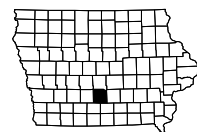


**WARREN CO.**  
**PCC PAVEMENT-GRADE AND REPLACE**  
**NHSX-092-5(51)--3H-91**

LETTING DATE  
 10-21-2014

INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
A.2	Location Map Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 12	Typical Cross Sections and Details
<b>C Sheets</b>	<b>Quantities and General Information</b>
C.1	Project Description
C.1 - 2	Estimated Project Quantities
C.2 - 6	Estimate Reference Information
C.7	Index of Tabulations
C.7	Standard Road Plans
C.8	Pollution Prevention Plan
C.9	General Notes
C.9 - 28	Tabulations
<b>CH Sheets</b>	<b>Hydraulics Information</b>
CH.1	Hydraulics Tabulation
<b>CS Sheets</b>	<b>Soils Information</b>
CS.1 - 5	Soils Tabulations
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 29	IA 92 Mainline
<b>E Sheets</b>	<b>Side Road Plan and Profile Sheets</b>
* E.1	Kennedy Street
* E.2	R-57
* E.3	90th Ave
* E.4	R-63
* E.5	Y Street
* E.6	Access 258
* E.7	Entrance 359
<b>F Sheets</b>	<b>Detour or Temporary Pavement Sheets</b>
* F.1	County Road R-57
* F.2	County Road R-63
* F.3 - 5	Y Street
* F.6 - 7	IA 92 North Side East End
* F.8	IA 92 South Side East End
* F.9	Spruce Street
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 5	Reference Ties and Bench Marks
G.6 - 11	Horizontal Control Tab. & Super for all Alignments
<b>H Sheets</b>	<b>Right-of-Way Sheets</b>
* H.1 - 15	IA. 92 Mainline Sheets
* HE.1 - 6	Side Road ROW Sheets
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
* J.1	Traffic Control Plan
* J.1	Pedestrian Path Closures
* J.1	Coordinated Operations
* J.2 - 3	Staging Notes
* J.4	Traffic Control & Staging Legend & Symbol Info.
* J.5 - 12	Detour Signing Sheets
* J.13 - 23	Staging Typical
* J.24 - 34	Staging Lay-out Sheets
* J.35 - 42	Traffic Control Details
<b>L Sheets</b>	<b>Geometric, Staking and Jointing Sheets</b>
L.1 - 11	Geometric Details
L.12 - 22	Staking Details
L.23 - 27	Edge Profiles
L.28 - 30	Jointing Details
<b>M Sheets</b>	<b>Storm Sewer Sheets</b>
M.1 - 3	Storm Sewer Tabulations
* M.4	Storm Sewer Legend & Symbol Information Sheet
* M.5 - 18	Storm Sewer Plan Sheets
* M.19 - 30	Storm Sewer Profile Sheets



## Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

# PRIMARY ROAD SYSTEM WARREN COUNTY PCC PAVEMENT-GRADE AND REPLACE

Ia. 92 From Just West Of Co. Rd. R-57  
East To Just East of South 'N' Street In Indianola

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.15 of the Specifications.



INDEX OF SHEETS	
No.	DESCRIPTION
<b>Q Sheets</b>	<b>Soils Sheets</b>
* Q.1	Soils Legend & Symbol Information Sheet
* Q.2 - 32	Soils Sheets Ia. 92 Mainline
<b>S Sheets</b>	<b>Sidewalk Sheets</b>
* S .1	Sidewalk Legend & Symbol Information Sheet
* S .2 - 6	Sidewalk Plan Sheets
* S .7 - 10	Sidewalk Tabulations
<b>T Sheets</b>	<b>Earthwork Quantity Sheets</b>
T.1 - 26	Earthwork Quantity Sheets
<b>U Sheets</b>	<b>Detail Sheets</b>
* U.1 - 18	Removal Detail Sheets
U.19 - 28	Pavement Marking Detail Sheets
U.29	Modified Details Of Mailbox Turnouts

DESIGN DATA RURAL				DESIGN DATA URBAN			
2014	AADT	6500	V.P.D.	2014	AADT	9500	V.P.D.
2034	AADT	11000	V.P.D.	2034	AADT	16000	V.P.D.
2034	DHV	1130	V.P.H.	2034	DHV	1650	V.P.H.
	TRUCKS	8	%		TRUCKS	8	%
	Total				Total		
	Design ESALs	8,300,000			Design ESALs	11,500,000	

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Jason M. Holst	Primary Signature Block
CH.1	David R. Claman	Hydraulic Signature Block
CS.1	Robert L. Stanley	Geotechnical Signature
J.5	Zachary Abrams	Signing Signature Block

### REVISIONS

TOTAL
791
<b>PROJECT IDENTIFICATION NUMBER</b>
04-91-092-010-01
<b>PROJECT NUMBER</b>
NHSX-092-5(51)--3H-91
<b>R.O.W. PROJECT NUMBER</b>
STPN-092-5(50)--2J-91

INDEX OF SHEETS	
No.	DESCRIPTION
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 161	IA 92 Cross Sections - Rural Section
W.161 - 219	IA 92 Cross Sections - Urban Section (Stage 2)
W.220 - 275	IA 92 Cross Sections - Urban Section (Stage 3)
W.276 - 300	IA 92 Cross Sections - Widening Section
<b>X Sheets</b>	<b>Side Road Cross Sections</b>
X.101 - 103	Kennedy St
X.201 - 204	R-57 (South)
X.205 - 208	R-57 (North)
X.301 - 310	90th
X.401 - 404	R-63 (South)
X.405 - 407	R-63 (North)
X.501 - 503	Y Street (South)
X.504 - 508	Y Street (North)
X.601 - 603	Access 258
X.701 - 703	Entrance 359 Rt
X.801 - 836	Various Entrances
<b>Y Sheets</b>	<b>Ramp Cross Sections</b>
Y.101 - 113	R-57 Detour
Y.201 - 210	R-63 Detour
Y.301 - 307	Y St. Detour SW
Y.401 - 403	Y St. Detour SE
Y.501 - 507	Y St. Detour NW
Y.601 - 610	Detour ML East Tie (North)
Y.701 - 704	Detour ML East Tie (South)
Y.801 - 802	Spruce St. Detour
Y.901 - 910	R-57 Detour Obliteration
Y.911 - 919	R-63 Detour Obliteration
Y.920 - 924	Y St. Detour SW Obliteration
Y.925 - 927	Y St. Detour SE Obliteration
Y.928 - 933	Y St. Detour NW Obliteration
	* Color Plan Sheets

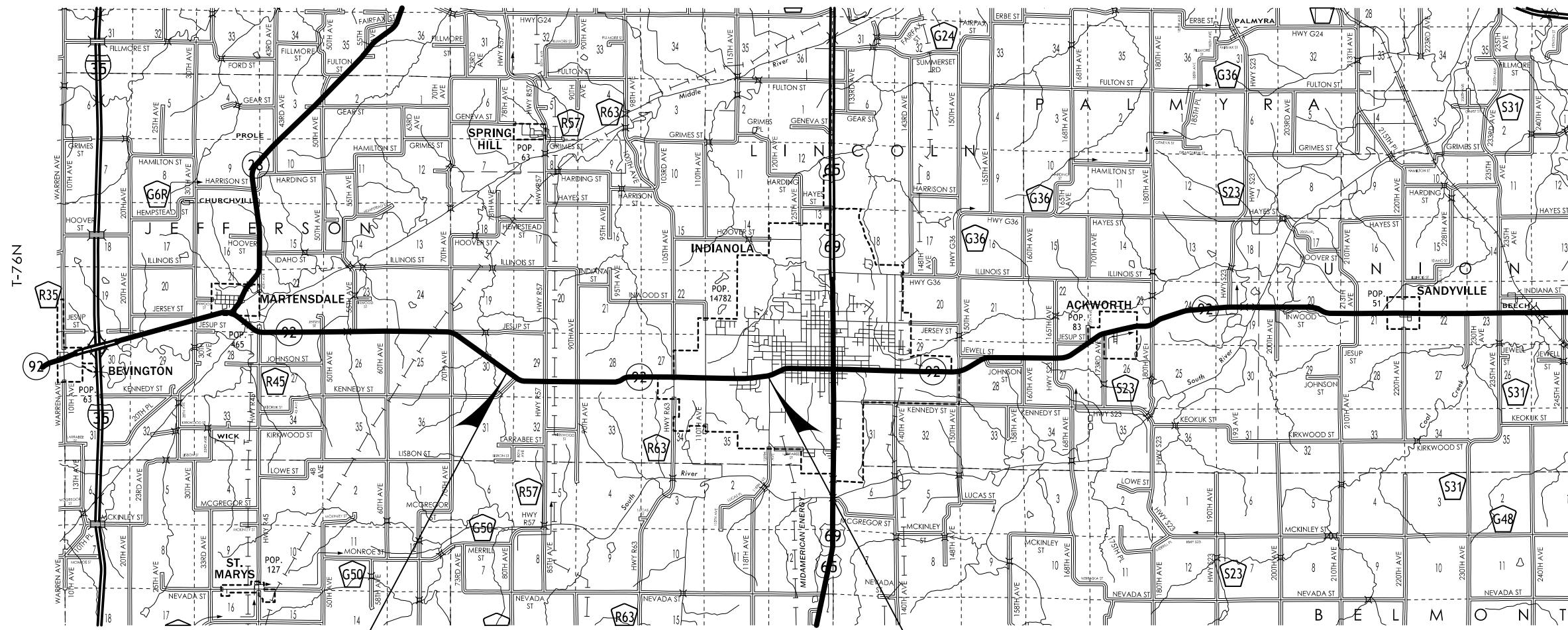
### ROADWAY DESIGN



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: *Jason M. Holst* Date: 8/19/2014  
 Jason M. Holst  
 Printed or Typed Name  
 My license renewal date is December 31, 2015

Pages or sheets covered by this seal: A.1-A.2; B.1-B.12; C.1-C.27; D.1-D.29; E.1-E.7; F.1-F.9; G.1-G.11; H.1-H.15; HE.1-HE.6; J.1-J.4; J.6-J.42; L.1-L.30; M.1-M.30; S.1-S.10; T.1-T.26; U.1-U.29; W.1-W.300; X.101-X.836; Y.101-Y.933



R-25W

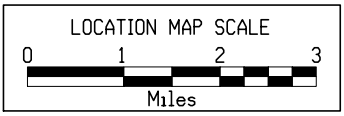
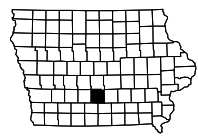
R-24W

R-23W

R-22W

STA. 256+50.00  
BEGIN PROJECT  
M.P. 125.97

STA. 465+03.68  
END PROJECT  
M.P. 129.92

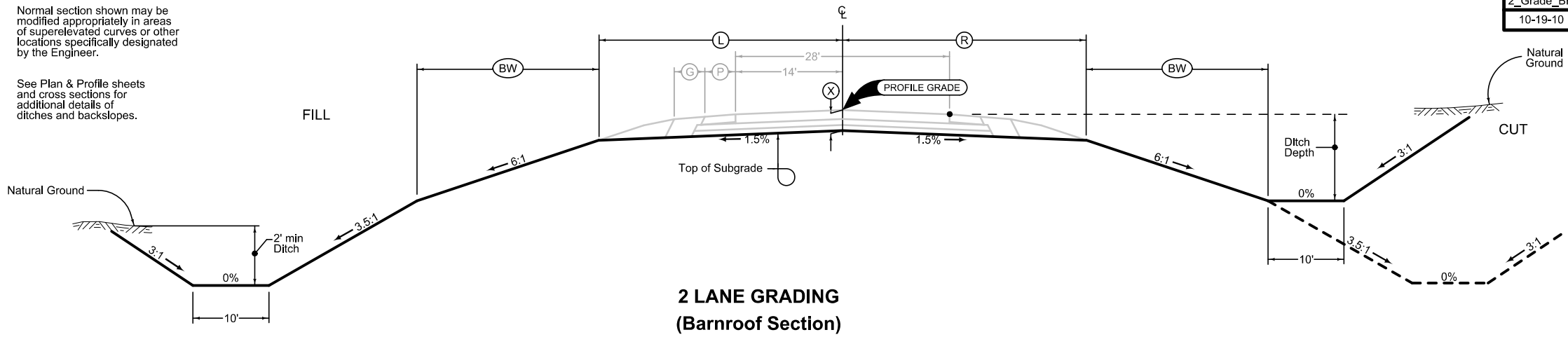


LOCATION MAP SHEET

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet
IA 92	256+50.00	391+70.00	35.2	35.2	22	16.4

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

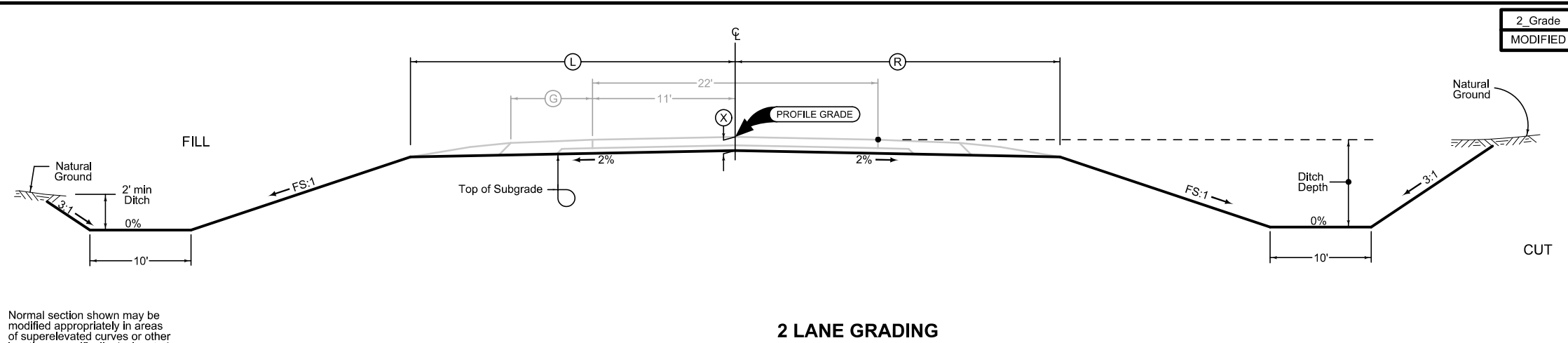
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.



LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	FS
R-57	1280+60.00	1283+41.23	27	27	16	4
R-57	1384+16.17	1386+06.00	27	27	16	4
R-63	3388+60.00	3390+71.41	27	27	16	4
R-63	3391+41.99	3393+05.00	27	27	16	4

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.



**Paved Shoulder Alternates**

PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-3  
 Transverse joints: C at 20' spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_P_ALT_10-19-10		
STATION TO STATION	(P)	Feet
257+70.00	281+93.59	8
292+08.00	389+20.00	8

**Paved Shoulder Alternates**

PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-3  
 Transverse joints: C at 20' spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_P_ALT_10-19-10		
STATION TO STATION	(P)	Feet
257+70.00	279+39.00	8
285+41.84	386+70.00	8

**Auxiliary Lane**

**Paved Shoulder Alternates**

**Auxiliary Lane**

Longitudinal joint: L or KT  
 Transverse joint: Match Mainline

PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-3  
 Transverse joints: C at 20' spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_AuxLane_PCC_10-19-10		2_AL_Shldr_ALT_10-19-10	
STATION TO STATION	(AL) Feet	(P) Feet	Feet
281+93.59	292+08.00	0-10	0-6
389+20.00	391+70.00	0-10	0-6

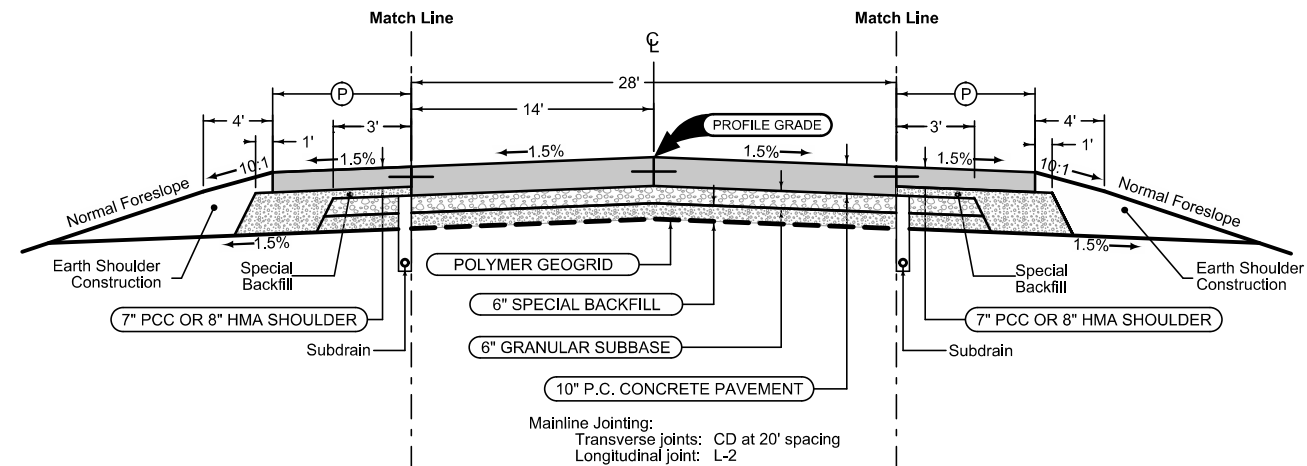
**Auxiliary Lane Paved Shoulder Alternates**

**Auxiliary Lane**

Longitudinal joint: L or KT  
 Transverse joint: Match Mainline

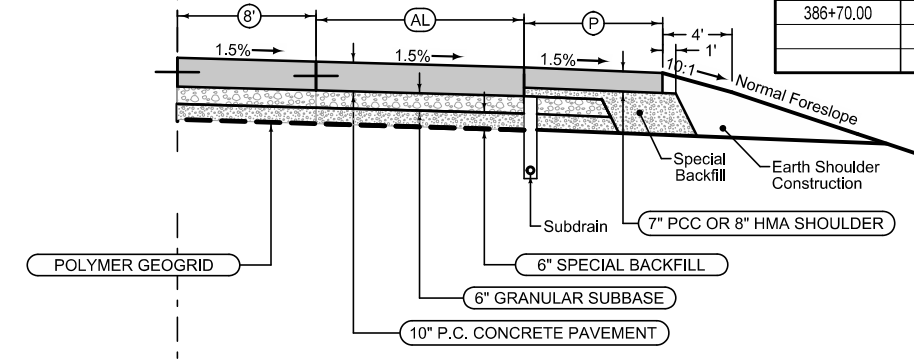
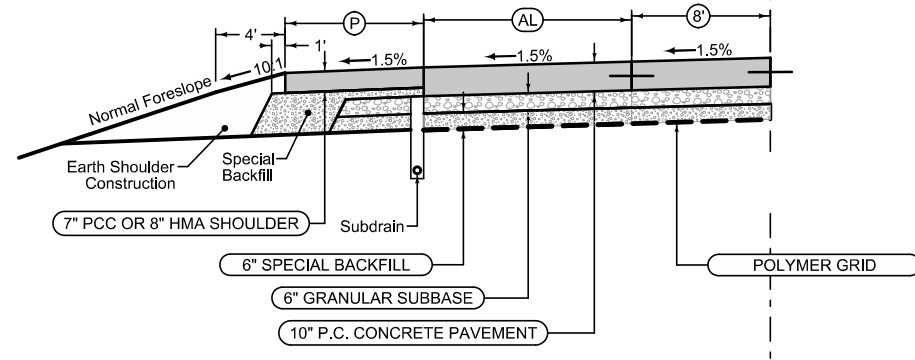
PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-3  
 Transverse joints: C at 20' spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_AuxLane_PCC_10-19-10		2_AL_Shldr_ALT_10-19-10	
STATION TO STATION	(AL) Feet	(P) Feet	Feet
279+39.00	285+41.84	0-10	0-6
386+70.00	391+15.00	0-10	0-6



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

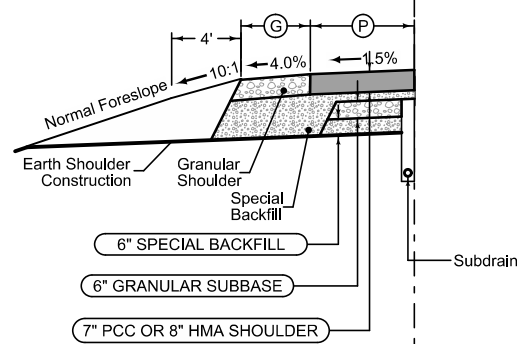
2P_10-19-10		
STATION TO STATION	(P)	Feet
256+50.00	391+70.00	



**Paved Shoulder Alternates With Adjacent Granular Shoulder**

PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-3  
 Transverse joints: C at 20' spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

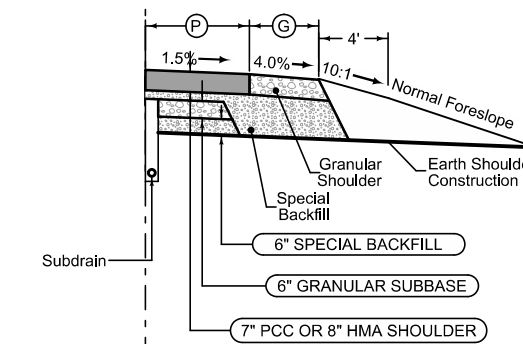
2_P_ALT_10-19-10			
STATION TO STATION	(P) Feet	(G) Feet	Feet
256+50.00	257+70.00	4	2-4



**Paved Shoulder Alternates With Adjacent Granular Shoulder**

PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-3  
 Transverse joints: C at 20' spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_P_ALT_10-19-10			
STATION TO STATION	(P) Feet	(G) Feet	Feet
256+50.00	257+70.00	4	2-4



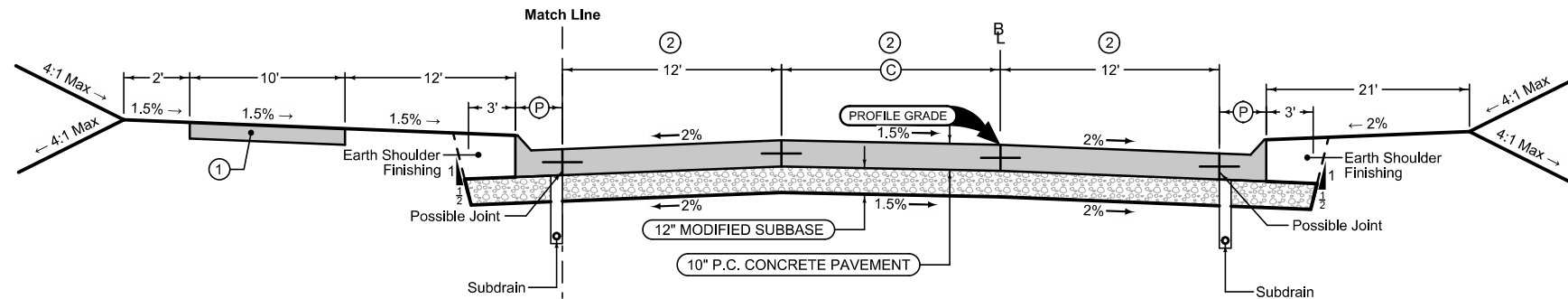
See Tab 100-24 for pavement quantities.  
 See Tab 112-9 for shoulder quantities.

### Curbed Shoulder

Shoulder Jointing:  
Longitudinal joint: L-2  
Staged: KT-2  
Transverse: CD at 20' spacing

Single pour: L-2  
Staged: KT-2  
Transverse: CD at 20' spacing

2_Curb_MODIFIED			
STATION TO STATION	(P) Feet	Curb Type See PV-102	
391+70.00	443+18.01	3	6" Standard



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

2P_TWLTL_10-19-10		
STATION TO STATION	(C) Feet	
391+70.00	441+27.50	16
441+27.50	443+18.01	16-12

### Curbed Shoulder

Shoulder Jointing:  
Longitudinal joint: L-2  
Staged: KT-2  
Transverse: CD at 20' spacing

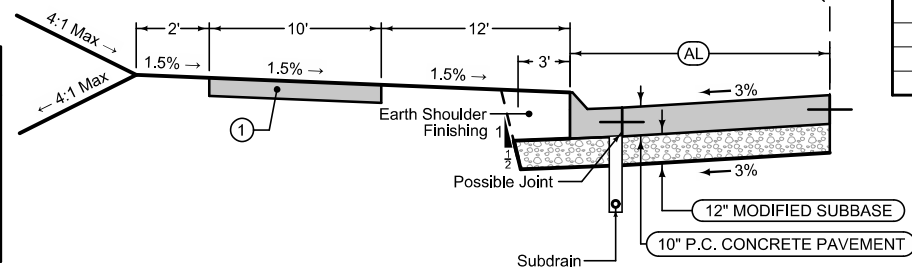
Single pour: L-2  
Staged: KT-2  
Transverse: CD at 20' spacing

2_Curb_MODIFIED			
STATION TO STATION	(P) Feet	Curb Type See PV-102	
391+00.00	443+18.01	3	6" Standard

### Auxiliary Lane

Longitudinal joint: L or KT  
Transverse joint: Match Mainline

4_AuxLane_PCC_MODIFIED			
Direction of Travel	BEGIN STATION	END STATION	(AL) Feet
WEST	391+70.00	396+69.88	13



See Tab 100-24 for pavement quantities.

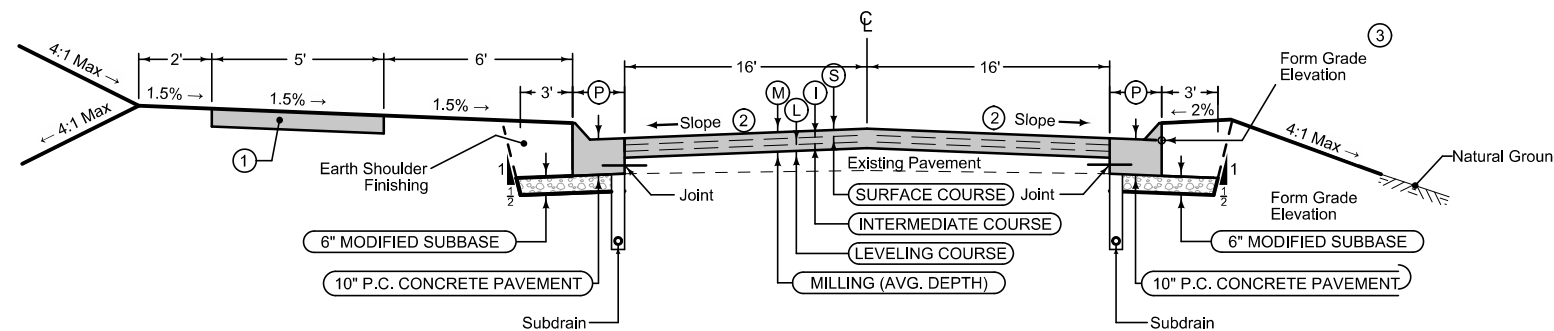
- ① Recreational Trail - Refer to Typ. 7402 for additional information.
- ② Refer to L-Sheets for transition areas.

## IOWA 92 - URBAN

### Curbed Shoulder

Shoulder Jointing:  
Longitudinal: BT-3  
Transverse: C at 20' spacing

2_Curb_MODIFIED			
STATION TO STATION	(P) Feet	Curb Type See PV-102	
443+18.01	465+01.01	2.5	6" Standard



### HMA RESURFACING

LOCATION						
ROAD IDENTIFICATION	STATION TO STATION	(M) Inches	(S) Inches	(I) Inches	(L) Inches	
Ia. 92	443+18.01	465+01.01	3	1.5	1.5	(4)

### Curbed Shoulder

Shoulder Jointing:  
Longitudinal: BT-3  
Transverse: C at 20' spacing

2_Curb_MODIFIED			
STATION TO STATION	(P) Feet	Curb Type See PV-102	
443+18.01	465+01.01	2.5	6" Standard

See Tab 100-25 for pavement quantities.

See Tab 112-9C for Curb and Gutter quantities.

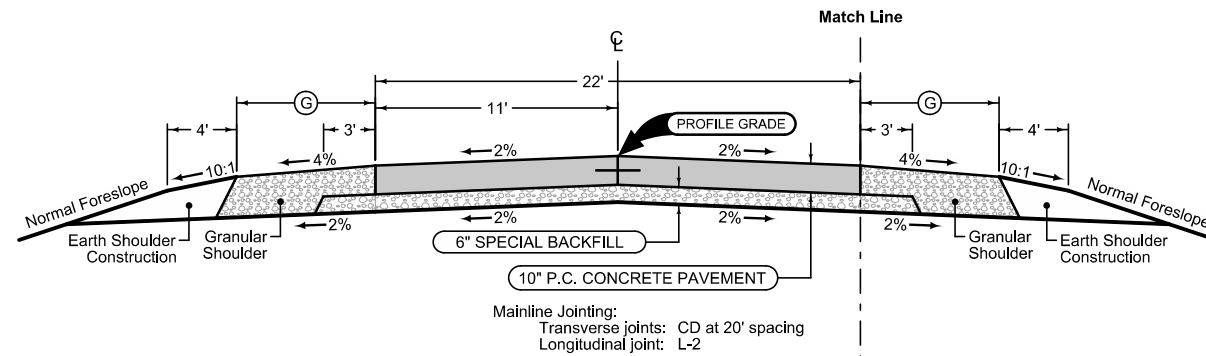
- ① Sidewalk - Refer to S-sheets for additional information. See Tab 113-1 for sidewalk quantities.
- ② Match finished slope to existing pavement, except that the maximum allowable slope is 3.0% and the minimum allowable slope is 2.0%. Section may be modified as directed by the Engineer through areas of special shaping.
- ③ Refer to Plan and Profile sheets for Curb Form Grade Elevation.
- ④ Refer to Plan and Profile sheets for approximate thickness.

## IOWA 92 - WIDENING & RESURFACE

**Granular Shoulder**

2\_G\_ 10-19-10

ROAD IDENTIFICATION	STATION TO STATION		Ⓞ Feet
R-57	1280+60.00	1283+41.23	6
R-57	1384+16.17	1386+06.00	6
R-63	3388+60.00	3390+71.41	6
R-63	3391+41.99	3393+05.00	6



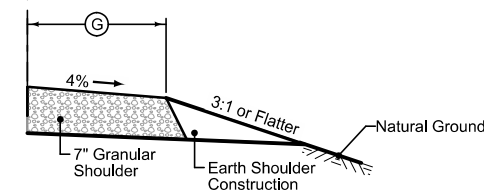
2P\_ 10-19-10

ROAD IDENTIFICATION	STATION TO STATION	
R-57	1280+60.00	1283+41.23
R-57	1384+16.17	1386+06.00
R-63	3388+60.00	3390+71.41
R-63	3391+41.99	3393+05.00

**Granular Shoulder**

2\_G\_ 10-19-10

ROAD IDENTIFICATION	STATION TO STATION		Ⓞ Feet
R-57	1280+60.00	1283+41.23	6
R-57	1384+16.17	1386+06.00	6
R-63	3388+60.00	3390+71.41	6
R-63	3391+41.99	3393+05.00	6



**Granular Shoulder \***

2\_G\_ 10-19-10

ROAD IDENTIFICATION	STATION TO STATION		Ⓞ Feet
R-57	1277+35.00	1279+25.00	6
R-57	1387+86.00	1389+68.00	6
R-63	3385+50.00	3386+82.00	6
R-63	3394+93.00	3396+25.00	6

\*After removal of Detour

**R-57 & R-63**

**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: CD at 20' spacing

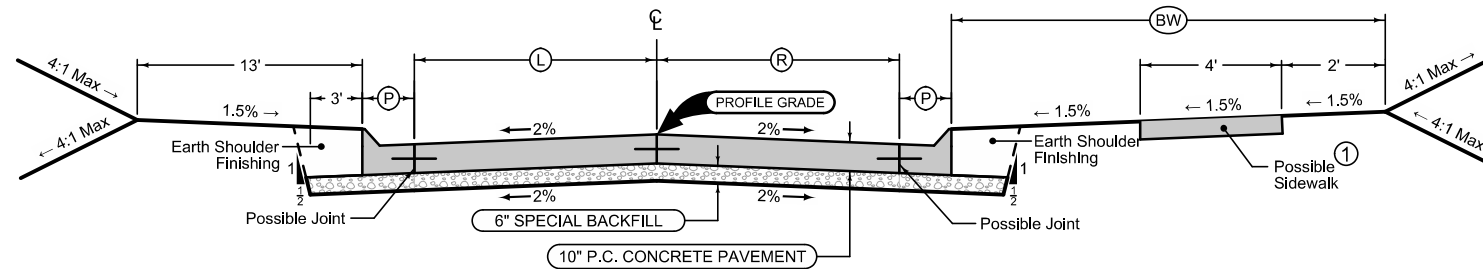
STATION TO STATION		(P) Feet	Curb Type See PV-102
4414+15.00	4417+25.32	1.5	6" Standard
4417+64.40	4422+60.00	1.5	6" Standard

**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: CD at 20' spacing

STATION TO STATION		(P) Feet	Curb Type See PV-102	(BW) Feet
4414+15.00	4417+25.32	1.5	6" Standard	18
4417+64.40	4422+60.00	1.5	6" Standard	13



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

STATION TO STATION		(L) Feet	(R) Feet
4414+15.00	4417+28.32	11	11
4417+61.40	4422+60.00	14	14

① Refer to S-sheets for additional information.

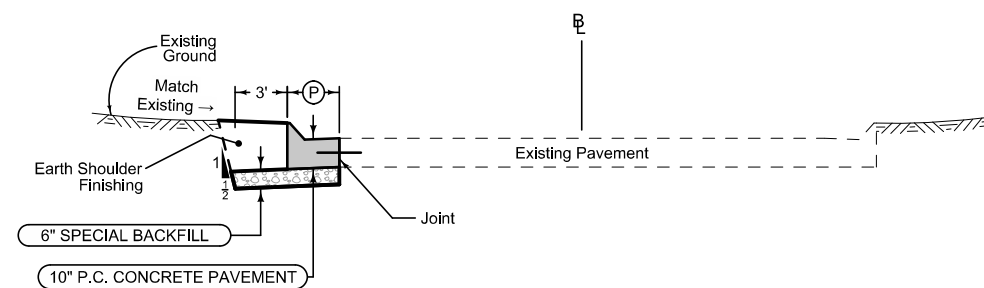
See Tab 100-24 for pavement quantities.

**Y ST**

**Curbed Shoulder**

Shoulder Jointing:  
 Longitudinal: BT-2  
 Transverse: C at 15' spacing

STATION TO STATION		(P) Feet	Curb Type See PV-102
4410+73.00 Lt	4411+62.00 Lt	1.5	6" Standard
4414+91.00 Rt	4415+37.00 Rt	1.5	6" Standard
4424+96.00 Lt	4425+66.00 Lt	1.5	6" Standard



See Tab 112-9C for Curb and Gutter quantities.

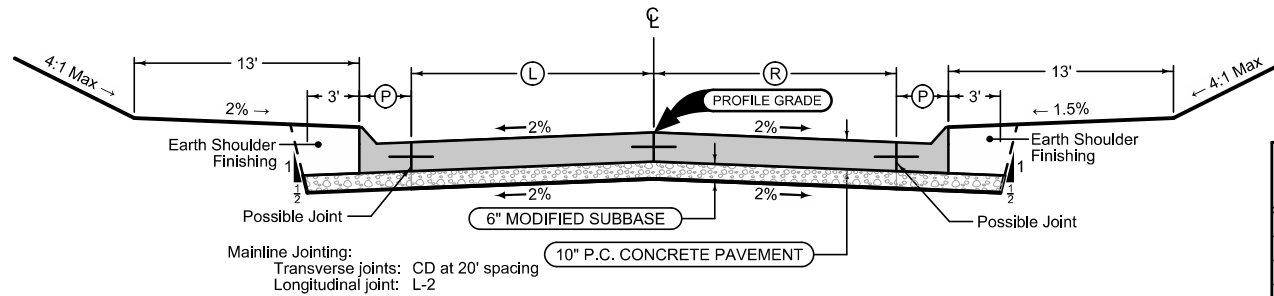
**Y ST**

### 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 20' spacing

		2_Curb_MODIFIED			
① STATION TO STATION	P Feet	Curb Type		See PV-102	
		①	②		
SPRUCE ST	0	31.4	2	6" Standard	
SOUTH 'R' ST	0	27.5	3.5	6" Standard	
KENWOOD BLVD.	0	33.4	2	6" Standard	
SOUTH 'P' ST-SOUTH	0	36.7	2	6" Standard	
SOUTH 'P' ST-NORTH	0	33.7	2	6" Standard	
SOUTH 'N' ST	0	16.1	6	6" Standard	



	STATION TO STATION ①	L Feet	R Feet
SPRUCE ST	0	31.4	10.5
SOUTH 'R' ST	0	27.5	12
KENWOOD BLVD.	0	33.4	18.5
SOUTH 'P' ST-SOUTH	0	36.7	13
SOUTH 'P' ST-NORTH	0	33.7	11
SOUTH 'N' ST	0	16.1	10

### 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 20' spacing

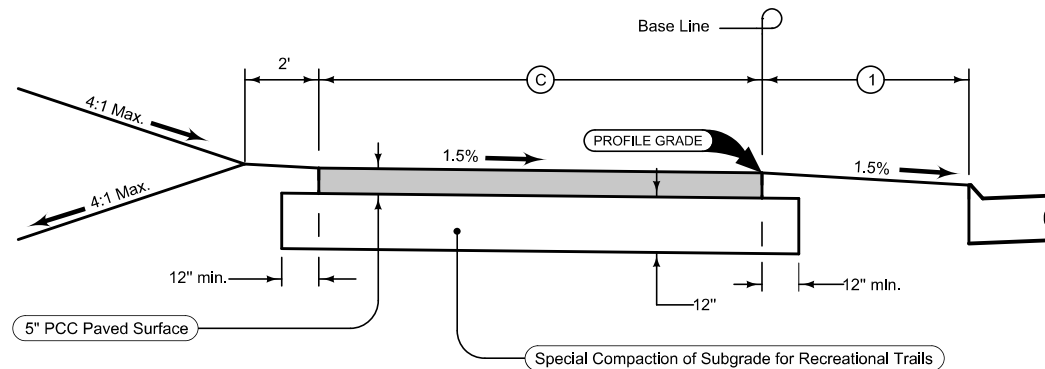
		2_Curb_MODIFIED			
① STATION TO STATION	P Feet	Curb Type		See PV-102	
		①	②		
SPRUCE ST	0	31.4	2	6" Standard	
SOUTH 'R' ST	0	27.5	3.5	6" Standard	
KENWOOD BLVD.	0	33.4	2	6" Standard	
SOUTH 'P' ST-SOUTH	0	36.7	2	6" Standard	
SOUTH 'P' ST-NORTH	0	33.7	2	6" Standard	
SOUTH 'N' ST	0	16.1	6	6" Standard	

Refer to 'L' Sheets.  
See Tab 100-24 for pavement quantities.  
Curb shoulder quantities included with mainline pavement.

- ① Station based on distance from edge of mainline pavement.
- ② Use staking details for profile. Refer to L-Sheets.

### TYPICAL URBAN INTERSECTION

7402  
MODIFIED



Trail Jointing:  
Transverse joints: C at 10' spacing

STATION TO STATION	PAVEMENT TYPE	C Feet	
391+20.00	441+21.07	PCC	10

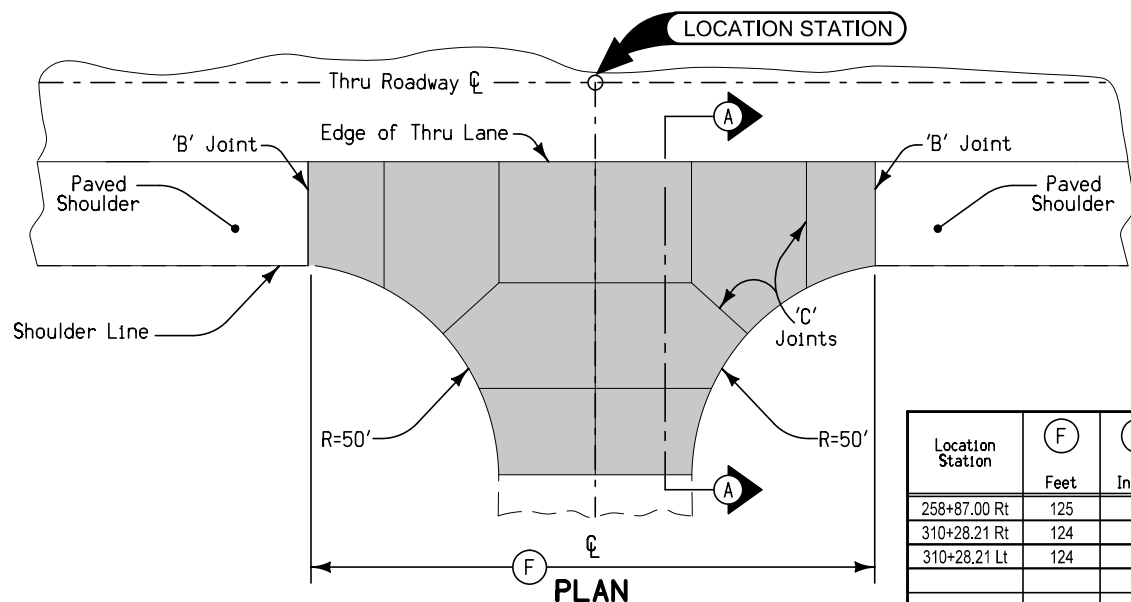
- Notes:
- ① Refer to other detail typicals and cross sections for distance from edge of Recreational Trail to back of curb.

Refer to Tab 113-1 on C-sheets.

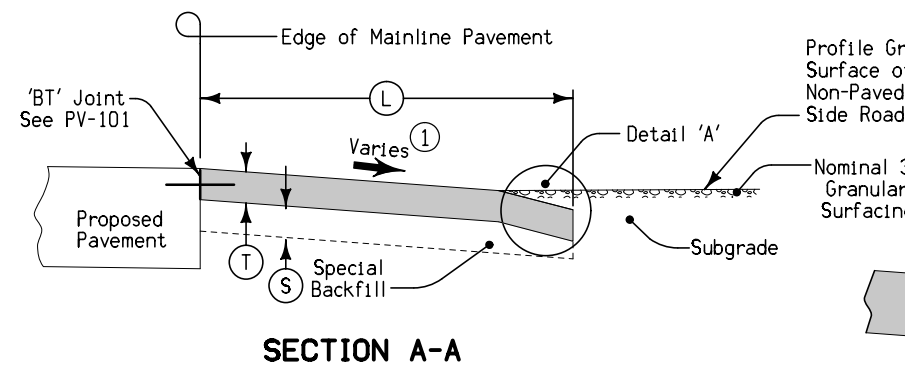
Contract bid items:  
'Recreational Trail, Portland Cement Concrete, 5 in.'  
'Special Compaction of Subgrade for Recreational Trail'

### TYPICAL CROSS SECTION RECREATIONAL TRAIL PAVED SURFACE

7149M  
MODIFIED

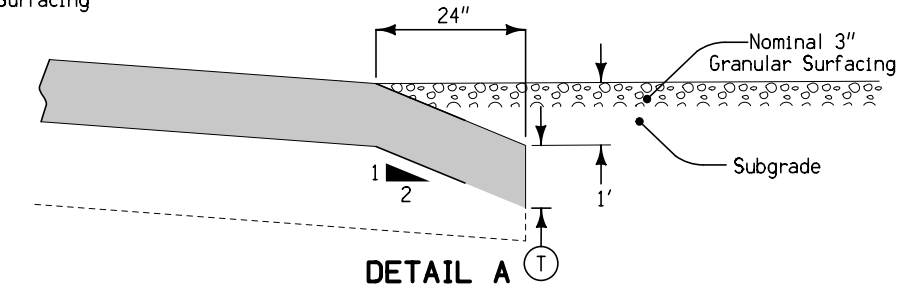


Location Station	F Feet	S Inches	T Inches	L (50' min.) Feet	Remarks
258+87.00 Rt	125	6	8	69.3	See Tab. 100-24, KENNEDY ST.
310+28.21 Rt	124	6	8	57.4	See Tab. 100-24, 90TH AVE.
310+28.21 Lt	124	6	8	58.6	See Tab. 100-24, 90TH AVE.



Special shaping of existing surface prior to placement of fillet or fillet extension may be required by the Engineer and is incidental to other work on the project.

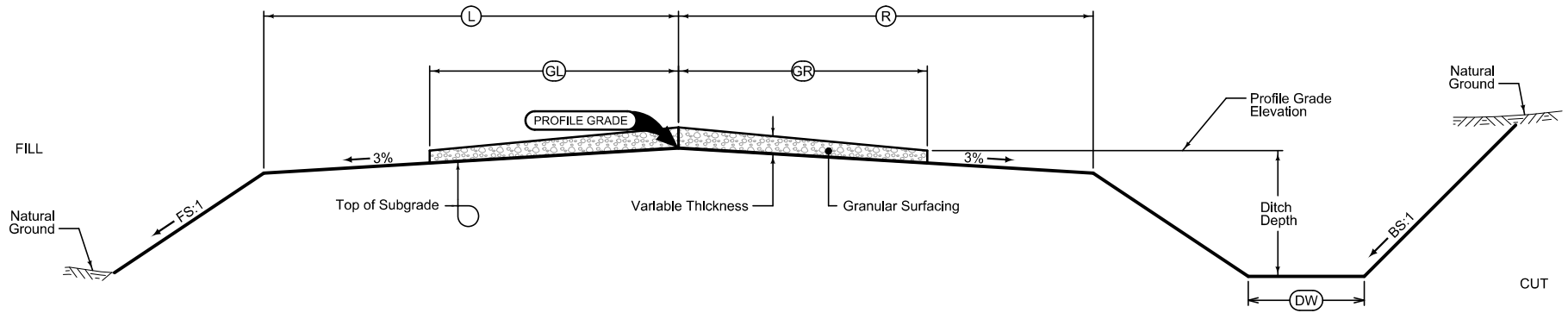
- ① Profile grade of Side Road



### FILLET EXTENSION FOR NON-PAVED SIDE ROADS



LOCATION		DIMENSIONS							Quantities	
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(GL) Feet	(GR) Feet	FS	BS	(DW) Feet	Length Mile	Granular Surfacing Tons
KENNEDY ST	1257+45.00 1258+68.00	15	15	12	12	3	3	5	0.023	54.7
90TH AVE	2305+85.00 2307+00.00	12-13	12-13	12	12	2.5-3	2.5-3	0	0.022	51.2
90TH AVE	2307+00.00 2308+00.00	13	13	12	12	3	3	0-5	0.019	44.5
90TH AVE	2308+00.00 2310+06.21	13	13	12	12	3	3	5	0.047	111.4
90TH AVE	2310+50.21 2313+85.00	13	13	12	12	3	3	5	0.063	149.0
Accessway 258	1259+09.00 1259+38.00	13	13-20	12	12	3	3	0	0.005	12.9
Accessway 258	1259+38.00 1259+90.00	13	20	12	12	3	3	0	0.010	23.1
Accessway 258	1259+90.00 1260+30.00	13	20-13	12	12	3	3	0	0.008	17.8
Accessway 258	1260+30.00 1261+20.00	13	13	12	12	3	3	0	0.017	40.1
Kirkwood St.	0+00.00 26+40.00	U.A.C.	U.A.C.	8	8	U.A.C.	U.A.C.	U.A.C.	0.500	1175.0
Detour Y St. SW	14409+91.69 14417+13.53	10	10	10	10	3	3	5	0.137	321.3
Detour Y St SE	24415+20.54 24418+46.15	10	10	10	10	3	3	5	0.061	144.5
Detour Y St NW	14416+96.30 14424+85.76	10	10	10	10	3	3	5	0.150	351.4
Detour Spruce St	19441+06.00 19442+36.05	12	12	10	10	3	2.5	5	0.025	57.9



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.

Place Granular Surfacing as follows:  
Grade-Pave design application rate is 2330 tons per mile.

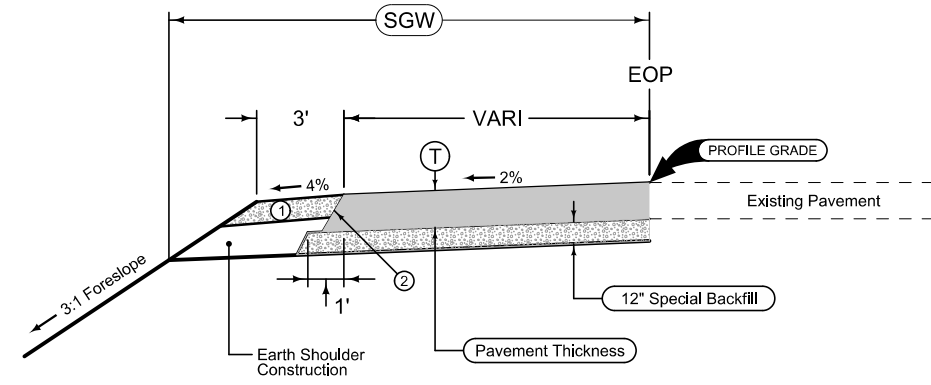
**GRADING AND GRANULAR SURFACING**

LOCATION		DIMENSIONS				Quantities		
ROAD IDENTIFICATION	STATION TO STATION		HMA		PCC		Detour Pavement SY	Special Backfill Tons
			(T) Inches	(SGW) Feet	(T) Inches	(SGW) Feet		
IA 92 NE Tie-in	439+07.95	444+99.72	9	VARI	8	VARI	798.6	543.8
IA 92 SE Tie-in	441+22.91	441+23.02	9	VARI	8	VARI	163.8	119.8
Totals							962.4	663.6

Quantity calculations based on vertical pavement edges.  
 Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.  
 Refer to L-Sheets.

- ① 6" Granular Shoulder
- ② Possible 1:1 slope

1\_Detour  
MODIFIED



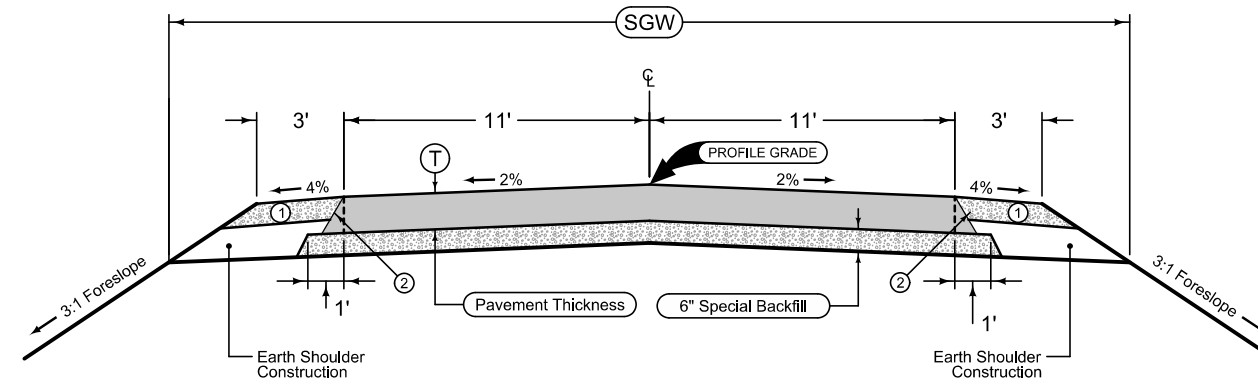
1 LANE DETOUR PAVING

LOCATION		DIMENSIONS				Quantities		
ROAD IDENTIFICATION	STATION TO STATION		HMA		PCC		Detour Pavement SY	Special Backfill Tons
			(T) Inches	(SGW) Feet	(T) Inches	(SGW) Feet		
R-57	11277+89.54	11283+98.25	8	35	7	34.5	1254.3	432.6
R-57	11284+92.87	11290+40.39	8	35	7	34.5	1092.3	376.9
R-63	18386+48.19	18392+53.75	8	35	7	34.5	1476.2	506.0
R-63	18392+77.34	18397+71.90	8	35	7	34.5	1179.8	402.9
Totals							5002.6	1688.4

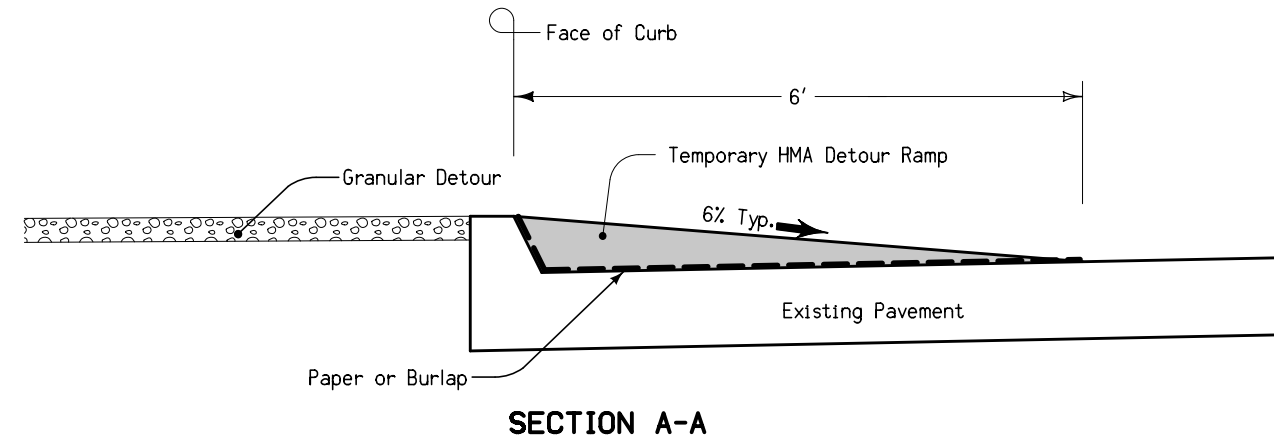
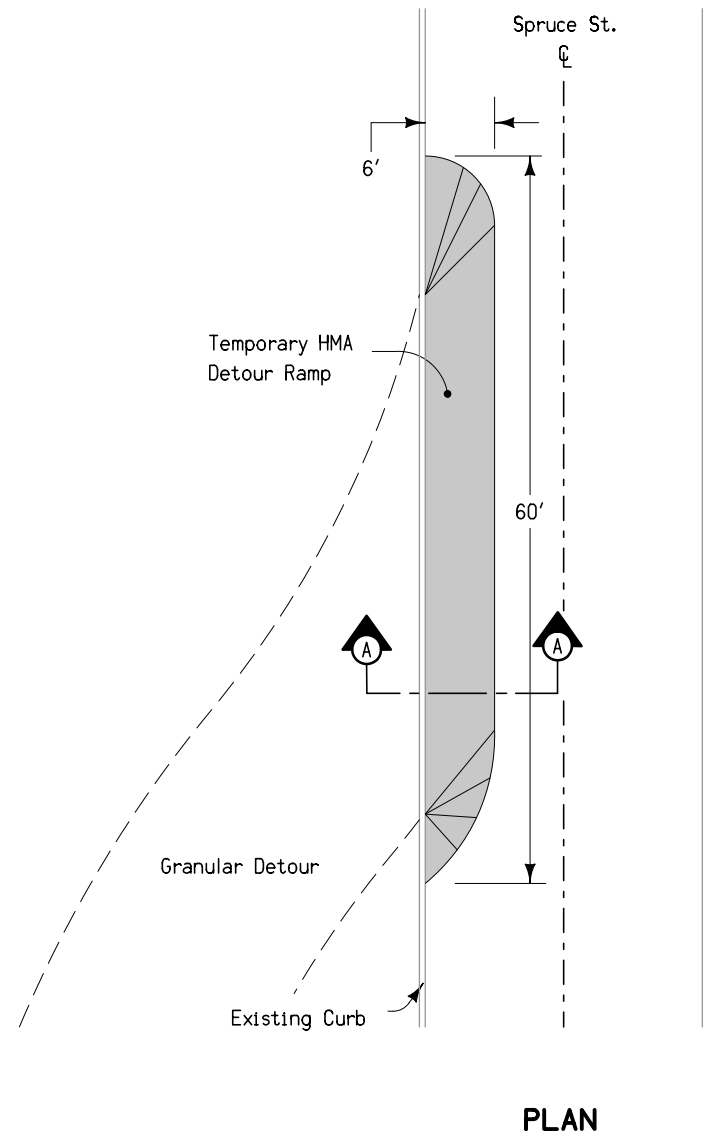
Quantity calculations based on vertical pavement edges.  
 Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.  
 Refer to L-Sheets.

- ① 6" Granular Shoulder
- ② Possible 1:1 slope

2\_Detour  
MODIFIED



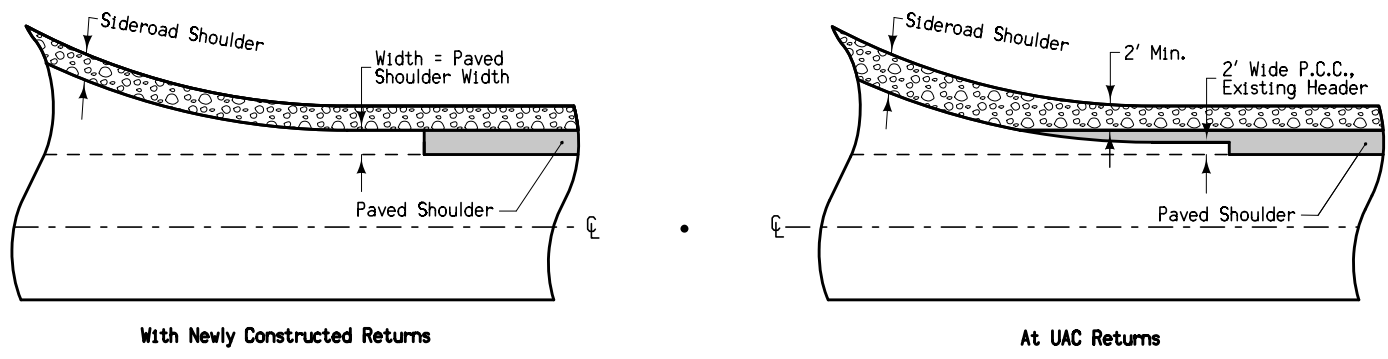
2 LANE DETOUR PAVING



Bid as Temporary Pavement.  
Removal of temporary HMA Detour Ramp is incidental to Temporary Pavement.  
Temporary Pavement area is 6.7 square yards.

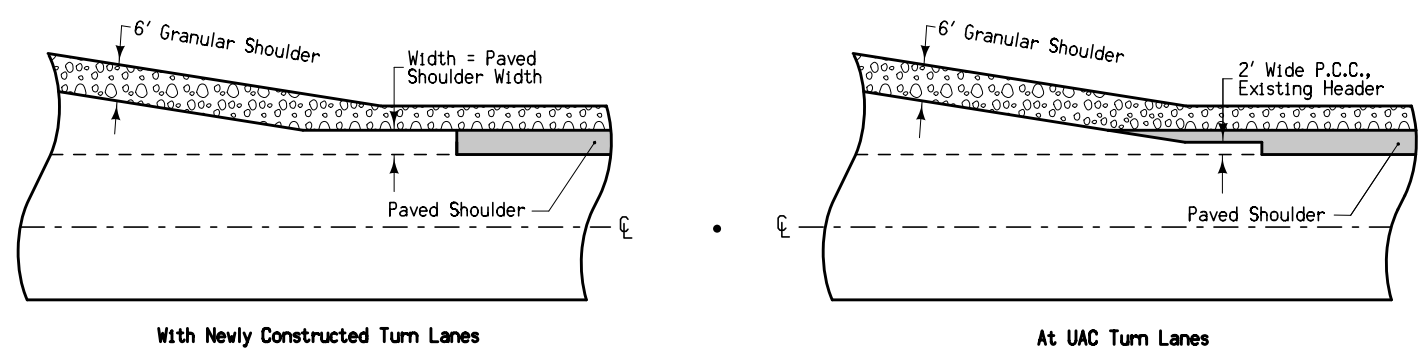
TEMPORARY HMA DETOUR RAMP

7154B  
10-20-09



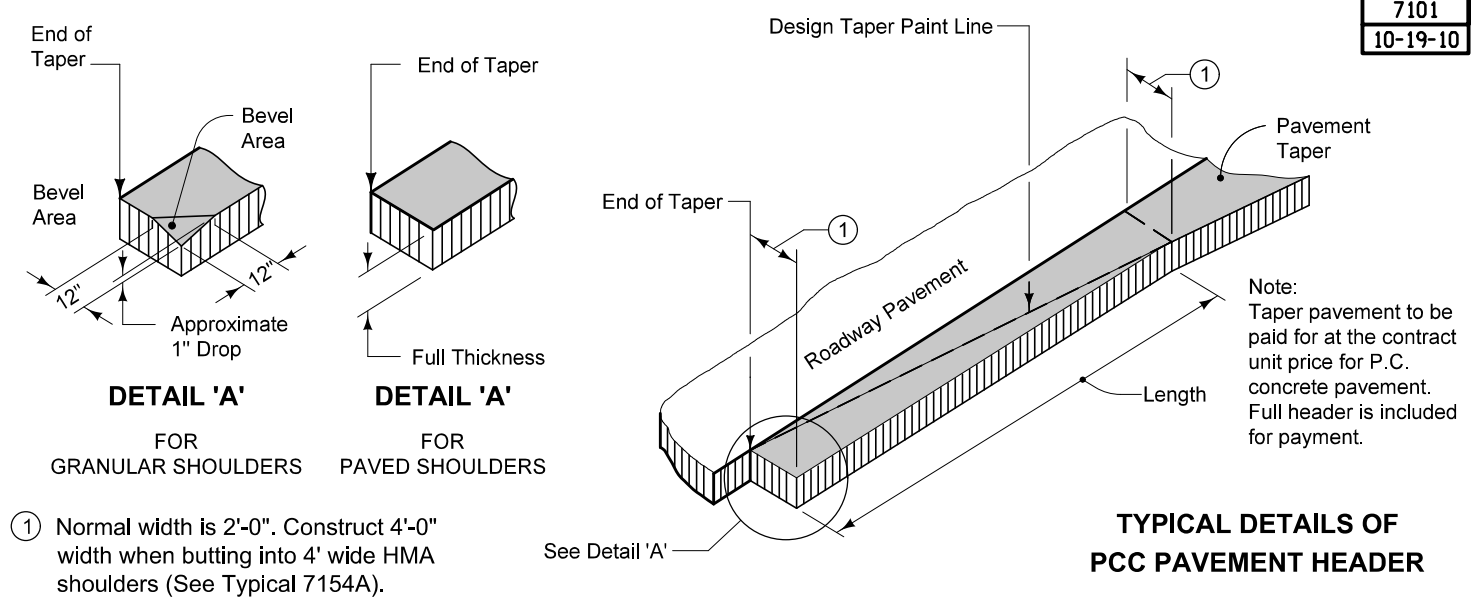
PAVED SHOULDER  
DETAIL AT RETURNS

7154A  
10-20-09



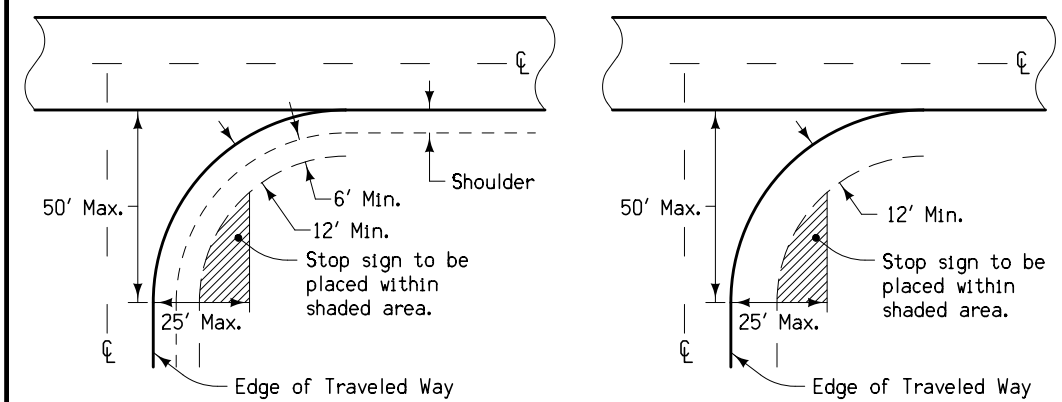
PAVED SHOULDER  
DETAIL AT  
TURN LANES

7101  
10-19-10



TYPICAL DETAILS OF  
PCC PAVEMENT HEADER

9503  
07-15-97

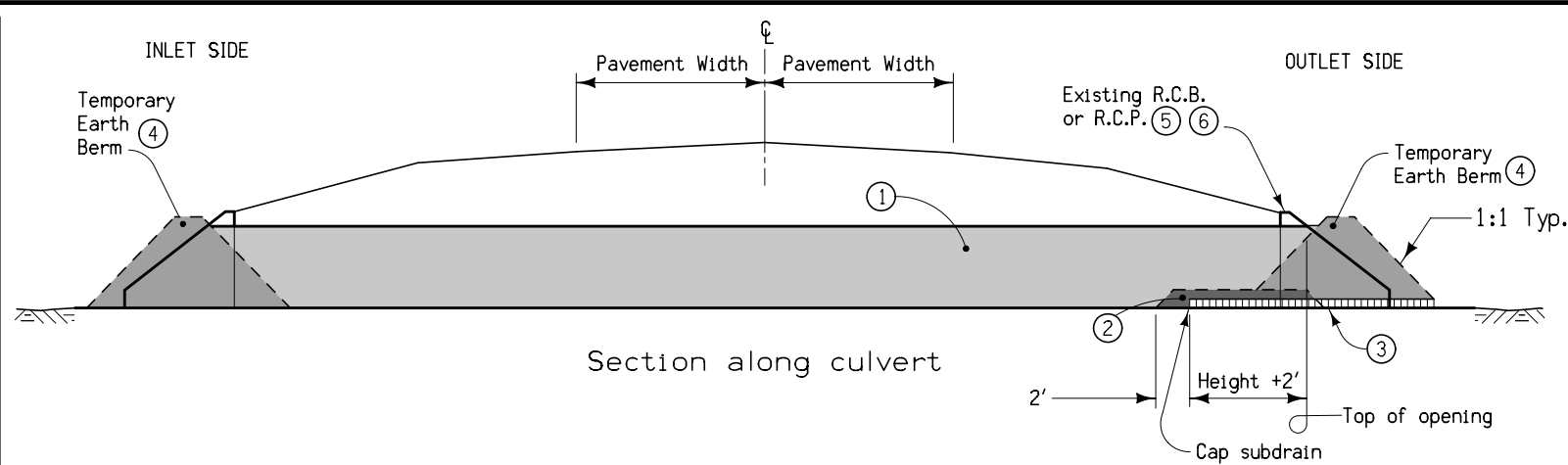
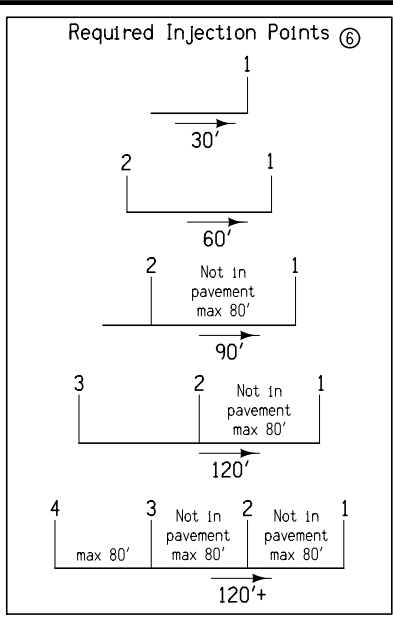


NOTES:  
Stop signs should be confined to the shaded areas, but as close to the approach roadway as possible to provide the motorist with the best visual impact.  
If possible, stop signs should be placed at the point where vehicles are to stop or as near as practical.  
In rural areas, the lateral clearance should not be closer than 6' from the edge of a usable shoulder, or if none, 12' from edge of the traveled way.  
In urban areas, stop signs should be placed a minimum of 6' from the near edge of the intersected street or a minimum of 4' in advance of the near edge of a marked crosswalk. Lateral clearance may be reduced to a minimum of 2' from the face of a curb.  
Where the approach roadway consists of two lanes of traffic, a second stop sign should be placed where it is visible to traffic in the inner lane.  
At channelized intersections, the additional stop sign may be placed on a channelized island or median.

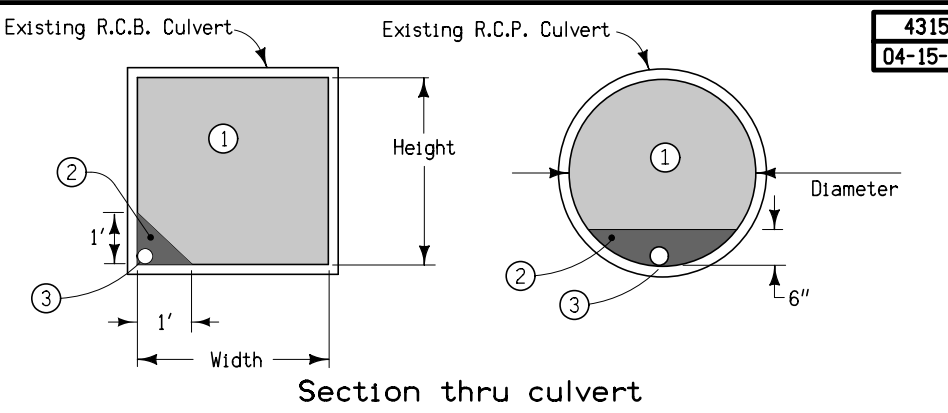
CASE 'A'  
WITH SHOULDER

CASE 'B'  
WITHOUT SHOULDER

STOP SIGN PLACEMENT



Section along culvert

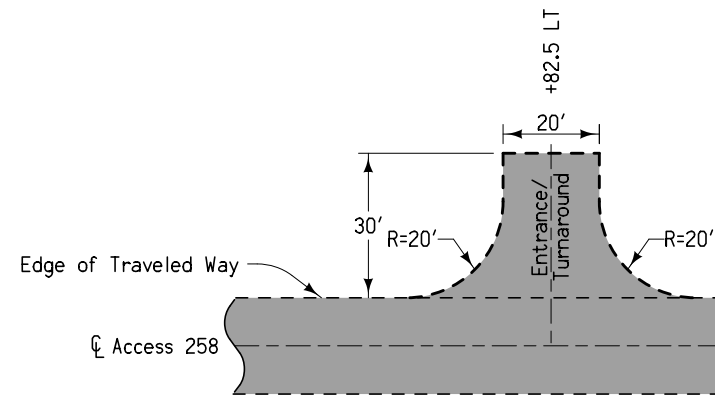


Section thru culvert

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

4315  
04-15-08

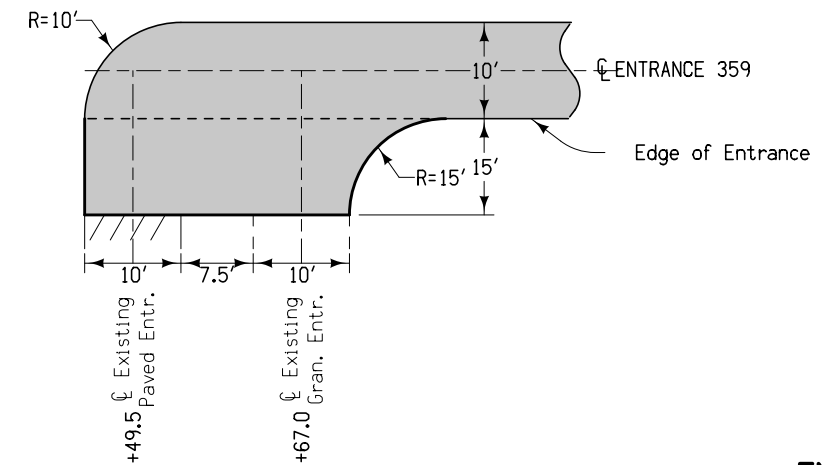
TURNAROUND  
NEW



NOTES:  
Refer to Plan and Profile sheets for profile of Entrance.

MAINTENANCE  
TURNAROUND DETAIL  
ACCESSWAY 258

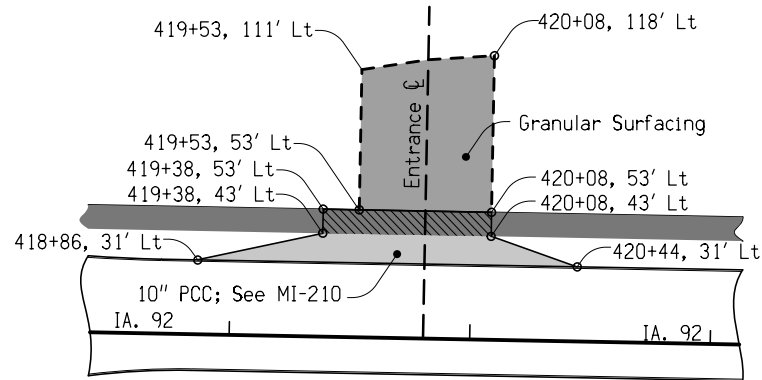
ENT359  
NEW



NOTES:  
Refer to Plan and Profile sheets for profile of Entrance.

ENTRANCE 359  
TERMINAL DETAIL

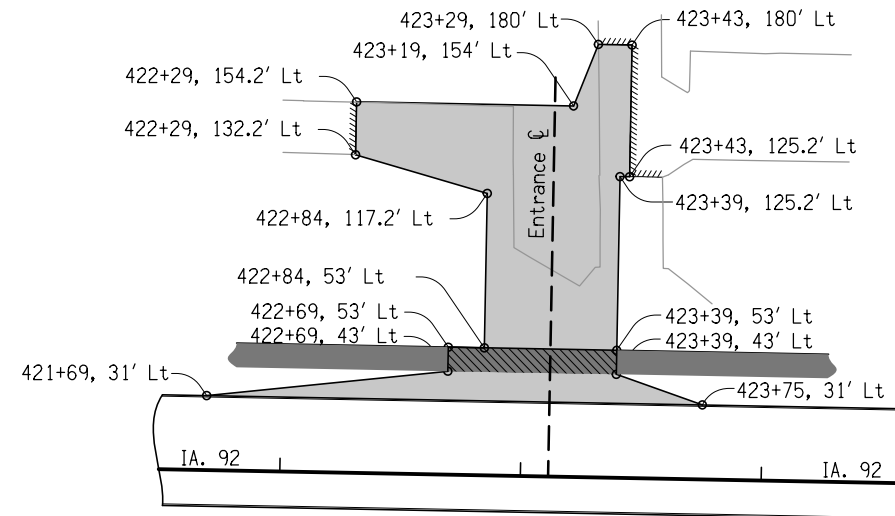
ENT419  
NEW



NOTES:  
Refer to Tab. 102-3 for quantities.  
Refer to MI-210 for additional details.  
Refer to Plan and Profile sheets for profile of Entrance.

ENTRANCE 419  
CONSTRUCTION LIMITS

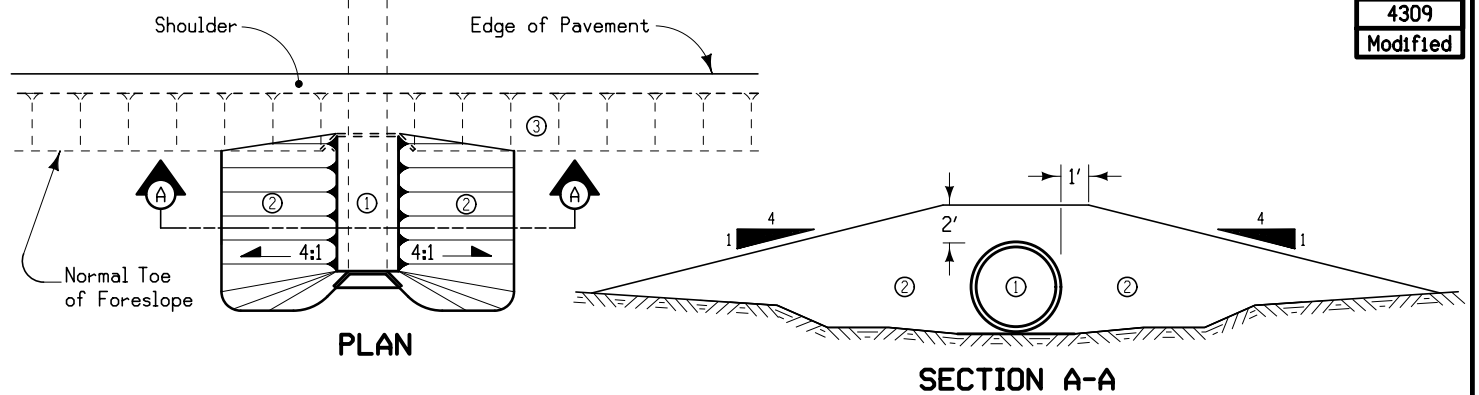
ENT423  
NEW



NOTES:  
Refer to Tab. 102-3 for quantities.  
Refer to MI-210 for additional details.  
Refer to Plan and Profile sheets for profile of Entrance.

ENTRANCE 423  
CONSTRUCTION LIMITS

4309  
Modified

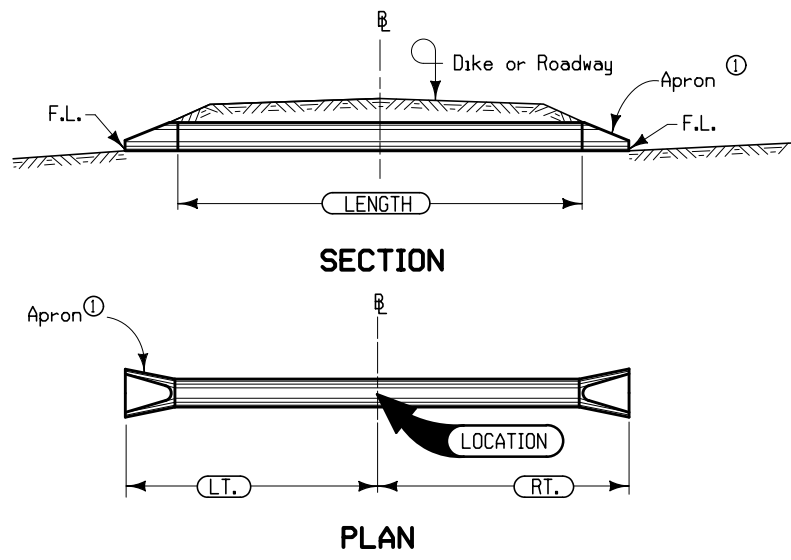


STATION	SIDE	Cu. Yds.
4414+30	RT.	40

- Notes:
- ① Storm Sewer Outlet
  - ② Proposed Embankment
  - ③ Adjacent Foreslope

PLACEMENT OF EMBANKMENT  
AT STORM SEWER OUTLET

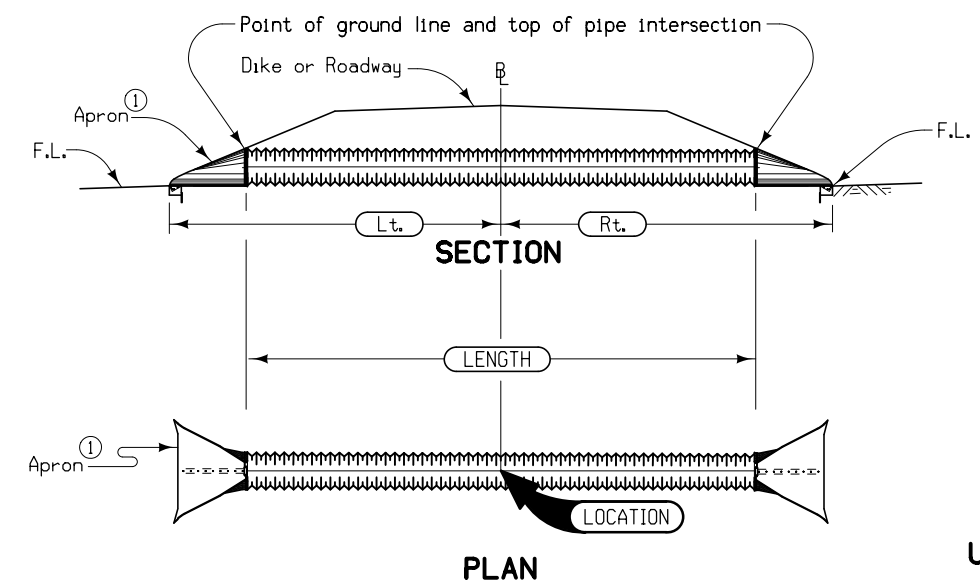
1101  
04-30-02



Notes:  
CL shall be CL of roadway, dike, survey, or other; as detailed on plans.  
Skew angle is the angle which one end of the pipe is ahead (by stationing) of a line perpendicular to the CL (example skew Rt. ahead 30°).  
Refer to tabular listing and other plans for additional information.  
① See Standard Road Plan RF-3 For Conc. or RF-5 for Metal.

PIPE CULVERT

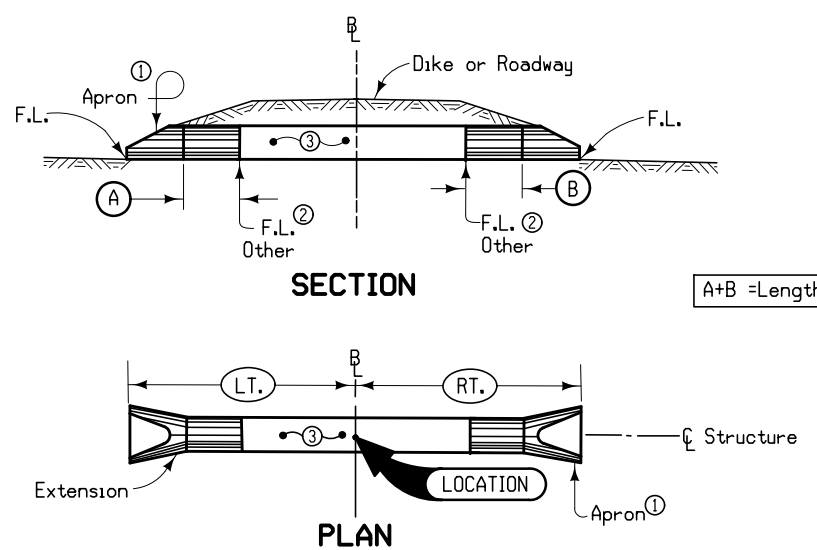
1601  
10-16-12



CL shall be CL of roadway, dike, survey, or other; as detailed on plans.  
Skew angle is the angle which one end of the pipe is ahead (by stationing) of a line perpendicular to the CL (example skew Rt. ahead 30 degrees).  
① See Standard Road Plan RF-3 for Concrete or RF-5 for Metal and Polyethylene.

UNCLASSIFIED PIPE CULVERT

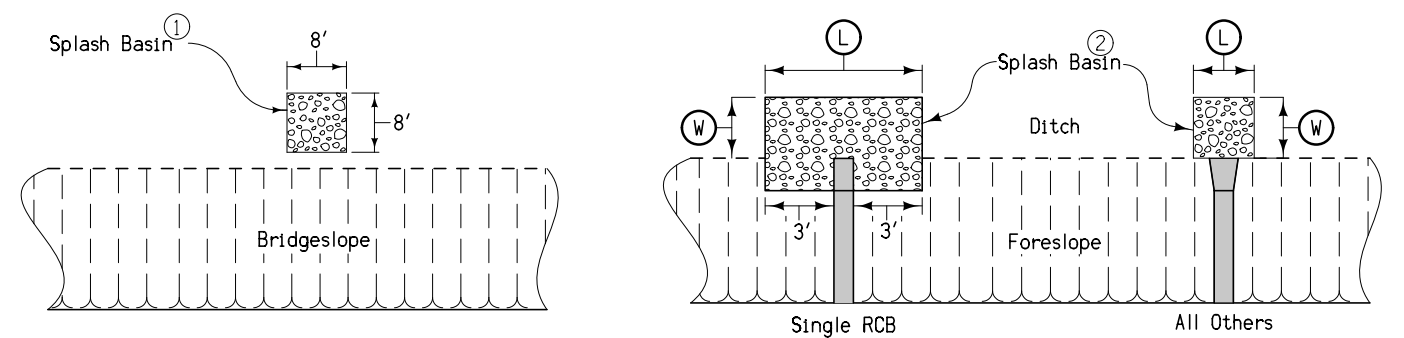
1301  
10-03-00



Notes:  
CL shall be CL of roadway, dike, survey, or other; as detailed on plans.  
Extension shall be on line of existing structure to Lt., Rt. or both as specified. Adaptors may be required, see Standard Road Plan RF-2.  
Refer to tabular listing and other plans for additional information.  
① See Standard Road Plan RF-3 for concrete, RF-5 for metal.  
② Optional type "D" section only when specified in tabulation.  
③ Existing structure.

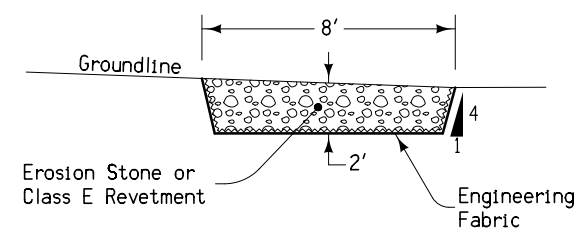
PIPE EXTENSION

4404  
10-15-13

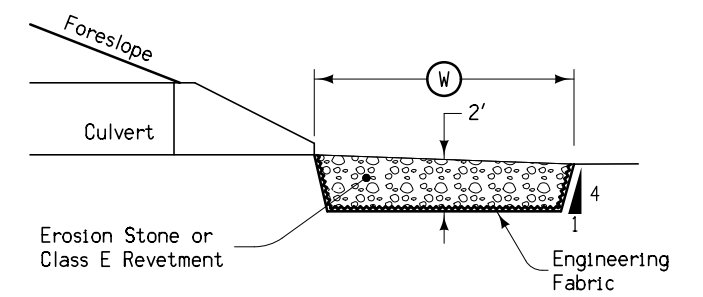


Splash Basin Under Bridge Drain Plan View

Splash Basin at Culvert Outlet Plan View



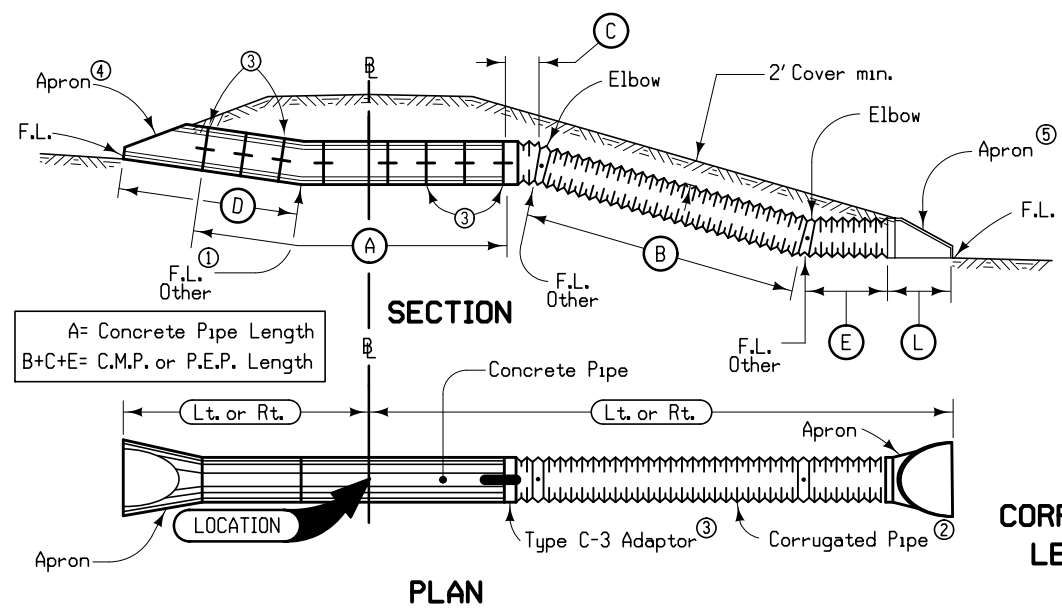
Splash Basin Under Bridge Drain Typical Section



Splash Basin at Culvert Outlet Typical Section

ROCK SPLASH BASIN

1501  
04-20-10



CL shall be CL of roadway, dike, survey, or other; as detailed on plans.  
Skew angle is the angle which one end of the pipe is ahead (by stationing) of a line perpendicular to the CL.  
Refer to Tabulation 104-3.  
① Optional D section only when specified in tabulation.  
② Standard type joint couplings are required. (See Materials I.M. 441)  
③ See RF-2 & RF-14.  
④ See RF-3.  
⑤ See RF-5 for Metal and Polyethylene.

CORRUGATED PIPE - CONCRETE LETDOWN STRUCTURE WITH METAL APRON

**PROJECT DESCRIPTION**

This project involves the reconstruction of IA 92 from west of Kennedy Street to east of 'N' Street in Indianola. The project is divided into a rural and an urban section.

The rural section extends from west of Kennedy Street easterly 2.5 miles to County Road R-63. This section of IA 92 west of Co. Rd. R-63 will be closed to thru traffic and detoured off site. Access to private properties will be maintained during construction. Traffic on Co. Rd. R-57, Co. Rd. R-63, and 'Y' St. will be also be maintained during construction. Traffic on Co. Rd. R-63 will be maintained except for the construction of the IA 92/R-63 intersection.

The urban section extends from Co. Rd. R-63 to just east of 'N' Street, a total distance of approximately 1.5 miles. It will include reconstruction from Co. Rd. R-63 to just east of Spruce Street; then mill and resurface with curb and gutter widening to the end of project where it meets the existing curb and gutter section. The mill and resurface will be done to create a new profile for drainage. The traffic in the urban section will be maintained via staging. The reconstruction will consist of a 46' back-to-back curbed roadway including a 16' wide continuous center turn lane. The mill and resurface with curb and gutter widening will be 37' back-to-back.

Also, the project includes the construction of a 10' wide shared use path constructed on the north side of the roadway from Co. Rd. R-63 east to Spruce Street. A 5' wide sidewalk will be constructed on the north side of the roadway from Spruce Street east to South 'M' Street.

**ESTIMATED PROJECT QUANTITIES  
(1 DIVISION PROJECT)**

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2101-0850001	CLEARING AND GRUBBING	ACRE	6.8	
2	2102-0425070	SPECIAL BACKFILL	TON	25,935.2	
3	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	75,754.0	
4	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	138,313.0	
5	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	260.0	
6	2102-4560000	LOCATING TILE LINES	STA	321.00	
7	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	65,970.0	
8	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	189,479.0	
9	2107-3825025	GRANULAR MATERIAL FOR BLANKET AND SUBDRAIN	CY	290.0	
10	2111-8174100	GRANULAR SUBBASE	SY	59,873.7	
11	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID	SY	50,860.0	
12	2115-0100000	MODIFIED SUBBASE	CY	7,434.8	
13	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	1,623.5	
14	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	332.80	
15	2123-7450020	SHOULDER FINISHING, EARTH	STA	156.10	
16	2212-0475095	CLEANING AND PREPARATION OF BASE	MILE	0.5	
17	2213-7100400	RELOCATION OF MAIL BOXES	EACH	42	
18	2214-5145150	PAVEMENT SCARIFICATION	SY	7,761.8	
19	2301-1033080	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 8 IN.	SY	1,125.8	
20	2301-1033100	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 10 IN.	SY	86,774.4	
21	2301-4875006	MEDIAN, P.C. CONCRETE, 6 IN.	SY	126.4	
22	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	LS	1.00	
23	2303-0001000	HOT MIX ASPHALT MIXTURE, WEDGE, LEVELING OR STRENGTHENING COURSE	TON	290.6	
24	2303-0042500	HOT MIX ASPHALT MIXTURE (3,000,000 ESAL), INTERMEDIATE COURSE, 1/2 IN. MIX	TON	673.9	
25	2303-0043502	HOT MIX ASPHALT MIXTURE (3,000,000 ESAL), SURFACE COURSE, 1/2 IN. MIX, FRICTION L-2	TON	673.9	
26	2303-0245828	ASPHALT BINDER, PG 58-28	TON	98.6	
27	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES	LS	1.00	
28	2304-0100000	DETOUR PAVEMENT	SY	5,965.0	
29	2304-0101000	TEMPORARY PAVEMENT	SY	6.7	
30	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	2,554.7	
31	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	1,823.8	
32	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	1.00	
33	2402-0425040	FLOODED BACKFILL	CY	3,095.2	
34	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	4,206.9	
35	2416-0100015	APRONS, CONCRETE, 15 IN. DIA.	EACH	14	
36	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.	EACH	4	
37	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	24	
38	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	8	
39	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.	EACH	2	
40	2416-1180018	CULVERT, CONCRETE ROADWAY PIPE, 18 IN. DIA.	LF	128	
41	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	1258	
42	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	304	
43	2416-1180036	CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA.	LF	118	
44	2417-0225024	APRONS, METAL, 24 IN. DIA.	EACH	1	
45	2417-1060024	CULVERT, CORRUGATED METAL ROADWAY PIPE, 24 IN. DIA.	LF	64	
46	2422-0360018	APRONS, UNCLASSIFIED, 18 IN. DIA.	EACH	54	
47	2422-0360024	APRONS, UNCLASSIFIED, 24 IN. DIA.	EACH	2	
48	2422-0360036	APRONS, UNCLASSIFIED, 36 IN. DIA.	EACH	4	
49	2422-1722018	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.	LF	2138	
50	2422-1722024	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA.	LF	74	
51	2422-1722036	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 36 IN. DIA.	LF	102	
52	2422-1723018	CULVERT, UNCLASSIFIED ROADWAY PIPE, 18 IN. DIA.	LF	212	
53	2422-1723024	CULVERT, UNCLASSIFIED ROADWAY PIPE, 24 IN. DIA.	LF	98	
54	2422-1723030	CULVERT, UNCLASSIFIED ROADWAY PIPE, 30 IN. DIA.	LF	44	
55	2435-0140200	MANHOLE, STORM SEWER, SW-402	EACH	1	
56	2435-0250800	INTAKE, SW-508	EACH	79	
57	2435-0251000	INTAKE, SW-510	EACH	17	
58	2435-0251224	INTAKE, SW-512, 24 IN.	EACH	1	
59	2435-0600010	MANHOLE ADJUSTMENT, MINOR	EACH	3	
60	2435-0600020	MANHOLE ADJUSTMENT, MAJOR	EACH	9	
61	2435-0700020	CONNECTION TO EXISTING INTAKE	EACH	1	
62	2502-4388050	INTAKE, STANDPIPE, AS PER PLAN	EACH	1	
63	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	44,699.7	
64	2502-8215110	SUBDRAIN, CORRUGATED METAL PIPE, 10 IN. DIA.	LF	239	
65	2502-8220193	SUBDRAIN OUTLET (RF-19C)	EACH	166	
66	2502-8220196	SUBDRAIN OUTLET, RF-19E	EACH	124	
67	2502-8220197	SUBDRAIN OUTLET (RF-19F)	EACH	4	
68	2503-0114215	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN.	LF	1,520.0	
69	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.	LF	4,465.0	
70	2503-0114221	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 21 IN.	LF	994.0	
71	2503-0114224	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN.	LF	1,245.0	
72	2503-0114230	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 30 IN.	LF	274.0	





**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
1	2101-0850001	<b>CLEARING AND GRUBBING</b> Limits of Clearing and Grubbing are shown on the U-sheets.  Removal of field fence within the construction need limits is bid seperately.
2	2102-0425070	<b>SPECIAL BACKFILL</b> Refer to Typical on B-sheets for additional details.  Item includes 22523.2 Tons for PCC Pavement. Refer to Tab 100-24 on C-sheets.  Item includes 663.6 Tons for 1 Lane Detour Paving. Refer to Typ 1 Detour on B-sheets. Item includes 1688.4 Tons for 2 Lane Detour Paving. Refer to Typ 2 Detour B-sheets.  Item includes 33.1 Tons for Curb and Gutter. Refer to Tab 112-9C on C-sheets.  Item includes 1026.9 Tons for Driveways. Refer to Tab 102-3 on C-sheets.
3	2102-2625001	<b>EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED</b> Refer to Tab. 107-29 in 'T' sheets.
4	2102-2710070	<b>EXCAVATION, CLASS 10, ROADWAY AND BORROW</b> Item includes 138,313 CY from Template Quantities. Refer to Tab. 107-29 on the T-sheets. T-sheet quantities include Plowing and Shaping. Refer to Tab 107-31 on the CS-sheets for locations.  Overhaul will not be measured or paid for, but shall be considered incidental to roadway excavation on this project.  Item includes 39,550 CY of Waste. Use 40 CY of waste for embankment at storm sewer outlets. Refer to Typ 4309 on the B-sheets.
5	2102-2712015	<b>EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS</b> Includes an estimated 200 CY of Boulders. Refer to Tab. 103-7 on CS-sheets.  Item includes the removal of 30 CY of existing rip-rap revetment at Sta. 418+08. Item includes the removal of 30 CY of existing rip-rap revetment at Sta. 4414+30. Refer to Removal Details on the U-sheets.  Dispose of excess material according to Article 1106.07 of the current specifications.  Overhaul will not be measured or paid for, but shall be considered incidental to roadway excavation on this project.
6	2102-4560000	<b>LOCATING TILE LINES</b> Estimated at two times the project length from BOP to Y Street.
7	2105-8425015	<b>TOPSOIL, STRIP, SALVAGE AND SPREAD</b> Refer to Tab. 103-4 on C-sheets for depths and locations.
8	2107-0875100	<b>COMPACTION WITH MOISTURE CONTROL</b> Cubic yards shown on the contract documents as determined by the template fill volume.  Shrinkage will not be included in moisture control quantity.  Refer to CS-sheets for application.
9	2107-3825025	<b>GRANULAR MATERIAL FOR BLANKET AND SUBDRAIN</b> Refer to Q-sheets for location details.  Refer to Tab 104-5C on CS-sheets.
10	2111-8174100	<b>GRANULAR SUBBASE</b> Refer to Typical on B-sheets for additional details.  Item includes 59873.7 Tons for PCC Pavement. Refer to Tab 100-24 on C-sheets.
11	2113-0001100	<b>SUBGRADE STABILIZATION MATERIAL, POLYMER GRID</b> Polymer Grid shall be placed beneath Special Backfill and installed at the same width of proposed pavement. Refer to Tab. 104-9 on the CS-sheets for subdrain locations. Refer to Typical on B-sheets for location details.
12	2115-0100000	<b>MODIFIED SUBBASE</b> Refer to Typical on B-sheets for additional details. Item includes 7004.6 CY for PCC Pavement. Refer to Tab 100-24 on C-sheets. Item includes 430.2 CY for Curb and Gutter. Refer to Tab 112-9C on C-sheets.
13	2121-7425010	<b>GRANULAR SHOULDERS, TYPE A</b> Refer to Typical on B-sheets for details. Refer to Tab. 112-9 on C-sheets.

**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
14	2123-7450000	<b>SHOULDER CONSTRUCTION, EARTH</b> A minimum of 4" shall be topsoil.  Refer to B-sheets for additional details. Refer to Tab 112-9 on C-sheets for additional information.
15	2123-7450020	<b>SHOULDER FINISHING, EARTH</b> Refer to 'B' Sheets for details.  Item includes 112.7 STA for mainline. Refer to Tab 100-24 on C-sheets.  Item includes 43.4 STA for Curb and Gutter. Refer to Tab 112-9C on C-sheets.  No payment for overhaul allowed for this material.
16	2212-0475095	<b>CLEANING AND PREPARATION OF BASE</b> This bid item is for the Resurfacing location of this project Sta. 441+18.01 to 465+01.01
17	2213-7100400	<b>RELOCATION OF MAIL BOXES</b> Refer to Tab MAILBOX on C-sheets for locations.  The Contractor is responsible for coordinating the relocation schedule with property owners and the US Post Office.  Price bid includes installation of temporary mailboxes until the permanent mailboxes can be reinstalled.  METHOD OF MEASUREMENT: The quantity for Relocation of Mail Boxes will be measured by counting the number of mailboxes removed and reinstalled.  BASIS OF PAYMENT: The Contractor will be paid the contract unit price per each mailbox removed and reinstalled.
18	2214-5145150	<b>PAVEMENT SCARIFICATION</b> Depths may vary. Refer to D-sheets for approximate depth changes.  Refer to Tab 100-25 on C-sheets.
19	2301-1033080	<b>STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 8 IN.</b> Item is for fillet extensions for non-paved side roads. Refer to Typ 7149M for on B-sheets for additional details. Refer to Tab 100-24 on C-sheets.
20	2301-1033100	<b>STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 10 IN.</b> Refer to Typical on B-sheets. Refer to Tab 100-24 on C-sheets.
21	2301-4875006	<b>MEDIAN, P.C. CONCRETE, 6 IN.</b> Item is for Raised Islands at side road intersections. Refer to Standard Road Plan PV-20 for additional details. Refer to Tab. 112-4 on C-sheets.
22	2301-6911722	<b>PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES</b>
23	2303-0001000	<b>HOT MIX ASPHALT MIXTURE, WEDGE, LEVELING OR STRENGTHENING COURSE</b> Refer to Tab 100-25 on C-sheets.  Quantity includes 280.5 Ton for leveling. Refer to HMA thickness bar on D-sheets for estimation of total HMA Thickness.  Quantity includes 5% for irregularities.
24	2303-0042500	<b>HOT MIX ASPHALT MIXTURE (3,000,000 ESAL), INTERMEDIATE COURSE, 1/2 IN. MIX</b>
25	2303-0043502	<b>HOT MIX ASPHALT MIXTURE (3,000,000 ESAL), SURFACE COURSE, 1/2 IN. MIX, FRICTION L-2</b> Refer to Tab 100-25 on C-sheets.  Quantity includes 5% for irregularities.
26	2303-0245828	<b>ASPHALT BINDER, PG 58-28</b> Estimated at a rate of 6%.  Refer to Tab 100-25 on C-sheets.
27	2303-6911000	<b>HOT MIX ASPHALT PAVEMENT SAMPLES</b>
28	2304-0100000	<b>DETOUR PAVEMENT</b> Item is for temporary detour pavements as shown on the F-sheets. Refer to Detour Typical on B-sheets. Item includes 962.4 SY for 1 Lane Detour Paving Item includes 5002.6 SY for 2 Lane Detour Paving

**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
29	2304-0101000	<b>TEMPORARY PAVEMENT</b> Item is for Temporary HMA Detour Ramp used at Spruce Street. Refer to Typ DETRAMP on B-sheets for details.
		DESCRIPTION. Furnish, place, and remove HMA surface used to carry traffic during construction of permanent pavement.
		MATERIALS. Use HMA 1,000,000 ESAL surface or intermediate course, 1/2 inch (12.5 mm) or 3/4 inch (19 mm), with PG 64-22 asphalt binder.
		CONSTRUCTION. A. HMA Paving. 1. Meet the requirements of Section 2303.  2. Use suitable paper or burlap (not sand, dirt, or wood) under the temporary pavement to prevent adhesion such that the temporary pavement may be removed without damaging existing pavement surface.  B. Pavement Removal Remove temporary pavement and replace, at no additional cost to the Contracting Authority, all concrete broken or damaged under or adjacent to temporary pavement during operations of placement and removal of temporary pavement.
		METHOD OF MEASUREMENT. Temporary Pavement constructed, in square yards will be the quantity shown in the contract documents.
		BASIS OF PAYMENT. A. Payment for Temporary Pavement will be the contract unit price per square yard. B. Payment is full compensation for furnishing material, equipment, and labor to construct and remove the temporary pavement in accordance with the contract documents.
-	-	-
30	2312-8260051	<b>GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE</b> Refer to Grading and Granular Surfacing typical on B-sheets.
-	-	-
31	2315-8275025	<b>SURFACING, DRIVEWAY, CLASS A CRUSHED STONE</b> Refer to Tab 102-3 on C-sheets.
-	-	-
32	2401-6745650	<b>REMOVAL OF EXISTING STRUCTURES</b> Refer to Tab 110-2 on C-sheets. Refer to U-sheets for Removal Details.
-	-	-
33	2402-0425040	<b>FLOODED BACKFILL</b>
34	2402-2720100	<b>EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT</b> Refer to Tab 104-3 on CH-sheet.
-	-	-
35	2416-0100015	<b>APRONS, CONCRETE, 15 IN. DIA.</b> Includes 14 aprons for Storm Sewer. Refer to M-sheets for locations.
-	-	-
36	2416-0100018	<b>APRONS, CONCRETE, 18 IN. DIA.</b> Includes 2 aprons for storm sewer. Refer to M-sheets for locations. Includes 2 aprons for roadway culverts. Refer to Tab 104-3 on CH-sheets.
-	-	-
37	2416-0100024	<b>APRONS, CONCRETE, 24 IN. DIA.</b> Includes 2 aprons for storm sewer. Refer to M-sheets for locations. Includes 22 aprons for roadway culverts. Refer to Tab 104-3 on CH-sheets.
-	-	-
38	2416-0100030	<b>APRONS, CONCRETE, 30 IN. DIA.</b> Includes 4 aprons for storm sewer. Refer to M-sheets for locations. Includes 4 aprons for roadway culverts. Refer to Tab 104-3 on CH-sheets.
-	-	-
39	2416-0100036	<b>APRONS, CONCRETE, 36 IN. DIA.</b> Includes 2 aprons for roadway culverts. Refer to Tab 104-3 on CH-sheets.
-	-	-
40	2416-1180018	<b>CULVERT, CONCRETE ROADWAY PIPE, 18 IN. DIA.</b>
41	2416-1180024	<b>CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.</b>
42	2416-1180030	<b>CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.</b>
43	2416-1180036	<b>CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA.</b>
44	2417-0225024	<b>APRONS, METAL, 24 IN. DIA.</b>
45	2417-1060024	<b>CULVERT, CORRUGATED METAL ROADWAY PIPE, 24 IN. DIA.</b> Refer to Tab 104-3 on CH-sheet.
-	-	-
46	2422-0360018	<b>APRONS, UNCLASSIFIED, 18 IN. DIA.</b>
47	2422-0360024	<b>APRONS, UNCLASSIFIED, 24 IN. DIA.</b>
48	2422-0360036	<b>APRONS, UNCLASSIFIED, 36 IN. DIA.</b>
49	2422-1722018	<b>CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.</b>
50	2422-1722024	<b>CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA.</b>
51	2422-1722036	<b>CULVERT, UNCLASSIFIED ENTRANCE PIPE, 36 IN. DIA.</b> Refer to Tab 102-3 on the C-sheets.
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**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
52	2422-1723018	<b>CULVERT, UNCLASSIFIED ROADWAY PIPE, 18 IN. DIA.</b>
53	2422-1723024	<b>CULVERT, UNCLASSIFIED ROADWAY PIPE, 24 IN. DIA.</b>
54	2422-1723030	<b>CULVERT, UNCLASSIFIED ROADWAY PIPE, 30 IN. DIA.</b> Refer to Tab 104-3 on CH-sheet.
-	-	-
55	2435-0140200	<b>MANHOLE, STORM SEWER, SW-402</b>
56	2435-0250800	<b>INTAKE, SW-508</b>
57	2435-0251000	<b>INTAKE, SW-510</b>
58	2435-0251224	<b>INTAKE, SW-512, 24 IN.</b> Refer to Tab 104-5B on M-sheets for additional information.
-	-	-
59	2435-0600010	<b>MANHOLE ADJUSTMENT, MINOR</b>
60	2435-0600020	<b>MANHOLE ADJUSTMENT, MAJOR</b> Refer to Tab 104-10 on C-sheets.
-	-	-
61	2435-0700020	<b>CONNECTION TO EXISTING INTAKE</b> Refer to Tab 104-5B on M-sheets for additional information.
-	-	-
62	2502-4388050	<b>INTAKE, STANDPIPE, AS PER PLAN</b> Refer to Tab. 104-5T on the C-sheets. Refer to D-sheets for additional location information.
-	-	-
63	2502-8212034	<b>SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.</b> Refer to Tab 104-9 on CS-sheets.
-	-	-
64	2502-8215110	<b>SUBDRAIN, CORRUGATED METAL PIPE, 10 IN. DIA.</b> Refer to Tab. 104-5T on the C-sheets.
-	-	-
65	2502-8220193	<b>SUBDRAIN OUTLET (RF-19C)</b>
66	2502-8220196	<b>SUBDRAIN OUTLET, RF-19E</b> Refer to Tab 104-9 on CS-sheets.
-	-	-
67	2502-8220197	<b>SUBDRAIN OUTLET (RF-19F)</b> Refer to Tab. 104-5T on the C-sheets.
-	-	-
68	2503-0114215	<b>STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN.</b>
69	2503-0114218	<b>STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.</b>
70	2503-0114221	<b>STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 21 IN.</b>
71	2503-0114224	<b>STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN.</b>
72	2503-0114230	<b>STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 30 IN.</b>
73	2503-0114236	<b>STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 36 IN.</b>
74	2503-0124215	<b>STORM SEWER GRAVITY MAIN, TRENCHLESS, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN.</b>
75	2503-0124218	<b>STORM SEWER GRAVITY MAIN, TRENCHLESS, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.</b>
76	2503-0124224	<b>STORM SEWER GRAVITY MAIN, TRENCHLESS, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN.</b> Refer to Tab 104-5B on M-sheets for additional information.
-	-	-
77	2503-0200036	<b>REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.</b>
78	2503-0200341	<b>STORM SEWER ABANDONMENT, FILL AND PLUG, LESS THAN OR EQUAL TO 36 IN. DIA.</b> Refer to Tab 110-14 on C-sheets.
-	-	-
79	2506-4984000	<b>FLOWABLE MORTAR</b> Item includes 70.2 CY for Culvert Abandonment. Silt inside existing culverts need not be removed prior to placing flowable mortar. Refer to Typ 4315 on B-sheets and Tab 110-9 on C-sheets.  Item includes 34.4 CY per Tab 104-3 on the CH-sheet.
-	-	-
80	2507-3250005	<b>ENGINEERING FABRIC</b>
81	2507-6800061	<b>REVTMENT, CLASS E</b>
82	2507-8029000	<b>EROSION STONE</b> Item is for construction of Splash Basins. Refer to Typ. 4404 on B-sheets and Tab. 100-23 on C-sheets.
-	-	-
83	2510-6745850	<b>REMOVAL OF PAVEMENT</b> Refer to Tab 110-1 on the C-sheets. Refer to Tab 102-5 on the C-sheets for pavement type information. Refer to the U-sheets for additional details.  Item is to become the property of the Contractor.
-	-	-
84	2510-6750600	<b>REMOVAL OF INTAKES AND UTILITY ACCESSES</b> Refer to Tab 110-15 on the C-sheets.
-	-	-
85	2511-0302500	<b>RECREATIONAL TRAIL, PORTLAND CEMENT CONCRETE, 5 IN.</b>
86	2511-0310100	<b>SPECIAL COMPACTION OF SUBGRADE FOR RECREATIONAL TRAIL</b> Refer to Typical 7402 on B-sheets for details. Refer to Tab 113-1 on C-sheets.
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**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
87	2511-6745900	REMOVAL OF SIDEWALK Refer to Tab 110-5 on the C-Sheets. Item includes 28 LF of full depth saw cut. Refer to Tab 113-2 for location of Pedestrian Path Closures.
88	2511-7526004	SIDEWALK, P.C. CONCRETE, 4 IN.
89	2511-7526006	SIDEWALK, P.C. CONCRETE, 6 IN. Refer to Tab 113-1 on C-sheets. Refer to tabulations on S-sheets for additional information. See sheet J.1 for Pedestrian Path Closures.
90	2511-7526010	SIDEWALK, P.C. CONCRETE, 10 IN. Item is for sidewalk thru entrances Lt. at Sta. 419+80.63 and Sta. 423+11.51.  Refer to Tab 113-1 on C-sheets.  Refer to tabulations on S-sheets for additional information.  Requires 12" Modified Subbase which will be paid for seperately.
91	2511-7528101	DETECTABLE WARNINGS Refer to Tab 113-1 on C-sheets. Refer to tabulations on S-sheets for additional information. See sheet J.1 for Pedestrian Path Closures.
92	2512-1725156	CURB AND GUTTER, P.C. CONCRETE, 1.5 FT. Refer to Typical Y St. on B-sheets.  Refer to Tab 112-9C on C-sheets.
93	2512-1725256	CURB AND GUTTER, P.C. CONCRETE, 2.5 FT. Refer to Typical 'IOWA 92-Widening & Resurface' on B-sheets.  Refer to Tab 112-9C on C-sheets.
94	2512-1750006	CURB AND GUTTER, P.C. CONCRETE, AS PER PLAN Item is for Raised Islands at side road intersections. Refer to Standard Road Plans PV-20 and PV-102 for additional details. Refer to Tab. 112-4 on C-sheets.
95	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN. Refer to Tab 102-3 on C-sheets.
96	2515-2475008	DRIVEWAY, P.C. CONCRETE, 8 IN. Refer to Tab 102-3 on C-sheets.  Entrance 359 requires 6" special backfill that will be paid for seperately.
97	2515-6745600	REMOVAL OF PAVED DRIVEWAY Refer to Tab. 110-8 on the C-sheets. Item includes 768 LF of full depth saw cut.
98	2518-6910000	SAFETY CLOSURE Item includes 30 Road Closures and 84 Safety Closures. Refer to Tab. 108-13A on C-sheets.
99	2519-4200140	REMOVAL OF FENCE, FIELD
100	2519-4200190	REMOVAL OF FENCE, WOOD Refer to Tab 100-17R on C-sheets. Refer to Removal Details on the U-sheets.
101	2520-3350010	FIELD LABORATORY
102	2526-8285000	CONSTRUCTION SURVEY
103	2527-8400065	TEMPORARY DELINEATORS Refer to Standard Road Plan TC-253 and J-sheets for layout information.  Item includes 42 delineators for R-57 Detour. Item includes 48 delineators for R-63 Detour. Item includes 33 delineators for SW Y St. Detour. Item includes 48 delineators for NW Y St. Detour.
104	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED
105	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS Refer to Tab 108-22 on C-sheets.  Refer to U-sheets for additional details.

**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
106	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED Refer to Tab 108-29 on C-sheets.
107	2527-9263180	PAVEMENT MARKINGS REMOVED Refer to Tab 108-22 on C-sheets.
108	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE Refer to Tab 108-27 on C-sheets.
109	2528-8445110	TRAFFIC CONTROL Refer to Traffic Control Plan and additional information on J-sheets.  This item includes furnishing, erecting, maintaining and removing all detour signs.
110	2528-8445113	FLAGGERS
111	2529-2242320	CT JOINT
112	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA
113	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT
114	2529-8174010	SUBBASE (PATCHES)
115	2529-8202000	RUMBLE STRIP PANEL (IN FULL DEPTH PATCH) Item includes Rumble Strip Panels in adjacent county roads.  Refer to Tab 112-7 and Tab 102-6C for additional information.
	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA Item includes patches on existing IA 92. Refer to Tab 102-6C on C-sheets.
	2529-8174010	SUBBASE (PATCHES) Item includes patches on existing IA 92. Refer to Tab 102-6C on C-sheets.
116	2533-4980005	MOBILIZATION
117	2538-6975110	SEALING WELLS Includes wells: Sta. 270+16, 12' Rt (Parcel 7) Sta. 282+55, 71' Lt (Parcel 12) Sta. 282+65, 120' Rt (Parcel 13)  All locations are approximate.
118	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE
119	2548-0000320	MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE Refer to Tab 112-10 on C-sheets.
120	2590-0000020	PROJECT MANAGEMENT
121	2599-9999018	('SQUARE YARDS' ITEM) DRIVEWAY, P.C. CONCRETE, 10 IN. Section 2515 of the Standard Specifications shall apply.  Item is for entrances Lt. at Sta. 419+80.63 (in front of sidewalk only) and Sta. 423+11.51.  10" PCC Driveways will have 12" of Modified Subbase, which will be paid for seperately.  Refer to Tab 102-3 on C-sheets.
122	2601-2633100	MOWING Estimate based on one mowing of all seeded areas in October 2015. Areas inaccessible to field equipment shall be cut with appropriate hand equipment and kept current with the mowing of adjacent areas.  Vegetation shall be mowed to between four and six inches in height.
123	2601-2634100	MULCHING Mulching per Article 2601.03, E, 2. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes.  Included for areas requiring reshaping and seedbed preparation. Mulch shall be Certified 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.

### ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
124	2601-2634105	<b>MULCHING, BONDED FIBER MATRIX</b> A Bonded Fibre Matrix shall be applied as the mulch for all areas designated as "Stabilizing Crop-Seeding and Fertilizing (Urban)".  The seed and fertilizer for the area to be covered shall be applied before the Bonded Fibre Matrix Hydraulic Mulch application.  Application rate shall be a minimum of 3000 lbs per acre.
-	-	-
125	2601-2642100	<b>STABILIZING CROP - SEEDING AND FERTILIZING</b> Included for disturbed areas as directed by the Engineer.  All rural disturbed areas shall be seeded and fertilizer per Article 2601.03, C, 1
-	-	-
126	2601-2642120	<b>STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)</b> Included for disturbed areas as directed by the Engineer.  All urban disturbed areas shall be seeded and fertilizer per Article 2601.03, C, 2.
-	-	-
127	2602-0000020	<b>SILT FENCE</b> Refer to Tab 100-17 on C-sheets.  The tabulation includes estimated locations for placement of "Silt Fence" to address erosion to be 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.
-	-	-
128	2602-0000030	<b>SILT FENCE FOR DITCH CHECKS</b> Refer to Tab 100-18 on C-sheets.  The tabulation includes estimated locations for placement of "Silt Fence for Ditch Checks" to address erosion to be 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.
-	-	-
129	2602-0000050	<b>SILT BASINS</b> Refer to Tab 100-14 on C-sheets.  The tabulation includes estimated locations for placement of "Silt Basins" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement.  Bid item includes 100% additional quantity for field adjustments and maintenance.
-	-	-
130	2602-0000071	<b>REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS</b> This item is included 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.
-	-	-
131	2602-0000080	<b>REMOVAL OF SILT BASINS</b> Refer to Tab 100-14 on C-sheets.
-	-	-
132	2602-0000101	<b>MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK</b> This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during the grading project.  Refer to Tabulations 100-17 and 100-18.
-	-	-
133	2602-0000312	<b>PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.</b> Item is included for temporary perimeter sediment control, inlet protection, and water velocity reduction on slopes or ditches at locations to be determined during construction. Verify specific locations with the Engineer prior to beginning placement.  Perimeter and Slope Sediment Control Devices will be required to be constructed out of wood excelsior.  Quantity includes 4750 LF for protection of 95 intakes calculated at an average of 50 LF per intake.
-	-	-
134	2602-0000320	<b>PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.</b> Item is included for temporary perimeter sediment control, inlet protection, and water velocity reduction on slopes or ditches at locations to be determined during construction. Verify specific locations with the Engineer prior to beginning placement.  Perimeter and Slope Sediment Control Devices will be required to be constructed out of wood excelsior.
-	-	-
135	2602-0000350	<b>REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE</b> Included for removal of perimeter and sediment control devices. All material shall become the property of the contractor and removed from the project within 24 hours.
-	-	-
136	2602-0010010	<b>MOBILIZATIONS, EROSION CONTROL</b> - - - -

### ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
137	2602-0010020	<b>MOBILIZATIONS, EMERGENCY EROSION CONTROL</b> - - - -
-	-	-
-	-	-
-	-	-
-	-	-
138	2102-0425070	<b>ALTERNATE AA OPTION 1-PCC SPECIAL BACKFILL</b>
139	2121-7425010	<b>GRANULAR SHOULDERS, TYPE A</b>
140	2122-5190007	<b>PAVED SHOULDER, P.C. CONCRETE, 7 IN.</b> Refer to Typical on B-sheets for details. Refer to Tab. 112-9 on C-sheets.
-	-	-
-	-	-
-	-	-
141	2102-0425070	<b>ALTERNATE AA OPTION 2-HMA SPECIAL BACKFILL</b>
142	2121-7425010	<b>GRANULAR SHOULDERS, TYPE A</b>
143	2122-5500080	<b>PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 8 IN.</b> Refer to Typical on B-sheets for details. Refer to Tab. 112-9 on C-sheets.
-	-	-
-	-	-
-	-	-
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-	-	-
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-	-	-

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110-5	SIDEWALK REMOVAL	C.12
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**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	Temporary Pavement Removal	SY	6.7	2304-0101000	Temporary Pavement	

**STANDARD ROAD PLANS**

The following Standard Road Plans apply to construction work on this project.		
Number	Date	Title
EC-201	04-20-10	Silt Fence
EC-204	10-16-12	Perimeter and Slope Sediment Control Devices
EW-101	04-19-11	Embankment and Rebuilding Embankments
EW-102	10-21-14	Allowable Placement of Unsuitable Soil in Embankments
EW-103	10-15-13	Embankment Subgrade Treatment, Moisture Density Control and Special Compaction
EW-403	10-15-13	Temporary Erosion Control Measures
EW-501	10-15-13	Rural Entrance
EW-502	10-15-13	Safety Ramp
EW-503	04-15-14	Side Road Grading
LI-130	10-21-14	Temporary Floodlighting Luminaires
MI-210	10-15-13	PCC Driveways and Alleys
MI-220	10-16-12	Detectable Warnings and Pedestrian Ramp
PM-110	04-16-13	Line Types
PM-111	10-16-12	Symbols and Legends
PM-120	10-21-14	Stop Lines and Islands
PM-210	10-18-11	Separation in Two-Lane Roadway
PM-520	04-19-11	Two-Lane Roadway with no Turn Lanes (Two-Way Stop Condition)
PM-521	04-19-11	Two-Lane Roadway with Right Turn Lanes
PM-522	10-16-12	Two-Lane Roadway with Left Turn Lanes
PM-550	04-19-11	Two-Lane Roadway with Two-Way Left Turn Lane
PR-102	10-21-14	Full Depth PCC Patch without Dowels
PR-103	10-21-14	Full Depth PCC Patch with Dowels
PR-140	10-21-14	Subbase Patches
PV-10	04-19-11	Rumble Strip Panel for Intersection Approach
PV-12	04-17-12	Milled Shoulder Rumble Strips
PV-13	04-19-11	Milled Centerline Rumble Strips
PV-20	10-21-14	Paved Islands
PV-101	10-21-14	Joints
PV-102	04-15-14	PCC Curb Details
PV-103	04-19-11	Manhole Boxouts in PCC Pavement
PV-121	04-15-14	Jointing PCC Pavement Widening
PV-202	04-16-13	Hot Mix Asphalt Resurfacing
PV-301	04-19-11	Superelevation Details Two Lane Roadway
RF-2	04-15-14	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
RF-3	10-15-13	Concrete Aprons
RF-5	04-16-13	Metal Pipe Aprons and Beveled Ends
RF-14	04-16-13	Connected Pipe Joints
RF-19B	04-17-12	Subdrains Standard (Farm Tile Replacement)
RF-19C	10-16-12	Subdrains (Longitudinal)
RF-19E	10-21-14	Outlets for Longitudinal, Transverse and Backslope Subdrains
RF-19F	10-16-12	Subdrain Outlets (Standard Subdrain, Pressure Release and Special)
RF-26	10-15-13	Pipe Apron Guard
RF-30A	04-15-14	Pipe Culvert (Bedding and Backfill)
RF-30B	10-19-10	Pipe Culvert (Cover and Camber)
RF-30C	04-16-13	Pipe Culvert (Installation Details)
RF-31	03-28-95	Depth of Cover Tables for Concrete Pipe
RF-32	10-19-10	Depth of Cover Tables for Corrugated Pipe
SI-101	04-21-09	Locations - Type 'A' Signs
SI-102	10-20-09	Locations - Type 'B' Signs
SI-111	10-20-09	Support Structures - Wood Posts
SI-113	10-16-12	Support Structures - Steel Breakaway Posts
SI-114	10-16-12	Support Structures - Steel Breakaway Posts Rectangular Tube
SI-119	10-20-09	Support Structures - Mounting Brackets
SI-131	10-18-11	Installation - Type 'A' Signs
SI-132	04-20-10	Installation - Type 'B' Signs
SI-881	10-15-13	Special Signs for Workzones
SW-101	04-21-09	Trench Bedding and Backfill Zones
SW-102	04-21-09	Rigid Gravity Pipe Trench Bedding
SW-105	10-20-09	Miscellaneous Pipe Bedding
SW-211	10-16-12	Special Pipe Connections for Storm Sewer
SW-402	04-21-09	Rectangular Storm Sewer Manhole
SW-508	10-21-14	Single Open-Throat Intake, Large Box
SW-510	10-21-14	Double Open-Throat Curb Intake, Large Box
SW-512	10-21-14	Circular Area Intake
SW-602	04-15-14	Castings for Storm Sewer Manholes
SW-604	10-20-09	Castings for Area Intakes
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-81	04-20-10	Restricted Width Signing (Less Than 14.5 Feet)
TC-202	10-15-13	Shoulder Closure (One Lane)
TC-213	04-17-12	Lane Closure with Flaggers
TC-228	10-15-13	Lane Closure Involving TWLTL
TC-251	04-17-12	Temporary Road Closure
TC-252	04-17-12	Routes Closed to Traffic
TC-253	10-21-14	Paved On-Site Detour
TC-273	04-20-10	Construction Site Entrance
TC-282	04-19-11	Uneven Lanes

**POLLUTION PREVENTION PLAN**

This Base Pollution Prevention Plan (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. Signature authority on the Base PPP and NOI.

**B. Contractor/Subcontractor:**

1. Affected contractors/subcontractors are co-permittees with the IDOT and will sign a certification statement adhering to the requirements of the NPDES permit and this PPP plan. 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. Submit a detailed schedule according to Article 2602 of the Specifications and any additional plan notes.
3. Install and maintain appropriate controls.
4. Supervise and implement good housekeeping practices.
5. Conduct joint required inspections of the site with inspection staff.
6. Signature authority on Co-Permittee Certification Statements and storm water inspection reports.

**C. RCE/Inspector:**

1. Update 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. Maintain an up-to-date list that identifies contractors and subcontractors as co-permittees.
3. Make these plans available to the DNR upon their request.
4. Conduct joint required inspections of the site with the contractor/subcontractor.
5. Complete an inspection report after each inspection.
6. Signature authority on storm water inspection reports and Notice of Discontinuation (NOD).

**II. PROJECT SITE DESCRIPTION**

- A. This Pollution Prevention Plan (PPP) is for the construction of highway 92 in Warren county.
- B. This PPP covers approximately 103 acres with an estimated 81 acres being disturbed. The portion of the PPP covered by this contract has 81 acres disturbed.
- C. The PPP is located in an area of one (1) soil association (Sharpsburg - Shelby - Adair). The estimated average SCS runoff curve number for this PPP after completion will be 69.0.
- D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:
  1. Drainage patterns - Plan and Profile sheets and Situation plans.
  2. Proposed Slopes - Cross Sections.
  3. Areas of Soil Disturbance - construction limits shown on Plan and Profile sheets.
  4. Location of Structural Controls - Tabulations on C sheets.
  5. Locations of Non-structural Controls - Tabulations on C sheets.
  6. Locations of Stabilization Practices - generally within construction limits shown on Plan and Profile sheets.
  7. Surface Waters (including wetlands) - Plan and Profile sheets.
  8. Locations where storm water is discharged - Plan and Profile sheets.
- E. The base site map is amended by contract modifications and progress payments of completed erosion control work.
- F. Runoff from this work will flow into various ditches and tributaries to Middle River, and South River.

**III. CONTROLS**

- A. The contractor's work plan and sequence of operations specified in Article 2602.03 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. Section 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used 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.
  1. EROSION AND SEDIMENT CONTROLS
    - a. Stabilization Practices
      - 1) Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized.
      - 2) Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.
      - 3) Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days. Other stabilizing methods shall be used outside the seeding time period.
      - 4) Stabilization measures to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Additional items may be found in the Inspector's Daily Reports (IDR) or Contract Modifications.
    - 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.
      - 2) Structural items to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan, 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 of the plan or are referenced in the Standard Road Plans Tabulation.
    - c. Storm Water Management
      - 1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will

**POLLUTION PREVENTION PLAN**

occur after construction operations have been completed. 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 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 - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located.
  - 7) Vehicle and Equipment Cleaning - Employ washing practices that prevent contamination of surface and ground water from wash water.
  - 8) Vehicle and Equipment Fueling and Maintenance - 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.
  - 9) Litter Management - Ensure employees properly dispose of litter.

**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.

**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.
  4. Rainfall amount.
  5. Review 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. Identify 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 and complete all actions within 3 calendar days of the inspection.

**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 patio blocks, Class A stone, erosion stone or other appropriate materials.

**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 and fieldbook entries made by the inspector.
- C. IDR - Inspector's Daily Report - this contains the inspector's daily diary and 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.
- E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

213-3  
04-15-14

**SUBSOIL TILLAGE**

All stockpile areas, haul roads, and areas used for equipment on this project require subsoil tillage to an average depth of 16 to 20 inches prior to placement of topsoil and/or stabilizing crop seeding. Complete this tillage at 3 foot maximum centers and at right angles to the finished slope.

Use tillage equipment equipped with an arrowhead type shoe that will provide lateral displacement and limit the movement of the subsoil to the surface. Obtain the Engineer's approval for the equipment. This work is incidental to other work on the project.

Following the subsoil tillage, the area is to remain in a "loosened" condition. Additional compaction or the operation of heavy equipment, other than required for topsoil placement and shaping, will not be allowed on areas which have received subsoil tillage.

232-10  
10-21-14

**EMERALD ASH BORER**

Dispose of all wood material generated as a result of clearing and/or grubbing according to the Iowa Department of Agriculture and Land Stewardship's Emerald Ash Borer (EAB) Quarantine Order. For more information refer to [http://www.iowatreepests.com/eab\\_regulations.html](http://www.iowatreepests.com/eab_regulations.html).

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.

281-1  
10-15-13

**SECTION 404 PERMIT AND CONDITIONS**

Construct this project according to the requirements of U.S. Army Corps of Engineers NWP 14-Linear Transportation Projects, Permit No. 2013-813. A copy of this permit is available from the Iowa DOT website (<http://envpermits.iowadot.gov/CMEPortalENV/Home.aspx>). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

108-27  
10-16-12

**TEMPORARY FLOODLIGHTING LUMINAIRES**

No.	Location Station	Offset	Number Lumin.	Remarks
1	11278+10	30' Rt	1	R-57 South Detour
2	11283+70	30' Rt	1	R-57 South Detour
3	11285+20	30' Rt	1	R-57 North Detour
4	11290+20	30' Rt	1	R-57 North Detour
5	18386+70	30' Rt	1	R-63 South Detour
6	18392+20	30' Rt	1	R-63 South Detour
7	18393+05	30' Rt	1	R-63 North Detour
8	18397+50	30' Rt	1	R-63 North Detour
9	14410+10	30' Lt	1	Y St. South Detour
10	14425+05	30' Lt	1	Y St. North Detour
Total			10	

108-13A  
08-01-08

**SAFETY CLOSURES**  
Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
Roads			
Stage 2A			
283+90	1		Ia 92
309+80	1		Ia 92
4412+50	1		Y Street (So.)
4417+60	1		Y Street
Stage 2B			
256+00	1		Ia 92
1257+35	1		Kennedy Drive
284+15	1		Ia 92
284+55	1		Ia 92
1279+85	1		R-57 (So.)
1283+75	1		R-57 (No.)
2307+65	1		90th Street (1)
2312+85	1		90th Street (1)
391+95	1		Ia 92 (1)
3387+30	1		R-63 (So.) (1)
3394+45	1		R-63 (No.) (1)
416+20	1		Ia 92 (1)
416+60	1		Ia 92 (1)
4412+50	1		Y Street (So.) (1)
4417+60	1		Y Street (1) (2)
443+52	1		Ia 92 (EB Lane Only)
Stage 2C			
284+00	1		Ia 92
418+65	1		Ia 92 (2)
419+35	1		Ia 92 (2)
Stage 2D			
391+30	1		Ia 92
416+80	1		Ia 92
Stage 3A			
391+50	1		Ia 92 (WB Lane Only) (3)
4417+48	1		Y Street (3)
Stage 3B			
441+36	1		Ia 92 (85' Lt. on Spruce)
Stage 3C			
4424+15	1		Y Street (No.)

108-13A  
08-01-08

**SAFETY CLOSURES**  
Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
Stage 3D			
417+90	1		Ia 92 (WB Lane Only)
Entrances			
Stage 2			
270+56 Lt		2	
270+56 Rt		2	
276+46 Lt		2	
291+80 Lt		2	
219+80 Rt		2	
297+08 Lt		2	
297+08 Rt		2	
305+08 Rt		2	
312+60 Rt		2	Existing until removed
315+00 Rt		2	New
324+07 Lt		2	
324+07 Rt		2	
334+27 Rt		2	
341+03 Lt		2	
341+03 Rt		2	
352+40 Lt		2	
352+40 Rt		2	
356+60 Rt		2	Existing until removed
359+18 Lt		2	New
359+18 Rt		2	
359+90 Lt		2	Existing until removed
361+85 Lt		2	Existing until removed
363+75 Lt		2	Existing until removed
365+37 Lt		2	New
365+37 Rt		2	
375+45 Lt		2	
375+45 Rt		2	
407+00 Rt		2	
430+78 Rt		2	
433+47 Rt		2	
440+48 Rt		2	
442+23 Rt		2	
Stage 3			
398+16 Lt		2	
407+00 Lt		2	

108-13A  
08-01-08

**SAFETY CLOSURES**  
Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
419+80 Lt		2	
423+11 Lt		2	
425+99 Lt		2	
427+53 Lt		2	
429+54 Lt		2	
431+96 Lt		2	
433+46 Lt		2	
438+08 Lt		2	
Totals			
	30	84	

(1) To remain in place for Stage 2C.  
(2) To remain in place for Stage 2D.  
(3) To remain in place for Stages 3B and 3C.

\* Design shown for mandatory locations is the minimum allowed.

100-23  
10-19-10

**ROCK DITCH CHECKS/DITCHES/FLUMES/SPLASH BASINS/SLOPE PROTECTION**  
Refer to Typical 4401, 4402, 4403, 4404, and 4405

Location	Type											Material			Remarks
	Road Identification	Station	Side Lt./Rt.	Mandatory* Location (yes or no)	Rock Ditch Check	Rock Ditch	Rock Flume	Rock Splash Basin	Rock Slope Protection	L FT	W FT	Erosion Stone TON	Class E Revetment TON	Eng. Fabric SY	
IA 92 Kennedy St.	258+00.00	Rt.	Yes				X		6.0	6.0	4.3		11.1		
IA 92 Kennedy St.	1258+24.00	Rt.	Yes				X		6.0	6.0	4.3		11.1		
IA 92 Kennedy St.	277+75.00	Lt.	Yes				X		6.0	6.0	4.3		11.1		
IA 92 Kennedy St.	292+75.00	Rt.	Yes				X		8.0	8.0	7.7		16.0		
IA 92 Kennedy St.	307+75.00	Rt.	Yes				X		7.0	7.0	5.9		13.4		
90th Ave.	2310+85.00	Lt.	Yes				X		6.0	6.0	4.3		11.1		
IA 92 Kennedy St.	315+86.00	Rt.	Yes				X		6.0	6.0	4.3		11.1		
IA 92 Kennedy St.	329+85.00	Rt.	Yes				X		6.0	6.0	4.3		11.1		
IA 92 Kennedy St.	332+95.00	Rt.	Yes				X		7.0	7.0	5.9		13.4		
IA 92 Kennedy St.	342+14.00	Rt.	Yes				X		6.0	6.0	4.3		11.1		
IA 92 Kennedy St.	358+05.00	Rt.	Yes				X		6.0	6.0	4.3		11.1		
IA 92 Kennedy St.	379+74.00	Rt.	Yes				X		6.0	6.0	4.3		11.1		
IA 92 Kennedy St.	391+07.00	Rt.	Yes				X		6.0	6.0	4.3		11.1		
IA 92 Kennedy St.	395+03.45	Rt.	Yes				X		7.0	6.0	5.0		12.2		
R-63 Kennedy St.	3392+20.00	Lt.	Yes				X		6.0	6.0	4.3		11.1		
Y St.	4414+30.60	Rt.	Yes				X		8.0	8.0	7.7		16.0		
IA 92 Kennedy St.	436+48.67	Rt.	Yes				X		7.0	7.0	5.9		13.4		
Totals											77.9	7.7	206.8		

TABULATION OF SILT FENCES  
FOR DITCH CHECKS

Refer to EC-201

Table with columns: Location Station, Side, Length LF, Remarks. Rows include stationing from 256+45.00 to 389+00.00.

TABULATION OF SILT FENCES  
FOR DITCH CHECKS

Refer to EC-201

Table with columns: Location Station, Side, Length LF, Remarks. Rows include stationing from 257+75.00 to 334+00.00.

TABULATION OF SILT FENCES  
FOR DITCH CHECKS

Refer to EC-201

Table with columns: Location Station, Side, Length LF, Remarks. Rows include stationing from 334+25.00 to 11286+80.00.

TABULATION OF SILT FENCES  
FOR DITCH CHECKS

Refer to EC-201

Table with columns: Location Station, Side, Length LF, Remarks. Rows include stationing from 11287+20.00 to 14416+75.00, plus subtotal and total rows.



100-14  
10-15-13

**SILT BASINS**

Refer to EW-403

Location Station	Side	Remarks
257+80.00	48'Rt	
258+20.00	51'Rt	
257+80.00	107'Lt	
258+05.00	108'Lt	
257+40.00	190'Lt	
257+60.00	214'Lt	
258+70.00	212'Rt	
265+00.00	101'Rt	
277+60.00	119'Lt	
277+90.00	119'Lt	
277+60.00	73'Rt	
277+90.00	73'Rt	
287+20.00	68'Rt	
288+50.00	66'Rt	
291+30.00	112'Rt	
292+50.00	73'Lt	
292+90.00	73'Lt	
307+20.00	76'Lt	
307+60.00	76'Lt	
307+90.00	86'Rt	
308+40.00	86'Rt	
315+90.00	58'Lt	
316+20.00	58'Lt	
316+40.00	96'Rt	
316+70.00	96'Rt	
329+70.00	92'Rt	
330+00.00	92'Rt	
329+70.00	65'Lt	
330+05.00	65'Lt	
332+60.00	105'Rt	
332+90.00	102'Rt	
332+90.00	73'Lt	
333+20.00	71'Lt	
340+60.00	149'Rt	
341+60.00	142'Rt	
341+80.00	114'Rt	
342+10.00	82'Lt	
342+40.00	77'Lt	
357+90.00	69'Rt	
358+20.00	69'Rt	
357+90.00	63'Lt	
358+20.00	63'Lt	
379+40.00	80'Rt	
379+80.00	80'Rt	
379+70.00	57'Lt	
379+90.00	57'Lt	
390+20.00	81'Lt	
390+50.00	101'Lt	
394+80.00	64'Rt	
395+20.00	64'Rt	
395+30.00	82'Lt	
395+60.00	82'Lt	
426+20.00	161'Rt	
436+30.00	81'Lt	
436+60.00	81'Lt	
436+50.00	79'Rt	
1280+70.00	35'Lt	R-57
1386+00.00	40'Lt	R-57
1388+60.00	36'Rt	R-57
2305+40.00	25'Rt	90th Ave
2305+85.00	17'Lt	90th Ave
3385+60.00	47'Rt	R-63
3388+10.00	47'Lt	R-63
4414+30.00	134'Rt	Y' St.
14413+75.00	40'Rt	Y' St. Detour
14413+75.00	25'Lt	Y' St. Detour
14414+00.00	25'Lt	Y' St. Detour
14418+00.00	37'Lt	Y' St. Detour
14418+50.00	37'Lt	Y' St. Detour
Subtotal	69	
+100%	69	
Total	138	

100-17  
04-20-10

**TABULATION OF SILT FENCES**

Refer to EC-201

Location		Side	Length LF	Remarks
Begin Station	End Station			
Hwy. 92				
257+50.00	259+25.00	Lt	175	
276+75.00	278+75.00	Lt	200	
278+75.00	279+50.00	Lt	75	
265+25.00	267+25.00	Rt	200	
267+25.00	269+25.00	Rt	200	
269+25.00	271+25.00	Rt	200	
292+00.00	292+25.00	Rt	25	
R-57				
1280+60.00	1282+25.00	Rt	165	R-57
1385+00.00	1386+00.00	Lt	100	R-57
90th St				
2308+75.00	2309+50.00	Lt	75	90th St.
2308+75.00	2309+50.00	Rt	75	90th St.
R-63				
3389+00.00	3390+00.00	Rt	100	R-63
Subtotal			1590	
+25%			398	
Total			1988	

100-17R  
MODIFIED

**TABULATION OF FENCE REMOVAL**

Location		Side	Length LF	Remarks
Begin Station	End Station			
256+23.9, 133.4'Lt	258+34.1, 197'Lt		410	Field
256+49.4, 50.0'Lt	258+31.56, 50.3'Lt		182	Field
258+61.6, 199.0'Lt	261+46.0, 47.2'Lt		369	Field
260+45.7, 50.5'Lt	260+46.0, 145.0'Lt		95	Field
262+18.3, 45.3'Lt	266+52.2, 71.2'Lt		420	Field
268+55.0, 63.5'Lt	269+72.0, 73.0'Lt		117	Field
263+27.8, 95.0'Rt	267+38.2, 6.5'Rt		447	Field
265+28.8, 28.8'Rt	265+45.3, 133.8'Rt		106	Field
265+44.4, 128.4'Rt	267+74.4, 133.0'Rt		266	Field
266+75.5, 108.7'Rt	268+71.0, 3.3'Rt		273	Field
267+25.2, 58.1'Rt	267+46.5, 104.6'Rt		54	Wood
268+70.5, 100.6'Rt	269+35.8, 120.5'Rt		80	Field
270+51.8, 29.1'Rt	270+48.1, 202.7'Rt		182	Wood
270+47.8, 225'Rt	270+48.1, 202.7'Rt		22	Field
270+52.0, 29.0'Rt	278+64.0, 35.0'Rt		812	Field
287+75.9, 115.0'Lt	290+86.1, 115.0'Lt		413	Field
292+27.8, 60.7'Lt	302+87.7, 72.0'Lt		1060	Field
307+28.0, 26.0'Rt	307+42.9, 25.8'Rt		199	Wood
307+42.9, 25.8'Rt	310+00, 25.6'Rt		257	Field
314+17.1, 61.8'Lt	323+53.7, 76'Lt		938	Field
318+45.0, 25.0'Rt	323+56.1, 26.2'Rt		511	Field
323+56.1, 9.6'Rt	323+56.7, 110.0'Rt		100	Field
323+72.3, 86.5'Lt	339+52.6, 90.9'Lt		1613	Field
326+86.6, 110.3'Rt	327+71.6, 8.5'Rt		187	Field
327+86.9, 9.6'Rt	334+26.8, 8.7'Rt		640	Field
334+26.8, 8.7'Rt	334+28.9, 105.6'Rt		97	Field
334+26.8, 8.7'Rt	342+44.4, 52.2'Rt		826	Field
341+82.5, 41.4'Lt	350+97.6, 53.8'Lt		916	Field
342+44.4, 52.2'Rt	342+62.6, 110.3'Rt		69	Wood
342+80, 114.3'Rt	343+08.8, 68.6'Rt		67	Wood
343+08.8, 68.6'Rt	344+66.6, 128.2'Rt		178	Field
354+56.5, 76.7'Lt	355+90.2, 16.4'Lt		196	Field
355+06.8, 90.0'Rt	355+10.1' 60.3' Rt		30	Wood
356+81.1, 135.1'Rt	361+82.5, 58.2'Rt		560	Field
359+75.1, 103.6'Lt	359+78.4, 23.0'Lt		81	Wood
361+83.6, 95.0'Rt	363+00, 56.0'Rt		152	Field
365+77.4, 95.0'Lt	375+07.4, 58.1'Lt		980	Field
373+62.0, 91.8'Lt	373+63.7, 66.9'Lt		25	Wood
374+80.0, 91.3'Lt	374+80.7, 70.8'Lt		21	Wood
375+06.9, 91.1'Lt	375+07.4, 58.1'Lt		33	Wood
376+46.0, 100.0'Rt	377+70.0, 110.0'Rt		254	Field
377+65.1, 95.0'Lt	387+33.9, 71.8'Lt		1008	Field
377+67.2, 38.5'Rt	384+86.3, 1.2'Lt		744	Field
461+55.0, 52.8'Lt	464+00.0, 52.3'Lt		245	Wood
R-57				
1280+46.4, 50.6'Lt	1281+66.1, 69.6'Lt		145	Field
1385+84.1, 50.7'Rt	1389+96.5, 49.3'Rt		412	Field
90th Ave.				
2305+50.0, 36.72'Rt	2306+07.0, 55.0'Rt		77	Field
2305+50.0, 25.4'Lt	2310+03.0, 28.6'Lt		453	Field
Totals				
Field			16320	
Wood			1005	

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement Type	Remarks
	County	Route	Dir. of Travel	Begin Milepost	End Milepost				Type	Depth	Type	Depth	Type	Depth	Type	Depth	Source	Type	Durability Class		
1	Warren	Ia.92	EB & WB	120.85	129.91	1992		FN-92-5(31)--21-91	AAC					AAC	0.5	University		Gravel			AAC=Type A Asphalt Cement Concrete
2	"	"	"	"	"	1983		FN-92-5(20)--21-91	BSC												BSC=Bituminous Seal Coat
3	"	"	"	"	"	1952		P-1023W	BAC	1.5	TBB	1.5									BAC=Type B Asphalt Cement Concrete
4	"	"	"	"	"	1930		P-569	PC7	7	PC7					Earlham		Gravel	1		PC7=10"-7"-10" PCC Concrete Slab

REMOVAL OF PAVEMENT

110-1  
04-16-13

Refer to Tabulation 102-5

\* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area	Saw Cut*	Remarks
				SY	LF	
256+50.00	259+85.60	EB & WB	HMA, PCC	894.9	24.0	Ia. 92
259+85.60	266+94.70	EB & WB	HMA, PCC	2048.5		Ia. 92
266+94.70	440+60.00	EB & WB	HMA, PCC	46307.5		Ia. 92
440+60.00	443+18.01	EB & WB	HMA, PCC	863.6	35.0	Ia. 92 - width 24' to 35'
443+18.01	465+01.01	Lt	HMA, PCC	453.8	2183.0	Pavement edge removal for widening
443+18.01	465+01.01	Rt	HMA, PCC	472.6	2183.0	Pavement edge removal for widening
284+24.95	287+27.07	WB	HMA, PCC	313.8		Turning Lane at R-57
256+50.00	390+00.00	Lt & Rt	HMA	621.1		21 Driveway fillets, 2 Sideroad fillets (90th Ave.)
441+21.63		45'Lt-57'Lt	PCC	1.0	12.0	Spruce St. curb to be removed for detour const.
441+44.68		38'Lt-59'Lt	PCC	1.6	21.0	Spruce St. curb to be removed for detour const.
440+88.94	441+58.58	Lt	PCC	105.7	25.0	Remaining Spruce St. pavement and returns
443+40.85	444+24.64	Rt	PCC	128.1	14.0	"R" St. pavement and returns
451+47.64	452+39.61	Lt	PCC	186.3	60.0	S. Kenwood Blvd. Pavement & Returns
453+92.98	454+76.86	Rt	PCC	174.3	25.0	S. "P" St. pavement and returns
455+28.84	456+00.00	Lt	PCC	123.8	64.0	S. "P" St. pavement and returns
461+86.25	462+60.36	Rt	PCC	33.7	28.0	S. "N" St. returns
R-57						
1280+60.00	1283+81.10	NB & SB	HMA	786.2	22.0	R-57 South
1384+00.43	1386+06.00	NB & SB	HMA	501.1	22.0	R-57 North
R-57						
284+24.95	287+27.07	WB	HMA, PCC	313.8		Turning Lane at R-57
R-63						
3389+00.00	3391+35.75	NB & SB	HMA	672.5	22.0	R-63 South
3391+60.00	3393+05.00	NB & SB	HMA	356.5	22.0	R-63 North
R-63						
Y Street						
4414+15.00	4417+73.13	NB & SB	PCC	1124.7	31.0	Y St. South, Pavement & Returns
4417+90.70	4422+60.00	NB & SB	PCC	1795.3	31.0	Y St. North, Pavement & Returns
4410+73.00	4411+62.00	NB	PCC	14.8	92.0	Y St. Curb at Detour
4414+91.00	4415+37.00	SB	PCC	7.7	49.0	Y St. Curb at Detour
4424+96.00	4425+66.00	NB	PCC	11.7	73.0	Y St. Curb at Detour
DETOURS						
439+07.78	441+22.33	Lt	HMA	200.9		Mainline Detour Paving at East End Tie-In
441+45.03	445+00.00	Lt	HMA	600.5		Mainline Detour Paving at East End Tie-In
441+22.97	443+48.00	Rt	HMA	86.0		Mainline Detour Paving at East End Tie-In
11277+89.54	11283+98.25	NB & SB	HMA	1270.8		Co.Rd. R-57 Detour Pavement
11284+92.87	11289+34.28	NB & SB	HMA	1109.1		Co.Rd. R-57 Detour Pavement
18386+48.19	18392+53.72	NB & SB	HMA	1472.8		Co.Rd. R-63 Detour Pavement
18392+77.35	18397+71.90	NB & SB	HMA	1177.7		Co.Rd. R-63 Detour Pavement
		Totals =		65344.1	5038.0	

SIDEWALK REMOVAL

110-5  
08-01-08

Begin Station	End Station	Area SY	Remarks
417+68.00	Rt	114.0	270' South along 'Y' St.
441+44.50	Lt	8.8	East side of Spruce St.
451+72.06	Lt	7.6	West side of S. Kenwood St.
452+26.29	Lt	8.0	East side of S. Kenwood St.
454+14.44	Rt	10.5	West side of S. 'P' St.
454+66.22	Rt	11.0	East side of S. 'P' St.
454+70.00	Lt	53.3	East to S. 'P' St. and north
455+79.30	Lt	17.2	East side of S. 'P' St.
Totals =		230.4	

TABULATION OF MAILBOX TURNOUTS

MAILBOX

Location Station	Side	Remarks
Mainline 92		
262+00.00	Lt.	1
269+50.00	Lt.	2
271+40.00	Lt.	1
276+25.00	Lt.	6
281+90.00	Rt.	1
285+30.00	Lt.	1
291+60.00	Lt.	1
297+05.00	Lt.	1
305+30.00	Lt.	1
90th Ave.		
2313+25.00	Rt.	1
2308+00.00	Rt.	1
Mainline 92		
324+25.00	Lt.	1
341+10.00	Lt.	1
353+00.00	Lt.	2
356+75.00	Lt.	1
361+70.00	Lt.	1
363+90.00	Lt.	1
365+50.00	Lt.	2
375+40.00	Lt.	3
422+80.00	Lt.	1
423+75.00	Lt.	1
427+30.00	Lt.	1
431+75.00	Lt.	1
432+25.00	Lt.	1
433+90.00	Lt.	1
433+90.00	Rt.	1
437+80.00	Lt.	1
438+40.00	Lt.	1
442+80.00	Rt.	1
446+75.00	Lt.	1
448+40.00	Lt.	2
Total = 42 Mailboxes		

REMOVAL OF CONCRETE DRIVES

110-8  
08-01-08

Location Station	Side	Area SY	Remarks
324+07.61	Rt	113.9	
356+56.57	Rt	84.5	
398+16.98	Lt	196.1	
423+11.51	Lt	911.7	Removal as directed by Engineer
425+99.40	Lt	136.5	
427+53.90	Lt	108.7	
429+54.16	Lt	149.8	
430+78.41	Rt	339.5	
431+96.41	Lt	100.5	
433+46.06	Lt	35.7	
433+47.85	Rt	775.2	Includes parking lot
440+48.56	Rt	125.7	
442+23.75	Rt	192.1	
446+48.51	Rt	181.9	
446+56.51	Lt	134.7	
447+68.44	Rt	173.8	
448+17.01	Lt	203.8	
448+54.51	Rt	168.4	
449+42.01	Lt	185.9	
458+76.10	Lt	85.6	
460+15.20	Lt	108.8	
461+34.29	Lt	65.8	
Total =		4578.4	

110-14  
04-16-13

### SANITARY OR STORM SEWER ABANDONMENT OR REMOVAL

\* Not a bid item

Location/Description	Sanitary or Storm Sewer	Abandonment, Plug Only or Abandonment, Plug and Fill or Removal	Length of Pipe		Fill Material*	Remarks
			≤ 36 inch diameter	> 36 inch diameter	Flowable Mortar or CLSM	
			LF	LF	CY	
Sta 4414+35	Storm Sewer	Removal	35			
Sta 4419+96 to 4422+60	Storm Sewer	Removal	295			
Sta 4422+60 to Sta 4424+08.3	Storm Sewer	Abandonment, Plug and Fill	149			
Sta 416+13, 94' Lt	Storm Sewer	Removal	60			Remove when Detour is removed (I-210A & P-210A)
Sta 4414+64, 41' Lt	Storm Sewer	Removal	6			Remove when Detour is removed (I-219A)
		Totals				
		Removal	396			
		Abandonment, Plug and Fill	149			

110-15  
04-16-13

### REMOVAL OF INTAKES AND UTILITY ACCESSSES

No.	Location/Description	Type	Remarks
3	Sta. 4414+35	Intakes	
2	Sta. 4419+96	Intakes	
1	Sta. 4421+52	Utilities	
6	Total		

110-9  
10-18-11

### CULVERT ABANDONMENT

Refer to Details 4315 and 4316

\* Not a bid item

Location Station	Description	Fill Material		4" Perforated Subdrain*	Remarks
		Flowable Mortar	Granular Backfill*		
		CY	TON		
277+57.37	2x2 RCB w/30" RCP ext.	9.4	0.2	4.0	Remove aprons and extensions
292+63.66	3x2 RCB w/36" ext.	12.2	0.2	4.0	Remove aprons and extensions
307+42.49	3x2 RCB w/36" ext.	13.0	0.2	4.0	Remove aprons and extensions
315+86.80	2x2 RCB w/30" ext.	8.8	0.2	4.0	Remove aprons and extensions
329+73.63	2x2 RCB w/30" ext.	9.0	0.2	4.0	Remove aprons and extensions
332+80.53	2x2 RCB w/30" ext.	9.0	0.2	4.0	Remove aprons and extensions
341+78.56	2x2 RCB w/30" ext.	8.8	0.2	4.0	Remove aprons and extensions
	Total =	70.2			

110-2  
04-16-13

### REMOVAL OF EXISTING STRUCTURES

Location	Description	Remarks
261+65, 31' Lt	Conc. block retaining wall	Driveway culvert retaining wall
262+03, 31' Lt	Conc. block retaining wall	Entrance culvert retaining wall
304+79, 87' Rt	7.4' x 8.6' Conc. Slab	Slab and flag pole
307+42	2x2 RCB w/30" ext.	Remove existing extensions and headwalls and remove steel retaining walls at inlet end
307+45, 61' Lt	Steel retaining wall	Culvert retaining wall
332+81	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
361+60, 17' Lt	Conc. block retaining wall	Entrance culvert retaining wall
361+79, 17' Lt	Conc. block retaining wall	Entrance culvert retaining wall
342+72, 108' Rt	Cattle grate	Steel grate cattle guard
361+79, 17' Lt	Conc. block retaining wall	Driveway culvert retaining wall
364+98, 41' Rt	Concrete	Concrete encased apron on entrance pipe
365+57, 42' Rt	Concrete	Concrete encased apron on entrance pipe
379+69	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
390+79	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
395+44	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
395+45, 85' Lt	Concrete slab	Remove existing concrete slab under apron 2.0' x 4.0'
397+68, 79' Lt	Concrete slab	Remove existing concrete slab under apron 2.0' x 4.0'
398+65, 80' Lt	Concrete slab	Remove existing concrete slab under apron 1.6' x 2.4'
422+43	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
426+74	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
436+45	2x2 RCB w/30" ext.	Remove existing extensions and headwalls

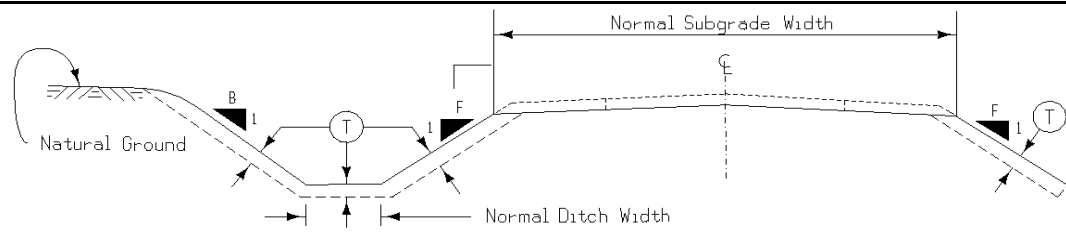
ADJUSTMENT OF FIXTURES

No.	Location Station	Type of Fixture	Adjustment
ADJUSTMENT BY CONTRACTOR			
1	390+49.84 10.4' Rt.	Manhole	Major Adjustment -- Existing 24" San. Sewer MH lid w/ 3-4" lifts 48" conc. basin
2	390+48.30 115.5' Lt.	Manhole	Minor Adjustment -- Existing 24" San. Sewer MH lid w/ 3-4" lifts 48" conc. basin
3	416+86.27 34.2' Rt.	Manhole	Major Adjustment -- Existing 26" San. Sewer MH lid w/48" conc. basin
4	416+83.05 116.9' Lt.	Manhole	Major Adjustment -- Existing 24" San. Sewer MH lid w/48" conc. basin
5	421+87.95 31.3' Rt.	Manhole	Major Adjustment -- Existing 26" San. Sewer MH lid w/48" conc. basin
6	426+88.20 35.1' Rt.	Manhole	Minor Adjustment -- Existing 26" San. Sewer MH lid w/48" conc. basin
7	430+91.99 35.2' Rt.	Manhole	Major Adjustment -- Existing 26" San. Sewer MH lid w/48" conc. basin
8	432+95.23 13.9' Rt.	Manhole	Major Adjustment -- Existing 24" San. Sewer MH lid w/48" conc. basin
9	440+16.22 54.8' Lt.	Manhole	Major Adjustment -- Existing 24" San. Sewer MH lid w/48" conc. basin
10	441+13.70 43.2' Lt.	Manhole	Minor Adjustment -- Existing 24" San. Sewer MH lid w/48" conc. basin
11	443+52.50 42.9' Lt.	Manhole	Major Adjustment -- Existing 24" San. Sewer MH lid w/48" conc. basin
12	452+00.17 34.8' Lt.	Manhole	Major Adjustment -- Existing San. Sewer MH lid
Totals			
		Manhole, Minor	
		Manhole, Major	
ADJUSTMENT BY UTILITY			
13	282+89.30 26.4' Rt.	Manhole	Existing water access MH w/ 15" lid
14	287+69.70 63.1' Lt.	Elec. Box	Existing conc. slab w/ Electrical Box
15	291+24.16 98.6' Lt.	Manhole	Existing 15" water MH w/14" basin
16	324+43.80 14.6' Rt.	Manhole	Existing 15" water meter MH lid w/ 14" basin
17	354+20.01 55.9' Lt.	Manhole	Existing 15" water meter MH lid w/ 14" basin
18	356+22.84 61.6' Rt.	Manhole	Existing 15" water meter MH lid w/ 15" basin
19	360+74.10 48.9' Lt.	Manhole	Existing 15" water meter MH lid w/ 14" basin
20	390+36.45 99.6' Lt.	Fire Hydrant	
21	417+06.83 126.3' Lt.	Manhole	Existing 1.0' x 1.5' MH lid Utility Access
22	417+02.50 417.9' Lt.	Manhole	Remove -- Existing 26" storm sewer MH lid w/ 5.3' x 5.3' conc. Slab over a 4'x 4' box
23	417+78.10 110.6' Lt.	Manhole	Existing 2.5' x 4.0' Fiber optic vault
24	417+60.40 33.8' Rt.	Electric Handhole	Existing 2.0' X 3.0' Electric handhole
25	417+59.88 27.3' Rt.	Electric Handhole	Existing 2.0' X 3.0' Electric handhole
26	418+02.72 88.9' Lt.	Fire Hydrant	
27	418+16.01 12.7' Rt.	Electric Handhole	Existing 6.0' x 6.0' Electric handhole
28	420+70.97 89.1' Lt.	Fire Hydrant	
29	422+48.46 92.1' Lt.	Fiber Optic Handhole	Existing 3.2' x 2.2' Fiber optic handhole
30	426+47.30 98.3' Lt.	Fiber Optic Handhole	Existing 4.0' x 2.5' Fiber optic handhole
31	426+76.88 90.9' Lt.	Fire Hydrant	
32	432+60.00 78.4' Lt.	Water Valve	
33	432+65.50 79.9' Lt.	Water Valve	
34	432+80.42 25.4' Rt.	Manhole	Existing Water Meter - to be relocated by Utility Co. (el 963.97)
35	432+81.01 20.8' Rt.	Water Valve	
36	432+84.42 76.0' Lt.	Water Valve	

ADJUSTMENT OF FIXTURES

No.	Location Station	Type of Fixture	Adjustment
37	432+88.42 8.4' Rt.	Fire Hydrant	
38	434+27.64 1.24' Lt.	Tele MH	Existing 32" telephone MH lid
39	436+05.68 71.6' Lt.	Manhole	U.A.C -- Existing 24" San. Sewer MH lid w/48" conc. basin
40	441+51.50 53.9' Lt.	Water Valve	
41	444+08.14 50.3' Lt.	Water Valve	
42	444+11.97 51.5' Lt.	Water Valve	
43	444+14.33 50.9' Lt.	Water Valve	
44	444+15.90 50.8' Lt.	Fire Hydrant	
45	444+12.57 36.3' Rt.	Water Valve	
46	444+20.65 21.8' Rt.	Water Valve	
47	447+36.12 59.6' Lt.	Electric Box	Existing electric box w/3.1' x 3.6' base
48	448+19.54 33.2' Rt.	Water Valve	
49	448+19.69 35.4' Rt.	Fire Hydrant	
50	451+60.85 39.9' Lt.	Fire Hydrant	
51	451+64.06 39.7' Lt.	Water Valve	
52	451+67.80 35.1' Lt.	Water Valve	
53	451+65.10 23.5' Rt.	Water Valve	
54	451+72.85 36.4' Rt.	Tele MH	Existing 32" telephone MH lid
55	451+82.83 39.5' Lt.	Water Valve	
56	451+84.10 43.5' Lt.	Water Valve	
57	453+92.87 33.9' Rt.	Water Valve	
58	453+93.03 35.7' Rt.	Fire Hydrant	
59	460+68.09 36.0' Rt.	Electric Box	Existing electric box w/2.5' x 1.5' base
60	461+98.82 38.2' Rt.	Fire Hydrant	U.A.C.
61	461+98.30 36.7' Rt.	Water Valve	
62	462+07.59 31.4' Rt.	Manhole	U.A.C. -- Existing storm sewer MH w/4.0' x 4.0' conc. basin
63	462+15.10 28.5' Rt.	Manhole	U.A.C. -- Existing 21" San. Sewer MH lid w/48" conc. basin
64	462+39.80 28.4' Rt.	Water Valve	

**TABULATION OF SPREADING TOPSOIL**



Perform this work according to Section 2105. Prior to placing topsoil on any cohesive soil, scarify the area to be covered to a minimum depth of 3 inches.

Appropriate adjustments have been made in the template quantities to reflect the placement of topsoil on foreslope, backslope and ditch bottom as detailed hereon.

Placement Description							Topsoil Excavation Available From			Remarks
Area	Quantity	Location		Side	Slope	(T)	Amount Reserved	Station to Station		
No.	CY	Station to Station		L. or R.	B. or F.	IN	CY			
1	30910.0	256+00.00	390+00.00	Both	Both	8.0	52356.0	256+00.00	390+00.00	ML092:Rural
2	7524.0	390+25.00	443+18.00	Both	Both	8.0	9228.0	390+25.00	443+18.00	ML092: Urban STG1B and STG2B
3	1280.0	443+23.01	464+92.00	Both	Both	8.0	126.0	443+23.01	464+92.00	ML092: Widening
4	95.0	1257+10.00	1258+50.00	Both	Both	8.0	209.0	1257+10.00	1258+50.00	Kennedy
5	327.0	1280+60.00	1283+50.00	Both	Both	8.0	852.0	1280+60.00	1283+50.00	R57S
6	155.0	1384+25.00	1386+06.00	Both	Both	8.0	145.0	1384+25.00	1386+06.00	R57N
7	879.0	2305+85.00	2313+85.00	Both	Both	8.0	877.0	2305+85.00	2313+85.00	90th
8	517.0	3388+60.00	3390+75.00	Both	Both	8.0	769.0	3388+60.00	3390+75.00	R63S
9	179.0	3391+31.95	3393+05.00	Both	Both	8.0	186.0	3391+31.95	3393+05.00	R63N
10	301.0	4414+15.00	4417+25.32	Both	Both	8.0	482.0	4414+15.00	4417+25.32	YSTS
11	538.0	4417+64.40	4422+60.00	Both	Both	8.0	740.0	4417+64.40	4422+60.00	YSTN
12	1737.0	14410+25.00	14417+00.00	Both	Both	8.0				DETA YST OBL
13	1223.0	11277+89.54	11290+40.39	Both	Both	8.0	0.0	11277+89.54	11290+40.39	Detour R57
14	1323.0	18388+00.00	18396+25.00	Both	Both	8.0	0.0	18388+00.00	18396+25.00	Detour R63
TOTAL	46988.0						65970.0			TOTAL
							47121.4			TOTAL W/ 40% SHRINK

**LIST OF SUBDRAIN WORK**

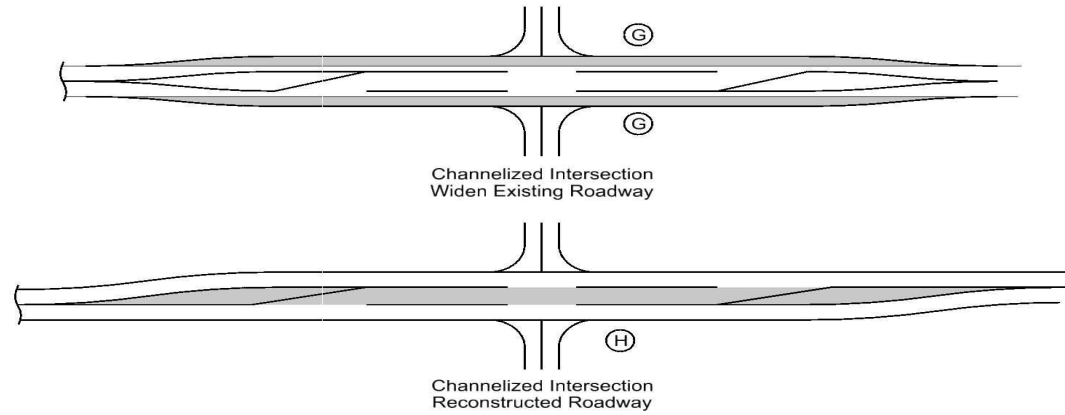
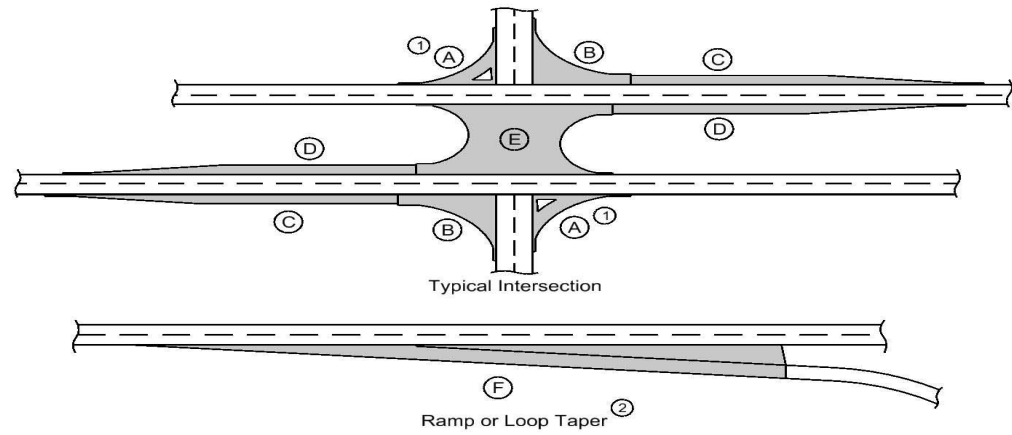
Refer to Standard Road Plans RF-3, RF-5, RF-14, RF-19A, RF-19B, RF-19C, RF-19E and RF-19F

\* Not a bid item

No.	Location		Type of Installation	Pipe Concrete C.M.P., C.M.P. Coated, or Plastic	Pipe		Aprons		Outlets		Connected Pipe Joints (RF-14)*	Trench Drain	Granular Material	Porous Backfill*	Class "A" Crushed Stone*	Remarks		
	Station to Station	Type of Installation			Dia.	Length	RF-3	RF-5	RF-19E	RF-19F							Type	No.
1	292+04 90' Rt	292+75.00 80' Rt	Case 'B'	C.M.P. Coated	10.0	72										Install Intake, Standpipe I-1 @ Sta 292+75, 80' Rt at inlet end		
2	307+71 109' Lt	307+62 91' Lt	Case 'C'	C.M.P. Coated	10.0	22												
3A	1388+80 73' Rt		Case 'C'													(A)		
3B	1388+80 73' Rt	1388+77 49' Rt	Cases 'A' and 'C'	C.M.P. Coated	10.0	23										(B)		
4A	4414+58 154' Lt		Case 'C'													(A)		
4B	4414+58 154' Lt	4414+34 34' Lt	Case 'A'	C.M.P. Coated	10.0	122										(B) Outlet into Intake I-219 Refer to Tab. 104-5B in M-sheets		
			Totals		10.0	239										Intake, Standpipe quantity = 1 each		

(A) Outlet only; Replace existing tile with RF-19F outlet at detour ditch location.  
(B) Remove outlet and extend tile line after removal of detour.

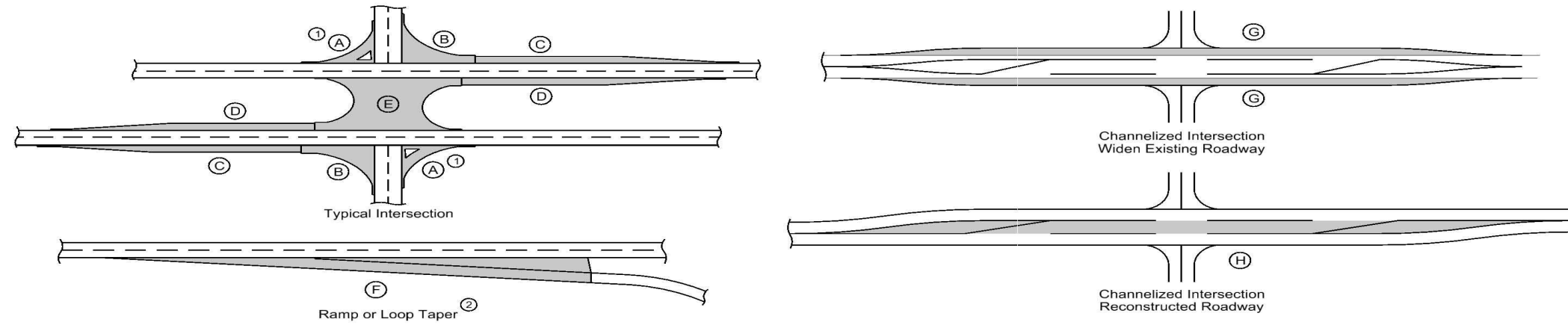
PCC PAVEMENT



- ① Does not include 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.

Location		Mainline			Area (3)								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Granular Subbase	Remarks	
Road Identification	Direction of Travel	Station to Station	Width	Length	Area	A	B	C	D	E	F	G	H	SY		TONS	CY		SY
			FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	10 IN	8 IN				
IA 92 (BOP to R-57 Intersection)	EB	256+50.00	271+47.80	14.0	1497.8	2329.9									2329.9		891.2		
IA 92 (BOP to R-57 Intersection)	WB	256+50.00	271+47.80	14.0	1497.8	2329.9									2329.9		891.2		2829.2
IA 92 (R-57 Intersection)	EB	271+47.80	301+54.20	14.0	3006.4	4676.6									4676.6		1788.8		5678.8
IA 92 (R-57 Intersection)	WB	271+47.80	301+54.20	14.0	3006.4	4676.6									4676.6		1788.8		5678.8
IA 92 (R-57 Intersection)	Center	271+47.80	301+54.20	0 to 16									3787.1		3787.1		1192.9		3787.1
IA 92 (R-57 Intersection)	EB	279+39.00	285+41.84	8.0											535.9		168.8		535.9
IA 92 (R-57 Intersection)	EB	280+19.00	283+84.84	2 to 10											352.6		111.1		352.6
IA 92 (R-57 Intersection)	WB	281+93.59	292+08.00	8.0											901.8		284.1		901.8
IA 92 (R-57 Intersection)	WB	283+56.75	290+88.00	2 to 10											731.9		230.5		731.9
IA 92 (R-57 Int. to R-63 Int.)	EB	301+54.20	378+78.80	14.0	7724.6	12016.0									12016.0		4596.1		14590.9
IA 92 (R-57 Int. to R-63 Int.)	WB	301+54.20	378+78.80	14.0	7724.6	12016.0									12016.0		4596.1		14590.9
IA 92 (R-63 Intersection)	EB	378+78.80	391+70.00	14.0	1291.2	2008.5									2008.5		768.3		2438.9
IA 92 (R-63 Intersection)	WB	378+78.80	391+70.00	14.0	1291.2	2008.5									2008.5		768.3		2438.9
IA 92 (R-63 Intersection)	Center	378+78.80	391+70.00	0 to 16									1516.8		1516.8		477.8		1516.8
IA 92 (R-63 Intersection)	EB	386+70.00	391+15.00	8.0											395.2		124.5		395.2
IA 92 (R-63 Intersection)	EB	387+40.00	391+15.00	2 to 10											354.4		111.7		354.4
IA 92 (R-63 Intersection)	WB	389+20.00	391+70.00	8.0											222.4		70.1		222.4
IA 92 (R-63 Int. to Tie Transition)	EB	391+70.00	441+27.50	15.0	4957.5	8262.5									8262.5			3305.0	
IA 92 (R-63 Int. to Tie Transition)	Center	391+70.00	442+40.00	16.0	5070.0									9013.3	9013.3			333.8	
IA 92 (R-63 Intersection)	WB	391+70.00	398+30.00	12.0	660.0	880.0									880.0			366.7	
IA 92 (R-63 Intersection)	WB	391+70.00	398+30.00	3 to 13											838.7			31.1	
IA 92 (R-63 Int. to Tie Transition)	WB	398+30.00	442+40.00	15.0	4410.0	7350.0									7350.0			2940.0	
IA 92 (Tie Transition Area)	EB	441+15.50	443+18.01	2.5 to 10		239.8									239.8			8.9	
IA 92 (Tie Transition Area)	Center	442+40.00	443+18.01	16 to 12										140.1	140.1			5.2	
IA 92 (Tie Transition Area)	WB	442+40.00	443+18.01	5 to 12.5	78.0	144.1									144.1			14.0	

PCC PAVEMENT

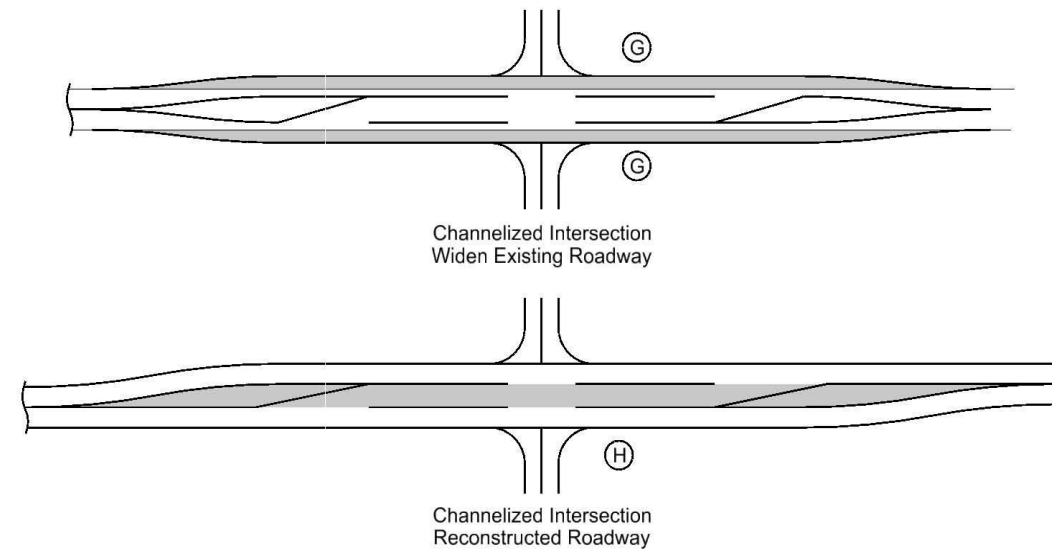
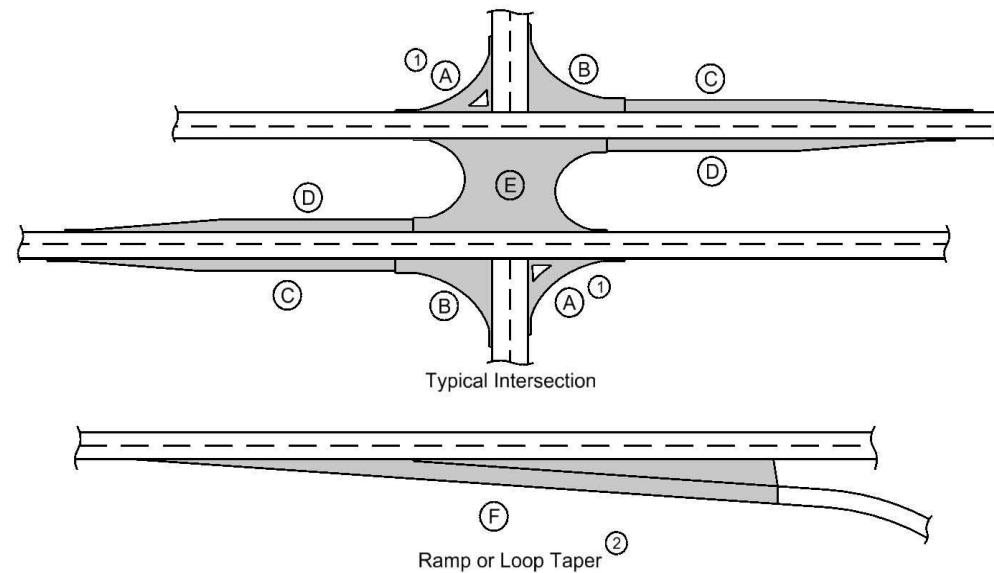


- ① Does not include island area or curb. Refer to tabulation 112-4 for quantities.
- ② Refer to PV-410, PV-411, PV-412, and PV-414.
- ③ Quantity includes Pavement Header.

Location		Mainline		Area (3)								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Granular Subbase	Remarks				
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A	B	C	D	E	F	G	H	SY			TONS	CY	SY	
		FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	SY	10 IN	8 IN						
Kennedy St.	Both	1258+03.53	1258+72.80	24.0	69.3	400.0										400.0	126.0			See Typical 7149M	
R-57 (South)	Both	1280+60.00	1283+41.23	24.0	281.2	749.9	257.1	319.4							1326.5		470.8				
R-57 (North)	Both	1384+16.17	1386+06.00	24.0	189.8	506.2	254.4	325.6							1086.2		382.7				
90th St. (South)	Both	2309+56.69	2310+14.21	22.0	57.5	361.2										361.2	113.8			See Typical 7149M	
90th St. (North)	Both	2310+42.21	2311+00.69	22.0	58.5	364.6										364.6	114.8			See Typical 7149M	
R-63 (South)	Both	3388+60.00	3390+71.41	22.0	211.4	516.8	305.7	307.1							1129.6		419.8				
R-63 (North)	Both	3391+41.99	3393+05.00	22.0	163.0	398.5	214.9	316.6							929.9		339.4				
Y St. (South)	Both	4415+15.00	4417+28.32	25.0	213.3	814.9	302.1	261.3							1378.3		512.9			Includes 167.3' of curb; See Note (1)	
Y St. (North)	Both	4417+61.40	4422+60.00	30.0	498.6	1660.6	348.3	300.2							2309.1		854.3			Includes 498.6' of curb	
Spruce St.						102.0									102.0		39.1			Includes 70.6' of curb	
R St.						138.4									138.4		51.4			Includes 78.5' of curb	
S. Kenwood Blvd						197.9									197.9		71.3			Includes 90.4' of curb	
South P St. (South)						194.2									194.2		71.7			Includes 104.9' of curb	
South P St. (North)						163.7									163.7		61.5			Includes 98.9' of curb	
South N St.						89.7									89.7		33.5			Includes 54.9' of curb	
Notes:															Totals=	86774.4	1125.8	22523.2	7004.6	59873.7	Requires 112.7 Sta of Earth Shoulder Finishing for curb

(1) Quantities do not include Curb and Gutter on right side from Sta. 4414+91 to 4415+37 due to Detour Construction. Refer to Tab 112-9C.

**HMA PAVEMENT**



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

Calculations assume a surface course unit weight (lbs/cf) of 147, an intermediate course unit weight (lbs/cf) of 147, a base course unit weight (lbs/cf) of 145, and a special backfill unit weight (lbs/cf) of 140.

Road Identification	Direction of Travel	Location		Mainline			Area								Hot Mix Asphalt Pavement						Bid Items				Remarks											
		Station to Station	Width	Length	Area	A <sup>①</sup>	B	C	D	E	F	G	H	Surface		Intermediate		Leveling		Surface	Intermediate	Leveling	Special Backfill	Modified Subbase		Granular Subbase	Pavement Scarification									
														TONS	SY	TONS	SY	TONS	SY									TONS	TONS	TONS	TONS	SY	SY			
IA 92 Scarify	Both	443+18.01	465+01.01	32.0	2183.0	7761.8																											7761.8			
IA 92	Both	443+18.01	465+01.01	32.0	2183.0	7761.8																														
IA 92 Leveling	Both	452+00.00	465+01.01	32.0	1301.0	4625.8																														(1)
														+5% for Irregularities		32.090		32.090		13.834		1.925		1.925		0.830										
														Totals		673.892		673.892		290.516		40.434		40.434		17.431								7761.8		

(1) Leveling area used to generate new profile. Refer to HMA thickness bar on D-sheets for an estimation of total thickness. This quantity uses an estimated average thickness in the leveling area.



**MILLED RUMBLE STRIPS**

See PV-12 and PV-13.

112-10  
04-19-11

\* Calculated at 18" width for Shoulder.

Road Identification	Location		Length		Type (Centerline, Rt or Lt Shoulder)	Fog Seal* (Milled Rumble Strip) Shoulder GAL	Effective Shoulder Width			Remarks		
	Station to Station	STA	STA	STA			PCC Paved	HMA Paved	Granular\Earth			
											PCC	HMA
											FT	FT
Iowa 92 Mainline	256+50.00	380+00.00	123.50		Centerline	0.0						
Iowa 92 Mainline	256+50.00	281+94.00	25.44		Left Shoulder	0.0						
Iowa 92 Mainline	291+50.00	389+14.00	97.64		Left Shoulder	0.0						
Iowa 92 Mainline	256+50.00	280+39.00	23.89		Right Shoulder	0.0						
Iowa 92 Mainline	284+40.00	387+00.00	102.60		Right Shoulder	0.0						
Total Centerline =			123.50									
Total Shoulder =			249.57									

**RUMBLE STRIP PANELS**

Refer to Standard Road Plan PV-10.

112-7  
10-19-10

Road Ident.	Location		Pavement		Remarks
	Station	Side	New	Existing	
Co. Rd. R-57 South	1277+43 1280+43	Rt. Rt.		X X	in Patch in Patch
Co. Rd. R-57 North	1387+14 1390+14	Lt. Lt.		X X	in Patch in Patch
Co. Rd. R-63 South	3384+35 3387+35	Rt. Rt.		X X	in Patch in Patch
Co. Rd. R-63 North	3394+92 3397+92	Lt. Lt.		X X	in Patch in Patch

**FULL-DEPTH PATCHES**

Refer to Standard Roads Plans PR-101, PR-102, PR-103, PR-104 and PR-140.

102-6C  
10-21-14

Count	Location		Dimension			PCC Patches			HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
	Station or Milepost	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C										
						PR-103	PR-102	PR-104										
						PR-140	PR-101	PR-101 or PR-140										
		L, R, or B	FT	FT	IN	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.	No.	
1	451+75	R	6.0	12.0	11.0	8.0					8.0							
1	451+75	L	6.0	12.0	11.0	8.0					8.0							
1	460+35	R	20.0	12.0	11.0	26.7					26.7							
1	461+06	R	20.0	12.0	11.0	26.7					26.7							
1	1277+43	R	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	1280+43	R	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	1387+14	L	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	1390+14	L	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	3384+35	R	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	3387+35	R	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	3394+92	L	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	3397+92	L	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
12	Totals					69.4	293.6				363.0							

**PAVEMENT SMOOTHNESS + PCC TEXTURE**

100-27  
10-20-09

Road Identification	Begin Station	End Station	Proposed Posted Speed			Remarks
			35 or less	40 - 45	over 45	
			IA 92	256+50.00	391+00.00	
IA 92	391+00.00	443+18.01		45		

### Curb and Gutter

Refer to PV-102 and 6000 Detail Series.

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

Road Identification	Direction Of Traffic	Location			Curb Type	Pavement Thickness	Width	Length	Quantities					Remarks	
		Station to Station	Side	Class 13 Excavation					Special Backfill	Modified Subbase	Earth Shoulder Finishing				
											Length	TON	TON/STA		CY
IN	FT	FT	CY	TON	TON/STA	CY	STA	CY							
IA 92	WB	443+18.01	451+46.61	Lt	6" Standard	10	2.5	828.6				86.2	8.3	154.7	
IA 92	WB	452+38.91	455+21.32	Lt	6" Standard	10	2.5	282.4				29.4	2.8	52.7	
IA 92	WB	456+11.24	465+01.01	Lt	6" Standard	10	2.5	889.8				92.6	8.9	166.1	
IA 92	EB	441+15.51	443+41.50	Rt	6" Standard	10	2.5	226.0				23.5	2.3	42.2	after removal of detour
IA 92	EB	444+22.50	453+91.57	Rt	6" Standard	10	2.5	969.1				100.9	9.7	180.9	
IA 92	EB	454+86.45	461+85.60	Rt	6" Standard	10	2.5	699.2				72.8	7.0	130.5	
IA 92	EB	462+62.57	465+01.01	Rt	6" Standard	10	2.5	238.4				24.8	2.4	44.5	
Y Street	SB	4410+73.00	4411+62.00	Lt	6" Standard	10	1.5	89.0	14.4	16.2			0.9	16.6	after removal of detour
Y Street	NB	4414+91.00	4415+37.00	Rt	6" Standard	10	1.5	46.0	7.4	16.2			0.5	8.6	after removal of detour
Y Street	SB	4424+96.00	4425+66.00	Lt	6" Standard	10	1.5	70.0	11.3	16.2			0.7	13.1	after removal of detour
<b>Totals</b>												33.1	430.2	43.4	
Curb							1.5	205.0							
Curb							2.5	4133.4							

### CURBS AND ISLANDS

Refer to PV-20, PV-102, and 6000s Detail Series.

Point No.	Station	Offset	Island Interior Area SY	Curb and Gutter			Remarks
				Curb Type	Gutter Width FT	Length(1) LF	
A	283+53.81	41.0' Lt.					
	1384+09.30	14.0' Lt.					
B	283+40.37	41.0' Lt.					
C	1384+19.19	15.0' Lt.	63.2	6" Sloped PCC		33.8	Refer to Modified PV-20 Detail in the 'U' Sheets
A	283+87.71	25.0' Rt.					
	1283+47.97	14.0' Rt.					
B	284+01.84	25.0' Rt.					
C	1283+37.33	15.0' Rt.	63.2	6" Sloped PCC		36.2	Refer to Modified PV-20 Detail in the 'U' Sheets
<b>Totals =</b>			126.4			70.0	



ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Reinforced Concrete 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.

Station	Side	Type A, B, C, Safety Ramp, or Predetermined*	Length of Opening ①			W	PR ① ②	SR ②	Pipe Culvert ③					Aprons No.	Driveway Surface Area		Driveway Surfacing Material TON	Remarks	
			Case 1 or 2	1½" Dropped Curb LF	3" Dropped Curb LF				H	Size IN	Pipe Length LF	Lt. LF	Rt. LF		HMA	PCC			
															SY	SY			
270+56.00	Lt	Jt. C				30.0		15.0	3.7	18.0	76.0	47.0	41.2	2			29.500	ENT270	
270+56.00	RT	Jt. C				14.0		15.0	2.4	18.0	46.0	34.4	23.8	2			163.000	ENT269 - Jt. w/ENT270	
276+46.00	Lt	Jt. C				30.0		15.0	7.0	18.0	134.0	63.6	82.5	2			70.000	ENT270	
291+80.00	Lt	C				24.0		15.0	6.4	18.0	112.0	55.2	68.6	2			54.000	ENT275 & ENT276	
291+80.00	Rt	C				20.0		15.0	2.9	18.0	62.0	34.2	40.0	2			23.000	ENT291	
297+08.00	Lt	Jt. C				20.0		15.0	4.0	18.0	74.0	48.0	38.2	2			37.000	ENT291	
297+08.00	Lt	Jt. C				30.0		15.0	2.1	18.0	60.0	37.9	34.3	2			21.000	ENT297	
297+08.00	Rt	Jt. C				30.0		15.0	4.4	18.0	92.0	44.4	59.9	2			58.500	ENT298	
305+31.00	Rt	C				12.0		-	1.8	18.0	18.0	12.4	17.8	2			24.000	ENT297 - Jt. w/ENT298	
315+00.00	Rt	C				20.0		15.0	3.1	18.0	68.0	48.7	31.5	2			25.500	ENT305	
324+07.61	Lt	C				24.0		15.0	4.0	18.0	112.0	76.0	48.0	2			140.000	ENT315	
324+07.61	Rt	C				24.0		15.0	3.5	18.0	80.0	40.5	51.7	2			29.000	ENT323	
334+27.00	Rt	C				24.0		20.0								155.9		ENT323: 6" PCC Driveway	
341+03.00	Lt	Jt. C				24.0		15.0	4.6	18.0	82.0	42.4	51.8	2			38.000	ENT334	
341+03.00	Rt	C				35.0		15.0									44.000	ENT341	
352+40.00	Lt	C				24.0		15.0	8.9	36.0	86.0	50.1	48.1	2			203.000	ENT341	
352+40.00	Rt	C				24.0		15.0									53.520	ENT352	
359+18.00	Lt	C				24.0		15.0	1.9	18.0	50.0	32.7	29.5	2			20.000	ENT352	
359+18.00	Rt	Jt. C				24.0		15.0	3.3	18.0	72.0	44.3	39.8	2			125.000	ENT359	
359+18.00	Rt	Jt. C				24.0		15.0	4.9	18.0	92.0	50.0	42.0	2		516.7		ENT359: 8" PCC and 6" Spec Backfill (171.9 Ton); Refer to Typ. ENT359; Req. RCP	
365+37.00	Lt	B				10.0		15.0	1.6	36.0	16.0	7.0	9.0	2					ENT359: Align pipe with ML draw at Sta. 358+05; Requires RCP
365+37.00	Rt	C				30.0		15.0	3.9	18.0	86.0	49.9	48.3	2			88.800	ENT365	
375+45.00	Lt	C				24.0		15.0	3.8	18.0	80.0	43.4	48.8	2			47.870	ENT365	
375+45.00	Rt	C				24.0		15.0	3.3	18.0	72.0	40.5	43.7	2			25.200	ENT375	
375+45.00	Rt	C				24.0		15.0	5.4	18.0	106.0	61.6	56.5	2			39.200	ENT375	
387+95.00	Lt	Safety Ramp				36.0													
398+16.98	Lt	B	1	52.0		37.0	12.0									228.4			
407+00.00	Lt	C	1	38.5		24.0	12.0										165.2		
407+00.00	Rt	C	1	38.5		24.0	12.0										83.3		
419+80.63	Lt	Jt. B	2 Mod.	155.3		70.0											151.9	80.000	Refer to Typ. ENT419; 10" PCC and 12" Spec Backfill (144.7 Ton); 4" Gran Surface
423+11.51	Lt	Jt. B	2 Mod.	206.0		70.0										1044.4		80.000	Refer to Typ. ENT423; 10" PCC and 12" Special Backfill (710.3 Ton)
425+99.40	Lt	B	1	42.0		24.0											162.1		
427+53.90	Lt	B	1	42.0		24.0											144.9		
429+54.16	Lt	B	1	50.0		32.0											181.6		
430+78.41	Rt	B	1	42.0		24.0											151.7		
431+96.41	LT	Jt. B	1	43.0		25.0											114.1		
433+46.06	Lt	B	1	44.5		26.5											78.3		
433+47.85	Rt	B	1	42.0		24.0											138.3		
438+08.06	Lt	B	1	42.0		24.0											71.7		
440+48.56	Rt	B	1	42.4		24.0											70.8		
442+23.75	Rt	B	1	63.5		51.3											157.7		
446+48.51	Rt	Jt. B	1	62.0		44.0											164.4		
446+56.51	Lt	B	1	41.0		35.0											196.7		
447+68.44	Rt	B	1	63.0		33.0											115.0		
448+17.01	Lt	B	1	36.0		30.0											168.9		
448+54.51	Rt	B	1	51.0		33.0											115.0		
449+42.01	Lt	B	1	44.0		38.0											150.0		
448+76.10	Lt	B	1	38.0		24.0											72.4		
460+15.20	Lt	B	1	38.0		24.0											85.9		
461+34.29	Lt	B	1	38.0		24.0											66.2		
<b>ACCESS 258</b>																			
1259+82.50	Lt	Jt. C				12.0		15.0	8.5	24.0	74.0	32.6	46.6	2			139.400		ENT258A
1259+82.50	Lt	Jt. C				10.0		15.0									63.800		ENT258B
1260+80.00	Lt	C				20.0		20.0									12.000		ENT258C
1261+20.00	CL	C				12.0											46.000		ENT258D
<b>Co. Rd. R-57</b>																			
1281+92.00	Lt	C				20.0		15.0	2.3	18.0	60.0	38.0	34.0	2			16.680		ENT1281
1281+92.00	Rt	C				20.0		15.0	3.5	18.0	94.0	36.0	70.0	2			19.240		ENT1281
1386+92.00	Rt	C				24.0		15.0	4.5	18.0	138.0	114.0	36.0	2			31.520		ENT1386
<b>90th AVE</b>																			
2306+07.14	Rt	C				24.0		15.0	4.1	18.0	70.0	36.0	46.0	2			10.400		ENT2306
2307+80.00	Rt	C				20.0		15.0	4.0	18.0	92.0	42.0	62.0	2			17.200		ENT2307
2313+08.00	Rt	C				20.0		15.0	2.5	18.0	60.0	40.0	32.0	2			12.000		ENT2313
<b>Co. Rd. R-63</b>																			
3388+79.00	Lt	C				24.0		15.0		18.0	50.0	36.2	26.0	2			16.480		

## ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.

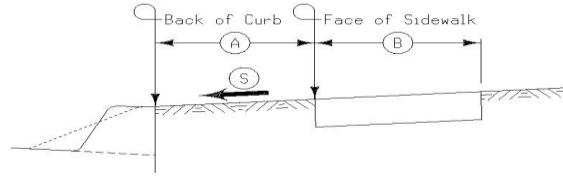
- ① Refer to MI-210
- ② Refer to EW-501.
- ③ Refer to EW-501 or EW-502.

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

Location		Type	Length of Opening ①			① ②			Pipe Culvert ③					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks	
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb	W	① PR	② SR	H	Size	Pipe Length	Lt.	Rt.	No.	HMA	PCC	TON		
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF		SY	SY			
									Totals								1823.810	Surfacing, Driveway, Crushed Stone	
										18.0	2138.0			54					
										24.0	74.0			2		3038.7		6" PCC Driveway	
										36.0	102.0			4		516.7		8" PCC Driveway	
																1196.3		10" PCC Driveway	
																		Special Backfill Total = 1026.9 Ton	

# SIDEWALKS

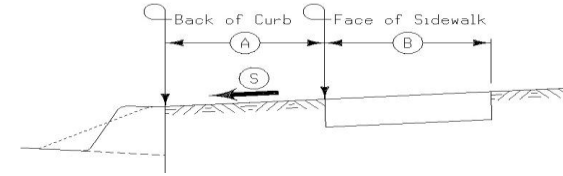
See MI-220 and S Sheets



Road Id	Station to Station		Side	A	B	S	4" PCC Sidewalk	6" PCC Sidewalk	Other	Detectable Warnings	Remarks
				FT	FT	%	SY	SY	SY	SF	
IA 92	391+36.28	391+47.85	Lt	Varies	10.00	2.00%		12.9		26	
	391+47.85	392+48.17		Varies	10.00	2.00%			111.5	5" Rec Trail	
	392+48.17	397+98.46		12.00	10.00	2.00%			611.4	5" Rec Trail	
	397+98.46	398+35.48		12.00	10.00			41.1		Driveway	
	398+35.48	406+88.00		12.00	10.00	2.00%			947.2	5" Rec Trail	
	406+88.00	407+12.00		12.00	10.00			26.7		Driveway	
	407+12.00	415+53.57		12.00	10.00	2.00%			935.1	5" Rec Trail	
	415+53.57	416+54.85		Varies	10.00	2.00%			112.5	5" Rec Trail	
	416+54.85	416+80.98		Varies	10.00	2.00%		29.0		48	
	417+80.98	417+95.59		Varies	10.00	2.00%		19.5		34	
	417+95.59	418+71.33		Varies	10.00	2.00%			84.2	5" Rec Trail	
	418+71.33	419+38.13		12.00	10.00	2.00%			74.2	5" Rec Trail	
	419+38.13	420+08.13		12.00	10.00				77.8	10" Sidewalk (1)	
	420+08.13	422+69.01		12.00	10.00	2.00%			289.9	5" Rec Trail	
	422+69.01	423+39.01		12.00	10.00				77.8	10" Sidewalk (1)	
	423+39.01	425+87.40		12.00	10.00	2.00%			276.0	5" Rec Trail	
	425+87.40	426+11.40		12.00	10.00			26.7		Driveway	
	426+11.40	427+41.90		12.00	10.00	2.00%			145.0	5" Rec Trail	
	427+41.90	427+65.90		12.00	10.00			26.7		Driveway	
	427+65.90	429+38.16		12.00	10.00	2.00%			191.4	5" Rec Trail	
	429+38.16	429+70.16		12.00	10.00			35.6		Driveway	
	429+70.16	431+83.91		12.00	10.00	2.00%			237.5	5" Rec Trail	
	431+83.91	432+08.91		12.00	10.00			27.8		Driveway	
	432+08.91	433+32.81		12.00	10.00	2.00%			137.7	5" Rec Trail	
	433+32.81	433+59.31		12.00	10.00			29.4		Driveway	
	433+59.31	437+96.06		12.00	10.00	2.00%			485.3	5" Rec Trail	
	437+96.06	438+20.47		12.00	10.00			27.1		Driveway	
	438+20.47	441+07.59		12.00	10.00	2.00%			319.0	5" Rec Trail	
	441+07.59	441+21.92		Varies	10.00	2.00%		15.9		20	
	441+21.92	441+56.71		Varies	5.00	2.00%		6.1		10	
	441+56.71	441+64.44		14.50	5.00	2.00%	4.3				
	441+64.44	442+53.92		Varies	5.00	2.00%	49.7				
	442+53.92	446+39.01		6.00	5.00	2.00%	213.9				
	446+39.01	446+74.01		6.00	5.00			19.4			
	446+74.01	448+01.91		6.00	5.00	2.00%	71.1				
	448+01.91	448+32.10		6.00	5.00			16.8			
	448+32.10	449+22.88		6.00	5.00	2.00%	50.4				
	449+22.88	449+61.13		6.00	5.00			21.3			
	449+61.13	451+46.61		6.00	5.00	2.00%	103.0				
	451+46.61	451+58.50		Varies	5.00	2.00%	6.6				
	451+58.50	451+67.49		Varies	5.00	2.00%		5.0		10	
	451+67.49	452+25.56		Varies	5.00	2.00%		4.2			
	452+25.56	452+38.91		Varies	5.00	2.00%	7.4				
	452+38.91	455+21.28		6.00	5.00	2.00%	156.9				
	455+21.28	455+38.76		Varies	5.00	2.00%	9.7				
	455+38.76	455+45.43		Varies	5.00	2.00%		3.7		16	
	455+45.43	455+98.09		Varies	5.00	2.00%		6.1			
	455+98.09	456+11.24		Varies	5.00	2.00%	7.3				
456+11.24	458+64.96		6.00	5.00	2.00%	141.0					
458+64.96	458+89.04		6.00	5.00			13.4				
458+89.04	460+03.93		6.00	5.00	2.00%	63.8					
460+03.93	460+27.99		6.00	5.00			13.4				
460+27.99	461+22.29		6.00	5.00	2.00%	52.4					
461+22.29	461+46.29		6.00	5.00			13.3				
461+46.29	464+98.64		6.00	5.00	2.00%	195.7					
464+98.64	465+03.64		6.00	5.00	2.00%	2.8					
	391+40.71	391+56.60	Rt	Varies	10.00	2.00%		17.7			
	391+56.60	391+80.78		Varies	10.00	2.00%		26.9			
R-63S	3390+62.10	3390+75.53	Rt	Varies	10.00	2.00%		14.9		20	
R-63N	3391+45.10	3391+65.87	Rt	Varies	10.00	2.00%		23.1		20	
Y St.	4414+15.00	4416+01.51	Rt	12.00	4.00	2.00%	82.9				
	4416+01.51	4416+63.61		Varies	4.00	2.00%	27.6				
	4416+63.61	4417+04.26		Varies	5.00	2.00%	2.8				
	4417+04.26	4417+12.60		Varies	5.00	2.00%		4.6		10	
Y St.											
Ret. 4	+64.49	1+15.76	Rt	6.00	4.00	2.00%	22.8				
Ret. 4	1+15.76	1+24.20		Varies	4.00	2.00%	3.8				

# SIDEWALKS

See MI-220 and S Sheets



Road Id	Station to Station		Side	A	B	S	4" PCC Sidewalk	6" PCC Sidewalk	Other	Detectable Warnings	Remarks
				FT	FT	%	SY	SY	SY	SF	
Y St.	4417+68.19	4417+74.97	Rt	Varies	5.00	2.00%		3.8		10	
Spruce St.							3.8				
S Kenwood Blvd			Lt				8.4				
			Rt				4.5				
South P St.											
Ret. 1							13.6				
Ret. 2							15.6				
Ret. 3							12.8				
								3.9		10	
Ret. 4							11.9				
IA 92 Crossing								4.8		20	
								3.3		10	
Totals							1373.3	517.1	4957.8	264	5" Rec Trail 10" Sidewalk (1)
									155.6		
(1) Matches 10" Driveway Pavement. Requires 12" Special Backfill that is tabulated with driveway pavement (Tab 102-3)											

### 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

CHY8: Channelizing Line (Yellow) @ 2.00

SLW4: Solid Lane Line (White) @ 1.00

SLW2: Stop Line (White) @ 6.00

SPW6: Sloped Curb 6" (White) @ 3.40

DLW4: Dotted Line (White) @ 0.33

Road ID	Station to Station		Dir. of Travel	Marking Type	Side			Length by Line Type (Unfactored)													Remarks		
					Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	CHY8	SLW4	SLW2	SPW6	DLW4					
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA		STA	STA
STAGE 2B																							
R-57 Detour	11277+89.54	11279+38.20	SB	Wet Retroreflective Removable Tape			X							1.49								Right Edge Line	
R-57 Detour	11279+38.20	11288+91.65	SB	Waterborne/Solvent Paint			X							9.53								Right Edge Line	
R-57 Detour	11288+91.65	11290+40.39	SB	Wet Retroreflective Removable Tape			X							1.49								Right Edge Line	
R-57 Detour	11277+89.54	11278+95.60	NB	Wet Retroreflective Removable Tape	X					1.06												Centerline (Solid)	
R-57 Detour	11278+95.60	11289+34.28	NB	Waterborne/Solvent Paint	X					10.39												Centerline (Solid)	
R-57 Detour	11289+34.28	11290+40.39	NB	Wet Retroreflective Removable Tape	X					1.06												Centerline (Solid)	
R-57 Detour	11277+89.54	11290+40.39	NB	Waterborne/Solvent Paint			X							12.51								Right Edge Line	
R-57 (So.)	1277+35.33	1279+85.00	NB	Removal of Paint	X					2.50												Existing Centerline Removal	
R-57 (No.)	1387+25.00	1389+67.34	NB	Removal of Paint	X					2.42												Existing Centerline Removal	
R-63 Detour	18386+48.19	18387+71.41	SB	Wet Retroreflective Removable Tape			X							1.23								Right Edge Line	
R-63 Detour	18387+71.41	18396+47.81	SB	Waterborne/Solvent Paint			X							8.76								Right Edge Line	
R-63 Detour	18396+47.81	18397+71.90	SB	Wet Retroreflective Removable Tape			X							1.24								Right Edge Line	
R-63 Detour	18386+48.19	18387+39.83	NB	Wet Retroreflective Removable Tape	X					0.92												Centerline (Solid)	
R-63 Detour	18387+39.83	18392+05.00	NB	Waterborne/Solvent Paint	X					4.65												Centerline (Solid)	
R-63 Detour	18393+20.00	18396+78.99	NB	Waterborne/Solvent Paint	X					3.59												Centerline (Solid)	
R-63 Detour	18396+78.99	18397+71.90	NB	Wet Retroreflective Removable Tape	X					0.93												Centerline (Solid)	
R-63 Detour	18386+48.19	18392+53.30	NB	Waterborne/Solvent Paint			X							6.92								Right Edge Line	
R-63 Detour	18392+77.34	18397+71.90	NB	Waterborne/Solvent Paint			X							5.26								Right Edge Line	
R-63 (So.)	3385+50.00	3387+30.00	NB	Removal of Paint	X					1.80												Existing Centerline Removal	
R-63 (No.)	3394+45.00	3396+25.00	NB	Removal of Paint	X					1.80												Existing Centerline Removal	
Ia 92	439+07.78	441+22.23	WB	Removal of Paint	X					2.14												Existing Centerline Removal	
Ia 92	441+46.19	445+00.00	WB	Removal of Paint	X					3.54												Existing Centerline Removal	
Ia 92	439+07.78	441+22.23	WB	Removal of Paint			X							2.14								Existing Right Edge Line Removal	
Ia 92	441+46.19	445+00.00	WB	Removal of Paint			X							3.54								Existing Right Edge Line Removal	
Ia 92	439+07.78	441+22.23	WB	Waterborne/Solvent Paint			X							2.26								Right Edge Line	
Ia 92	441+46.19	445+00.00	WB	Waterborne/Solvent Paint			X							3.66								Right Edge Line	
Ia 92	439+07.78	441+10.85	EB	Waterborne/Solvent Paint	X					2.09												Centerline (Solid)	
Ia 92	441+57.60	445+00.00	EB	Waterborne/Solvent Paint	X					3.45												Centerline (Solid)	
Ia 92	439+07.78	443+38.00	EB	Waterborne/Solvent Paint			X							4.40								Right Edge Line	
STAGE 2C																							
R-57 Detour	11277+89.54	11279+38.20	SB	Removal of Removable Tape			X							1.49								Right Edge Line Tape Removal	
R-57 Detour	11277+89.54	11278+95.60	NB	Removal of Removable Tape	X					1.06												Centerline Tape Removal	
R-57 Detour	11283+90.53	11284+99.76	NB	Removal of Paint	X									1.09								Edge Line Removal on new pavement	
R-57 Detour	11283+98.10	11284+92.87	NB	Removal of Paint			X			0.95												Centerline Removal on new pavement	
R-57 Detour	11284+03.66	11284+88.26	NB	Removal of Paint			X							0.85								Edge Line Removal on new pavement	
R-57 Detour	11288+91.65	11290+40.39	SB	Removal of Removable Tape			X							1.49								Edge Line Removal on new pavement	
R-57 Detour	11289+34.28	11290+40.39	NB	Removal of Removable Tape	X					1.06												Centerline Tape Removal	
Ia 92	256+50.00	271+47.79	EB	Waterborne/Solvent Paint			X			14.98												Centerline (Dashed)	
Ia 92	256+50.00	258+12.30	EB	Waterborne/Solvent Paint			X							1.62								Right Edge Line	
Ia 92	256+50.00	258+45.63	WB	Waterborne/Solvent Paint			X							1.96								Right Edge Line	
Ia 92	259+37.19	282+74.15	EB	Waterborne/Solvent Paint			X							23.37								Right Edge Line	
Ia 92	259+30.97	282+80.60	WB	Waterborne/Solvent Paint			X							23.50								Right Edge Line	
Ia 92	265+45.59	271+47.79	EB	Waterborne/Solvent Paint			X					6.02										Centerline (Solid)	
Ia 92	271+47.79	282+94.00	BOTH	Waterborne/Solvent Paint			X						27.40									Channelizing (Includes Diagonals)	
Ia 92	279+48.41	281+19.00	EB	Waterborne/Solvent Paint			X															Bike Lane, Left Edge Line (Dotted)	
Ia 92	280+19.00	281+19.00	EB	Waterborne/Solvent Paint			X															Bike Lane, Right Edge Line (Dotted)	
Ia 92	281+19.00	282+94.00	EB	Waterborne/Solvent Paint			X						1.75									Bike Lane, Left Edge Line (Solid)	
Ia 92	281+19.00	282+94.00	EB	Waterborne/Solvent Paint			X						1.75									Bike Lane, Right Edge Line (Solid)	
Ia 92	281+44.00	282+94.00	EB	Waterborne/Solvent Paint			X						1.50									Left Turn Lane, Right Edge Line	
R-57 (So.)	1283+50.11		NB	Waterborne/Solvent Paint			X								0.86							Stop Line	
R-57 (So.)	1283+35.76	1283+49.97	NB	Waterborne/Solvent Paint			X									0.50						Curb of Stop Island	
R-57 (So.)	1280+60.00	1283+36.28	BOTH	Waterborne/Solvent Paint			X							6.34								Right Edge Lines (Includes Returns)	
R-57 (So.)	1280+60.00	1283+50.11	SB	Waterborne/Solvent Paint			X			2.90												Centerline (Dashed)	
R-57 (So.)	1280+60.00	1283+50.11	NB	Waterborne/Solvent Paint			X						2.90									Centerline (Solid)	
R-57 (No.)	1384+10.19		NB	Waterborne/Solvent Paint			X								0.86							Stop Line	
R-57 (No.)	1384+10.19	1384+19.41	NB	Waterborne/Solvent Paint			X									0.50						Curb of Stop Island	
R-57 (No.)	1384+08.94	1386+06.00	BOTH	Waterborne/Solvent Paint			X							4.93								Right Edge Line (Includes Returns)	
R-57 (No.)	1384+10.19	1386+06.00	SB	Waterborne/Solvent Paint			X			1.96												Centerline (Dashed)	
R-57 (No.)	1384+10.19	1386+06.00	NB	Waterborne/Solvent Paint			X						1.96									Centerline (Solid)	
STAGE 2D																							
Ia 92	284+48.00	301+54.00	BOTH	Waterborne/Solvent Paint			X						43.06									Channelizing (Includes Diagonals)	
Ia 92	284+48.00	289+38.00	EB	Waterborne/Solvent Paint			X						4.90									Bike Lane, Right Edge Line (Solid)	
Ia 92	284+48.00	289+38.00	EB	Waterborne/Solvent Paint			X						4.90									Bike Lane, Left Edge Line (Solid)	
Ia 92	289+38.00	291+03.48	EB	Waterborne/Solvent Paint			X															Bike Lane, Right Edge Line (Dotted)	
Ia 92	289+38.00	292+08.00	EB	Waterborne/Solvent Paint			X															Bike Lane, Left Edge Line (Dotted)	
Ia 92	284+48.00	285+98.00	EB	Waterborne/Solvent Paint			X						1.50									Left Turn Lane, Right Edge Line	

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 CHY8: Channelizing Line (Yellow) @ 2.00 SLW4: Solid Lane Line (White) @ 1.00 SLW2: Stop Line (White) @ 6.00 SPW6: Sloped Curb 6" (White) @ 3.40  
DLW4: Dotted Line (White) @ 0.33

Table with columns: Road ID, Station to Station, Dir. of Travel, Marking Type, Side (L, C, R), BCY4\*, DCY4, NPY4\*\*, BLW4, ELW4, ELY4, CHY8, SLW4, SLW2, SPW6, DLW4, STA, STA, STA, STA, STA, Remarks. Rows include various marking types like Waterborne/Solvent Paint, Removal of Removable Tape, and Channelizing lines across different stages (3A-4A).



**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

CHY8: Channelizing Line (Yellow) @ 2.00

SLW4: Solid Lane Line (White) @ 1.00

SLW2: Stop Line (White) @ 6.00

SPW6: Sloped Curb 6" (White) @ 3.40

DLW4: Dotted Line (White) @ 0.33

Road ID	Station to Station		Dir. of Travel	Location Marking Type	Side			Length by Line Type (Unfactored)																Remarks
					L	C	R	BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	CHY8	SLW4	SLW2	SPW6	DLW4						
								STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
STAGE 4B																								
Ia 92	444+04.83	451+71.73	EB	Waterborne/Solvent Paint	X					7.67										Place after Stage 4B completion				
Ia 92	452+08.26	454+19.75	EB	Waterborne/Solvent Paint	X					2.11										Place after Stage 4B completion				
Ia 92	454+58.22	455+56.13	EB	Waterborne/Solvent Paint	X					0.98										Place after Stage 4B completion				
Ia 92	455+77.28	462+10.82	EB	Waterborne/Solvent Paint	X					6.34										Place after Stage 4B completion				
Ia 92	462+37.86	464+92.00	EB	Waterborne/Solvent Paint	X					2.54										Place after Stage 4B completion				
STAGE 4C																								
Ia 92	444+04.83	451+71.73	WB	Removal of Paint	X					7.67										Remove prior to Final Paint Markings				
Ia 92	452+08.26	454+19.75	WB	Removal of Paint	X					2.11										Remove prior to Final Paint Markings				
Ia 92	454+58.22	455+56.13	WB	Removal of Paint	X					0.98										Remove prior to Final Paint Markings				
Ia 92	455+77.28	462+10.82	WB	Removal of Paint	X					6.34										Remove prior to Final Paint Markings				
Ia 92	462+37.86	464+92.00	WB	Removal of Paint	X					2.54										Remove prior to Final Paint Markings				
Ia 92	444+04.83	451+71.73	WB	Waterborne/Solvent Paint	X					7.67										Place after Stage 4C completion				
Ia 92	452+08.26	454+19.75	WB	Waterborne/Solvent Paint	X					2.11										Place after Stage 4C completion				
Ia 92	454+58.22	455+56.13	WB	Waterborne/Solvent Paint	X					0.98										Place after Stage 4C completion				
Ia 92	455+77.28	462+10.82	WB	Waterborne/Solvent Paint	X					6.34										Place after Stage 4C completion				
Ia 92	462+37.86	464+92.00	WB	Waterborne/Solvent Paint	X					2.54										Place after Stage 4C completion				
Factored Total: Waterborne/Solvent Paint								28.21	194.22	187.76	-	332.10	-	194.92	27.70	23.34	3.40	3.29	-	-	-			
Factored Total: Wet Retroreflective Removable Tape								-	11.54	-	-	7.25	-	-	-	-	-	-	-	-	-			
Factored Total: Removal of Paint								-	156.14	10.65	-	7.62	-	-	-	-	-	-	-	-	-			
Factored Total: Removal of Removable Tape								-	7.94	-	-	5.45	-	-	-	-	-	-	-	-	-			
Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based										994.93														
Bid Quantity: Wet Retroreflective Removable Tape Markings										18.79														
Bid Quantity: Pavement Markings Removed										174.41														
Incidental Removal of Removable Tape										13.39														

### PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Road Identification	Location		↑ STAW	↶ RTAW	↷ LTAW	↶↷ CSRW	↷↶ CSLW	↕ CSTW	↶↷↶ CRLW	↑ FERW	↗ LLRW	↖ RLRW	X R R RRCW	🚲 BLSW	♿ WCSW	♿ WPSB	SCHOOL SCLW	XING XNGW	STOP STPW	AHEAD AHDW	ONLY ONLW	BIKE BIKW	LANE LANW	EXIT XITW	Groove Cuts EACH	Remarks		
	Station	Side																										
STAGE 2C																												
Ia 92 at R-57	283+68.17		1		2																			1			WB Left Turn Lane (PM-522) WB Center Lane (PM-522)	
Ia 92 at R-57	283+68.17													2													WB Bike Lane WB Right Turn Lane (PM-522)	
Ia 92 at R-57	283+68.17																											
STAGE 2D																												
Ia 92 at R-57	283+73.24				2																			1			EB Left Turn Lane (PM-522) EB Center Lane (PM-522)	
Ia 92 at R-57	283+73.24		1																					2			EB Bike Lane EB Right Turn Lane (PM-522)	
Ia 92 at R-57	283+73.24																											
Ia 92 at R-57	283+73.24				2																							
STAGE 3D																												
Ia 92 at R-63	391+03.42				2																			1			EB Left Turn Lane (PM-522) EB Center Lane (PM-522)	
Ia 92 at R-63	391+03.42		1																									EB Bike Lane EB Right Turn Lane (PM-522)
Ia 92 at R-63	391+03.42													2														
Ia 92 at R-63	391+03.42																											
Ia 92 at R-63	391+03.95				2																			1			WB Left Turn Lane (PM-522) WB Center Lane (PM-522)	
Ia 92 at R-63	391+03.95		1																									WB Right Turn Lane (PM-522)
Ia 92 at R-63	391+03.95																											
Ia 92	393+70.00				1	1																						Center Lane (PM-550)
Ia 92	398+20.00				1	1																						Center Lane (PM-550)
Ia 92	402+70.00				1	1																						Center Lane (PM-550)
Ia 92	407+20.00				1	1																						Center Lane (PM-550)
Ia 92	411+70.00				1	1																						Center Lane (PM-550)
STAGE 4A																												
Ia 92	416+20.00				1	1																						Center Lane (PM-550)
Ia 92	418+50.00				1	1																						Center Lane (PM-550)
Ia 92	423+00.00				1	1																						Center Lane (PM-550)
Ia 92	427+50.00				1	1																						Center Lane (PM-550)
Ia 92	432+00.00				1	1																						Center Lane (PM-550)
Ia 92	436+50.00				1	1																						Center Lane (PM-550)
STAGE 4C																												
Ia 92	440+80.00				1	1																						Center Lane (PM-550)
Ia 92	441+80.00				1	1																						Center Lane (PM-550)
Ia 92	443+00.00				1	1																						Center Lane (PM-550)
Ia 92	444+40.00				1	1																						Center Lane (PM-550)
Ia 92	448+90.00				1	1																						Center Lane (PM-550)
Ia 92	451+30.00				1	1																						Center Lane (PM-550)
Ia 92	452+50.00				1	1																						Center Lane (PM-550)
Ia 92	453+90.00				1	1																						Center Lane (PM-550)
Ia 92	455+00.00				1	1																						Center Lane (PM-550)
Ia 92	456+20.00				1	1																						Center Lane (PM-550)
Ia 92	460+50.00				1	1																						Center Lane (PM-550)
Ia 92	461+80.00				1	1																						Center Lane (PM-550)
Ia 92	462+70.00				1	1																						Center Lane (PM-550)
Totals			4	32	32	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	4	0	0	0	0		
Bid Total			78																									



### LIST OF SUBDRAIN WORK

Refer to Standard Road Plans RF-3, RF-5, RF-14, RF-19A, RF-19B, RF-19C, RF-19E and RF-19F

\* Not a bid item

No.	Location		Type of Installation	Pipe			Aprons		Outlets		Connected Pipe Joints (RF-14)*	Trench Drain	Granular Material Blanket	Porous Backfill*	Class "A" Crushed Stone*	Remarks
	Station to Station			Concrete C.M.P., C.M.P. Coated, or Plastic	Dia.	Length	RF-3	RF-5	RF-19E	RF-19F						
1	307+40.42	307+99.32	Working Blanket													1.0 ft. Granular Working Blanket in drainageway
2	329+71.02	329+89.57	Working Blanket													1.0 ft. Granular Working Blanket in drainageway
3	332+71.85	332+94.04	Working Blanket													1.0 ft. Granular Working Blanket in drainageway
4	341+29.65	342+54.51	Working Blanket													1.0 ft. Granular Working Blanket in drainageway
5	379+47.27	380+14.69	Working Blanket													1.0 ft. Granular Working Blanket in drainageway
6	394+86.07	395+46.91	Working Blanket													1.0 ft. Granular Working Blanket in drainageway
7	436+38.29	436+57.06	Working Blanket													1.0 ft. Granular Working Blanket in drainageway
													290.0			Total

**103-6**  
04-19-11

#### EMBANKMENT WITH MOISTURE CONTROL

Moisture content shall be within the limits of minus 2 and plus 2 percentage points of Optimum Moisture Content for maximum density within the area described and listed below.

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

Proposed Subgrade Treatment will consist of:  
 STA 256+50.00 to STA 390+00.00: 6" layer of Special Backfill over Geogrid, under Pavement Design's Granular Subbase drainage layer  
 STA 390+00.00 to STA 443+18.01: 12" Modified Subbase  
 STA 443+18.01 to STA 464+92.00: 6" Modified Subbase  
 Paved Sideroads: Special Backfill

**107-31**  
04-19-11

#### PLOWING AND SHAPING

Refer to Standard Road Plan EW-101

Station to Station		D	Remarks
		FT	
264+50	281+50	5.0	
297+50	303+00	5.0	
305+00	309+50	5.0	
315+00	323+00	5.0	
331+00	339+00	5.0	
371+50	384+75	5.0	
3390+25	3390+75	5.0	SR 635

**103-7**  
08-01-08

#### SHRINKAGE DATA

Material	%	Remarks
Topsoil	40%	
Class 10	30%	
Unsuitable	30%	
Boulder Estimate		200 CY

**104-9**  
10-15-13

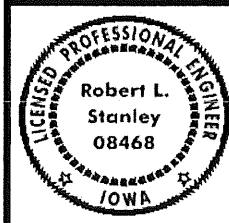
#### LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

① Refer to EW-203, EW-204, or EW-211.  
\*Not a bid item

Line No.	Road or Lane Ident.	Location		Side	Longitudinal Subdrain (RF-19C)						Subdrain Outlet			Porous* Backfill	Class "A" Crushed Stone	Remarks
		Station to Station	Station to Station		Shoulder		Backslope		Bridge Berm ①		RF-19C, RF-19E, or RF-19F					
					IN	FT	IN	FT	IN	Type	Length	Station	IN			
1	IA 92	256+50.00	260+00.00	RT	42.0	4.0	390.0					256+50.00	6.0	RF-19E	36.1	
2	IA 92	260+00.00	265+00.00	RT	42.0	4.0	540.0					260+00.00	6.0	RF-19E	50.0	0.2
3	IA 92	265+00.00	270+00.00	RT	42.0	4.0	540.0					265+00.00	6.0	RF-19E	50.0	0.2
4	IA 92	270+00.00	275+00.00	RT	42.0	4.0	540.0					270+00.00	6.0	RF-19E	50.0	0.2
5	IA 92	275+00.00	279+39.00	RT	42.0	4.0	479.0					275+00.00	6.0	RF-19E	44.4	
6	IA 92	279+39.00	283+30.00	RT	42.0	4.0	451.0					279+39.00	6.0	RF-19E	41.8	
7	IA 92	284+15.00	285+45.00	RT	42.0	4.0	190.0					283+30.00	6.0	RF-19E	17.6	OUTLET ALONG TURN RADIUS
8	IA 92	285+45.00	289+00.00	RT	42.0	4.0	395.0					284+15.00	6.0	RF-19E	36.6	OUTLET ALONG TURN RADIUS
9	IA 92	289+00.00	292+00.00	RT	42.0	4.0	340.0					285+45.00	6.0	RF-19E	31.5	
10	IA 92	292+00.00	295+00.00	RT	42.0	4.0	340.0					289+00.00	6.0	RF-19E	31.5	
11	IA 92	295+00.00	300+00.00	RT	42.0	4.0	540.0					292+00.00	6.0	RF-19E	50.0	
12	IA 92	300+00.00	305+00.00	RT	42.0	4.0	540.0					295+00.00	6.0	RF-19E	50.0	
13	IA 92	305+00.00	311+25.00	RT	42.0	4.0	665.0					300+00.00	6.0	RF-19E	61.6	
14	IA 92	311+25.00	315+00.00	RT	42.0	4.0	415.0					305+00.00	6.0	RF-19E	38.4	
												311+25.00	6.0	RF-19E		
												315+00.00	6.0	RF-19E		

#### GEOTECHNICAL 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: *Robert Stanley* Date: 7-2-14

Printed or Typed Name: Robert L. Stanley  
My license renewal date is December 31, 2014

Pages or sheets covered by this seal: CS.1-CS.5, Q.1-Q.32

### LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

① Refer to EW-203, EW-204, or EW-211.  
\*Not a bid item

Line No.	Road or Lane Ident.	Location		Side	Longitudinal Subdrain (RF-19C)							Subdrain Outlet			Porous* Backfill CY	Class "A"* Crushed Stone CY	Remarks	
		Station to Station			Shoulder		Backslope		Bridge Berm ①			RF-19C, RF-19E, or RF-19F						
		IN	FT		IN	FT	IN	Type	Length FT	Station	IN	Standard Road Plan and Type						
15	IA 92	315+00.00	320+00.00	RT	42.0	4.0	540.0						315+00.00	6.0	RF-19E	50.0		
16	IA 92	320+00.00	325+00.00	RT	42.0	4.0	540.0						320+00.00	6.0	RF-19E	50.0	0.2	
17	IA 92	325+00.00	329+00.00	RT	42.0	4.0	440.0						325+00.00	6.0	RF-19E	40.7	0.2	
18	IA 92	329+00.00	331+75.00	RT	42.0	4.0	315.0						329+00.00	6.0	RF-19E	29.2	0.2	
19	IA 92	331+75.00	335+00.00	RT	42.0	4.0	365.0						331+75.00	6.0	RF-19E	33.8	0.2	
20	IA 92	335+00.00	340+00.00	RT	42.0	4.0	540.0						335+00.00	6.0	RF-19E	50.0	0.2	
21	IA 92	340+00.00	345+00.00	RT	42.0	4.0	540.0						340+00.00	6.0	RF-19E	50.0	0.2	
22	IA 92	345+00.00	350+50.00	RT	42.0	4.0	590.0						345+00.00	6.0	RF-19E	54.6	0.2	
23	IA 92	350+50.00	356+75.00	RT	42.0	4.0	665.0						350+50.00	6.0	RF-19E	61.6	0.2	
24	IA 92	356+75.00	361+00.00	RT	42.0	4.0	465.0						356+75.00	6.0	RF-19E	43.1	0.2	
25	IA 92	361+00.00	365+00.00	RT	42.0	4.0	440.0						361+00.00	6.0	RF-19E	40.7	0.2	
26	IA 92	365+00.00	370+00.00	RT	42.0	4.0	540.0						365+00.00	6.0	RF-19E	50.0	0.2	
27	IA 92	370+00.00	375+00.00	RT	42.0	4.0	540.0						370+00.00	6.0	RF-19E	50.0	0.2	
28	IA 92	375+00.00	380+00.00	RT	42.0	4.0	540.0						375+00.00	6.0	RF-19E	50.0	0.2	
29	IA 92	380+00.00	386+70.00	RT	42.0	4.0	710.0						380+00.00	6.0	RF-19E	65.7	0.2	
30	IA 92	386+70.00	390+55.00	RT	42.0	4.0	445.0						386+70.00	6.0	RF-19E	41.2	0.2	
31	IA 92	391+36.00	393+50.00	RT	24.0	4.0	256.0						391+36.00	6.0	RF-19E	11.9	0.1	OUTLET ALONG TURN RADIUS
32	IA 92	393+50.00	393+89.83	RT	24.0	4.0	43.8						393+50.00	6.0	RF-19C	2.0	0.0	INTAKE 104
33	IA 92	393+89.83	394+30.00	RT	24.0	4.0	44.2						393+89.83	6.0	RF-19C	2.0	0.0	INTAKE 107
34	IA 92	394+30.00	395+35.95	RT	24.0	4.0	109.9						394+30.00	6.0	RF-19C	5.1	0.0	INTAKE 108
35	IA 92	395+35.95	397+00.00	RT	24.0	4.0	168.1						395+35.95	6.0	RF-19C	7.8	0.0	INTAKE 111
36	IA 92	397+00.00	399+00.00	RT	24.0	4.0	204.0						397+00.00	6.0	RF-19C	9.4	0.0	INTAKE 102
37	IA 92	399+00.00	404+50.00	RT	24.0	4.0	554.0						399+00.00	6.0	RF-19C	25.6	0.0	INTAKE 101
38	IA 92	404+50.00	407+39.00	RT	24.0	4.0	293.0						404+50.00	6.0	RF-19C	13.6	0.0	INTAKE 201
39	IA 92	407+39.00	409+50.00	RT	24.0	4.0	215.0						407+39.00	6.0	RF-19C	10.0	0.0	INTAKE 203
40	IA 92	409+50.00	411+70.00	RT	24.0	4.0	224.0						409+50.00	6.0	RF-19C	10.4	0.0	INTAKE 205
41	IA 92	411+70.00	413+85.00	RT	24.0	4.0	219.0						411+70.00	6.0	RF-19C	10.1	0.0	INTAKE 207
42	IA 92	413+85.00	415+95.00	RT	24.0	4.0	214.0						413+85.00	6.0	RF-19C	9.9	0.0	INTAKE 209
43	IA 92	415+95.00	4416+06.96	RT	24.0	4.0	240.0						415+95.00	6.0	RF-19C	11.1	0.0	INTAKE 211
44	IA 92	4416+07.00	421+00.00	RT	24.0	4.0	460.0						4416+07.00	6.0	RF-19C	21.3	0.0	INTAKE 216
45	IA 92	421+00.00	422+61.70	RT	24.0	4.0	165.7						421+00.00	6.0	RF-19C	7.7	0.0	INTAKE 213
46	IA 92	422+61.70	425+30.00	RT	24.0	4.0	272.3						422+61.70	6.0	RF-19C	12.6	0.0	INTAKE 301
47	IA 92	425+30.00	426+35.00	RT	24.0	4.0	109.0						425+30.00	6.0	RF-19C	5.0	0.0	INTAKE 303
48	IA 92	426+35.00	426+67.15	RT	24.0	4.0	36.2						426+35.00	6.0	RF-19C	1.7	0.0	INTAKE 305
49	IA 92	426+67.15	427+00.00	RT	24.0	4.0	36.8						426+67.15	6.0	RF-19C	1.7	0.0	INTAKE 307
50	IA 92	427+00.00	428+00.00	RT	24.0	4.0	104.0						427+00.00	6.0	RF-19C	4.8	0.0	INTAKE 315
51	IA 92	428+00.00	431+15.00	RT	24.0	4.0	319.0						428+00.00	6.0	RF-19C	14.8	0.0	INTAKE 313
52	IA 92	431+15.00	435+57.00	RT	24.0	4.0	446.0						431+15.00	6.0	RF-19C	20.6	0.0	INTAKE 311
53	IA 92	435+57.00	436+00.00	RT	24.0	4.0	47.0						435+57.00	6.0	RF-19C	2.2	0.0	INTAKE 309

**LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE**

Refer to Soils Sheets

① Refer to EW-203, EW-204, or EW-211.  
\*Not a bid item

Line No.	Road or Lane Ident.	Location Station to Station		Side	Longitudinal Subdrain (RF-19C)						Subdrain Outlet			Porous* Backfill CY	Class "A"* Crushed Stone CY	Remarks		
					Depth $\text{\textcircled{D}}$ IN	Shoulder		Backslope		Bridge Berm ①		RF-19C, RF-19E, or RF-19F						
						Size IN	Length FT	Size IN	Length FT	Size IN	Type	Length FT	Station				Size IN	Standard Road Plan and Type
54	IA 92	436+00.00	436+45.00	RT	24.0	4.0	49.0						436+00.00	6.0	RF-19C	2.3	0.0	INTAKE 403
													436+00.00	6.0	RF-19C			INTAKE 403
													436+45.00	6.0	RF-19C			INTAKE 413
55	IA 92	436+45.00	437+72.04	RT	24.0	4.0	131.0						436+45.00	6.0	RF-19C	6.1	0.0	INTAKE 413
													437+72.04	6.0	RF-19C			INTAKE 412
56	IA 92	437+72.04	439+20.00	RT	24.0	4.0	152.0						437+72.04	6.0	RF-19C	7.0	0.0	INTAKE 412
													439+20.00	6.0	RF-19C			INTAKE 411
57	IA 92	439+20.00	441+02.00	RT	24.0	4.0	186.0						439+20.00	6.0	RF-19C	8.6	0.0	INTAKE 411
													441+02.00	6.0	RF-19C			INTAKE 409
58	IA 92	441+02.00	442+62.95	RT	24.0	4.0	164.9						441+02.00	6.0	RF-19C	7.6	0.0	INTAKE 409
													442+62.95	6.0	RF-19C			INTAKE 407
59	IA 92	442+62.95	444+30.00	RT	24.0	4.0	171.1						442+62.95	6.0	RF-19C	7.9	0.0	INTAKE 407
													444+30.00	6.0	RF-19C			INTAKE 501
60	IA 92	444+30.00	445+80.00	RT	24.0	4.0	154.0						444+30.00	6.0	RF-19C	7.1	0.0	INTAKE 501
													445+80.00	6.0	RF-19C			INTAKE 610
61	IA 92	445+80.00	447+20.00	RT	24.0	4.0	144.0						445+80.00	6.0	RF-19C	6.7	0.0	INTAKE 610
													447+20.00	6.0	RF-19C			INTAKE 615
62	IA 92	447+20.00	448+95.00	RT	24.0	4.0	179.0						447+20.00	6.0	RF-19C	8.3	0.0	INTAKE 615
													448+95.00	6.0	RF-19C			INTAKE 620
63	IA 92	448+95.00	450+30.00	RT	24.0	4.0	139.0						448+95.00	6.0	RF-19C	6.4	0.0	INTAKE 620
													450+30.00	6.0	RF-19C			INTAKE 625
64	IA 92	450+30.00	451+70.00	RT	24.0	4.0	144.0						450+30.00	6.0	RF-19C	6.7	0.0	INTAKE 625
													451+70.00	6.0	RF-19C			INTAKE 630
65	IA 92	451+70.00	453+77.00	RT	24.0	4.0	211.0						451+70.00	6.0	RF-19C	9.8	0.0	INTAKE 630
													453+77.00	6.0	RF-19C			INTAKE 635
66	IA 92	453+77.00	456+25.00	RT	24.0	4.0	252.0						453+77.00	6.0	RF-19C	11.7	0.0	INTAKE 635
													456+25.00	6.0	RF-19C			INTAKE 640
67	IA 92	456+25.00	458+40.00	RT	24.0	4.0	219.0						456+25.00	6.0	RF-19C	10.1	0.0	INTAKE 640
													458+40.00	6.0	RF-19C			INTAKE 645
68	IA 92	458+40.00	459+75.00	RT	24.0	4.0	139.0						458+40.00	6.0	RF-19C	6.4	0.0	INTAKE 645
													459+75.00	6.0	RF-19C			INTAKE 650
69	IA 92	459+75.00	461+00.00	RT	24.0	4.0	129.0						459+75.00	6.0	RF-19C	6.0	0.0	INTAKE 650
													461+00.00	6.0	RF-19C			INTAKE 655
70	IA 92	461+00.00	461+75.00	RT	24.0	4.0	79.0						461+00.00	6.0	RF-19C	3.7	0.0	INTAKE 655
													461+75.00	6.0	RF-19C			INTAKE 760
71	IA 92	461+75.00	463+90.00	RT	24.0	4.0	219.0						461+75.00	6.0	RF-19C	10.1	0.0	INTAKE 760
													463+90.00	6.0	RF-19C			INTAKE 770
72	IA 92	463+90.00	464+95.00	RT	24.0	4.0	109.0						463+90.00	6.0	RF-19C	5.0	0.0	INTAKE 770
													464+95.00	6.0	RF-19C			INTAKE 775
73	IA 92	256+50.00	260+00.00	LT	42.0	4.0	390.0						256+50.00	6.0	RF-19E	36.1	0.2	
													260+00.00	6.0	RF-19E			
74	IA 92	260+00.00	265+00.00	LT	42.0	4.0	540.0						260+00.00	6.0	RF-19E	50.0	0.2	
													265+00.00	6.0	RF-19E			
75	IA 92	265+00.00	270+00.00	LT	42.0	4.0	540.0						265+00.00	6.0	RF-19E	50.0	0.2	
													270+00.00	6.0	RF-19E			
76	IA 92	270+00.00	275+00.00	LT	42.0	4.0	540.0						270+00.00	6.0	RF-19E	50.0	0.2	
													275+00.00	6.0	RF-19E			
77	IA 92	275+00.00	279+00.00	LT	42.0	4.0	440.0						275+00.00	6.0	RF-19E	40.7	0.2	
													279+00.00	6.0	RF-19E			
78	IA 92	279+00.00	281+91.00	LT	42.0	4.0	331.0						279+00.00	6.0	RF-19E	30.6	0.2	
													281+91.00	6.0	RF-19E			
79	IA 92	281+91.00	283+25.00	LT	42.0	4.0	194.0						281+91.00	6.0	RF-19E	18.0	0.2	
													283+25.00	6.0	RF-19E			
80	IA 92	284+20.00	288+00.00	LT	42.0	4.0	440.0						284+20.00	6.0	RF-19E	40.7	0.2	OUTLET ALONG TURN RADIUS
													288+00.00	6.0	RF-19E			OUTLET ALONG TURN RADIUS
81	IA 92	288+00.00	292+08.00	LT	42.0	4.0	448.0						288+00.00	6.0	RF-19E	41.5	0.2	
													292+08.00	6.0	RF-19E			
82	IA 92	292+08.00	295+00.00	LT	42.0	4.0	332.0						292+08.00	6.0	RF-19E	30.7	0.2	
													295+00.00	6.0	RF-19E			
83	IA 92	295+00.00	300+00.00	LT	42.0	4.0	540.0						295+00.00	6.0	RF-19E	50.0	0.2	
													300+00.00	6.0	RF-19E			
84	IA 92	300+00.00	305+00.00	LT	42.0	4.0	540.0						300+00.00	6.0	RF-19E	50.0	0.2	
													305+00.00	6.0	RF-19E			
85	IA 92	305+00.00	311+25.00	LT	42.0	4.0	665.0						305+00.00	6.0	RF-19E	61.6	0.2	
													311+25.00	6.0	RF-19E			
86	IA 92	311+25.00	315+00.00	LT	42.0	4.0	415.0						311+25.00	6.0	RF-19E	38.4	0.2	
													315+00.00	6.0	RF-19E			
87	IA 92	315+00.00	320+00.00	LT	42.0	4.0	540.0						315+00.00	6.0	RF-19E	50.0	0.2	
													320+00.00	6.0	RF-19E			
88	IA 92	320+00.00	325+00.00	LT	42.0	4.0	540.0						320+00.00	6.0	RF-19E	50.0	0.2	
													325+00.00	6.0	RF-19E			
89	IA 92	325+00.00	329+00.00	LT	42.0	4.0	440.0						325+00.00	6.0	RF-19E	40.7	0.2	
													329+00.00	6.0	RF-19E			
90	IA 92	329+00.00	331+75.00	LT	42.0	4.0	315.0						329+00.00	6.0	RF-19E	29.2	0.2	
													331+75.00	6.0	RF-19E			
91	IA 92	331+75.00	335+00.00	LT	42.0	4.0	365.0						331+75.00	6.0	RF-19E	33.8	0.2	
													335+00.00	6.0	RF-19E			

### LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

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\*Not a bid item

Line No.	Road or Lane Ident.	Location			Longitudinal Subdrain (RF-19C)						Subdrain Outlet			Porous* Backfill CY	Class "A"* Crushed Stone CY	Remarks	
		Station to Station	Side	Depth D	Shoulder		Backslope		Bridge Berm ①		RF-19C, RF-19E, or RF-19F						
					Size	Length	Size	Length	Size	Type	Length	Station	Size				Standard Road Plan and Type
92	IA 92	335+00.00	340+00.00	LT	42.0	4.0	540.0					335+00.00	6.0	RF-19E	50.0		
93	IA 92	340+00.00	345+00.00	LT	42.0	4.0	540.0					340+00.00	6.0	RF-19E	50.0	0.2	
94	IA 92	345+00.00	350+50.00	LT	42.0	4.0	590.0					345+00.00	6.0	RF-19E	54.6	0.2	
95	IA 92	350+50.00	356+75.00	LT	42.0	4.0	665.0					350+50.00	6.0	RF-19E	61.6	0.2	
96	IA 92	356+75.00	361+00.00	LT	42.0	4.0	465.0					356+75.00	6.0	RF-19E	43.1	0.2	
97	IA 92	361+00.00	365+00.00	LT	42.0	4.0	440.0					361+00.00	6.0	RF-19E	40.7	0.2	
98	IA 92	365+00.00	370+00.00	LT	42.0	4.0	540.0					365+00.00	6.0	RF-19E	50.0	0.2	
99	IA 92	370+00.00	375+00.00	LT	42.0	4.0	540.0					370+00.00	6.0	RF-19E	50.0	0.2	
100	IA 92	375+00.00	380+00.00	LT	42.0	4.0	540.0					375+00.00	6.0	RF-19E	50.0	0.2	
101	IA 92	380+00.00	385+00.00	LT	42.0	4.0	540.0					380+00.00	6.0	RF-19E	50.0	0.2	
102	IA 92	385+00.00	389+12.00	LT	42.0	4.0	452.0					385+00.00	6.0	RF-19E	41.9	0.2	
103	IA 92	389+12.00	390+68.00	LT	42.0	4.0	216.0					389+12.00	6.0	RF-19E	20.0	0.2	OUTLET ALONG TURN RADIUS
104	IA 92	391+32.00	393+50.00	LT	24.0	4.0	260.0					391+32.00	6.0	RF-19E	12.0	0.1	OUTLET ALONG TURN RADIUS
105	IA 92	393+50.00	393+89.83	LT	24.0	4.0	43.8					393+50.00	6.0	RF-19C	2.0	0.0	INTAKE 103
106	IA 92	393+89.83	394+30.00	LT	24.0	4.0	44.2					393+89.83	6.0	RF-19C	2.0	0.0	INTAKE 106
107	IA 92	394+30.00	395+36.30	LT	24.0	4.0	110.3					394+30.00	6.0	RF-19C	5.1	0.0	INTAKE 105
108	IA 92	395+36.30	399+00.00	LT	24.0	4.0	367.7					395+36.30	6.0	RF-19C	17.0	0.0	INTAKE 110
109	IA 92	399+00.00	404+50.00	LT	24.0	4.0	554.0					399+00.00	6.0	RF-19C	25.6	0.0	INTAKE 100
110	IA 92	404+50.00	407+39.00	LT	24.0	4.0	293.0					404+50.00	6.0	RF-19C	13.6	0.0	INTAKE 200
111	IA 92	407+39.00	409+55.00	LT	24.0	4.0	220.0					407+39.00	6.0	RF-19C	10.2	0.0	INTAKE 202
112	IA 92	409+55.00	411+70.00	LT	24.0	4.0	219.0					409+55.00	6.0	RF-19C	10.1	0.0	INTAKE 204
113	IA 92	411+70.00	413+85.00	LT	24.0	4.0	219.0					411+70.00	6.0	RF-19C	10.1	0.0	INTAKE 206
114	IA 92	413+85.00	416+95.00	LT	24.0	4.0	314.0					413+85.00	6.0	RF-19C	14.5	0.0	INTAKE 208
115	IA 92	416+95.00	4418+45.06	LT	24.0	4.0	220.0					416+95.00	6.0	RF-19C	10.2	0.0	INTAKE 210
116	IA 92	4418+45.00	418+71.33	LT	24.0	4.0	140.0					4418+45.06	6.0	RF-19C	6.5	0.0	INTAKE 233
117	IA 92	418+71.33	421+00.00	LT	24.0	4.0	232.7					418+71.33	6.0	RF-19C	10.8	0.0	INTAKE 299
118	IA 92	421+00.00	423+82.00	LT	24.0	4.0	286.0					421+00.00	6.0	RF-19C	13.2	0.0	INTAKE 300
119	IA 92	423+82.00	425+30.00	LT	24.0	4.0	152.0					423+82.00	6.0	RF-19C	7.0	0.0	INTAKE 302
120	IA 92	425+30.00	426+35.00	LT	24.0	4.0	109.0					425+30.00	6.0	RF-19C	5.0	0.0	INTAKE 304
121	IA 92	426+35.00	426+67.15	LT	24.0	4.0	36.2					426+35.00	6.0	RF-19C	1.7	0.0	INTAKE 306
122	IA 92	426+67.15	427+00.00	LT	24.0	4.0	36.8					426+67.15	6.0	RF-19C	1.7	0.0	INTAKE 314
123	IA 92	427+00.00	428+00.00	LT	24.0	4.0	104.0					427+00.00	6.0	RF-19C	4.8	0.0	INTAKE 312
124	IA 92	428+00.00	431+15.00	LT	24.0	4.0	319.0					428+00.00	6.0	RF-19C	14.8	0.0	INTAKE 310
125	IA 92	431+15.00	435+57.00	LT	24.0	4.0	446.0					431+15.00	6.0	RF-19C	20.6	0.0	INTAKE 308
126	IA 92	435+57.00	436+00.00	LT	24.0	4.0	47.0					435+57.00	6.0	RF-19C	2.2	0.0	INTAKE 400
127	IA 92	436+00.00	436+45.00	LT	24.0	4.0	49.0					436+00.00	6.0	RF-19C	2.3	0.0	INTAKE 402
128	IA 92	436+45.00	437+72.00	LT	24.0	4.0	131.0					436+45.00	6.0	RF-19C	6.1	0.0	INTAKE 405
129	IA 92	437+72.00	439+20.00	LT	24.0	4.0	152.0					437+72.00	6.0	RF-19C	7.0	0.0	INTAKE 415
130	IA 92	439+20.00	441+19.00	LT	24.0	4.0	203.0					439+20.00	6.0	RF-19C	9.4	0.0	INTAKE 410

### LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

① Refer to EW-203, EW-204, or EW-211.  
\*Not a bid item

Line No.		Location Road or Lane Ident. Station to Station		Side	Longitudinal Subdrain (RF-19C)						Subdrain Outlet			Porous* Backfill CY	Class "A"* Crushed Stone CY	Remarks		
					Depth D	Shoulder		Backslope		Bridge Berm ①		RF-19C, RF-19E, or RF-19F						
						Size IN	Length FT	Size IN	Length FT	Size IN	Type	Length FT	Station				Size IN	Standard Road Plan and Type
131	IA 92	441+19.00	443+23.00	LT	24.0	4.0	208.0					441+19.00	6.0	RF-19C	9.6	0.0	INTAKE 408	
												441+19.00	6.0	RF-19C			INTAKE 408	
												443+23.00	6.0	RF-19C			INTAKE 703	
132	IA 92	443+23.00	444+50.00	LT	24.0	4.0	131.0					443+23.00	6.0	RF-19C	6.1		INTAKE 703	
												444+50.00	6.0	RF-19C			INTAKE 702	
133	IA 92	444+50.00	445+80.00	LT	24.0	4.0	134.0					444+50.00	6.0	RF-19C	6.2	0.0	INTAKE 702	
												445+80.00	6.0	RF-19C			INTAKE 701	
134	IA 92	445+80.00	447+40.00	LT	24.0	4.0	164.0					445+80.00	6.0	RF-19C	7.6		INTAKE 701	
												447+40.00	6.0	RF-19C			INTAKE 715	
135	IA 92	447+40.00	448+80.00	LT	24.0	4.0	144.0					447+40.00	6.0	RF-19C	6.7		INTAKE 715	
												448+80.00	6.0	RF-19C			INTAKE 714	
136	IA 92	448+80.00	450+30.00	LT	24.0	4.0	154.0					448+80.00	6.0	RF-19C	7.1		INTAKE 714	
												450+30.00	6.0	RF-19C			INTAKE 713	
137	IA 92	450+30.00	453+77.00	LT	24.0	4.0	351.0					450+30.00	6.0	RF-19C	16.3		INTAKE 713	
												453+77.00	6.0	RF-19C			INTAKE 753	
138	IA 92	453+77.00	455+10.00	LT	24.0	4.0	137.0					453+77.00	6.0	RF-19C	6.3		INTAKE 753	
												455+10.00	6.0	RF-19C			INTAKE 754	
139	IA 92	455+10.00	456+25.00	LT	24.0	4.0	119.0					455+10.00	6.0	RF-19C	5.5		INTAKE 754	
												456+25.00	6.0	RF-19C			INTAKE 755	
140	IA 92	456+25.00	458+40.00	LT	24.0	4.0	219.0					456+25.00	6.0	RF-19C	10.1		INTAKE 755	
												458+40.00	6.0	RF-19C			INTAKE 756	
141	IA 92	458+40.00	459+75.00	LT	24.0	4.0	139.0					458+40.00	6.0	RF-19C	6.4		INTAKE 756	
												459+75.00	6.0	RF-19C			INTAKE 757	
142	IA 92	459+75.00	461+00.00	LT	24.0	4.0	129.0					459+75.00	6.0	RF-19C	6.0		INTAKE 757	
												461+00.00	6.0	RF-19C			INTAKE 758	
143	IA 92	461+00.00	461+75.00	LT	24.0	4.0	79.0					461+00.00	6.0	RF-19C	3.7		INTAKE 758	
												461+75.00	6.0	RF-19C			INTAKE 759	
144	IA 92	461+75.00	463+90.00	LT	24.0	4.0	219.0					461+75.00	6.0	RF-19C	10.1		INTAKE 759	
												463+90.00	6.0	RF-19C			INTAKE 769	
145	IA 92	463+90.00	464+95.00	LT	24.0	4.0	109.0					463+90.00	6.0	RF-19C	5.0		INTAKE 769	
												464+95.00	6.0	RF-19C			INTAKE 768	
Totals							44699.7								290	3421.0	12.4	
NOTE: LONGITUDINAL SUBDRAINS 1 - 30 AND 73 - 103 ARE TYPE 7b WITH PCC OR TYPE 8b WITH HMA (ACC).																		
NOTE: LONGITUDINAL SUBDRAINS 31 - 72 AND 104 - 145 ARE TYPE 12.																		
NOTE: THERE ARE 124 RF-19E OUTLETS AND 166 RF-19C OUTLETS.																		



### SURVEY SYMBOLS

- TDC Tree Deciduous
- PPA Power Pole Co. 1
- FWD Wood Fence
- LUM Luminaire
- TEV Evergreen Tree
- LP L.P. Tank
- D Centerline Draw or Stream (Down)
- RET Retaining Walls
- SI Sign
- SHR Shrub
- SI Sign
- EW Edge of Water
- DIK Centerline of Dike or Dam
- FLG Flag Poles
- WM Wind Mill
- FCL Chain Link and Security Fence
- HDG Hedge Row
- TV Satellite TV Dish
- RT Radio Tower
- INB Storm Sewer Beehive Intake
- WV Water Valve
- FHD Fire Hydrants
- WEL Well
- MH Utility Access (Manhole)
- LUM Luminaire
- MIS Miscellaneous
- TPD Telephone Pedestal
- EB Electrical Box
- UB Utility Box
- PR Electric Riser Pole
- FW Wire Fence
- GP Guard Post (Less Than 4 Posts)
- IN Storm Sewer Intake
- TLN Treeline
- TVP TV Pedestal
- SEP Septic Tank
- OUT Tile Outlet
- TIL Tile Line
- UST Underground Tank
- GV Gas Valve
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- BL Topo Breakline
- RIP Rip-Rap

- St.S. STA Storm Sewer Line Co. 1
- F03 FOC Underground Fiber Optic Co. 3
- F05 FOE Underground Fiber Optic Co. 5
- F02 FOB Underground Fiber Optic Co. 2
- San. SAA Sanitary Sewer Line Co. 1
- T1 TLA Underground Telephone Line Co. 1
- E1 ELA Underground Electric Line Co. 1
- G GLA Underground Gas Line Co. 1
- TV TVA Underground TV Cable Co. 1
- W WLA Underground Water Line Co. 1
- F0 FOA Underground Fiber Optic Co. 1
- E2 ELB Underground Electric Line Co. 2
- San.2 SAB Sanitary Sewer Line Co. 2
- G2 GLB Underground Gas Line Co. 2
- F04 FOD Underground Fiber Optic Co. 4
- W2 WLB Underground Water Line Co. 2

### UTILITY LEGEND

- F0 FOA Paetac Iowa Communications Network
- F02 FOB Lightcore (Digital Teleport)
- F03 FOC Iowa Network Service
- F04 FOD Indianola Municipal Utilities
- F05 FOE MCI
- T1 TLA Qwest
- E1 ELA Mid-American
- E2 ELB Indianola Municipal Utilities
- TV TVA Mediacom
- W WLA Indianola Municipal Utilities
- W2 WLB Warren Rural Water
- San. SAA City of Indianola
- San.2 SAB Private
- G GLA Mid-American
- G2 GLB Kinder Morgan
- St.S. STA City of Indianola
- PPA Mid-American

### 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 Grade and Pave Shading
Brown, Light	(236)		Grading Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading
Green, Light	(225)		Existing Pavement 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

Section Corner

Ground Line Intercept

Saw Cut

Guardrail

#### 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

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

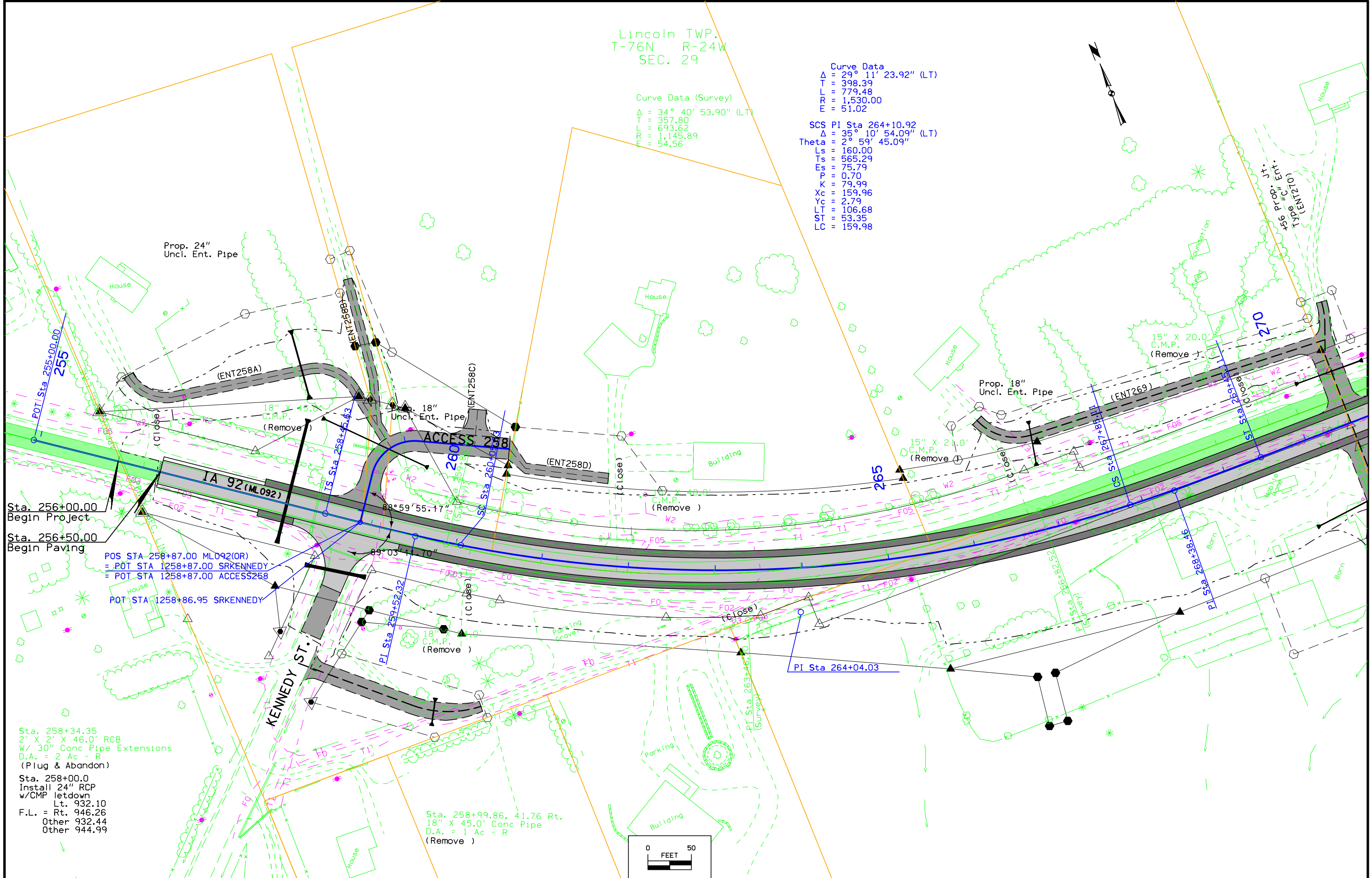
(COVERS SHEET SERIES D, E, F, & K)

Lincoln TWP.  
T-76N R-24W  
SEC. 29

Curve Data (Survey)  
 $\Delta = 34^\circ 40' 53.90''$  (LT)  
 $T = 357.80$   
 $L = 693.62$   
 $E = 1,145.89$   
 $E = 54.56$

Curve Data  
 $\Delta = 29^\circ 11' 23.92''$  (LT)  
 $T = 398.39$   
 $L = 779.48$   
 $R = 1,530.00$   
 $E = 51.02$

SCS PI Sta 264+10.92  
 $\Delta = 35^\circ 10' 54.09''$  (LT)  
 $\text{Theta} = 2^\circ 59' 45.09''$   
 $L_s = 160.00$   
 $T_s = 565.29$   
 $E_s = 75.79$   
 $P = 0.70$   
 $K = 79.99$   
 $X_c = 159.96$   
 $Y_c = 2.79$   
 $LT = 106.68$   
 $ST = 53.35$   
 $LC = 159.98$

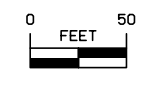


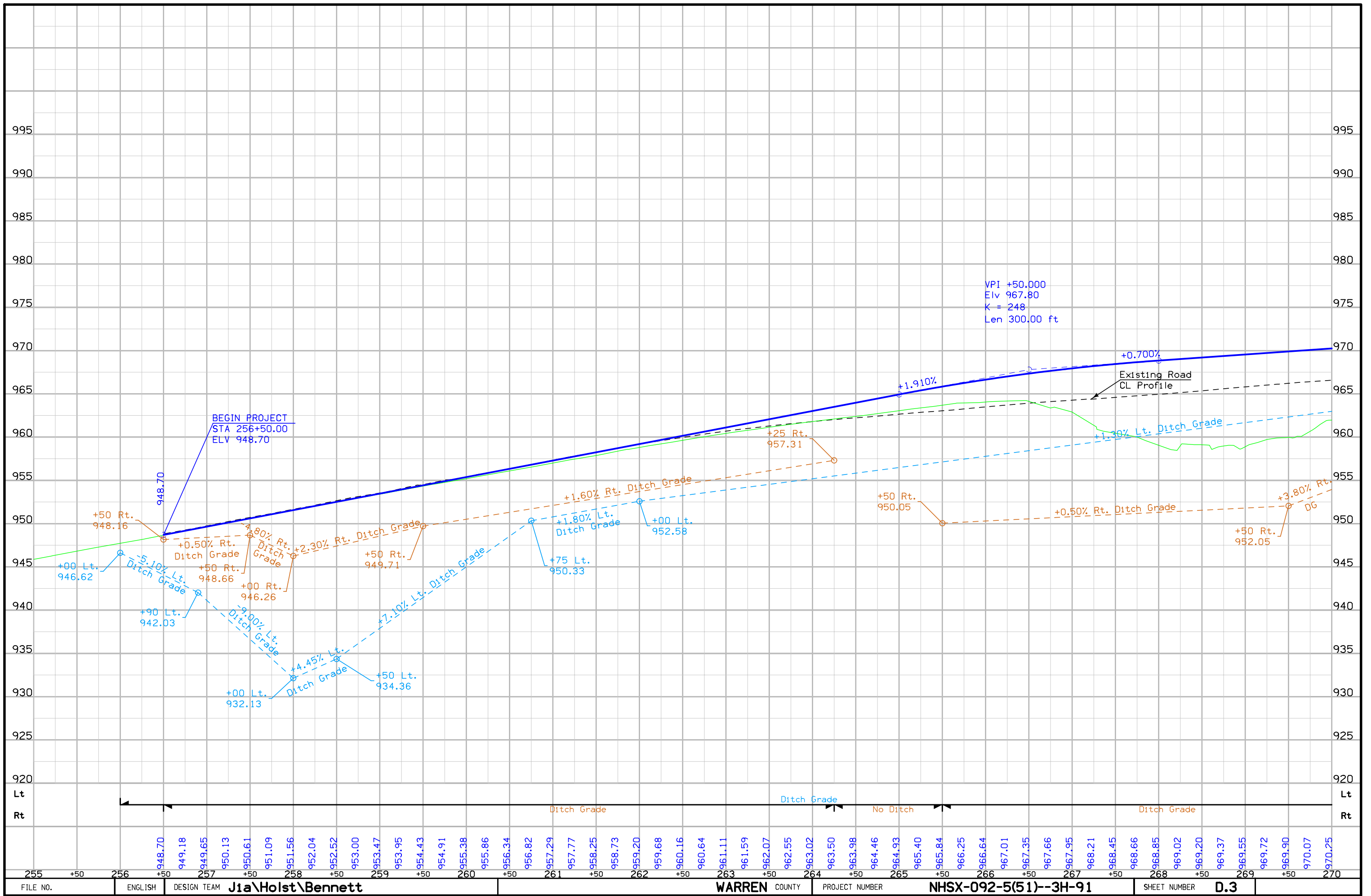
Sta. 256+00.00  
Begin Project  
 Sta. 256+50.00  
Begin Paving

POS STA 258+87.00 MLO92(OR)  
 = POT STA 1258+87.00 SRKENNEDY  
 = POT STA 1258+87.00 ACCESS258  
 POT STA 1258+86.95 SRKENNEDY

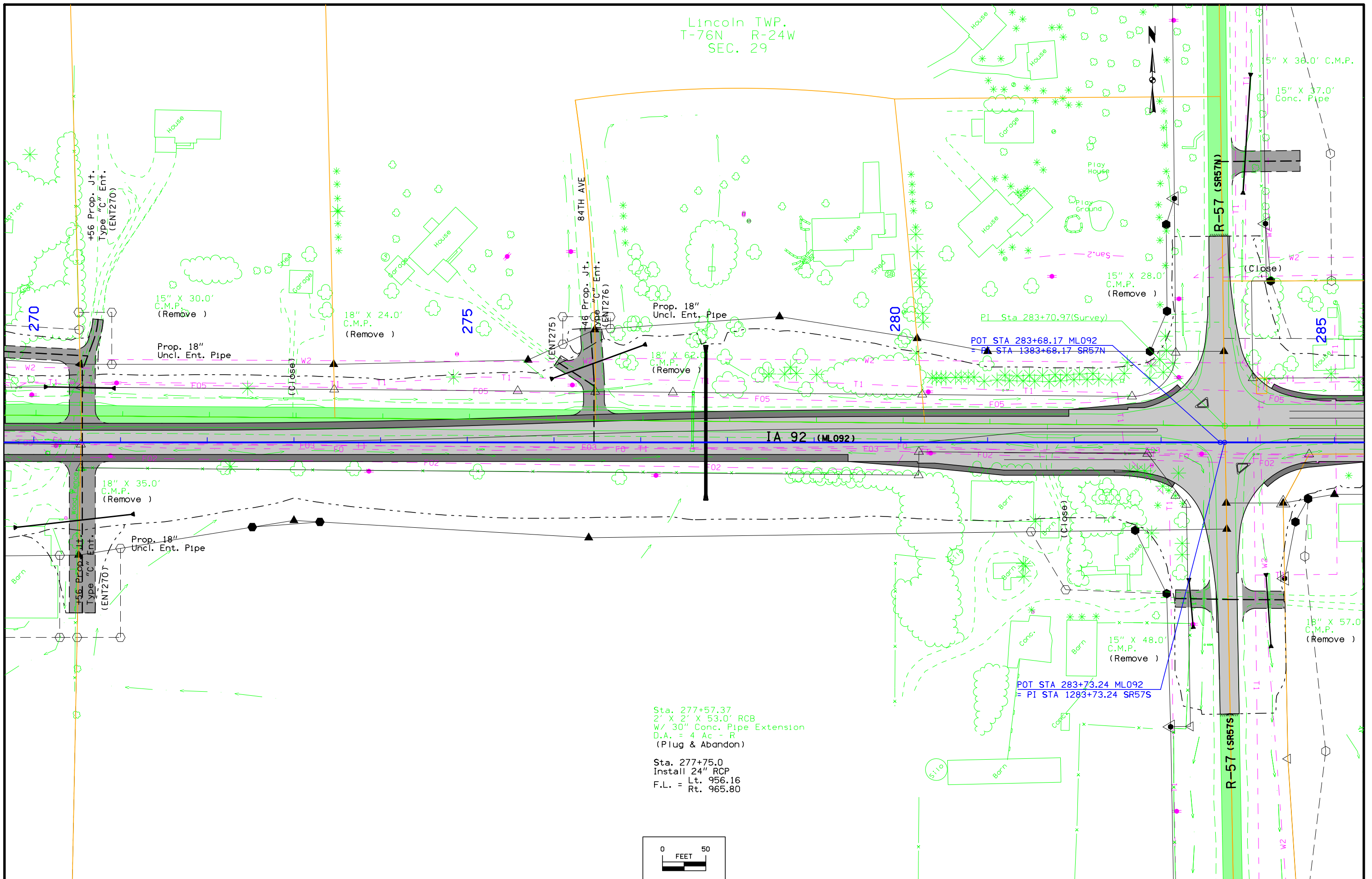
Sta. 258+34.35  
 2' X 2' X 46.0' RCB  
 w/ 30" Conc Pipe Extensions  
 D.A. = 2 Ac - R  
 (Plug & Abandon)  
 Sta. 258+00.0  
 Install 24" RCP  
 w/CMP letdown  
 Lt. 932.10  
 F.L. = Rt. 946.26  
 Other 932.44  
 Other 944.99

Sta. 258+99.86, 41.76 Rt.  
 18" X 45.0' Conc Pipe  
 D.A. = 1 Ac - R  
 (Remove )



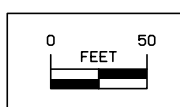


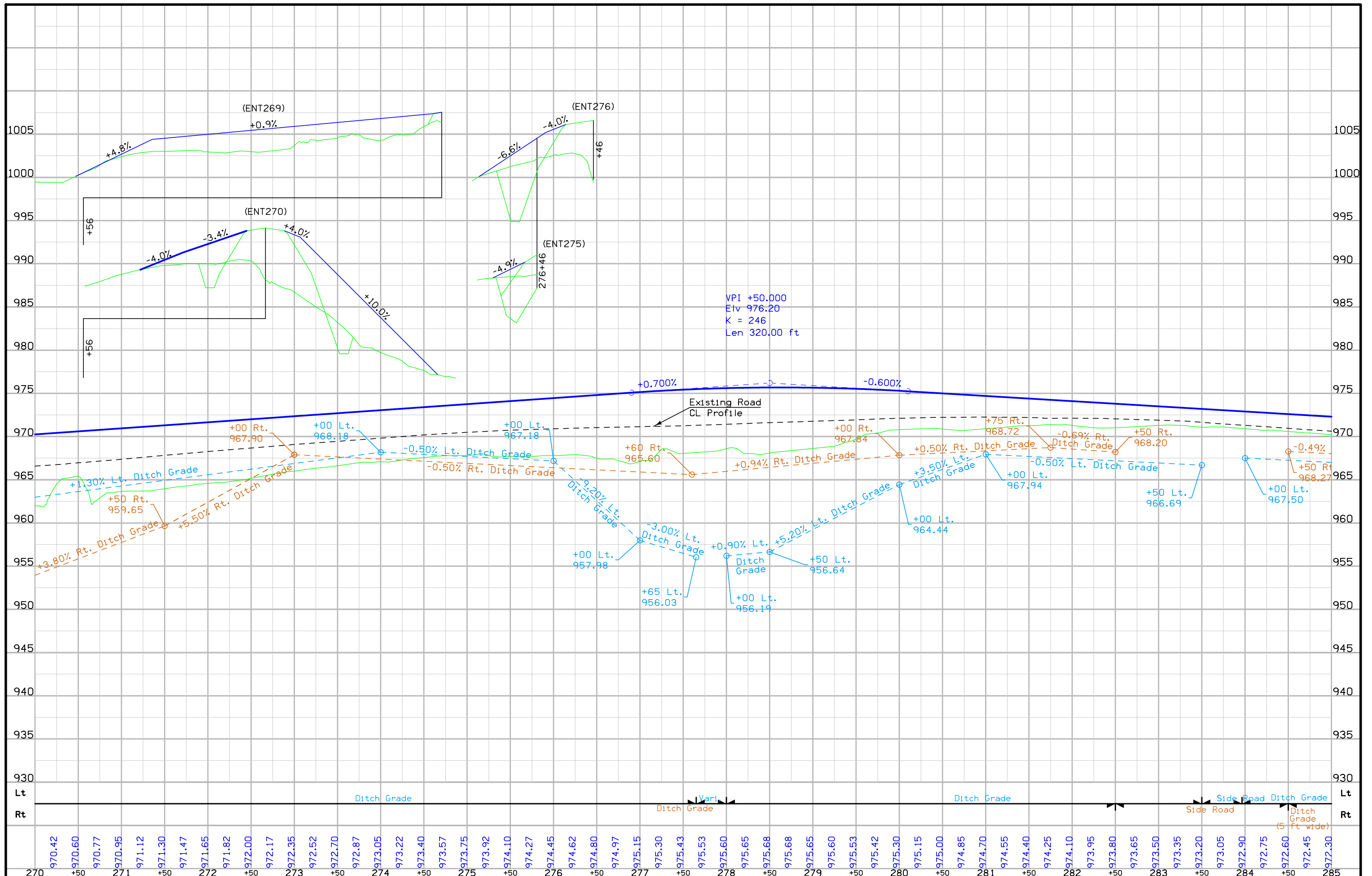
Lincoln TWP.  
T-76N R-24W  
SEC. 29



Sta. 277+57.37  
2' X 2' X 53.0' RCB  
W/ 30" Conc. Pipe Extension  
D.A. = 4 Ac - R  
(Plug & Abandon)

Sta. 277+75.0  
Install 24" RCP  
F.L. = Lt. 956.16  
Rt. 965.80



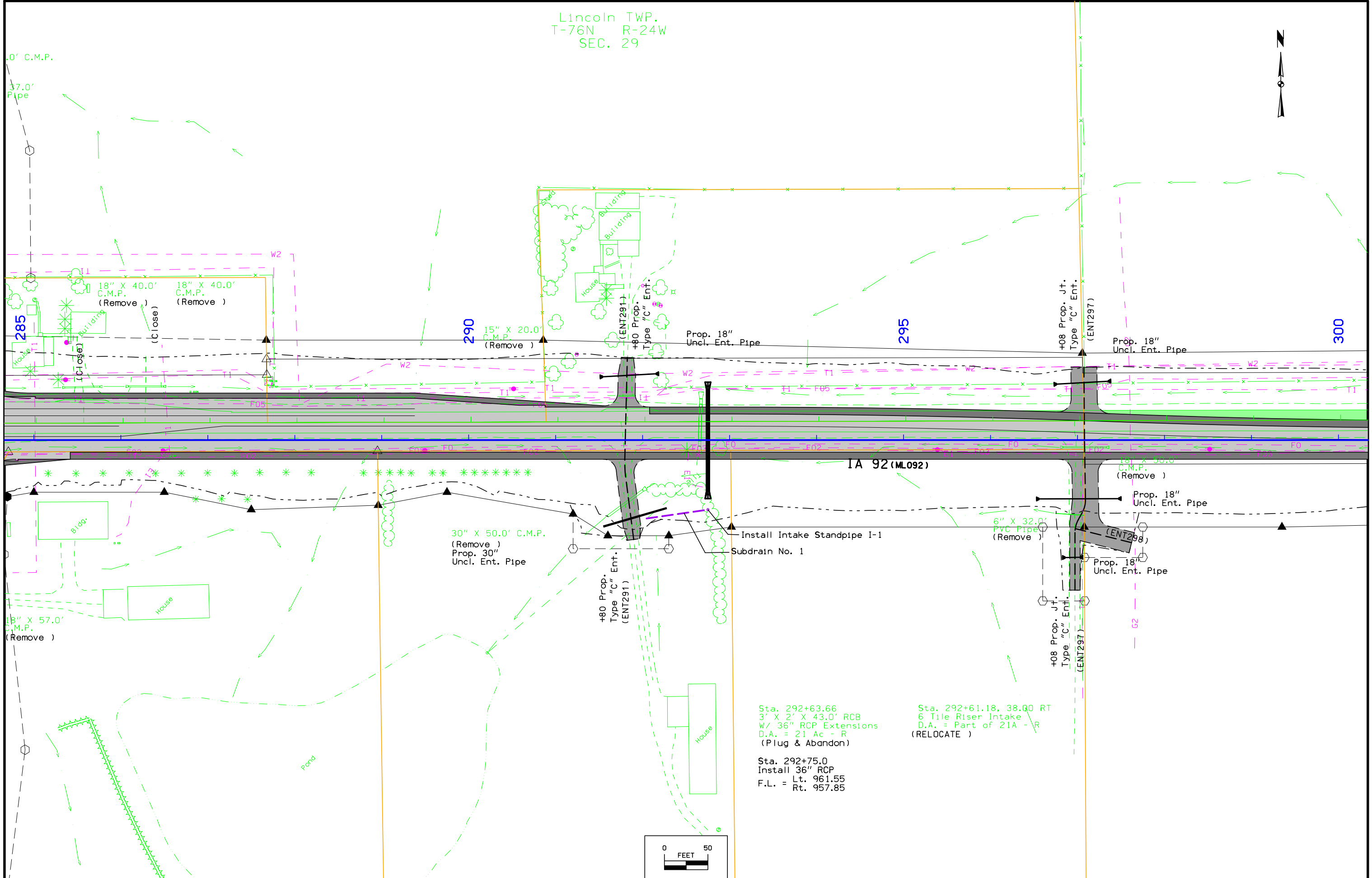


VPI +50.000  
 Elv 976.20  
 K = 246  
 Len 320.00 ft

Existing Road  
 CL Profile

FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	D.5
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Lincoln TWP.  
T-76N R-24W  
SEC. 29



37.0' Pipe

18" X 40.0' C.M.P. (Remove)  
18" X 40.0' C.M.P. (Remove)

290  
15" X 20.0' C.M.P. (Remove)

+80 Prop. Type "C" Ent. (ENT291)

Prop. 18" Uncl. Ent. Pipe

295

+08 Prop. Jt. Type "C" Ent. (ENT297)

Prop. 18" Uncl. Ent. Pipe

300

IA 92 (ML092)

30" X 50.0' C.M.P. (Remove)  
Prop. 30" Uncl. Ent. Pipe

+80 Prop. Type "C" Ent. (ENT291)

Install Intake Standpipe I-1  
Subdrain No. 1

6" X 32.0' PVC Pipe (Remove)

Prop. 18" Uncl. Ent. Pipe

(ENT298)

Prop. 18" Uncl. Ent. Pipe

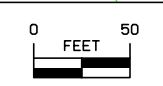
+08 Prop. Jt. Type "C" Ent. (ENT297)

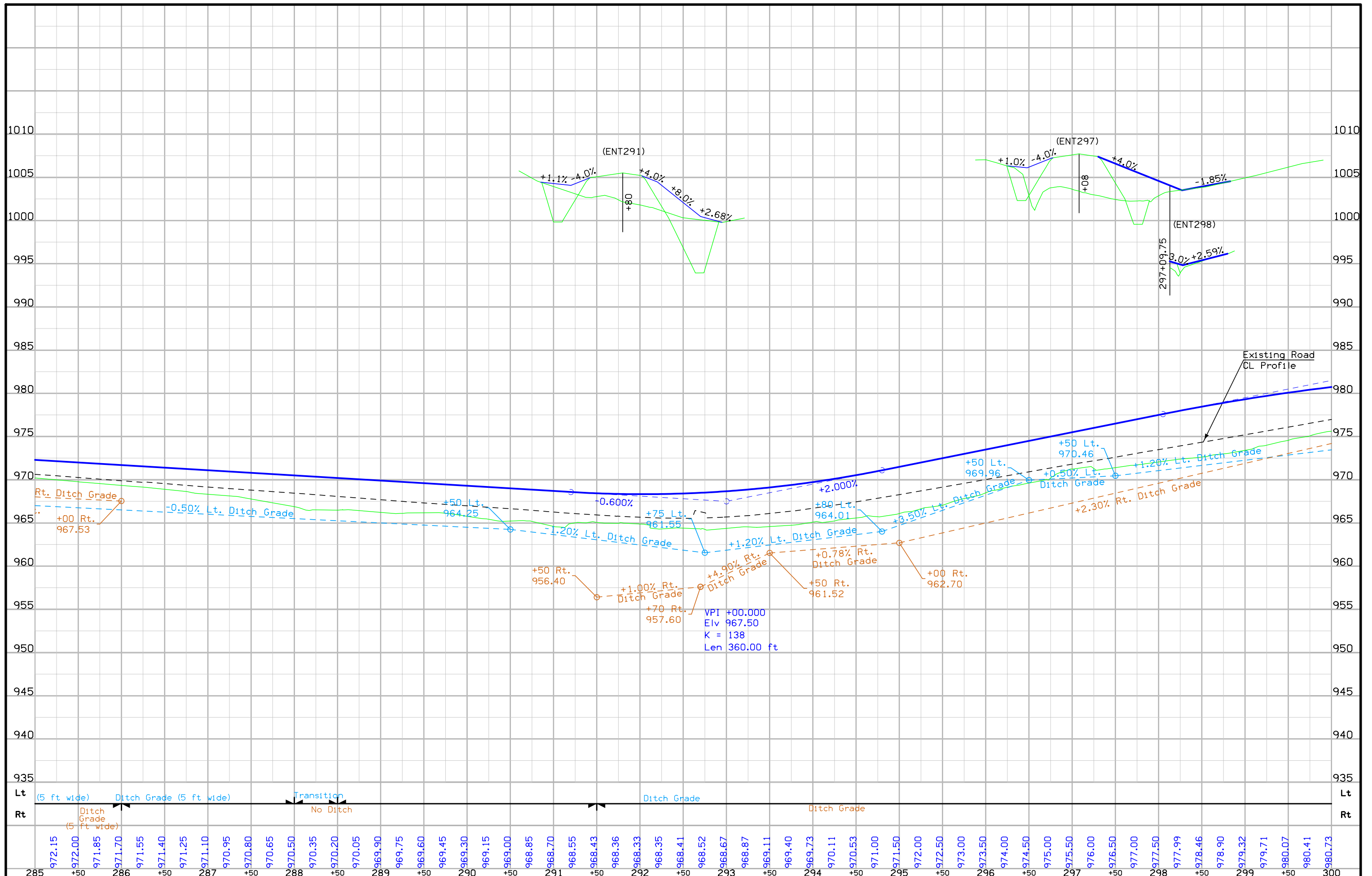
18" X 57.0' C.M.P. (Remove)

Sta. 292+63.66  
3' X 2' X 43.0' RCB  
w/ 36" RCP Extensions  
D.A. = 21 Ac - R  
(Plug & Abandon)

Sta. 292+61.18, 38.00 RT  
6 Tile Riser Intake  
D.A. = Part of 21A - R  
(RELOCATE)

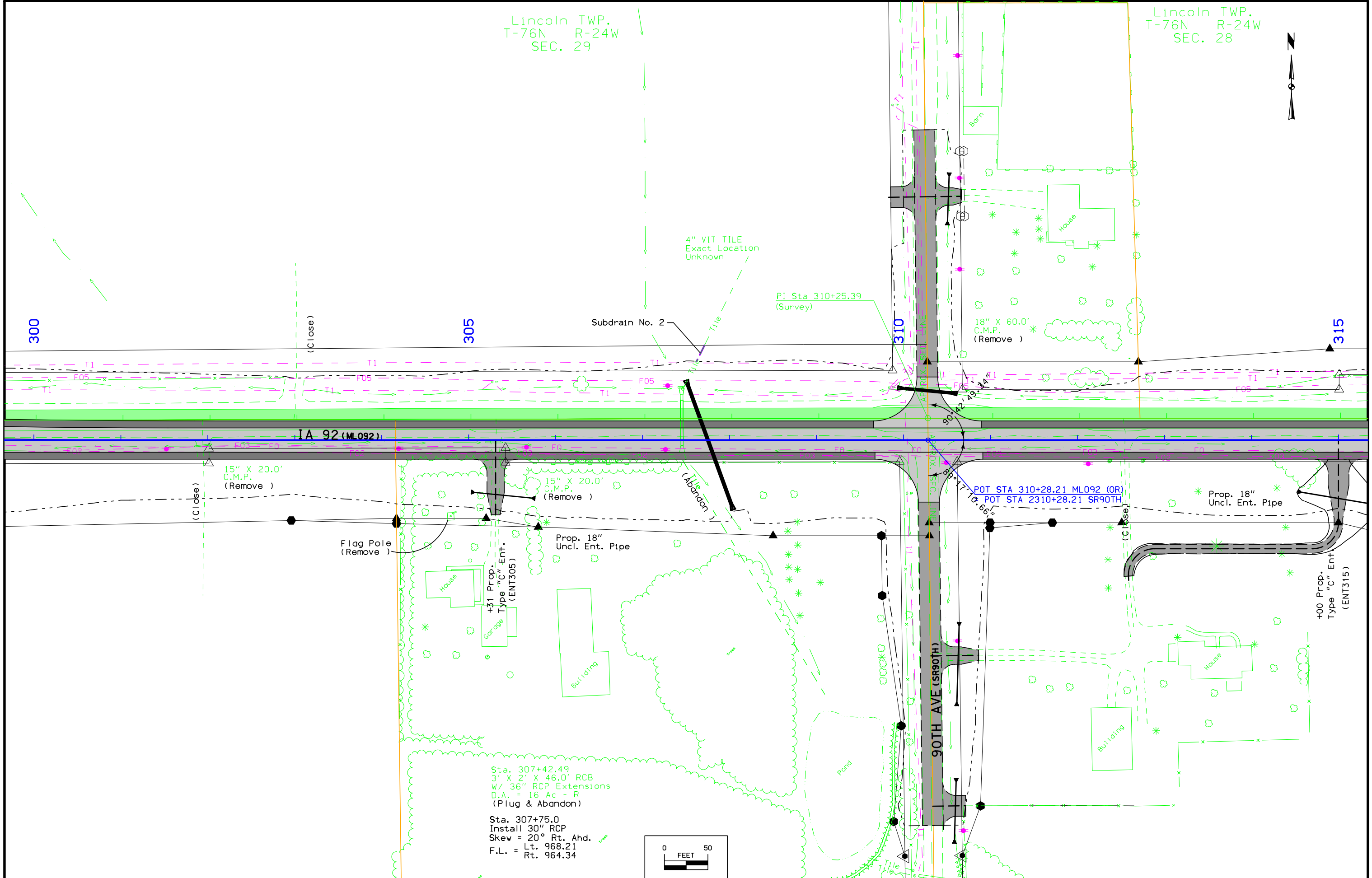
Sta. 292+75.0  
Install 36" RCP  
Lt. 961.55  
Rt. 957.85





Lincoln TWP.  
T-76N R-24W  
SEC. 29

Lincoln TWP.  
T-76N R-24W  
SEC. 28



Subdrain No. 2

PI Sta 310+25.39  
(Survey)

18" X 60.0'  
C.M.P.  
(Remove)

IA 92 (ML092)

15" X 20.0'  
C.M.P.  
(Remove)

Flag Pole  
(Remove)

Prop. 18"  
Uncl. Ent. Pipe

+31 Prop.  
Type "C" Ent.  
(ENT305)

Sta. 307+42.49  
3' X 2' X 46.0' RCB  
W/ 36" RCP Extensions  
D.A. = 16 Ac - R  
(Plug & Abandon)

Sta. 307+75.0  
Install 30" RCP  
Skew = 20° Rt. Ahd.  
F.L. = Lt. 968.21  
Rt. 964.34

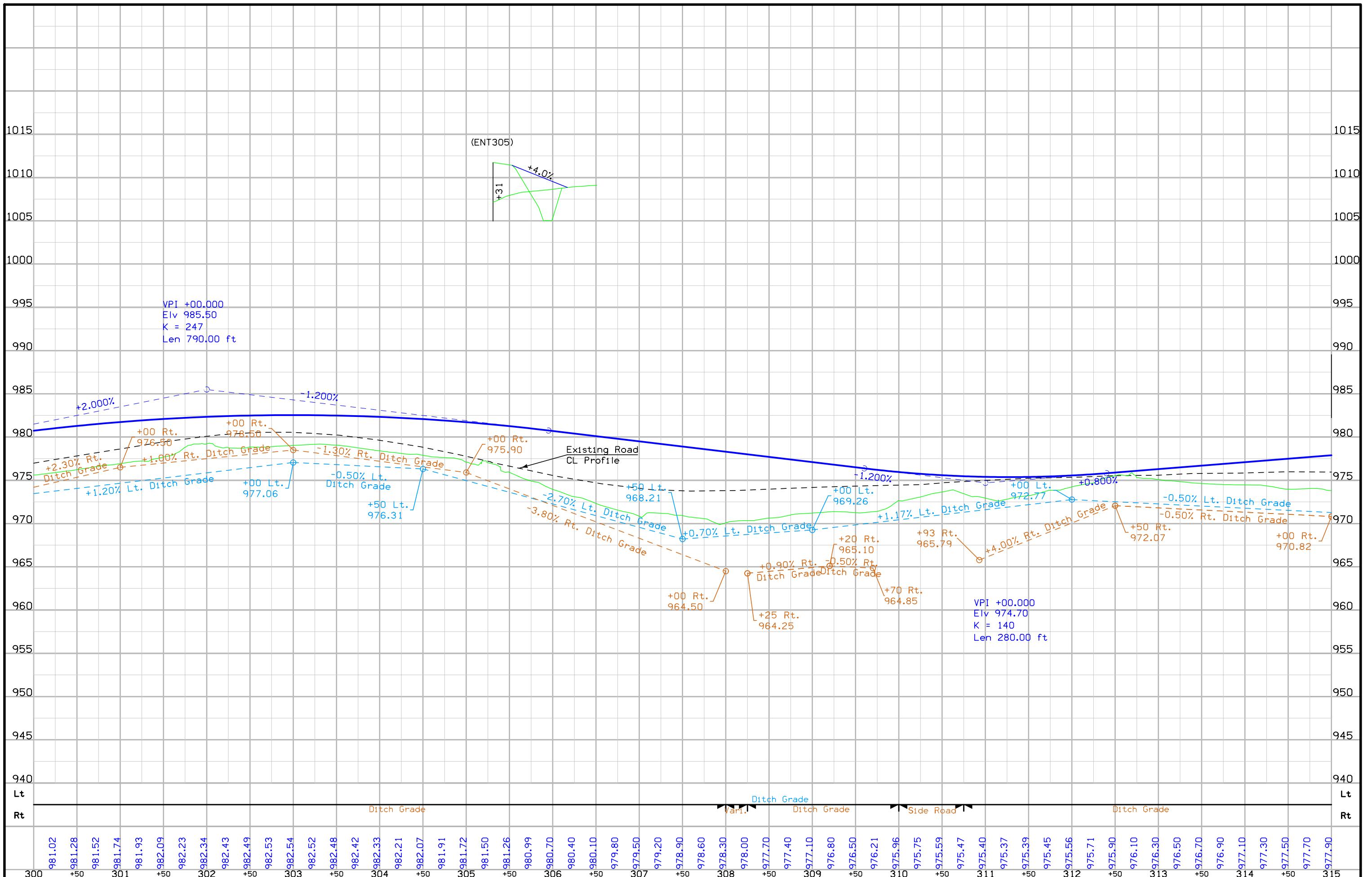


POT STA 310+28.21 ML092 (OR)  
POT STA 2310+28.21 SR90TH

Prop. 18"  
Uncl. Ent. Pipe

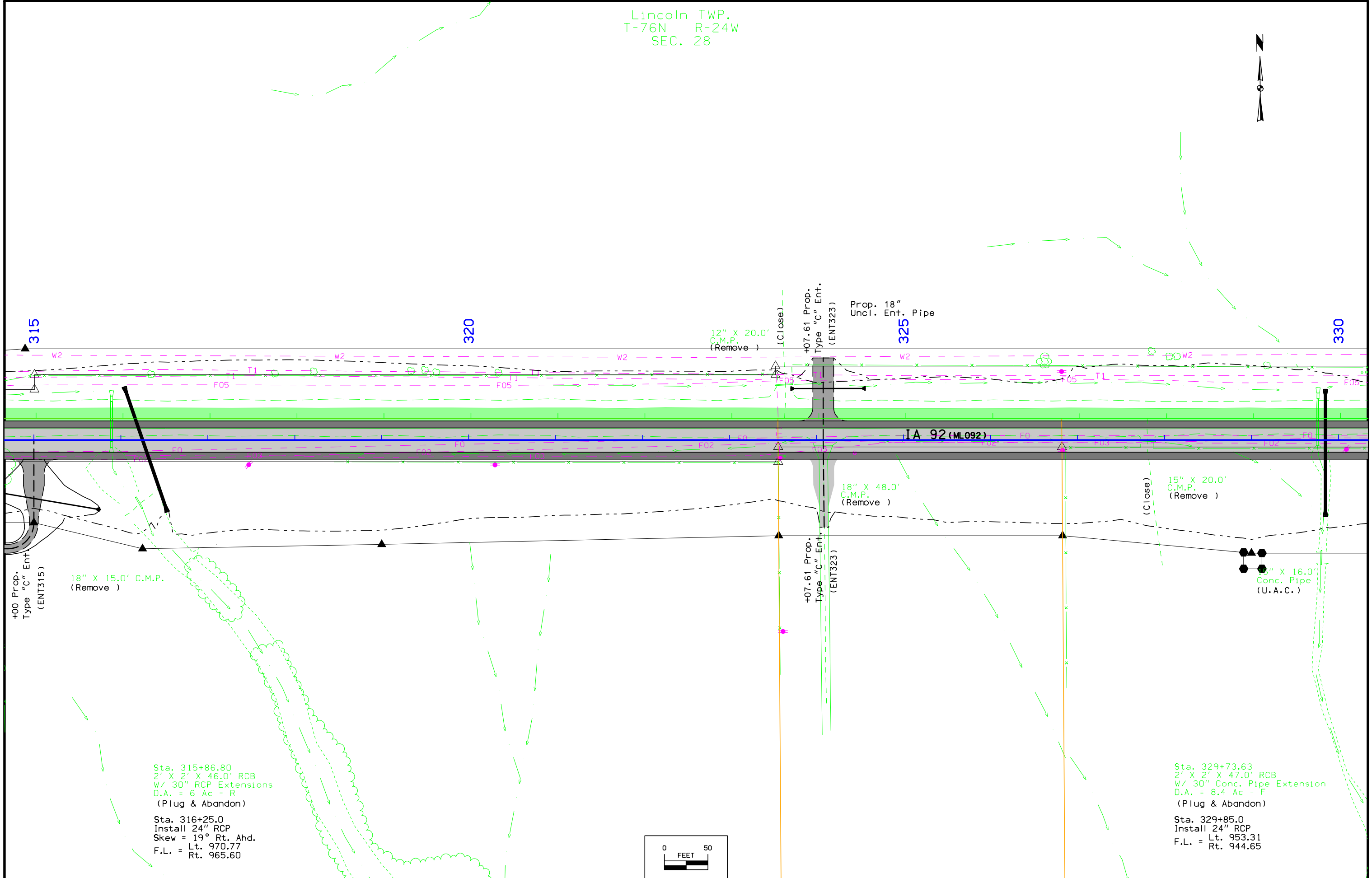
+00 Prop.  
Type "C" Ent.  
(ENT315)





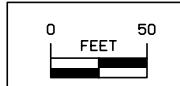
FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	D.9
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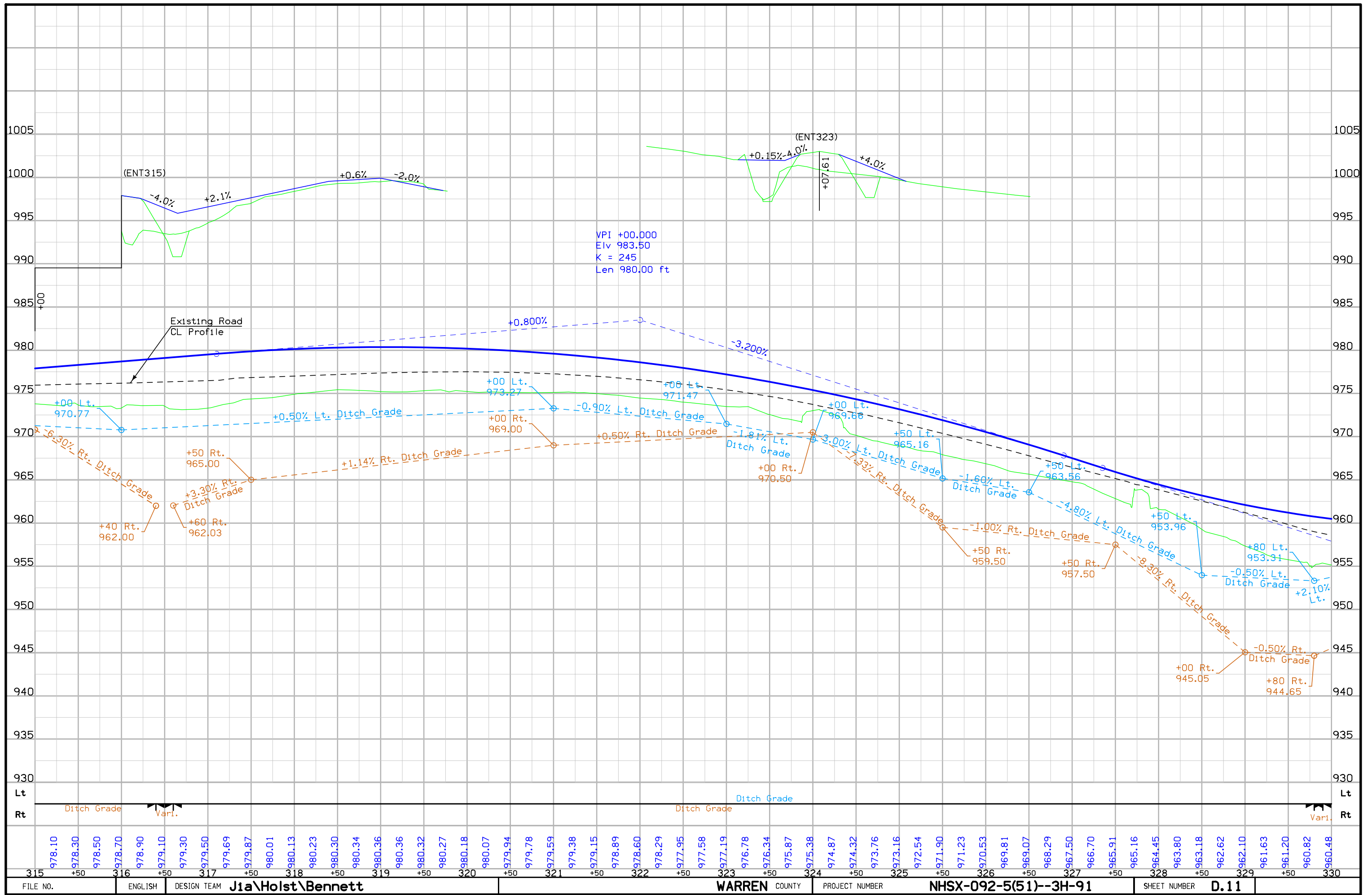
Lincoln TWP.  
T-76N R-24W  
SEC. 28



Sta. 315+86.80  
2' X 2' X 46.0' RCB  
W/ 30" RCP Extensions  
D.A. = 6 Ac - R  
(Plug & Abandon)  
Sta. 316+25.0  
Install 24" RCP  
Skew = 19° Rt. Ahd.  
Lt. 970.77  
Rt. 965.60

Sta. 329+73.63  
2' X 2' X 47.0' RCB  
W/ 30" Conc. Pipe Extension  
D.A. = 8.4 Ac - F  
(Plug & Abandon)  
Sta. 329+85.0  
Install 24" RCP  
Lt. 953.31  
Rt. 944.65



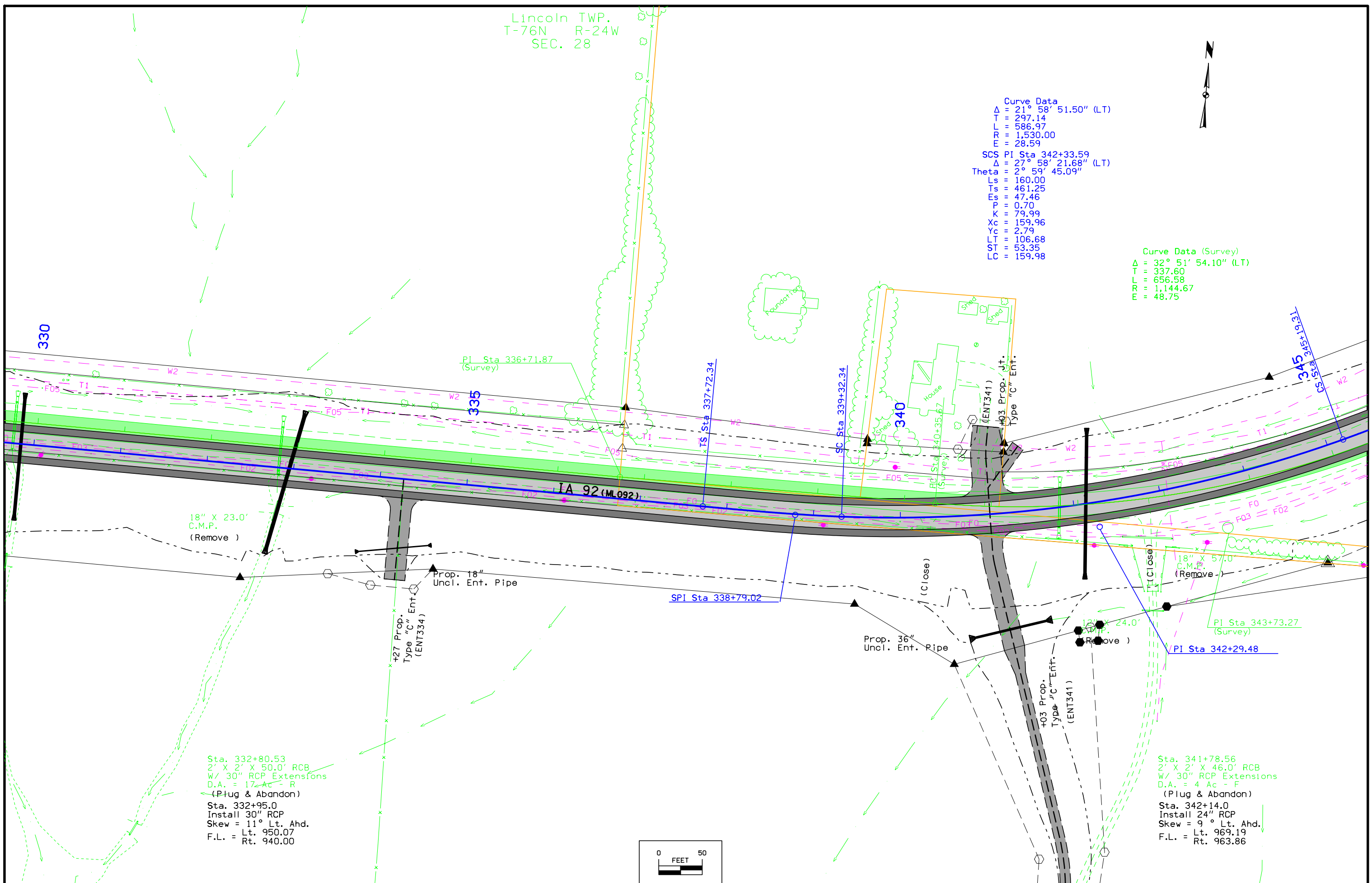


FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	D.11
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Lincoln TWP.  
T-76N R-24W  
SEC. 28

Curve Data  
 $\Delta = 21^\circ 58' 51.50''$  (LT)  
 $T = 297.14$   
 $R = 586.97$   
 $E = 1,530.00$   
 $F = 28.59$   
 SCS PI Sta 342+33.59  
 $\Delta = 27^\circ 58' 21.68''$  (LT)  
 $\theta = 2^\circ 59' 45.09''$   
 $L_s = 160.00$   
 $T_s = 461.25$   
 $E_s = 47.46$   
 $P = 0.70$   
 $K = 79.99$   
 $X_c = 159.96$   
 $Y_c = 2.79$   
 $L_T = 106.68$   
 $ST = 53.35$   
 $LC = 159.98$

Curve Data (Survey)  
 $\Delta = 32^\circ 51' 54.10''$  (LT)  
 $T = 337.60$   
 $R = 656.58$   
 $E = 1,144.67$   
 $F = 48.75$



18" X 23.0'  
C.M.P.  
(Remove)

Prop. 18"  
Uncl. Ent. Pipe

SPI Sta 338+79.02

Prop. 36"  
Uncl. Ent. Pipe

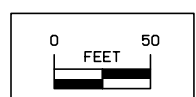
18" X 57.0'  
C.M.P.  
(Remove)

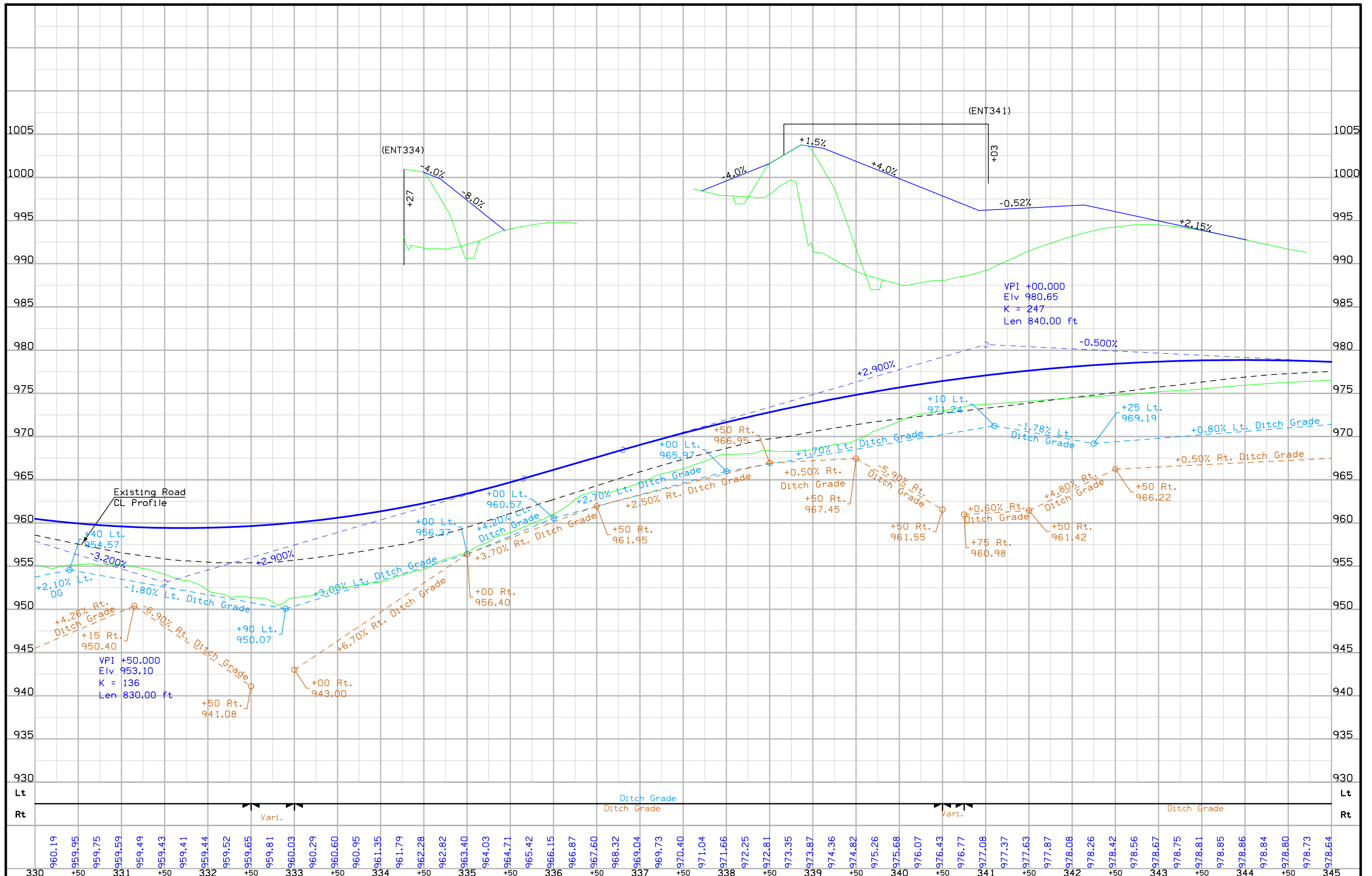
PI Sta 343+73.27  
(Survey)

PI Sta 342+29.48

Sta. 332+80.53  
2' X 2' X 50.0' RCB  
W/ 30" RCP Extensions  
D.A. = 17' Ac - R  
(Plug & Abandon)  
Sta. 332+95.0  
Install 30" RCP  
Skew = 11° Lt. Ahd.  
F.L. = Lt. 950.07  
Rt. 940.00

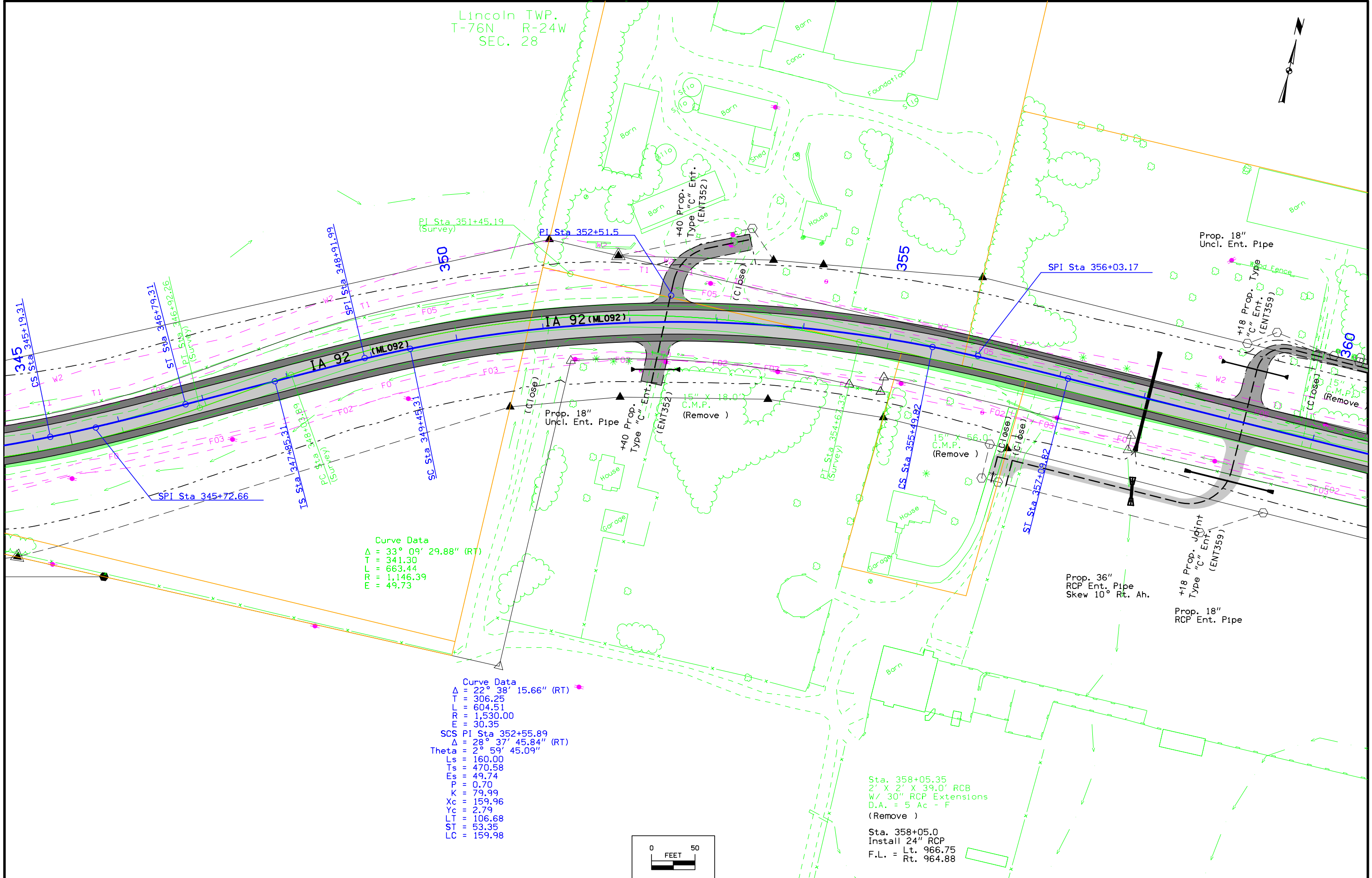
Sta. 341+78.56  
2' X 2' X 46.0' RCB  
W/ 30" RCP Extensions  
D.A. = 4' Ac - F  
(Plug & Abandon)  
Sta. 342+14.0  
Install 24" RCP  
Skew = 9° Lt. Ahd.  
F.L. = Lt. 969.19  
Rt. 963.86





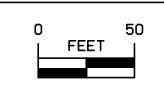
FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	D.13
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Lincoln TWP.  
T-76N R-24W  
SEC. 28

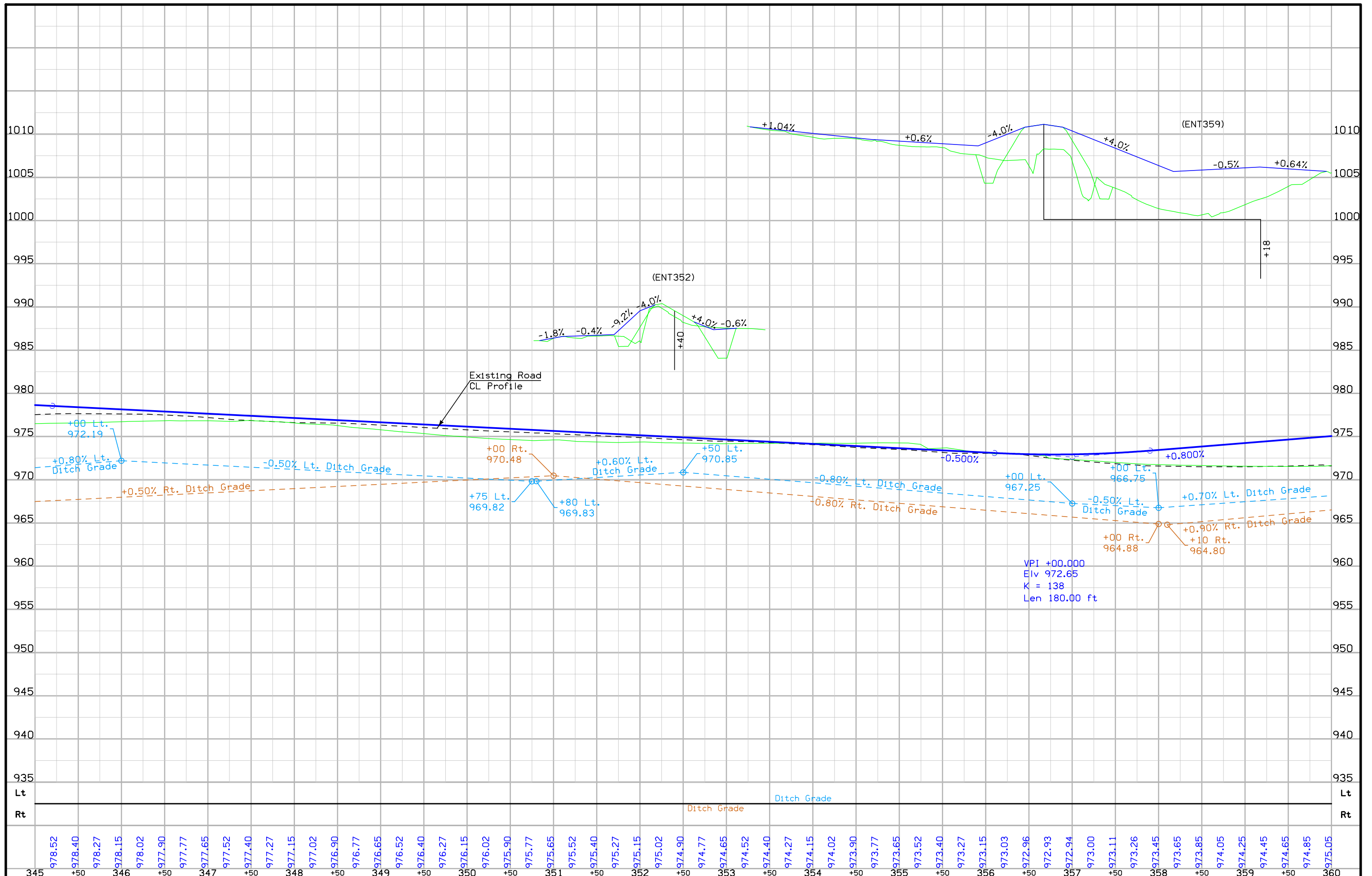


Curve Data  
 $\Delta = 33^\circ 09' 29.88''$  (RT)  
T = 341.30  
L = 663.44  
R = 1,146.39  
E = 49.73

Curve Data  
 $\Delta = 22^\circ 38' 15.66''$  (RT)  
T = 306.25  
L = 604.51  
R = 1,530.00  
E = 30.35  
SCS PI Sta 352+55.89  
 $\Delta = 28^\circ 37' 45.84''$  (RT)  
Theta =  $2^\circ 59' 45.09''$   
Ls = 160.00  
Ts = 470.58  
Es = 49.74  
P = 0.70  
K = 79.99  
Xc = 159.96  
Yc = 2.79  
LT = 106.68  
ST = 53.35  
LC = 159.98



Sta. 358+05.35  
2' X 2' X 39.0' RCB  
W/ 30" RCP Extensions  
D.A. = 5 Ac - F  
(Remove)  
Sta. 358+05.0  
Install 24" RCP  
F.L. = Lt. 966.75  
Rt. 964.88

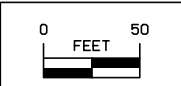
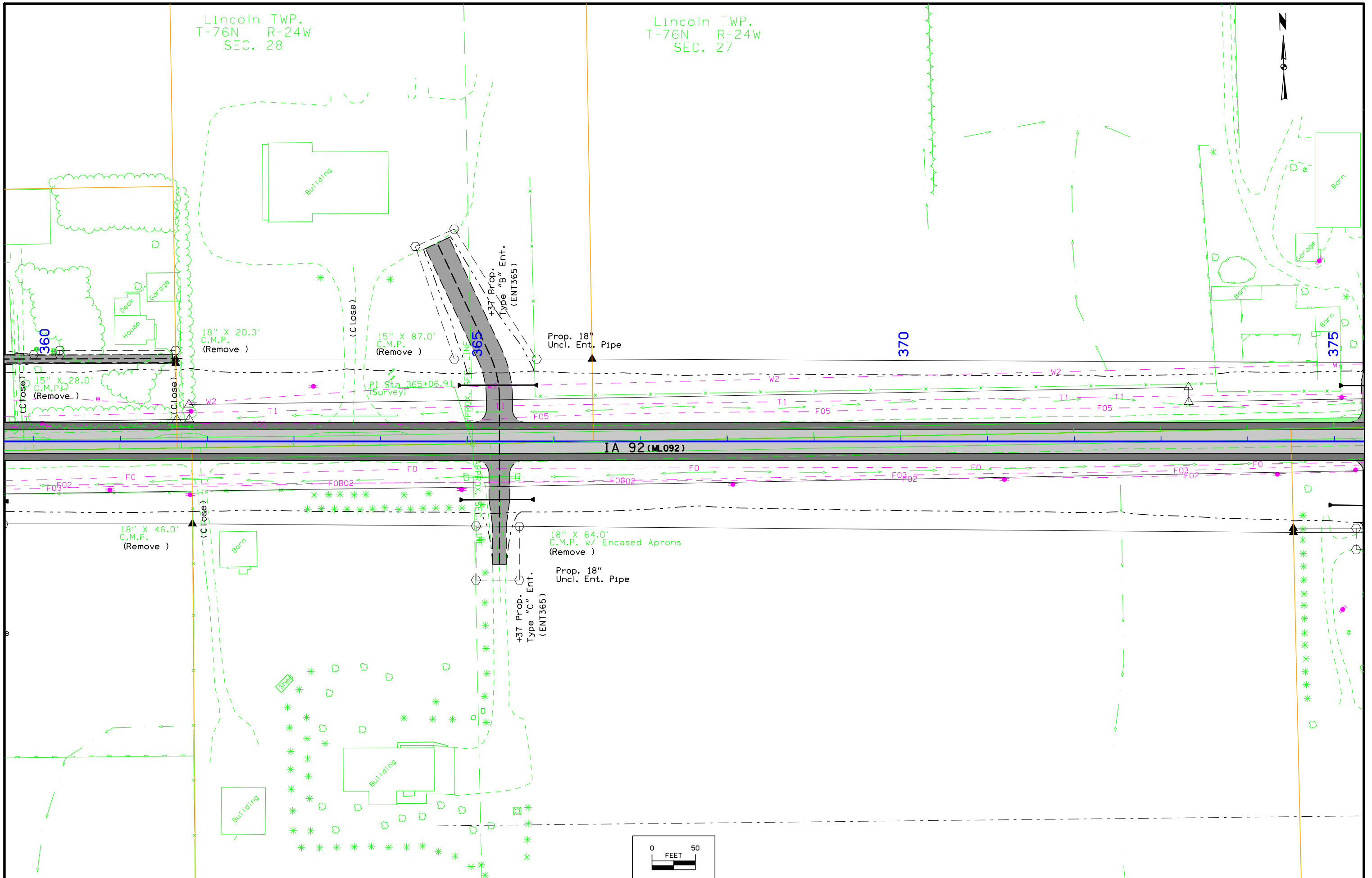


FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	D.15
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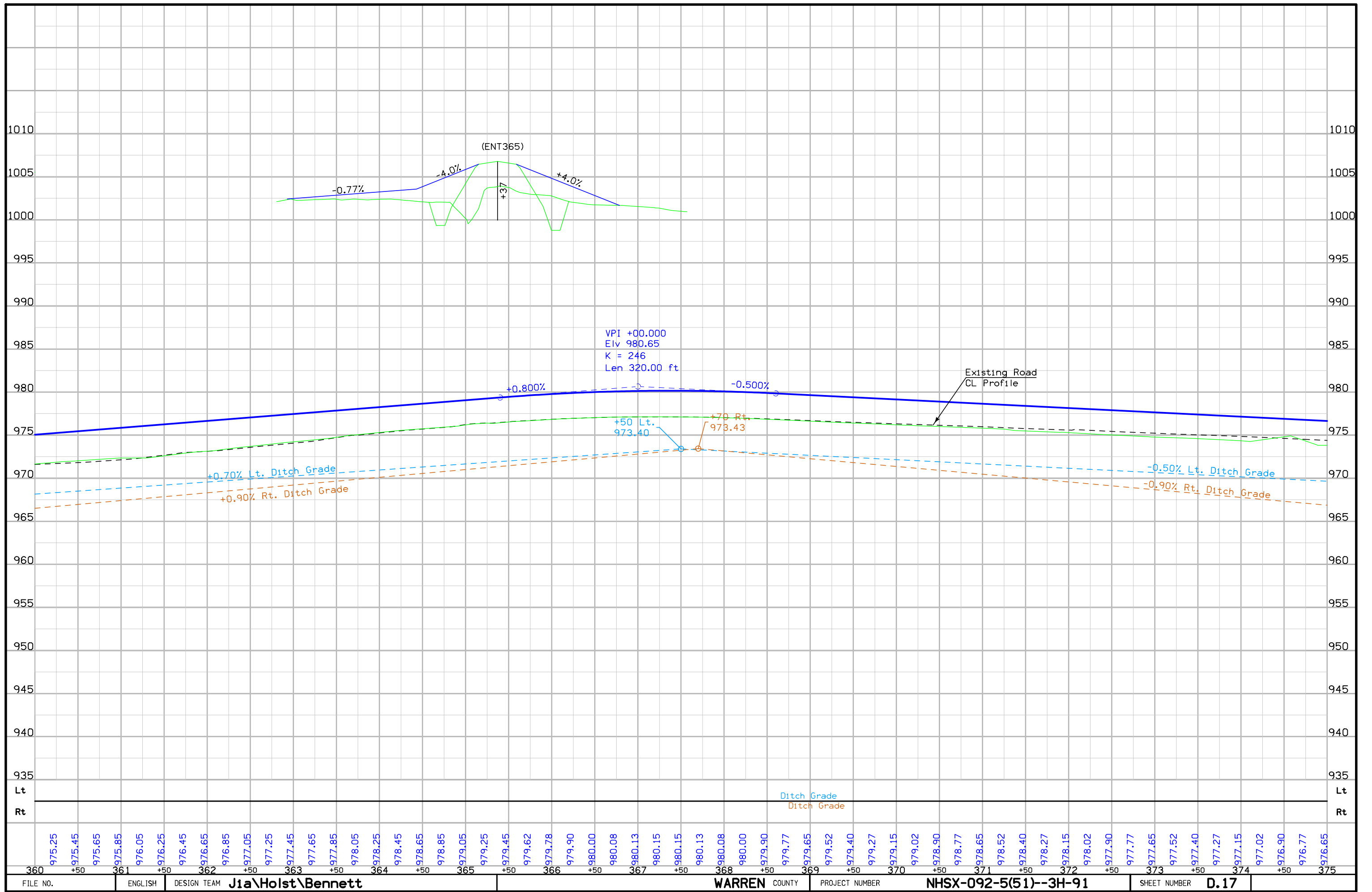
10:12:43 AM 8/15/2014 jholst pw:\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051002.sht

Lincoln TWP.  
T-76N R-24W  
SEC. 28

Lincoln TWP.  
T-76N R-24W  
SEC. 27

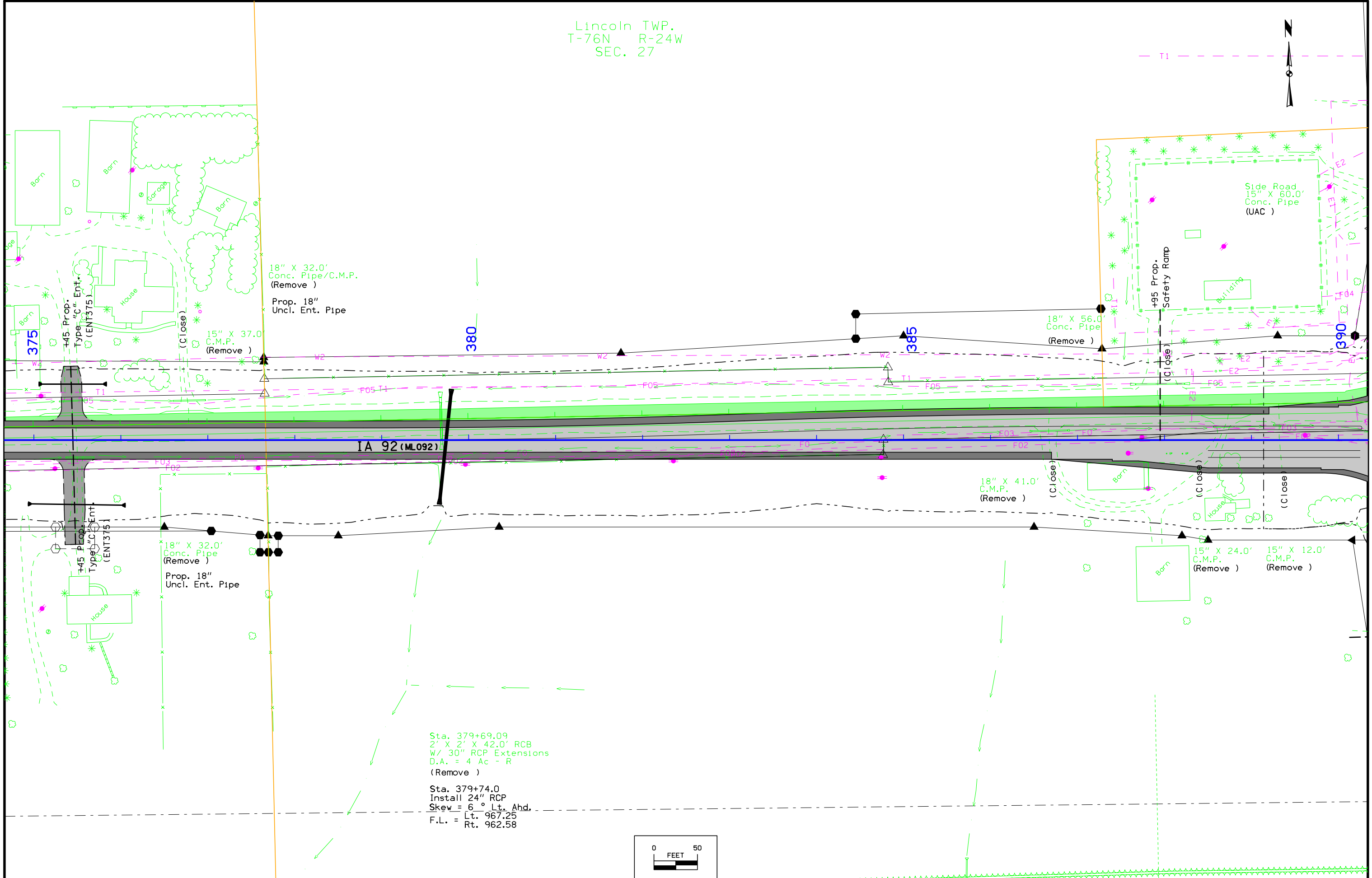




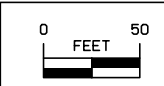


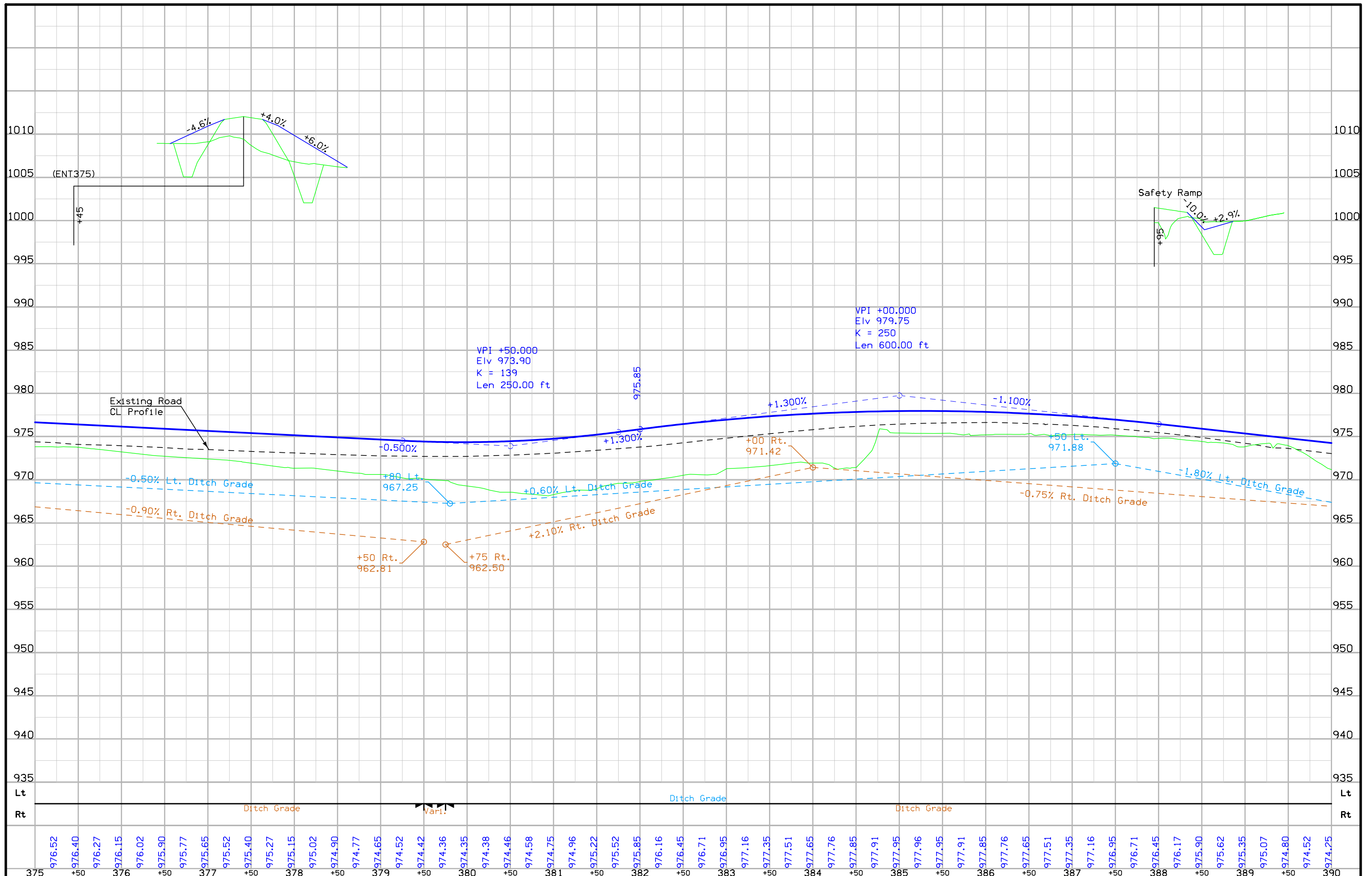
FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	D.17
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Lincoln TWP.  
T-76N R-24W  
SEC. 27



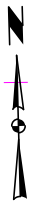
Sta. 379+69.09  
2' X 2' X 42.0' RCB  
W/ 30\"/>





FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	D.19
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Lincoln TWP.  
T-76N R-24W  
SEC. 27



Curve Data  
 $\Delta = 0^\circ 19' 35.74''$  (RT)  
 $T = 34.20$   
 $E = 68.40$   
 $L = 12,000.00$   
 $E = 0.05$

Side Road  
 $15'' \times 43.0'$   
 C.M.P.  
 (UAC)

PI Sta 391+01.81  
 (Survey)

PI Sta 391+01.93

$15'' \times 30.0'$   
 Conc. Pipe  
 (Remove)

395  
 (Close)

$18'' \times 243.0'$   
 Conc. Pipe  
 (UAC)

$15'' \times 48.0'$   
 Conc. Pipe  
 (UAC)

$24'' \times 80.0'$   
 Conc. Pipe  
 (UAC)

+16.98 Prop.  
 Type "B" Ent.

$24'' \times 88.0'$   
 Conc. Pipe  
 (UAC)

400

405

IA 92 (ML092)

Side Road  
 $15'' \times 28.0'$   
 C.M.P.  
 (Remove)

Concrete Powerline Duct located  
 approximately 2' below RCP

Side Road  
 $15'' \times 56.0'$   
 C.M.P.  
 (Remove)

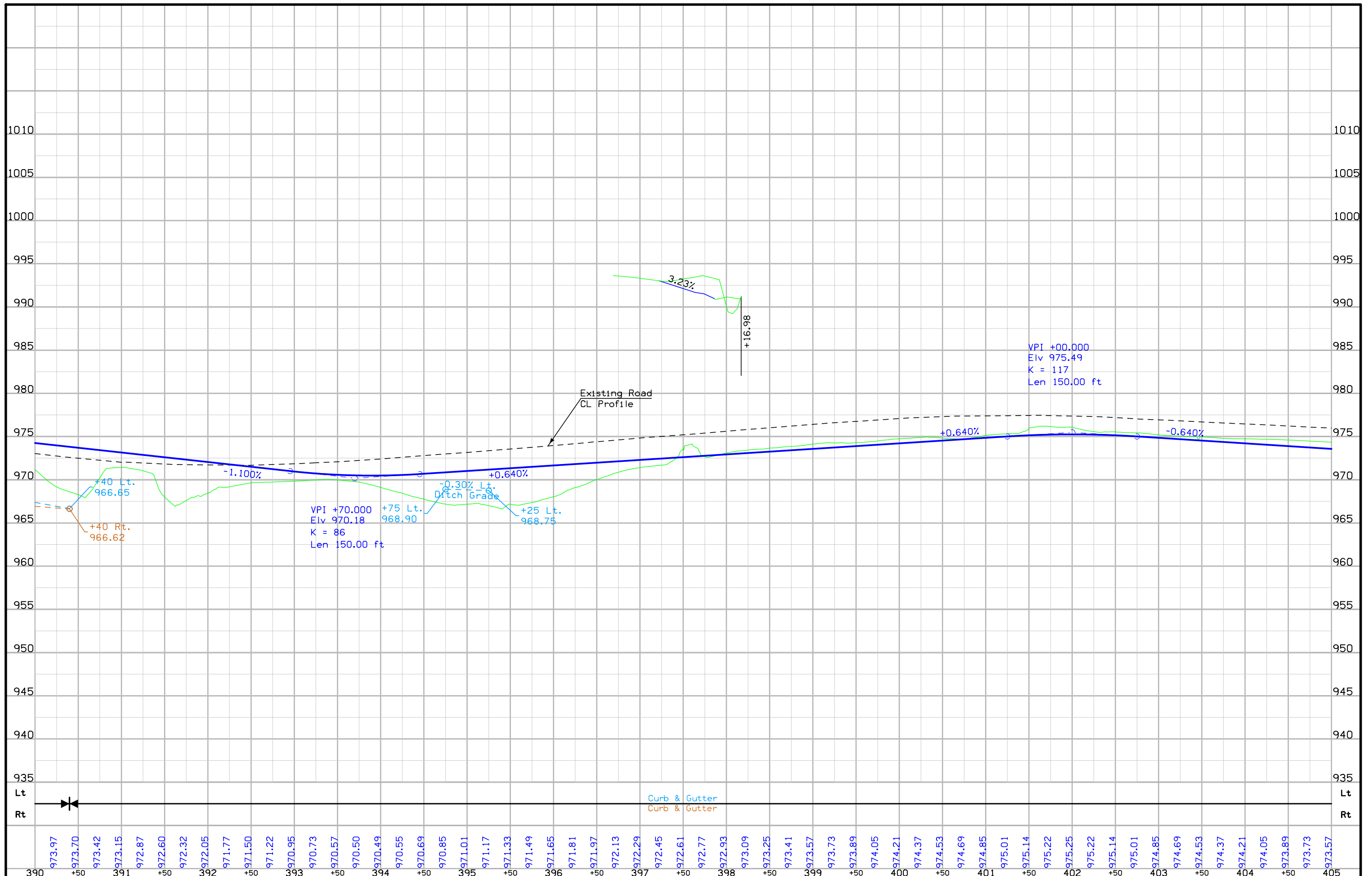
Sta. 390+78.55  
 $2' \times 2' \times 132.0'$  RCB  
 W/ 30" RCP Extensions  
 D.A. = 7 Ac - R  
 (Remove)

Sta. 391+07.0  
 Install 24" RCP  
 Skew = 37° Rt. Ahd.  
 Lt. 966.73  
 Rt. 963.79

Sta. 395+43.91  
 $2' \times 2' \times 43.0'$  RCB  
 W/ 30" RCP Extensions  
 D.A. = 9 Ac - R  
 (Remove)

Sta. 391+29.59, 61.89 Lt.  
 $24'' \times 60.0'$  Conc Pipe  
 D.A. = 3 Ac - R  
 (Remove)





FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	D.21
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Lincoln TWP.  
T-76N R-24W  
SEC. 27

Sta. 417+03.73, 37.07 Lt.  
22' X 14" X 60.0' Arch Conc Pipe  
D.A. = 4 Ac - r  
(Remove )

Curve Data  
 $\Delta = 0^\circ 25' 37.45''$  (LT)  
T = 44.72  
L = 89.45  
R = 12,000.00  
E = 0.08

PI Sta 417+36.67  
(Survey)

+00 Prop.  
Type "C" Ent.

15" X 24.0'  
C.M.P.  
(Remove)

15" X 148.0'  
C.M.P.  
(Remove)

+80.63 Prop. Jt.  
Type "B" Ent.

405

410

415

420

IA 92 (ML092)

PC Sta 416+90.59

PI Sta 417+35.31

PT Sta 417+80.03

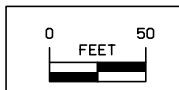
+00 Prop.  
Type "C" Ent.

4" Tile

Sta. 412+66.92, 247.41 RT  
6 Tile Riser Intake  
D.A. = 5A - R  
(U.A.C.)

Sta. 414+54.06, 307.09 RT  
6 Tile Riser Intake  
D.A. = 2A - R  
(U.A.C.)

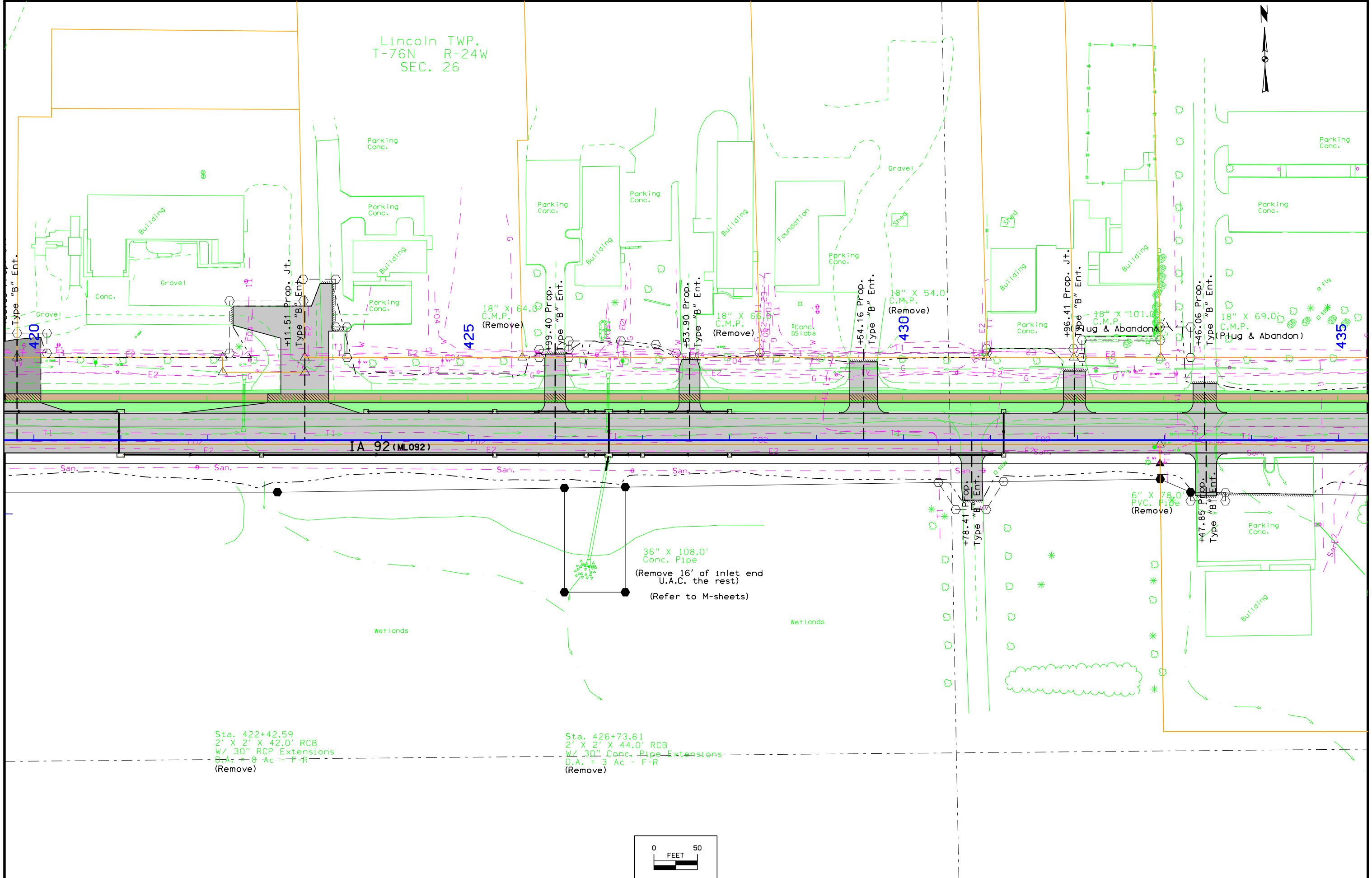
Sta. 417+30.31, 350.36 Rt  
30" X 44.0' CMP  
D.A. = 16 Ac - R  
(Remove )





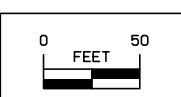
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Lincoln TWP.  
T-76N R-24W  
SEC. 26

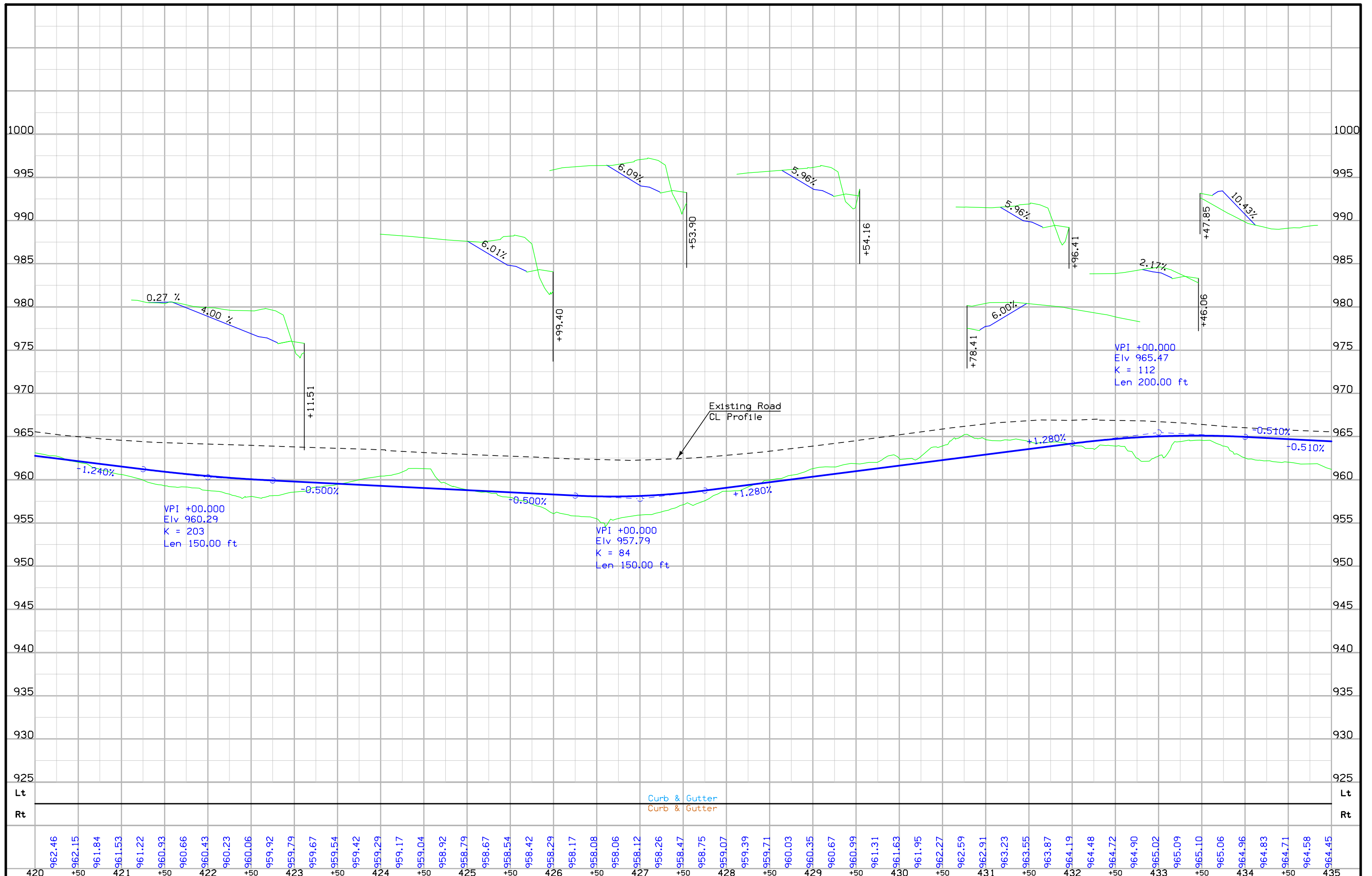


Sta. 422+42.59  
2' X 2' X 42.0' RCB  
W/ 30" RCP Extensions  
D.A. = 8 Ac - F-R  
(Remove)

Sta. 426+73.61  
2' X 2' X 44.0' RCB  
W/ 30" Conc. Pipe Extensions  
D.A. = 3 Ac - F-R  
(Remove)



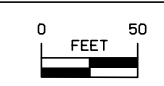
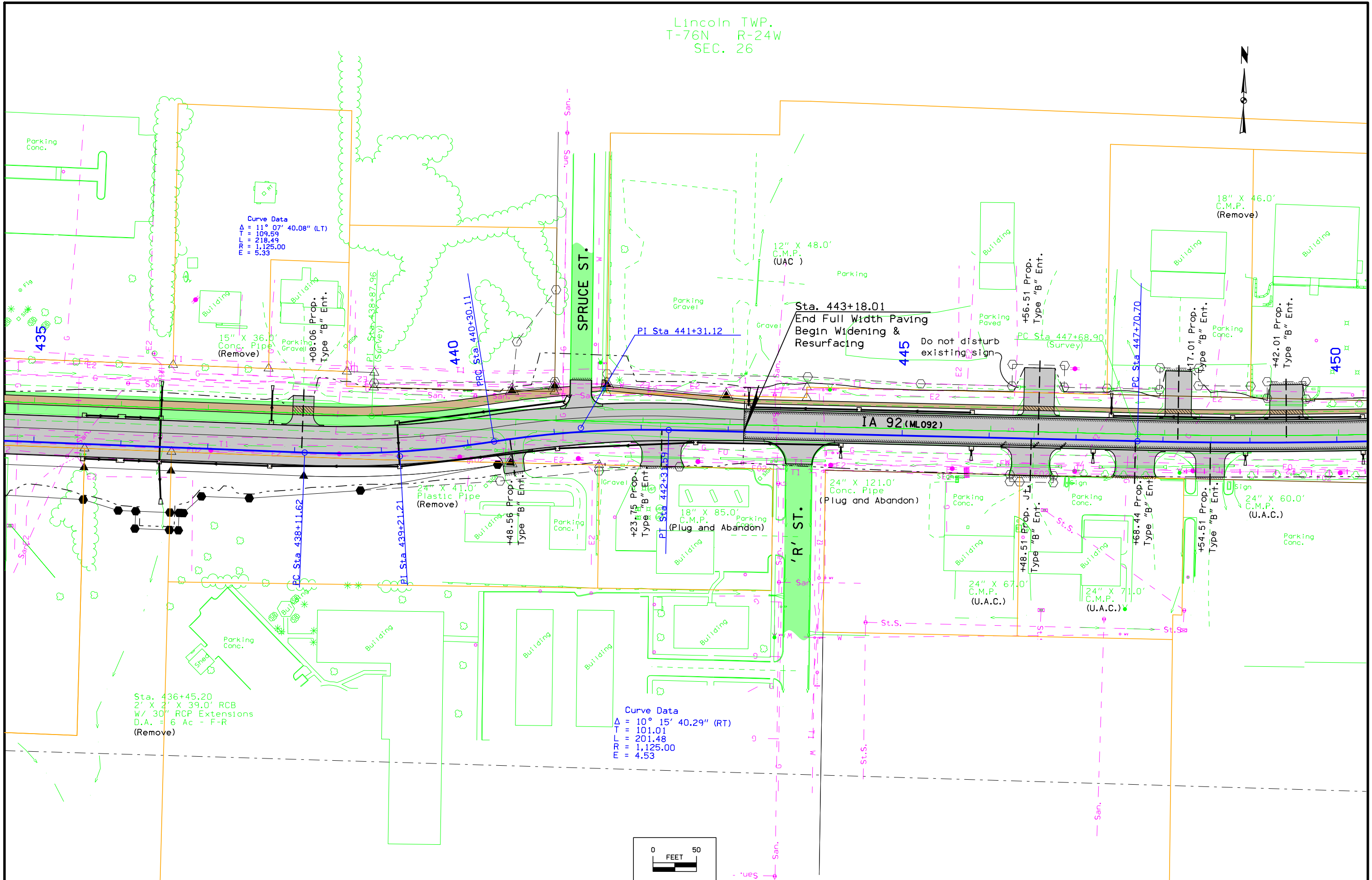


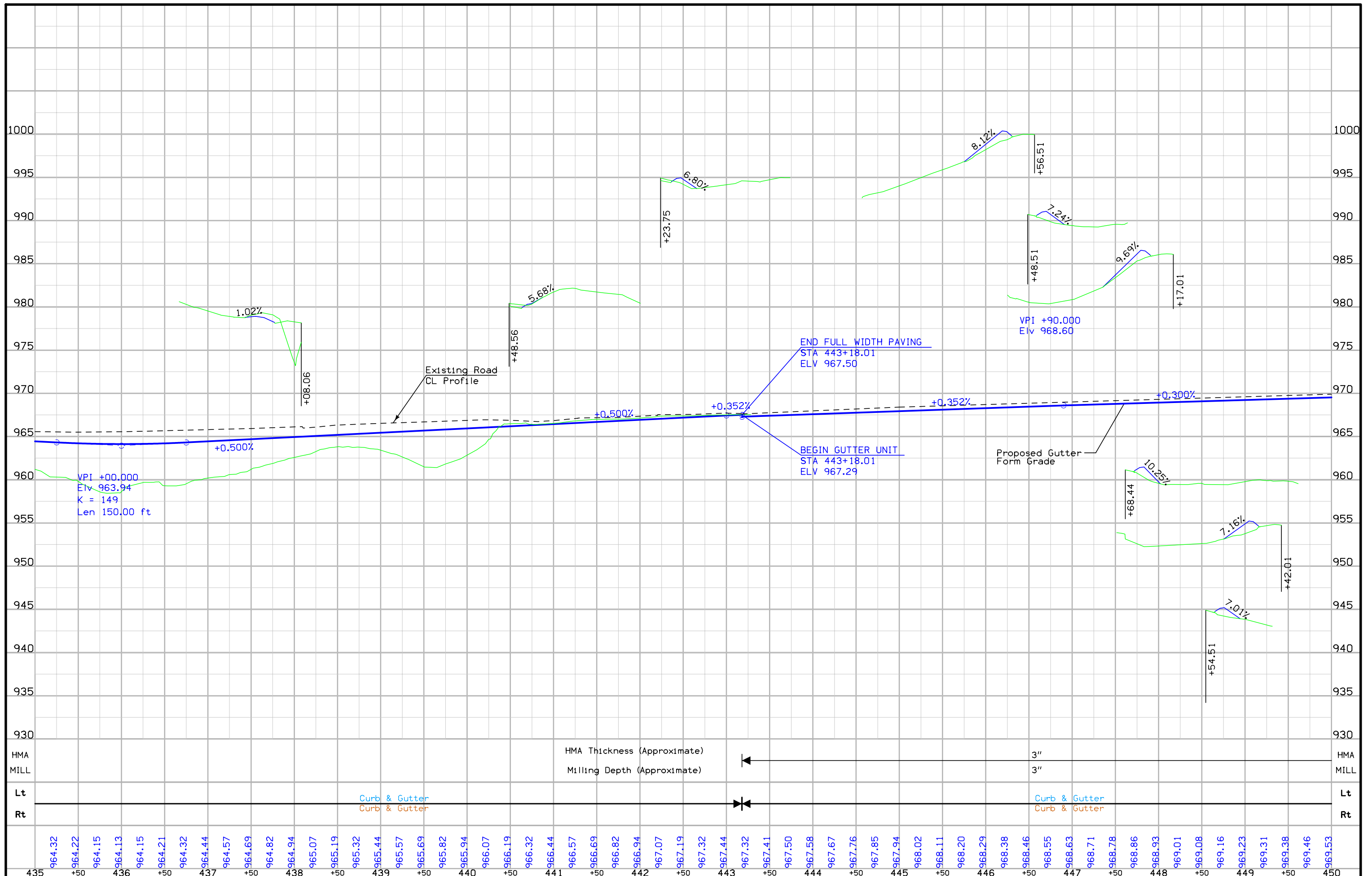


FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	D.25
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Lincoln TWP.  
T-76N R-24W  
SEC. 26





HMA		HMA Thickness (Approximate)	3"	HMA
MILL		Milling Depth (Approximate)	3"	MILL
Lt				Lt
Rt				Rt

964.32	964.22	964.15	964.13	964.15	964.21	964.32	964.44	964.57	964.69	964.82	964.94	965.07	965.19	965.32	965.44	965.57	965.69	965.82	965.94	966.07	966.19	966.32	966.44	966.57	966.69	966.82	966.94	967.07	967.19	967.32	967.44	967.32	967.41	967.50	967.58	967.67	967.76	967.85	967.94	968.02	968.11	968.20	968.29	968.38	968.46	968.55	968.63	968.71	968.78	968.86	968.93	969.01	969.08	969.16	969.23	969.31	969.38	969.46	969.53
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Lincoln TWP.  
T-76N R-24W  
SEC. 26

Curve Data  
Δ = 6° 59' 27.10" (LT)  
T = 351.79  
L = 702.70  
R = 5,759.23  
E = 10.73

Curve Data (Survey)  
Δ = 6° 59' 27.10" (LT)  
T = 351.30  
L = 701.73  
R = 5,751.23  
E = 10.72

Sta. 455+27.49, 27.81 Lt  
18" X 72.0 Conc. Pipe  
D.A. = .3 Ac - F  
(Plug & Abandon)

Sta. 462+04.63  
18" X 60.0' Conc. Pipe  
D.A. = 2 Ac - F  
(Plug & Abandon)

Sta. 465+03.68  
End Project

Sta. 465+01.01  
End Widening &  
Resurfacing

S. KENWOOD BLVD.

SOUTH 'P' ST.

SOUTH 'N' ST.

IA 92 (ML092)

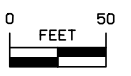
PI Sta 451+22.49

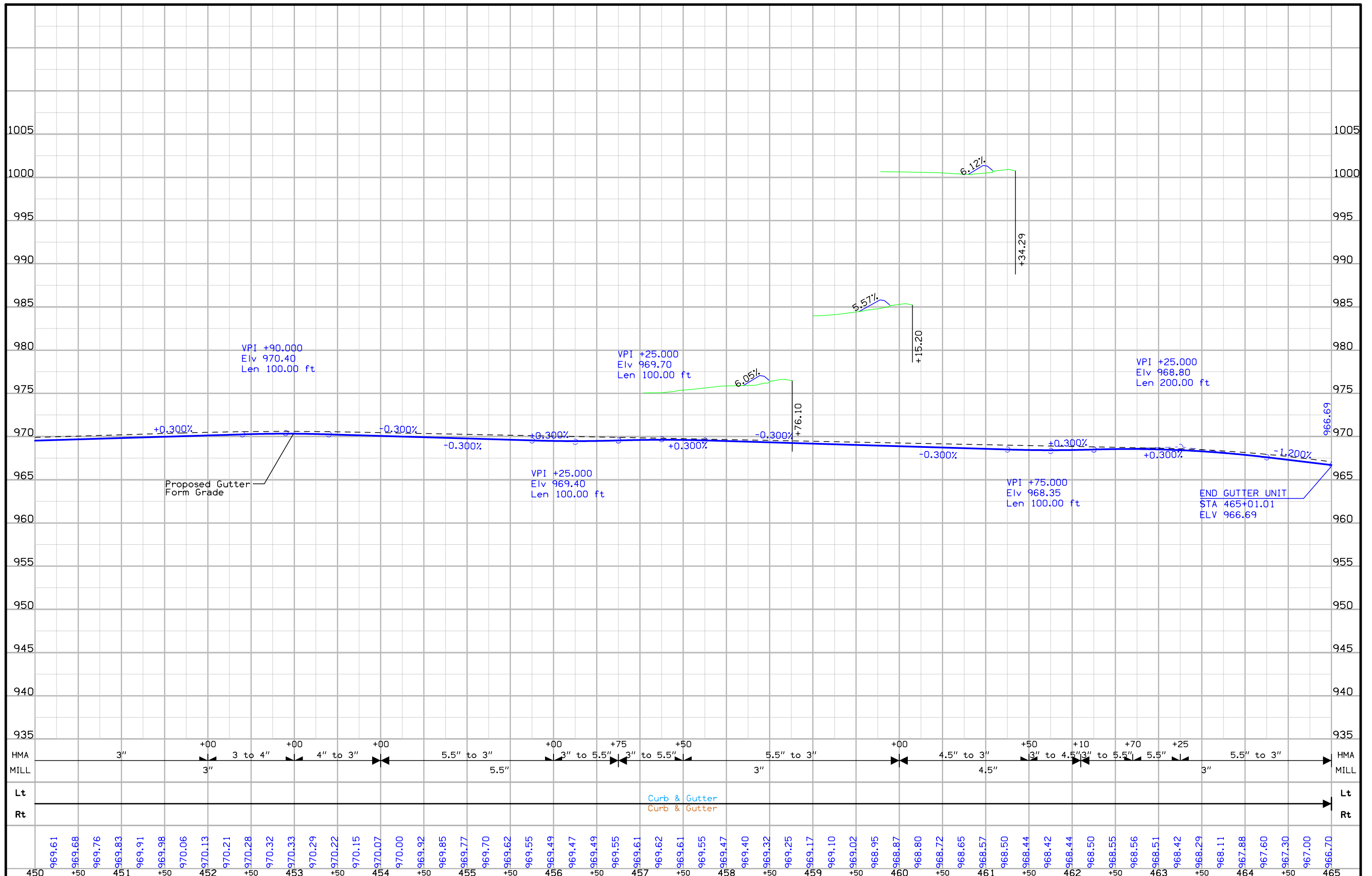
PI Sta 451+20.20 (Survey)  
Sta. 453+83.42, 37.42 Rt  
24" X 103.0 Conc. Pipe  
D.A. = .4 Ac - F  
(Plug & Abandon)

SOUTH 'P' ST.

Do not disturb tile  
outlets in backslope

18" X 11.0'  
Conc. Pipe  
(Remove)



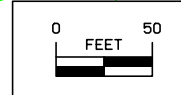
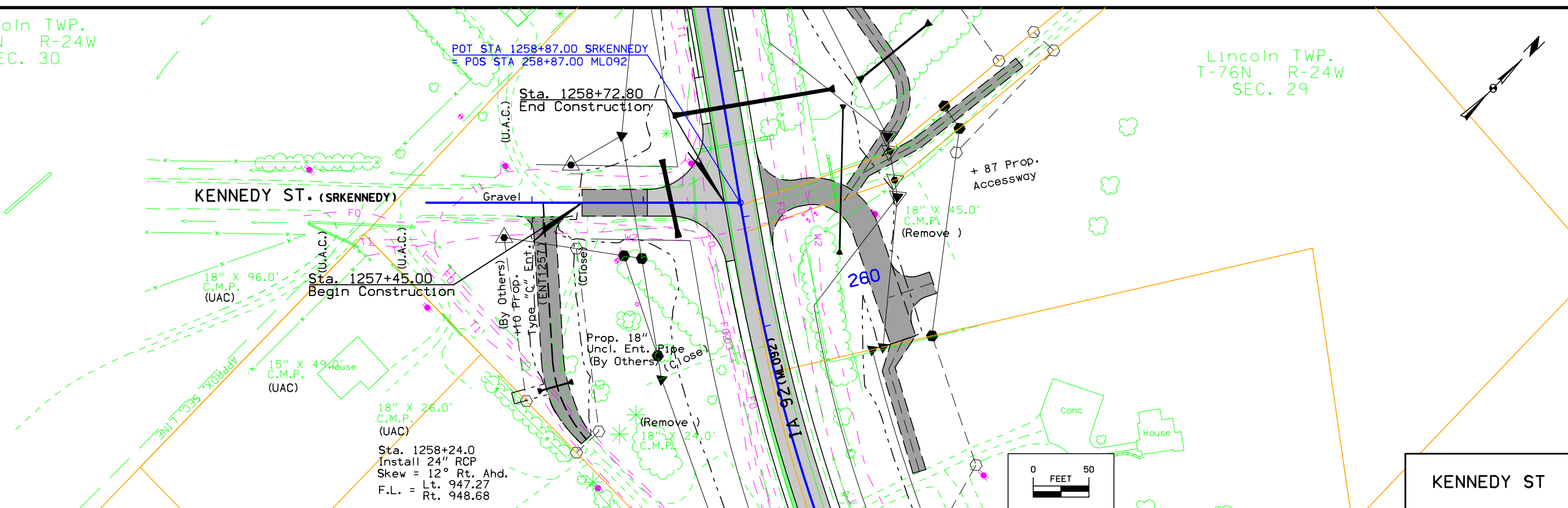


FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	D.29
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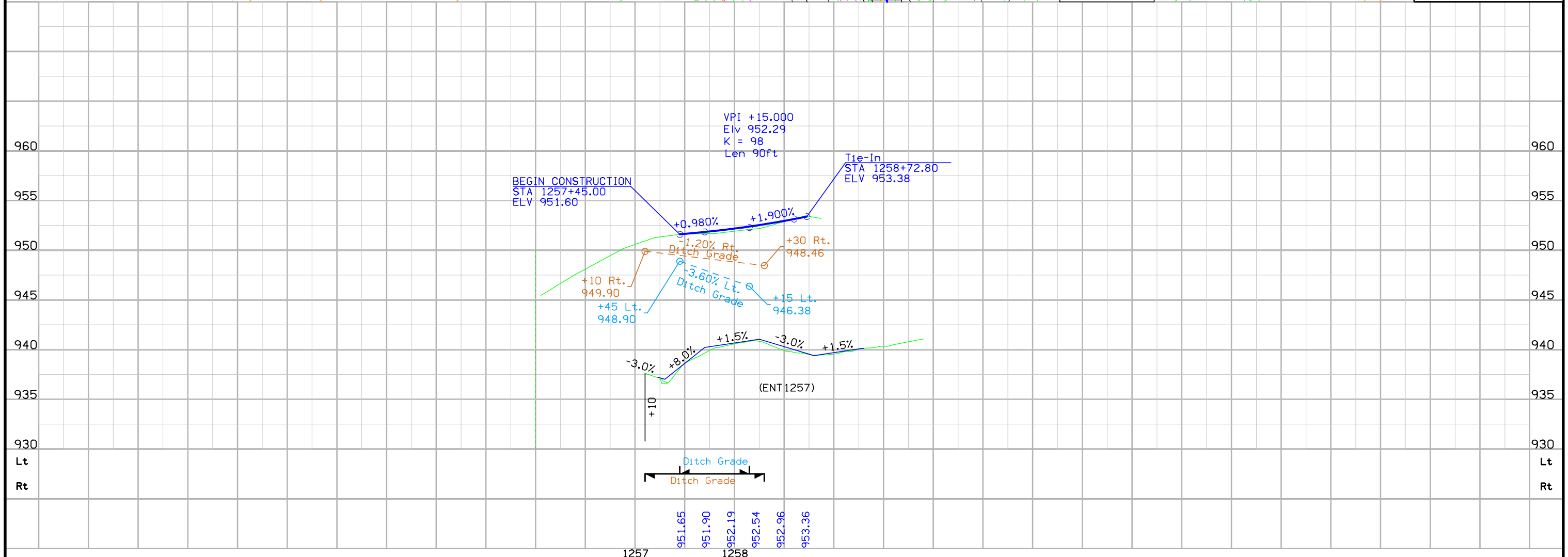
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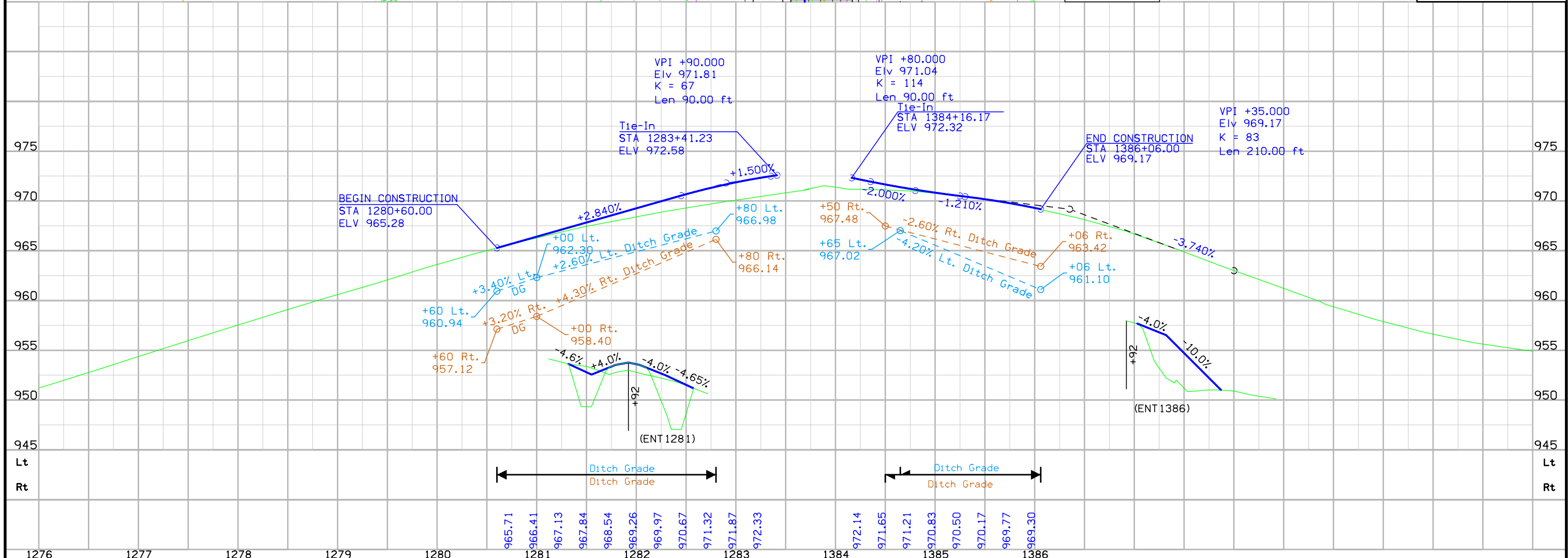
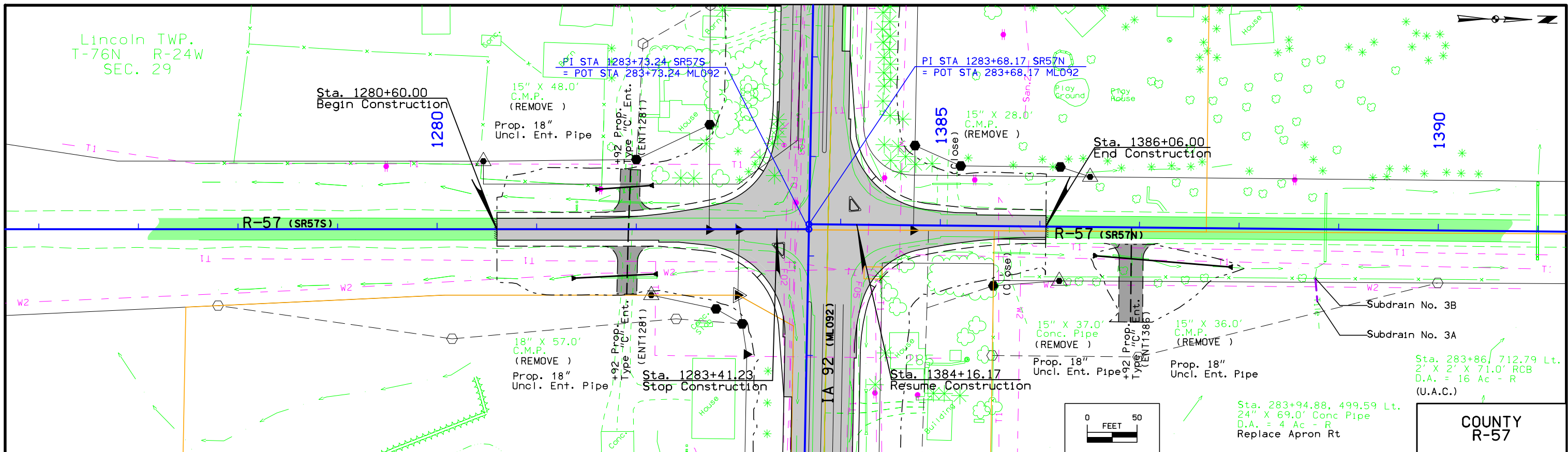
Lincoln TWP.  
T-76N R-24W  
SEC. 30

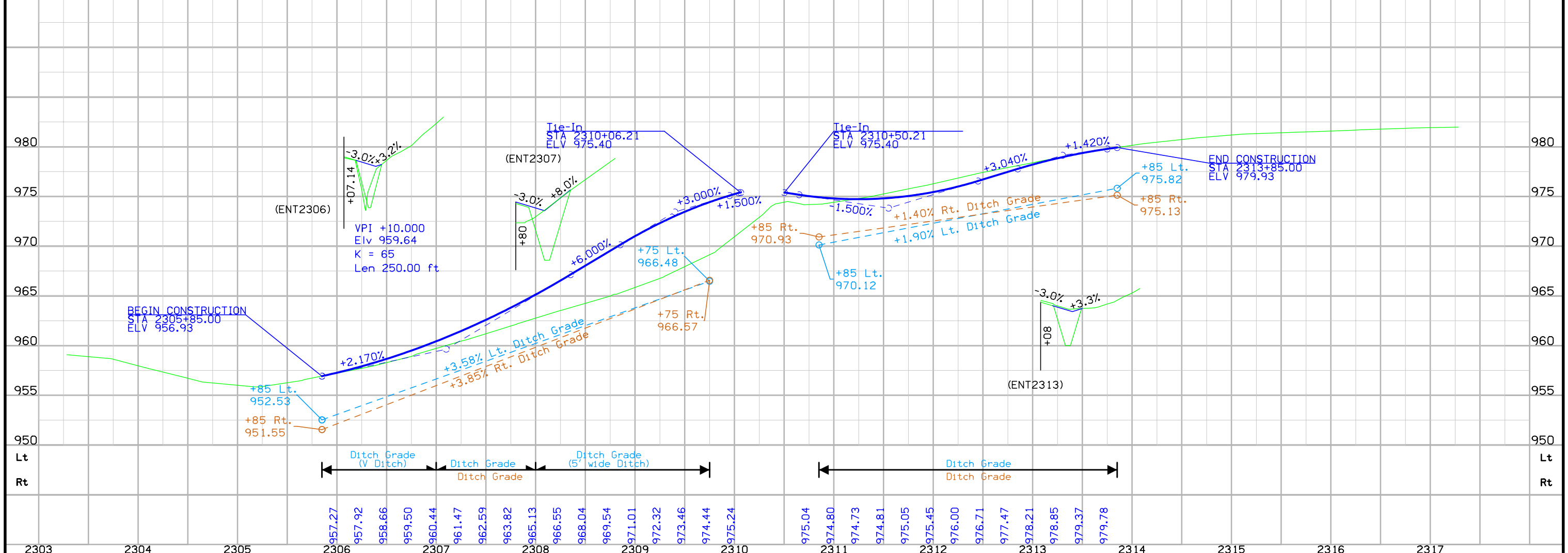
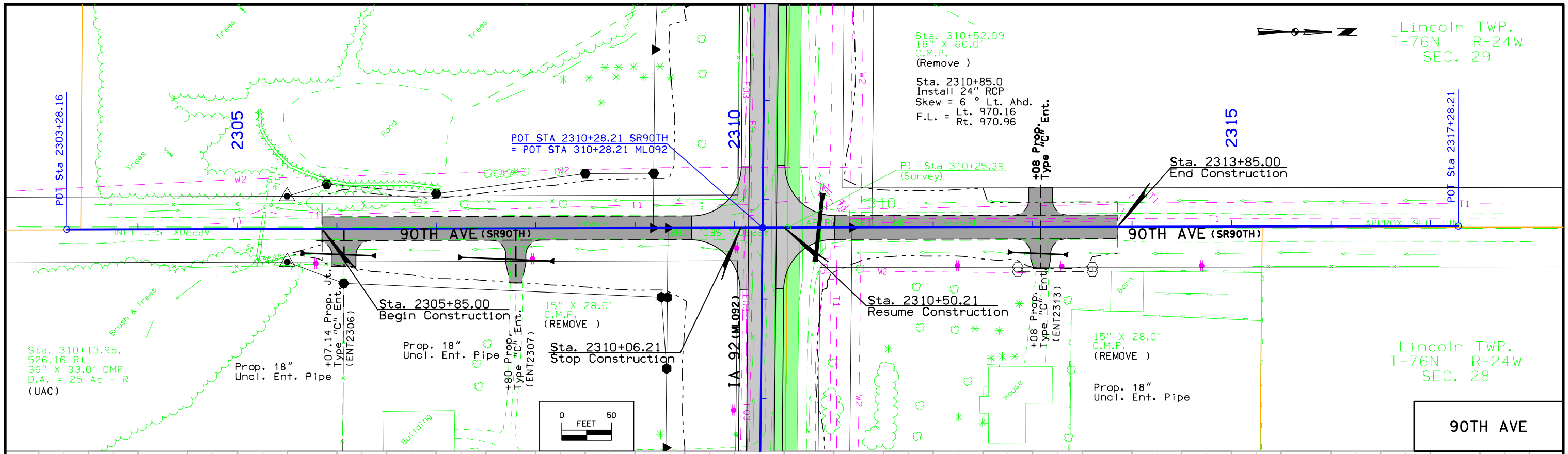
Lincoln TWP.  
T-76N R-24W  
SEC. 29



KENNEDY ST

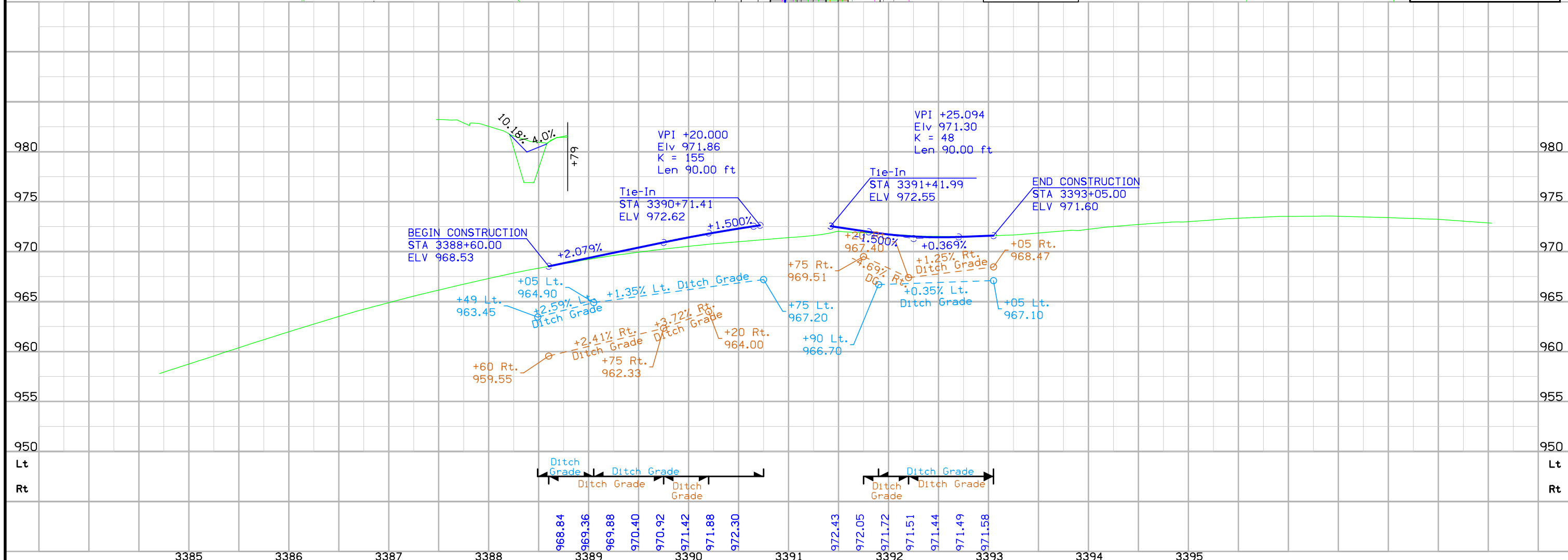
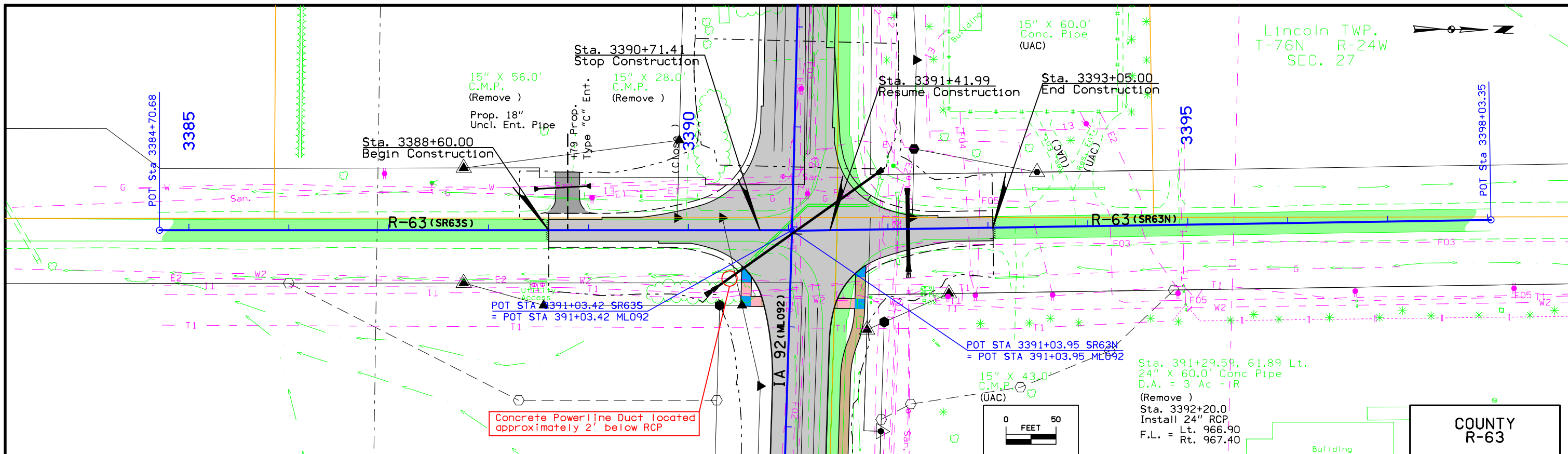




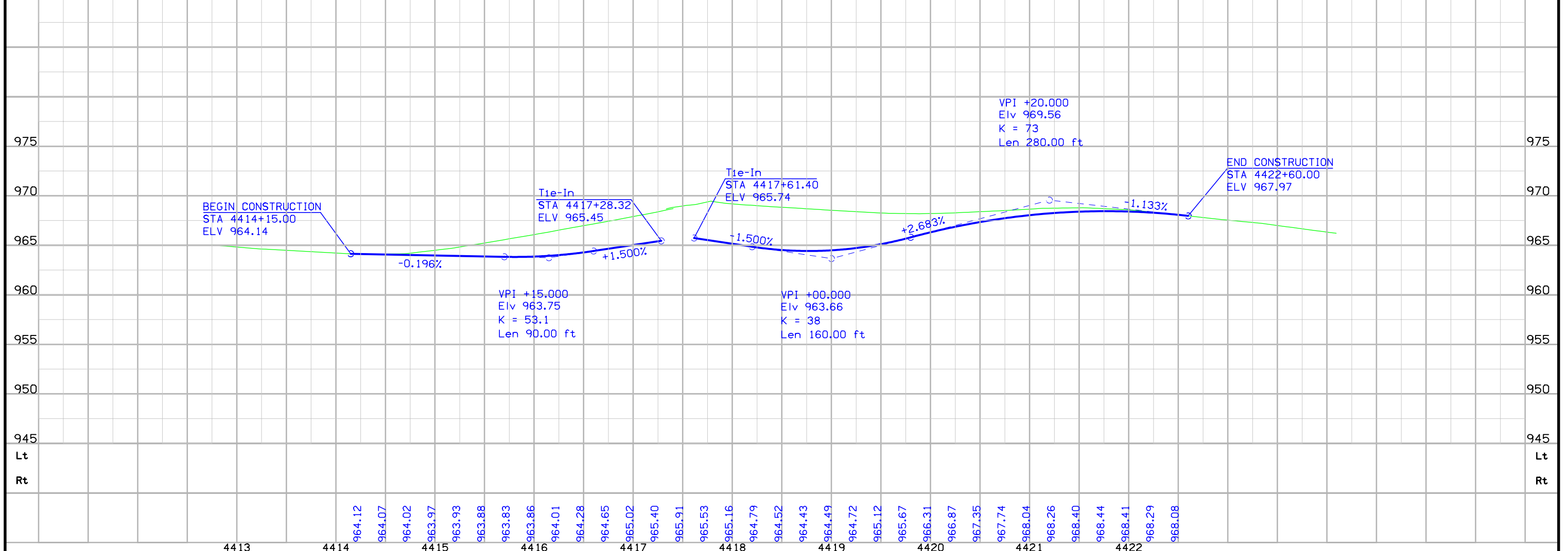
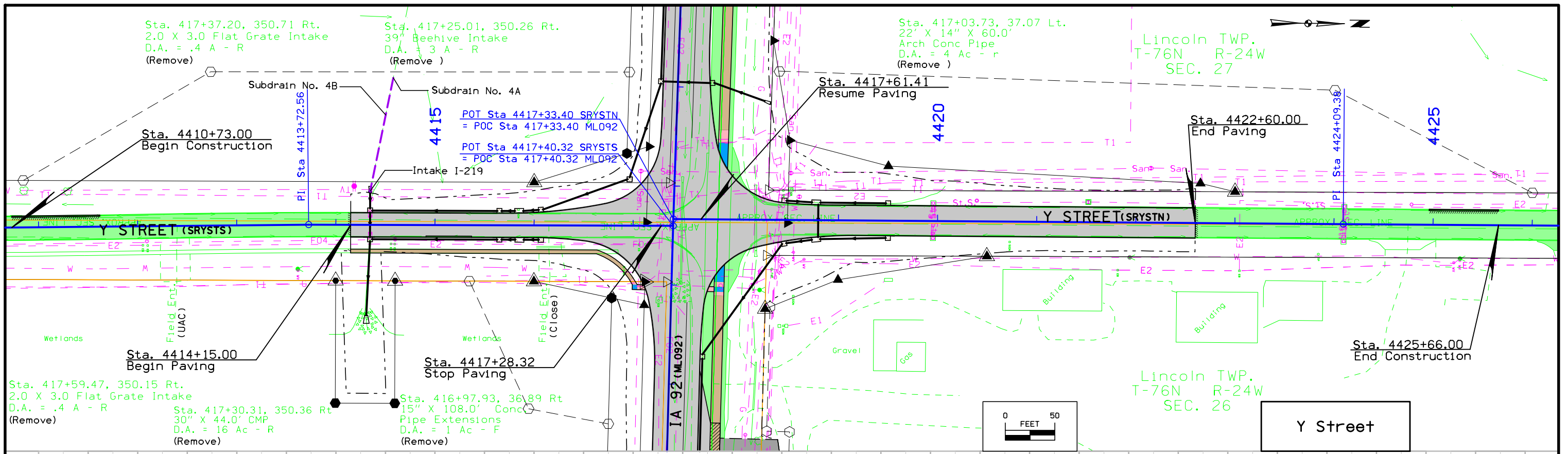


2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317
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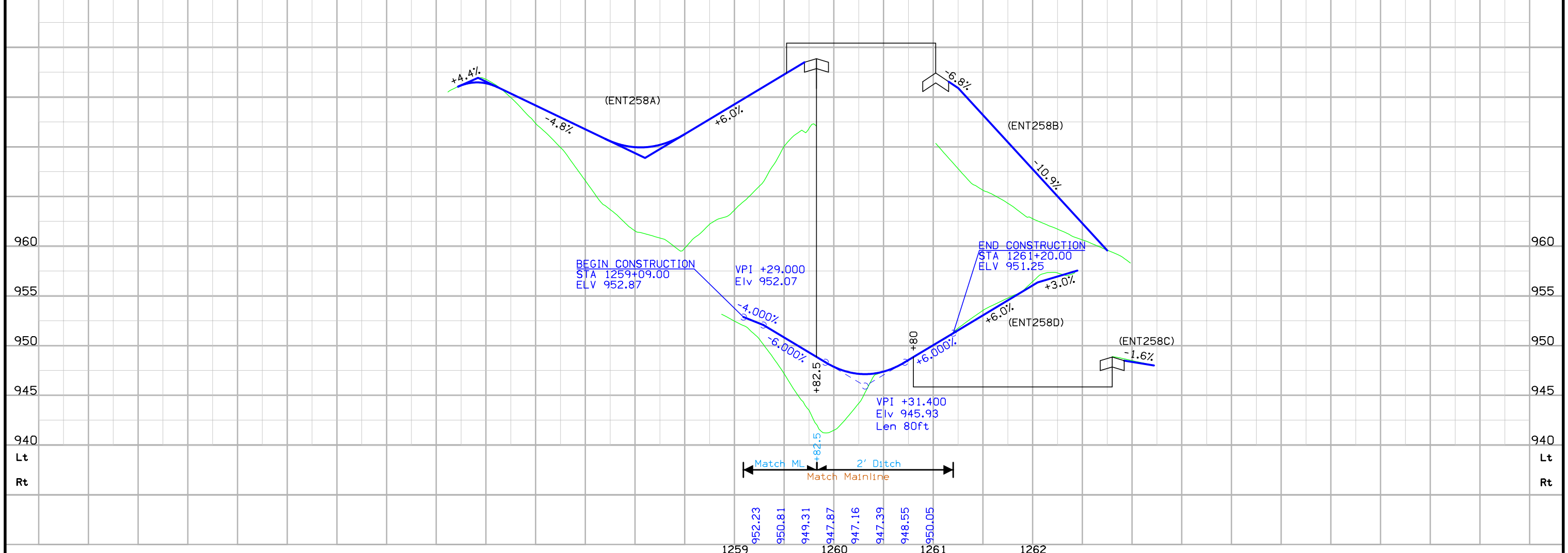
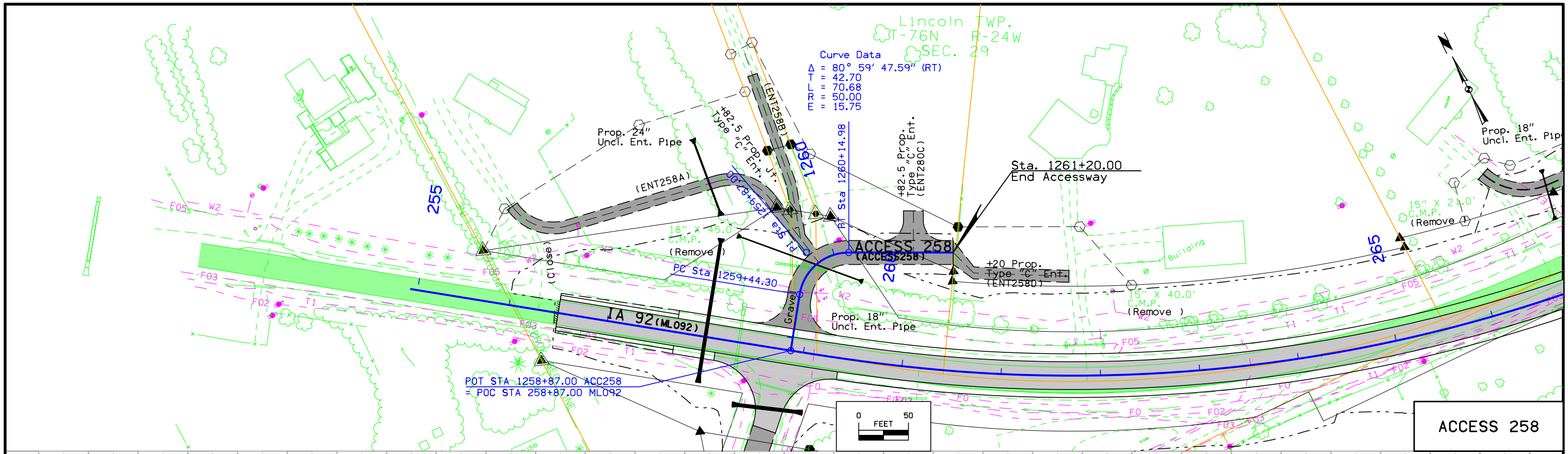


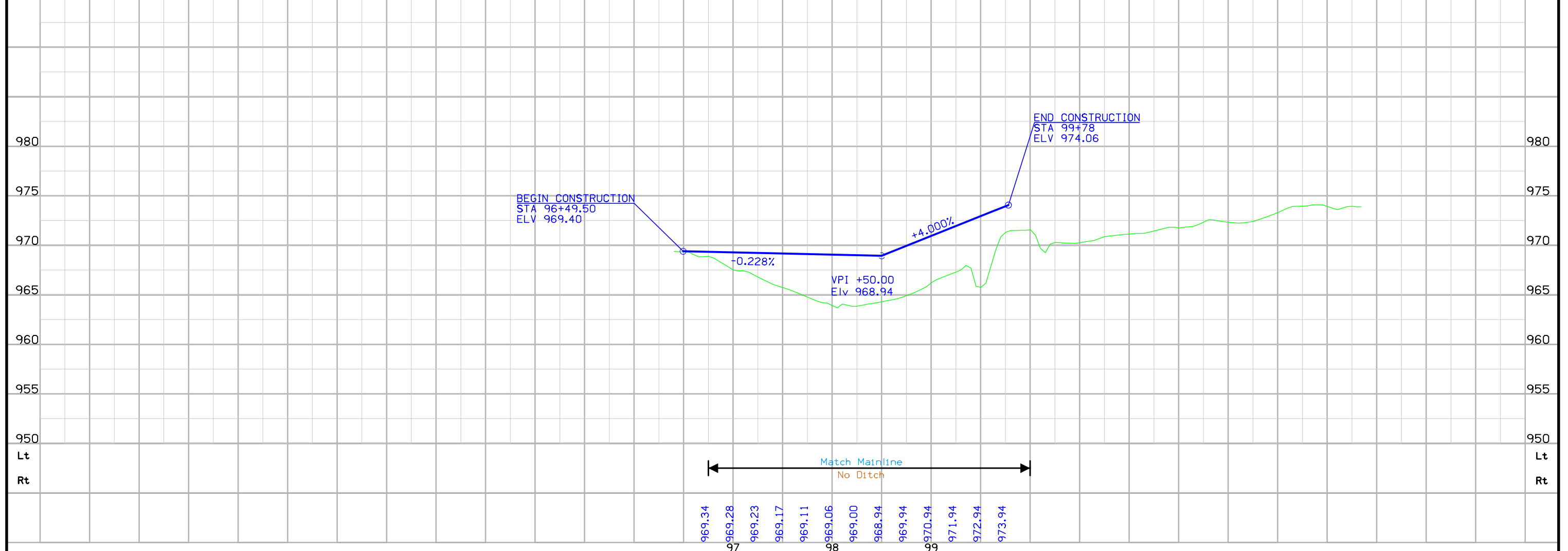
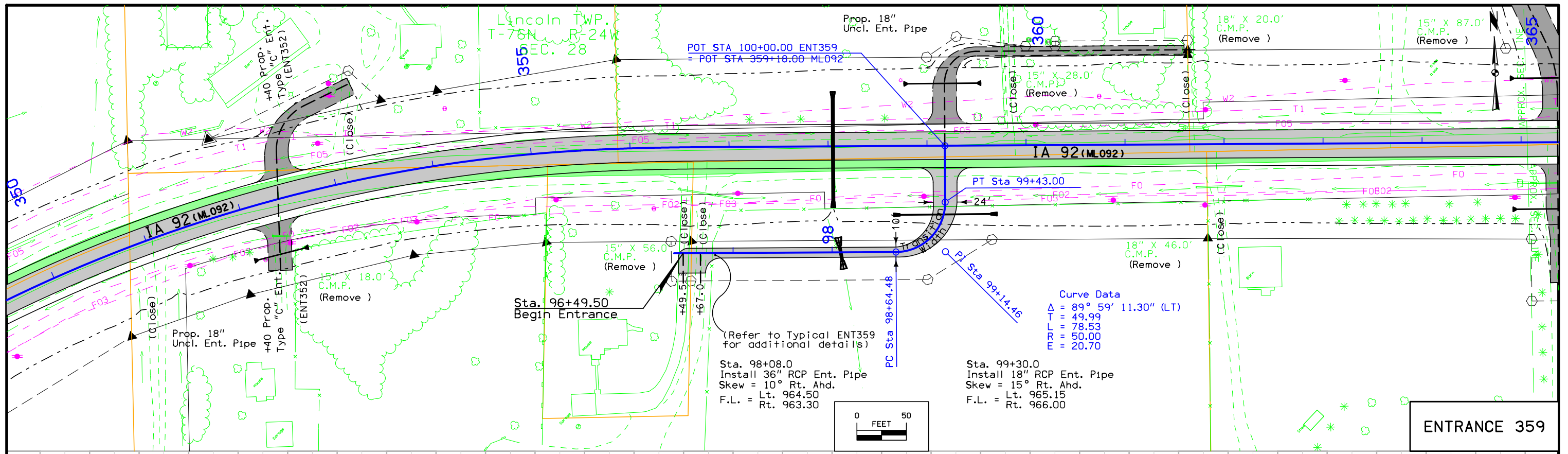


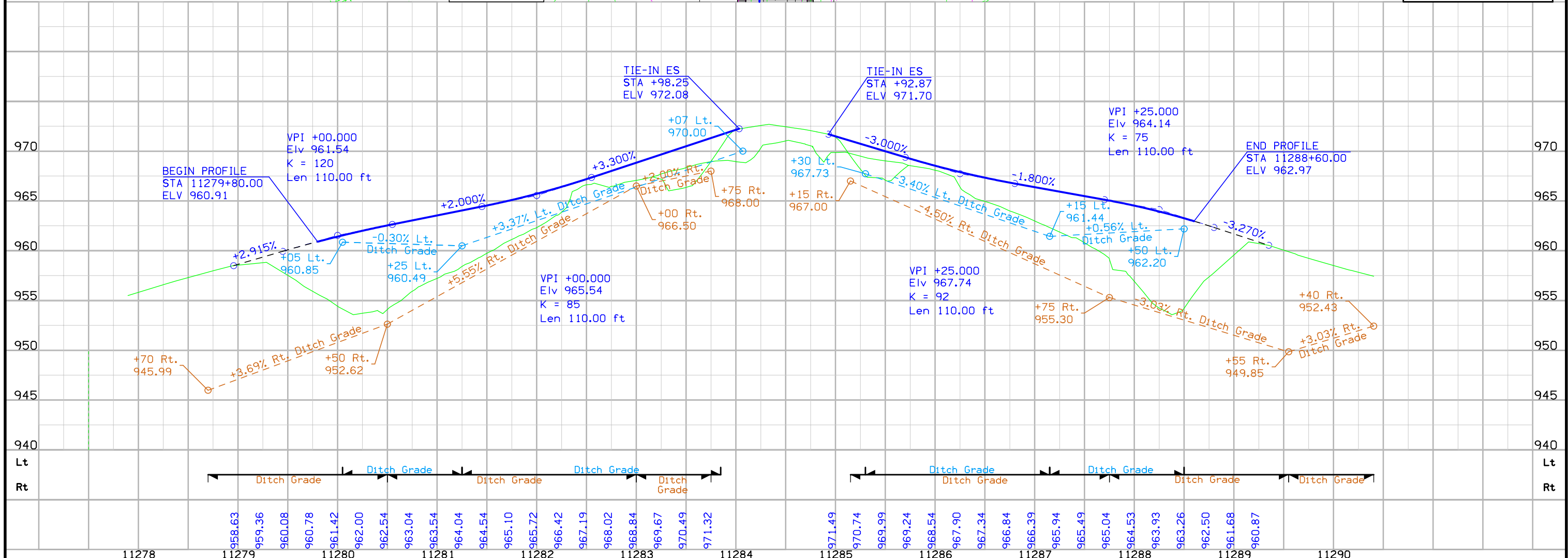
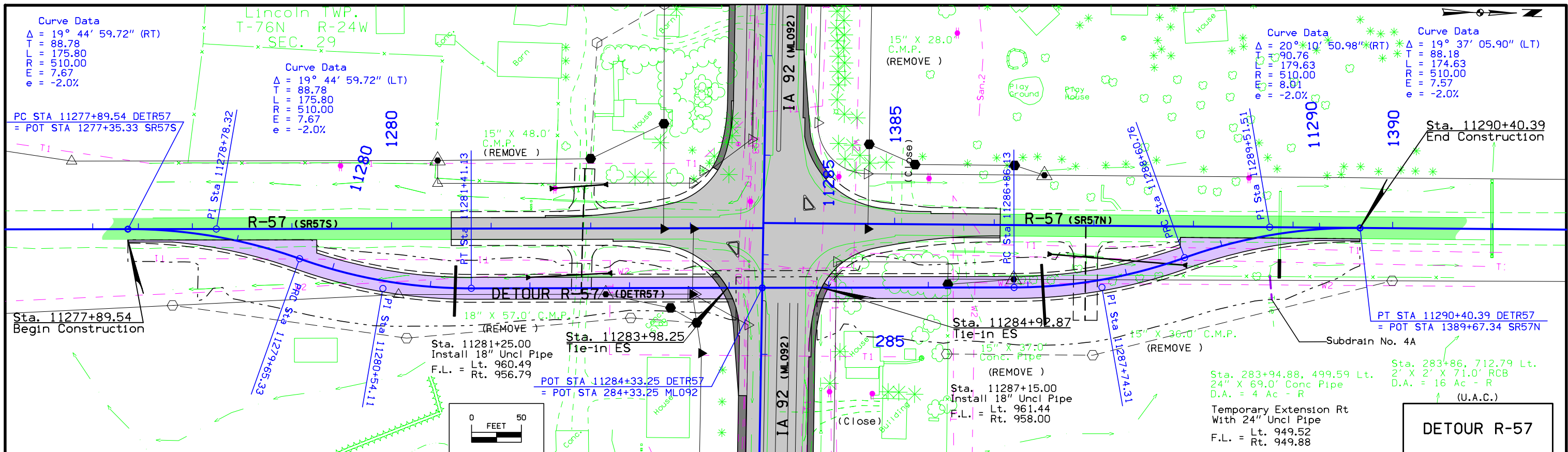
FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	E.4
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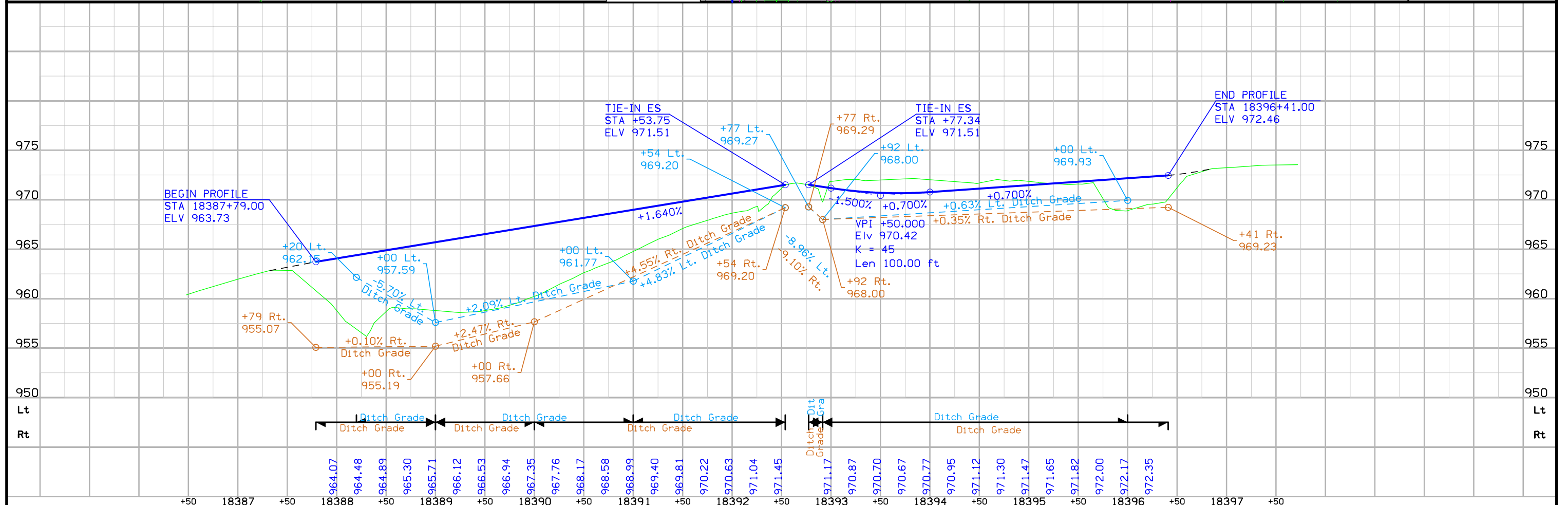
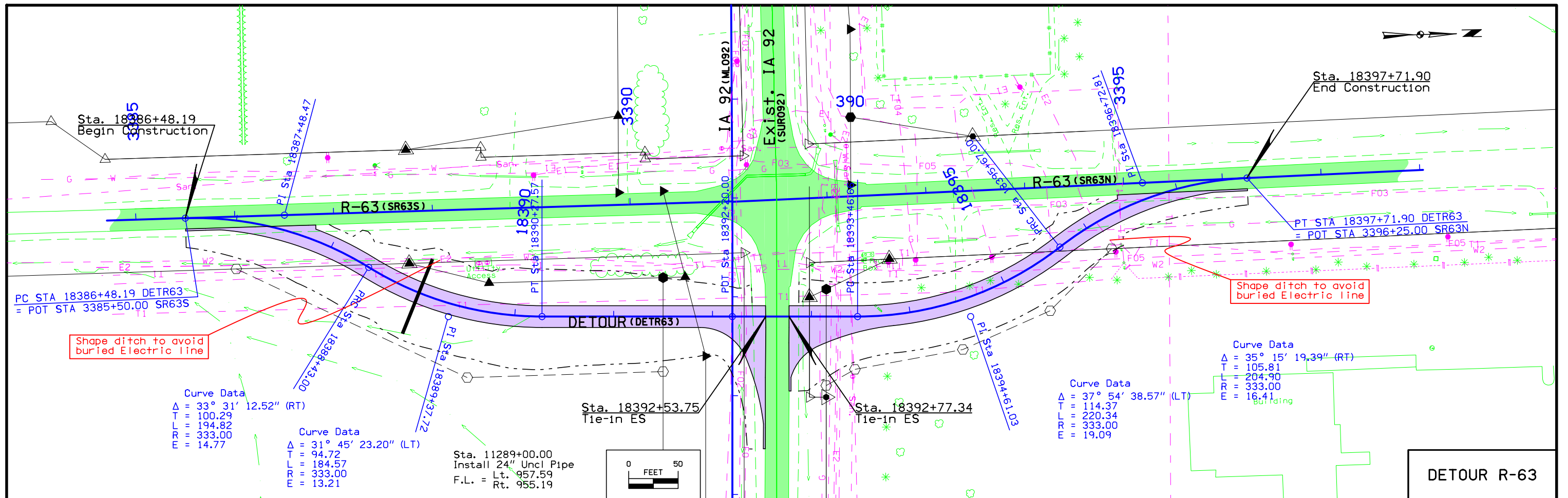


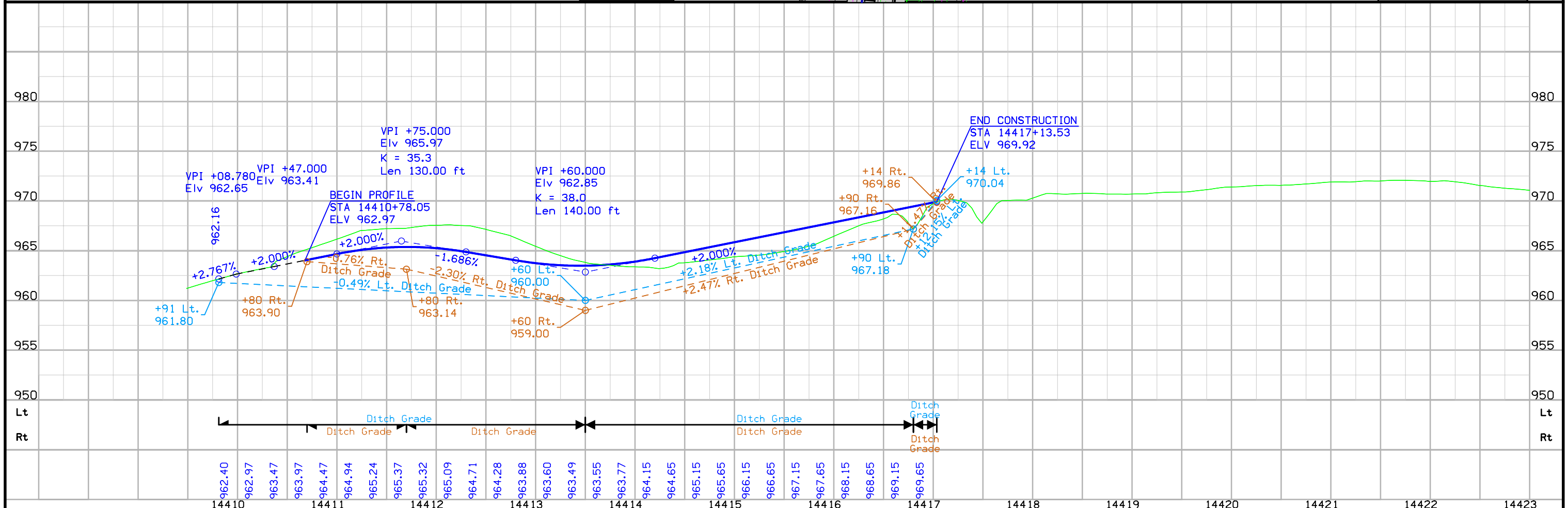
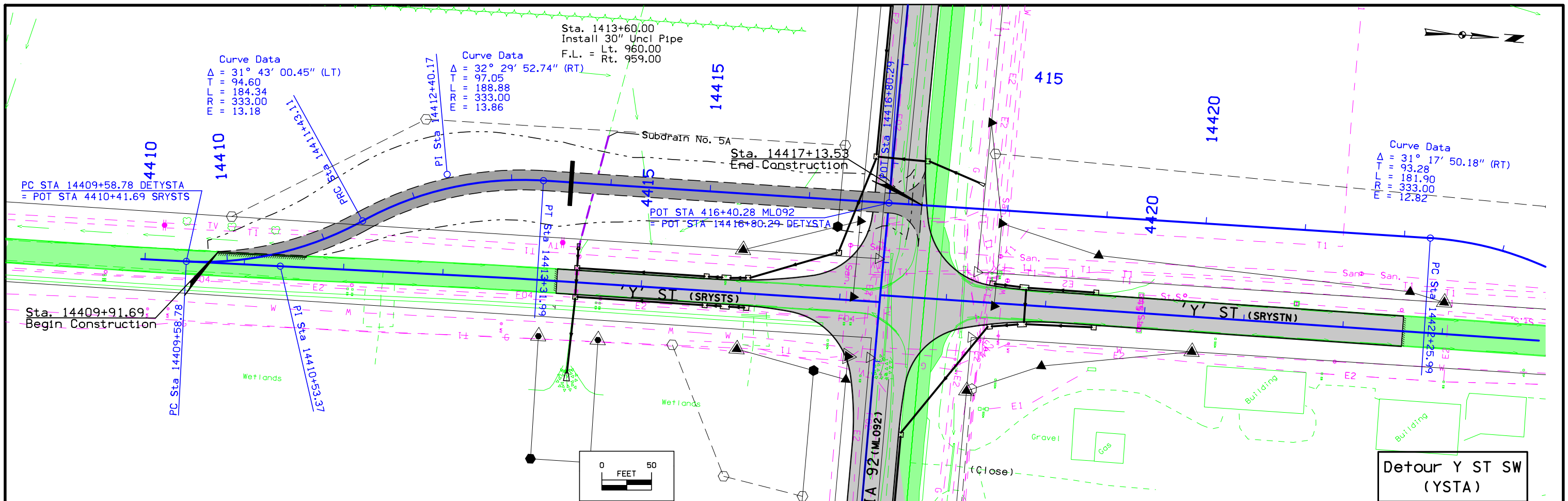
FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	E.5
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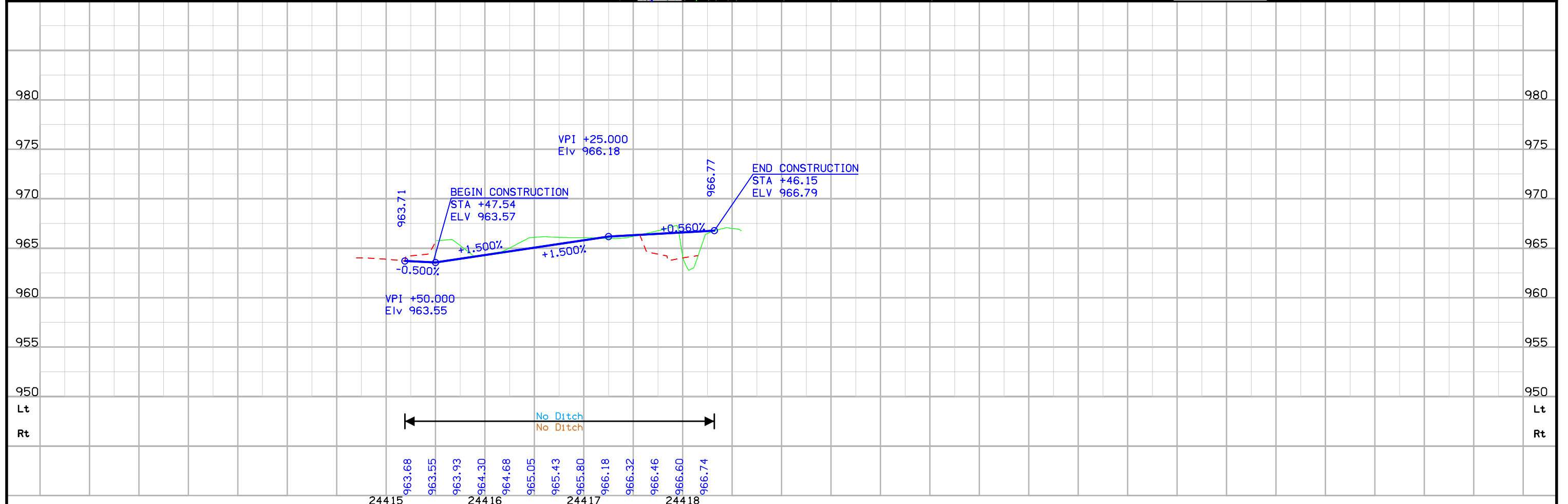
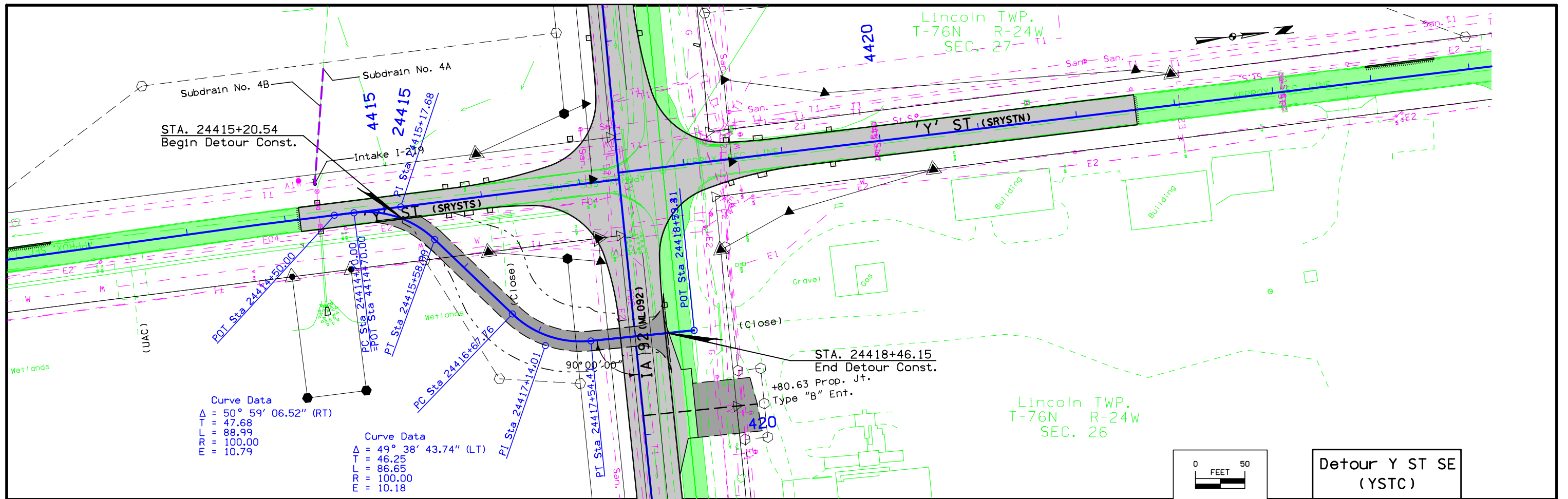




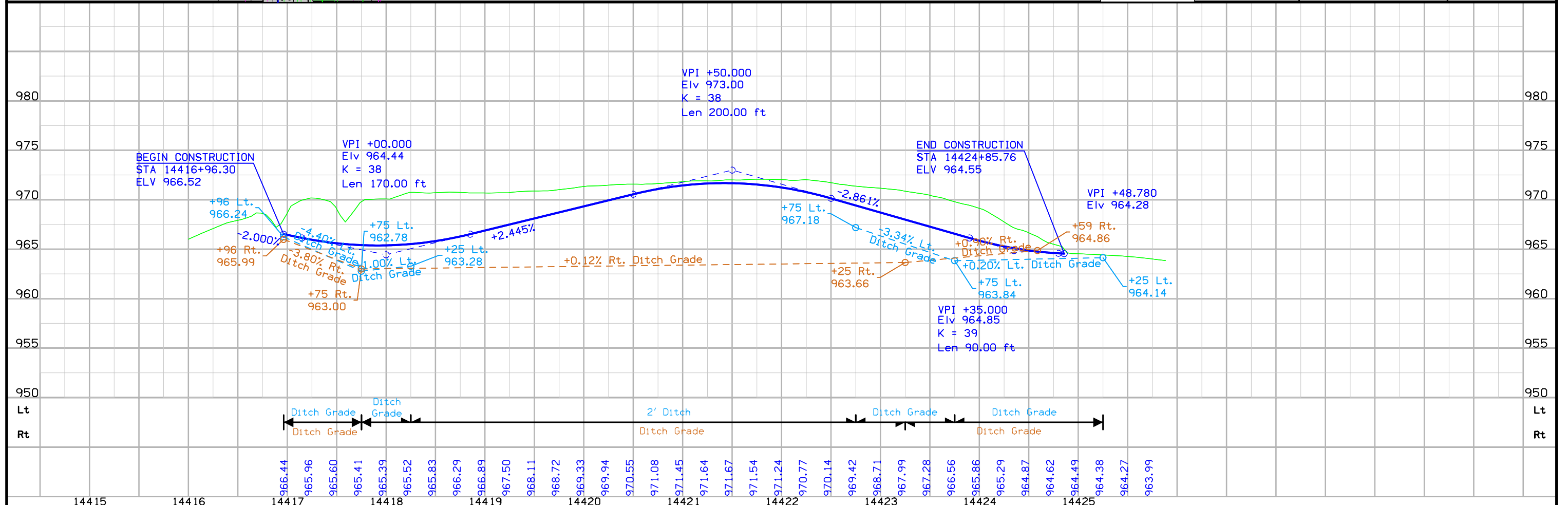
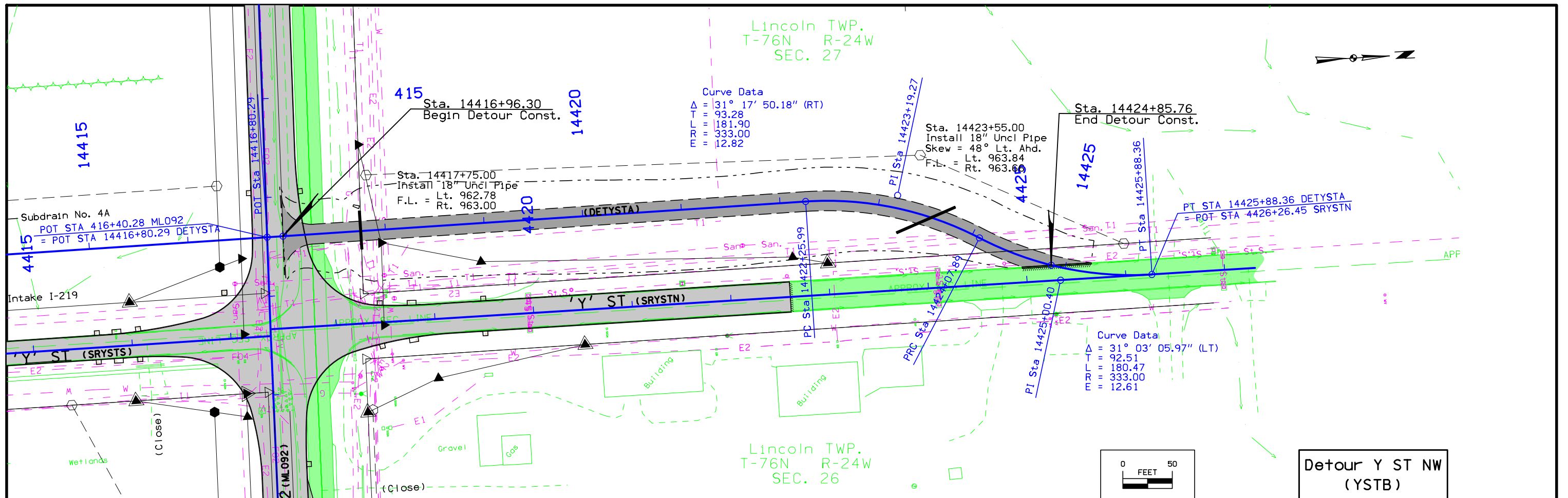


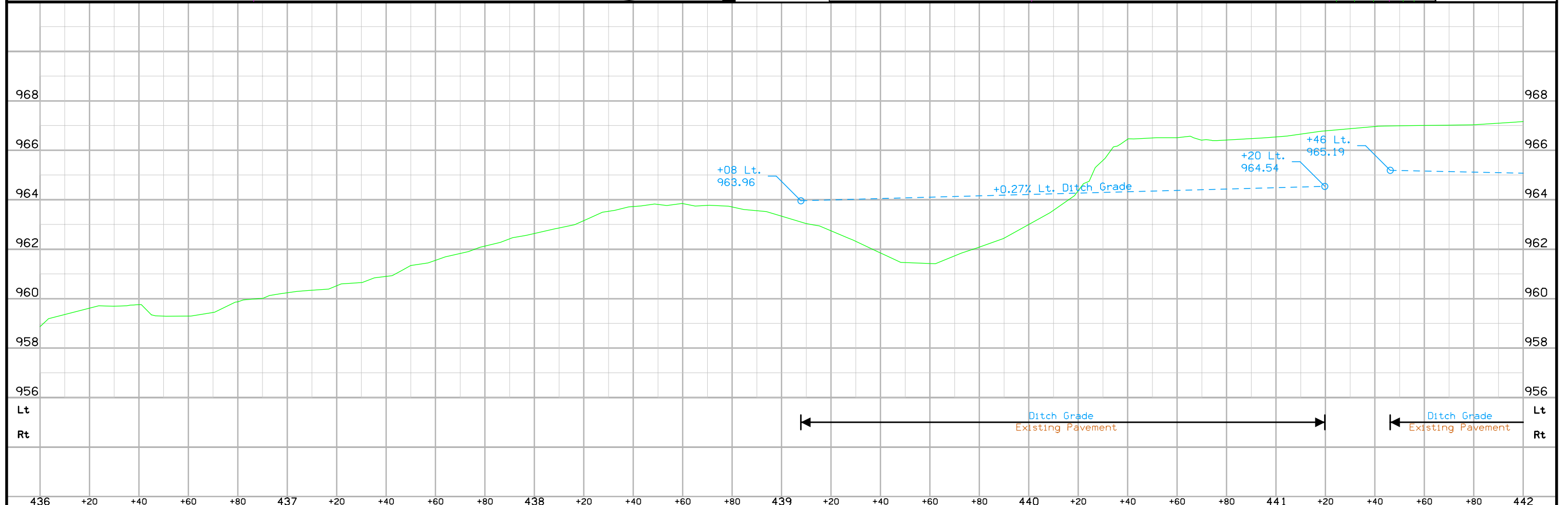
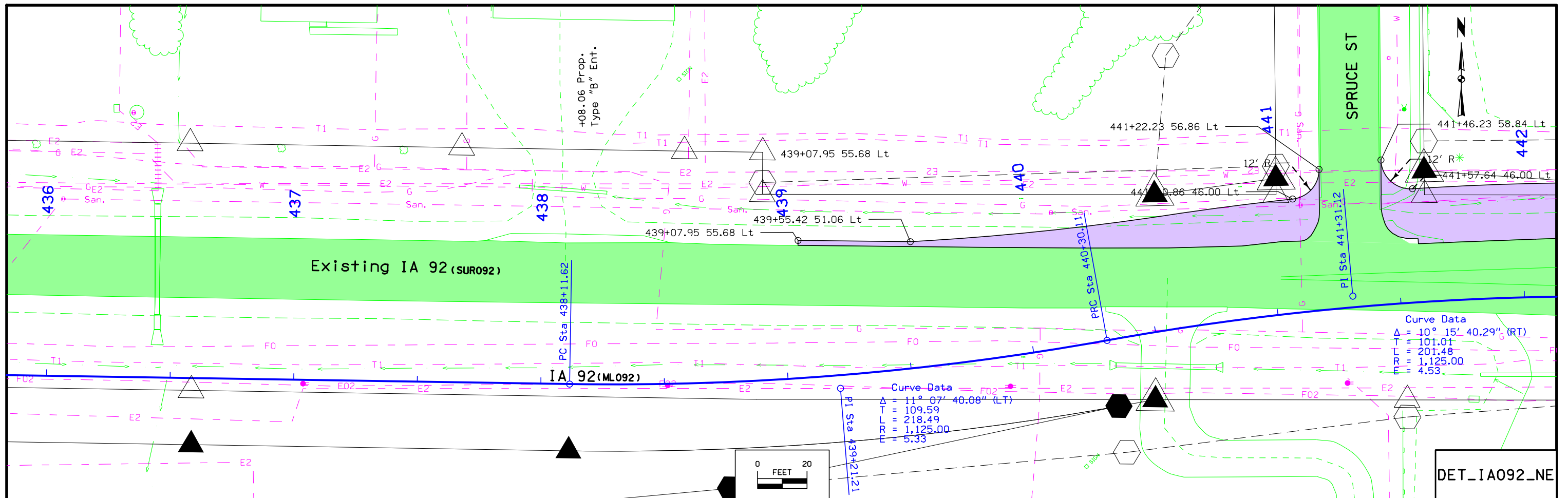


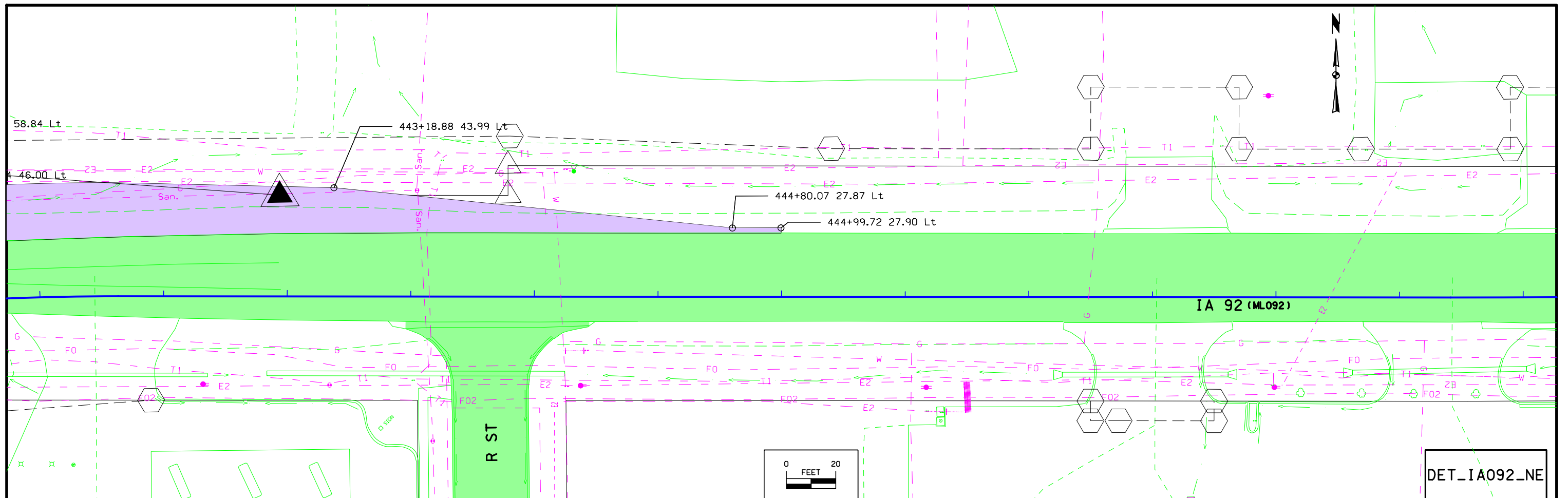
FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	F.3
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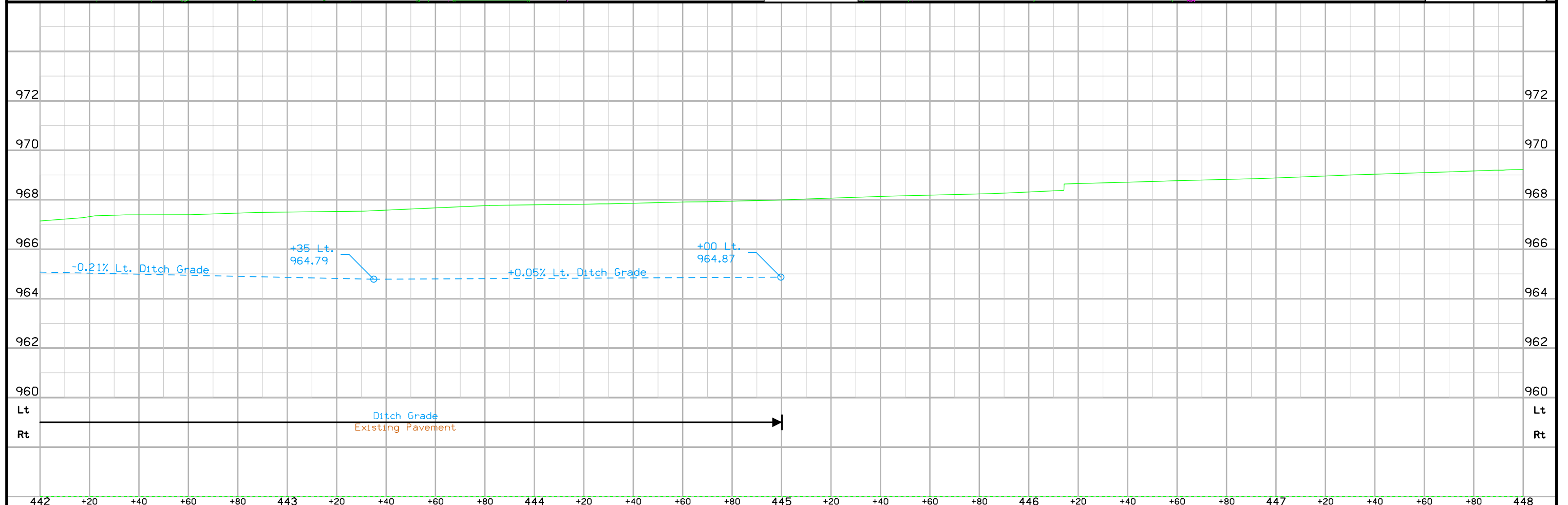


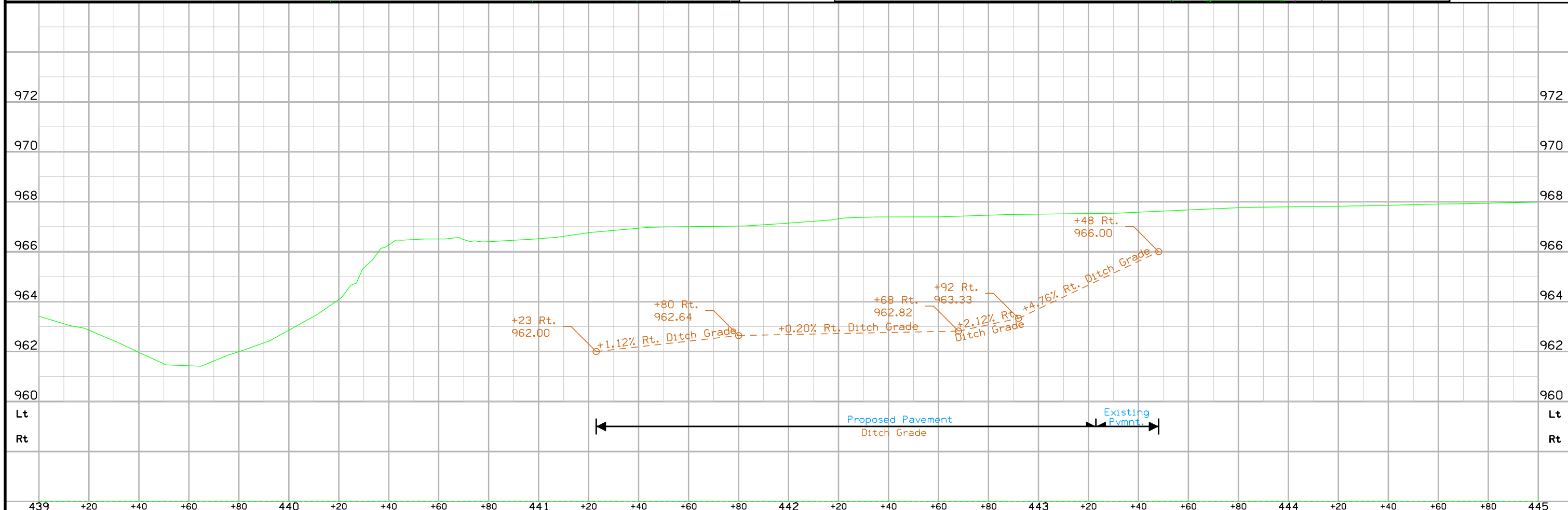
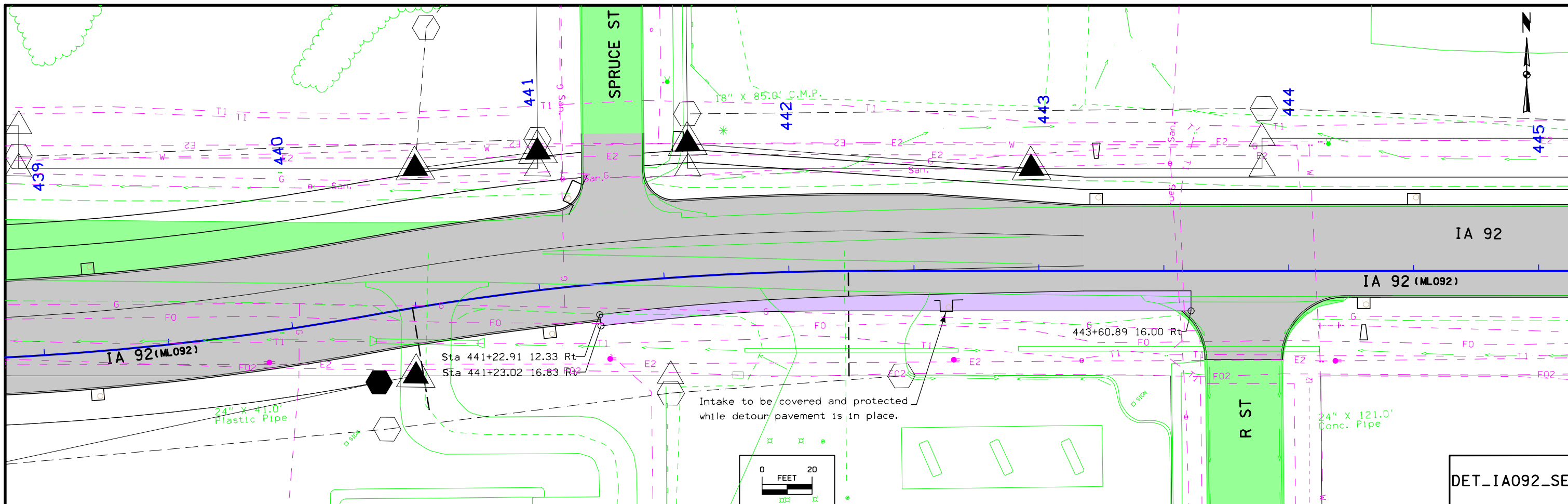


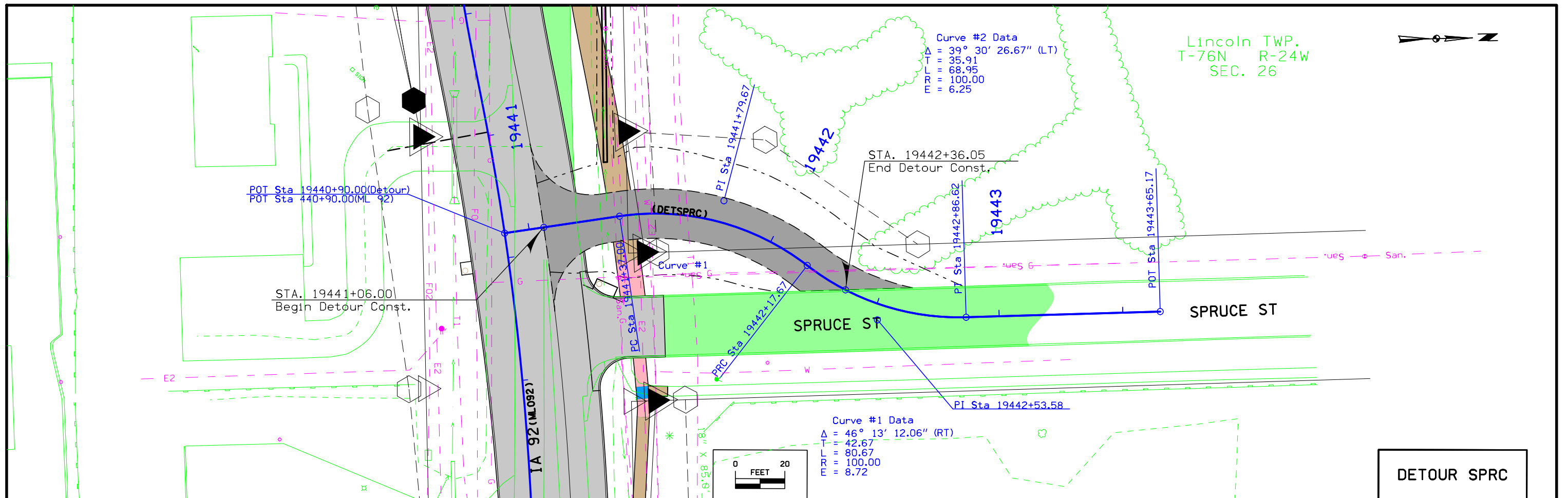




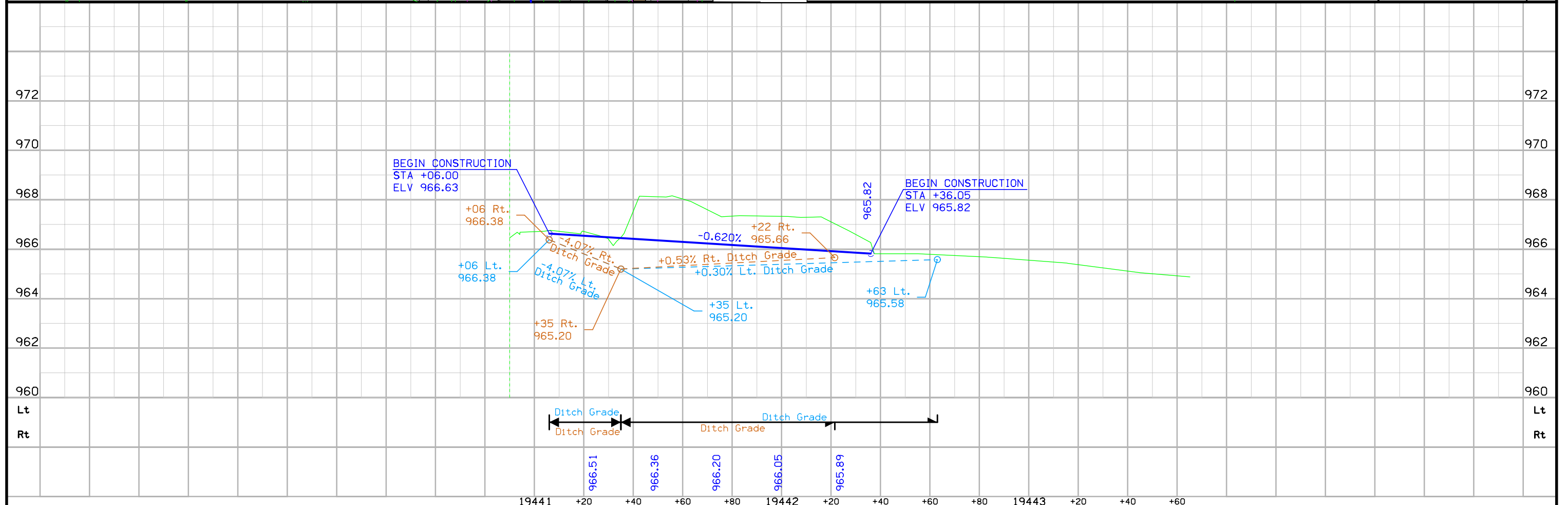
DET\_IA092\_NE







DETOUR SPRC



# Survey Information

Warren County  
 STP-092-5(46)--2C-91  
 IA 92 From Just W. of Co. Rd. R-57  
 To S. Kenwood Blvd. in Indianola  
 04-91-092-010-01  
 Sap-0482.2

**General Information**

Measurement units for this survey are US survey feet. This survey is for improvements on IA 2 in Warren County. This field survey was to obtain roadway and drainage features and break lines. The entire digital terrain model and topography in the corridor will be completed by supplemental aerial photography..

**Vertical Control**

This survey control is relative to NAVD88 Datum in accordance with 3rd. order vertical accuracy. NAVD88 height was transferred to the project at CP # 25 & CP # 35 using averaging redundant IARTN observations applying Geoid 2009. Iowa RTN reference stations are relative vertically to highly accurate National Geodetic Survey (NGS) Reference Stations that are used by NGS for reporting heights relative to NAVD88 datum. A 3-wire level loop was run from CP # 25 through the project benchmarks and ended at CP # 35. The loop error was allowable and the error was distributed proportionately among the project marks

Vertical equations are as follows:

**Datum Benchmarks**

CP # 25 this survey, elevation 958.76=  
 G025 Project # STP-092-5(46)--2C-91, elevation 958.86

CP # 35 this survey, elevation 967.18=  
 G035 Project # STP-092-5(46)--2C-91, elevation 967.14

**Horizontal Control**

The GPS Network along this project was collected by IDOT Preliminary Survey Crews. Information about that network can be found in the 0482gpspoints.rep file included with this survey in NAD83(1996) Datum.. Iowa State Plane Coordinates were transformed to project coordinates using the following information.

General Information for GPS Project : STP-092-5(46)--2C-91 SAP 482  
 State Plane Coordinate Zone 1402 ( Iowa South Lambert )

Average Project Latitude = 41 21 46.06621  
 Resulting Radius = 6363322.382 (Meters)  
 Mean Project Elevation = 279.990 (Meters)  
 Sea Level Factor = 0.999956001  
 Average Project Scale Factor = 0.999953270  
 Combined Factor (Grid) = 0.999909273  
 1 / Grid = 1.000090735  
 Vertical Datum = NAVD 88 <> Horizontal Datum = NAD 83 (1996)

**Local Project Plane Coordinate Conversion Equation:**

- a. Local Project Coord y = [(State Plane y - hold point y) 1/grid factor] + hold point y
- b. Local Project Coord x = [(State Plane x - hold point x) 1/grid factor] + hold point x

**Alignment Information**

The horizontal alignment for this survey is a retrace of As-built Plans No. P-569 Survey stationing was equated to the plans at PI Sta. 263+46.7 and carried back and ahead with no equation throughout the survey.

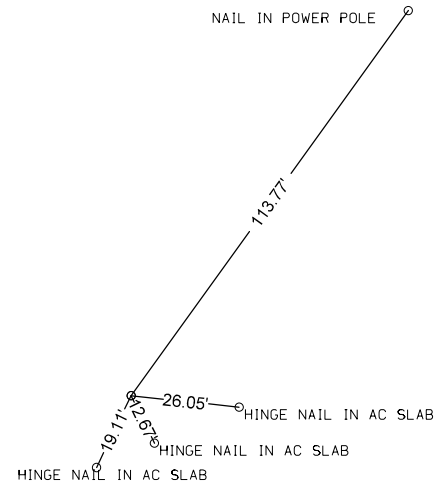
Equations are as follows:

- PI Sta. 263+46.7 This Survey  
 = PI Sta. 263+46.7 As-built Plans Project No. P-569
- PI Sta. 283+70.97 This Survey  
 = PI Sta. 283+72.3 As-built Plans Project No. P-569
- PI Sta. 310+25.39 This Survey  
 = PI Sta. 310+27.4 As-built Plans Project No. P-569
- PI Sta. 336+71.87 This Survey  
 = PI Sta. 336+75.5 As-built Plans Project No. P-569
- PI Sta. 343+73.27 This Survey  
 = PI Sta. 343+76.9 As-built Plans Project No. P-569
- PI Sta. 351+45.19 This Survey  
 = PI Sta. 351+50.8 As-built Plans Project No. P-569
- PI Sta. 365+06.91 This Survey  
 = PI Sta. 365+11.5 As-built Plans Project No. P-569
- PI Sta. 391+01.81 This Survey  
 = PI Sta. 391+06.4 As-built Plans Project No. P-569
- PI Sta. 417+36.67 This Survey  
 = PI Sta. 417+43.4 As-built Plans Project No. P-569
- PI Sta. 438+87.96 This Survey  
 = PI Sta. 438+94.7 As-built Plans Project No. P-569
- PI Sta. 451+20.2 This Survey  
 = PI Sta. 451+26.0 As-built Plans Project No. P-569

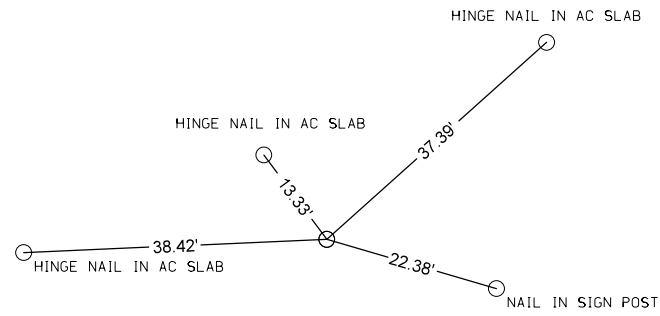
## VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Description
659	494848.786	1597094.294	932.179	246+17.65	45.909	SETRR SPK E SIDE 1ST POWER POLE
660	494140.746	1598099.141	950.571	258+46.84	34.474	SETRR SPK E SIDE POWER POLE
661	493843.985	1598916.852	962.955	267+16.92	26.062	SETRR SPK N SIDE POWER POLE
662	493790.182	1599914.401	969.535	277+15.27	62.083	SETRR SPK N SIDE POWER POLE
663	493809.495	1600544.970	971.893	283+45.39	31.540	SETRR SPK N SIDE POWER POLE
664	493801.002	1601735.334	967.621	295+35.44	31.666	SETRR SPK N SIDE POWER POLE
665	493793.570	1602616.804	980.958	304+16.94	33.113	SETRR SPK N SIDE POWER POLE
666	493774.151	1603186.184	970.300	309+86.44	48.666	CONC MONUMENT
667	493761.377	1604526.042	975.070	323+26.48	49.186	CONC MONUMENT
668	493764.357	1605810.055	968.332	336+10.41	34.374	SETRR SPK S SIDE POWER POLE
669	493952.361	1606901.909	974.072	347+14.74	48.102	SETRR SPK W SIDE POWER POLE
670	494182.094	1608008.803	966.556	358+97.50	39.449	SETRR SPK N SIDE POWER POLE
671	494163.385	1609230.603	974.025	371+19.20	53.216	SETRR SPK S SIDE POWER POLE
672	494181.064	1610588.817	975.829	384+77.37	32.550	CUT X ON R.O.W. RAIL
673	494255.767	1611520.232	974.200	394+07.47	-51.566	CUT X NW BOLT 1ST FIRE HYDRANT
674	494225.721	1612685.096	976.154	405+72.72	-52.100	CUT X ON NW BOLT FIRE HYDRANT
675	494186.822	1613914.713	967.557	418+03.27	-44.989	CUT X ON NW BOLT FIRE HYDRANT
676	494060.801	1615399.101	965.440	432+89.77	53.111	CUT X ON NE BOLT FIRE HYDRANT
677	494169.002	1616259.880	969.058	441+49.41	-67.303	CUT X ON SW BOLT FIRE HYDRANT
678	494142.697	1617266.587	971.521	451+58.64	-31.568	CUT X ON S BOLT FIRE HYDRANT
679	494179.247	1618305.076	967.642	461+96.05	46.333	CUT X ON SE BOLT FIRE HYDRANT
680	494489.398	1619450.029	968.177	Off Chain	Off Chain	NE BOLT FIRE HYDRANT

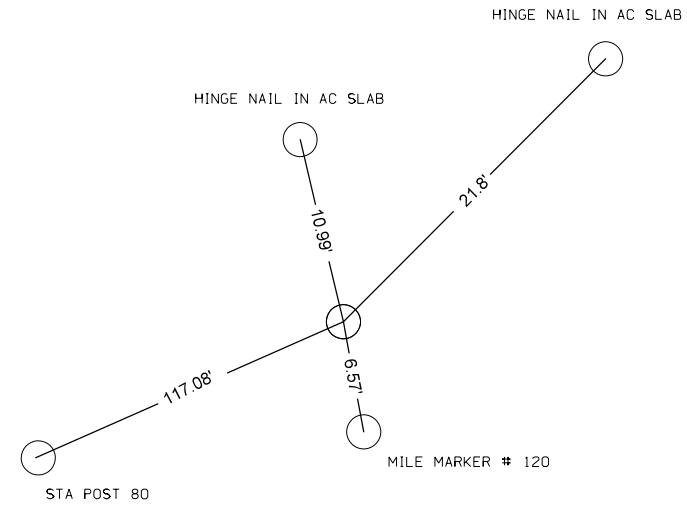
CP STA OFF CHAIN  
 CP No. 10, Fd. Rebar  
 N=496175.910, E=1561565.170



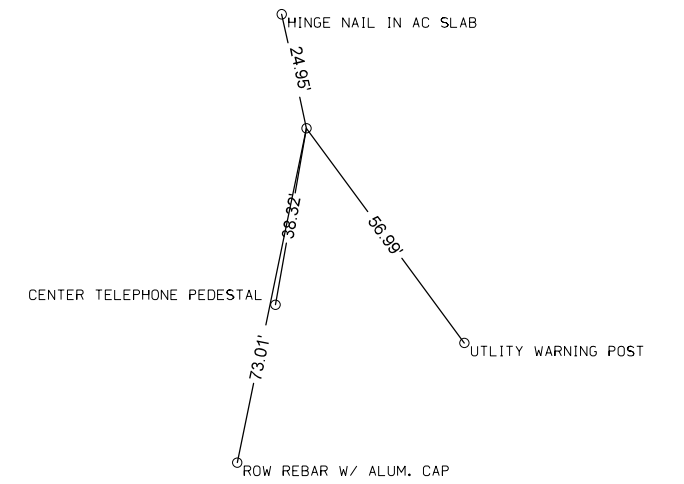
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 CP No. 12, Fd. Feno Monument  
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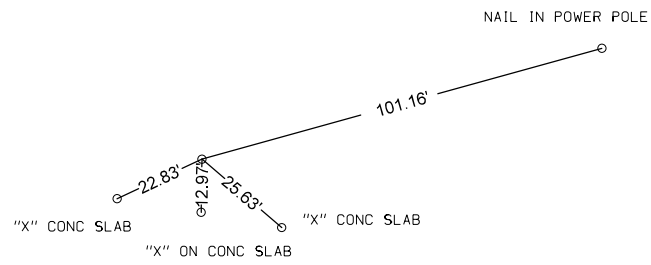
CP STA OFF CHAIN  
 CP No. 13, Fd. Rebar  
 N=498065.040, E=1568426.330,



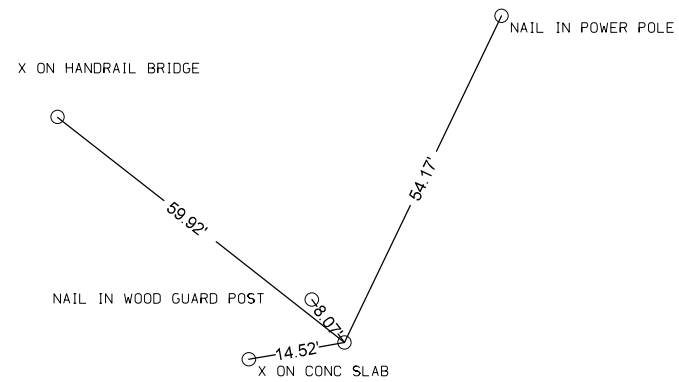
CP STA OFF CHAIN  
 CP No. 14, Fd. Rebar  
 N=498911.550, E=1571561.620,



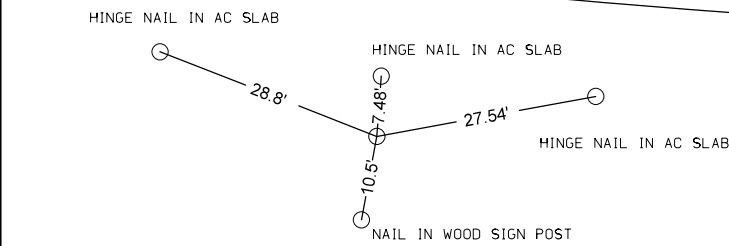
CP STA 3+91.63, 180.71 Rt.  
 CP No. 15, Fd. Rebar  
 N=499571.430, E=1574333.310,



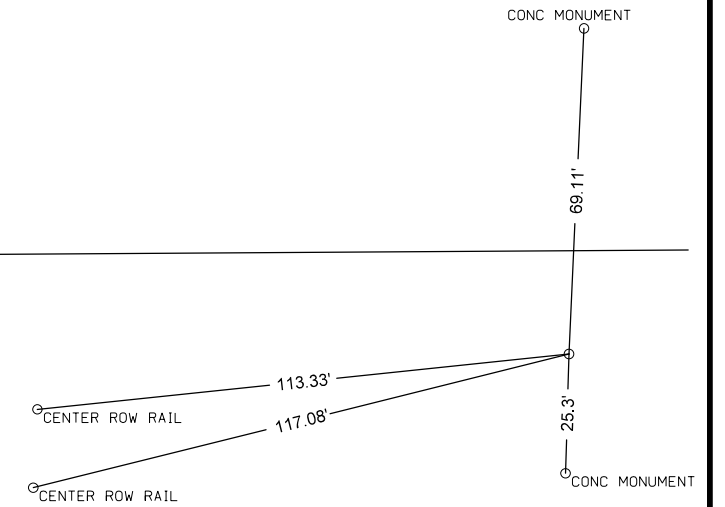
CP STA 23+47.79, 21.90 Lt.  
 CP No. 16, Fd. Rebar  
 N=498516.240, E=1575992.890,



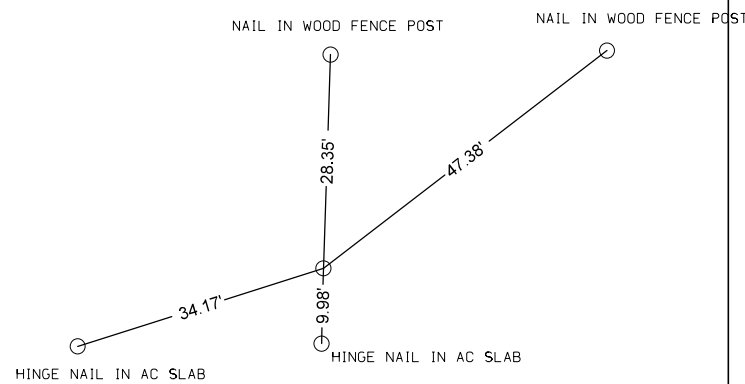
CP STA 36+16.39, 19.13 Rt.  
 CP No. 17, Fd. Rebar  
 N=497895.020, E=1577077.580,



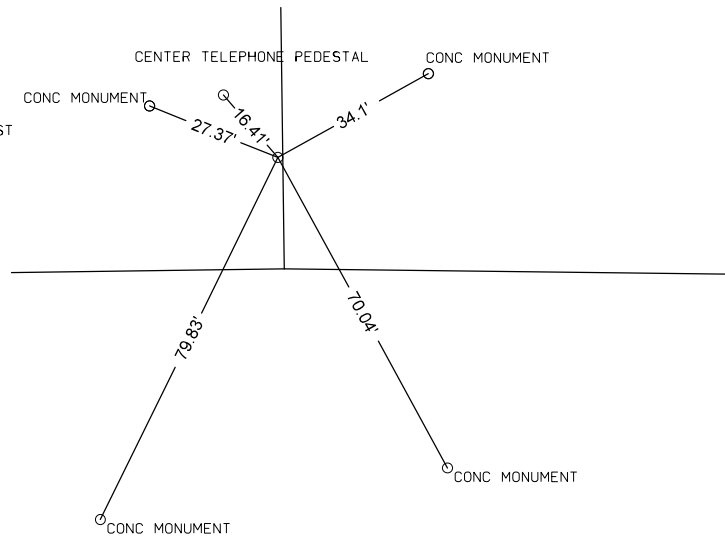
CP STA 68+34.41, 21.89 Rt.  
 CP No. 18, Fd. Rebar  
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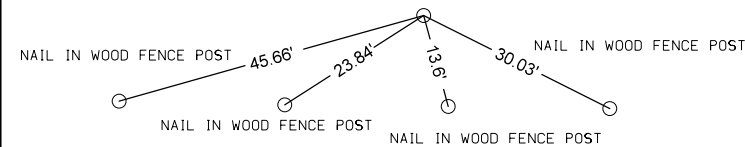
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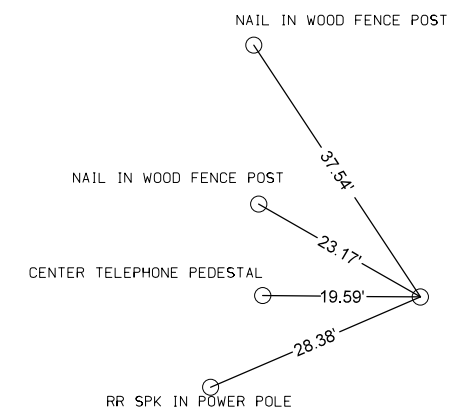
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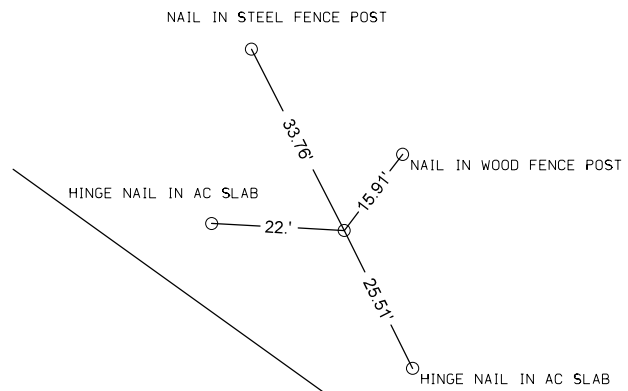
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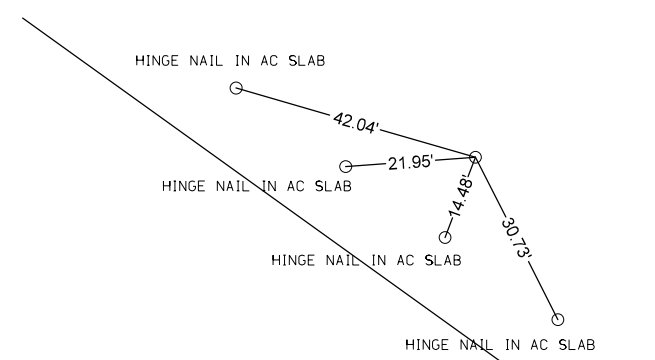
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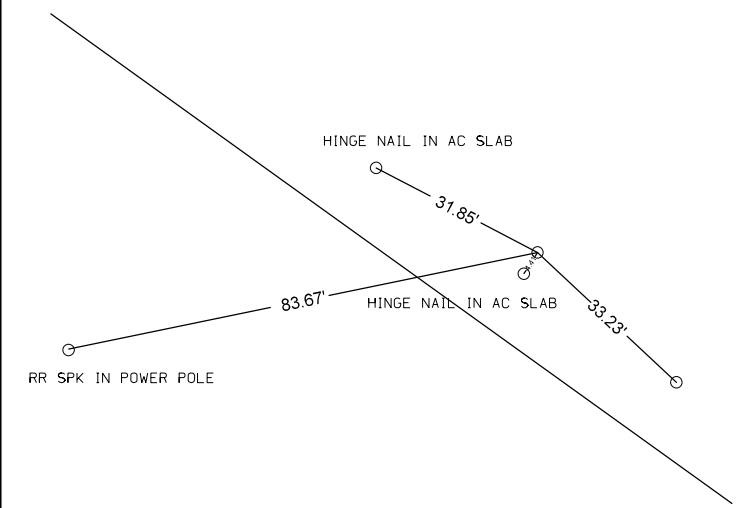
CP STA 202+26.65, 23.77 Lt.  
 CP No. 23, Fd. Rebar  
 N=497467.850, E=1593569.210,



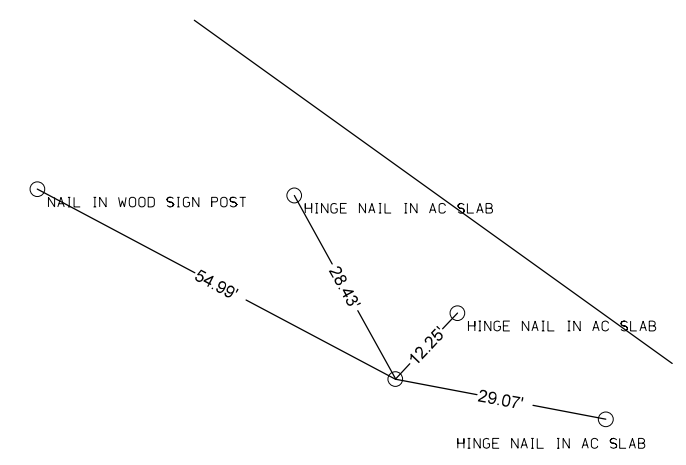
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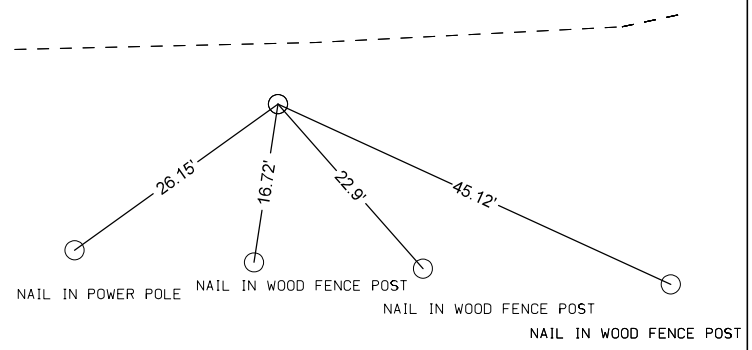
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 CP No. 324, Fd. Iron Pin  
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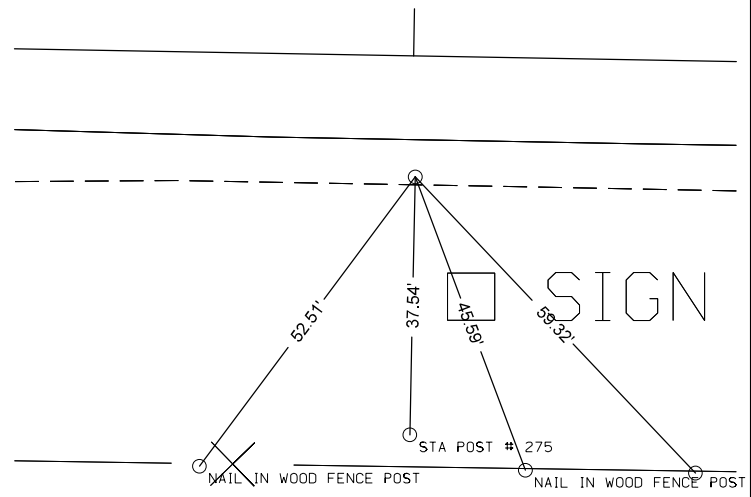
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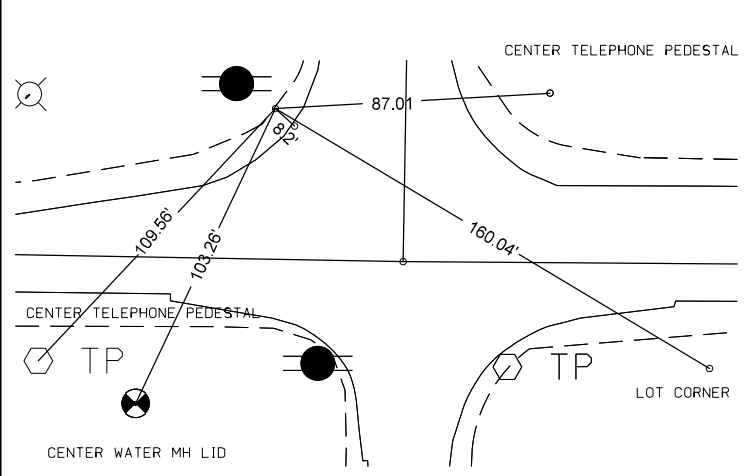
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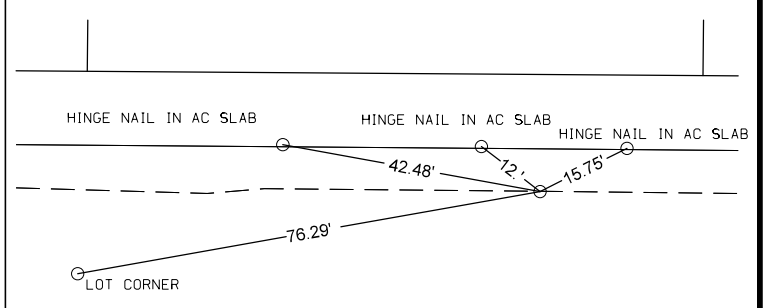
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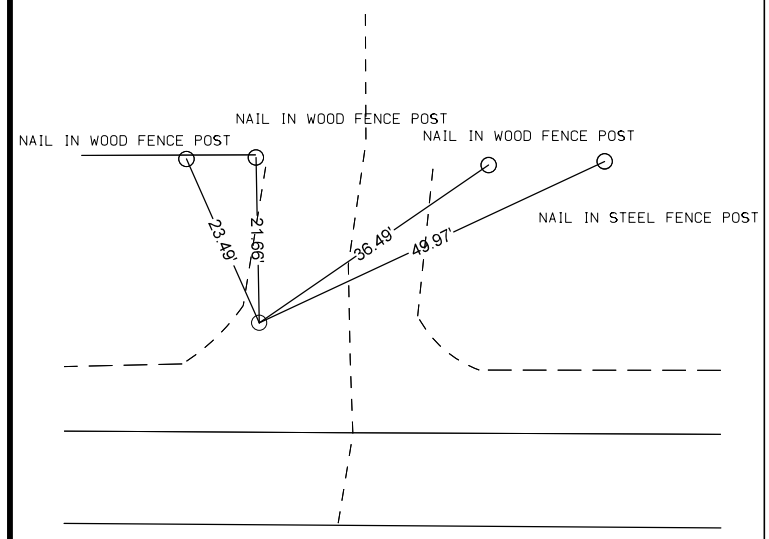
CP STA 283+29.75, 47.72 Lt.  
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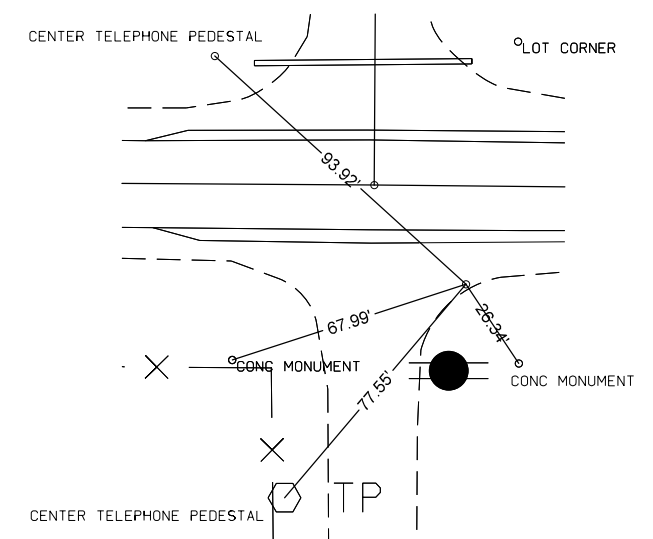
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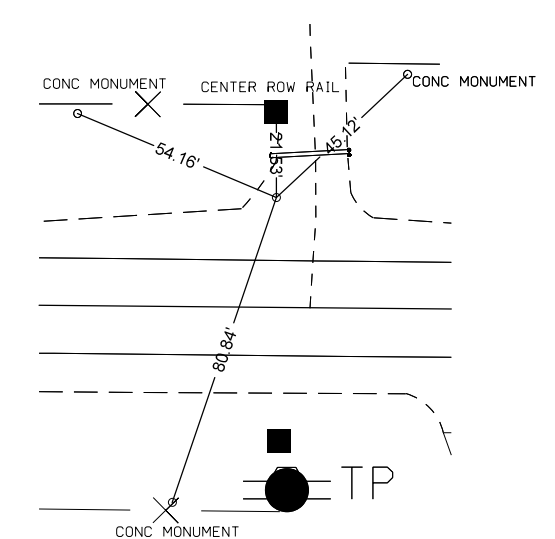
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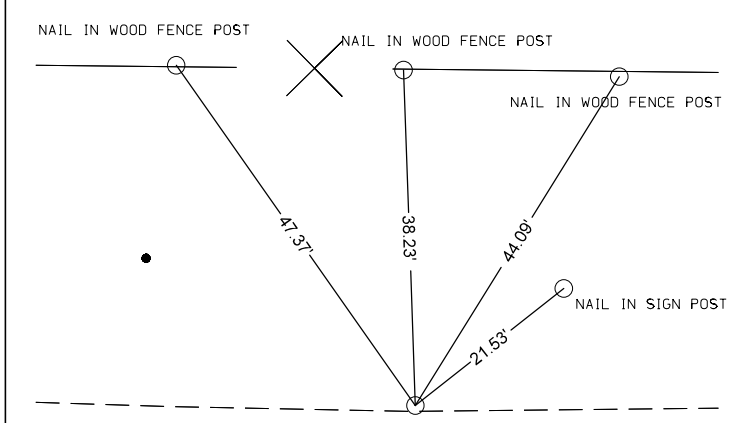
CP STA 310+51.04, 27.19 Rt.  
 CP No. 328, Fd. Iron Pin  
 N=493795.126, E=1603250.863,



CP STA 323+51.93, 27.54 Lt.  
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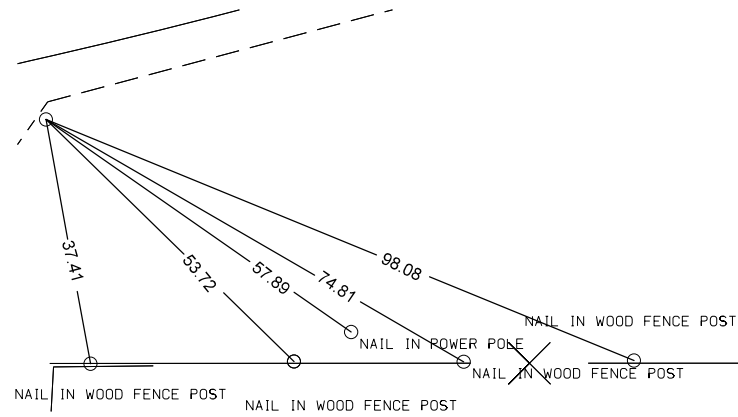


CP STA 331+33.48, 20.40 Lt.  
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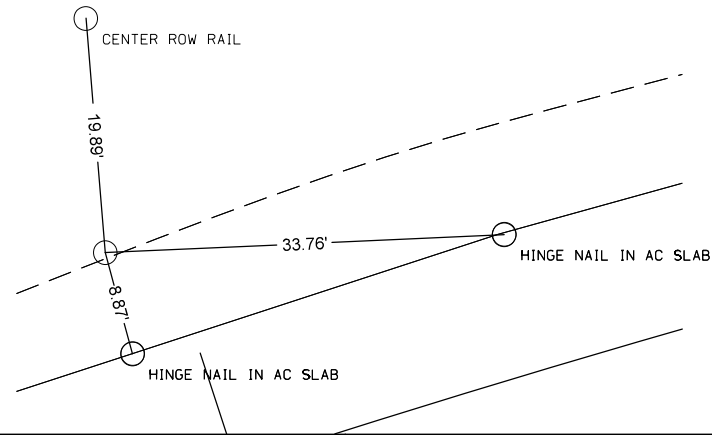




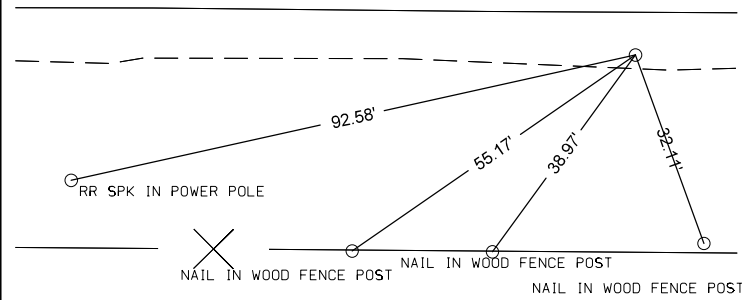
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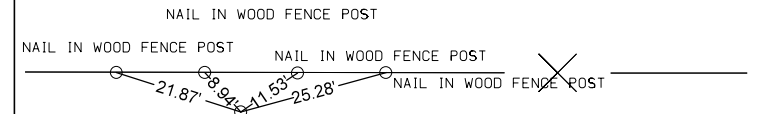
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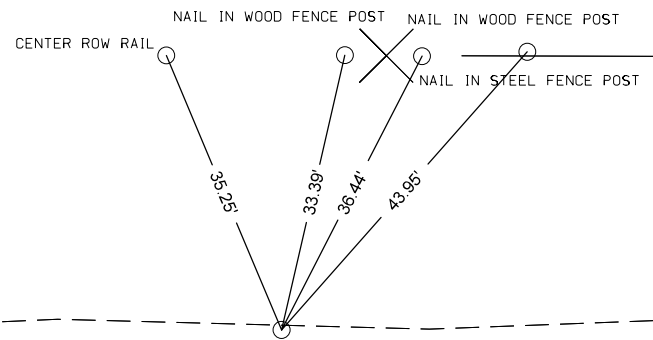
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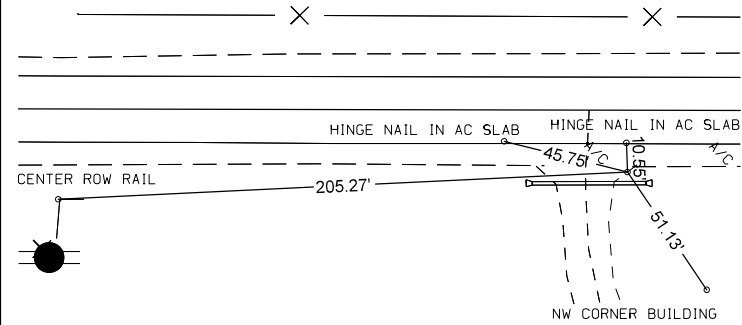
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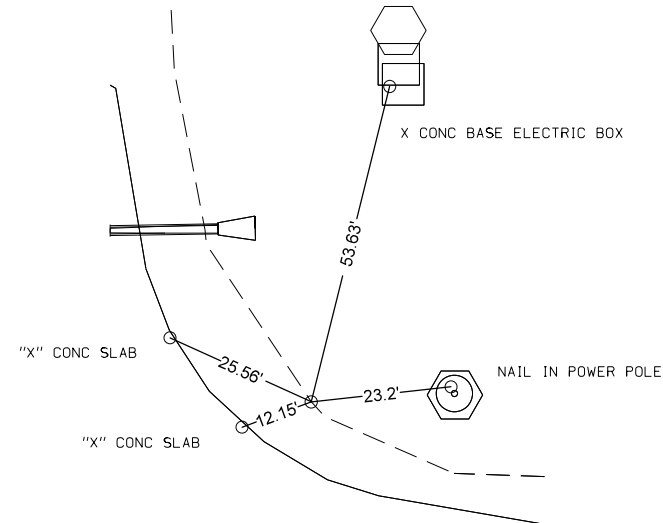
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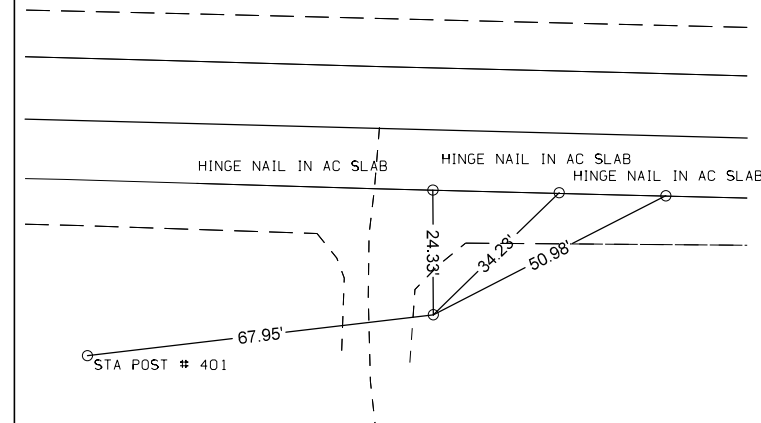
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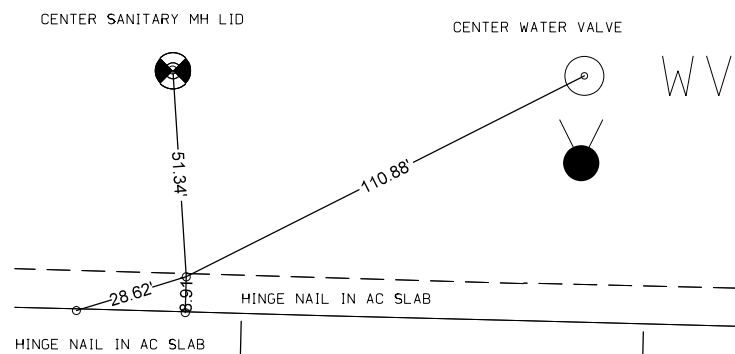
CP STA 391+45.71, 33.75 Lt.  
 CP No. 332, Fd. Iron Pin  
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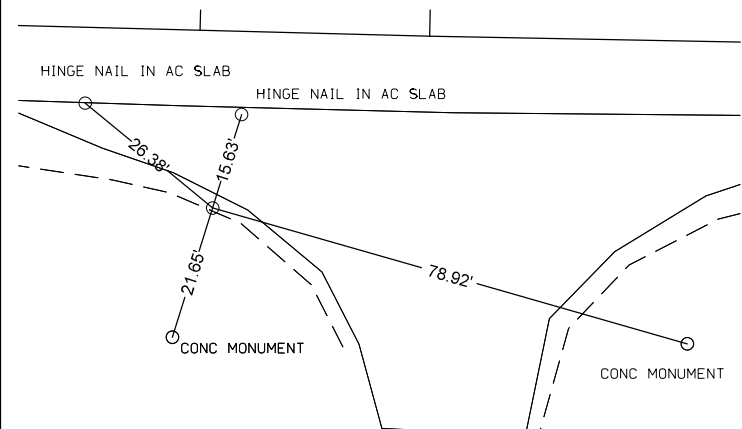
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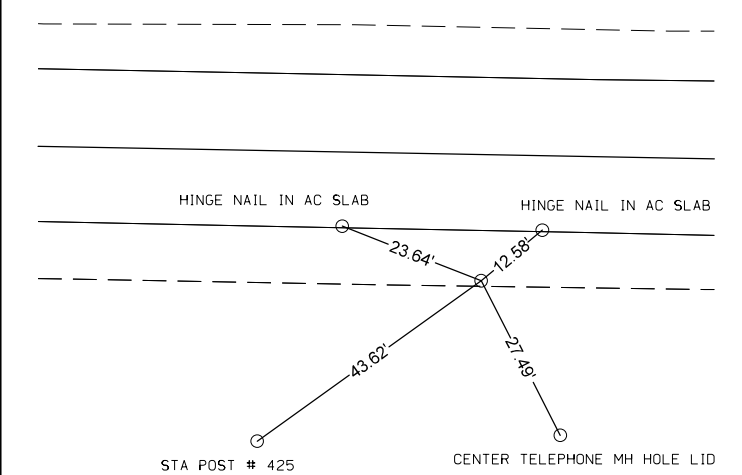
CP STA 408+86.04, 20.70 Lt.  
 CP No. 333, Fd. Iron Pin  
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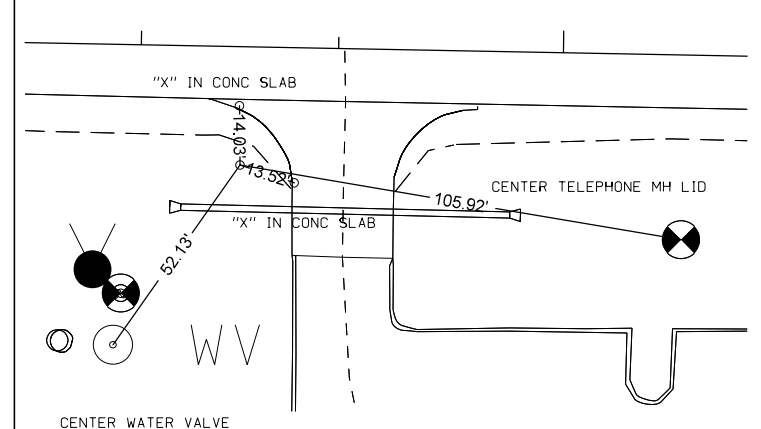
CP STA 417+02.74, 28.34 Rt.  
 CP No. 334, Fd. Iron Pin  
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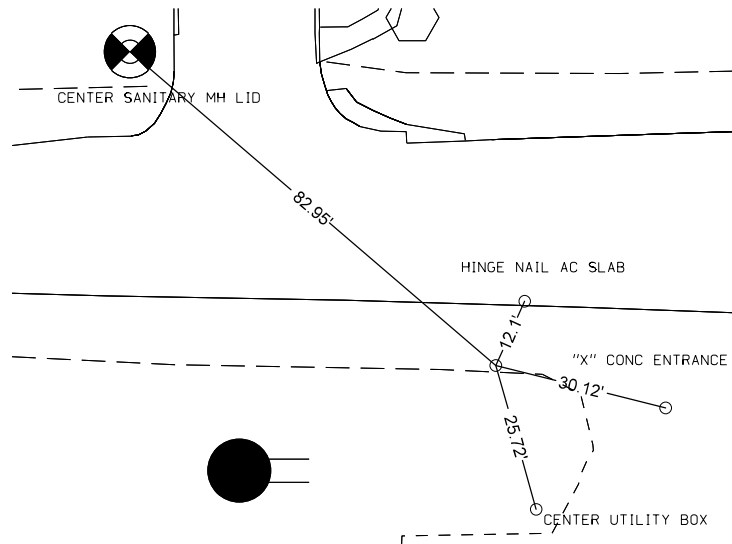
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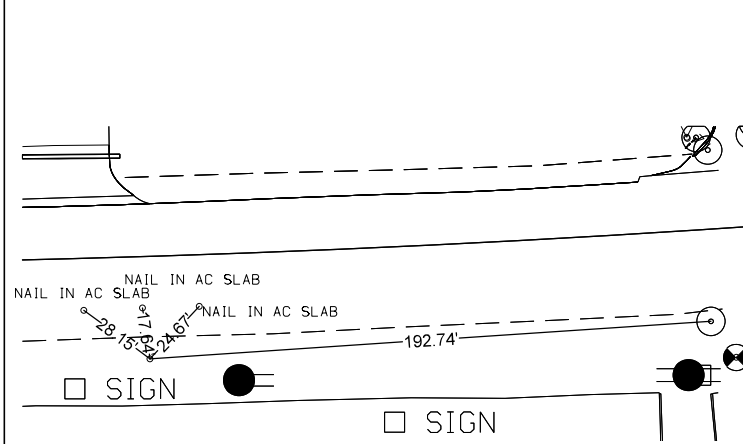
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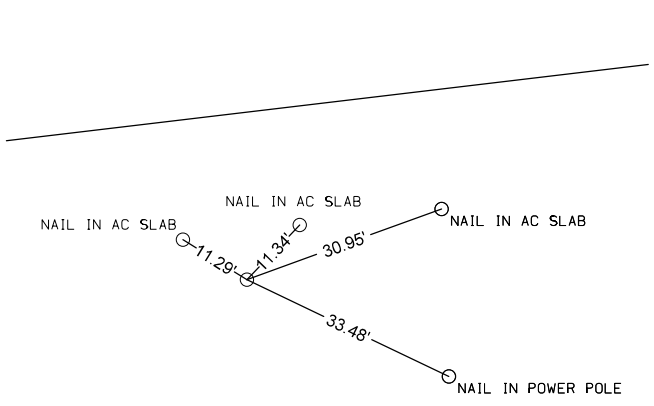
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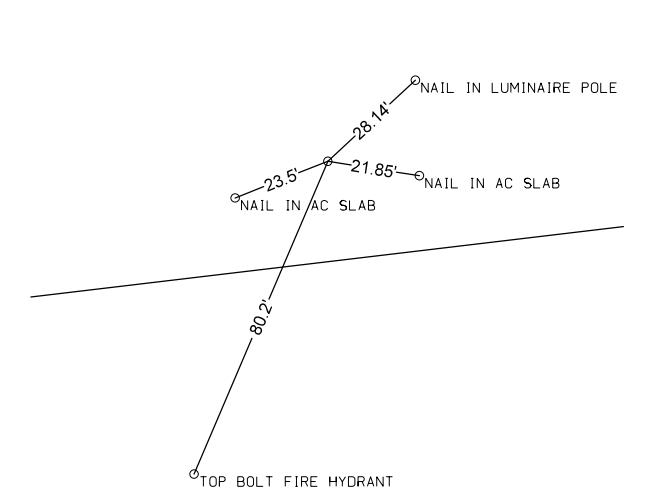
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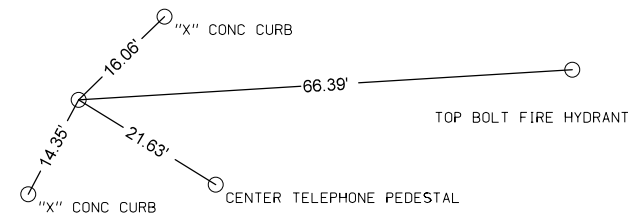
CP STA 455+71.13, 24.86 Rt.  
 CP No. 337, Fd. Iron Pin  
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CP STA 462+35.77, 23.50 Lt.  
 CP No. 338, Fd. Iron Pin  
 N=494253.285, E=1618336.278,



CP STA Off Chain  
 CP No. 339, Fd. Iron Pin



## 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)
IA 92																			
20001	ML092	255+00.00	494,371.15	1,597,837.61															
20006	ML092				258+45.63	494,169.44	1,598,118.28	260+05.63	494,078.36	1,598,249.80	264+10.92	493,839.55	1,598,577.33	267+85.11	493,838.66	1,598,982.67	269+45.11	493,834.41	1,599,142.60
20015	ML092				337+72.34	493,772.36	1,605,969.55	339+32.34	493,773.69	1,606,129.52	342+33.59	493,768.17	1,606,430.78	345+19.31	493,909.54	1,606,696.86	346+79.31	493,980.80	1,606,840.09
20022	ML092				347+85.31	494,029.67	1,606,934.15	349+45.31	494,100.94	1,607,077.39	352+55.89	494,246.61	1,607,351.75	355+49.82	494,237.44	1,607,662.25	357+09.82	494,236.94	1,607,822.23
20028	ML092	391+01.53	494,167.24	1,611,213.23				390+67.33	494,167.94	1,611,179.03				391+35.73	494,166.34	1,611,247.42			
20032	ML092	417+35.31	494,098.11	1,613,846.10				416+90.59	494,099.28	1,613,801.39				417+80.03	494,097.27	1,613,890.81			
20036	ML092	439+21.21	494,057.02	1,616,031.61				438+11.62	494,059.08	1,615,922.04				440+30.11	494,076.15	1,616,139.52			
20038	ML092	441+31.12	494,093.78	1,616,238.98				440+30.11	494,076.15	1,616,139.52				442+31.59	494,093.40	1,616,339.99			
20043	ML092							447+70.70	494,091.42	1,616,879.10	451+22.49	494,090.13	1,617,230.88	454+73.40	494,131.67	1,617,580.21			
20046	ML092	466+80.72	494,274.21	1,618,779.08															
Kennedy St.																			
31000	SRKENNEDY	1256+05.14	493,946.86	1,597,951.77															
31002	SRKENNEDY	1258+87.00	494,145.34	1,598,151.90															
31033	SRKENNEDY_RET_3							0+00.00	494,171.19	1,598,078.16	0+59.10	494,136.70	1,598,126.15	0+86.86	494,095.08	1,598,084.19			
31043	SRKENNEDY_RET_4							0+00.00	494,093.08	1,598,116.25	0+41.58	494,122.37	1,598,145.78	0+69.38	494,098.67	1,598,179.95			
R-57																			
30000	SR57S	1273+87.78	492,836.02	1,600,580.14															
30003	SR57S	1283+73.24	493,821.43	1,600,570.67															
30010	SR57N	1383+68.17	493,821.48	1,600,565.60															
30013	SR57N	1394+41.91	494,895.22	1,600,565.83															
30015	SR57N_RET_1	0+00.00	494,059.22	1,600,576.65															
30016	SR57N_RET_1							0+00.00	494,059.22	1,600,576.65	0+64.51	493,994.71	1,600,576.64	1+28.53	493,931.67	1,600,590.34			
30017	SR57N_RET_1							1+28.53	493,931.67	1,600,590.34	1+74.21	493,887.03	1,600,600.04	2+10.58	493,875.17	1,600,644.15			
30018	SR57N_RET_1							2+10.58	493,875.17	1,600,644.15	2+36.09	493,868.54	1,600,668.77	2+61.32	493,868.31	1,600,694.28			
30026	SR57N_RET_2							0+00.00	493,860.45	1,600,459.51	0+82.18	493,859.70	1,600,541.69	1+33.20	493,941.47	1,600,549.88			
30025	SR57N_RET_2	1+80.88	493,988.91	1,600,554.64															
30035	SR57S_RET_3	0+00.00	493,790.59	1,600,443.07															
30036	SR57S_RET_3							0+00.00	493,790.59	1,600,443.07	0+25.50	493,790.36	1,600,468.58	0+50.73	493,783.74	1,600,493.20			
30037	SR57S_RET_3							0+50.73	493,783.74	1,600,493.20	0+95.90	493,772.00	1,600,536.83	1+32.05	493,727.96	1,600,546.85			
30038	SR57S_RET_3							1+32.05	493,727.96	1,600,546.85	1+96.56	493,665.05	1,600,561.17	2+60.58	493,600.54	1,600,561.79			
30045	SR57S_RET_4	0+00.00	493,670.76	1,600,583.12															
30046	SR57S_RET_4							0+45.99	493,716.56	1,600,587.25	1+28.98	493,799.21	1,600,594.72	1+80.07	493,798.46	1,600,677.71			
90th Ave																			
40000	SR90TH	2303+28.16	493,097.25	1,603,227.88															
40002	SR90TH	2310+28.21	493,797.30	1,603,225.53															
40004	SR90TH	2317+28.21	494,497.30	1,603,223.17															
40013	SR90TH_RET_1							0+00.00	493,868.57	1,603,237.29	0+49.38	493,819.19	1,603,237.45	0+77.92	493,818.75	1,603,286.83			
40023	SR90TH_RET_2							0+00.00	493,819.87	1,603,162.83	0+50.63	493,819.41	1,603,213.45	0+79.16	493,870.04	1,603,213.28			
40033	SR90TH_RET_3							0+00.00	493,775.86	1,603,164.22	0+49.38	493,775.41	1,603,213.60	0+77.92	493,726.03	1,603,213.77			
40043	SR90TH_RET_4							0+00.00	493,724.56	1,603,237.77	0+50.63	493,775.19	1,603,237.60	0+79.16	493,774.73	1,603,288.23			
R-63																			
50000	SR63S	3384+70.68	493,534.41	1,611,217.98															
50001	SR63S	3391+03.42	494,167.15	1,611,215.11															
50010	SR63N	3391+03.95	494,167.14	1,611,215.64															
50011	SR63N	3398+03.35	494,866.40	1,611,201.59															
50015	SR63N_RET_1	0+00.00	494,205.30	1,611,325.71															
50010	SR63N_RET_1							0+00.00	494,205.30	1,611,325.71	0+15.05	494,205.70	1,611,310.66	0+30.00	494,209.07	1,611,296.00			
50011	SR63N_RET_1							0+30.00	494,209.07	1,611,296.00	0+71.47	494,218.38	1,611,255.59	1+05.76	494,257.55	1,611,241.98			
50012	SR63N_RET_1							1+05.76	494,257.55	1,611,241.98	1+61.22	494,309.93	1,611,223.78	2+15.76	494,365.38	1,611,222.66			
50020	SR63N_RET_2	0+00.00	494,313.06	1,611,201.71															
50020	SR63N_RET_2							0+00.00	494,313.06	1,611,201.71	0+30.41	494,282.66	1,611,202.32	0+60.00	494,254.42	1,611,191.04			
50021	SR63N_RET_2							0+60.00	494,254.42	1,611,191.04	0+97.40	494,219.69	1,611,177.17	1+28.70	494,211.91	1,611,140.59			
50022	SR63N_RET_2							1+28.70	494,211.91	1,611,140.59	1+86.46	494,199.90	1,611,084.10	2+43.70	494,201.09	1,611,026.35			
50030	SR63S_RET_3	0+00.00	494,137.72	1,611,092.51															
50030	SR63S_RET_3							0+00.00	494,137.72	1,611,092.51	0+25.23	494,137.20	1,611,117.74	0+50.00	494,128.45	1,611,141.41			
50031	SR63S_RET_3							0+50.00	494,128.45	1,611,141.41	0+89.97	494,114.60	1,611,178.90	1+24.13	494,076.30	1,611,190.34			
50032	SR63S_RET_3							1+24.13	494,076.30	1,611,190.34	1+74.48	494,028.07	1,611,204.74	2+24.13	493,977.72	1,611,204.97			
50040	SR63S_RET_4	0+00.00	494,040.91	1,611,226.69															
50040	SR63S_RET_4							0+00.00	494,040.91	1,611,226.69	0+25.23	494,066.14	1,611,226.57	0+50.00	494,090.03	1,611,234.72			
50041	SR63S_RET_4							0+50.00	494,090.03	1,611,234.72	0+90.24	494,128.11	1,611,247.71	1+23.87	494,138.34	1,611,286.63			
50042	SR63S_RET_4							1+23.87	494,138.34	1,611,286.63	1+66.66	494,149.22	1,611,328.01	2+08.87	494,148.10	1,611,370.78			

**ALIGNMENT COORDINATES**

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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)
Y Street																			
60019	SRYSTS	4409+96.22	493,354.04	1,613,859.40															
60013	SRYSTS	4413+72.56	493,730.32	1,613,852.79															
60015	SRYSTS	4417+40.32	494,098.08	1,613,851.11															
60000	SRYSTN	4417+33.40	494,098.23	1,613,844.19															
60001	SRYSTN	4424+09.38	494,774.21	1,613,843.99															
60002	SRYSTN	4427+30.97	495,095.81	1,613,843.80															
60010	SRYSTN_RET_1	0+00.00	494,126.55	1,613,982.68															
60010	SRYSTN_RET_1							0+00.00	494,126.55	1,613,982.68	0+25.01	494,127.02	1,613,957.67	0+50.00	494,129.57	1,613,932.78			
60011	SRYSTN_RET_1							0+50.00	494,129.57	1,613,932.78	0+98.84	494,134.55	1,613,884.20	1+35.29	494,181.86	1,613,872.10			
60012	SRYSTN_RET_1							1+35.29	494,181.86	1,613,872.10	1+85.55	494,230.56	1,613,859.65	2+35.29	494,280.82	1,613,859.64			
60020	SRYSTN_RET_2	0+00.00	494,258.82	1,613,828.64															
60020	SRYSTN_RET_2							0+00.00	494,258.82	1,613,828.64	0+25.01	494,233.80	1,613,828.65	0+50.00	494,208.87	1,613,826.58			
60021	SRYSTN_RET_2							0+50.00	494,208.87	1,613,826.58	1+07.85	494,151.22	1,613,821.78	1+48.55	494,141.22	1,613,764.80			
60022	SRYSTN_RET_2							1+48.55	494,141.22	1,613,764.80	1+98.72	494,132.55	1,613,715.39	2+48.55	494,133.87	1,613,665.24			
60030	SRYSTS_RET_3	0+00.00	494,085.85	1,613,741.67															
60030	SRYSTS_RET_3							0+00.00	494,085.85	1,613,741.67	0+12.50	494,085.52	1,613,754.17	0+25.00	494,084.41	1,613,766.62			
60031	SRYSTS_RET_3							0+25.00	494,084.41	1,613,766.62	0+76.98	494,079.80	1,613,818.40	1+14.42	494,028.91	1,613,828.96			
60032	SRYSTS_RET_3							1+14.42	494,028.91	1,613,828.96	1+64.59	493,979.78	1,613,839.15	2+14.42	493,929.62	1,613,839.38			
60040	SRYSTS_RET_4	0+00.00	493,959.32	1,613,864.24															
60040	SRYSTS_RET_4							0+00.00	493,959.32	1,613,864.24	0+25.03	493,984.36	1,613,864.13	0+50.00	494,009.21	1,613,867.14			
60041	SRYSTS_RET_4							0+50.00	494,009.21	1,613,867.14	1+03.31	494,062.13	1,613,873.54	1+42.69	494,073.48	1,613,925.63			
60042	SRYSTS_RET_4							1+42.69	494,073.48	1,613,925.63	1+77.85	494,080.96	1,613,959.98	2+12.69	494,080.30	1,613,995.13			
Spruce St.																			
70113	SRSRUCE_RET1							0+00.00	494,122.13	1,616,263.30	0+12.71	494,121.34	1,616,250.62	0+19.54	494,134.04	1,616,250.55			
70119	SRSRUCE_RET1	0+26.85	494,141.36	1,616,250.52															
70121	SRSRUCE_RET2	0+00.00	494,141.23	1,616,225.51															
70127	SRSRUCE_RET2							0+11.17	494,130.06	1,616,225.57	0+22.03	494,119.20	1,616,225.63	0+28.83	494,118.06	1,616,214.83			
R St.																			
70233	SRRST_RET3							0+00.00	494,082.50	1,616,449.86	0+25.00	494,082.41	1,616,474.86	0+39.27	494,057.41	1,616,474.77			
70243	SRRST_RET4							0+00.00	494,057.30	1,616,505.77	0+25.00	494,082.29	1,616,505.86	0+39.27	494,082.20	1,616,530.86			
Kenwood Blvd.																			
70313	SRKENWOOD_RET1							0+00.00	494,135.15	1,617,344.79	0+27.45	494,133.04	1,617,317.42	0+41.60	494,160.49	1,617,317.88			
70319	SRKENWOOD_RET1	0+43.31	494,162.20	1,617,317.90															
70321	SRKENWOOD_RET2	0+00.00	494,159.33	1,617,276.75															
70327	SRKENWOOD_RET2							0+06.13	494,153.20	1,617,276.56	0+29.13	494,130.20	1,617,276.10	0+43.32	494,128.76	1,617,253.14			
P St.																			
70513	SRPST_RET1							0+00.00	494,174.26	1,617,713.96	0+31.22	494,170.56	1,617,682.96	0+49.48	494,201.46	1,617,678.50			
70523	SRPST_RET2							0+00.00	494,198.40	1,617,652.73	0+31.22	494,167.31	1,617,655.64	0+49.48	494,163.64	1,617,624.64			
70433	SRPST_RET3							0+00.00	494,112.14	1,617,499.97	0+15.59	494,113.76	1,617,515.48	0+29.01	494,102.55	1,617,526.31			
70443	SRPST_RET4							0+00.00	494,107.57	1,617,570.81	0+15.62	494,120.93	1,617,578.89	0+29.06	494,122.78	1,617,594.40			
N St.																			
70633	SRNST_RET3							0+00.00	494,205.32	1,618,288.66	0+15.28	494,207.13	1,618,303.84	0+27.43	494,194.45	1,618,312.36			
70643	SRNST_RET4							0+00.00	494,198.28	1,618,344.59	0+15.32	494,212.64	1,618,349.91	0+27.48	494,214.42	1,618,365.13			
Detour R-57																			
10001	DETR57							11277+89.54	493,183.55	1,600,576.80	11278+78.32	493,272.32	1,600,575.94	11279+65.33	493,356.17	1,600,605.14			
10002	DETR57							11279+65.33	493,356.17	1,600,605.14	11280+54.11	493,440.01	1,600,634.34	11281+41.13	493,528.78	1,600,633.48			
10006	DETR57	11284+33.25	493,820.89	1,600,630.68															
10007	DETR57							11286+86.13	494,073.76	1,600,628.25	11287+74.31	494,161.93	1,600,627.40	11288+60.76	494,244.70	1,600,597.00			
10008	DETR57							11288+60.76	494,244.70	1,600,597.00	11289+51.51	494,329.89	1,600,565.71	11290+40.39	494,420.65	1,600,565.73			
Detour R-63																			
10220	DETR63							18386+48.19	493,613.73	1,611,217.62	18387+48.47	493,714.02	1,611,217.17	18388+43.00	493,797.88	1,611,272.17			
10230	DETR63							18388+43.00	493,797.88	1,611,272.17	18389+37.72	493,877.08	1,611,324.12	18390+27.57	493,971.77	1,611,326.60			
10245	DETR63	18392+20.00	494,164.13	1,611,331.65															
10260	DETR63							18393+46.66	494,290.75	1,611,334.98	18394+61.03	494,405.08	1,611,337.98	18395+67.00	494,497.13	1,611,270.10			
10270	DETR63							18395+67.00	494,497.13	1,611,270.10	18396+72.81	494,582.29	1,611,207.30	18397+71.90	494,688.08	1,611,205.17			
Detour Spruce St.																			
10100	DETSRRC	19440+90.00	494,085.02	1,616,198.74															
10111	DETSRRC							19441+37.00	494,131.67	1,616,193.01	19441+79.67	494,174.03	1,616,187.81	19442+17.67	494,207.09	1,616,214.79			
10119	DETSRRC							19442+17.67	494,207.09	1,616,214.79	19442+53.58	494,234.91	1,616,237.50	19442+86.62	494,270.82	1,616,237.32			
10130	DETSRRC	19443+65.17	494,349.37	1,616,236.92															

### 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	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
<b>Detour Y St. (West side)</b>																
12001	DETYSTA					14409+58.78	493,399.51	1,613,858.57	14410+53.37	493,494.09	1,613,856.84	14411+43.11	493,573.64	1,613,805.66		
12002	DETYSTA					14411+43.11	493,573.64	1,613,805.66	14412+40.17	493,655.25	1,613,753.14	14413+31.99	493,752.31	1,613,752.69		
12006	DETYSTA	14416+80.29	494,100.60	1,613,751.10												
12007	DETYSTA					14422+25.99	494,646.30	1,613,748.59	14423+19.27	494,739.57	1,613,748.17	14424+07.89	494,819.50	1,613,796.26		
12008	DETYSTA					14424+07.89	494,819.50	1,613,796.26	14425+00.40	494,898.77	1,613,843.95	14425+88.36	494,991.28	1,613,843.92		
<b>Detour Y St. (East side)</b>																
12100	DETYSTC	24414+70.00	493,827.76	1,613,852.35												
12100	DETYSTC					24414+70.00	493,827.76	1,613,852.35	24415+17.68	493,875.44	1,613,852.13	24415+58.99	493,905.63	1,613,889.04		
12120	DETYSTC					24416+67.76	493,974.49	1,613,973.24	24417+14.01	494,003.77	1,614,009.04	24417+54.41	494,050.02	1,614,009.91		
12130	DETYSTC	24418+59.41	494,155.00	1,614,011.89												
<b>Access 258</b>																
89001	ACCESS258	1258+87.00	494,145.34	1,598,151.90												
89002	ACCESS258					1259+44.30	494,191.99	1,598,185.18	1259+87.00	494,226.75	1,598,209.98	1260+14.98	494,207.70	1,598,248.19		
89003	ACCESS258	1262+42.42	494,106.22	1,598,451.74												
<b>Entrances</b>																
90001	ENT258A	21256+11.74	494,410.54	1,597,964.43												
90002	ENT258A					21256+22.94	494,399.47	1,597,966.16	21256+58.76	494,364.08	1,597,971.68	21256+85.11	494,357.92	1,598,006.96		
90003	ENT258A					21258+41.56	494,331.02	1,598,161.09	21258+76.17	494,325.07	1,598,195.18	21259+02.11	494,291.07	1,598,201.62		
90004	ENT258A	21259+82.50	494,212.08	1,598,216.58												
90005	ENT258B	31259+52.50	494,241.55	1,598,211.00												
90006	ENT258B	31260+08.86	494,295.52	1,598,227.24												
90007	ENT258B	31261+48.35	494,434.00	1,598,244.00												
90008	ENT258C	31260+80.00	494,178.69	1,598,306.38												
90009	ENT258C	31261+22.00	494,216.28	1,598,325.12												
90010	ENT258D	31261+20.00	494,160.84	1,598,342.18												
90011	ENT258D	31261+49.17	494,133.20	1,598,351.50												
90012	ENT258D	31262+44.95	494,087.43	1,598,435.64												
90014	ENT269	95+29.43	494,037.37	1,598,836.03												
90015	ENT269					95+79.01	493,991.70	1,598,855.35	96+16.12	493,957.52	1,598,869.81	96+45.49	493,955.20	1,598,906.85		
90017	ENT269	100+00.00	493,933.02	1,599,260.67												
91010	ENT270	97+80.00	493,613.42	1,599,251.48												
91013	ENT270	100+00.00	493,833.41	1,599,253.48												
91014	ENT270	100+82.98	493,916.39	1,599,254.24												
90011	ENT270					101+18.74	493,949.73	1,599,267.14	101+30.85	493,961.02	1,599,271.51	101+42.81	493,973.07	1,599,272.74		
90013	ENT270	101+44.86	493,975.11	1,599,272.94												
90025	ENT275	100+00.00	493,893.24	1,599,844.05												
90026	ENT275	100+69.23	493,931.57	1,599,786.40												
90020	ENT276	100+00.00	493,828.04	1,599,843.46												
90021	ENT276					100+70.21	493,898.25	1,599,844.10	100+74.35	493,902.39	1,599,844.13	100+78.48	493,906.52	1,599,843.89		
90023	ENT276	101+40.15	493,968.08	1,599,840.20												
90030	ENT291	98+59.16	493,673.99	1,601,388.99												
90031	ENT291					99+59.01	493,773.16	1,601,377.36	99+68.08	493,782.16	1,601,376.30	99+77.11	493,791.22	1,601,376.61		
90032	ENT291	100+00.00	493,814.10	1,601,377.39												
90033	ENT291	101+20.04	493,934.07	1,601,381.48												
90040	ENT297	97+17.54	493,529.41	1,601,891.83												
90041	ENT297	97+37.54	493,549.41	1,601,892.01												
90041	ENT297					98+91.22	493,703.09	1,601,893.41	98+98.85	493,710.72	1,601,893.48	99+06.16	493,717.38	1,601,897.18		
90042	ENT297					99+16.33	493,726.28	1,601,902.12	99+24.22	493,733.18	1,601,905.95	99+31.77	493,741.07	1,601,905.89		
90043	ENT297	100+00.00	493,809.30	1,601,905.37												
90044	ENT297	101+20.00	493,929.31	1,601,905.46												
90047	ENT298	100+00.00	493,707.57	1,601,893.78												
90049	ENT298	100+74.90	493,688.74	1,601,966.28												
90050	ENT305	98+80.00	493,681.83	1,602,727.25												
90051	ENT305	100+00.00	493,801.82	1,602,728.34												
91070	ENT315	10315+00.00	493,793.01	1,603,697.30												
91071	ENT315					10315+95.00	493,698.02	1,603,696.43	10316+25.00	493,668.02	1,603,696.16	10316+42.12	493,668.29	1,603,666.16		
91073	ENT315					10318+23.60	493,669.94	1,603,484.69	10318+55.08	493,670.23	1,603,453.21	10318+72.17	493,638.77	1,603,454.44		
91075	ENT315	10318+77.12	493,633.82	1,603,454.63												

## 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)
90060	ENT323	97+56.26	493,541.03	1,604,605.35															
90061	ENT323	100+00.00	493,784.76	1,604,604.87															
90062	ENT323	324+07.61	493,984.76	1,604,606.69															
90070	ENT331	98+00.00	493,578.34	1,605,310.41															
90071	ENT331	100+00.00	493,778.33	1,605,312.23															
90075	ENT334	100+00.00	493,775.50	1,605,624.22															
90076	ENT334	102+00.00	493,575.51	1,605,622.40															
90080	ENT341	94+00.70	493,209.61	1,606,415.14															
90081	ENT341							95+27.63	493,336.37	1,606,421.62	95+73.99	493,382.68	1,606,423.99	96+19.31	493,426.75	1,606,409.60			
90083	ENT341							99+40.16	493,731.74	1,606,310.00	99+49.84	493,740.94	1,606,306.99	99+59.47	493,750.50	1,606,305.50			
90084	ENT341	100+00.00	493,790.55	1,606,299.26															
90085	ENT341							100+61.11	493,850.92	1,606,289.84	100+71.04	493,860.74	1,606,288.31	100+80.93	493,870.67	1,606,288.41			
90087	ENT341	101+10.51	493,900.25	1,606,288.72															
90090	ENT352	98+95.18	494,091.62	1,607,356.71															
90091	ENT352	100+00.00	494,196.43	1,607,355.69															
90092	ENT352							100+47.55	494,243.97	1,607,355.23	100+79.97	494,276.40	1,607,354.91	101+05.08	494,289.91	1,607,384.39			
90093	ENT352	101+62.97	494,314.04	1,607,437.01															
90100	ENT359	96+40.31	494,131.27	1,607,754.08															
90101	ENT359	98+46.46	494,127.08	1,607,960.18															
90101	ENT359							98+64.48	494,126.72	1,607,978.19	99+14.46	494,125.70	1,608,028.17	99+43.00	494,175.68	1,608,029.20			
90102	ENT359	100+00.00	494,232.66	1,608,030.37															
90103	ENT359	100+63.04	494,295.69	1,608,031.66															
90103	ENT359							100+63.04	494,295.69	1,608,031.66	100+94.97	494,327.61	1,608,032.32	101+13.24	494,327.03	1,608,064.24			
90104	ENT359	101+13.24	494,327.03	1,608,064.24															
90105	ENT359	103+34.34	494,322.96	1,608,285.32															
90115	ENT364	96+63.00	494,026.91	1,608,308.20															
90116	ENT364	100+00.00	494,019.98	1,608,645.13															
90110	ENT365	97+80.00	493,999.99	1,608,644.72															
90111	ENT365	100+00.00	494,219.94	1,608,649.24															
90111	ENT365							100+49.55	494,269.48	1,608,650.25	100+76.37	494,296.30	1,608,650.81	101+02.33	494,320.80	1,608,639.89			
90113	ENT365	102+56.34	494,461.47	1,608,577.18															
90120	ENT375	98+79.96	494,079.19	1,609,657.56															
90121	ENT375	100+00.00	494,199.23	1,609,657.02															
90122	ENT375	101+00.04	494,299.27	1,609,656.08															
90125	ENT387	100+00.00	494,173.54	1,610,906.76															
90126	ENT387	101+50.00	494,323.51	1,610,909.84															
31201	ENT1257	100+00.00	494,020.70	1,598,026.23															
31203	ENT1257							101+39.30	493,927.84	1,598,130.06	101+82.50	493,899.04	1,598,162.26	102+22.23	493,897.37	1,598,205.43			
31204	ENT1257	102+80.29	493,895.13	1,598,263.44															
30201	ENT1281	99+19.94	493,642.43	1,600,492.39															
30202	ENT1281	100+00.00	493,640.20	1,600,572.41															
30203	ENT1281	100+80.02	493,638.97	1,600,652.43															
30210	ENT1385	100+00.00	494,025.31	1,600,565.64															
30211	ENT1385	101+50.00	494,025.28	1,600,715.64															
30220	ENT1386	100+00.00	494,145.31	1,600,565.67															
30221	ENT1386	101+50.00	494,145.28	1,600,715.67															
40210	ENT2306	100+00.00	493,376.23	1,603,226.94															
40211	ENT2306	101+00.00	493,376.57	1,603,326.94															
40201	ENT2307	100+00.00	493,549.09	1,603,226.36															
40202	ENT2307	101+00.00	493,549.43	1,603,326.36															
40201	ENT2307	100+00.00	493,549.09	1,603,226.36															
40202	ENT2307	101+00.00	493,549.43	1,603,326.36															
40205	ENT2313	100+00.00	494,077.09	1,603,224.59															
40206	ENT2313	101+00.00	494,077.43	1,603,324.58															

**SPIRAL OR CIRCULAR CURVE DATA**

101-17  
04-19-11

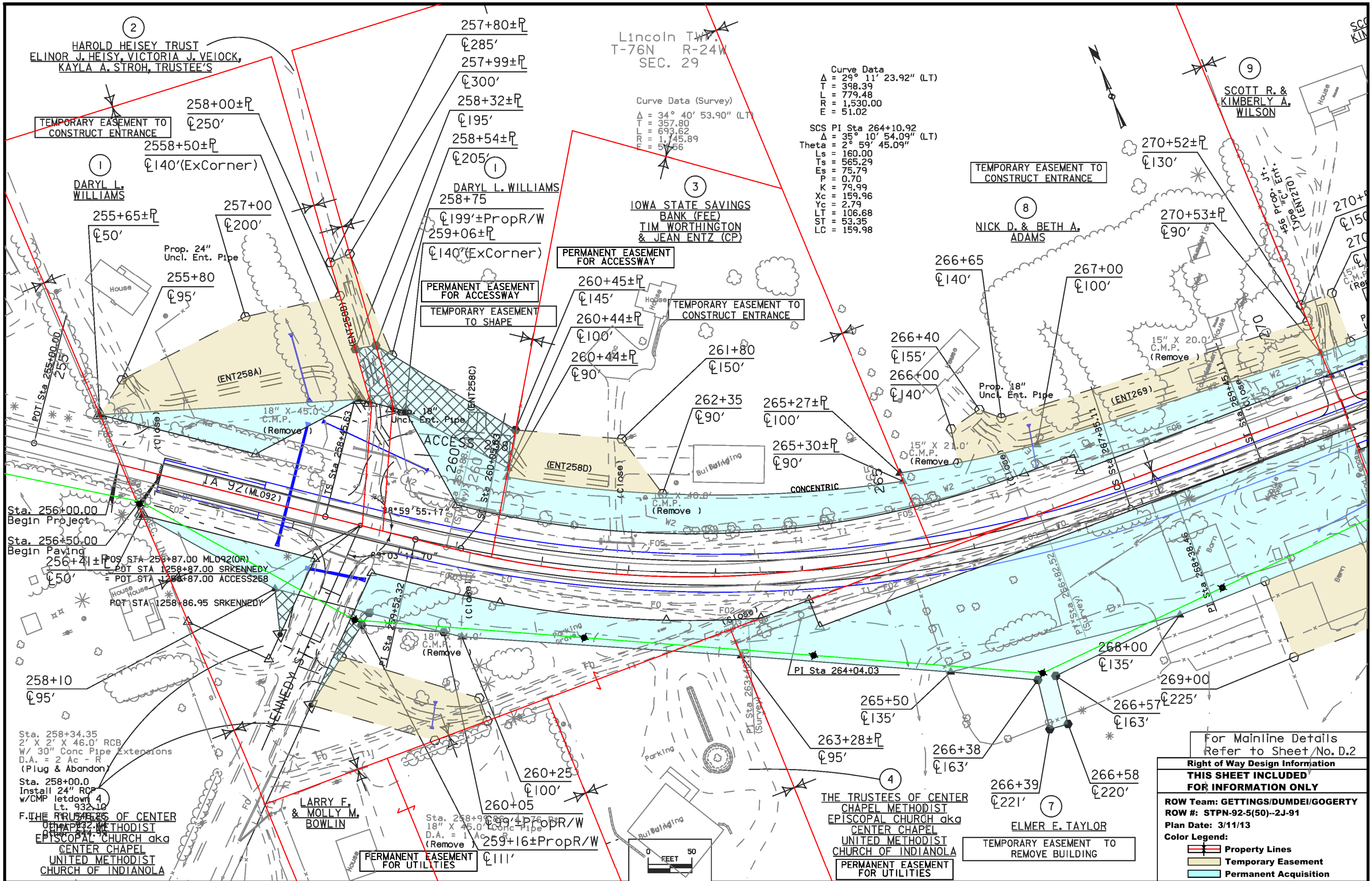
Name	Location	Δ <sub>scs</sub>	Horizontal Alignment Data											Remarks		
			Spiral Data					Curve Data								
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ <sub>c</sub>	T	L	R	E	
IA 92																
20006	ML092	35° 10' 54.09" LT	2° 59' 45.09"	160.00'			159.96'	2.79'	106.68'	53.35'	3° 44' 41.36"	398.39'	779.48'	1,530.00'	51.02'	
20015		27° 58' 21.68" LT	2° 59' 45.09"	160.00'			159.96'	2.79'	106.68'	53.35'	3° 44' 41.36"	297.14'	586.97'	1,530.00'	28.59'	
20022		28° 37' 45.84" RT	2° 59' 45.09"	160.00'			159.96'	2.79'	106.68'	53.35'	3° 44' 41.36"	306.25'	604.51'	1,530.00'	30.35'	
20028		0° 19' 35.74" RT									0° 28' 38.87"	34.20'	68.40'	12,000.00'	0.05'	
20032		0° 25' 37.45" LT									0° 28' 38.87"	44.72'	89.45'	12,000.00'	0.08'	
20036		11° 07' 40.08" LT									5° 05' 34.65"	109.59'	218.49'	1,125.00'	5.33'	
20038		10° 15' 40.29" RT									5° 05' 34.65"	101.01'	201.48'	1,125.00'	4.53'	
20043		6° 59' 27.10" LT									0° 59' 41.46"	351.79'	702.70'	5,759.23'	10.73'	
Detour R-57																
10001	DETR57	19° 44' 59.72" RT									11° 14' 04.08"	88.78'	175.80'	510.00'	7.67'	
10002	DETR57	19° 44' 59.72" LT									11° 14' 04.08"	88.78'	175.80'	510.00'	7.67'	
10007	DETR57	19° 37' 05.90" LT									11° 14' 04.08"	88.18'	174.63'	510.00'	7.57'	
10008	DETR57	20° 10' 50.98" RT									11° 14' 04.08"	90.76'	179.63'	510.00'	8.01'	
Detour R-63																
10220	DETR63	33° 31' 12.52" RT									17° 12' 21.38"	100.29'	194.82'	333.00'	14.77'	
10230	DETR63	31° 45' 23.20" LT									17° 12' 21.38"	94.72'	184.57'	333.00'	13.21'	
10260	DETR63	37° 54' 38.57" LT									17° 12' 21.38"	114.37'	220.34'	333.00'	19.09'	
10270	DETR63	35° 15' 19.39" RT									17° 12' 21.38"	105.81'	204.90'	333.00'	16.41'	
Detour Y St. (West)																
12001	DETYSTA	31° 43' 00.45" LT									17° 12' 21.38"	94.60'	184.34'	333.00'	13.18'	
12002	DETYSTA	32° 29' 52.74" RT									17° 12' 21.38"	97.05'	188.88'	333.00'	13.86'	
12007	DETYSTA	31° 17' 50.18" RT									17° 12' 21.38"	93.28'	181.90'	333.00'	12.82'	
12008	DETYSTA	31° 03' 05.97" LT									17° 12' 21.38"	92.51'	180.47'	333.00'	12.61'	
Detour Y St. (East)																
12100	DETYSTC	50° 59' 06.52" RT									57° 17' 44.81"	47.68'	88.99'	100.00'	10.79'	
12120	DETYSTC	49° 38' 43.74" LT									57° 17' 44.81"	46.25'	86.65'	100.00'	10.18'	
Detour Spruce St.																
10111	DETSRPC	46° 13' 12.06" RT									57° 17' 44.81"	42.67'	80.67'	100.00'	8.72'	
10119	DETSRPC	39° 30' 26.67" LT									57° 17' 44.81"	35.91'	68.95'	100.00'	6.25'	
Access 258																
89002	ACCESS258	80° 59' 47.59" RT									114° 35' 29.61"	42.70'	70.68'	50.00'	15.75'	

**SUPERELEVATION DATA**

See PV-300 Series

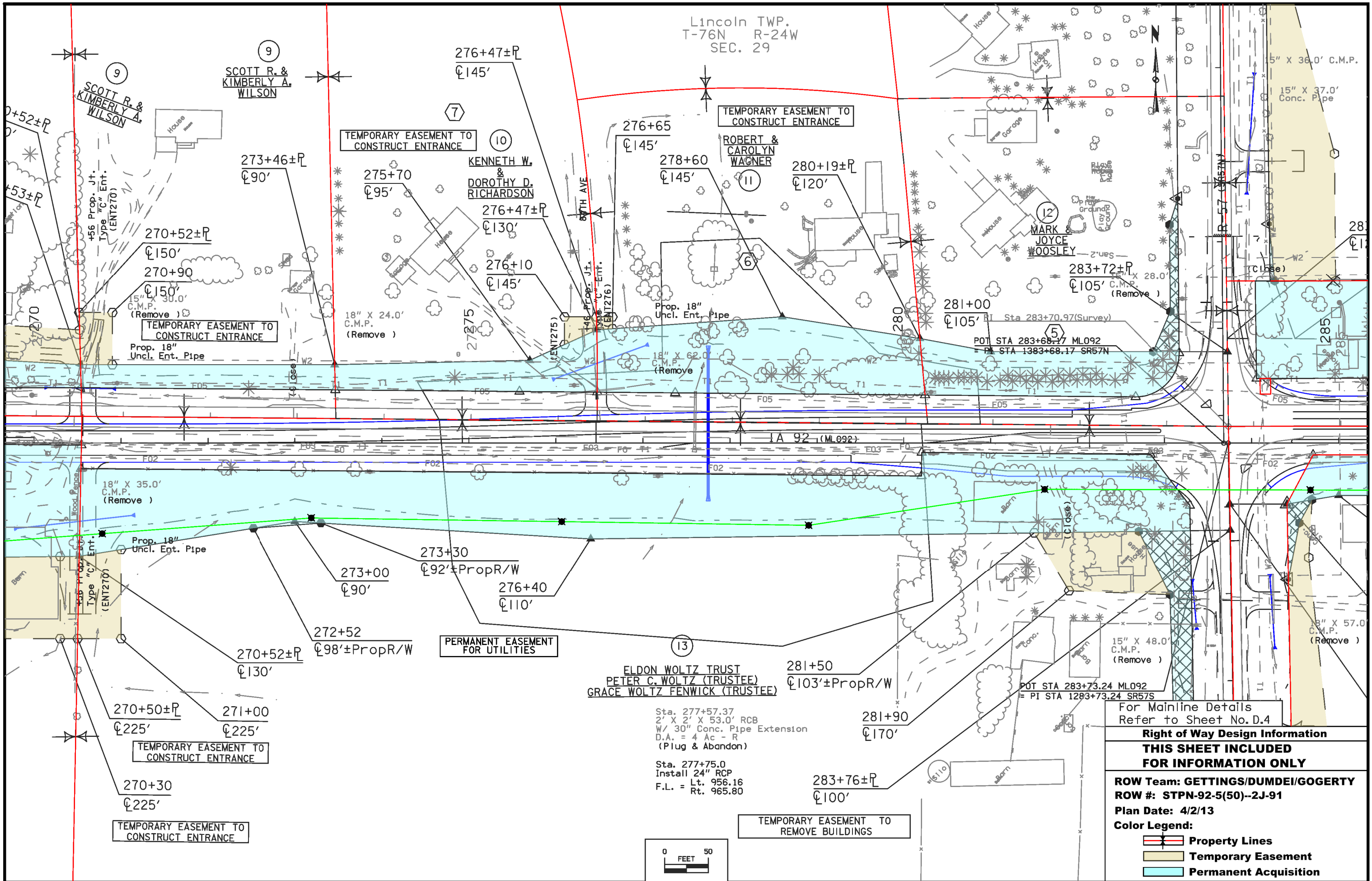
Road Identification	Circular Curve or Spiral Curve Name	Radius	Superelevation Data			Standard Road Plan	Section A-A	Section B-B	Section C-C	Section D-D	Section E-E	Section F-F	Case A	Case B	Case C	Case S	Case T	Case U	Remarks
			e %	L FT	x FT														
IA 92	20006	1530	6.0	160	53	PV-301	257+92.63	258+45.63	258+98.63	260+05.63			260+05.63			259+52.30	259+52.30		
							269+98.11	269+45.11	268+92.11	267+85.11			267+85.11			268+38.44	268+38.44		
IA 92	20015	1530	6.0	160	53	PV-301	337+19.34	337+72.34	338+25.34	339+32.34			339+32.34			338+79.01	338+79.01		
							347+32.31	346+79.31	346+26.31	345+19.31			345+19.31			345+72.64	345+72.64		
IA 92	20022	1530	6.0	160	53	PV-301	347+32.31	347+85.31	348+38.31	349+45.31			349+45.31			348+91.98	348+91.98		
							357+62.82	357+09.82	356+56.82	355+49.82			355+49.82			356+03.15	356+03.15		





For Mainline Details Refer to Sheet No. D.2

<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: GETTINGS/DUMDEI/GOGERTY	
ROW #: STPN-92-5(50)--2J-91	
Plan Date: 3/11/13	
<b>Color Legend:</b>	
	Property Lines
	Temporary Easement
	Permanent Acquisition



Lincoln TWP.  
T-76N R-24W  
SEC. 29

9  
SCOTT R. &  
KIMBERLY A.  
WILSON

9  
SCOTT R. &  
KIMBERLY A.  
WILSON

TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE

10  
KENNETH W.  
&  
DOROTHY D.  
RICHARDSON

TEMPORARY EASEMENT TO  
CONSTRUCT ENTRANCE

ROBERT &  
CAROLYN  
WAGNER

12  
MARK &  
JOYCE  
WOOSLEY

13  
ELDON WOLTZ TRUST  
PETER C. WOLTZ (TRUSTEE)  
GRACE WOLTZ FENWICK (TRUSTEE)

Sta. 277+57.37  
2' X 2' X 53.0' RCB  
W/ 30" Conc. Pipe Extension  
D.A. = 4 Ac - R  
(Plug & Abandon)

Sta. 277+75.0  
Install 24" RCP  
F.L. = Lt. 956.16  
Rt. 965.80

For Mainline Details  
Refer to Sheet No. D.4

Right of Way Design Information

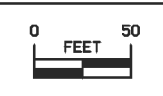
**THIS SHEET INCLUDED  
FOR INFORMATION ONLY**

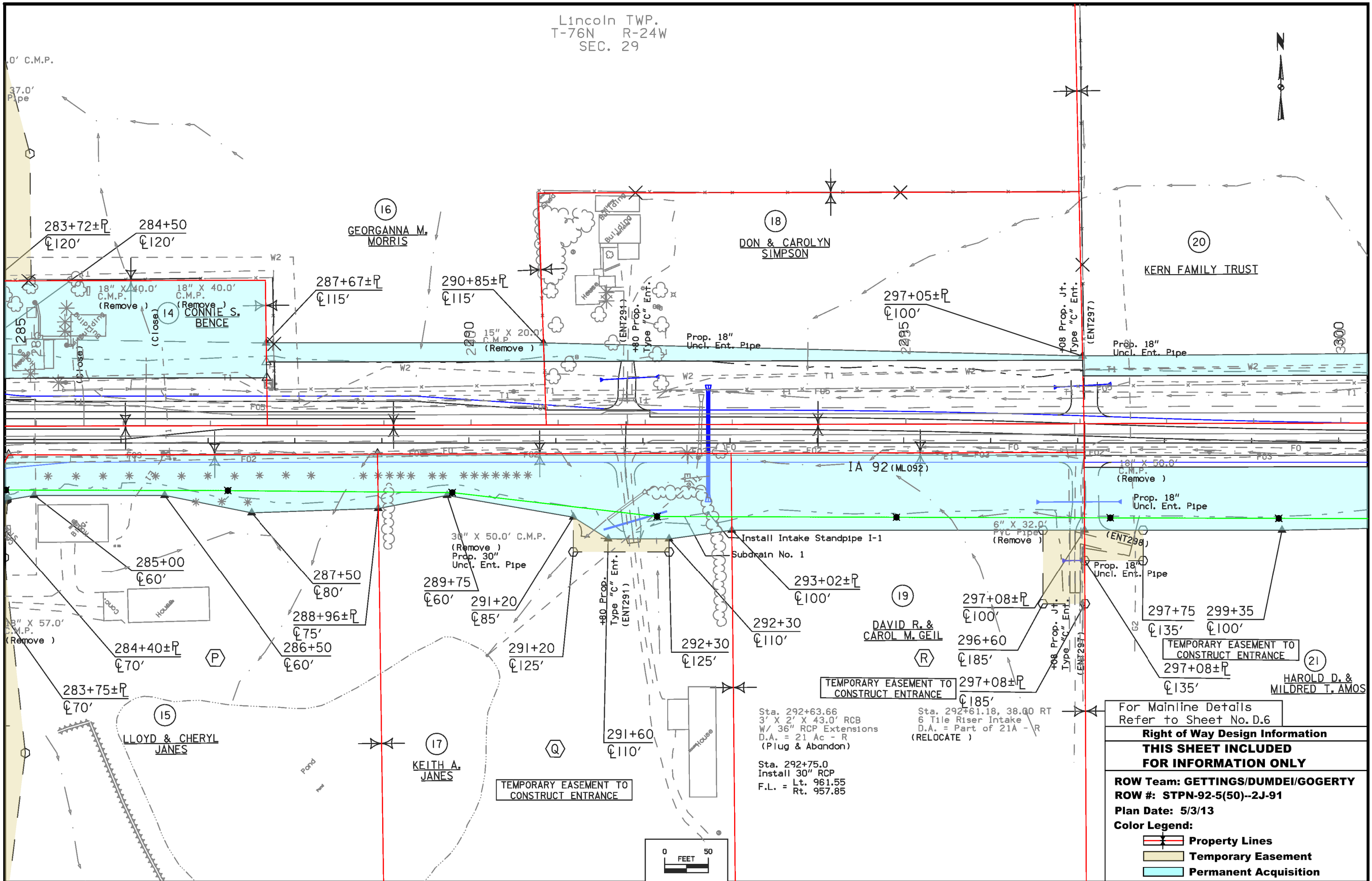
ROW Team: GETTINGS/DUMDEI/GOGERTY  
ROW #: STPN-92-5(50)--2J-91

Plan Date: 4/2/13

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition





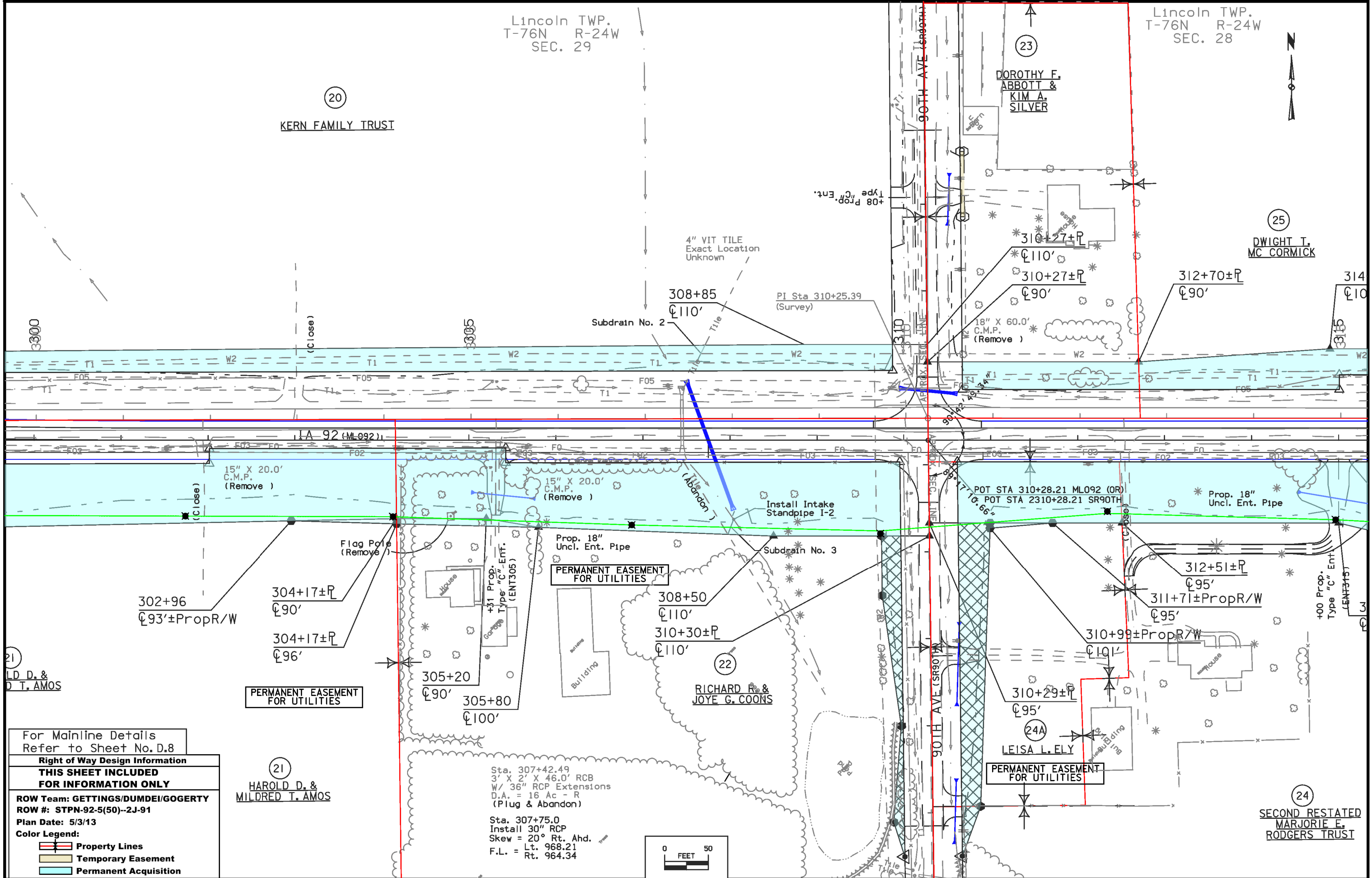
For Mainline Details Refer to Sheet No. D.6
<b>Right of Way Design Information</b>
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>
<b>ROW Team: GETTINGS/DUMDEI/GOGERTY</b>
<b>ROW #: STPN-92-5(50)--2J-91</b>
<b>Plan Date: 5/3/13</b>
<b>Color Legend:</b>
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<span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; background-color: yellow;"></span> Temporary Easement
<span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; background-color: cyan;"></span> Permanent Acquisition

Lincoln TWP.  
T-76N R-24W  
SEC. 29

Lincoln TWP.  
T-76N R-24W  
SEC. 28

(20)  
KERN FAMILY TRUST

(25)  
DWIGHT T.  
MC CORMICK



For Mainline Details  
Refer to Sheet No. D.8

**Right of Way Design Information**

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

ROW Team: GETTINGS/DUMDEI/GOGERTY  
ROW #: STPN-92-5(50)--2J-91  
Plan Date: 5/3/13

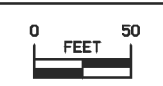
**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition

(21)  
HAROLD D. &  
MILDRED T. AMOS

Sta. 307+42.49  
3' X 2' X 46.0' RCB  
W/ 36" RCP Extensions  
D.A. = 16 Ac - R  
(Plug & Abandon)

Sta. 307+75.0  
Install 30" RCP  
Skew = 20° Rt. Ahd.  
F.L. = Lt. 968.21  
Rt. 964.34

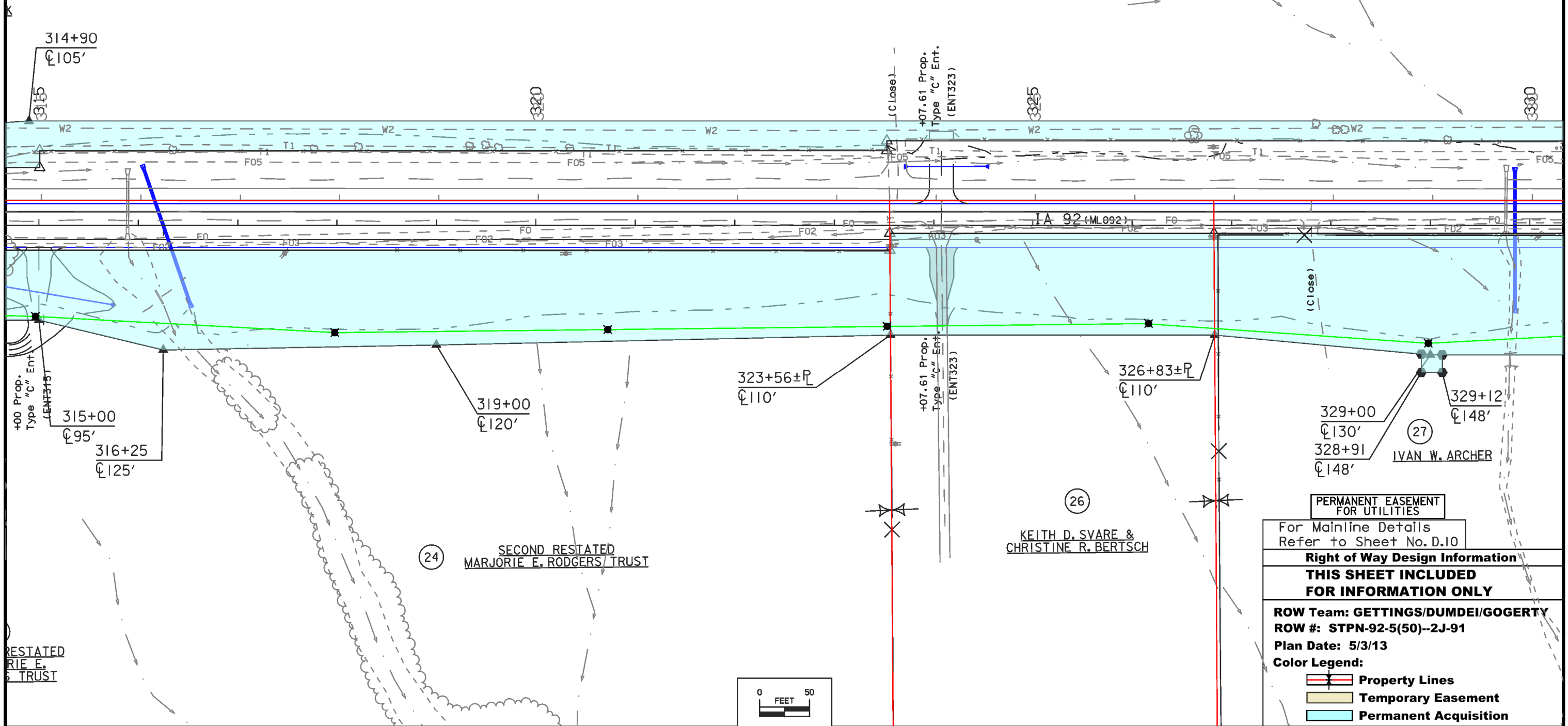


Lincoln TWP.  
T-76N R-24W  
SEC. 28



(25) DWIGHT T.  
MC CORMICK

(25) DWIGHT T.  
MC CORMICK



(24) SECOND RESTATED  
MARJORIE E. RODGERS/ TRUST

(26) KEITH D. SVARE &  
CHRISTINE R. BERTSCH

(27) IVAN W. ARCHER

PERMANENT EASEMENT FOR UTILITIES

For Mainline Details Refer to Sheet No. D.10

**Right of Way Design Information**

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

ROW Team: GETTINGS/DUMDEI/GOGERTY  
ROW #: STPN-92-5(50)--2J-91  
Plan Date: 5/3/13

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition

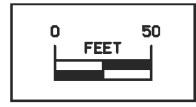
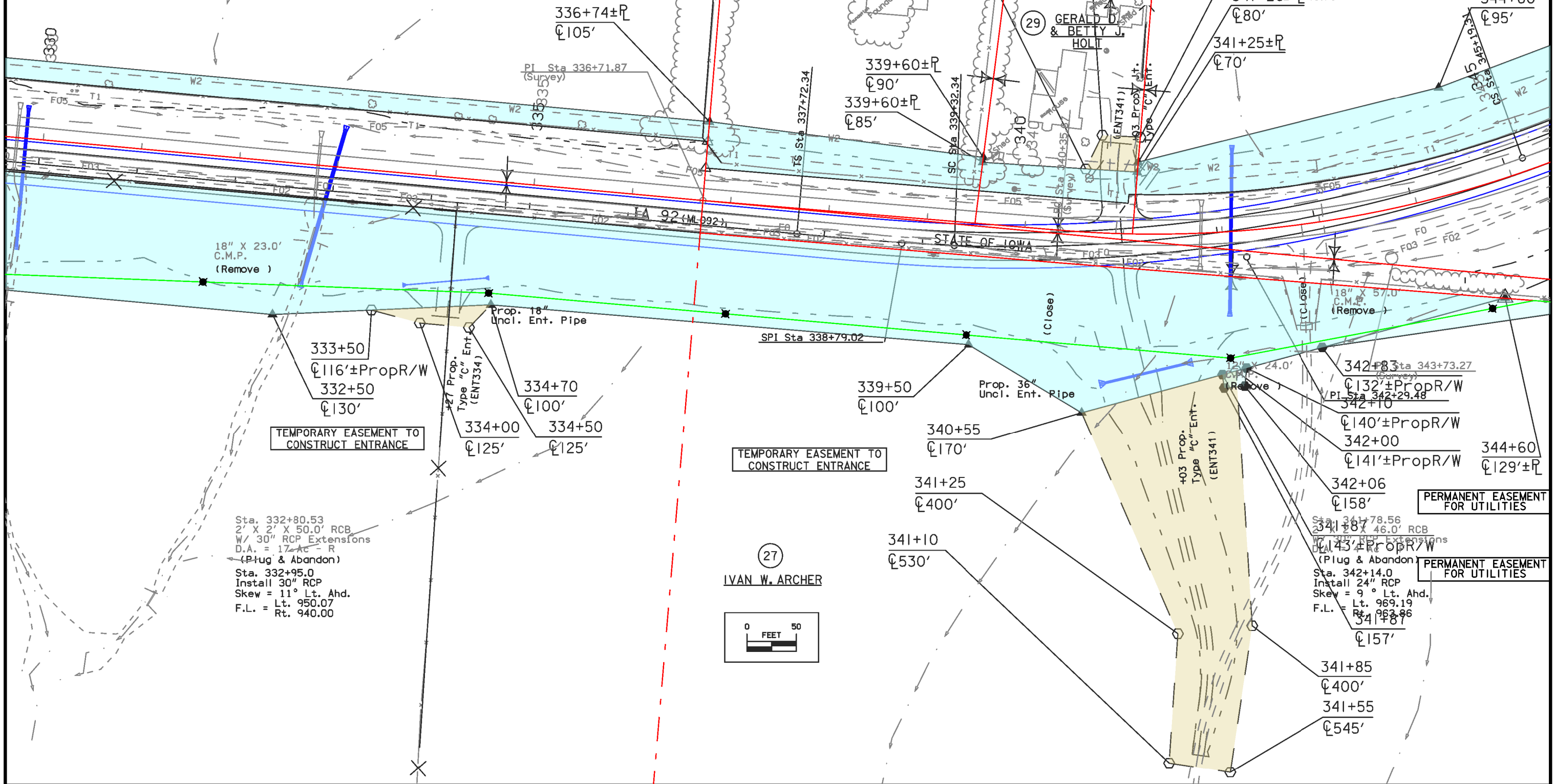
**Right of Way Design Information**  
**THIS SHEET INCLUDED**  
**FOR INFORMATION ONLY**

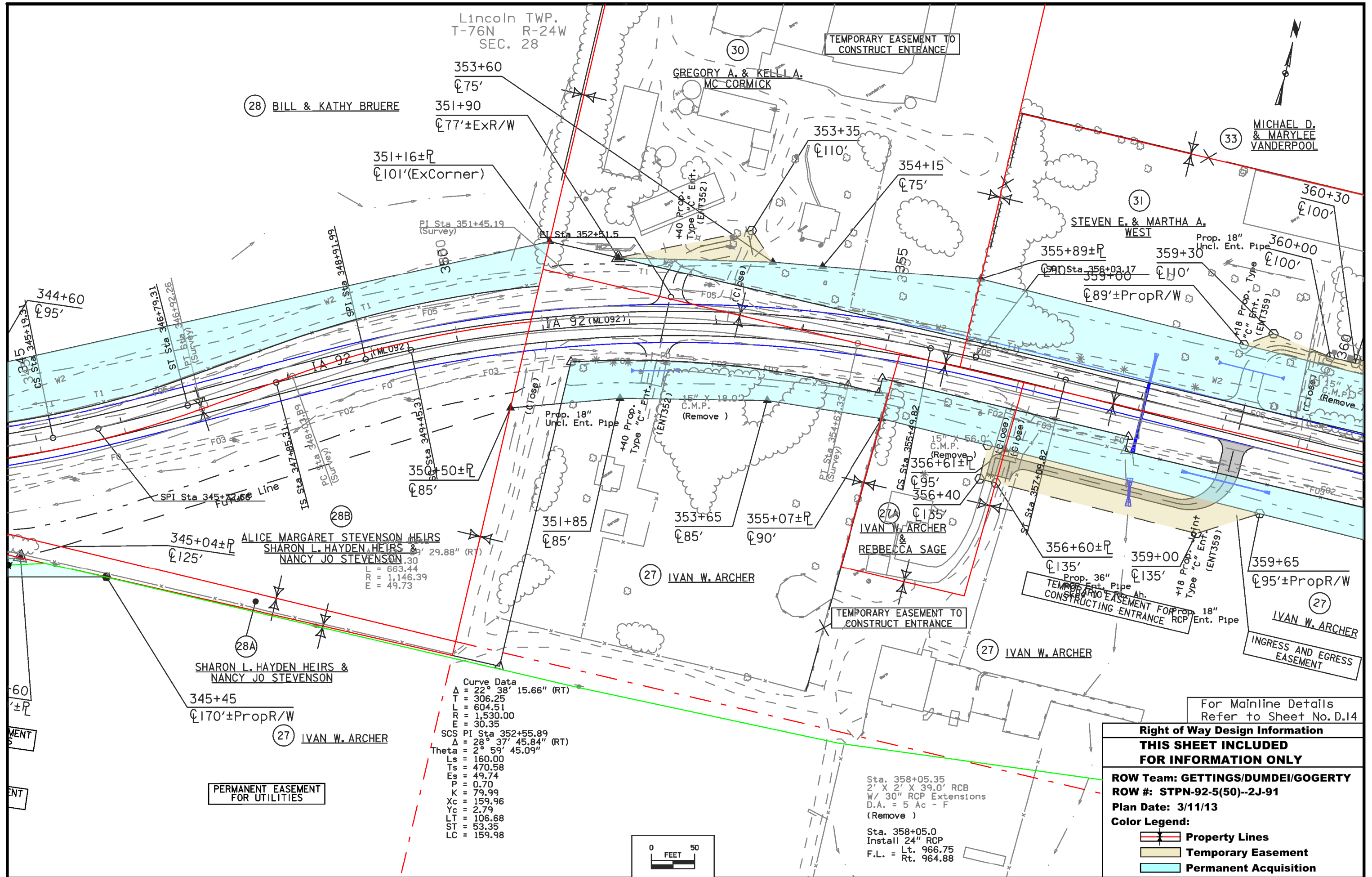
ROW Team: **GETTINGS/DUMDEI/GOGERTY**  
ROW #: **STPN-92-5(50)--2J-91**  
Plan Date: **5/3/13**  
Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

For Mainline Details  
Refer to Sheet No. D.12

L = 297.14  
L = 586.97  
R = 1,530.00  
E = 28.59  
SCS PI Sta 342+33.59  
Δ = 27° 58' 21.68" (LT)  
Theta = 2° 59' 45.09"  
Ls = 160.00  
Ts = 461.25  
Es = 47.46  
P = 0.70  
K = 79.99  
Curve Data (Survey)  
T = 337.60  
L = 656.58  
R = 1,144.67  
E = 48.75





60  
±P  
MENT  
ENT

For Mainline Details  
Refer to Sheet No. D.14

**Right of Way Design Information**

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

**ROW Team: GETTINGS/DUMDEI/GOGERTY**

**ROW #: STPN-92-5(50)--2J-91**

**Plan Date: 3/11/13**

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition

**Curve Data**

Δ = 22° 38' 15.66" (RT)

T = 306.25

L = 604.51

R = 1,530.00

E = 30.35

SCS PI Sta 352+55.89

Δ = 28° 37' 45.84" (RT)

Theta = 2° 59' 45.09"

Ls = 160.00

Ts = 470.58

Es = 49.74

P = 0.70

K = 79.99

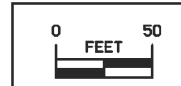
Xc = 159.96

Yc = 2.79

LT = 106.68

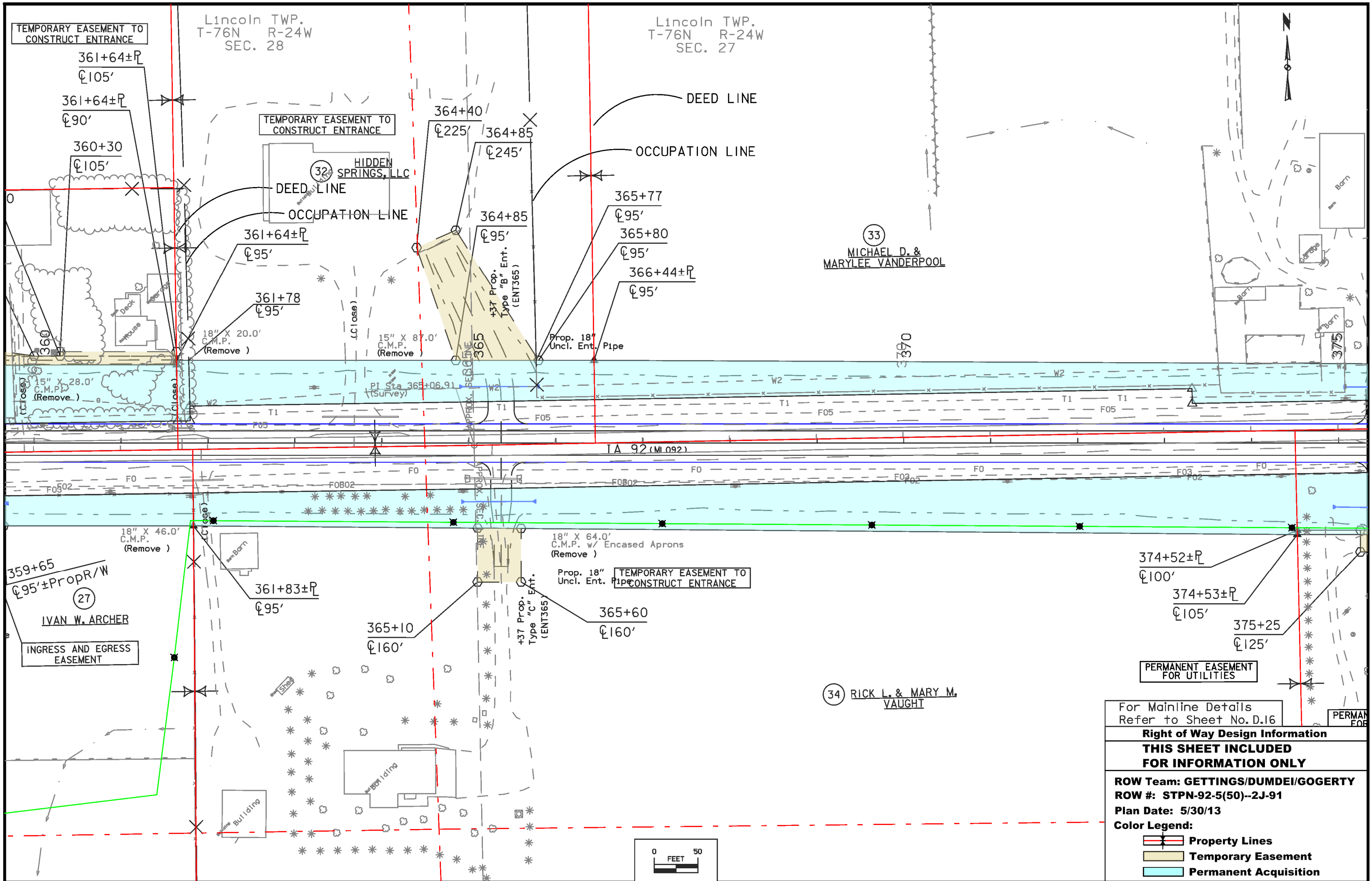
ST = 53.35

LC = 159.98



Sta. 358+05.35  
2' X 2' X 39.0' RCB  
W/ 30" RCP Extensions  
D.A. = 5 Ac - F  
(Remove)

Sta. 358+05.0  
Install 24" RCP  
F.L. = Lt. 966.75  
Rt. 964.88



For Mainline Details Refer to Sheet No. D.16

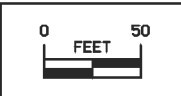
**Right of Way Design Information**

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

ROW Team: GETTINGS/DUMDEI/GOGERTY  
 ROW #: STPN-92-5(50)--2J-91  
 Plan Date: 5/30/13

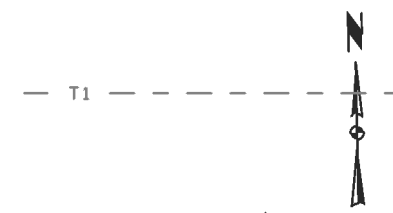
**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition





Lincoln TWP.  
T-76N R-24W  
SEC. 27

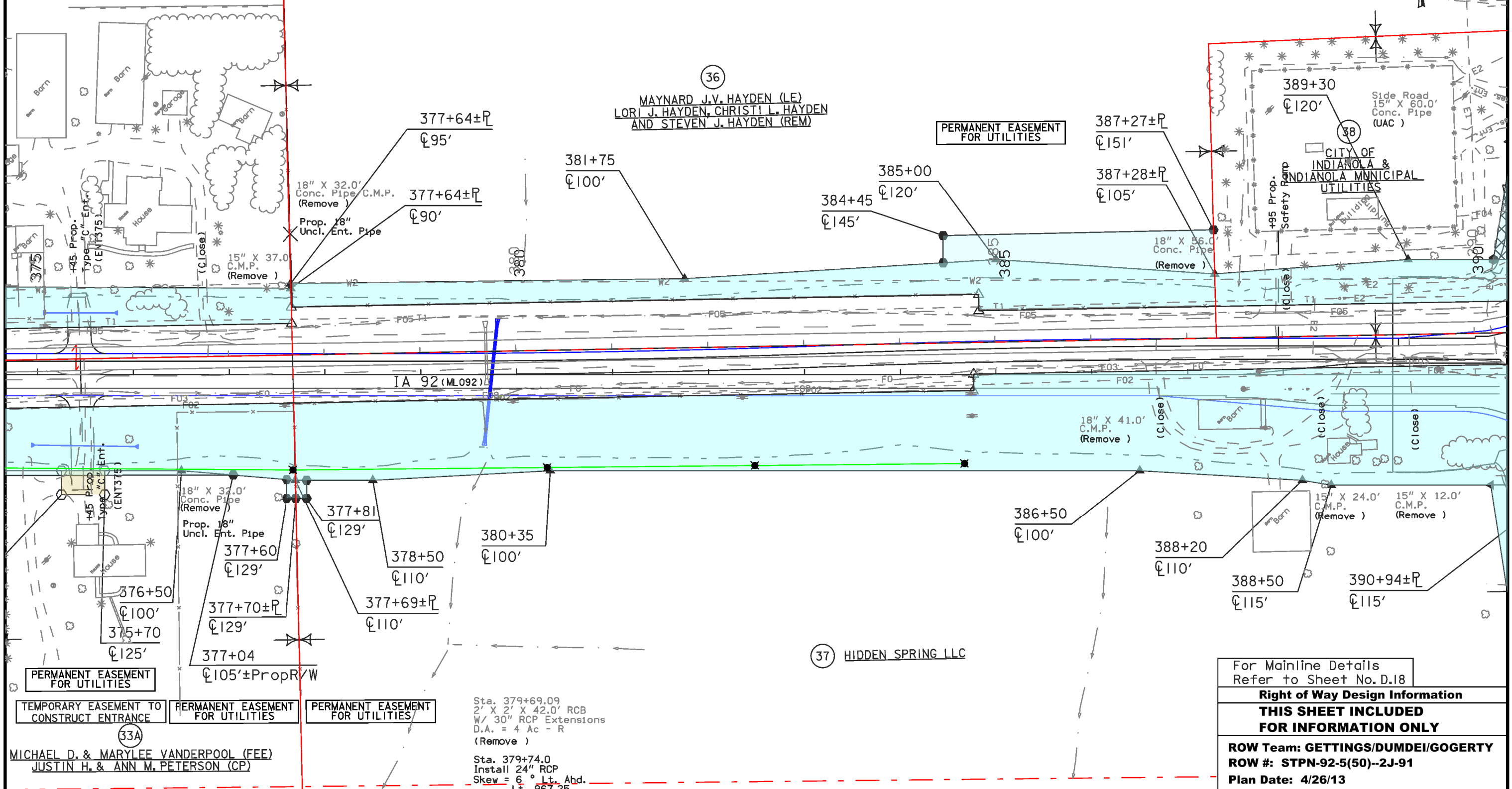


33  
MICHAEL D. &  
MARYLEE VANDERPOOL

36  
MAYNARD J.V. HAYDEN (LE)  
LORI J. HAYDEN, CHRISTI L. HAYDEN  
AND STEVEN J. HAYDEN (REM)

38  
CITY OF  
INDIANOLA &  
INDIANOLA MUNICIPAL  
UTILITIES

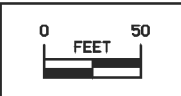
37 HIDDEN SPRING LLC



PERMANENT EASEMENT FOR UTILITIES  
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE  
PERMANENT EASEMENT FOR UTILITIES  
PERMANENT EASEMENT FOR UTILITIES

Sta. 379+69.09  
2' X 2' X 42.0' RCB  
W/ 30" RCP Extensions  
D.A. = 4 Ac - R  
(Remove)

Sta. 379+74.0  
Install 24" RCP  
Skew = 6° Lt. Ahd.  
F.L. = Lt. 967.25  
Rt. 962.58



For Mainline Details  
Refer to Sheet No. D.18

**Right of Way Design Information**

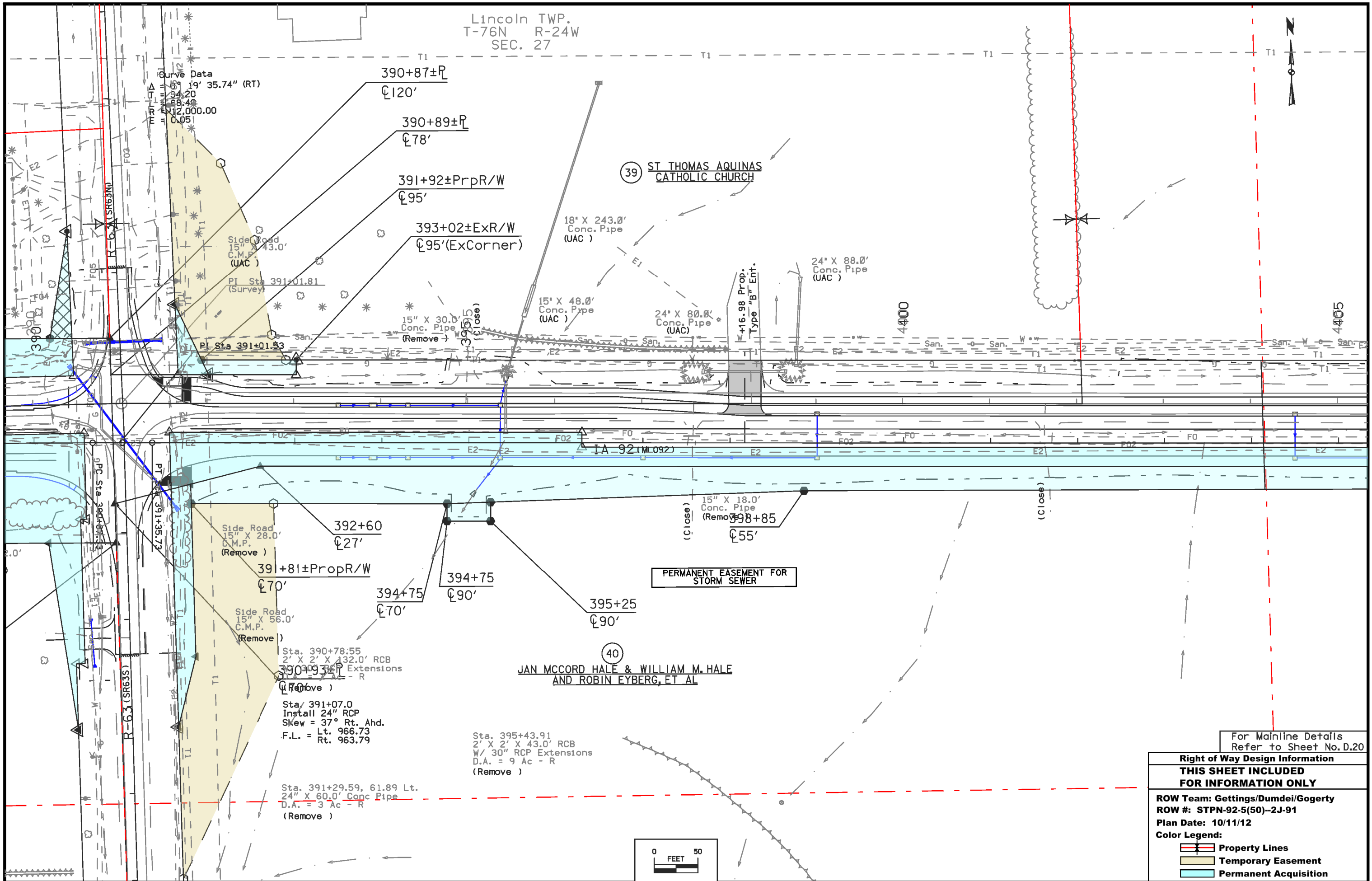
**THIS SHEET INCLUDED FOR INFORMATION ONLY**

**ROW Team: GETTINGS/DUMDEI/GOGERTY**  
**ROW #: STPN-92-5(50)--2J-91**  
**Plan Date: 4/26/13**

**Color Legend:**

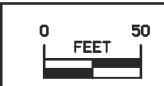
- Property Lines
- Temporary Easement
- Permanent Acquisition

Lincoln TWP.  
T-76N R-24W  
SEC. 27



For Mainline Details  
Refer to Sheet No. D.20

<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: Gettings/Dumdei/Gogerty	
ROW #: STPN-92-5(50)--2J-91	
Plan Date: 10/11/12	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



Lincoln TWP.  
T-76N R-24W  
SEC. 27

Sta. 417+03.73, 37.07 Lt.  
22' X 14" X 60.0' Arch Conc Pipe  
D.A. = 4 Ac - r  
(Remove)

Curve Data  
Δ = 0° 25' 37.45" (LT)  
T = 44.72  
L = 89.45  
R = 12,000.00  
E = 0.08 417+34±R

40  
JAN MCCORD HALE & WILLIAM M. HALE  
AND ROBIN R. EYBERG

41  
M & W FARM  
SERVICE CO

TEMPORARY EASEMENT TO  
SHAPE & CONSTRUCT ENTRANCE

15" X 24.0'  
C.M.P.  
(Remove)

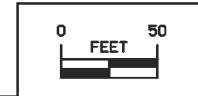
15" X 24.0'  
C.M.P.  
(Remove)

40  
JAN MCCORD HALE & WILLIAM M. HALE  
AND ROBIN R. EYBERG

Sta. 412+66.92, 247.41 RT  
6 Tile Riser Intake  
D.A. = 5A - R  
(U.A.C.)

Sta. 414+54.06, 307.09 RT  
6 Tile Riser Intake  
D.A. = 2A - R  
(U.A.C.)

Sta. 417+30.31, 350.36 Rt  
30" X 44.0' CMP  
D.A. = 16 Ac - R  
(Remove)



For Mainline Details  
Refer to Sheet No. D.22

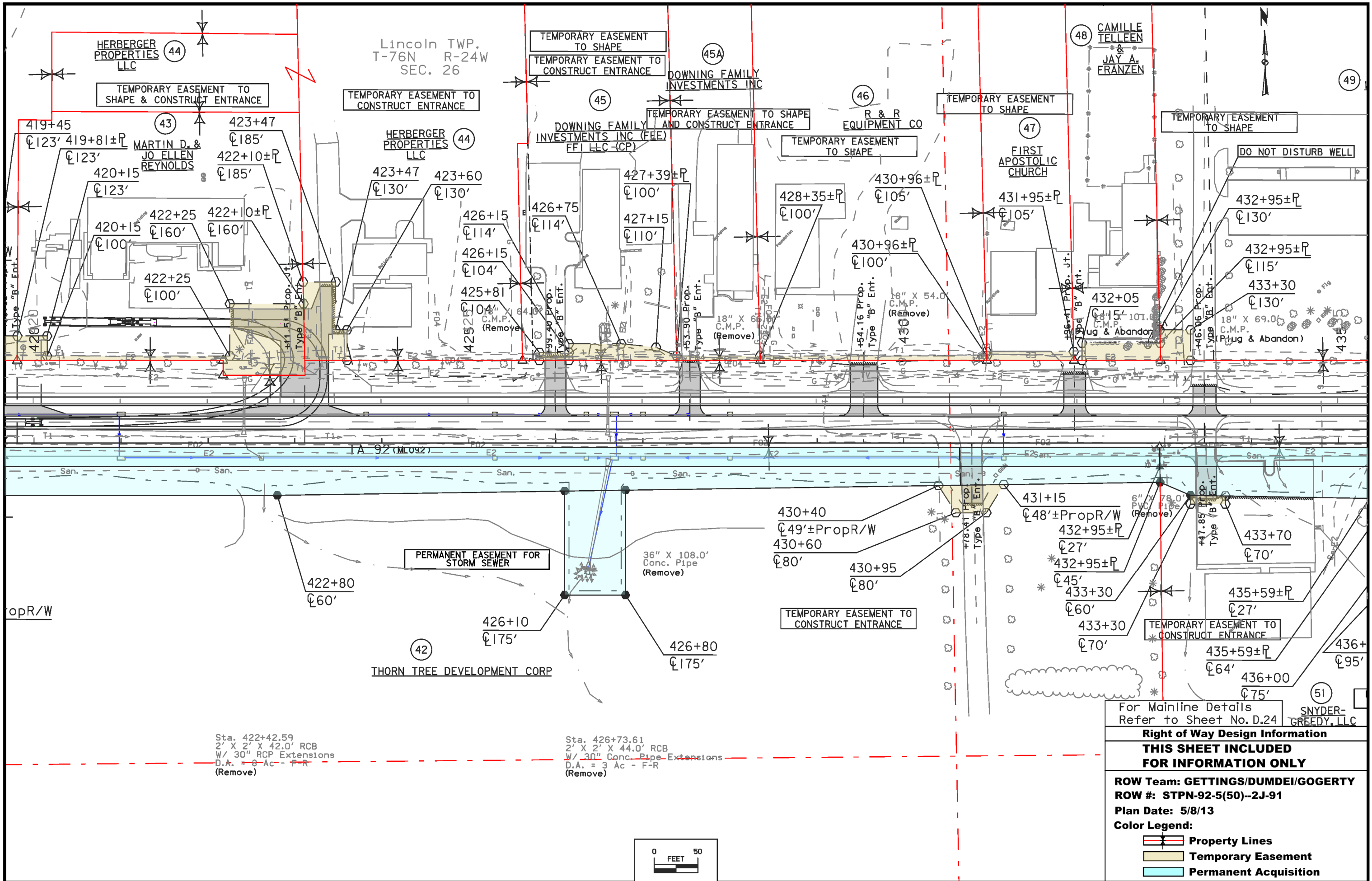
**Right of Way Design Information**

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

**ROW Team: GETTINGS/DUMDEI/GOGERTY**  
**ROW #: STPN-92-5(50)--2J-91**  
**Plan Date: 5/3/13**

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition



For Mainline Details Refer to Sheet No. D.24

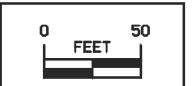
**Right of Way Design Information**

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

ROW Team: GETTINGS/DUMDEI/GOGERTY  
 ROW #: STPN-92-5(50)--2J-91  
 Plan Date: 5/8/13

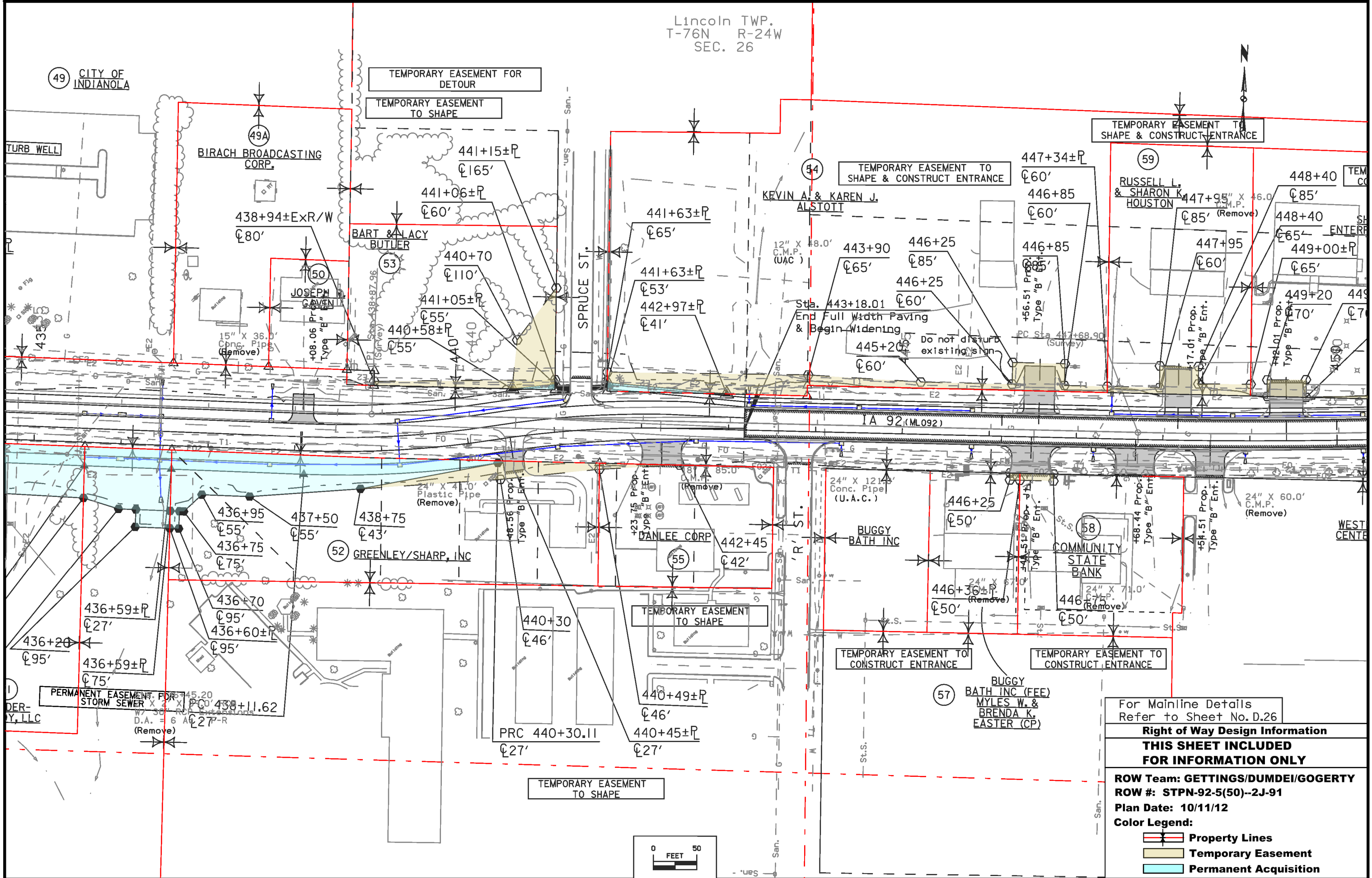
**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition



Lincoln TWP.  
T-76N R-24W  
SEC. 26

49 CITY OF INDIANOLA



For Mainline Details  
Refer to Sheet No. D.26

**Right of Way Design Information**

**THIS SHEET INCLUDED FOR INFORMATION ONLY**

**ROW Team: GETTINGS/DUMDEI/GOGERTY**  
**ROW #: STPN-92-5(50)--2J-91**  
**Plan Date: 10/11/12**

**Color Legend:**

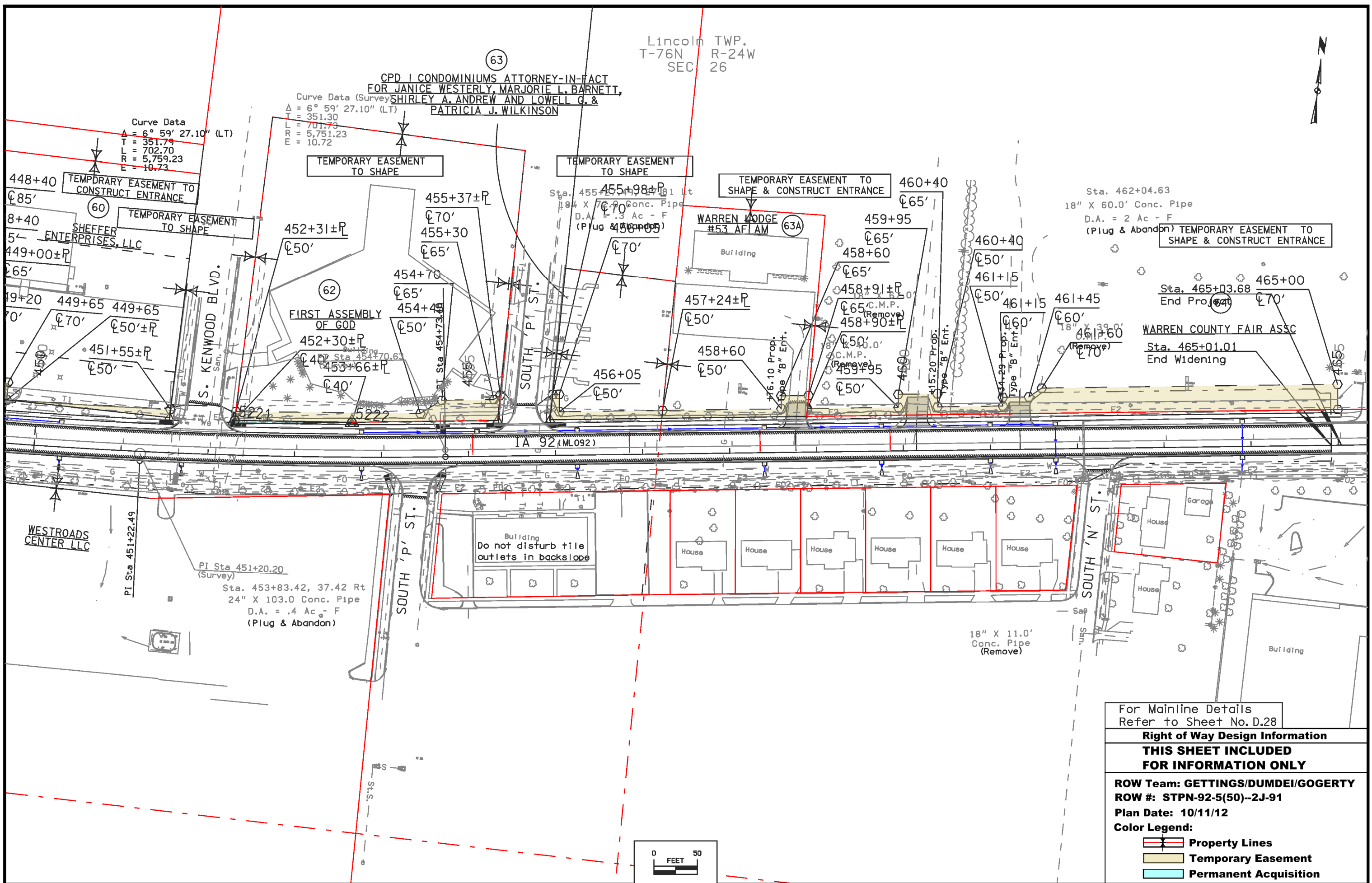
- Property Lines
- Temporary Easement
- Permanent Acquisition

Lincoln TWP.  
T-76N R-24W  
SEC. 26

CPD I CONDOMINIUMS ATTORNEY-IN-FACT  
FOR JANICE WESTERLY, MARJORIE L. BARNETT,  
SHIRLEY A. ANDREW AND LOWELL G. &  
PATRICIA J. WILKINSON

Curve Data (Survey)  
Δ = 6° 59' 27.10" (LT)  
T = 351.30  
L = 701.79  
R = 5,751.23  
E = 10.72

Curve Data  
Δ = 6° 59' 27.10" (LT)  
T = 351.79  
L = 702.70  
R = 5,759.23  
E = 10.73



For Mainline Details  
Refer to Sheet No. D.28

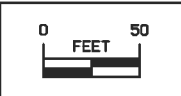
**Right of Way Design Information**

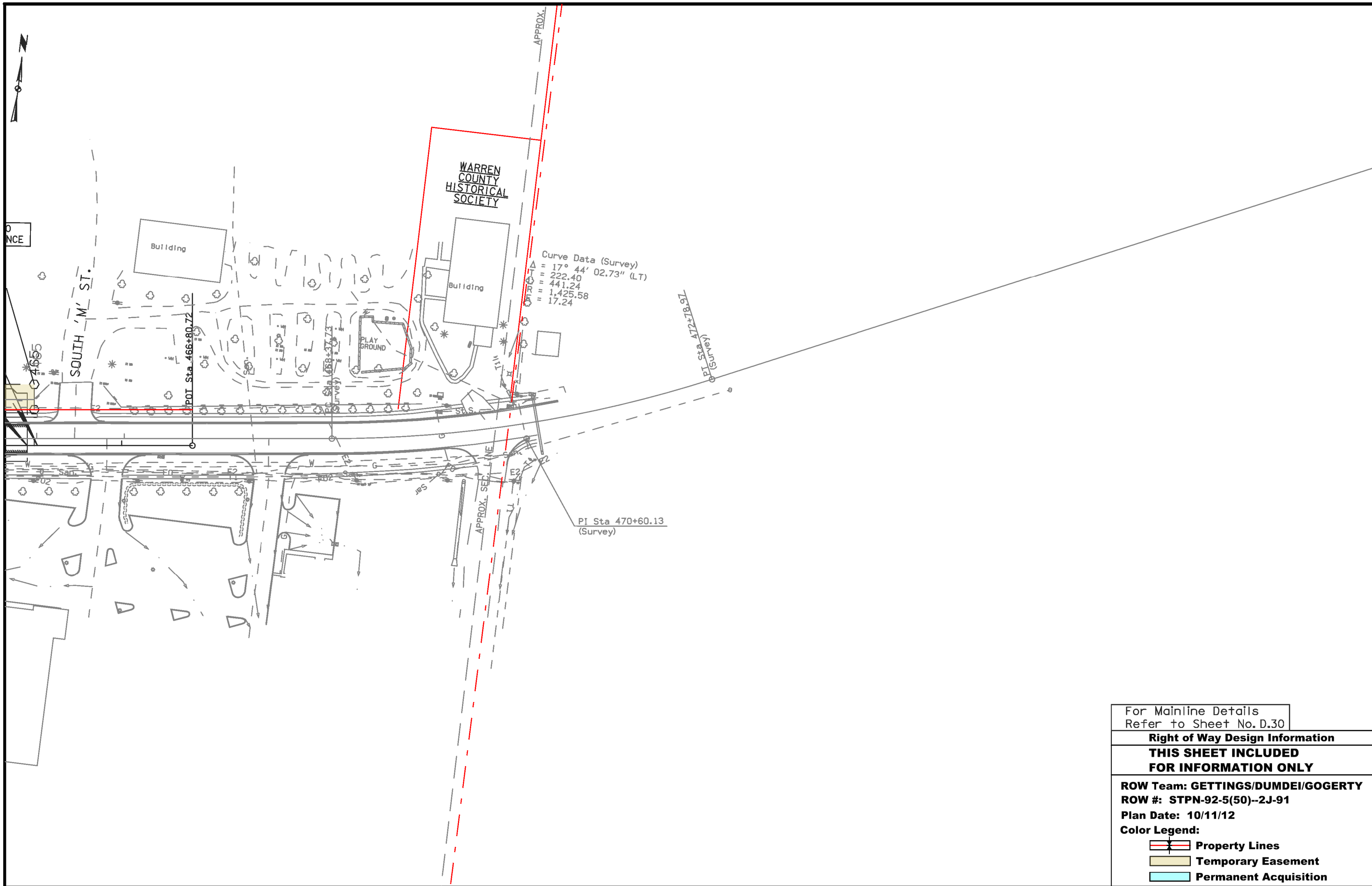
**THIS SHEET INCLUDED  
FOR INFORMATION ONLY**

**ROW Team: GETTINGS/DUMDEI/GOGERTY**  
**ROW #: STPN-92-5(50)--2J-91**  
**Plan Date: 10/11/12**

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition





For Mainline Details  
Refer to Sheet No. D.30

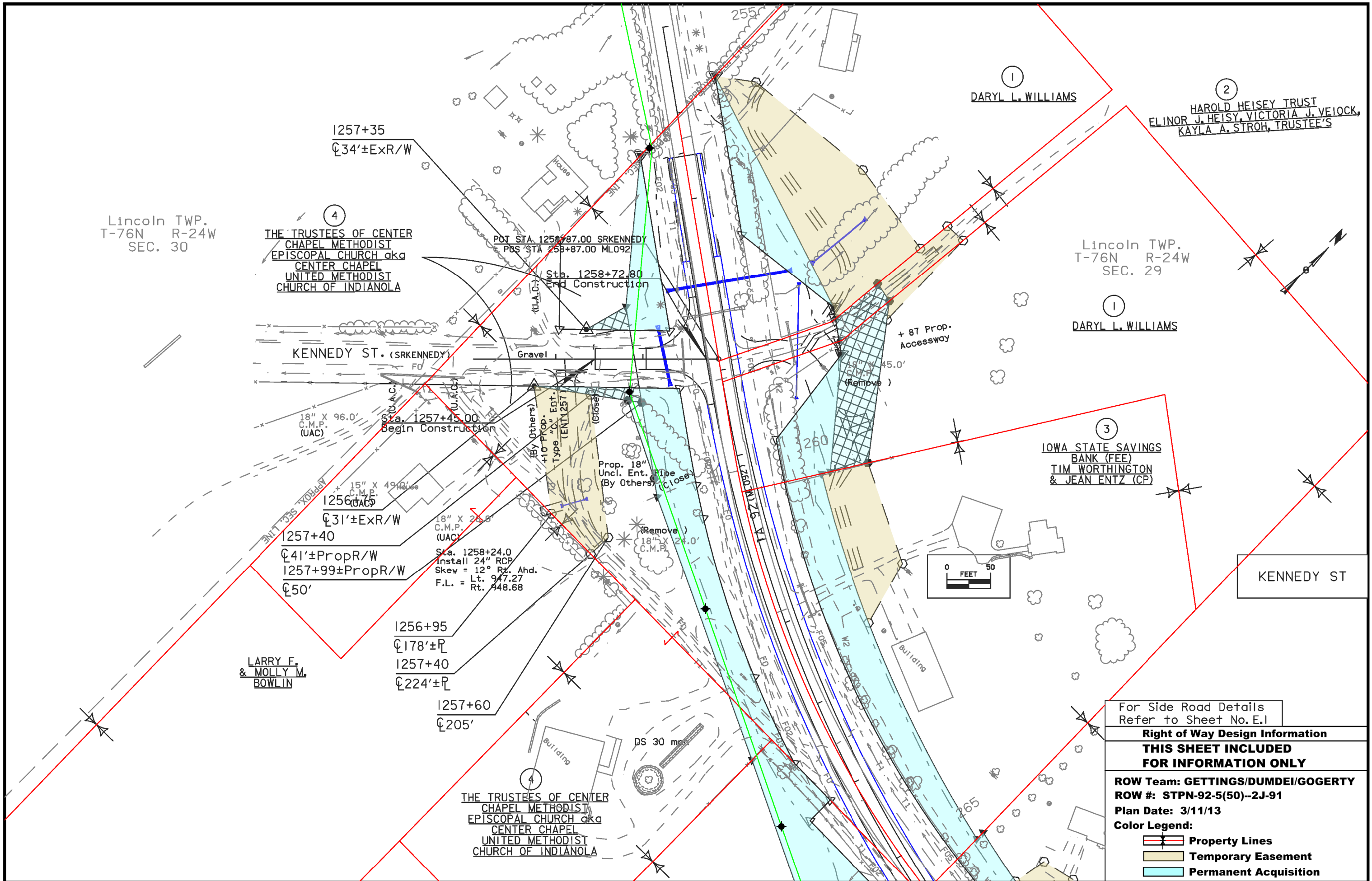
**Right of Way Design Information**

**THIS SHEET INCLUDED  
FOR INFORMATION ONLY**

ROW Team: GETTINGS/DUMDEI/GOGERTY  
ROW #: STPN-92-5(50)--2J-91  
Plan Date: 10/11/12

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition



Lincoln TWP.  
T-76N R-24W  
SEC. 30

Lincoln TWP.  
T-76N R-24W  
SEC. 29

4  
THE TRUSTEES OF CENTER  
CHAPEL METHODIST  
EPISCOPAL CHURCH aka  
CENTER CHAPEL  
UNITED METHODIST  
CHURCH OF INDIANOLA

POT STA. 1258+87.00 SRKENEDY  
P.O.S. STA. 258+87.00 ML092

Sta. 1258+72.80  
End Construction

Sta. 1257+45.00  
Begin Construction

1256+75  
C.M.P. (UAC)  
18" X 96.0'

1257+40  
C.M.P. (UAC)  
15" X 49.0'

1257+40  
C.M.P. (UAC)  
18" X 26.0'

Sta. 1258+24.0  
Install 24" RCP  
Skew = 12° Rz. Ahd.  
F.L. = Lt. 947.27  
Rt. 948.68

LARRY F.  
& MOLLY M.  
BOWLIN

1256+95  
C.M.P. (UAC)  
18" X 26.0'

1257+40  
C.M.P. (UAC)  
18" X 24.0'

1257+60  
C.M.P. (UAC)  
18" X 24.0'

4  
THE TRUSTEES OF CENTER  
CHAPEL METHODIST  
EPISCOPAL CHURCH aka  
CENTER CHAPEL  
UNITED METHODIST  
CHURCH OF INDIANOLA

1  
DARYL L. WILLIAMS

2  
HAROLD HEISEY TRUST  
ELINOR J. HEISY, VICTORIA J. VELOCK,  
KAYLA A. STROH, TRUSTEE'S

1  
DARYL L. WILLIAMS

3  
IOWA STATE SAVINGS  
BANK (FEE)  
TIM WORTHINGTON  
& JEAN ENTZ (CP)

KENNEDY ST



For Side Road Details  
Refer to Sheet No. E.1

Right of Way Design Information

**THIS SHEET INCLUDED  
FOR INFORMATION ONLY**

ROW Team: GETTINGS/DUMDEI/GOGERTY

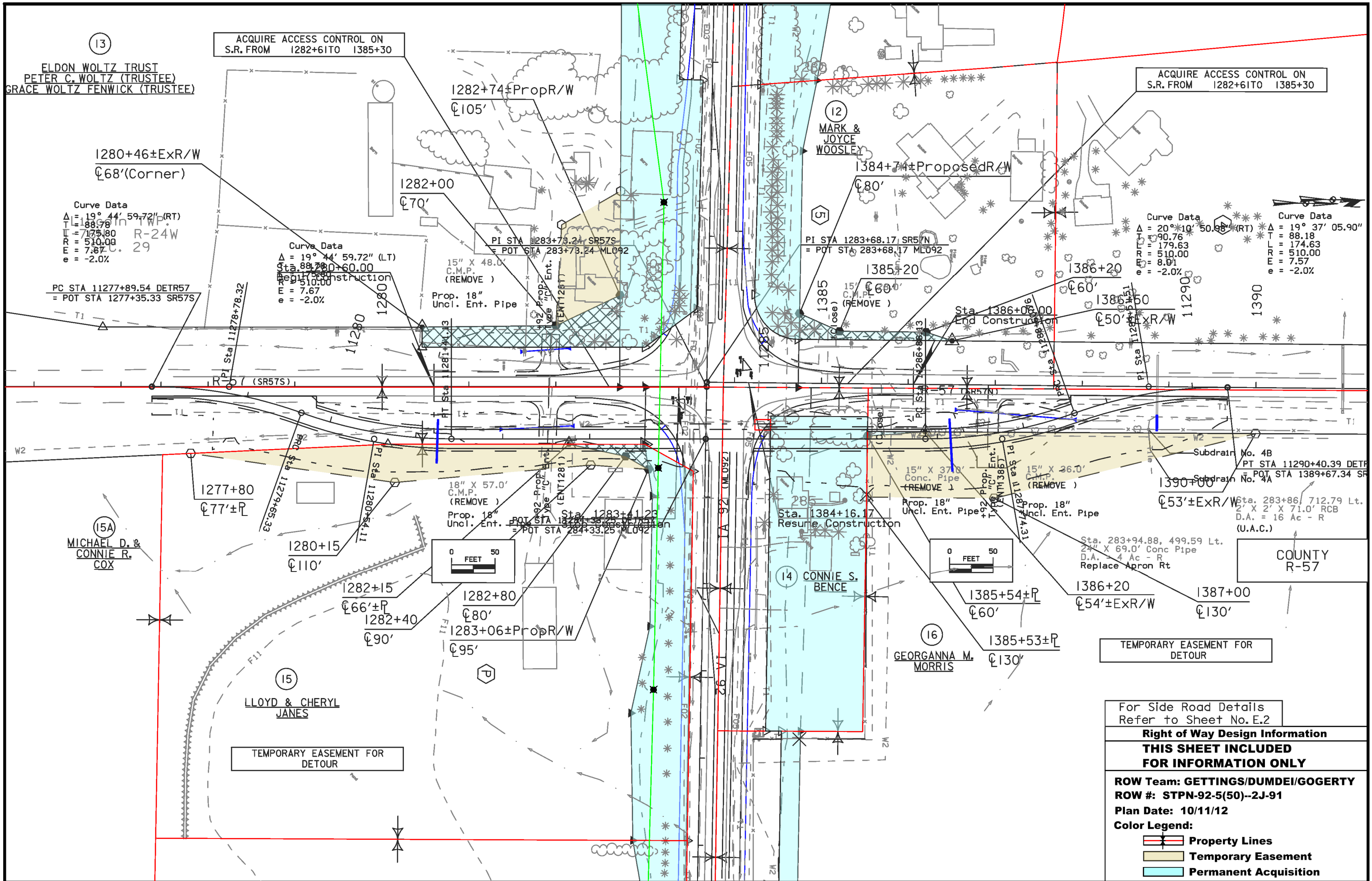
ROW #: STPN-92-5(50)--2J-91

Plan Date: 3/11/13

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition





13  
 ELDON WOLTZ TRUST  
 PETER C. WOLTZ (TRUSTEE)  
 GRACE WOLTZ FENWICK (TRUSTEE)

ACQUIRE ACCESS CONTROL ON  
 S.R. FROM 1282+61 TO 1385+30

ACQUIRE ACCESS CONTROL ON  
 S.R. FROM 1282+61 TO 1385+30

Curve Data  
 $\Delta = 19^\circ 44' 59.72''$  (RT)  
 $T = 188.78$   
 $L = 175.80$   
 $R = 510.00$   
 $E = 7.87$   
 $e = -2.0\%$

Curve Data  
 $\Delta = 19^\circ 44' 59.72''$  (LT)  
 $T = 188.78$   
 $L = 175.80$   
 $R = 510.00$   
 $E = 7.87$   
 $e = -2.0\%$

Curve Data  
 $\Delta = 20^\circ 10' 50.96''$  (RT)  
 $T = 90.76$   
 $L = 179.63$   
 $R = 510.00$   
 $E = 8.91$   
 $e = -2.0\%$



For Side Road Details  
 Refer to Sheet No. E.2

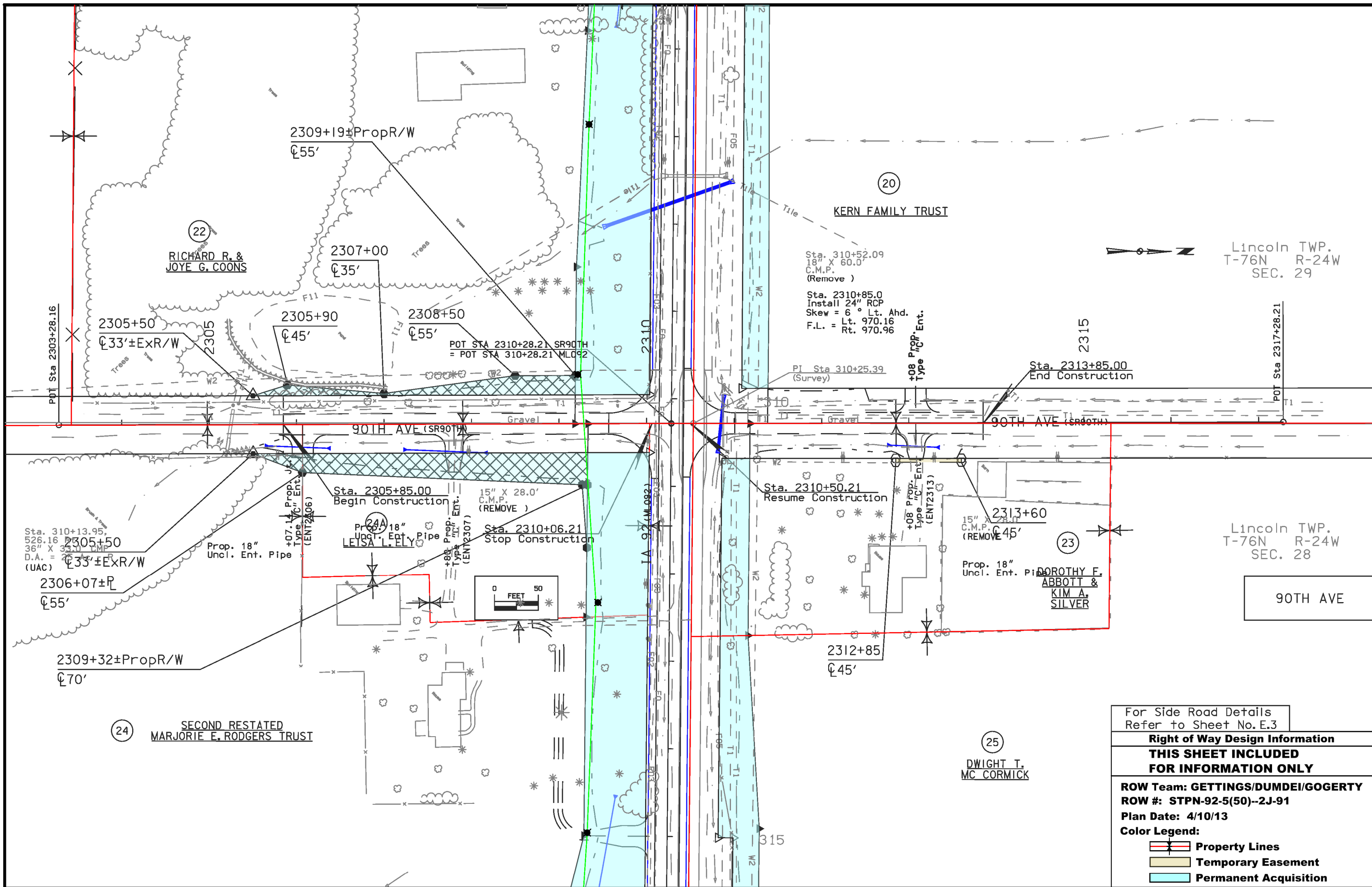
**Right of Way Design Information**

**THIS SHEET INCLUDED  
 FOR INFORMATION ONLY**

**ROW Team: GETTINGS/DUMDEI/GOGERTY**  
**ROW #: STPN-92-5(50)--2J-91**  
**Plan Date: 10/11/12**

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition



Lincoln TWP.  
T-76N R-24W  
SEC. 29

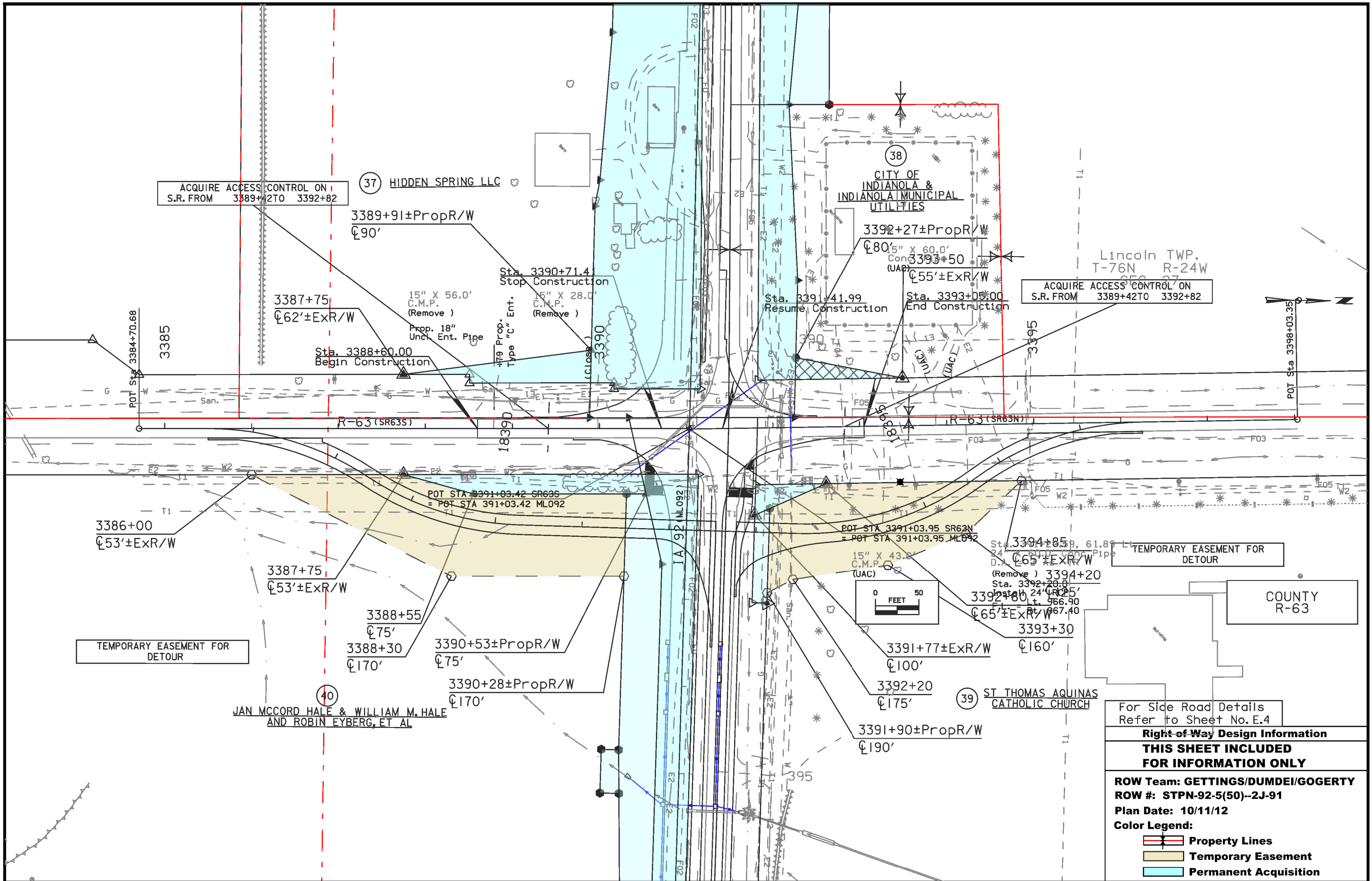
Lincoln TWP.  
T-76N R-24W  
SEC. 28

For Side Road Details  
Refer to Sheet No. E.3

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

**ROW Team: GETTINGS/DUMDEI/GOGERTY**  
**ROW #: STPN-92-5(50)--2J-91**  
**Plan Date: 4/10/13**

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



ACQUIRE ACCESS CONTROL ON  
S.R. FROM 3389+20 TO 3392+82

(37) HIDDEN SPRING LLC

(38) CITY OF  
INDIANOLA &  
INDIANOLA MUNICIPAL  
UTILITIES

ACQUIRE ACCESS CONTROL ON  
S.R. FROM 3389+20 TO 3392+82

Lincoln TWP.  
T-76N R-24W

(39) ST THOMAS AQUINAS  
CATHOLIC CHURCH

(40) JAN MCCORD HALE & WILLIAM M. HALE  
AND ROBIN EYBERG, ET AL

For Side Road Details  
Refer to Sheet No. E.4

**Right of Way Design Information**

**THIS SHEET INCLUDED  
FOR INFORMATION ONLY**

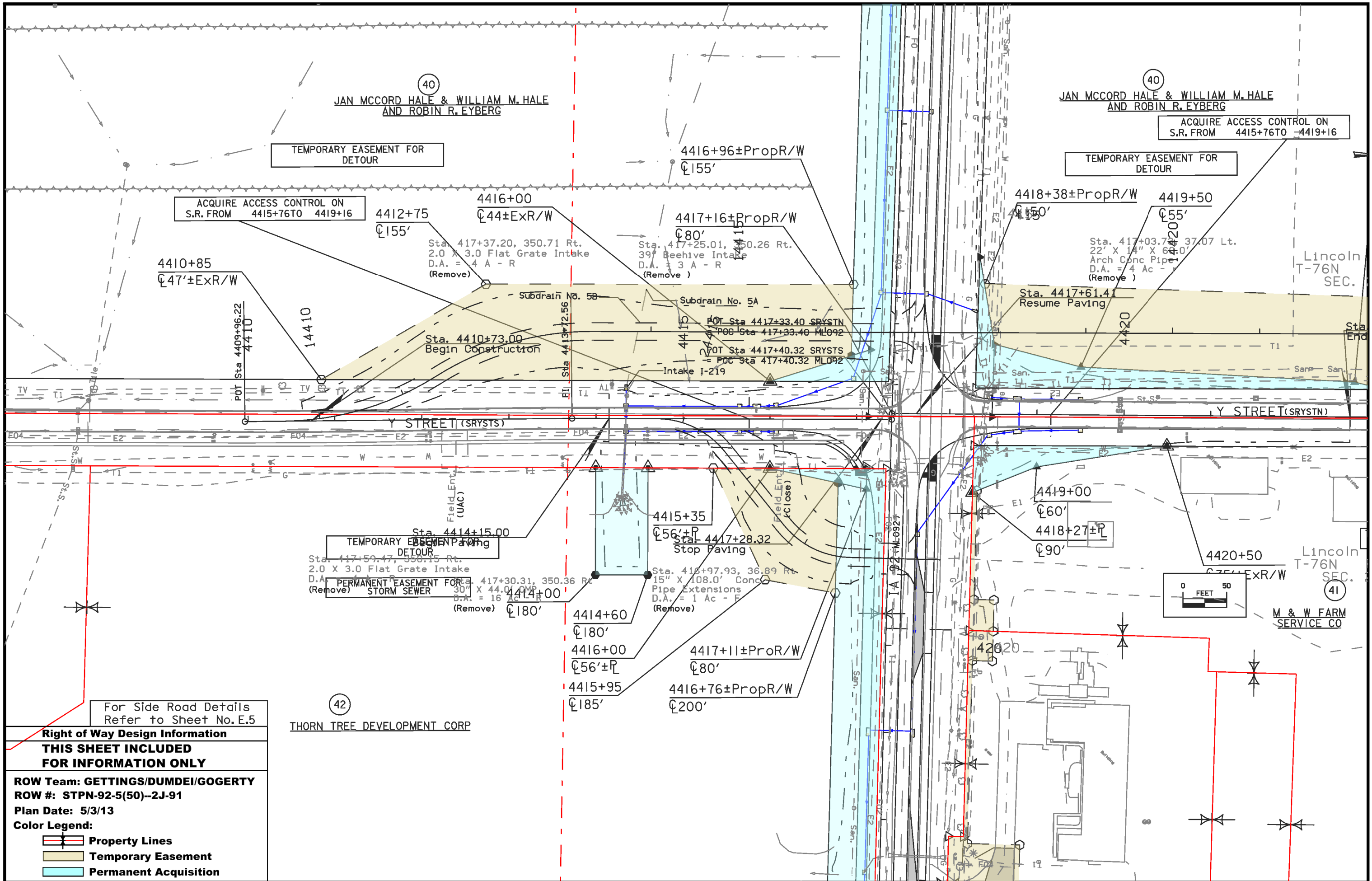
**ROW Team: GETTINGS/DUMDEI/GOGERTY**

**ROW #: STPN-92-5(50)--2J-91**

**Plan Date: 10/11/12**

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition



ACQUIRE ACCESS CONTROL ON S.R. FROM 4415+76 TO 4419+16

TEMPORARY EASEMENT FOR DETOUR

JAN MCCORD HALE & WILLIAM M. HALE AND ROBIN R. EYBERG

ACQUIRE ACCESS CONTROL ON S.R. FROM 4415+76 TO 4419+16

TEMPORARY EASEMENT FOR DETOUR

4410+85  
447'±ExR/W

4412+75  
155'

4416+00  
44±ExR/W

4417+16±PropR/W  
80'

4418+38±PropR/W  
150'

4419+50  
55'

POT Sta 4409+96.22  
4410

14410

Sta. 4410+73.00  
Begin Construction

Subdrain No. 5B  
Sta. 4413+72.56

Subdrain No. 5A

POT Sta 4417+33.40 SRYSTN  
POC Sta 417+33.40 ML092

POT Sta 4417+40.32 SRYSTS  
POC Sta 417+40.32 ML092

Intake I-219

Sta. 4417+61.41  
Resume Paving

Sta. 417+03.77, 37.07 Lt.  
22' X 14" X 60.0'  
Arch Conc Pipe  
D.A. = 4 Ac -  
(Remove)

Lincoln T-76N SEC.

Y STREET (SRYSTS)

Y STREET (SRYSTN)

Sta. 4414+15.00  
Begin Paving  
TEMPORARY EASEMENT FOR DETOUR

Sta. 417+59.47, 350.15 Rt.  
2.0 X 3.0 Flat Grate Intake  
D.A. = 4 Ac - F  
(Remove)

PERMANENT EASEMENT FOR STORM SEWER  
Sta. 417+30.31, 350.36 Rt.  
30" X 44.0' Conc Pipe Extensions  
D.A. = 16 Ac - F  
(Remove)

4415+35  
56'±P

Sta. 4417+28.32  
Stop Paving

Sta. 418+97.93, 36.89 Rt.  
15" X 108.0' Conc Pipe Extensions  
D.A. = 1 Ac - F  
(Remove)

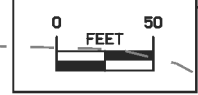
4419+00  
60'

4418+27±P  
90'

4420+50  
75±ExR/W

Lincoln T-76N SEC.

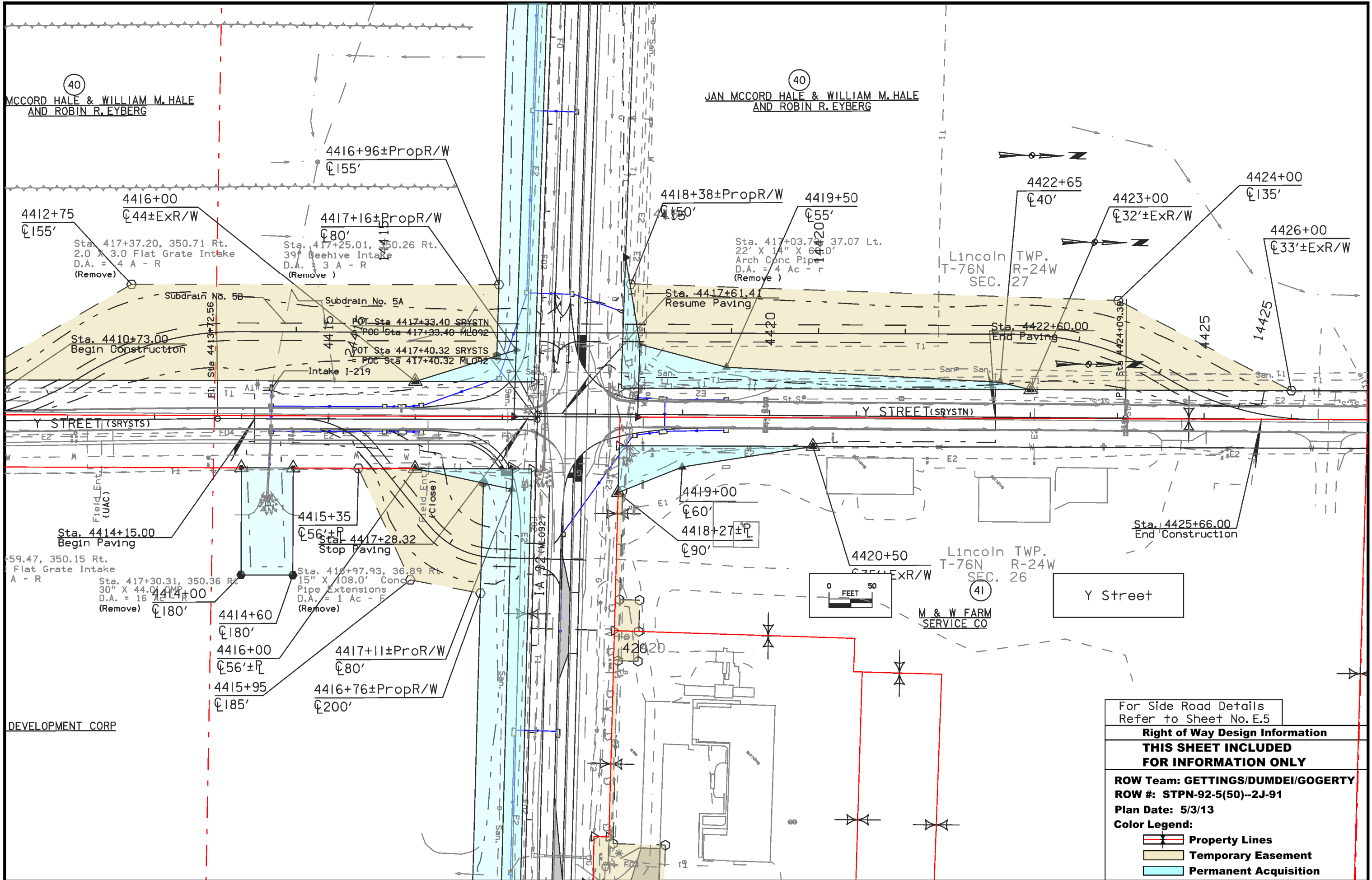
M & W FARM SERVICE CO



For Side Road Details Refer to Sheet No. E.5

THORN TREE DEVELOPMENT CORP

Right of Way Design Information	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: GETTINGS/DUMDEI/GOGERTY	
ROW #: STPN-92-5(50)--2J-91	
Plan Date: 5/3/13	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



For Side Road Details Refer to Sheet No. E.5	
<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
<b>ROW Team: GETTINGS/DUMDEI/GOGERTY</b>	
<b>ROW #: STPN-92-5(50)--2J-91</b>	
<b>Plan Date: 5/3/13</b>	
<b>Color Legend:</b>	
	Property Lines
	Temporary Easement
	Permanent Acquisition

**TRAFFIC CONTROL PLAN**

IA 92  
Traffic on IA 92 will be maintained one lane in each direction at all times except as follows:  
IA 92 will be closed from the BOP to R-63 during Stage 2. Thru traffic will be detoured north in Martensdale on IA 28, east on IA 5, and south on US 65/US 69.  
Installation, maintenance, and removal of the detour signs are the responsibility of the contractor. Refer to sheets J.5-J.12.  
Access to all properties will be maintained at all times.

R-57  
Traffic will be maintained in both directions at all times.

90th Avenue (North of IA 92)  
Road will be closed to thru traffic during closure of IA 92 from BOP to R-63. Local traffic will access 90th St. via local roads Illinois St. and Indiana/Inwood Streets.

90th Ave. (South of IA 92)  
Road will be closed to thru traffic during closure of IA 92 from BOP to R-63. Local traffic will access 90th St. from R-57 via Kirkwood St.

R-63  
Traffic will be maintained in both directions at all times.

Y St. (North of IA 92)  
Traffic will be maintained in both directions at all times.

Y St. (South of IA 92)  
Traffic will be maintained in both directions at all times.

South Spruce St.  
Traffic will be maintained in both directions at all times.

R St.  
Street will be closed during construction of the R Street intersection with IA 92. R Street will not be closed at the same time as South P Street on the south side of IA 92.

South Kenwood Blvd.  
Street will be closed during construction of the South Kenwood Blvd. intersection with IA 92. South Kenwood Blvd will not be closed at the same time as South P St. on the north side of IA 92.

South P St. (North of IA 92)  
Street will be closed during construction of the South P St. intersection with IA 92. South P St. north of IA 92 will not be closed at the same time as South Kenwood Blvd.

South P St. (South of IA 92)  
Street will be closed during construction of the South P St. intersection with IA 92. South P St. south of IA 92 will not be closed at the same time as R St. or South N St. on the south side of IA 92.

South N St.  
Street will be closed during construction of the N St. intersection with IA 92. R St. will not be closed at the same time as South P St. on the south side of IA 92.

**PEDESTRIAN PATH CLOSURES**

\*Assumes 6 foot wide barricade.  
Closures may need to be removed and re-established.

Location	Side	Type III Barricades*	Remarks
		No.	
Sta 4410+73; East side of Y St., South of IA 92	Rt	1	Closed for Stages 1 and 2
Station 441+60; East side of Spruce St.	Lt	1	Closed for Stages 1 thru 4
Station 454+10; West side of South P St., South of IA 92	Rt	1	Closed for Stage 4
Station 454+65; East side of South P St., South of IA 92	Rt	1	Closed for Stage 4
Station 451+60; West side of S. Kenwood Blvd, North of IA 92	Lt	1	Closed for Stage 4
Station 452+30; East side of S. Kenwood Blvd, North of IA 92	Lt	1	Closed for Stage 4
Station 455+40; West side of South P Street, North of IA 92	Lt	1	Closed for Stage 4
Station 455+95; East side of South P Street, North of IA 92	Lt	1	Closed for Stage 4
Sta 465+85	Lt	1	Closed for Stages 1 thru 4

**COORDINATED OPERATIONS**

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
NHSX-092-5(55)--3H-91	Lighting
NHSX-092-5(54)--3H-91	Traffic Signs

**511 TRAVEL RESTRICTIONS**

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 92	EB	Warren	0.6 mi W of R-57 to R-63		Road Closure							
IA 92	WB	Warren	0.6 mi W of R-57 to R-63		Road Closure							
IA 92	EB	Warren	R-63 to South M St.		Traffic Control Device		Horizontal	12		11		
IA 92	WB	Warren	R-63 to South M St.		Traffic Control Device		Horizontal	12		11		

**STAGING NOTES**

- Stage 1
  - Traffic Control
    - IA 92
      - Maintain traffic on existing IA 92 from beginning of project to end of project
    - Sideroads
      - Maintain traffic on all existing sideroads
  - Construction
    - IA 92
      - Construct temporary pavement on north side of IA 92 at the Spruce Street intersection
    - Sideroads
      - Construct the SW temporary granular detour for Y Street south of IA 92
      - Place granular surface on Kirkwood Street between R-57 and 90th Street
- Stage 2A
  - Traffic Control
    - IA 92
      - Detour IA 92 thru traffic as shown on sheets J.5-J.12
      - Maintain IA 92 local traffic on existing pavement from BOP to R-57
      - Close IA 92 local traffic from R-57 to 90th Street
      - Maintain IA 92 local traffic on existing pavement from 90th Street to EOP
    - Sideroads
      - Maintain traffic on R-57
      - Access to 90th Street south of IA 92 shall be maintained from R-57 via Kirkwood Street
      - Access to 90th Street north of IA 92 shall utilize local roads Illinois Street and Indiana/Inwood Streets
      - Maintain traffic on R-63
      - Maintain traffic on Y Street north of IA 92
      - Close Y Street south of IA 92 and use the SW temporary granular detour for Y Street south of IA 92
  - Construction
    - IA 92
      - Grade and Pave IA 92 from R-57 (Sta 284+00) east 150'
    - Sideroads
      - Construct the NE and SE temporary paved detours for R-57 north and south of IA 92
      - Construct the NE and SE temporary paved detours for R-63 north and south of IA 92
- Stage 2B
  - Traffic Control
    - IA 92
      - Continue to detour thru traffic for IA 92 as shown on sheets J.5-J.12
      - Close IA 92 from BOP east to just east of R-63 (Sta 391+80)
        - Traffic on R-57 shall be allowed to cross the new IA 92 pavement at the temporary detour pavement
        - Maintain local entrance access only
      - Maintain local traffic on existing pavement of IA 92 as one-lane in each direction between R-63 and EOP while utilizing temporary pavement at Spruce Street
    - Sideroads
      - Maintain traffic on R-57 via detour pavement
      - Close 90th Street
      - Maintain traffic on R-63 via detour pavement
      - Maintain traffic on Y Street north of IA 92
      - Maintain traffic on SW temporary granular detour pavement for Y Street south of IA 92
  - Construction
    - IA 92
      - Grade and Pave IA 92 from BOP to just east of the R-57 intersection (Sta 284+00 )
      - Grade and Pave IA 92 from just east of R-57 (Sta 285+50) to just east of R-63 intersection (Sta 391+80)
      - Grade and Pave new EB and center turn lanes of IA 92 from just east of R-63 (Sta 393+30) to just west of SW temporary granular detour for Y Street (Sta 416+15)
      - Grade and Pave new EB and center turn lanes of IA 92 from just east of SW temporary granular detour for Y Street (Sta 416+64) to just west of R Street (Sta 443+18)
      - Place temporary pavement with curb on south side of new IA 92 pavement from Sta 441+15.20 to the SW return of R Street. Place steel cover over storm sewer well at Sta. 442+63 (Right) prior to placing temporary pavement
    - Sideroads
      - Construct Access 258
      - Grade and Pave south and north legs of R-57
      - Grade and Pave south and north legs of R-63
      - Grade and Pave south leg of Y St.
      - Construct as much as possible of the NW temporary granular detour for Y Street north of existing IA 92.
- Stage 2C
  - Traffic Control
    - IA 92
      - Continue to detour thru traffic for IA 92 as shown on sheets J.5-J.12
      - Maintain IA 92 local traffic from BOP to R-57
      - Maintain closure of IA 92 from just east of R-57 (Sta 285+50) to just east of R-63 (Sta 391+80); maintain local access only
      - Maintain local traffic on existing pavement of IA 92 as two-lane, two-way traffic between R-63 and EOP while utilizing temporary pavement at Spruce St.
    - Sideroads
      - Place traffic on R-57
      - Maintain closure of 90th Street
      - Maintain traffic on R-63 by utilizing the NE and SE temporary paved detours
      - Maintain traffic on Y Street north of IA 92

**STAGING NOTES**

- Maintain traffic on the SW temporary granular detour for Y Street south of IA 92
- Construction
  - IA 92
    - Finish Grading and Paving from just east of R-57 (Sta 285+50) to just east of R-63 (Sta 391+80)
  - Sideroads
    - Remove the NE and SE temporary detours of R-57
    - Construct temporary granular detour in the southeast quadrant of the IA 92/Y St. intersection; Place granular surfacing across the top of new IA 92 pavement as part of detour due to the grade difference
- Stage 2D
  - Traffic Control
    - IA 92
      - Continue to detour thru traffic for IA 92 as shown on sheets J.5-J.12
      - Maintain IA 92 local traffic from BOP to R-63
      - Close IA 92 from just east of R-63 (Sta 391+80) to Y Street
      - Maintain local traffic on existing pavement of IA 92 between Y Street and EOP while utilizing temporary pavement at Spruce Street
    - Sideroads
      - Open R-57 to normal traffic
      - Open 90th Street to normal traffic
      - Place traffic on R-63
      - Place traffic on the SE temporary granular detour for Y Street south of IA 92
  - Construction
    - IA 92
      - Grade and Pave the gapped areas of the EB and left turn lane of IA 92 between R-63 and Y Street
    - Sideroads
      - Remove the NE and SE temporary paved detours of R-63
      - Construct the remainder of the NW temporary granular detour of Y Street to tie into the new IA 92 pavement
- Stage 3A
  - Traffic Control
    - IA 92
      - Open IA 92 to thru traffic
        - Maintain normal operation from from BOP to R-63
        - Place traffic on the new EB and left turn lane of IA 92 from R-63 to just east of Spruce Street (Sta 443+18) to maintain traffic as one lane in each direction
    - Sideroads
      - Place traffic on the NW temporary granular detour for Y Street north of IA 92
      - Open traffic on Y Street south of IA 92
      - Maintain traffic on all other sideroads
  - Construction
    - IA 92
      - Remove temporary pavement on the north side of IA 92 from just west to just east of Spruce Street (Sta 445+00)
    - Sideroads
      - Remove the SE temporary granular detour for Y Street south of IA 92
      - Construct the NW temporary granular detour for Spruce Street north of IA 92
- Stage 3B
  - Traffic Control
    - IA 92
      - Same as Stage 3A
    - Sideroads
      - Maintain traffic on NW temporary granular detour for Y Street north of IA 92
      - Place Spruce Street traffic on the NW temporary granular detour for Spruce Street
      - Maintain traffic on all other sideroads
  - Construction
    - IA 92
      - Construct WB lane with curb on the north side of IA 92 from just west of Spruce Street (Sta 441+10) to Sta 443+18
    - Sideroads
      - Construct Spruce Street intersection
- Stage 3C
  - Traffic Control
    - IA 92
      - Same as Stage 3B
    - Sideroads
      - Maintain traffic on NW temporary granular detour for Y Street north of IA 92
      - Open Spruce Street at intersection of IA 92
      - Maintain traffic on all other sideroads
  - Construction
    - IA 92
      - Grade and Pave WB lane of IA 92 from just east of R-63 (Sta 391+80) to just west of Spruce Street (441+10); gap construction for the NW temporary granular detour for Y Street
    - Sideroads
      - Grade and Pave the north leg of Y Street
      - Remove the NW temporary granular detour for Spruce Street north of IA 92

### STAGING NOTES

- Stage 3D
- Traffic Control
    - IA 92
      - Same as Stage 3C
  - Sideroads
    - Maintain traffic on all sideroads
  - Construction
    - IA 92
      - Grade and Pave the gapped area of the WB lane of IA 92 just west of Y Street after removal of the NW temporary granular detour
  - Sideroads
    - Remove the NW temporary granular detour for Y Street north of IA 92

- Stage 4A
- Traffic Control
    - IA 92
      - Maintain thru traffic on IA 92; shift traffic north from 800' west of Spruce Street to EOP; use existing left turn lane (center lane) for EB traffic
  - Sideroads
    - Close R St., South P St., and South N St. south of IA 92
      - NOTE: Closure of R St. and South P St. south of IA 92 shall not occur simultaneously
    - Maintain traffic on all other sideroads
  - Construction
    - IA 92
      - Remove temporary pavement on the south side of IA 92 from Spruce Street to the SW return at R Street
      - Construct the curb and gutter on the south side of IA 92 from Spruce Street to EOP
      - Mill and Resurface EB lane of IA 92
  - Sideroads
    - Construct intersections of R Street, South P Street, and South N Street south of IA 92

- Stage 4B
- Traffic Control
    - IA 92
      - Maintain thru traffic on IA 92; close existing left turn lane (center lane)
  - Sideroads
    - Maintain traffic on all sideroads
  - Construction
    - IA 92
      - Mill and resurface left turn lane (center lane) of IA 92
  - Sideroads
    - None

- Stage 4C
- Traffic Control
    - IA 92
      - Maintain thru traffic on IA 92; shift traffic south from 800' west of Spruce Street to EOP; use existing left turn lane (center lane) for WB traffic
  - Sideroads
    - Close South Kenwood Blvd and South P Street north of IA 92
      - NOTE: Closure of South Kenwood Blvd and South P Street north of IA 92 shall not occur simultaneously
    - Maintain traffic on all other sideroads
  - Construction
    - IA 92
      - Remove temporary pavement on the north side of IA 92 from Sta 443+18 to Sta 445+00
      - Construct the curb and gutter on the north side of IA 92 from Sta 443+18 to EOP
      - Mill and Resurface WB lane of IA 92
  - Sideroads
    - Construct intersections of South Kenwood Blvd and South P St. north of IA 92










- Stage 4D
- Traffic Control
    - Open IA 92 and sideroads to full operation



**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

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, 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

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

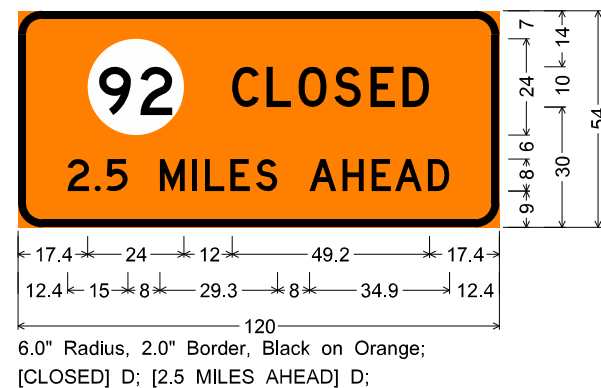
	Channelizing Device		Crash Cushion
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure

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

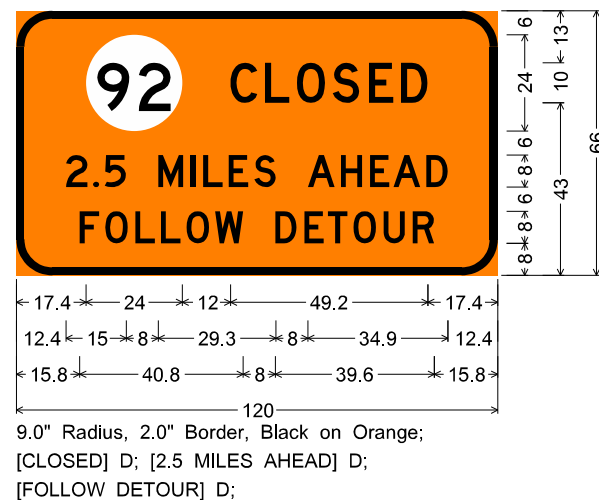
**TRAFFIC CONTROL  
AND  
STAGING  
LEGEND AND SYMBOL  
INFORMATION SHEET**

(COVERS SHEET SERIES J)

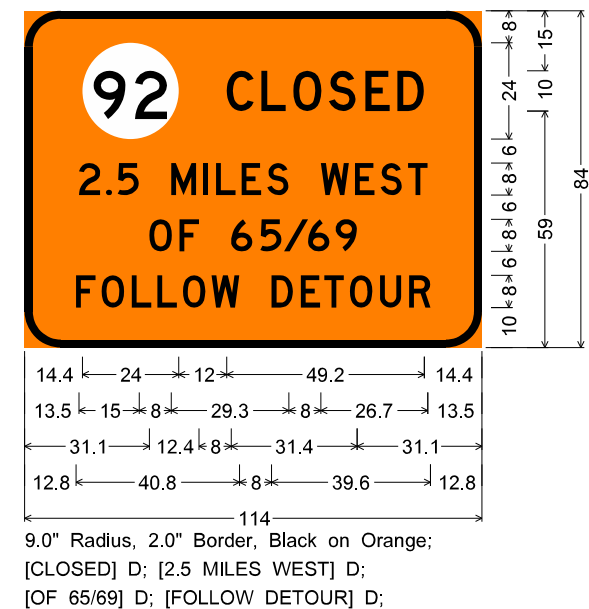
GUIDE SIGN 1



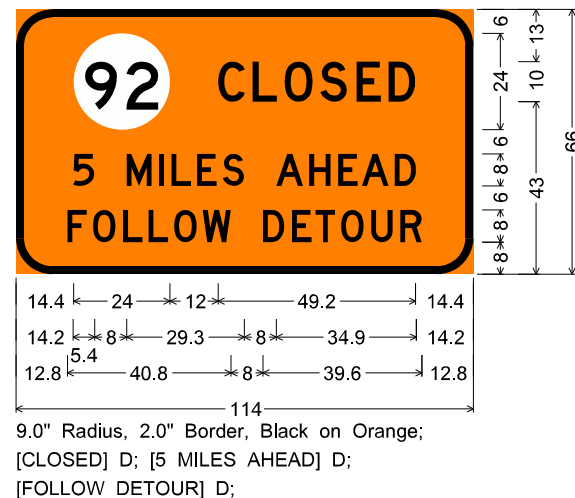
GUIDE SIGN 2



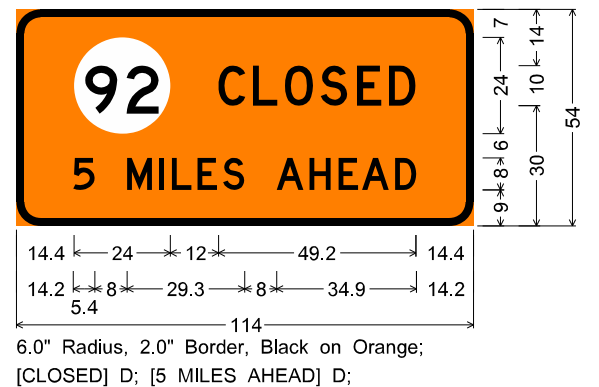
GUIDE SIGN 3



GUIDE SIGN 4

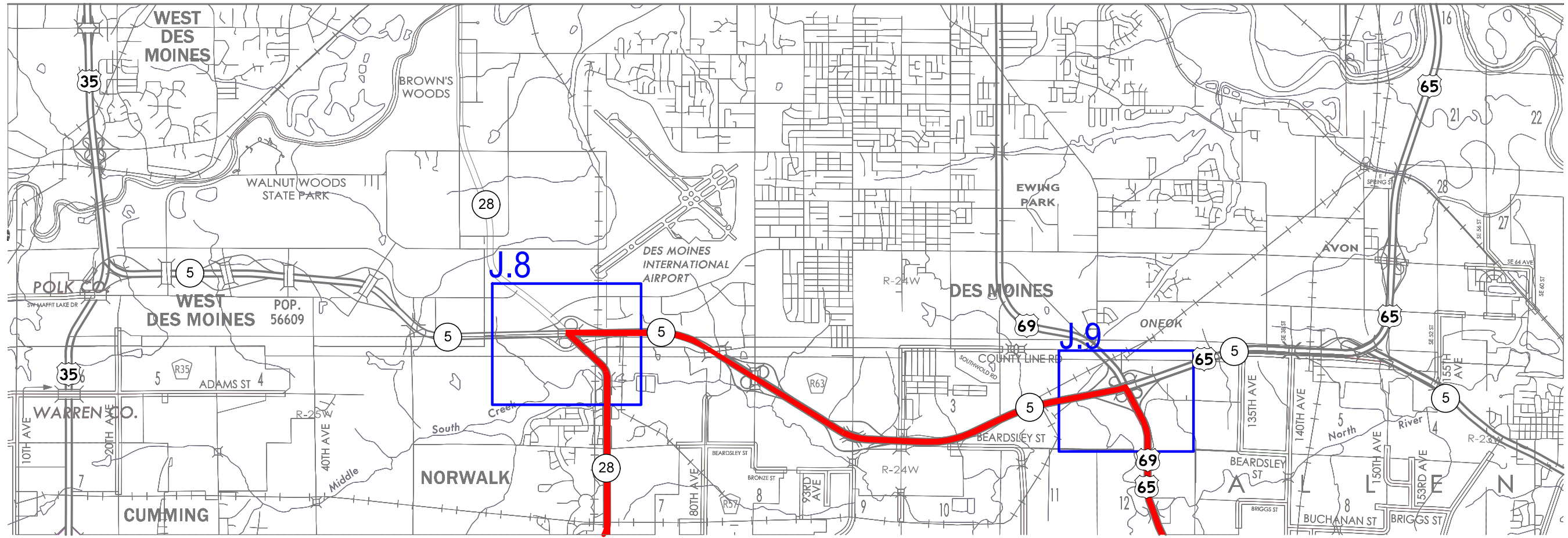


GUIDE SIGN 5



SIGNING DESIGN	
	I hereby certify that this plan 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: <i>Zachary Abrams</i> Date: 7/31/2014 Printed or Typed Name: Zachary Abrams My license renewal date is December 31, 20 <u>14</u>
Pages or sheets covered by this seal: <u>J.5</u>	

**POLK COUNTY**

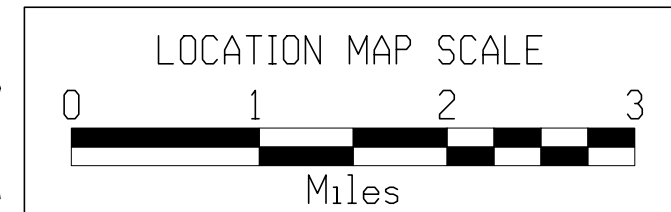


**WARREN COUNTY**

SIGN/DEVICE	SIGN NO.	COLOR	SIZE InchxInch
	M1-4	BLACK ON WHITE	24X24
	M3-2	BLACK ON WHITE	24X12
	M3-4	BLACK ON WHITE	24X12
	M4-8	BLACK ON ORANGE	24X12
	M4-8a	BLACK ON ORANGE	24X18
	M6-3	BLACK ON WHITE	21X15
	M5-1R	BLACK ON WHITE	21X15

SIGN/DEVICE	SIGN NO.	COLOR	SIZE InchxInch
	M5-1L	BLACK ON WHITE	21X15
	M5-2	BLACK ON WHITE	21X15
	M6-1R	BLACK ON WHITE	21X15
	M6-1L	BLACK ON WHITE	21X15
	R11-3a	BLACK ON WHITE	60X30
	R11-2	BLACK ON WHITE	48X30
	R11-4	BLACK ON WHITE	60X30

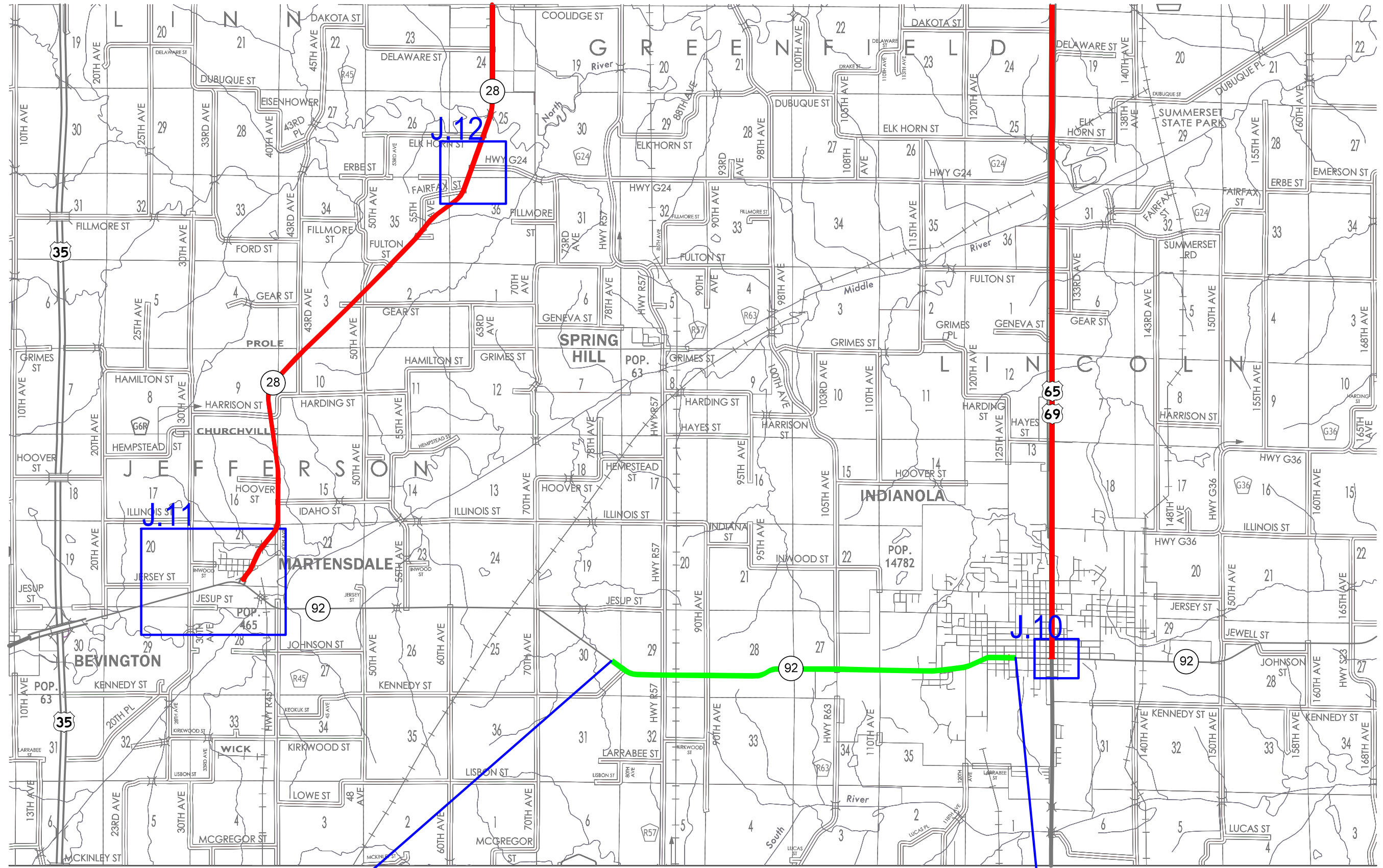
Project  
 Proposed Detour



SIGN/DEVICE	SIGN NO.	COLOR	SIZE InchxInch
	W20-3	BLACK ON ORANGE	48X48
	W20-3	BLACK ON ORANGE	48X48
	TYPE III		

**DETOUR LAYOUT DETAILS**  
(Sheet 1 of 7)

**WARREN COUNTY**

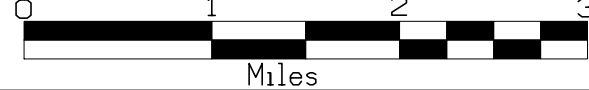


**Project**  
**Proposed Detour**

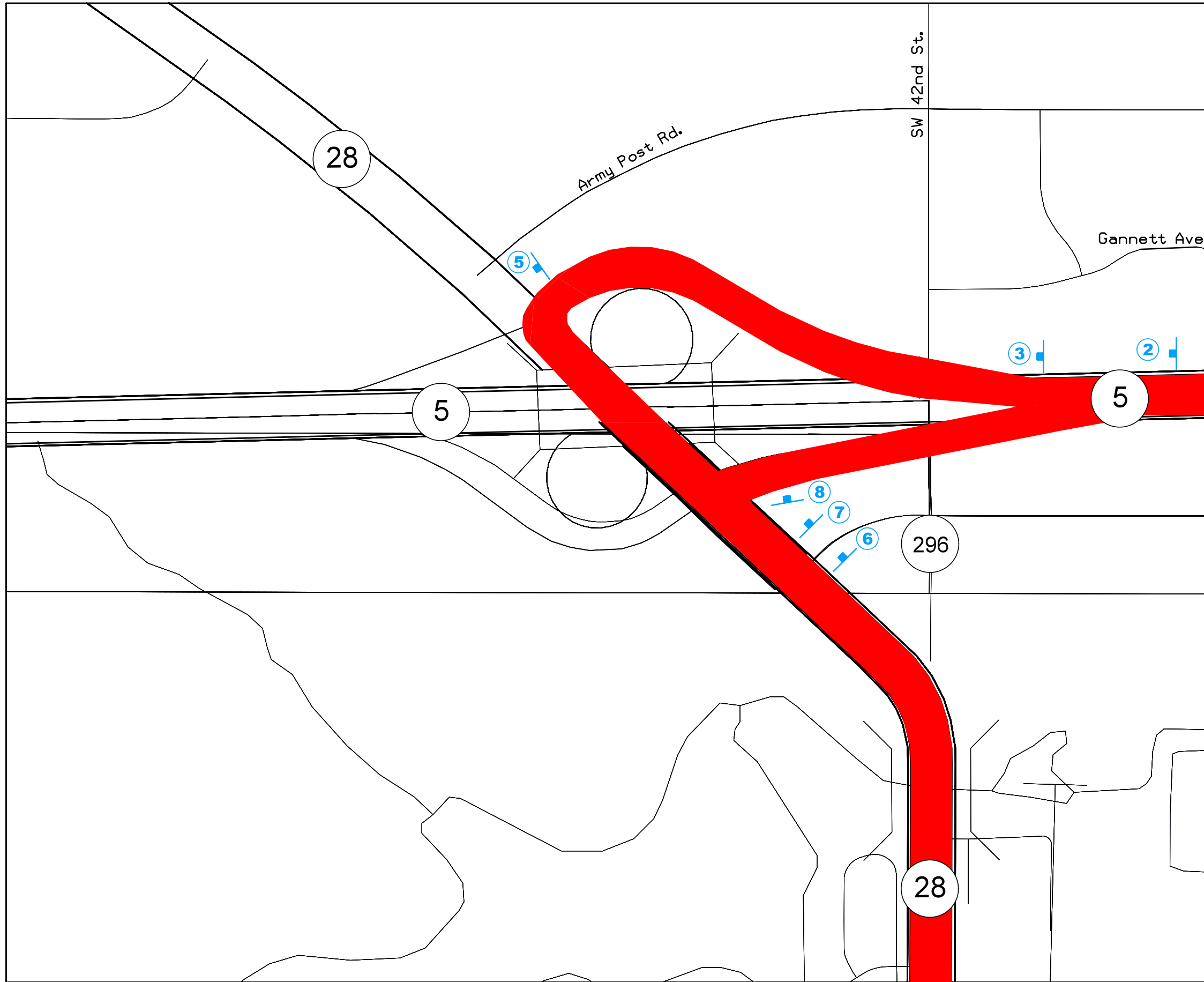
**BEGIN PROJECT**

**END PROJECT**

LOCATION MAP SCALE



DETOUR LAYOUT DETAILS  
 (Sheet 2 of 7)



2	3	5	6
DETOUR	DETOUR	DETOUR	DETOUR
WEST	WEST	WEST	EAST
92	92	92	92
Right Turn	Right Arrow	Left Arrow	Up Arrow

7	8
DETOUR	DETOUR
EAST	EAST
92	92
Right Turn	Right Arrow

**NOT TO SCALE**

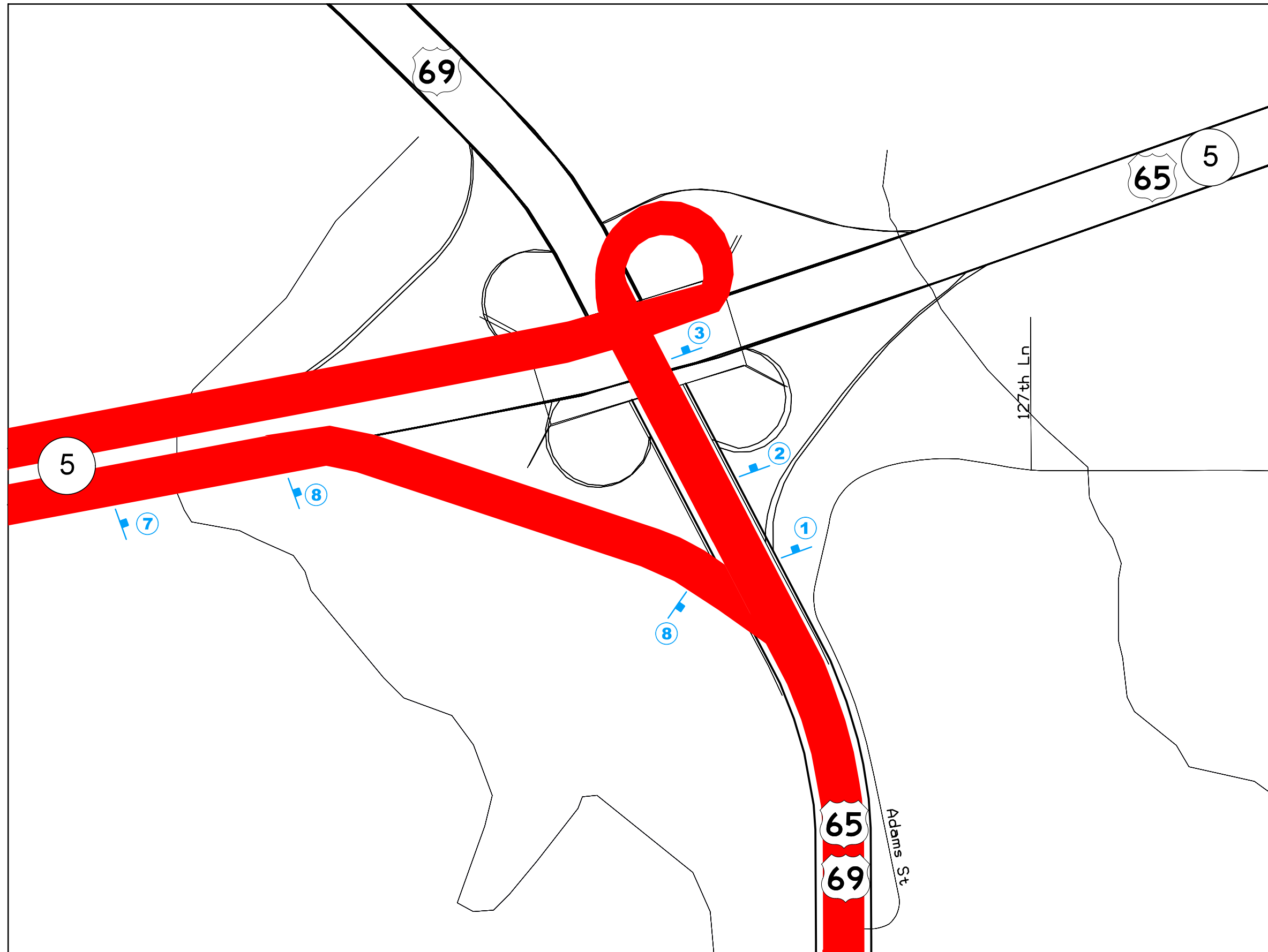
LEGEND

Sign

Detour Route



DETOUR LAYOUT DETAILS  
(Sheet 3 of 7)



1	2	3
DETOUR	DETOUR	DETOUR
WEST	WEST	WEST
92	92	92
↑	↗	→

7	8
DETOUR	DETOUR
EAST	EAST
92	92
↗	→

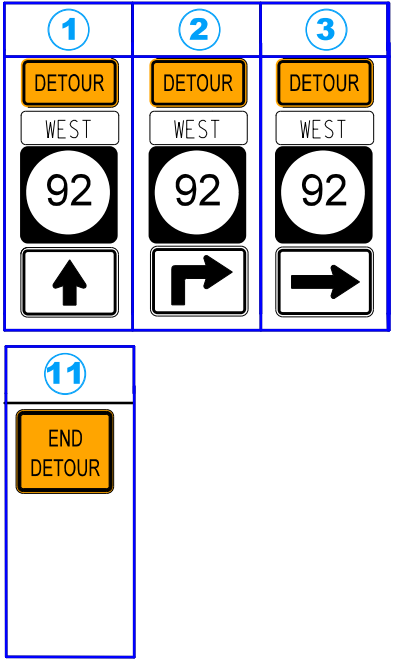
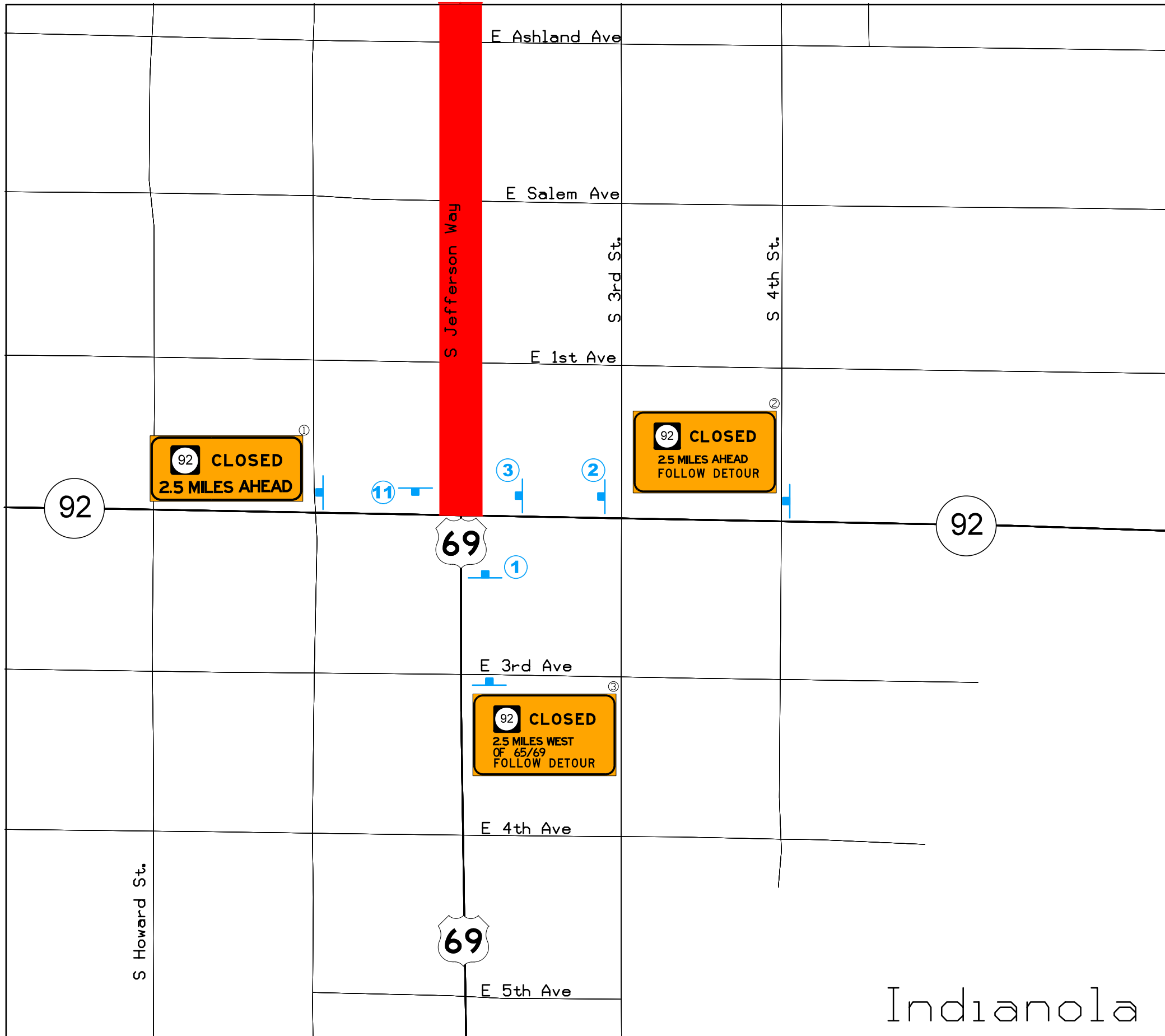
NOT TO SCALE

LEGEND

Sign

Detour Route

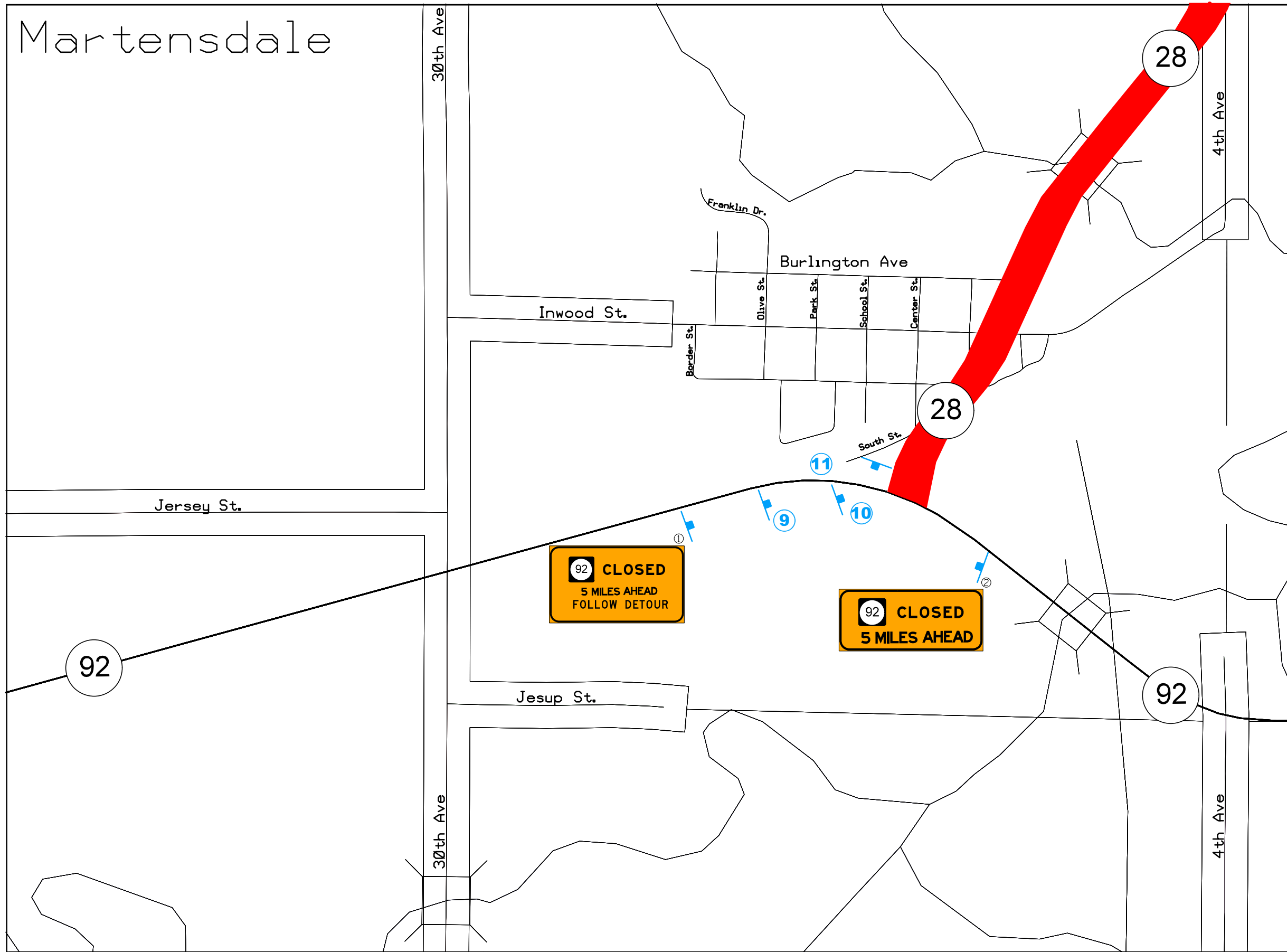
DETOUR LAYOUT DETAILS  
(Sheet 4 of 7)



① See Detour Guide Sign #1 on Sheet J.8 for signing details.  
 ② See Detour Guide Sign #2 on Sheet J.8 for signing details.  
 ③ See Detour Guide Sign #3 on Sheet J.8 for signing details.

**NOT TO SCALE**  
**LEGEND**  
 — Sign  
 — Detour Route  
 DETOUR LAYOUT DETAILS  
 (Sheet 5 of 7)

# Martensdale



9	10
DETOUR	DETOUR
EAST	EAST
92	92
←	←

11
END DETOUR

① See Detour Guide Sign #4 on Sheet J.8 for signing details.

② See Detour Guide Sign #5 on Sheet J.8 for signing details.

NOT TO SCALE

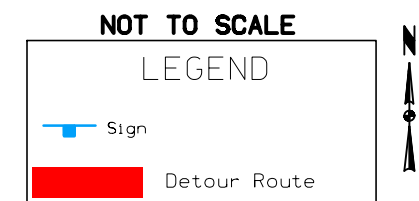
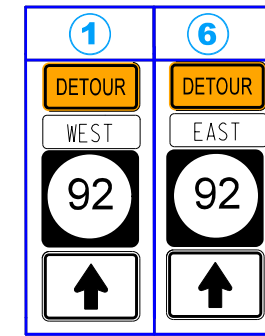
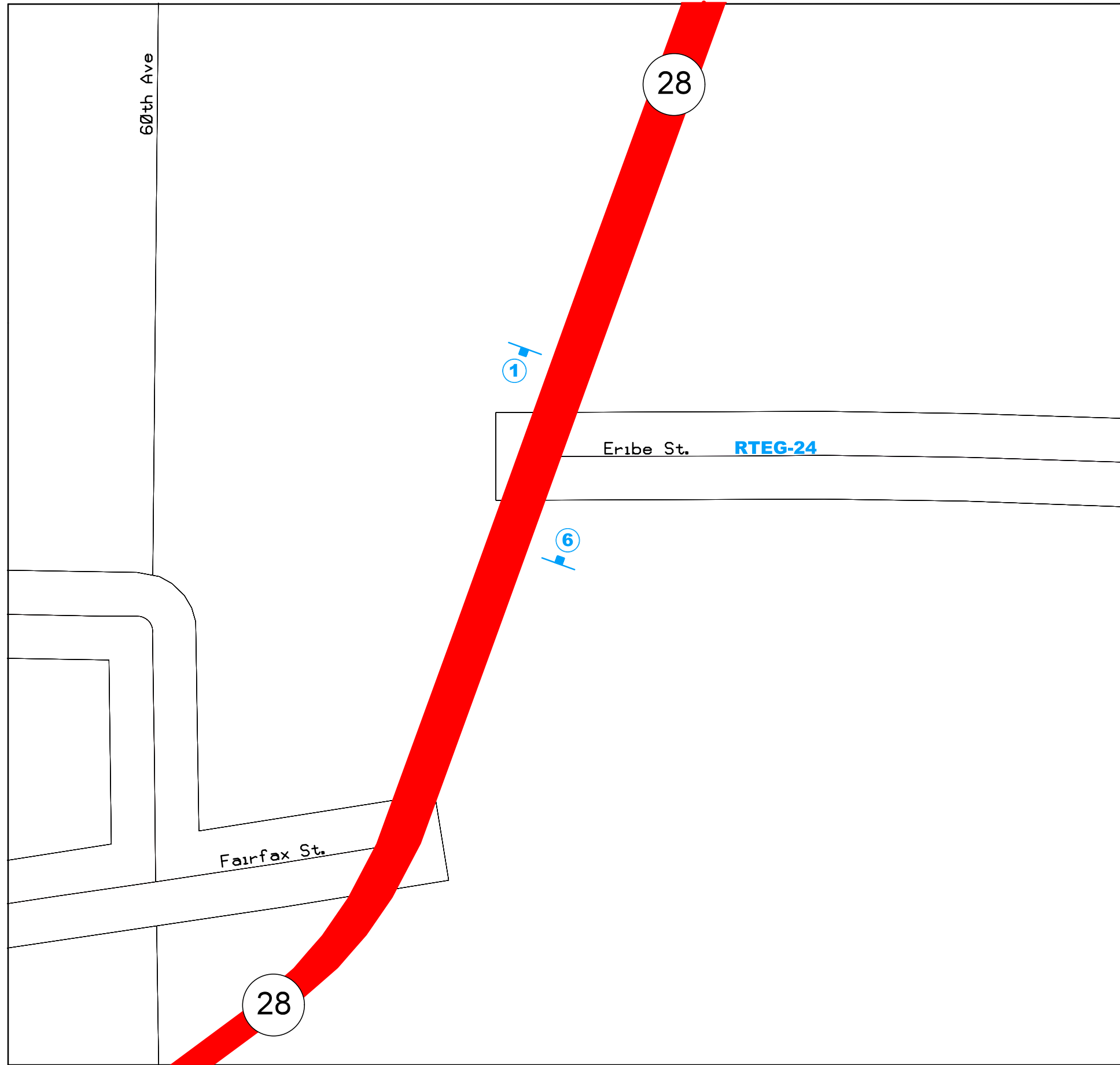
LEGEND

←	Sign
█	Detour Route

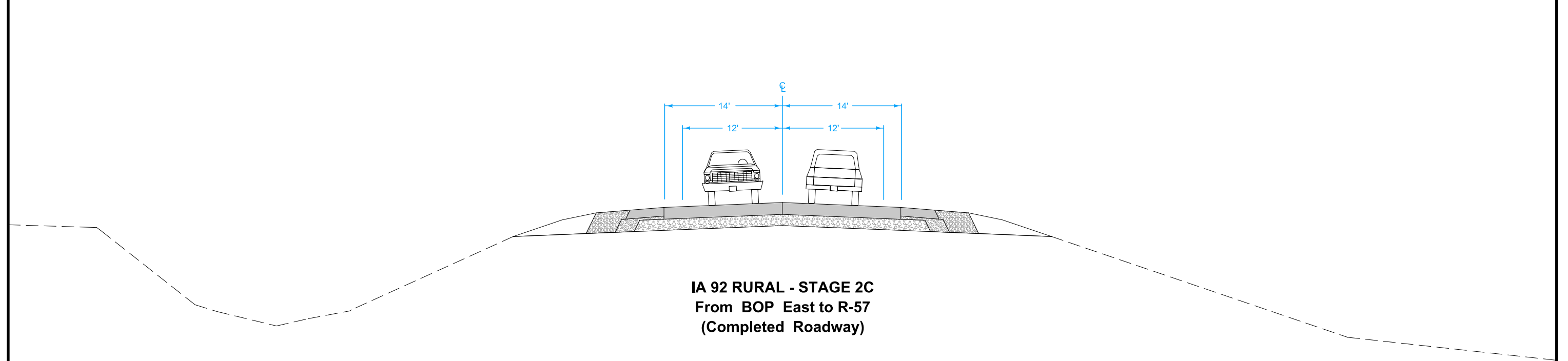
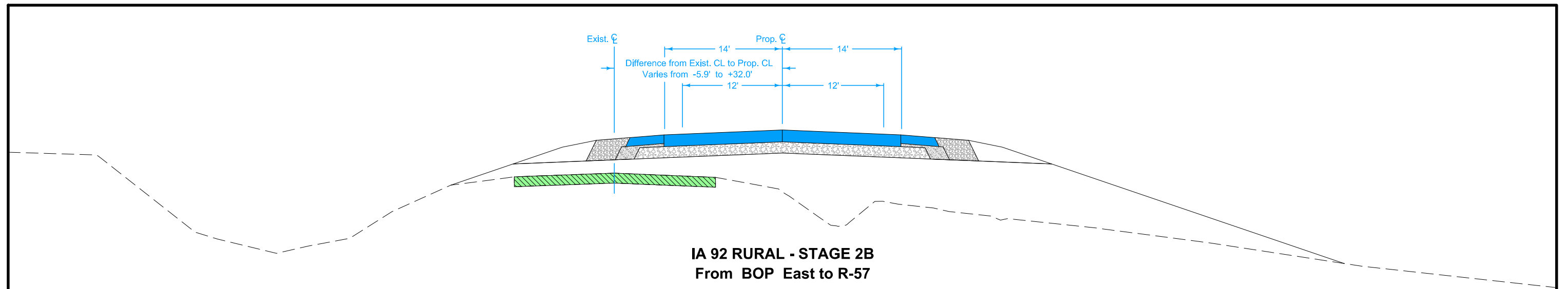


DETOUR LAYOUT DETAILS  
(Sheet 6 of 7)

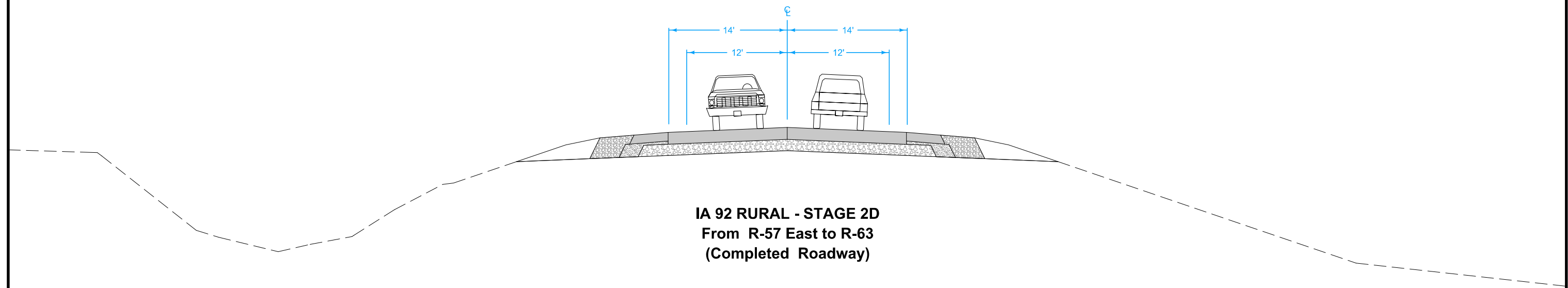
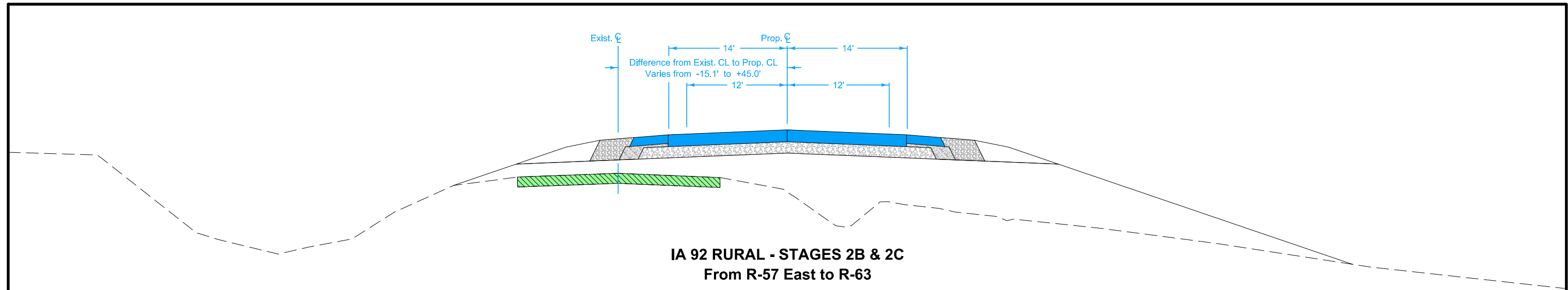




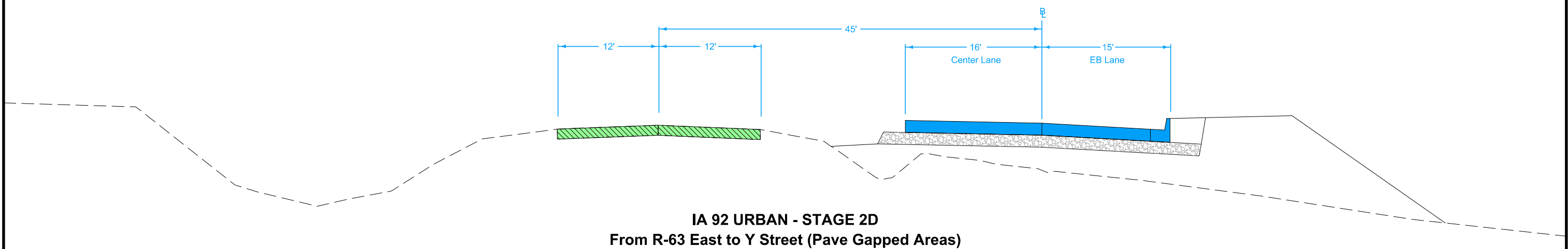
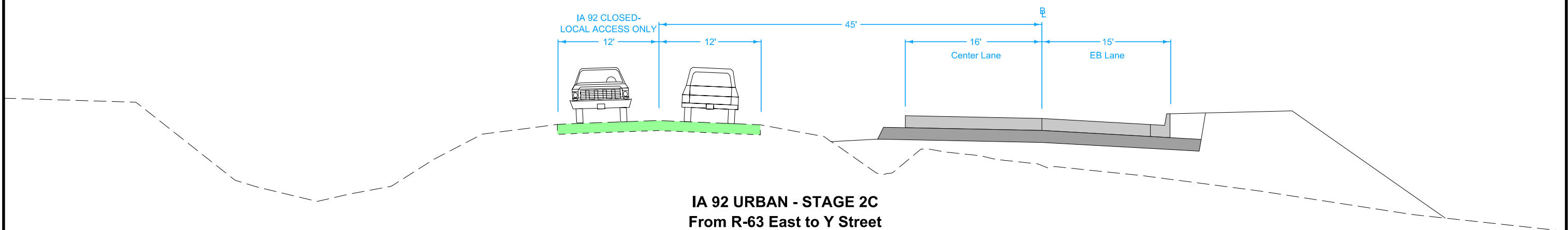
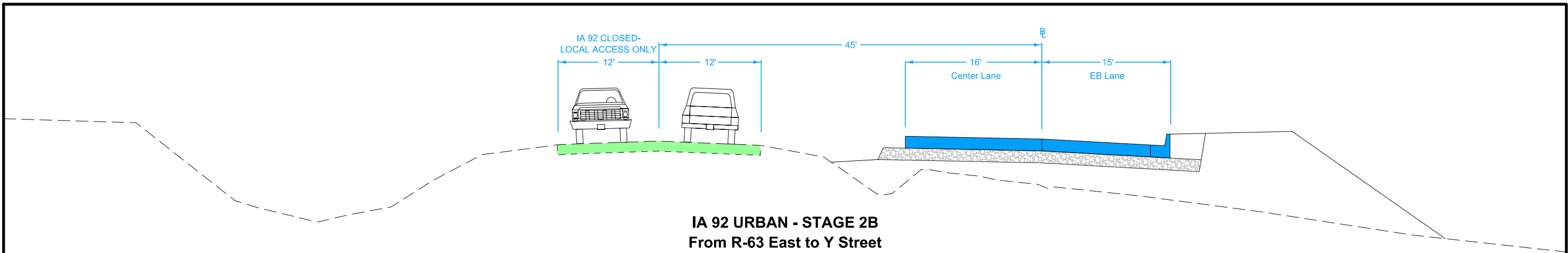
DETOUR LAYOUT DETAILS  
(Sheet 7 of 7)



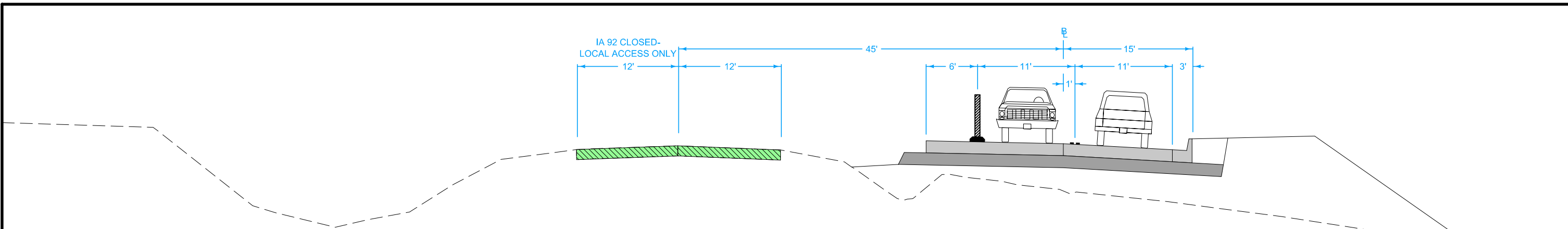
**STAGING TYPICAL**  
IA 92 RURAL  
B.O.P. TO R-57



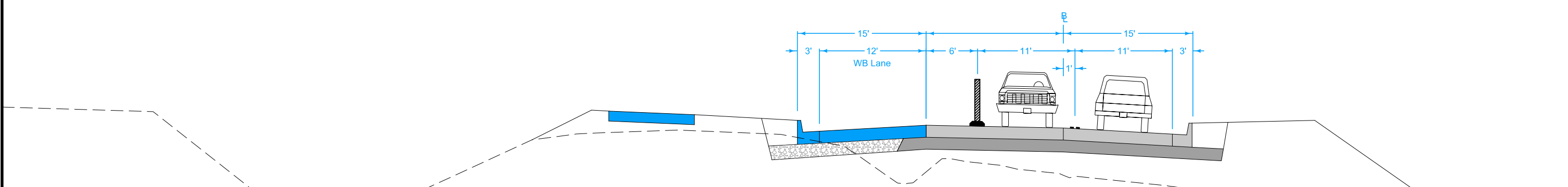
STAGING TYPICAL  
IA 92 RURAL  
R-57 TO R-63



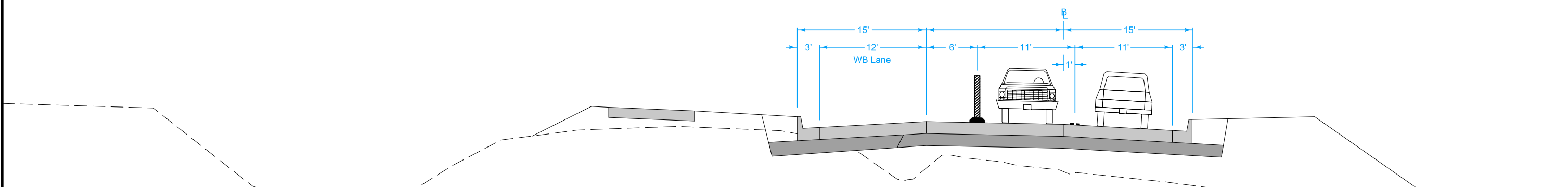
**STAGING TYPICAL**  
IA 92 URBAN  
R-63 TO Y STREET



**IA 92 URBAN - STAGES 3A & 3B**  
From R-63 East to Y Street

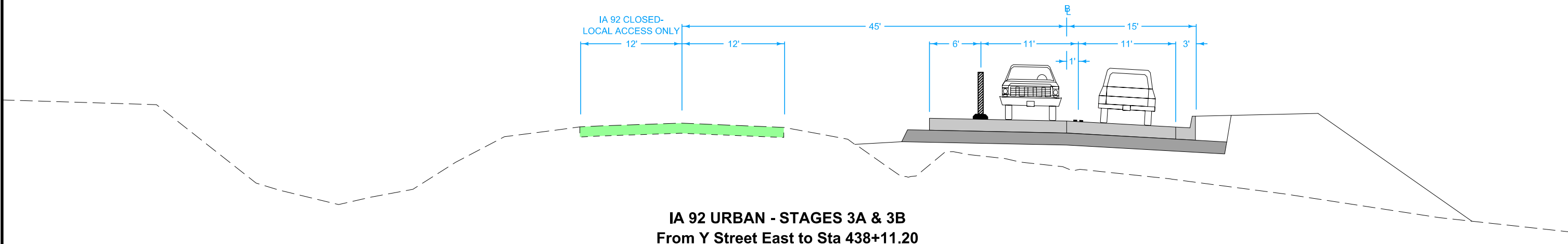
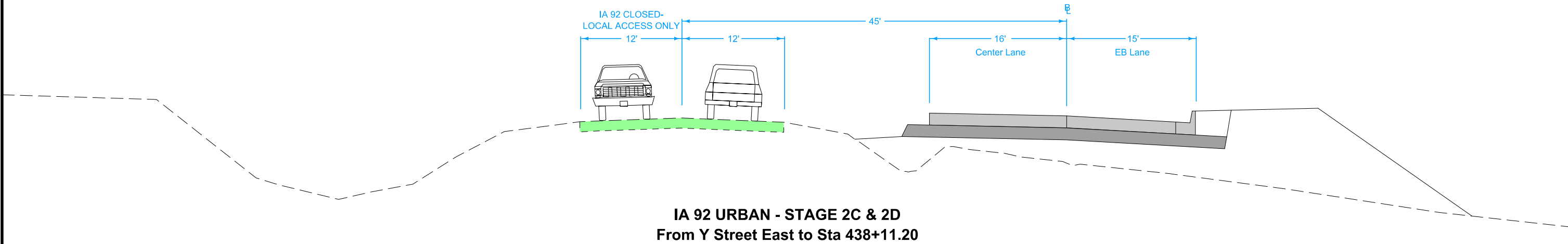
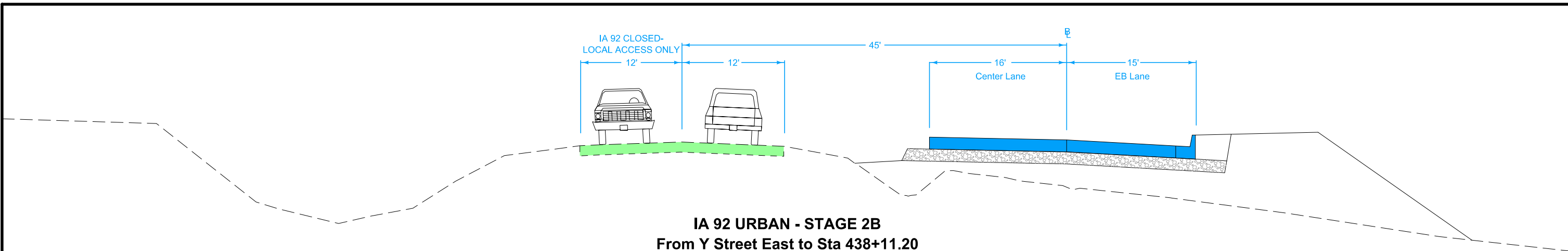


**IA 92 URBAN - STAGE 3C**  
From R-63 East to Y Street  
Gap for NW Detour at Y Street

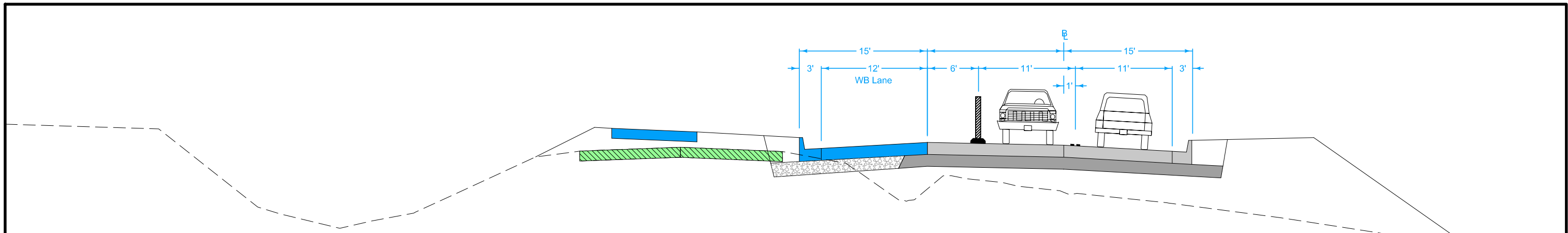


**IA 92 URBAN - STAGE 3D**  
From R-63 East to Y Street  
Pave Gapped Area after NW Detour Removal  
(Completed Roadway)

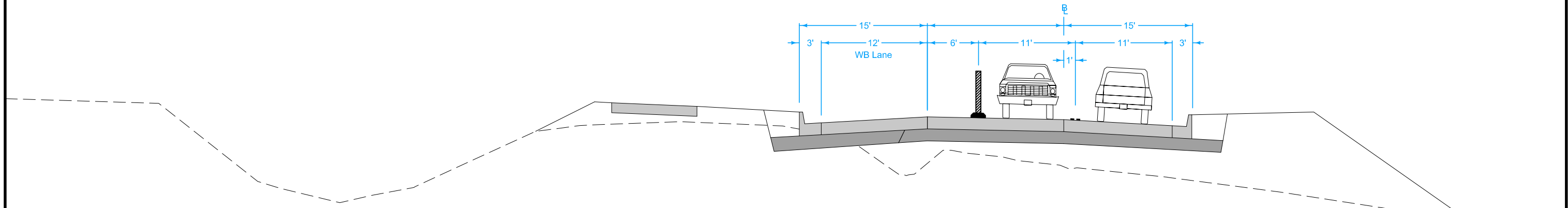
**STAGING TYPICAL**  
IA 92 URBAN  
R-63 TO Y STREET



**STAGING TYPICAL**  
IA 92 URBAN  
Y ST TO STA 438+11.20

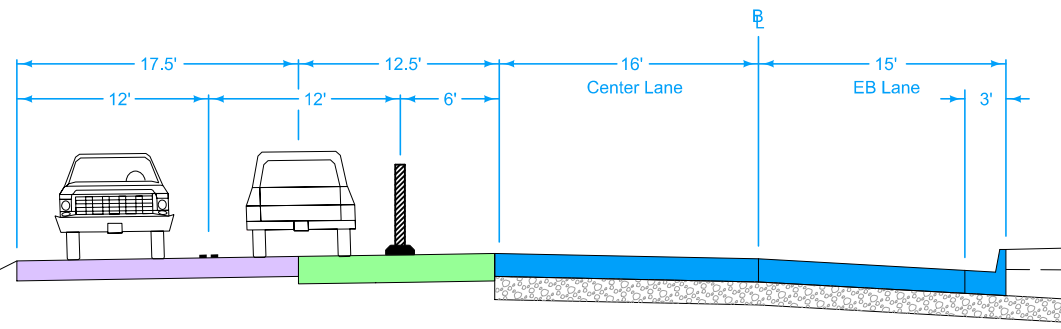


**IA 92 URBAN - STAGE 3C**  
**From Y Street East to Sta 438+11.20**

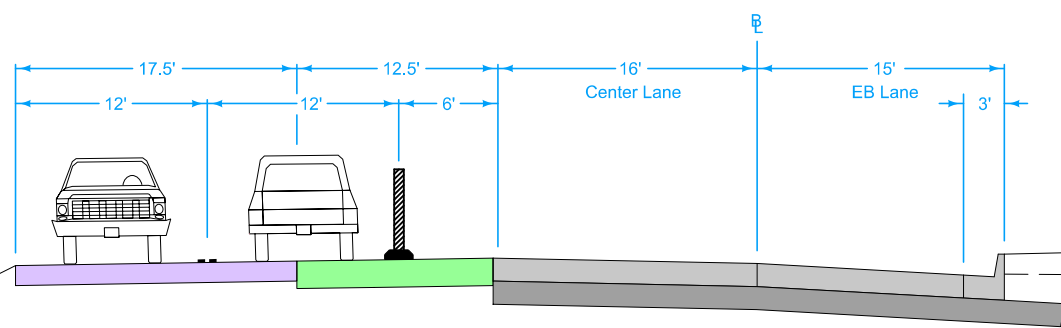


**IA 92 URBAN - STAGE 3D**  
**From Y Street East to Sta 438+11.20**  
**(Completed Paving - Keep Traffic off WB Lane)**

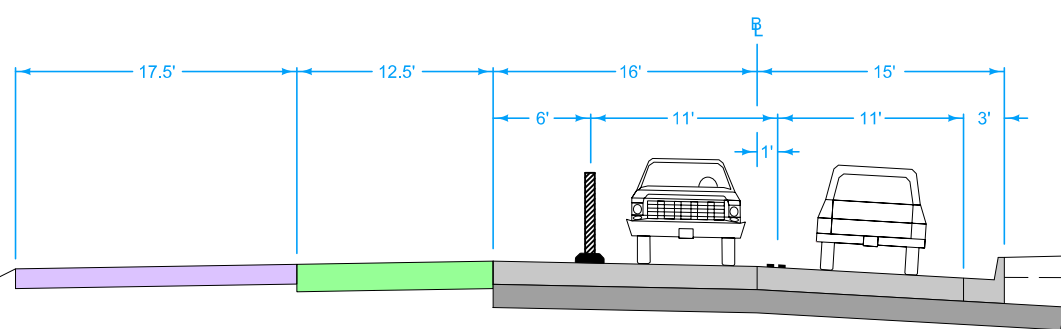
**STAGING TYPICAL**  
**IA 92 URBAN**  
**Y ST TO STA 438+11.20**



**IA 92 URBAN - STAGE 2B**  
**STA 441+15.50**



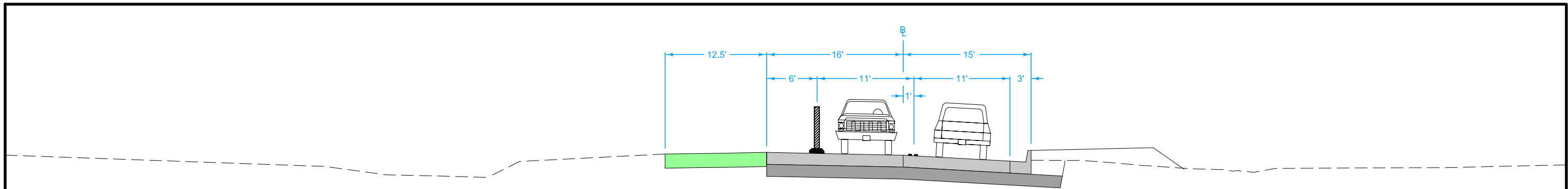
**IA 92 URBAN - STAGES 2C & 2D**  
**STA 441+15.50**



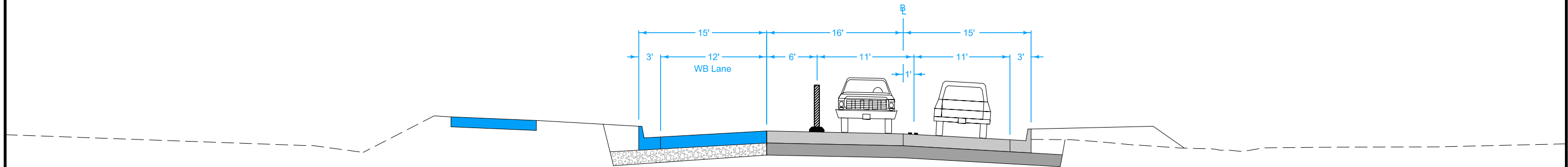
**IA 92 URBAN - STAGE 3A**  
**STA 441+15.50**

**STAGING TYPICAL**  
**IA 92 URBAN**  
**STA 441+15.50**

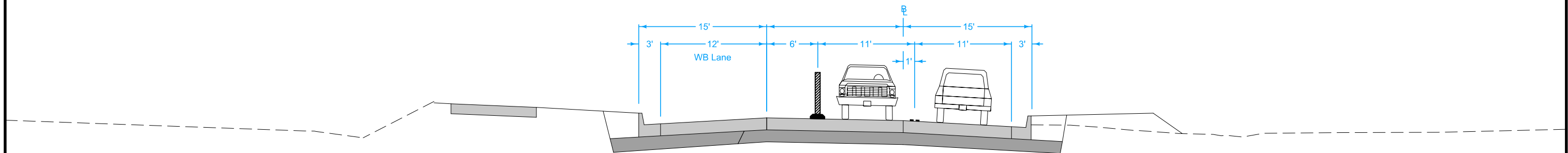




**IA 92 URBAN - STAGE 3B**  
**STA 441+15.50**

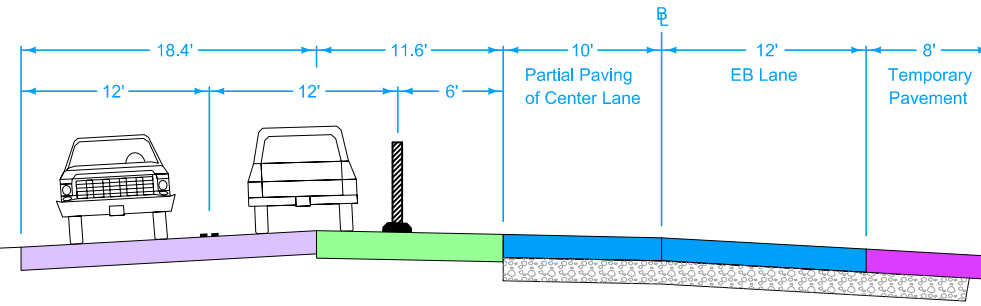


**IA 92 URBAN - STAGE 3C**  
**STA 441+15.50**

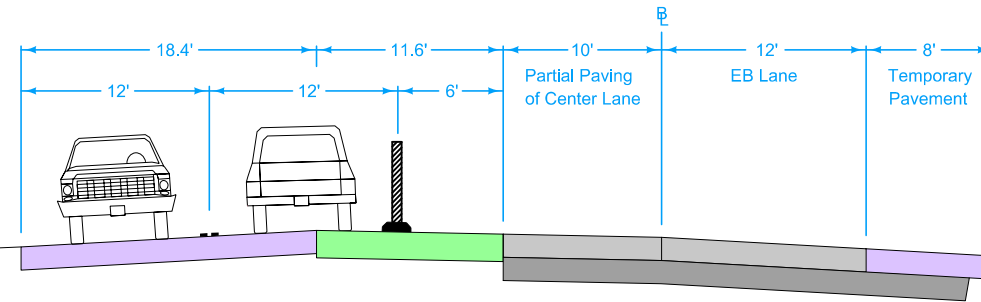


**IA 92 URBAN - STAGE 3D**  
**STA 441+15.50**  
**(Completed Paving - Keep Traffic off WB Lane)**

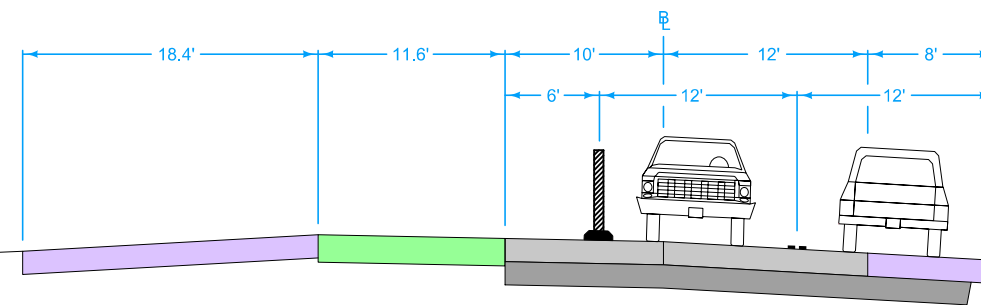
**STAGING TYPICAL**  
**IA 92 URBAN**  
**STA 441+15.50**



**IA 92 URBAN - STAGE 2B**  
**STA 443+18.00**

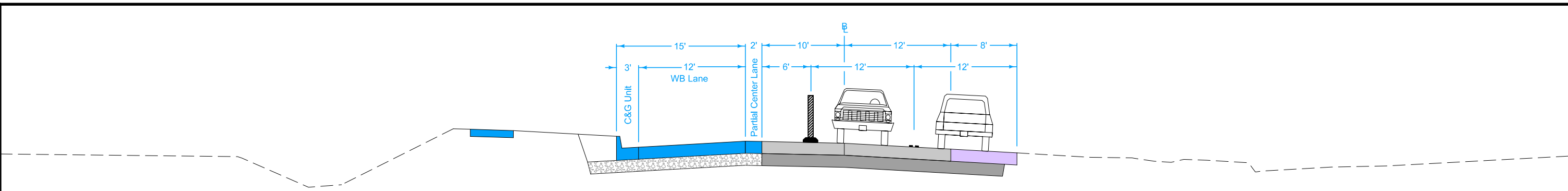


**IA 92 URBAN - STAGES 2C & 2D**  
**STA 443+18.00**

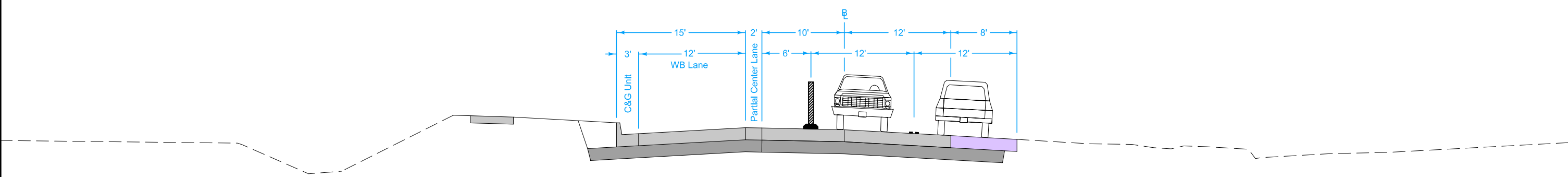


**IA 92 URBAN - STAGE 3A**  
**STA 443+18.00**

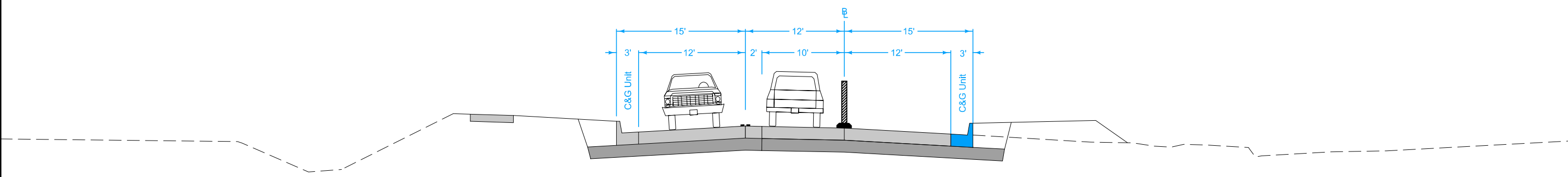
**STAGING TYPICAL**  
**IA 92 URBAN**  
**STA 443+18.00**



**IA 92 URBAN - STAGE 3B**  
**STA 443+18.00**

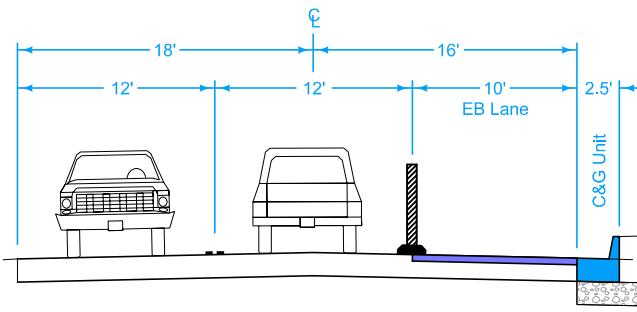


**IA 92 URBAN - STAGES 3C & 3D**  
**STA 443+18.00**

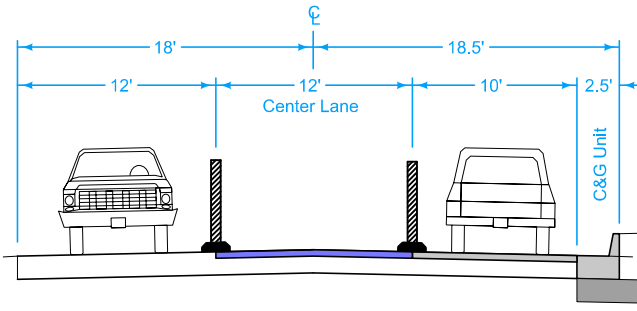


**IA 92 URBAN - STAGE 4A**  
**STA 443+18.00**

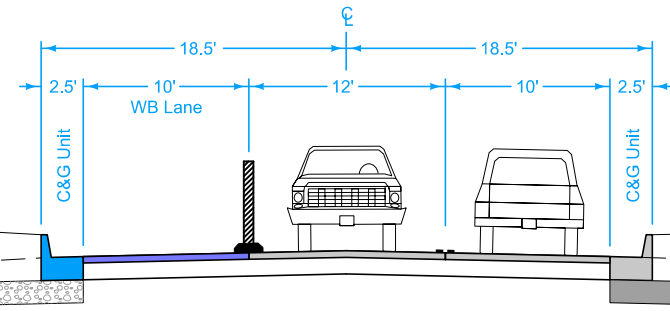
**STAGING TYPICAL**  
**IA 92 URBAN**  
**STA 443+18.00**



**IA 92 URBAN - STAGE 4A**  
**FROM STA 443+18 TO STA 464+92**

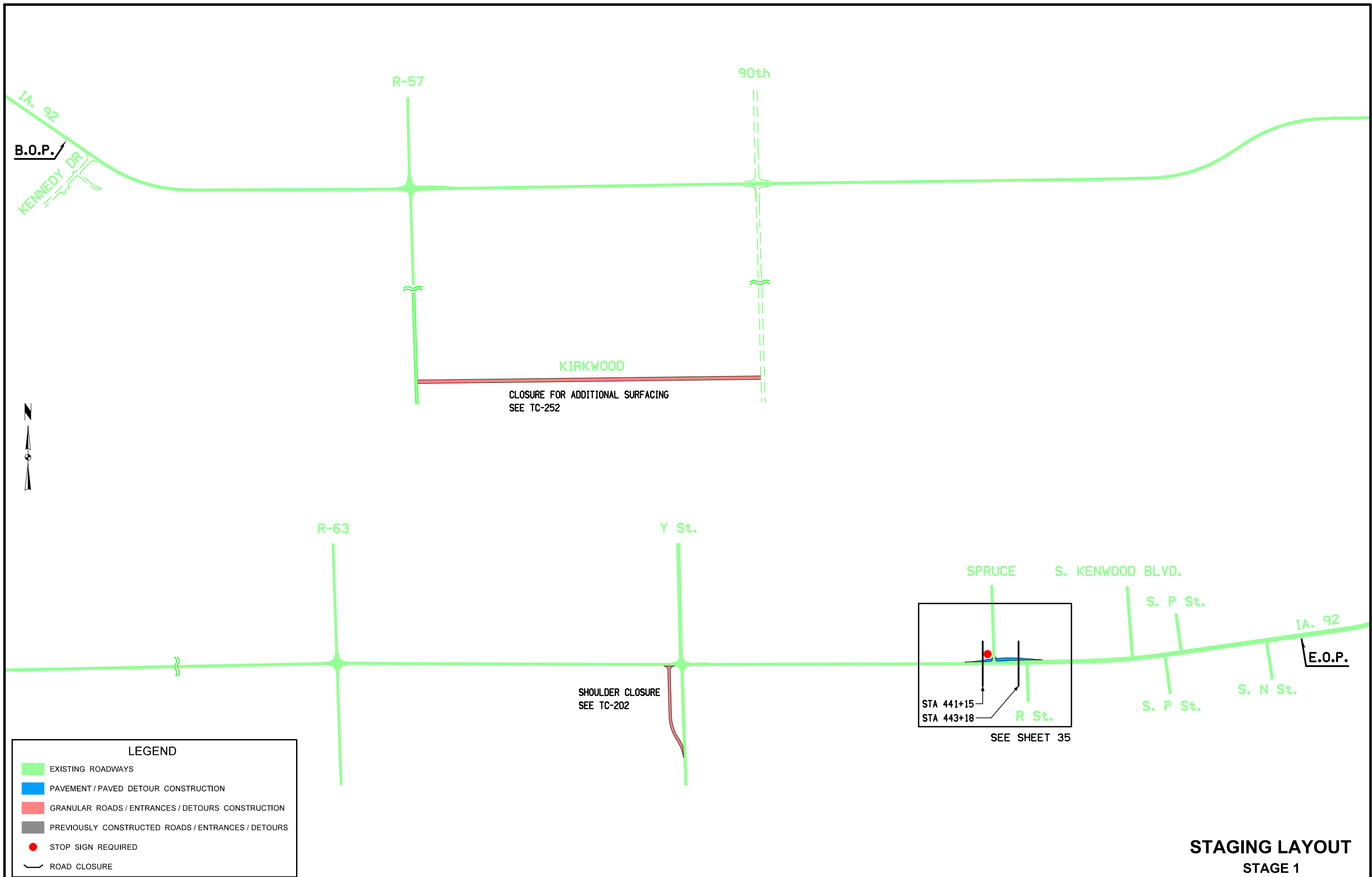


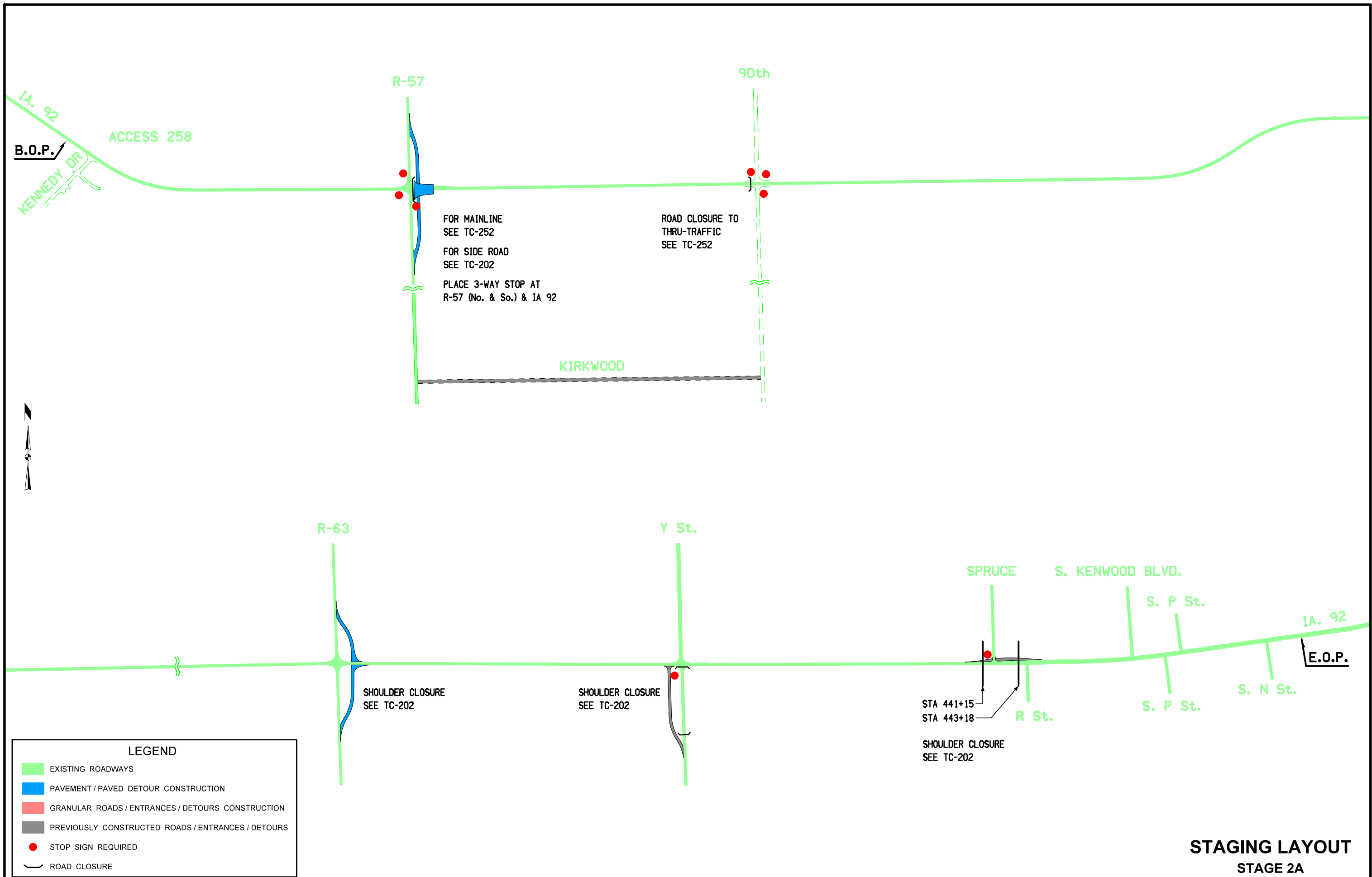
**IA 92 URBAN - STAGE 4B**  
**FROM STA 443+18 TO STA 464+92**

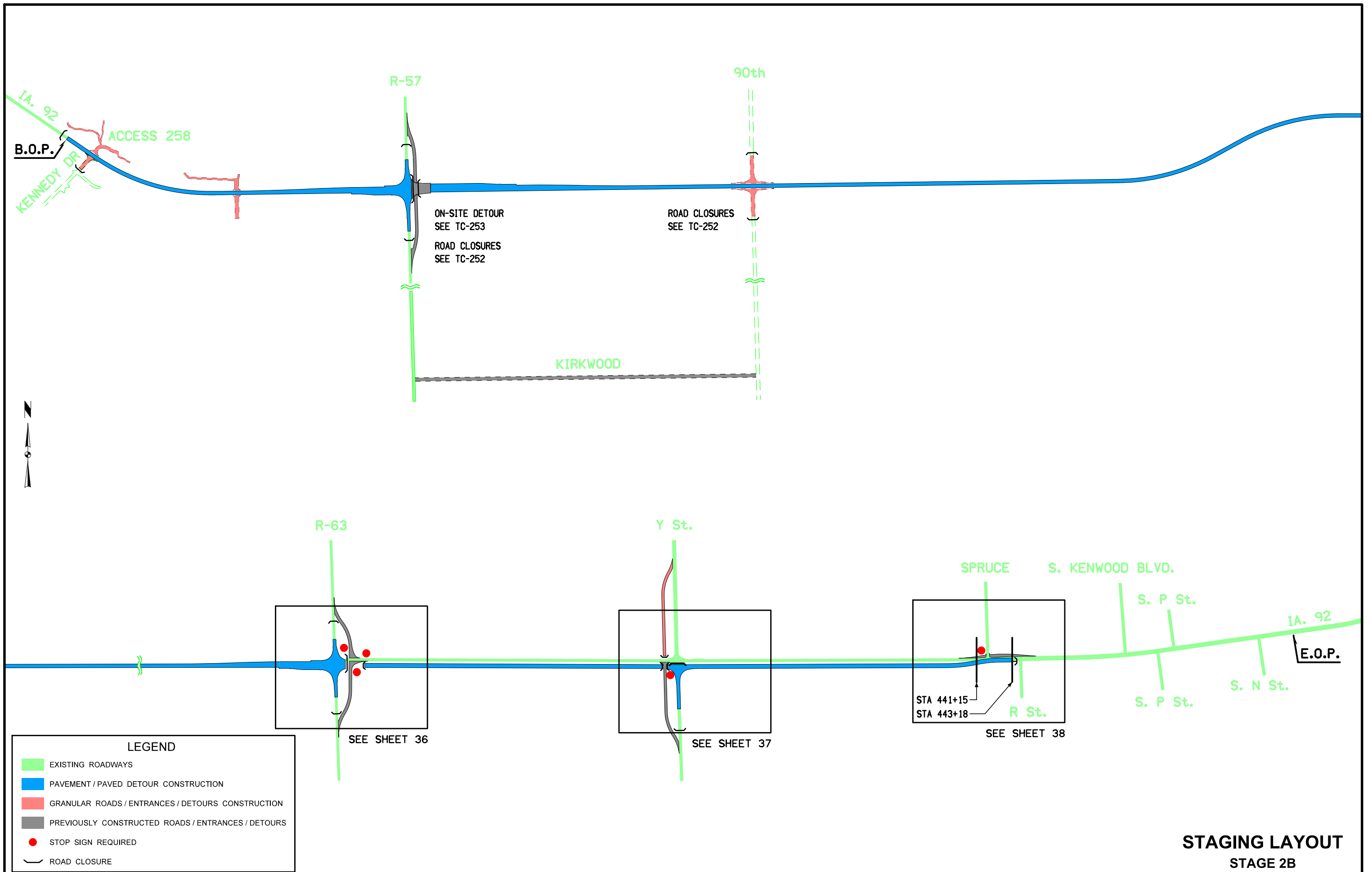


**IA 92 URBAN - STAGE 4C**  
**FROM STA 443+18 TO STA 464+92**

**STAGING TYPICAL**  
**IA 92 URBAN**  
**STA 443+18.00 TO E.O.P.**



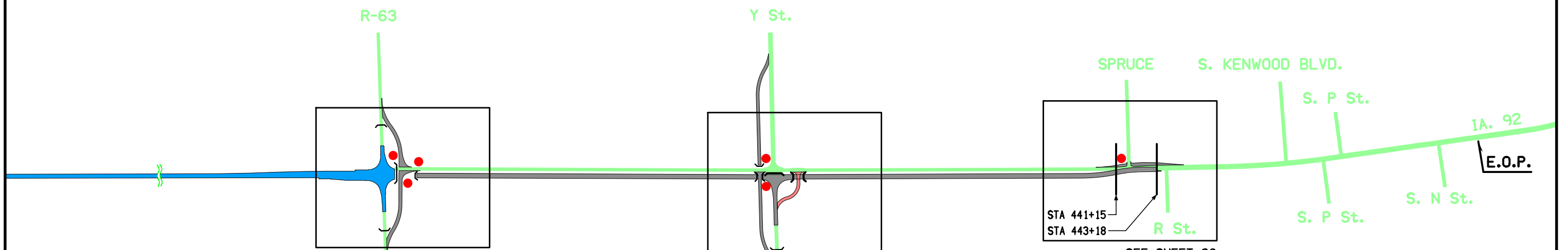
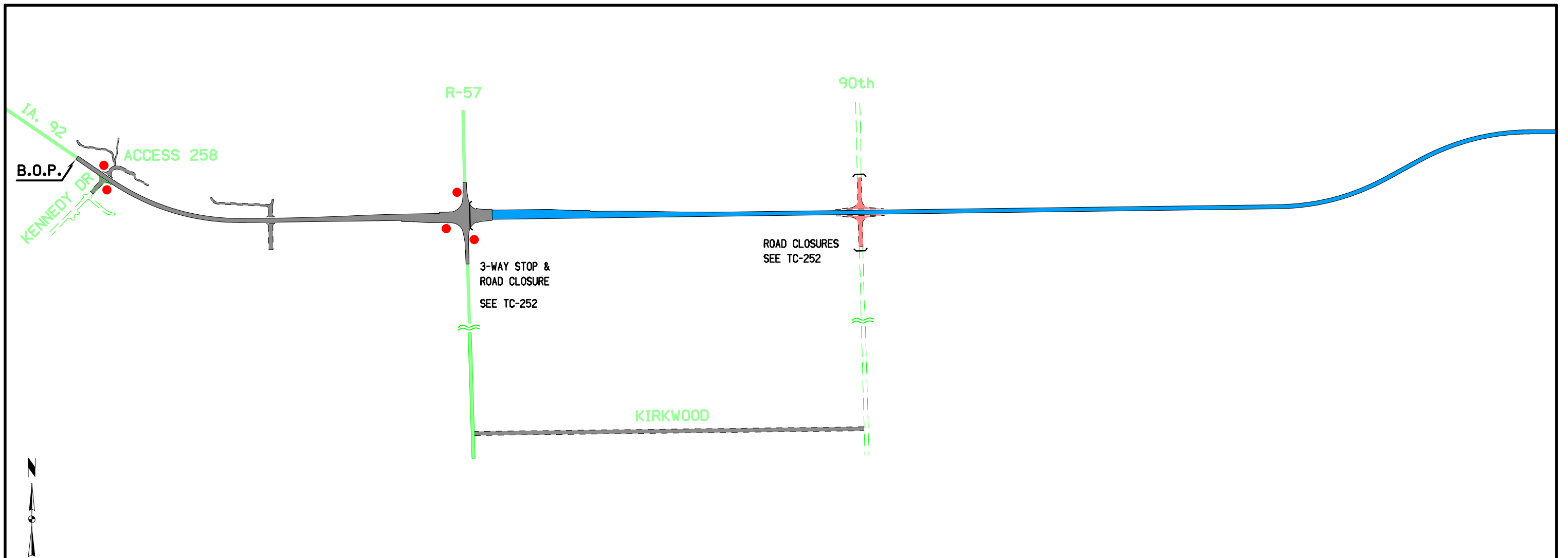




**LEGEND**

<span style="color: green;">█</span>	EXISTING ROADWAYS
<span style="color: blue;">█</span>	PAVEMENT / PAVED DETOUR CONSTRUCTION
<span style="color: red;">█</span>	GRANULAR ROADS / ENTRANCES / DETOURS CONSTRUCTION
<span style="color: grey;">█</span>	PREVIOUSLY CONSTRUCTED ROADS / ENTRANCES / DETOURS
●	STOP SIGN REQUIRED
—	ROAD CLOSURE

**STAGING LAYOUT  
STAGE 2B**

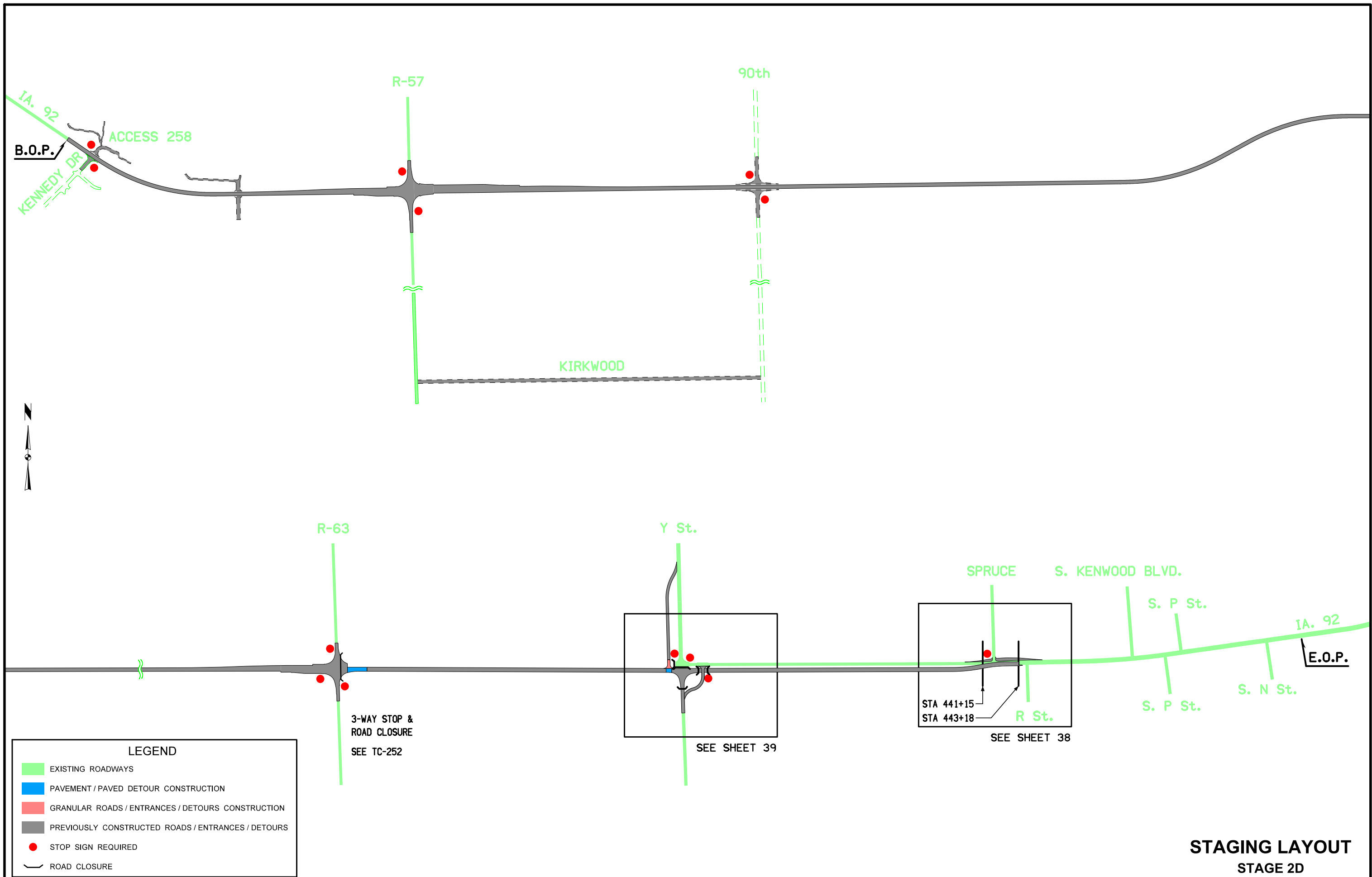


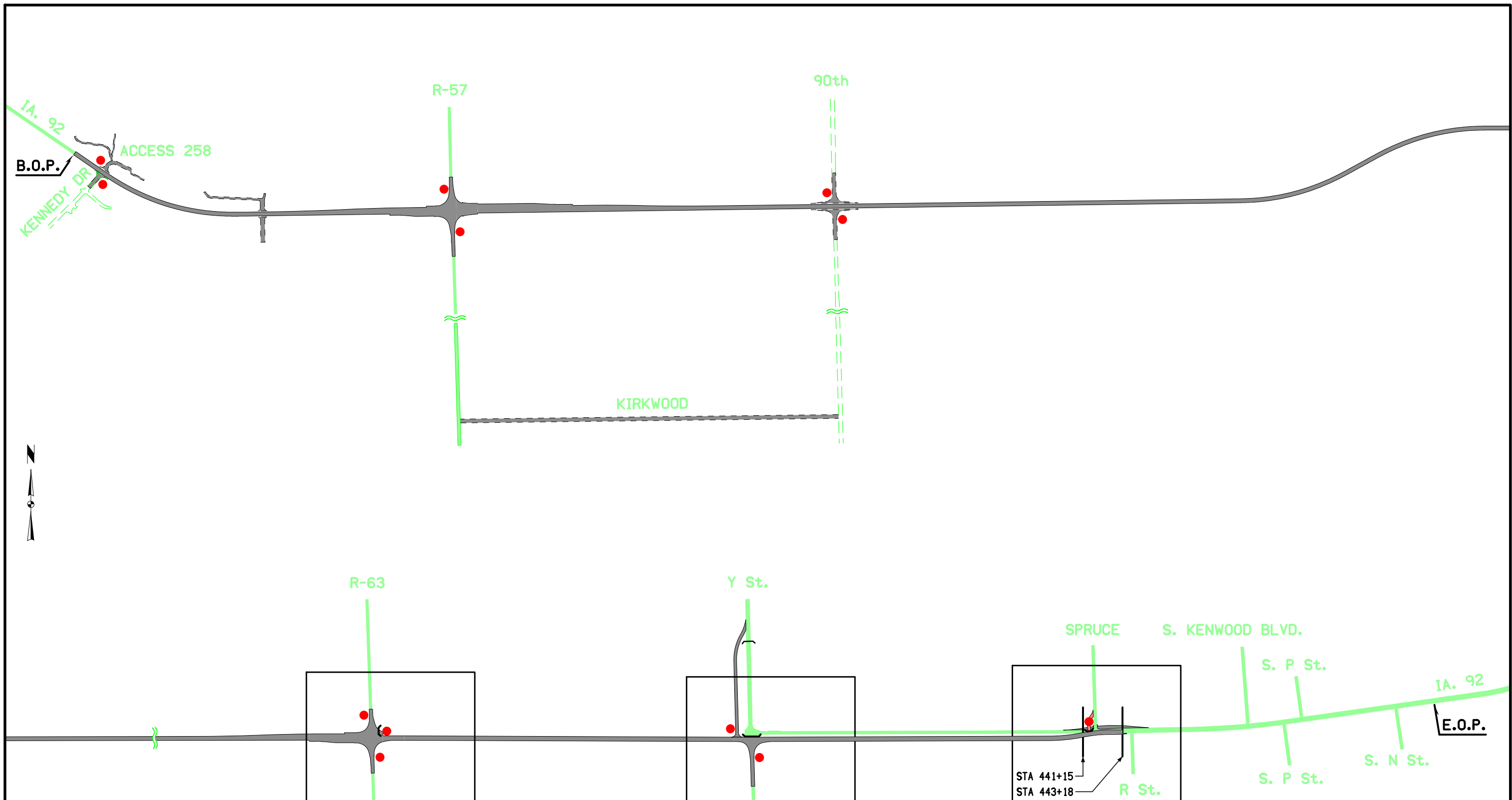
**LEGEND**

	EXISTING ROADWAYS
	PAVEMENT / PAVED DETOUR CONSTRUCTION
	GRANULAR ROADS / ENTRANCES / DETOURS CONSTRUCTION
	PREVIOUSLY CONSTRUCTED ROADS / ENTRANCES / DETOURS
	STOP SIGN REQUIRED
	ROAD CLOSURE

**STAGING LAYOUT  
STAGE 2C**

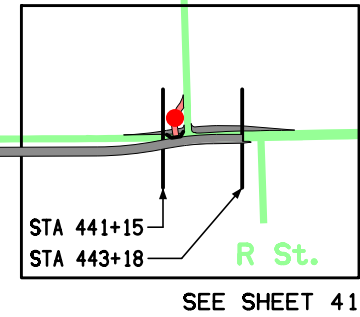
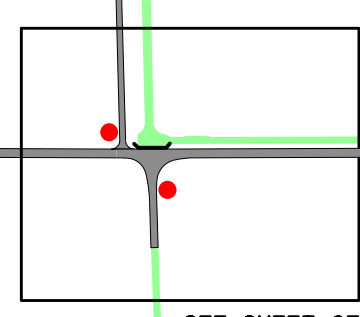
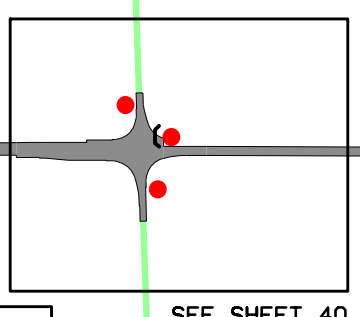




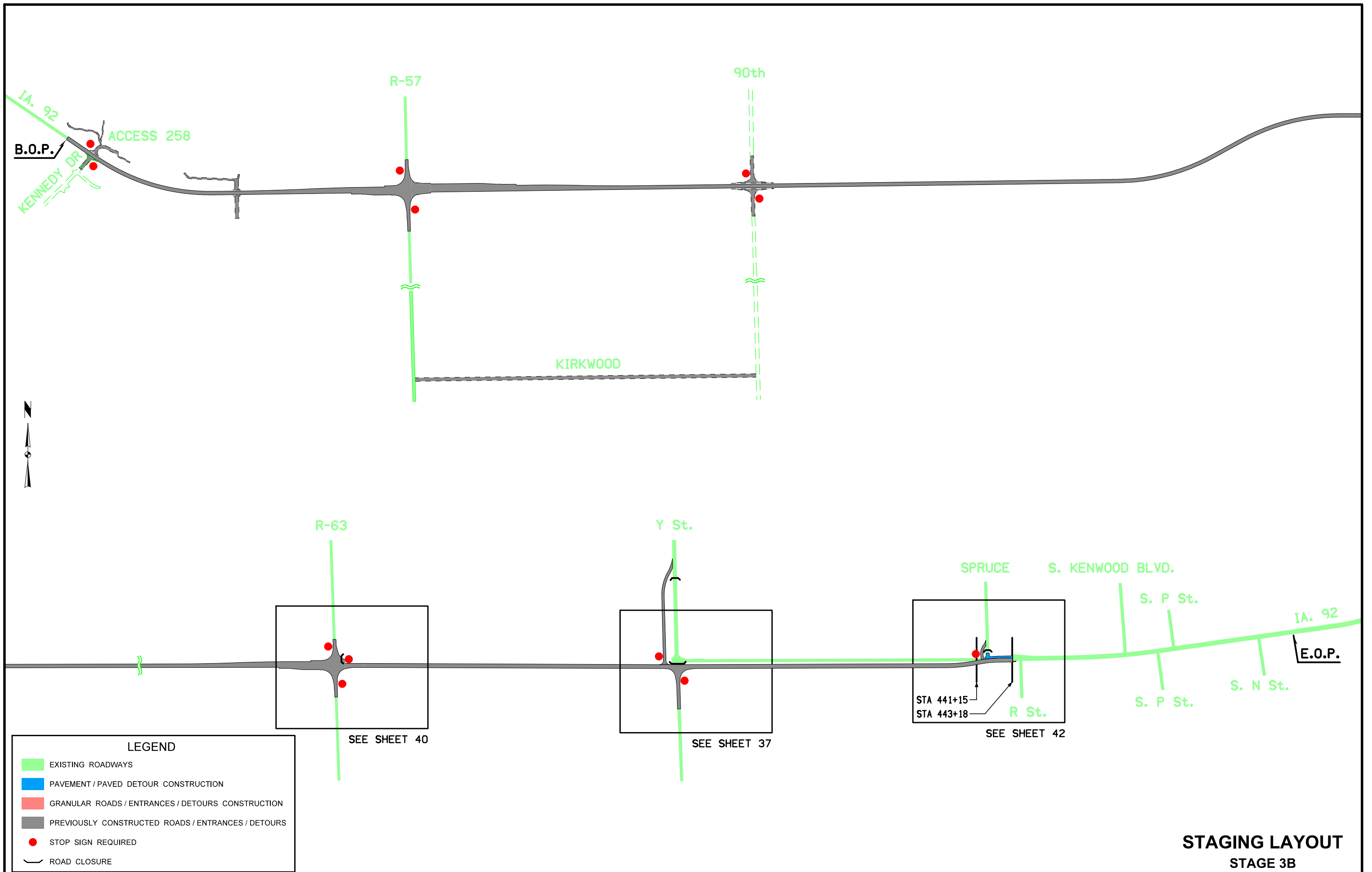


**LEGEND**

- EXISTING ROADWAYS
- PAVEMENT / PAVED DETOUR CONSTRUCTION
- GRANULAR ROADS / ENTRANCES / DETOURS CONSTRUCTION
- PREVIOUSLY CONSTRUCTED ROADS / ENTRANCES / DETOURS
- STOP SIGN REQUIRED
- ROAD CLOSURE



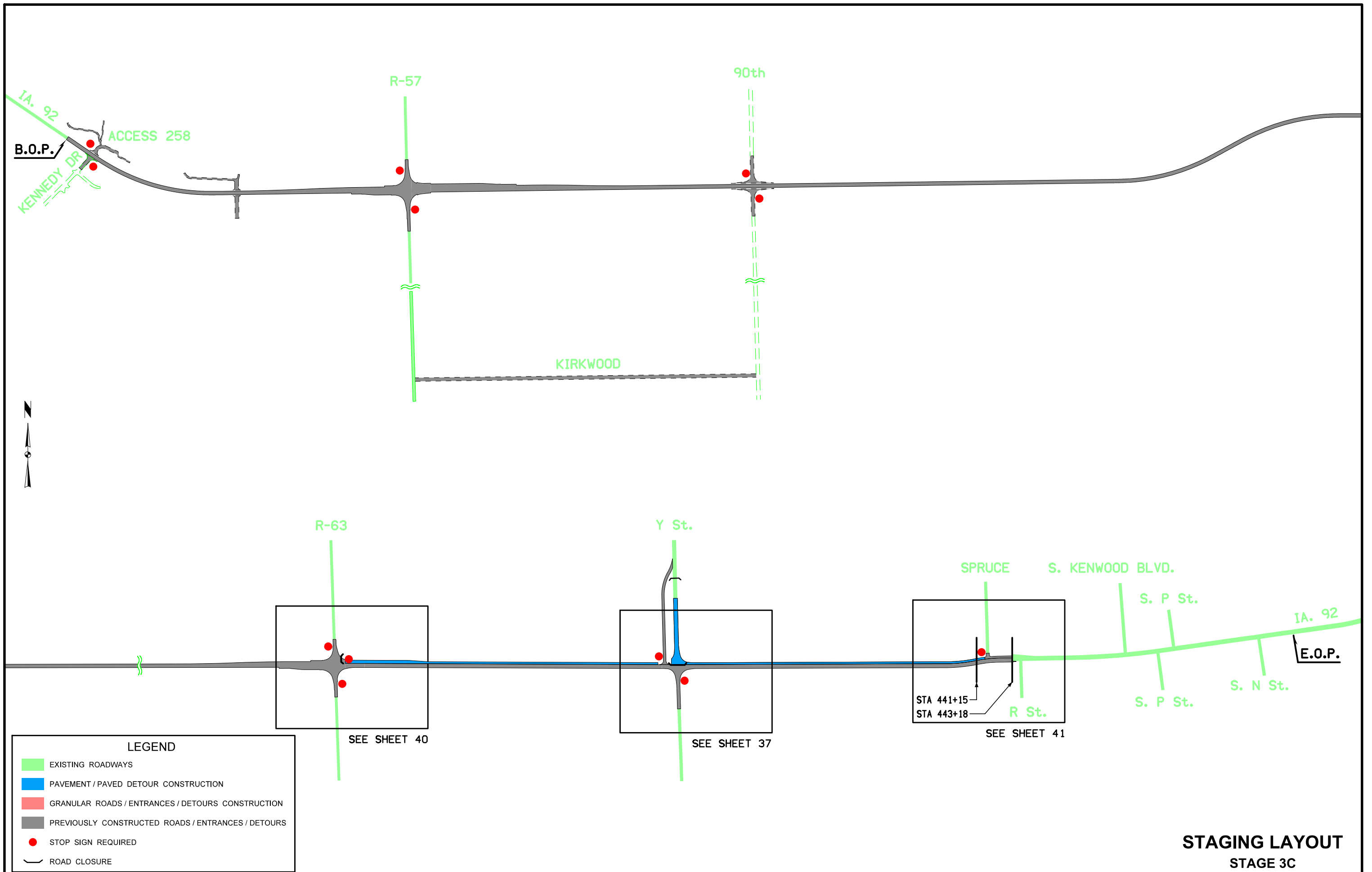
**STAGING LAYOUT  
STAGE 3A**

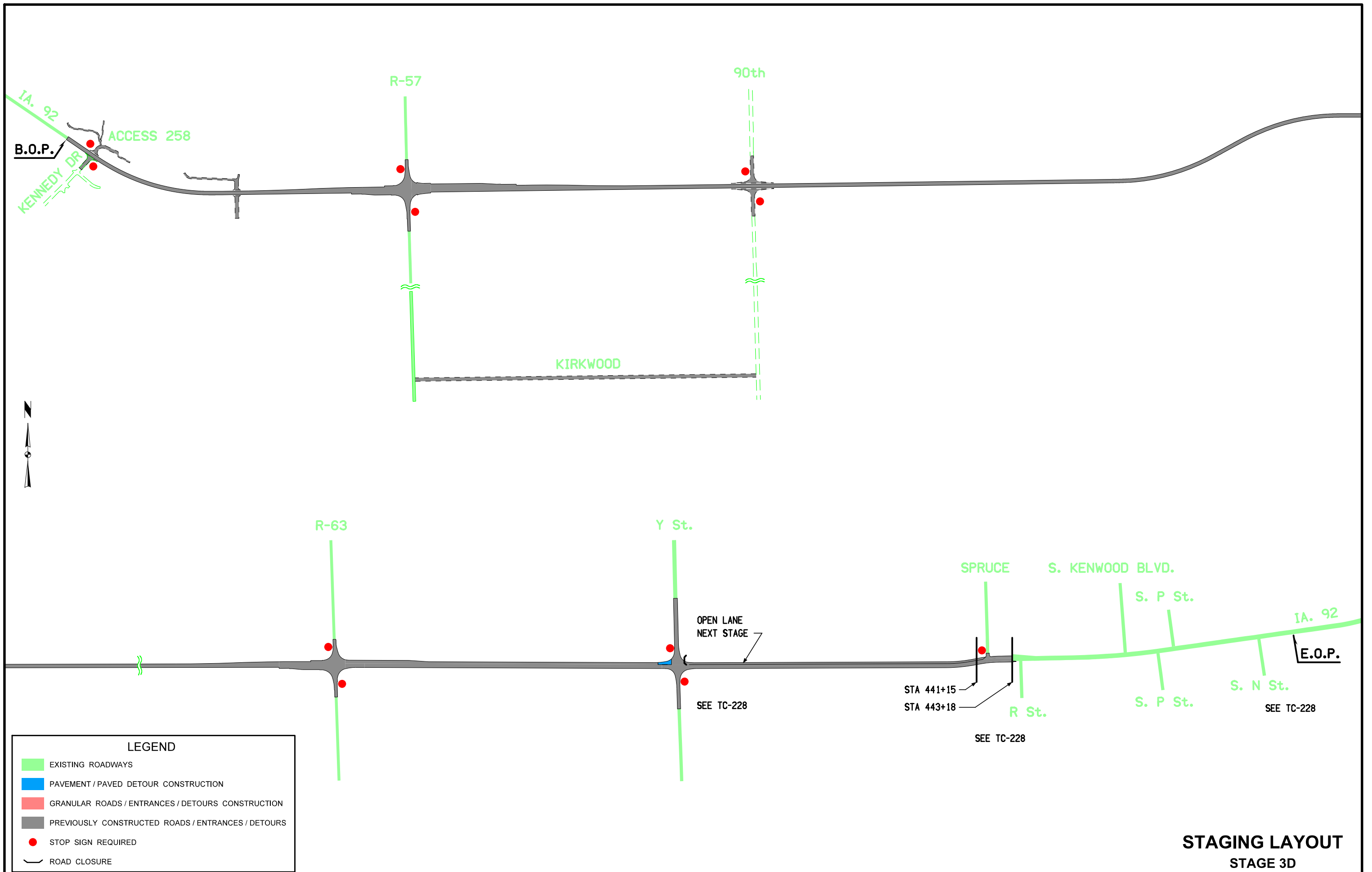


**LEGEND**

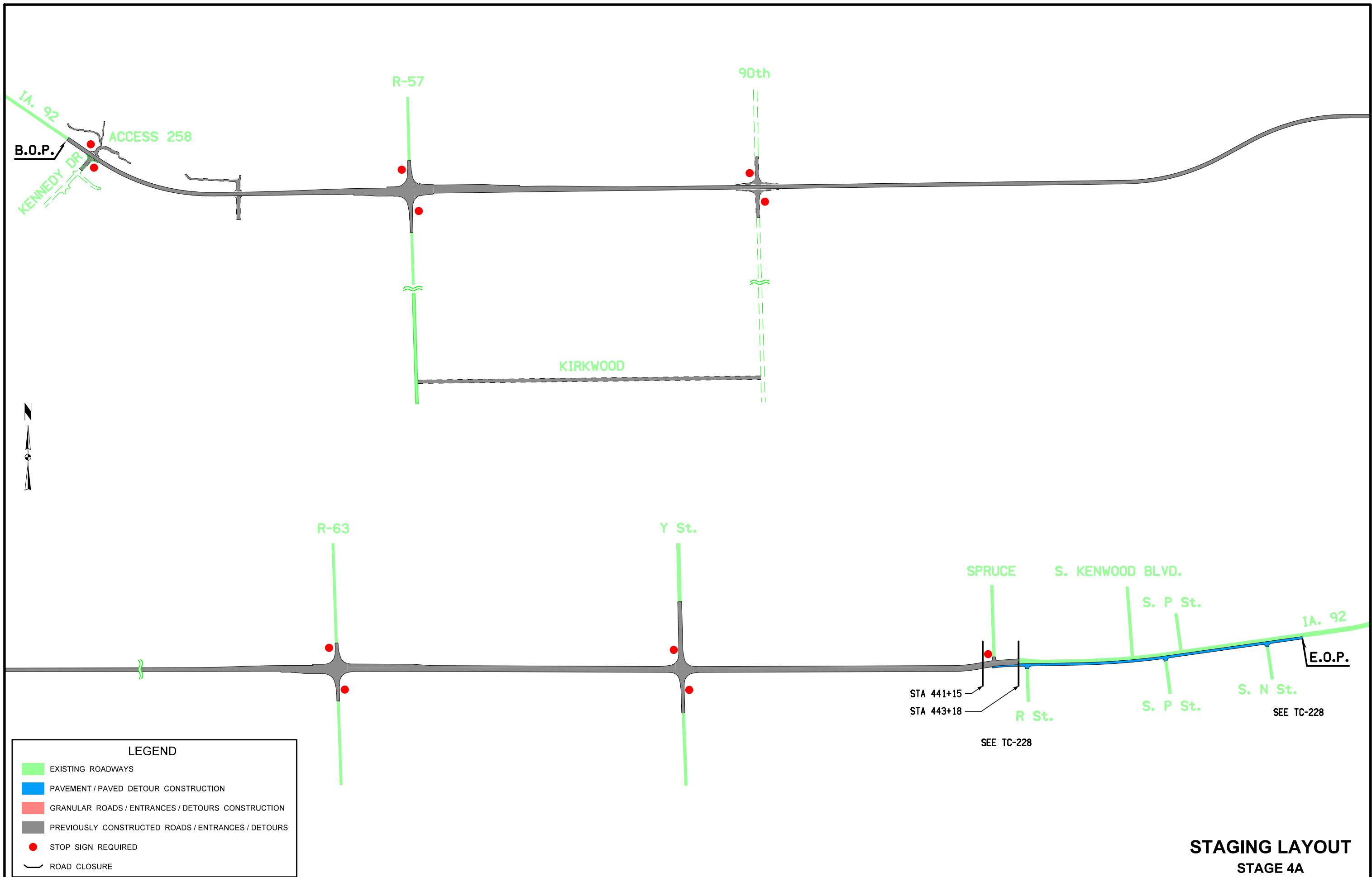
- EXISTING ROADWAYS
- PAVEMENT / PAVED DETOUR CONSTRUCTION
- GRANULAR ROADS / ENTRANCES / DETOURS CONSTRUCTION
- PREVIOUSLY CONSTRUCTED ROADS / ENTRANCES / DETOURS
- STOP SIGN REQUIRED
- ROAD CLOSURE

**STAGING LAYOUT  
STAGE 3B**



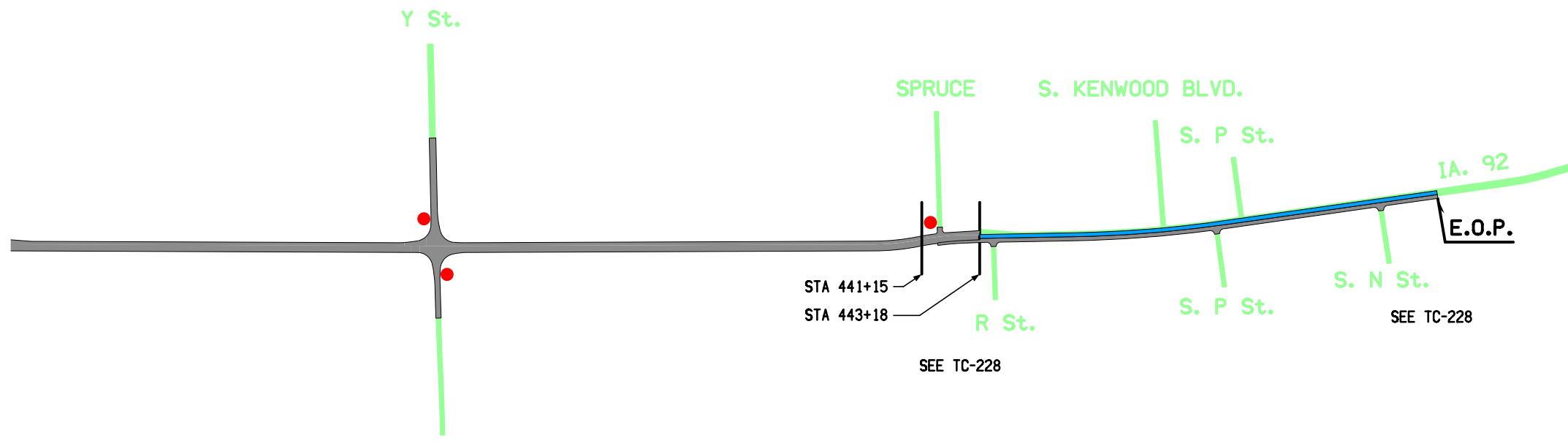


**STAGING LAYOUT  
STAGE 3D**

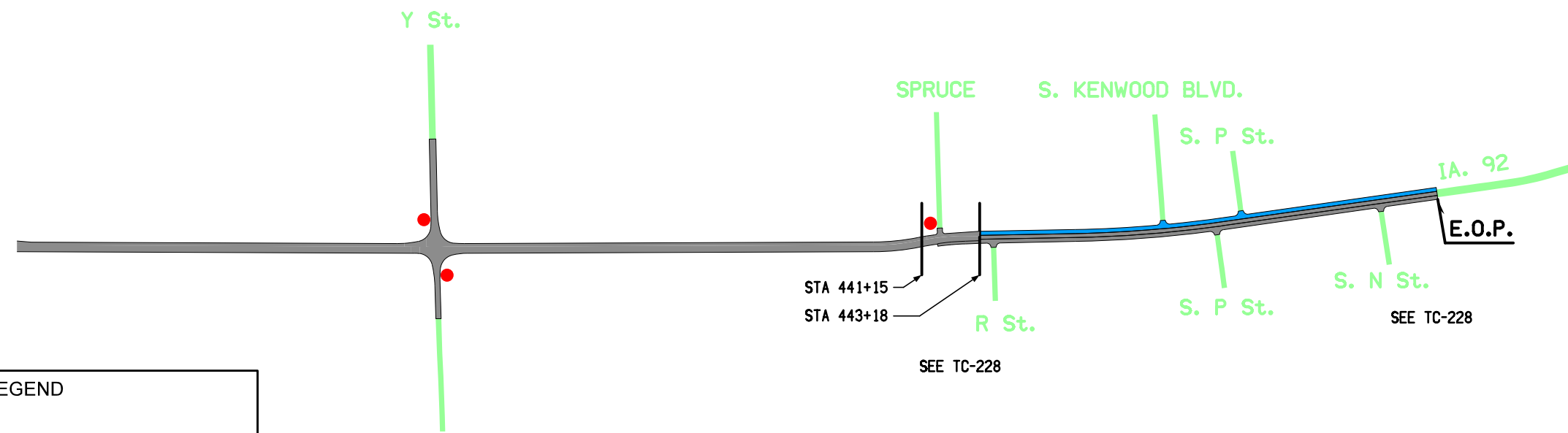


LEGEND	
	EXISTING ROADWAYS
	PAVEMENT / PAVED DETOUR CONSTRUCTION
	GRANULAR ROADS / ENTRANCES / DETOURS CONSTRUCTION
	PREVIOUSLY CONSTRUCTED ROADS / ENTRANCES / DETOURS
	STOP SIGN REQUIRED
	ROAD CLOSURE

**STAGING LAYOUT  
STAGE 4A**



STAGE 4B



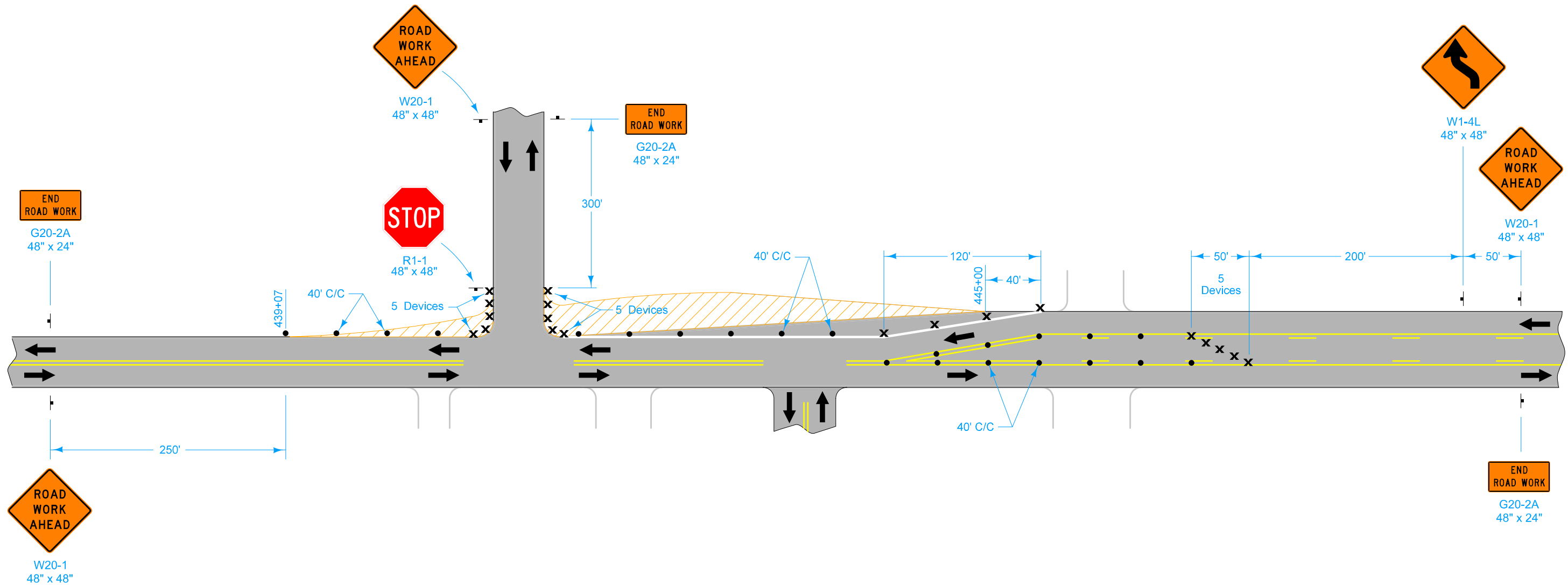
STAGE 4C

**LEGEND**

	EXISTING ROADWAYS
	PAVEMENT / PAVED DETOUR CONSTRUCTION
	GRANULAR ROADS / ENTRANCES / DETOURS CONSTRUCTION
	PREVIOUSLY CONSTRUCTED ROADS / ENTRANCES / DETOURS
	STOP SIGN REQUIRED
	ROAD CLOSURE

**STAGING LAYOUT**  
STAGES 4B & 4C

THREE-LANE TO TWO-LANE



LEGEND	
┆	Traffic Sign
•	42' Channelizer
x	Drum
▨	Possible Work Area
←	Direction of Traffic

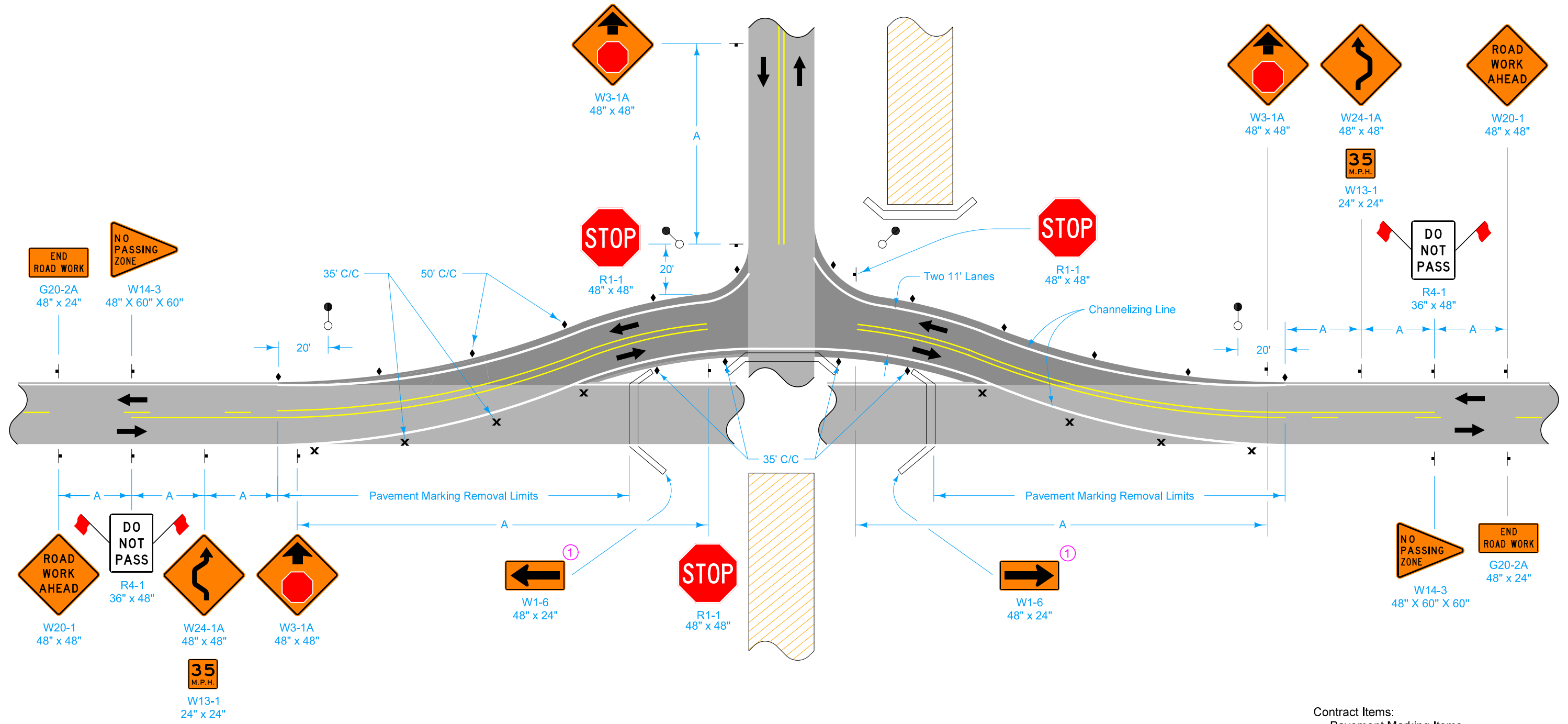
Contract Items:  
 Pavement Marking Items  
 Pavement Markings Removed  
 Traffic Control

Tabulations:  
 108-22

**LANE CLOSURE AT  
 THREE-LANE TO TWO-LANE TRANSITION**



TWO-LANE DETOUR WITH INTERSECTION



**LEGEND**

- ← Direction of Traffic
- x Drum
- ◆ Single White Delineators (mount back to back)
- ⎓ Road Closure
- Temporary Floodlighting
- ⊥ Traffic Sign
- ▨ Possible Work Area

SPEED LIMIT (mph)	A
35 or less	250'
40 - 45	350'
50 or greater	500'

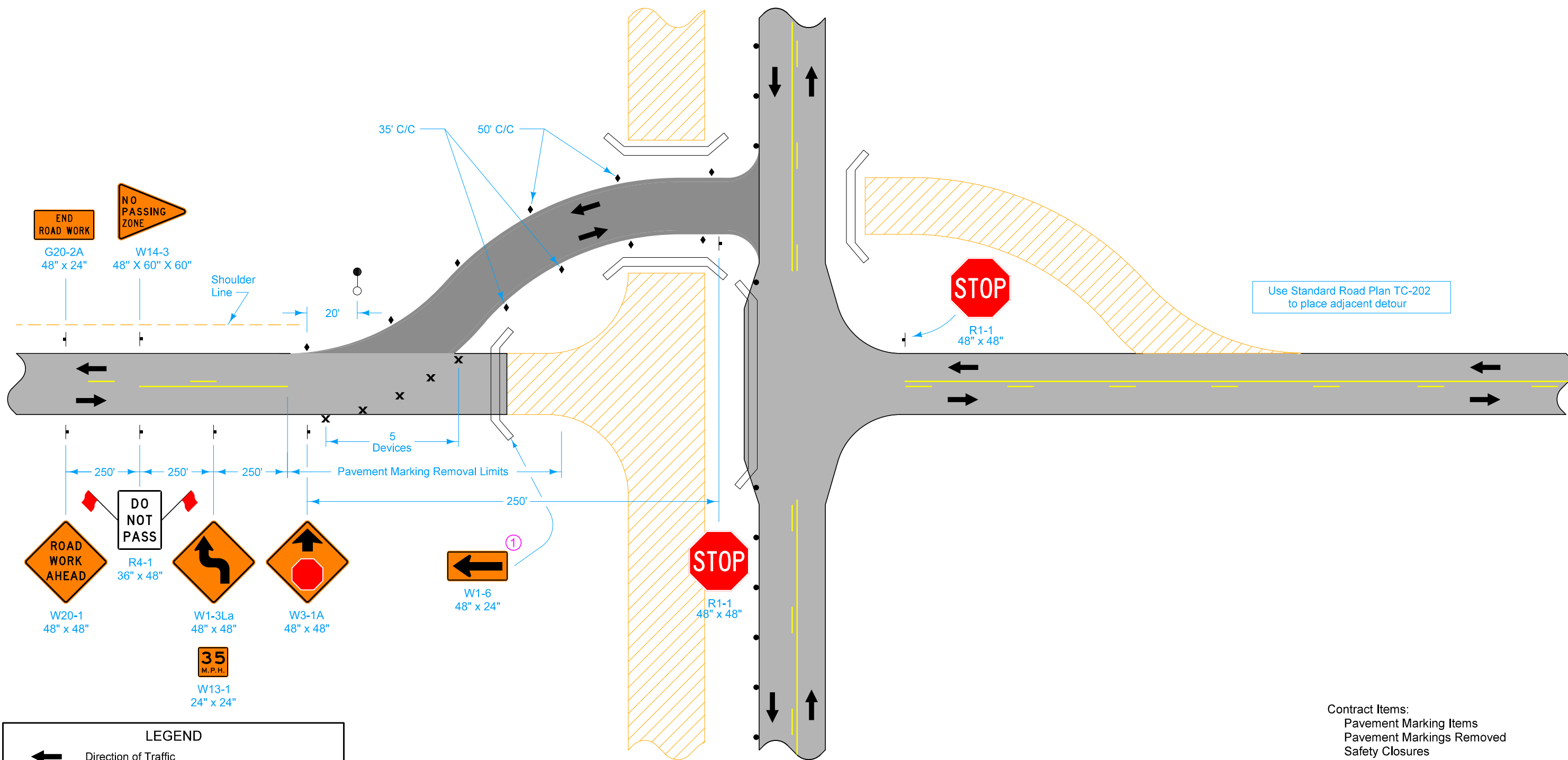
① Add below ROAD CLOSED (R11-2) sign already included in Safety Closure.

- Contract Items:**
- Pavement Marking Items
  - Pavement Markings Removed
  - Safety Closures
  - Temporary Floodlighting
  - Temporary Delineators
  - Traffic Control

- Tabulations:**
- 108-13A
  - 108-22
  - 108-27

**UTILIZING PAVED ON-SITE DETOUR WITH 3-WAY STOP**

TWO-LANE GRAVEL DETOUR INTERSECTION



- W20-1 48" x 48" ROAD WORK AHEAD
- DO NOT PASS
- R4-1 36" x 48"
- W1-3La 48" x 48"
- W3-1A 48" x 48"
- 35 M.P.H. W13-1 24" x 24"
- W1-6 48" x 24"
- R1-1 48" x 48"

**LEGEND**

- ← Direction of Traffic
- x Drum
- ◆ Single White Delineators (mount back to back)
- 42" Channelizer
- ⎓ Road Closure
- Temporary Floodlighting
- ⊥ Traffic Sign
- ▨ Possible Work Area

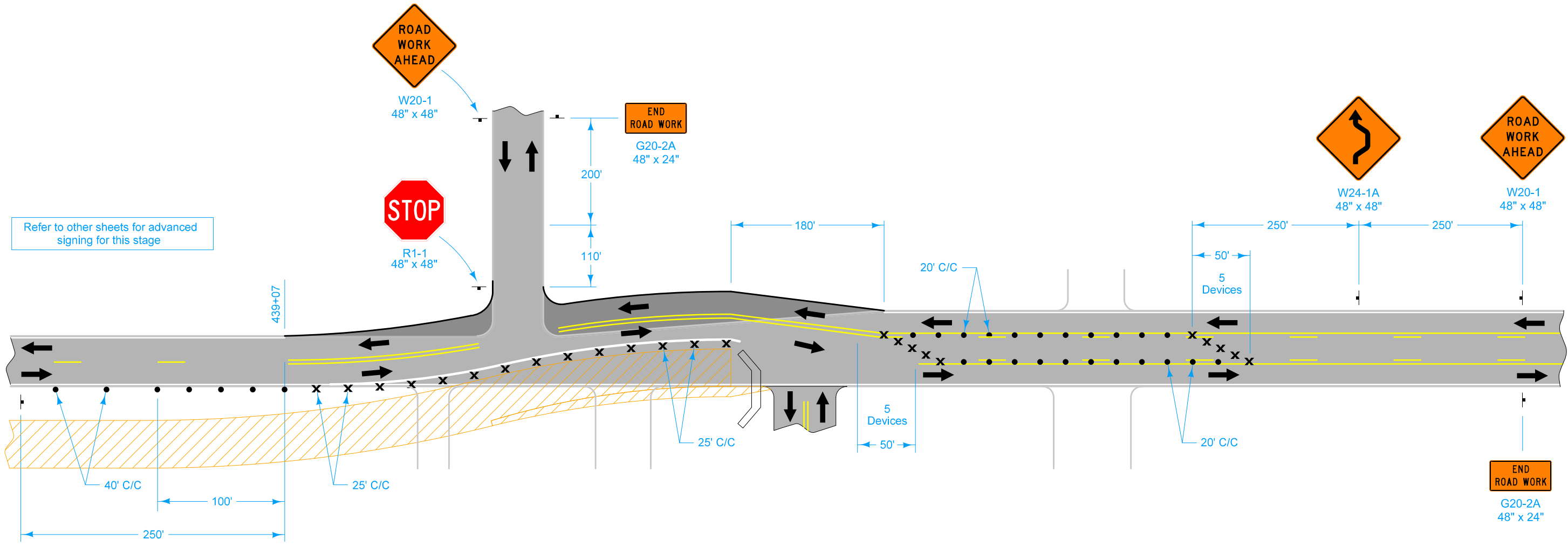
- Contract Items:
- Pavement Marking Items
  - Pavement Markings Removed
  - Safety Closures
  - Temporary Floodlighting
  - Temporary Delineators
  - Traffic Control

- Tabulations:
- 108-13A
  - 108-22
  - 108-27

① Add below ROAD CLOSED (R11-2) sign already included in Safety Closure.

**UTILIZING GRAVEL ON-SITE DETOUR  
WITH STOP AT THRU-WAY**

TWO-LANE TO THREE-LANE TEMPORARY PAVEMENT



Refer to other sheets for advanced signing for this stage



W24-1A  
48" x 48"

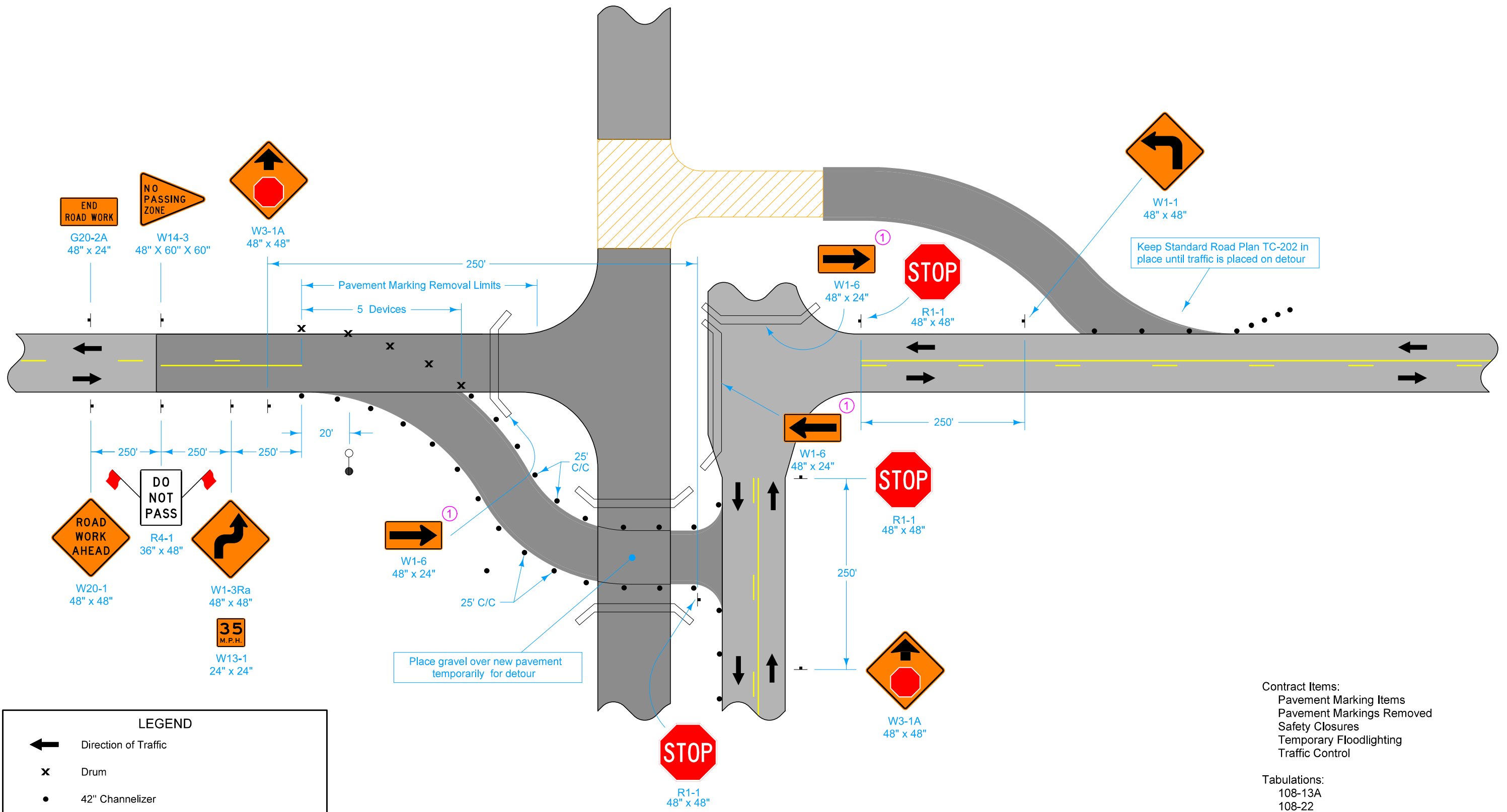
LEGEND	
←	Direction of Traffic
⊥	Traffic Sign
•	42' Channelizer
x	Drum
⌒	Road Closure
▨	Possible Work Area

Contract Items:  
 Pavement Marking Items  
 Pavement Markings Removed  
 Safety Closures  
 Traffic Control

Tabulations:  
 108-13A  
 108-22

**UTILIZING TEMPORARY PAVEMENT FOR  
 TWO-LANE TO THREE-LANE TRANSITION**

TWO-LANE GRAVEL DETOUR CONSTRUCTION



ROAD WORK AHEAD  
W20-1  
48" x 48"

DO NOT PASS  
R4-1  
36" x 48"

W13-1Ra  
48" x 48"

35 M.P.H.  
W13-1  
24" x 24"

W1-6  
48" x 24"

Place gravel over new pavement temporarily for detour

STOP  
R1-1  
48" x 48"

W3-1A  
48" x 48"

STOP  
R1-1  
48" x 48"

W1-6  
48" x 24"

STOP  
R1-1  
48" x 48"

W1-1  
48" x 48"

Keep Standard Road Plan TC-202 in place until traffic is placed on detour

**LEGEND**

- ← Direction of Traffic
- x Drum
- 42" Channelizer
- ⎓ Road Closure
- Temporary Floodlighting
- ⊥ Traffic Sign
- ▨ Possible Work Area

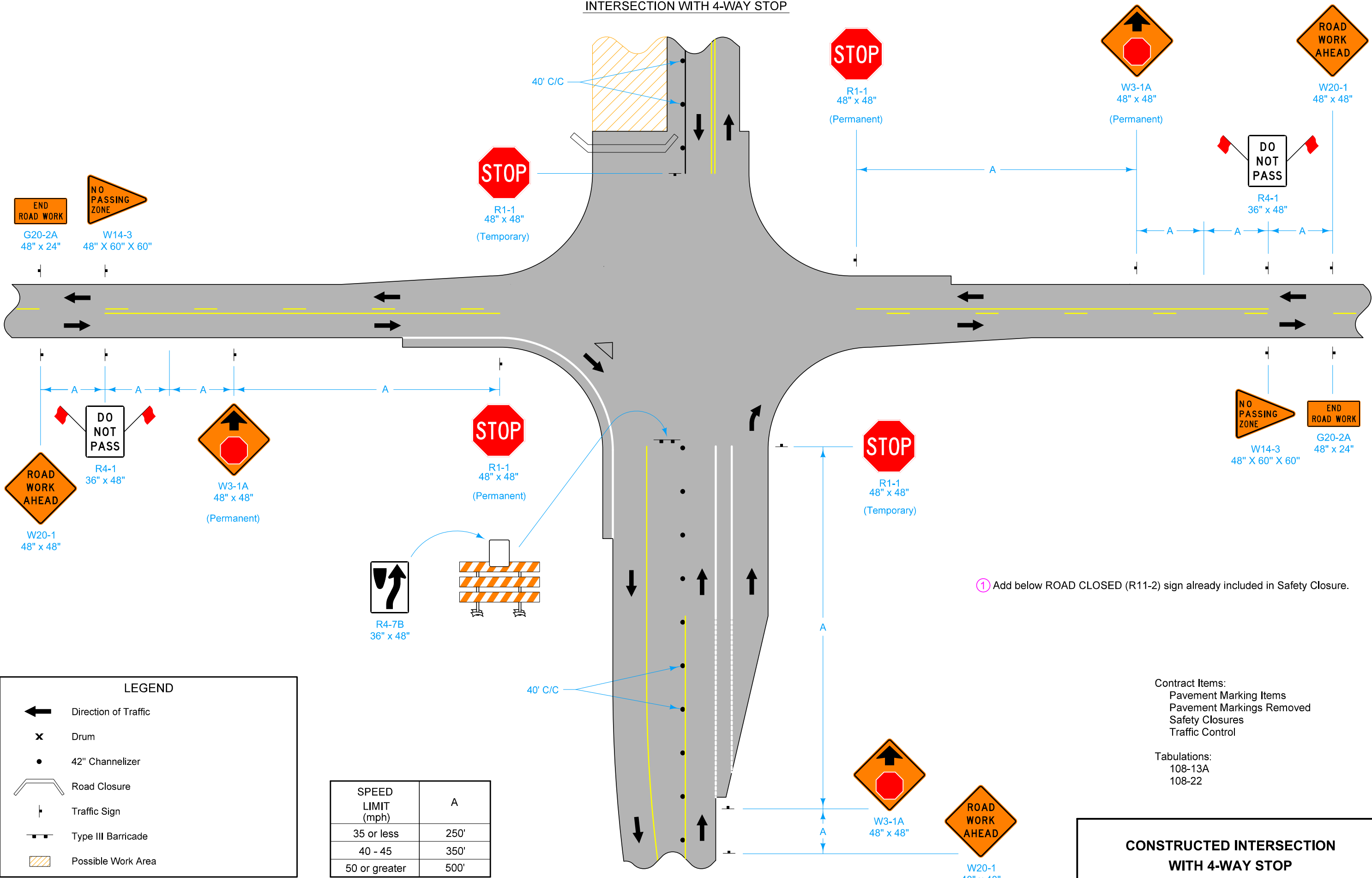
Contract Items:  
 Pavement Marking Items  
 Pavement Markings Removed  
 Safety Closures  
 Temporary Floodlighting  
 Traffic Control

Tabulations:  
 108-13A  
 108-22  
 108-27

① Add below ROAD CLOSED (R11-2) sign already included in Safety Closure.

**UTILIZING GRAVEL ON-SITE DETOUR  
 WITH STOP AT THRU-WAY**

INTERSECTION WITH 4-WAY STOP



① Add below ROAD CLOSED (R11-2) sign already included in Safety Closure.

**LEGEND**

- Direction of Traffic
- Drum
- 42" Channelizer
- Road Closure
- Traffic Sign
- Type III Barricade
- Possible Work Area

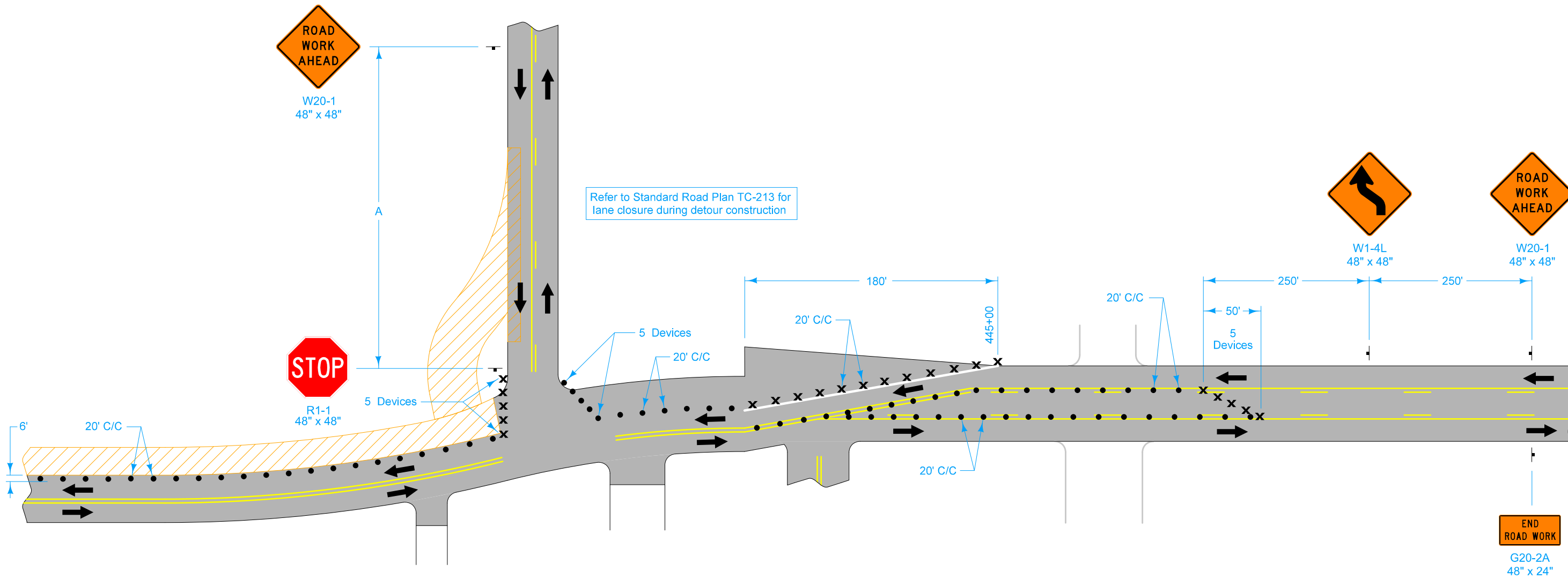
SPEED LIMIT (mph)	A
35 or less	250'
40 - 45	350'
50 or greater	500'

Contract Items:  
 Pavement Marking Items  
 Pavement Markings Removed  
 Safety Closures  
 Traffic Control

Tabulations:  
 108-13A  
 108-22

**CONSTRUCTED INTERSECTION  
 WITH 4-WAY STOP**

WB LANE COMPLETION



**LEGEND**

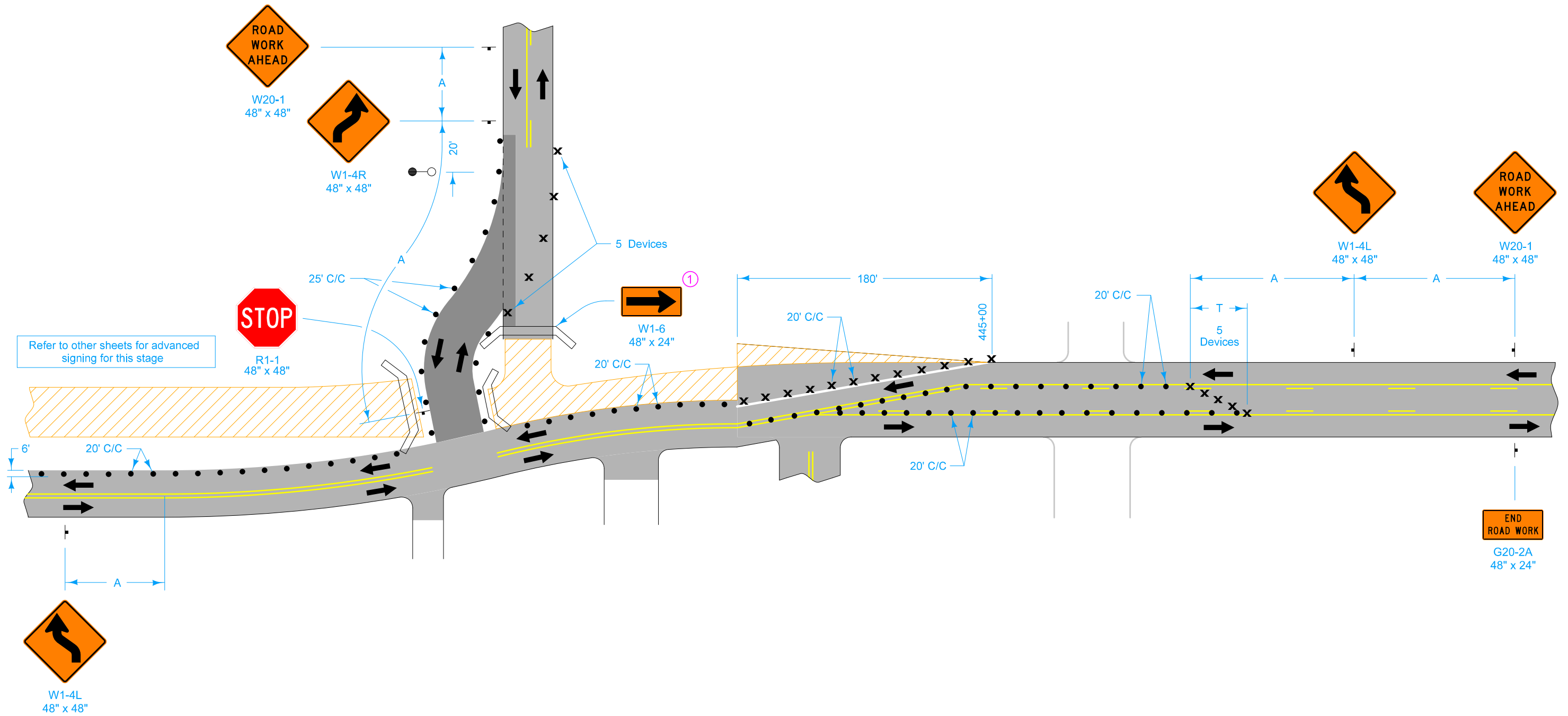
- ← Direction of Traffic
- ⊥ Traffic Sign
- 42' Channelizer
- × Drum
- ▭ Road Closure
- ▨ Possible Work Area

Contract Items:  
 Pavement Marking Items  
 Pavement Markings Removed  
 Traffic Control

Tabulations:  
 108-22

**CONSTRUCT REMAINDER OF WB-LANE  
 BETWEEN SIDE STREETS**

TWO-LANE TO THREE-LANE PAVEMENT WITH DETOUR



Refer to other sheets for advanced signing for this stage

**LEGEND**

- ← Direction of Traffic
- ⊥ Traffic Sign
- 42' Channelizer
- x Drum
- Temporary Floodlighting
- ▭ Road Closure
- ▨ Possible Work Area

SPEED LIMIT (mph)	A	T
35 or less	250'	50'
40 - 45	350'	100'
50 or greater	500'	100'

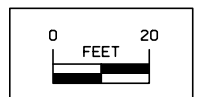
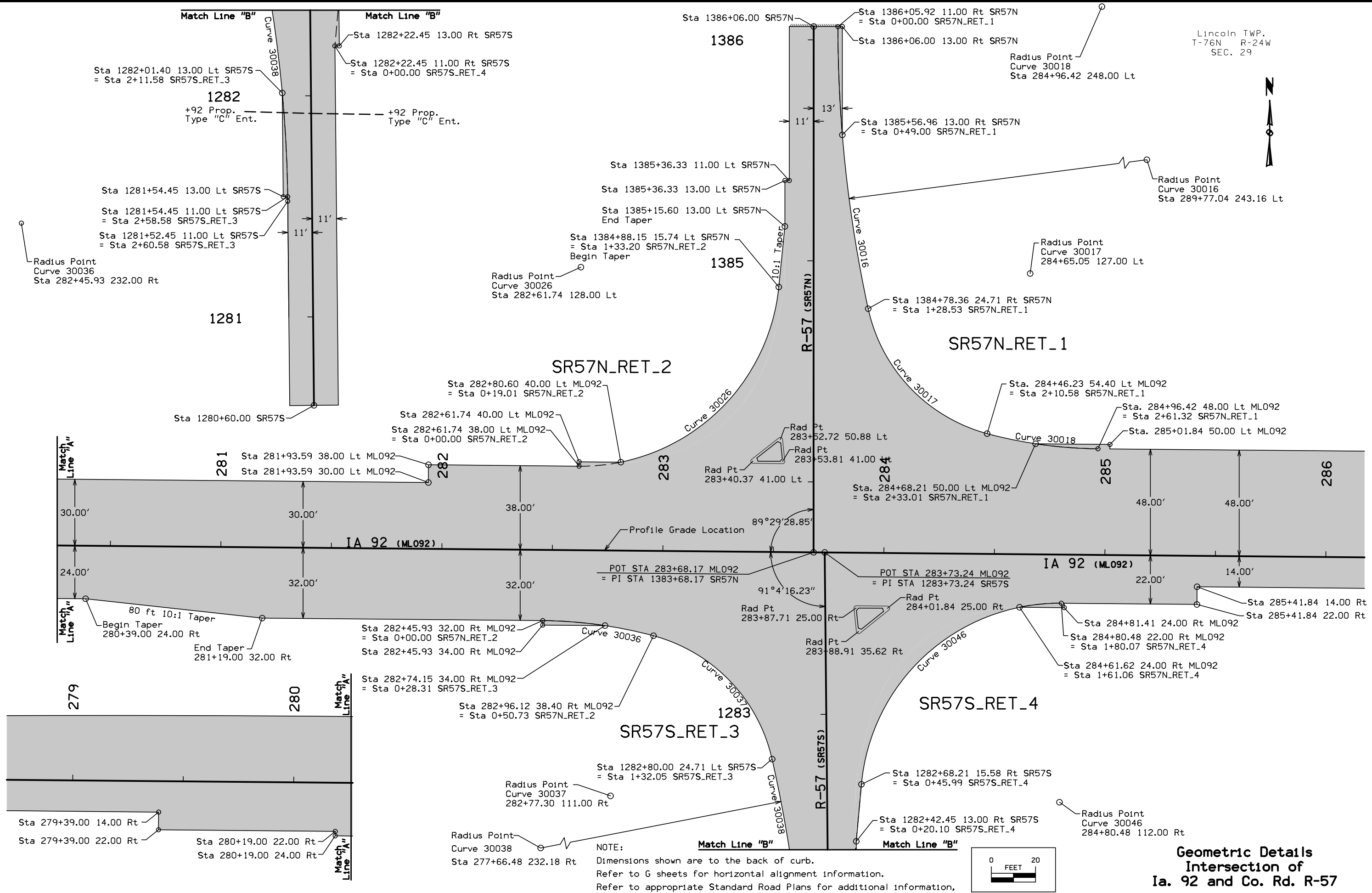
① Add below ROAD CLOSED (R11-2) sign already included in Safety Closure.

Contract Items:  
 Pavement Marking Items  
 Pavement Markings Removed  
 Safety Closures  
 Temporary Floodlighting  
 Traffic Control

Tabulations:  
 108-13A  
 108-22  
 108-27

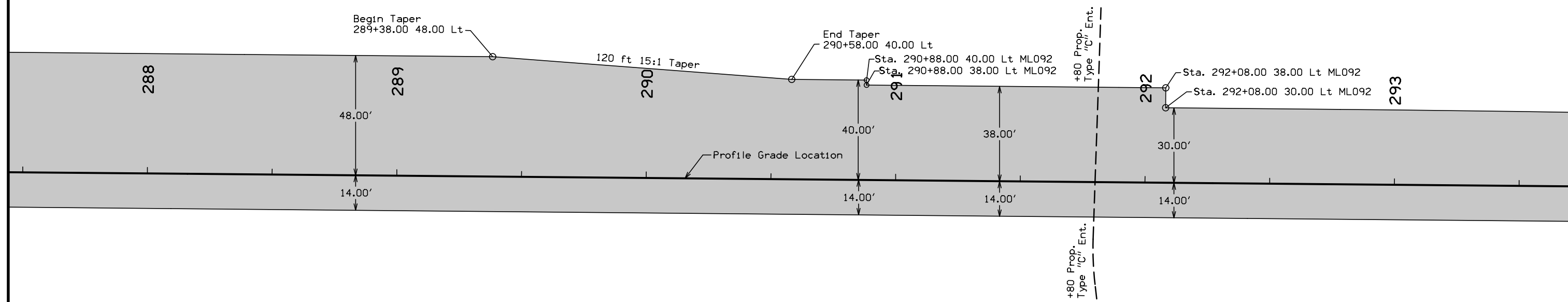
**UTILIZING GRAVEL ON-LINE DETOUR FOR SIDE STREET PAVING CONNECTION**

Lincoln TWP.  
T-76N R-24W  
SEC. 29

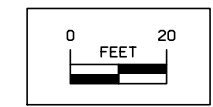


**Geometric Details  
Intersection of  
Ia. 92 and Co. Rd. R-57**



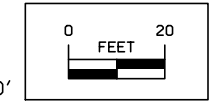
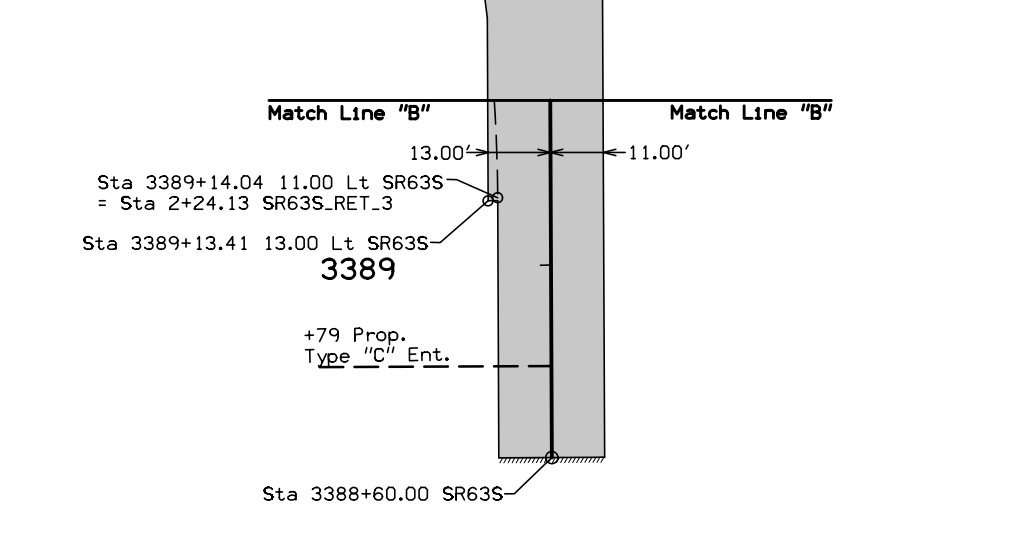
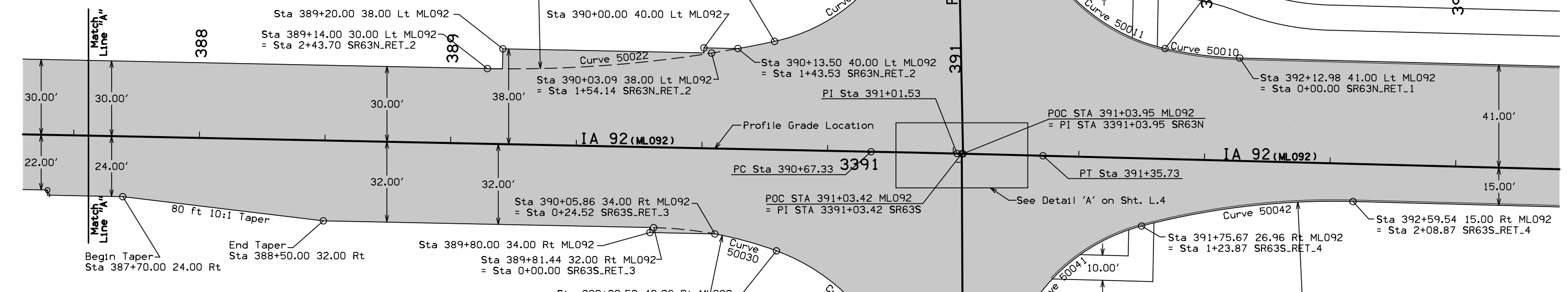
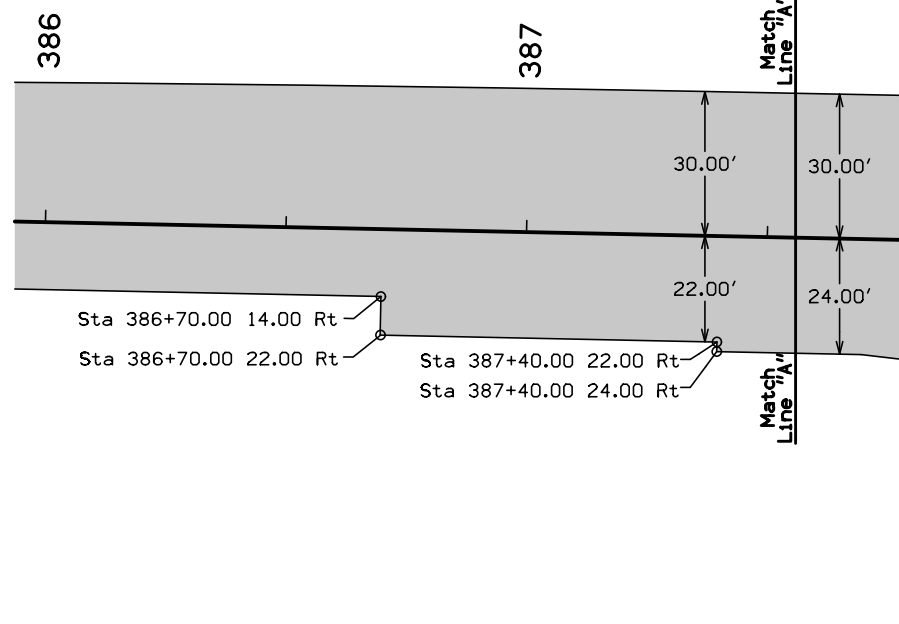


NOTE:  
Dimensions shown are to the back of curb.  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information,



**Geometric Details  
Ia. 92**

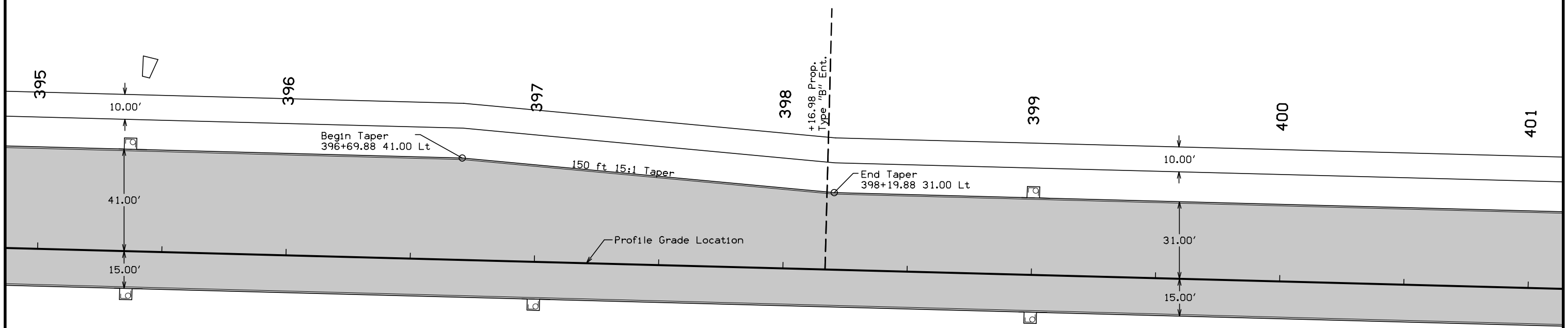
Lincoln TWP.  
T-76N R-24W  
SEC. 27



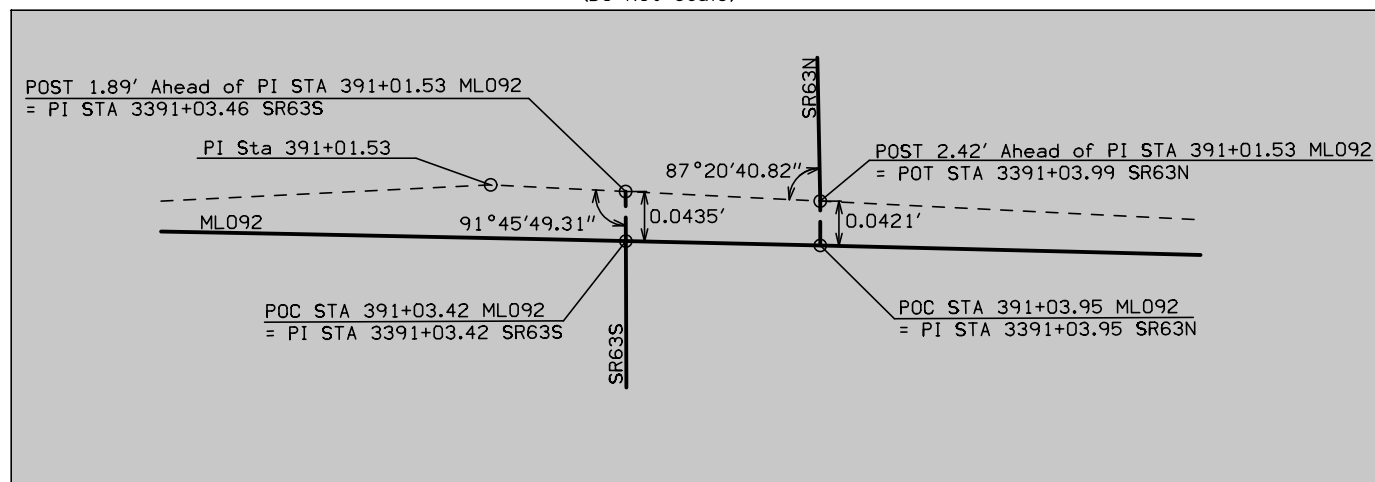
**Geometric Details  
Intersection of  
Ia. 92 and Co. Rd. R-63**

NOTE:  
Dimensions shown are to the back of curb.  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.

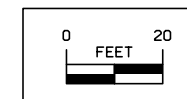
Lincoln TWP.  
T-76N R-24W  
SEC. 27



Detail 'A'  
(Do Not Scale)



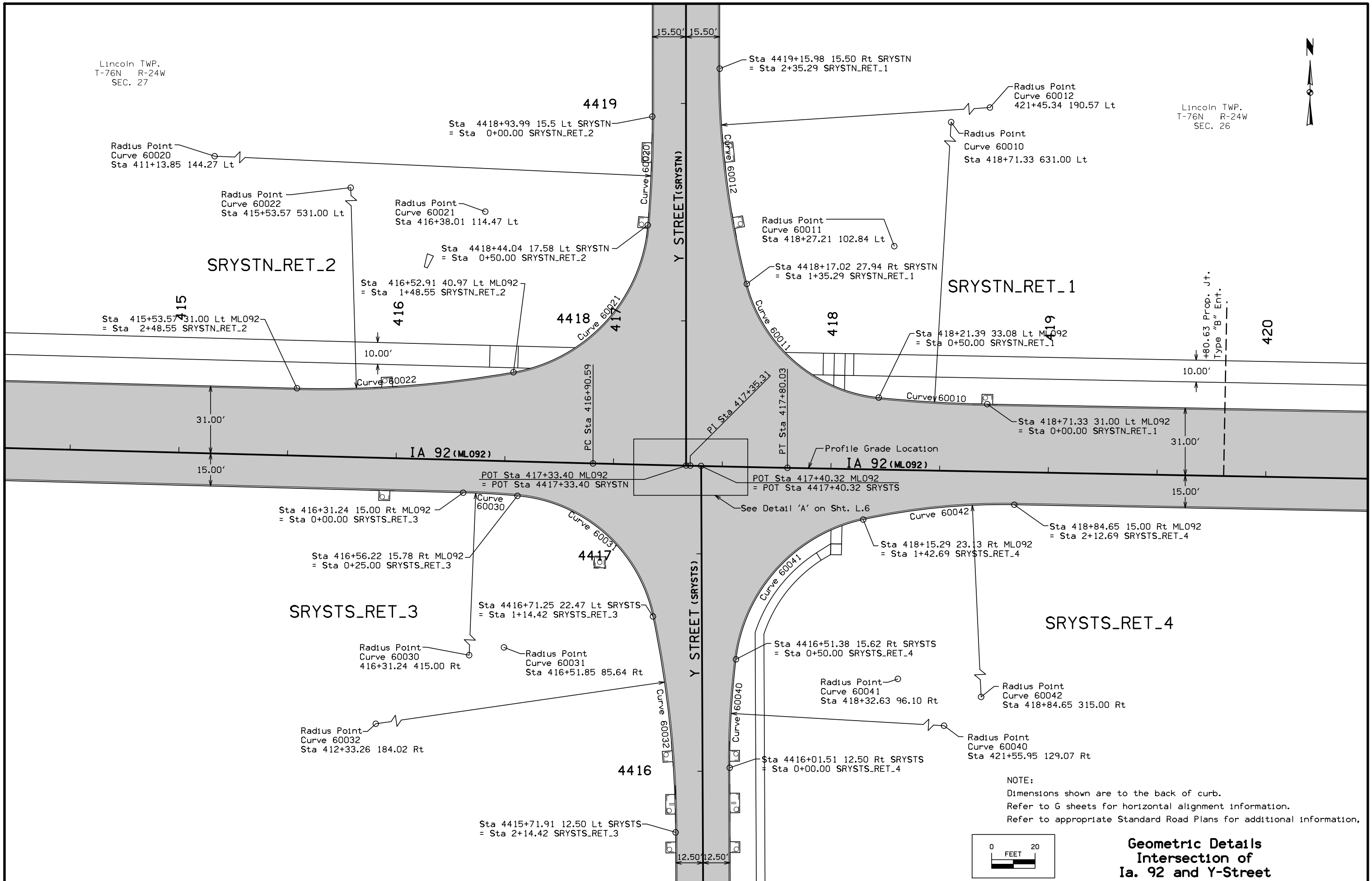
NOTE:  
Dimensions shown are to the back of curb.  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information.



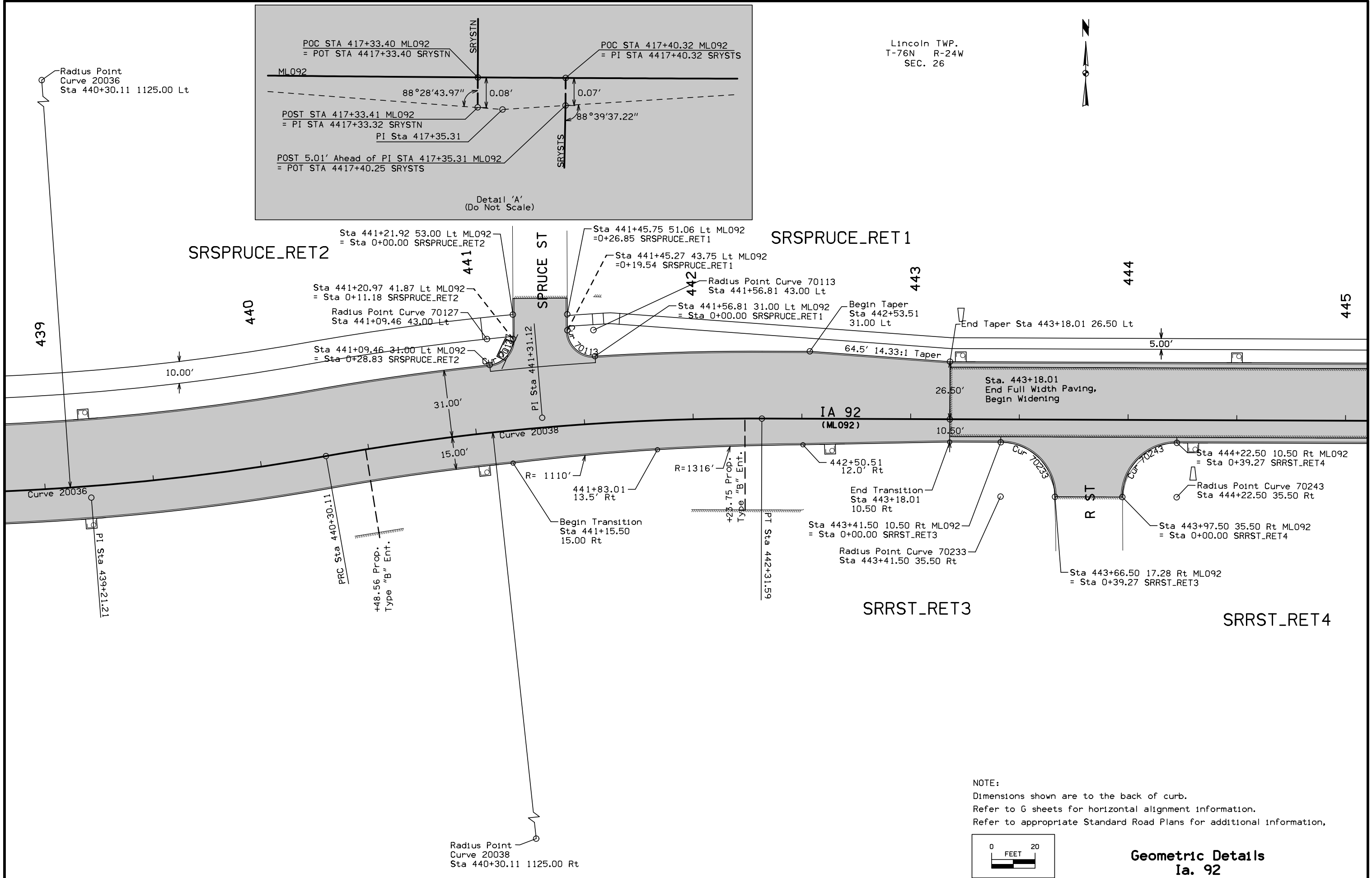
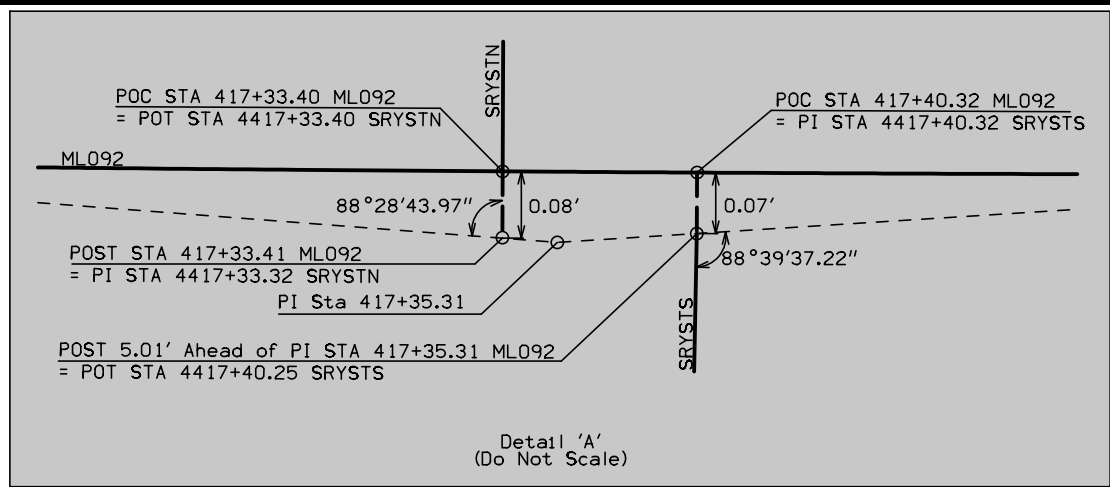
**Geometric Details  
Ia. 92**

Lincoln TWP.  
T-76N R-24W  
SEC. 27

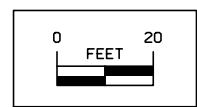
Lincoln TWP.  
T-76N R-24W  
SEC. 26



Lincoln TWP.  
T-76N R-24W  
SEC. 26



NOTE:  
Dimensions shown are to the back of curb.  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information,



**Geometric Details**  
**Ia. 92**

Lincoln TWP.  
T-76N R-24W  
SEC. 26



SRKENWOOD\_RET2

SRKENWOOD\_RET1

SRPST\_RET2

SRPST\_RET1

Sta 451+72.27 55.52 Lt ML092  
= Sta 0+00.00 SRKENWOOD\_RET2

Sta 451+71.70 49.40 Lt ML092  
= Sta 0+06.17 SRKENWOOD\_RET2

Radius Point Curve 70327  
Sta 451+46.57 51.50 Lt

451

Sta 451+46.60 26.50 Lt ML092  
= Sta 0+43.31 SRKENWOOD\_RET2

S KENWOOD BLVD

Sta 452+13.95 55.52 Lt ML092  
= Sta 0+43.31 SRKENWOOD\_RET1

Sta 452+13.80 53.80 Lt ML092  
= Sta 0+41.60 SRKENWOOD\_RET1

Radius Point Curve 70313  
Sta 452+38.92 51.50 Lt

452

Sta 452+38.90 26.50 Lt ML092  
= Sta 0+00.00 SRKENWOOD\_RET1

Sta 455+21.30 26.50 Lt ML092  
= Sta 0+49.46 SRPST\_RET2

454

Sta 455+53.30 57.70 Lt ML092  
= Sta 0+00.00 SRPST\_RET2

Radius Point Curve 70523  
Sta 455+21.31 58.50 Lt

SOUTH P ST

Sta 455+79.25 57.70 Lt ML092  
= Sta 0+49.48 SRPST\_RET1

Radius Point Curve 70513  
Sta 456+11.24 58.50 Lt

Sta 456+11.25 26.50 Lt ML092  
= Sta 0+00.00 SRPST\_RET1

Sta 453+91.57 10.50 Rt ML092  
= Sta 0+00.00 SRPST\_RET3

Radius Point Curve 70433  
Sta 453+91.57 42.50 Rt

Sta 454+16.67 22.83 Rt ML092  
= Sta 0+29.01 SRPST\_RET3

SRPST\_RET3

SOUTH P ST

Sta 454+86.45 10.50 Rt ML092  
= Sta 0+29.06 SRPST\_RET4

Radius Point Curve 70443  
Sta 454+86.45 42.50 Rt

Sta 454+61.27 22.83 Rt ML092  
= Sta 0+00.00 SRPST\_RET4

SRPST\_RET4

Lincoln TWP.  
T-76N R-24W  
SEC. 26

461

+34.29 Prop.  
Type "B" Ent.

462

463

IA 92 (ML092)

Sta 461+85.60 10.50 Rt ML092  
= Sta 0+00.00 SRNST\_RET3

Radius Point Curve 70633  
Sta 461+85.60 35.50 Rt

Sta 462+07.85 24.10 Rt ML092  
= Sta 0+27.43 SRNST\_RET3

SRNST\_RET3

SOUTH N ST

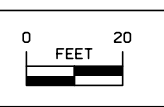
Sta 462+62.60 10.50 Rt ML092  
= Sta 0+27.48 SRNST\_RET4

Radius Point Curve 70643  
Sta 462+62.55 35.50 Rt

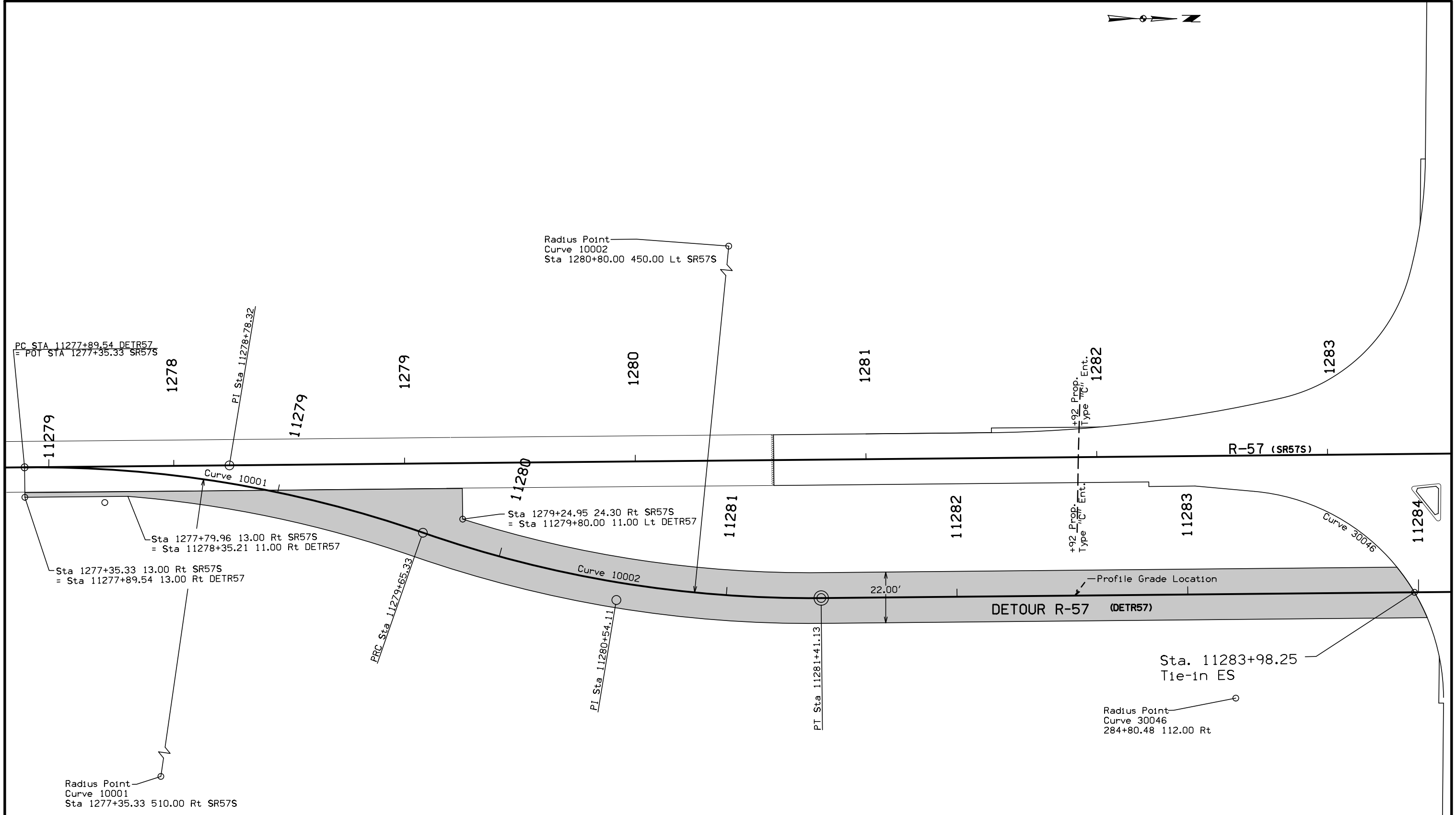
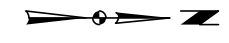
Sta 462+40.30 24.10 Rt ML092  
= Sta 0+00.00 SRNST\_RET4

SRNST\_RET4

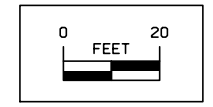
NOTE:  
Dimensions shown are to the back of curb.  
Refer to G sheets for horizontal alignment information.  
Refer to appropriate Standard Road Plans for additional information,



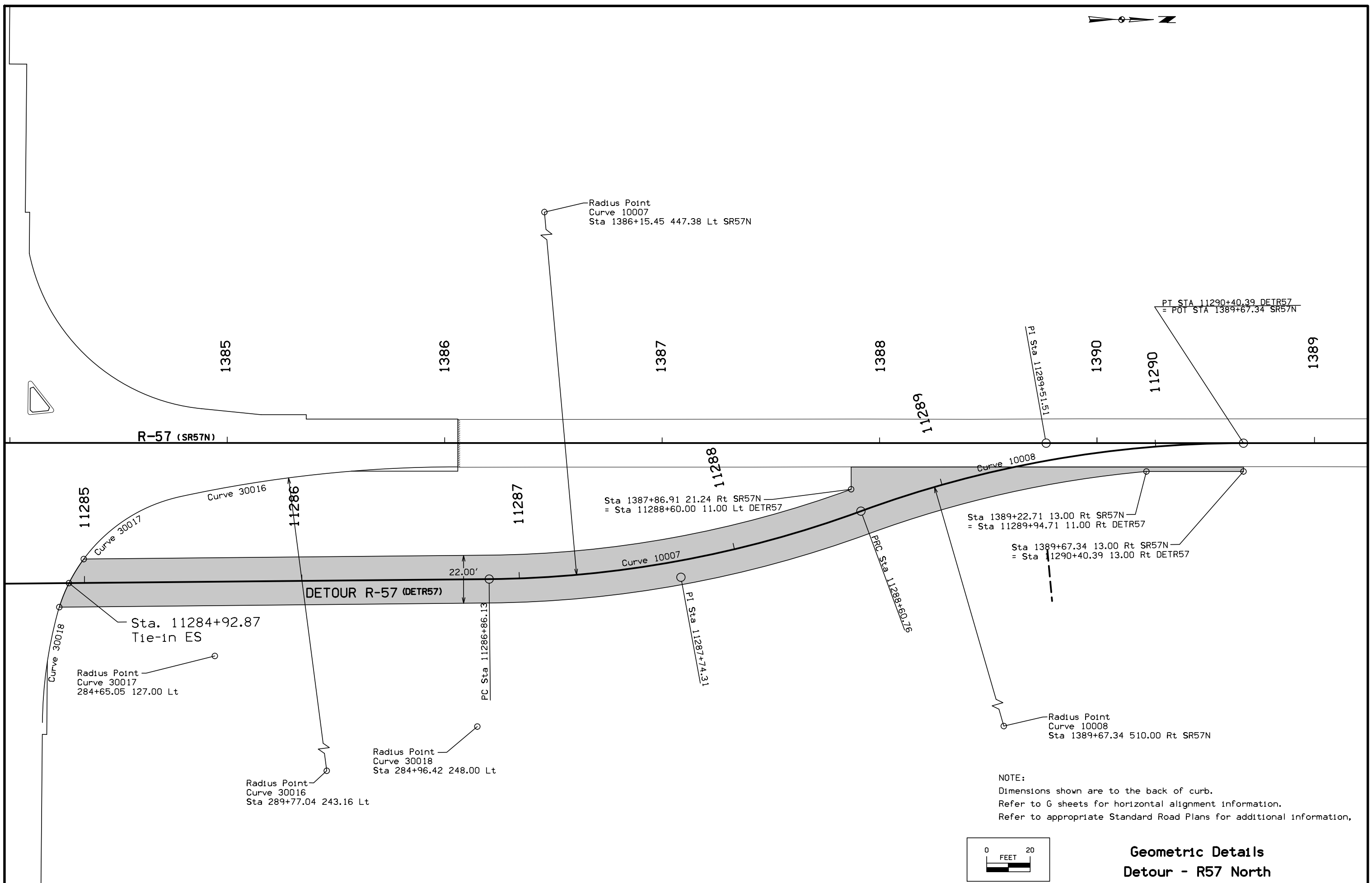
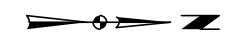
Geometric Details  
Ia. 92



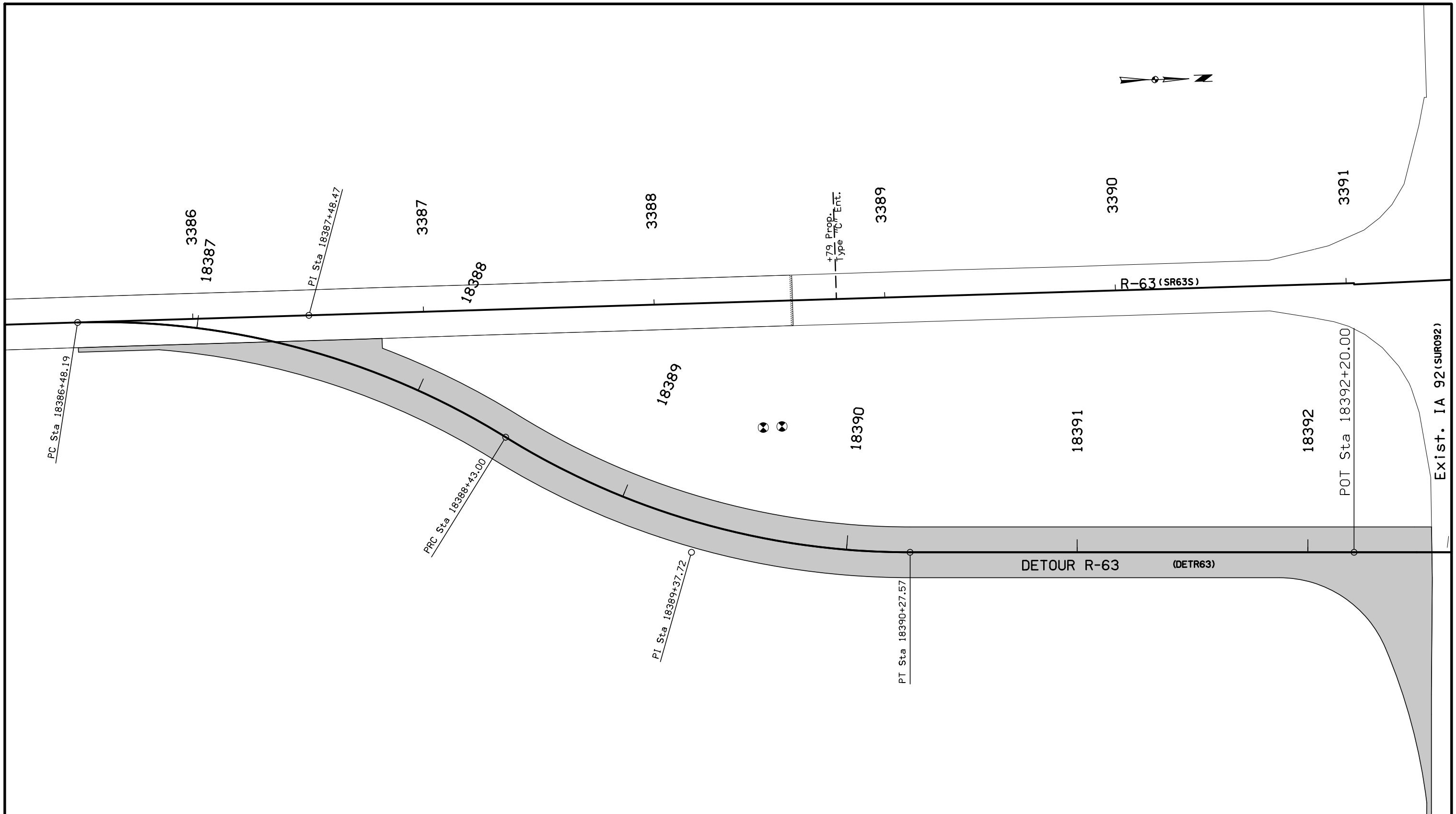
NOTE:  
 Dimensions shown are to the back of curb.  
 Refer to G sheets for horizontal alignment information.  
 Refer to appropriate Standard Road Plans for additional information.



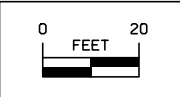
**Geometric Details  
 Detour - R57 South**



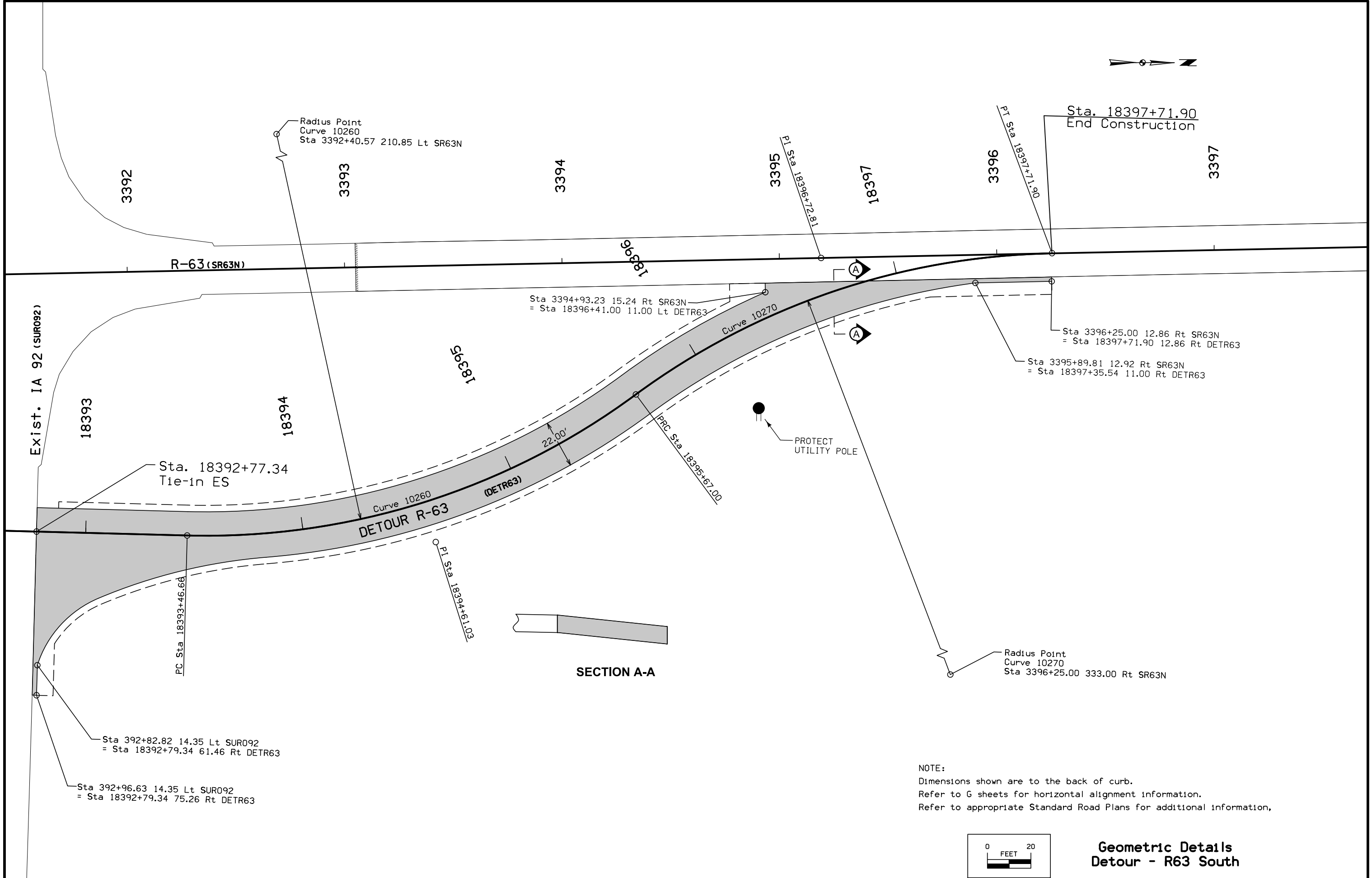
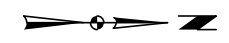


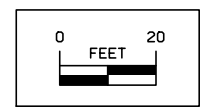
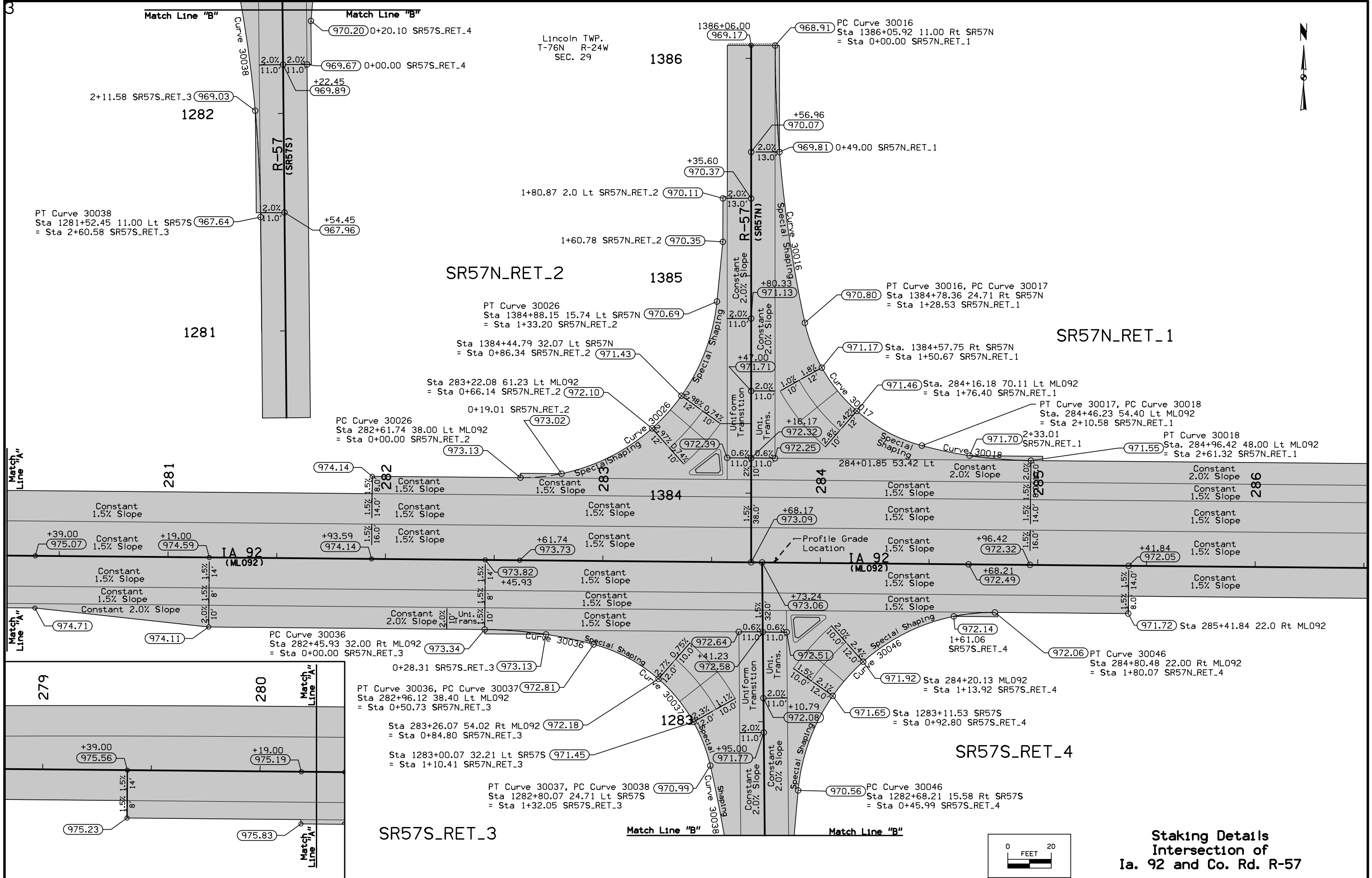


NOTE:  
 Dimensions shown are to the back of curb.  
 Refer to G sheets for horizontal alignment information.  
 Refer to appropriate Standard Road Plans for additional information,

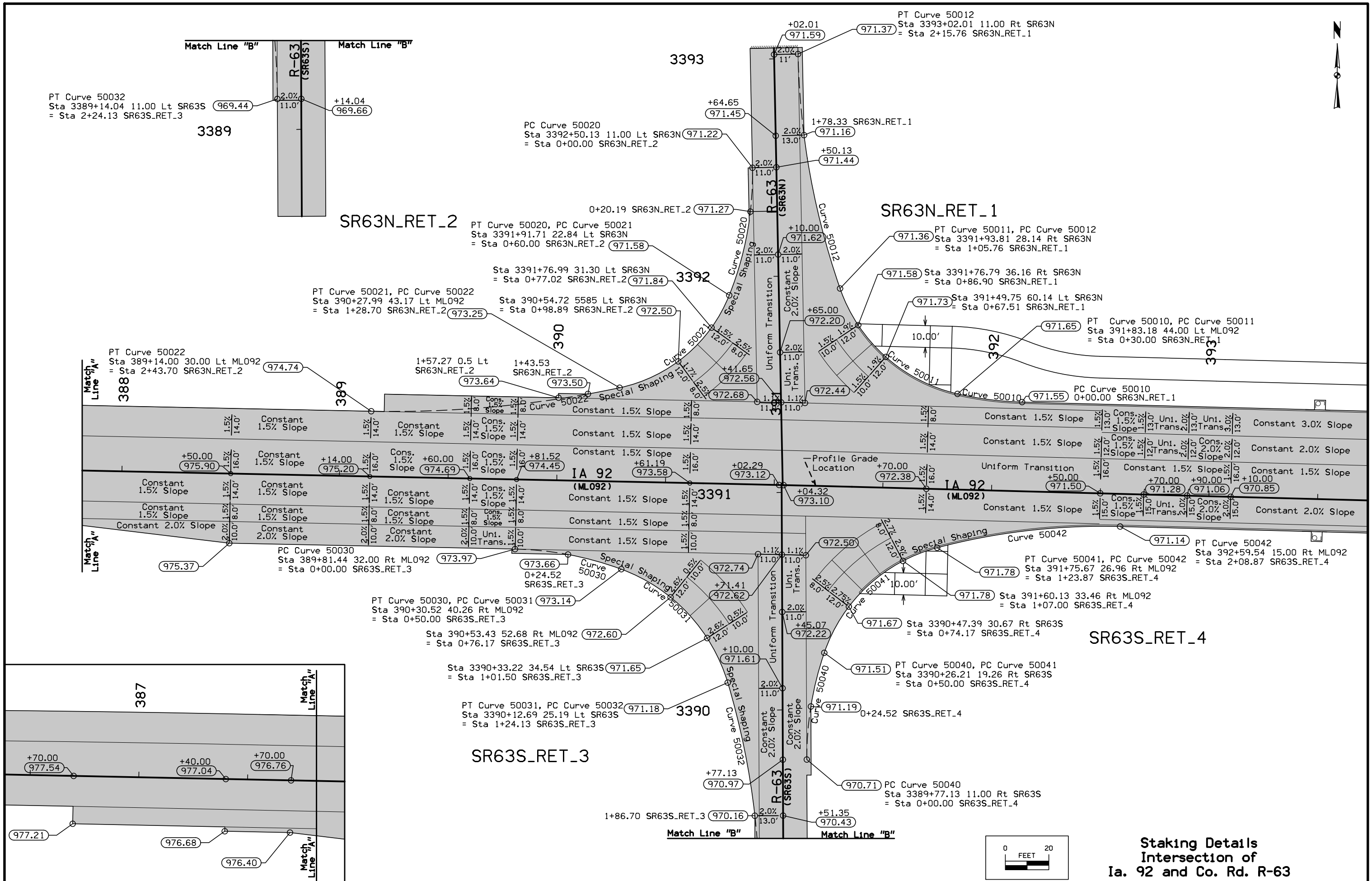


**Geometric Details  
 Detour - R63 South**

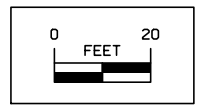




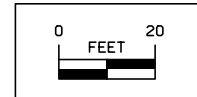
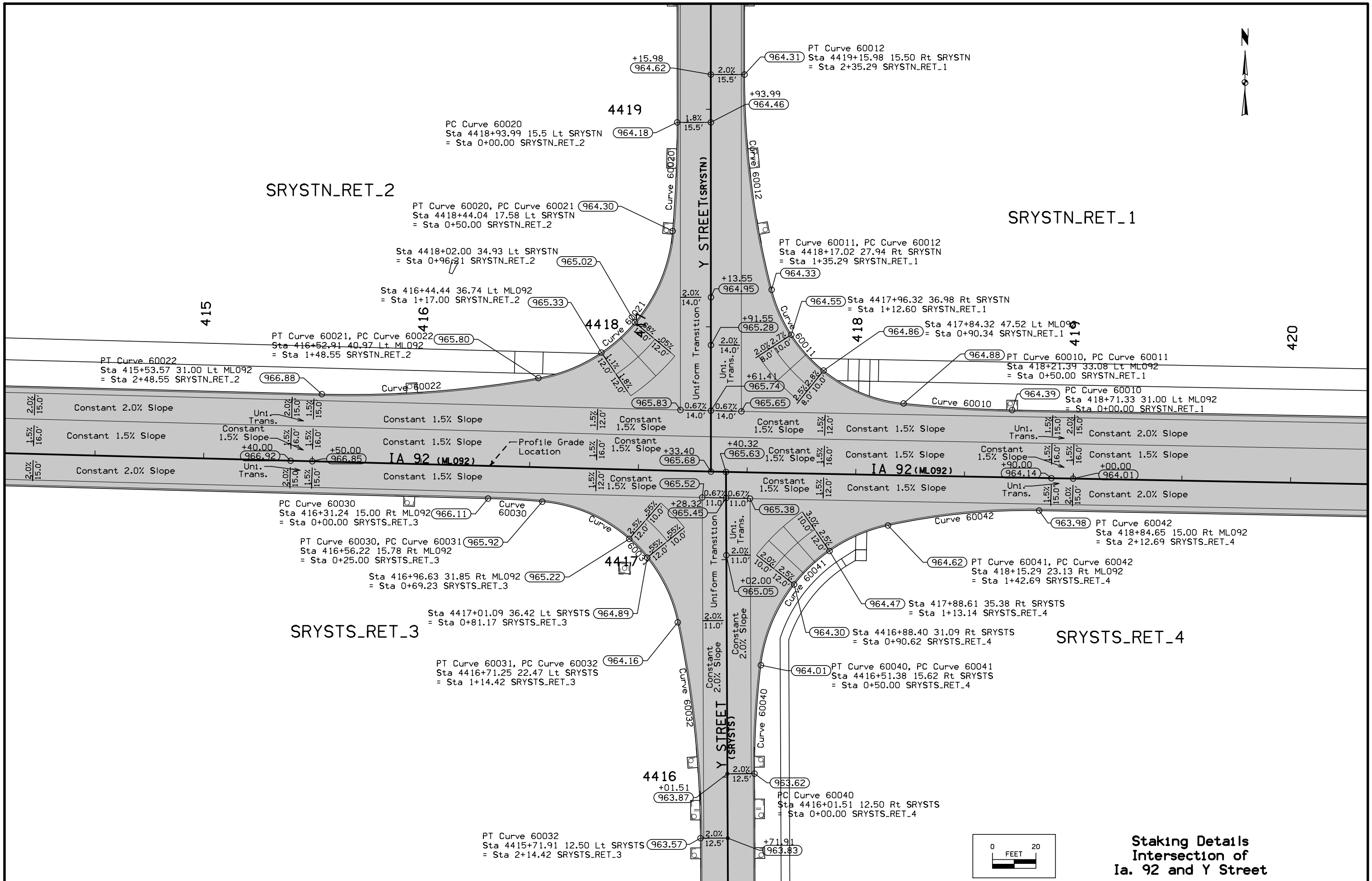
**Staking Details**  
**Intersection of**  
**Ia. 92 and Co. Rd. R-57**



**Staking Details**  
**Intersection of**  
**Ia. 92 and Co. Rd. R-63**



FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	L.13
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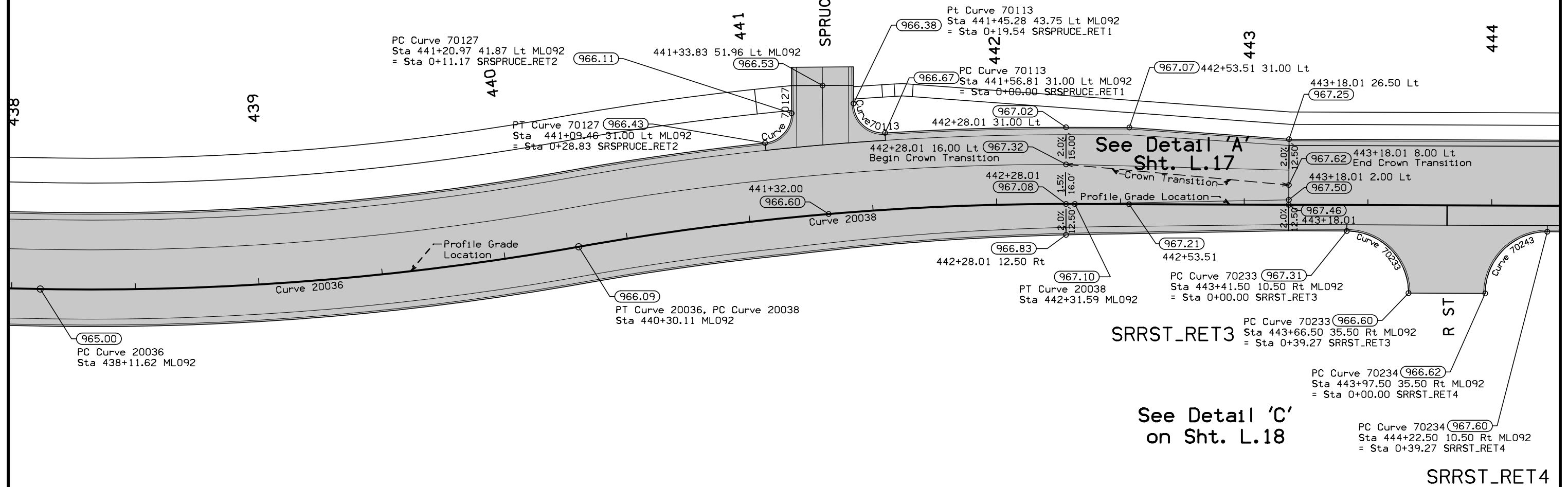
Staking Details  
Intersection of  
Ia. 92 and Y Street



See Detail 'B'  
on Sht. L.17

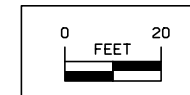
SRSPRUCE\_RET2

SRSPRUCE\_RET1

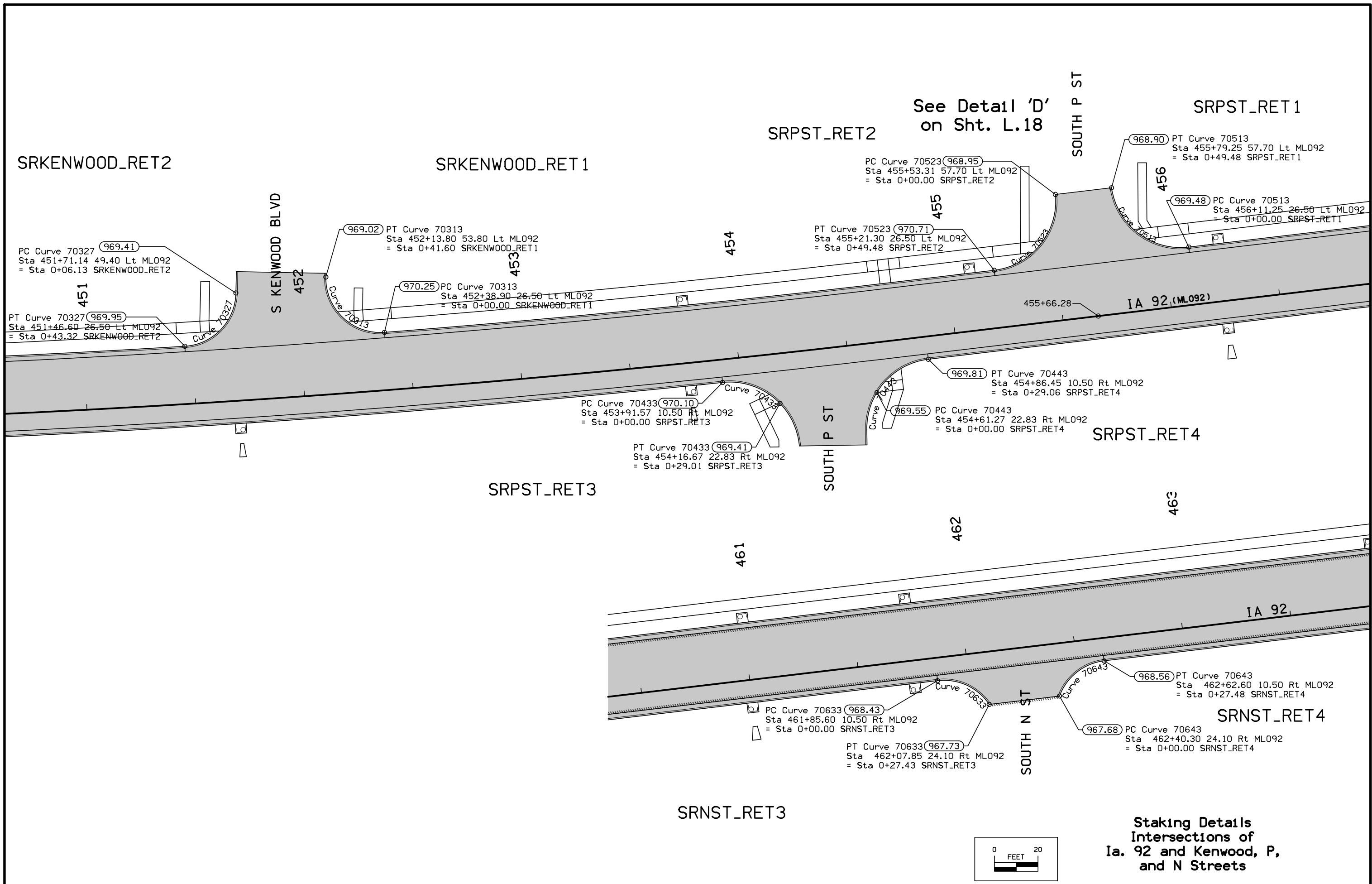


See Detail 'A'  
Sht. L.17

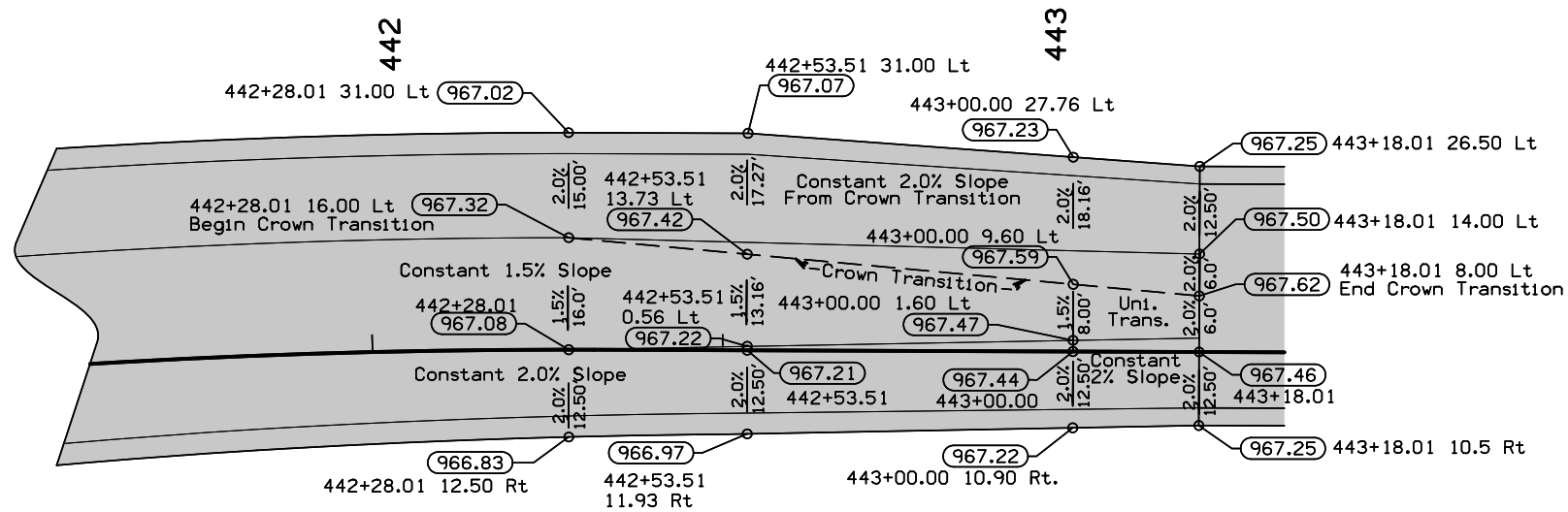
See Detail 'C'  
on Sht. L.18



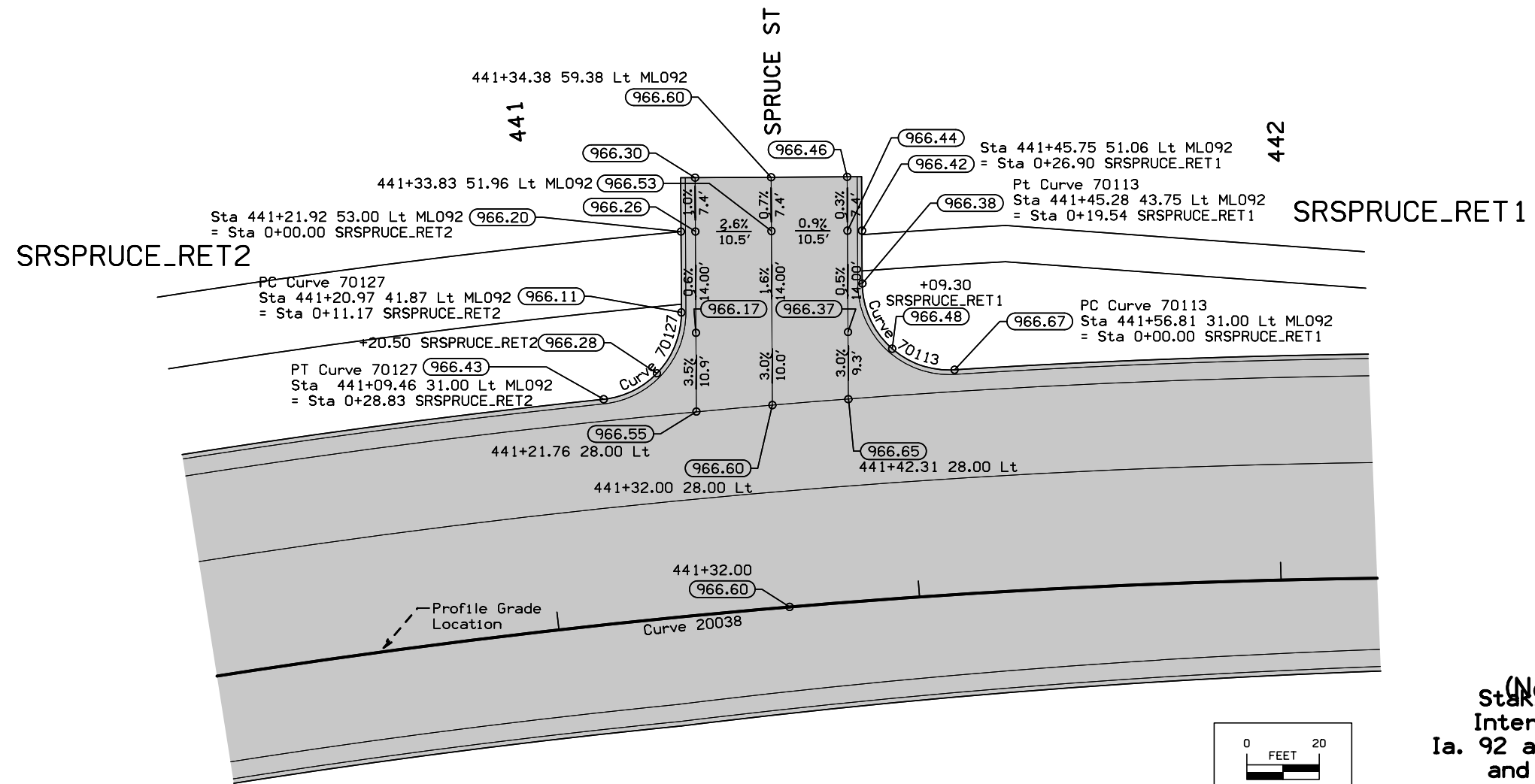
Staking Details  
Intersection of  
Ia. 92 and Spruce  
and R Streets



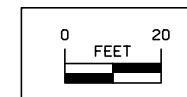
**Staking Details  
Intersections of  
Ia. 92 and Kenwood, P,  
and N Streets**



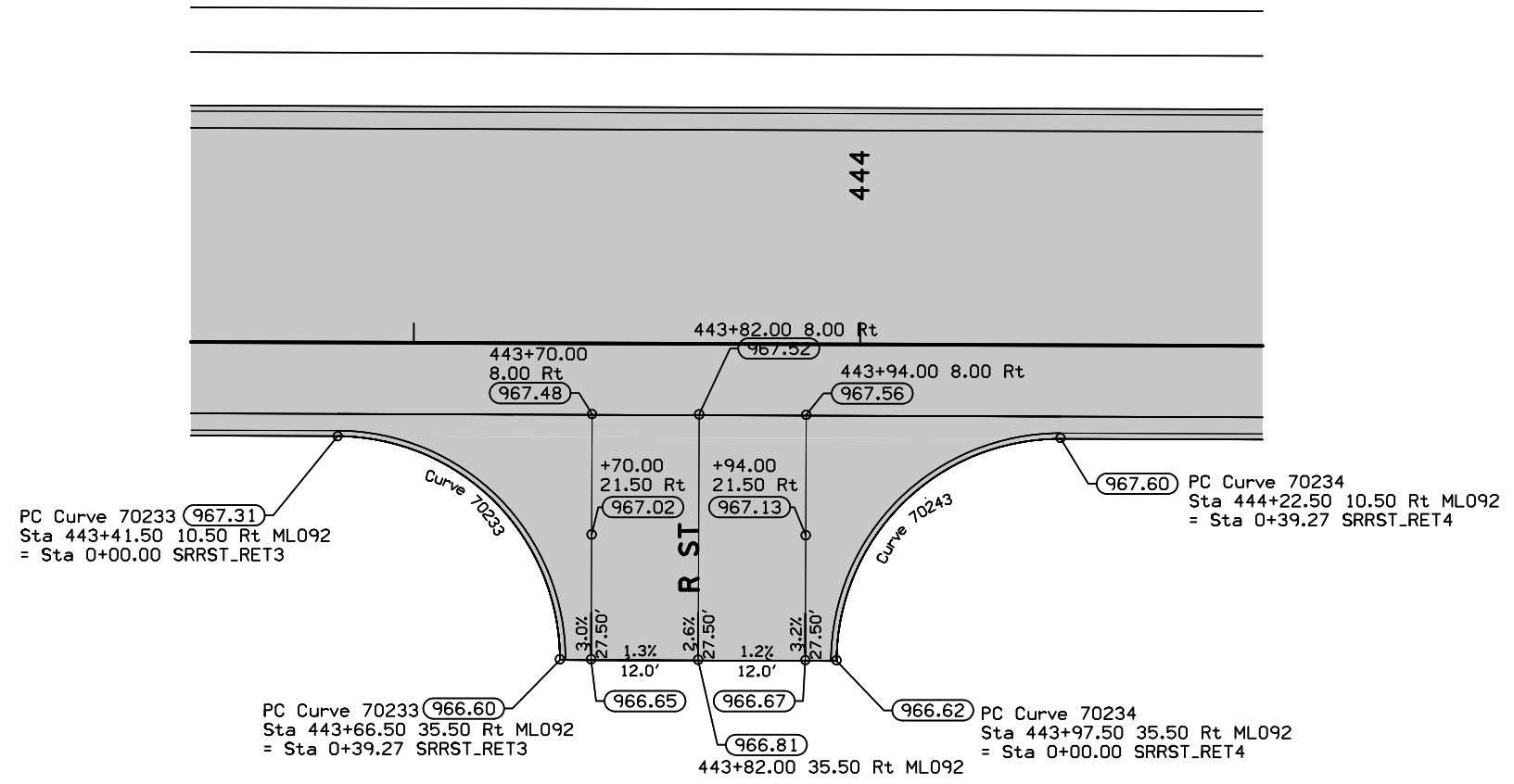
Detail 'A'  
End Full Width Paving-Begin Widening  
(Not To Scale)



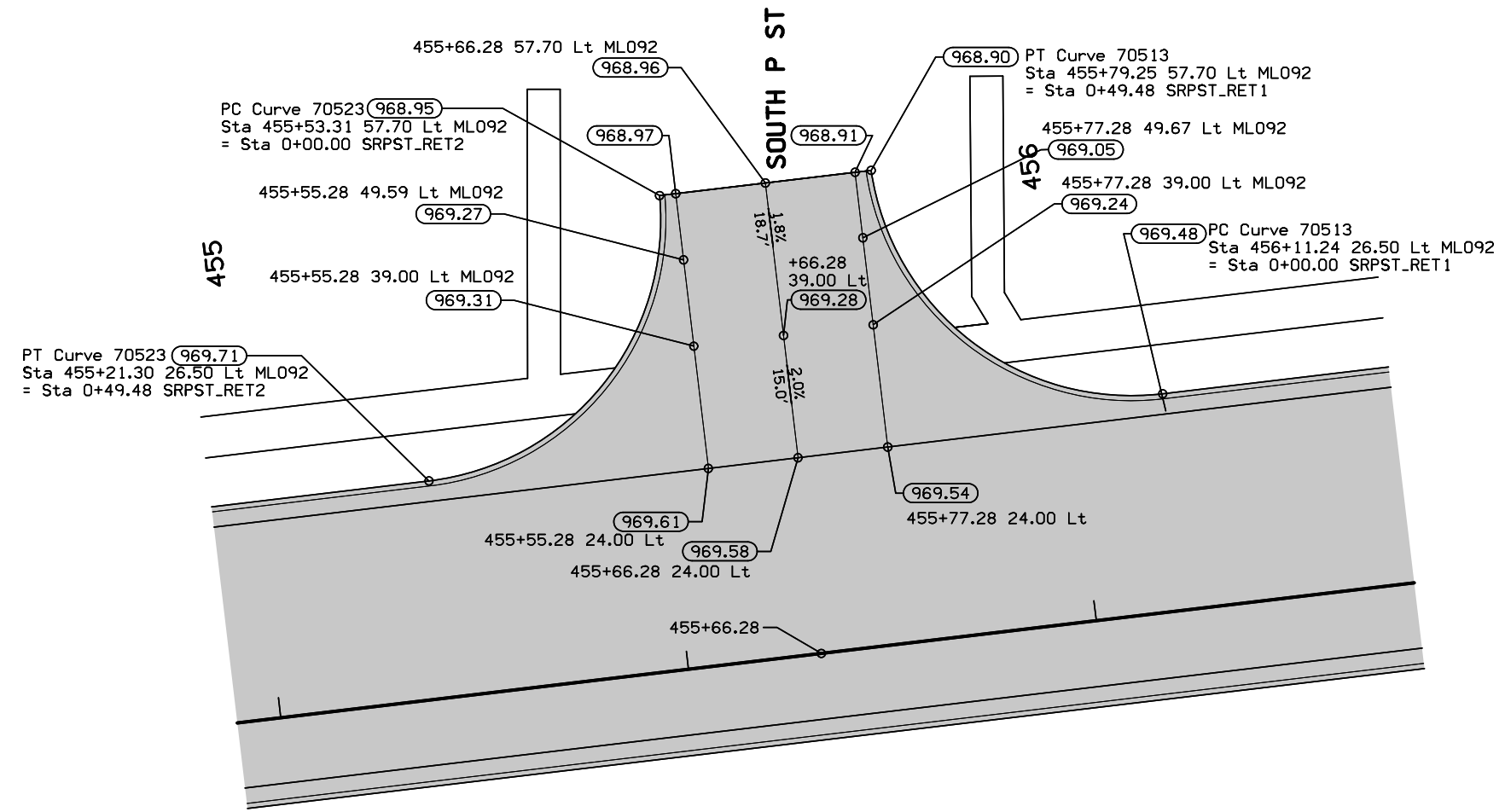
Detail 'B'  
Spruce St.  
(Not To Scale)  
Staking Details  
Intersections of  
Ia. 92 and Kenwood, P,  
and N Streets







Detail 'C'  
R Street  
(Not To Scale)



Detail 'D'  
South P St.  
(Not To Scale)

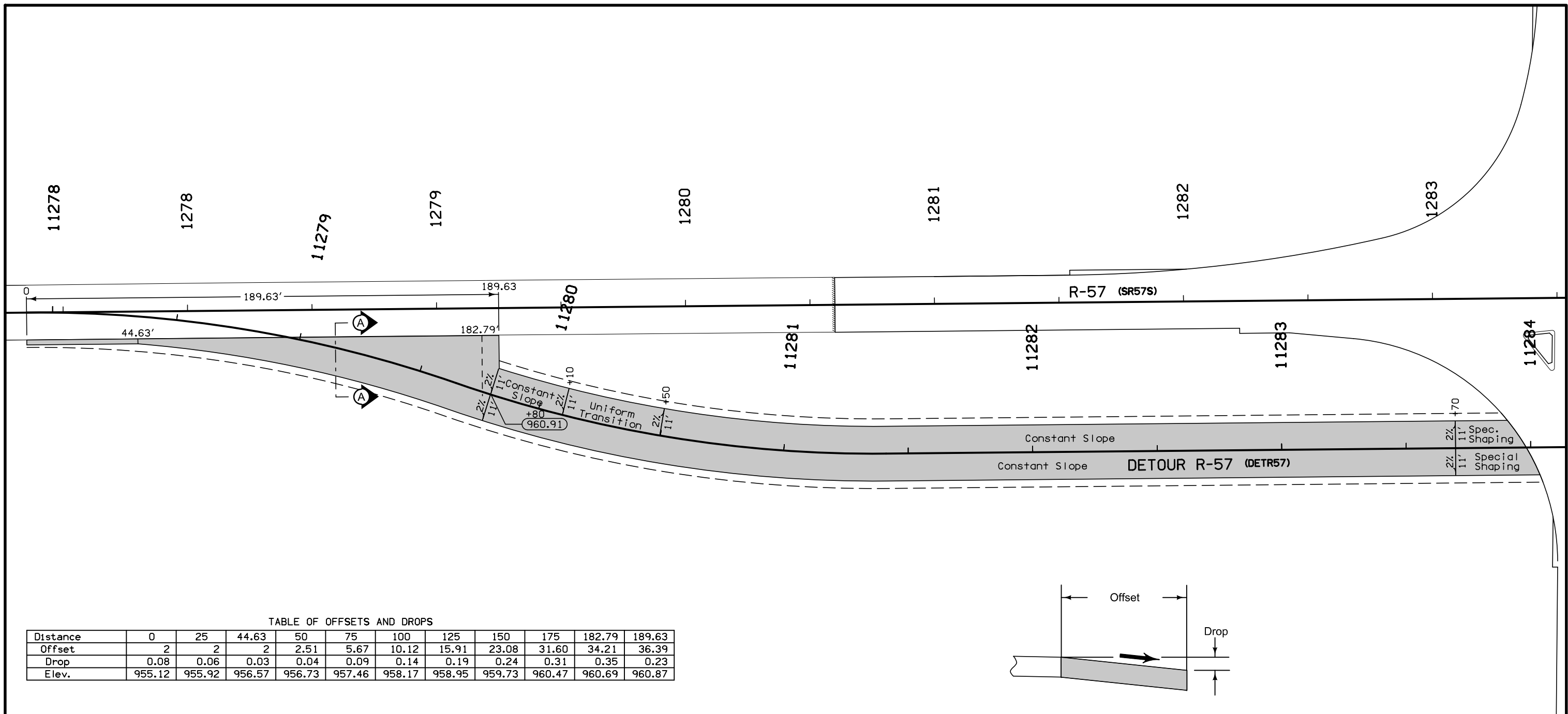
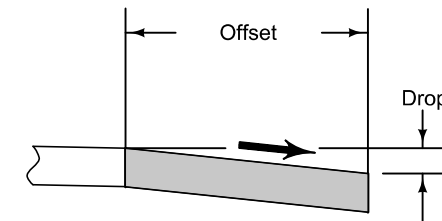
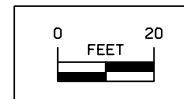


TABLE OF OFFSETS AND DROPS

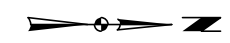
Distance	0	25	44.63	50	75	100	125	150	175	182.79	189.63
Offset	2	2	2	2.51	5.67	10.12	15.91	23.08	31.60	34.21	36.39
Drop	0.08	0.06	0.03	0.04	0.09	0.14	0.19	0.24	0.31	0.35	0.23
Elev.	955.12	955.92	956.57	956.73	957.46	958.17	958.95	959.73	960.47	960.69	960.87



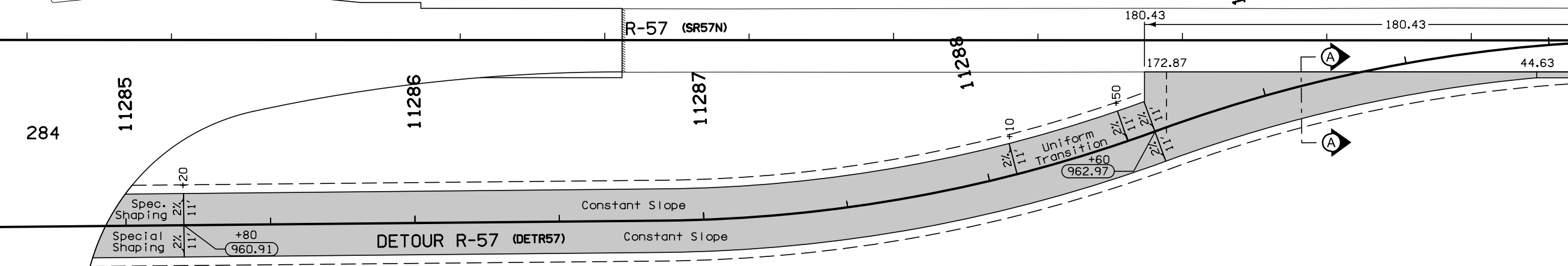
SECTION A-A



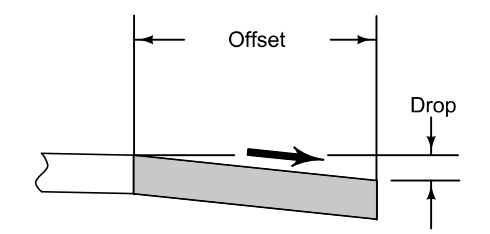
Staking Details  
Detour R-57  
South



283  
1384  
1385  
1386  
1387  
1388  
1389  
11290



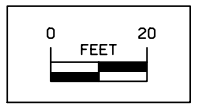
284  
285  
286



SECTION A-A

TABLE OF OFFSETS AND DROPS

Distance	180.43	172.87	150	125	100	75	50	44.63	25	0
Offset	33.60	30.90	23.07	15.91	10.12	5.67	2.51	2	2	2
Drop	0.28	0.27	0.22	0.18	0.14	0.09	0.04	0.03	0.06	0.07
Elev.	969.98	962.75	961.97	961.10	960.25	959.53	958.78	958.62	957.96	957.15



Staking Details  
Detour R-57  
North

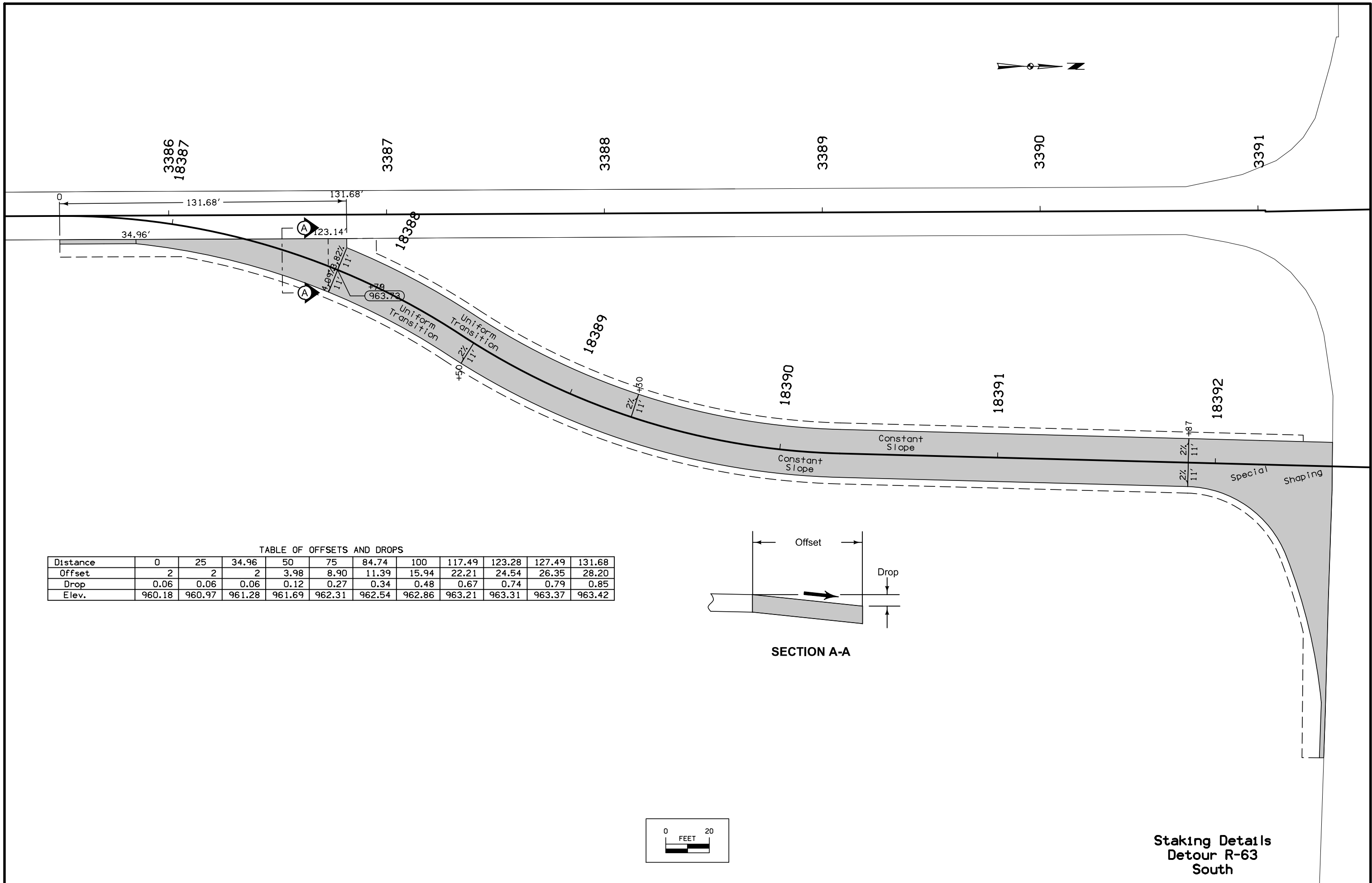
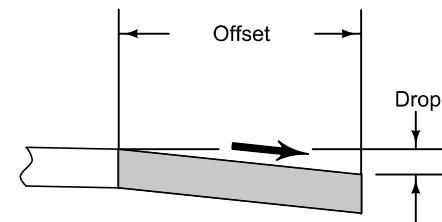
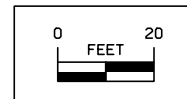


TABLE OF OFFSETS AND DROPS

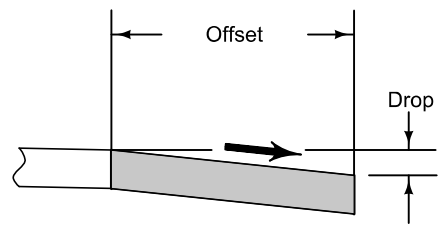
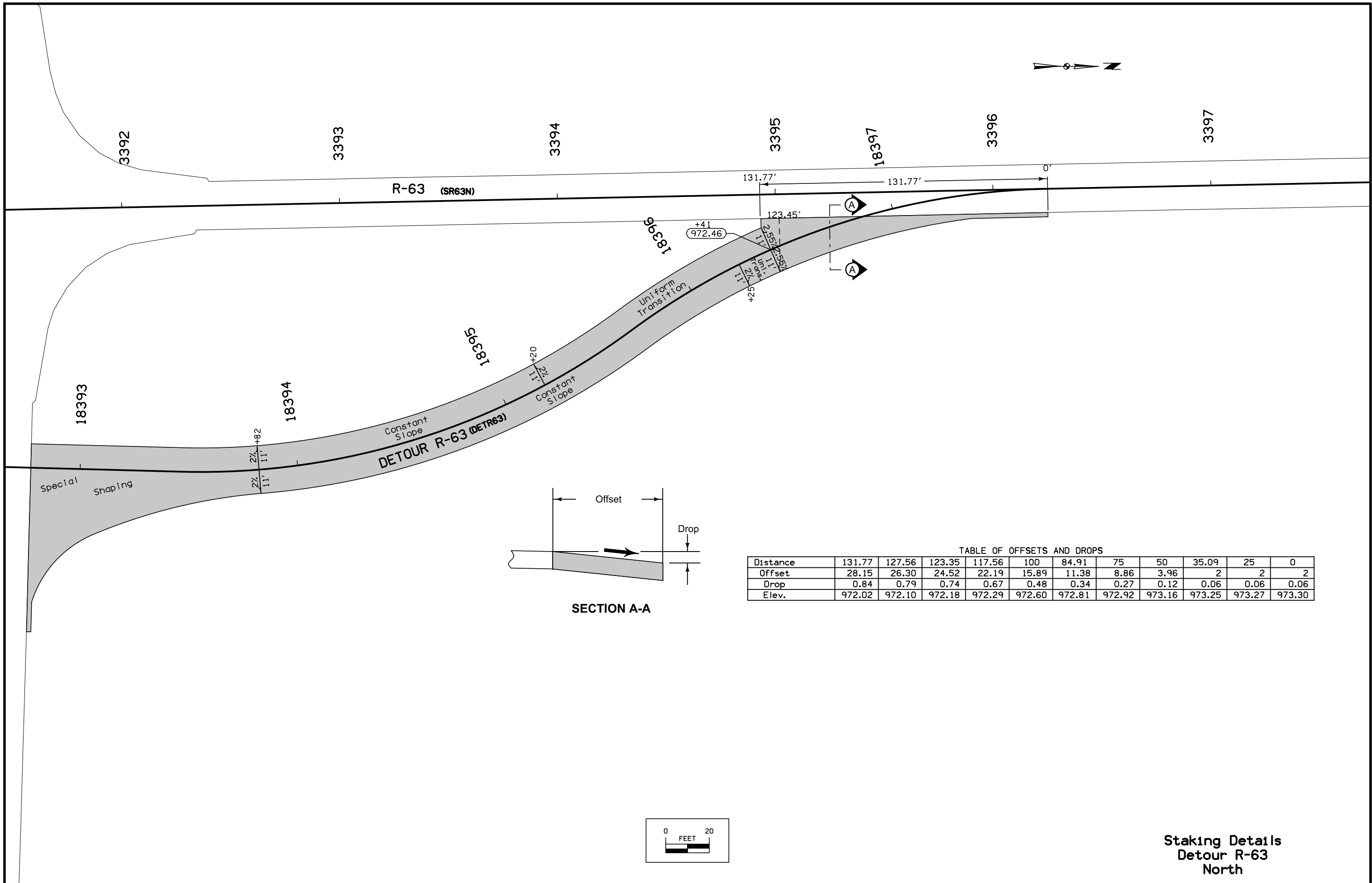
Distance	0	25	34.96	50	75	84.74	100	117.49	123.28	127.49	131.68
Offset	2	2	2	3.98	8.90	11.39	15.94	22.21	24.54	26.35	28.20
Drop	0.06	0.06	0.06	0.12	0.27	0.34	0.48	0.67	0.74	0.79	0.85
Elev.	960.18	960.97	961.28	961.69	962.31	962.54	962.86	963.21	963.31	963.37	963.42



SECTION A-A



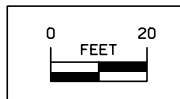
Staking Details  
Detour R-63  
South



SECTION A-A

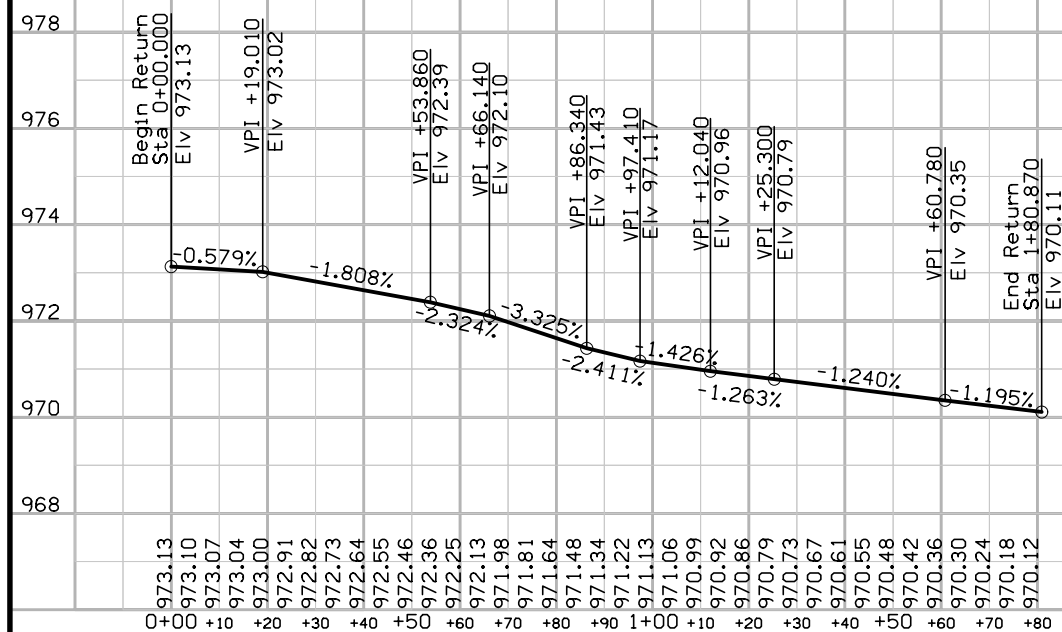
TABLE OF OFFSETS AND DROPS

Distance	131.77	127.56	123.35	117.56	100	84.91	75	50	35.09	25	0
Offset	28.15	26.30	24.52	22.19	15.89	11.38	8.86	3.96	2	2	2
Drop	0.84	0.79	0.74	0.67	0.48	0.34	0.27	0.12	0.06	0.06	0.06
Elev.	972.02	972.10	972.18	972.29	972.60	972.81	972.92	973.16	973.25	973.27	973.30

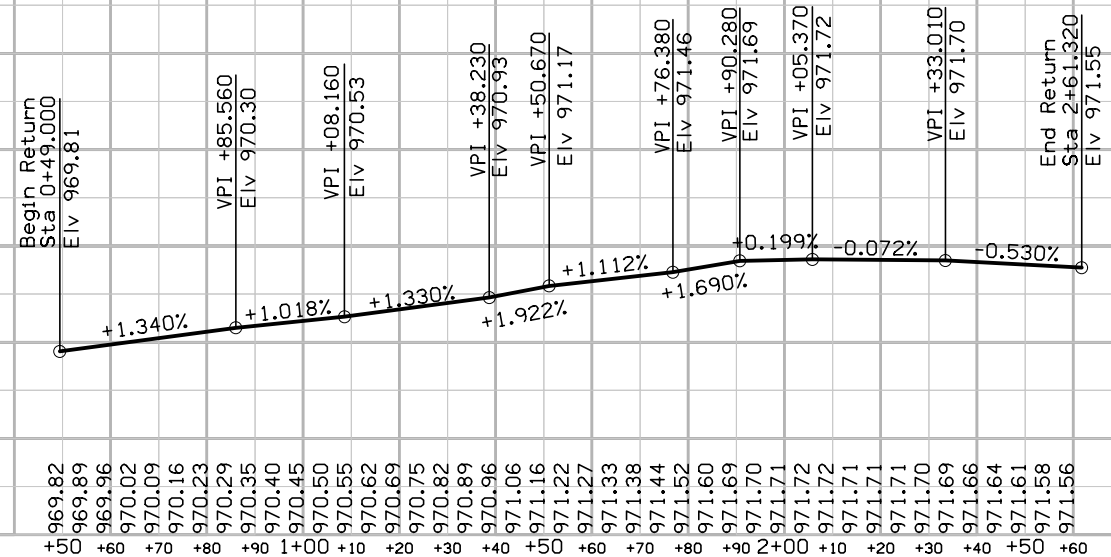


Staking Details  
Detour R-63  
North

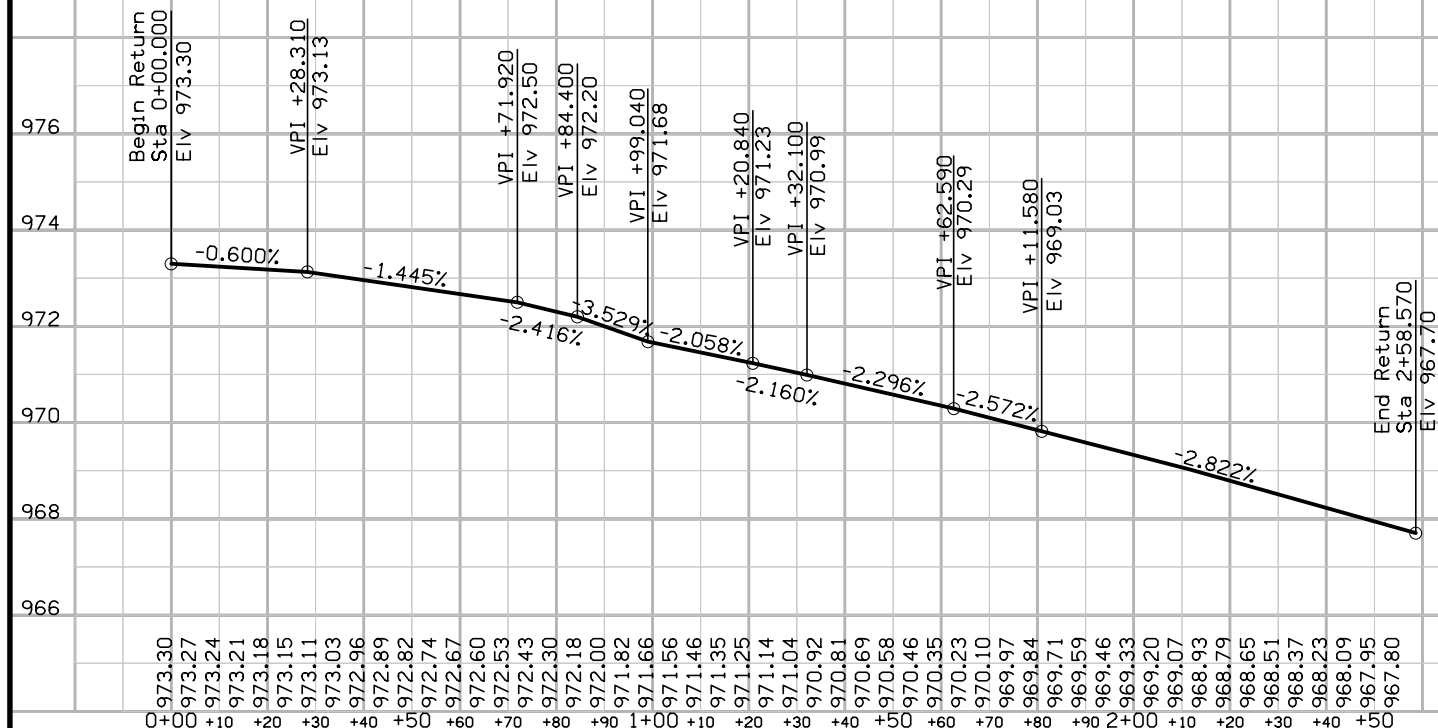
SR57N\_RET\_2



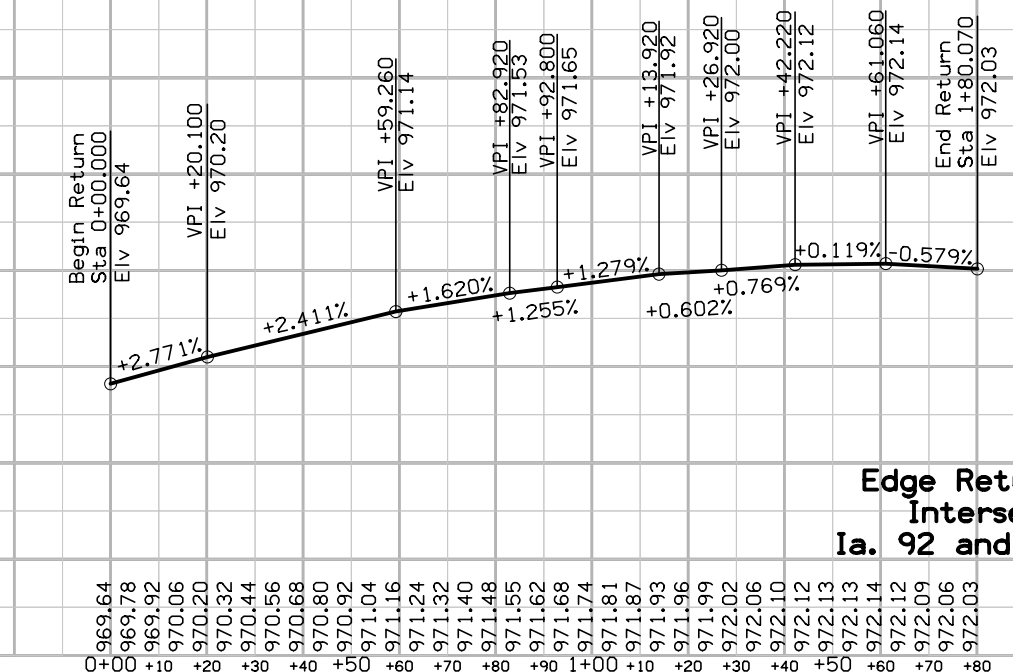
SR57N\_RET\_1



SR57S\_RET\_3



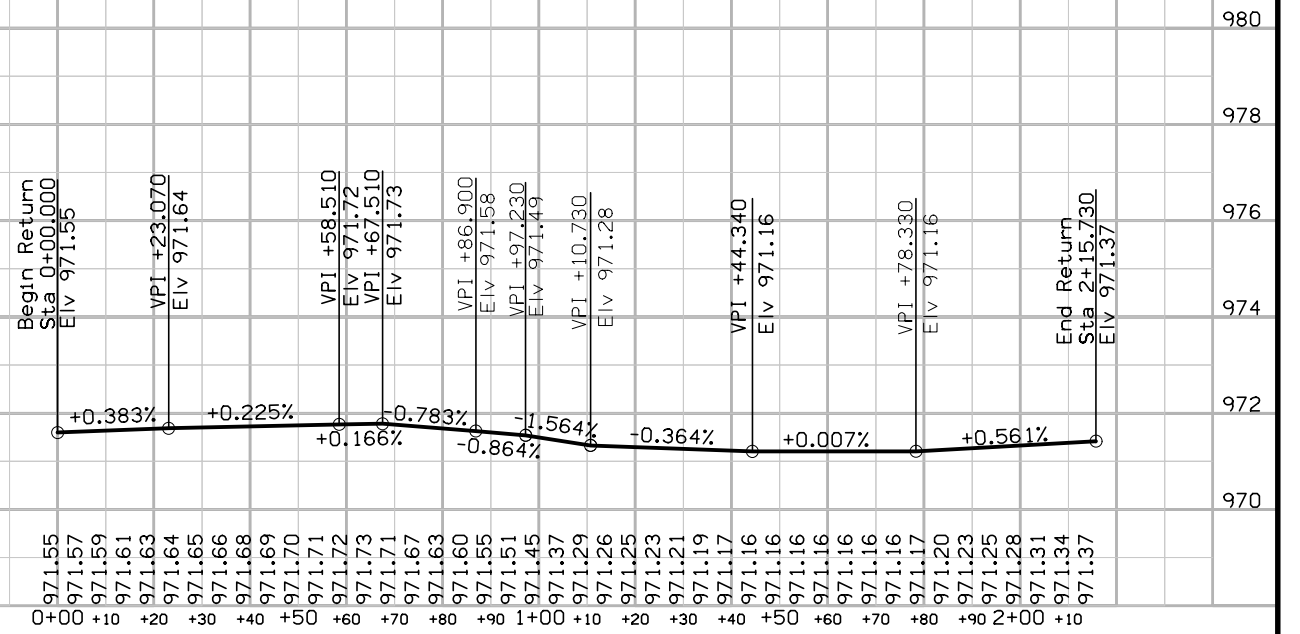
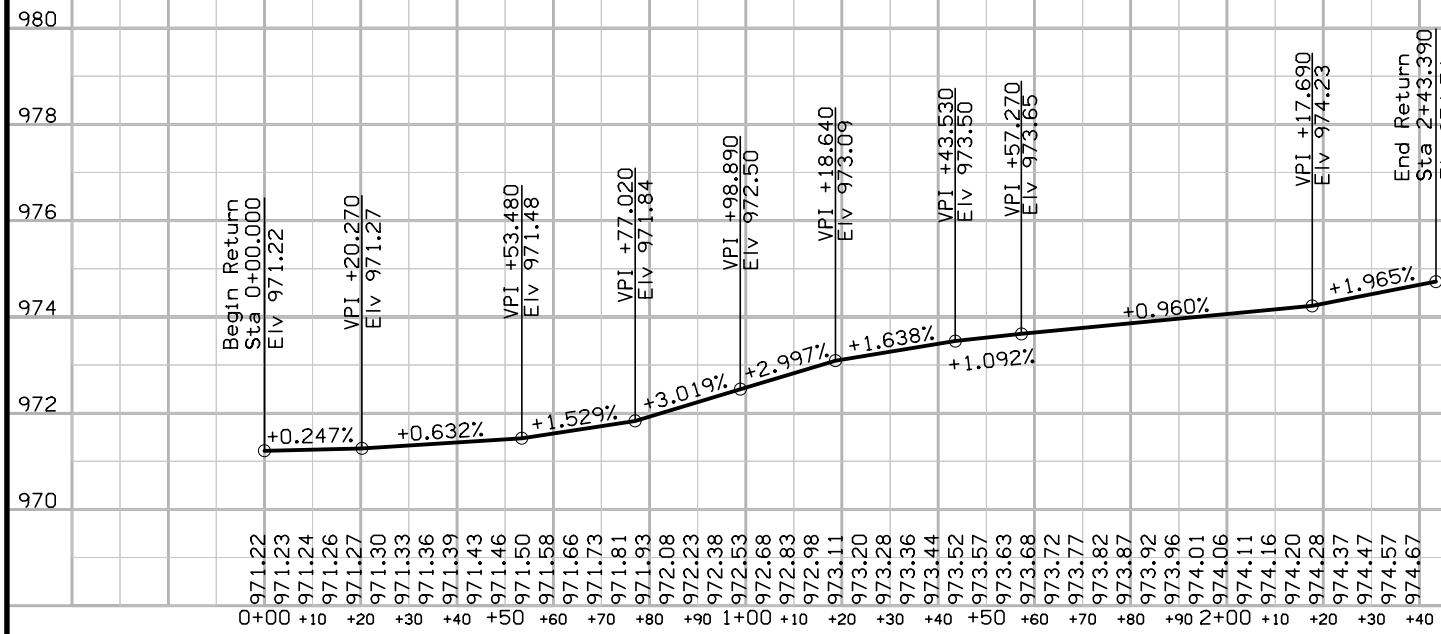
SR57S\_RET\_4



Edge Return Profiles Intersection of Ia. 92 and Co. Rd. R-57

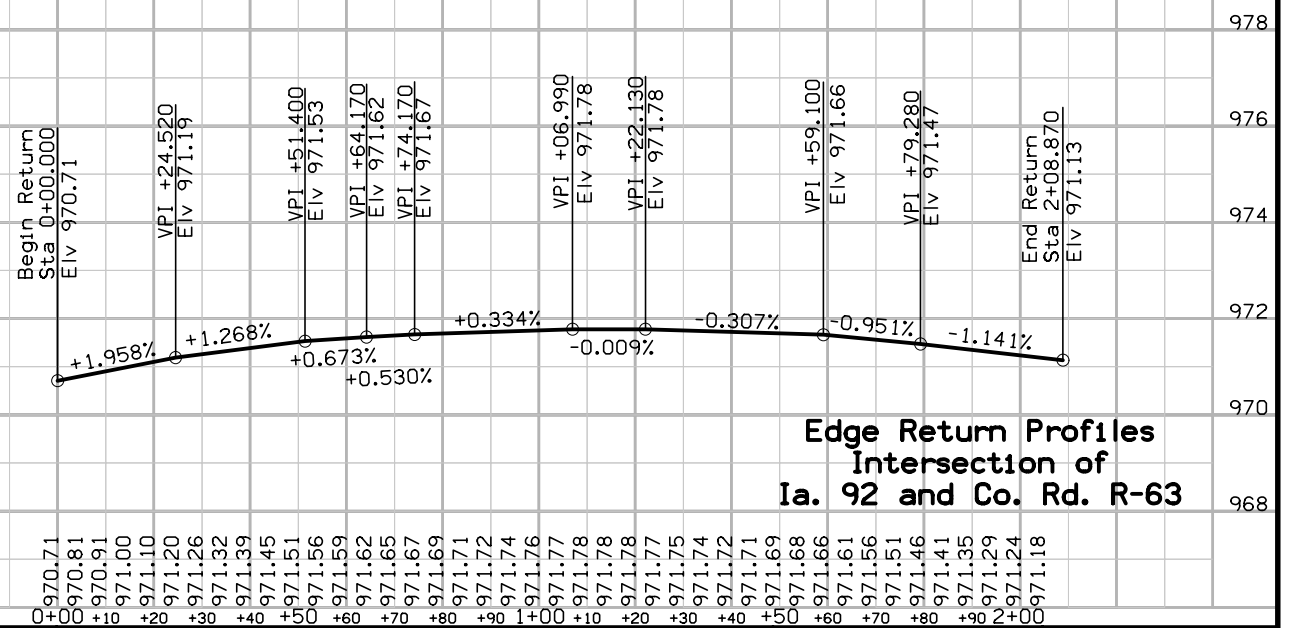
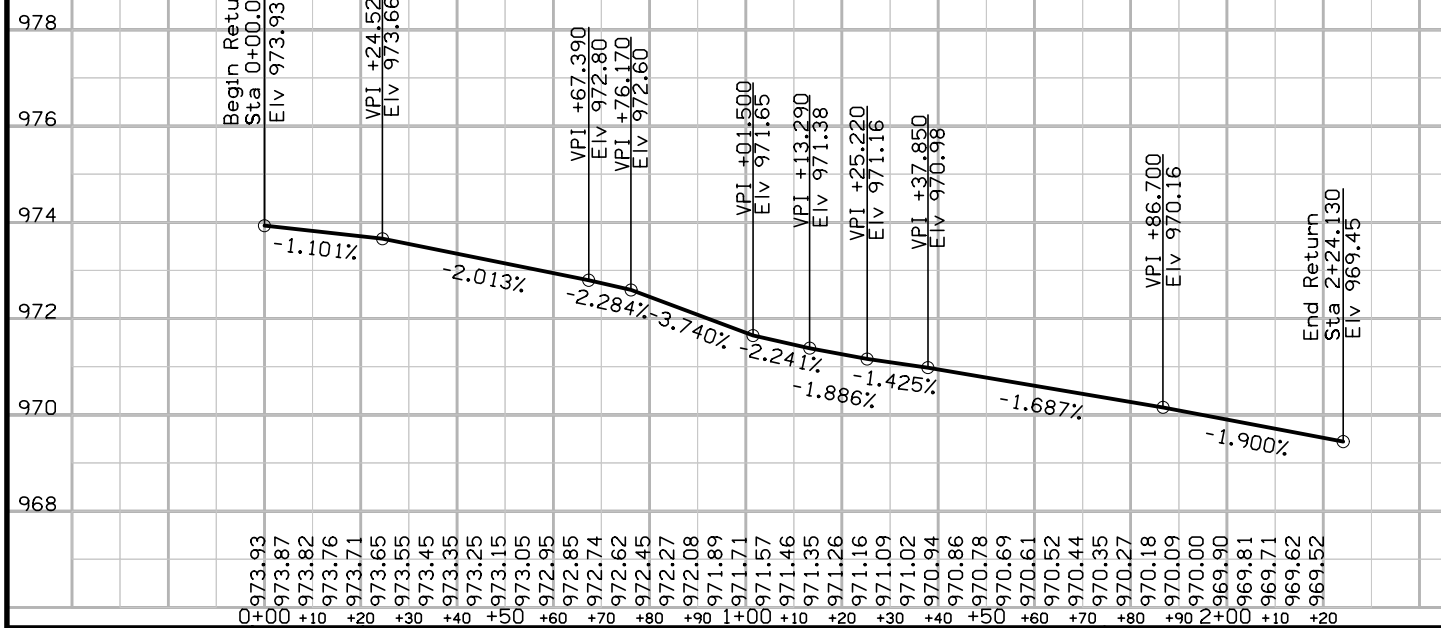
SR63N\_RET\_2

SR63N\_RET\_1



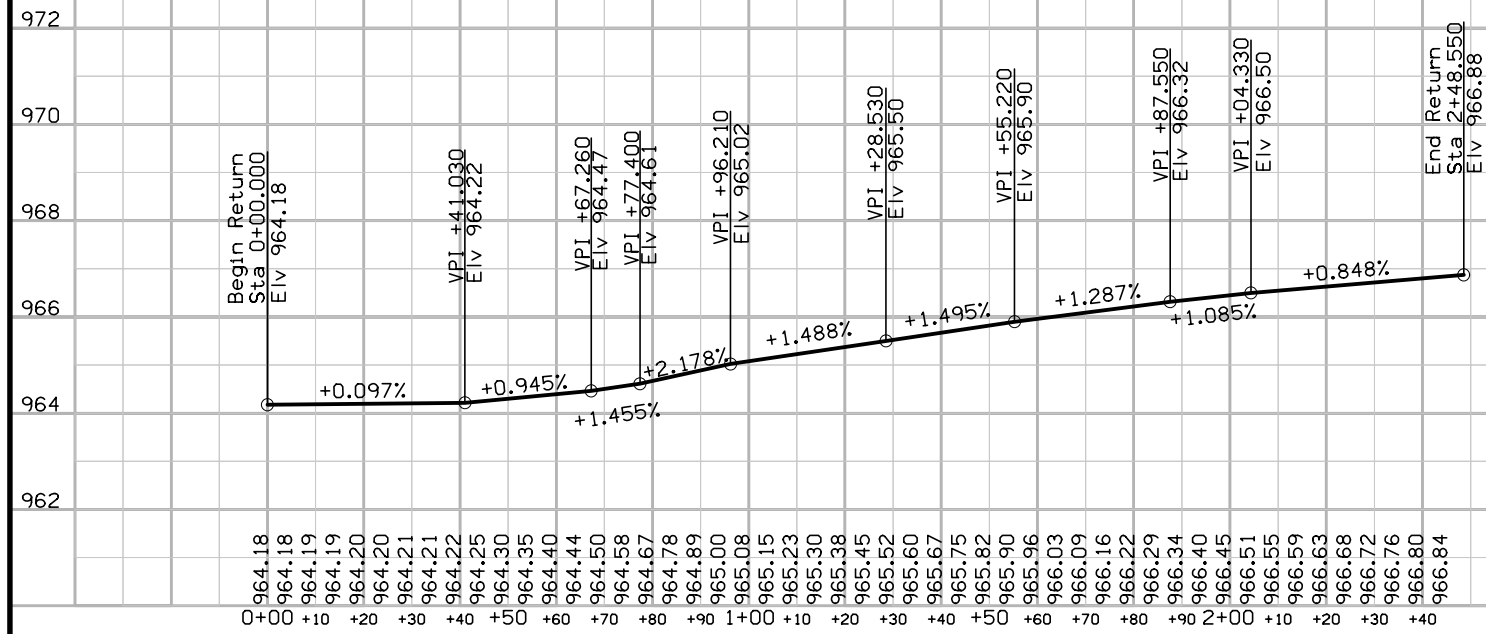
SR63S\_RET\_3

SR63S\_RET\_4

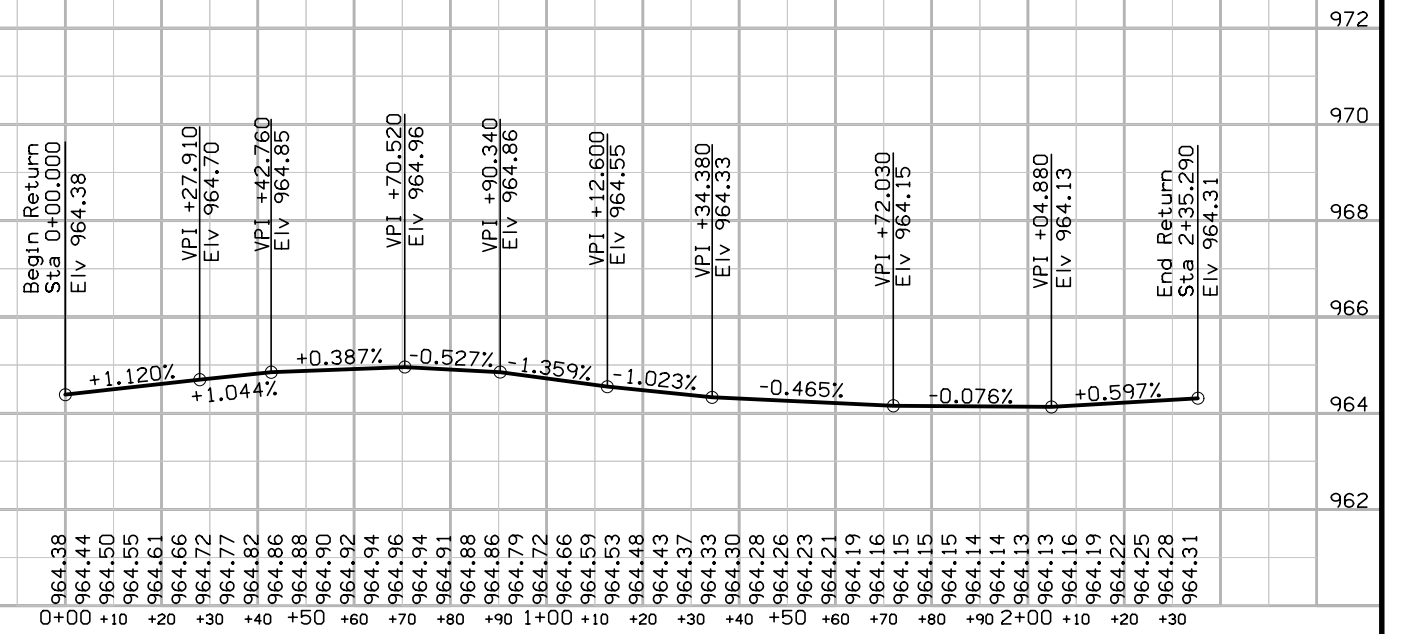


Edge Return Profiles  
Intersection of  
Ia. 92 and Co. Rd. R-63

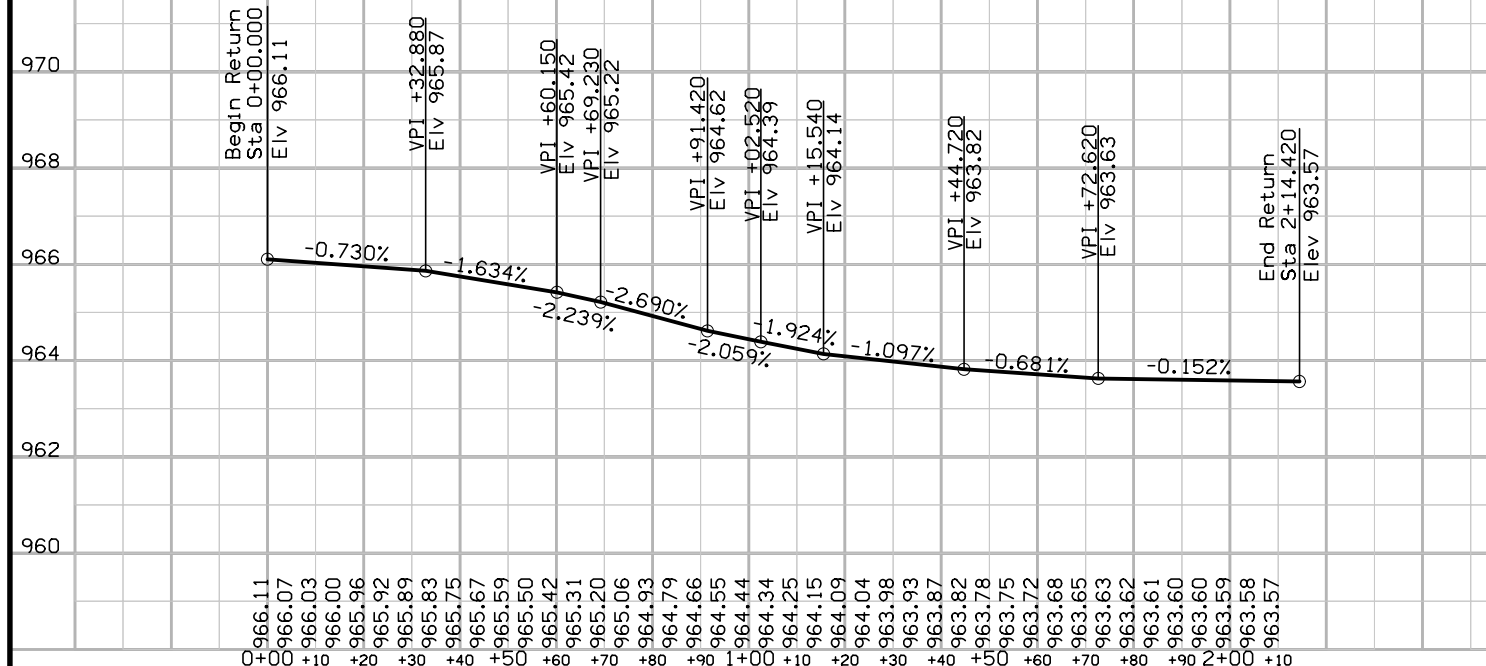
### SRYSTN\_RET\_2



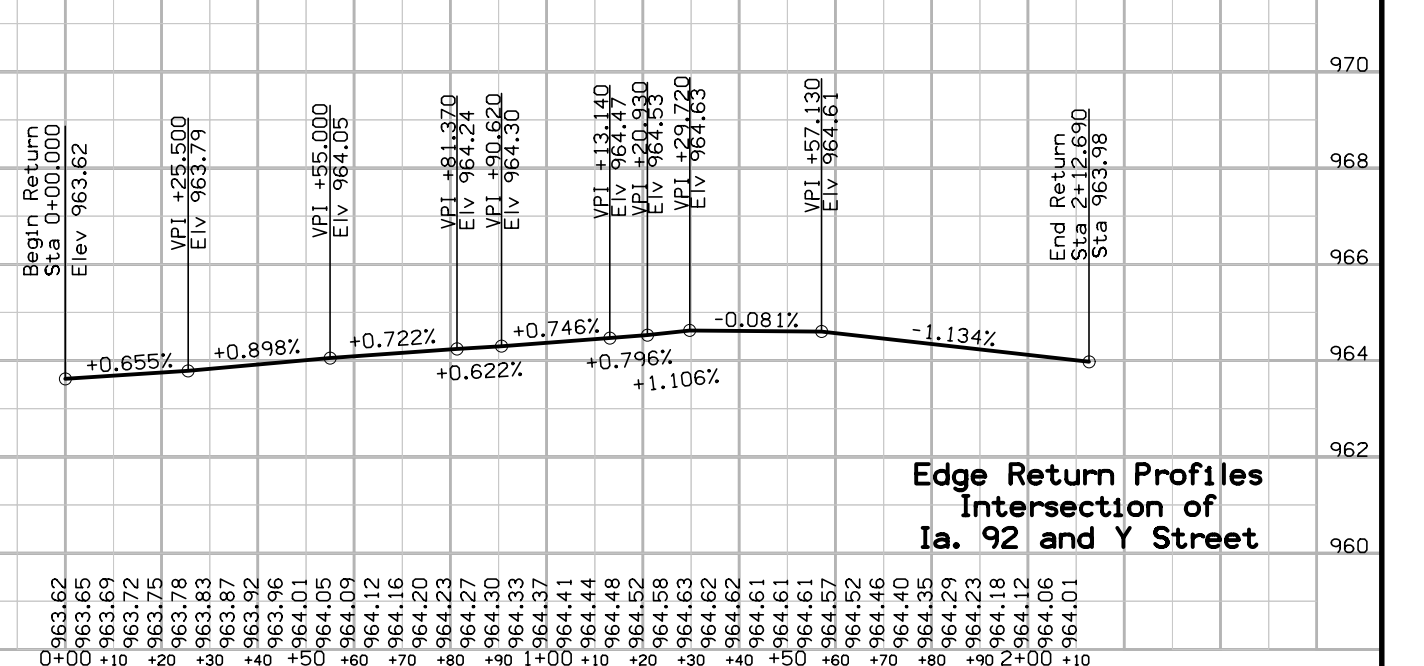
### SRYSTN\_RET\_1



### SRYSTS\_RET\_3



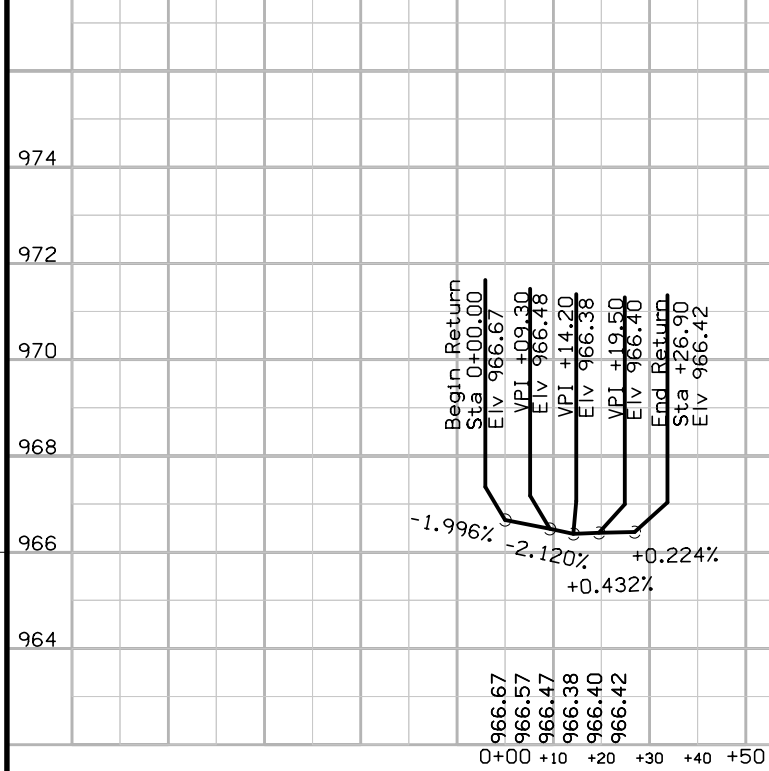
### SRYSTS\_RET\_4



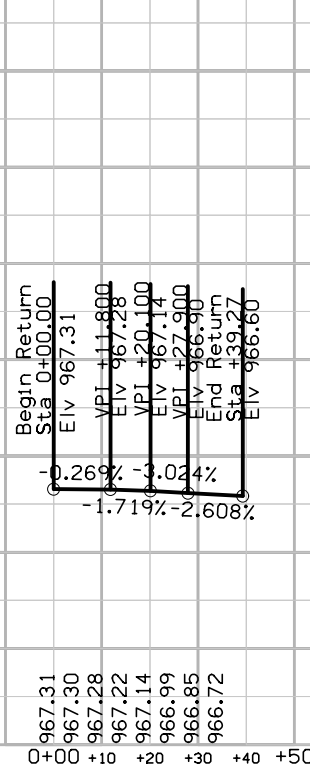
Edge Return Profiles  
Intersection of  
Ia. 92 and Y Street



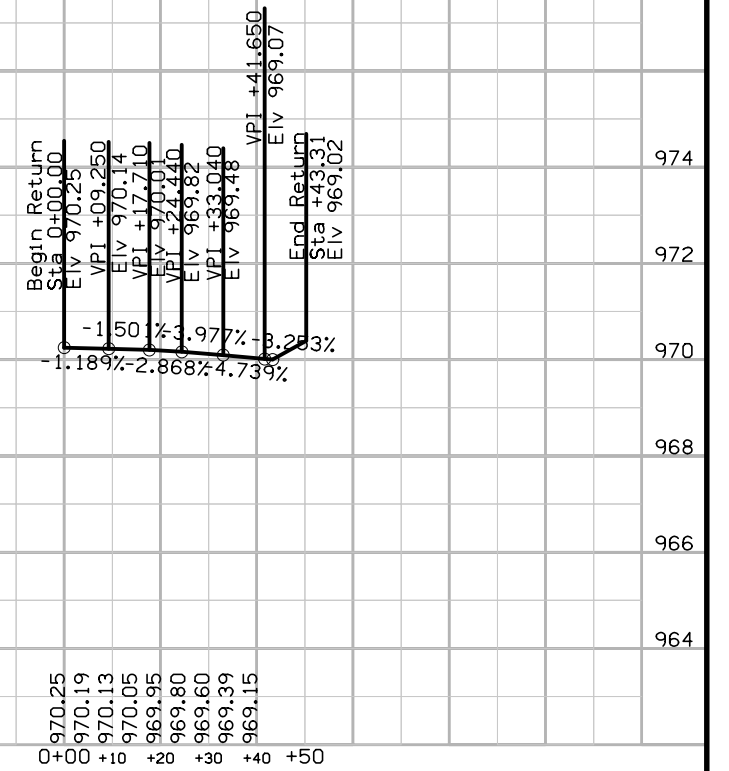
**SRSPRUCE\_RET\_1**



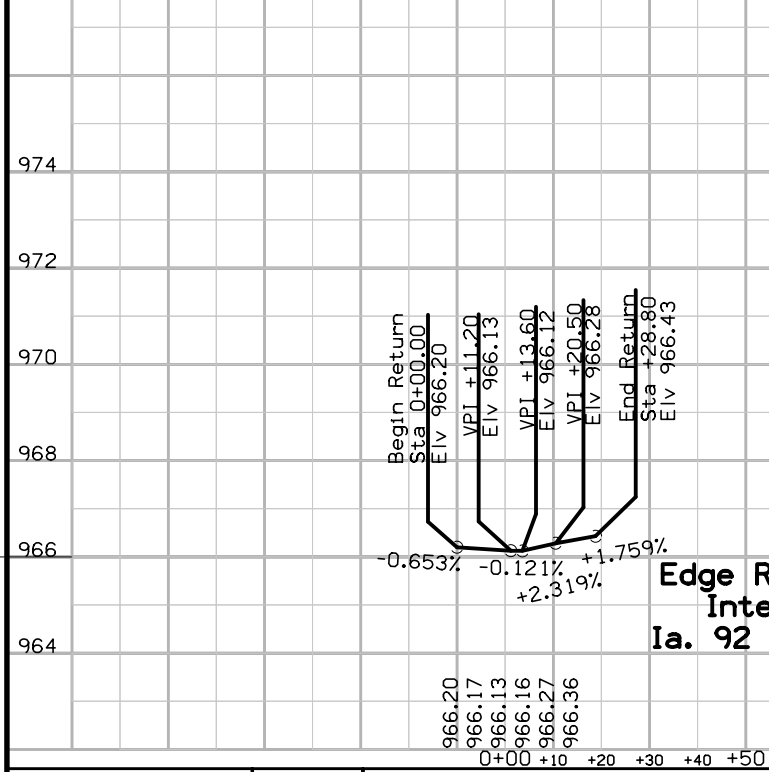
**SRRST\_RET\_3**



**SRKENWOOD\_RET\_1**

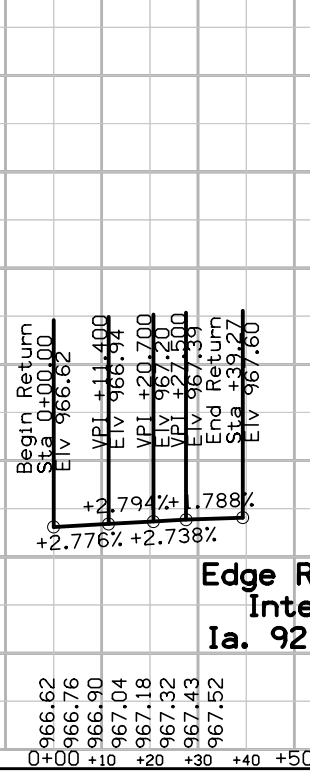


**SRSPRUCE\_RET 2**



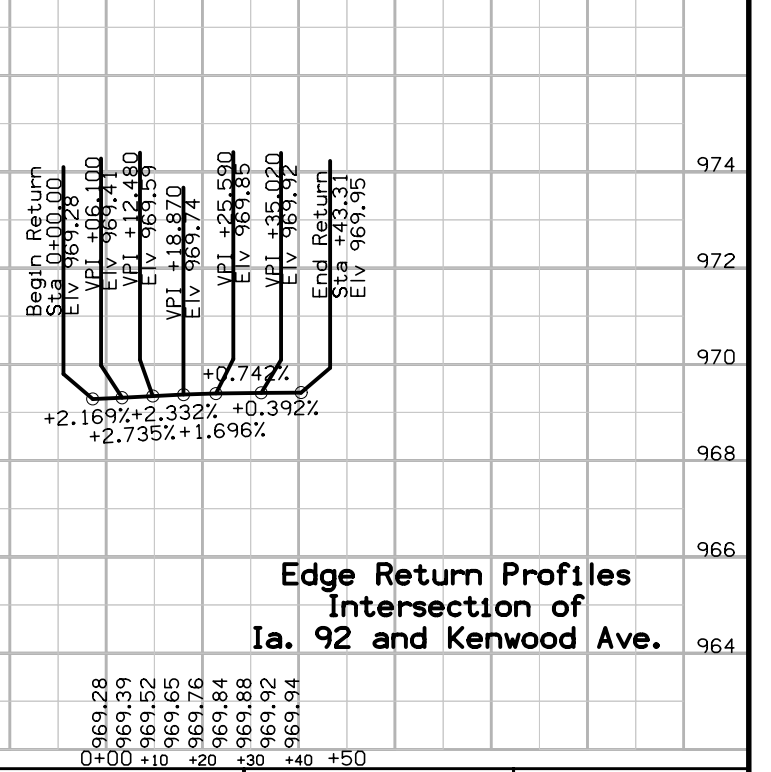
**Edge Return Profiles  
 Intersection of  
 Ia. 92 and Spruce St.**

**SRRST\_RET\_4**



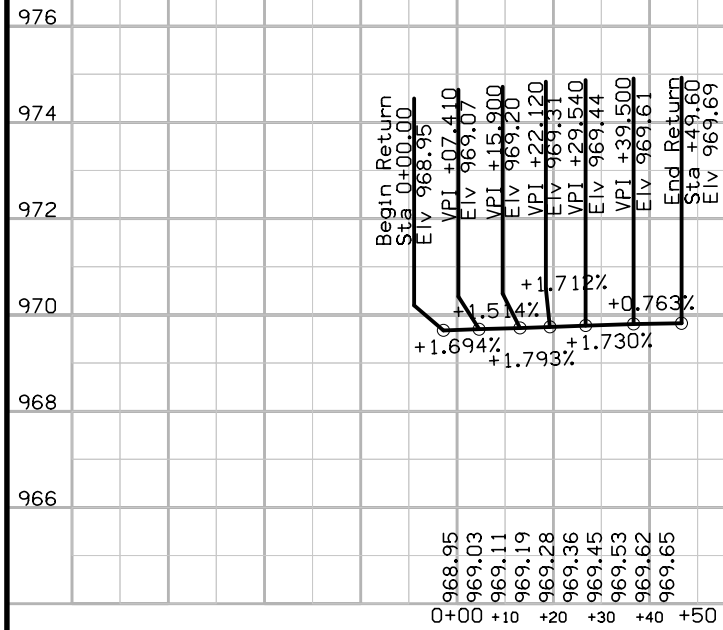
**Edge Return Profiles  
 Intersection of  
 Ia. 92 and R Street**

**SRKENWOOD\_RET\_2**

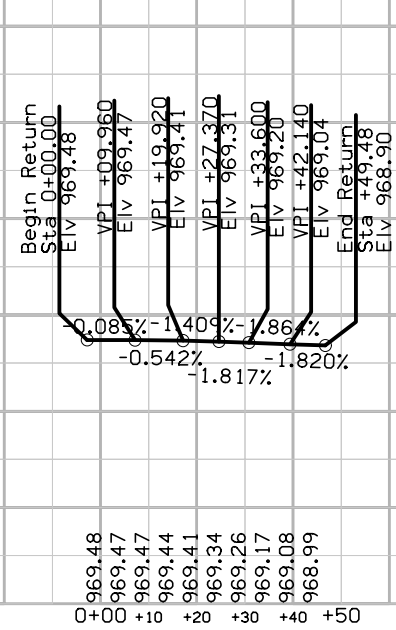


**Edge Return Profiles  
 Intersection of  
 Ia. 92 and Kenwood Ave.**

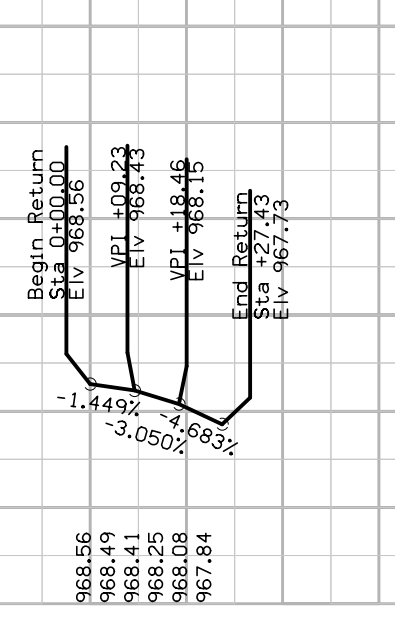
SRPST\_RET 2



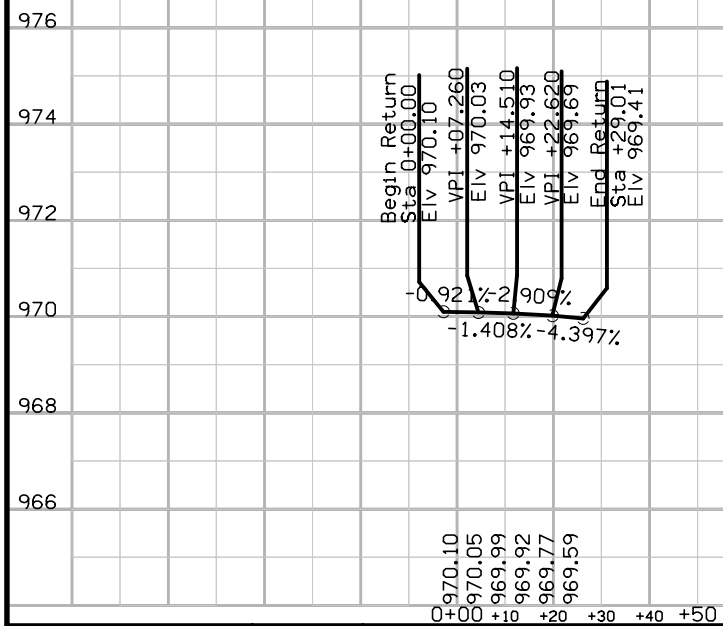
SRPST\_RET\_1



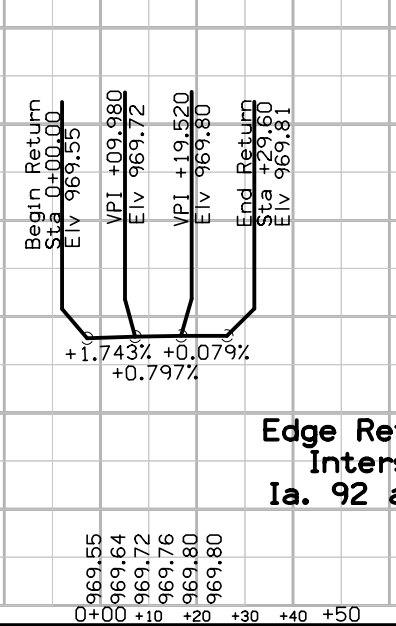
SRNST\_RET\_3



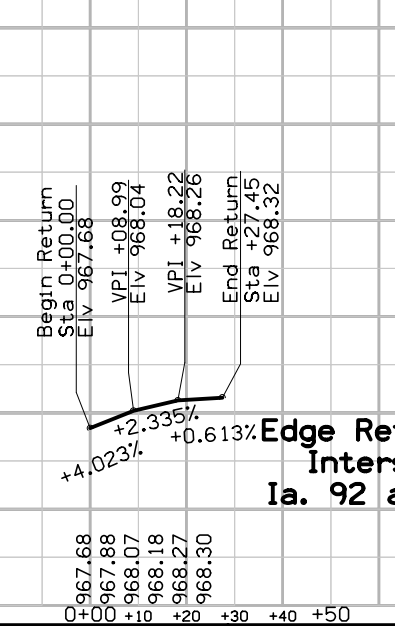
SRPST\_RET\_3



SRPST\_RET\_4



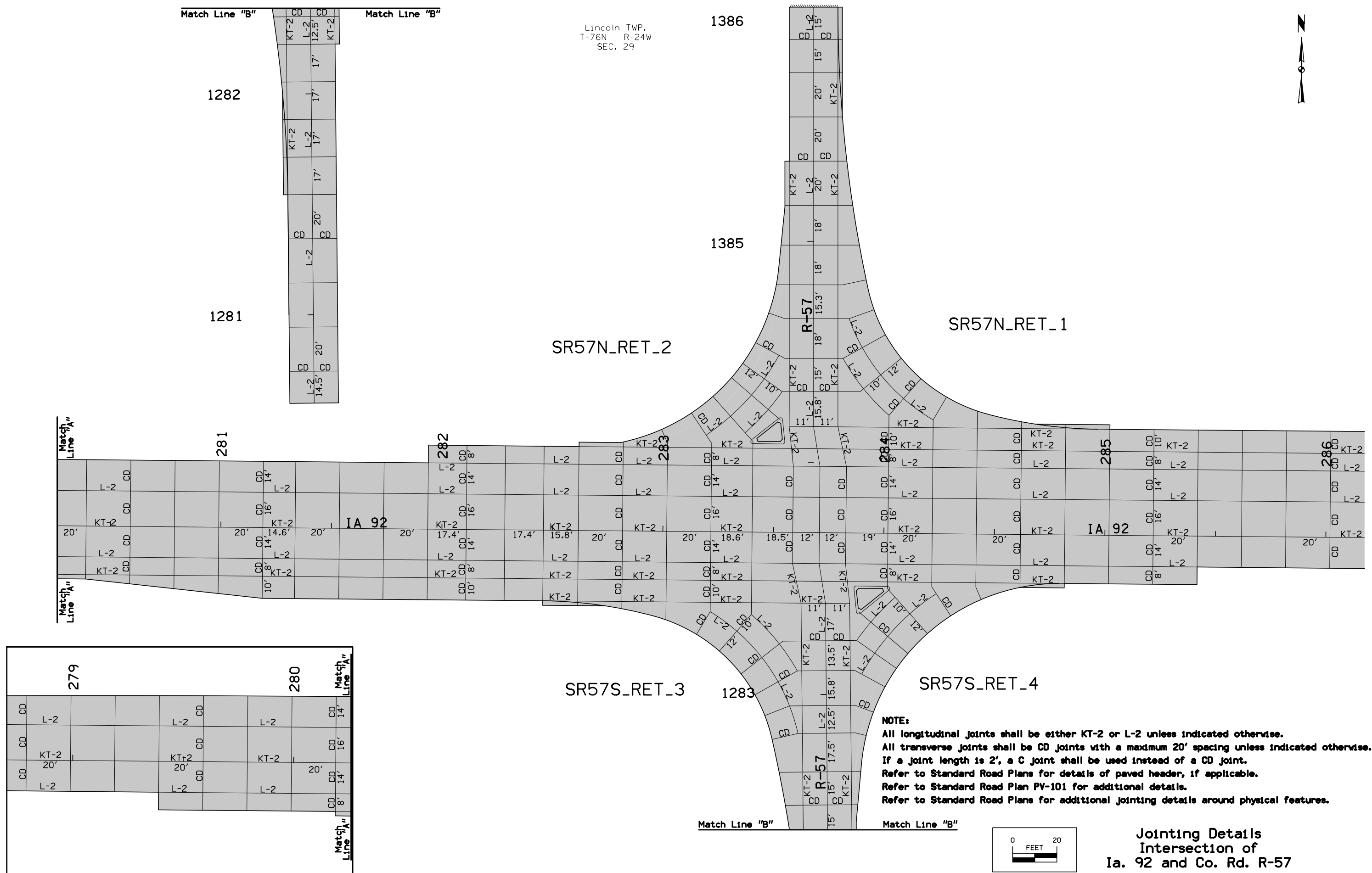
SRNST\_RET\_4



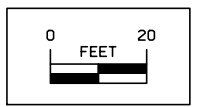
Edge Return Profiles  
 Intersection of  
 Ia. 92 and P Street

Edge Return Profiles  
 Intersection of  
 Ia. 92 and N Street

Lincoln TWP.  
T-76N R-24W  
SEC. 29

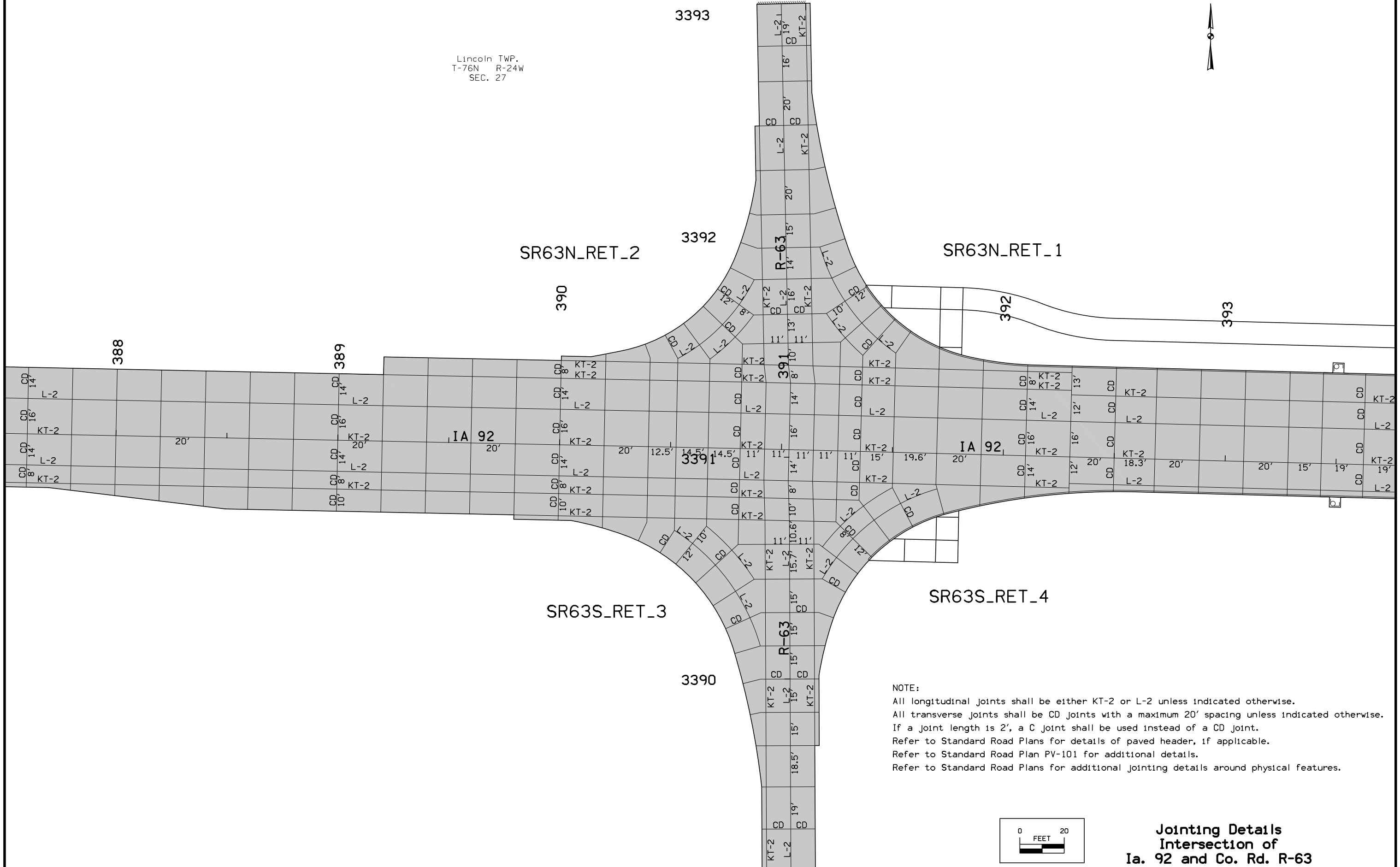


**NOTE:**  
 All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
 If a joint length is 2', a C joint shall be used instead of a CD joint.  
 Refer to Standard Road Plans for details of paved header, if applicable.  
 Refer to Standard Road Plan PV-101 for additional details.  
 Refer to Standard Road Plans for additional jointing details around physical features.

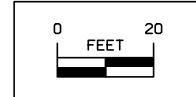


Jointing Details  
 Intersection of  
 Ia. 92 and Co. Rd. R-57

Lincoln TWP.  
T-76N R-24W  
SEC. 27



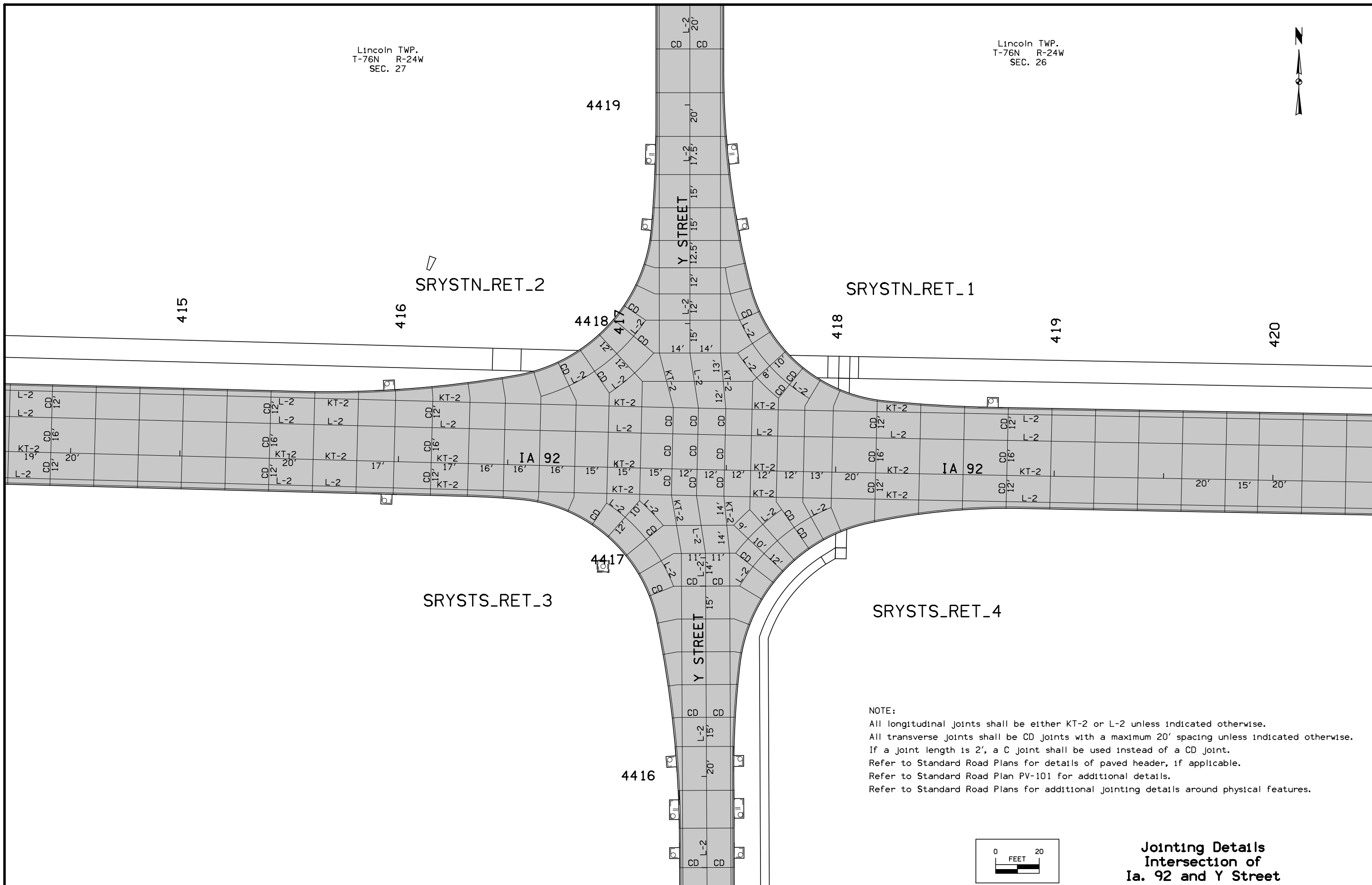
NOTE:  
 All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.  
 All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.  
 If a joint length is 2', a C joint shall be used instead of a CD joint.  
 Refer to Standard Road Plans for details of paved header, if applicable.  
 Refer to Standard Road Plan PV-101 for additional details.  
 Refer to Standard Road Plans for additional jointing details around physical features.



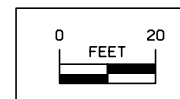
**Jointing Details**  
**Intersection of**  
**Ia. 92 and Co. Rd. R-63**

Lincoln TWP.  
T-76N R-24W  
SEC. 27

Lincoln TWP.  
T-76N R-24W  
SEC. 26



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.  
 If a joint length is 2', 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 Plan PV-101 for additional details.  
 Refer to Standard Road Plans for additional jointing details around physical features.



**Jointing Details  
 Intersection of  
 Ia. 92 and Y Street**



### 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 3 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	Bid* Length	Design Length	Slope %	Flow Lines			Pipe Profile Sheet No.	Notes
			Elev.	Elev.	FT			From	To		IN				FT	FT	Inlet Elev.		
						Connect to Ex. Pipe													
I-400	435+57.00, -31	SW-508	964.13	960.13			P-400	I-400	I-402	2000	18	49	43.00	0.60	961.13	960.87		M.26	
I-401	435+57.00, 15	SW-508	963.89	959.89			P-401	I-401	I-403	2000	18	43	37.00	0.95	960.98	960.63		M.26	
I-402	436+00.00, -31	SW-510	964.07	960.07			P-402	I-402	I-405	2000	18	45	39.00	1.62	960.57	959.94		M.26	
I-403	436+00.00, 15	SW-510	963.83	959.83			P-403	I-403	I-413	2000	18	45	39.00	0.95	960.33	959.96		M.26	
I-404	436+45.20, -75	RF-3 (30")	960.73			30" Apron Guard, RF-26	P-404	I-404	I-405	2000	30	37	33.92	4.57	960.45	958.90		M.26	Requires 5 RF-14 Joints; (4)
I-405	436+45.00, -31	SW-508	964.14	958.10			P-405	I-405	I-413	2000	30	52	46.00	2.00	958.60	957.68		M.26	
I-407	442+62.95, 11.72	SW-508	967.01	961.25			P-407	I-407	I-409	2000	24	162	155.11	0.50	961.75	960.98		M.27	(6)
I-408	441+19.00, -36.15	SW-510	966.12	961.32			P-408	I-408	I-410	2000	18	198	191.92	0.44	961.82	960.98		M.26	
I-409	441+02.00, 15	SW-508	966.15	960.18			P-409	I-409	I-411	2000	24	185	178.52	0.50	960.68	959.78		M.27	
I-410	439+20.00, -31	SW-508	965.73	960.18			P-410	I-410	I-411	2000	18	52	46.00	1.00	960.68	960.22		M.26	
I-411	439+20.00, 15	SW-508	965.24	958.98			P-411	I-411	I-412	2000	24	152	145.53	0.75	959.48	958.39		M.27	
I-412	437+72.04, 15	SW-508	964.50	957.59			P-412	I-412	I-413	2000	21	130	123.04	0.54	958.09	957.42		M.27	
I-413	436+45.00, 15	SW-508	963.90	956.17			P-413	I-413	I-414	2000	30	44	40.67	0.53	956.67	956.45		M.27	Requires 6 RF-14 Joints; (4)
I-501	444+30.00, 10.5	SW-508	967.67	962.37			P-501	I-501	I-407	2000	24	167	163.01	0.50	962.87	962.05		M.27	56' of Trenchless
I-501A	444+30.00, 27.6	RF-3 (24")	963.43			24" Apron Guard, RF-26	P-501A	I-501A	I-501	2000	24	13	7.00	2.00	963.31	963.17		M.27	
O-414	436+48.67, 65.67	RF-3 (30")	956.42																
I-415	437+72.00, -31	SW-508	964.74	960.74			P-415	I-415	O-416	2000	15	38	34.30	1.00	961.90	961.56		M.26	Requires 5 RF-14 Joints; (4)
O-416	437+72.00, -75.3	RF-3 (15")	961.50																
I-610	445+80.00, 10.5	SW-508	968.22	964.22			P-610	I-610	O-610	2000	15	9	6.00	2.25	964.72	964.59		M.28	Requires 2 RF-14 Joints; (4)
O-610	445+80.00, 26.5	RF-3 (15")	964.45																
I-615	447+20.00, 10.5	SW-508	968.69	964.69			P-615	I-615	O-615	2000	15	9	6.00	1.00	965.42	965.36		M.28	Requires 2 RF-14 Joints; (4)
O-615	447+20.00, 26.5	RF-3 (15")	965.30																
I-620	448+95.00, 10.5	SW-508	969.22	965.22			P-620	I-620	O-620	2000	15	8	4.50	1.00	966.71	966.66		M.28	Requires 1 RF-14 Joints; (4)
O-620	448+95.00, 25.0	RF-3 (15")	966.60																
I-625	450+30.00, 10.5	SW-508	969.62	965.62			P-625	I-625	O-625	2000	15	8	4.50	1.00	967.11	967.06		M.29	Requires 1 RF-14 Joints; (4)
O-625	450+30.00, 26.5	RF-3 (15")	967.00																
I-630	451+70.00, 10.5	SW-508	970.04	966.04			P-630	I-630	O-630	2000	15	8	4.50	1.00	967.53	967.48		M.29	Requires 1 RF-14 Joints; (4)
O-630	451+70.00, 25.0	RF-3 (15")	967.42																
I-635	453+77.00, 10.5	SW-508	970.14	966.14			P-635	I-635	O-635	2000	15	9	6.00	4.08	966.64	966.40		M.29	Requires 2 RF-14 Joints; (4)
O-635	453+77.00, 26.5	RF-3 (15")	966.15																
I-640	456+25.00, 10.5	SW-510	969.48	965.48			P-640	I-640	O-640	2000	15	9	6.00	1.33	965.98	965.90		M.29	Requires 2 RF-14 Joints; (4)
O-640	456+25.00, 26.5	RF-3 (15")	965.82																
I-645	458+40.00, 10.5	SW-508	969.35	965.35			P-645	I-645	O-645	2000	15	10	7.00	1.85	965.85	965.72		M.29	Requires 2 RF-14 Joints; (4)
O-645	458+40.00, 27.5	RF-3 (15")	965.61																
I-650	459+75.00, 10.5	SW-508	968.95	964.95			P-650	I-650	O-650	2000	15	10	7.00	1.77	965.45	965.33		M.29	Requires 2 RF-14 Joints; (4)
O-650	459+75.00, 27.5	RF-3 (15")	965.22																
I-655	461+00.00, 10.5	SW-508	968.57	964.57			P-655	I-655	O-655	2000	15	10	7.00	5.54	965.07	964.68		M.29	Requires 2 RF-14 Joints; (4)
O-655	461+00.00, 27.5	RF-3 (15")	964.35																
I-701	445+80.00, -26.5	SW-508	968.22	964.22			P-701	I-701	I-702	2000	15	132	126.00	0.30	965.72	965.29		M.28	
I-702	444+50.00, -26.5	SW-508	967.76	963.76			P-702	I-702	I-703	2000	15	129	123.00	0.30	965.19	964.80		M.28	
I-703	443+23.00, -26.5	SW-508	967.31	963.31			P-703	I-703	O-703	2000	15	18	14.50	0.30	964.70	964.66		M.28	Requires 3 RF-14 Joints; (4)
O-703	443+23.00, -51.0	RF-3 (15")	964.64																
I-713	450+30.00, -26.5	SW-508	969.62	965.62			P-713	I-713	I-714	2000	15	152	146.00	0.40	966.70	966.12		M.28	
I-714	448+80.00, -26.5	SW-508	969.17	965.17			P-714	I-714	I-715	2000	15	142	136.00	0.40	966.02	965.50		M.28	48' of Trenchless
I-715	447+40.00, -26.5	SW-508	968.75	964.75			P-715	I-715	O-715	2000	15	21	18.00	0.40	965.40	965.32		M.28	Requires 3 RF-14 Joints; (4)
O-715	447+40.00, -54.5	RF-3 (15")	965.30																

## STORM SEWER

① Diameter or equivalent diameter

\* Bid Item  
\*\* For SW-545

INTAKES AND UTILITY ACCESSES							PIPES														
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	Bid* Length	Design Length	Slope %	Flow Lines			Pipe Profile Sheet No.	Notes		
			Elev.	Elev.	FT			From	To		IN				FT	FT	Inlet Elev.			Outlet Elev.	Other Elev.
I-760	461+75.00, 10.5	SW-510	968.42	964.42			P-760	I-760	O-760	2000	15	11	8.00	6.62	964.92	964.39		M.29	Requires 2 RF-14 Joints; (4)		
O-760	461+75.00, 28.5	RF-3 (15")	964.00																		
I-753	453+77.00, -26.5	SW-508	970.14	966.14			P-753	I-753	I-754	2000	15	135	129.00	0.60	967.64	966.87		M.30			
I-754	455+10.00, -26.5	SW-508	969.74	965.74			P-754	I-754	I-755	2000	15	117	111.00	0.50	966.77	966.21		M.30	72' of Trenchless		
I-755	456+25.00, -26.5	SW-510	969.48	965.48			P-755	I-755	I-756	2000	15	217	211.00	0.30	966.11	965.48		M.30			
I-756	458+40.00, -26.5	SW-508	969.35	964.88			P-756	I-756	I-757	2000	15	137	131.00	0.30	965.38	964.99		M.30	40' of Trenchless		
I-757	459+75.00, -26.5	SW-508	968.95	964.39			P-757	I-757	I-758	2000	15	127	121.00	0.30	964.89	964.52		M.30			
I-758	461+00.00, -26.5	SW-508	968.57	963.77			P-758	I-758	I-759	2000	18	77	71.00	0.30	964.27	964.06		M.30			
I-759	461+75.00, -26.5	SW-510	968.42	963.46			P-759	I-759	I-769	2000	18	217	211.00	0.30	963.96	963.33		M.30			
I-769	463+90.00, -26.5	SW-508	967.97	962.73			P-769	I-769	I-770	2000	18	43	37.00	1.00	963.23	962.86		M.29	37' of Trenchless		
I-770	463+90.00, 10.5	SW-508	967.97	962.16			P-770	I-770	E-770	2000	18	20	14.00	1.80	962.66	962.40		M.29			
E-770	463+89.00, 30.5	SW-211				Connect to Ex. Intake															
I-768	464+95.00, -26.5	SW-508	966.75	962.75			P-768	I-768	I-769	2000	15	107	101.00	0.60	964.18	963.57		M.29			
I-775	464+95.00, 10.5	SW-508	966.75	962.75			P-775	I-775	I-770	2000	15	107	101.00	0.60	963.71	963.10		M.29			
Notes:																					
(1) For temporary drainage of Detour. Remove when Detour is removed.																					
(2) Construct after removal of I-219A																					
(3) Connect with Subdrain No. 5B; Refer to Tab 104-5T in C-sheets																					
(4) Number of connected joints based on bid length of 8' pipe segments																					
(5) Connect to P-219																					
(6) At proposed entrance location, use backfill material complying with Article 2552.02, C of the Standard Specifications. Place and compact backfill according to Article 2552.03, E, 3, of the Standard Specifications.																					
Totals:																					
							Trenched Totals:														
							Size Qty														
							15 1520														
							18 4465														
							21 994														
							24 1245														
							30 274														
							36 19														
							Trenchless Totals:														
							Size Qty														
							15 160														
							18 81														
							24 56														



### SURVEY SYMBOLS

- TDC Tree Deciduous
- PPA Power Pole Co. 1
- FWD Wood Fence
- LUM Luminaire
- TEV Evergreen Tree
- LP L.P. Tank
- D Centerline Draw or Stream (Down)
- RET Retaining Walls
- SI Sign
- SHR Shrub
- SI Sign
- EW Edge of Water
- DIK Centerline of Dike or Dam
- FLG Flag Poles
- WM Wind Mill
- FCL Chain Link and Security Fence
- HDG Hedge Row
- TV Satellite TV Dish
- RT Radio Tower
- INB Storm Sewer Beehive Intake
- WV Water Valve
- FHD Fire Hydrants
- WEL Well
- MH Utility Access (Manhole)
- LUM Luminaire
- MIS Miscellaneous
- TPD Telephone Pedestal
- EB Electrical Box
- UB Utility Box
- PR Electric Riser Pole
- FW Wire Fence
- GP Guard Post (Less Than 4 Posts)
- IN Storm Sewer Intake
- TLN Treeline
- TVP TV Pedestal
- SEP Septic Tank
- OUT Tile Outlet
- TIL Tile Line
- UST Underground Tank
- GV Gas Valve
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- BL Topo Breakline
- RIP Rip-Rap

- St.S. STA Storm Sewer Line Co. 1
- F03 FOC Underground Fiber Optic Co. 3
- F05 F0E Underground Fiber Optic Co. 5
- F02 FOB Underground Fiber Optic Co. 2
- San. SAA Sanitary Sewer Line Co. 1
- T1 TLA Underground Telephone Line Co. 1
- E1 ELA Underground Electric Line Co. 1
- G GLA Underground Gas Line Co. 1
- W WLA Underground Water Line Co. 1
- F0 FOA Underground Fiber Optic Co. 1
- E2 ELB Underground Electric Line Co. 2
- San.2 SAB Sanitary Sewer Line Co. 2
- GLB Underground Gas Line Co. 2
- F04 FOD Underground Fiber Optic Co. 4
- WLB Underground Water Line Co. 2

### UTILITY LEGEND

- F0 FOA Paetac Iowa Communications Network
- F02 FOB Lightcore (Digital Teleport)
- F03 FOC Iowa Network Service
- F04 FOD Indianola Municipal Utilities
- F05 F0E MCI
- T1 TLA Qwest
- E1 ELA Mid-American
- E2 ELB Indianola Municipal Utilities
- W WLA Indianola Municipal Utilities
- San. SAA City of Indianola
- San.2 SAB Private
- G GLA Mid-American
- GLB Kinder Morgan
- St.S. STA City of Indianola
- PPA Mid-American

### PLAN VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	Description
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.	Description	
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 Grade and Pave Shading
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Green, Light	(225)	Existing Pavement Shading

### PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	Description
Gray, Dark	(112)	Existing Ground Line Profile and Existing Utilities Information
Black	(17)	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

- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail

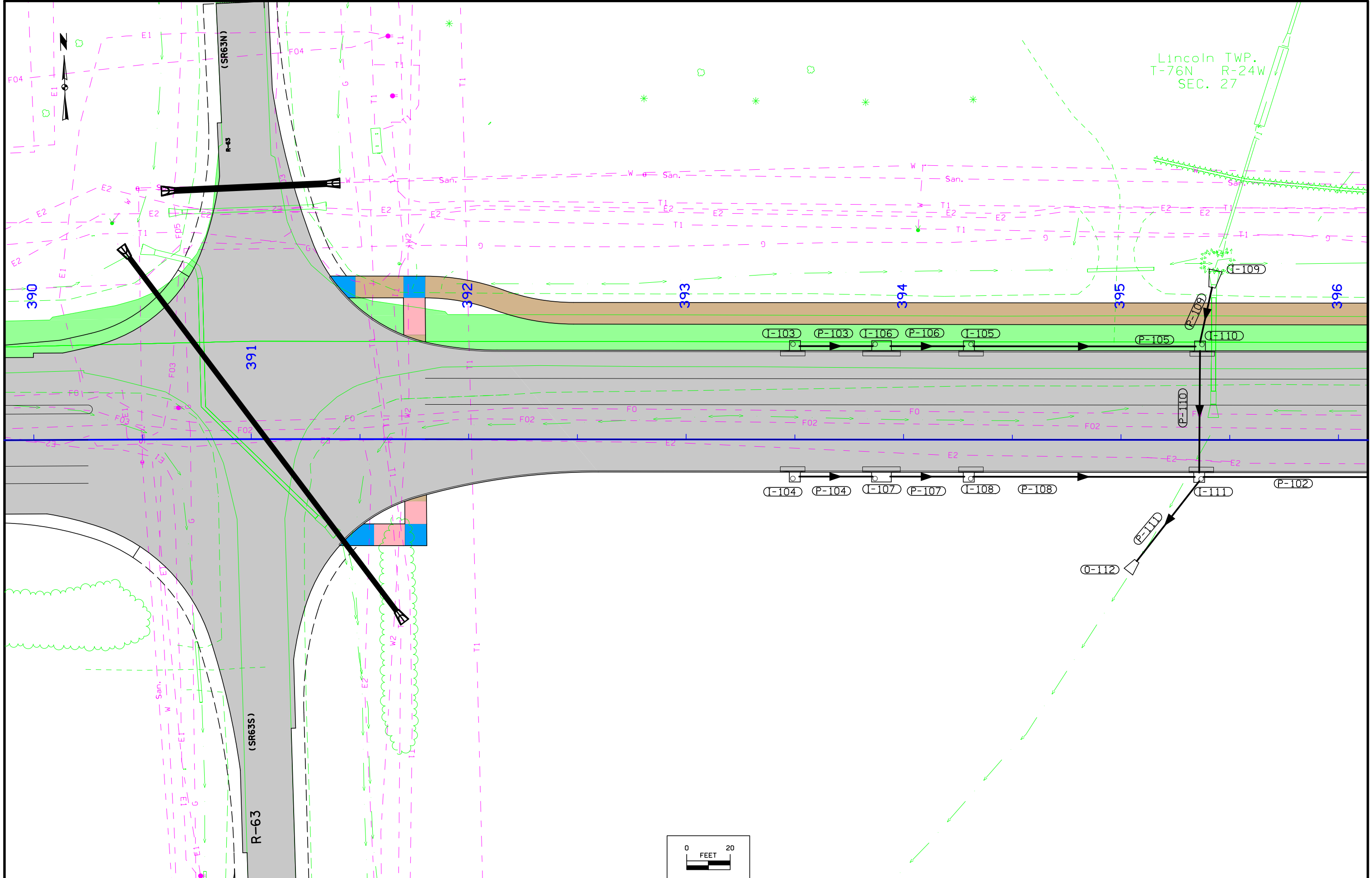
### RIGHT-OF-WAY LEGEND

- Proposed Right-of-Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Borrow
- Easement (Temporary)
- Easement
- Excess
- Access Control

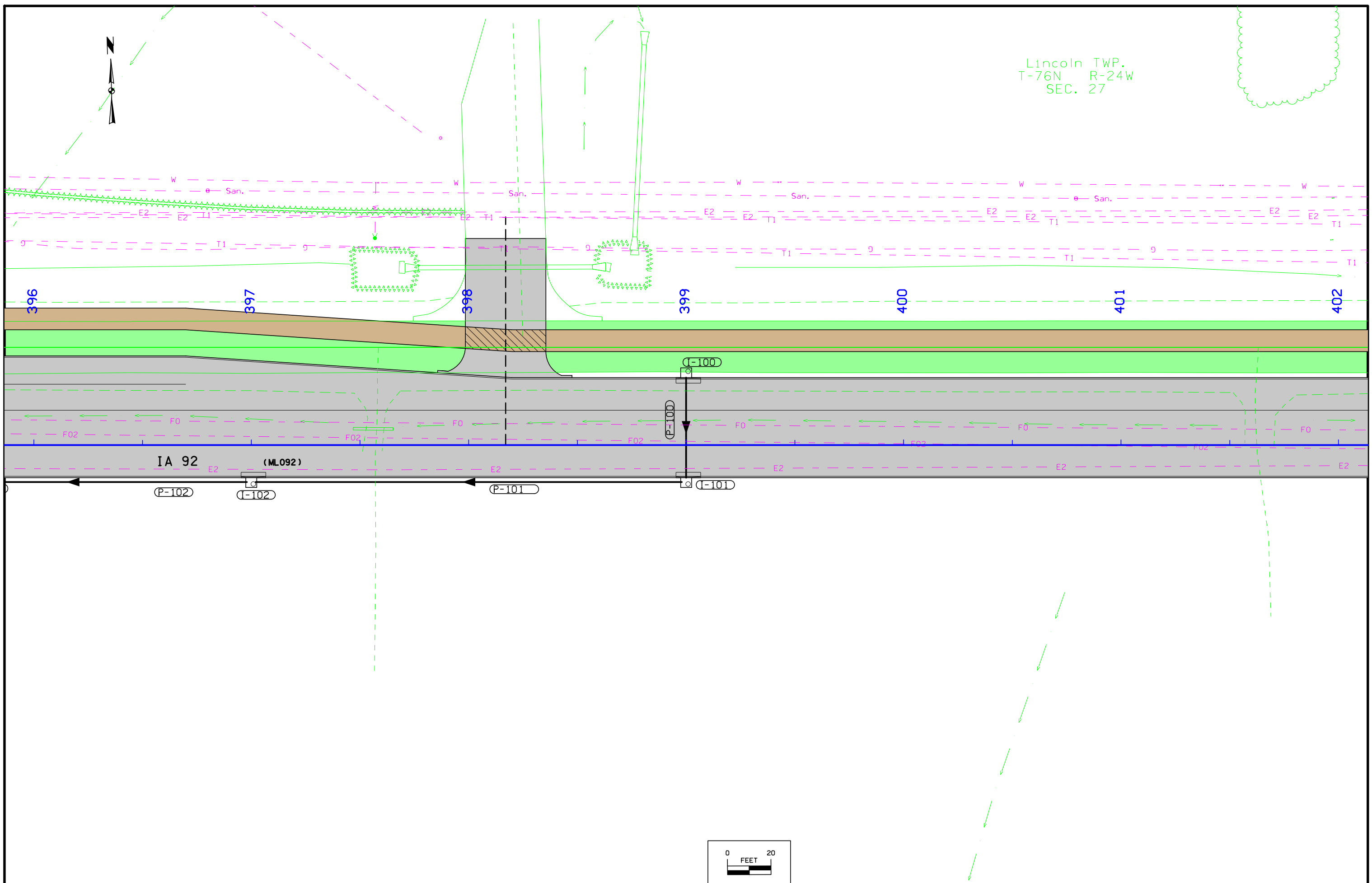
## STORM SEWER LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES M)

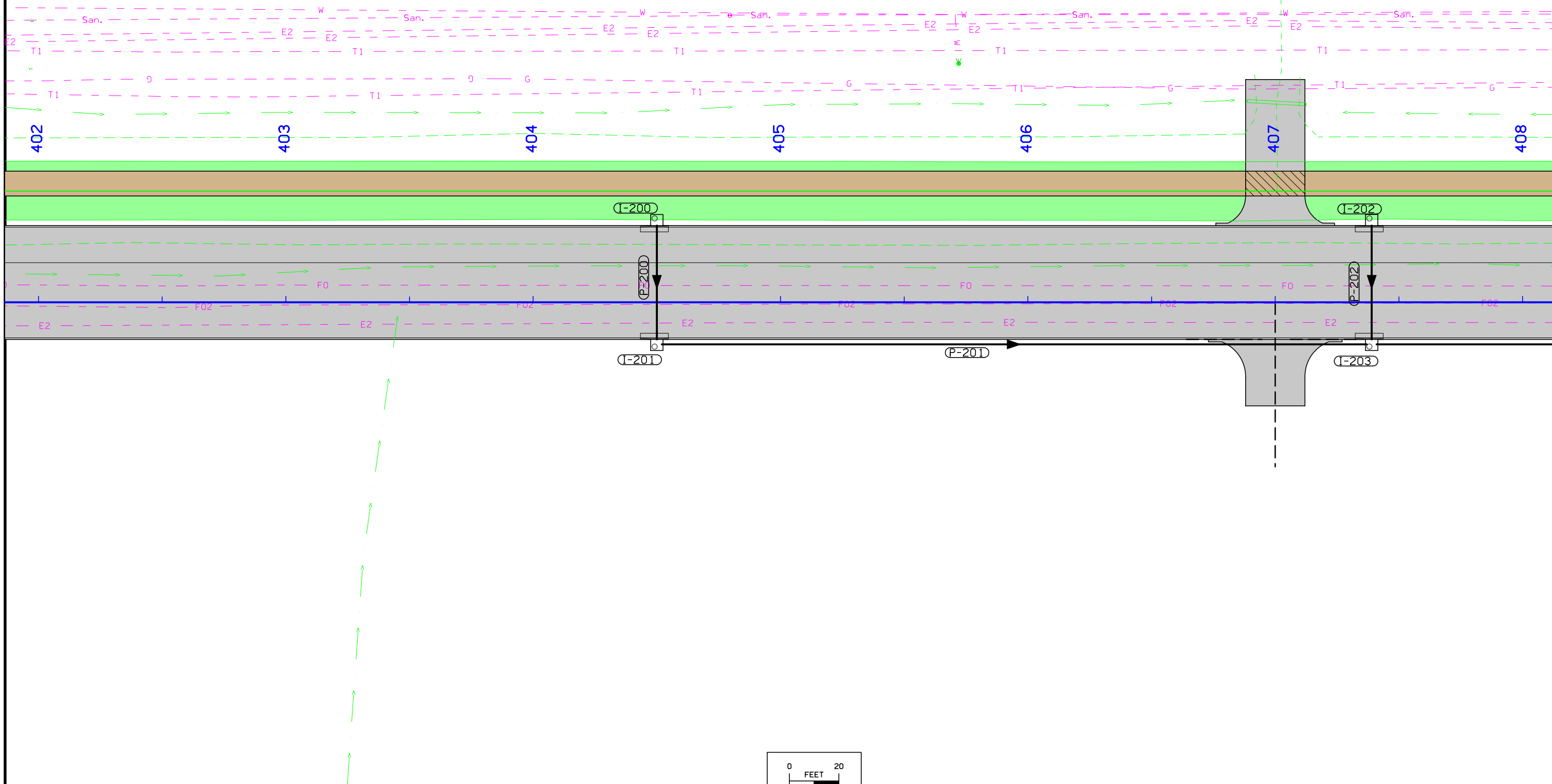
Lincoln TWP.  
T-76N R-24W  
SEC. 27



Lincoln TWP.  
T-76N R-24W  
SEC. 27

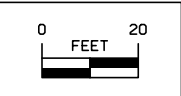
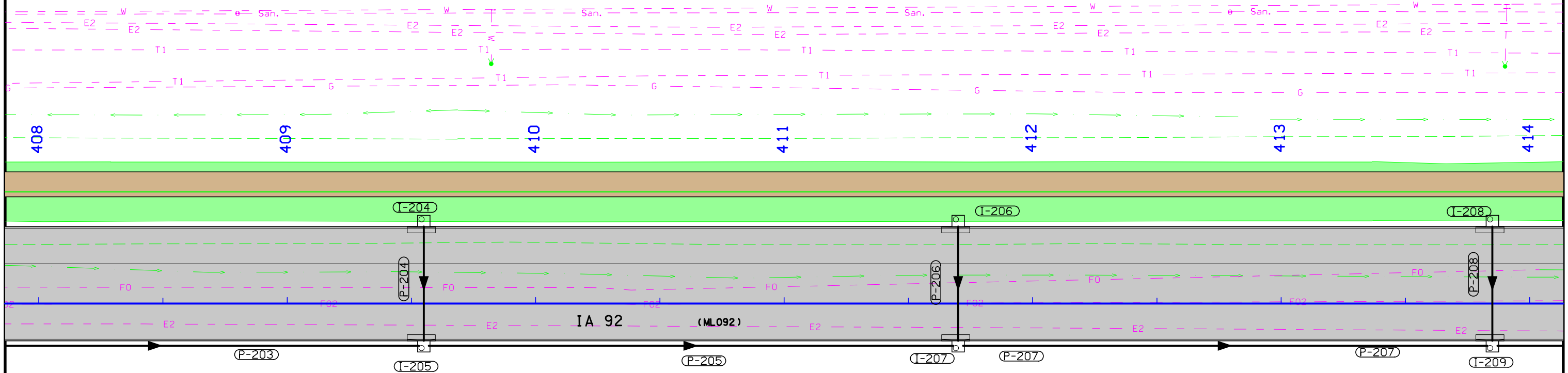


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SEC. 27

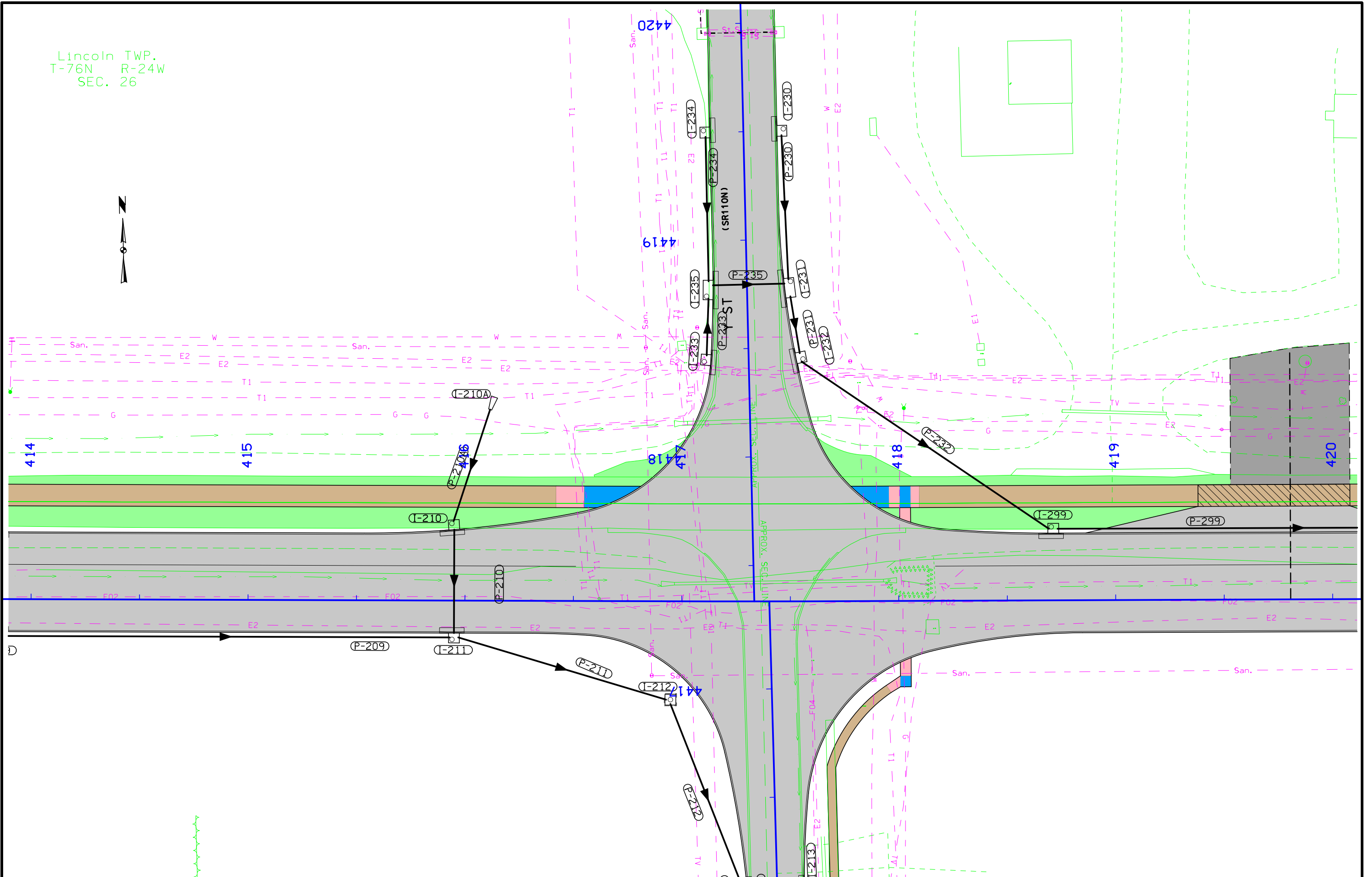


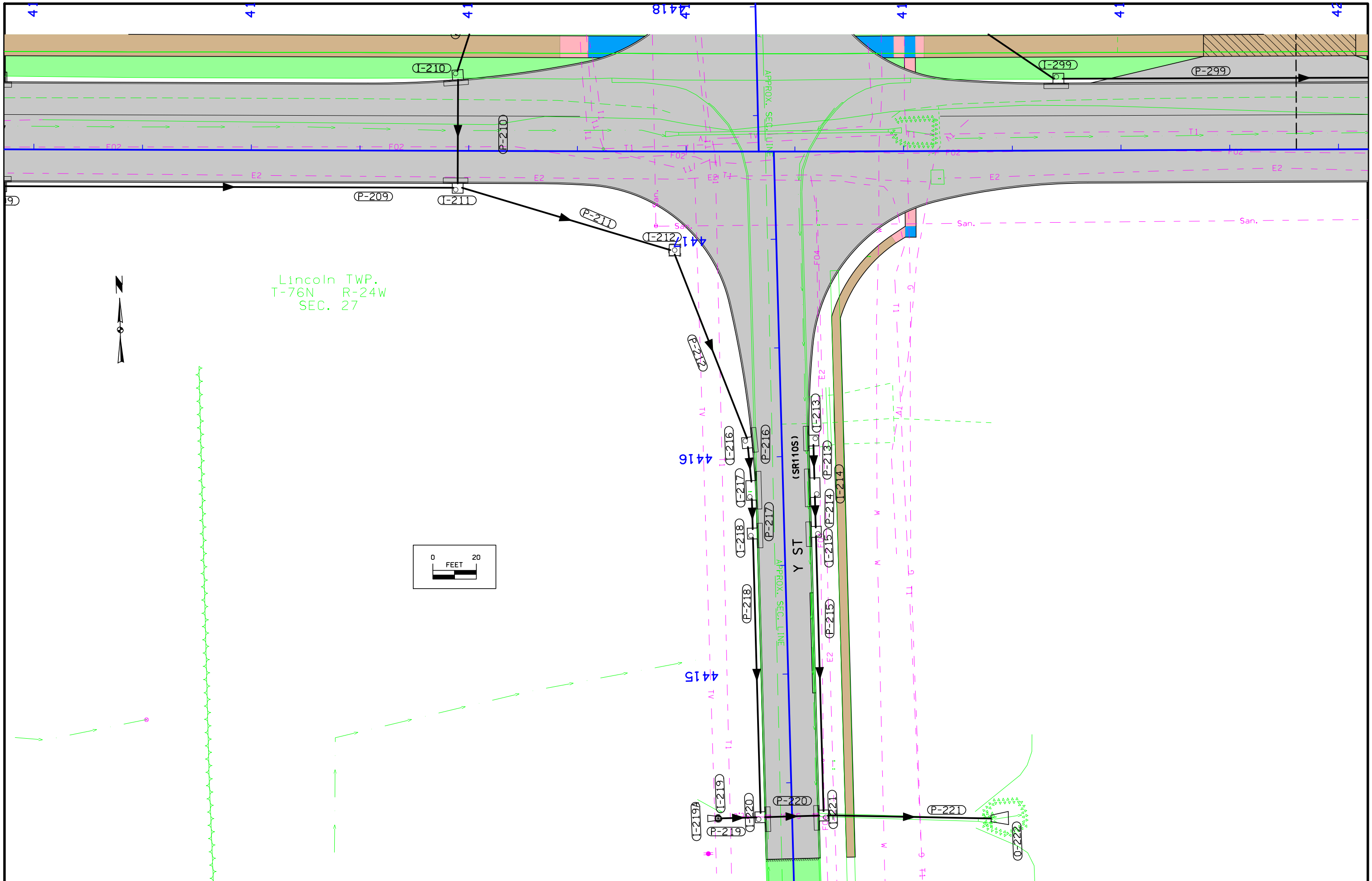


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SEC. 27

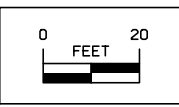


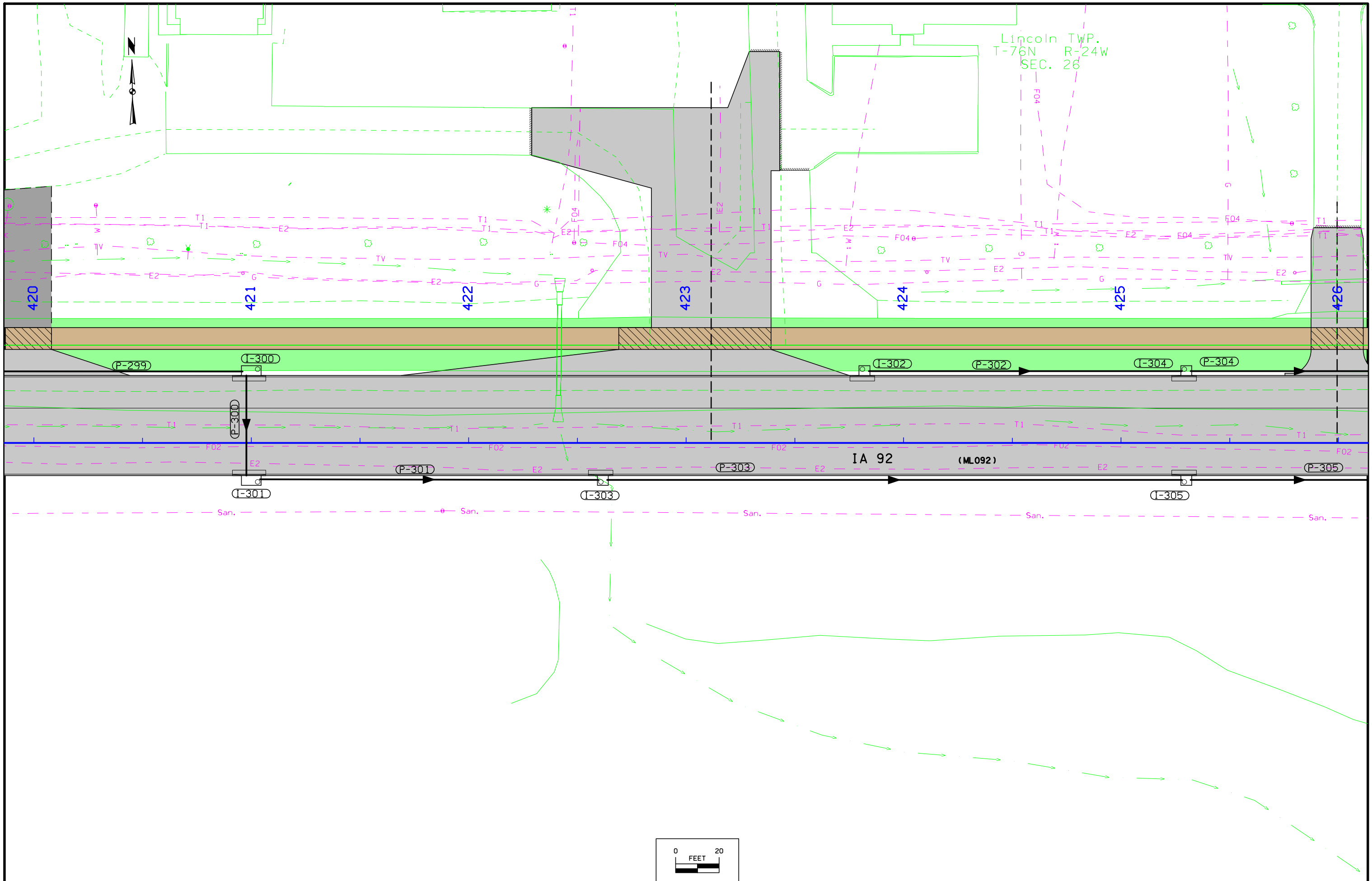
Lincoln TWP.  
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SEC. 26





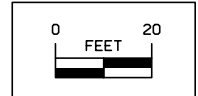
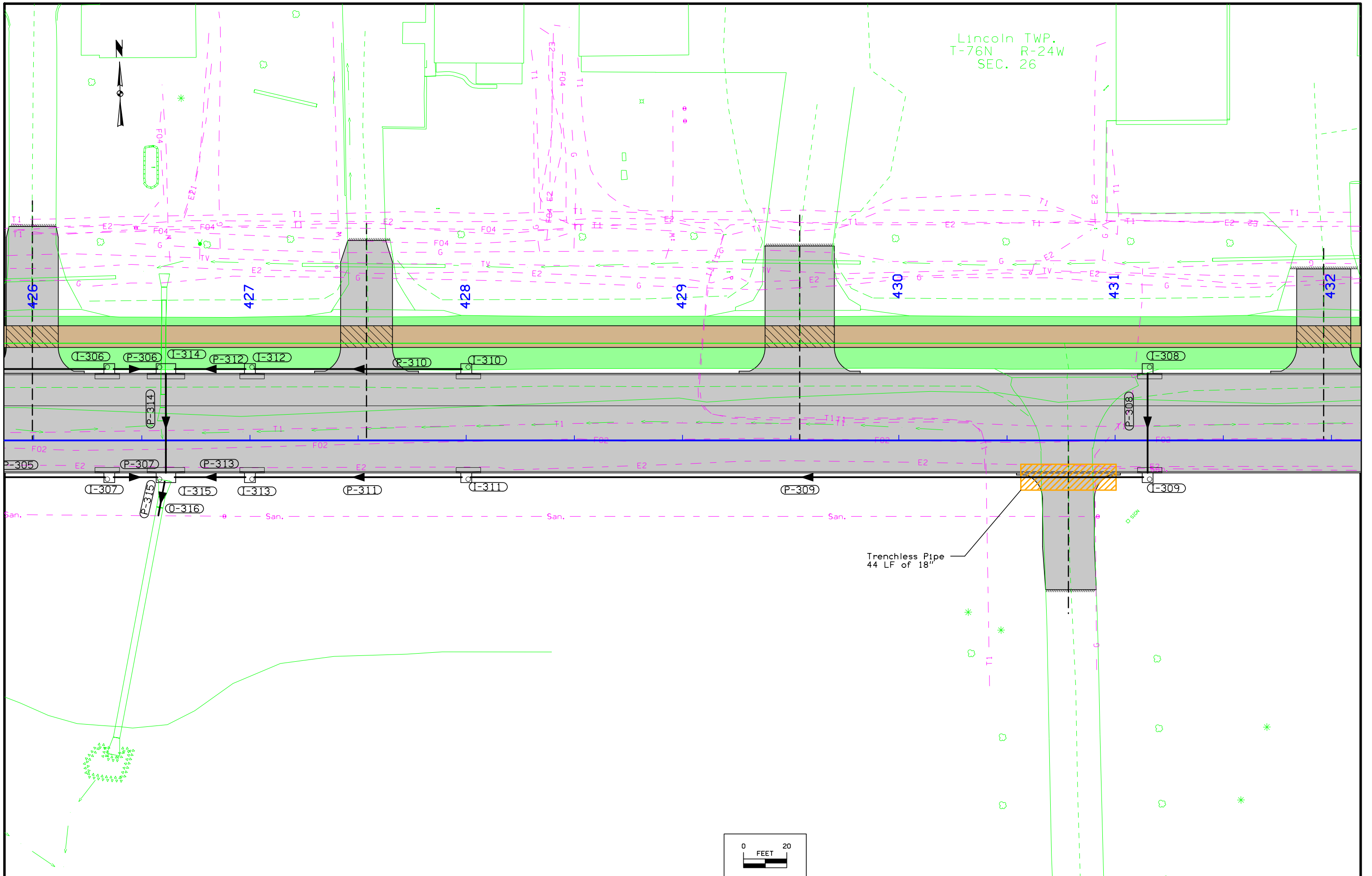
Lincoln TWP.  
T-76N R-24W  
SEC. 27



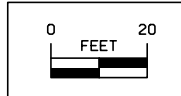
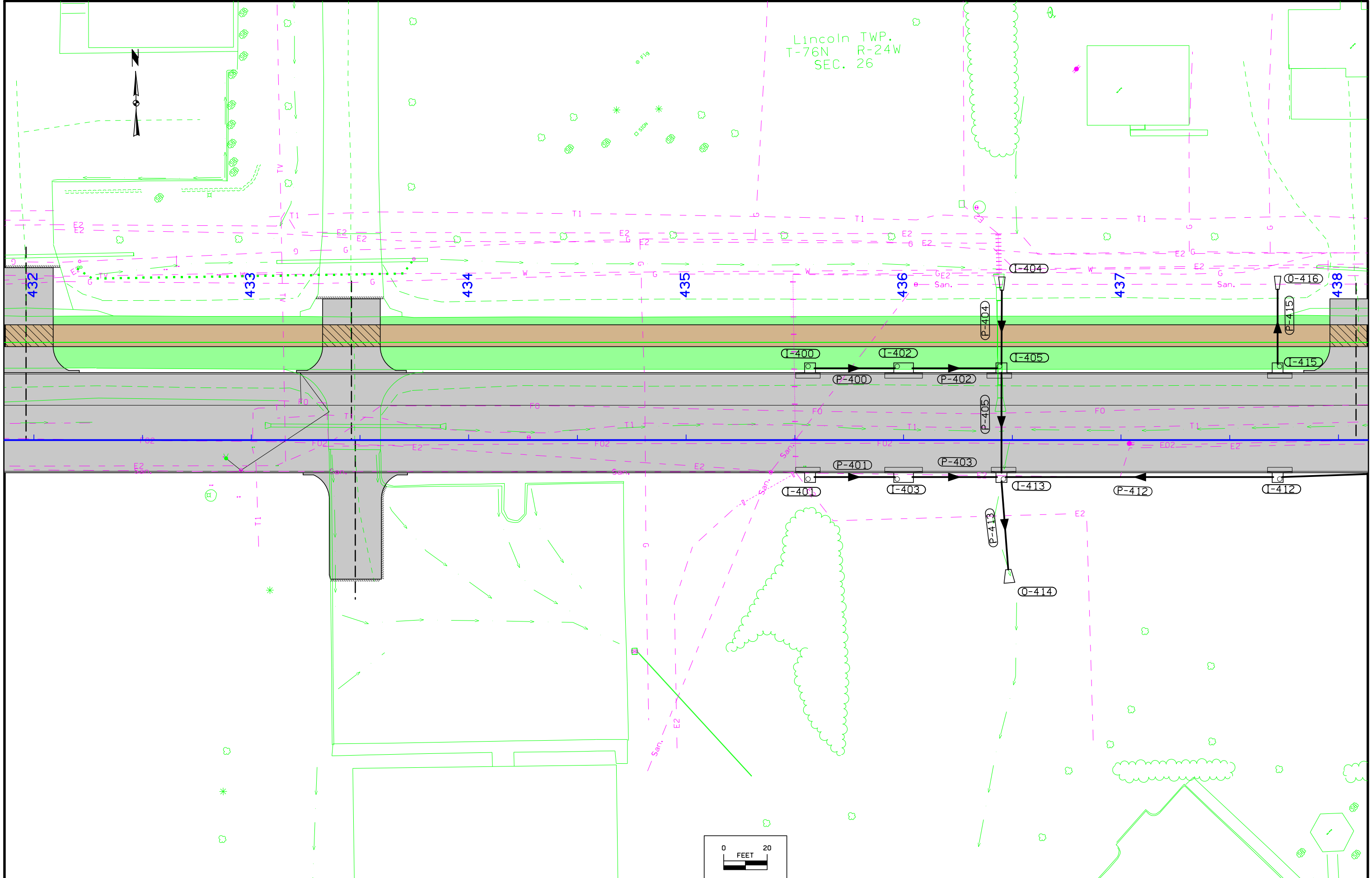


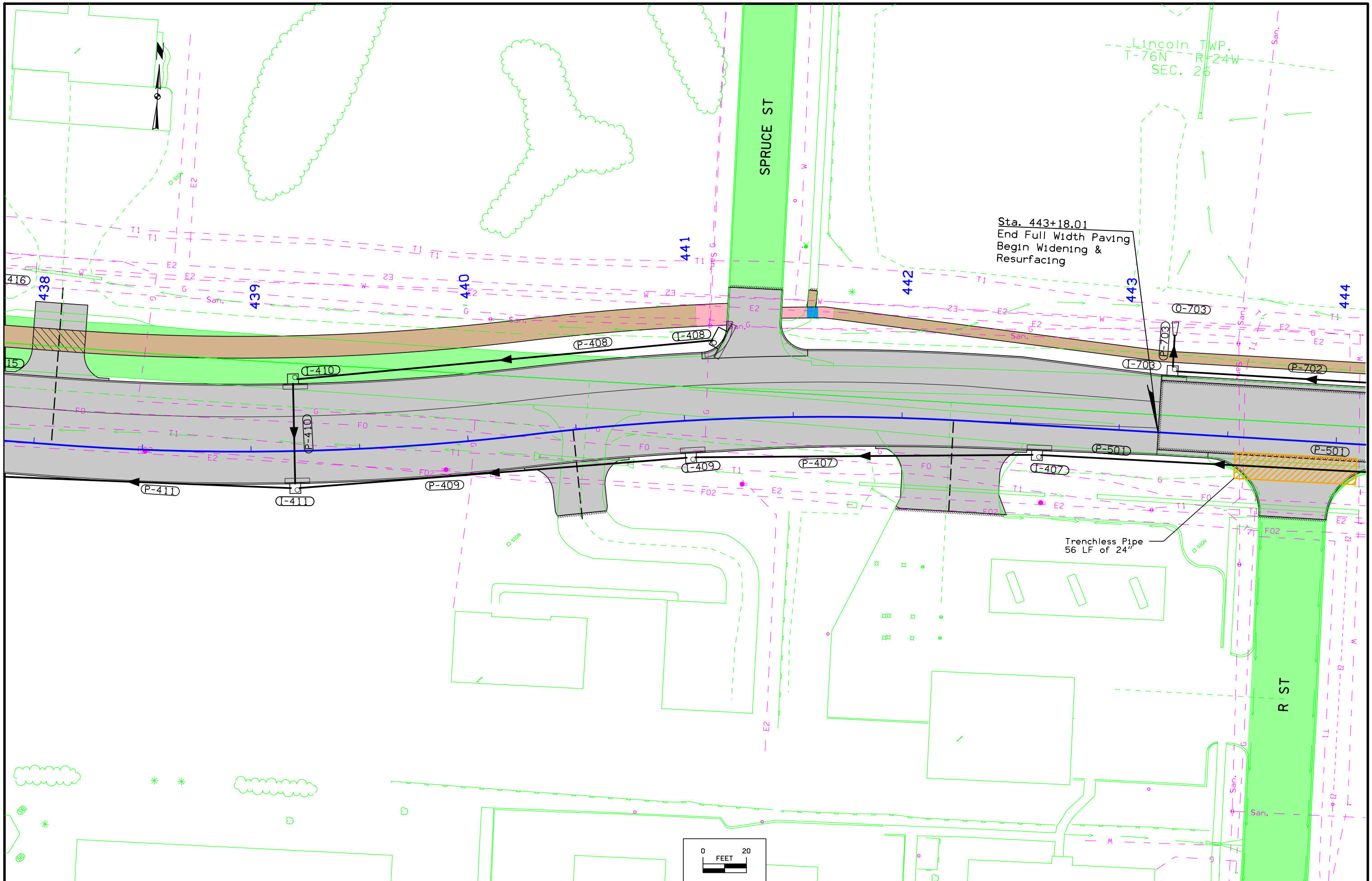


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T-76N R-24W  
SEC. 26



Lincoln TWP.  
T-76N R-24W  
SEC. 26



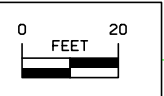


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SEC. 26

Sta. 443+18.01  
End Full Width Paving  
Begin Widening &  
Resurfacing

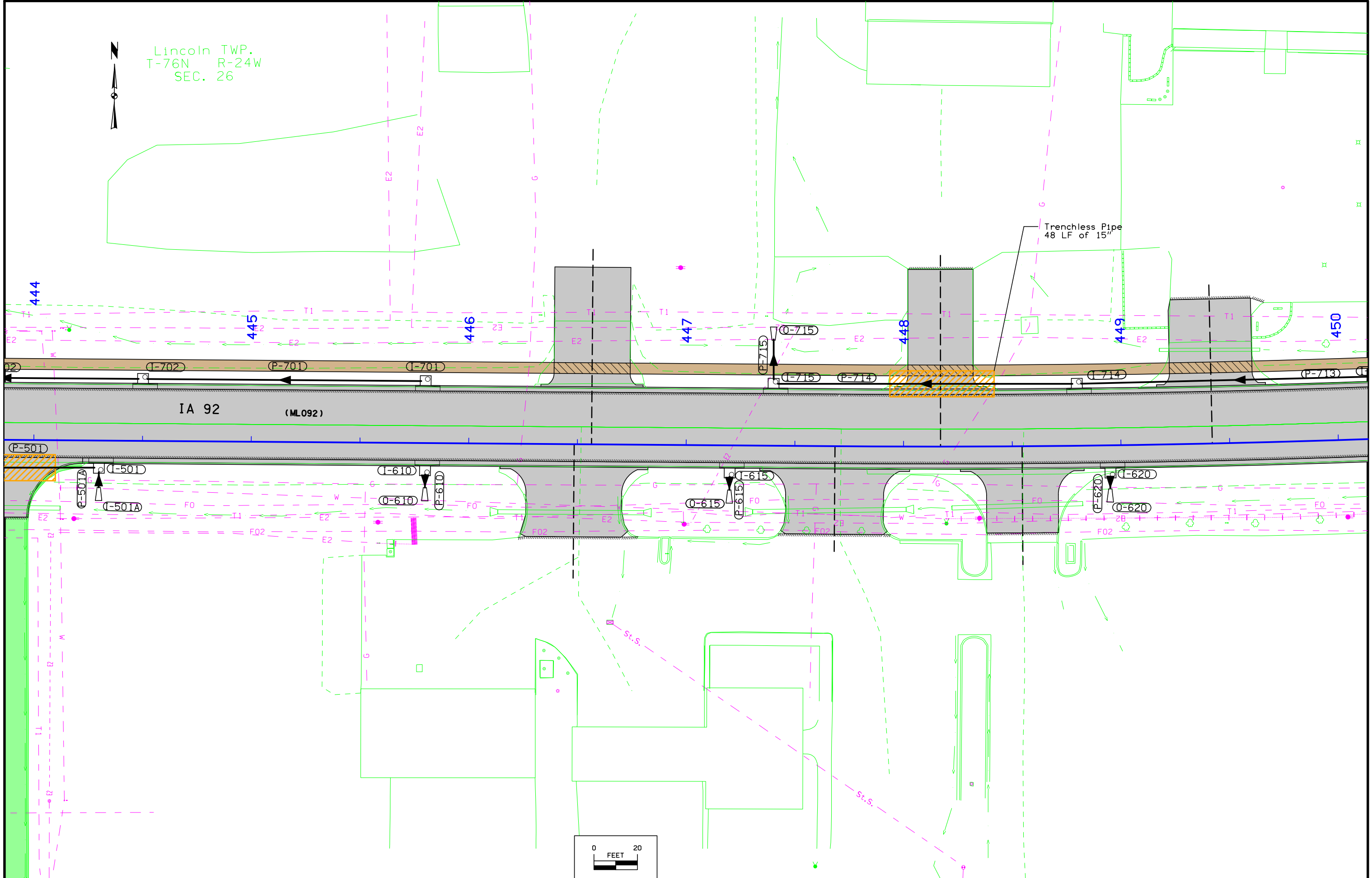
SPRUCE ST

R ST

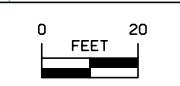


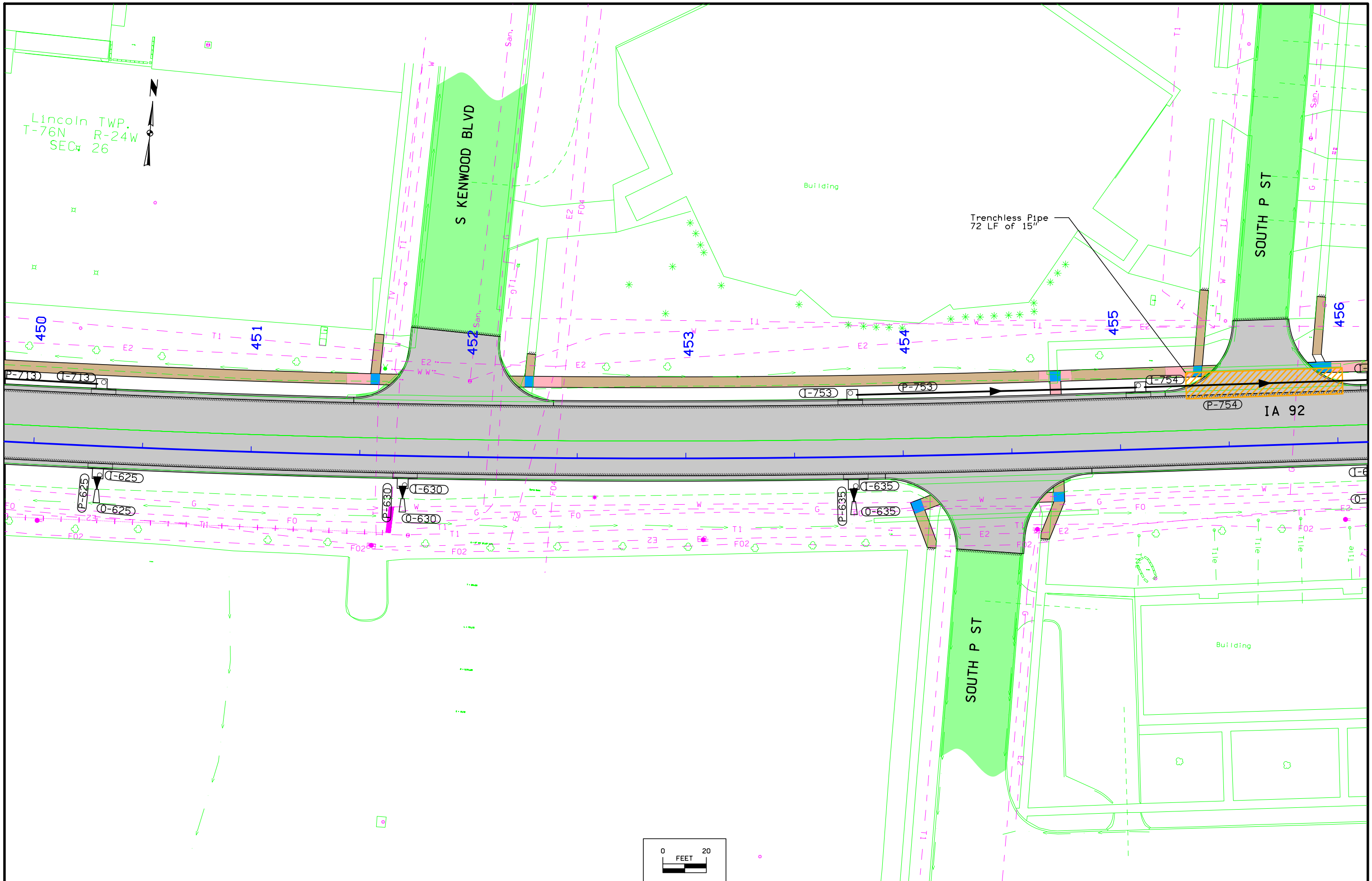


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SEC. 26



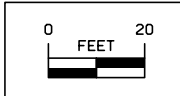
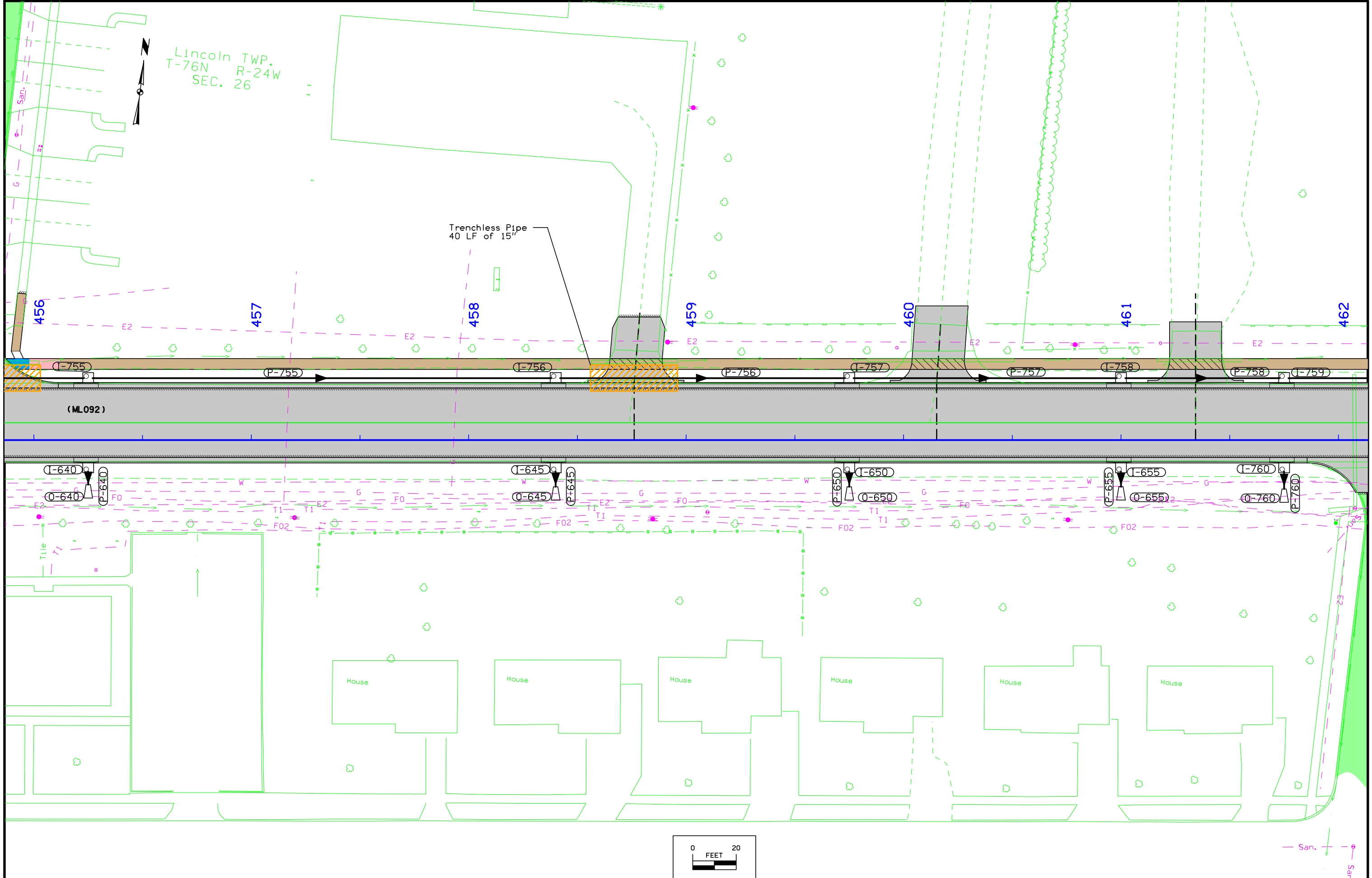
Trenchless Pipe  
48 LF of 15"



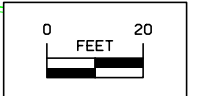
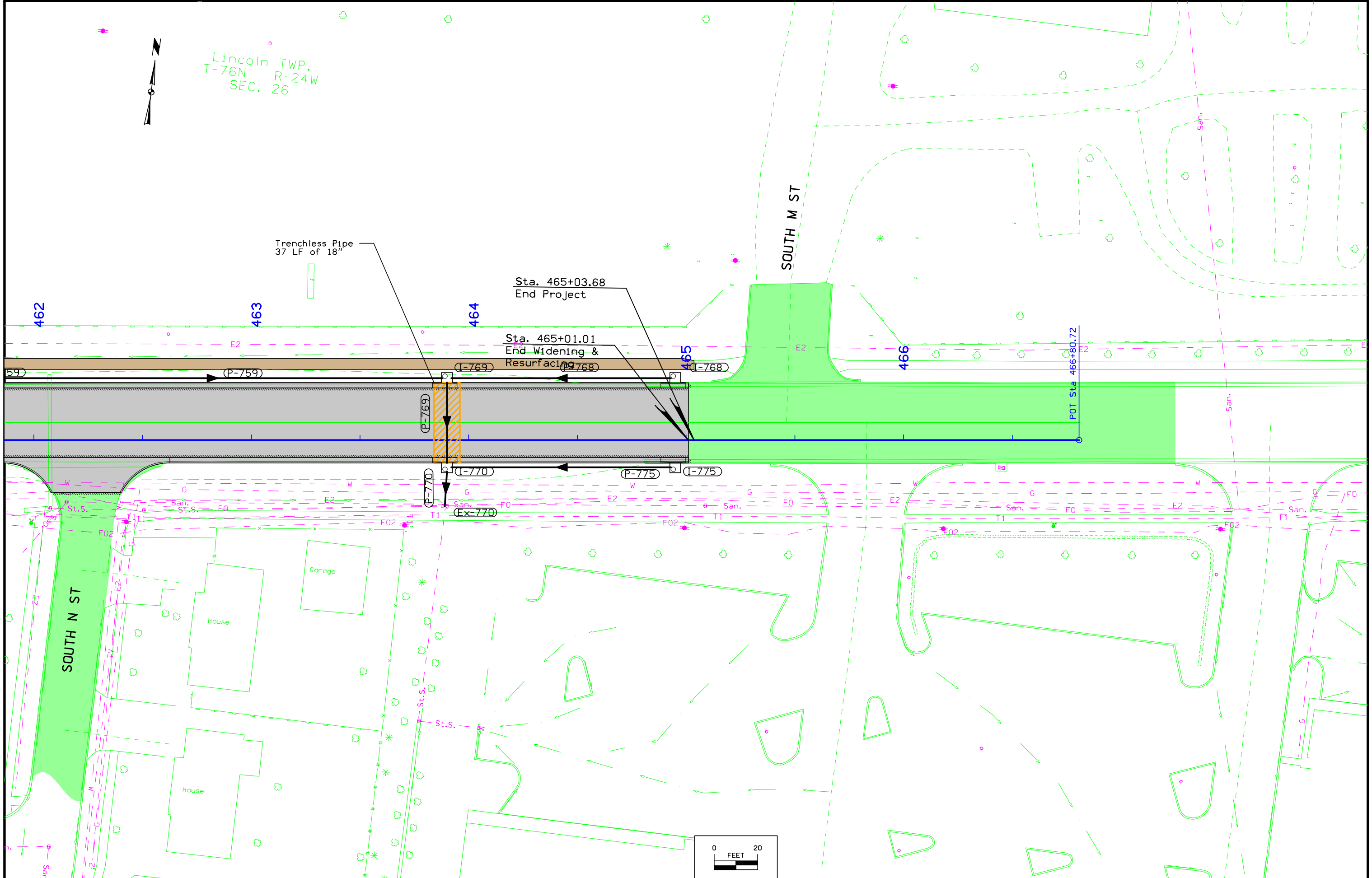


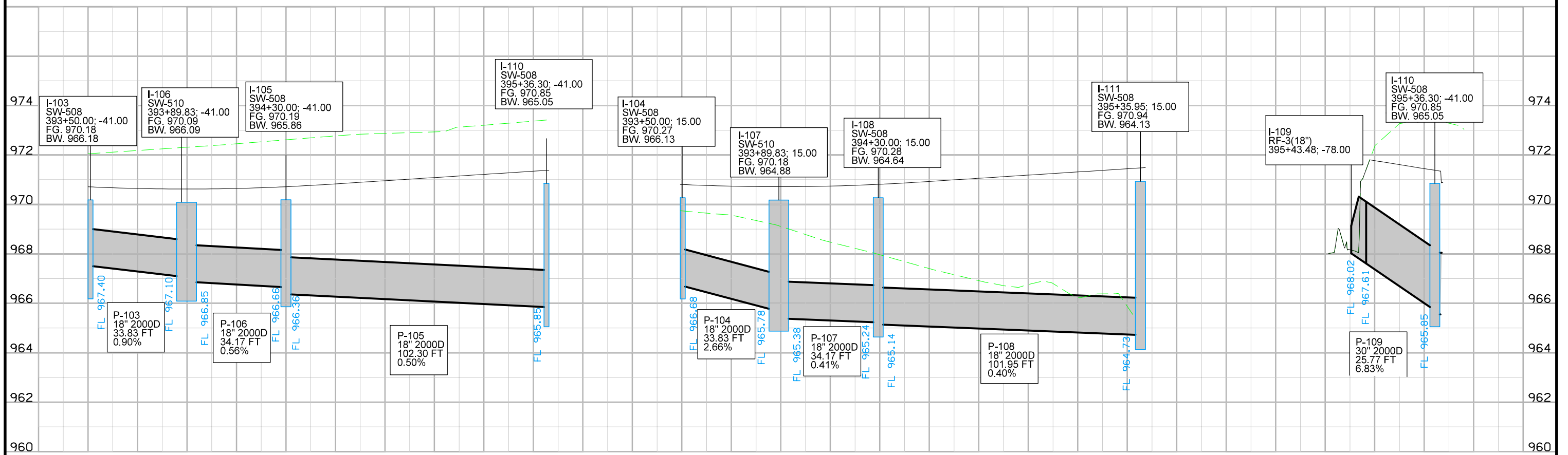
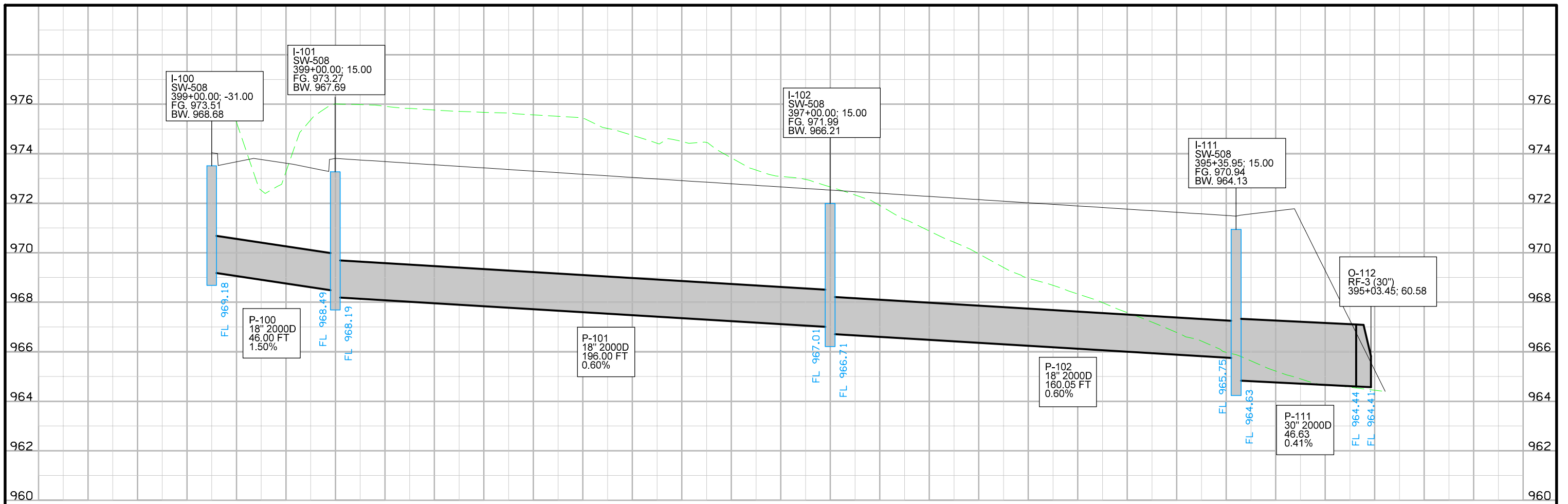
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SEC. 26

Trenchless Pipe  
40 LF of 15"

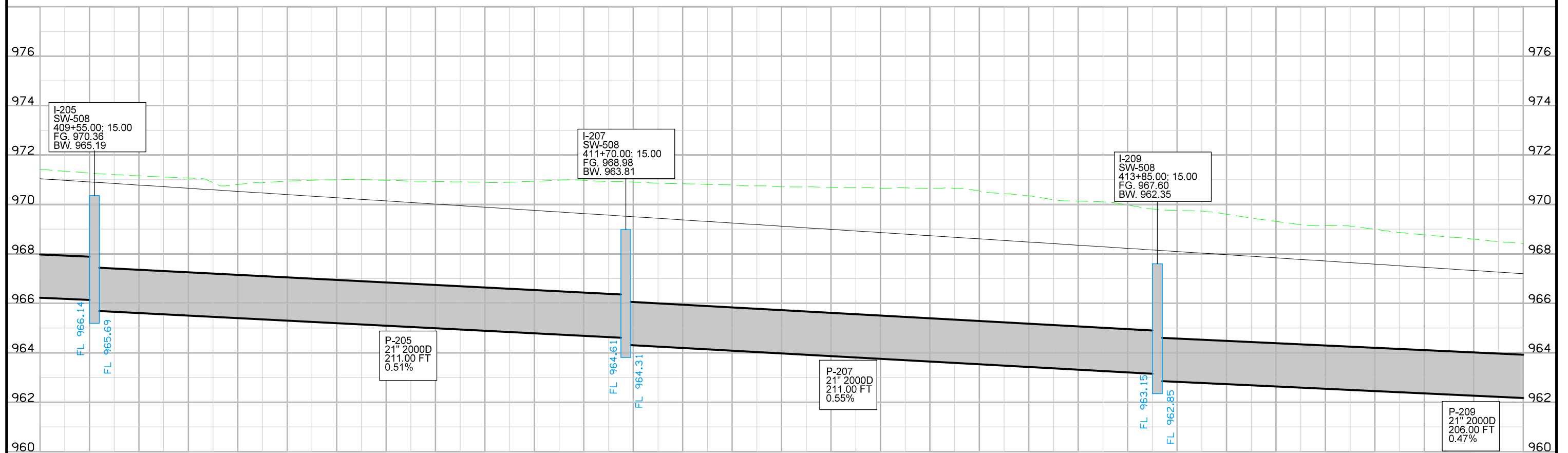
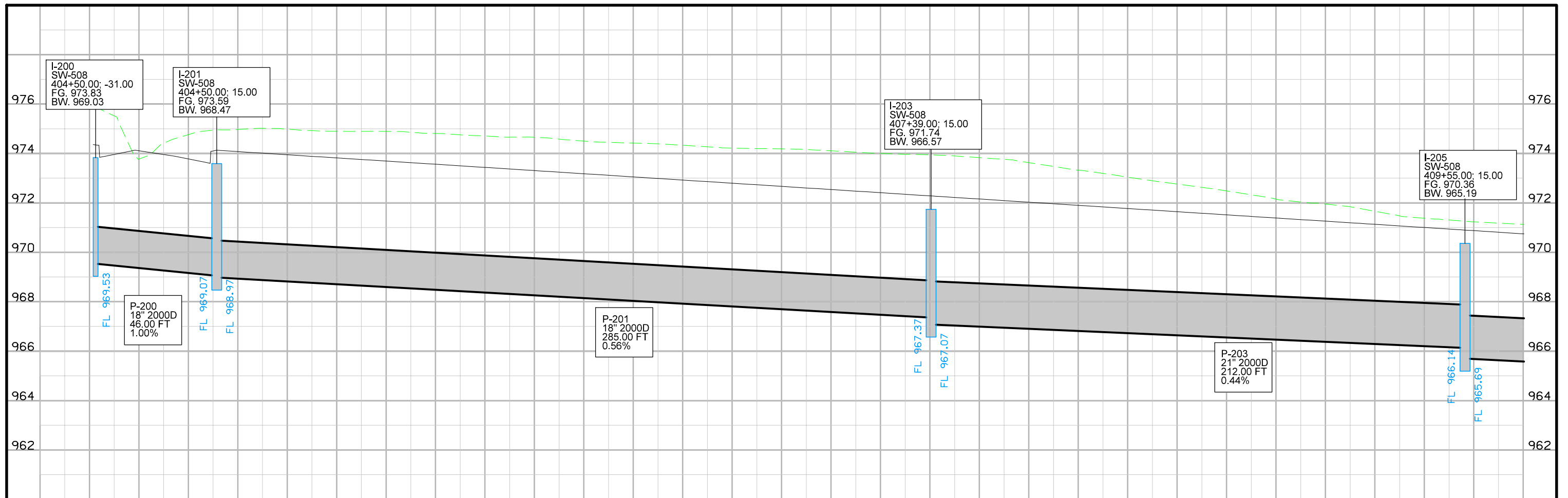


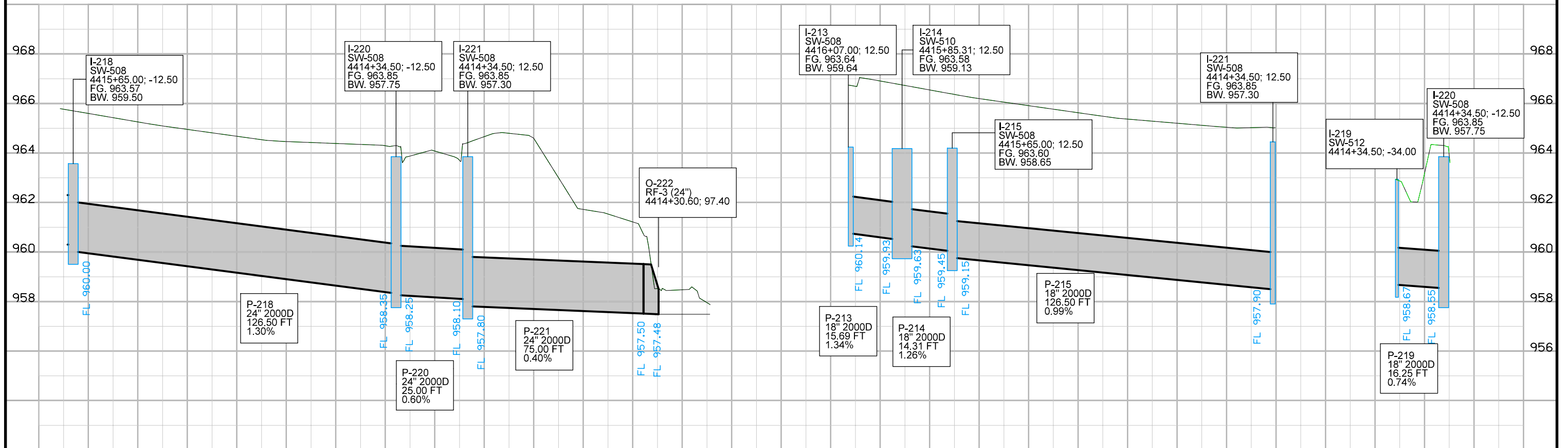
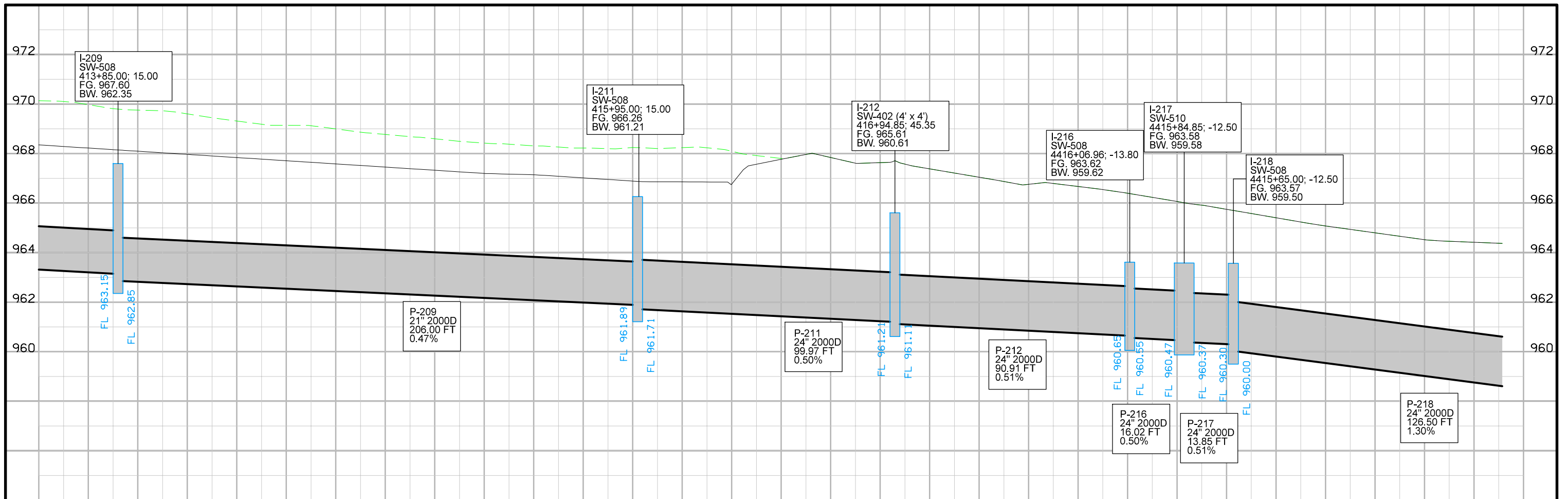
Lincoln TWP.  
T-76N R-24W  
SEC. 26

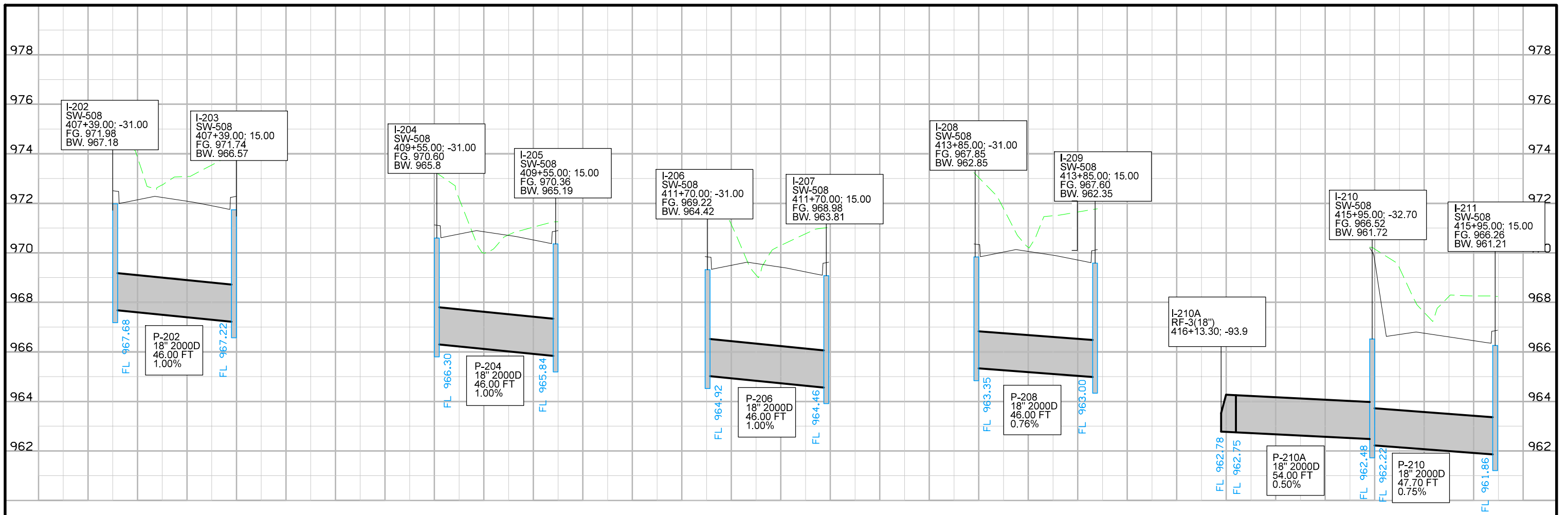


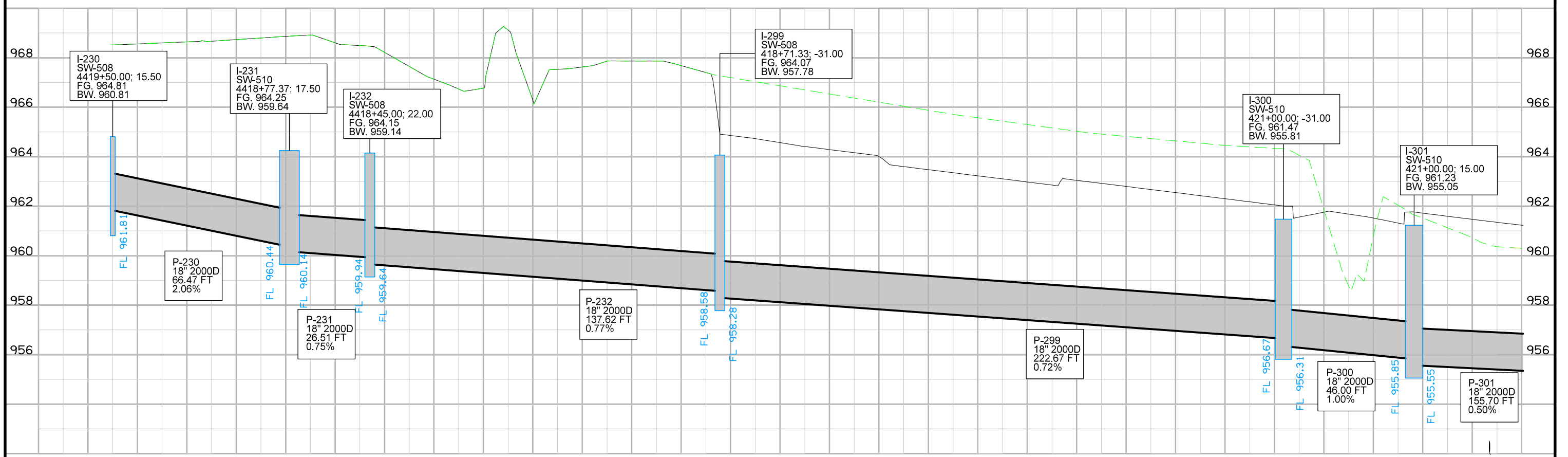
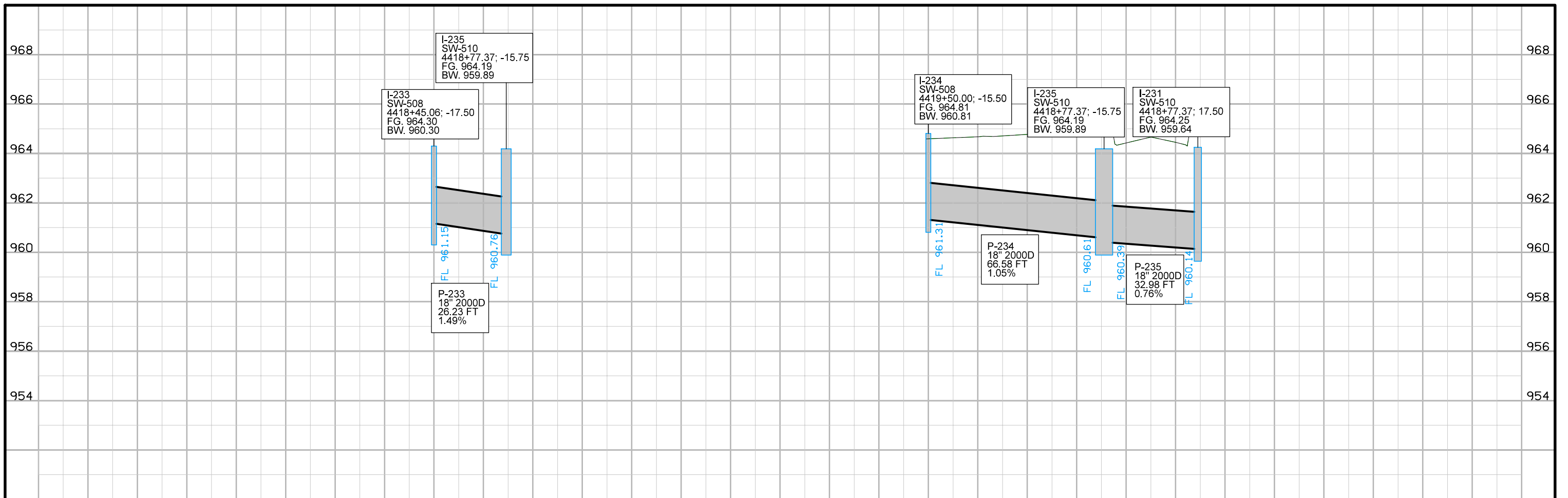


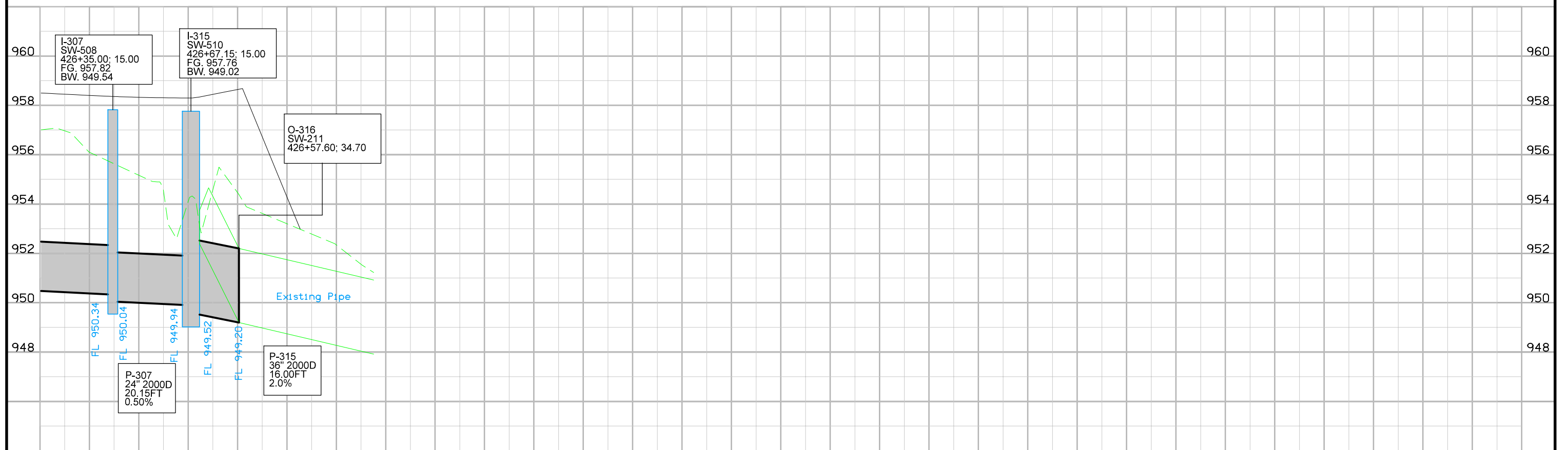
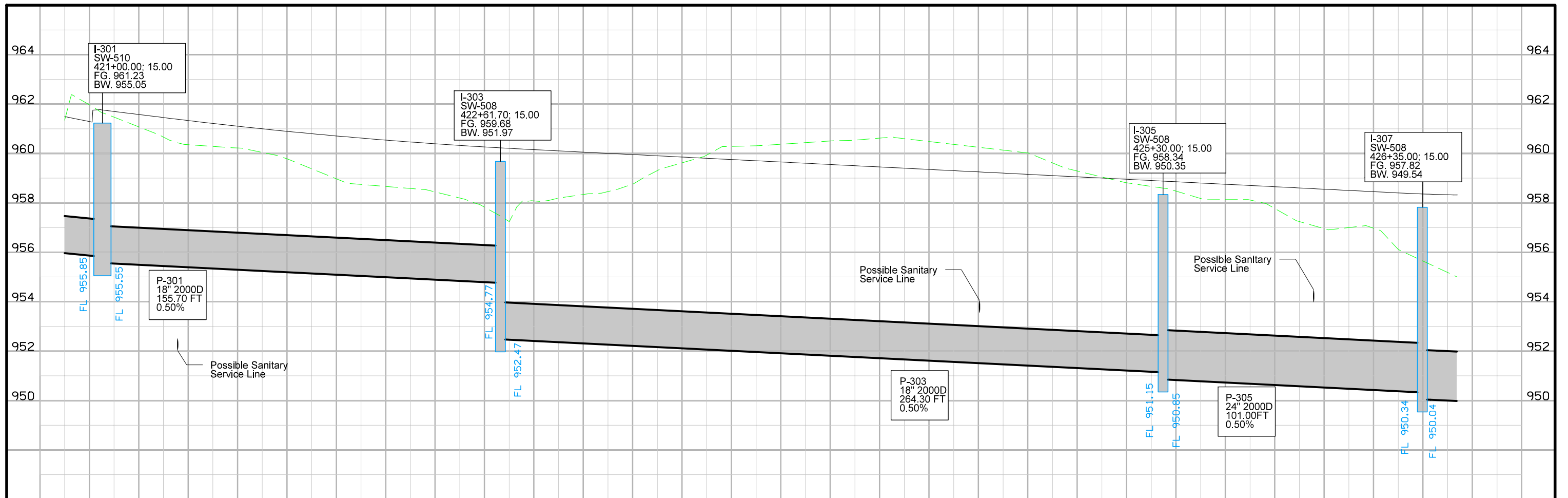


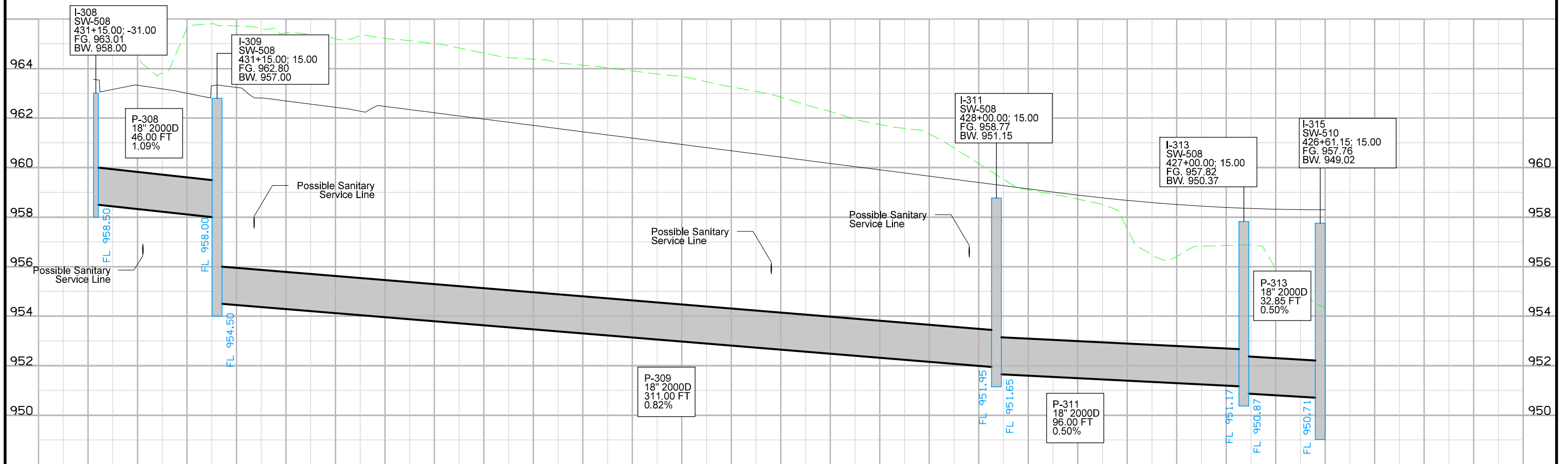
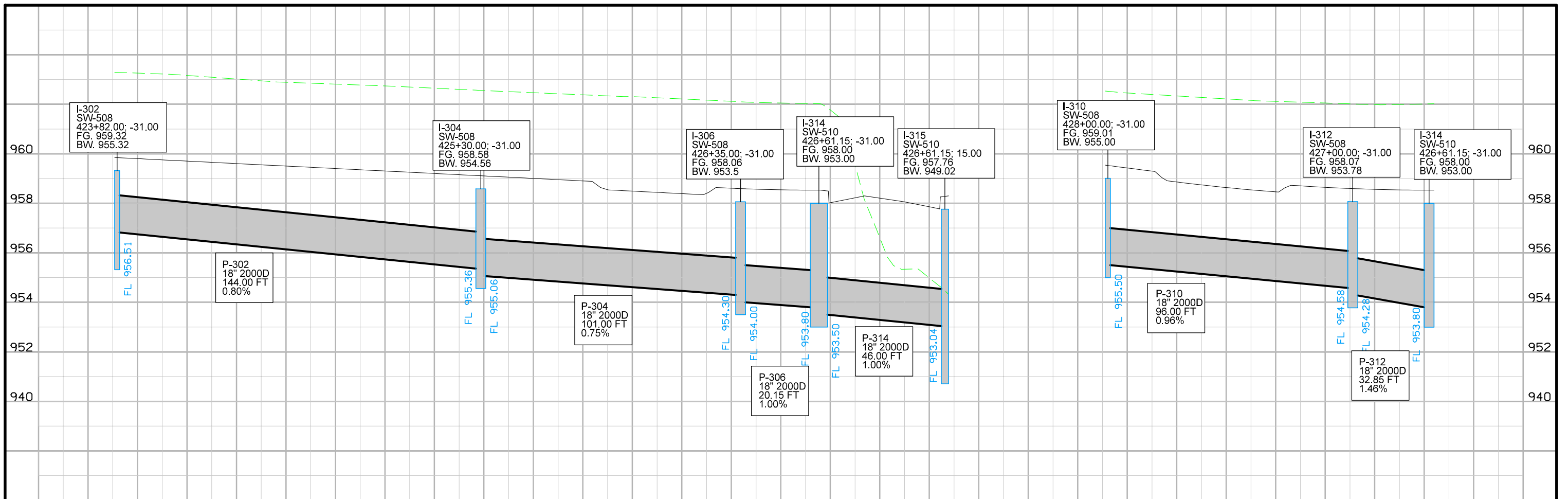


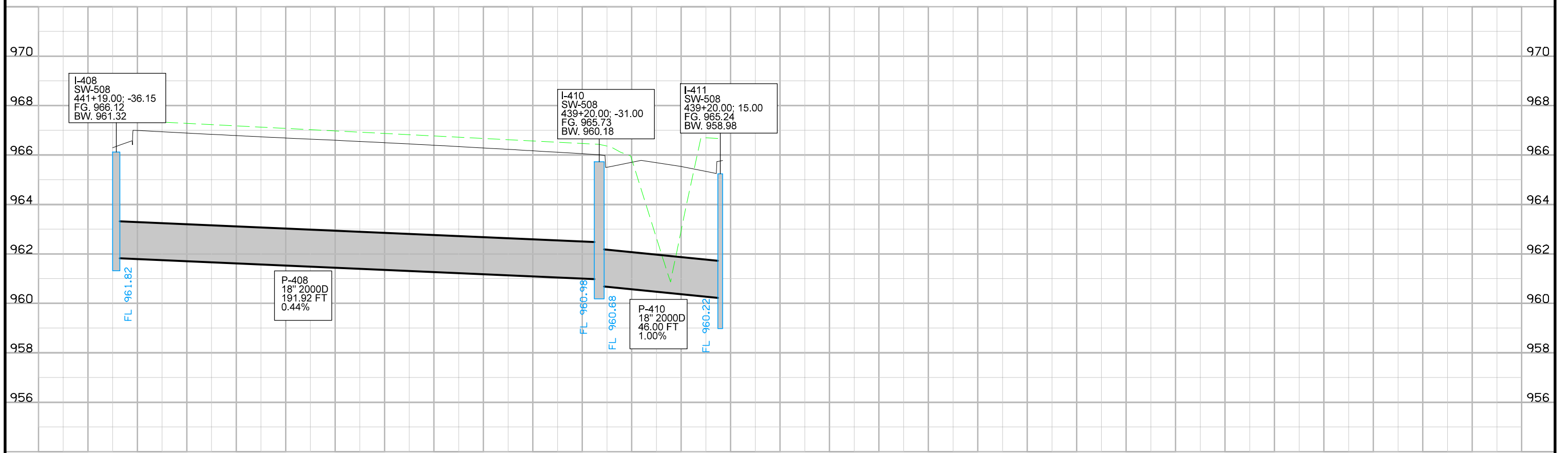
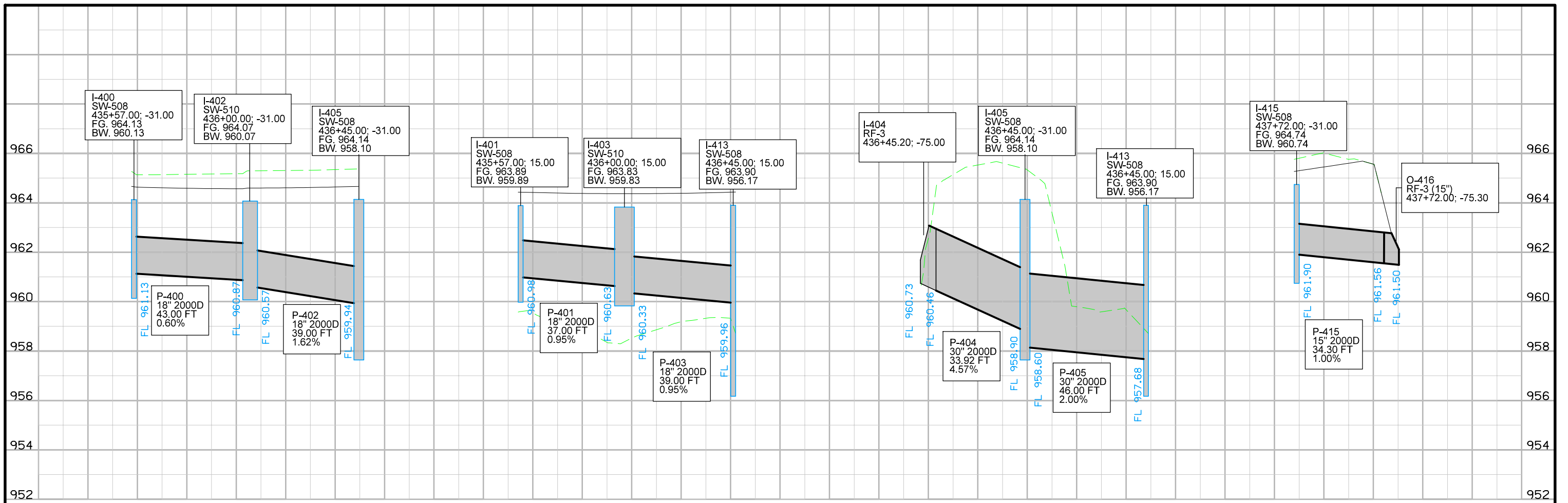


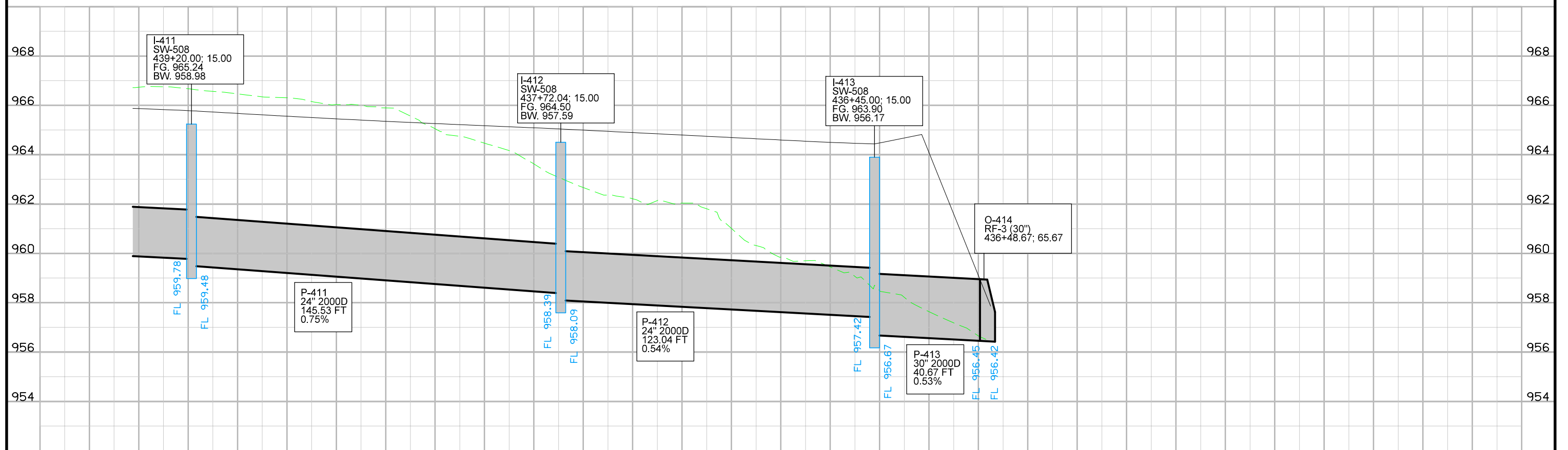
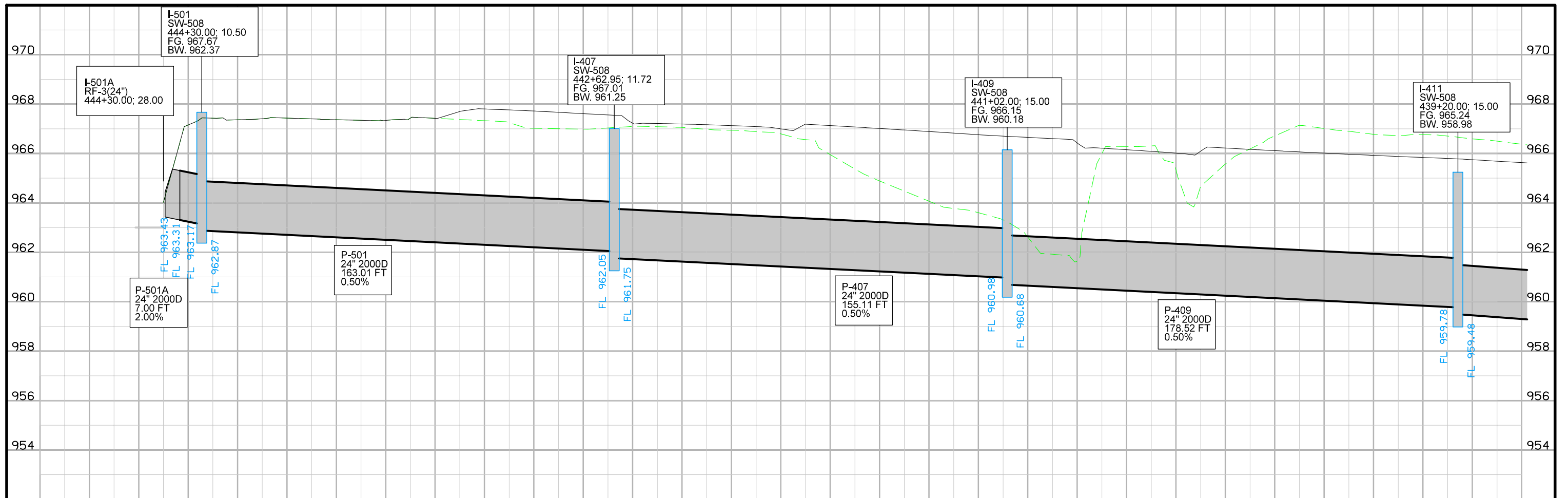




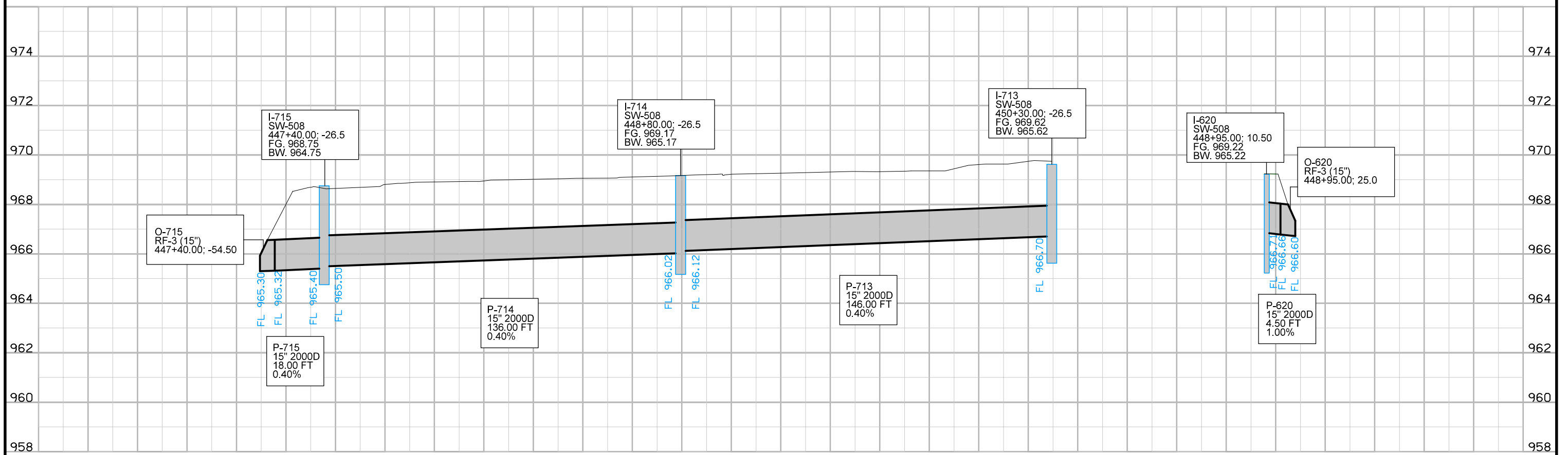
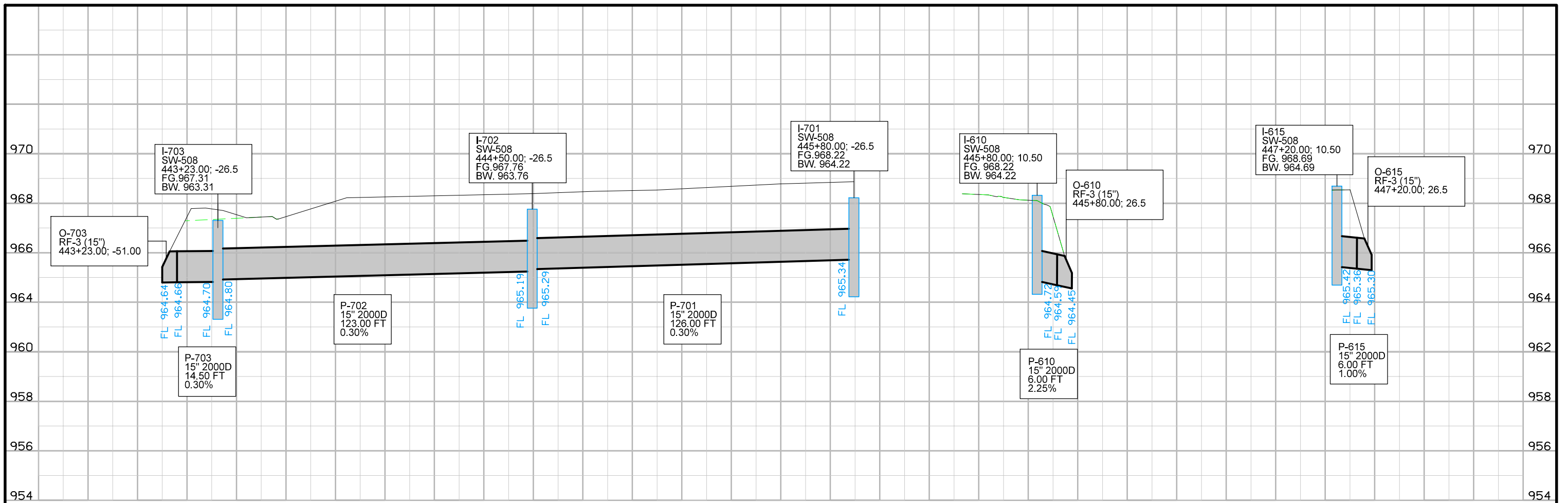


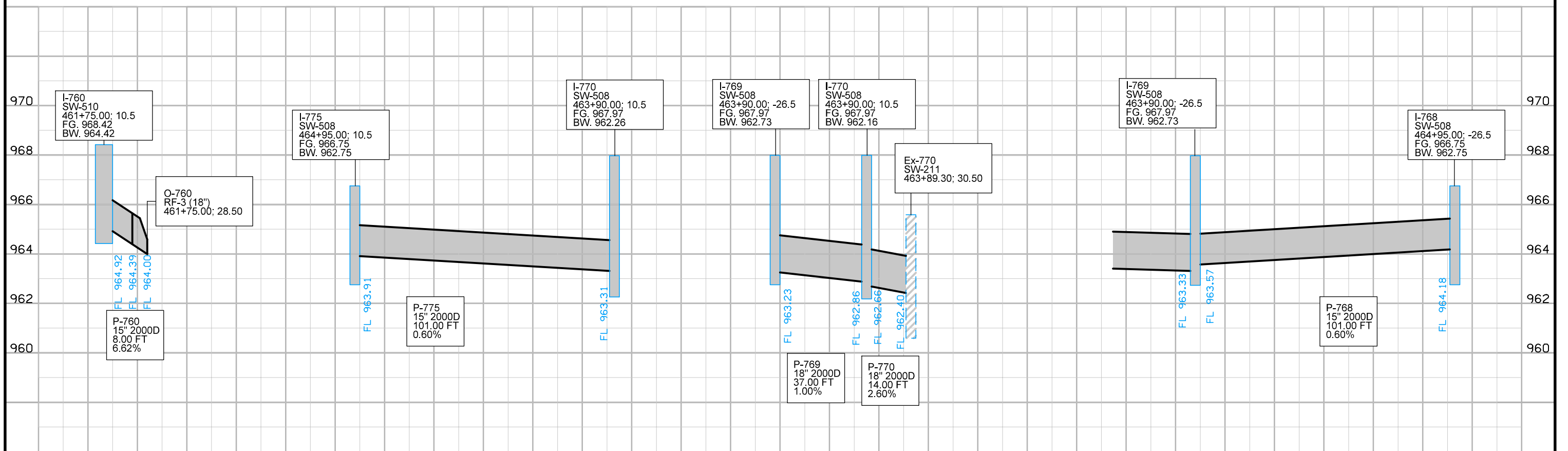
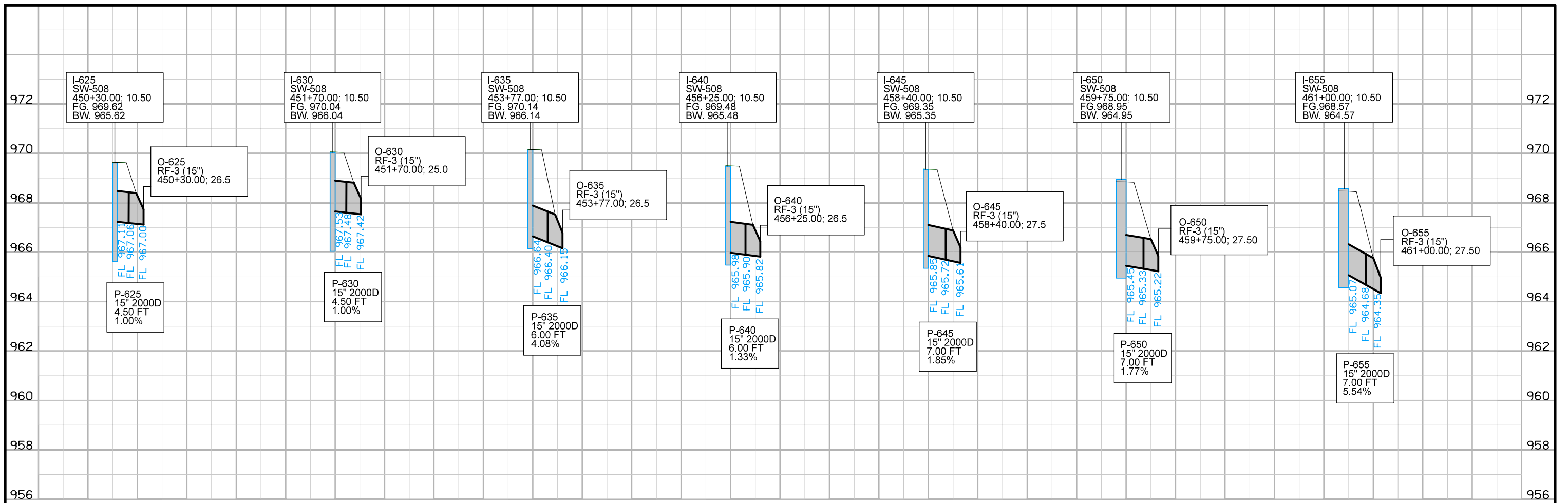


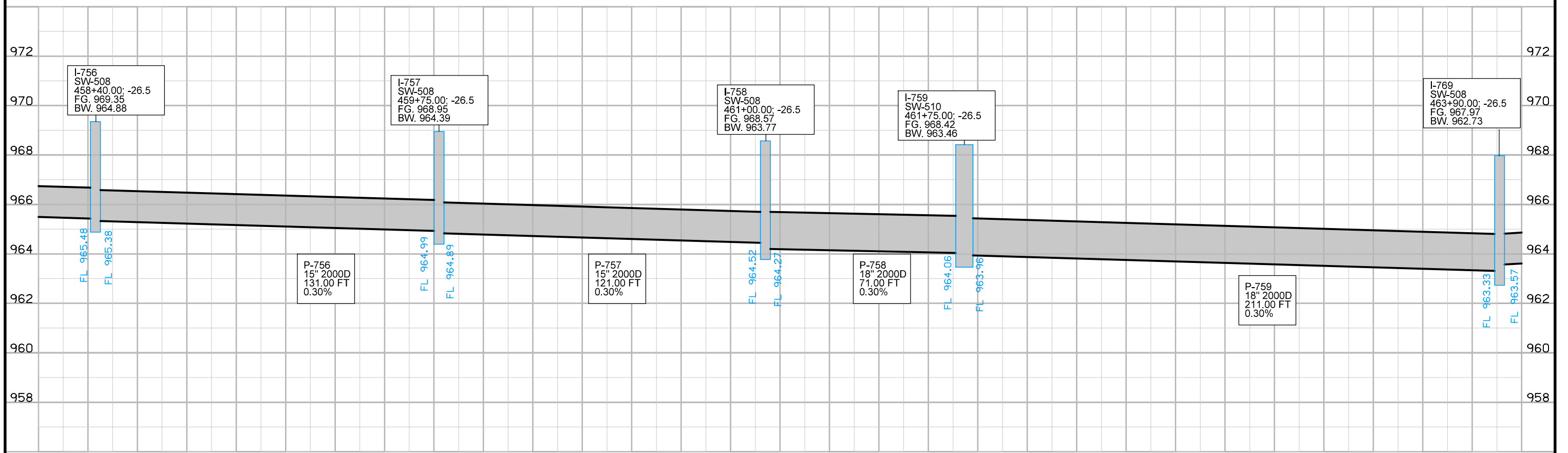
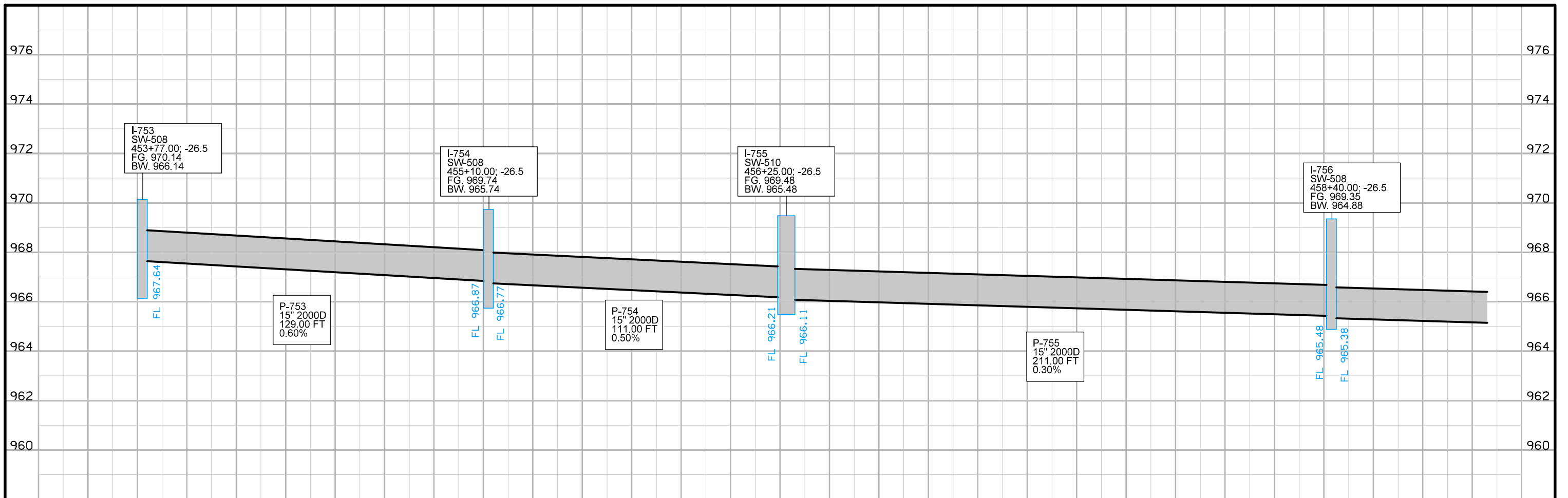












**SURVEY SYMBOLS**

**UTILITY LEGEND**

**PLAN VIEW COLOR LEGEND OF SOILS SHEETS**

LINEWORK	Design Color No.	
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.	
Brown, Light	(236)	Core Out

**PROFILE VIEW COLOR LEGEND OF SOILS SHEETS**

LINEWORK	Design Color No.	
Blue	(1)	Proposed Alignment, Stationing, and Alignment Annotation
Green	(2)	Existing Ground Line Profile
Green, Med	(227)	Class 10 Topsoil
Green, M.Light	(226)	Unsuitable A Topsoil
Green, Light	(225)	Unsuitable B Topsoil
Green, V.Light	(224)	Unsuitable C Topsoil
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**

Soils Book No.	Date(s) Drilled			
H <sub>2</sub> O		Treatment	Unsuitable A Topsoil	
DRY		Sand Blanket	Unsuitable B Topsoil	
S		Soil Remediation Area	Unsuitable C Topsoil	
P		Select Soil	Unsuitable A	
M		Select Sand	Unsuitable B	
S		Shale	Unsuitable C	
B		Broken and Weathered Rock	Sandy Soil	
D		Rock	Boulders	
		Sandstone		

	Reference Point
	Station
	Survey Line
	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
	A/C Access Control

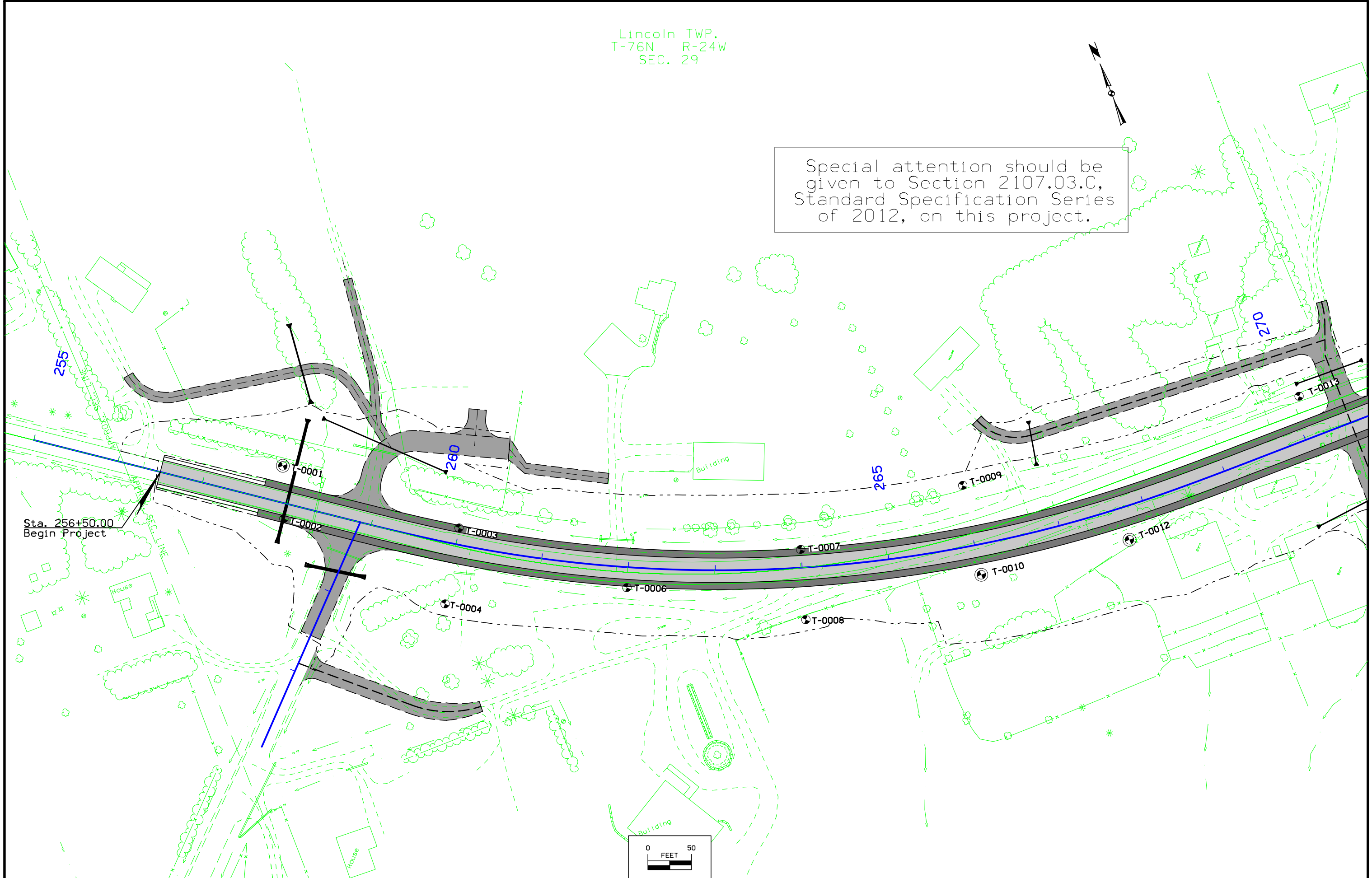
NOTE: Sounding and test boring data shown in the plans were accumulated for designing and estimating purposes. Their appearance on the plans does not constitute a guarantee that conditions other than those indicated will be encountered. Details and notes shown elsewhere shall be used for roadway and structure construction.

**SOILS LEGEND AND SYMBOL INFORMATION SHEET**

(COVERS SHEET SERIES Q & R)

Lincoln TWP.  
T-76N R-24W  
SEC. 29

Special attention should be given to Section 2107.03.C, Standard Specification Series of 2012, on this project.



Sta. 256+50.00  
Begin Project

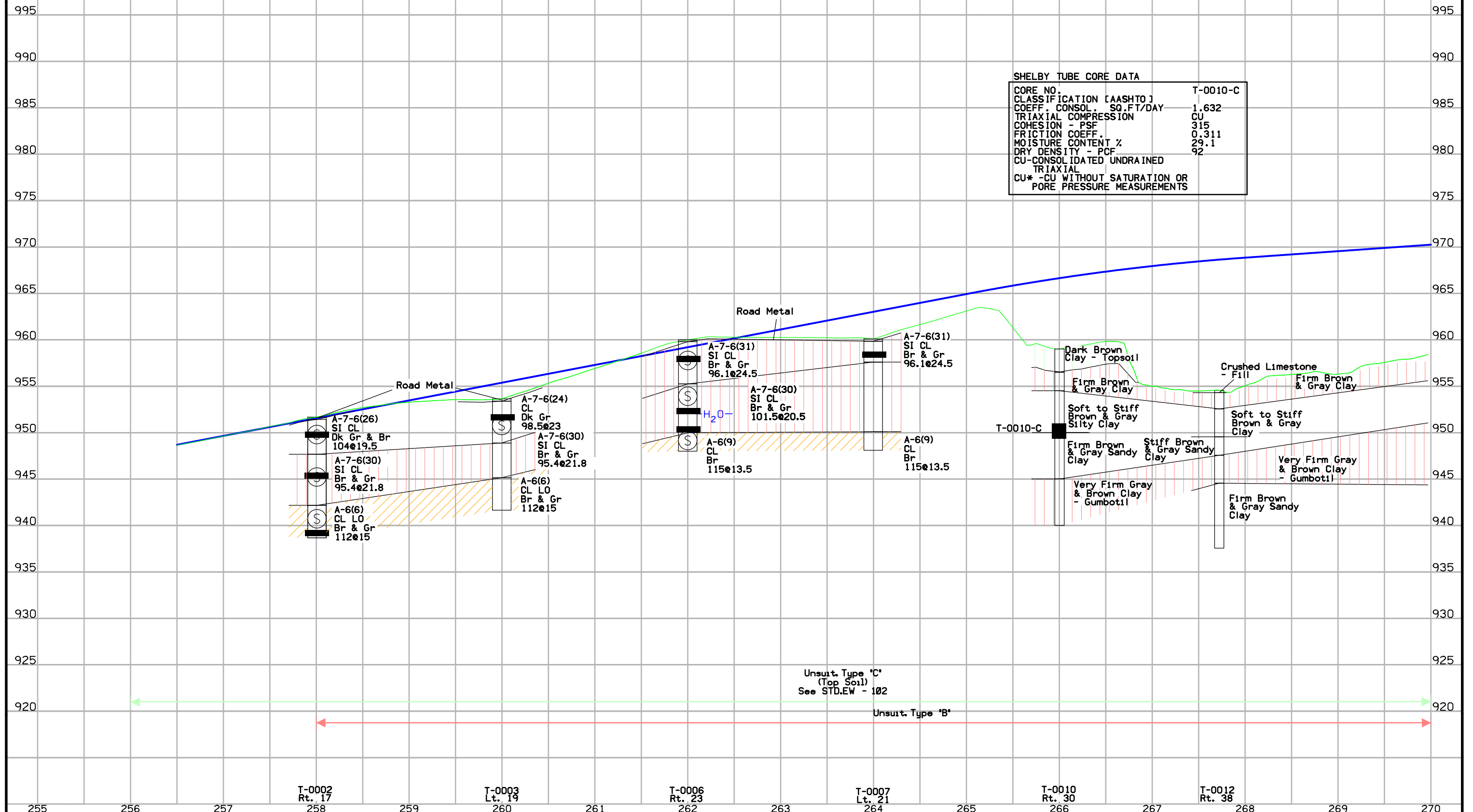
CUT MOISTURE  
CUT DENSITY (lb/ft³)  
PLASTIC LIMIT

20,27,22  
102,94,104  
20,23,16

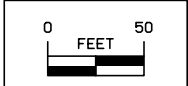
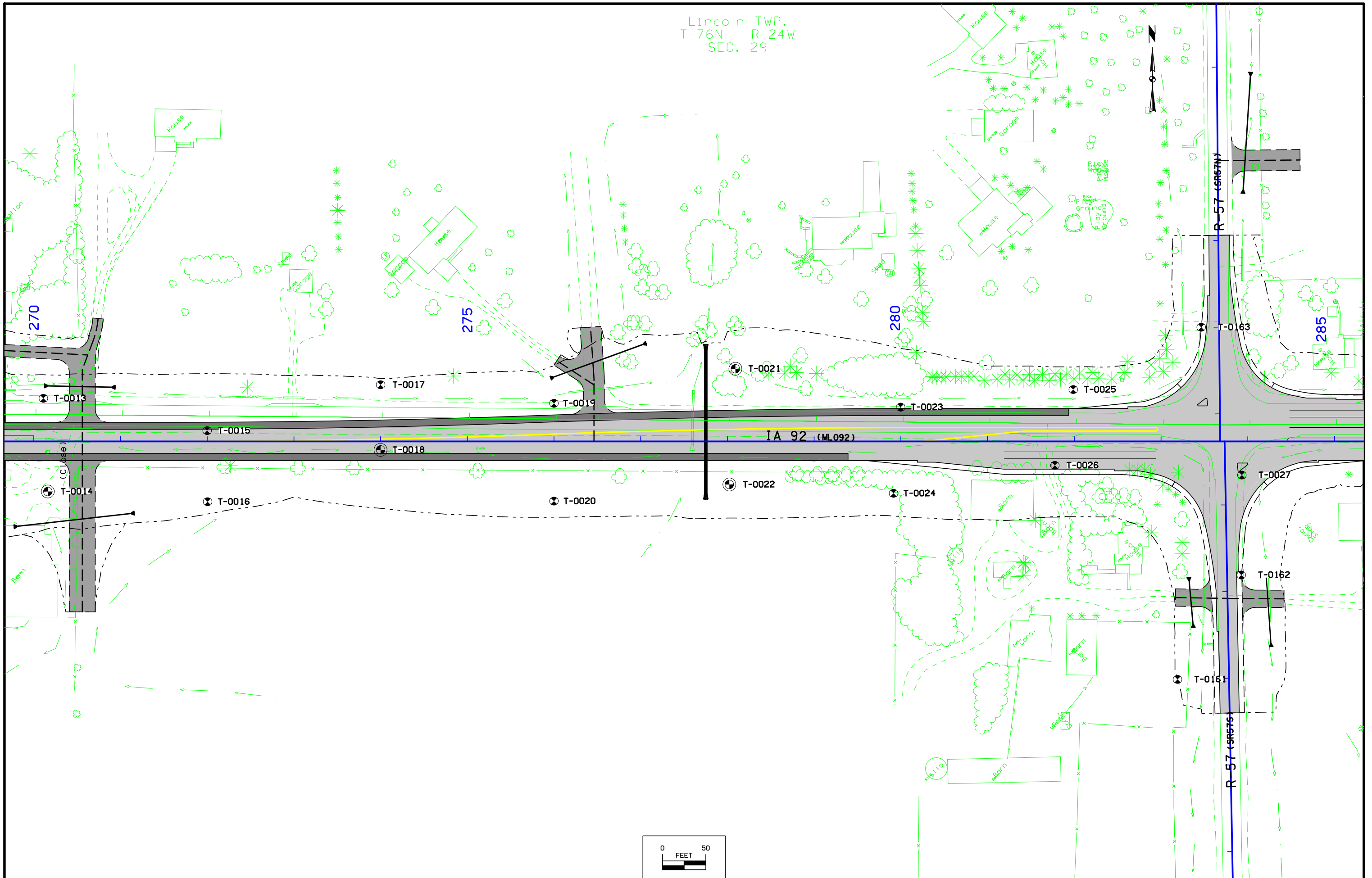
24  
96  
22

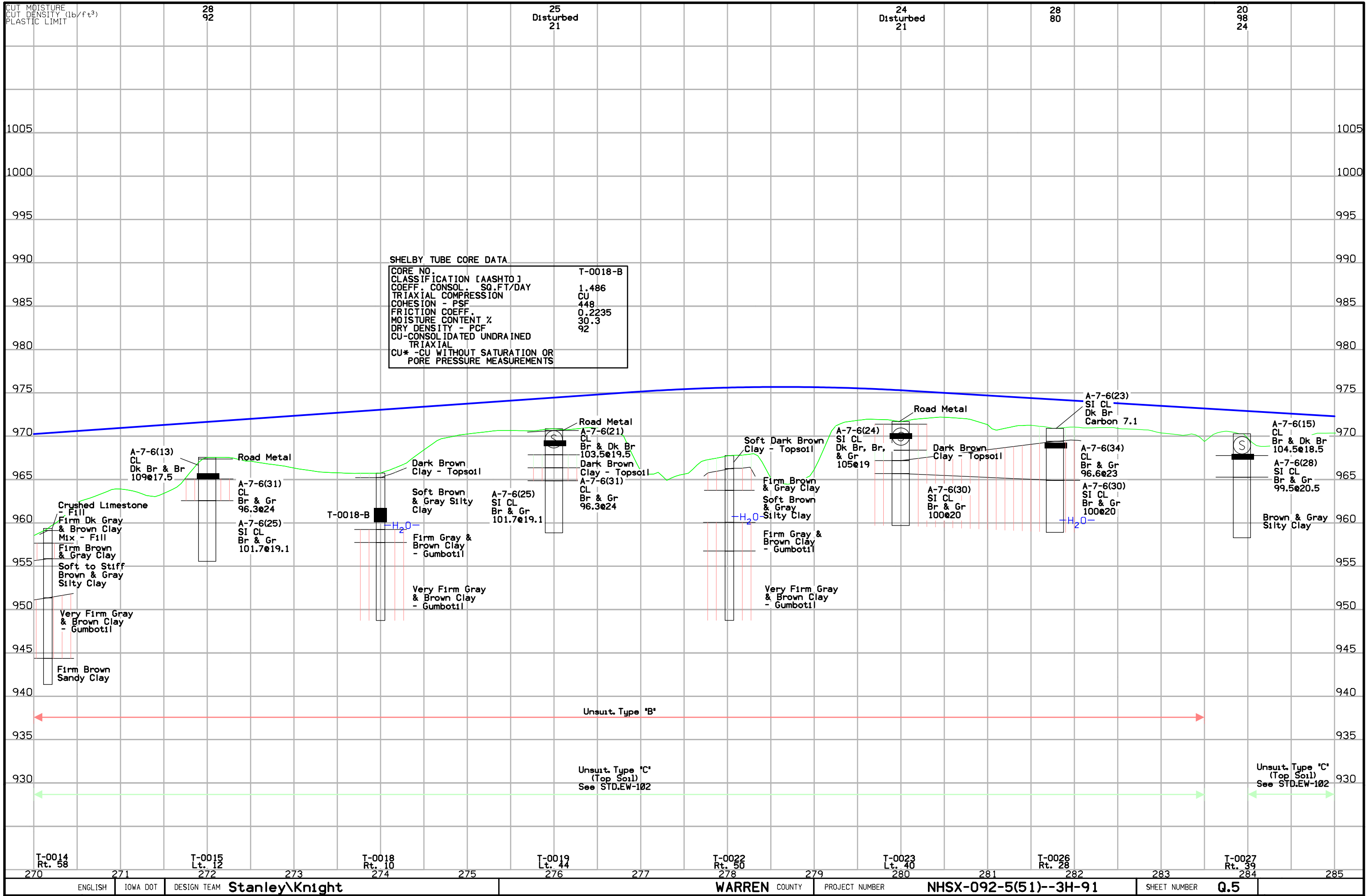
23,30,25  
96,88,96  
21,21,16

28  
Disturbed



Lincoln TWP.  
T-76N R-24W  
SEC. 29





CUT MOISTURE  
CUT DENSITY (lb/ft³)  
PLASTIC LIMIT

28  
92

25  
Disturbed  
21

24  
Disturbed  
21

28  
80

20  
98  
24

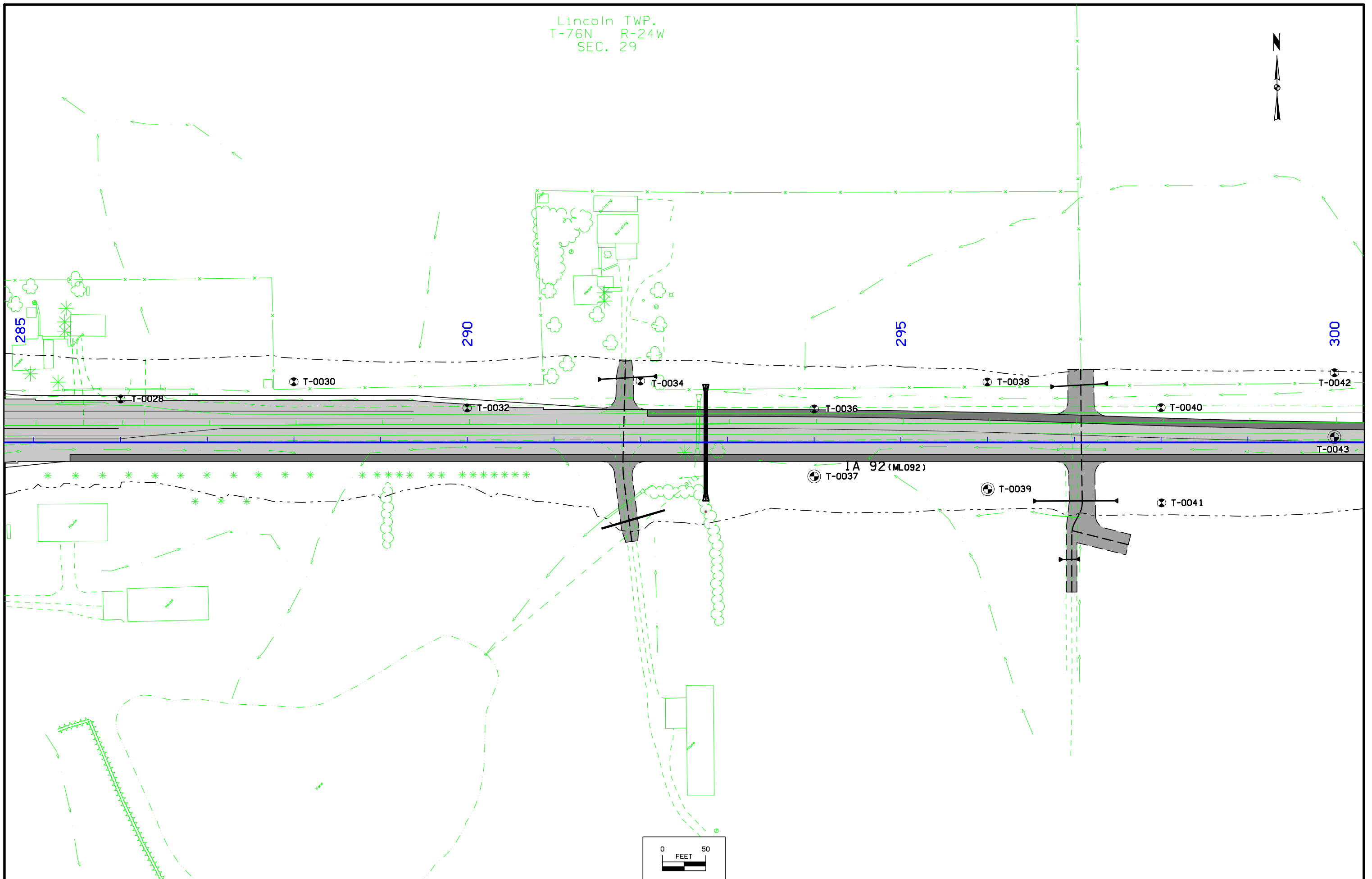
**SHELBY TUBE CORE DATA**

CORE NO.	T-0018-B
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ.FT/DAY	1.486
TRIAxIAL COMPRESSION	CU
COHESION - PSF	448
FRICTION COEFF.	0.2235
MOISTURE CONTENT %	30.3
DRY DENSITY - PCF	92
CU-CONSOLIDATED UNDRAINED TRIAXIAL	
CU* -CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS	

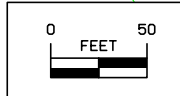
T-0014 Rt. 58      T-0015 Lt. 12      T-0018 Rt. 10      T-0019 Lt. 44      T-0022 Rt. 50      T-0023 Lt. 40      T-0026 Rt. 28      T-0027 Rt. 39

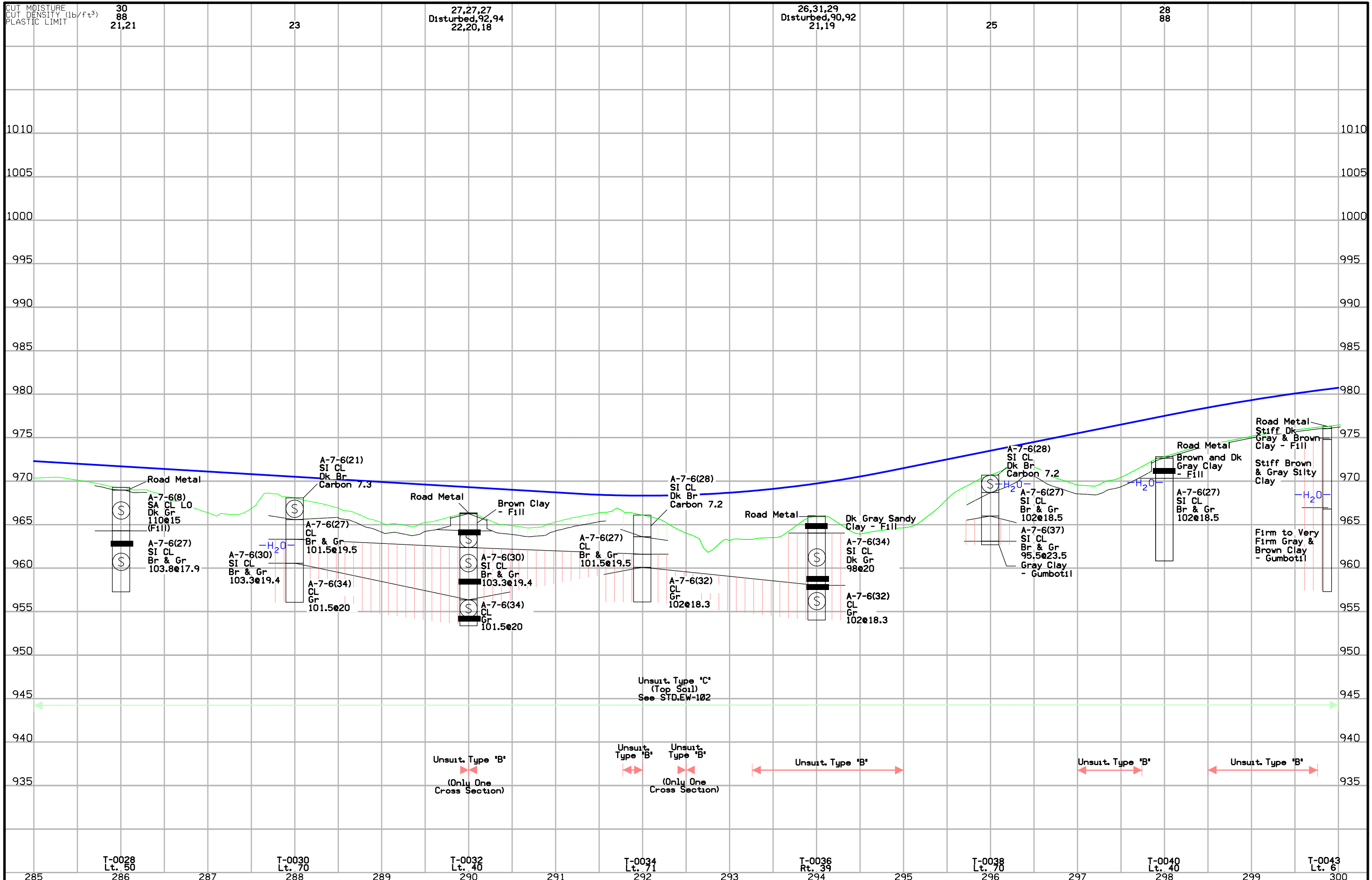


Lincoln TWP.  
T-76N R-24W  
SEC. 29



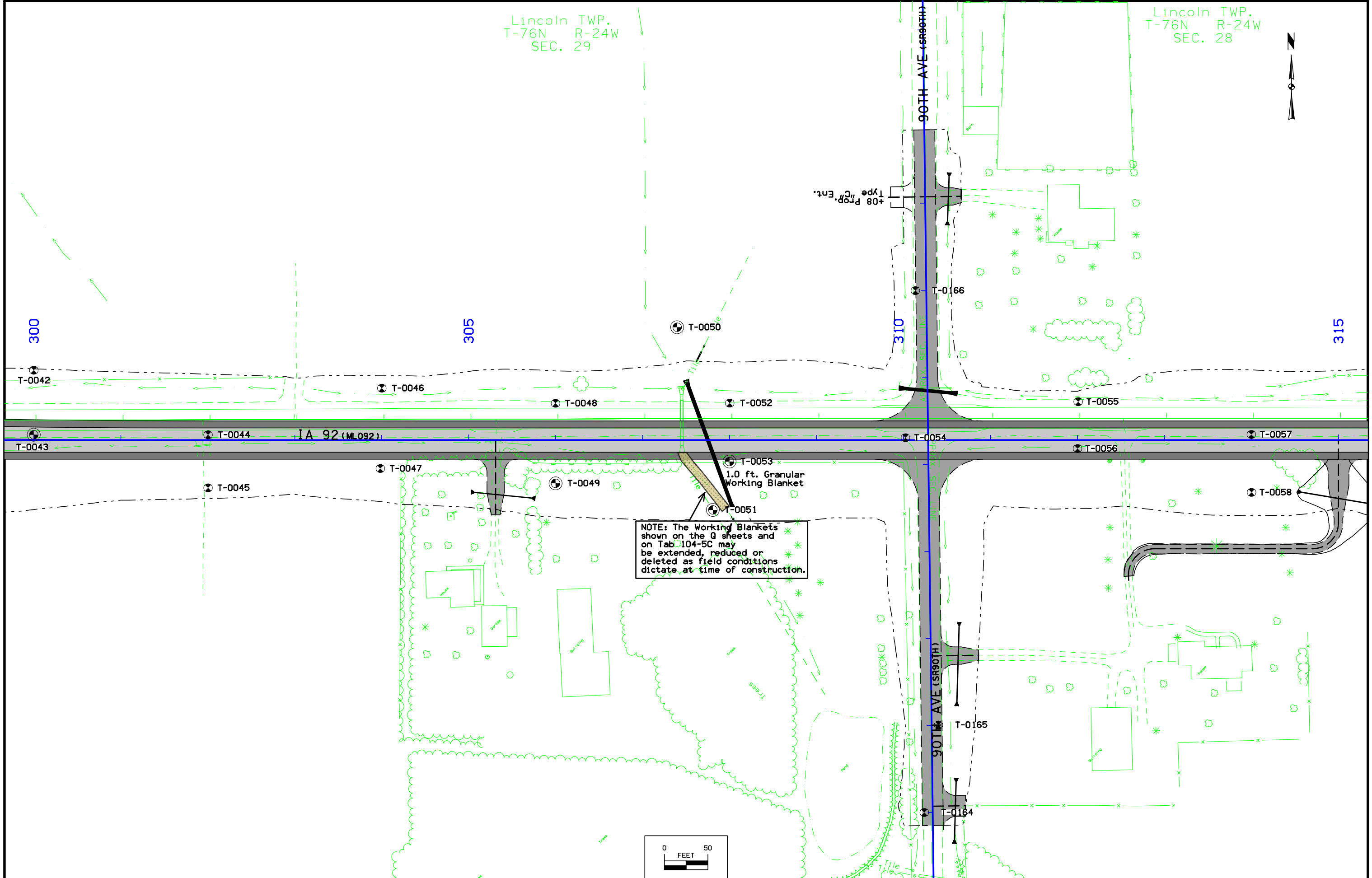
IA 92 (ML092)



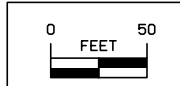


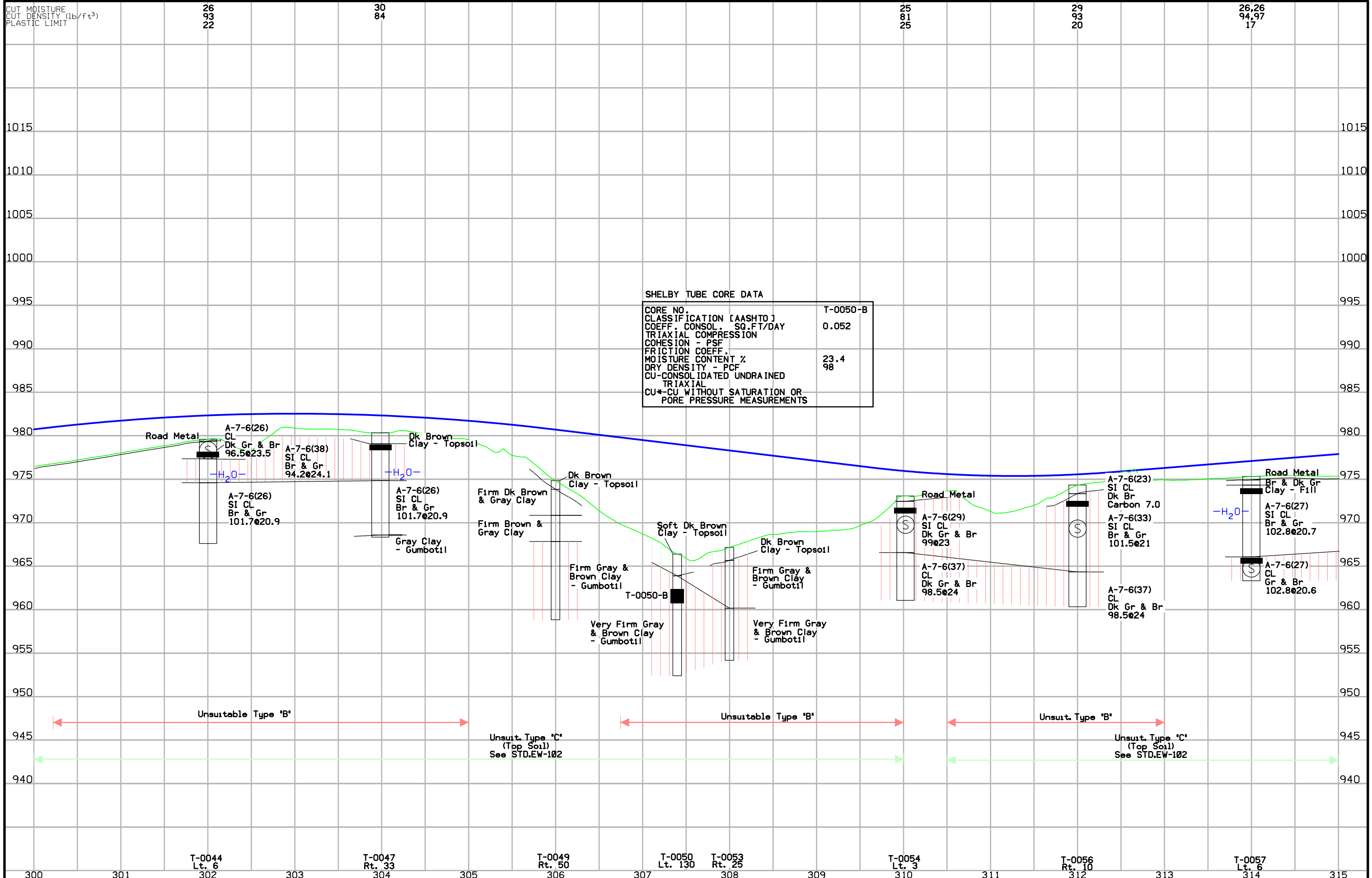
Lincoln TWP.  
T-76N R-24W  
SEC. 29

Lincoln TWP.  
T-76N R-24W  
SEC. 28

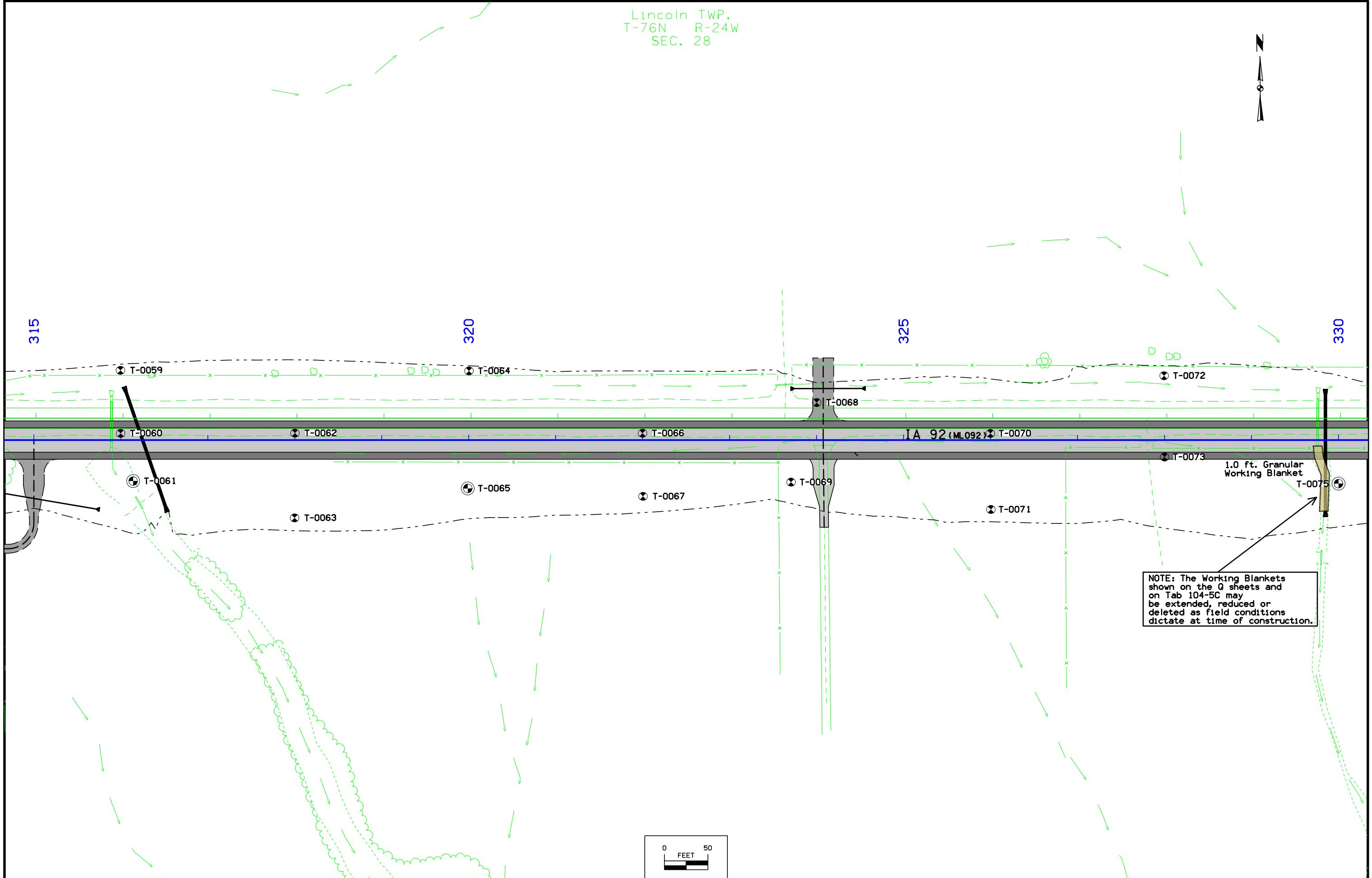


NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

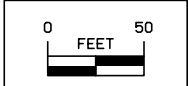


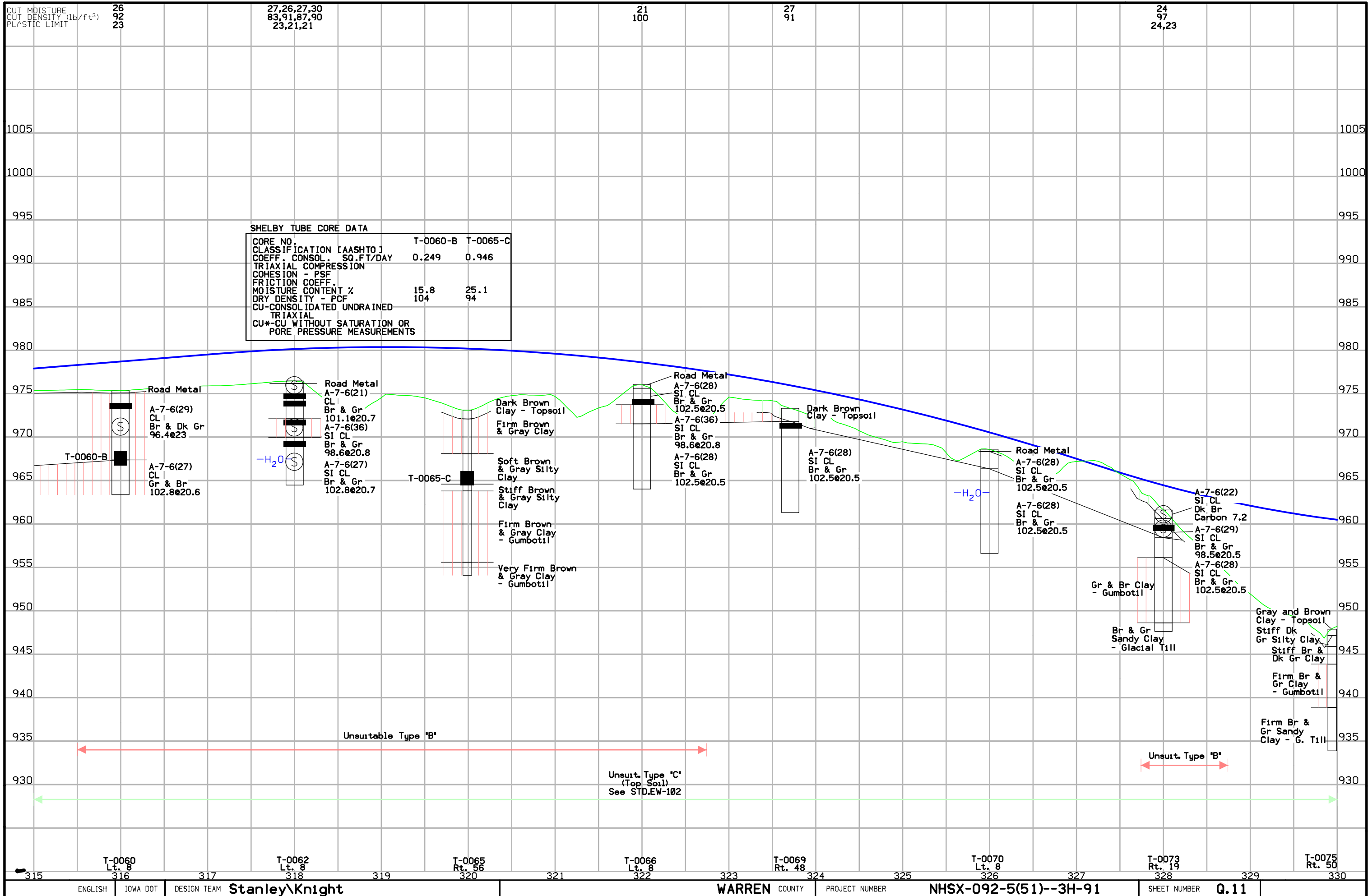


Lincoln TWP.  
T-76N R-24W  
SEC. 28

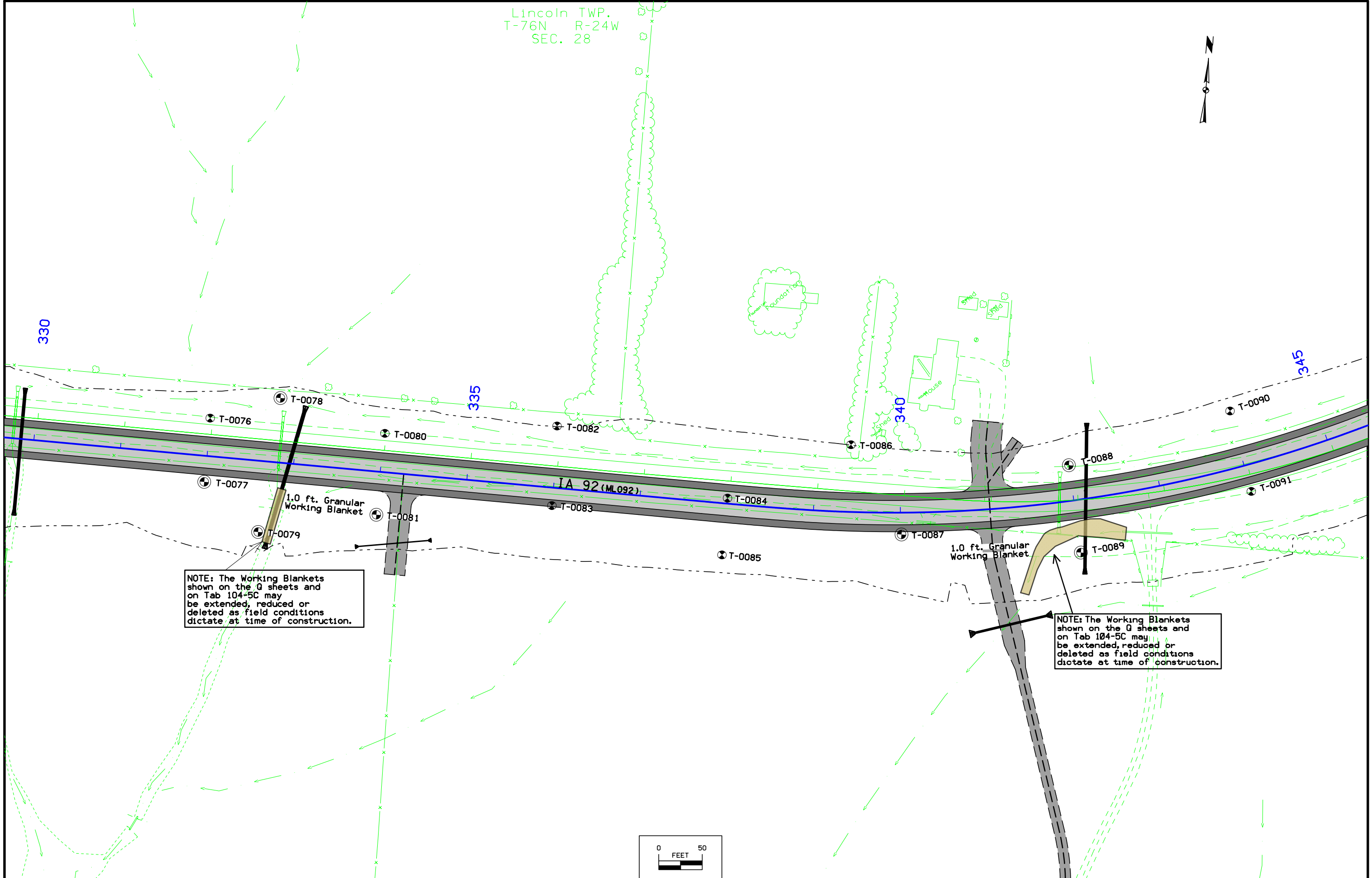


NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.



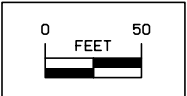


Lincoln TWP.  
T-76N R-24W  
SEC. 28



NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.



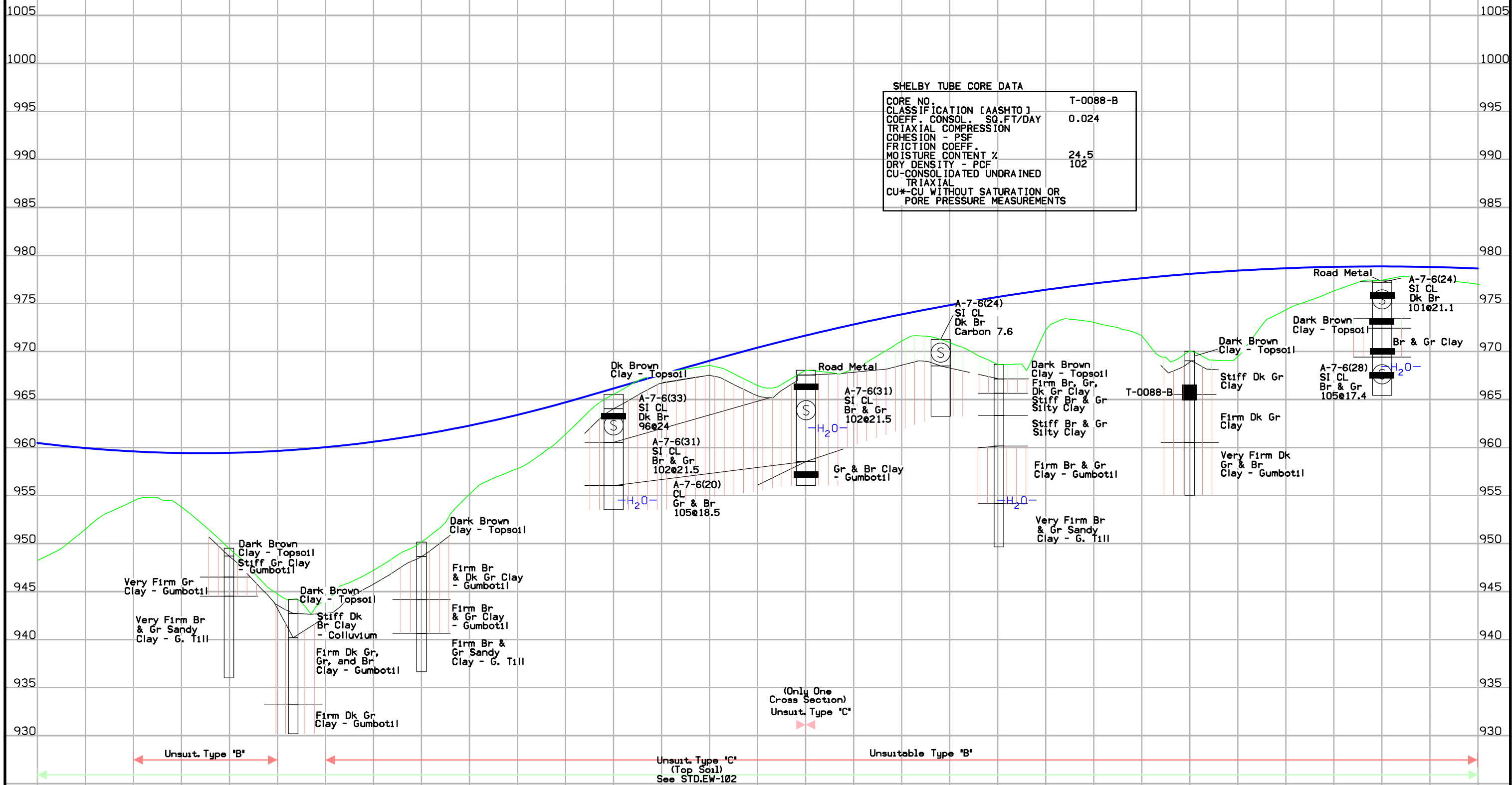
CUT MOISTURE  
CUT DENSITY (lb/ft<sup>3</sup>)  
PLASTIC LIMIT

28  
89  
24

24,28  
95,97  
22

27

24,25,31,33  
93,90,86,85  
24,21

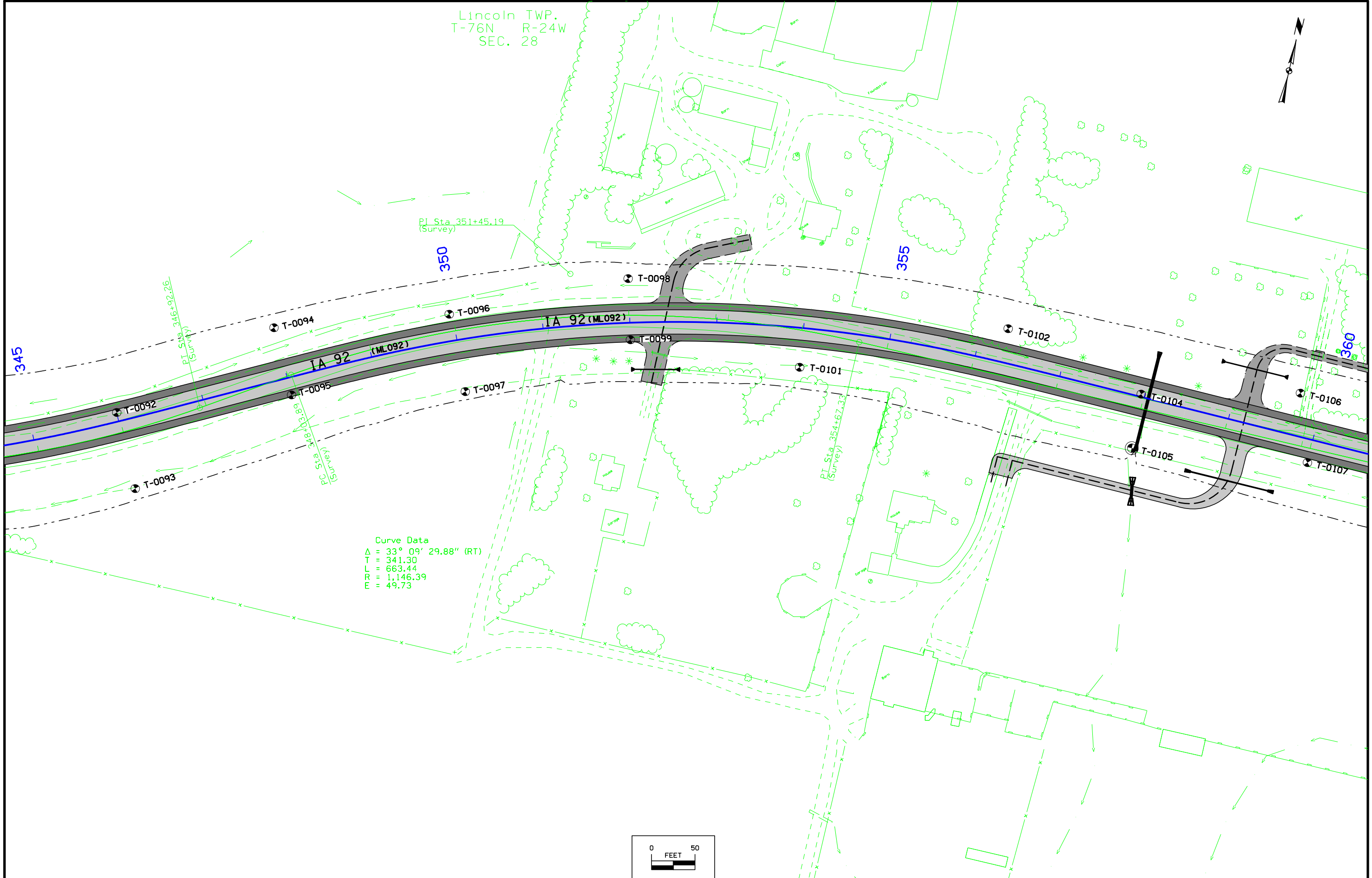


T-0077 Rt. 30    T-0079 Rt. 82    T-0081 Rt. 50    T-0083 Rt. 21    T-0084 Lt. 6    T-0086 Lt. 77    T-0087 Rt. 25    T-0088 Lt. 41    T-0091 Rt. 31

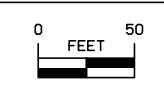
ENGLISH    IOWA DOT    DESIGN TEAM **Stanley\Knight**    WARREN COUNTY    PROJECT NUMBER **NHSX-092-5(51)--3H-91**    SHEET NUMBER **Q.13**



Lincoln TWP.  
T-76N R-24W  
SEC. 28



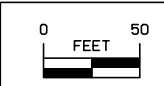
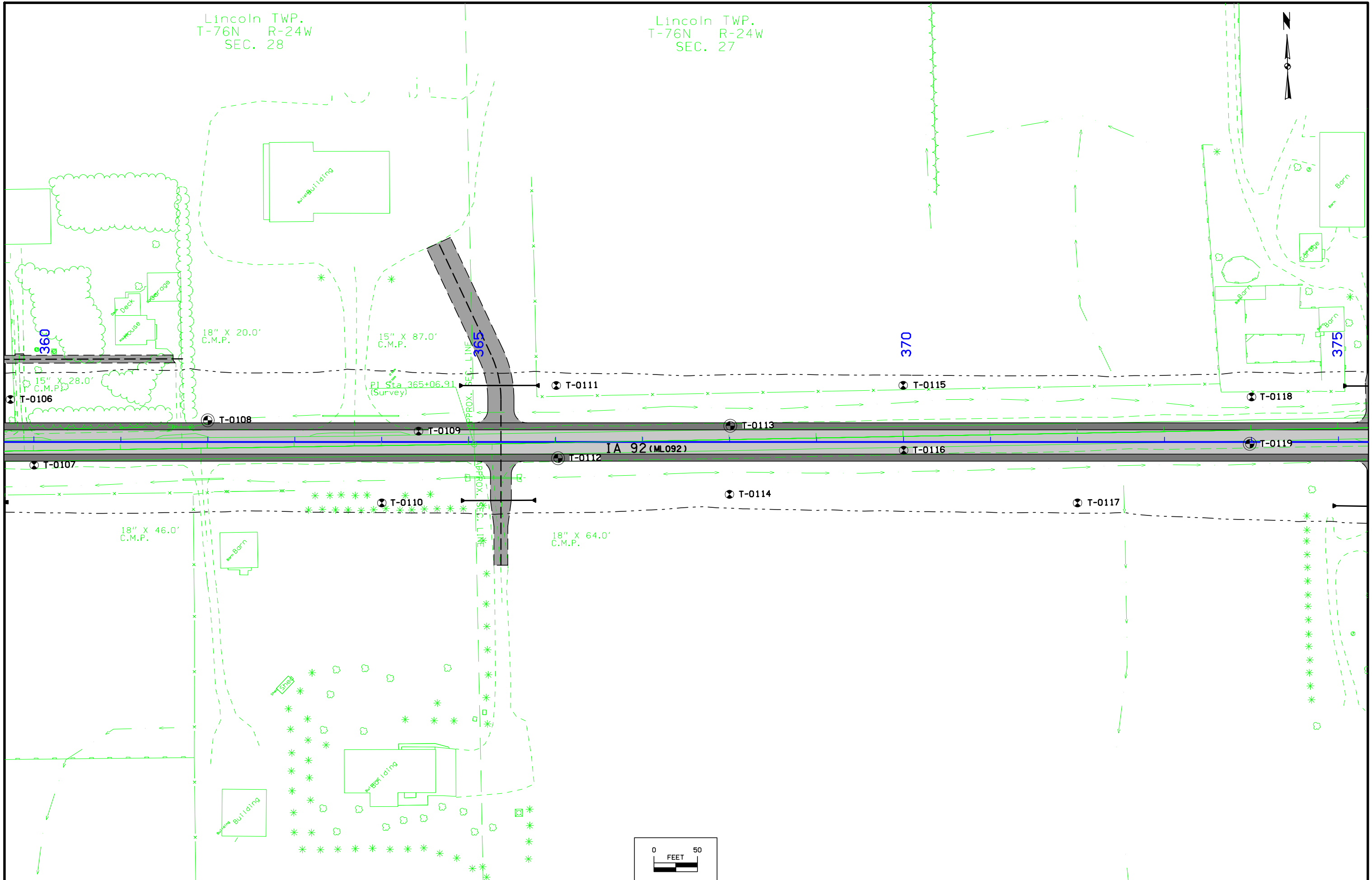
Curve Data  
 $\Delta = 33^\circ 09' 29.88''$  (RT)  
T = 341.30  
L = 663.44  
R = 1,146.39  
E = 49.73





Lincoln TWP.  
T-76N R-24W  
SEC. 28

Lincoln TWP.  
T-76N R-24W  
SEC. 27



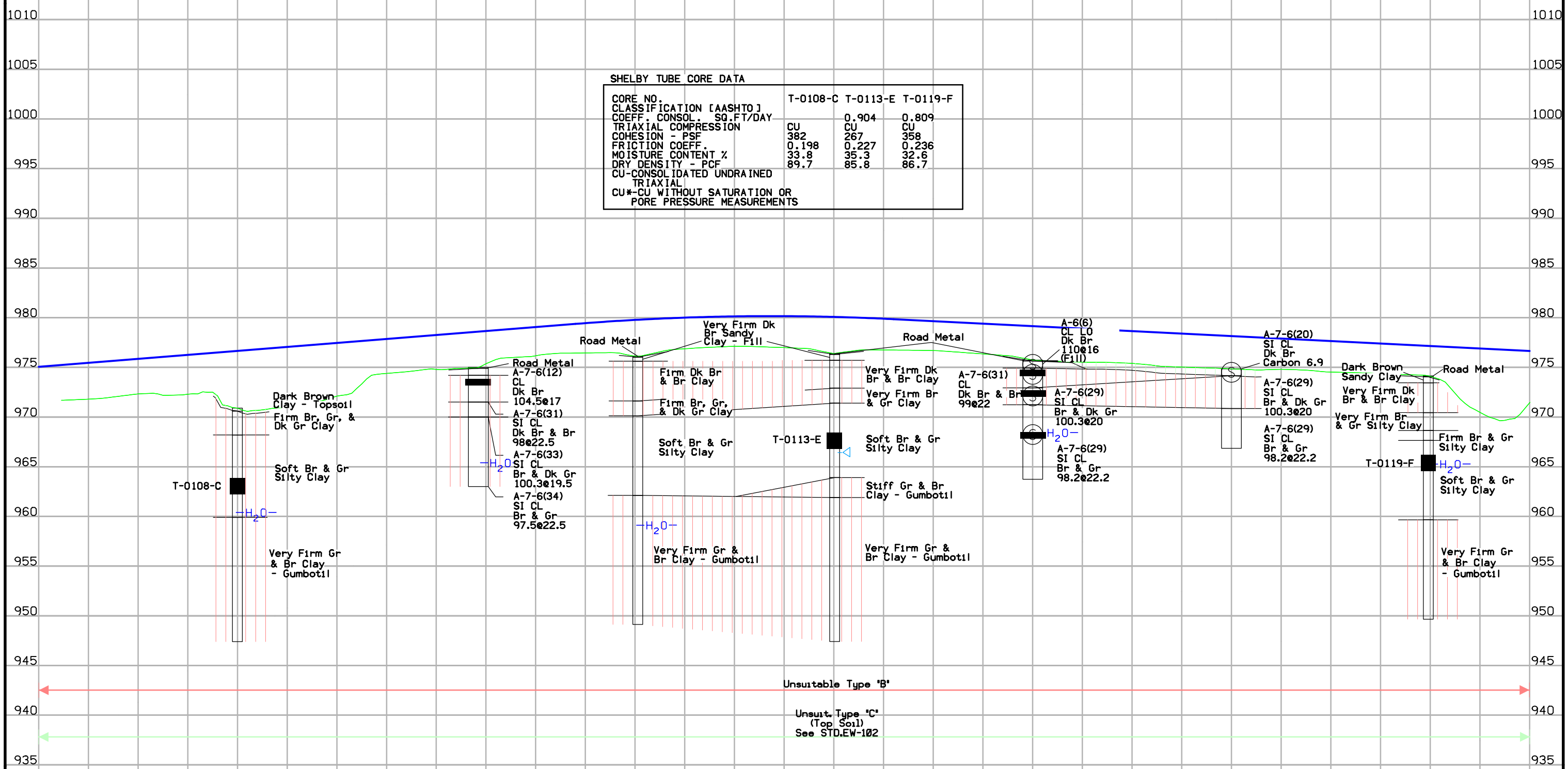
CUT MOISTURE  
CUT DENSITY (lb/ft<sup>3</sup>)  
PLASTIC LIMIT

25  
88

10,25,34  
110,99,84  
20,23,21,20

24

SHELBY TUBE CORE DATA			
CORE NO.	T-0108-C	T-0113-E	T-0119-F
CLASSIFICATION [AASHTO]			
COEFF. CONSOL. SQ.FT/DAY		0.904	0.809
TRIAxIAL COMPRESSION	CU	CU	CU
COHESION - PSF	382	267	358
FRICTION COEFF.	0.198	0.227	0.236
MOISTURE CONTENT %	33.8	35.3	32.6
DRY DENSITY - PCF	89.7	85.8	86.7
CU-CONSOLIDATED UNDRAINED TRIAXIAL			
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS			



T-0108  
Lt. 25

T-0109  
Lt. 12

T-0112  
Rt. 19

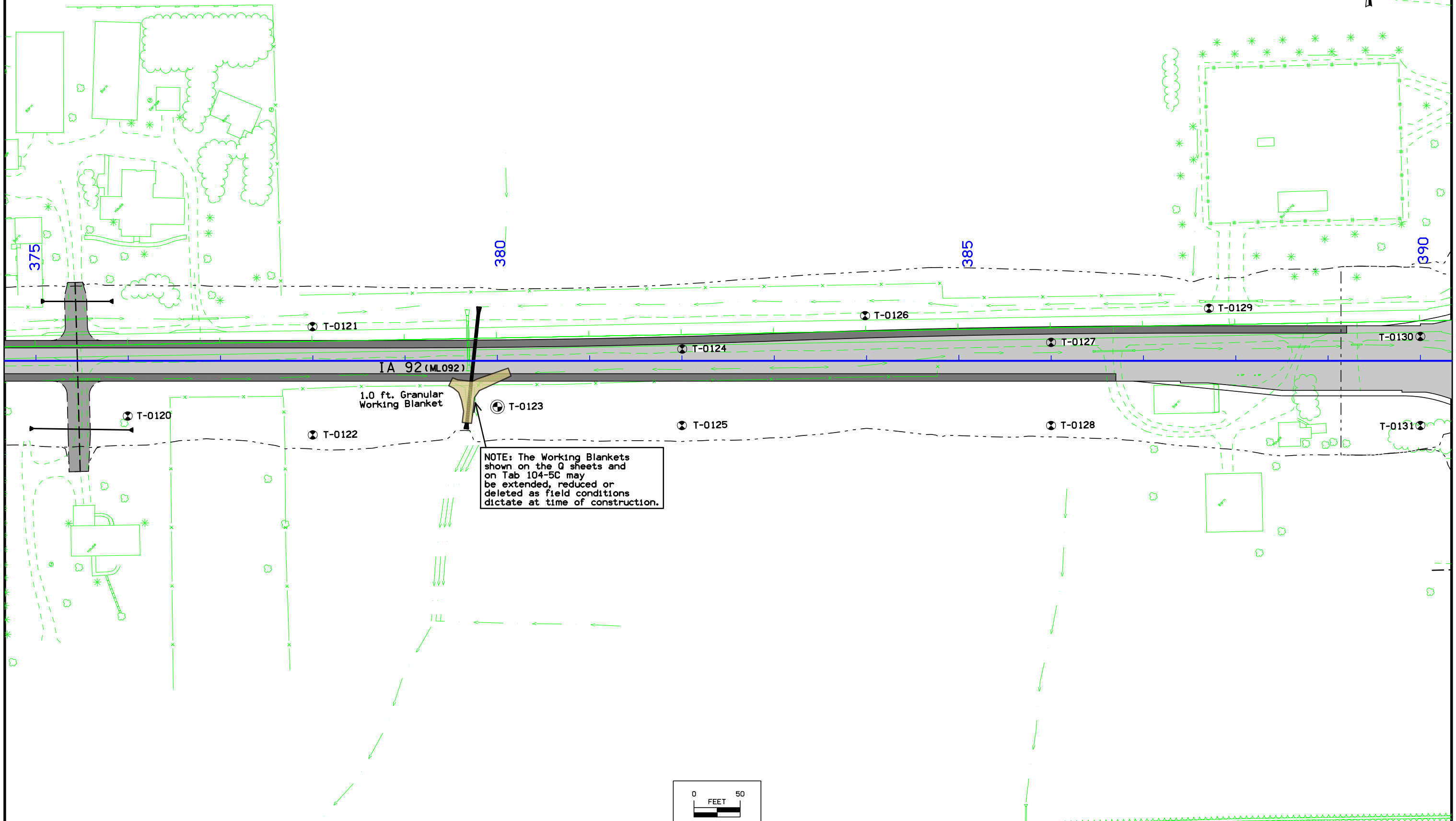
T-0113  
Lt. 19

T-0116  
Rt. 10

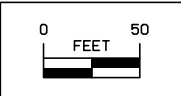
T-0117  
Rt. 70

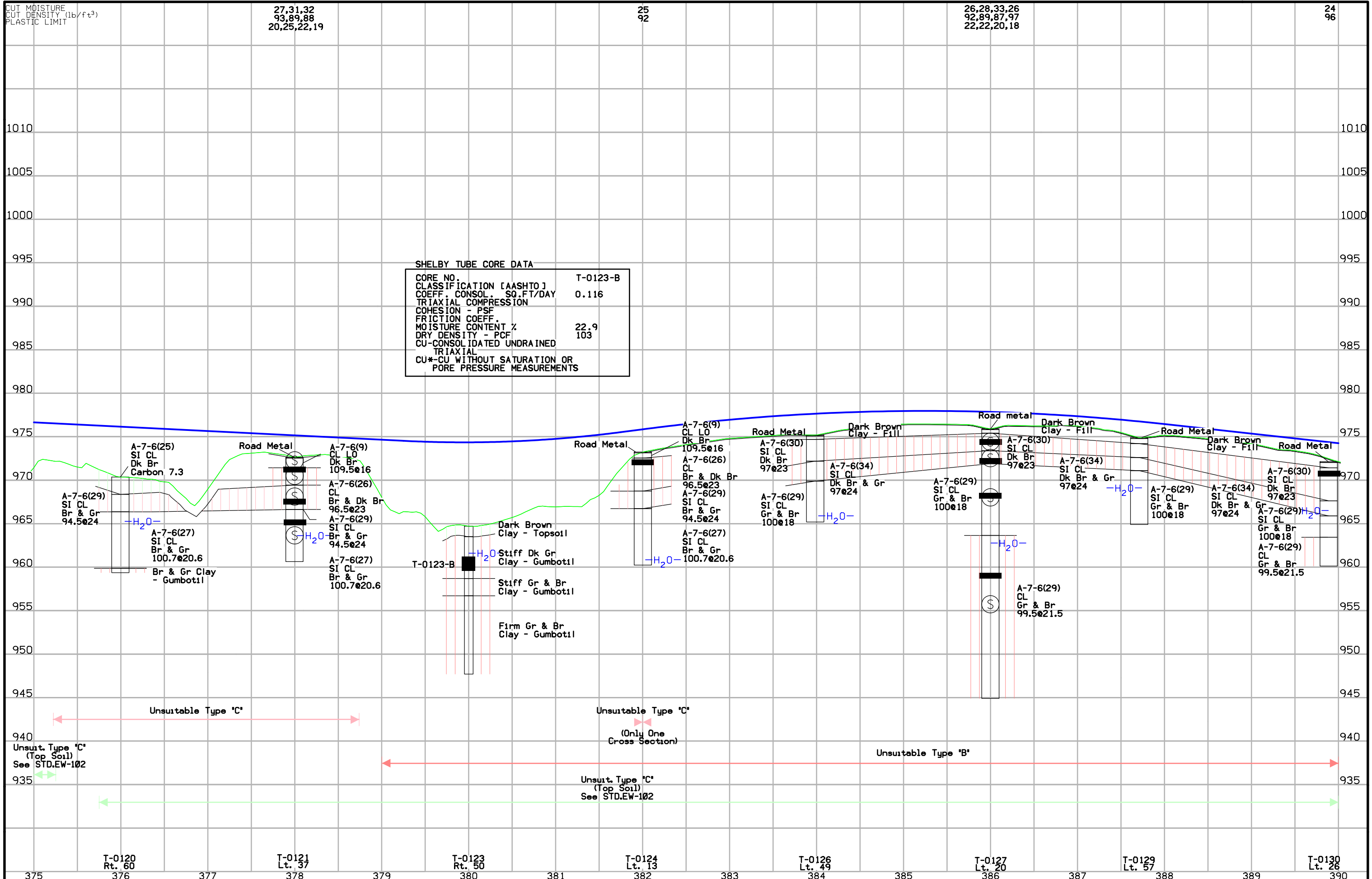
T-0119  
Rt. 2

Lincoln TWP.  
T-76N R-24W  
SEC. 27



NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.





**SHELBY TUBE CORE DATA**

CORE NO.	T-0123-B
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ.FT/DAY	0.116
COHESION - PSF	
FRICITION COEFF.	
MOISTURE CONTENT %	22.9
DRY DENSITY - PCF	103
CU-CONSOLIDATED UNDRAINED TRIAXIAL	
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS	

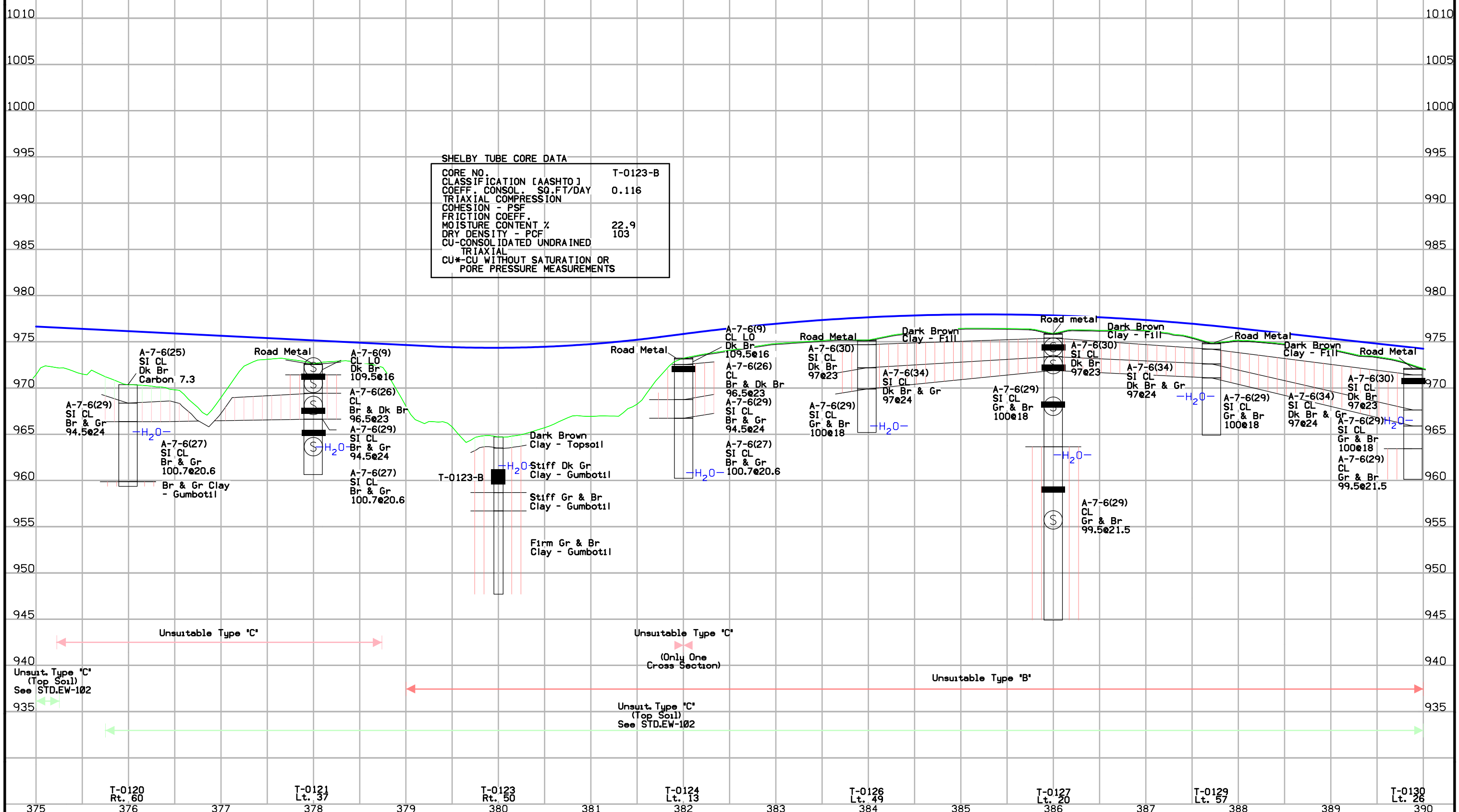
CUT MOISTURE  
CUT DENSITY (lb/ft<sup>3</sup>)  
PLASTIC LIMIT

27,31,32  
93,89,88  
20,25,22,19

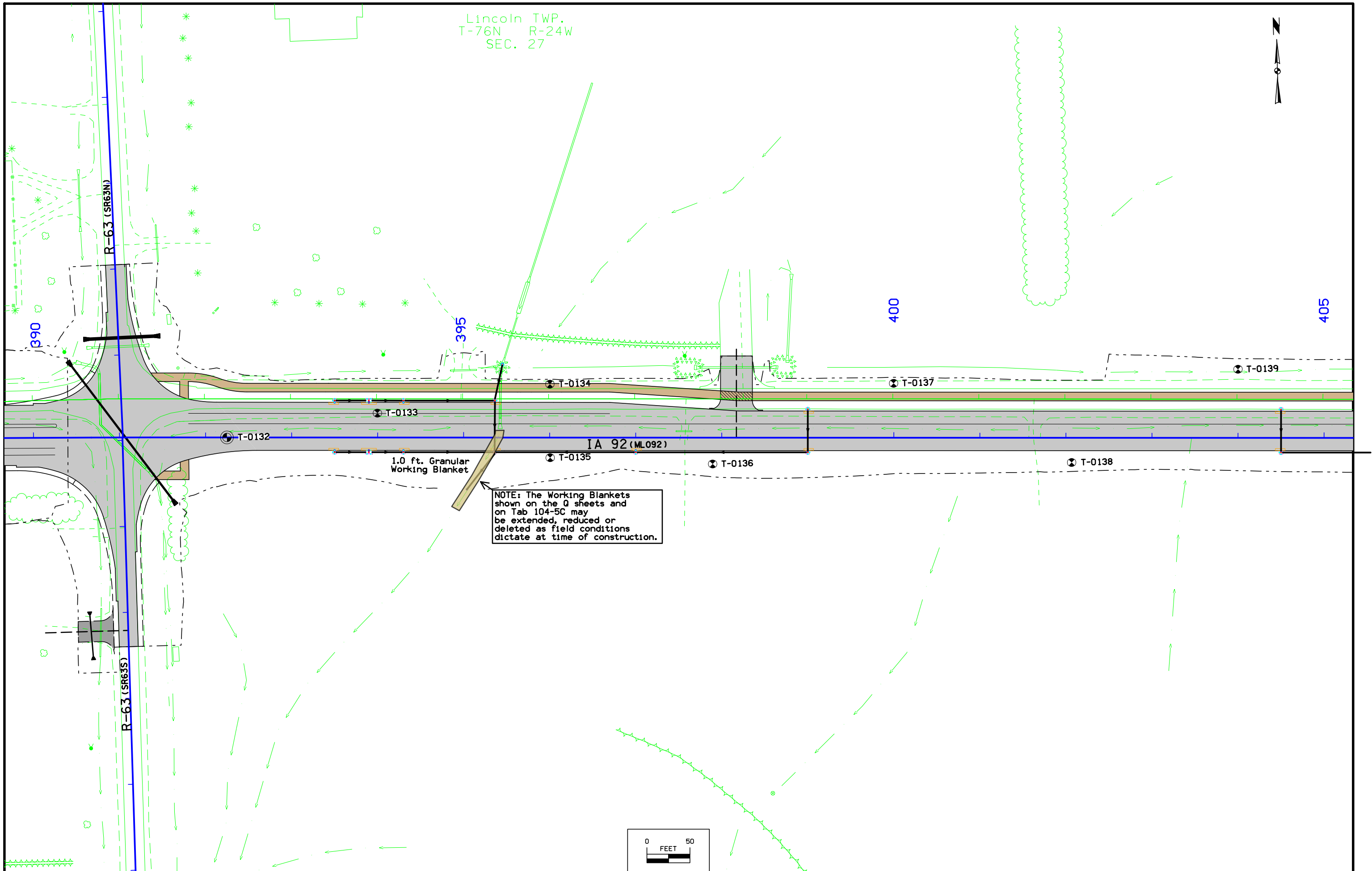
25  
92

26,28,33,26  
92,89,87,97  
22,22,20,18

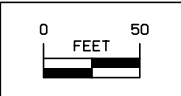
24  
96



Lincoln TWP.  
T-76N R-24W  
SEC. 27



NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.



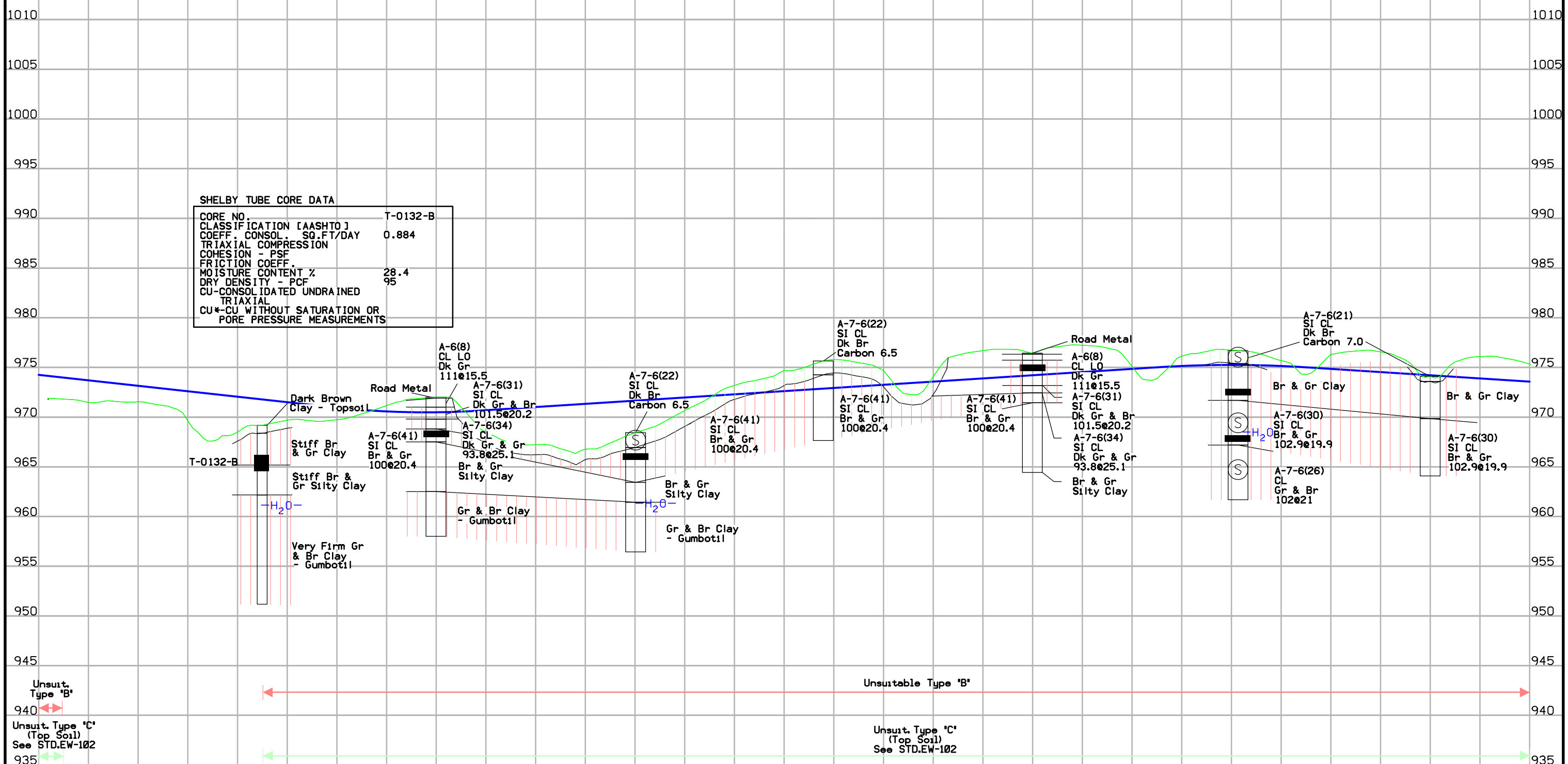
CUT MOISTURE  
CUT DENSITY (lb/ft³)  
PLASTIC LIMIT

24  
94

26  
96  
23

24  
93

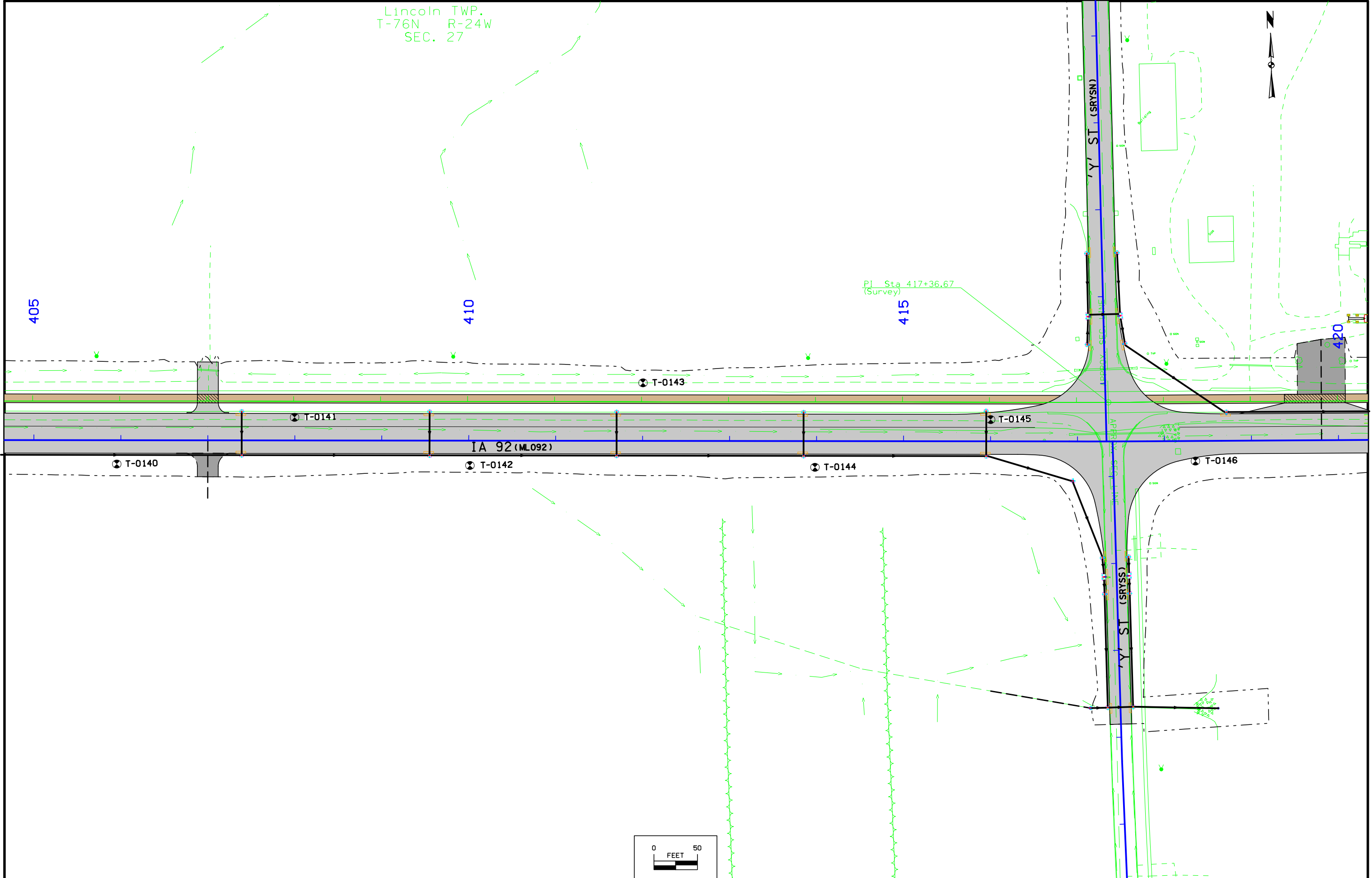
29,28  
89,93  
22,20,21

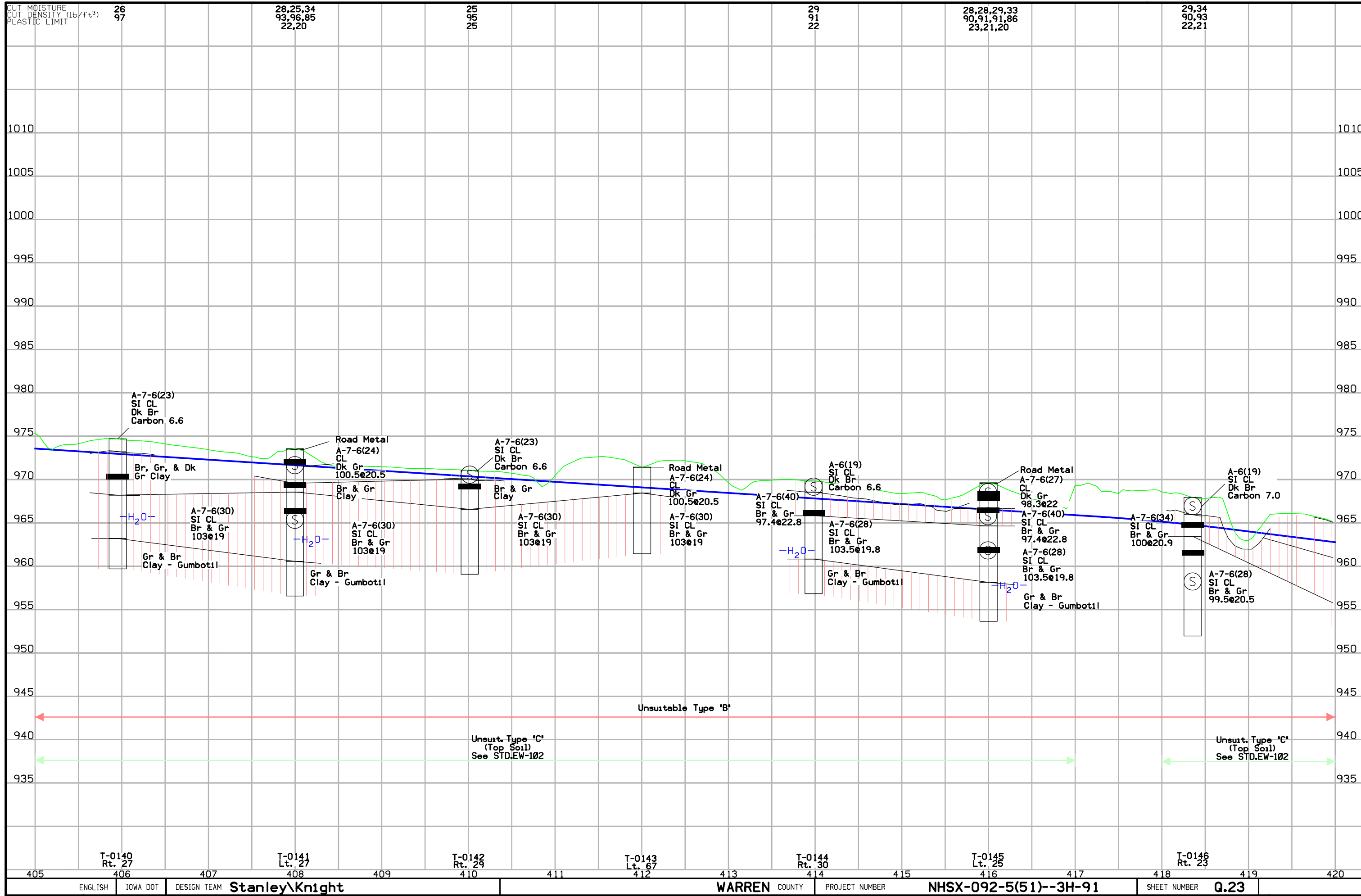


T-0132 CL      T-0133 Lt. 28      T-0135 Rt. 23      T-0136 Rt. 31      T-0137 Lt. 63      T-0138 Rt. 29      T-0139 Lt. 80

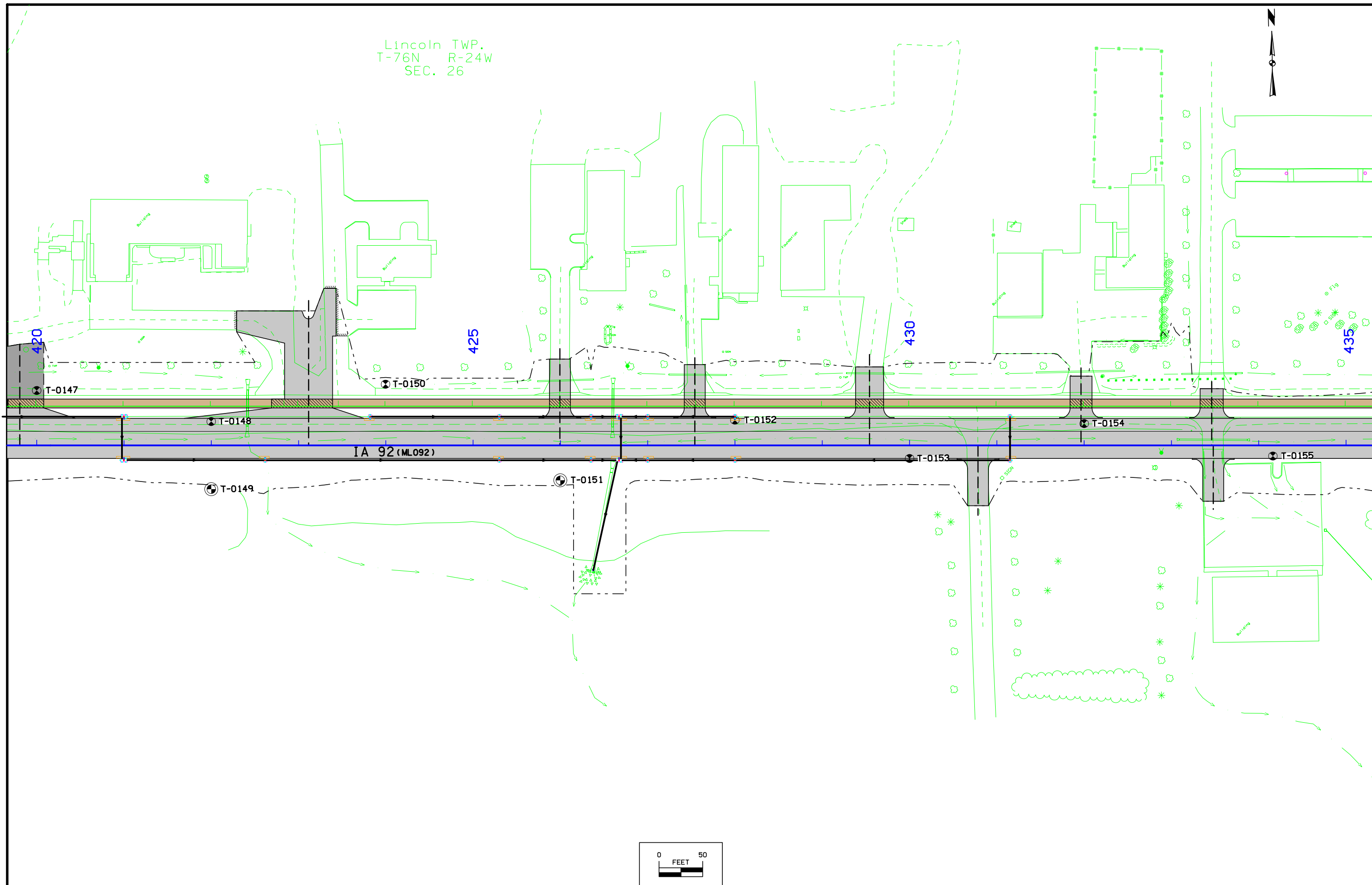


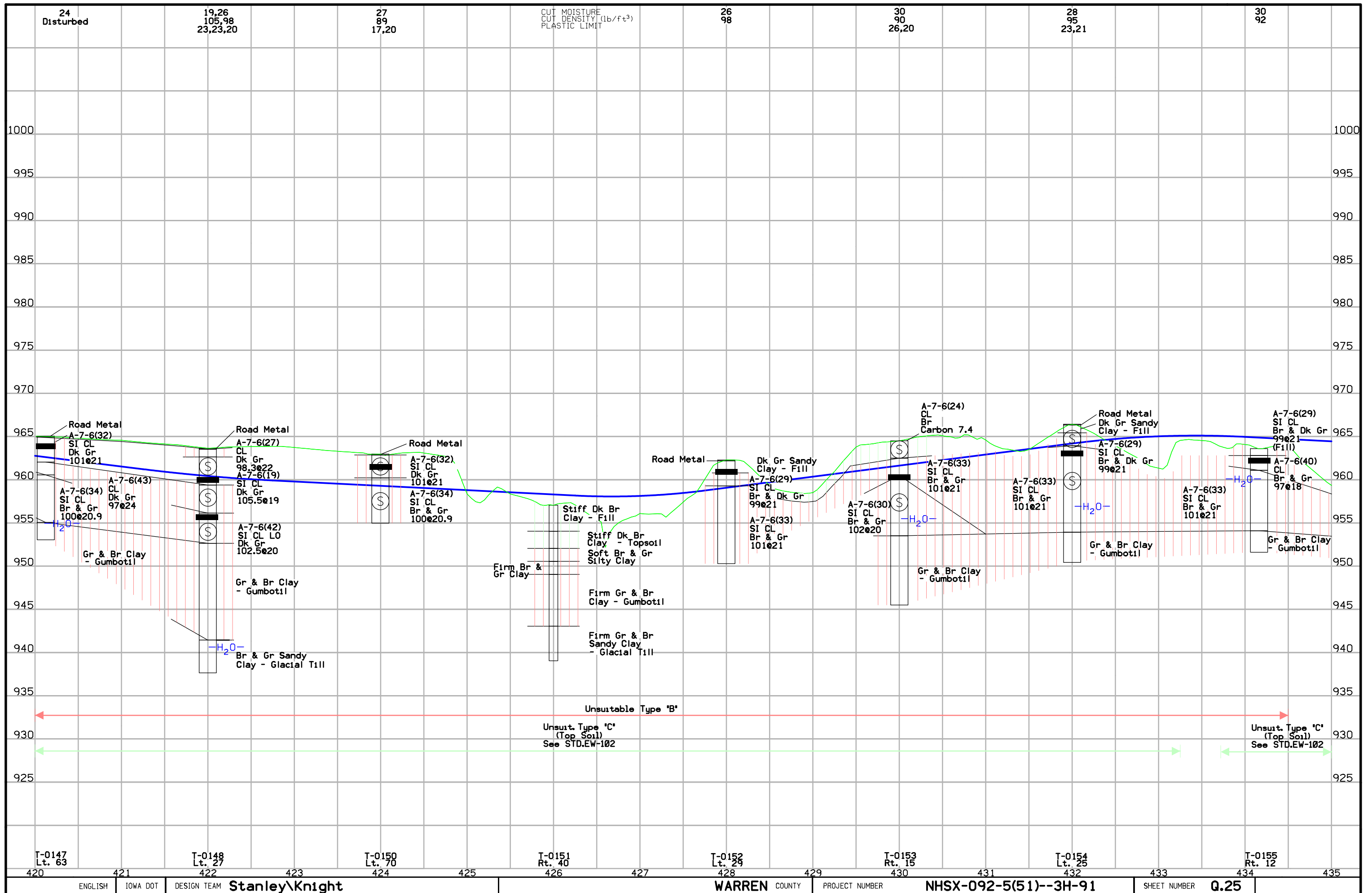
Lincoln TWP.  
T-76N R-24W  
SEC. 27





Lincoln TWP.  
T-76N R-24W  
SEC. 26





Lincoln TWP.  
T-76N R-24W  
SEC. 26



No soil borings performed through widening area.

Sta. 443+18.01  
End Full Width Paving  
& Begin Widening

PC Sta. 447+68.90  
(Survey)

SPRUCE ST.

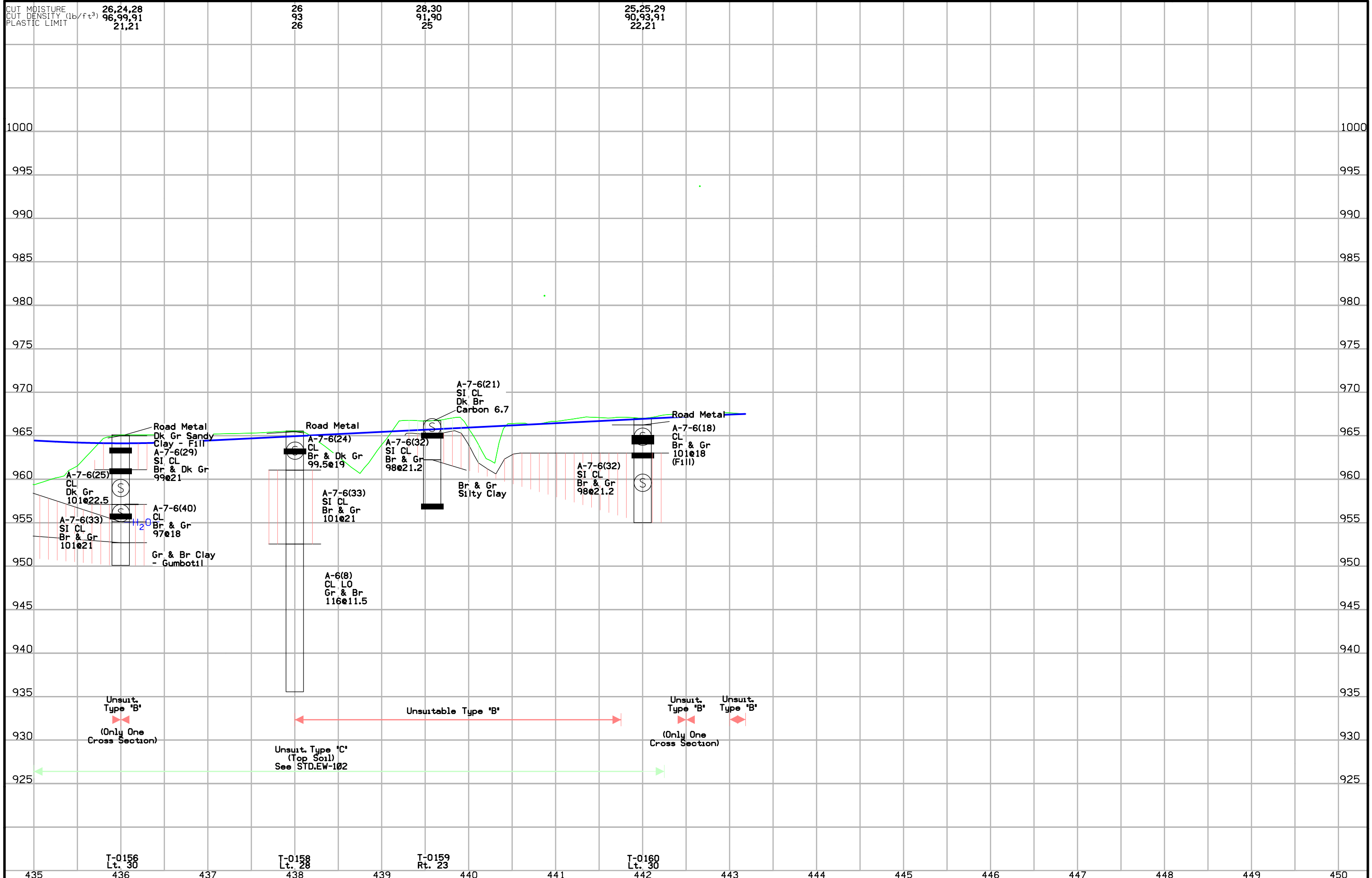
'R' ST.

IA 92 (ML092)

1.0 ft. Granular Working Blanket

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.





CUT MOISTURE  
CUT DENSITY (lb/ft³)  
PLASTIC LIMIT

26,24,28  
96,99,91  
21,21

26  
93  
26

28,30  
91,90  
25

25,25,29  
90,93,91  
22,21

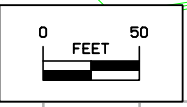
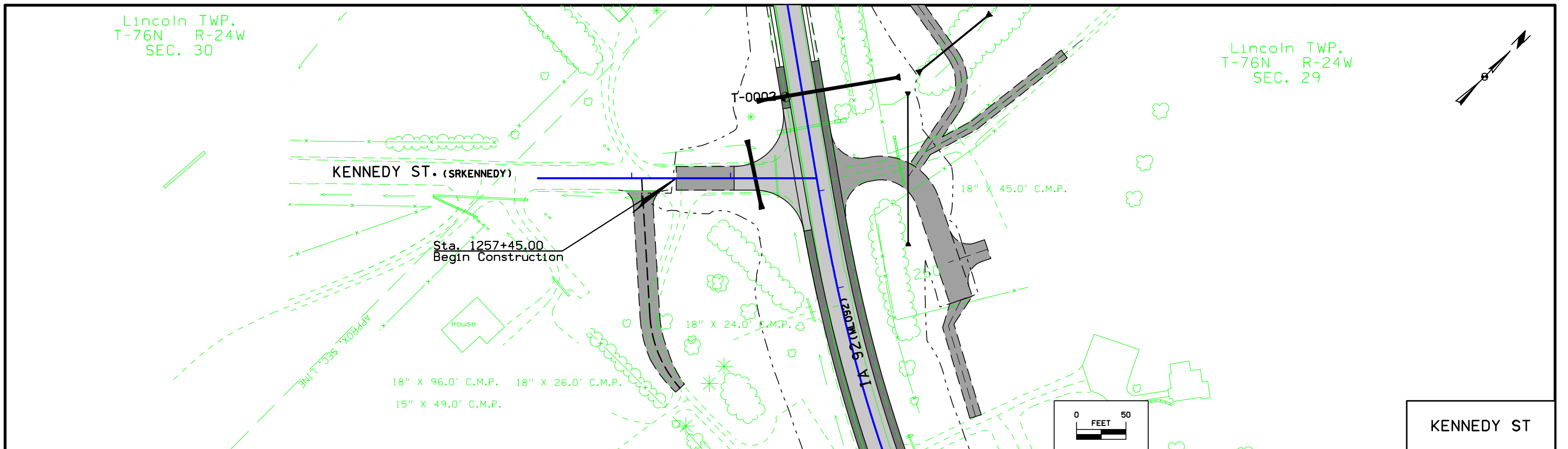
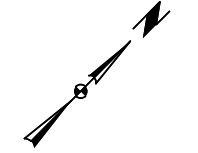
1000  
995  
990  
985  
980  
975  
970  
965  
960  
955  
950  
945  
940  
935  
930  
925

1000  
995  
990  
985  
980  
975  
970  
965  
960  
955  
950  
945  
940  
935  
930  
925

435      T-0156 Lt. 30      436      437      T-0158 Lt. 28      438      T-0159 Rt. 23      439      440      441      T-0160 Lt. 30      442      443      444      445      446      447      448      449      450

Lincoln TWP.  
T-76N R-24W  
SEC. 30

Lincoln TWP.  
T-76N R-24W  
SEC. 29



KENNEDY ST

CUT MOISTURE  
CUT DENSITY (lb/ft<sup>3</sup>)  
PLASTIC LIMIT

		1257	1258		
960					960
955					955
950					950
945					945
940					940
935					935
930					930

A-7-6(26)  
SI CL  
Dk Gr & Br  
104@19.5  
(Fill)

A-7-6(30)  
SI CL  
Br & Gr  
95.4@21.8

A-6(6)  
CL LO  
Br & Gr  
112@15

Unsuit. Type "B"

Unsuit. Type "C"  
(Top Soil)  
See STD.EW-102

T-0002  
Lt. 82

Lincoln TWP.  
T-76N R-24W  
SEC. 29

Sta. 1280+60.00  
Begin Construction

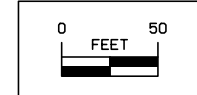
Sta. 1386+06.00  
End Construction

R-57 (SR57S)

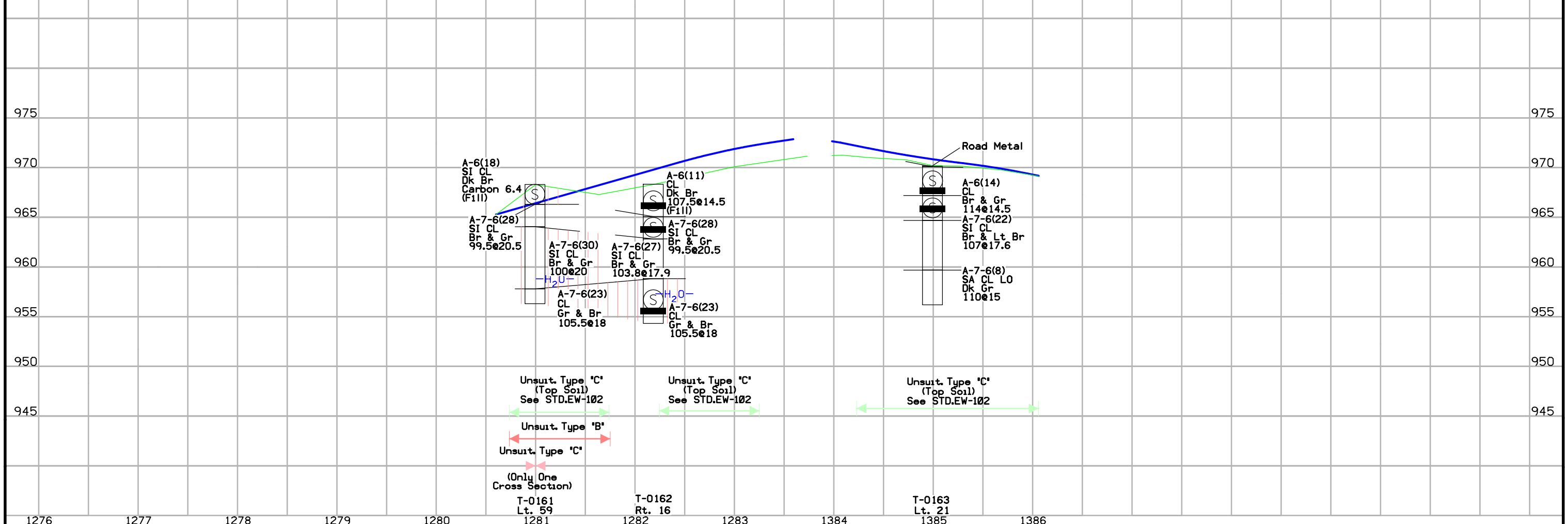
R-57 (SR57N)

IA 92 (M.L.092)

COUNTY  
R-57



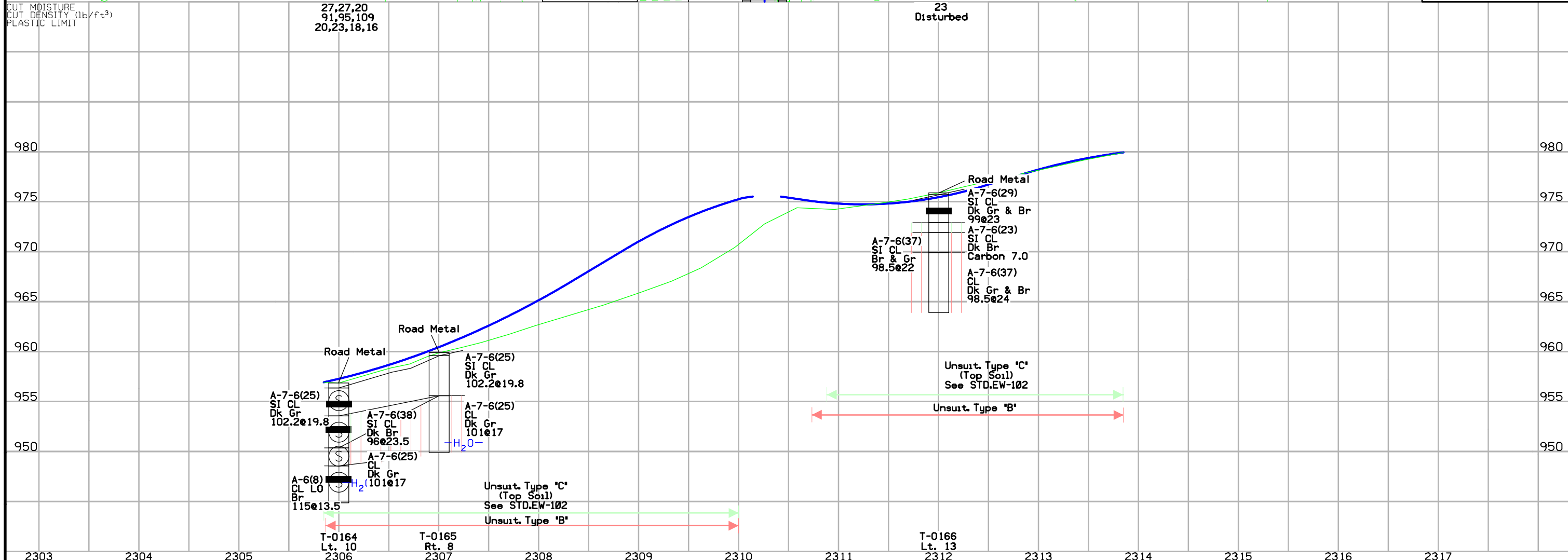
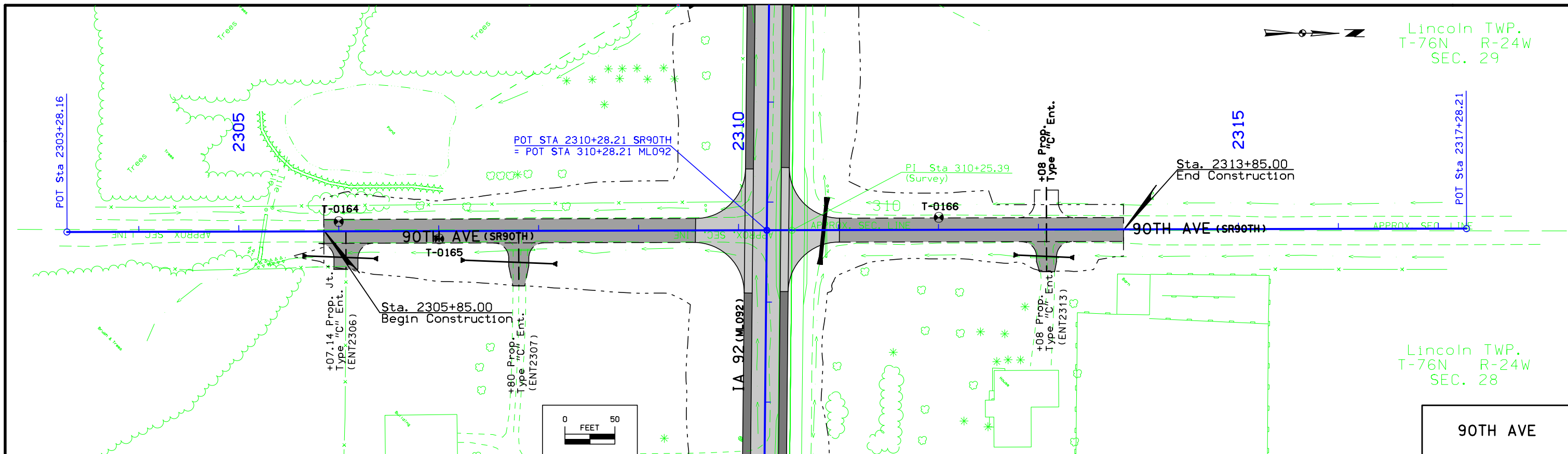
CUT MOISTURE	CUT DENSITY (lb/ft <sup>3</sup> )	PLASTIC LIMIT
	22	19,28,26 104,88,97 20,23,18
		16,24 107,99 18,20

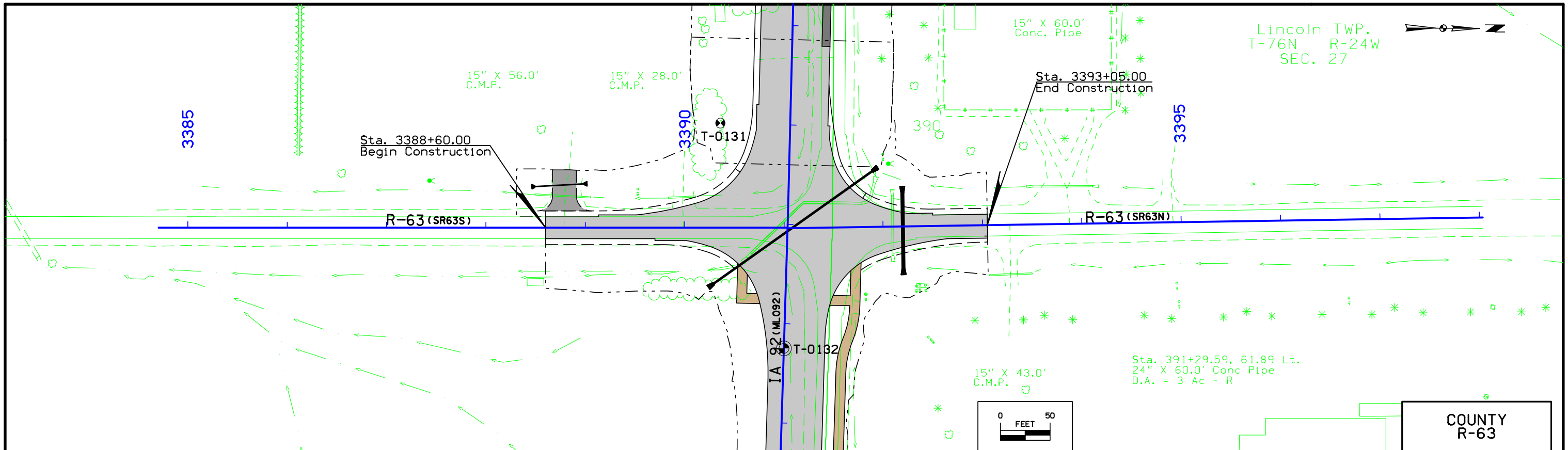




Lincoln TWP.  
T-76N R-24W  
SEC. 29

Lincoln TWP.  
T-76N R-24W  
SEC. 28

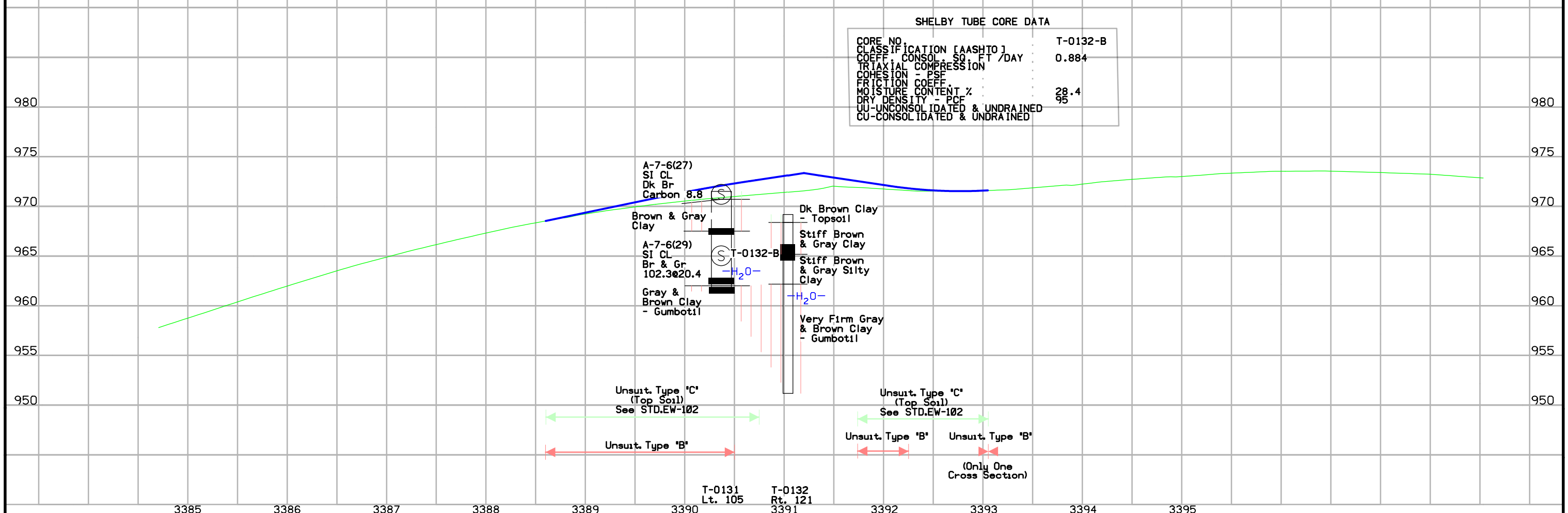


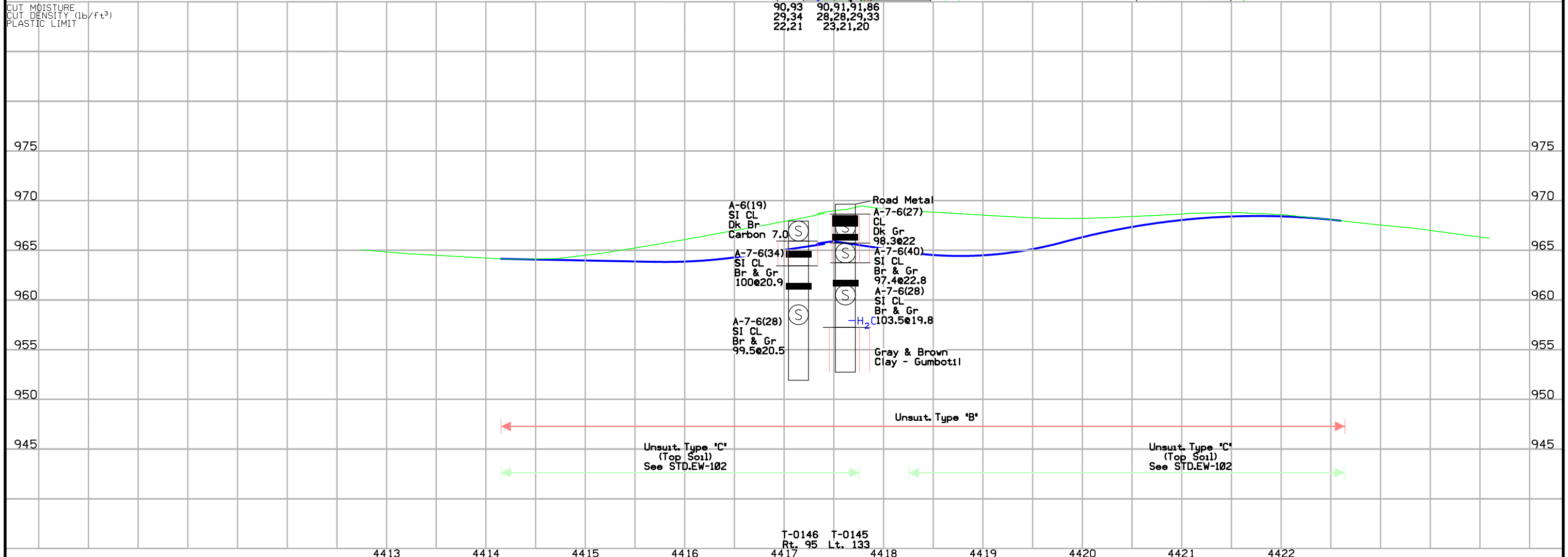
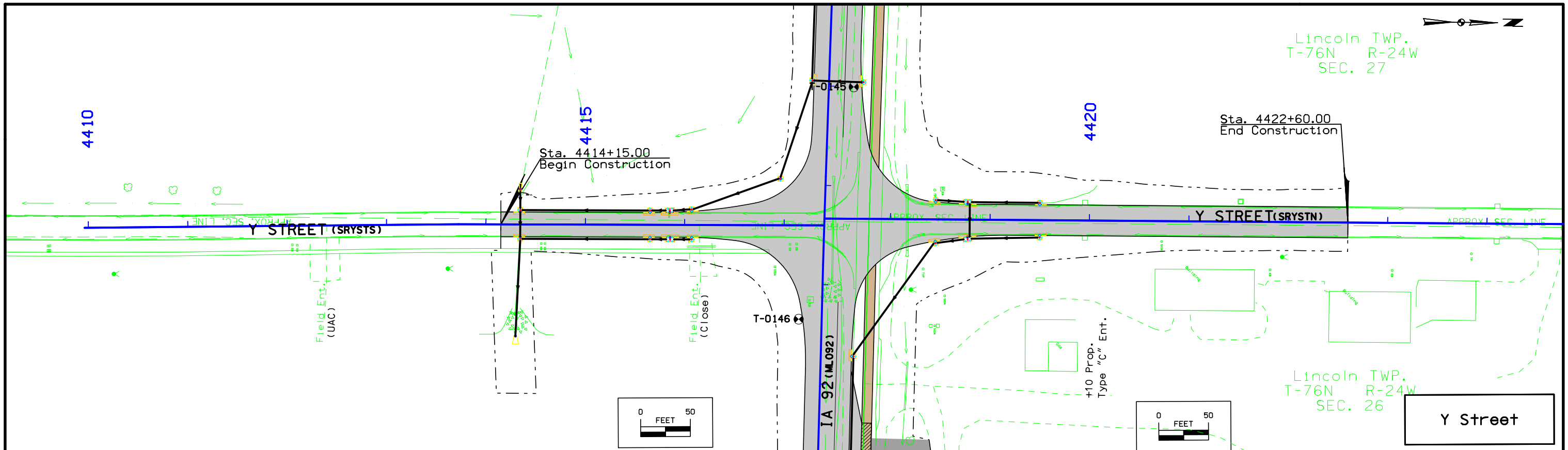


CUT MOISTURE	CUT DENSITY (lb/ft <sup>3</sup> )	PLASTIC LIMIT
	26,28,27	95,95,96
		29,20

**SHELBY TUBE CORE DATA**

CORE NO.	T-0132-B
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ. FT / DAY	0.884
TRIAxIAL COMPRESSION	
COHESION - PSF	
FRICTION COEFF.	
MOISTURE CONTENT %	28.4
DRY DENSITY - PCF	95
UU-UNCONSOLIDATED & UNDRAINED	
CU-CONSOLIDATED & UNDRAINED	





### SURVEY SYMBOLS

- TDC Tree Deciduous
- PPA Power Pole Co. 1
- FWD Wood Fence
- LUM Luminaire
- TEV Evergreen Tree
- LP L.P. Tank
- D Centerline Draw or Stream (Down)
- RET Retaining Walls
- SI Sign
- SHR Shrub
- SI Sign
- EW Edge of Water
- DIK Centerline of Dike or Dam
- FLG Flag Poles
- WM Wind Mill
- FCL Chain Link and Security Fence
- HDG Hedge Row
- TV Satellite TV Dish
- RT Radio Tower
- INB Storm Sewer Beehive Intake
- WV Water Valve
- FHD Fire Hydrants
- WEL Well
- MH Utility Access (Manhole)
- LUM Luminaire
- MIS Miscellaneous
- TPD Telephone Pedestal
- EB Electrical Box
- UB Utility Box
- PR Electric Riser Pole
- FW Wire Fence
- GP Guard Post (Less Than 4 Posts)
- IN Storm Sewer Intake
- TLN Treeline
- TVP TV Pedestal
- SEP Septic Tank
- OUT Tile Outlet
- TIL Tile Line
- UST Underground Tank
- GV Gas Valve
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- BL Topo Breakline
- RIP Rip-Rap

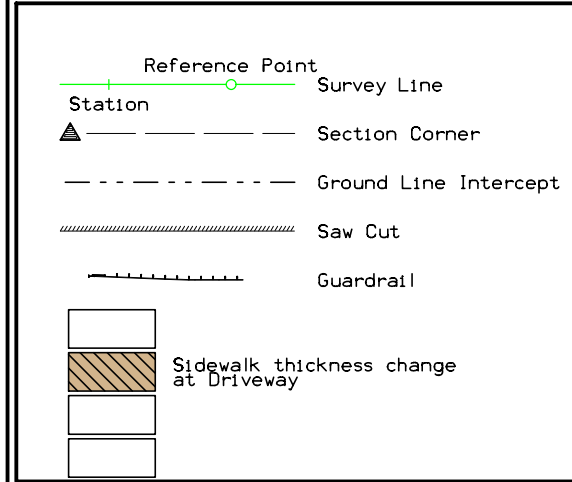
- St.S. STA Storm Sewer Line Co. 1
- F03 FOC Underground Fiber Optic Co. 3
- F05 FOE Underground Fiber Optic Co. 5
- F02 FOB Underground Fiber Optic Co. 2
- San. SAA Sanitary Sewer Line Co. 1
- T1 TLA Underground Telephone Line Co. 1
- E1 ELA Underground Electric Line Co. 1
- G GLA Underground Gas Line Co. 1
- W WLA Underground Water Line Co. 1
- F0 FOA Underground Fiber Optic Co. 1
- E2 ELB Underground Electric Line Co. 2
- San.2 SAB Sanitary Sewer Line Co. 2
- GLB Underground Gas Line Co. 2
- F04 FOD Underground Fiber Optic Co. 4
- WLB Underground Water Line Co. 2

### UTILITY LEGEND

- F0 FOA Paetac Iowa Communications Network
- F02 FOB Lightcore (Digital Teleport)
- F03 FOC Iowa Network Service
- F04 FOD Indianola Municipal Utilities
- F05 FOE MCI
- T1 TLA Qwest
- E1 ELA Mid-American
- E2 ELB Indianola Municipal Utilities
- W WLA Indianola Municipal Utilities
- San. SAA City of Indianola
- San.2 SAB Private
- G GLA Mid-American
- GLB Kinder Morgan
- St.S. STA City of Indianola
- PPA Mid-American

### 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.	
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading
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 Grade and Pave Shading
Brown, Light	(236)		Grading Shading

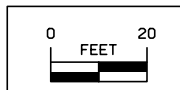
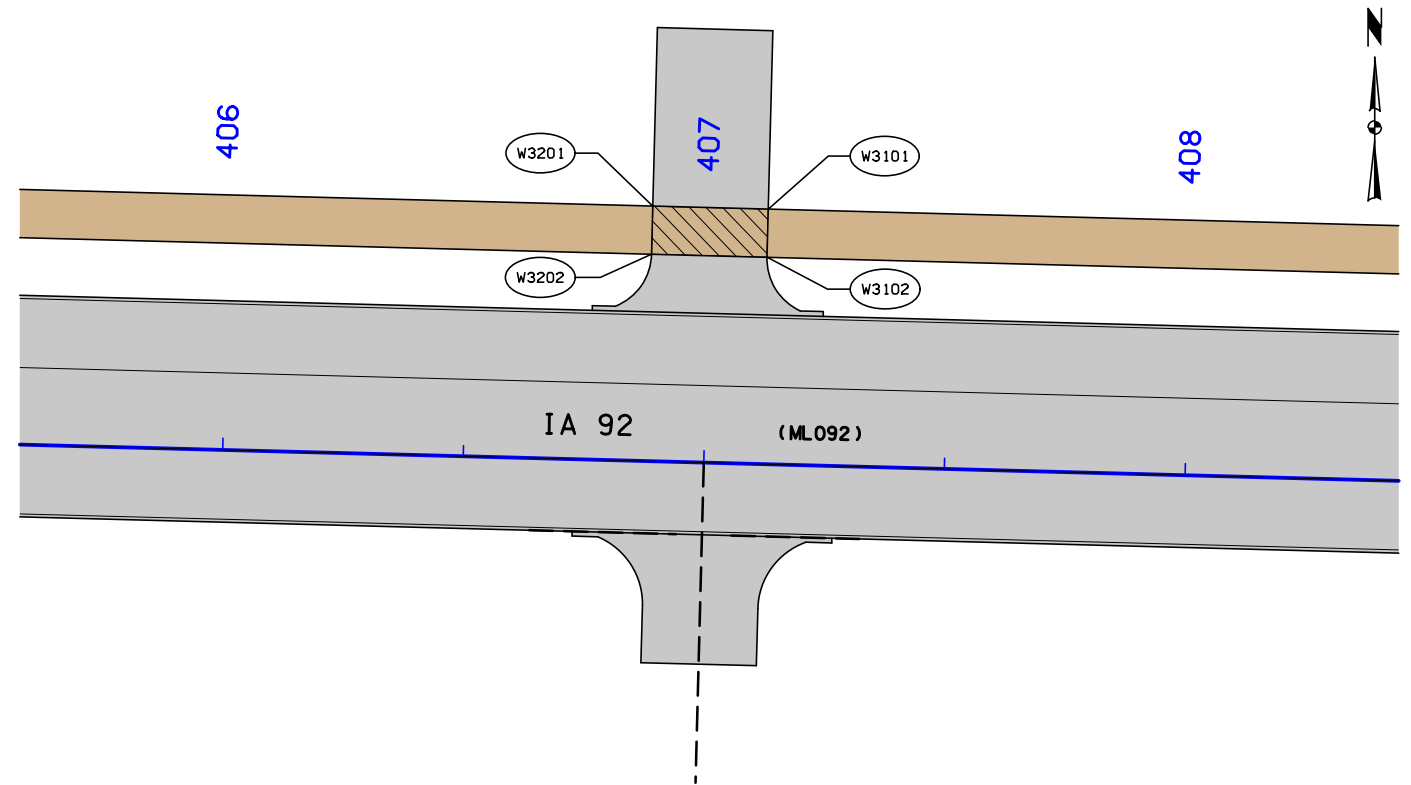
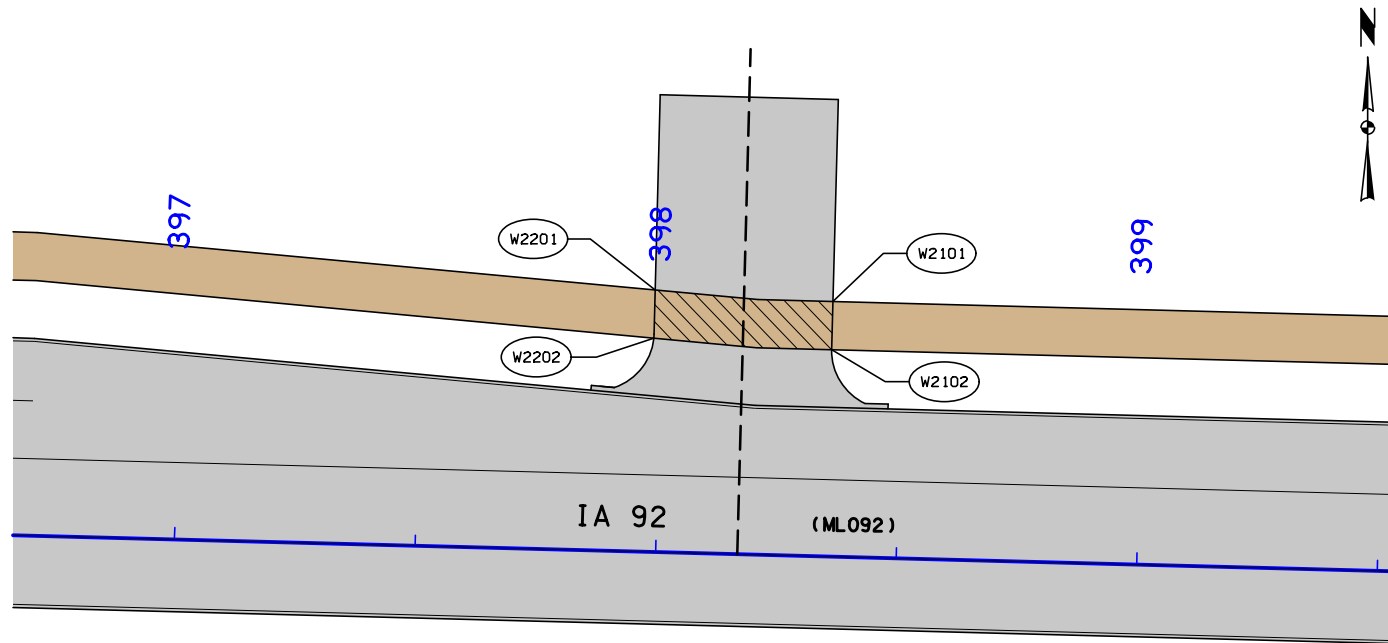
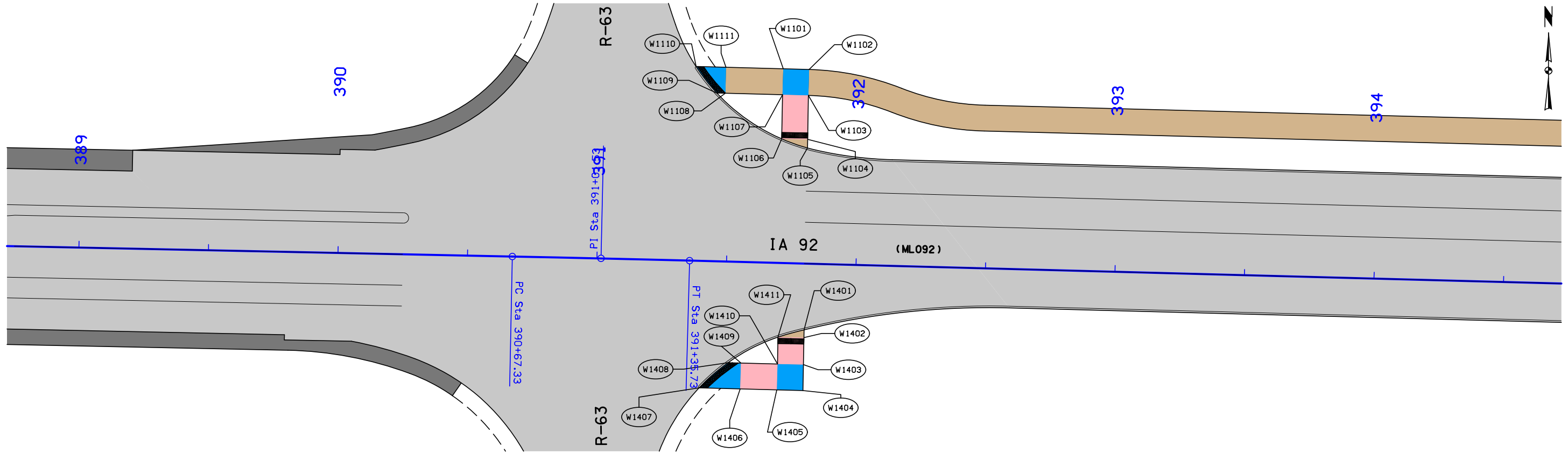


### RIGHT-OF-WAY LEGEND

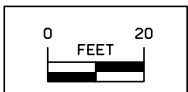
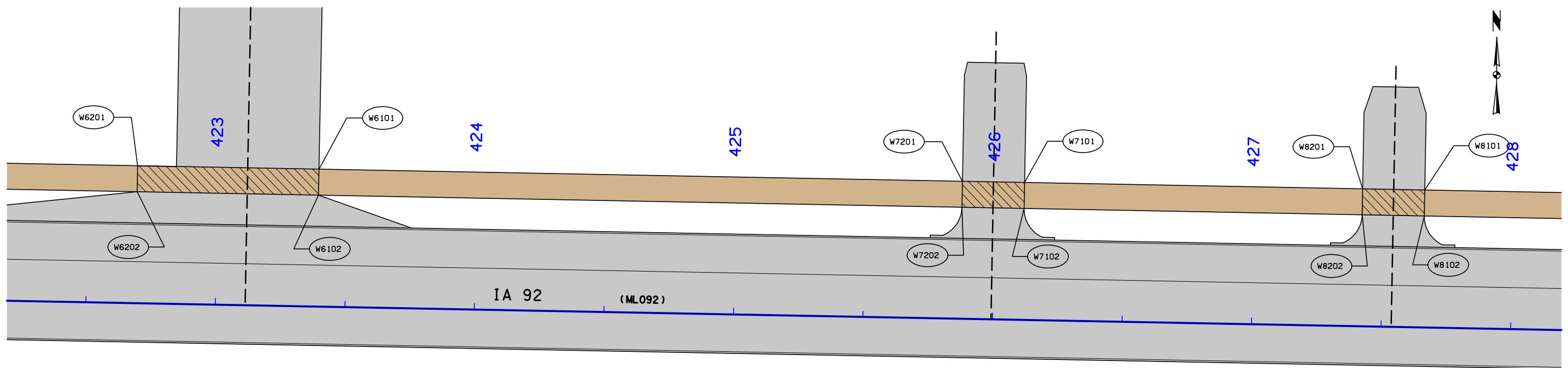
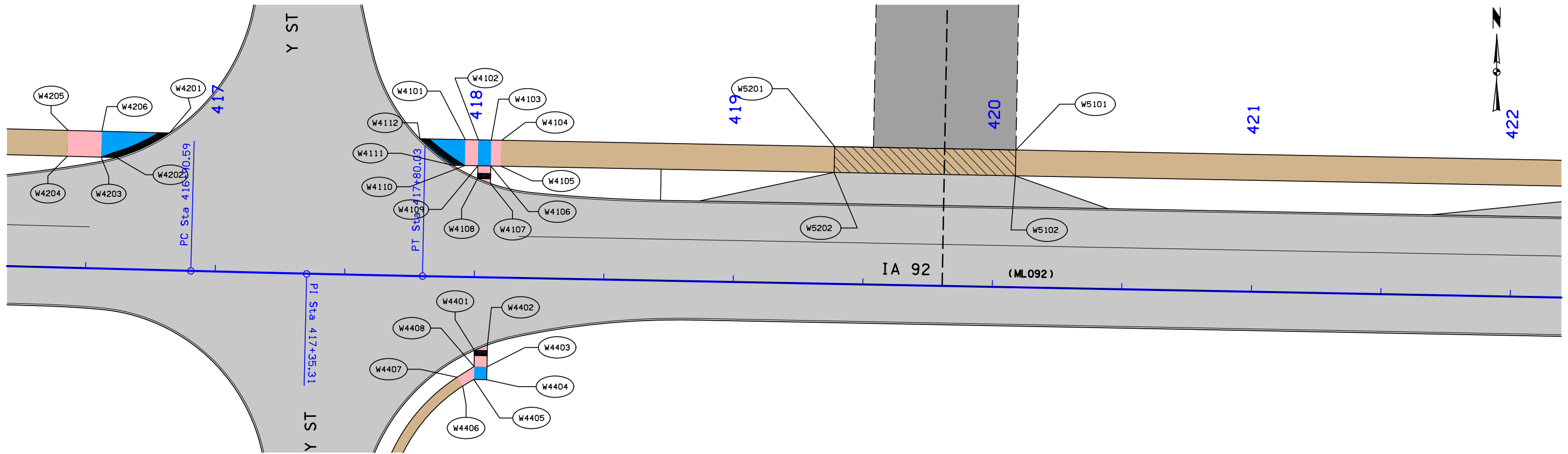
- Proposed Right-of-Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Borrow
- Easement (Temporary)
- Easement
- Excess
- Access Control

## SIDEWALK LEGEND AND SYMBOL INFORMATION SHEET

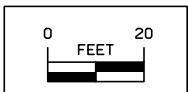
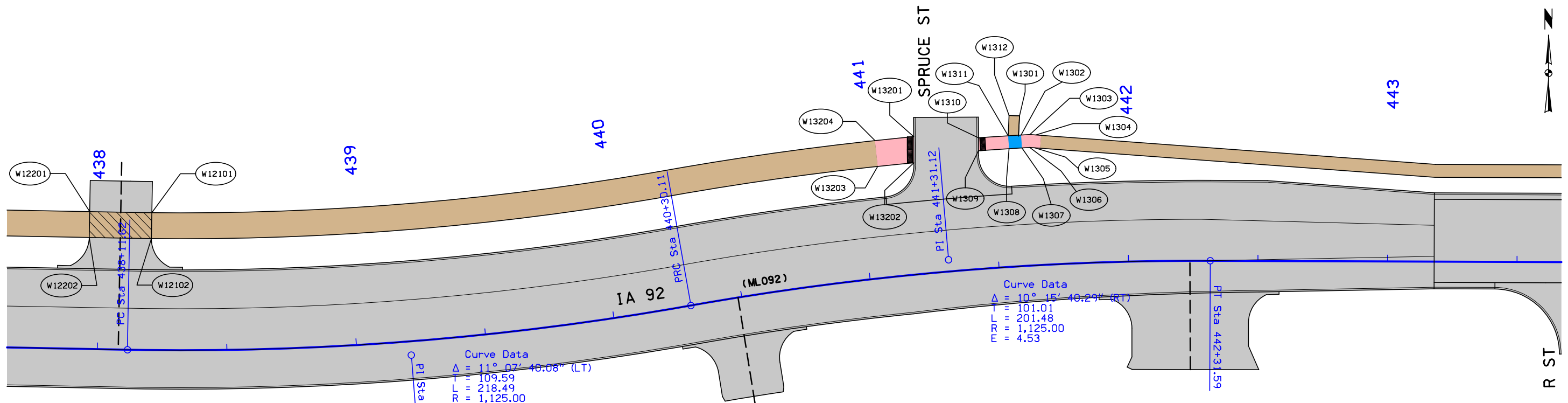
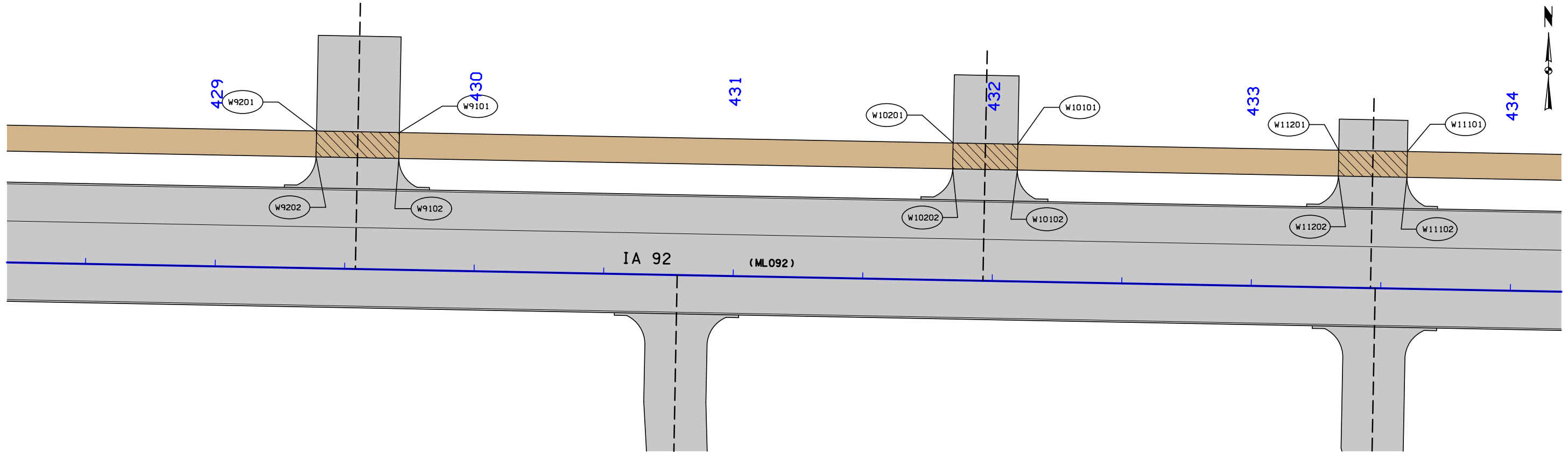
(COVERS SHEET SERIES S)



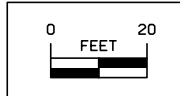
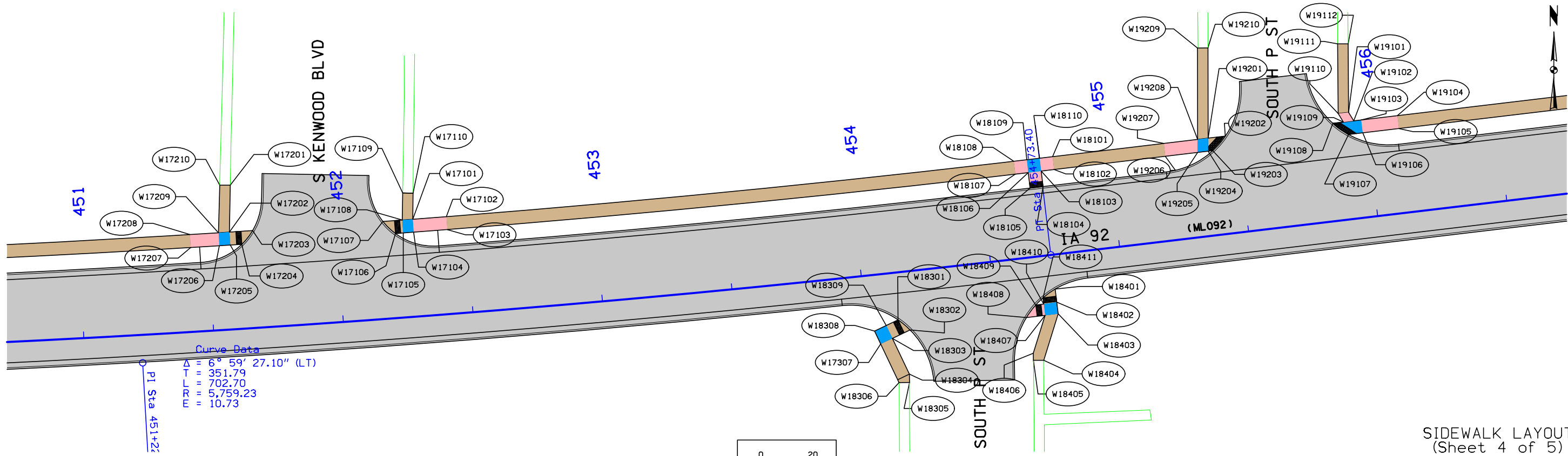
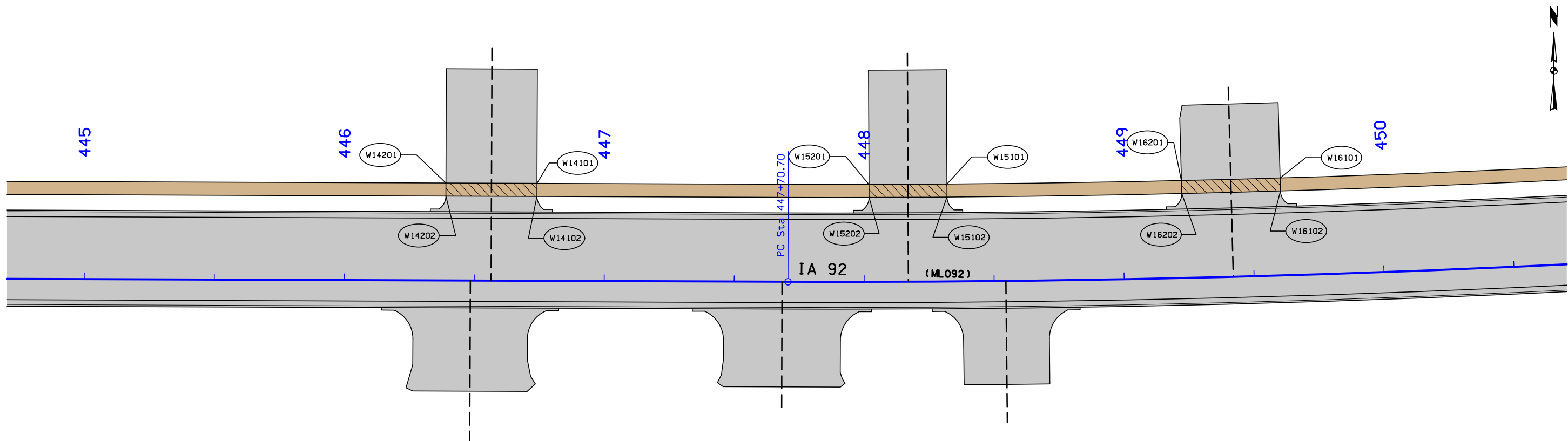
SIDEWALK LAYOUT  
(Sheet 1 of 5)



SIDEWALK LAYOUT  
(Sheet 2 of 5)

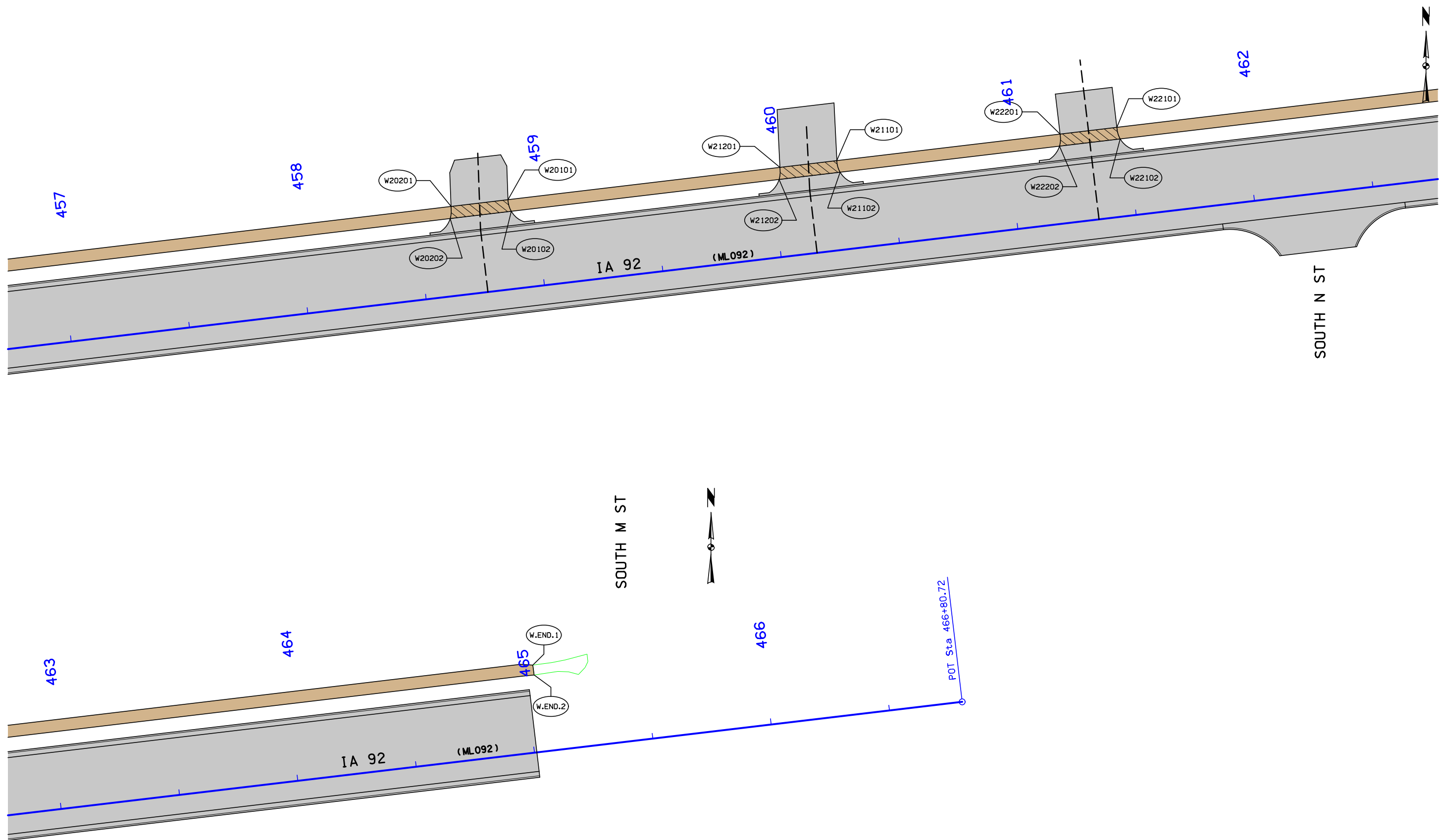


SIDEWALK LAYOUT  
(Sheet 3 of 5)



SIDEWALK LAYOUT  
(Sheet 4 of 5)

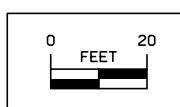




SOUTH M ST



SOUTH N ST



SIDEWALK LAYOUT  
(Sheet 5 of 5)



### SIDEWALK COMPLIANCE

See S Sheets

\* Does not include curb  
① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

Point to Point	Sidewalk Designation	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
										Point	Station	Offset	Elevation
		FT	FT	%	Pos. or Neg.		%						
W4405 W4407	Ramp Running Slope Sidewalk Cross Slope	5.00 4.00	0.12 0.06	2.4% 1.5%	0.5% to 8.3% 0.5% to 2.0%						W4408		965.00
W5101 W5201 W5102 W5201	Sidewalk Cross Slope Sidewalk Cross Slope Sidewalk Running Slope Sidewalk Running Slope	10.00 10.00 70.00 70.00	-0.15 -0.15 0.87 -0.87	-1.5% -1.5% 1.2% -1.2%	0.5% to 2.0% 0.5% to 2.0% 0.5% to 5.0% 0.5% to 5.0%						W5101 W5102 W5202 W5201		963.44 963.29 964.16 964.31
W6101 W6201 W6102 W6201	Sidewalk Cross Slope Sidewalk Cross Slope Sidewalk Running Slope Sidewalk Running Slope	10.00 10.00 70.00 70.00	-0.15 -0.15 0.35 -0.35	-1.5% -1.5% 0.5% -0.5%	0.5% to 2.0% 0.5% to 2.0% 0.5% to 5.0% 0.5% to 5.0%						W6101 W6102 W6202 W6201		960.37 960.22 960.57 960.72
W7101 W7201 W7102 W7201	Sidewalk Cross Slope Sidewalk Cross Slope Sidewalk Running Slope Sidewalk Running Slope	10.00 10.00 24.00 24.00	-0.15 -0.15 0.12 -0.12	-1.5% -1.5% 0.5% -0.5%	0.5% to 2.0% 0.5% to 2.0% 0.5% to 5.0% 0.5% to 5.0%						W7101 W7102 W7202 W7201		959.00 958.85 958.97 959.12
W8101 W8201 W8102 W8201	Sidewalk Cross Slope Sidewalk Cross Slope Sidewalk Running Slope Sidewalk Running Slope	10.00 10.00 24.00 24.00	-0.15 -0.15 -0.24 0.24	-1.5% -1.5% -1.0% 1.0%	0.5% to 2.0% 0.5% to 2.0% 0.5% to 5.0% 0.5% to 5.0%						W8101 W8102 W8202 W8201		959.41 959.26 959.01 959.16
W9101 W9201 W9102 W9201	Sidewalk Cross Slope Sidewalk Cross Slope Sidewalk Running Slope Sidewalk Running Slope	10.00 10.00 32.00 32.00	-0.15 -0.15 -0.41 0.41	-1.5% -1.5% -1.3% 1.3%	0.5% to 2.0% 0.5% to 2.0% 0.5% to 5.0% 0.5% to 5.0%						W9101 W9102 W9202 W9201		962.02 961.87 961.46 961.61
W10101 W10201 W10102 W10201	Sidewalk Cross Slope Sidewalk Cross Slope Sidewalk Running Slope Sidewalk Running Slope	10.00 10.00 25.00 25.00	-0.15 -0.15 -0.32 0.32	-1.5% -1.5% -1.3% 1.3%	0.5% to 2.0% 0.5% to 2.0% 0.5% to 5.0% 0.5% to 5.0%						W10101 W10102 W10202 W10201		965.07 964.92 964.61 964.76
W11101 W11201 W11102 W11201	Sidewalk Cross Slope Sidewalk Cross Slope Sidewalk Running Slope Sidewalk Running Slope	10.00 10.00 26.50 26.50	-0.15 -0.15 0.01 -0.01	-1.5% -1.5% 0.0% 0.0%	0.5% to 2.0% 0.5% to 2.0% 0.5% to 5.0% 0.5% to 5.0%						W11101 W11102 W11202 W11201		965.86 965.71 965.72 965.87
W12101 W12201 W12102 W12201	Sidewalk Cross Slope Sidewalk Cross Slope Sidewalk Running Slope Sidewalk Running Slope	10.00 10.00 24.00 24.00	-0.15 -0.15 -0.12 0.12	-1.5% -1.5% -0.5% 0.5%	0.5% to 2.0% 0.5% to 2.0% 0.5% to 5.0% 0.5% to 5.0%						W12101 W12102 W12202 W12201		965.81 965.66 965.54 965.69
W1311 W1308 W1311 W1302 W1310 W1309 W1302 W1303 W1307 W1306 W1311 W1302 W1310 W1303 W1306 W1311 W1302 W1310 W1303 W1304 W1312	Landing/Turning Space Landing/Turning Space Landing/Turning Space Landing/Turning Space Ramp Running Slope Ramp Running Slope Ramp Running Slope Ramp Running Slope Ramp Running Slope Ramp Running Slope Ramp Running Slope Ramp Running Slope Ramp Running Slope Ramp Running Slope Ramp Running Slope Ramp Running Slope Ramp Running Slope Ramp Running Slope Crosswalk Cross Slope - Yield Condition Ramp Cross Slope Sidewalk Cross Slope Match Existing Cross Slope	5.00 5.00 5.00 5.00 11.49 11.80 3.40 4.32 3.02 4.00 7.88 7.41 5.01 5.01 5.00 4.00	0.08 0.08 -0.08 -0.08 0.58 0.52 0.19 0.24 0.19 0.24 0.08 0.07 -0.01 -0.08 -0.08 0.07	1.5% 1.5% -1.5% -1.5% 5.1% 4.4% 5.6% 5.6% 6.2% 6.1% 1.0% 0.9% -0.2% -1.5% -1.5% 1.6%	0.1% to 2.0% 0.1% to 2.0% 0.1% to 2.0% 0.1% to 2.0% 0.5% to 8.3% 0.5% to 8.3% 0.5% to 8.3% 0.5% to 8.3% 0.5% to 8.3% 0.5% to 8.3% 0.5% to 8.3% 0.5% to 8.3% 0.0% to 2.0% 0.1% to 2.0% 0.5% to 2.0% Match Existing						W1301 W1302 W1303 W1304 W1305 W1306 W1307 W1308 W1309 W1310 W1311 W1312		967.14 967.08 967.27 967.51 967.43 967.19 967.00 966.93 966.41 966.42 967.00 967.08 967.08 966.41 967.00 967.08
W13204 W13201 W13204 W13203	Sidewalk Cross Slope Crosswalk Cross Slope - Yield Condition Ramp Running Slope Ramp Running Slope	10.00 10.04 15.00 14.00	-0.15 -0.07 -1.05 -0.96	-1.5% -0.7% -7.0% -6.9%	0.5% to 2.0% 0.0% to 2.0% 0.5% to 8.3% 0.5% to 8.3%						W13201 W13202 W13203 W13204		966.20 966.13 967.10 967.25
W14101 W14201 W14102 W14201	Sidewalk Cross Slope Sidewalk Cross Slope Sidewalk Running Slope Sidewalk Running Slope	5.00 5.00 35.00 35.00	-0.08 -0.08 -0.13 0.13	-1.5% -1.5% -0.4% 0.4%	0.5% to 2.0% 0.5% to 2.0% 0.5% to 5.0% 0.5% to 5.0%						W14101 W14102 W14202 W14201		969.22 969.14 969.01 969.09
W15101 W15201 W15102 W15201	Sidewalk Cross Slope Sidewalk Cross Slope Sidewalk Running Slope Sidewalk Running Slope	5.00 5.00 30.00 30.00	-0.08 -0.08 -0.09 0.09	-1.5% -1.5% -0.3% 0.3%	0.5% to 2.0% 0.5% to 2.0% 0.5% to 5.0% 0.5% to 5.0%						W15101 W15102 W15202 W15201		969.70 969.62 969.53 969.61



**SIDEWALK COMPLIANCE**

See S Sheets

\* Does not include curb  
 ① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

Point to Point	Sidewalk Designation	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
										Point	Station	Offset	Elevation
		FT	FT	%	Pos. or Neg.		%						
W19102	W19103	Landing/Turning Space	2.88	0.02	0.7%	0.1% to 2.0%					W19103		969.42
W19107	W19106	Landing/Turning Space	5.50	0.02	0.4%	0.1% to 2.0%					W19104		970.41
W19103	W19106	Landing/Turning Space	5.00	0.02	0.4%	0.1% to 2.0%					W19105		970.33
W19108	W19107	Crosswalk Cross Slope - Yield Condition	7.43	0.11	1.5%	0.0% to 2.0%					W19106		969.44
W19103	W19104	Ramp Running Slope	14.00	0.99	7.0%	0.5% to 8.3%					W19107		969.42
W19106	W19105	Ramp Running Slope	14.00	0.89	6.4%	0.5% to 8.3%					W19108		969.31
W19104	W19105	Sidewalk Cross Slope	5.00	-0.07	-1.5%	0.5% to 2.0%					W19109		969.36
W19111	W19110	Sidewalk Running Slope	26.82	0.15	0.6%	0.5% to 5.0%					W19110		969.64
W19112	W19101	Sidewalk Running Slope	26.38	0.19	0.7%	0.5% to 5.0%					W19111		969.49
W19110	W19109	Ramp Running Slope	3.86	-0.28	-7.3%	0.5% to 8.3%					W19112		969.49
W19101	W19102	Ramp Running Slope	3.85	-0.28	-7.3%	0.5% to 8.3%							
W19111	W19112	Match Existing Cross Slope	4.00	0.00	0.0%	Match Existing							
W19110	W19101	Ramp Cross Slope	4.03	0.04	1.0%	0.1% to 2.0%							
W19208	W19201	Landing/Turning Space	4.03	-0.04	-1.0%	0.1% to 2.0%					W19201		969.57
W19205	W19204	Landing/Turning Space	4.04	-0.04	-1.0%	0.1% to 2.0%					W19202		969.31
W19208	W19205	Landing/Turning Space	5.04	-0.06	-1.2%	0.1% to 2.0%					W19203		969.44
W19201	W19204	Landing/Turning Space	5.04	-0.06	-1.2%	0.1% to 2.0%					W19204		969.51
W19201	W19202	Sidewalk Running Slope	6.68	-0.26	-3.9%	0.5% to 5.0%					W19205		969.55
W19204	W19203	Sidewalk Running Slope	1.80	-0.07	-3.9%	0.5% to 5.0%					W19206		970.30
W19202	W19203	Crosswalk Cross Slope - Yield Condition	7.40	0.13	1.8%	0.0% to 2.0%					W19207		970.38
W19207	W19208	Ramp Running Slope	13.09	-0.76	-5.8%	0.5% to 8.3%					W19208		969.61
W19206	W19205	Ramp Running Slope	12.50	-0.75	-6.0%	0.5% to 8.3%					W19209		969.03
W19207	W19206	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W19210		969.01
W19209	W19208	Sidewalk Running Slope	35.21	0.58	1.6%	0.5% to 5.0%							
W19210	W19201	Sidewalk Running Slope	34.74	0.56	1.6%	0.5% to 5.0%							
W19209	W19210	Match Existing Cross Slope	4.00	-0.02	-0.5%	Match Existing							
W.END.1	W.END.2	Match Existing Cross Slope	4.21	0.02	0.5%	Match Existing					W.END.1		967.59
											W.END.2		967.61
W20101	W20102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W20101		969.87
W20201	W20202	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W20102		969.79
W20102	W20202	Sidewalk Running Slope	25.82	0.08	0.3%	0.5% to 5.0%					W20202		969.87
W20201	W20101	Sidewalk Running Slope	24.08	-0.08	-0.3%	0.5% to 5.0%					W20201		969.95
W21101	W21102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W21101		969.46
W21201	W21202	Sidewalk Cross Slope	5.00	-0.07	-1.5%	0.5% to 2.0%					W21102		969.38
W21102	W21202	Sidewalk Running Slope	35.77	0.07	0.2%	0.5% to 5.0%					W21202		969.45
W21201	W21101	Sidewalk Running Slope	24.06	-0.07	-0.3%	0.5% to 5.0%					W21201		969.53
W22101	W22102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W22101		969.12
W22201	W22202	Sidewalk Cross Slope	5.00	-0.07	-1.5%	0.5% to 2.0%					W22102		969.04
W22102	W22202	Sidewalk Running Slope	25.60	0.06	0.2%	0.5% to 5.0%					W22202		969.10
W22201	W22101	Sidewalk Running Slope	24.00	-0.06	-0.2%	0.5% to 5.0%					W22201		969.18

**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	TOTAL FILL				APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT					STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	TOTAL FILL				APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT				
STAGE 1							0	0					Y ST DET A												
ML_DETOUT							0	0					14410+00.00	21	21						0	0			
439+25.00	18	18					0	0					14410+25.00	46	46						0	0			
439+50.00	21	21					0	0					14410+50.00	77	77						0	0			
439+75.00	28	28					0	0					14410+75.00	111	111						0	0			
440+00.00	28	28					0	0					14411+00.00	145	145						0	0			
440+25.00	35	35					0	0					14411+25.00	178	178						0	0			
440+48.56	44	44					0	0					14411+50.00	208	208						0	0			
440+50.00	3	3					0	0					14411+75.00	244	244						0	0			
440+75.00	60	60					0	0					14412+00.00	287	287						0	0			
441+00.00	68	68					0	0					14412+25.00	316	316						0	0			
441+50.00	122	122					0	0					14412+50.00	315	315						0	0			
441+50.00	44	44					0	0					14412+75.00	282	282						0	0			
441+75.00	29	29					0	0					14413+00.00	233	233						0	0			
442+00.00	17	17	2				0	0					14413+25.00	192	192						0	0			
442+23.76	1	1					0	0					14413+50.00	153	153						0	0			
442+25.00	13	13	6				0	0					14413+75.00	106	106	2					0	0			
442+50.00	12	12	8				0	0					14414+00.00	69	69	11					0	0			
442+75.00	12	12	7				0	0					14414+25.00	49	49	20					0	0			
443+00.00	9	9	3				0	0					14414+50.00	40	40	24					0	0			
443+18.00	3	3	1				0	0					14414+75.00	34	34	29					0	0			
443+23.01	1	1					0	0					14415+00.00	28	28	36					0	0			
443+25.00	12	12	3				0	0					14415+25.00	22	22	43					0	0			
443+50.00	11	11	4				0	0					14415+50.00	18	18	45					0	0			
443+75.00	11	11	5				0	0					14415+75.00	15	15	42					0	0			
444+00.00	10	10	4				0	0					14416+00.00	18	18	31					0	0			
444+25.00	11	11	1				0	0					14416+25.00	30	30	18					0	0			
444+50.00	15	15					0	0					14416+50.00	34	34	12					0	0			
444+75.00							0	0					14416+75.00	19	19	18					0	0			
Subtotals:	610	610	44				0	0					14417+00.00	2	2	7					0	0			
							0	0					14417+13.53								0	0			
													Subtotals:	3,292	3,292	338					0	0			
													STAGE 1												
													Totals	3,902	3,902	0	382	0	0	0	0	0			

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### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	Ø ADD QUANTITY +F	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT																								
270+56.00	170		87	57		26	258		187	170																								
270+75.00	196		126	64		6	352		259	236																								
271+00.00	197		123	68		6	340		247	224																								
271+25.00	204		121	77		6	318	599	225	202																								
271+50.00	213		120	88		5	289	2,369	196	173																								
271+75.00	197		89	103		5	260		167	144																								
272+00.00	194		85	104		5	233		140	117																								
272+25.00	213		108	99		6	214		121	98																								
272+50.00	208		105	96		7	205		112	89																								
272+75.00	191		99	86		6	201		108	85																								
273+00.00	195		97	92		6	196		103	80																								
273+25.00	217		100	112		5	191		98	75																								
273+50.00	230		101	126		3	188		95	72																								
273+75.00	235		106	127		2	186		93	70																								
274+00.00	244		108	126		10	186		93	70																								
274+25.00	267		109	143		15	187		94	71																								
274+50.00	288		113	169		6	191		98	75																								
274+75.00	299		115	182		2	199		106	83																								
275+00.00	300		116	183		1	210		117	94																								
275+25.00	289		115	174			226		133	110																								
275+50.00	266		113	153			243		150	127																								
275+75.00	250		131	118		1	268		175	152																								
276+00.00	280		140	134		6	292		199	176																								
276+25.00	291		114	152		25	265		187	167																								
276+46.00	61		23	30		8	54	949	39	35																								
276+50.00	302		131	137		34	392		299	276																								
276+75.00	225		142	76		7	530		437	414																								
277+00.00	220		164	51		5	649		556	533																								
277+25.00	203		166	34		3	730		637	614																								
277+50.00	84		69	14		1	324		286	277																								
277+60.00	124		101	22		1	495		439	425																								
277+75.00	245		213	32			811		718	695																								
278+00.00	264		220	44			784		691	668																								
278+25.00	242		175	67			722		629	606																								
278+50.00	261		172	88		1	647		554	531																								
278+75.00	284		169	115			563		470	447																								
279+00.00	297		164	133			481		388	365																								
279+25.00	311		158	143		10	413		320	297																								
279+50.00	315		151	145		19	348		255	232																								
279+75.00	320		171	135		14	272		179	156																								
280+00.00	311		168	133		10	195		102	79																								
280+25.00	288		140	135		13	155		62	39																								
280+50.00	266		134	117		15	146		53	30																								
280+75.00	235		128	93		14	130		37	14																								
281+00.00	218		126	82		10	112		19	0																								
281+25.00	213		125	78		10	100		7	0																								
281+50.00	216		148	56		12	97		4	0																								
281+75.00	189		135	38		16	100		7	0																								
282+00.00	109		47	46		16	98		5	0																								
282+25.00	140		91	41		8	97		4	0																								
282+50.00	107		79	27		1	102		9	0																								
282+75.00	86		66	20			115		22	0																								
283+00.00	317		204	48		65	642		86	0																								
284+50.00	88		67			21	87		0	0																								
284+75.00	109		71			38	78		0	0																								
285+00.00	134		82			52	77		0	0																								
285+25.00	125		85			40	76		0	0																								
285+50.00	116		85			31	68		0	0																								
285+75.00	120		89			31	71		0	0																								
286+00.00	120		93			27	71		0	0																								
286+25.00	118		93			25	77		0	0																								
286+50.00	124		93			31	100		7	0																								
286+75.00	131		93			38	131		38	15																								
287+00.00	136		91			45	173		80	57																								
287+25.00	140		90			50	217		124	101																								
287+50.00																																		

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TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	Ø ADD QUANTITY +F	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT																	
287+50.00	149		92			57	247		154	131																	
287+75.00	139		91			48	279		186	163																	
288+00.00	111		81			30	310		217	194																	
288+25.00	96		73			23	316		223	200																	
288+50.00	94		76			18	305		212	189																	
288+75.00	92		79			13	277		184	161																	
289+00.00	95		83			12	231		138	115																	
289+25.00	105		90			15	186		93	70																	
289+50.00	120		96			24	151		58	35																	
289+75.00	141		102			39	128		35	12																	
290+00.00	160		94			66	136		43	20																	
290+25.00	148		48			100	175		82	59																	
290+50.00	210		81			129	228		135	112																	
290+75.00	242		102			140	281		188	165																	
291+00.00	239		104			135	318		225	202																	
291+25.00	215		87			128	289		196	173																	
291+50.00	279		95	17		167	179		86	63																	
291+75.00	80		30	8		42	22	261	3	0																	
291+80.00	289		119	36		134	133	735	58	40																	
292+00.00	262		127	23		112	289		196	173																	
292+25.00	202		112	2		88	356		263	240																	
292+50.00	151		92	1		58	239		179	164																	
292+66.00	117		83			34	132		98	90																	
292+75.00	92		74			18	69		50	45																	
292+80.00	160		98			62	279		204	186																	
293+00.00	162		104	13		45	350		257	234																	
293+25.00	136		99	23		14	344		251	228																	
293+50.00	126		97	18		11	336		243	220																	
293+75.00	129		99	17		13	330		237	214																	
294+00.00	131		98	15		18	332		239	216																	
294+25.00	140		106	13		21	335		242	219																	
294+50.00	146		107	17		22	335		242	219																	
294+75.00	138		98	20		20	336		243	220																	
295+00.00	131		96	9		26	330		237	214																	
295+25.00	77		39	1		37	314		221	198																	
295+50.00	134		87	1		46	294		201	178																	
295+75.00	135		101			34	274		181	123																	
296+00.00	139		109			30	268		175	82																	
296+25.00	124		93			31	274		181	88																	
296+50.00	112		82			30	282		189	96																	
296+75.00	158		75	20		63	244		151	12																	
297+00.00	93		55	11		27	67	250	37	0																	
297+08.00	144		74	14		56	145	1,213	82	0																	
297+25.00	191		95	14		82	226		133	0																	
297+50.00	182		92	11		79	250		157	0																	
297+75.00	171		97	4		70	264		171	0																	
298+00.00	164		96	1		67	273		180	0																	
298+25.00	171		91	8		72	277		184	0																	
298+50.00	179		93	16		70	277		184	0																	
298+75.00	188		95	13		80	272		179	0																	
299+00.00	197		96	14		87	260		167	0																	
299+25.00	203		97	20		86	248		155	0																	
299+50.00	200		94	11		95	235		142	0																	
299+75.00	189		97			92	220		127	0																	
300+00.00	166		92	2		72	205		112	0																	
300+25.00	139		78	4		57	192		99	0																	
300+50.00	115		71	2		42	183		90	0																	
300+75.00	101		67	16		18	174		81	0																	
301+00.00	103		68	32		3	162		69	0																	
301+25.00	111		72	35		4	143		50	0																	
301+50.00	119		76	39		4	111		18	0																	
301+75.00	134		100	29		5	73		0	0																	
302+00.00	145		102	35		8	52		0	0																	
302+25.00	150		88	55		7	46		0	0																	
302+50.00	159		96	55		8	41		0	0																	
302+75.00																											

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# TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT		TOTAL FILL	Ø ADD QUANTITY +F		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT																							
379+00.00	103	48	46			9		274			135	88																							
379+25.00	84	43	31			10		317			178	131																							
379+50.00	15	7	5			3		69			41	31																							
379+55.00	38	17	14			7		189			116	92																							
379+68.00	22	11	8			3		101			62	49																							
379+75.00	18	9	6			3		69			41	31																							
379+80.00	66	35	21			10		265			153	116																							
380+00.00	75	42	22			11		327			188	141																							
380+25.00	79	44	24			11		326			187	140																							
380+50.00	85	46	28			11		311			172	125																							
380+75.00	94	48	36			10		290			151	104																							
381+00.00	105	50	46			9		263			124	77																							
381+25.00	116	51	55			10		237			98	51																							
381+50.00	128	53	67			8		213			74	27																							
381+75.00	73	28	41			4		104			31	7																							
381+88.00	71	26	41		1	3		94			27	5																							
382+00.00	153	55	90		2	6		191			52	5																							
382+25.00	160	57	96			7		181			42	0																							
382+50.00	172	60	106			6		172			33	0																							
382+75.00	177	61	109			7		165			26	0																							
383+00.00	177	62	110			5		158			19	0																							
383+25.00	177	62	108			7		154			15	0																							
383+50.00	171	61	101			9		148			9	0																							
383+75.00	162	59	90			13		141			2	0																							
384+00.00	172	61	96			15		131			0	0																							
384+25.00	206	68	122			16		116			0	0																							
384+50.00	263	78	164			21		75			0	0																							
384+75.00	297	83	187			27		47			0	0																							
385+00.00	294	82	185			27		51			0	0																							
385+25.00	286	81	183			22		48			0	0																							
385+50.00	268	78	161			29		53			0	0																							
385+75.00	261	79	147			35		57			0	0																							
386+00.00	275	80	163			32		59			0	0																							
386+25.00	274	76	171			27		46			0	0																							
386+50.00	258	74	161			23		35			0	0																							
386+75.00	262	75	155			32		33			0	0																							
387+00.00	278	77	168			33		21			0	0																							
387+25.00	273	76	173			24		13			0	0																							
387+50.00	316	76	212			28		34			0	0																							
387+75.00	265	51	175			39		26			0	0																							
387+93.00	101	18	63			20		3			0	0																							
388+00.00	373	76	235			62		9			0	0																							
388+25.00	394	63	249			82		7			0	0																							
388+50.00	415	88	263			64		3			0	0																							
388+75.00	432	131	280			21		6			0	0																							
389+00.00	359	116	230			13		19			0	0																							
389+25.00	276	104	167			5		31			0	0																							
389+50.00	250	91	147			12		36			0	0																							
389+75.00	116	39	67			10		60			0	0																							
390+00.00											0	0																							
Subtotals:	113,855	1,099	51,257	39,998	1,764	19,206		111,749	16,976		70,014	45,113																							

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### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	Ø ADD QUANTITY +F	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT													
435+25.00	1		1				164		0	0													
435+50.00	1		1				223		0	0													
435+75.00	1		1				275		0	0													
436+00.00	1		1				278		0	0													
436+25.00	1		1				211		0	0													
436+44.70							59		0	0													
436+50.00	1		1				250		0	0													
436+75.00	2		2				159		0	0													
437+00.00	1		1				89		0	0													
437+25.00	1		1				90		0	0													
437+50.00	5		5				82		0	0													
437+75.00	16		13	3			58		0	0													
438+00.00	8		5	3			14		0	0													
438+08.06	20		12	8			24		0	0													
438+25.00	46		25	21			27		0	0													
438+50.00	60		32	28			26		0	0													
438+75.00	64		35	29			25		0	0													
439+00.00	67		36	29		2	24		0	0													
439+25.00	66		38	23		5	24		0	0													
439+50.00	62		35	22		5	24		0	0													
439+75.00	63		30	27		6	26		0	0													
440+00.00	57		24	26		7	30		0	0													
440+25.00	54		8	24		22	26		0	0													
440+48.56	4			2		2	1		0	0													
440+50.00	55		4	15		36	44		0	0													
440+75.00	44		7			37	70		0	0													
441+00.00	46		5	6		35	65		0	0													
441+25.00	49		3	6		40	55		0	0													
441+50.00	50		2	6		42	56		0	0													
441+75.00	46		1	6		39	31		0	0													
442+00.00	43					43	10		0	0													
442+25.00	43			1		42	9		0	0													
442+50.00	41			1		40	20		0	0													
442+75.00	40		1	1		38	22		0	0													
443+00.00	28		1	6		21	4		0	0													
443+18.00									0	0													
Subtotals:	20,271	0	7,720	10,132	0	2,419	8,293	0	0	0													
KENNEDY									0	0													
1257+10.00	7		6	1					0	0													
1257+25.00	31		17	12		2	6		0	0													
1257+45.00	13		6	6		1	3		0	0													
1257+50.00	69		35	31		3	15		0	0													
1257+75.00	73		42	29		2	22		0	0													
1258+00.00	66		41	25			34		0	0													
1258+25.00									0	0													
1258+25.10	5		3	2			7		0	0													
1258+27.00	79		59	20			115		0	0													
1258+50.00									0	0													
Subtotals:	343	0	209	126	0	8	202	0	0	0													



**TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS**

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	Ø ADD QUANTITY +F	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT											
2313+85.00									0	0											
Subtotals:	2,448	0	877	1,284	0	288	1,373	484	0	0											
R63																					
3388+30.00	18					18			0	0											
3388+40.00	20					20			0	0											
3388+50.00	51		15	19		17	14		0	0											
3388+60.00	110		41	52		17	32		0	0											
3388+75.00	26		5	6		15	4	135	0	0											
3388+79.00	130		30	23		77	34		0	0											
3389+00.00	144		74	49		21	77		0	0											
3389+25.00	150		82	54		14	108		0	0											
3389+50.00	163		91	62		10	153		0	0											
3389+75.00	164		100	58		6	187		0	0											
3390+00.00	226		120	91		15	276		0	0											
3390+25.00	219		139	67		13	556		0	0											
3390+50.00	76		72	4			572		0	0											
3390+75.00																					
3392+00.00	151		41	60		50	11		0	0											
3392+20.00	27		10	7		10	2		0	0											
3392+25.00	112		45	25		42	9		0	0											
3392+50.00	87		38	11		38	5		0	0											
3392+75.00	83		42	9		32	2		0	0											
3393+00.00	18		10	2		6			0	0											
3393+05.00									0	0											
Subtotals:	1,975	0	955	599	0	421	2,042	135	0	0											
Y_ST_S																					
4414+15.00	14		4	2		8	4		0	0											
4414+25.00	35		19	12		4	9		0	0											
4414+50.00	42		22	17		3	5		0	0											
4414+75.00	55		26	25		4	5		0	0											
4415+00.00	75		29	36		10	5		0	0											
4415+25.00	99		32	50		17	5		0	0											
4415+50.00	126		34	67		25	5		0	0											
4415+75.00	154		37	83		34	5		0	0											
4416+00.00	181		41	98		42	5		0	0											
4416+25.00	219		49	120		50	5		0	0											
4416+50.00	291		64	162		65	5		0	0											
4416+75.00	518		125	354		39	8		0	0											
4417+00.00									0	0											
Subtotals:	1,809	0	482	1,026	0	301	66	0	0	0											
Y_ST_DET_B																					
14416+96.30	22					22			0	0											
14417+00.00	196					196			0	0											
14417+25.00	237					237			0	0											
14417+50.00	316					316			0	0											
14417+75.00	412					412			0	0											
14418+00.00	451					451			0	0											
14418+25.00	458					458			0	0											
14418+50.00	442					442			0	0											
14418+75.00	418					418			0	0											
14419+00.00	388					388			0	0											
14419+25.00	367					367			0	0											
14419+50.00	354					354			0	0											
14419+75.00	340					340			0	0											
14420+00.00	323					323			0	0											
14420+25.00																					

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT		TOTAL FILL	Ø ADD QUANTITY +F		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT																										
14420+25.00	300					300					0	0																										
14420+50.00	273					273					0	0																										
14420+75.00	254					254					0	0																										
14421+00.00	245					245					0	0																										
14421+25.00	240					240					0	0																										
14421+50.00	242					242					0	0																										
14421+75.00	253					253					0	0																										
14422+00.00	267					267					0	0																										
14422+25.00	270					270					0	0																										
14422+50.00	268					268					0	0																										
14422+75.00	267					267					0	0																										
14423+00.00	266					266					0	0																										
14423+25.00	260					260					0	0																										
14423+50.00	240					240					0	0																										
14423+75.00	211					211					0	0																										
14424+00.00	169					169					0	0																										
14424+25.00	121					121					0	0																										
14424+50.00	74					74					0	0																										
14424+75.00	35					35					0	0																										
14425+00.00	16					16					0	0																										
14425+25.00											0	0																										
14425+25.51											0	0																										
Subtotals:	8,995	0	0	0	0	8,995		0	0		0	0																										
STAGE 2B Totals	152,254	1,099	62,497	53,315	1,786	33,027		124,525	18,205		70,014	45,113																										





### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT							STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT						
STAGE 2D				0	0							ST DET A OB				0	0						
R63_DET_OBL				0	0							14410+25.00	3	3	27	0	0						
18386+48.19	819	819	11	0	0							14410+50.00	3	3	48	0	0						
18388+00.00	309	309	2	0	0							14410+75.00	2	2	70	0	0						
18388+25.00	345	345		0	0							14411+00.00	1	1	99	0	0						
18388+50.00	327	327		0	0							14411+25.00	1	1	130	0	0						
18388+75.00	340	340	1	0	0							14411+50.00	1	1	157	18	0						
18389+00.00	370	370	2	0	0							14411+75.00	1	1	194	55	27						
18389+25.00	395	395	1	0	0							14412+00.00	1	1	233	94	66						
18389+50.00	396	396	2	0	0							14412+25.00	1	1	256	117	89						
18389+75.00	376	376	10	0	0							14412+50.00	1	1	256	117	89						
18390+00.00	331	331	20	0	0							14412+75.00	1	1	228	89	61						
18390+25.00	279	279	28	0	0							14413+00.00	1	1	182	43	15						
18390+50.00	241	241	27	0	0							14413+25.00	1	1	141	2	0						
18390+75.00	206	206	25	0	0							14413+50.00	6	6	108	0	0						
18391+00.00	168	168	30	0	0							14413+75.00	17	17	73	0	0						
18391+25.00	142	142	21	0	0							14414+00.00	29	29	45	0	0						
18391+50.00	188	188	5	0	0							14414+25.00	39	39	29	0	0						
18391+75.00	234	234		0	0							14414+50.00	45	45	22	0	0						
18392+00.00	180	180	4	0	0							14414+75.00	49	49	17	0	0						
18392+25.00	92	92	10	0	0							14415+00.00	56	56	13	0	0						
18392+50.00	60	60	6	0	0							14415+25.00	62	62	9	0	0						
18392+75.00	57	57	6	0	0							14415+50.00	67	67	6	0	0						
18393+00.00	24	24	66	0	0							14415+75.00	64	64	4	0	0						
18393+25.00	2	2	111	0	0							14416+00.00	53	53	6	0	0						
18393+50.00	2	2	101	0	0							14416+25.00	38	38	13	0	0						
18393+75.00	1	1	95	0	0							14416+50.00	32	32	15	0	0						
18394+00.00	1	1	80	0	0							14416+75.00	30	30	6	0	0						
18394+25.00	2	2	65	0	0							14417+00.00				0	0						
18394+50.00	3	3	60	0	0							Subtotals:	605	605	2,387	535	347						
18394+75.00	4	4	57	0	0																		
18395+00.00	12	12	47	0	0							STAGE 2D											
18395+25.00	20	20	39	0	0							Totals	7,279	7,279	3,415	535	347						
18395+50.00	59	59	25	0	0																		
18395+75.00	121	121	9	0	0																		
18396+00.00	142	142	8	0	0																		
18396+25.00	426	426	54	0	0																		
18397+71.90				0	0																		
Subtotals:	6,674	6,674	1,028	0	0																		

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT							STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT						
STAGE				0	0																		
Y_ST_DET_C_OBL				0	0																		
24415+19.00				0	0																		
24415+25.00	2	2		0	0																		
24415+50.00	12	12	9	0	0																		
24415+75.00	6	6	23	0	0																		
24416+00.00	7	7	31	0	0																		
24416+25.00	9	9	40	0	0																		
24416+50.00	4	4	59	0	0																		
24416+75.00	1	1	59	0	0																		
24417+00.00	4	4	44	0	0																		
24417+25.00	13	13	31	0	0																		
24417+50.00	18	18	26	0	0																		
Subtotals:	76	76	322	0	0																		
SPRUCE_DET				0	0																		
19441+25.00				0	0																		
19441+50.00	56	56		0	0																		
19441+75.00	80	80		0	0																		
19442+00.00	60	60		0	0																		
19442+25.00	46	46		0	0																		
Subtotals:	242	242		0	0																		
STAGE 3A Totals	318	318	322	0	0																		

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT						STATION	TOTAL CUT	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT				
STAGE 3C						0	0						406+50.00	102	6	73	23	4	0	0				
URBAN_IA92						0	0						406+75.00	98	8	67	23	3	0	0				
391+75.00	9			9	1	0	0						407+00.00	100	9	69	22	3	0	0				
392+00.00	17			17	9	0	0						407+25.00	106	6	75	25	5	0	0				
392+25.00	28	1	6	21	14	4	4						407+50.00	106	7	74	25	5	0	0				
392+50.00	37	3	17	17	9	0	0						408+00.00	104	6	10	88	4	0	0				
392+75.00	49	3	28	18	4	0	0						408+25.00	103	6	17	80	4	0	0				
393+00.00	65	2	41	22	3	0	0						408+50.00	104	7	14	83	5	0	0				
393+25.00	79	2	53	24	3	0	0						408+75.00	109	7	13	89	7	0	0				
393+50.00	90	3	61	26	3	0	0						409+00.00	113	7	11	95	8	0	0				
393+75.00	99	5	66	28	3	0	0						409+25.00	114	8	10	96	8	0	0				
394+00.00	104	6	73	25	3	0	0						409+50.00	115	9	8	98	8	0	0				
394+25.00	106	6	76	24	3	0	0						409+75.00	115	8	11	96	6	0	0				
394+50.00	121	18	76	27	3	0	0						410+00.00	118	8	13	97	5	0	0				
394+75.00	160	30	98	32	3	0	0						410+25.00	121	8	12	101	4	0	0				
395+00.00	161	32	93	36	3	0	0						410+50.00	123	9	21	93	3	0	0				
395+25.00	71	11	39	21	2	0	0						410+75.00	125	9	25	91	3	0	0				
395+39.78	11	1	6	4		0	0						411+00.00	127	9	48	70	3	0	0				
395+42.38	32	2	18	12	1	0	0						411+25.00	129	9	46	74	3	0	0				
395+50.00	107	7	60	40	3	0	0						411+50.00	132	10	25	97	3	0	0				
395+75.00	109	8	64	37	3	0	0						411+75.00	134	11	24	99	3	0	0				
396+00.00	113	8	73	32	3	0	0						412+00.00	136	11	17	108	2	0	0				
396+25.00	117	7	82	28	3	0	0						412+25.00	138	12	23	103	3	0	0				
396+50.00	120	7	85	28	3	0	0						412+50.00	141	13	25	103	2	0	0				
396+75.00	120	7	86	27	3	0	0						412+75.00	146	15	25	106	3	0	0				
397+00.00	118	6	86	26	3	0	0						413+00.00	150	16	28	106	3	0	0				
397+25.00	115	5	84	26	3	0	0						413+25.00	150	17	28	105	3	0	0				
397+50.00	115	7	84	24	3	0	0						413+50.00	150	18	26	106	2	0	0				
397+75.00	124	17	84	23	2	0	0						413+75.00	155	21	45	89	3	0	0				
398+00.00	87	16	56	15	1	0	0						414+00.00	163	22	50	91	2	0	0				
398+16.98	41	8	25	8	1	0	0						414+25.00	169	20	48	101	3	0	0				
398+25.00	126	25	82	19	2	0	0						414+50.00	173	20	52	101	2	0	0				
398+50.00	117	15	80	22	2	0	0						414+75.00	176	22	54	100	3	0	0				
398+75.00	108	6	75	27	3	0	0						415+00.00	178	22	62	94	3	0	0				
399+00.00	109	6	74	29	2	0	0						415+25.00	677	79	193	405	5	0	0				
399+25.00	110	6	73	31	3	0	0						416+25.00	168	9	76	83		0	0				
399+50.00	110	5	69	36	2	0	0						416+50.00	188		122	66		0	0				
399+75.00	111	5	71	35	3	0	0						416+75.00	237		172	65		0	0				
400+00.00	109	6	76	27	3	0	0						417+00.00	295		252	43		0	0				
400+25.00	106	5	76	25	2	0	0						417+25.00	315		272	43		0	0				
400+50.00	102	5	73	24	3	0	0						417+50.00	261		213	48		0	0				
400+75.00	98	5	68	25	2	0	0						417+75.00	181		126	55		0	0				
401+00.00	91	4	62	25	3	0	0						418+00.00	141	6	54	81	3	0	0				
401+25.00	85	3	56	26	3	0	0						418+25.00	409	17	189	203	12	0	0				
401+50.00	80	2	52	26	3	0	0						419+00.00	140	9	69	62	2	0	0				
401+75.00	77	2	45	30	3	0	0						419+25.00	242	28	36	178	28	9	9				
402+00.00	75	2	43	30	3	0	0						419+75.00	24	2	2	20	6	3	3				
402+25.00	75	3	48	24	15	5	5						419+80.63	83	8	37	38	21	13	13				
402+50.00	76	4	50	22	26	16	16						420+00.00	104	8	47	49	18	8	8				
402+75.00	77	4	52	21	22	12	12						420+25.00	100	4	12	84	11	1	1				
403+00.00	79	4	54	21	17	7	7						420+50.00	103	4	13	86	11	1	1				
403+25.00	81	4	53	24	13	3	3						420+75.00	113	6	16	91	10	0	0				
403+50.00	83	5	49	29	10	0	0						421+00.00	123	8	11	104	9	0	0				
403+75.00	85	5	53	27	9	0	0						421+25.00	130	8	11	111	8	0	0				
404+00.00	88	5	56	27	9	0	0						421+50.00	134	8	15	111	8	0	0				
404+25.00	90	6	54	30	8	0	0						421+75.00	130	9	20	101	10	0	0				
404+50.00	91	6	57	28	8	0	0						422+00.00	129	9	22	98	14	4	4				
404+75.00	93	6	62	25	7	0	0						422+25.00	91	3	5	83	8	2	2				
405+00.00	94	6	60	28	7	0	0						422+41.02	48		6	42	2	0	0				
405+25.00	94	5	58	31	8	0	0						422+50.00	113		21	92	2	0	0				
405+50.00	94	5	62	27	8	0	0						422+75.00	182		6	176	2	0	0				
405+75.00	96	6	67	23	7	0	0						423+00.00	114	10	12	92	1	0	0				
406+00.00	99	6	71	22	6	0	0						423+11.51	145	12	16	117	1	0	0				
406+25.00	101	6	71	24	5	0	0						423+25.00	214		45	169	2	0	0				
406+50.00													423+50.00											

# TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	CLASS 10 SUITABLE CUT		TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT					STATION	TOTAL CUT	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	CLASS 10 SUITABLE CUT		TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT				
423+50.00	309	5	231	73		4	0	0					438+50.00	37	5	4	28		17	7	7				
424+00.00	173	8	141	24		3	0	0					438+75.00	36	3	1	32		15	5	5				
424+25.00	171	11	129	31		2	0	0					439+00.00	34	1		33		18	8	8				
424+50.00	170	11	131	28		3	0	0					439+25.00	32	1	5	26		20	10	10				
424+75.00	169	11	123	35		3	0	0					439+50.00	29		15	14		20	10	10				
425+00.00	167	10	116	41		3	0	0					439+75.00	32	4	20	8		21	11	11				
425+25.00	159	5	102	52		3	0	0					440+00.00	36	8	20	8		22	12	12				
425+50.00	325	1	108	216		4	0	0					440+25.00	29	3	14	12		21	12	12				
425+99.41	4			4			0	0					440+48.56	2		1	1		1	0	0				
426+00.00	161	2	19	140		2	0	0					440+50.00	26		6	20		24	14	14				
426+25.00	159	6	32	121		19	9	9					440+75.00	25		2	23		25	15	15				
426+50.00	66	4	8	54		16	12	12					441+00.00	78	2	10	66		57	29	29				
426+59.60	104	6	10	88		26	20	20					441+75.00	28	8	2	18		10	0	0				
426+75.00	167	10	13	144		35	25	25					442+00.00	28	8		20		5	0	0				
427+00.00	322	11	59	252		34	15	15					442+23.76	1			1		0	0	0				
427+50.00	24		4	20			0	0					442+25.00	30	2		28		3	0	0				
427+53.91	283	10	97	176		15	0	0					442+50.00	29	2		27		3	0	0				
428+00.00	149	10	59	80		15	5	5					442+75.00	27	1		26		3	0	0				
428+25.00	146	11	22	113		17	7	7					443+00.00	18	1	8	9		2	0	0				
428+50.00	144	11	36	97		17	7	7					443+18.00							0	0				
428+75.00	144	11	36	97		13	3	3												0	0				
429+00.00	276	14	99	163		12	0	0					Subtotals:	22,403	1,508	9,301	11,594		1,564	513	513				
429+50.00	22		12	10			0	0																	
429+54.16	103	2	42	59		2	0	0					Y_ST_N							0	0				
429+75.00	129	6	37	86		9	0	0					4418+25.00	472	94	345	33		56	46	46				
430+00.00	144	10	51	83		18	8	8					4418+50.00	467	83	364	20		4	0	0				
430+25.00	145	11	60	74		18	8	8					4418+75.00	402	65	321	16		4	0	0				
430+50.00	140	10	57	73		18	8	8					4419+00.00	334	55	258	21		5	0	0				
430+75.00	19	1	8	10		2	0	0					4419+25.00	290	50	221	19		5	0	0				
430+78.41	118	9	54	55		17	9	9					4419+50.00	244	47	183	14		5	0	0				
431+00.00	140	13	59	68		21	11	11					4419+75.00	192	42	137	13		5	0	0				
431+25.00	142	16	51	75		12	2	2					4420+00.00	150	38	97	15		5	0	0				
431+50.00	145	10	61	74		3	0	0					4420+25.00	123	35	71	17		5	0	0				
431+75.00	104	1	44	59		2	0	0					4420+50.00	100	33	52	15		5	0	0				
431+96.41	14		6	8			0	0					4420+75.00	84	30	37	17		5	0	0				
432+00.00	111	18	36	57		2	0	0					4421+00.00	73	29	26	18		5	0	0				
432+25.00	106	21	8	77		22	12	12					4421+25.00	66	28	22	16		5	0	0				
432+50.00	76	8	3	65		55	45	45					4421+50.00	60	26	17	17		5	0	0				
432+75.00	64	6	1	57		67	57	57					4421+75.00	55	25	11	19		5	0	0				
433+00.00	70	3	11	56		35	25	25					4422+00.00	52	25	13	14		5	0	0				
433+25.00	47		18	29		2	0	0					4422+25.00	50	25	15	10		5	0	0				
433+46.06	2		2				0	0					4422+50.00	20	10	6	4		2	0	0				
433+47.86	3		2	1			0	0					4422+60.00							0	0				
433+50.00	32	1	17	14		3	0	0					Subtotals:	3,234	740	2,196	298		136	46	46				
433+75.00	31	3	6	22		4	0	0																	
434+00.00	28	4		24		3	0	0																	
434+25.00	27	4		23		3	0	0																	
434+50.00	27	3		24		2	0	0																	
434+75.00	28	3		25		3	0	0																	
435+00.00	31	4		27		3	0	0					STAGE 3C												
435+25.00	35	4		31		3	0	0					Totals	25,637	2,248	11,497	11,892		1,700	559	559	0			
435+50.00	39	4		35		3	0	0																	
435+75.00	42	4	9	29		3	0	0																	
436+00.00	44	5	9	30		3	0	0																	
436+25.00	35	4		31		2	0	0																	
436+44.70	9	1		8		1	0	0																	
436+50.00	43	4		39		3	0	0																	
436+75.00	40	4		36		3	0	0																	
437+00.00	38	5		33		3	0	0																	
437+25.00	36	5		31		3	0	0																	
437+50.00	35	5		30		3	0	0																	
437+75.00	36	4		32		2	0	0																	
438+00.00	12	1		11		1	0	0																	
438+08.06	26	3		23		3	0	0																	
438+25.00	39	5	4	30		14	4	4																	
438+50.00																									

### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT							STATION	TOTAL CUT	CLASS 10 SUITABLE CUT	TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT						
STAGE 3D				0	0																		
Y_ST_DET8_OBL				0	0																		
14417+75.00	4	4	236	97	97																		
14418+00.00	3	3	323	184	184																		
14418+25.00	1	1	348	209	209																		
14418+50.00	1	1	334	195	195																		
14418+75.00	1	1	310	171	171																		
14419+00.00	1	1	282	143	143																		
14419+25.00	1	1	261	122	122																		
14419+50.00	1	1	248	109	109																		
14419+75.00	1	1	238	99	99																		
14420+00.00	1	1	224	85	85																		
14420+25.00	1	1	205	66	66																		
14420+50.00	3	3	185	46	46																		
14420+75.00	6	6	173	34	34																		
14421+00.00	9	9	171	32	32																		
14421+25.00	9	9	173	34	34																		
14421+50.00	6	6	174	35	35																		
14421+75.00	3	3	177	38	38																		
14422+00.00	2	2	186	47	47																		
14422+25.00	2	2	193	54	54																		
14422+50.00	3	3	193	54	54																		
14422+75.00	3	3	195	56	56																		
14423+00.00	4	4	198	59	59																		
14423+25.00	4	4	194	55	55																		
14423+50.00	2	2	181	42	42																		
14423+75.00	1	1	165	26	26																		
14424+00.00	1	1	136	0	0																		
14424+25.00	2	2	99	0	0																		
14424+50.00	2	2	68	0	0																		
14424+75.00	3	3	39	0	0																		
14425+00.00	4	4	23	0	0																		
14425+25.00				0	0																		
STAGE 3D Totals	85	85	5,932	2,092	2,092																		



### TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

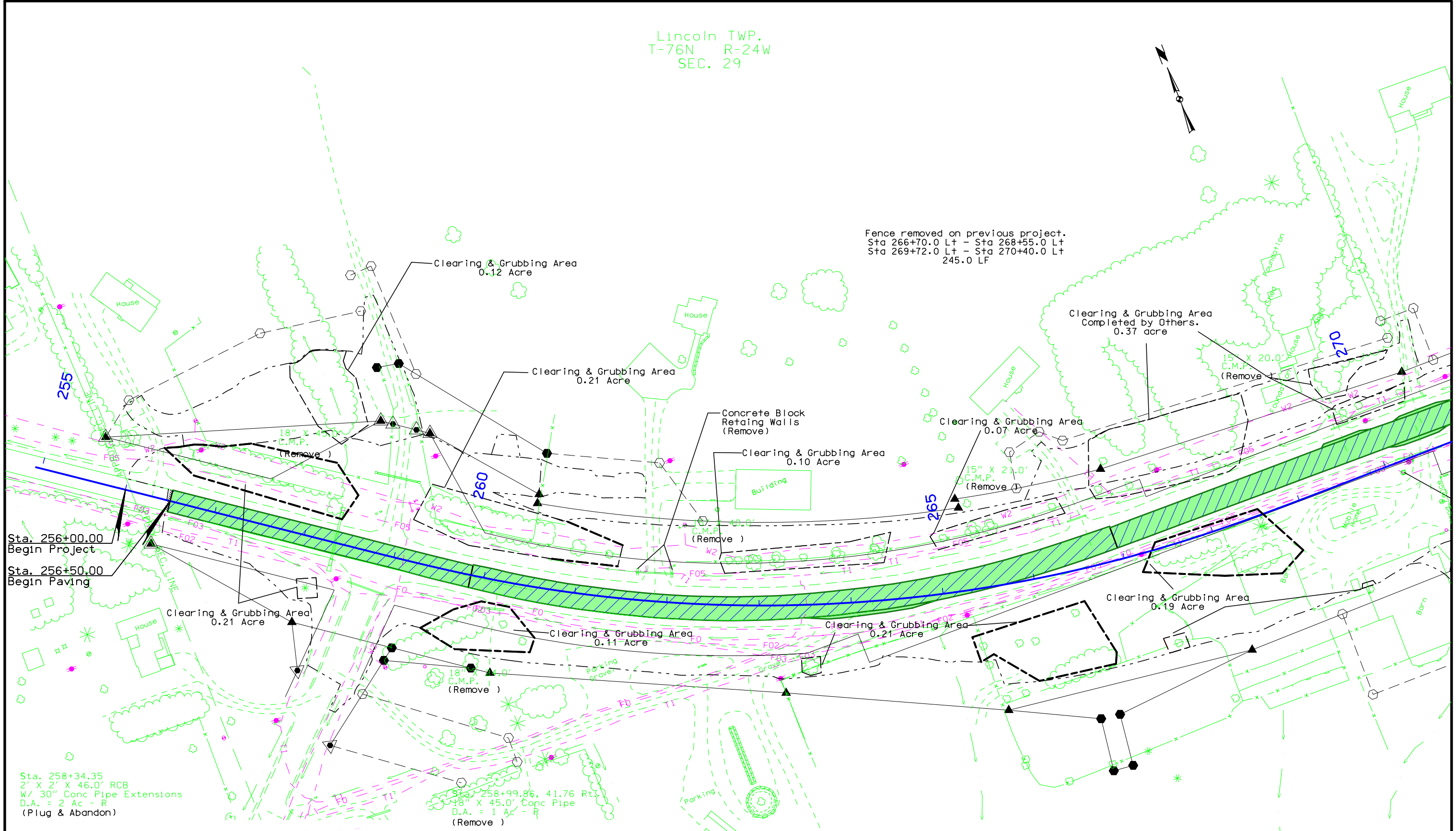
Refer to Standard Road Plans EW-101 and EW-102.

STATION	TOTAL CUT	TOPSOIL TYPE C SAVED -C	CLASS 10 SUITABLE CUT	TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT	STATION	TOTAL CUT	TOPSOIL TYPE C SAVED -C	CLASS 10 SUITABLE CUT	TOTAL FILL	APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT																																																																																																									
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">PROJECT QUANTITIES</th> <th colspan="6">Excavation</th> <th colspan="1">Embankment</th> </tr> <tr> <th>Class 10</th> <th>Uns. B</th> <th>Uns. C</th> <th>TOTAL</th> <th>Cut /1.3</th> <th>Topsoil</th> <th>FILL</th> </tr> </thead> <tbody> <tr> <td>STAGE 1</td> <td>3,902</td> <td></td> <td></td> <td>3,902</td> <td>3,002</td> <td>0</td> <td>382</td> </tr> <tr> <td>STAGE 2A</td> <td>5,875</td> <td></td> <td></td> <td>5,875</td> <td>4,519</td> <td>0</td> <td>7,952</td> </tr> <tr> <td>STAGE 2B</td> <td>33,025</td> <td>53,315</td> <td>1,786</td> <td>88,126</td> <td>67,789</td> <td>63,596</td> <td>142,730</td> </tr> <tr> <td>STAGE 2C</td> <td>7,945</td> <td></td> <td></td> <td>7,945</td> <td>6,112</td> <td>0</td> <td>891</td> </tr> <tr> <td>STAGE 2D</td> <td>7,279</td> <td></td> <td></td> <td>7,279</td> <td>5,599</td> <td>0</td> <td>3,415</td> </tr> <tr> <td>STAGE 3A</td> <td>318</td> <td></td> <td></td> <td>318</td> <td>245</td> <td>0</td> <td>322</td> </tr> <tr> <td>STAGE 3C</td> <td>11,892</td> <td>11,497</td> <td></td> <td>23,389</td> <td>17,992</td> <td>2,248</td> <td>1,700</td> </tr> <tr> <td>STAGE 3D</td> <td>85</td> <td></td> <td></td> <td>85</td> <td>65</td> <td>0</td> <td>5,932</td> </tr> <tr> <td>STAGE 4</td> <td>1,394</td> <td></td> <td></td> <td>1,394</td> <td>1,072</td> <td>126</td> <td>1,696</td> </tr> <tr> <td><b>TOTALS</b></td> <td><b>71,715</b></td> <td><b>64,812</b></td> <td><b>1,786</b></td> <td><b>138,313</b></td> <td></td> <td><b>65,970</b></td> <td><b>165,020</b></td> </tr> </tbody> </table> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2">BID ITEMS</th> </tr> </thead> <tbody> <tr> <td>CLASS 10 Exc.</td> <td style="text-align: right;">138,313</td> </tr> <tr> <td>Embankment</td> <td style="text-align: right;">75,754</td> </tr> <tr> <td>Topsoil Exc.</td> <td style="text-align: right;">65,970</td> </tr> <tr> <td>Waste</td> <td style="text-align: right;">39,550 (Not a Bid Item)</td> </tr> </tbody> </table>														PROJECT QUANTITIES	Excavation						Embankment	Class 10	Uns. B	Uns. C	TOTAL	Cut /1.3	Topsoil	FILL	STAGE 1	3,902			3,902	3,002	0	382	STAGE 2A	5,875			5,875	4,519	0	7,952	STAGE 2B	33,025	53,315	1,786	88,126	67,789	63,596	142,730	STAGE 2C	7,945			7,945	6,112	0	891	STAGE 2D	7,279			7,279	5,599	0	3,415	STAGE 3A	318			318	245	0	322	STAGE 3C	11,892	11,497		23,389	17,992	2,248	1,700	STAGE 3D	85			85	65	0	5,932	STAGE 4	1,394			1,394	1,072	126	1,696	<b>TOTALS</b>	<b>71,715</b>	<b>64,812</b>	<b>1,786</b>	<b>138,313</b>		<b>65,970</b>	<b>165,020</b>	BID ITEMS		CLASS 10 Exc.	138,313	Embankment	75,754	Topsoil Exc.	65,970	Waste	39,550 (Not a Bid Item)
PROJECT QUANTITIES	Excavation						Embankment																																																																																																															
	Class 10	Uns. B	Uns. C	TOTAL	Cut /1.3	Topsoil	FILL																																																																																																															
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STAGE 2A	5,875			5,875	4,519	0	7,952																																																																																																															
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Lincoln TWP.  
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Fence removed on previous project.  
Sta 266+70.0 L+ - Sta 268+55.0 L+  
Sta 269+72.0 L+ - Sta 270+40.0 L+  
245.0 LF



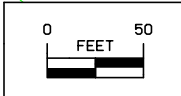
Sta. 256+00.00  
Begin Project  
Sta. 256+50.00  
Begin Paving

Sta. 258+34.35  
2' X 2' X 46.0' RCB  
w/ 30" Conc Pipe Extensions  
D.A. = 2 Ac - R  
(Plug & Abandon)

Sta. 258+99.86, 41.76 Rt.  
18" X 45.0' Conc Pipe  
D.A. = 1 Ac - R  
(Remove)

- Pavement Removal (General)
- Paved Entrance Removal
- Detour Pavement Removal
- Sidewalk Removal
- Clearing & Grubbing Limits

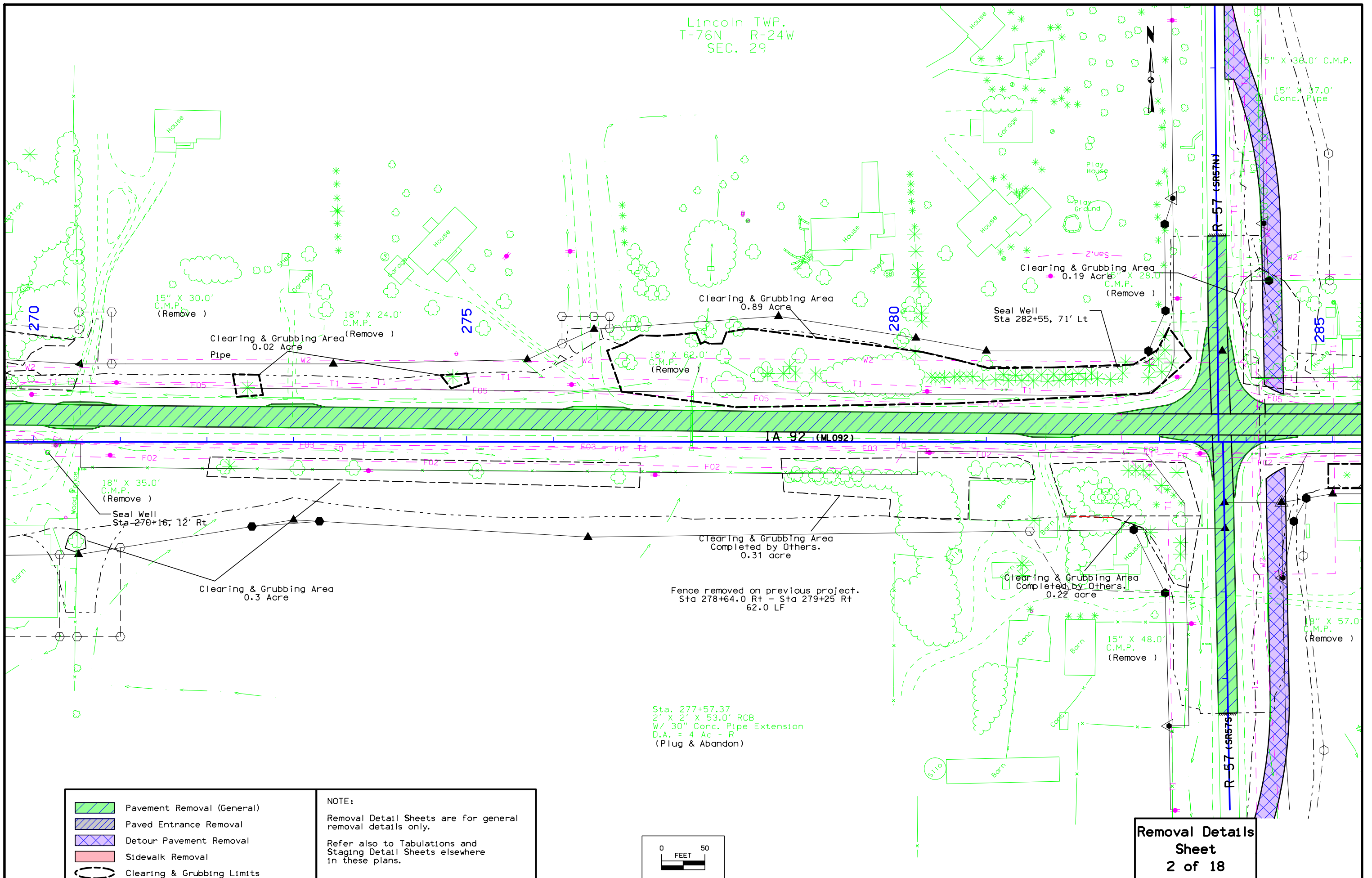
**NOTE:**  
Removal Detail Sheets are for general removal details only.  
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.



**Removal Details**  
**Sheet**  
**1 of 18**

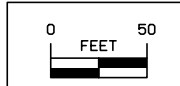


Lincoln TWP.  
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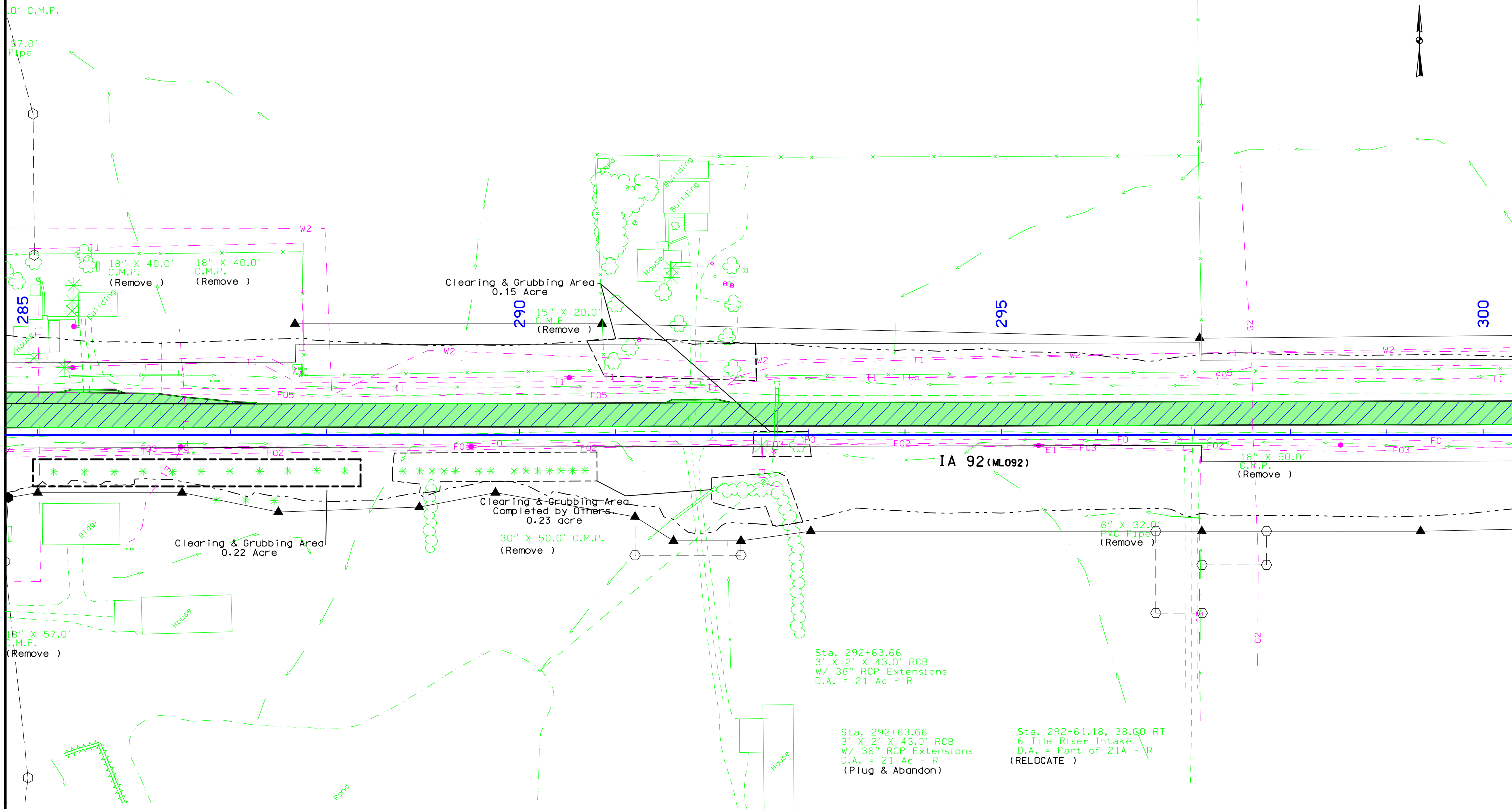
	Pavement Removal (General)
	Paved Entrance Removal
	Detour Pavement Removal
	Sidewalk Removal
	Clearing & Grubbing Limits

NOTE:  
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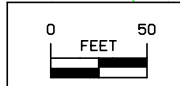


**Removal Details**  
**Sheet**  
**2 of 18**

Lincoln TWP.  
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SEC. 29



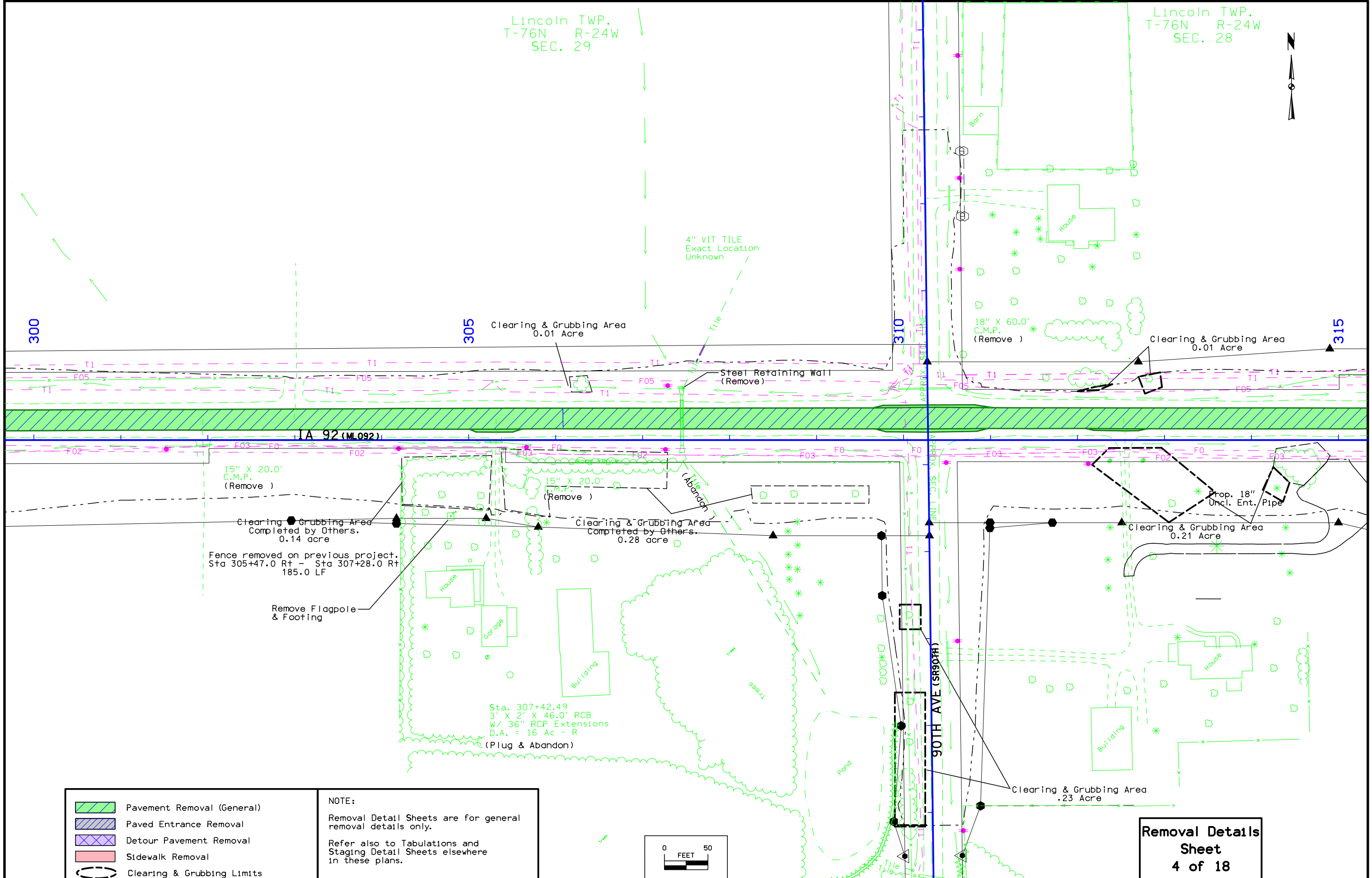
	Pavement Removal (General)	<b>NOTE:</b> Removal Detail Sheets are for general removal details only.  Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.
	Paved Entrance Removal	
	Detour Pavement Removal	
	Sidewalk Removal	
	Clearing & Grubbing Limits	



**Removal Details**  
**Sheet**  
**3 of 18**

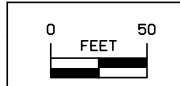
Lincoln TWP.  
T-76N R-24W  
SEC. 29

Lincoln TWP.  
T-76N R-24W  
SEC. 28



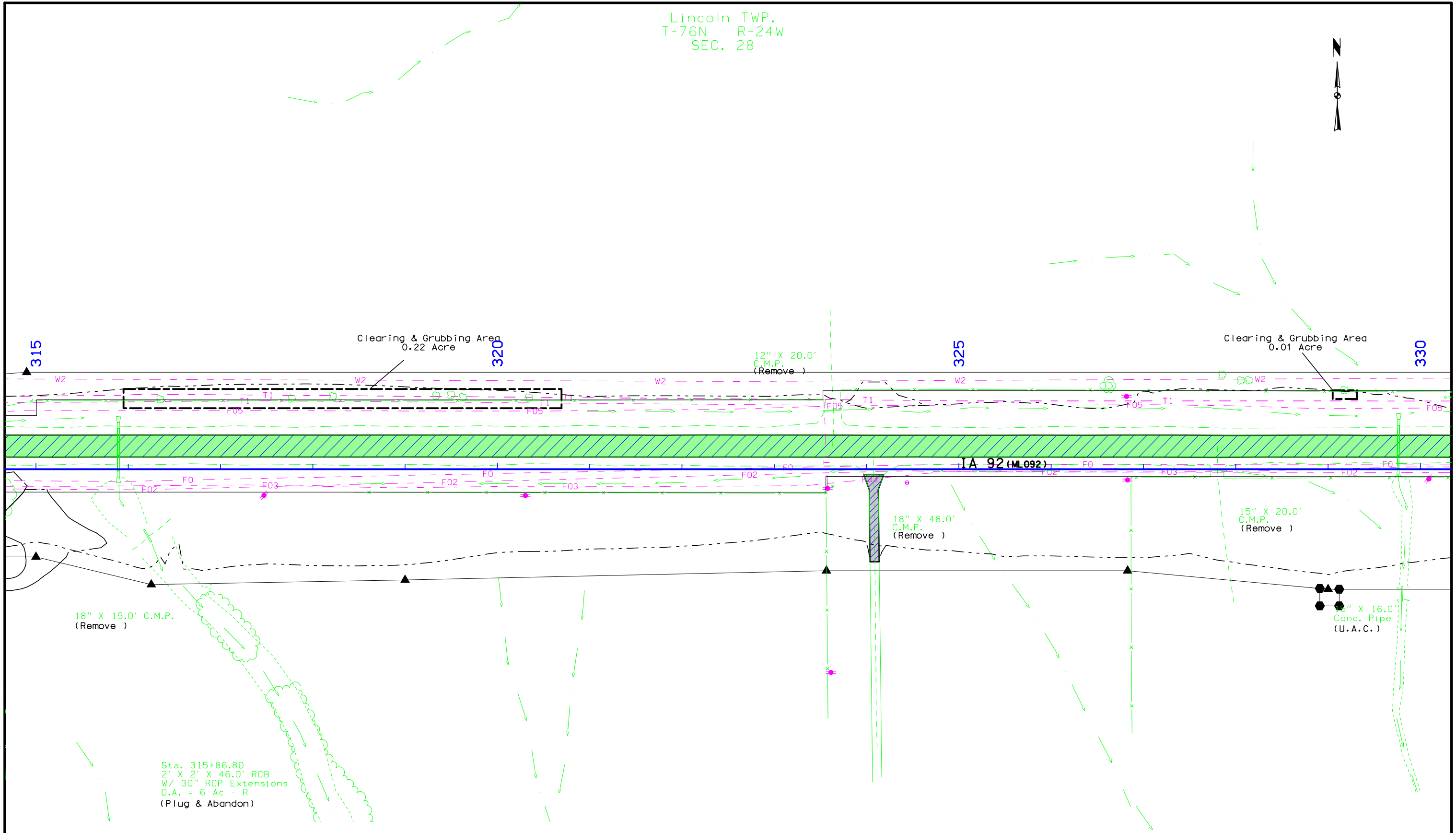
	Pavement Removal (General)
	Paved Entrance Removal
	Detour Pavement Removal
	Sidewalk Removal
	Clearing & Grubbing Limits

**NOTE:**  
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**Removal Details**  
**Sheet**  
**4 of 18**

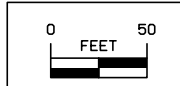
Lincoln TWP.  
T-76N R-24W  
SEC. 28



Sta. 315+86.80  
2' X 2' X 46.0' RCB  
W/ 30" RCP Extensions  
D.A. = 6 Ac - R  
(Plug & Abandon)

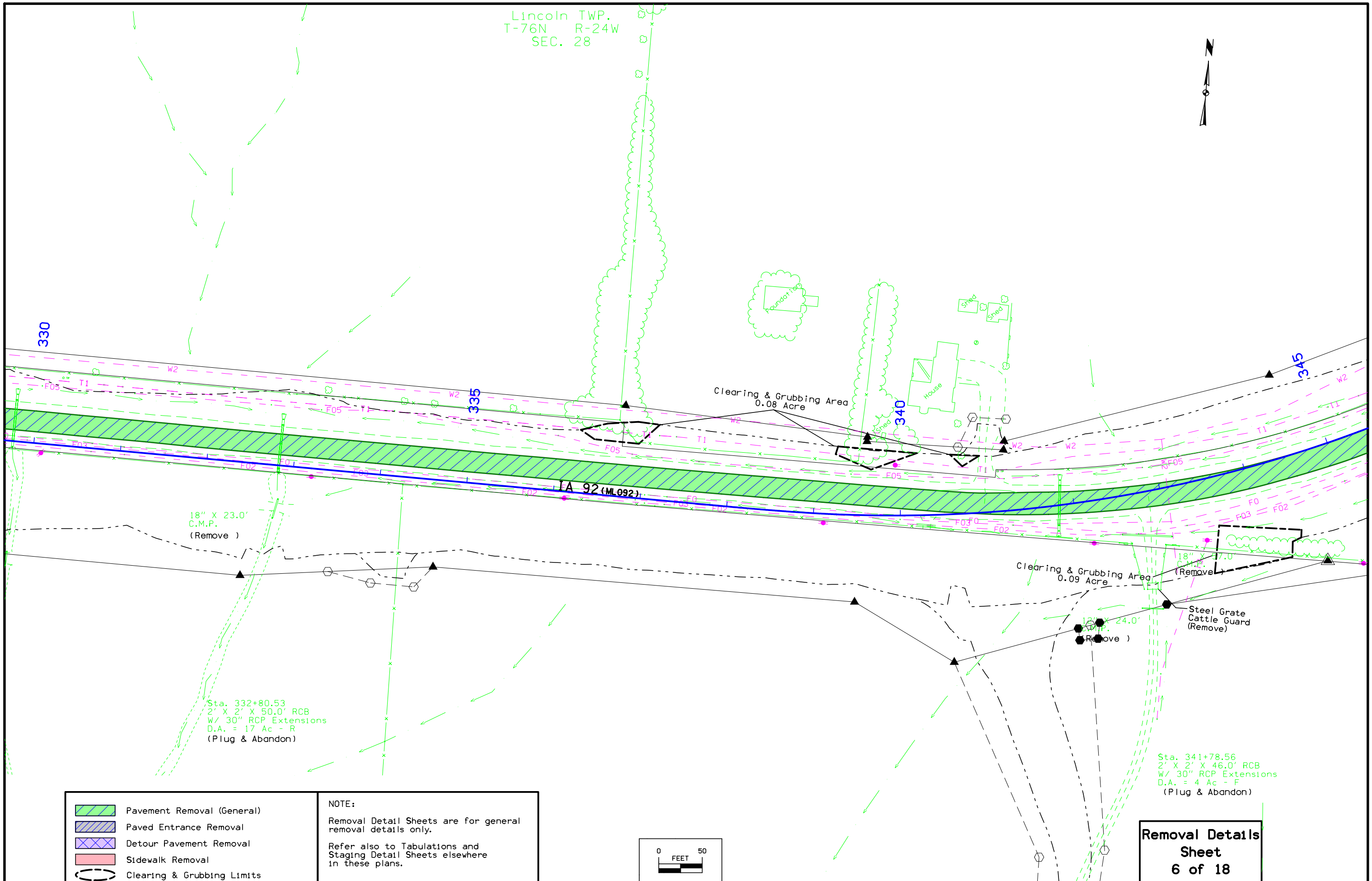
- Pavement Removal (General)
- Paved Entrance Removal
- Detour Pavement Removal
- Sidewalk Removal
- Clearing & Grubbing Limits

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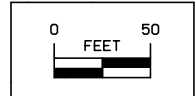
**Removal Details**  
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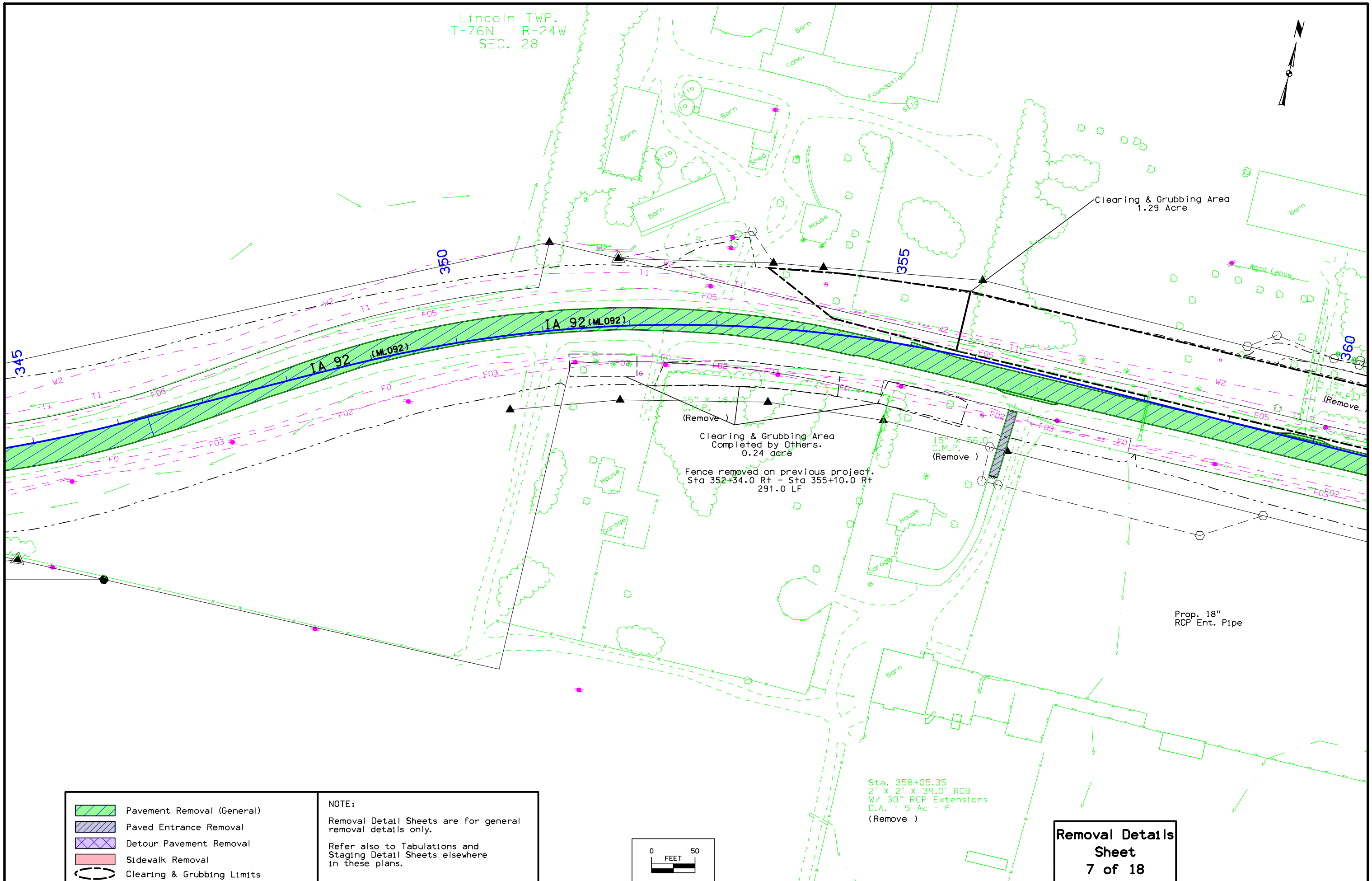
- Pavement Removal (General)
- Paved Entrance Removal
- Detour Pavement Removal
- Sidewalk Removal
- Clearing & Grubbing Limits

**NOTE:**  
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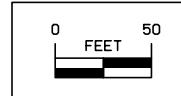
**Removal Details  
Sheet  
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	Pavement Removal (General)
	Paved Entrance Removal
	Detour Pavement Removal
	Sidewalk Removal
	Clearing & Grubbing Limits

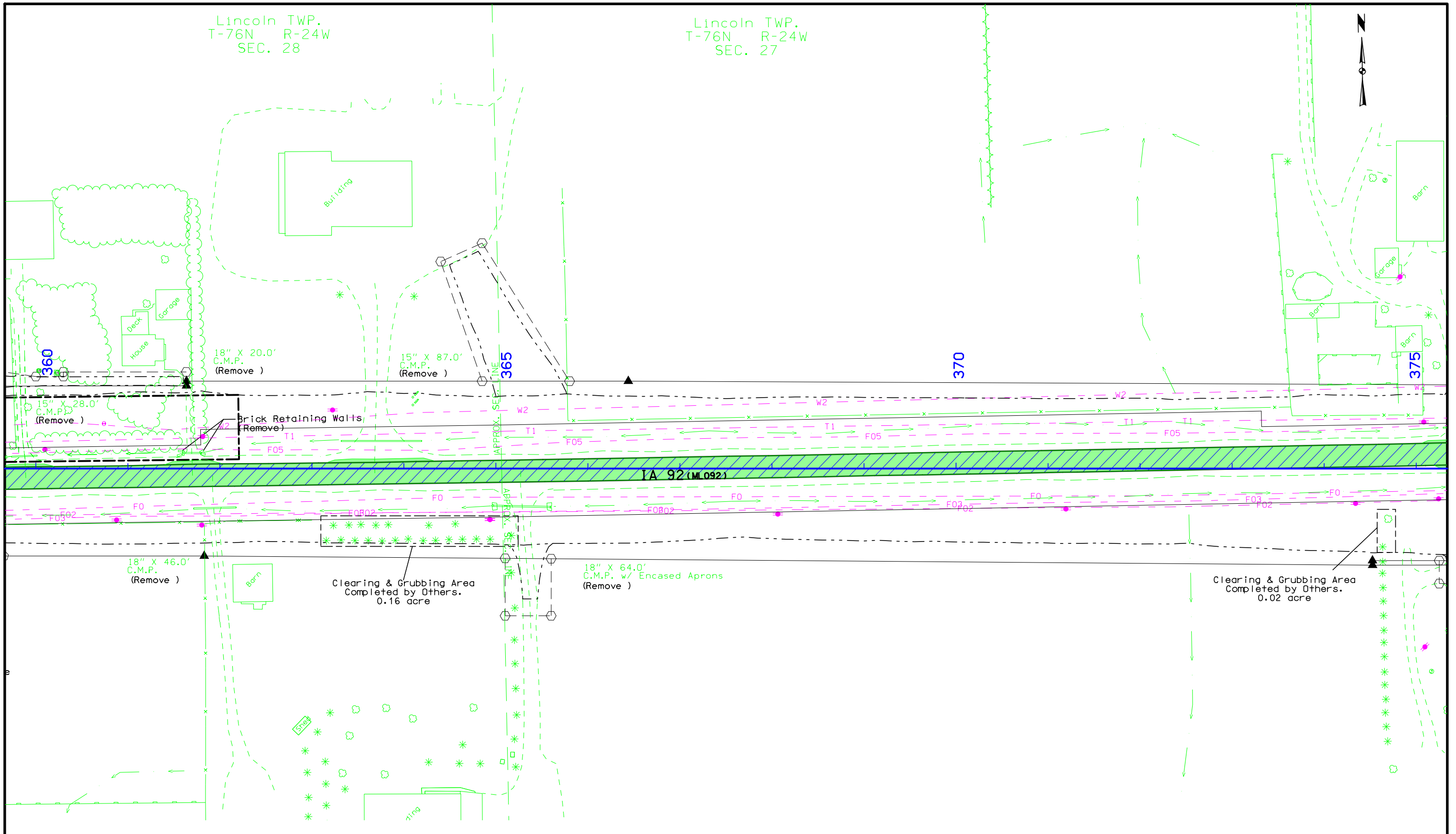
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**Removal Details  
Sheet  
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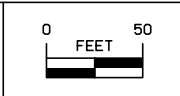
Lincoln TWP.  
T-76N R-24W  
SEC. 28

Lincoln TWP.  
T-76N R-24W  
SEC. 27



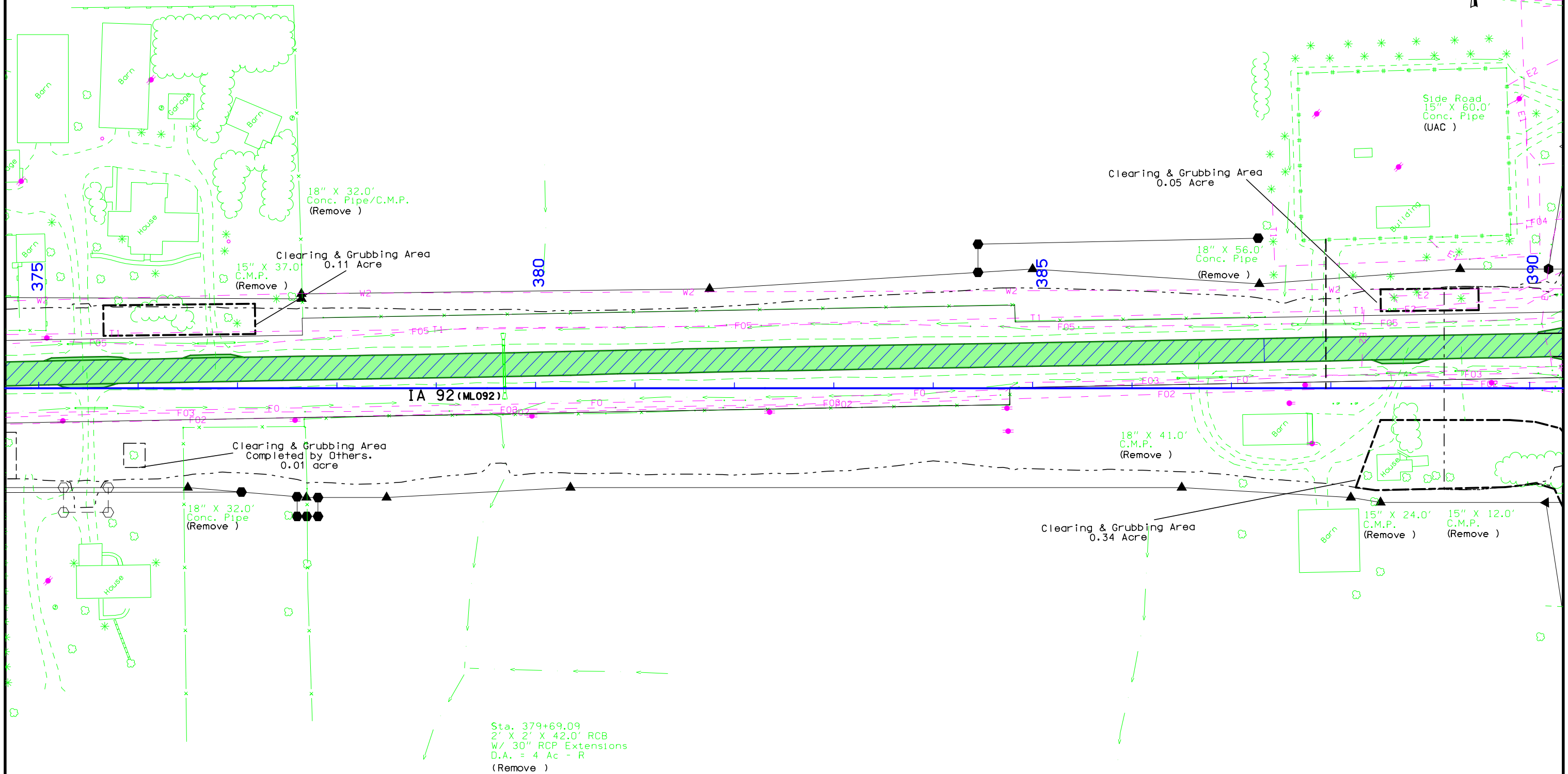
- Pavement Removal (General)
- Paved Entrance Removal
- Detour Pavement Removal
- Sidewalk Removal
- Clearing & Grubbing Limits

**NOTE:**  
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






**Removal Details**  
**Sheet**  
**8 of 18**

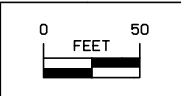
Lincoln TWP.  
T-76N R-24W  
SEC. 27



Sta. 379+69.09  
2' X 2' X 42.0' RCB  
W/ 30" RCP Extensions  
D.A. = 4 Ac - R  
(Remove )

-  Pavement Removal (General)
-  Paved Entrance Removal
-  Detour Pavement Removal
-  Sidewalk Removal
-  Clearing & Grubbing Limits

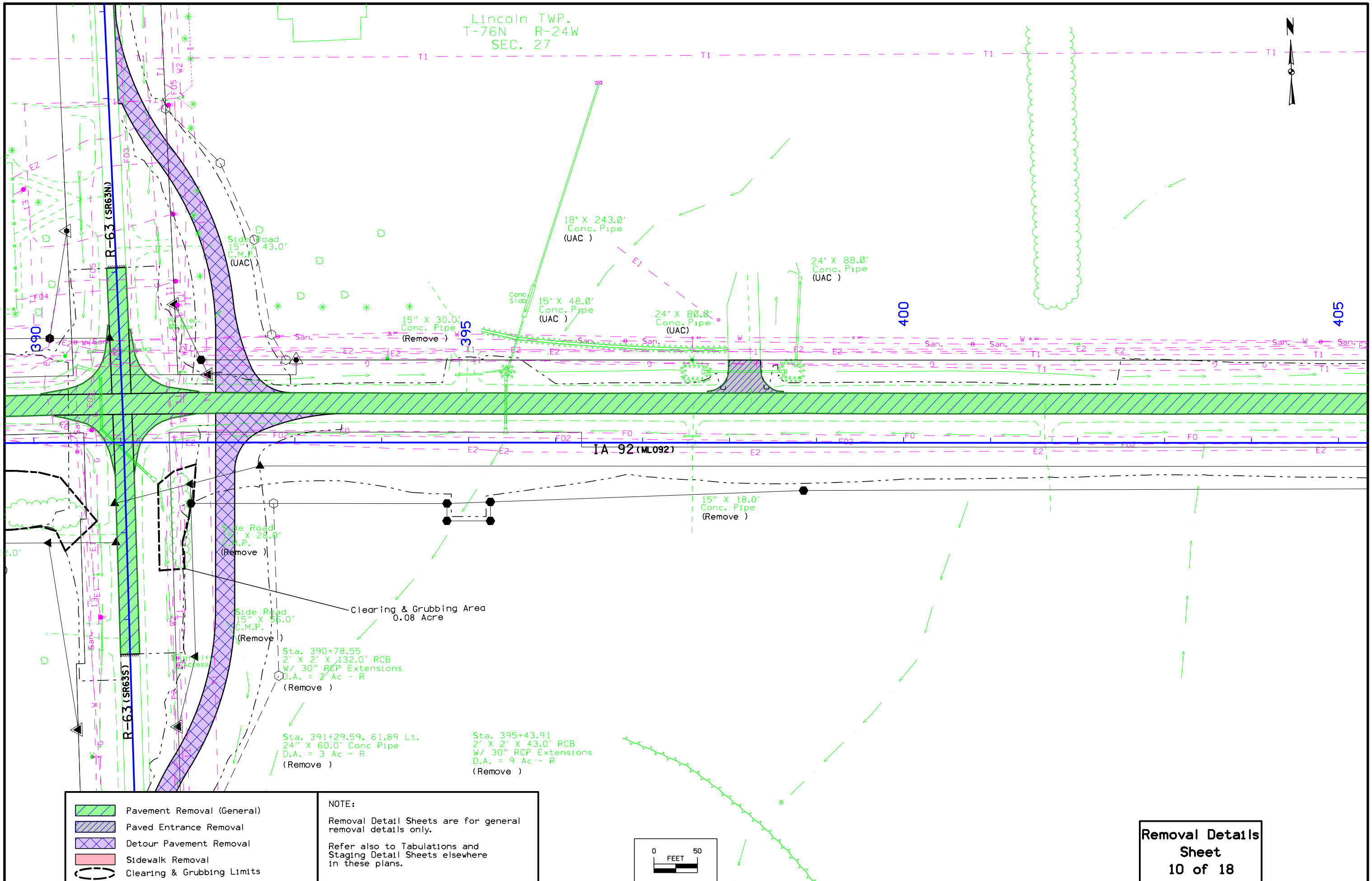
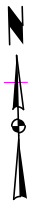
**NOTE:**  
Removal Detail Sheets are for general removal details only.  
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.



**Removal Details**  
**Sheet**  
**9 of 18**

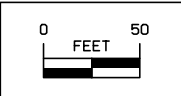


Lincoln TWP.  
T-76N R-24W  
SEC. 27



	Pavement Removal (General)
	Paved Entrance Removal
	Detour Pavement Removal
	Sidewalk Removal
	Clearing & Grubbing Limits

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**Removal Details**  
**Sheet**  
**10 of 18**

Lincoln TWP.  
T-76N R-24W  
SEC. 27

PLUG & ABANDON  
Storm Sewer  
Sta. 4422+60 to 4424+08.3

Sta. 417+03.73, 37.07 Lt.  
22' X 14" X 60.0' Arch Conc Pipe  
D.A. = 4 Ac - R  
(Remove )

REMOVE  
Storm Sewer & Intakes  
Sta. 4419+96 to 4422+60

15" X 148.0'  
C.M.P.  
(Remove)

15" X 24.0'  
C.M.P.  
(Remove)

410

415

405

420

IA 92 (ML092)

Sta. 416+97.93, 36.89 Rt  
15" X 108.0' Conc.  
Pipe Extension  
D.A. = 1 Ac - R  
(Remove)

Sta. 417+25.01, 350.26 Rt.  
39" Beehive Intake  
D.A. = 3 A - R  
(Remove )

Sta. 417+37.20, 350.71 Rt.  
2.0 X 3.0 Flat Grate Intake  
D.A. = .4 A - R  
(Remove )

Sta. 417+59.47, 350.15 Rt.  
2.0 X 3.0 Flat Grate Intake  
D.A. = .4 A - R  
(Remove)






Sta. 412+66.92, 247.41 RT  
6 Tile Riser Intake  
D.A. = 5A - R  
(U.A.C.)

REMOVE  
Storm Sewer Pipe  
Sta. 4414+35

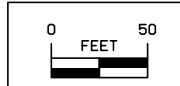
Sta. 4414+30 Rt  
Cl. 12 Excavation  
30.0 C.Y.

Sta. 417+30.31, 350.36 Rt  
30" X 44.0' CMP  
D.A. = 16 Ac - R  
(Remove )

Sta. 414+54.06, 307.09 RT  
6 Tile Riser Intake  
D.A. = 2A - R  
(U.A.C.)

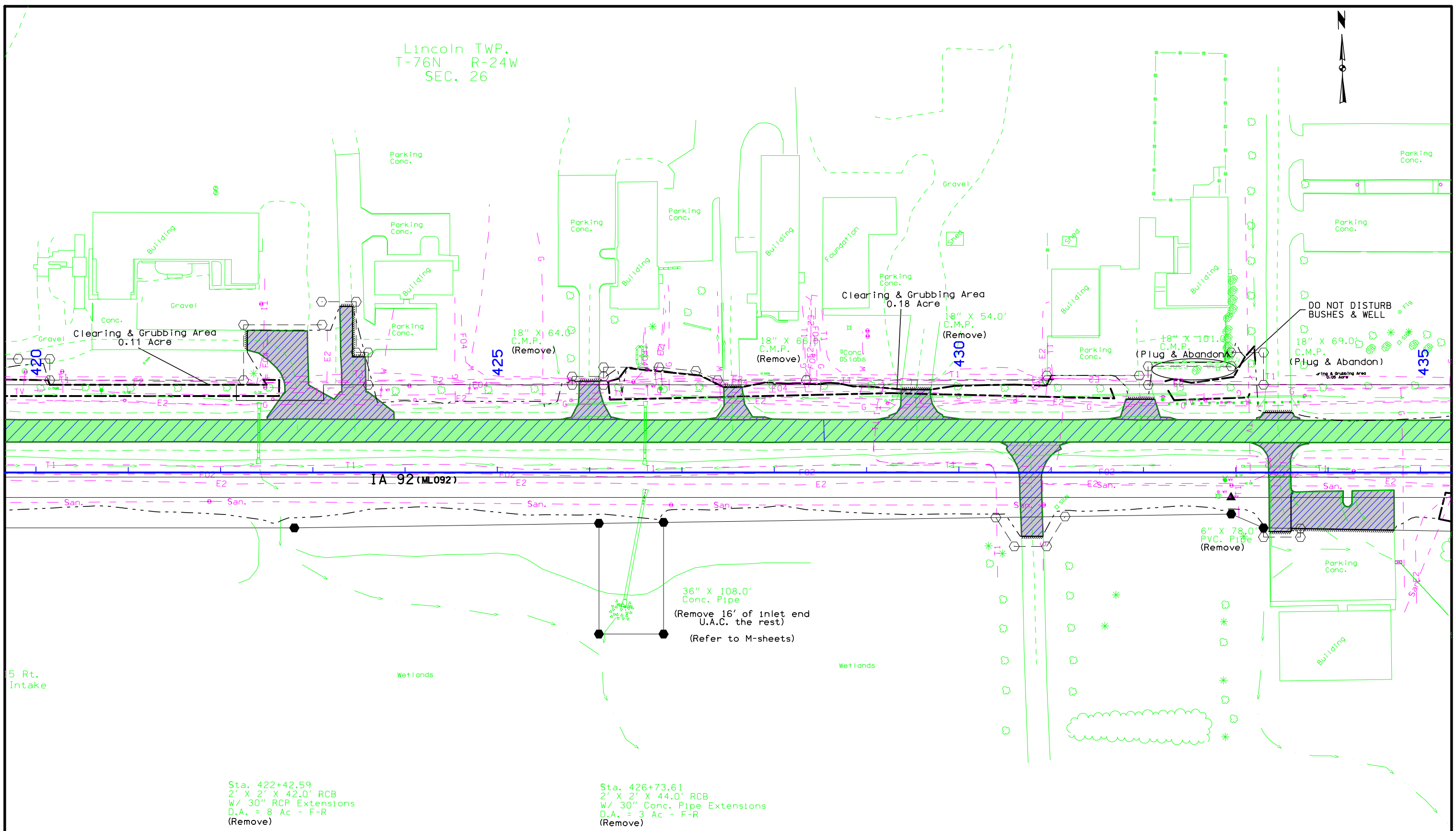
	Pavement Removal (General)
	Paved Entrance Removal
	Detour Pavement Removal
	Sidewalk Removal
	Clearing & Grubbing Limits

NOTE:  
Removal Detail Sheets are for general removal details only.  
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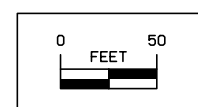
**Removal Details**  
**Sheet**  
**11 of 18**

Lincoln TWP.  
T-76N R-24W  
SEC. 26

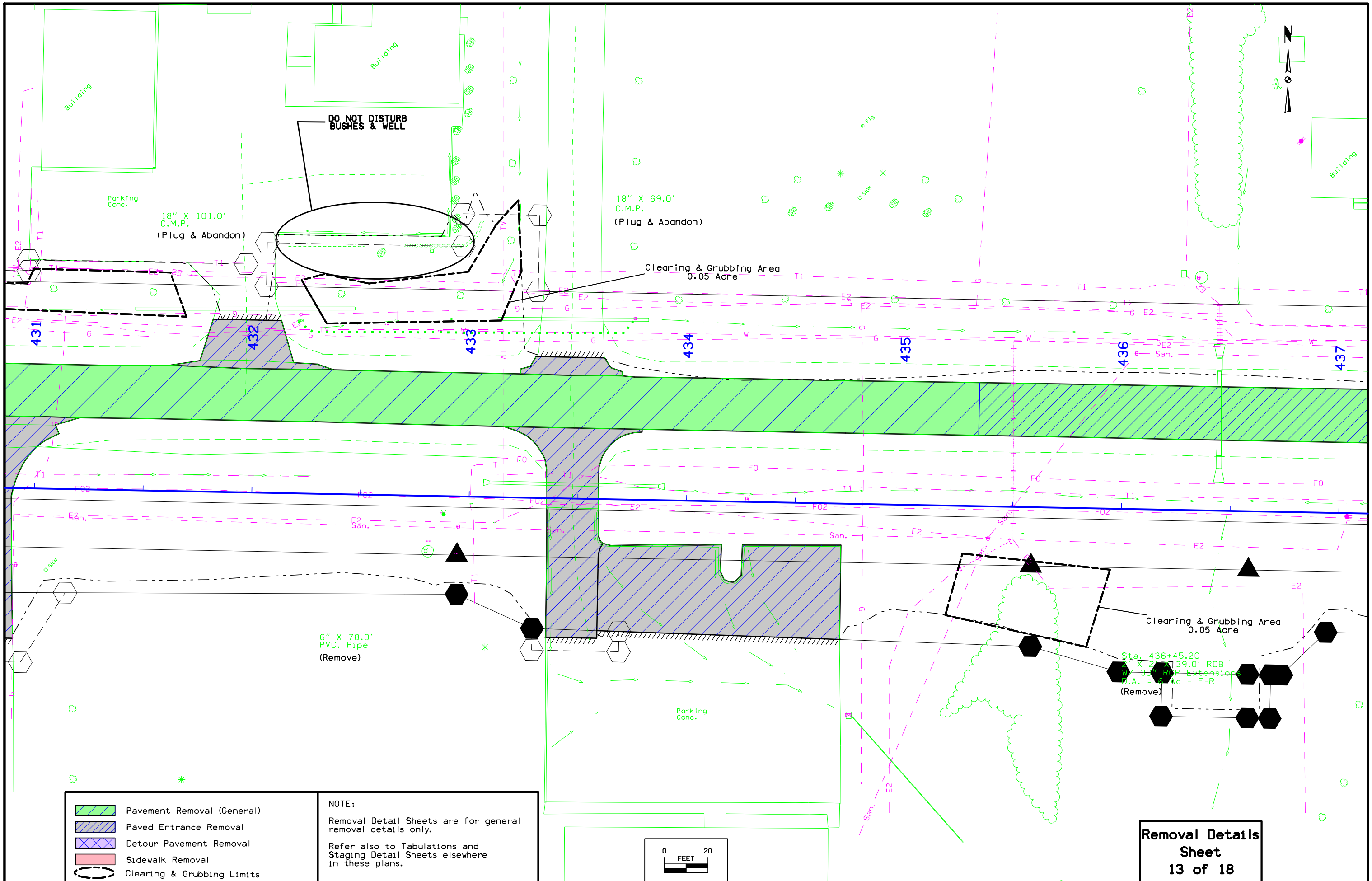


	Pavement Removal (General)
	Paved Entrance Removal
	Detour Pavement Removal
	Sidewalk Removal
	Clearing & Grubbing Limits

**NOTE:**  
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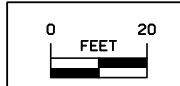


**Removal Details  
Sheet  
12 of 18**

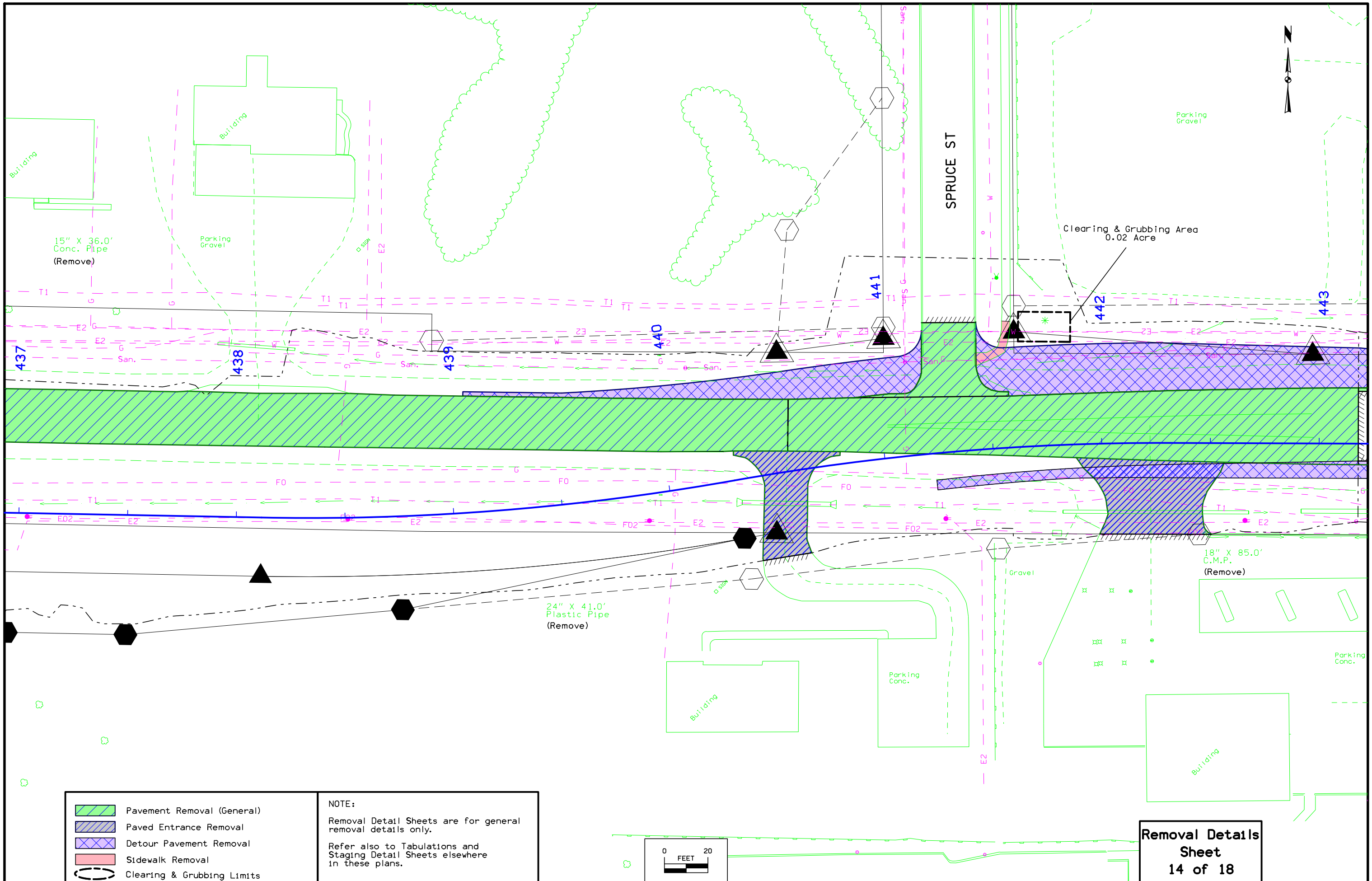


- Pavement Removal (General)
- Paved Entrance Removal
- Detour Pavement Removal
- Sidewalk Removal
- Clearing & Grubbing Limits

**NOTE:**  
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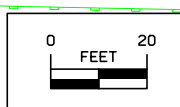


**Removal Details  
 Sheet  
 13 of 18**

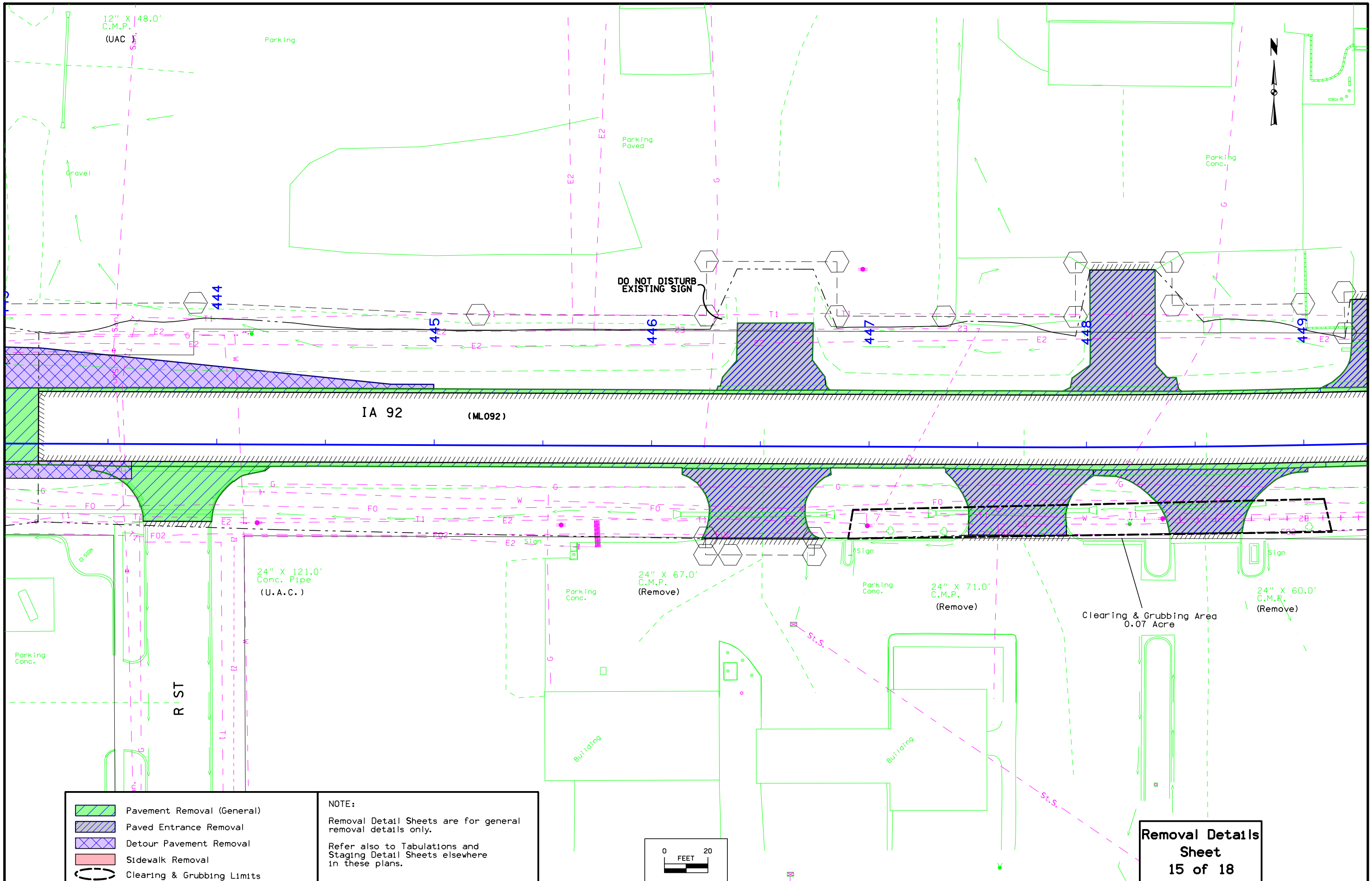


- Pavement Removal (General)
- Paved Entrance Removal
- Detour Pavement Removal
- Sidewalk Removal
- Clearing & Grubbing Limits

**NOTE:**  
 Removal Detail Sheets are for general removal details only.  
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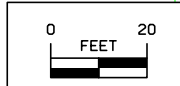


**Removal Details  
 Sheet  
 14 of 18**

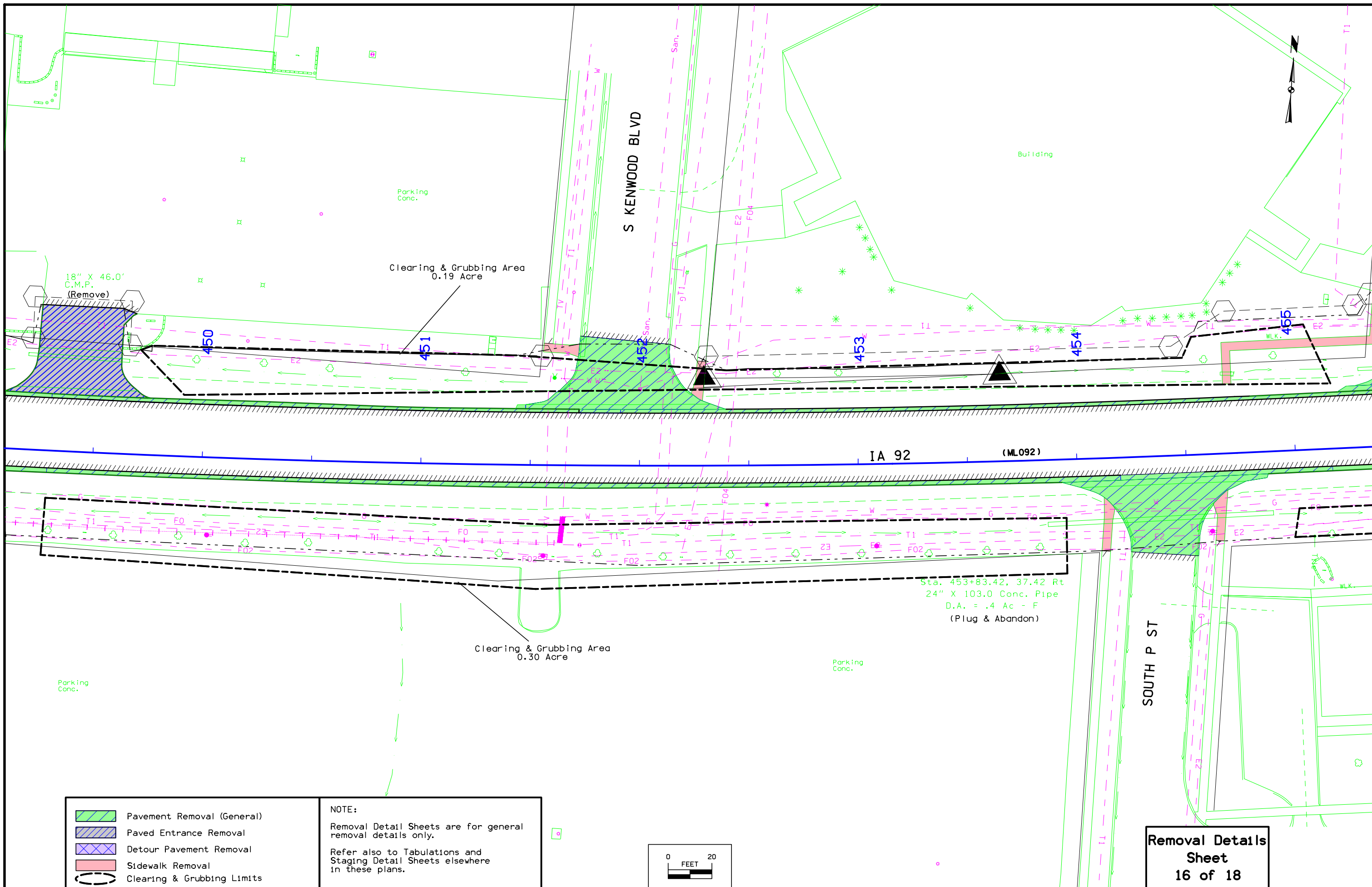


- Pavement Removal (General)
- Paved Entrance Removal
- Detour Pavement Removal
- Sidewalk Removal
- Clearing & Grubbing Limits

**NOTE:**  
 Removal Detail Sheets are for general removal details only.  
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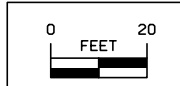


**Removal Details  
 Sheet  
 15 of 18**

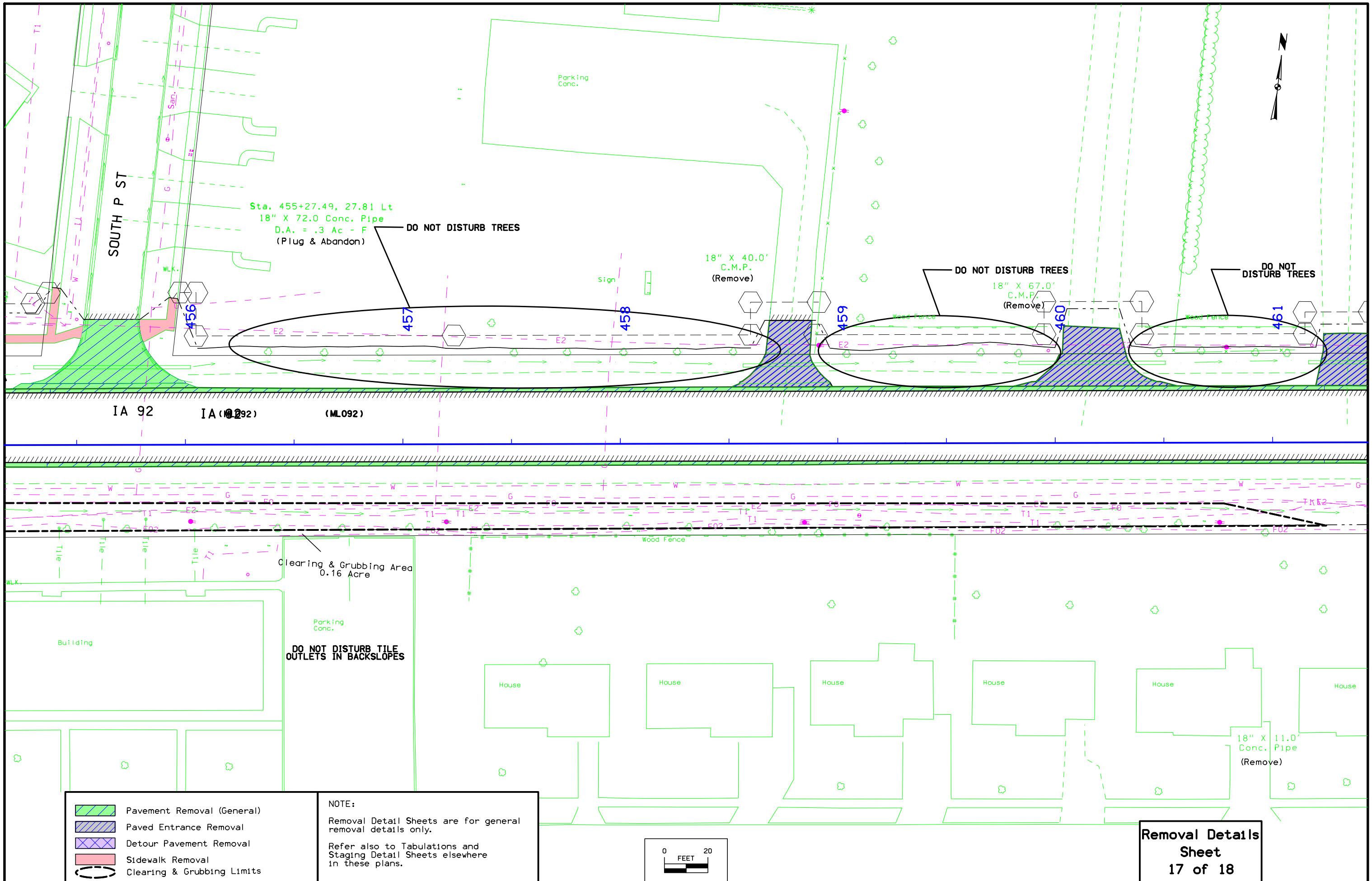


- Pavement Removal (General)
- Paved Entrance Removal
- Detour Pavement Removal
- Sidewalk Removal
- Clearing & Grubbing Limits

**NOTE:**  
 Removal Detail Sheets are for general removal details only.  
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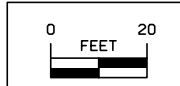


**Removal Details  
 Sheet  
 16 of 18**



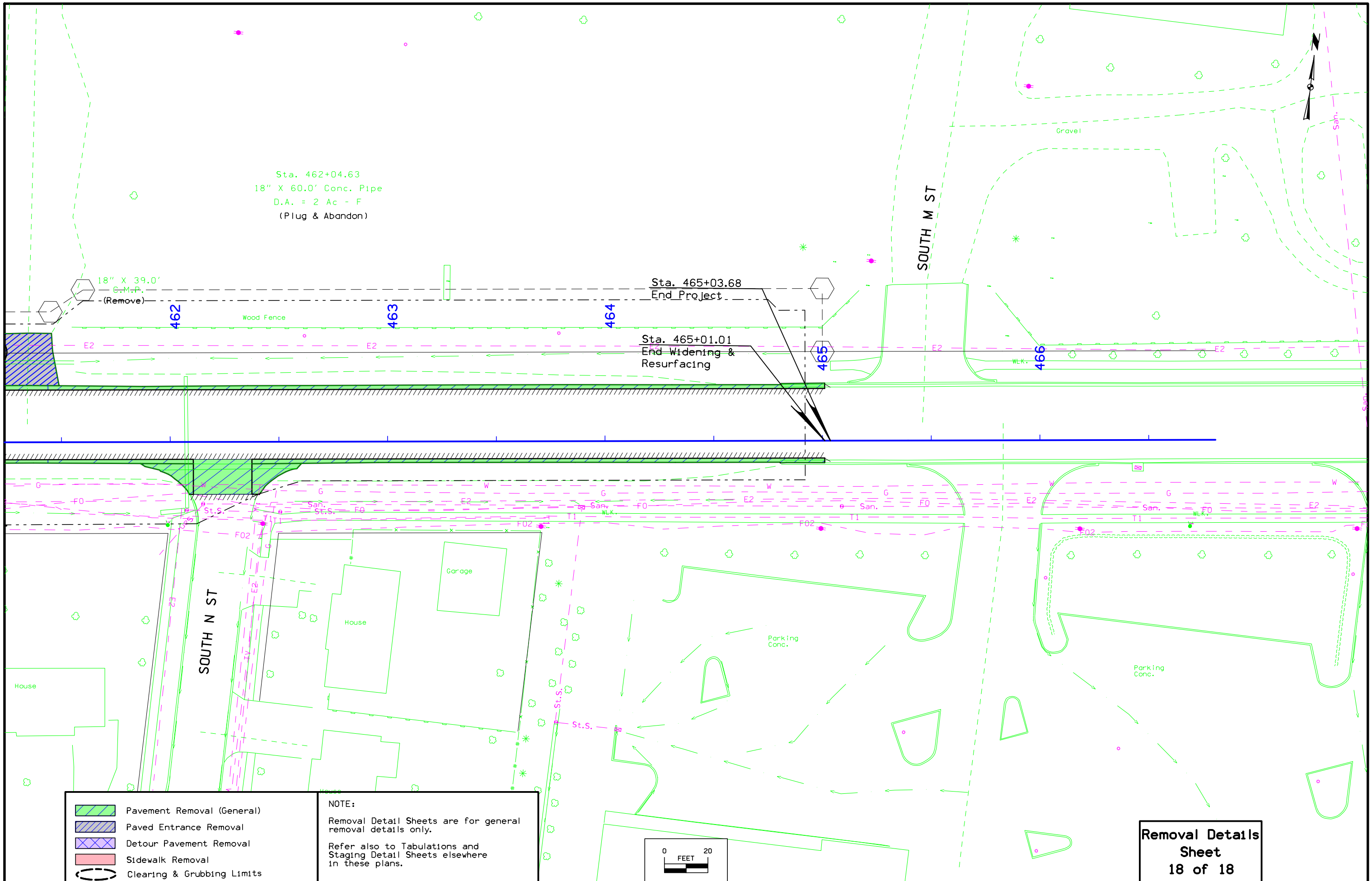
- Pavement Removal (General)
- Paved Entrance Removal
- Detour Pavement Removal
- Sidewalk Removal
- Clearing & Grubbing Limits

**NOTE:**  
 Removal Detail Sheets are for general removal details only.  
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**Removal Details**  
**Sheet**  
**17 of 18**





Sta. 462+04.63  
 18" X 60.0' Conc. Pipe  
 D.A. = 2 Ac - F  
 (Plug & Abandon)

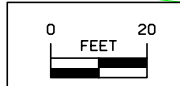
18" X 39.0'  
 C.M.P.  
 (Remove)

Sta. 465+03.68  
 End Project

Sta. 465+01.01  
 End Widening &  
 Resurfacing

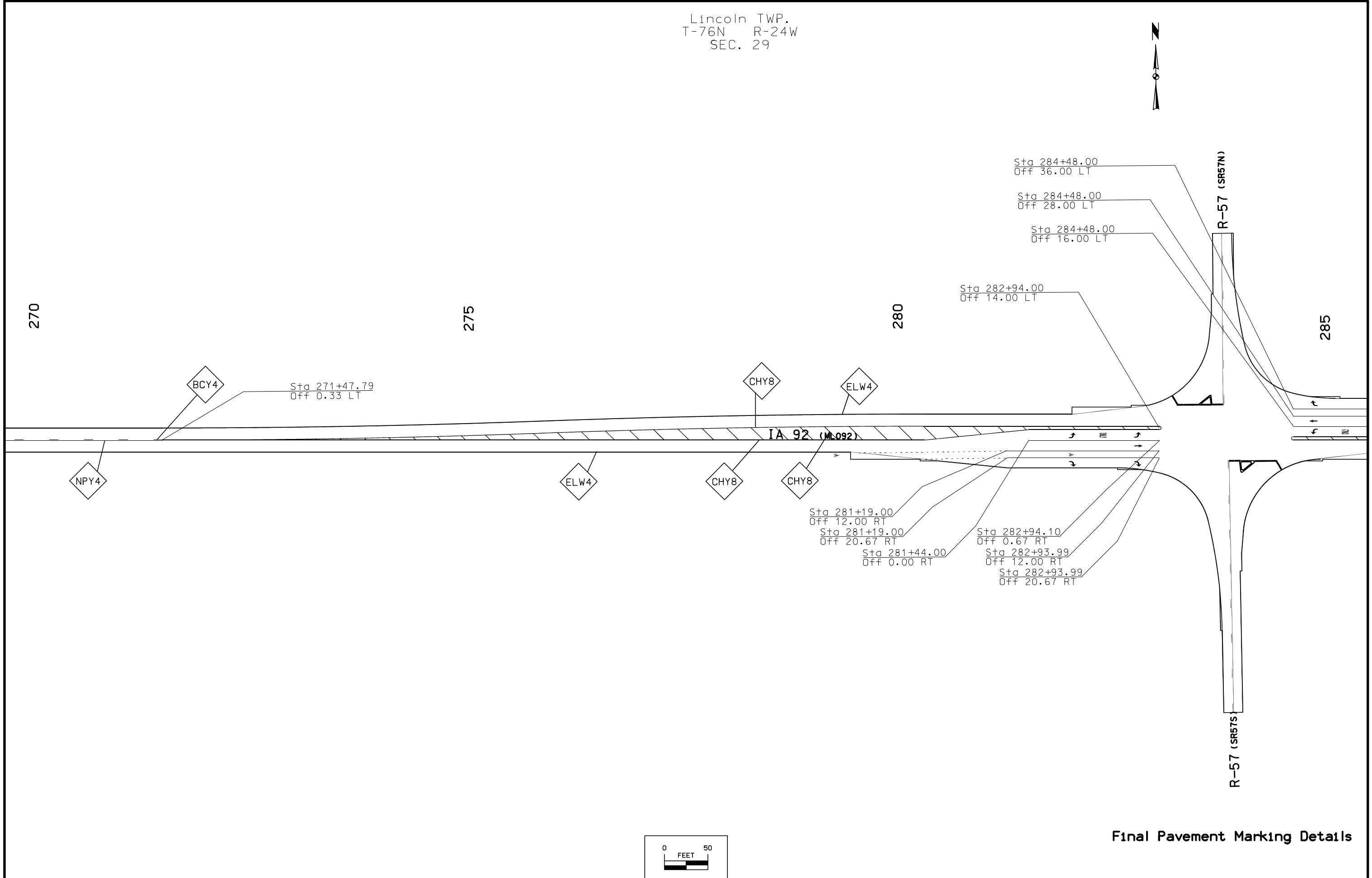
- Pavement Removal (General)
- Paved Entrance Removal
- Detour Pavement Removal
- Sidewalk Removal
- Clearing & Grubbing Limits

**NOTE:**  
 Removal Detail Sheets are for general  
 removal details only.  
 Refer also to Tabulations and  
 Staging Detail Sheets elsewhere  
 in these plans.

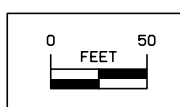


**Removal Details**  
**Sheet**  
**18 of 18**

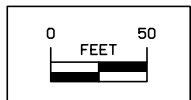
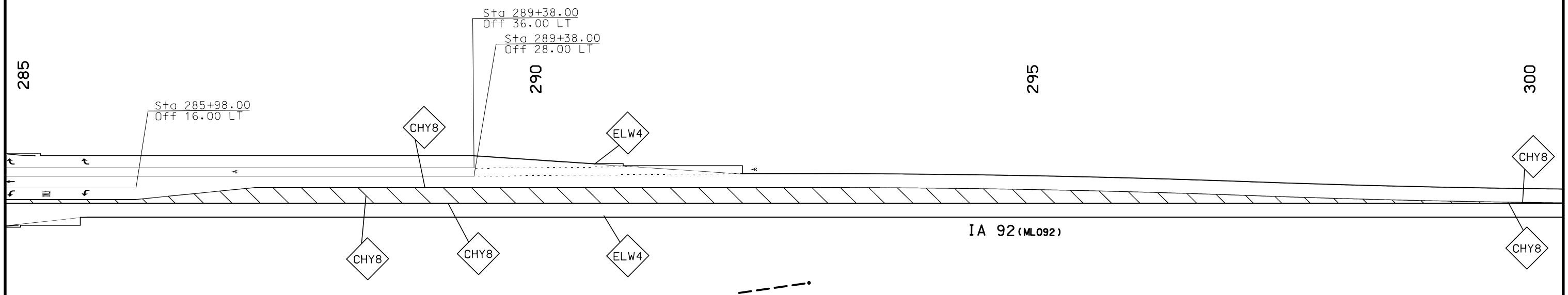
Lincoln TWP.  
T-76N R-24W  
SEC. 29



Final Pavement Marking Details



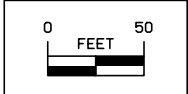
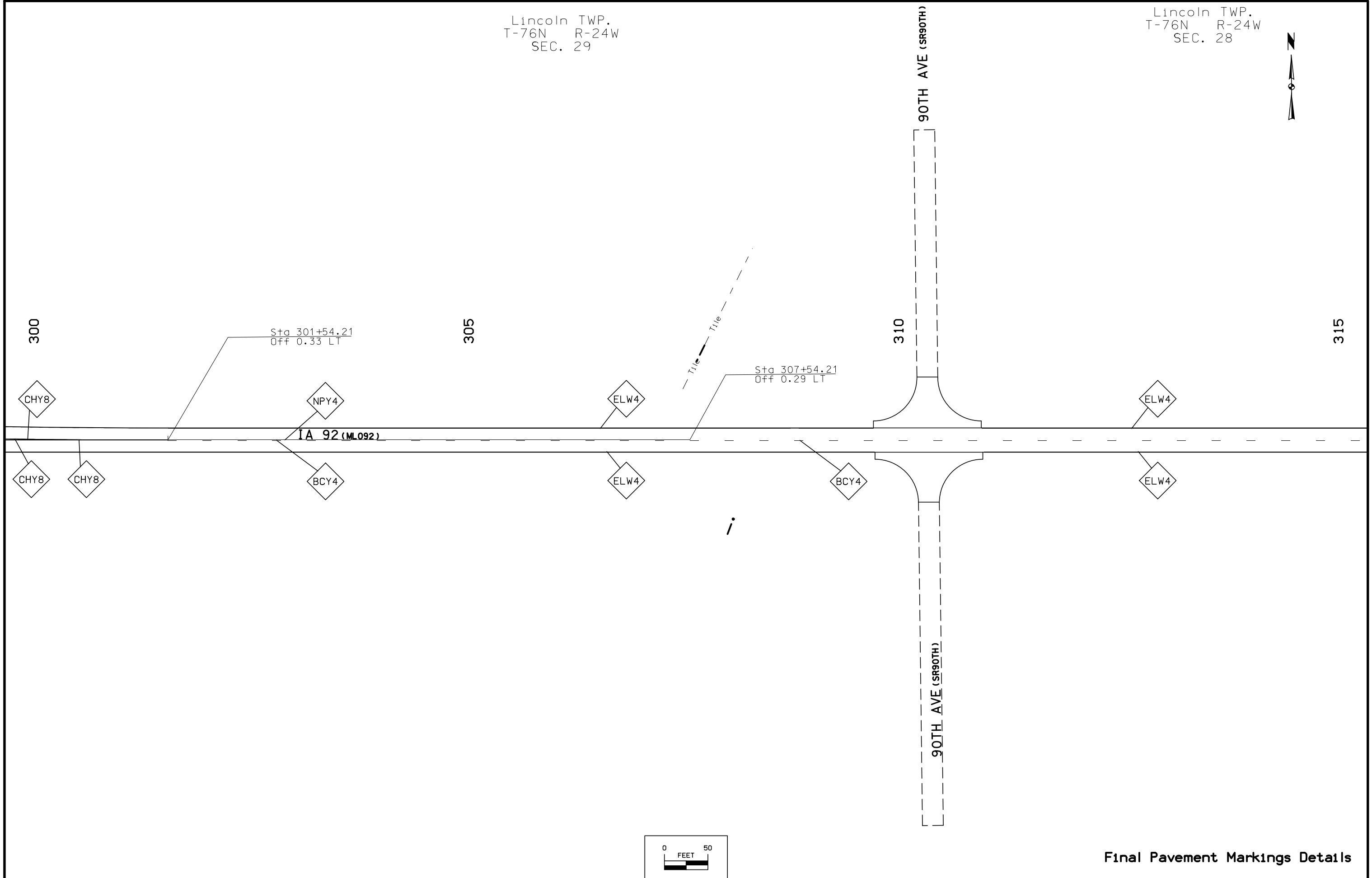
Lincoln TWP.  
T-76N R-24W  
SEC. 29



Final Pavement Marking Details

Lincoln TWP.  
T-76N R-24W  
SEC. 29

Lincoln TWP.  
T-76N R-24W  
SEC. 28



Final Pavement Markings Details

Lincoln TWP.  
T-76N R-24W  
SEC. 27



375

380

385

390

BCY4

ELW4

CHY8

NPY4

ELW4

CHY8

CHY8

IA 92 (ML092)

Sta 378+78.79  
Off 0.33 RT

Sta 388+50.00  
Off 12.67 RT

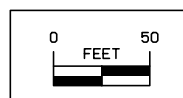
Sta 388+50.00  
Off 20.67 RT

Sta 388+75.00  
Off 0.67 RT

Sta 390+25.00  
Off 0.00 RT

Sta 390+25.00  
Off 12.67 RT

Sta 390+25.00  
Off 20.00 RT

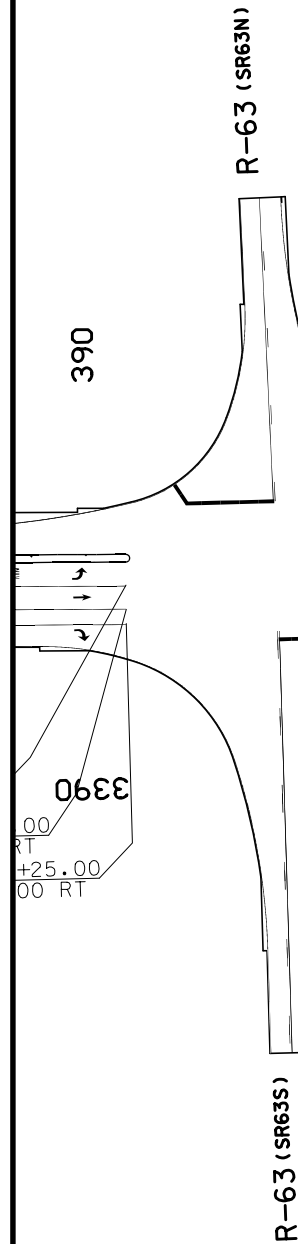


Final Pavement Marking Details

Lincoln TWP.  
T-76N R-24W  
SEC. 27



339E



390

R-63 (SR63N)

R-63 (SR63S)

Sta 391+79.93  
Off 28.00 LT  
Sta 391+79.92  
Off 14.99 LT

Sta 393+29.11  
Off 15.00 LT

Sta 396+69.88  
Off 28.00 LT

BCY4

NPY4

BCY4

NPY4

BCY4

NPY4

BCY4

NPY4

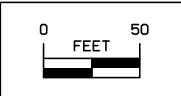
400

405

IA 92 (ML092)

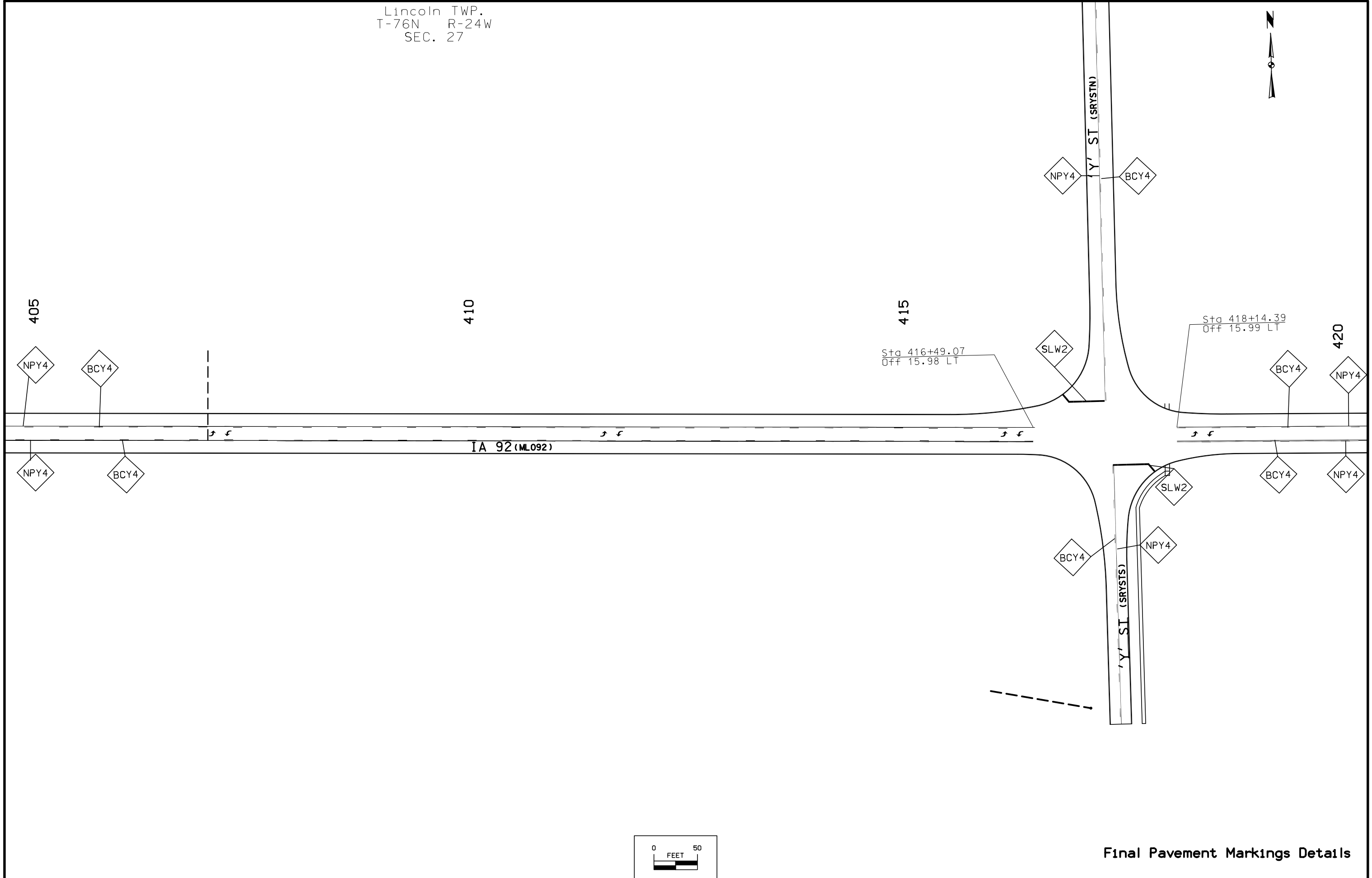
Sta 391+79.93  
Off 0.00 RT

06E  
00 RT  
+25.00  
00 RT

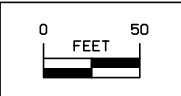


Final Pavement Marking Details

Lincoln TWP.  
T-76N R-24W  
SEC. 27



Final Pavement Markings Details



Lincoln TWP.  
T-76N R-24W  
SEC. 26



420

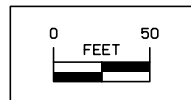
425

430

435



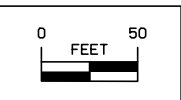
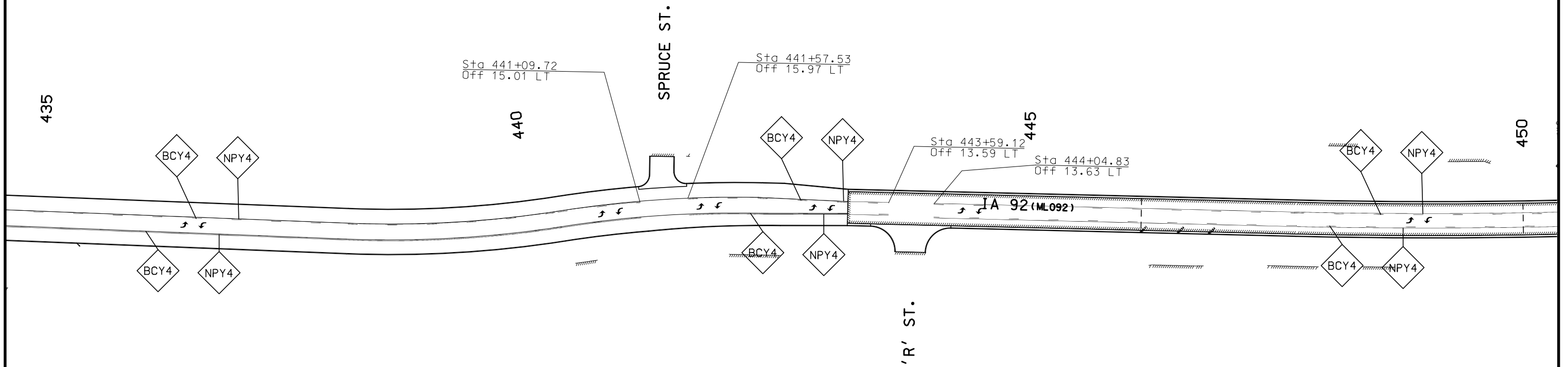
IA 92 (ML092)



Final Pavement Markings Details



Lincoln TWP.  
T-76N R-24W  
SEC. 26

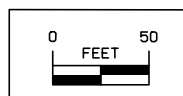
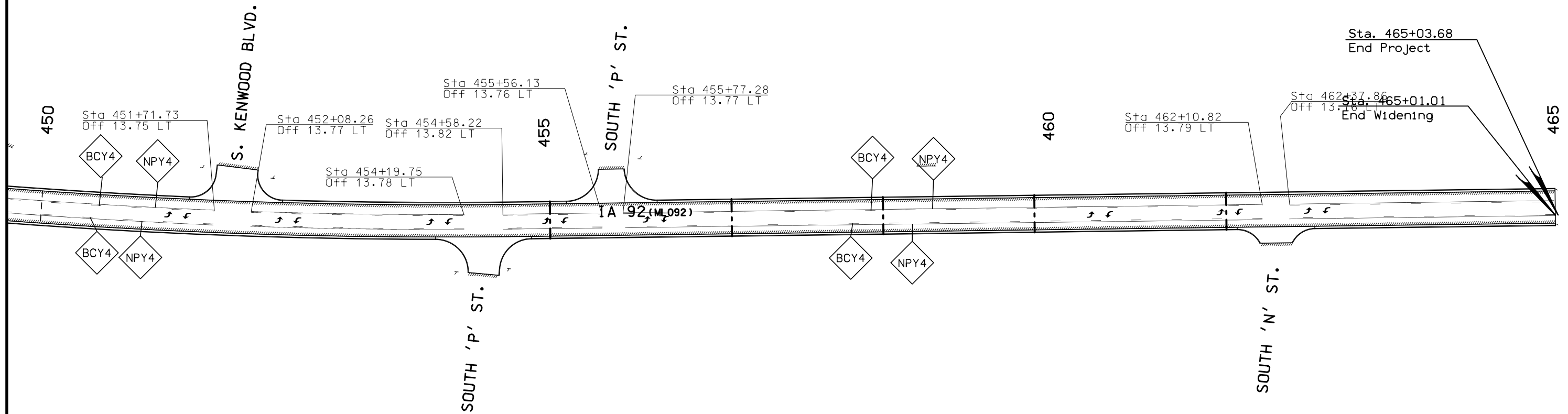


Final Pavement Markings Details

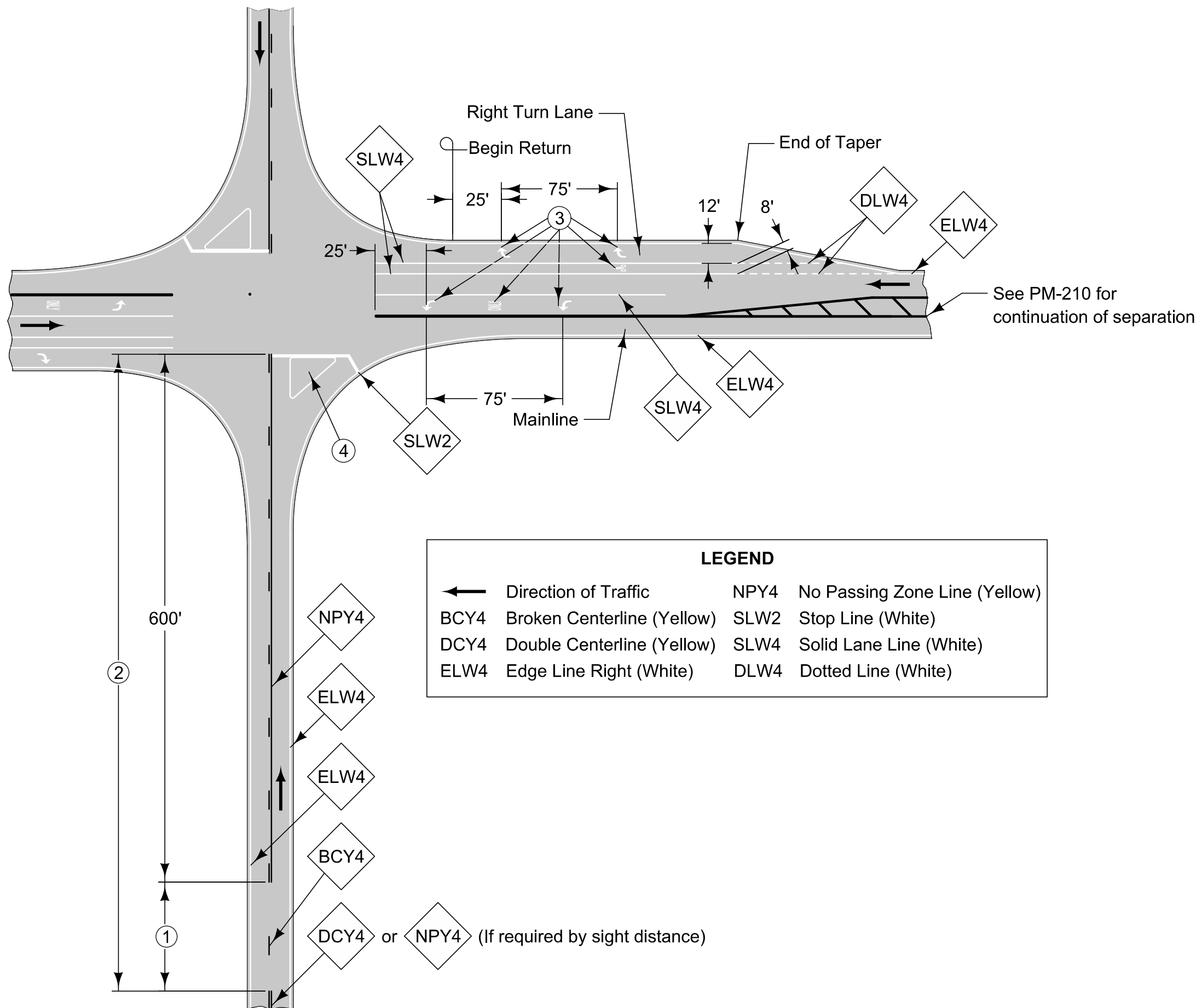
FILE NO.	ENGLISH	DESIGN TEAM <b>J1a\Holst\Bennett</b>	<b>WARREN</b> COUNTY	PROJECT NUMBER <b>NHSX-092-5(51)--3H-91</b>	SHEET NUMBER <b>U.26</b>
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5:15:50 PM 6/26/2014 dmaach pw:\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051U19\_MRK.sht

Lincoln TWP.  
T-76N R-24W  
SEC. 26



Final Pavement Markings Details



**LEGEND**

←	Direction of Traffic	NPY4	No Passing Zone Line (Yellow)
BCY4	Broken Centerline (Yellow)	SLW2	Stop Line (White)
DCY4	Double Centerline (Yellow)	SLW4	Solid Lane Line (White)
ELW4	Edge Line Right (White)	DLW4	Dotted Line (White)

Terminate all mainline centerline markings at the edge of the thru lanes of the side road.

Start Solid Lane Line for Right Turn Lane at end of taper.

For line information, see PM-110.

For symbol and legend information, see PM-111.

① If less than 400 feet, join Yellow Lines.

② If less than 1000 feet, extend Yellow Line to Stop Line.

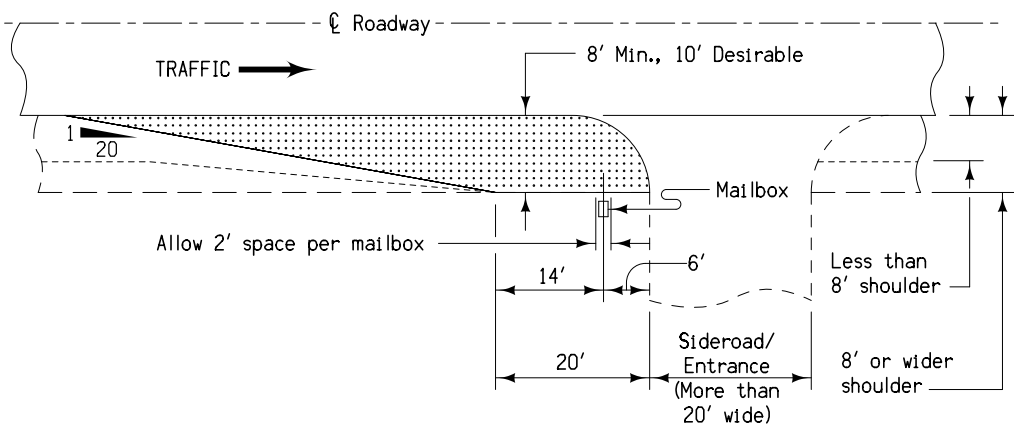
③ Symbol and Legend (when listed in 108-29).

④ For Island information, see PM-120.

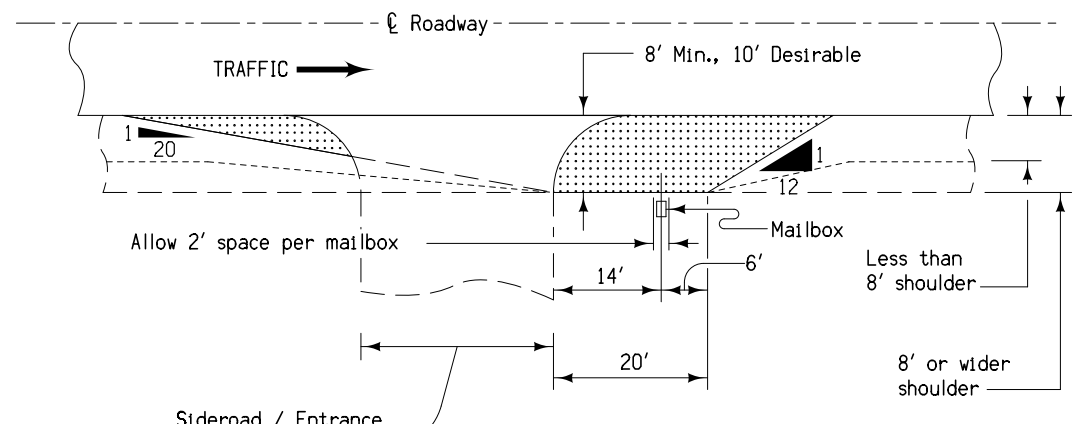
Possible Contract Items:  
 Pavement Marking Line Items  
 Pavement Marking Symbol and Legend Items

Possible Tabulations:  
 108-22  
 108-29

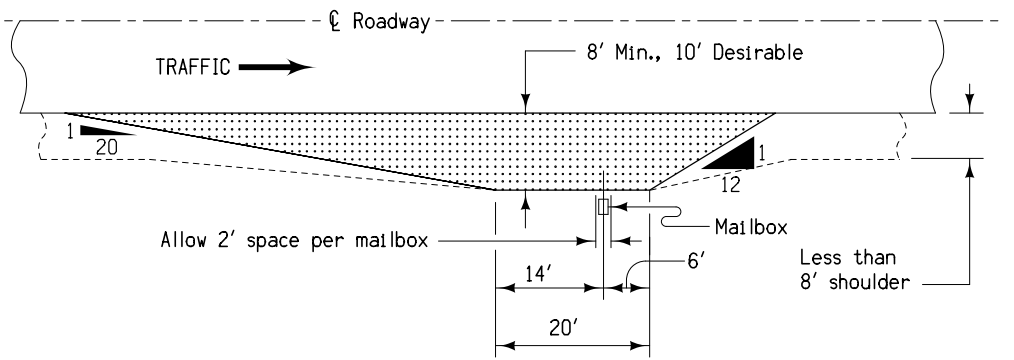
**FINAL PAVEMENT MARKINGS  
 FOR TURN LANES**



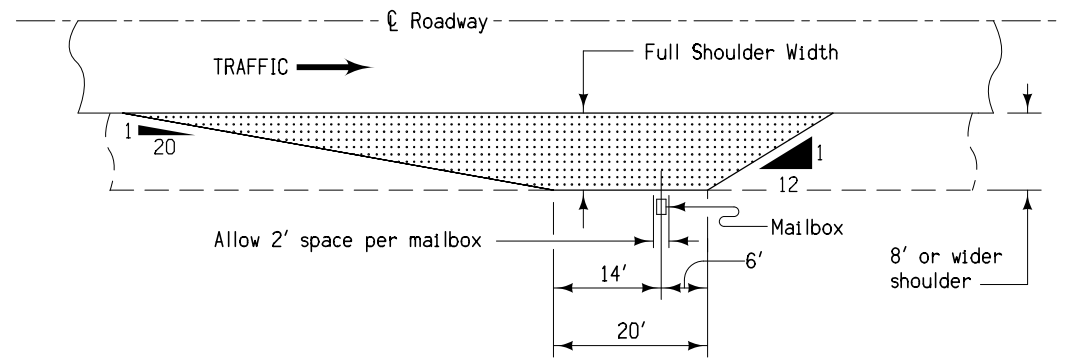
**PLAN VIEW**  
**Approach Side of Entrance**



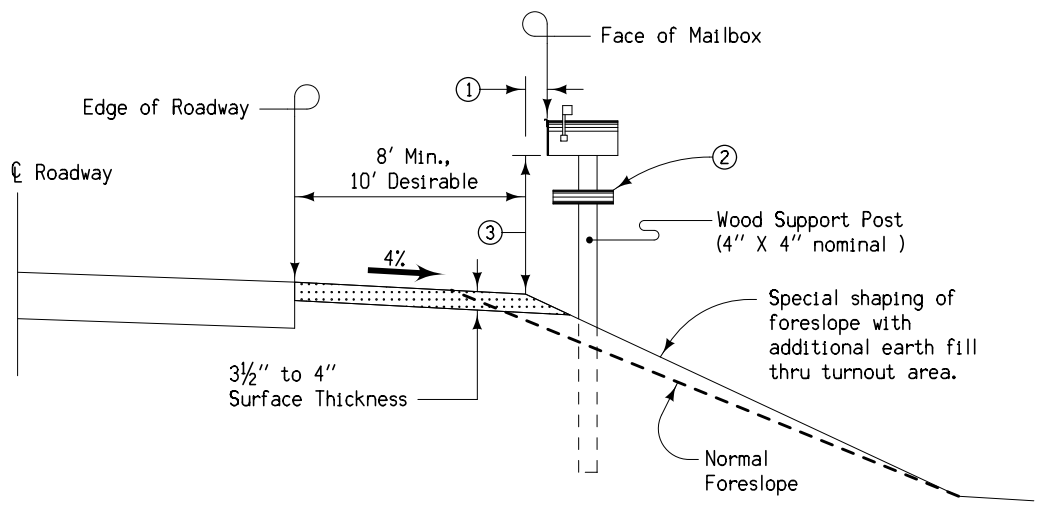
**PLAN VIEW**  
**Trailing Side of Entrance**



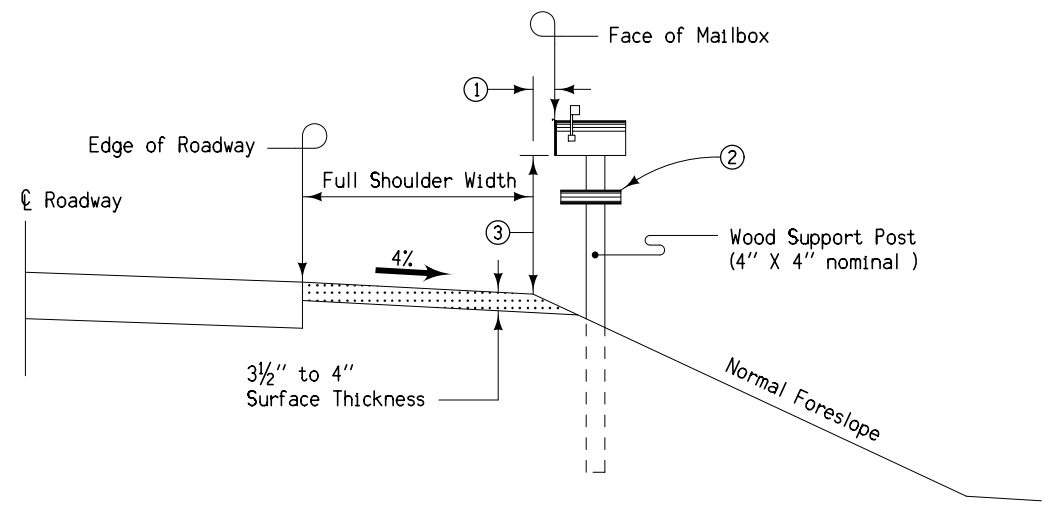
**PLAN VIEW**  
**Shoulder Width Less than 8'**



**PLAN VIEW**  
**Shoulder Width 8' or More**



**TYPICAL SECTION**  
**Shoulder Width Less than 8'**



**TYPICAL SECTION**  
**Shoulder Width 8' or More**

**GENERAL NOTES:**

Refer to "Policies and Procedures Manual", Policy 610.09, Mailboxes and Newspaper Receptacles on Primary Roads.

Mailbox turnouts shall be full shoulder width with a minimum width of 8 feet. On shoulders less than 8 feet, build fillet to obtain a minimum width of 8 feet.

For multiple mailbox installations in one turnout, the taper dimensions will remain the same. The dimensions from centerline of mailbox located at either end will remain the same and 2 feet will be allowed for each mailbox in the installation.

When the mailbox owner's driveway is on the right hand side of the road, as the mail carrier travels, the box would preferably be placed near the driveway as shown on this sheet. With these types of placement, the driveway will serve as part of the mailbox turnout.

Requests, by the property owner, for the location of mailbox turnouts other than at driveways shall be approved by the Engineer in charge of construction and the U.S. Postal Authorities.

Mailbox(s) shall be installed with the face (door) no closer to the roadway than the shoulder line. Support post shall be in the foreslope with the inside edge at least one (1) foot outward from the shoulder line.

**SURFACING QUANTITY**

Surfacing of mailbox turnouts is based on a 5 inch design depth (loose volume) which will, under normal conditions, compact to 3.5" to 4" actual depth. A width of 8 feet will require approximately 18.3 cubic yards and 10 foot width will require approximately 27.8 cubic yards of surfacing. Quantities are given for a single mailbox installation 276 to 340 feet in length. Where multiple installations or installations at driveways are encountered, quantities will vary as directed by the Engineer.

Payment for construction of mailbox turnouts will be as specified elsewhere in the contract documents.

- ① 8" to 12" preferred, 0" minimum.
- ② Metal tube / box for delivery of local advertisements, newspapers etc.
- ③ Mounting height per U.S. Postal Regulations (42" to 48" above mail stop surface).

<i>Project Development Division</i>		
<b>DETAIL SHEET</b>	<b>560-2</b>	
REVISION: Place in CADD	REVISION NO.	REVISION DATE
	1	03-28-95
<b>DETAILS OF MAILBOX TURNOUTS (GRANULAR SURFACED)</b>		