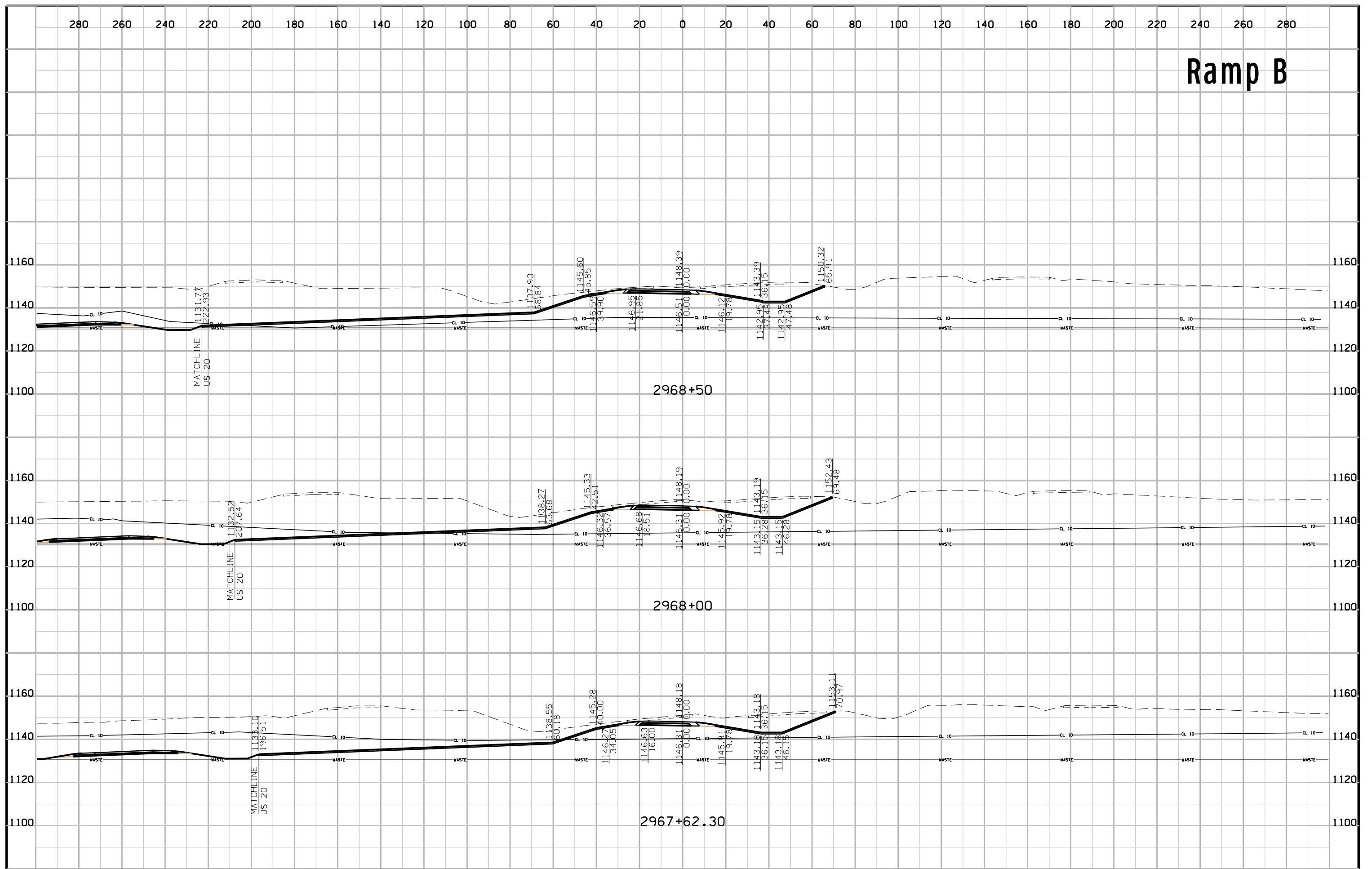
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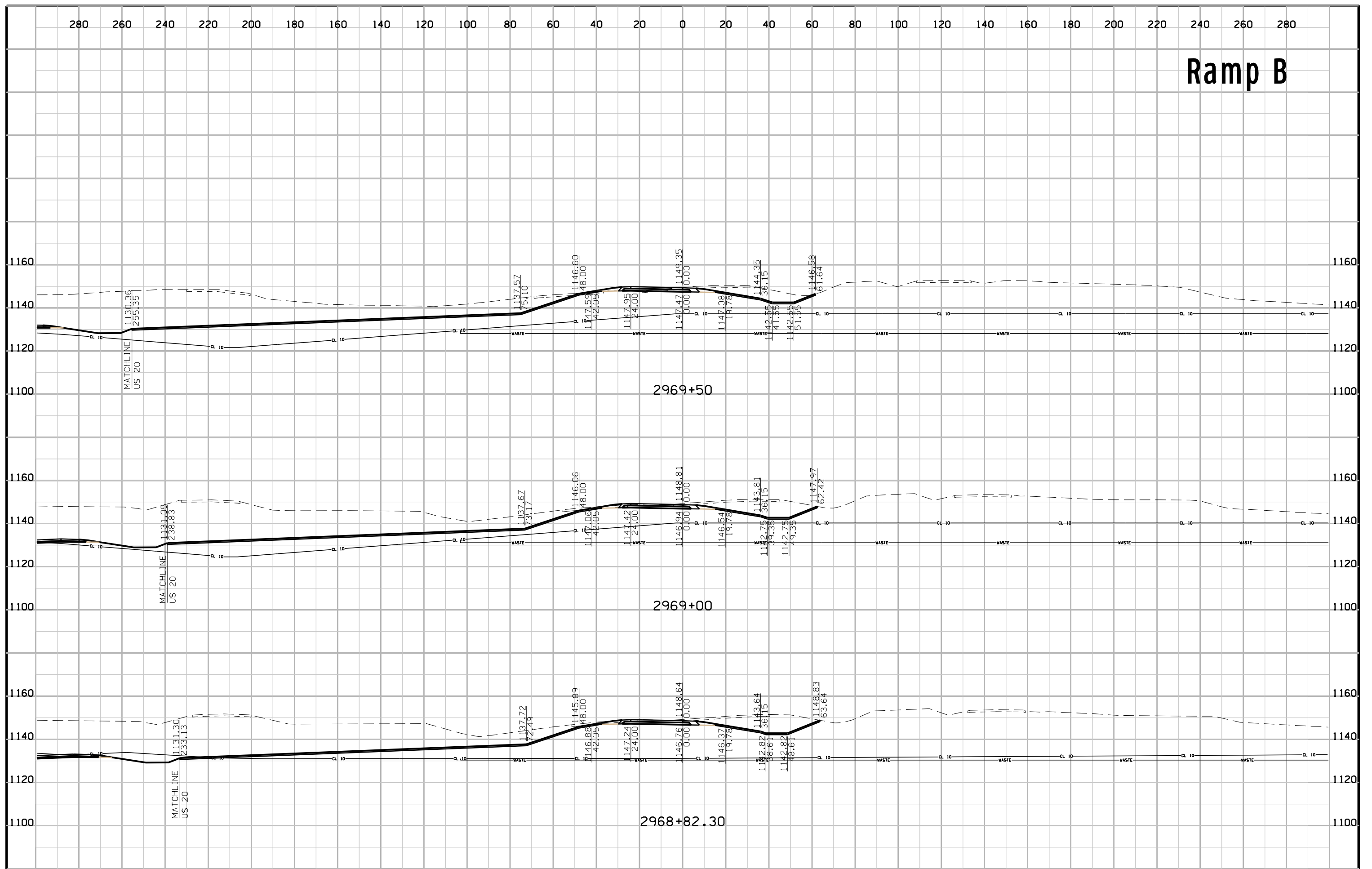
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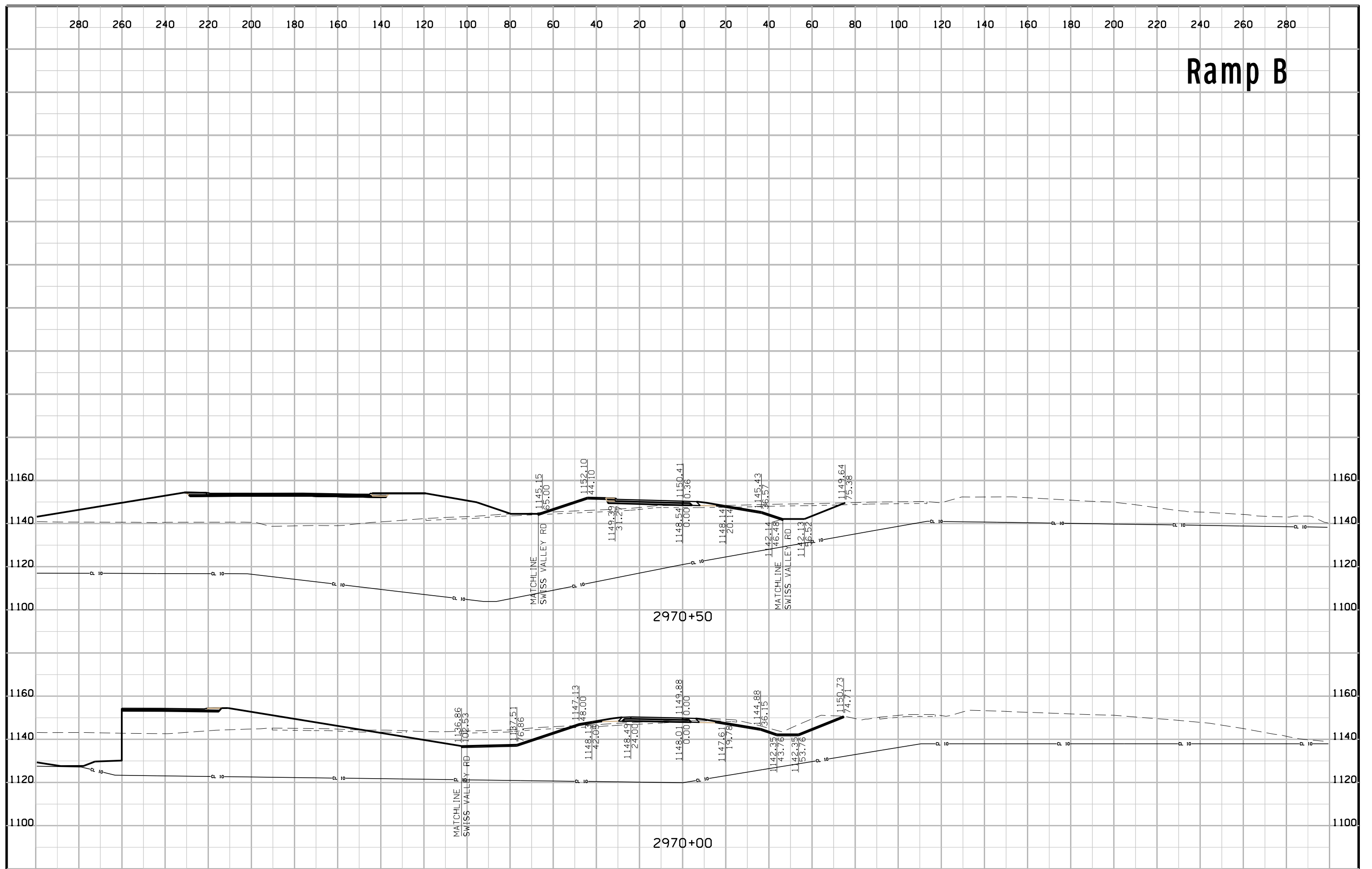
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# Ramp B

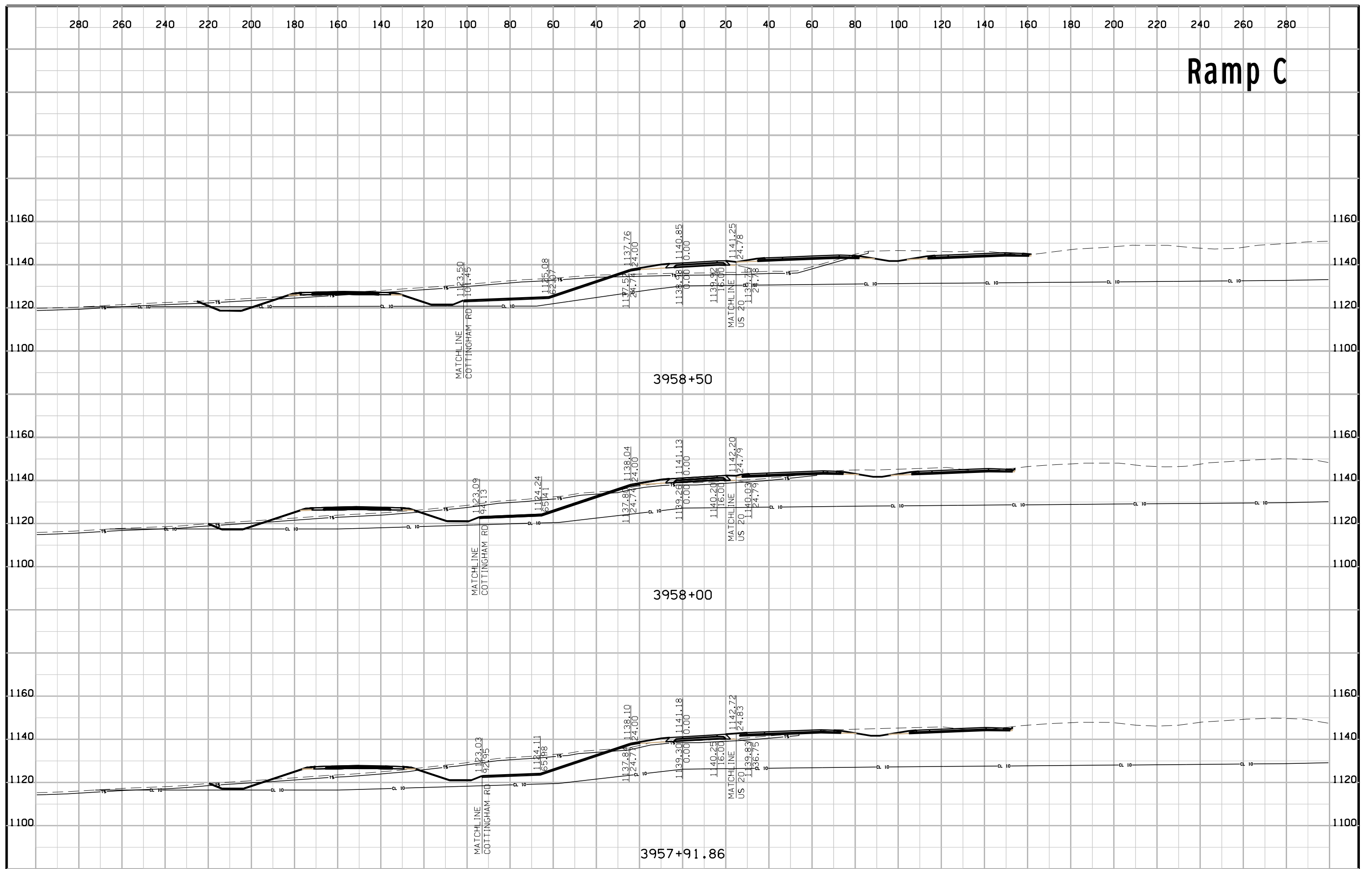


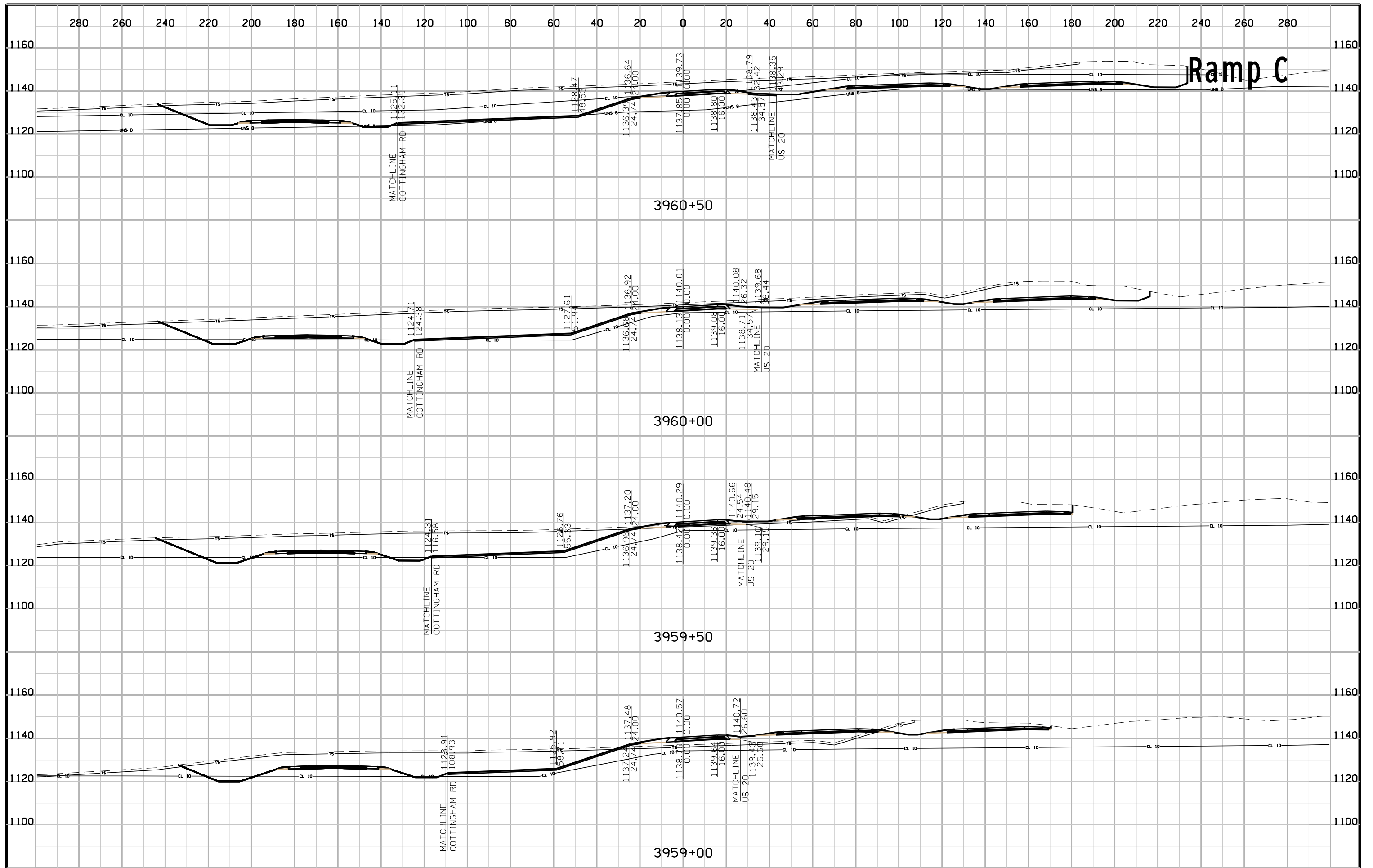
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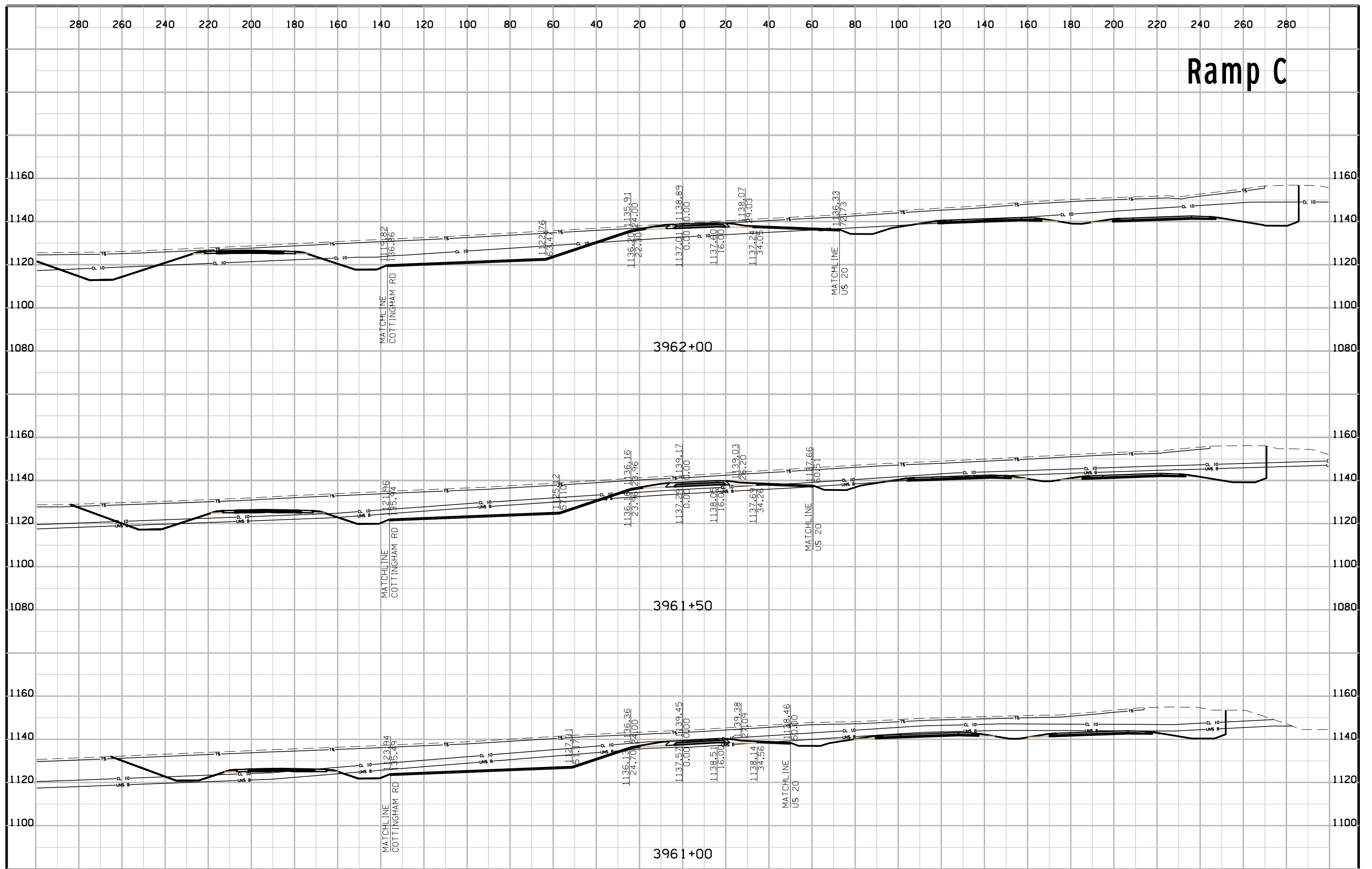
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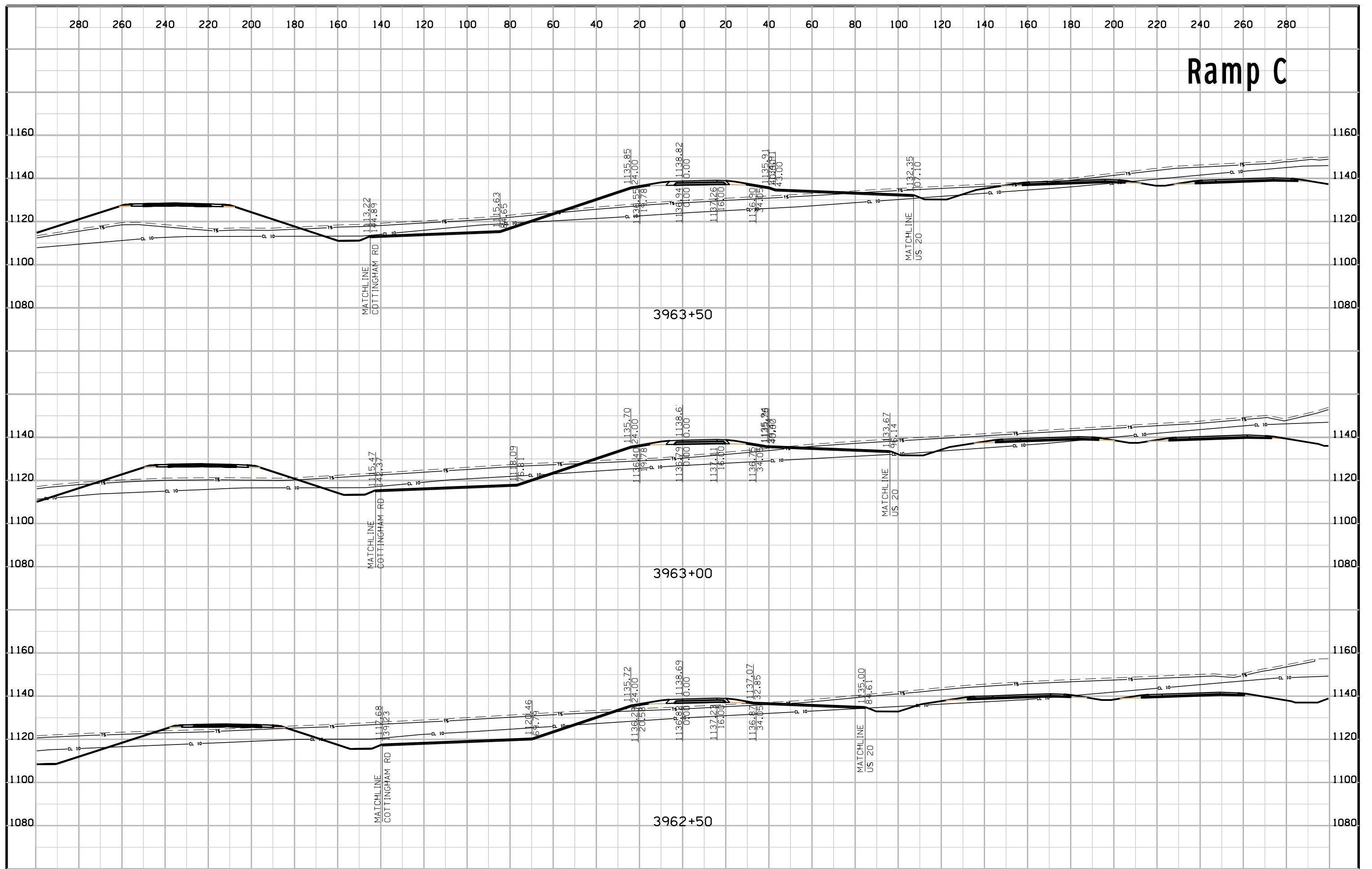


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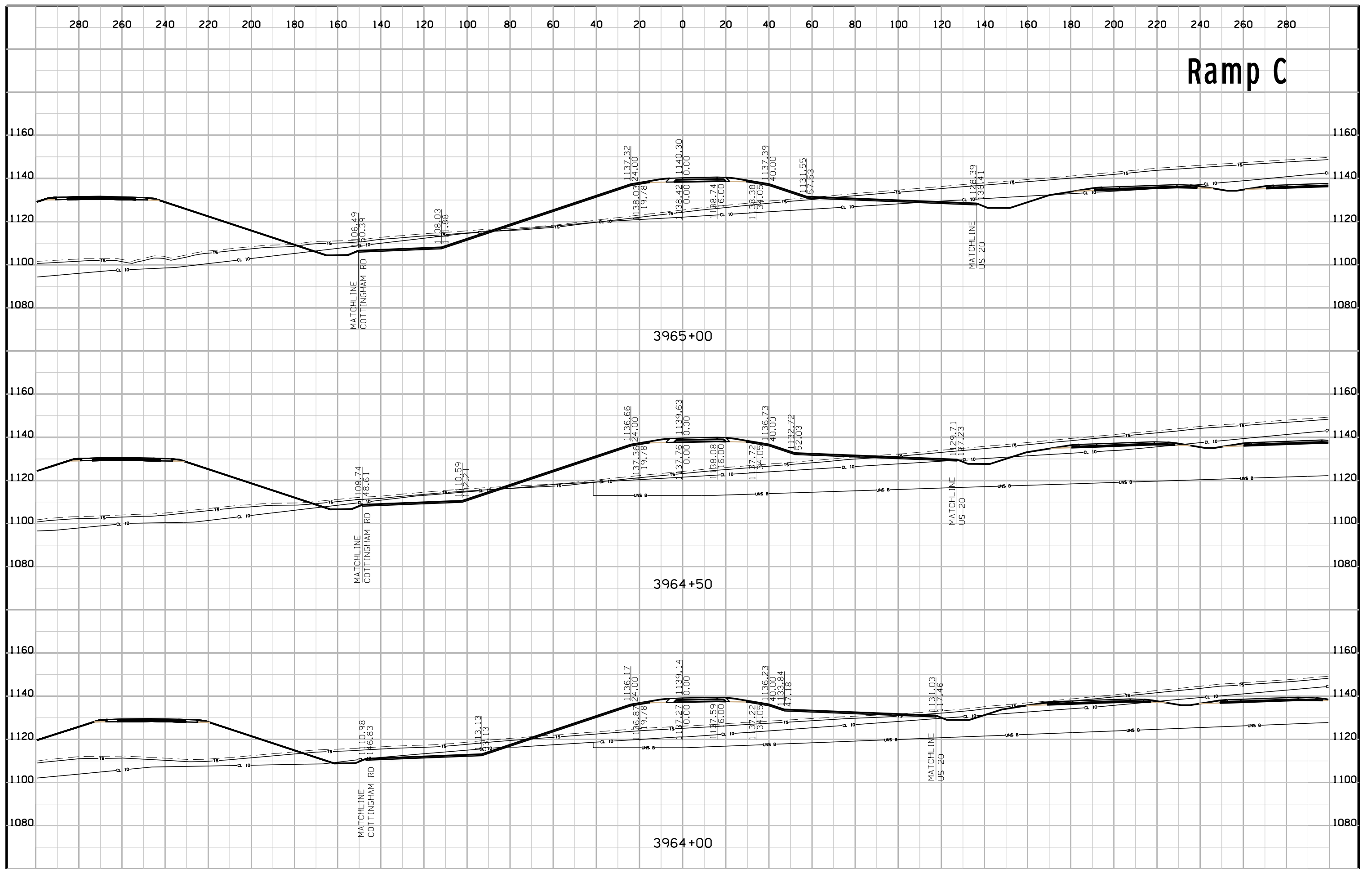
# Ramp C



# Ramp C

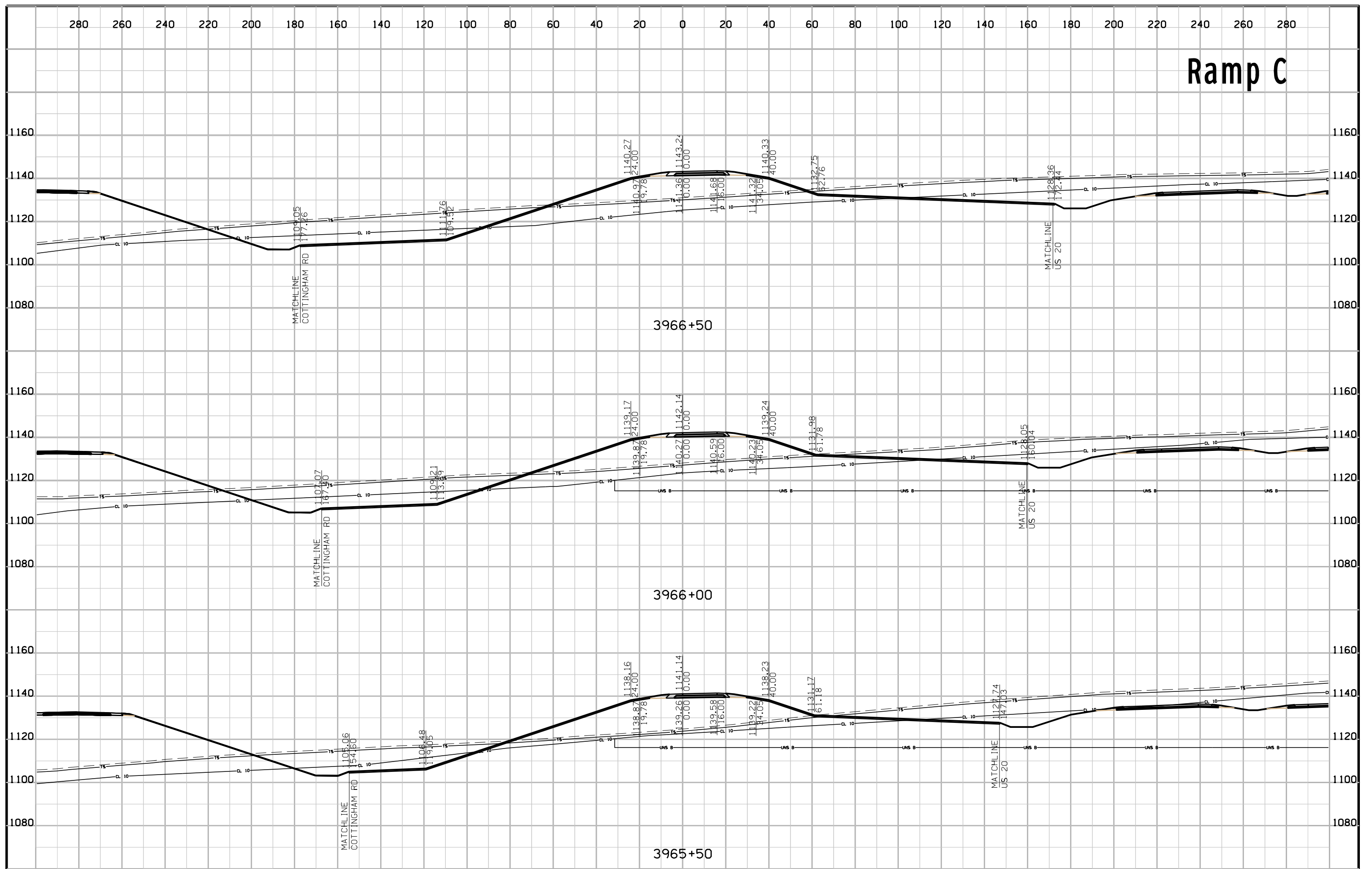


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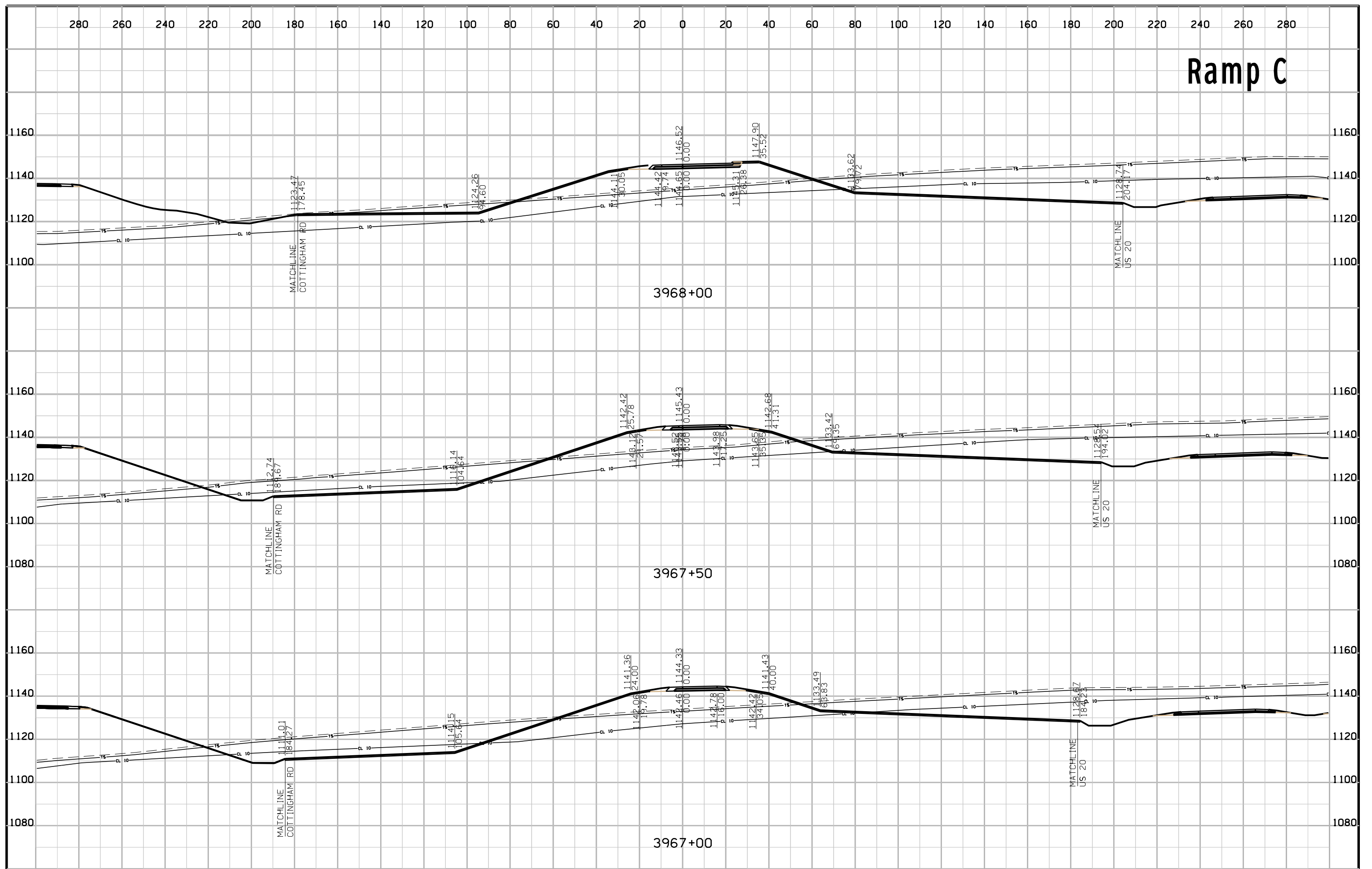




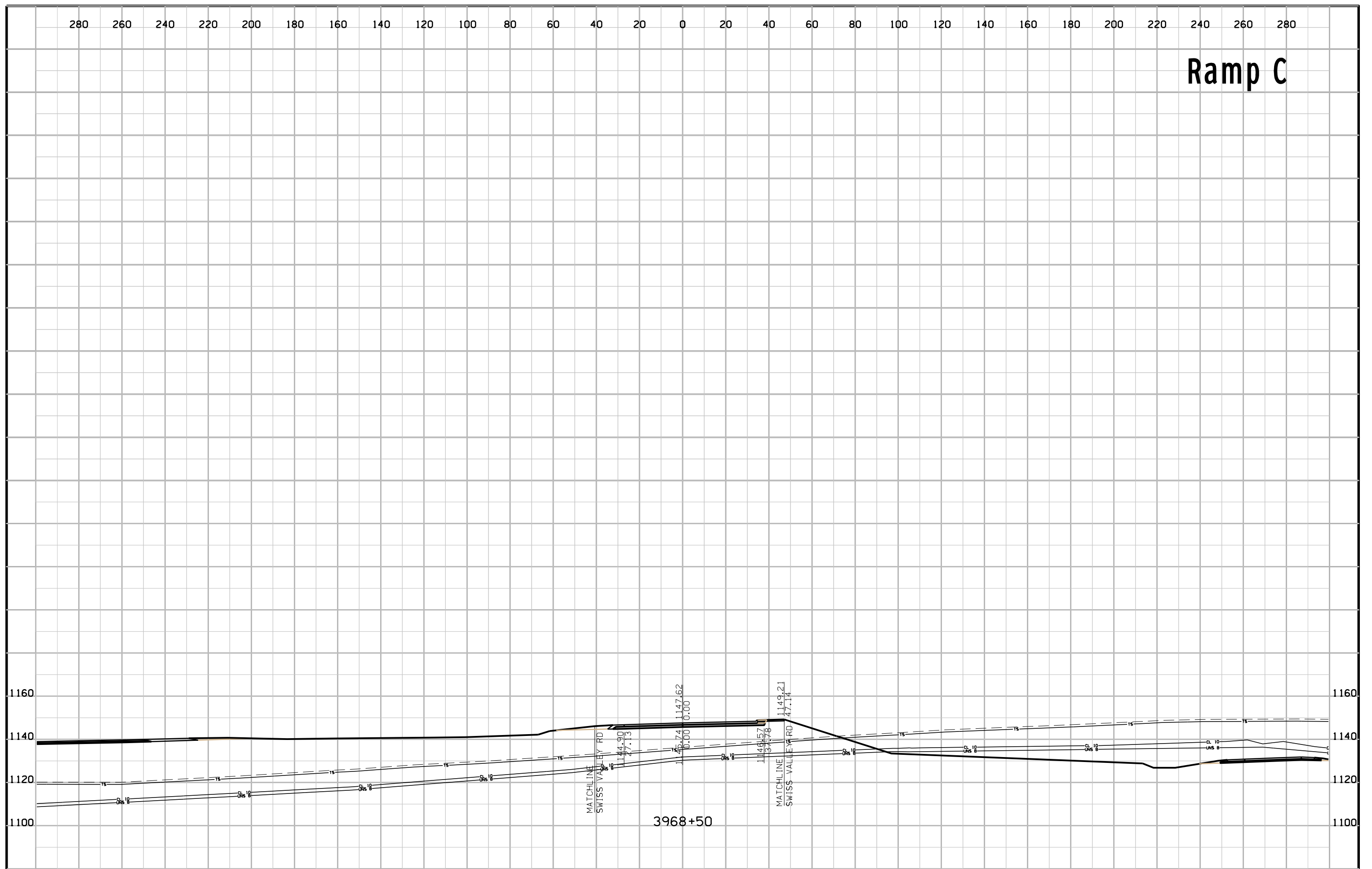
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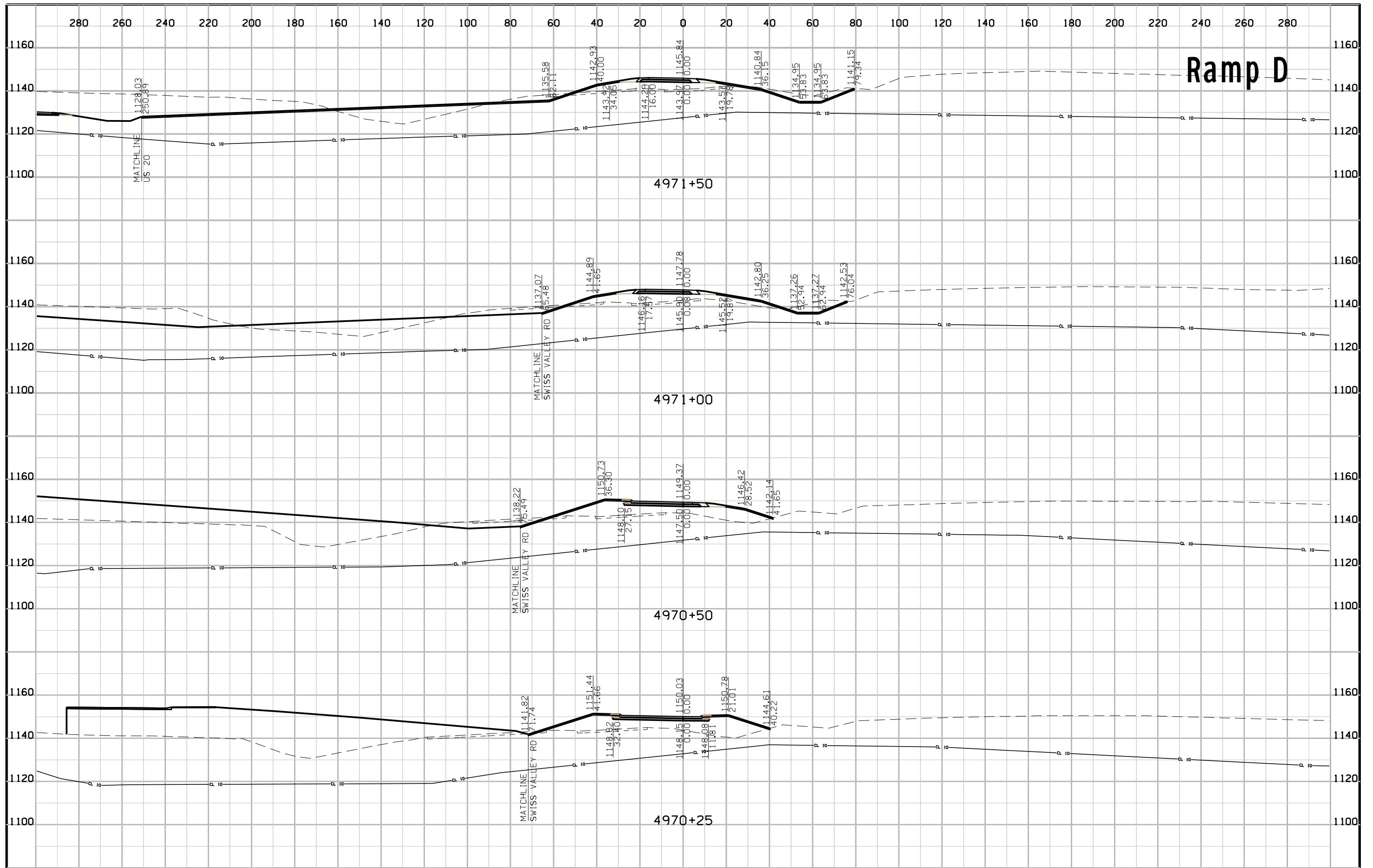


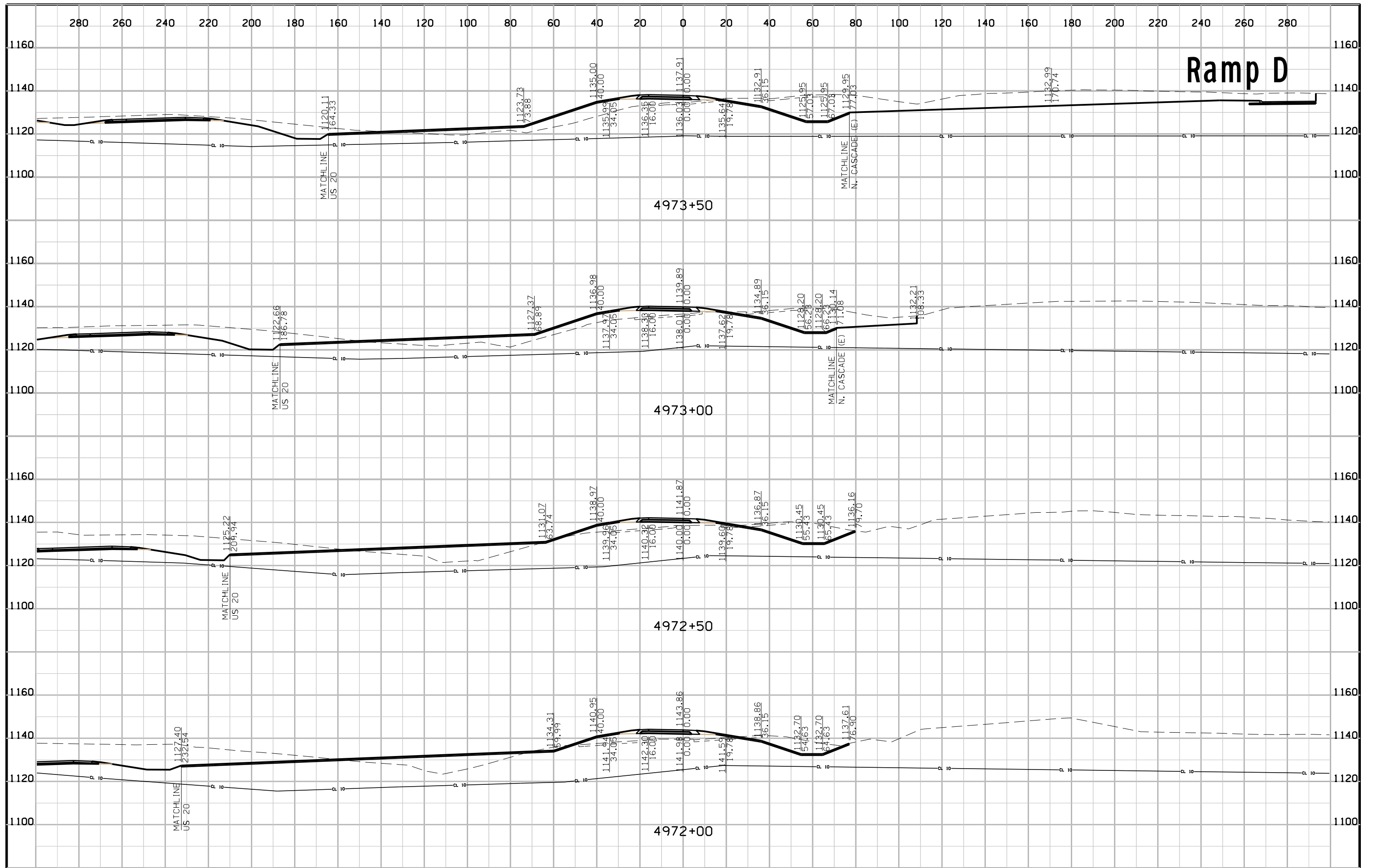
# Ramp C



# Ramp C

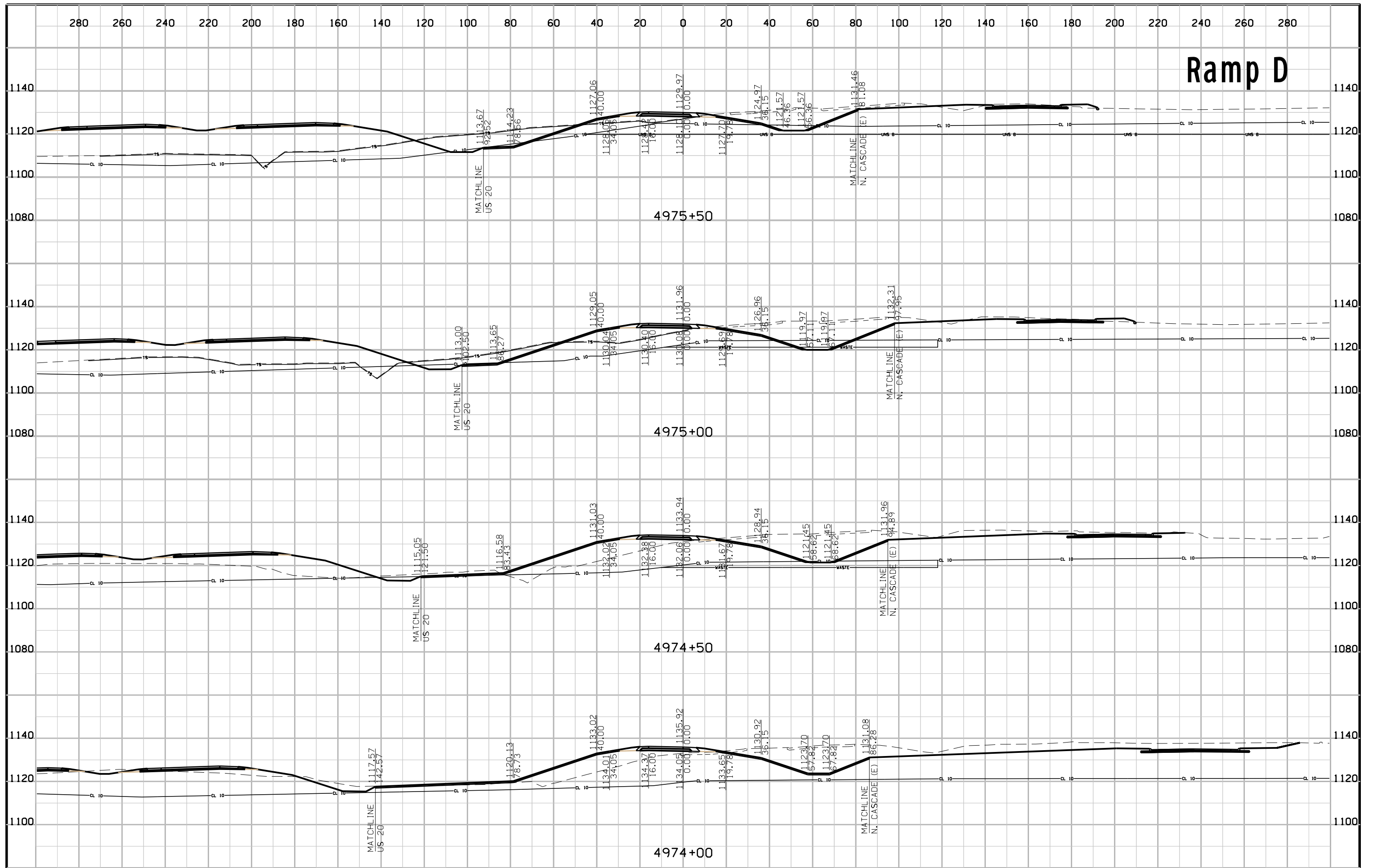




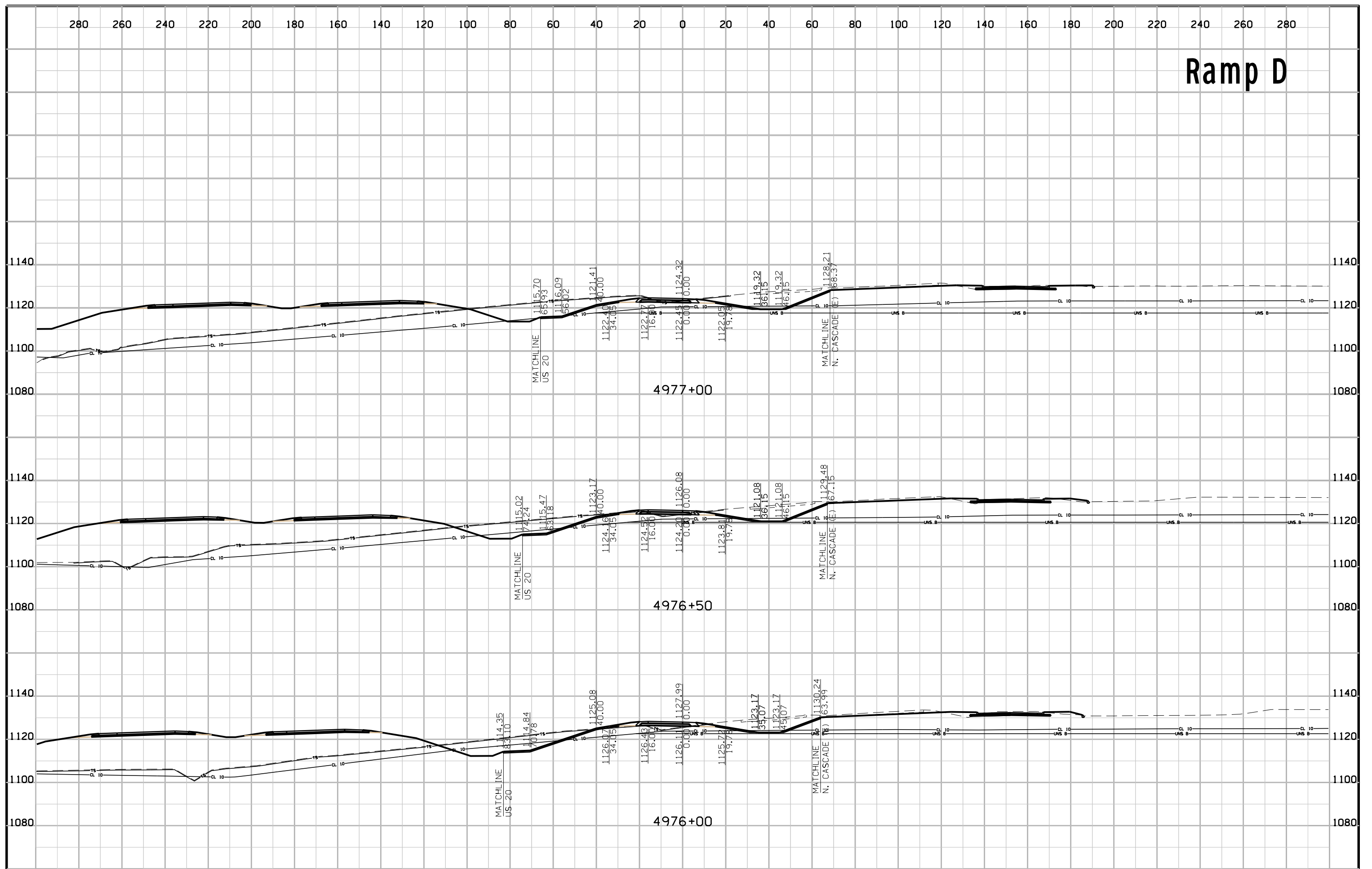




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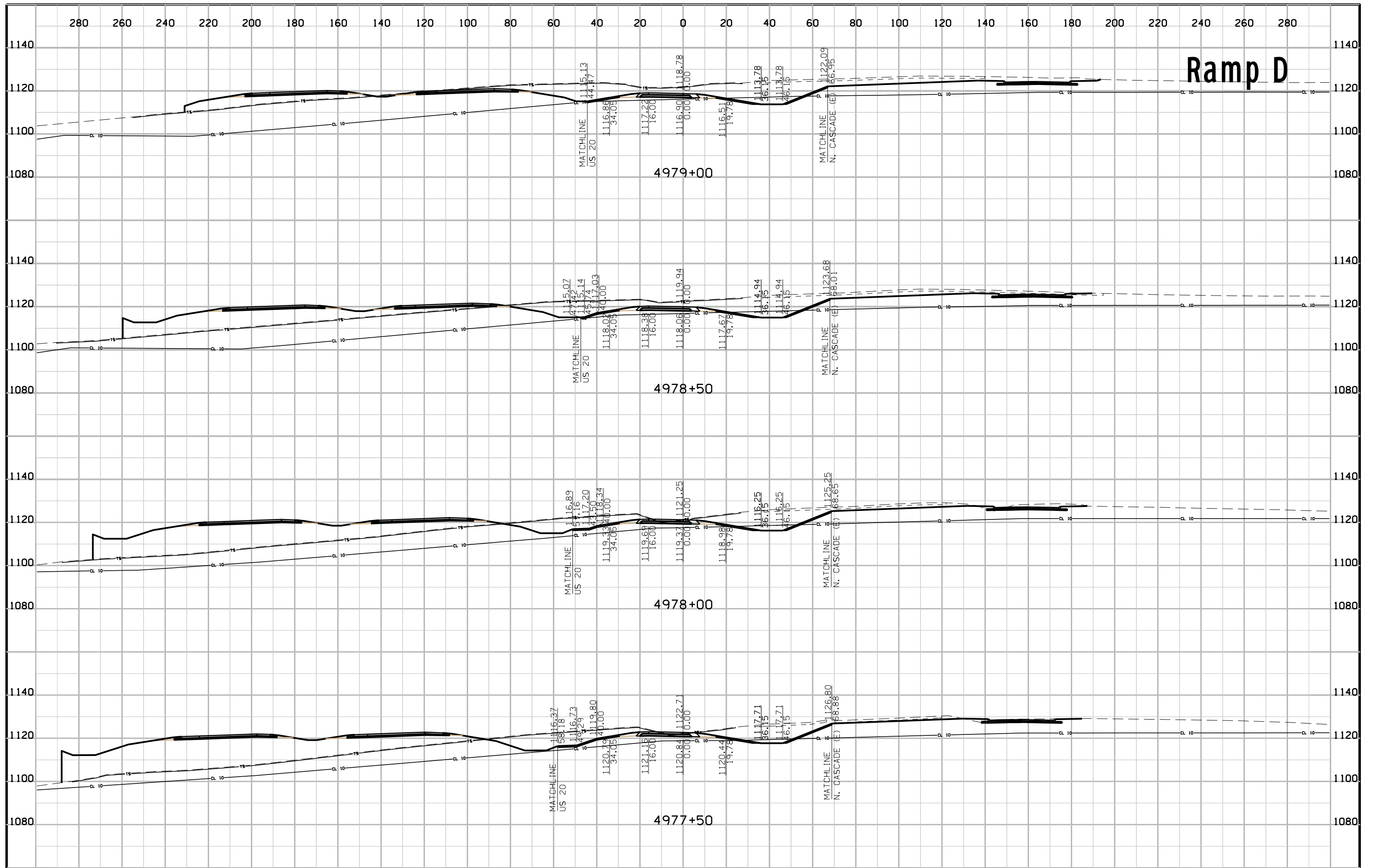
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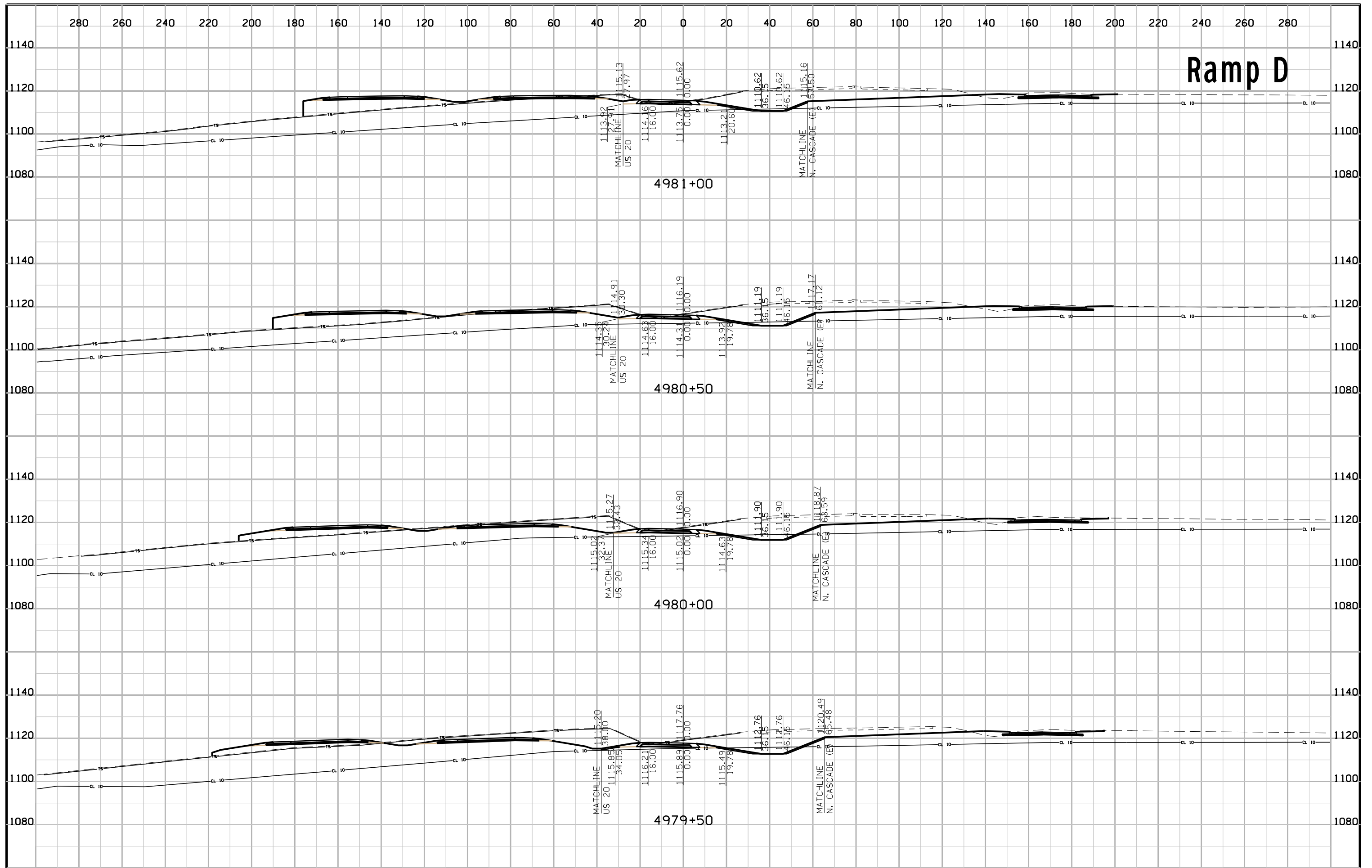
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4976+50

4976+00



# Ramp D



# Ramp D

