



PLANS OF PROPOSED IMPROVEMENT ON THE  
**INTERSTATE ROAD SYSTEM**  
**IOWA COUNTY**  
**PCC PAVEMENT - GRADE AND NEW**

**Rest Area near Victor (EB)**

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

TOTAL

162

PROJECT IDENTIFICATION NUMBER

19-48-080-010

PROJECT NUMBER

IMN-080-6(483)208--0E-48

R.O.W. PROJECT NUMBER

IMN-080-6(486)208--0E-48

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No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
A.2	Location Map Sheet
A.3	Design Criteria
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 4	Typical Cross Sections and Details
<b>C Sheets</b>	<b>Quantities and General Information</b>
C.1 - 3	Tabulations
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 6	Interstate 80
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 4	Reference Ties and Bench Marks
G.5	Horizontal Control Tab. & Super for all Alignments
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
* J.1	Traffic Control Plan
* J.2	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.3 - 11	Staging and Traffic Control Sheets
<b>K Sheets</b>	<b>Interchange Sheets</b>
* K.1 - 2	Interchange Layout Sheets
* K.3 - 4	I80 Ramp E Plan and Profile Sheets
* K.5 - 6	I80 Ramp F Plan and Profile Sheets
* K.7 - 8	I80 Ramp G Plan and Profile Sheets
* K.9 - 10	I80 Ramp H Plan and Profile Sheets
<b>M Sheets</b>	<b>Storm Sewer Sheets</b>
M.1	Storm Sewer Tabulations
<b>U Sheets</b>	<b>500 Series, Mod.Stds. and Detail Sheets</b>
U.1 - 2	500 Series, Modified Standards and Detail Sheets
<b>V Sheets</b>	<b>Culvert Situation Plans</b>
* V.1 - 16	Culvert Situation Plans
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 38	Interstate 80 Cross Sections
<b>Y Sheets</b>	<b>Ramp Cross Sections</b>
Y.1 - 19	I80 Ramp E Cross Sections
Y.20 - 36	I80 Ramp F Cross Sections
Y.37 - 51	I80 Ramp G Cross Sections
Y.52 - 63	I80 Ramp H Cross Sections
	* Color Plan Sheets

**H Sheets**

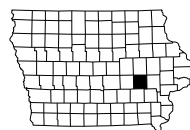
Anticipated Project Development Schedule:

- D0 Pre-Design Concept  
August 25, 2020
- D2 Design Field Exam  
January 11, 2021
- D3 Plans for Preliminary Bridge  
March 23, 2021
- D5 Plans to Right of Way  
April 30, 2021

Preliminary Earthwork:

107,630 CY Cut (Total)  
 15,120 CY Fill (Total)  
 92,514 CY Balance

For Project Location Map refer to Sheet A.2



I-80 EB Rest Area			
DESIGN DATA RURAL			
2020 AADT	1,200	V.P.D.	
2040 AADT	1,400	V.P.D.	
20-- DHV	--	V.P.H.	
TRUCKS	--	%	
Total Design ESALs	--		

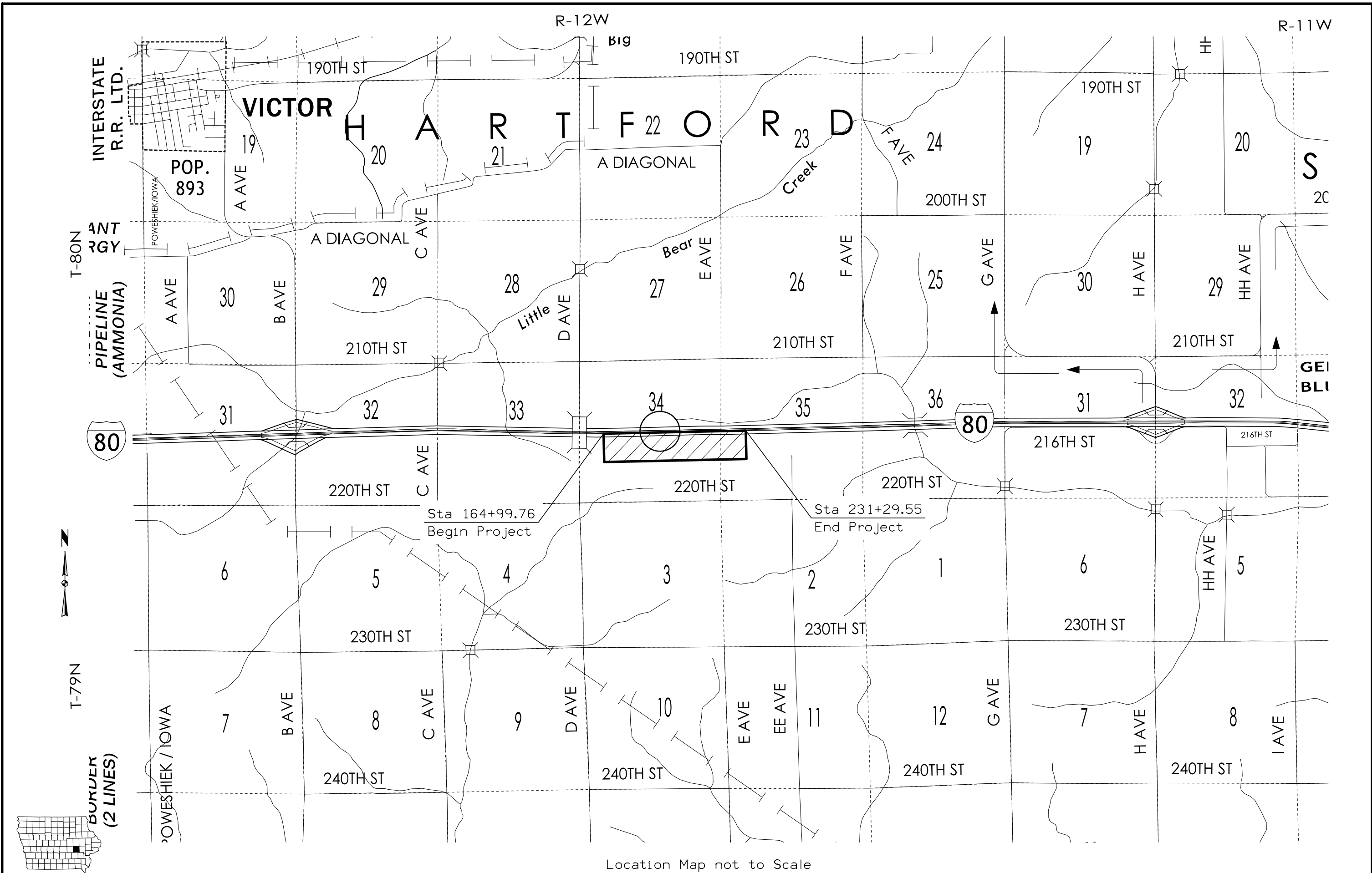
I-80 EB			
DESIGN DATA RURAL			
2020 AADT	29,600	V.P.D.	
2040 AADT	--	V.P.D.	
20-- DHV	--	V.P.H.	
TRUCKS	28	%	
Total Design ESALs	--		

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Cindy A. Spencer	Primary Signature Block

**PRELIMINARY PLANS**

Subject to change by final design.

**D5 PLAN - Date: 07/21/2021**



Location Map not to Scale

<b>Roadway</b>	I-80 EB Rest Area - Victor		<b>Submission Date</b>
<b>PIN Number</b>	19-48-080-010		
<b>Project Number</b>	IMN-080-6(483)208--0E-48		<b>Approval Date</b>
<b>District</b>	District 6	<b>Assistant District Engineer</b>	
<b>County</b>	IOWA	or	
<b>Route</b>	I-80	<b>Office Director</b>	
<b>Location</b>	EB Rest Area near Victor		
<b>Work Type</b>	PCC Pavement - Grade and New		
<b>Segment Manager</b>	Cindy Spencer, Snyder & Associates, Inc.		
<b>Designer</b>	Cindy Spencer, Snyder & Associates, Inc.		

Design Element		Preferred Values	Acceptable Values	Project Values
Design speed (mph)		See Design Speed for Ramps Table Below	See Design Speed for Ramps Table Below	60 / 40
Design lane width (ft)		12	12	N/A
Turn-lane width (ft)	Interstate ramps	12	10	
	Non-Interstate ramps	2%		2%
Pavement cross-slope (on tangent sections)		4	Shoulder cross-slope cannot be less than the adjacent lane, 6% max for paved or granular shoulders, 8% max for earth shoulders	4%
Shoulder cross-slope (on tangent sections)		10:1 for 4' then 6:1	4:1 for interstates*, 3:1 for other roadways	10:1 / 6:1
Foreslope	Adjacent to shoulder	3.5:1	3:1	3.5:1
	Beyond standard ditch depth and design clear zone	2%	not steeper than 3:1	
Section for assistance)	Curbed roadways	design lane widths + effective shoulder widths	design lane widths + effective shoulder widths	N/A
Bridge width—new**		design lane widths + effective shoulder widths	design lane widths + effective shoulder widths	N/A
Bridge width—existing**		16.5	16	N/A
Vertical clearance (ft)	Over primary	16.5 at interchange locations, 15 at all other locations	14	
	over non-primary	23.3	23.3	
(above lanes, shoulders and 25 feet left and right of the center of railroad tracks)	sign truss and pedestrian bridges	17.5	17	
Structural Capacity		Contact Office of Bridges and Structures	Contact Office of Bridges and Structures	

\*Design Exception required for ramps on the Interstate system only  
 \*\*FHWA notification via email is required if acceptable criteria is not met on the Interstate or NHS systems (No formal design exception required)

Design Element	Effective Shoulder Width and Type for Ramps									
	Preferred					Acceptable				
	Diagonal	Loop	Semi-Directional	Directional	Diagonal	Loop	Semi-Directional	Directional	Project Values	
Full depth paved width (ft)	one lane	two lane	one lane	two lane	one lane	two lane	one lane	two lane	one lane	two lane
Design lane width (ft)	16	24	16	24	14	22	14	22	14	22
Paved shoulder width (ft) (in the Left direction of travel)**	16	12	16	12	14	11	14	11	14	11
***Granular shoulder width (ft) (in the direction of travel)	4	4	4	4	4	4	4	4	4	4
Curb type	4	6	6	8	6	6	6	6	8	8
	4	-	-	-	4	-	-	-	-	-
	6	-	-	-	6	-	-	-	-	-
	Interstate	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	6-inch sloped	6-inch sloped
	Non-Interstate	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	4-inch sloped	6-inch sloped	6-inch sloped

\*For radii less than 500 feet, refer to design widths of pavement for turning roadways in A. Policy on Geometric Design of Highways and Streets  
 \*\*Left and right shoulders widths may be reversed if needed to provide additional sight distance  
 \*\*\*Non-Interstate interchanges only

**Notes:**  
 Curb in parking area will be 6" non-sloped. No curb expected in locations where design speed is over 40 mph.

Design Element	Design Criteria for Ramps Based Upon Design Speed									
	Preferred Criteria					Acceptable Criteria				
	25	30	35	40	45	50	55	60	65	70
Stopping sight distance (ft) (Refer to Section 6D-1)	155	200	250	305	360	425	495	570	645	720
Minimum horizontal curve radius (ft) and superelevation rate (Refer to Sections 2A-2 and 2A-3)	144	231	340	485	643	833	1060	1330	1600	1900
Minimum vertical curve length (ft) (Refer to Section 2B-1)	75	90	105	120	135	150	165	180	210	240
Minimum Rate of Vertical Curvature (Refer to Section 2B-1)	12	19	29	44	61	84	114	151	198	255
Minimum gradient (%) (Refer to Section 2B-1)	26	37	49	64	79	96	115	136	165	200
Maximum gradient (%) on ramps	26	37	49	64	79	96	115	136	165	200
Clear zone	See "Preferred Clear Zone" table in Section 9A-2									

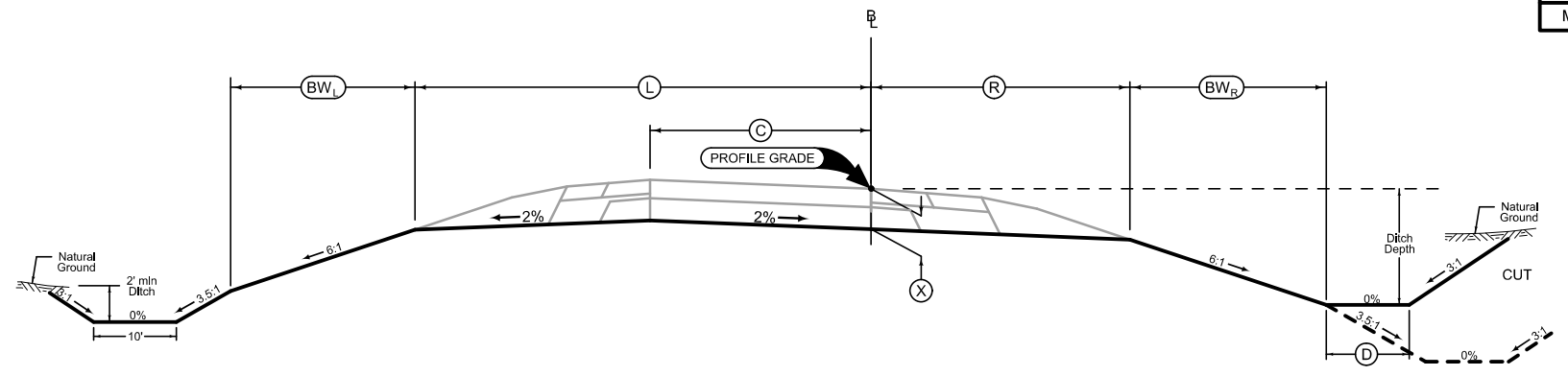
\*For radii less than 500 feet, refer to design widths of pavement for turning roadways in A. Policy on Geometric Design of Highways and Streets  
 \*\*Left and right shoulders widths may be reversed if needed to provide additional sight distance  
 \*\*\*Non-Interstate interchanges only

Design Element	Design Criteria for Ramps									
	Preferred					Acceptable				
	Diagonal	Loop	Semi-Directional	Directional	Diagonal	Loop	Semi-Directional	Directional	Project Values	
Design speed (mph)	60	40	50	60	50	35	40	40	60 / 40	
Maximum superelevation rate (Refer to Section 2A-2 for details)	6%	4%	6%	6%	8%	8%	8%	8%	6%	

Ramp Design Criteria

LOCATION				DIMENSIONS						
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW <sub>L</sub> ) Feet	(BW <sub>R</sub> ) Feet	(D) Feet
INTERSTATE 80	E	2173+11.59	2184+90.82	33.77	19.5	16	22	6.2	4.5	10.0
INTERSTATE 80	F	4206+48.47	4212+27.76	33.77	19.5	16	22	6.2	4.5	10.0
INTERSTATE 80	G	3178+86.70	3189+65.06	33.77	19.5	16	22	6.2	4.5	5.0
INTERSTATE 80	H	3195+18.71	3208+75.32	33.77	19.5	16	22	6.2	4.5	5.0

G\_1R\_Grade  
Modified



RAMP GRADING

**Paved Shoulder Alternates**

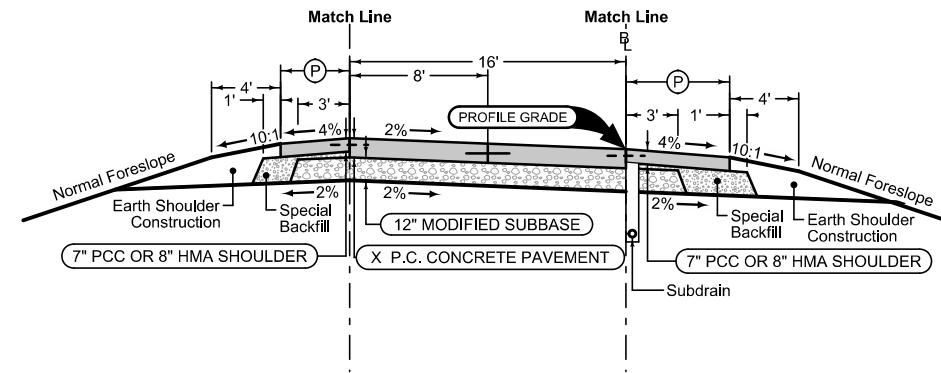
PCC Shoulder Jointing:  
Longitudinal joint: BT-1 or BT-5  
Transverse joints: C at 15' spacing  
HMA Shoulder Jointing:  
Longitudinal joint: B

1R_P_ALT_10-16-18				
RAMP	BEGIN STATION	END STATION	(P) Feet	
E	2173+11.59	2184+90.82	4	
F	4206+48.47	4212+78.44	4	
G	3178+86.70	3189+65.06	4	
H	3195+18.71	3208+75.32	4	

**Paved Shoulder Alternates**

PCC Shoulder Jointing:  
Longitudinal joint: BT-1 or BT-5  
Transverse joints: C at 15' spacing  
HMA Shoulder Jointing:  
Longitudinal joint: B

1R_P_ALT_10-16-18				
RAMP	BEGIN STATION	END STATION	(P) Feet	
E	2173+11.59	2184+90.82	6	
F	4206+48.47	4212+78.44	6	
G	3178+86.70	3189+65.06	6	
H	3195+18.71	3208+75.32	6	



Section shown in the direction of traffic.

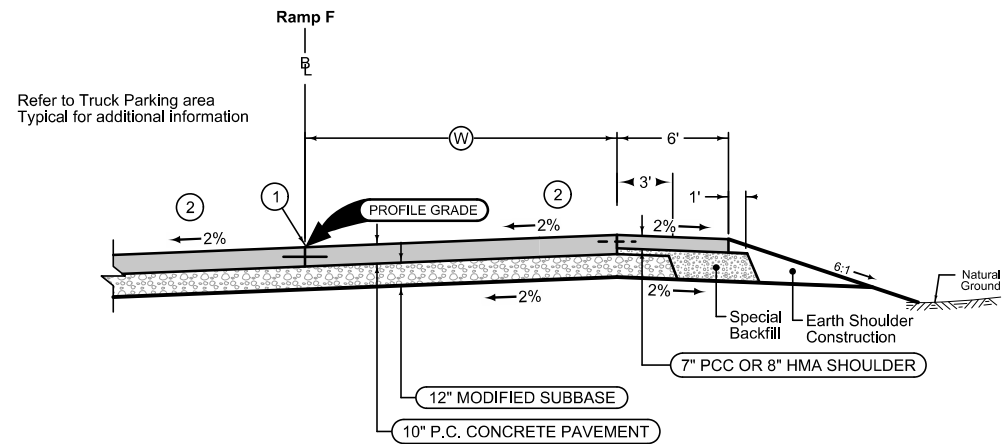
Ramp Jointing:  
Transverse joints: CD at 15' spacing.  
Longitudinal joints: L-2

1RP_10-17-17				
RAMP	BEGIN STATION	END STATION	(X) Inches	
E	2173+11.59	2184+90.82	10	
F	4206+48.47	4212+78.44	10	
G	3178+86.70	3189+65.06	8.5	
H	3195+18.71	3208+75.32	8.5	

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

See Tab 112-9 for shoulder quantities.

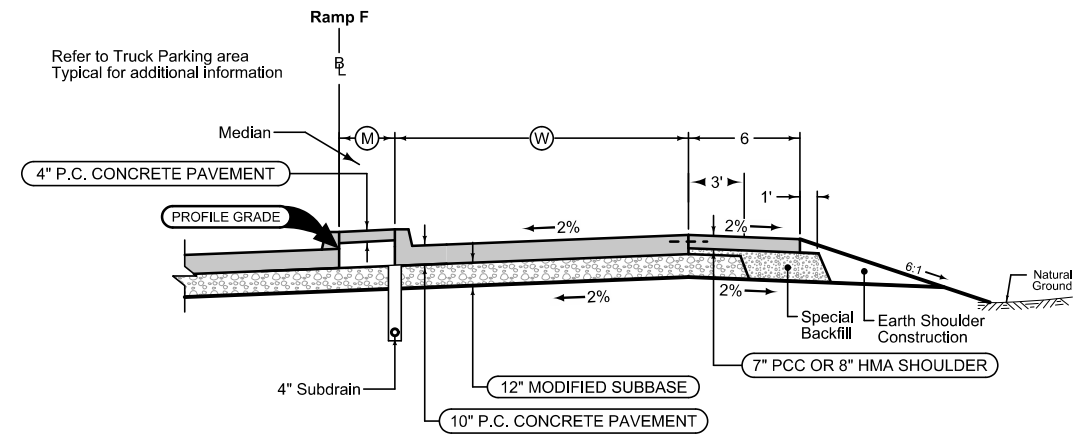
**INTERSTATE 80 IOWA COUNTY REST AREA  
EASTBOUND RAMPS**



BEGIN STATION	END STATION	(W) Feet
4195+72.54	4197+32.54	0-16.0
4202+16.37	4206+48.47	60.64-0

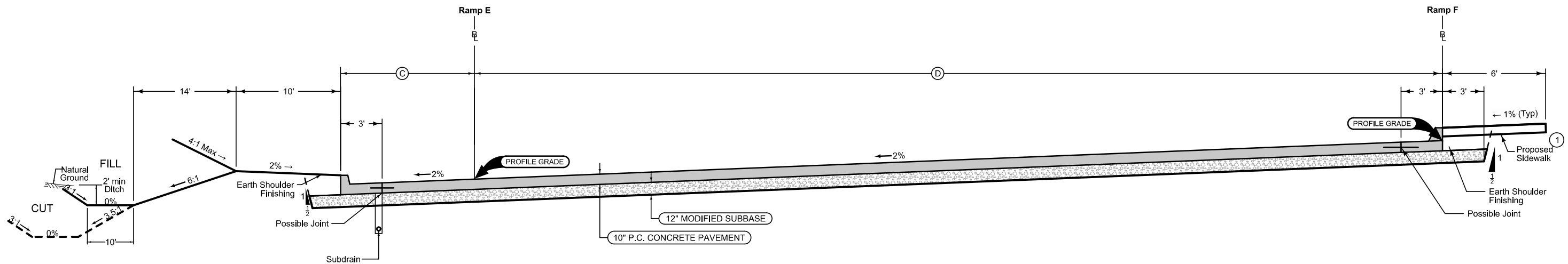
- ① Eliminate curb on right side of Truck Parking area thru Tapers.
- ② Cross slope may vary in areas of Super Elevation.

**INTERSTATE 80 IOWA COUNTY REST AREA  
TRUCK INSPECTION AREA - TAPERS**



BEGIN STATION	END STATION	(M) Feet	(W) Feet
4197+32.54	4197+79.28	0-4.67	16.0
4197+79.28	4198+32.54	4.67-10.0	16.0-22.86
4198+32.54	4200+47.28	10.0	22.86-72.0
4200+47.28	4201+27.28	10.0	72.0
4201+27.28	4202+16.37	10.0	72.0-50.64

**INTERSTATE 80 IOWA COUNTY REST AREA  
TRUCK INSPECTION AREA - PARKING**



**Integral Curb**

Shoulder jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 16':

Transverse: CD at 17' spacing  
Single pour: L-2  
Staged: KT-2

BEGIN STATION	END STATION	(C) Feet	Curb Type See PV-102
2184+90.82	2186+45.82	16-31.5	
2186+45.82	2199+91.95	31.5	

**Integral Curb**

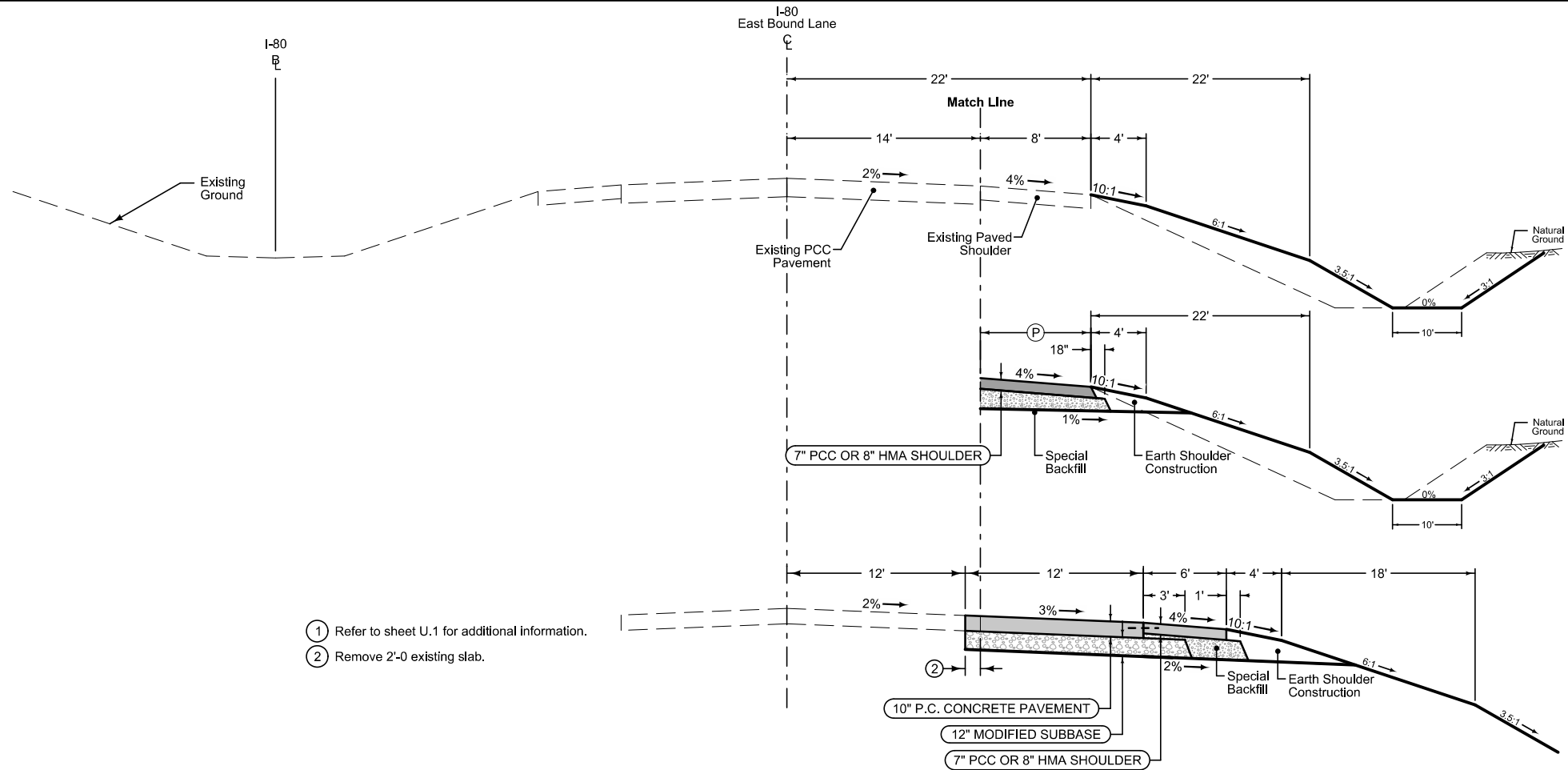
Shoulder jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 16':

Transverse: CD at 17' spacing  
Single pour: L-2  
Staged: KT-2

BEGIN STATION	END STATION	(D) Feet	Curb Type See PV-102
2184+91.80	2187+21.32	0-61.5	
2187+21.32	2195+99.50	61.5	

- ① Only install sidewalk adjacent to full-width pavement. Do not install in tapers.

**INTERSTATE 80 IOWA COUNTY REST AREA  
TRUCK PARKING LOTS**



- ① Refer to sheet U.1 for additional information.
- ② Remove 2'-0" existing slab.

**INTERSTATE 80  
FORESLOPE IMPROVEMENTS**

Refer to Plan and Profile sheets for Ditch Grade elevations

Direction of Travel	BEGIN STATION	END STATION
E.B.	164+99.76	167+11.42

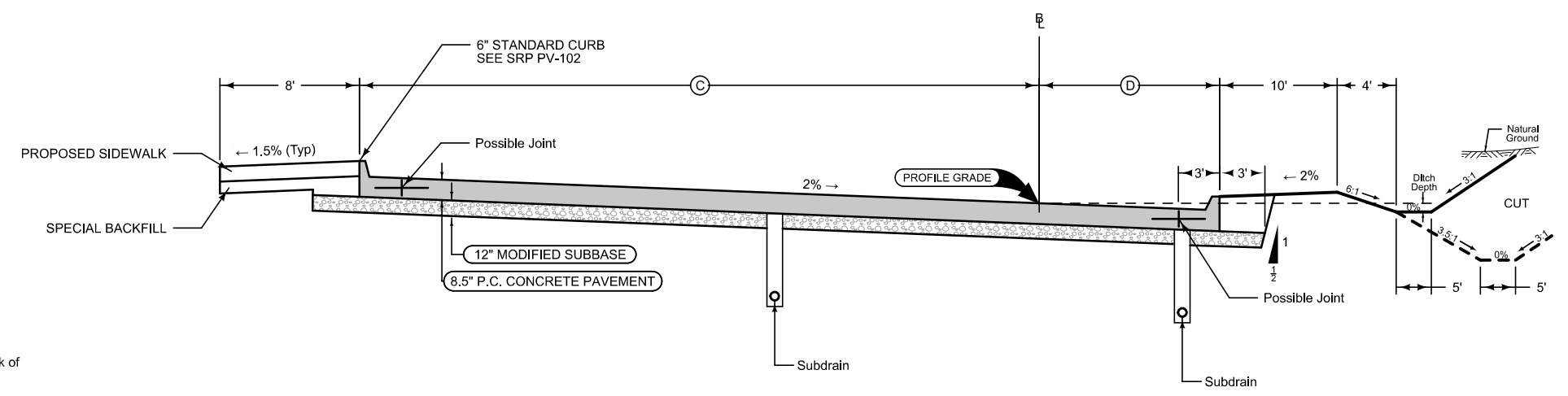
**Full Depth HMA Shoulder**

Shoulder Jointing:  
Longitudinal joint: B

4_P_FullHMA_04-21-20			
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
E.B.	173+10.90	212+19.37	8.0

**Auxiliary Lane ①**

Direction of Travel	BEGIN STATION	END STATION
E.B.	167+11.42	173+09.85
E.B.	212+21.82	231+29.55



**Integral Curb**  
Shoulder jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 16'.  
Transverse: C at 17' spacing  
Single pour: L-2  
Staged: KT-2

BEGIN STATION	END STATION	(C) Feet
3189+65.06	3189+78.34	16-39
3189+78.34	3195+05.44	39

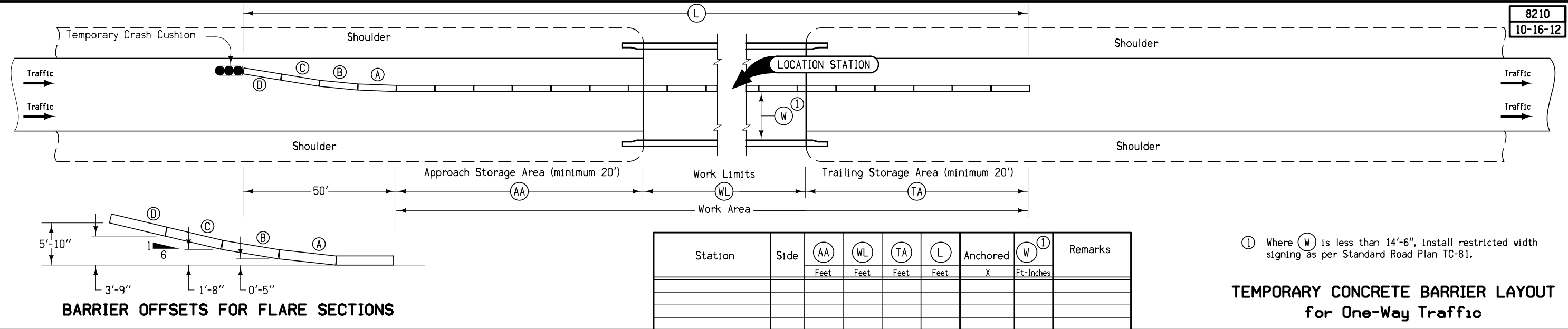
PARK. LOT	BEGIN STATION	END STATION
Ramp G	3189+65.06	3195+05.44

Section view is in direction of traffic.

**INTERSTATE 80 IOWA COUNTY REST AREA  
AUTO PARKING LOTS**

**Integral Curb**  
Shoulder jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 16'.  
Transverse: C at 17' spacing  
Single pour: L-2  
Staged: KT-2

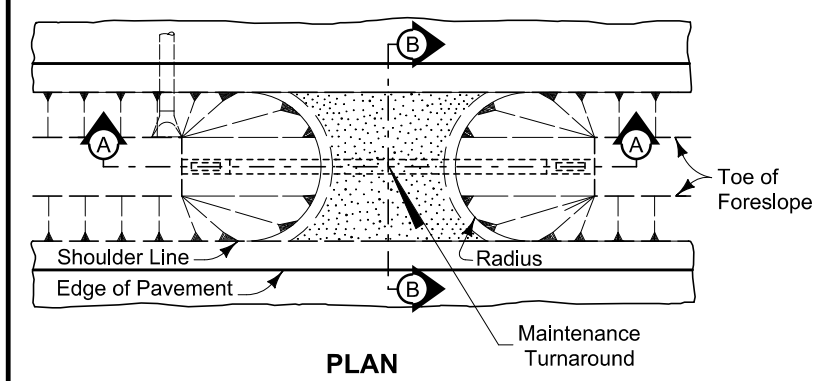
BEGIN STATION	END STATION	(D) Feet
3189+65.06	3189+73.24	0-10
3189+73.24	3195+05.44	10



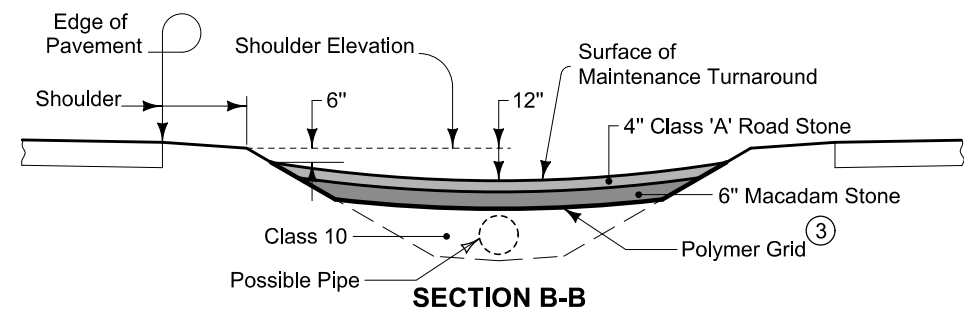
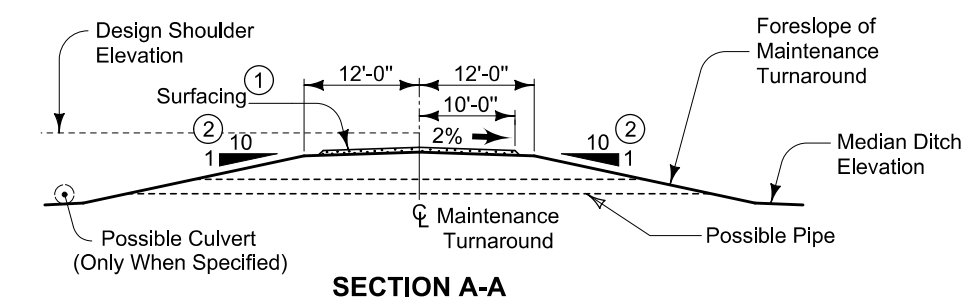
Station	Side	AA	WL	TA	L	Anchored	W <sup>①</sup>	Remarks
		Feet	Feet	Feet	Feet	X	Ft-Inches	

① Where W is less than 14'-6", install restricted width signing as per Standard Road Plan TC-81.

**TEMPORARY CONCRETE BARRIER LAYOUT for One-Way Traffic**



- ① Surfacing quantities based on a 6 inch layer of Macadam Stone base and a 4 inch layer of Class 'A' Road Stone. Apply surfacing as directed by the Engineer.
- ② Construct 8:1 foreslope when drainage pipe is incorporated into the maintenance turnaround.
- ③ Install Polymer Grid between Class 10 and stone material.
- ④ See Standard Road Plan DR-212.



**MAINTENANCE TURNAROUND**

Location	Class 'A' Road Stone	Macadam Stone	Polymer Grid	Class 10	Pipe Length	Beveled Pipe & Guard <sup>④</sup>	Radius	Remarks
Road Identification	Station	TONS	TONS	SY	LF	EACH	FT	
Ramp E	2183+00.00				N/A	N/A	15	
Ramp H	3202+50.00				N/A	N/A	15	

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

100-0A  
10-28-97

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1		CLEARING AND GRUBBING			
2	2102-0425070	SPECIAL BACKFILL	TON	3525.67	
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY		
4	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY		
5	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	CY	18.80	
6	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY		
7	2107-0425020	COMPACTING BACKFILL ADJACENT TO BRIDGES, CULVERTS, OR STRUCTURES	CY	0.00	
8	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY		
9	2115-0100000	MODIFIED SUBBASE	CY	13711.00	
10	2122-5190007	PAVED SHOULDER, PCC, 7 INCH	SY	10694.00	
11	2122-7450080	SHOULDER STRENGTHENING, OPTIONAL HMA OR PCC, 8 INCH	SY	4993.00	
12	2123-7450000	EARTH SHOULDER CONSTRUCTION	STA	164.65	
13	2301-1033085	STD OR SLIP-FORM PCC PAVEMENT, CLASS C, CLASS 3, 8.5 INCH	SY	7764.40	
14	2301-1034100	STD OR SLIP-FORM PCC PAVEMENT, CLASS C, CLASS 3I, 10 INCH	SY	27635.40	
15	2301-4875004	MEDIAN, PCC, 4 INCH	SY	476.50	
16	2301-6911722	PCC PAVEMENT SAMPLES	LS	1.00	
17	2401-6745356	REMOVAL OF CONCRETE FOOTINGS OF LIGHT POLE	EACH	10.00	
18	2401-6745765	REMOVAL OF LIGHT POLE	EACH	10.00	
19	2402-0425040	FLOODED BACKFILL	CY	0.00	
20	2402-2720100	EXCAVATION, CLASS 20, ROADWAY PIPE CULVERT	CY	0.00	
21	2416-0100015	APRON, CONCRETE, 15 INCH DIA.	EACH		
22	2416-0100024	APRON, CONCRETE, 24 INCH DIA.	EACH		
23	2416-0100030	APRON, CONCRETE, 30 INCH DIA.	EACH		
24	2416-0100036	APRON, CONCRETE, 36 INCH DIA.	EACH		
25	2416-0101036	REMOVE AND REINSTALL CONCRETE PIPE APRON LESS THAN OR EQUAL TO 36 INCH	EACH		
26	2416-0102224	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 24 INCH	EACH		
27	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 INCH DIA.	LF		
28	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 INCH DIA.	LF		
29	2416-1180036	CULVERT, CONCRETE ROADWAY PIPE, 36 INCH DIA.	LF		
30	2416-1200224	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIA. 24 INCH	LF		
31	2435-0140160	MANHOLE, STORM SEWER, SW-401, 60 INCH	EACH		
32	2435-0250800	INTAKE, SW-508	EACH		
33	2435-0251100	INTAKE, SW-511	EACH		
34	2435-0251224	INTAKE, SW-512, 24 INCH	EACH		
35	2502-8212034	SUBDRAIN, LONGITUDINAL (SHOULDER), 4 INCH DIA.	LF		
36	2502-8221303	SUBDRAIN OUTLET, DR-303	EACH		
37	2502-8221306	SUBDRAIN OUTLET, DR-306	EACH		
38	2503-0114215	STORM SEWER GRAVITY MAIN, TRENCHED, 2000D RCP, 15 INCH DIA.	LF		
39	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, 2000D RCP, 18 INCH DIA.	LF		
40	2503-0114224	STORM SEWER GRAVITY MAIN, TRENCHED, 2000D RCP, 24 INCH DIA.	LF		
41	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 INCH DIA.	LF	808.00	
42	2507-3250005	ENGINEERING FABRIC	SY	54.40	
43	2507-6800061	REVTMENT, CLASS E	TON	30.10	
44	2510-6745850	REMOVAL OF PAVEMENT	SY	23912.50	
45	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES	EACH	6.00	
46	2511-6745900	REMOVAL OF SIDEWALK	SY	0.00	
47	2511-7526004	SIDEWALK, PCC, 4 INCH	SY	0.00	
48	2511-7526006	SIDEWALK, PCC, 6 INCH	SY	0.00	
49	2511-7528101	DETECTABLE WARNINGS	SF	0.00	
50	2519-3280000	FENCE, FIELD	LF	0.00	
51	2519-3300400	FIELD FENCE BRACE PANELS	EACH	0.00	
52	2519-4200120	REMOVAL OF FENCE, CHAIN LINK	LF	1058.10	
53	2519-4200140	REMOVAL OF FENCE, FIELD	LF	4810.80	
54	2520-3350015	FIELD OFFICE	EACH	1.00	
55	2526-8285000	CONSTRUCTION SURVEY	LS	1.00	
56	2527-9263109	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	864.61	
57	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	4.00	
58	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	593.12	
59	2528-2518000	SAFETY CLOSURE	EACH		
60	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	4837.50	
61	2528-8445110	TRAFFIC CONTROL	LS	1.00	
62	2533-4980005	MOBILIZATION	LS	1.00	
63	2551-0000110	TEMPORARY CRASH CUSHION	EACH	4.00	
64	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	STA	114.01	
65	2601-2634100	MULCHING	ACRE		
66	2601-2636015	NATIVE GRASS SEEDING	ACRE		
67	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE		
68	2601-2642100	STABILIZING CROP, SEEDING AND FERTILIZING	ACRE		
69	2602-0000020	SILT FENCE	LF		
70	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF		
71	2602-0000050	SILT BASIN	EACH		
72	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF		
73	2602-0000080	REMOVAL OF SILT BASIN	EACH		
74	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF		
75	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 INCH	LF		
76	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF		
77	2602-0000500	OPEN THROAT CURB INTAKE SEDIMENT FILTER, EC-602	LF		
78	2602-0000510	MAINTENANCE OF OPEN THROAT CURB INTAKE SEDIMENT FILTER	EACH		
79	2602-0000520	REMOVAL OF OPEN THROAT CURB INTAKE SEDIMENT FILTER	EACH		
80	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH		
81	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH		

**PROJECT DESCRIPTION**

100-1D  
10-18-05

This project is for removal and replacement of the acceleration and deceleration ramps and parking area for the eastbound I-80 rest area at Victor, and associated work.

**STANDARD ROAD PLANS**

105-4  
10-18-11

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

Number	Date	Title
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
BA-500	04-20-21	Temporary Crash Cushions Sand Barrel
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-111	04-17-18	Box Culvert (Backfill)
DR-121	10-17-17	Connected Pipe Joints
DR-122	10-18-16	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
DR-201	04-21-20	Concrete Aprons
DR-213	04-21-20	Pipe Apron Guard
DR-303	10-17-17	Subdrains (Longitudinal)
DR-305	04-19-22	Subdrain Outlets (Standard Subdrain, Pressure Release and Special)
DR-306	10-16-18	Precast Concrete Headwall for Subdrain Outlets
DR-601	04-18-17	Reinforced Concrete Pipe Culvert
DR-621	04-18-17	Pipe Extension
EC-101	04-19-16	Wood Excelsior Mat for Ditch Protection
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-301	10-18-16	Rock Erosion Control (REC)
EC-302	10-16-18	Rock Check Dam
EC-303	10-19-21	Stabilized Construction Entrance
EC-502	04-21-15	Seeding in Rural Areas
EC-602	04-21-20	Open-Throat Curb Intake Sediment Filter
EW-101	10-17-17	Embankment and Rebuilding Embankments
EW-102	10-20-15	Allowable Placement of Unsuitable Soil in Embankments
EW-110	10-20-15	Ditch Blocks and Dikes
MI-220	10-20-15	Detectable Warnings and Pedestrian Ramp
PM-110	04-21-20	Line Types
PM-111	04-21-20	Symbols and Legends
PM-310	04-21-20	Entrance and Exit Ramps
PV-3	04-16-19	Safety Edge
PV-12	10-20-20	Milled Shoulder Rumble Strips
PV-101	04-19-22	Joints
PV-102	04-21-20	PCC Curb Details
PV-103	04-19-22	Manhole Boxouts in PCC Pavement
PV-303	04-21-20	Superelevation Details Ramps
PV-410	04-21-20	Deceleration Taper for 16' Exit Ramp
SW-101	04-17-18	Trench Bedding and Backfill Zones
SW-102	04-20-21	Rigid Gravity Pipe Trench Bedding
SW-401	04-20-21	Circular Storm Sewer Manhole
SW-507	04-21-20	Single Open-Throat Intake, Small Box
SW-512	04-21-20	Circular Area Intake
SW-602	04-21-20	Castings for Storm Sewer Manholes
SW-604	04-21-20	Castings for Area Intakes
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-402	10-19-21	Work within 15 ft of Traveled Way
TC-418	04-19-22	Lane Closure on Divided Highway
TC-420	10-16-18	Lane Closure at Ramps



REMOVAL OF PAVEMENT							110-1 04-16-13
* Not a Bid Item							
Begin Station	End Station	Side	Pavement Type	Area	Saw Cut*	Remarks	
				SY	LF		
167+10.93	173+10.93	RT	PCC	133.3	604.0	Mainline slab	
167+10.93	173+10.93	RT	HMA	533.3	16.0	Shoulder	
178+08.08	184+51.08	RT	PCC	1551.3	651.0	Exit taper	
178+08.08	186+45.00	RT	HMA	546.2	8.0	Shoulder	
184+51.07	200+95.50	RT	PCC	6565.3	0.0	Ramps and car parking area	
185+93.73	197+98.01	RT	PCC	9329.0	0.0	Truck parking area	
200+95.50	218+58.60	RT	HMA / PCC	3699.8	1154.0	Entrance taper and accel lane; includes shoulder	
212+19.40	231+29.55	RT	PCC	424.5	1914.2	Mainline slab	
218+58.60	231+29.55	RT	HMA	1129.7	8.0	Shoulder	

REMOVAL OF INTAKES AND UTILITY ACCESSES				110-15 04-16-13
No.	Location/Description	Type	Remarks	
1	2186+67.5, 53.5' LT	Manhole		
2	2189+14.42, 34' RT	Intakes		
3	2191+68.39, 10' RT	Intakes		
4	2194+47.34, 10' RT	Intakes		
5	2200+37.30, 113' LT	Intakes		
6	2200+44.30, 83.5' LT	Intakes		

SANITARY OR STORM SEWER ABANDONMENT OR REMOVAL						110-14 04-16-13
* 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	
2186+05.17 - 2186+67.54, 53' LT	Storm Sewer	Removal	62			18" dia storm and 1 FES
2186+69+60, 53' LT - 2189+11.81, 35' RT	Storm Sewer	Removal	258			15" dia storm
2191+70.30 - 2194+45.00, 8' RT	Storm Sewer	Removal	274			15" dia storm
2194+46.48, 6' RT - 112' LT	Storm Sewer	Removal	118			15" dia storm and 1 FES
2200+37.30, 113' LT - 2200+44.20, 83' LT	Storm Sewer	Removal	31			18" dia storm
2199+83.70, 54' LT - 2200+42.50, 81' LT	Storm Sewer	Removal	65			24" dia storm and 1 FES

EXISTING PAVEMENT															102-5 04-18-17						
No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth	Type	Depth	Type	Depth	Type	Depth	Source	Type	Durability Class	Type	

REMOVAL OF FENCE						100-08 04-17-18
Removal of Field Fence is incidental to Clearing and Grubbing.						
Station	Location		Type	Length	Remarks	
	From	To				
	Station	Offset		LF		
164+65.65	98.9		182+86.51	113.9	Field	1822.9
182+86.51	113.9		186+98.80	233.4	Field	429.6
186+98.80	233.4		187+00.50	411	Field	177.6
187+00.50	411		199+24.43	411.5	Field	1223.4
199+25.22	411.9		201+62.90	411.4	Chain Link	237.7
199+25.15	393.5		199+24.30	113.2	Chain Link	280.3
199+24.30	113.2		201+63.09	110.1	Chain Link	238.8
201+62.90	411.4		201+63.09	110.1	Chain Link	301.3
201+64.13	110		213+17.33	123.9	Field	1157.3

REMOVAL OF LIGHT POLES AND CONCRETE FOOTINGS							110-16 04-16-13
No.	Station	Location		Removal of Light Pole	Removal of Concrete Footing for Light Pole	Remarks	
		Offset					
		Left	Right				
1	2178+81.73	54.1		1	1		
2	2182+03.30	73.9		1	1		
3	2184+76.03	82.7		1	1		
4	2189+52.83		6.9	1	1		
5	2192+12.37		6.2	1	1		
6	2194+73.20		1.4	1	1		
7	2196+91.62	1		1	1		
8	2199+21.60	42.6		1	1		
9	2202+86.12	105.7		1	1		
10	2203+21.42	109.9		1	1		

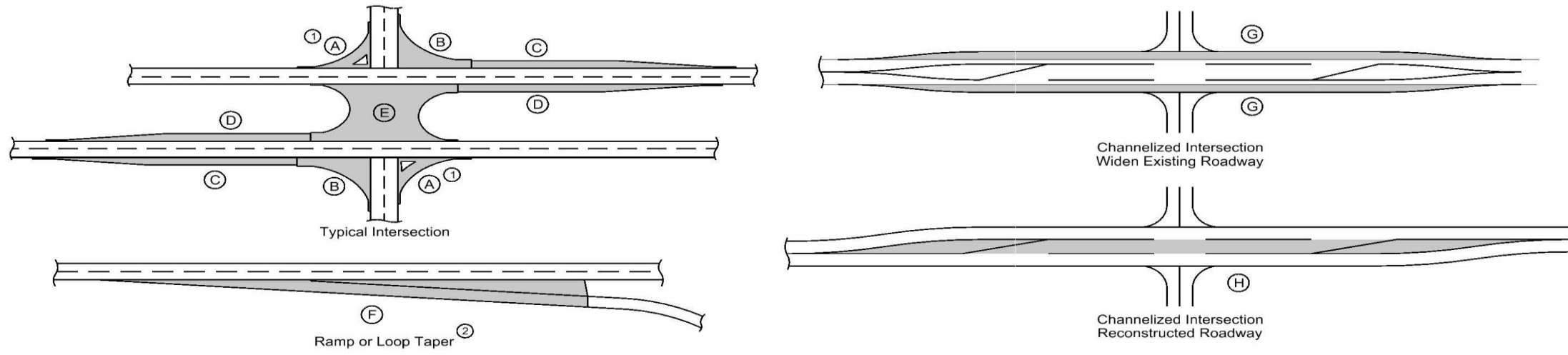


**PROPOSED SUBGRADE TREATMENT**

(For Additional Details see Soils Survey Sheet No. \_\_\_\_\_ to \_\_\_\_\_.)

No.	Location		Side	Type	Description			Type	Shrink %	Quantity		Polymer Grid SY	Available From		Remarks	
	Begin Station	End Station			Depth FT	Width FT	Area SF			Material	CY		TON	Quantity CY		Location or Station to Station
1	+00.00	+00.00			2.5	32.0	0.0	MODIFIED SUBBASE (SEE ART. 4132)	10.00%	0.0	0.000					

**PCC PAVEMENT**



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

Road Identification	Location Direction of Travel	Station to Station	Mainline			Area ③								Total Area By Pavement Thickness		Special Backfill TONS	Modified Subbase CY	Granular Subbase SY	Remarks				
			Width FT	Length FT	Area SY	A ① SY	B SY	C SY	D SY	E SY	F ② SY	G SY	H SY	SY									
														10 IN	8% IN								
Ramp E	EB	2173+11.59	2184+90.82	16.0	1179.2	2096.4									1332.0								
		2184+90.82	2186+45.82	16-31.5	155.0	409.0																	
		2184+91.80	2187+21.32	0-61.5	229.5	784.2																	
		2186+45.82	2199+91.95	31.5	1346.1	4711.5																	
Ramp F	EB	4186+94.37	4199+65.00	61.5	1270.6	8682.6																	
		4195+72.54	4206+48.47	Varies	1075.9	3714.2																	
		4199+65.00	4202+58.95	93-16	294.0	1780.0																	
		4202+58.95	4212+20.08	16.0	961.1	1708.7																	
Ramp G	EB	3178+86.70	3189+65.06	16.0	1078.4	1917.1																	
		3189+65.06	3189+78.34	Varies	13.3	50.8																	
		3189+78.34	3194+95.44	49.0	517.1	2815.3																	
		3194+95.44	3195+18.72	Varies	23.3	89.5																	
Ramp H	EB	3195+18.72	3209+05.35	16.0	1386.6	2465.1																	





108-33  
10-15-19

### TEMPORARY BARRIER RAIL

Possible Standard: BA-401 Possible Detail: 560-7

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

No.	Station to Station		Length LF	(Select One)		Anchored* (Y/N)	Modular Glare Screen System (Y/N)	Remarks
				Concrete BA-401	Steel 560-7			
1	166+31.00	174+18.50	787.5	X		Yes	No	Stage 2 construction
2	211+28.00	231+90.50	2062.5	X		Yes	No	Stage 2 construction
3	177+06.00	184+81.00	775.0	X		Yes	No	Stage 3 construction
4	200+20.00	212+32.50	1212.5	X		Yes	No	Stage 3 construction

108-30  
04-16-13

### CRASH CUSHIONS

\* Bid Item

① Lane(s) to which the installation is adjacent.

② Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500

No.	Direction of Traffic	Location Station	Side	Obstacle Width FT	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Spare Parts Kit (Select One)*		Obstacle Description	Remarks
					Temporary	Temporary Reductive	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10 CY	Embankment in Place CY	Permanent EACH	Permanent Severe Use EACH		
										Length	Length	Length	Length	Length						
1	EB	166+31.00	RT	1.88	X						24.25	5.25	3.25	12.00	0.0	0.0			Temporary barrier rail	Stage 2
2	EB	211+28.00	RT	1.88	X						24.25	5.25	3.25	12.00	0.0	0.0			Temporary barrier rail	Stage 2
3	EB	177+06.00	RT	1.88	X						24.25	5.25	3.25	12.00	0.0	0.0			Temporary barrier rail	Stage 3
4	EB	200+20.00	RT	1.88	X						24.25	5.25	3.25	12.00	0.0	0.0			Temporary barrier rail	Stage 3

108-13A  
08-01-08

### SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	

### SURVEY SYMBOLS

- ▲ ROW Right of Way Mark
- MM Mile Marker Post
- CP Control Point
- ▲ SCR Section Corner
- + REF Reference Tie Point
- WC Wild Card (Misc. Field Shot)
- ⊕ MH Utility Access (Manhole)
- UE Utility Elevation
- MIS Miscellaneous
- CON Concrete or A/C Slab
- IN Storm Sewer Intake
- PIP Pipe Culvert
- PRO Profile Shot
- PLG Location of General Photo
- LIN Miscellaneous Line
- BL Topo Breakline
- LUM Luminaire
- UV Underground Utility Vault
- SIGN SI Sign
- SIGN SL Speed Limit Sign
- EB Electrical Box
- ⊗ WEL Well
- FWD Wood Fence
- GL1D Gas Line Co. 1 - Quality D
- TP TPD Telephone Pedestal
- LP L.P. Tank
- OUT Tile Outlet
- SH Paved Shoulder
- CU Back of Curb
- GU Gutter In Front of Curb
- D Centerline Draw or Stream (Down)
- DU Centerline Draw or Stream (Up)
- GR Ground Shot
- FW Wire Fence
- FCL Chain Link and Security Fence
- EP Edge of Paved Roads (ML or SR)
- BLD Building or Foundation
- WV Water Valve
- SWK Sidewalk
- FLG FLG Flag Poles
- RIP Rip-Rap
- SOP Size of Pipe or Culvert
- HDG Hedge Row
- GP Guard Post (Less Than 4 Posts)
- Default\_Point Default Point Feature
- BM Bench Mark

### UTILITY LEGEND

- SAN.(C) --- SA1C Iowa DOT- Quality C  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_  
Contact Email: \_\_\_\_\_
- SAN. --- SA1D Iowa DOT- Quality D  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_  
Contact Email: \_\_\_\_\_
- ST S(C) --- ST1C Iowa DOT - Quality C  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_  
Contact Email: \_\_\_\_\_
- E1 --- EL1D TIP Rural Electric Cooperative - Quality D  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_  
Contact Email: \_\_\_\_\_
- E2 --- EL2D Iowa DOT - Quality D  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_  
Contact Email: \_\_\_\_\_
- T1 --- TL1D Cooperative Telephone Company - Quality D  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_  
Contact Email: \_\_\_\_\_
- G2 --- GL2D Iowa DOT - Quality D  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_  
Contact Email: \_\_\_\_\_
- F0 --- FO1D Iowa Communications Network - Quality D  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_  
Contact Email: \_\_\_\_\_
- F02 --- FO2D Cooperative Telephone Company - Quality D  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_  
Contact Email: \_\_\_\_\_
- F03 --- FO3D Iowa DOT - Quality D  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_  
Contact Email: \_\_\_\_\_
- W --- WL1D Poweshiek Water Association - Quality D  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_  
Contact Email: \_\_\_\_\_

### 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 "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading

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

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

- Reference Point
- Station
- ▲ Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- ▨ Pavement Removal
- ▩ Clearing & Grubbing Area

### RIGHT-OF-WAY LEGEND

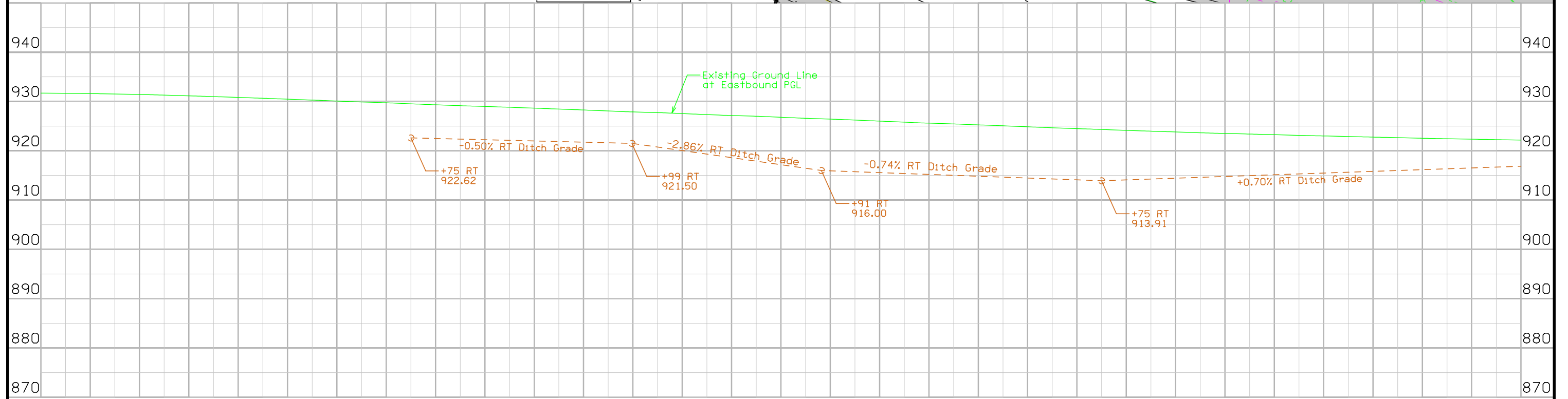
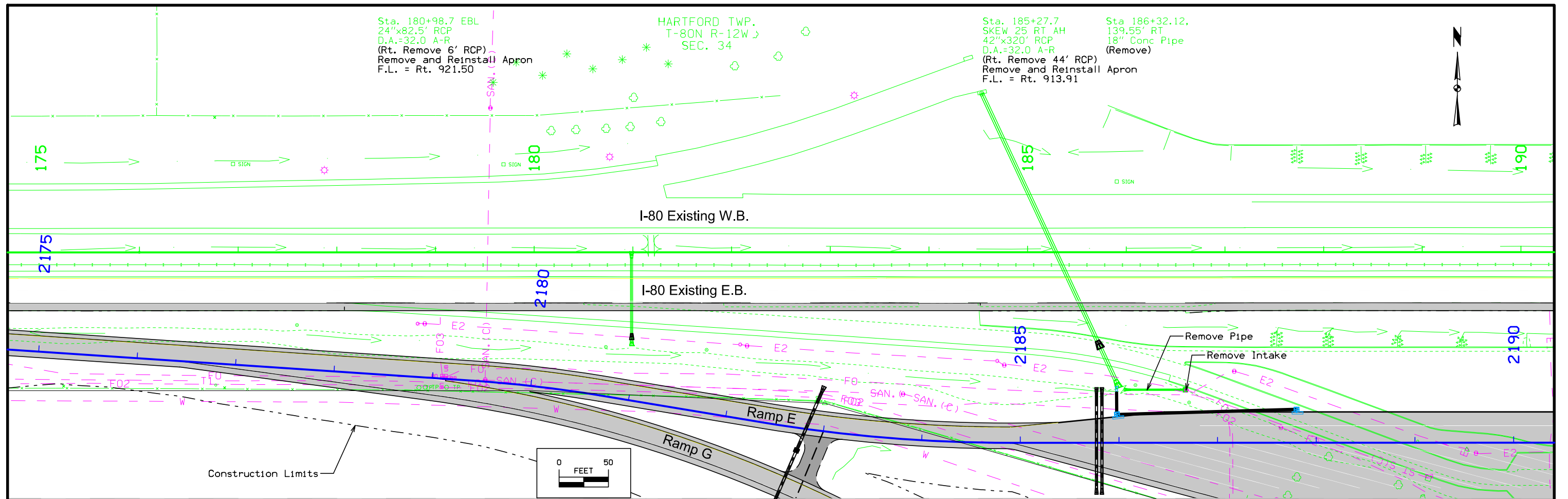
- ▲ Proposed Right-of-Way
- △ Existing Right of Way
- ▲ Existing and Proposed Right-of-Way
- ▲ Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- C/A Access Control
- Property Line

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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







931.74	931.72	931.67	931.62	931.52	931.43	931.30	931.15	931.00	930.83	930.66	930.48	930.30	930.10	929.91	929.75	929.54	929.34	929.16	929.00	928.84	928.65	928.47	928.29	928.08	927.89	927.75	927.55	927.35	927.16	927.01	926.81	926.60	926.43	926.24	926.02	925.81	925.61	925.45	925.26	925.08	924.87	924.68	924.51	924.33	924.16	923.98	923.82	923.67	923.52	923.40	923.27	923.14	923.01	922.90	922.78	922.67	922.55	922.45	922.36	922.27	922.18
175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190																																														



Sta. 206+70.4  
24"x142" RCP  
D.A.=2.0 A-R  
(Remove Apron  
and Extend)

Sta. 206+70.37  
Install 24"x6' RCP Extension  
Lt. U.A.C.  
Other 908.98  
Rt. 909.04

Sta. 206+90.00 Rt.  
Install Type M Dike  
Top Elev = 910.54

HARTFORD TWP.  
T-80N R-12W  
SEC. 34

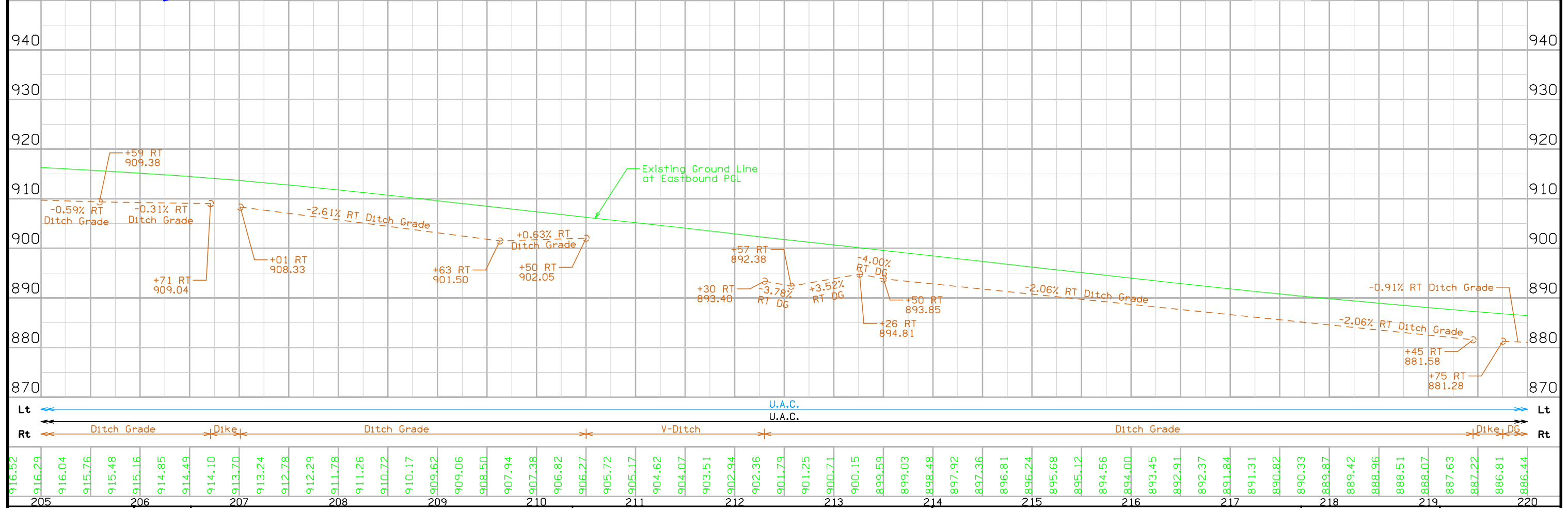
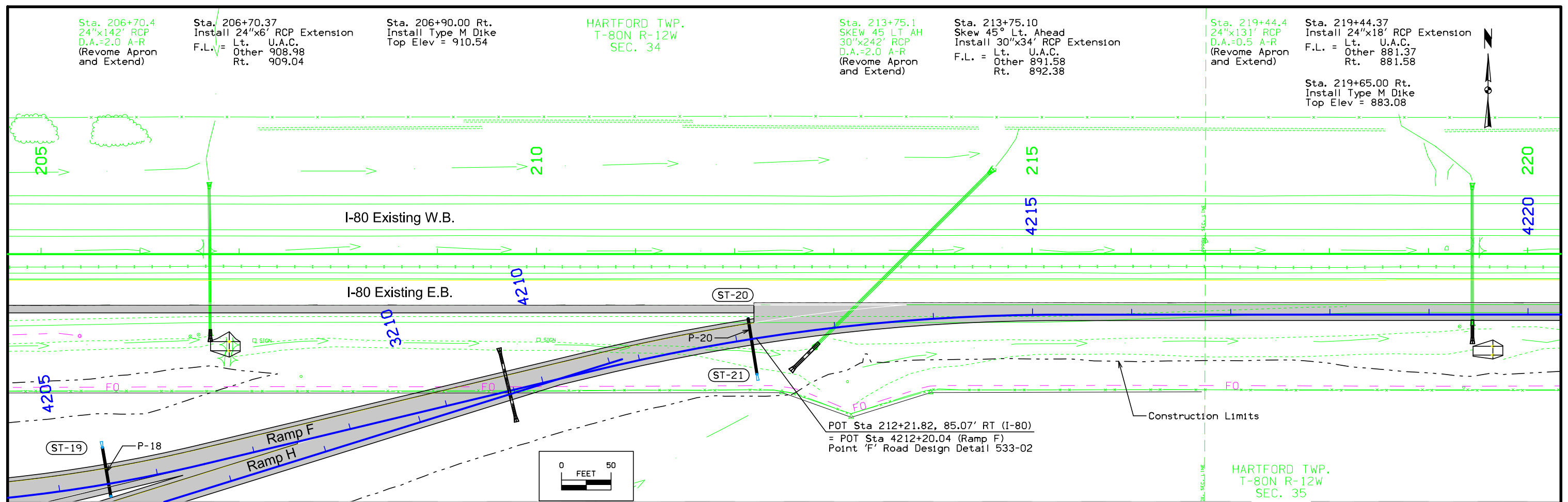
Sta. 213+75.1  
SKEW 45° LT AH  
30"x242" RCP  
D.A.=2.0 A-R  
(Remove Apron  
and Extend)

Sta. 213+75.10  
Skew 45° Lt. Ahead  
Install 30"x34' RCP Extension  
F.L. = Lt. U.A.C.  
Other 891.58  
Rt. 892.38

Sta. 219+44.4  
24"x131' RCP  
D.A.=0.5 A-R  
(Remove Apron  
and Extend)

Sta. 219+44.37  
Install 24"x18' RCP Extension  
F.L. = Lt. U.A.C.  
Other 881.37  
Rt. 881.58

Sta. 219+65.00 Rt.  
Install Type M Dike  
Top Elev = 883.08



FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER AND ASSOCIATES, INC.</b>	IOWA COUNTY	PROJECT NUMBER	<b>IMN-080-6(483)208--0E-48</b>	SHEET NUMBER	<b>D.5</b>
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## Survey Information

Iowa County  
IMN-080-6(483)208--0E-48  
PIN 19-48-080-010  
I 80-Survey of Rest Stop near Victor (EB)  
Approx. 3.5 Miles Southeast of Victor  
SAP0843.1

### Party Personnel

Jeremy Leemon- Survey Project Manager  
Larry Boyer- Assistant Survey Project Manager  
Steve Lentz- Survey Party Chief  
Jacob Powers- Assistant Survey Party Chief  
John Kropp- Instrument

### Date(s) of Survey

Begin Date 04/2/2019  
End Date 08/14/2019

### General Information

Measurement units for this survey are US survey feet. Project datum and control was established using IARTN and USGS BM DWB. This is a partial DTM survey with photo control of the rest area on the eastbound lane of Interstate 80.

### Vertical Control

Vertical datum for this survey is relative to NGVD29=NAVD88 at this location. Geoid12B was used in this survey. A Digital level loop was run from BM #511 (USGS BM DWB) through the project benchmarks and returned to BM # 511. The loop error met 3<sup>rd</sup> Order accuracy and the error was distributed proportionately among the project bench marks.

This survey observed 1 USGS Control Monument with published NGVD29=NAVD88 heights to compare to local ground control:

USGS mark designated DWB has a published Elev. Of 936.744  
Survey Elev. = 936.750

This survey observed 2 As-Built plan bench marks to compare to local ground control:

BM 520 Project IM-80-6(199)208—13-48 Elev. 936.74  
Survey Elev. = 936.750

BM 521 Project IM-80-6(199)208—13-48 Elev. 936.694  
Survey Elev. = 936.717

### Horizontal Control

The project coordinate system for this survey is IaRCS Zone 10(U.S. Survey Feet). This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. We established 6 control points surrounding the project limits, observing each for 180 epochs. Then a calibration was performed from BASE100. Additional points were placed throughout the project using GNSS Base-Rover setup relative to Pt.

The Combined Scale Factor may be used for total station stakeout and location to survey in the State Plane coordinate system.

### Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. I-80-6(24)208. Survey stationing was equated to the plan PC at STA 158+38.7 and run back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PC Sta. 158+38.69 As-built Plans Project No. I-80-6(24)208  
Survey PC Sta. 158+38.7

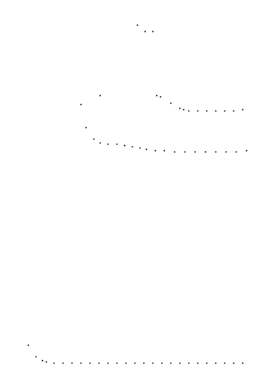
PI Sta 163+90.32 Project No. I-80-6(24)208  
Survey PI STA 163+90.5

PT STA 169+42.00 Project No. I-80-6(24)208  
Survey PT STA 169+42.0

POT STA 175+99.98 Project No. I-80-6(24)208  
Survey POT STA 176+00

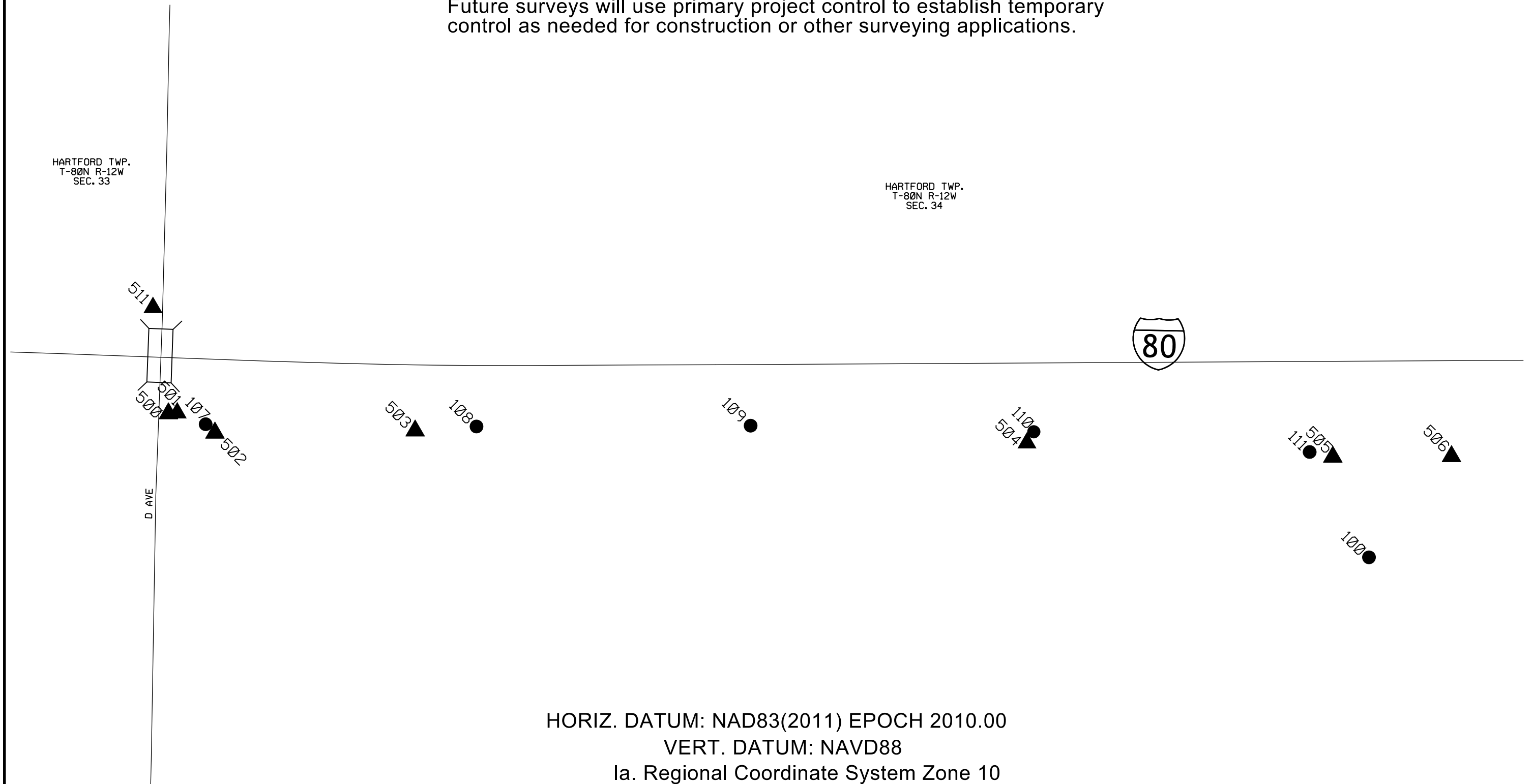
POT STA 203+41.16 Project No. I-80-6(24)208  
Survey POT STA 203+42.7

PC STA 253+26.72 Project No. I-80-6(24)208  
Survey PC STA 253+31.4



### CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points  
 Primary control is for use with RTK base stations and for RTN validation.  
 Future surveys will use primary project control to establish temporary  
 control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 10

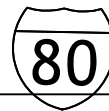
Coordinate listing from next sheet will be used with 1aRTN for monument  
 recovery. No other reference ties are given.

### CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points  
Primary control is for use with RTK base stations and for RTN validation.  
Future surveys will use primary project control to establish temporary  
control as needed for construction or other surveying applications.

HARTFORD TWP.  
T-80N R-12W  
SEC. 34

HARTFORD TWP.  
T-80N R-12W  
SEC. 35



507 ▲ 112 ●

113 ●  
508 ▲

114 ●

115 ● 509 ▲

116 ●

510 ▲  
117 ●

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 10

Coordinate listing from next sheet will be used with 1aRTN for monument  
recovery. No other reference ties are given.

# HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 10

Point Name	Northing	Easting	Elevation	Feature	Description
100	7949968.31	20345761.88	926.00	CP	SET REBAR 6" DEEP
107	7950260.03	20343221.00	914.01	CP	SET REBAR 6" DEEP
108	7950254.63	20343814.83	927.39	CP	SET REBAR 6" DEEP
109	7950255.55	20344413.16	930.13	CP	SET REBAR 6" DEEP
110	7950243.09	20345022.56	921.90	CP	SET REBAR 6" DEEP
111	7950198.72	20345631.24	921.17	CP	SET REBAR 6" DEEP
112	7950186.16	20346265.49	920.04	CP	SET REBAR 6" DEEP
113	7950246.16	20346899.15	919.29	CP	SET REBAR 6" DEEP
114	7950266.97	20347498.27	914.40	CP	SET REBAR 6" DEEP
115	7950261.64	20348049.69	896.03	CP	SET REBAR 6" DEEP
116	7950255.92	20348671.57	888.64	CP	SET REBAR 6" DEEP
117	7950256.84	20349278.49	875.99	CP	SET REBAR 6" DEEP
500	7950287.50	20343136.05	939.18	BM	FD DOT BRASS BUTTON SE ABUT. HANDRAIL
501	7950287.77	20343137.89	936.72	BM	FD IHC BM ON SE ABUTMENT
502	7950254.70	20343221.96	915.17	BM	CUT X ON ROW RAIL
503	7950250.01	20343677.38	928.43	BM	CUT X ON ROW RAIL
505	7950189.86	20345681.01	923.10	BM	SET MAG NAIL SE SIDE LUM BASE
506	7950190.42	20345940.17	922.41	BM	SET MAG NAIL S SIDE LUM BASE
507	7950197.02	20346200.75	922.30	BM	SET CUT X SIDE LUM BASE
508	7950242.70	20346899.36	920.63	BM	CUT X ON ROW RAIL
509	7950250.87	20348133.47	895.99	BM	CUT X ON ROW RAIL
510	7950328.09	20349337.85	879.49	BM	FD IHC BM ON INLET HEADWALL
511	7950505.78	20343114.19	936.74	BM	FD USGS MONUMENT



**SUPERELEVATION DATA**

See PV-300 Series

Road Identification	Circular Curve or Spiral Curve Name	Radius FT	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														
Ramp E	RPE_3	1330	6.0	186	62	PV-303	2179+03.56		2179+40.76	2179+96.56						2179+34.56	2179+34.56		60 mph. A-A at 3% x-slope
Ramp E	RPE_6	1530	4.0	96	48	PV-303		2181+71.24	2180+70.44	2180+27.24						2180+75.24	2180+75.24		40 mph
							2185+38.13		2182+38.44	2182+67.24						2182+67.24	2182+67.24		40 mph
Ramp G	RPG_3	1330	6.0	186	62	PV-303	3178+65.85		2184+90.13	2184+61.33						2184+61.33	2184+61.33		40 mph
Ramp G	RPG_6	485	6.0	144	48	PV-303		3185+11.78	3184+10.98	3183+67.78						3178+96.85	3178+96.85		60 mph. A-A at 3% x-slope
							3190+11.21	3185+11.78	3186+12.57	3186+55.77						3184+15.78	3184+15.78		40 mph
Ramp F	RPF_3	1530	4.0	96	48	PV-303	4202+69.21	3189+63.21	3188+62.41	3188+19.21						3186+07.77	3186+07.77		40 mph
Ramp F	RPF_6	2000	5.4	168	62	PV-303	4207+63.66	4207+15.66	4202+88.41	4203+17.21						3188+67.21	3188+67.21		40 mph
							4210+02.38		4206+48.46	4206+19.66						4203+17.21	4203+17.21		40 mph
									4210+57.98	4211+08.38						4206+19.66	4206+19.66		40 mph
Ramp H	RPH_3	1000	5.0	120	48	PV-303	3197+16.15	3197+64.15	3198+48.15	3198+84.15						4210+64.82	4210+64.82		60 mph
							3202+82.37	3202+34.37	3201+50.37	3201+14.37						3198+60.15	3198+60.15		40 mph
																3201+38.37	3201+38.37		40 mph

**ALIGNMENT COORDINATES**

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
Ramp E	Point RPE1	2166+00.00	7950349.46	20343335.57															
	Curve RPE_3						2179+40.76	7950260.14	20344673.34	2180+05.65	7950255.82	20344738.09	2180+70.44	7950245.22	20344802.11				
	Curve RPE_6						2182+38.44	7950217.76	20344967.85	2183+64.57	7950197.14	20345092.29	2184+90.13	7950197.19	20345218.42				
	Point RPE8	2203+21.42	7950197.80	20347049.71															
Ramp F	Point RPF1	4186+00.00	7950135.73	20345355.26															
	Curve RPF_3						4202+88.41	7950136.30	20347043.68	4204+69.28	7950136.36	20347224.54	4206+48.47	7950178.59	20347400.40				
	Curve RPF_6						4210+57.98	7950274.20	20347798.60	4212+94.59	7950329.45	20348028.66	4215+29.00	7950329.48	20348265.26				
	Point RPF8	4225+29.00	7950329.64	20349265.26															
Ramp G	Point RPG1	3176+00.00	7950286.14	20344330.69															
	Curve RPG_3						3179+03.05	7950245.88	20344631.06	3181+60.15	7950211.72	20344885.87	3184+10.98	7950085.07	20345109.60				
	Curve RPG_6						3186+12.57	7949985.75	20345285.04	3187+40.33	7949922.81	20345396.22	3188+62.41	7949922.81	20345523.98				
	Point RPG8	3195+68.72	7949922.81	20346230.28															
Ramp H	Point RPH1	3194+00.00	7949922.81	20346061.57															
	Curve RPH_3						3198+48.15	7949922.81	20346509.72	3200+00.42	7949922.81	20346661.99	3201+50.37	7949968.13	20346807.36				
	Point RPH5	3212+13.31	7950284.50	20347822.12															
ML I-80	SURML080																		
	Curve SURML080_1						158+38.61	7950416.39	20342574.74	163+90.41	7950389.93	20343125.90	169+42.00	7950390.01	20343677.70				
	Point SURML0803	253+26.72	7950391.34	20352062.42															

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

ACCESS CONTROL PREVIOUSLY ACQUIRED.

HARTFORD TWP.  
T-80N R-12W  
SEC. 34

Sta. 164+99.7  
30"x135' RCP  
D.A.=5.0 A-R  
(Remove Apron  
and Extend)

Sta. 164+99.76 EBL  
Install 30"x14' RCP Extension  
F.L. = Lt. U.A.C.  
Rt. 912.60

170

ROBERT C & PATRICIA L SEYE

SW 1/4 NW 1/4  
SEC. 34

175

2175

STATE

STATE OF IOWA

I-80

I-80

Ramp E

169+41.61  
±140'±EX. R/W Cor

176+61  
±155'

NW 1/4 SW 1/4  
SEC. 34

II

ROBERT C & PATRICIA L SEYE

Right of Way Design Information  
THIS SHEET INCLUDED  
FOR INFORMATION ONLY

ROW Team: Larson / Hughes  
ROW #: IMN-080-6(486)208--0E-48  
Plan Date: 9-21-2021

Color Legend:  
Property Lines  
Temporary Easement  
Permanent Acquisition



FILE NO.

ENGLISH

DESIGN TEAM

SNYDER AND ASSOCIATES, INC.

IOWA

COUNTY

PROJECT NUMBER

IMN-080-6(483)208--0E-48

SHEET NUMBER H.1

HARTFORD TWP.  
T-80N R-12W  
SEC. 34

Sta. 185+27.7  
SKEW 25 RT AH  
42"x320' RCP  
D.A.=32.0 A-R  
(Rt. Remove 44' RCP)  
Remove and Reinstall Apron  
F.L. = Rt. 913.91

Sta. 180+98.7 EBL  
24"x82.5' RCP  
D.A.=32.0 A-R  
(Rt. Remove 6' RCP)  
Remove and Reinstall Apron  
F.L. = Rt. 921.50

Sta 186+32.12,  
139.55' RT  
18" Conc Pipe  
(Remove)

Sta. 2182+82.02  
Install 24"x64' RCP  
F.L. = Lt. 916.00  
Rt. 916.34

Sta. 2185+80.00  
Install Twin 24"EQx96'  
Low Clearance RCP  
F.L. = Lt. 914.00  
Rt. 914.50

Sta. 3182+70.00  
Install 24"x70' RCP  
F.L. = Lt. 916.53  
Rt. 917.11

Sta. 3187+54.00  
Install 36"x70' RCP  
F.L. = Lt. 915.52  
Rt. 916.42

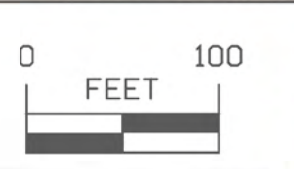
ROBERT C & PATRICIA L SEYE

ZUBER FAMILY  
FARMS LLC

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

ROW Team: Larson / Hughes  
ROW #: IMN-080-6(486)208--OE-48  
Plan Date: 9-21-2021

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



STATE OF IOWA

HARTFORD TWP.  
T-80N R-12W  
SEC. 34

Sta. 194+39.51,  
142.83' RT  
15" RCP  
(Remove)

Sta. 194+38.7  
24"x137' RCP  
D.A.=4.0 A-R  
(Remove Apron  
and Extend)

Sta. 194+38.67  
Install 24"x14' RCP Extension  
F.L. = Lt. U.A.C.  
Other 914.26  
Rt. 914.35

Sta. 199+92.10 EBL  
Install 30" Apron  
F.L. = Lt. U.A.C.  
Rt. 909.61

Sta. 199+92.1  
SKEW 10 LT AH  
30"x240' RCP  
D.A.=8.0 A-R  
(Rt. Remove 44' RCP)  
Remove and Reinstall Apron  
F.L. = Rt. 909.61

Sta. 200+08.42,  
124.10' RT  
24" RCP  
(Remove)

Sta. 200+33.28,  
94.80' RT  
18" RCP  
(Remove)

SW 1/4 NE 1/4  
SEC. 34

SE 1/4 NE 1/4  
SEC. 34

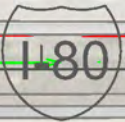
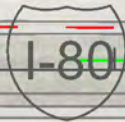
190

195

200

205

GARY LYNN WIEDEMEIER



2195

2200

4205

Remove Existing Pipe  
Remove Existing Intake

Remove Intakes  
Remove Pipe

Sta. 4200+17.81  
Skew 17° Rt. Ahead  
Install 30"x252' RCP  
F.L. = Lt. 909.80  
Rt. 911.40

Ramp F

Ramp H

STATE OF IOWA

Sta. 3201+68.00  
Install 30"x74' RCP  
F.L. = Lt. 911.50  
Rt. 913.50

Sta. 4200+17.81  
Skew 17° Rt. Ahead  
Install 30"x252' RCP  
F.L. = Lt. 909.80  
Rt. 911.40



Right of Way Design Information

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ROW Team: Larson / Hughes  
ROW #: IMN-080-6(486)208--0E-48  
Plan Date: 9-21-2021

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

190+12±R  
Q558'

2

198+64  
Q558'

ZUBER FAMILY FARMS LLC

NW 1/4 SE 1/4  
SEC. 34

HARTFORD TWP.  
T-80N R-12W  
SEC. 34

GARY LYNN WIEDEMEIER

SE 1/4 NE 1/4  
SEC. 34

SW 1/4 NW 1/4  
SEC. 35

Sta. 206+70.37  
Install 24"x6' RCP Extension  
F.L. = Lt. U.A.C.  
Other 908.98  
Rt. 909.04

Sta. 213+75.10  
Skew 45° Lt. Ahead  
Install 30"x34' RCP Extension  
F.L. = Lt. U.A.C.  
Other 891.58  
Rt. 892.38

Sta. 219+44.4  
24"x131' RCP  
D.A.=0.5 A-R  
(Remove Apron  
and Extend)

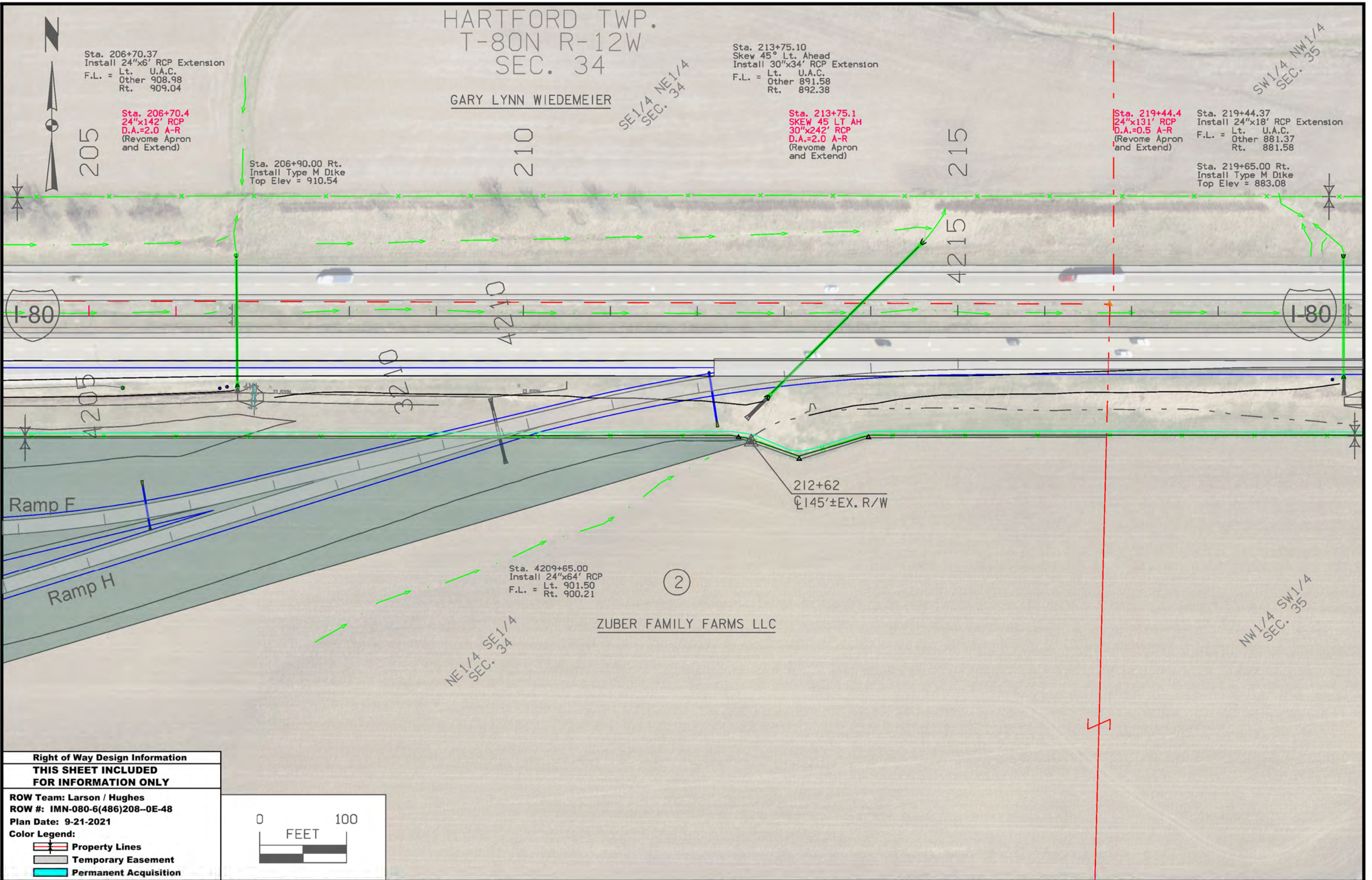
Sta. 219+44.37  
Install 24"x18' RCP Extension  
F.L. = Lt. U.A.C.  
Other 881.37  
Rt. 881.58

Sta. 206+70.4  
24"x142' RCP  
D.A.=2.0 A-R  
(Remove Apron  
and Extend)

Sta. 213+75.1  
SKEW 45 LT AH  
30"x242' RCP  
D.A.=2.0 A-R  
(Remove Apron  
and Extend)

Sta. 219+65.00 Rt.  
Install Type M Dike  
Top Elev = 883.08

Sta. 206+90.00 Rt.  
Install Type M Dike  
Top Elev = 910.54



Sta. 4209+65.00  
Install 24"x64' RCP  
F.L. = Lt. 901.50  
Rt. 900.21

ZUBER FAMILY FARMS LLC

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ROW #: IMN-080-6(486)208--0E-48  
Plan Date: 9-21-2021

- Color Legend:
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  - Temporary Easement
  - Permanent Acquisition



HARTFORD TWP.  
T-80N R-12W  
SEC. 35

Sta. 226+38.1  
8'x4.25'x144' RCBC

Sta. 219+44.4  
24"x131' RCP  
D.A.=0.5 A-R  
(Remove Apron  
and Extend)

Sta. 219+44.37  
Install 24"x18' RCP Extension  
F.L. = Lt. U.A.C.  
Other 881.37  
Rt. 881.58

Sta. 219+65.00 Rt.  
Install Type M Dike  
Top Elev = 883.08

SW 1/4 NW 1/4  
SEC. 35

GARY LYNN WIEDEMEIER

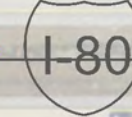
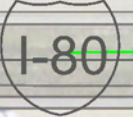
Sta. 226+38.5  
SKEW 30 LT AH  
8'x4'x144' RCB  
D.A.=168 A-R  
(Remove  
Headwalls Rt)

Sta. 226+38.50  
Install 8'x4'x25' RCB Extension  
F.L. = Lt. U.A.C.  
Other 873.36  
Rt. 873.60

220

225

230



NW 1/4 SW 1/4  
SEC. 35

2

ZUBER FAMILY FARMS LLC

Right of Way Design Information

THIS SHEET INCLUDED  
FOR INFORMATION ONLY

ROW Team: Larson / Hughes  
ROW #: IMN-080-6(486)208--0E-48  
Plan Date: 9-21-2021

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







### TRAFFIC CONTROL PLAN

1. Two lanes of I-80 shall remain open to traffic at all time. Shoulder closures as necessary will be allowed during nighttime hours only, as follows:  
 Sunday: 9 PM - 6 AM Monday  
 Monday: 7 PM - 6 AM Tuesday  
 Tuesday: 7 PM - 6 AM Wednesday  
 Wednesday: 7 PM - 6 AM Thursday  
 Thursday: 7 PM - 6 AM Friday  
 Shoulder closures will not be allowed overnights on Fridays and Saturdays.
2. For construction in the outside shoulder area, shift traffic per details shown elsewhere in these plans.
3. Refer to staging plan for rest area closure information. The existing rest area is to remain open to traffic as much as possible. Notify DOT staff at least 2 weeks prior to expected closing date.

### STAGING NOTES

- Stage 1: Traffic utilizes existing I-80 and existing rest area ramps. Rest area remains open to traffic.  
 - Construct inside shoulder strengthening on I-80. Will require traffic shift to construct.
- Stage 2: Shift I-80 traffic onto inside shoulder. Existing rest area ramps and parking area remain open to traffic. Construct car parking areas and ramps outside of proposed tapers and existing pavement. Includes:  
 - Deceleration taper  
 - Ramp E: Sta. 2173+11.59 - Sta. 2185+00  
 - Ramp F: Sta. 4202+50 - Sta. 4210+50  
 - Ramps G / H: Sta. 3176+47 - Sta. 3211+45 (Entire length)  
 - Acceleration taper and acceleration lane
- Stage 3: I-80 traffic remains shifted to inside shoulder. Rest area traffic limited to passenger vehicles (no trucks) and utilizes ramps and pavement constructed during Stage 2. Close existing rest area ramps and pavement.  
 - Remove existing tapers, ramps, and parking area.  
 - Construct truck parking area and truck inspection area.

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

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

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

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

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

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

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

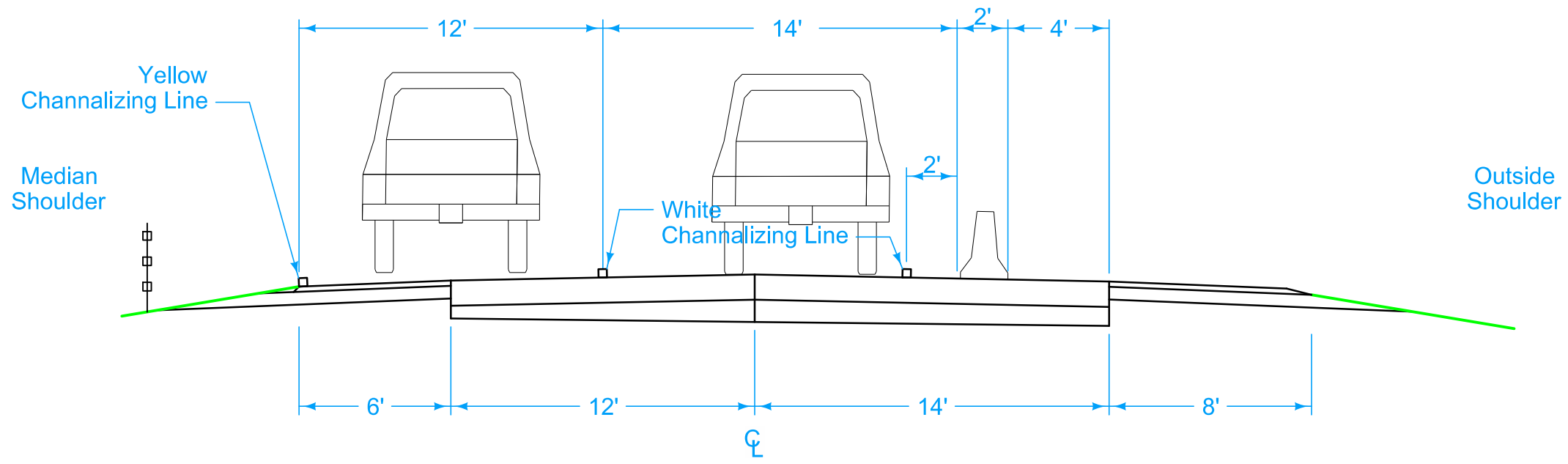
**PLAN VIEW PATTERN AND SYMBOL LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**

	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification

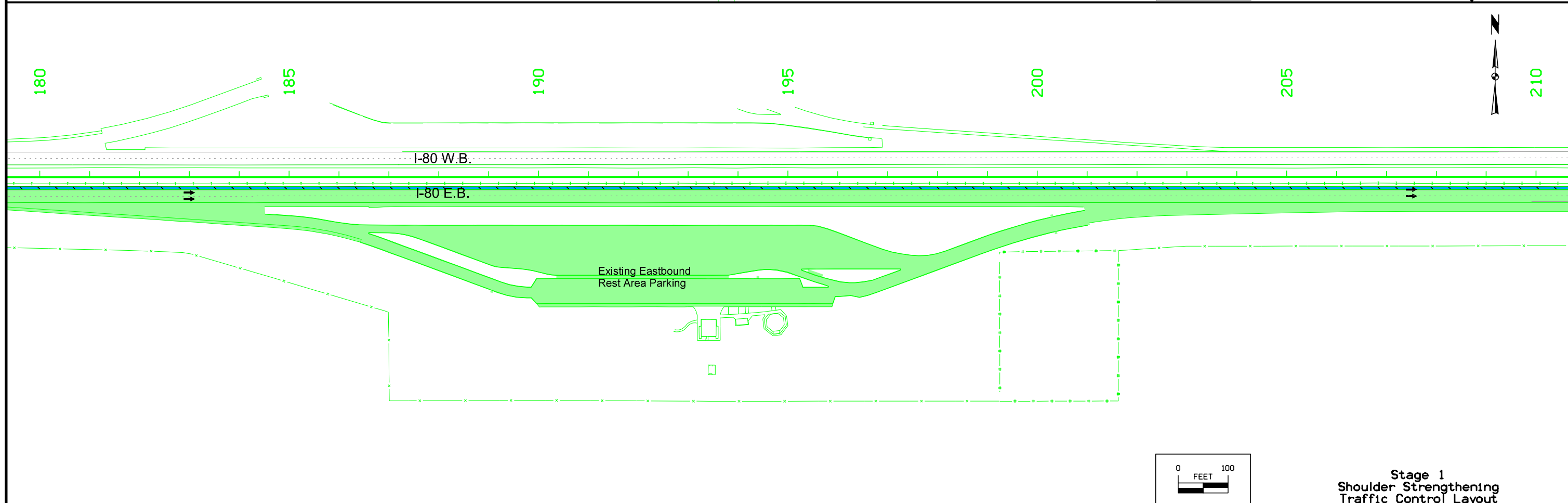
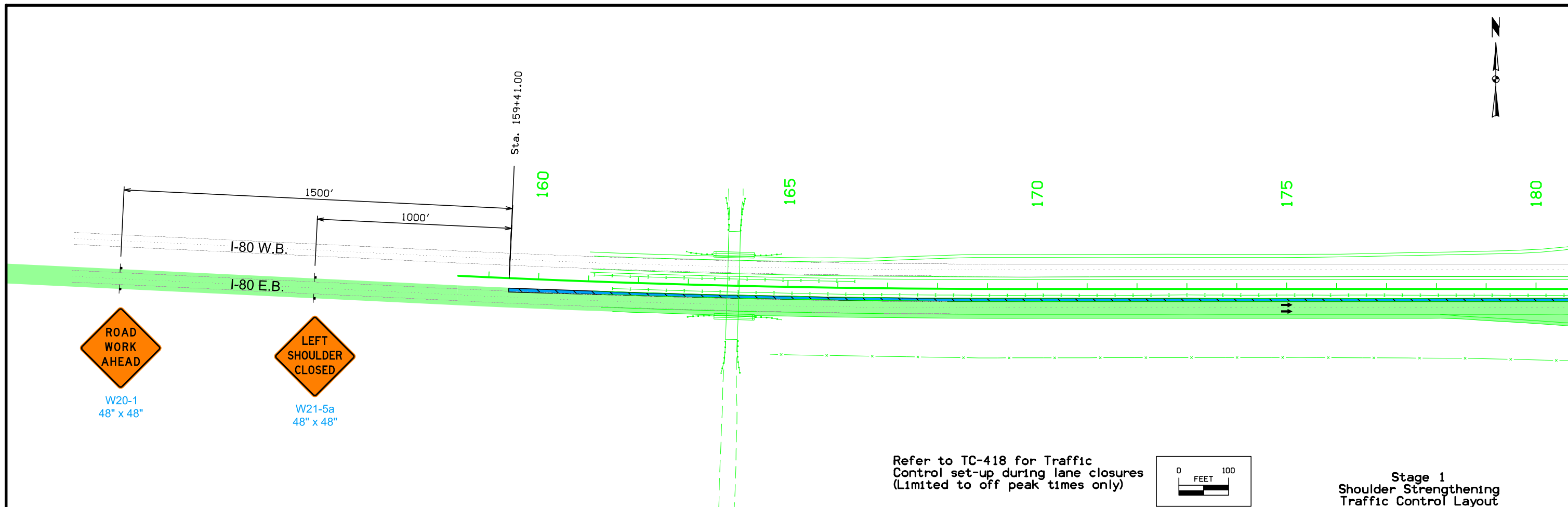
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

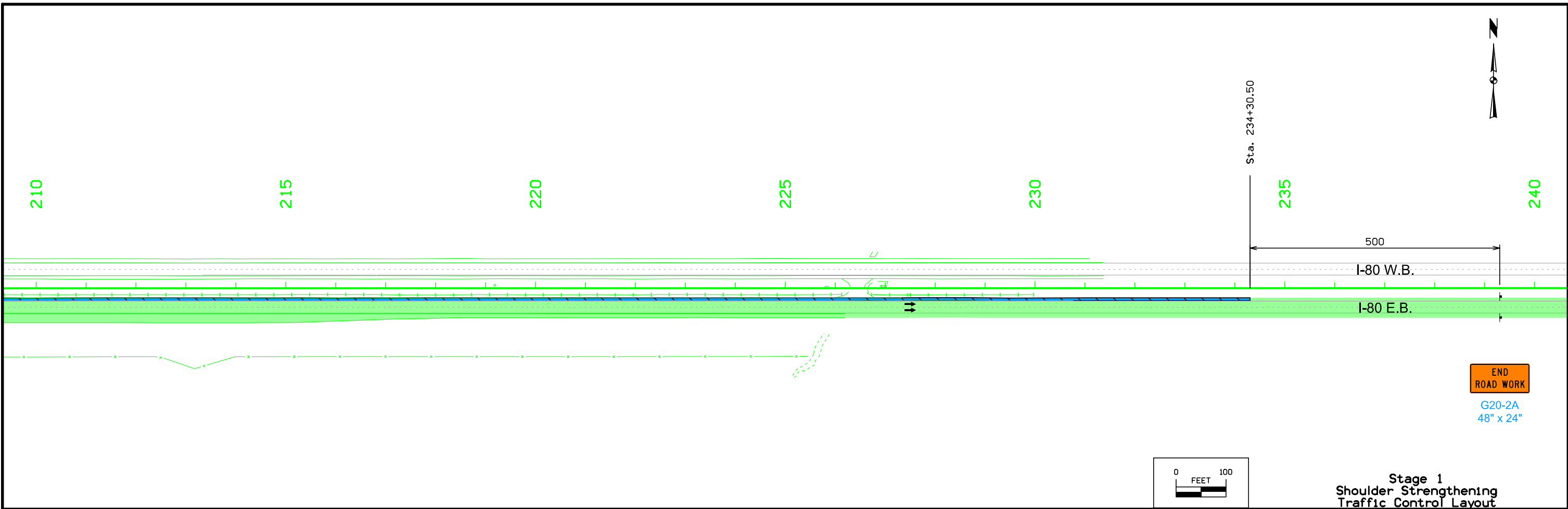
**TRAFFIC CONTROL  
AND  
STAGING  
LEGEND AND SYMBOL  
INFORMATION SHEET**

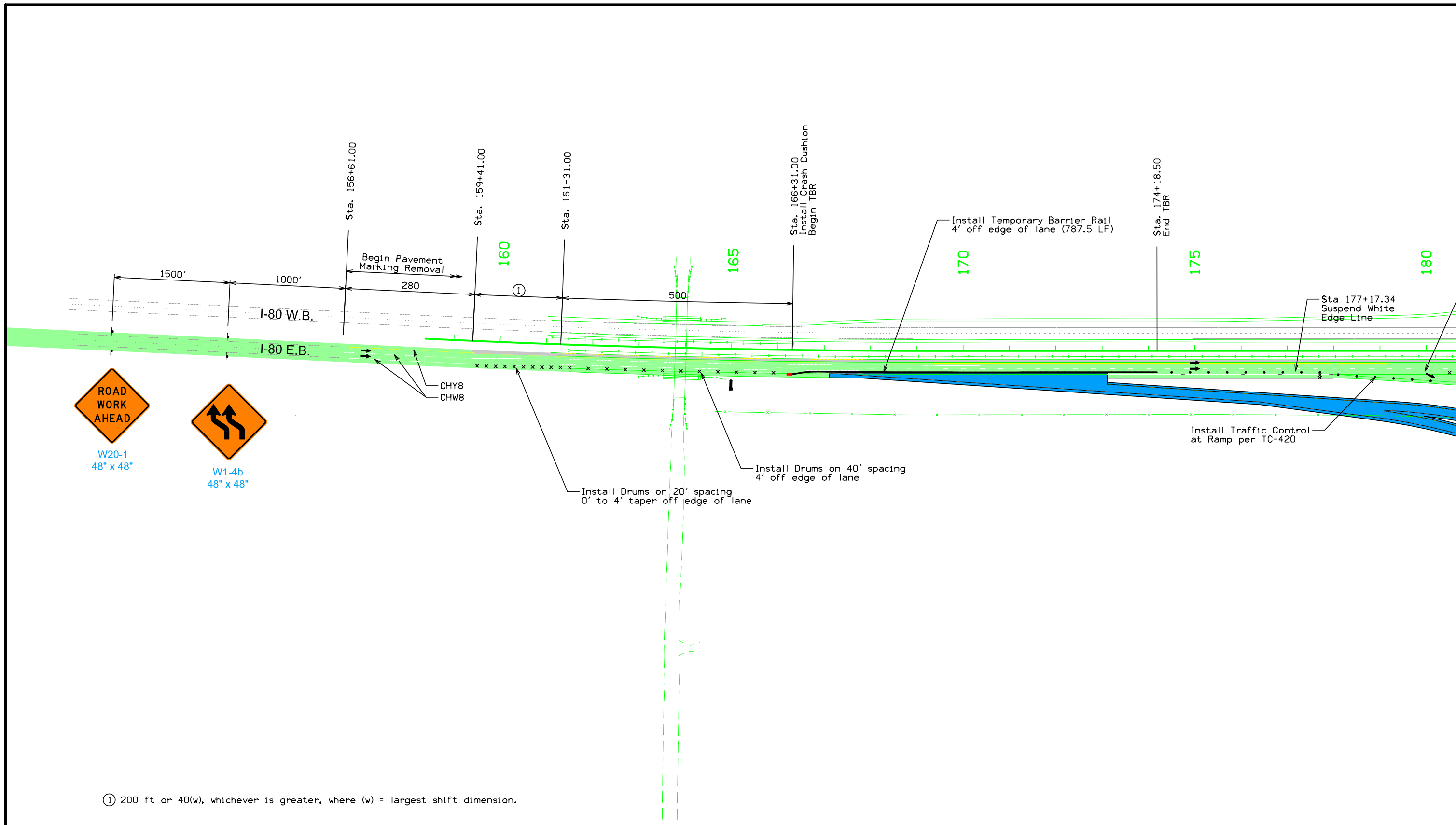
(COVERS SHEET SERIES J)



**INTERSTATE 80 E.B. IOWA COUNTY**  
**Traffic Control Lane Shift**  
**Stage 2 Construction**  
**Stage 3 Construction**



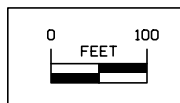




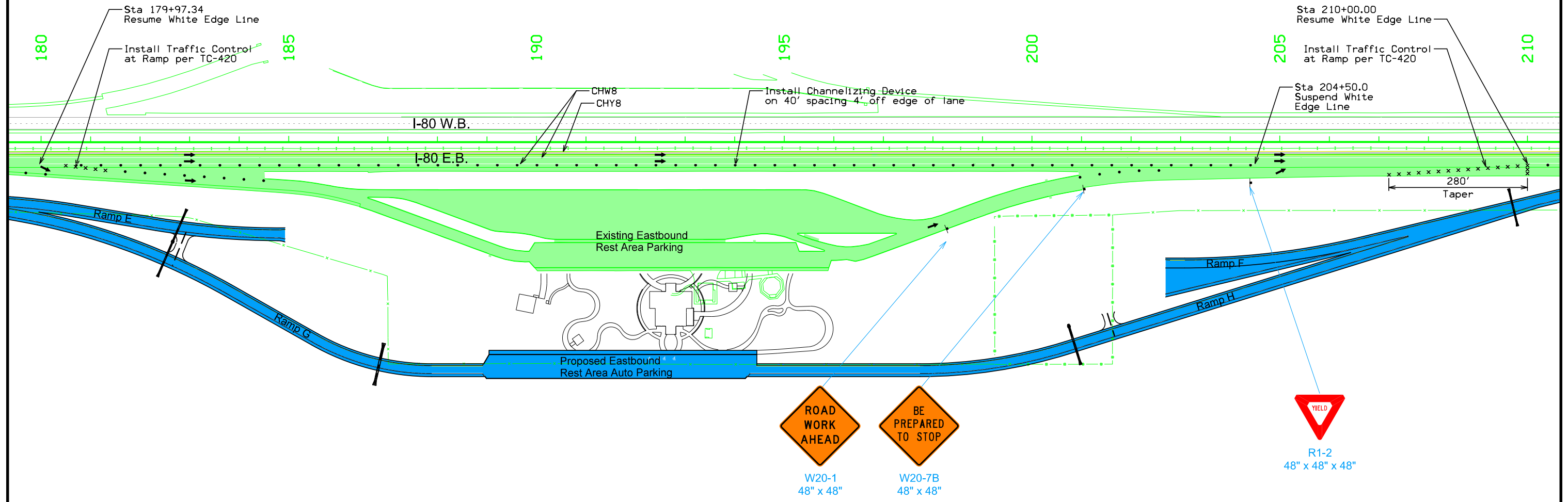
① 200 ft or 40(w), whichever is greater, where (w) = largest shift dimension.

When a temporary lane shift is necessary:

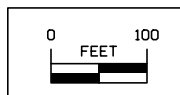
1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.
2. Install sign W24-1 1000 ft prior to shift on both shoulders.



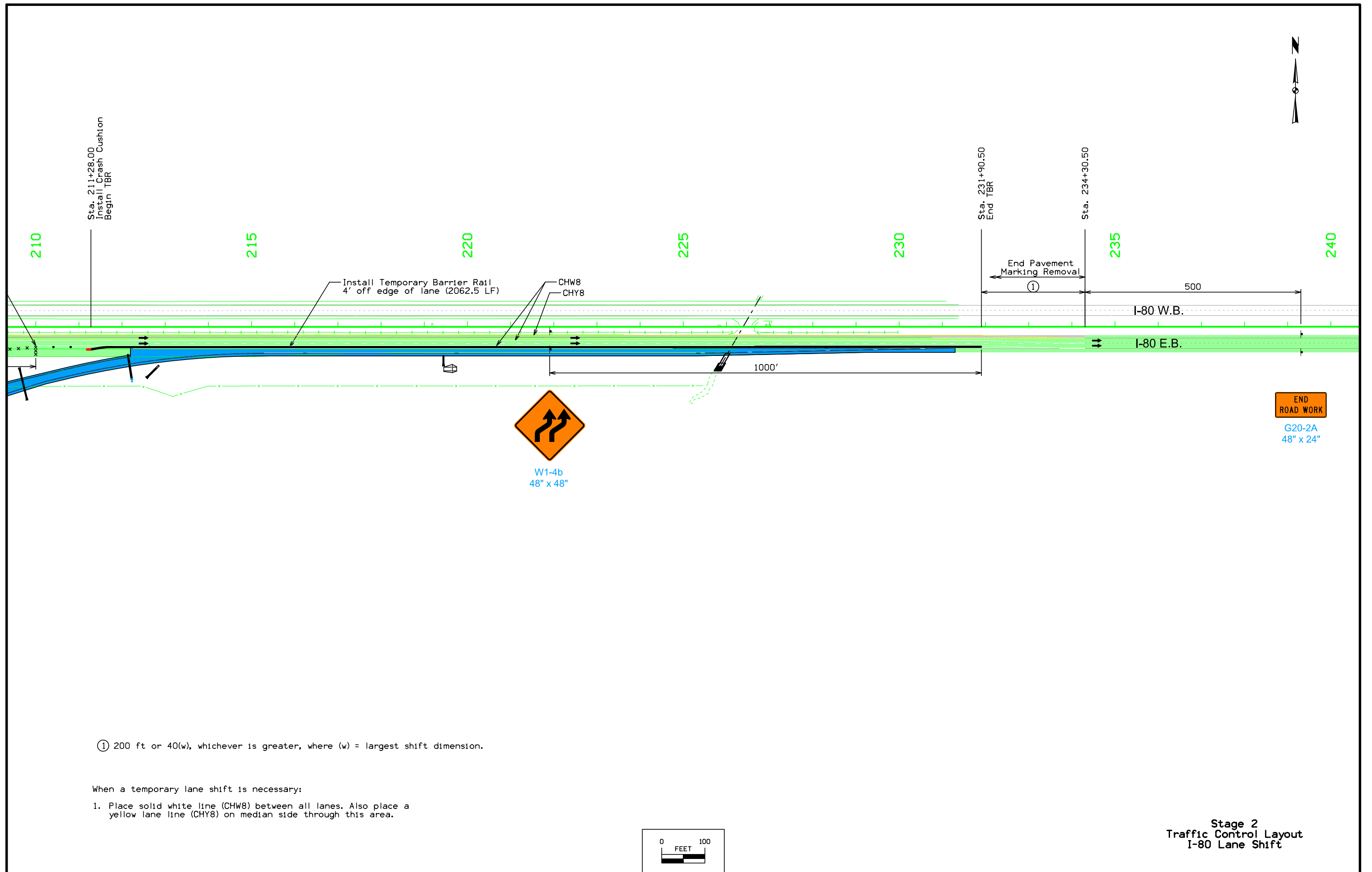
Stage 2  
Traffic Control Layout  
I-80 Lane Shift



When a temporary lane shift is necessary:  
 1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.



Stage 2  
 Traffic Control Layout  
 I-80 Lane Shift

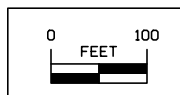


END ROAD WORK

G20-2A  
48" x 24"

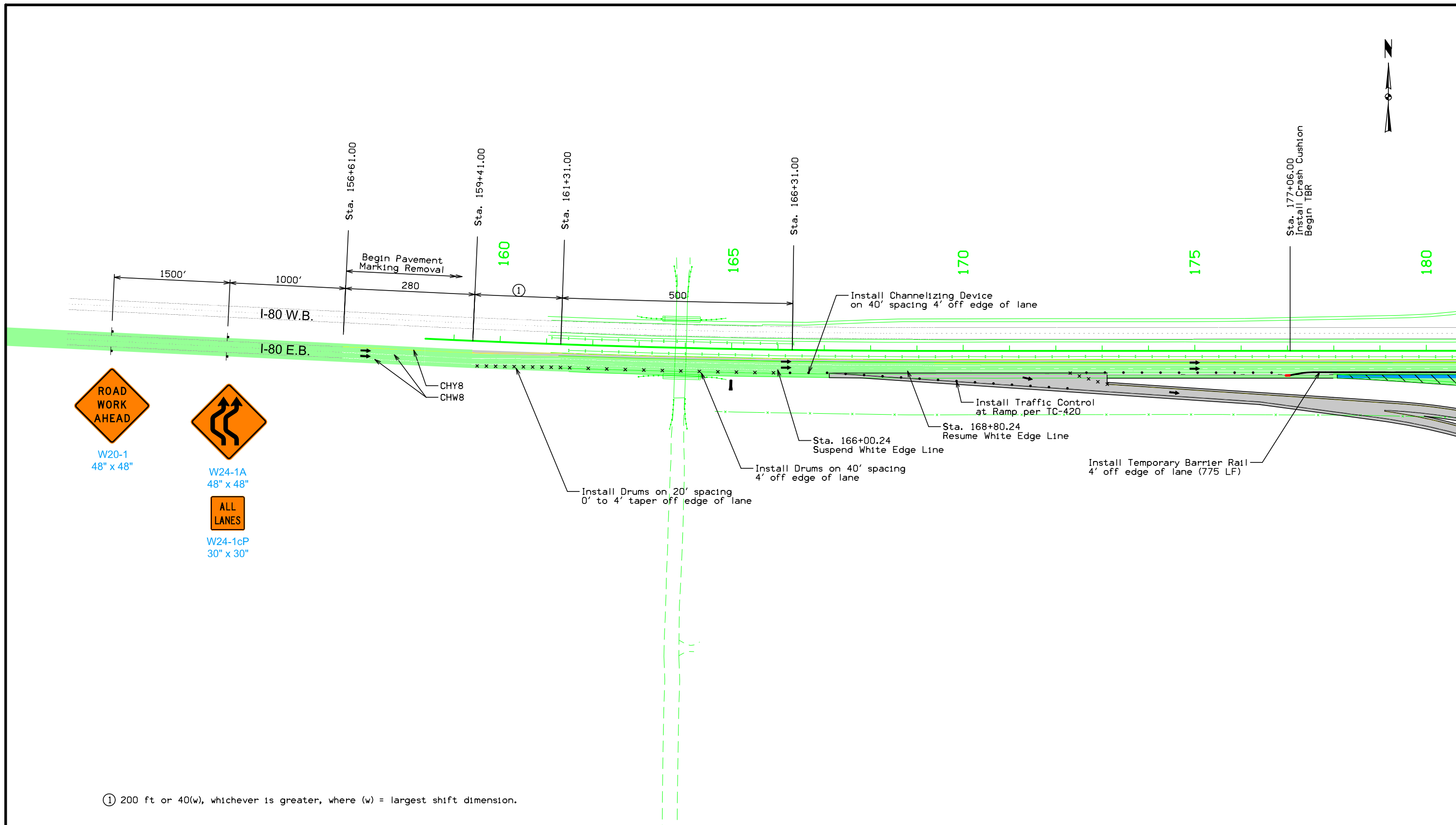
① 200 ft or 40(w), whichever is greater, where (w) = largest shift dimension.

When a temporary lane shift is necessary:  
 1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.



Stage 2  
Traffic Control Layout  
I-80 Lane Shift

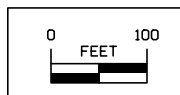




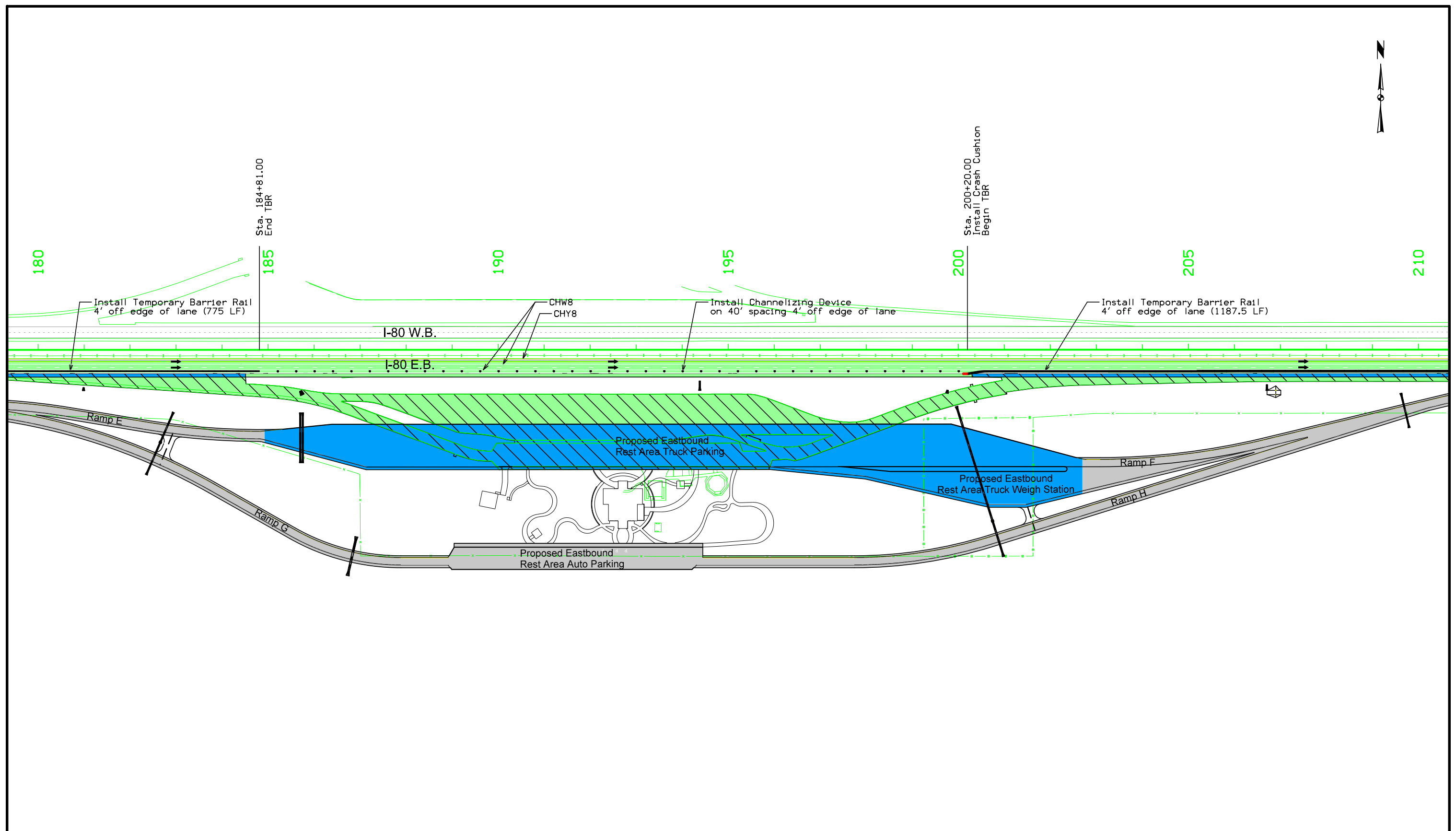
- ROAD WORK AHEAD  
W20-1  
48" x 48"
- W24-1A  
48" x 48"
- ALL LANES  
W24-1cP  
30" x 30"

① 200 ft or 40(w), whichever is greater, where (w) = largest shift dimension.

- When a temporary lane shift is necessary:
1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.
  2. Install sign W24-1 1000 ft prior to shift on both shoulders.

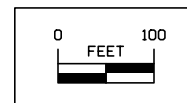


Stage 3  
Traffic Control Layout  
I-80 Lane Shift

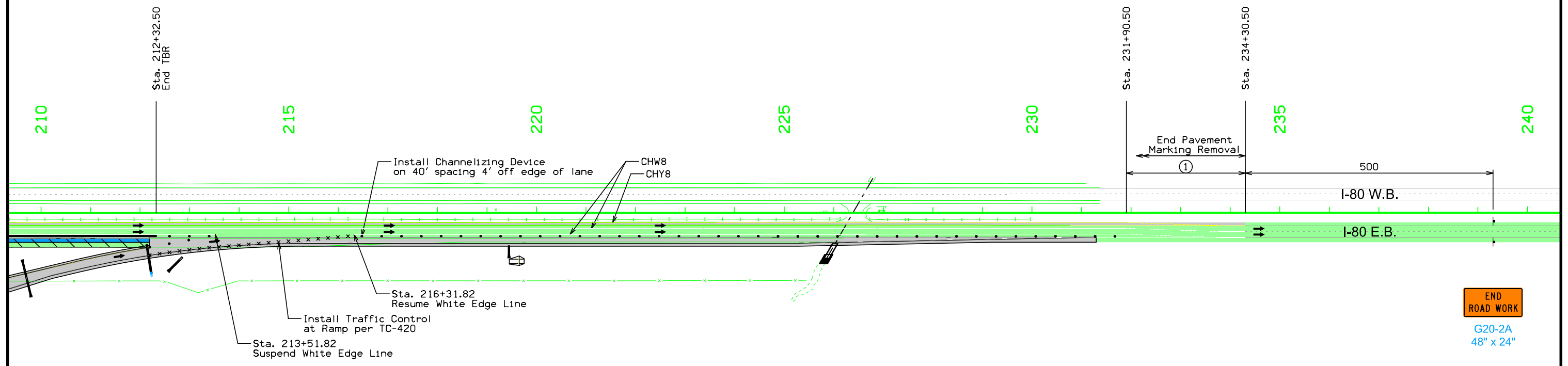


When a temporary lane shift is necessary:

1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.



Stage 3  
Traffic Control Layout  
I-80 Lane Shift



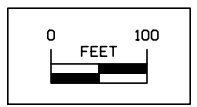
END  
ROAD WORK

G20-2A  
48" x 24"

① 200 ft or 40(w), whichever is greater, where (w) = largest shift dimension.

When a temporary lane shift is necessary:

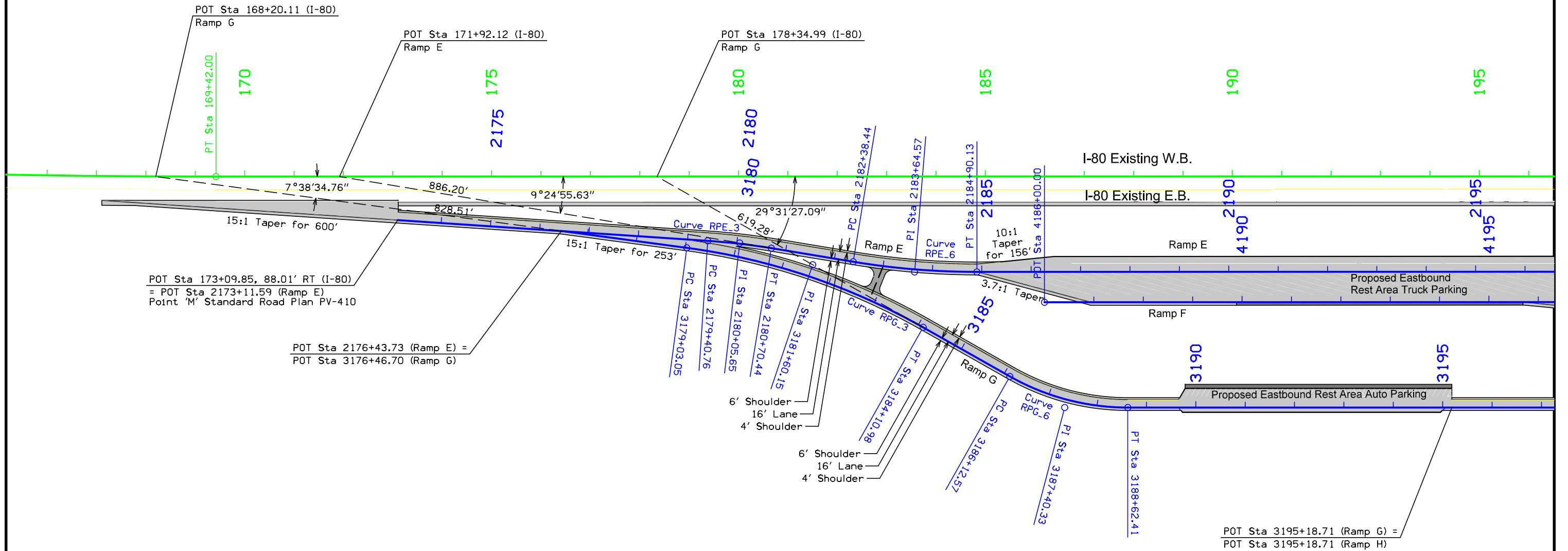
1. Place solid white line (CHW8) between all lanes. Also place a yellow lane line (CHY8) on median side through this area.



Stage 3  
Traffic Control Layout  
I-80 Lane Shift

Curve Data  
 $\Delta = 2^\circ 45' 29.75''$  (LT)  
 T = 551.80  
 L = 1,103.39  
 R = 22,920.00  
 E = 6.64

HARTFORD TWP.  
 T-80N R-12W  
 SEC. 34



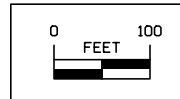
POT Sta 173+09.85, 88.01' RT (I-80)  
 = POT Sta 2173+11.59 (Ramp E)  
 Point 'M' Standard Road Plan PV-410

POT Sta 2176+43.73 (Ramp E) =  
 POT Sta 3176+46.70 (Ramp G)

POT Sta 3195+18.71 (Ramp G) =  
 POT Sta 3195+18.71 (Ramp H)

Curve RPE\_3 Data  
 $\Delta = 5^\circ 35' 11.53''$  (RT)  
 T = 64.89  
 L = 129.68  
 R = 1,330.00  
 E = 1.58  
 e = 6.0%  
 I = 55.8'  
 x = 62'

Curve RPG\_3 Data  
 $\Delta = 21^\circ 52' 52.32''$  (RT)  
 T = 257.10  
 L = 507.93  
 R = 1,330.00  
 E = 24.62  
 e = 6.0%  
 I = 186'  
 x = 62'

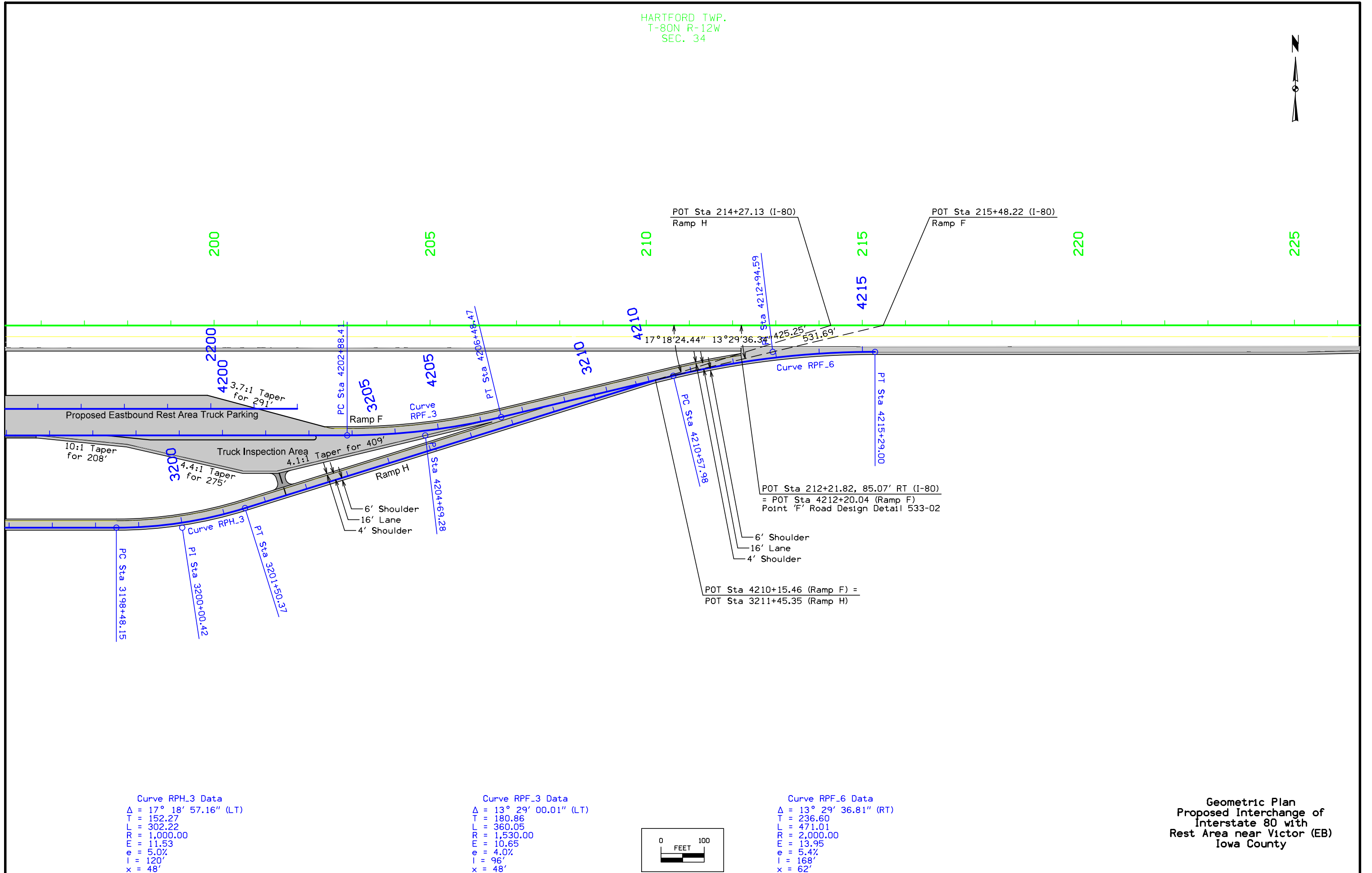


Curve RPE\_6 Data  
 $\Delta = 9^\circ 25' 31.96''$  (LT)  
 T = 126.13  
 L = 251.70  
 R = 1,530.00  
 E = 5.19  
 e = 4.0%  
 I = 28.8'  
 x = 48'

Curve RPG\_6 Data  
 $\Delta = 29^\circ 30' 54.30''$  (LT)  
 T = 127.76  
 L = 249.84  
 R = 485.00  
 E = 16.54  
 e = 6.0%  
 I = 43.2'  
 x = 48'

Geometric Plan  
 Proposed Interchange of  
 Interstate 80 with  
 Rest Area near Victor (EB)  
 Iowa County

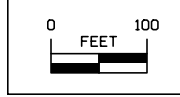
HARTFORD TWP.  
T-80N R-12W  
SEC. 34



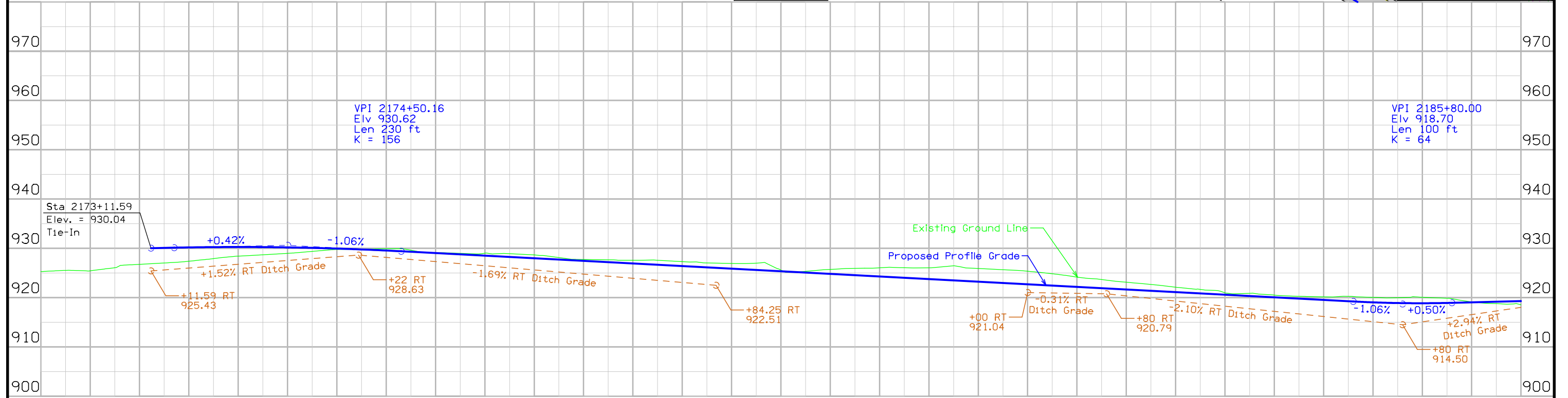
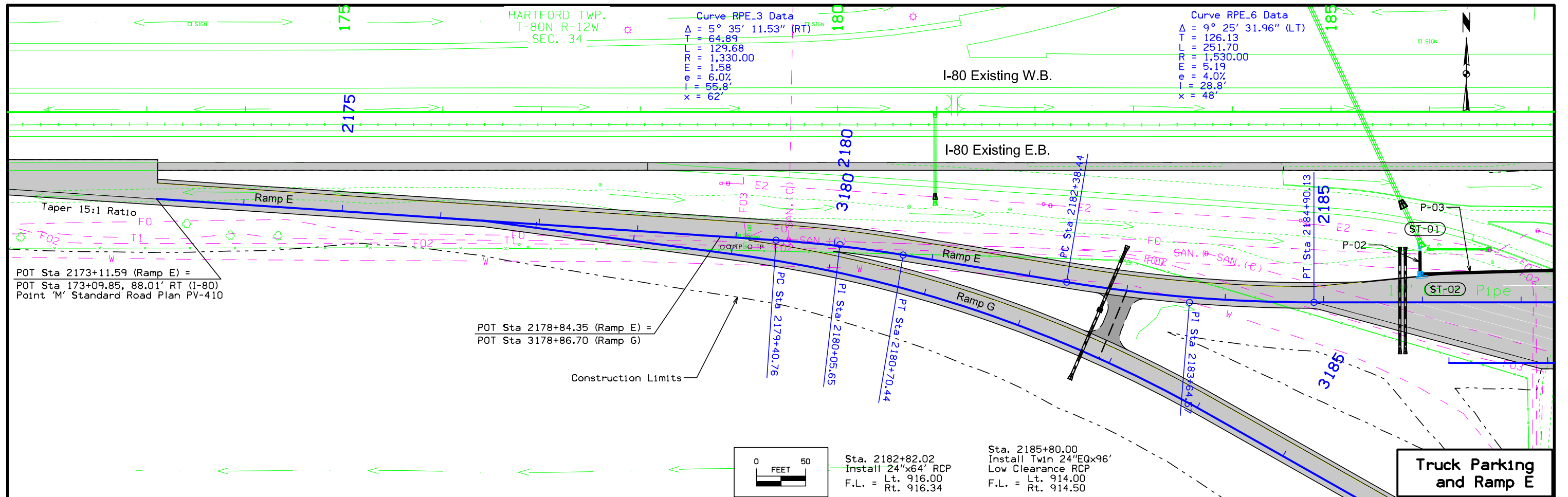
Curve RPH\_3 Data  
 $\Delta = 17^\circ 18' 57.16''$  (LT)  
 $T = 152.27$   
 $L = 302.22$   
 $R = 1,000.00$   
 $E = 11.53$   
 $e = 5.0\%$   
 $I = 120'$   
 $x = 48'$

Curve RPF\_3 Data  
 $\Delta = 13^\circ 29' 00.01''$  (LT)  
 $T = 180.86$   
 $L = 360.05$   
 $R = 1,530.00$   
 $E = 10.65$   
 $e = 4.0\%$   
 $I = 96'$   
 $x = 48'$

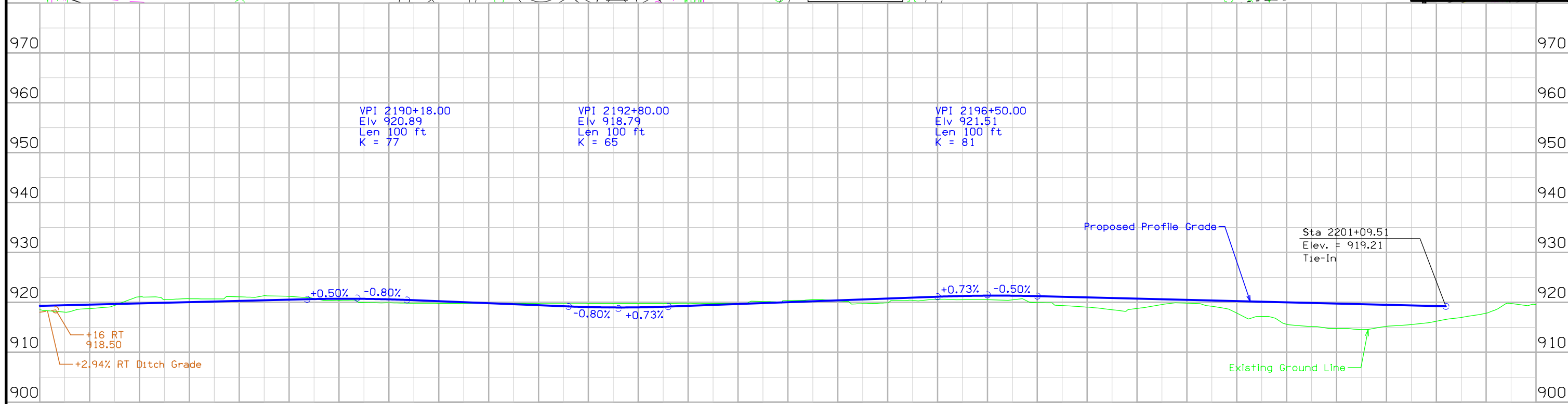
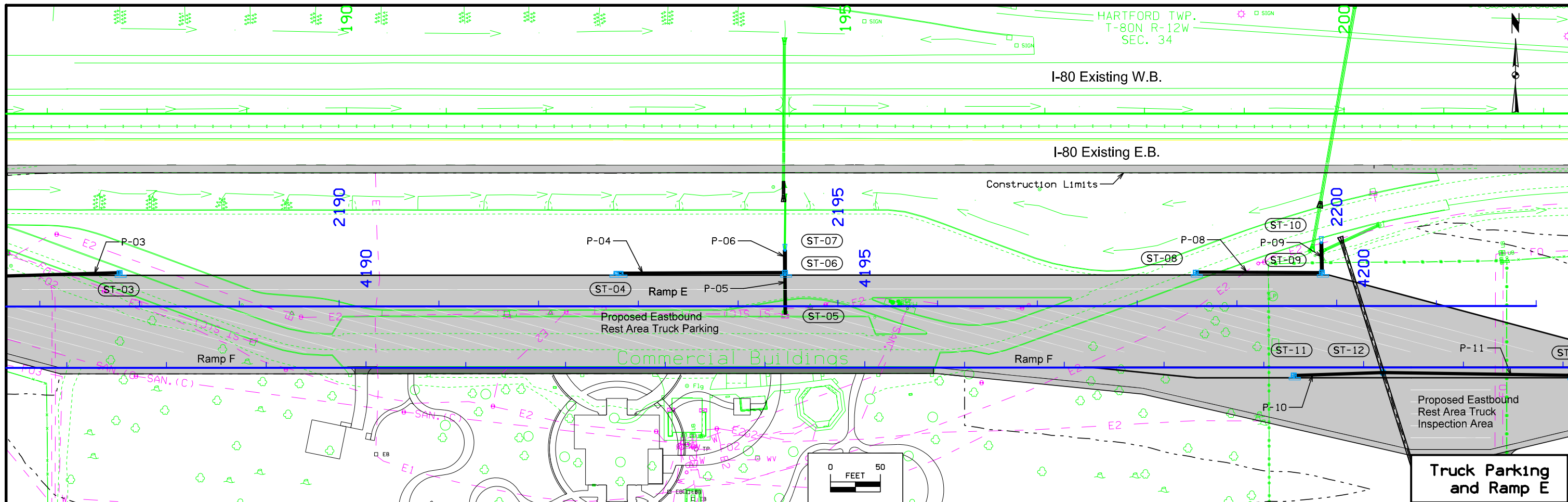
Curve RPF\_6 Data  
 $\Delta = 13^\circ 29' 36.81''$  (RT)  
 $T = 236.60$   
 $L = 471.01$   
 $R = 2,000.00$   
 $E = 13.95$   
 $e = 5.4\%$   
 $I = 168'$   
 $x = 62'$



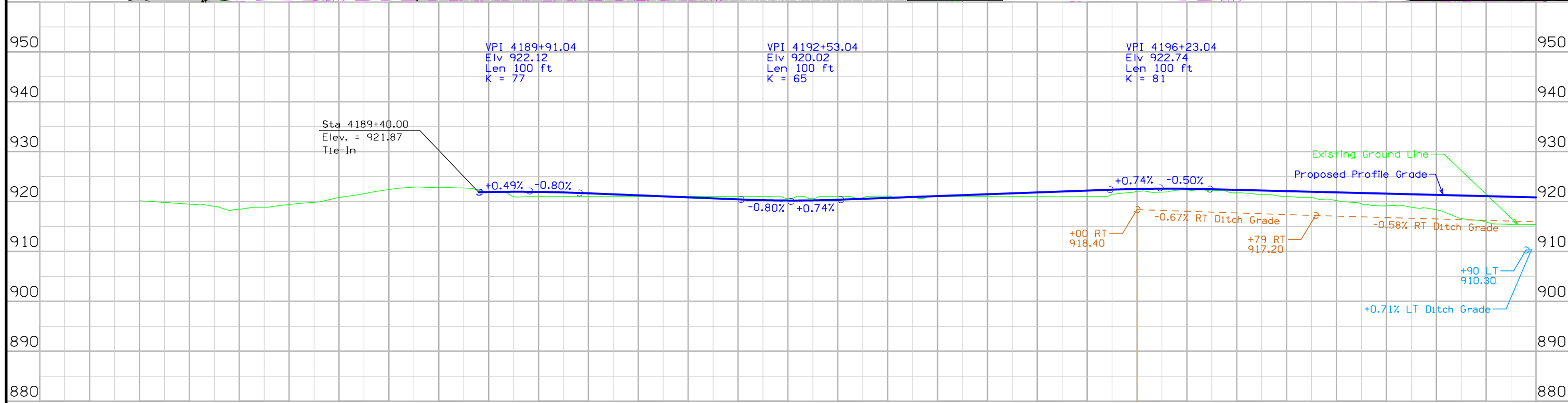
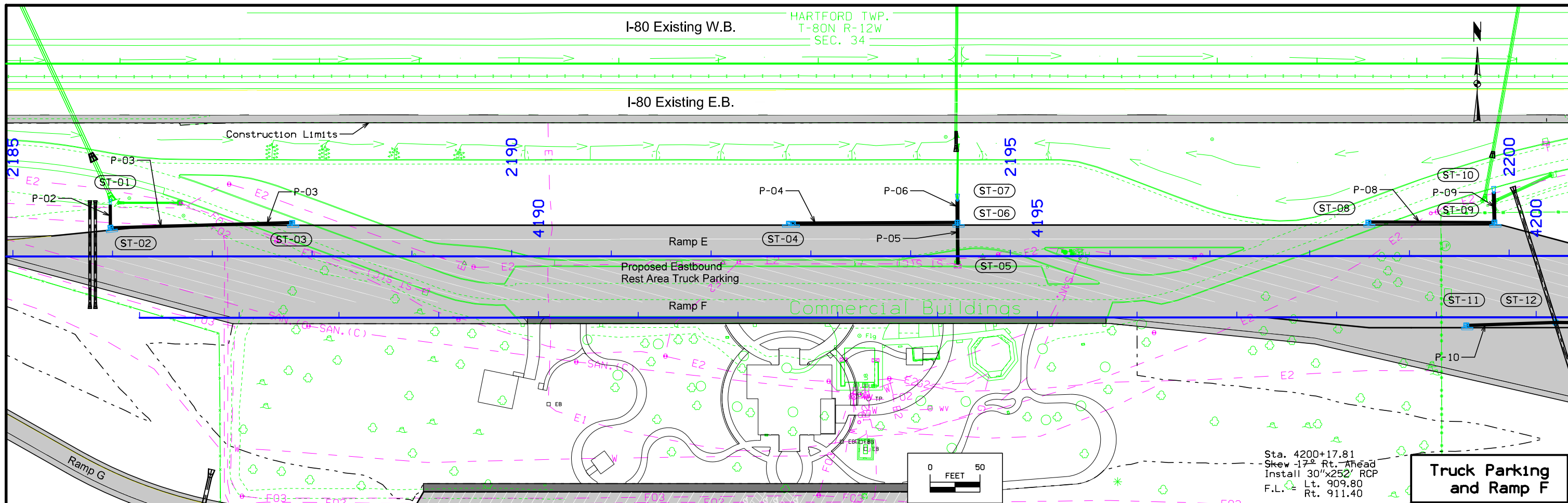
Geometric Plan  
 Proposed Interchange of  
 Interstate 80 with  
 Rest Area near Victor (EB)  
 Iowa County



Lt															Lt																																																																																																		
Rt															Rt																																																																																																		
Ditch Grade															Ditch Grade																																																																																																		
Ramp H Pavement															V-Ditch																																																																																																		
Refer to Mainline															Refer to Mainline																																																																																																		
925.24	925.29	925.53	925.44	926.07	926.77	930.10	927.02	930.19	927.39	930.26	927.91	930.28	928.43	930.26	928.70	930.20	928.99	930.10	929.96	929.78	929.84	929.56	929.93	929.30	929.63	929.04	929.12	928.78	928.99	928.51	929.01	928.25	928.92	927.99	928.68	927.72	928.12	927.46	927.74	927.19	927.68	926.93	927.59	926.67	926.40	926.30	926.14	927.04	925.87	925.93	925.61	926.99	925.35	925.59	925.08	925.33	924.82	924.82	924.56	925.94	924.29	926.05	924.03	926.06	923.76	926.06	923.50	926.46	923.24	925.94	922.97	925.68	922.71	925.37	922.45	924.84	922.18	924.16	921.92	923.67	923.13	921.65	921.39	921.68	921.13	922.12	920.86	921.66	920.98	920.33	920.89	920.07	920.51	919.81	920.28	919.54	920.17	919.28	920.26	919.05	920.05	918.91	919.99	918.87	920.07	918.93	919.88	919.05	919.14	919.17	918.78	919.30	918.55
2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187																																																																																																		

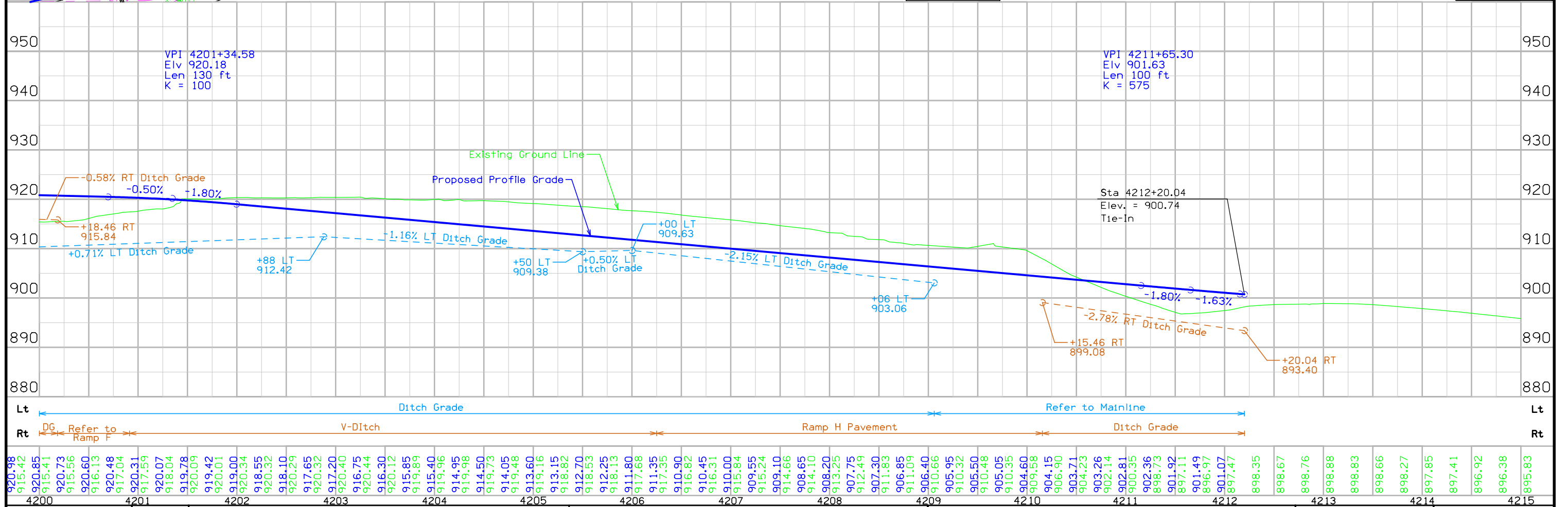
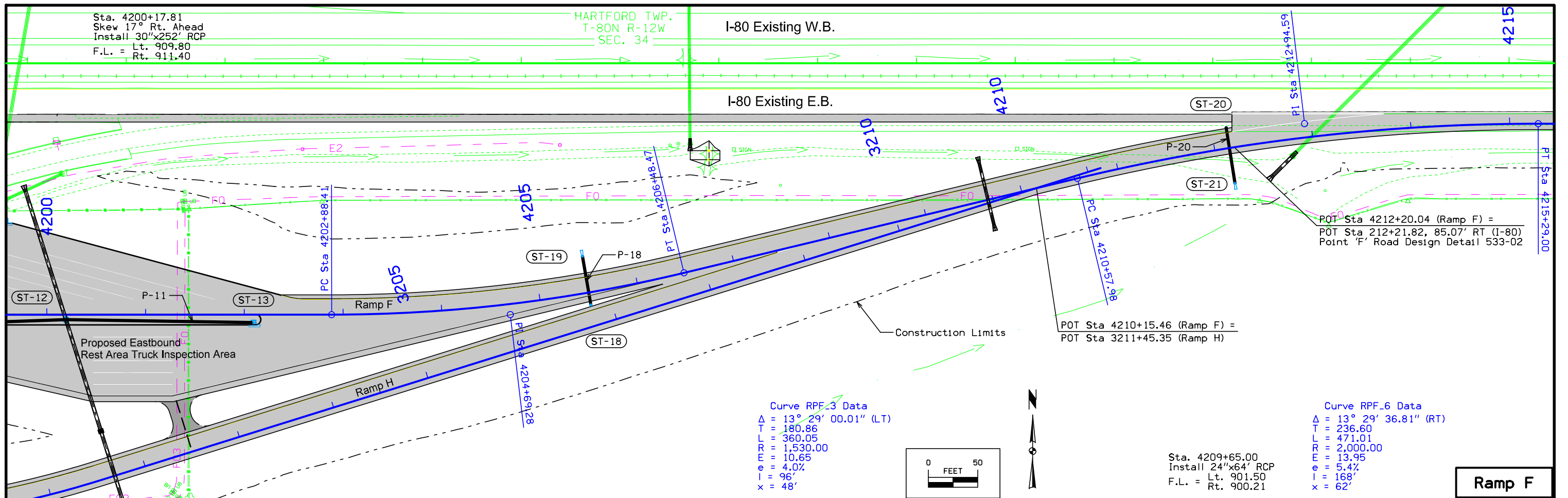


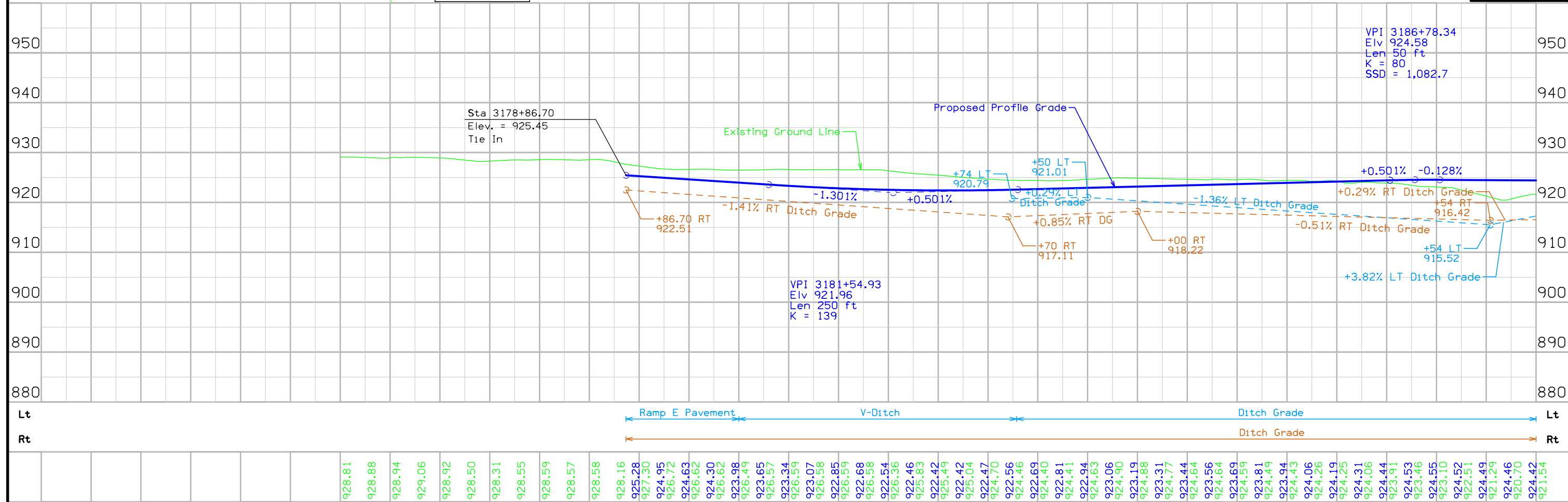
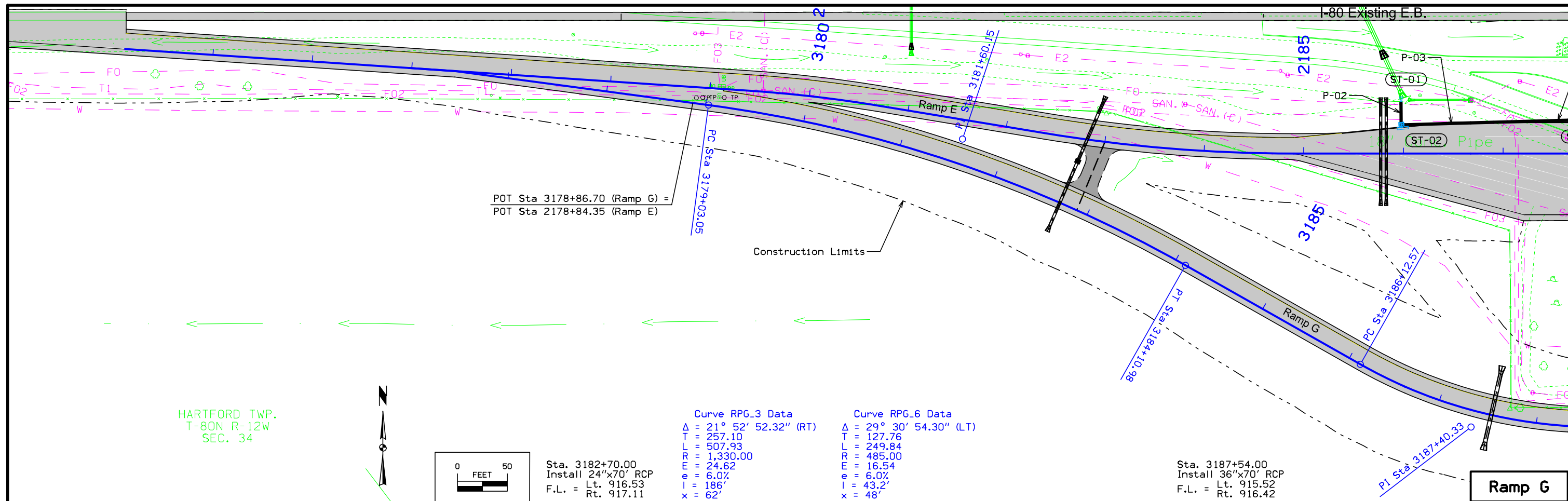
Lt	Refer to Mainline																				Lt																																																																																						
Rt	Rest Area (By others)																				Rt																																																																																						
919.17	918.78	919.30	918.55	919.42	918.05	919.55	918.75	919.67	919.39	919.80	921.11	919.92	920.56	920.05	920.74	920.17	920.70	920.30	921.12	920.42	921.34	920.55	921.20	920.67	920.78	920.73	920.42	920.71	920.61	919.91	919.43	919.83	919.23	919.74	919.06	919.77	918.99	919.79	919.01	919.81	919.12	919.31	919.82	919.49	919.81	919.67	919.78	919.86	920.19	920.04	920.37	920.22	920.55	920.41	920.32	920.59	920.77	919.90	920.96	920.42	921.14	920.62	921.29	920.55	921.35	920.55	921.34	920.50	921.26	919.96	921.13	919.36	921.01	919.05	920.88	918.52	920.76	918.78	920.63	919.58	920.51	919.86	920.38	919.21	920.26	917.86	920.13	917.18	920.01	915.63	919.88	915.18	919.76	914.76	919.63	914.55	919.51	915.19	919.38	915.57	919.26	916.22	916.98	917.84	919.78	919.59	919.44
2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202																																																																																												

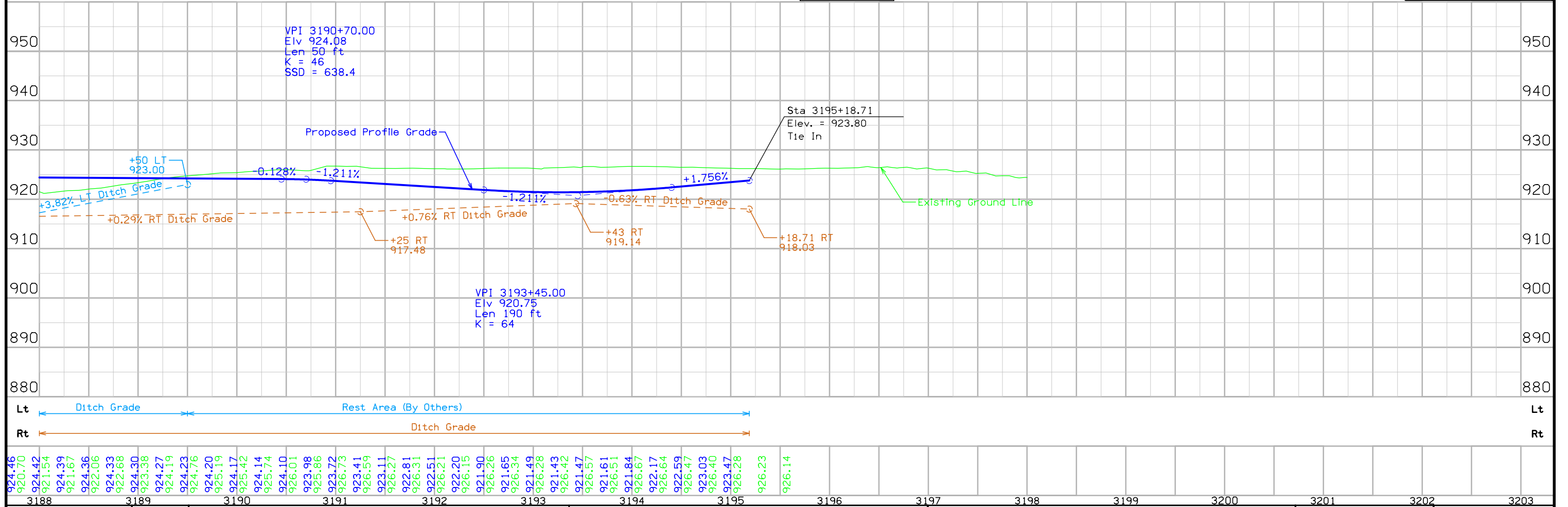
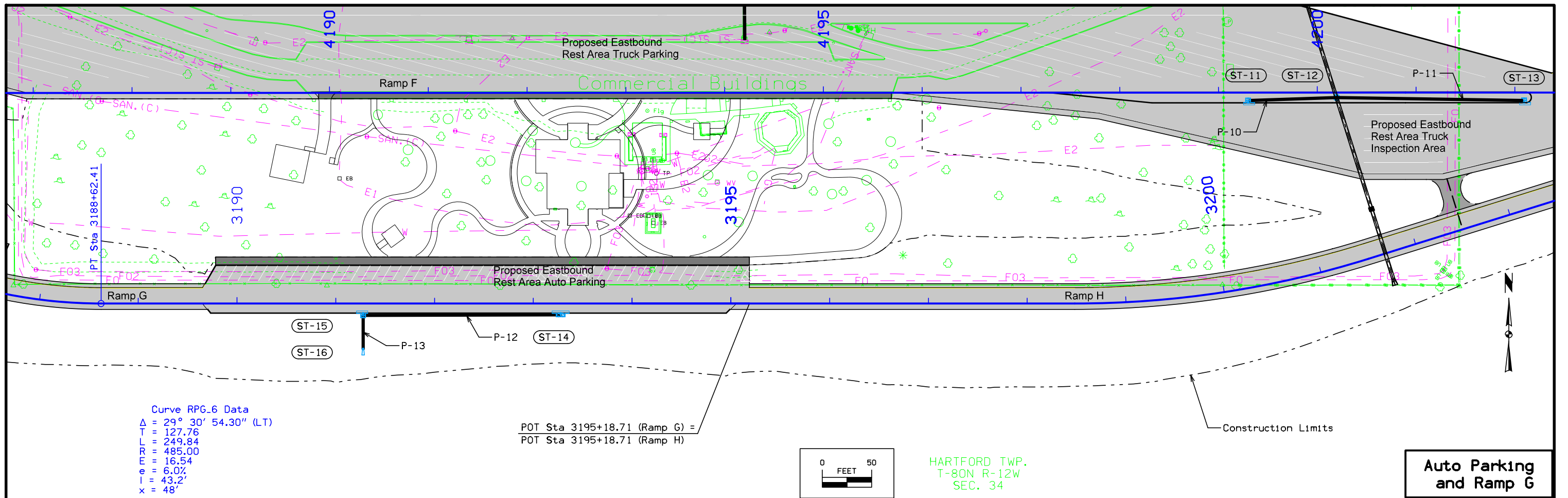


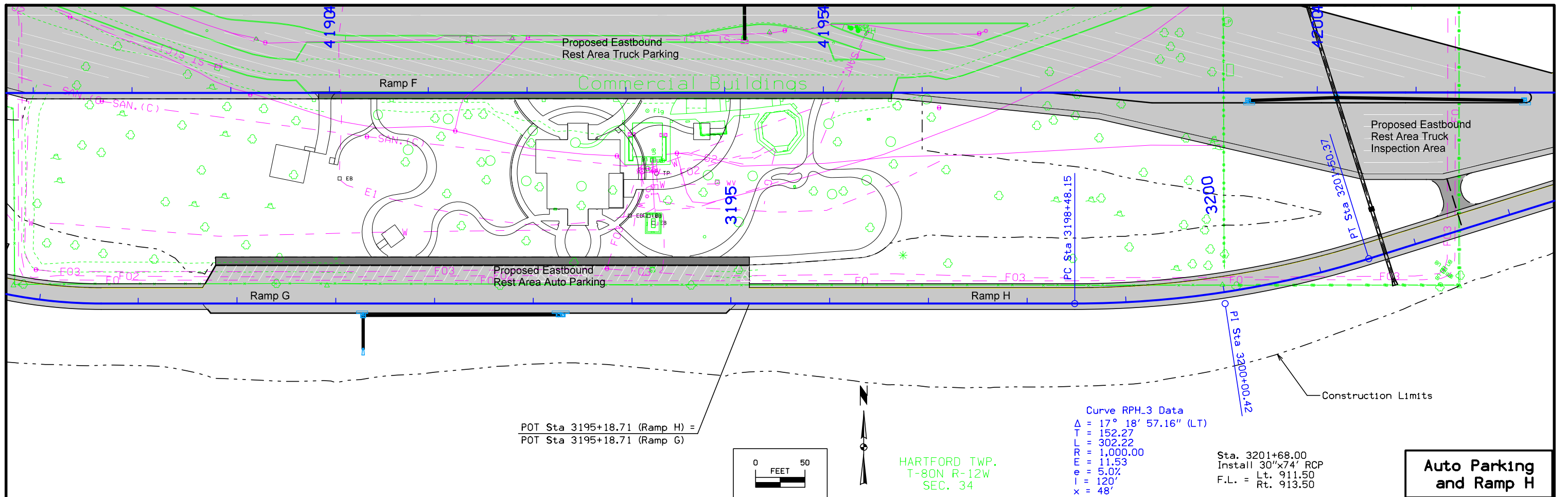
Lt	Refer to Mainline																				Lt																																																																											
Rt	Rest Area (By Others)										Ditch Grade										Rt																																																																											
	920.18	919.82	919.49	919.03	918.48	918.86	919.41	919.84	920.85	921.57	922.41	922.89	922.78	922.72	921.91	921.95	921.97	921.01	921.94	921.01	921.83	921.05	921.06	921.45	921.07	921.25	921.04	921.05	921.02	920.85	920.65	921.03	920.45	921.04	920.28	921.04	920.62	920.24	920.60	920.37	921.06	920.55	920.76	920.73	921.09	920.92	921.08	921.10	921.03	921.28	921.06	921.47	921.02	921.65	920.99	921.84	921.00	922.02	920.97	922.20	921.01	922.39	921.45	922.53	922.07	922.59	921.90	922.57	922.40	922.48	922.35	922.75	922.23	921.38	922.10	921.02	921.98	920.84	921.85	920.21	921.73	919.52	921.60	919.15	921.48	918.85	921.35	918.35	921.23	916.61	921.10	915.90	920.98	915.42	920.85	915.41



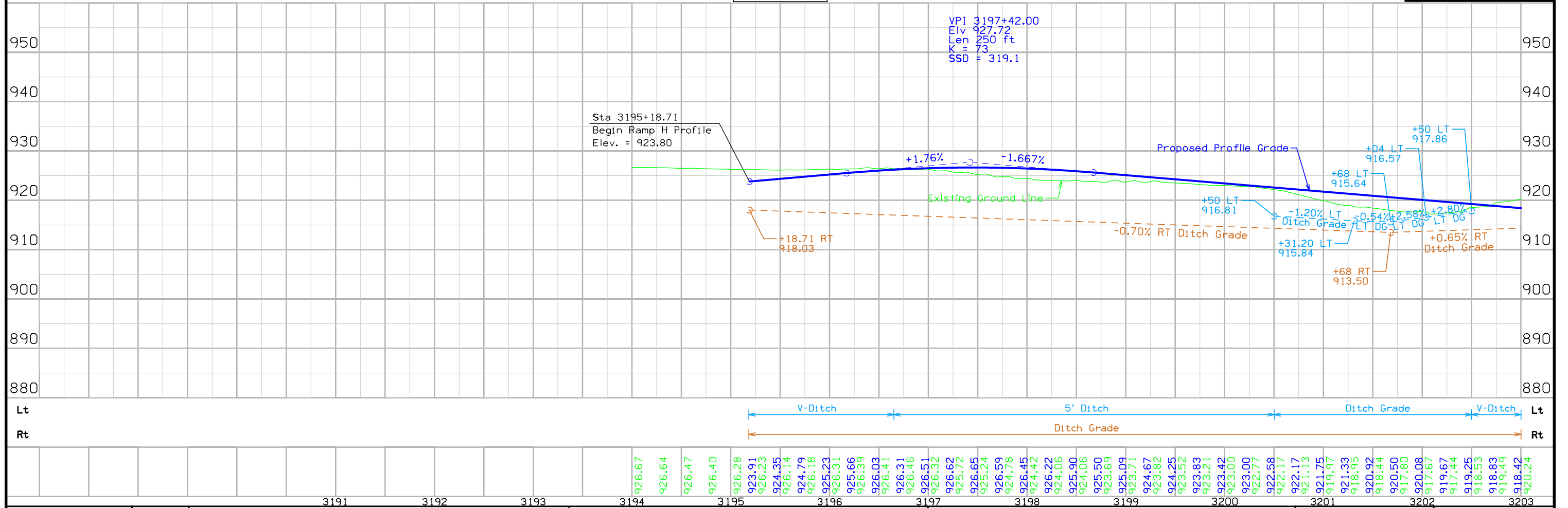


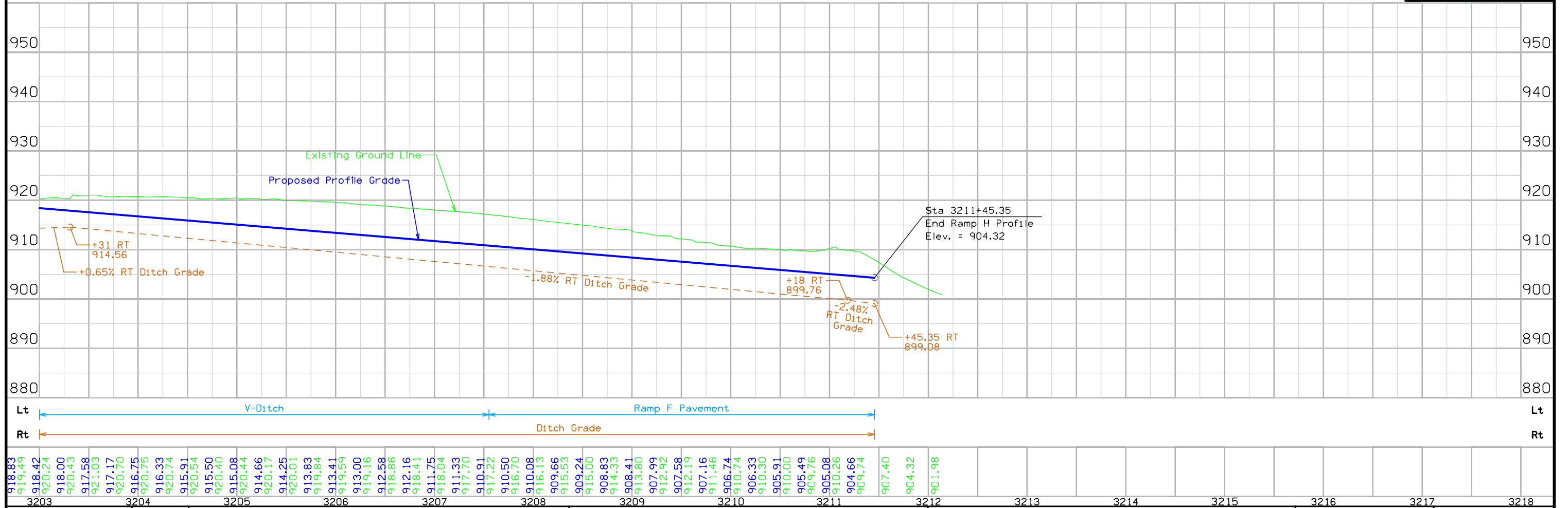
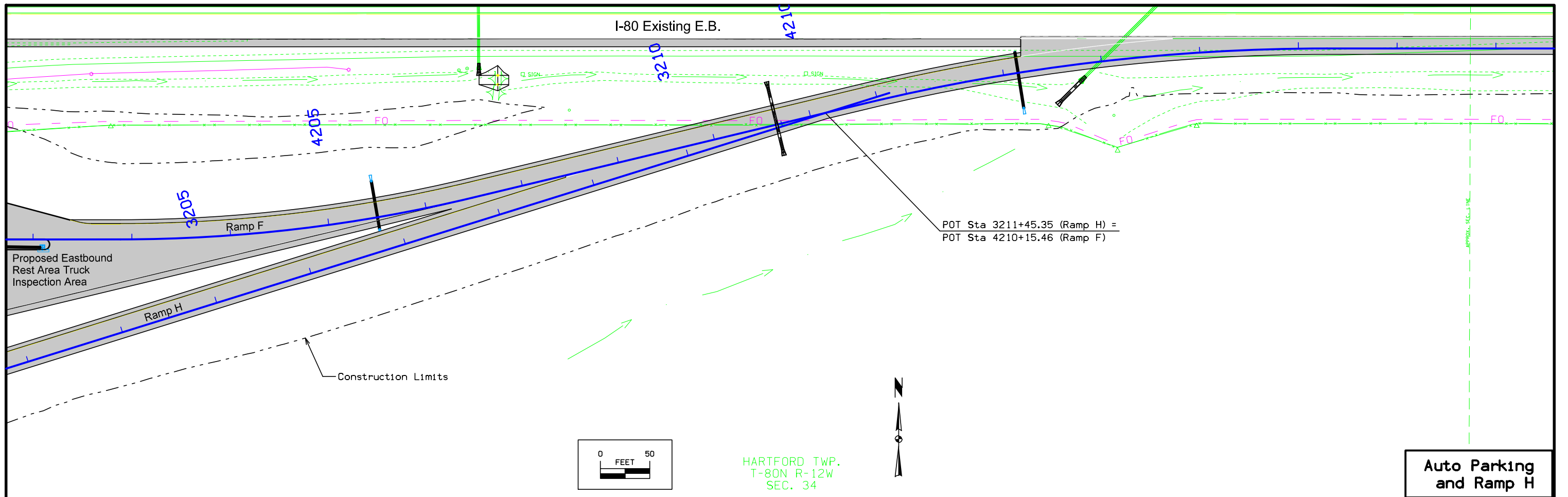






**Auto Parking  
and Ramp H**





FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER AND ASSOCIATES, INC.</b>	IOWA COUNTY	PROJECT NUMBER	<b>IMN-080-6(483)208--0E-48</b>	SHEET NUMBER	<b>K.10</b>
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① Diameter or equivalent diameter

\* Bid Item

\*\* For SW-545

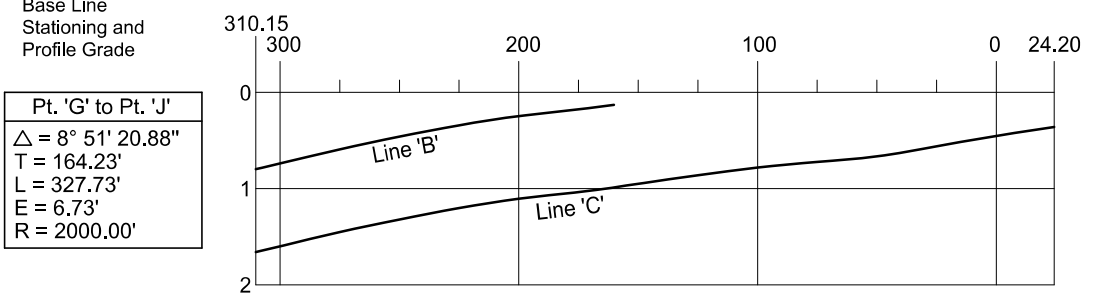
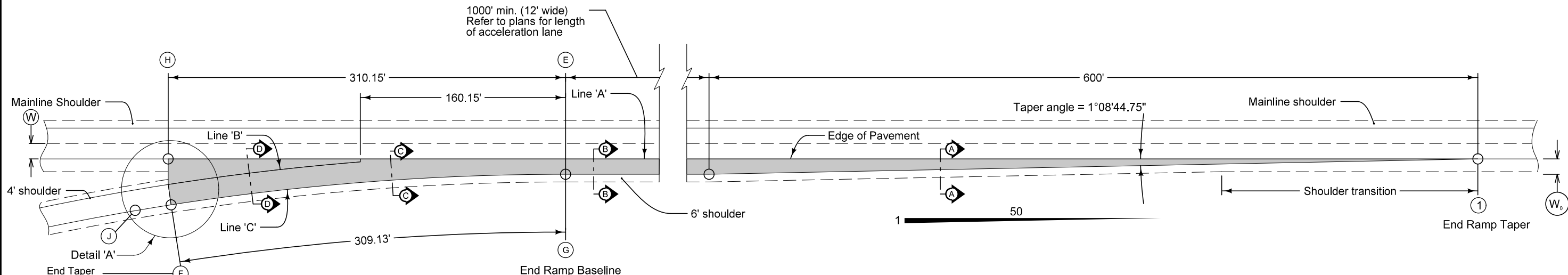
### STORM SEWER

#### INTAKES AND UTILITY ACCESSES

#### PIPES

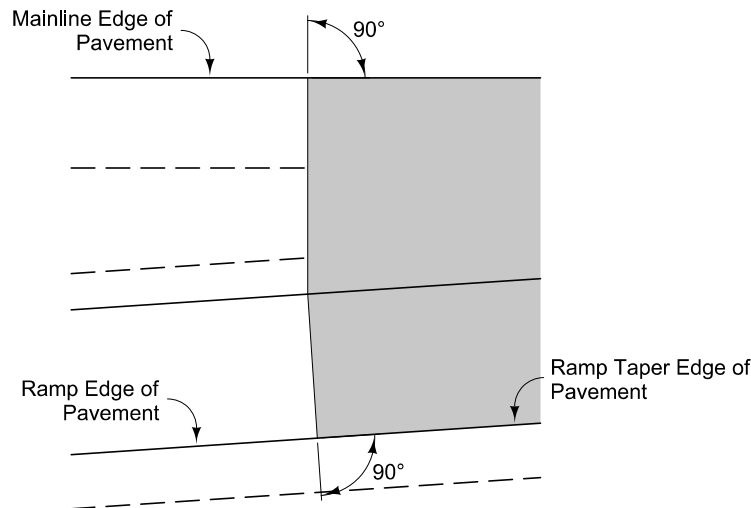
Design Length, Slope, and Flowlines are calculated from center to center of structures.

No.	Location Station and Offset	*Type or Standard Road Plan	Form	Bottom	Ext.	Notes	Line Number	Intake/Utility Access No.		Class 'D'	Pipe	Bid* Length	Design Length	Slope %	Connected Pipe Joint (DR-121)	Flow Lines			Pipe Profile Sheet No.	Notes
			Grade	Well	Length**			Size	Inlet		Outlet					Other				
			Elev.	Elev.	FT			IN	FT		FT					Elevation	Elevation	Elevation		
ST-01	2185+97.76, -56.881	DR-201 (15")	914.43			Loc sta=end pipe	2	ST-01	ST-02	2000	15	20	20.0	0.50%		915.13	915.03			
ST-02	2185+98.35, -26.439	SW-508	918.33	914.63			3	ST-02	ST-03	2000	15	182	182.0	0.50%		915.33	916.55			
ST-03	2187+80.01, -31.50	SW-508	918.00	916.05			4	ST-04	ST-06	2000	15	167	167.0	0.50%		915.55	914.72			
ST-04	2191+80.00, -31.50	SW-508	918.35	915.05			5	ST-05	ST-06	2000	18	47	46.4	0.43%		914.90	914.72			
ST-05	2194+47.30, 7.379	Concrete Collar				Loc sta=end pipe	6	ST-06	ST-07	2000	24	22	22.0	0.50%		914.62	914.51			Field Verify EX
ST-06	2194+47.00, -31.50	SW-508	919.39	914.12			8	ST-08	ST-09	2000	15	196	196.0	1.00%		916.93	915.69			
ST-07	2195+43.00, -32.13	SW-508	914.48			Loc sta=end pipe	9	ST-09	ST-10	2000	15	238	238.0	1.00%		915.69	915.13			
ST-08	2197+43.17, -31.50	SW-508	919.93	916.93			10	ST-11	ST-12	2000	15	90	90.0	1.00%		916.14	915.24			
ST-09	2199+89.20, -31.50	SW-508	919.20	914.99			11	ST-13	ST-12	2000	15	190	190.0	1.00%		914.66	912.76			
ST-10	2199+84.70, -69.630	DR-201(24")	915.13			Loc sta=end pipe	12	ST-14	ST-15	2000	15	200	200.0	0.50%		918.79	917.79			
ST-11	4199+30.00, 10.5' RT	SW-508	919.64	915.64			13	ST-15	ST-16	2000	15	34	34.0	0.50%		917.69	917.52			
ST-12	4200+19.50, 5.0' RT	SW-401 (60")	921.05	912.47																
ST-13	4202+09.00, 10.0' RT	SW-508	918.66	916.15																
ST-14	3193+28, 10.0' RT	SW-510	921.23	918.29																
ST-15	3191+28, 10.0' RT	SW-508	923.18	917.19																
ST-16	3191+20.90, 52.1' RT	DR-201 (15")	917.49			Loc sta=end pipe														
ST-17	3201+68.00, 45.8' LT	SW-511	915.63	910.90			18	ST-18	ST-19	2000	15	50	56.1	0.59%		909.71	909.38			
ST-18	4205+50.00, 12.8' RT	SW-512	912.12																	
ST-19	4205+50.00, 43.3' LT	DR-201 (15")	909.38																	
ST-20	4212+15.00, 21.0' LT	SW-512	901.30	893.89			20	ST-20	ST-21	2000	15	50	56.1	1.52%		894.39	893.54			
ST-21	4212+15.00, 36.0' RT	DR-201 (15")	893.54																	
ST-22	3182+70.00, 46.4' LT	SW-511	920.80	916.05																



NOTE: The algebraic difference between ramp profile grade at point (F) and relative profile grade of mainline at point (H) is 0.62%

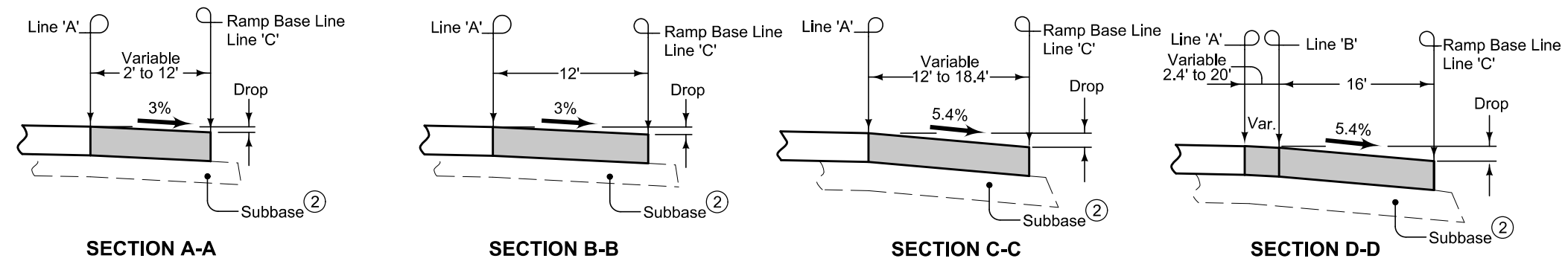
W <sub>0</sub>	Shoulder Width beyond Edge of Mainline Pavement		
	8'	10'	12'
12'	NA	100'	150'



		DISTANCE FROM POINT (E) ALONG LINE 'A' (Ft.)																		
		310.15	300	275	250	225	204	200	175	160.15	150	125	100	75	50	25	0	24.2		
From Line 'A' To Line 'B'	OFFSET (Ft.)	20.00	18.45	14.84	11.56	8.60	6.30	5.95	3.61	2.37										
	SLOPE (%)	← Constant 4.0% Slope →										4.11	4.92	5.40						
	DROP (Ft.)	0.80	0.74	0.59	0.46	0.34	0.25	0.24	0.18	0.13										
From Line 'B' To Line 'C'	OFFSET (Ft.)	← Constant 16' Offset →																		
	SLOPE (%)	← Constant 5.4% Slope →																		
	DROP (Ft.)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86										
From Line 'A' To Line 'C'	OFFSET (Ft.)										17.63	15.91	14.50	13.41	12.63	12.16	12.00	12.00		
	SLOPE (%)										5.40	5.40	5.40	5.40	5.40	4.59	3.78	3.00		
	DROP (Ft.)	1.66	1.60	1.45	1.32	1.20	1.11	1.10	1.04	0.99	0.95	0.86	0.78	0.72	0.68	0.56	0.45	0.36		
DISTANCE FROM POINT (G) ALONG LINE 'C' (Ft.)		309.13	298.73	273.67	248.66	223.68	202.73	198.74	173.83	159.04	150.14	125.08	100.04	75.02	50.01	25.00	0.00			

DETAIL A

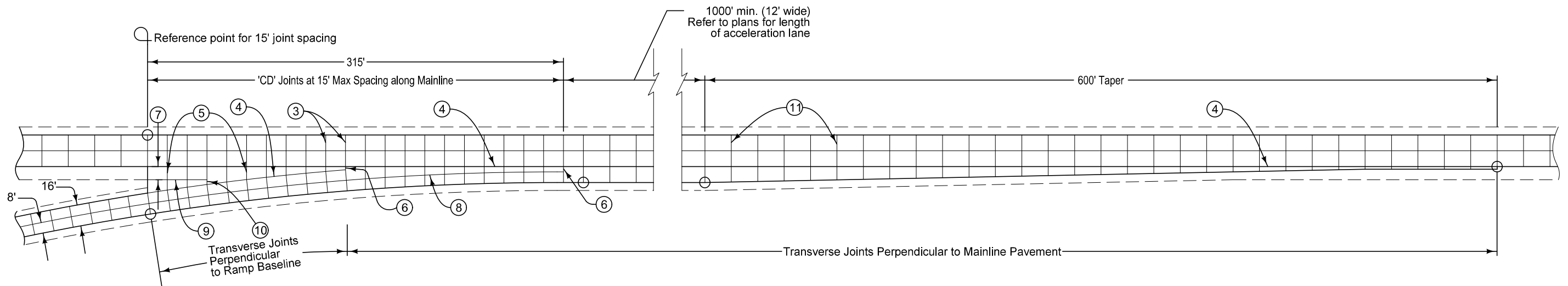
- Construct ramp exit pavement the same thickness as mainline pavement.
- For joint detail, see PV-101.
- ① For header construction detail at the end of taper, see Typical 7101 or Typical 7102.
- ② Construct subbase for ramp exit pavement the same thickness as mainline subbase.



 <b>ROAD DESIGN DETAIL</b>	REVISION
	3   04-20-21
	<b>533-02</b>
SHEET 1 of 2	

REVISIONS: Added Point J and Ramp Profile note.

**PARALLEL ACCELERATION TAPER  
FOR 16' RAMP  
(60 MPH DESIGN SPEED)**



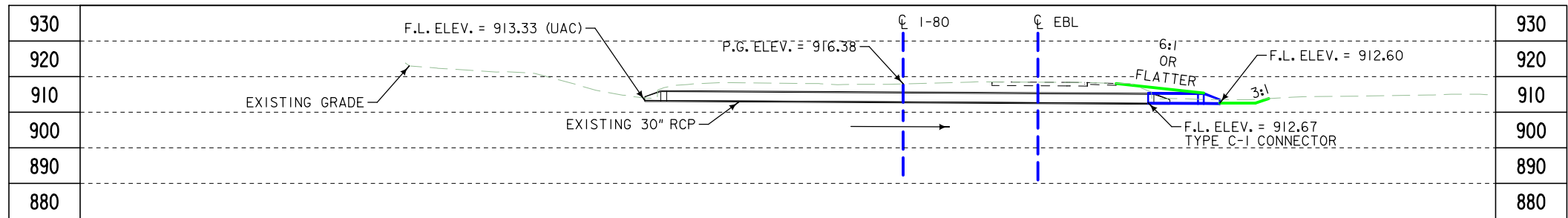
- ③ 'CD' Joints at 15' spacing.
- ④ 'BT-2' or 'KT-2' Joint.
- ⑤ 'C' Joint.
- ⑥ 'B' Joint. 2' minimum, 4' maximum.
- ⑦ 10' minimum or equal to mainline shoulder width.
- ⑧ 'L-2' Joint.
- ⑨ 'C' Joint parallel to mainline pavement.
- ⑩ 'B' or 'C' Joint. 2' minimum, 4' maximum.
- ⑪ 'CD' Joints at 17' spacing.

<b>IOWADOT</b>	REVISION	
	3	04-20-21
<b>ROAD DESIGN DETAIL</b>		<b>533-02</b>
		SHEET 2 of 2

REVISIONS: Added Point J and Ramp Profile note.

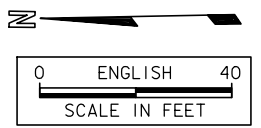
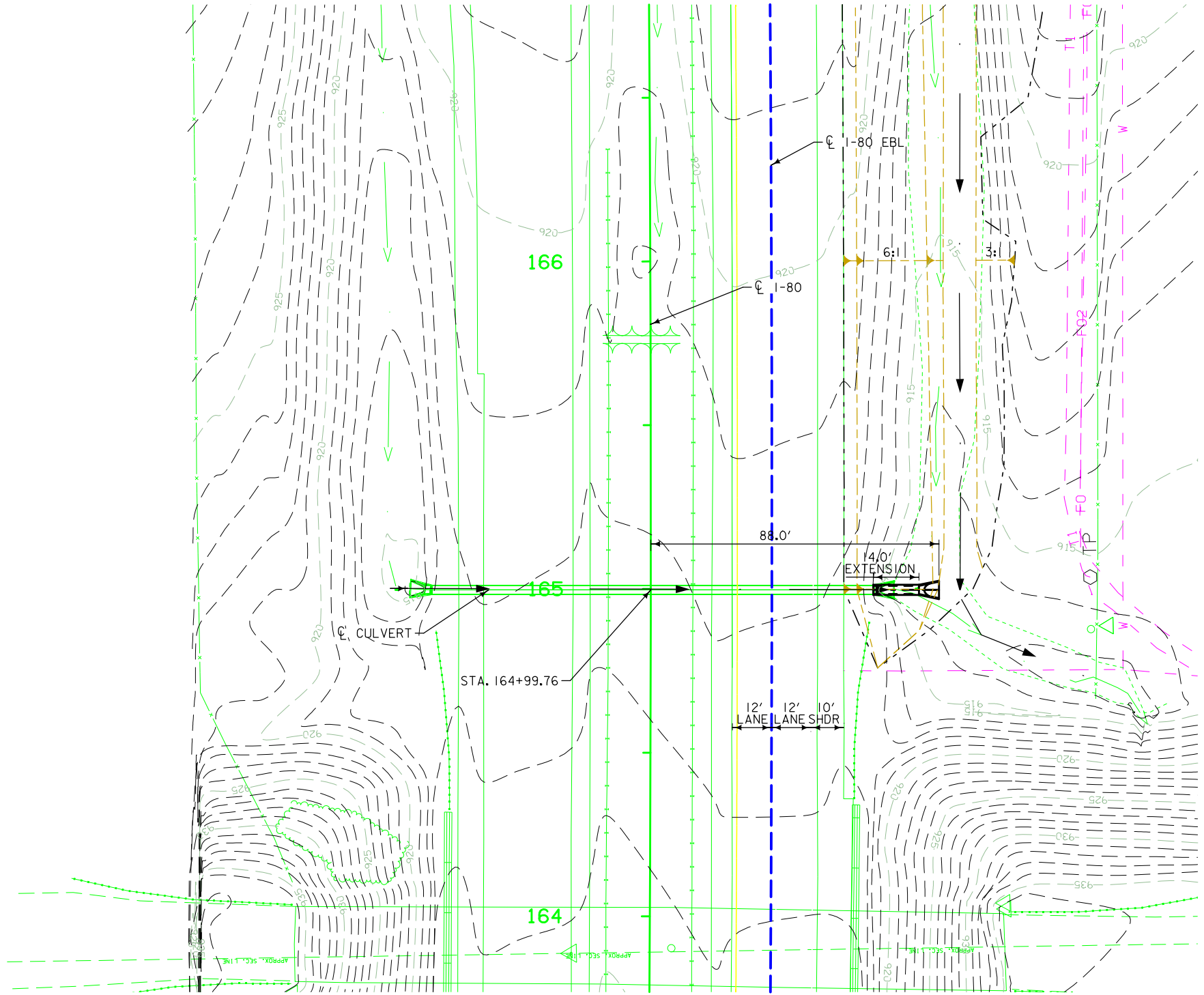
**PARALLEL ACCELERATION TAPER  
FOR 16' RAMP  
(60 MPH DESIGN SPEED)**





BM506  
 Sta 192+04.43 out 199.95 Rt  
 YC7950190.423 XC20345940.165  
 Elev= 922.406  
 Description: SET MAG NAIL S SIDE LU

LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



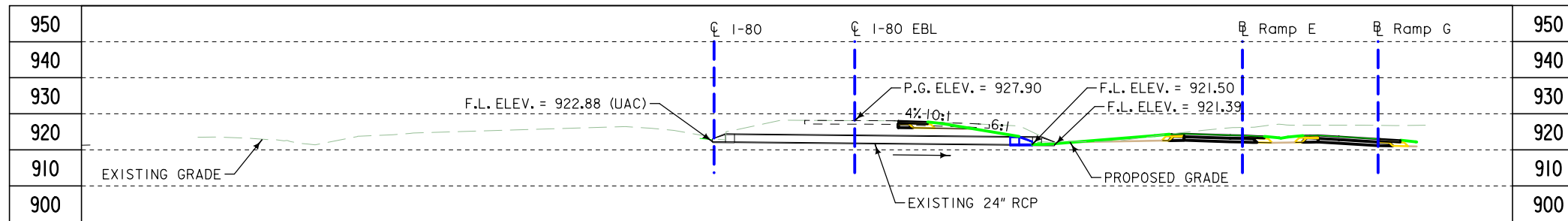
UTILITIES LEGEND:  
 REFER TO D.1

HYDRAULIC DATA  
 DRAINAGE AREA = 5.0 ACRES ROLLING

LOCATION  
 T-80N R-12W  
 SECTION 34  
 HARTFORD TOWNSHIP  
 IOWA COUNTY

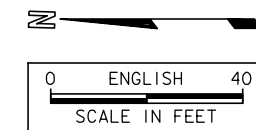
DESIGN FOR 0° SKEW  
**30" X 14'**  
**REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 164+99.76 04/30/21  
**IOWA COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_\_\_

PLAT PLAN



LONGITUDINAL SECTION ALONG  $\varnothing$  CULVERT

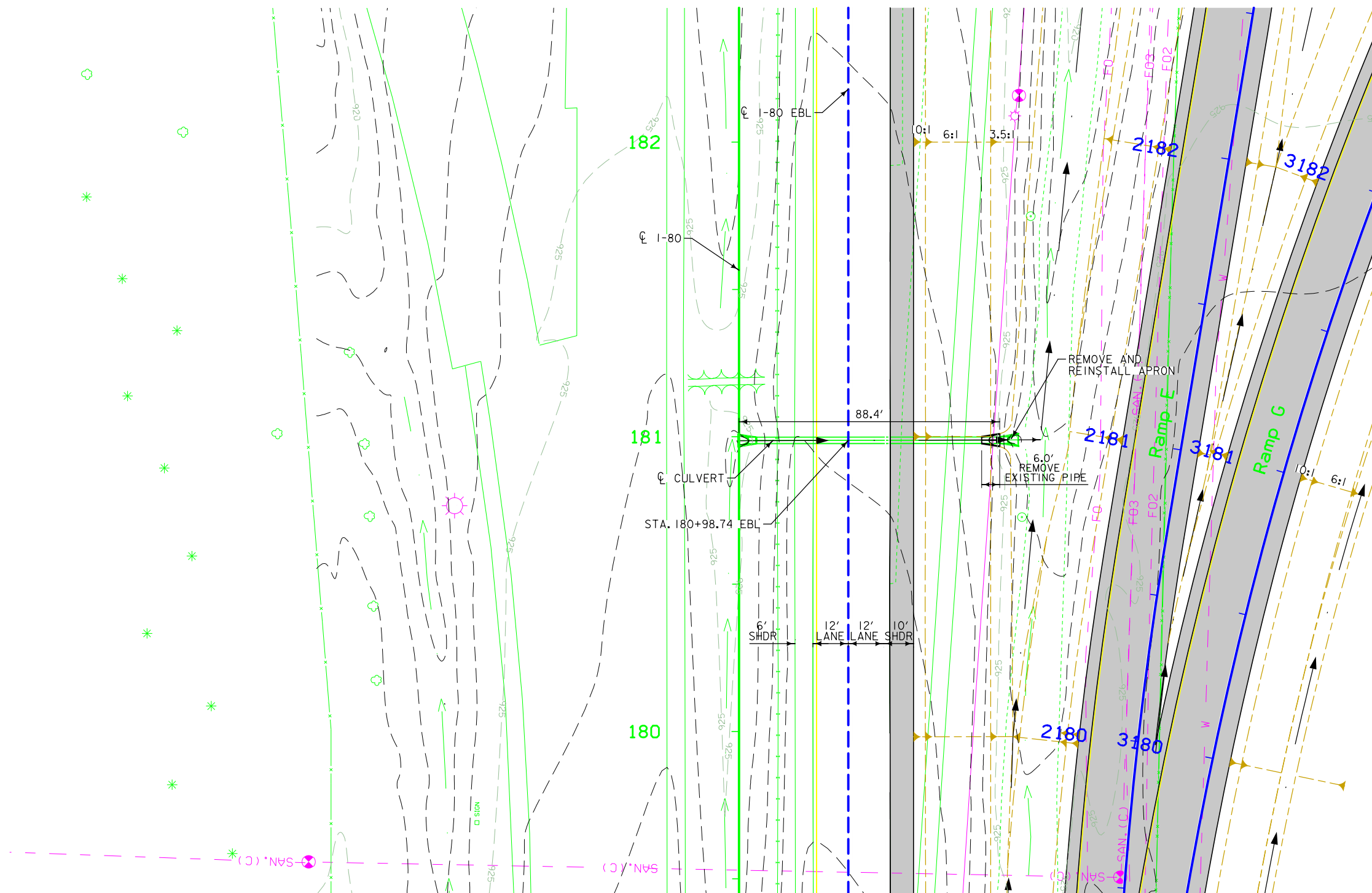
BM502  
Sta. 164+88.96 out 139.74 Rt  
Elev = 928.432



UTILITIES LEGEND:  
REFER TO D.1

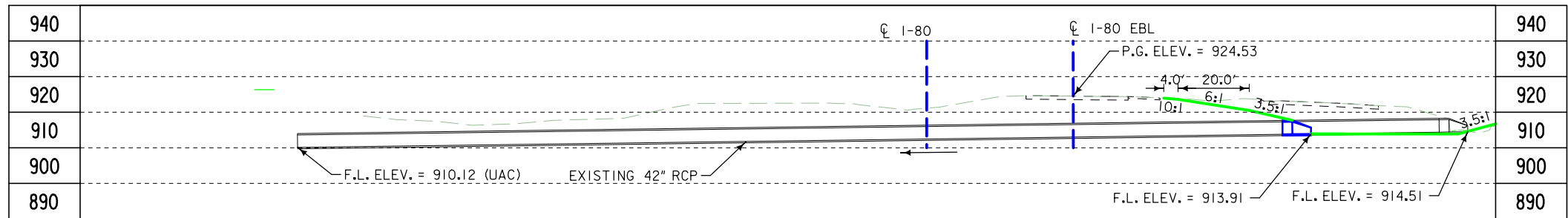
LOCATION

T-80N R-12W  
SECTION 34  
HARTFORD TOWNSHIP  
IOWA COUNTY



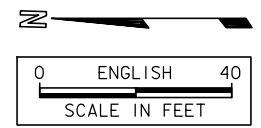
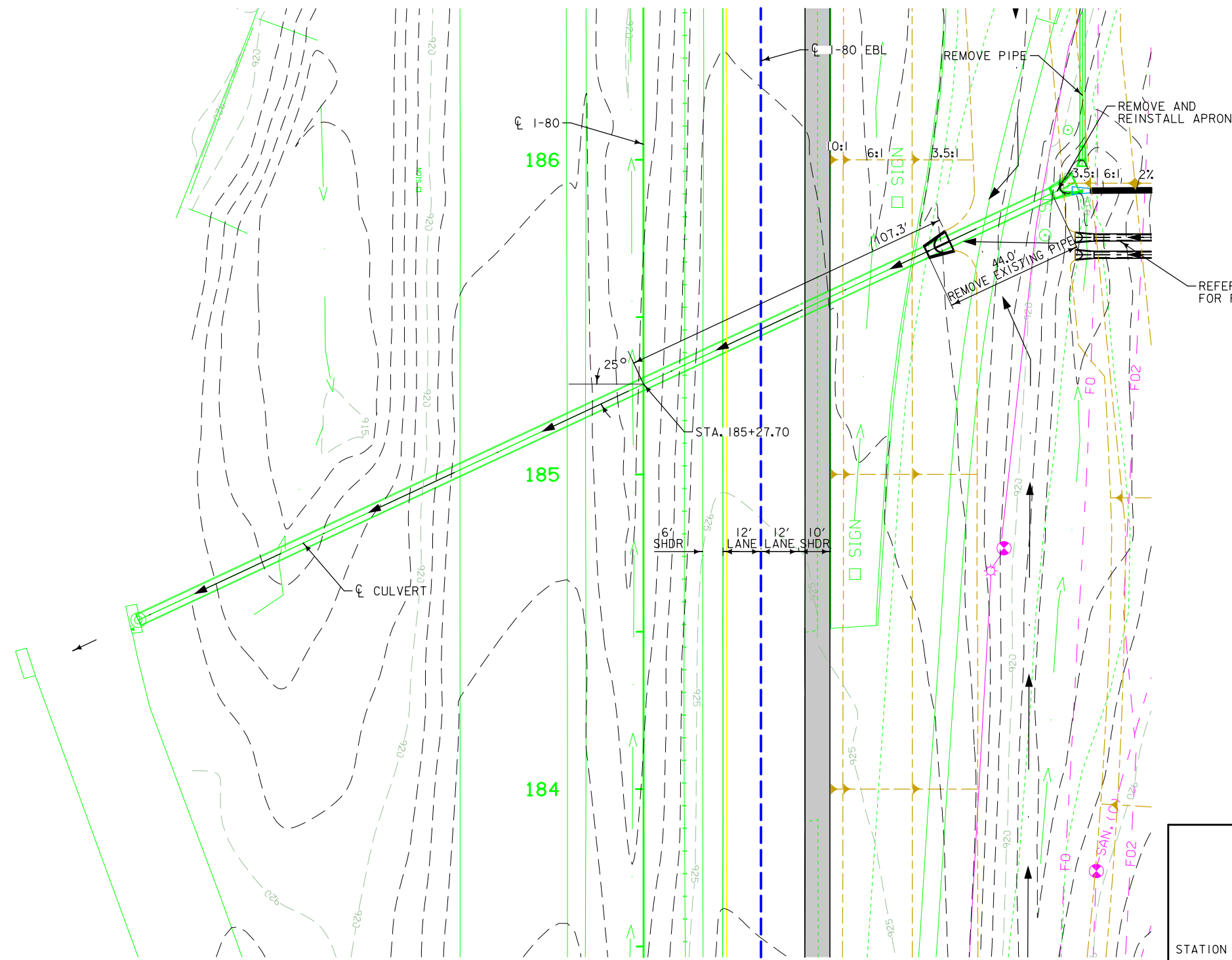
PLAT PLAN

DESIGN FOR 0° SKEW  
24" X -6'  
REINFORCED CONCRETE  
PIPE EXTENSION  
PLAT PLAN  
STATION 180+98.74 EBL 04/30/21  
IOWA COUNTY  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_



BM506  
 Sta 192+04.43 out 199.95 Rt  
 YC7950190.423 XC20345940.165  
 Elev= 922.406  
 Description: SET MAG NAIL S SIDE LU

LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



REFER TO SHEET V.15  
 FOR PIPE INFORMATION

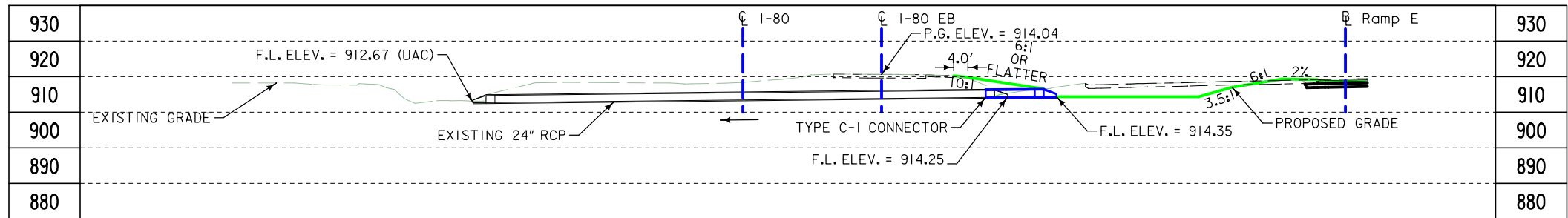
**UTILITIES LEGEND:**  
 REFER TO D.1

**HYDRAULIC DATA**  
 DRAINAGE AREA = 32.0 ACRES ROLLING

**LOCATION**  
 T-80N R-12W  
 SECTION 34  
 HARTFORD TOWNSHIP  
 IOWA COUNTY

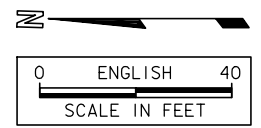
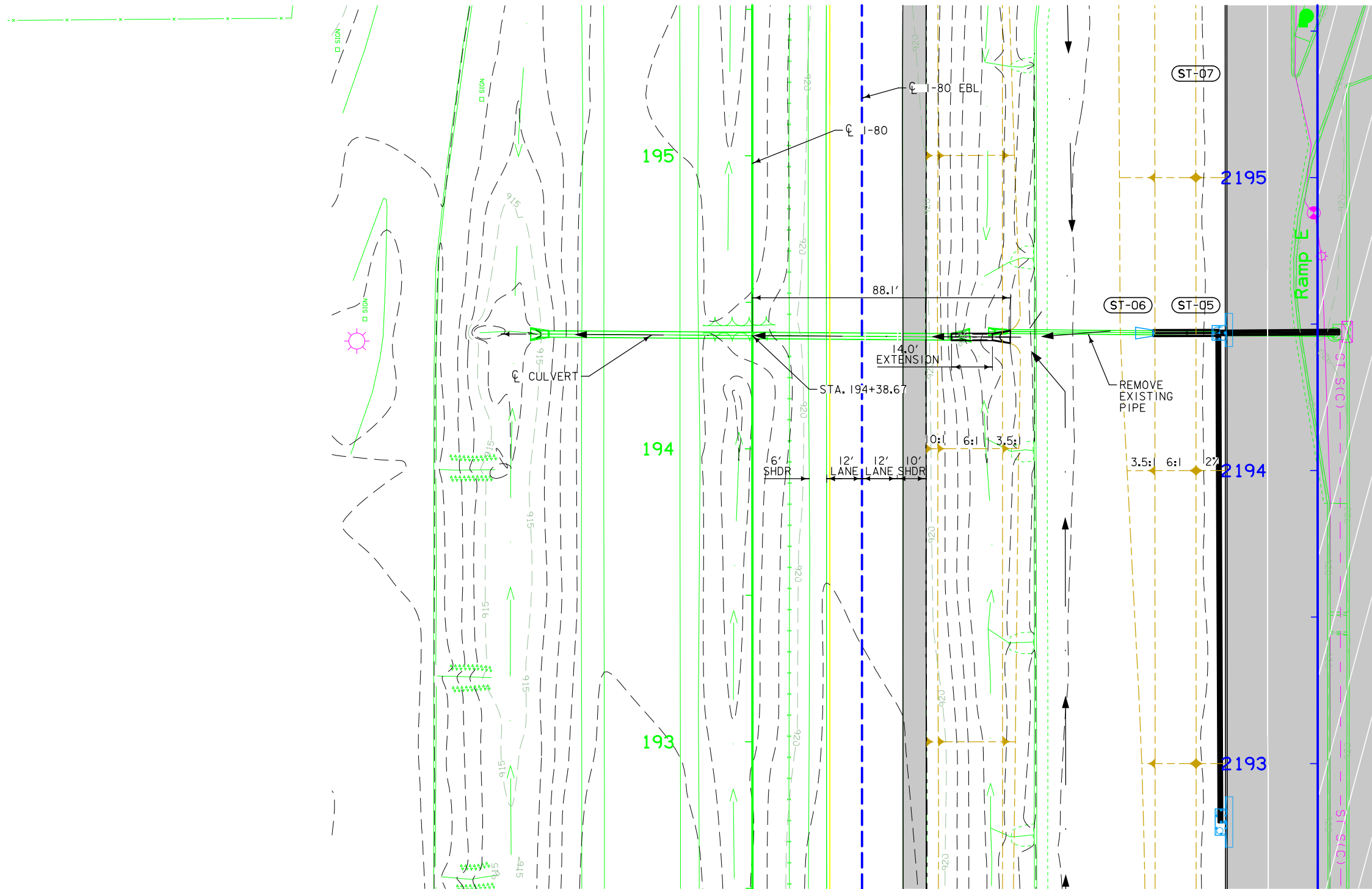
DESIGN FOR 25° SKEW RT AHEAD  
**42" X -44'**  
**REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 185+27.70 04/30/21  
**IOWA COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_\_\_

PLAT PLAN



BM502  
 Sta 164+88.96 out 139.74 Rt  
 YC7950250.007 XC20343677.380  
 Elev= 928.432  
 Description: CUT X ON ROW RAIL

LONGITUDINAL SECTION ALONG  $\phi$  CULVERT

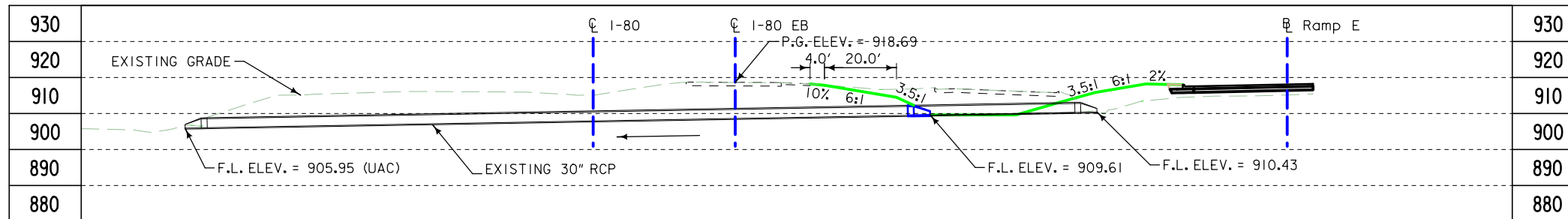


UTILITIES LEGEND:  
 REFER TO D.1

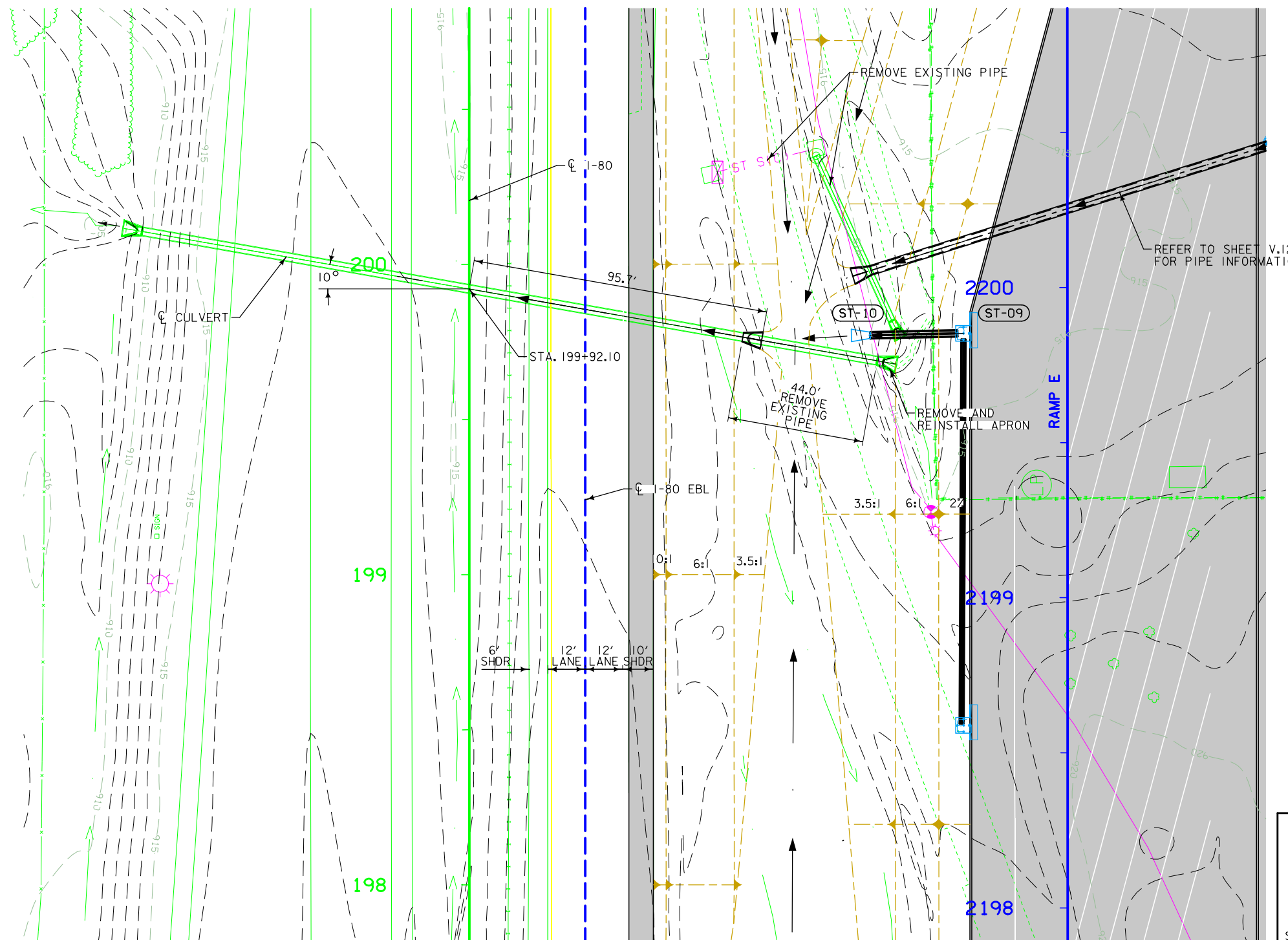
HYDRAULIC DATA  
 DRAINAGE AREA = 4.0 ACRES ROLLING

LOCATION  
 T-80N R-12W  
 SECTION 34  
 HARTFORD TOWNSHIP  
 IOWA COUNTY

DESIGN FOR 0° SKEW  
**24" X 14'**  
**REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 194+38.67 04/30/21  
**IOWA COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_

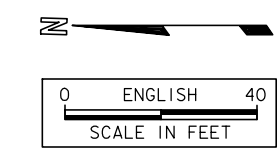


LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

BM508  
Sta 201+63.63 out 147.82 Rt  
YC7950242.703 XC20346899.362  
Elev= 920.634  
Description: CUT X ON ROW RAIL

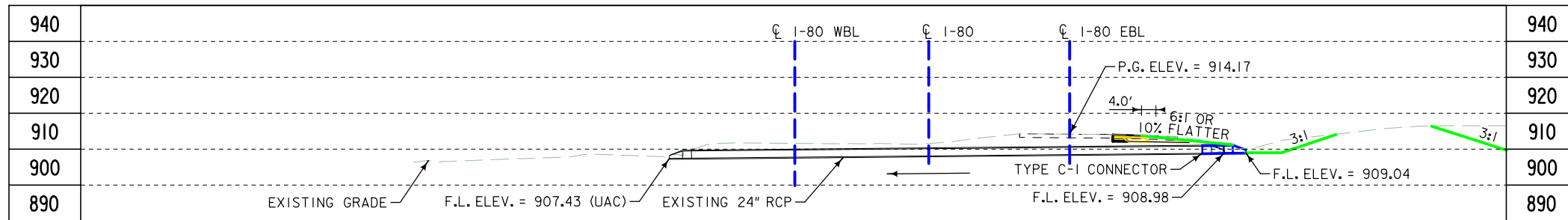


UTILITIES LEGEND:  
REFER TO D.I

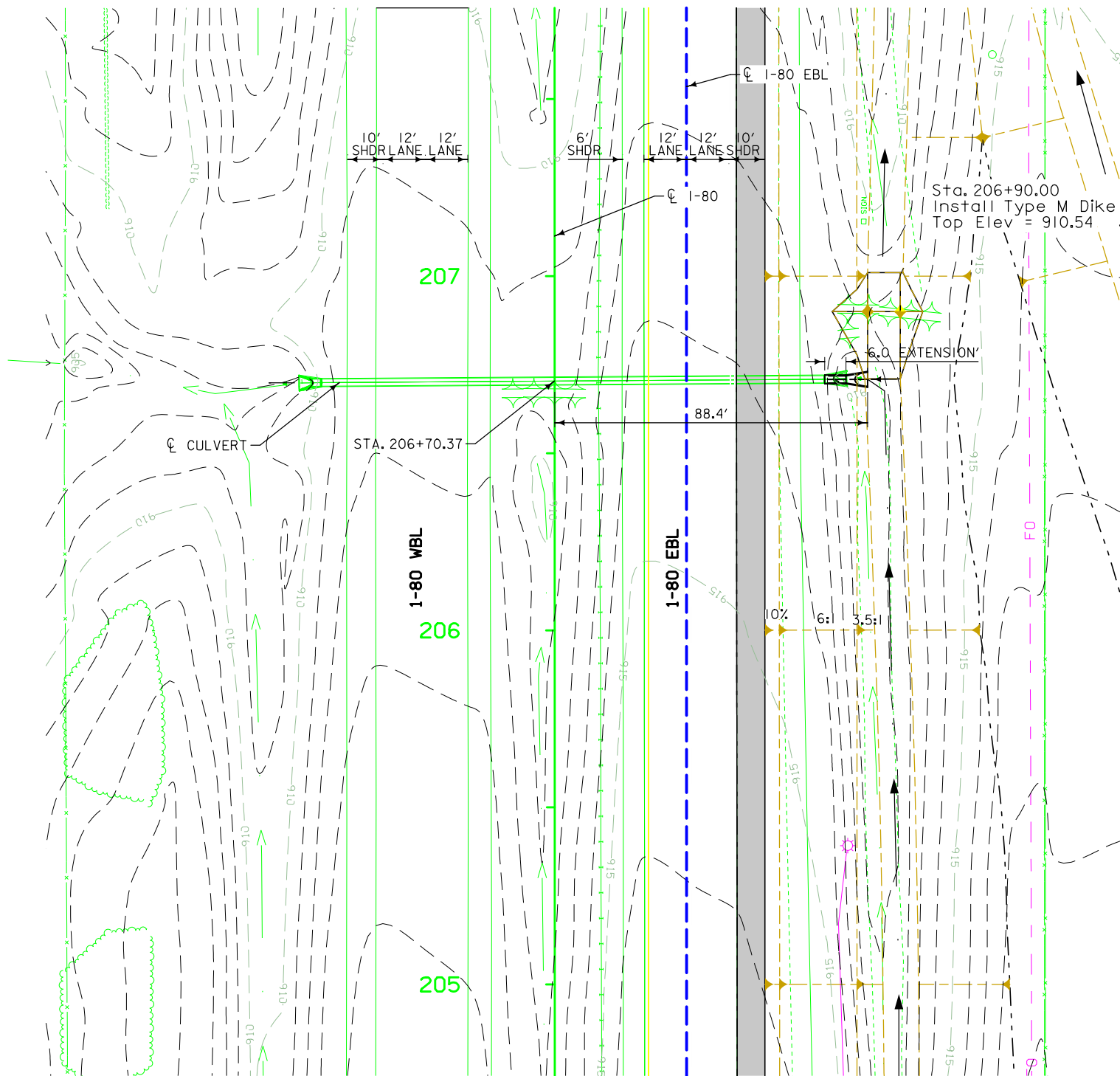
HYDRAULIC DATA  
DRAINAGE AREA = 8.0 ACRES ROLLING

LOCATION  
T-80N R-12W  
SECTION 34  
HARTFORD TOWNSHIP  
IOWA COUNTY

DESIGN FOR 10° SKEW LT AHEAD  
**30" X -44'**  
**REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
STATION 199+92.10 04/30/21  
**IOWA COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_\_\_

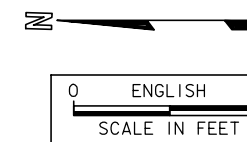


LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

BM508  
Sta 201+63.63 out 147.82  
R+ YC7950242.703 XC20346899.362  
Elev= 920.634  
Description: CUT X ON ROW RAIL

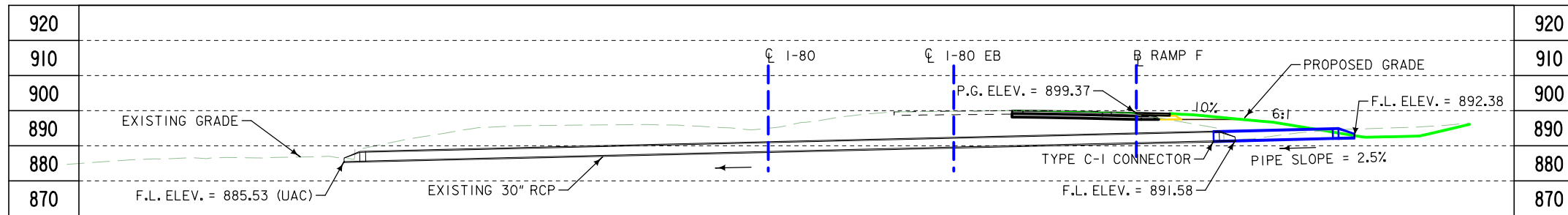


UTILITIES LEGEND:  
REFER TO D.1

HYDRAULIC DATA  
DRAINAGE AREA = 2.0 ACRES ROLLING

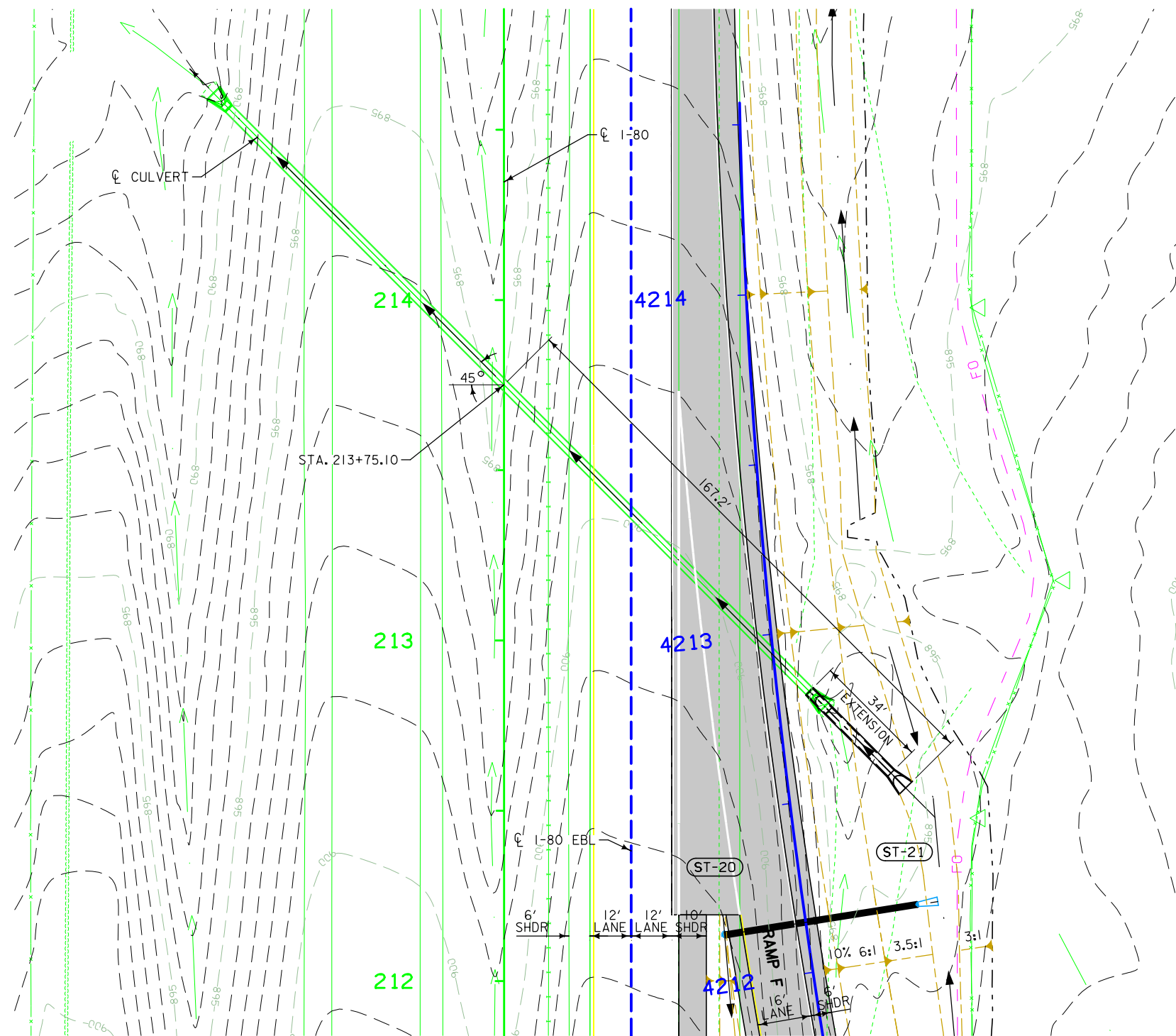
LOCATION  
T-80N R-12W  
SECTION 34  
HARTFORD TOWNSHIP  
IOWA COUNTY

DESIGN FOR 0° SKEW  
**24" X 6'**  
**REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
STATION 206+70.37 04/30/21  
**IOWA COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_

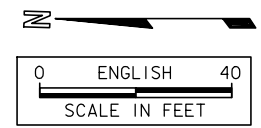


LONGITUDINAL SECTION ALONG  $\phi$  CULVERT

BM509  
 Sta 213+97.74 out 139.85 Rt  
 YC7950250.874 XC20348133.467  
 Elev= 895.992  
 Description: CUT X ON ROW RAIL



PLAT PLAN

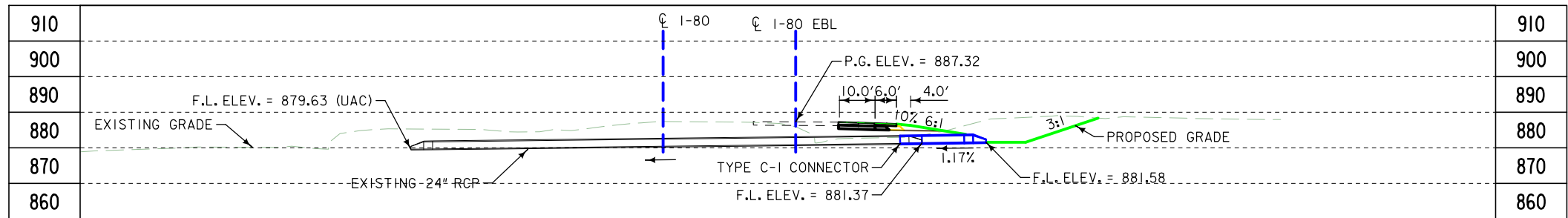


UTILITIES LEGEND:  
 REFER TO D.1

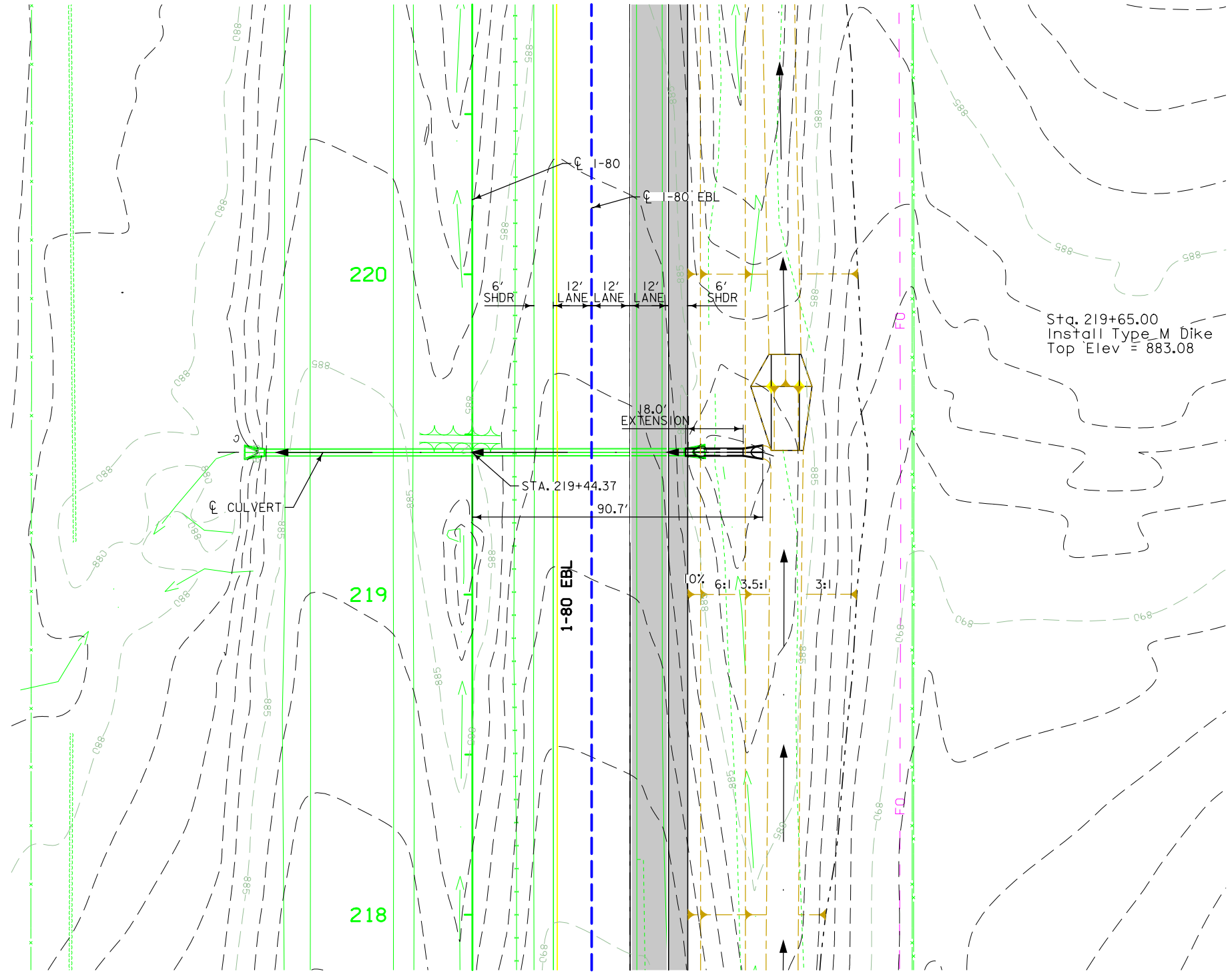
HYDRAULIC DATA  
 DRAINAGE AREA = 18.0 ACRES ROLLING

LOCATION  
 T-80N R-12W  
 SECTION 34  
 HARTFORD TOWNSHIP  
 IOWA COUNTY

DESIGN FOR 45° SKEW LT AHEAD  
**30" X 34'**  
**REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 213+75.10 04/30/21  
**IOWA COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_

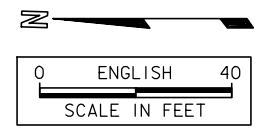


LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

BM509  
Sta 213+97.74 out 139.85 R+  
YC7950250.874 XC20348133.467  
Elev= 895.992  
Description: CUT X ON ROW RAIL



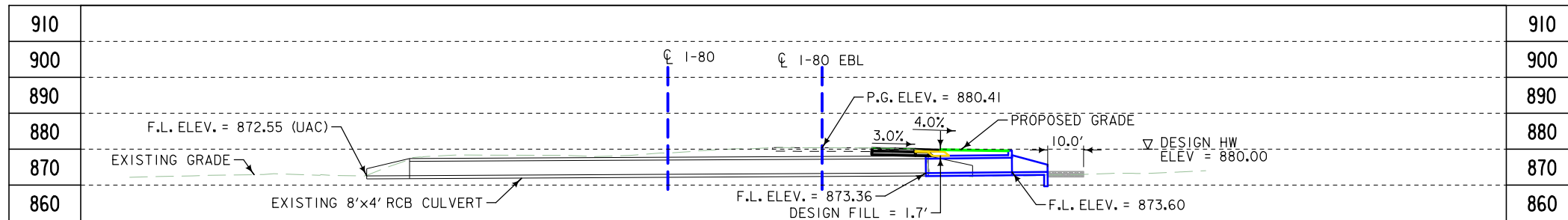
UTILITIES LEGEND:  
REFER TO D.1

HYDRAULIC DATA  
DRAINAGE AREA = 0.5 ACRES ROLLING

LOCATION  
T-80N R-12W  
SECTION 34  
HARTFORD TOWNSHIP  
IOWA COUNTY

DESIGN FOR 0° SKEW  
**24" X 18'**  
**REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
STATION 219+44.37 04/30/21  
**IOWA COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_

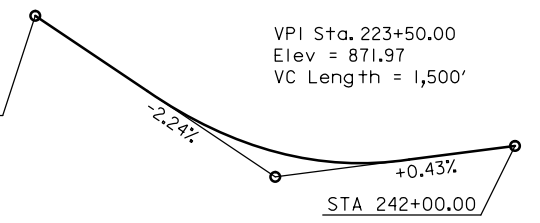




LONGITUDINAL SECTION ALONG  $\phi$  CULVERT

STA 206+00.00

PROFILE GRADE I-80 EB



ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS			
LOCATION	REVETMENT CL. 'E (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	22	46	4

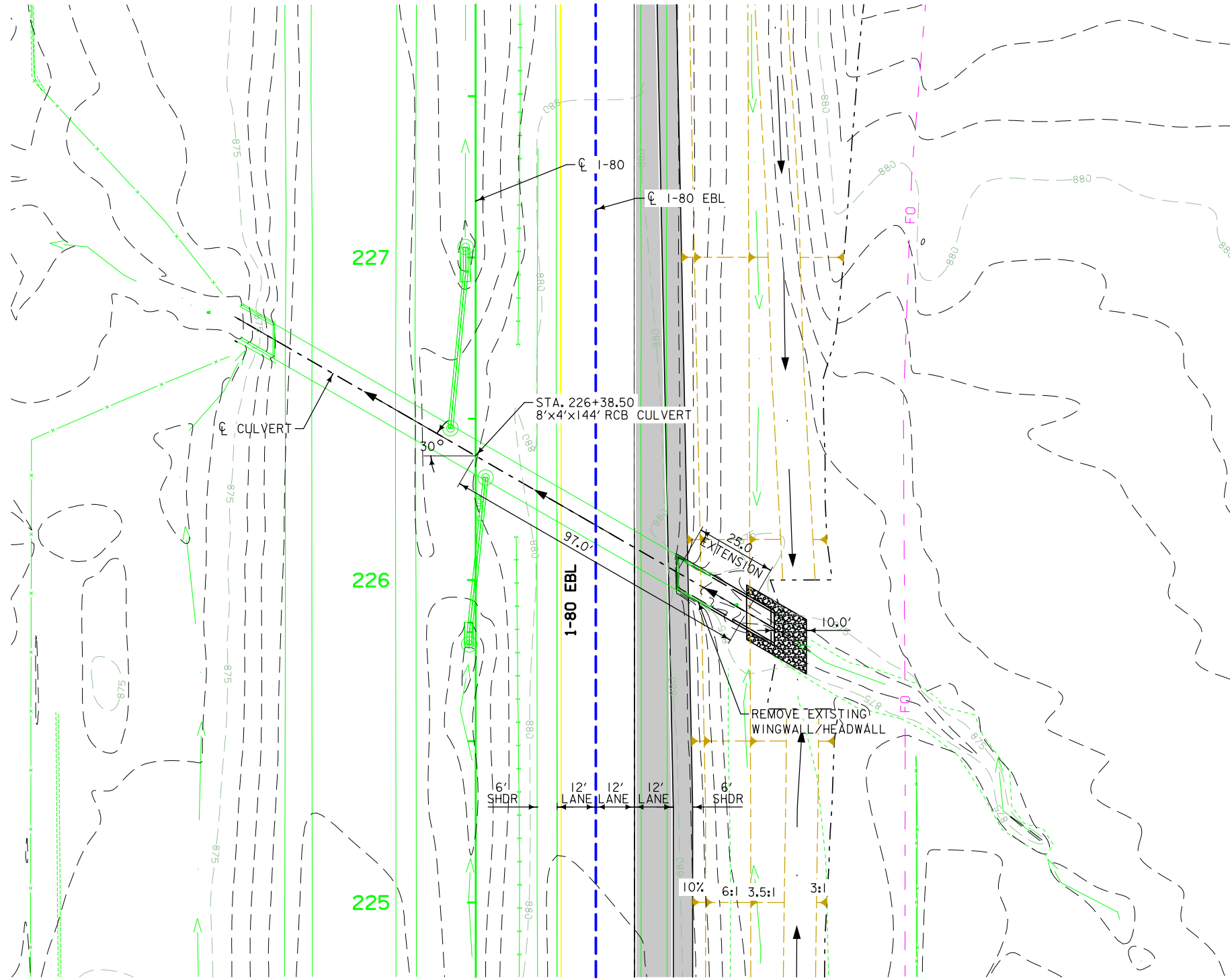


I-80 EB DESIGN DATA RURAL			
2020 AADT	29,600	V.P.D.	
2040 AADT	--	V.P.D.	
20-- DHV	--	V.P.H.	
TRUCKS	28	%	
Total Design ESALs	--		

UTILITIES LEGEND:  
REFER TO D.1

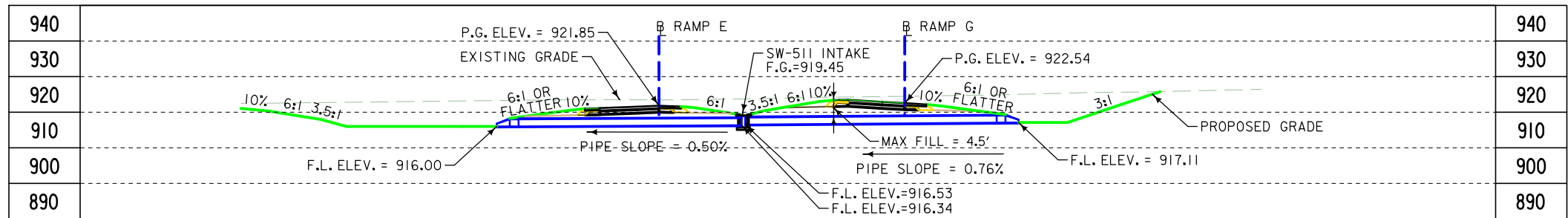
HYDRAULIC DATA  
DRAINAGE AREA = 168 ACRES ROLLING  
 $Q_{50}=214.5cfs$

LOCATION  
T-80N R-12W  
SECTION 35  
HARTFORD TOWNSHIP  
IOWA COUNTY  
LATITUDE = 41.695850  
LONGITUDE = 92.218197



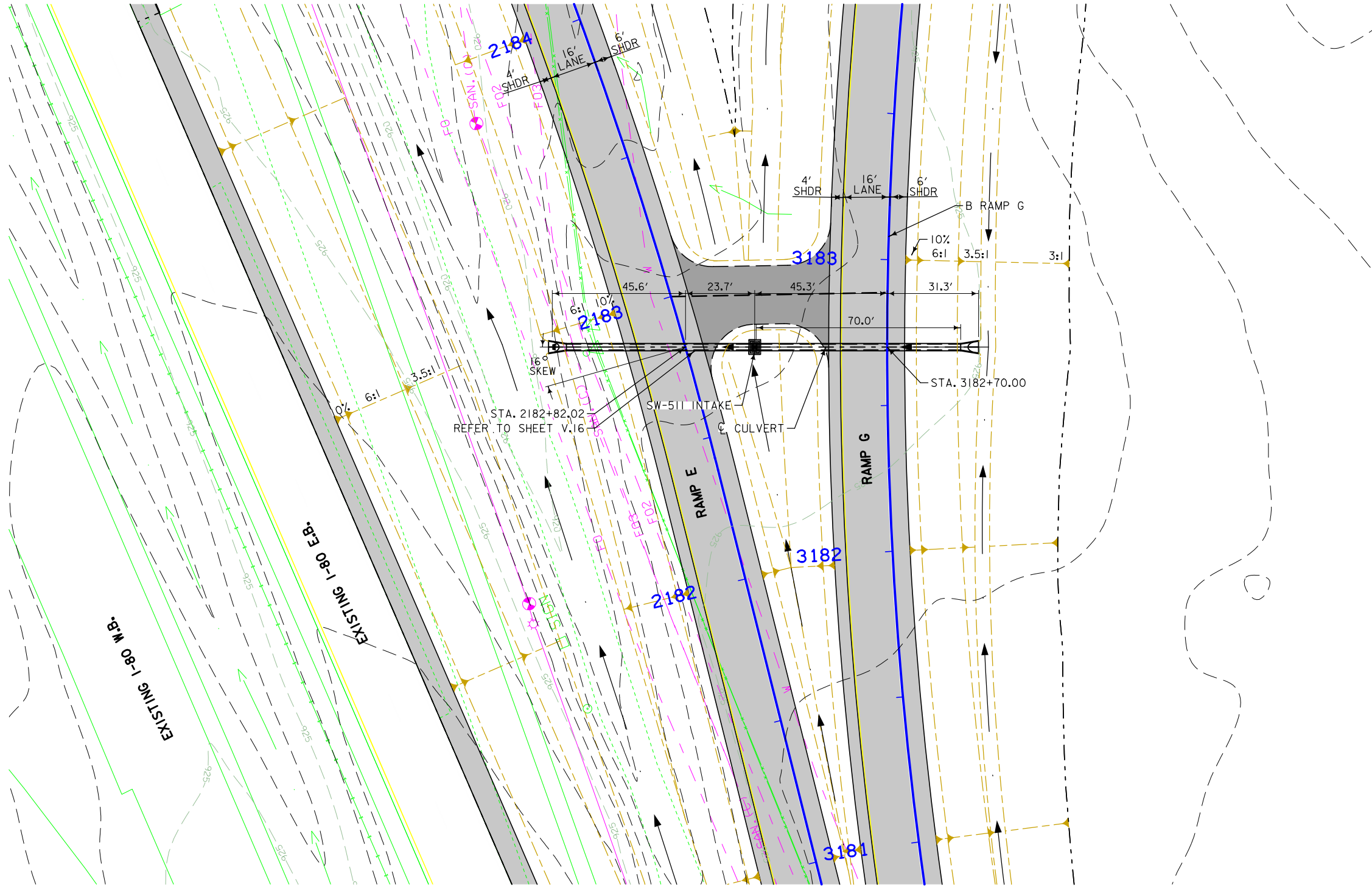
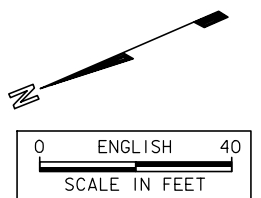
SITUATION PLAN

PRELIMINARY  
DESIGN FOR 30° SKEW LT AHEAD  
**8' X 4' X 25'**  
**REINFORCED CONCRETE BOX CULVERT EXTENSION SITUATION PLAN**  
STATION 226+38.50 04/30/21  
IOWA COUNTY  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. 32062 DESIGN NO. 123



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT

BM509  
Sta 213+97.74 out 139.85 Rt  
YC7950250.874 XC20348133.467  
Elev= 895.992  
Description: CUT X ON ROW RAIL



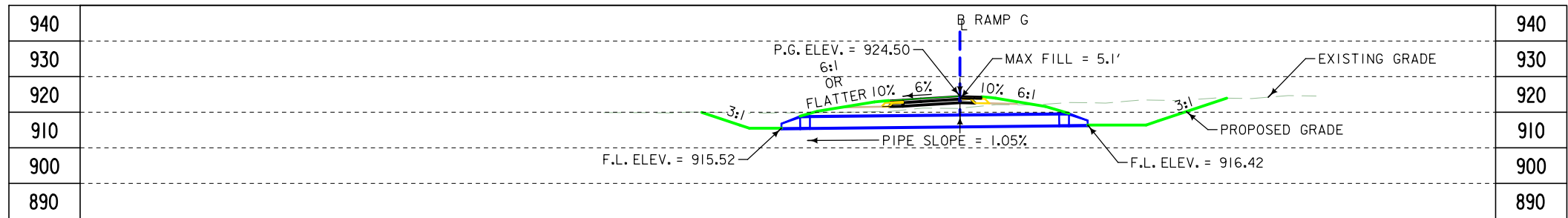
PLAT PLAN

UTILITIES LEGEND:  
REFER TO D.1

HYDRAULIC DATA  
DRAINAGE AREA = 3.88 ACRES FLAT  
DESIGN DISCHARGE,  $Q_{50}$  = 8.16 CFS

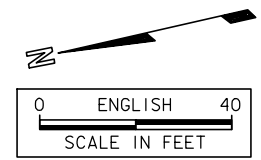
LOCATION  
T-80N R-12W  
SECTION 34  
HARTFORD TOWNSHIP  
IOWA COUNTY

DESIGN FOR 0° SKEW  
**24" X 70'**  
**REINFORCED CONCRETE**  
**PIPE**  
**PLAT PLAN**  
STATION 3182+70.00 RAMP G 04/30/21  
**IOWA COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_\_\_



BM509  
 Sta 213+97.74 out 139.85 Rt  
 YC7950250.874 XC20348133.467  
 Elev= 895.992  
 Description: CUT X ON ROW RAIL

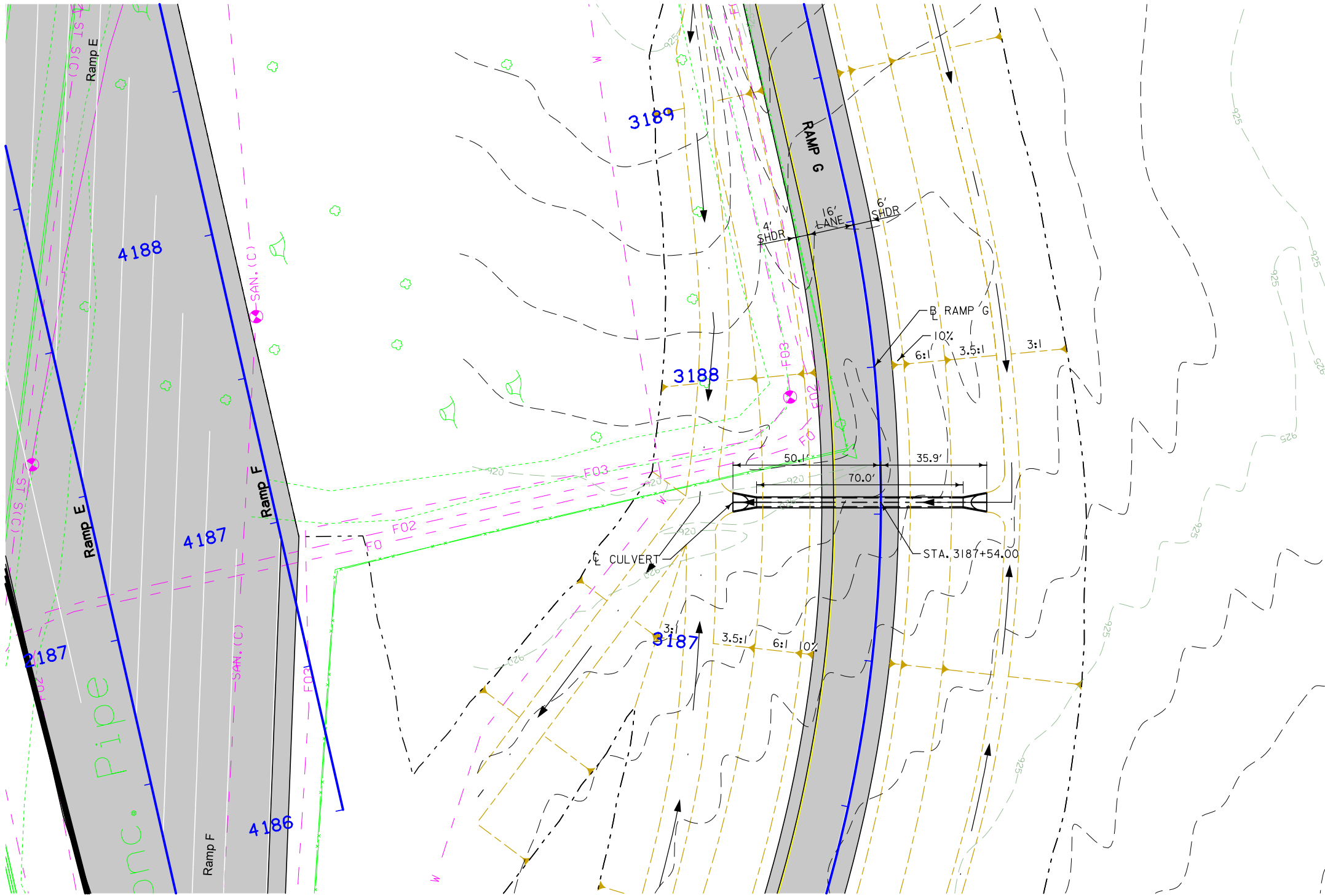
LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



UTILITIES LEGEND:  
 REFER TO D.1

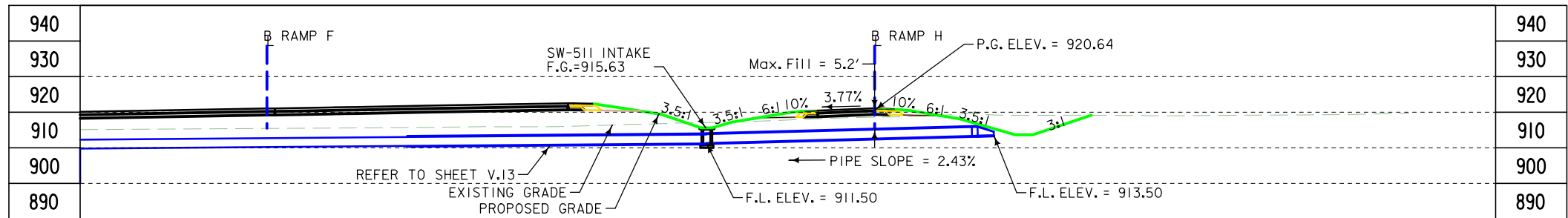
HYDRAULIC DATA  
 DRAINAGE AREA = 22.6 ACRES FLAT  
 DESIGN DISCHARGE,  $Q_{50} = 31.2$  CFS

LOCATION  
 T-80N R-12W  
 SECTION 34  
 HARTFORD TOWNSHIP  
 IOWA COUNTY



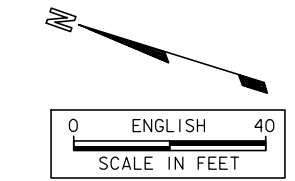
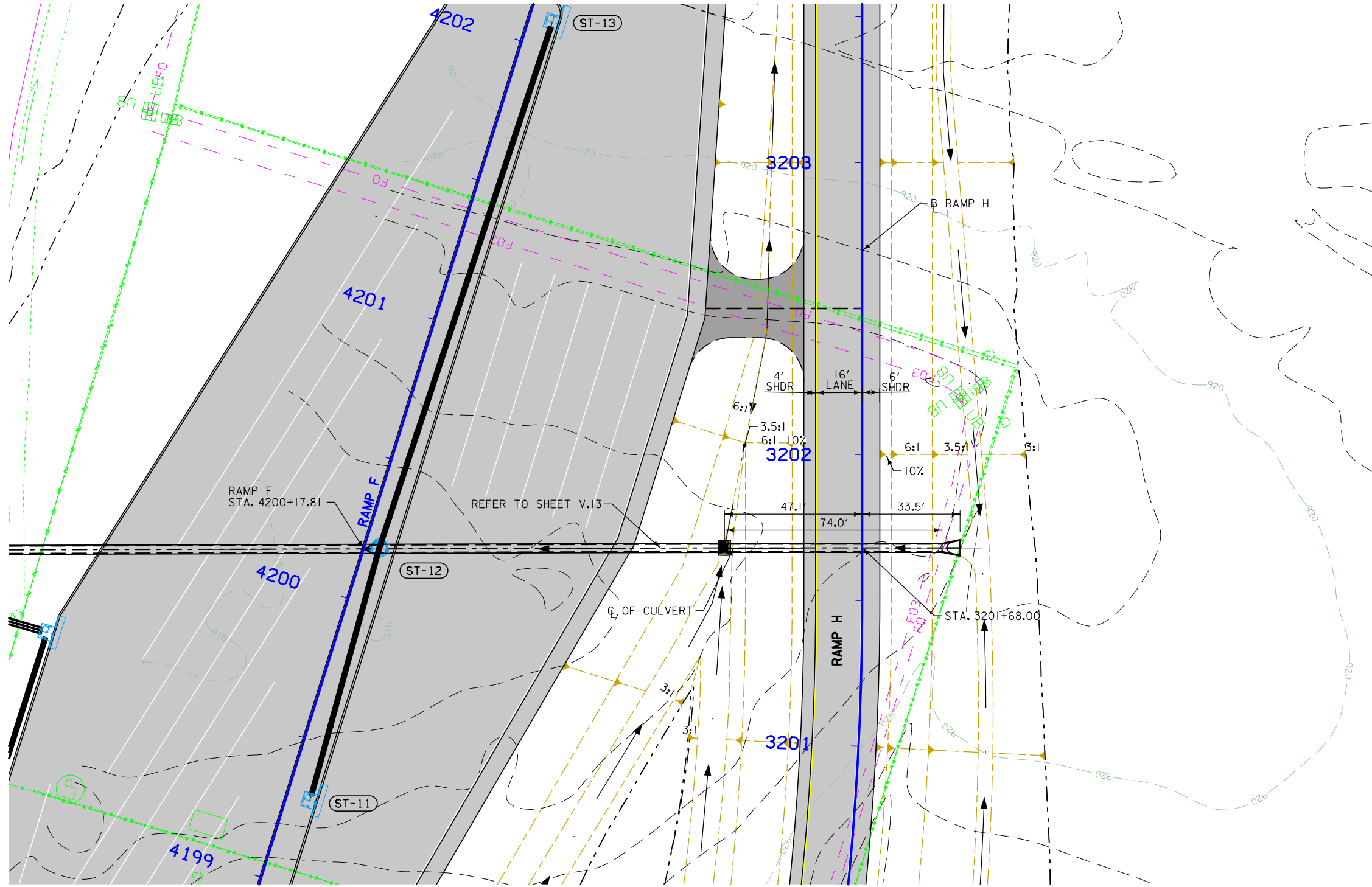
PLAT PLAN

DESIGN FOR 0° SKEW  
**36" X 70'**  
**REINFORCED CONCRETE**  
**PIPE**  
**PLAT PLAN**  
 STATION 3187+54.00 RAMP G 04/30/21  
**IOWA COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT

BM509  
Sta 213+97.74 out 139.85 R+  
YC7950250.874 XC20348133.467  
Elev= 895.992  
Description: CUT X ON ROW RAIL



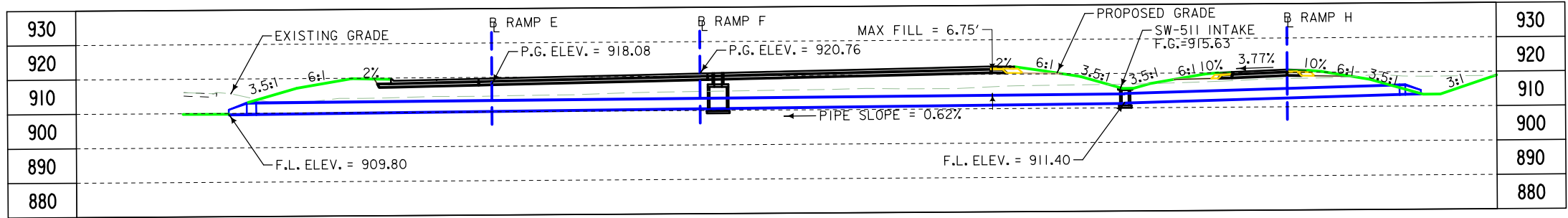
UTILITIES LEGEND:  
REFER TO D.1

HYDRAULIC DATA  
DRAINAGE AREA = 11.45 ACRES FLAT  
DESIGN DISCHARGE,  $Q_{50} = 18.6$  CFS

LOCATION  
T-80N R-12W  
SECTION 34  
HARTFORD TOWNSHIP  
IOWA COUNTY

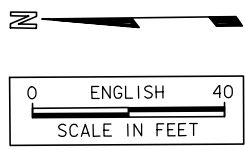
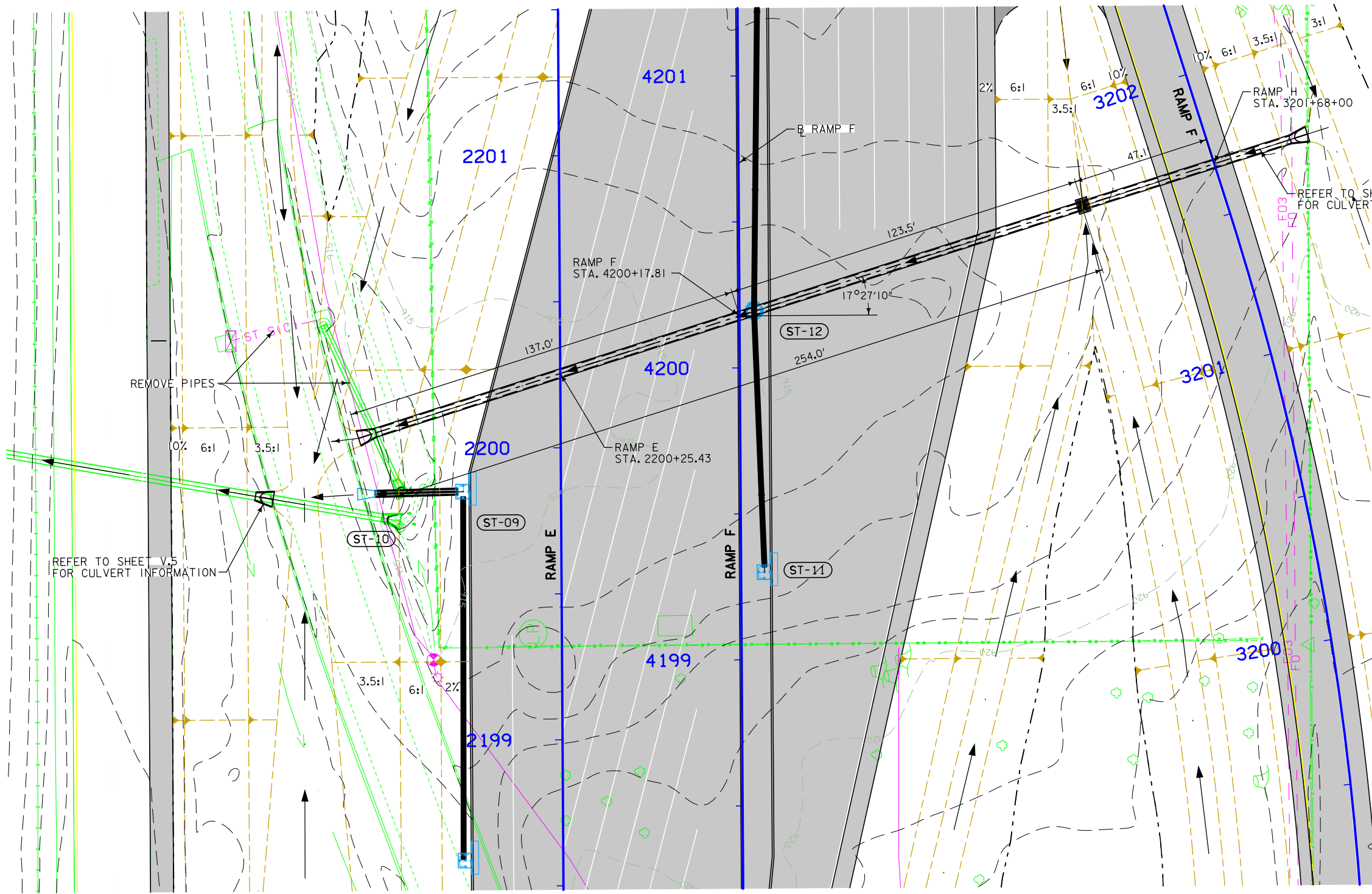
DESIGN FOR 0° SKEW  
**30" X 74'**  
**REINFORCED CONCRETE**  
**PIPE**  
**PLAT PLAN**  
STATION 3201+68.00 RAMP H 04/30/21  
**IOWA COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_

PLAT PLAN



BM509  
Sta 213+97.74 out 139.85 Rt  
YC7950250.874 XC20348133.467  
Elev= 895.992  
Description: CUT X ON ROW RAIL

LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



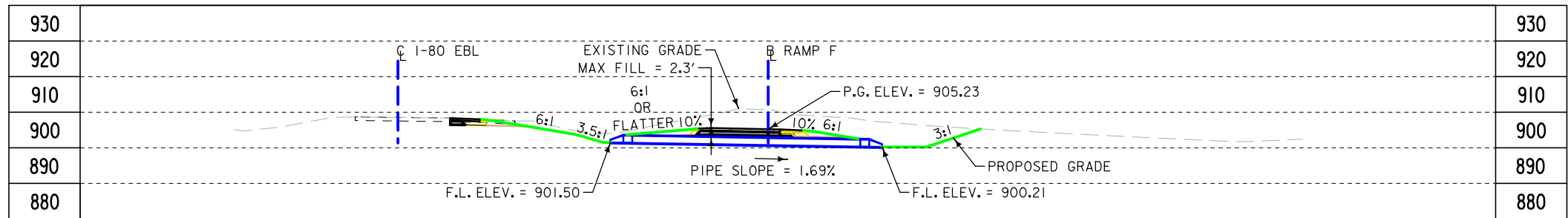
UTILITIES LEGEND:  
REFER TO D.I

HYDRAULIC DATA  
DRAINAGE AREA = 12.8 ACRES FLAT  
DESIGN DISCHARGE,  $Q_{50}$  = 20.2 CFS

LOCATION  
T-80N R-12W  
SECTION 34  
HARTFORD TOWNSHIP  
IOWA COUNTY

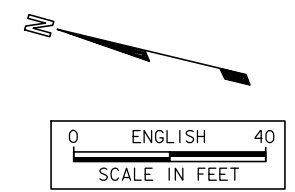
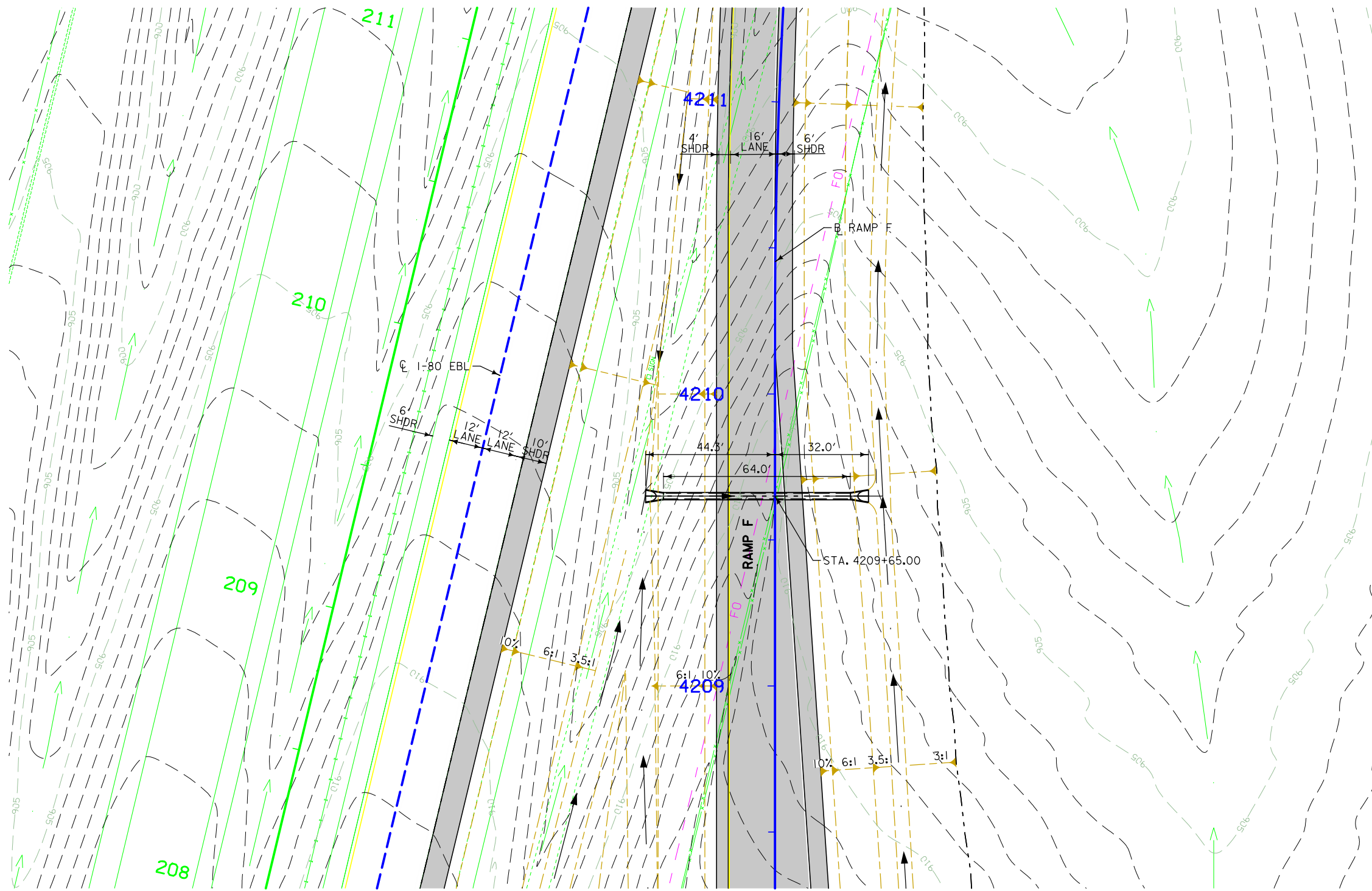
DESIGN FOR 17° SKEW RT AHEAD  
**30" X 252'**  
**REINFORCED CONCRETE**  
**PIPE**  
**PLAT PLAN**  
STATION 4200+17.81 RAMP F 04/30/21  
**IOWA COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_\_\_

PLAT PLAN



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT

BM509  
 Sta 213+97.74 out 139.85 R+  
 YC7950250.874 XC20348133.467  
 Elev= 895.992  
 Description: CUT X ON ROW RAIL



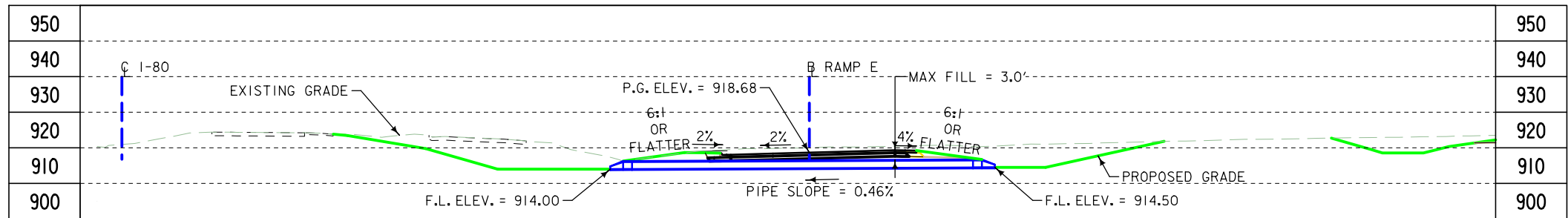
UTILITIES LEGEND:  
 REFER TO D.1

HYDRAULIC DATA  
 DRAINAGE AREA = 2.0 ACRES FLAT  
 DESIGN DISCHARGE,  $Q_{50}$  = 6.14 CFS

LOCATION  
 T-80N R-12W  
 SECTION 34  
 HARTFORD TOWNSHIP  
 IOWA COUNTY

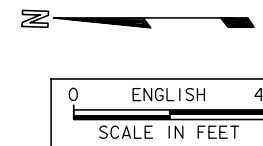
DESIGN FOR 0° SKEW  
**24" X 64'**  
**REINFORCED CONCRETE**  
**PIPE**  
**PLAT PLAN**  
 STATION 4209+65.00 RAMP F 04/30/21  
**IOWA COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_\_\_

PLAT PLAN



LONGITUDINAL SECTION ALONG CL CULVERT

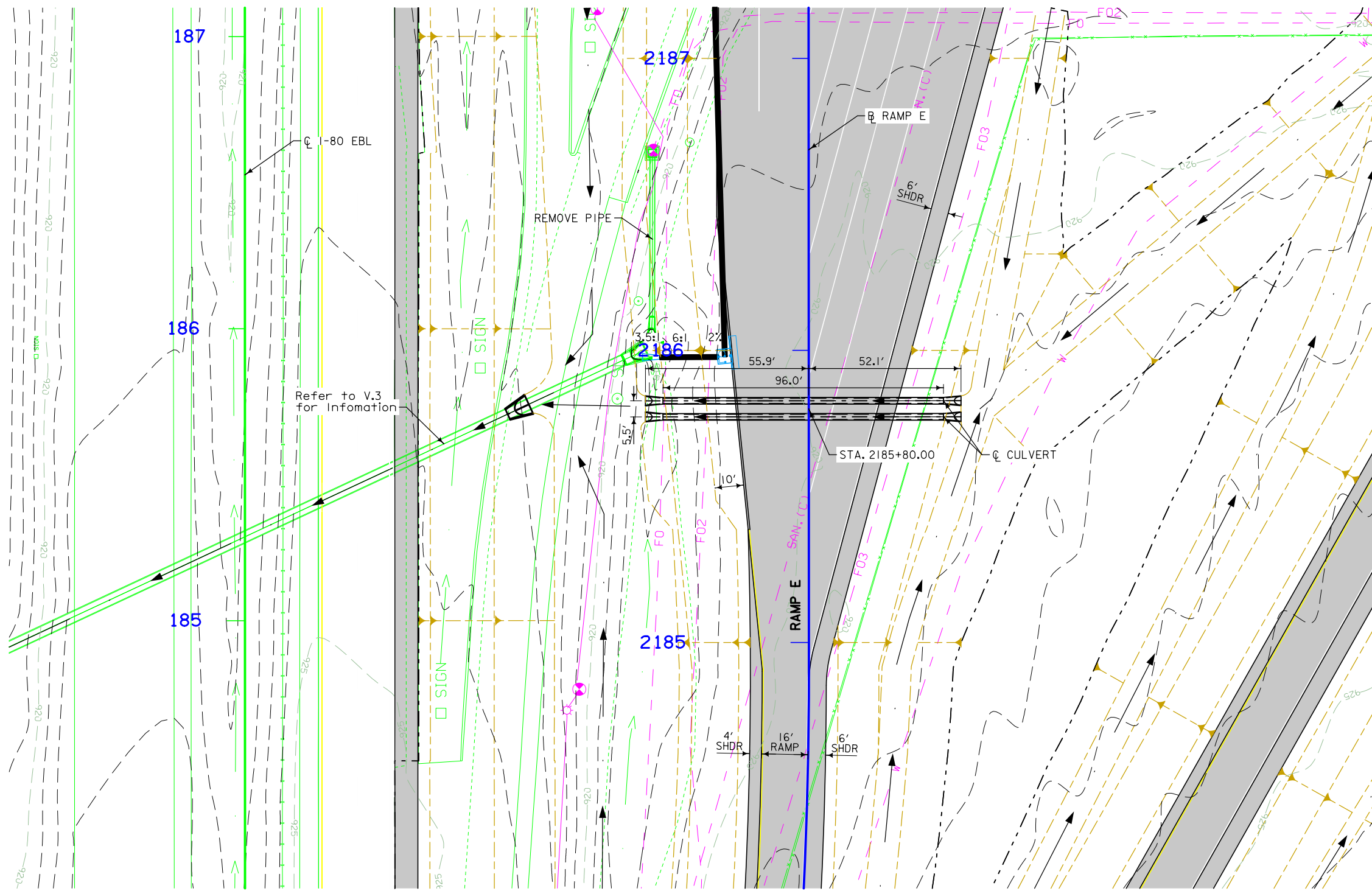
BM509  
Sta 213+97.74 out 139.85 Rt  
YC7950250.874 XC20348133.467  
Elev= 895.992  
Description: CUT X ON ROW RAIL



UTILITIES LEGEND:  
REFER TO D.1

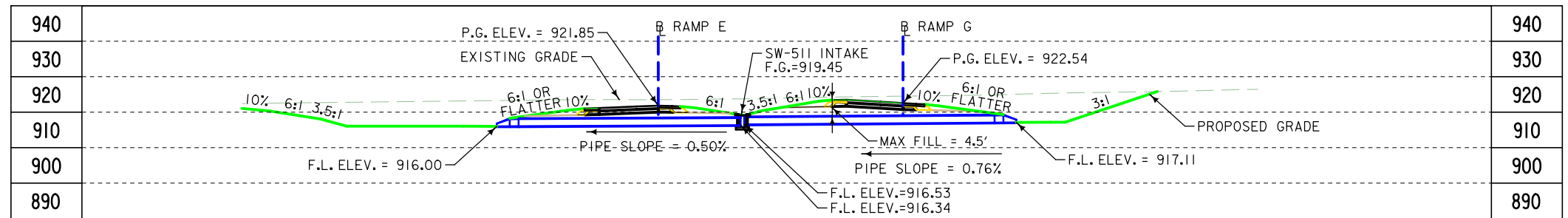
HYDRAULIC DATA  
DRAINAGE AREA = 25.0 ACRES FLAT  
DESIGN DISCHARGE,  $Q_{50} = 33.60$  CFS

LOCATION  
T-80N R-12W  
SECTION 34  
HARTFORD TOWNSHIP  
IOWA COUNTY



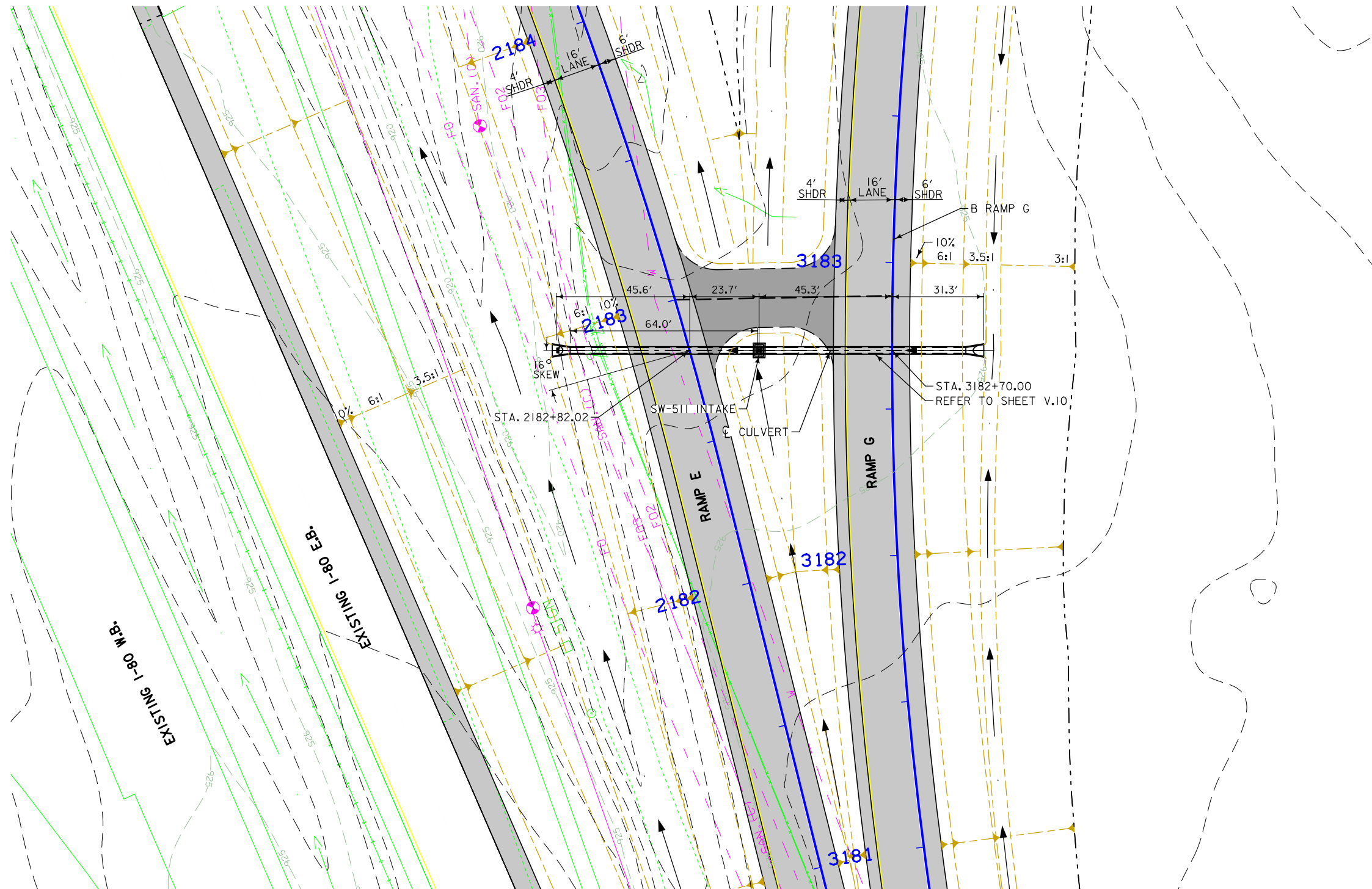
PLAT PLAN

DESIGN FOR 0° SKEW  
**TWIN 24" EQUIVALENT X 96'  
LOW CLEARANCE  
REINFORCED CONCRETE PIPE  
PLAT PLAN**  
STATION 2185+80.00 RAMP E  
IOWA COUNTY  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_

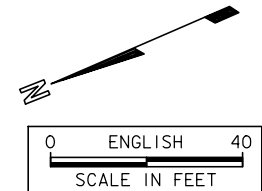


LONGITUDINAL SECTION ALONG CULVERT

BM509  
Sta 213+97.74 out 139.85 R+  
YC7950250.874 XC20348133.467  
Elev= 895.992  
Description: CUT X ON ROW RAIL



PLAT PLAN



UTILITIES LEGEND:  
REFER TO D.I

HYDRAULIC DATA  
DRAINAGE AREA = 3.88 ACRES FLAT  
DESIGN DISCHARGE, Q<sub>50</sub> = 8.16 CFS

LOCATION  
T-80N R-12W  
SECTION 34  
HARTFORD TOWNSHIP  
IOWA COUNTY

DESIGN FOR 16° SKEW LT AHEAD  
**24" X 64'**  
**REINFORCED CONCRETE**  
**PIPE**  
**PLAT PLAN**  
STATION 2182+82.02 RAMP E 04/30/21  
**IOWA COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. 32062 DESIGN NO. \_\_\_



**LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)**

- · — · — · — Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- - - - - Additional Topsoil Removal
- Subgrade Treatment
- - - - - Granular Shoulder
- Pavement
- - - - - Existing Pipe\RCB
- Proposed Pipe\RCB
- Proposed Dike
- All Elements Associated with Proposed Entrances

**LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)**

- TOPSOIL ———— Topsoil (Class 10)
- Slope Dressing Only
- CL 10 ———— Class 10 Materials
- SEL LO ———— Select Loams And Clay-Loams
- SEL SA ———— Select Sand
- UNS A ———— Unsuitable Type A Disposal
- UNS B ———— Unsuitable Type B Disposal
- UNS C ———— Unsuitable Type C Disposal
- SHALE ———— Shale
- WASTE ———— Waste
- BRW LS ———— Broken and Weathered Rock
- ROCK ———— Solid Rock
- BLDGS ———— Boulders

Note: All layer lines and descriptions identify layers above the line.

Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

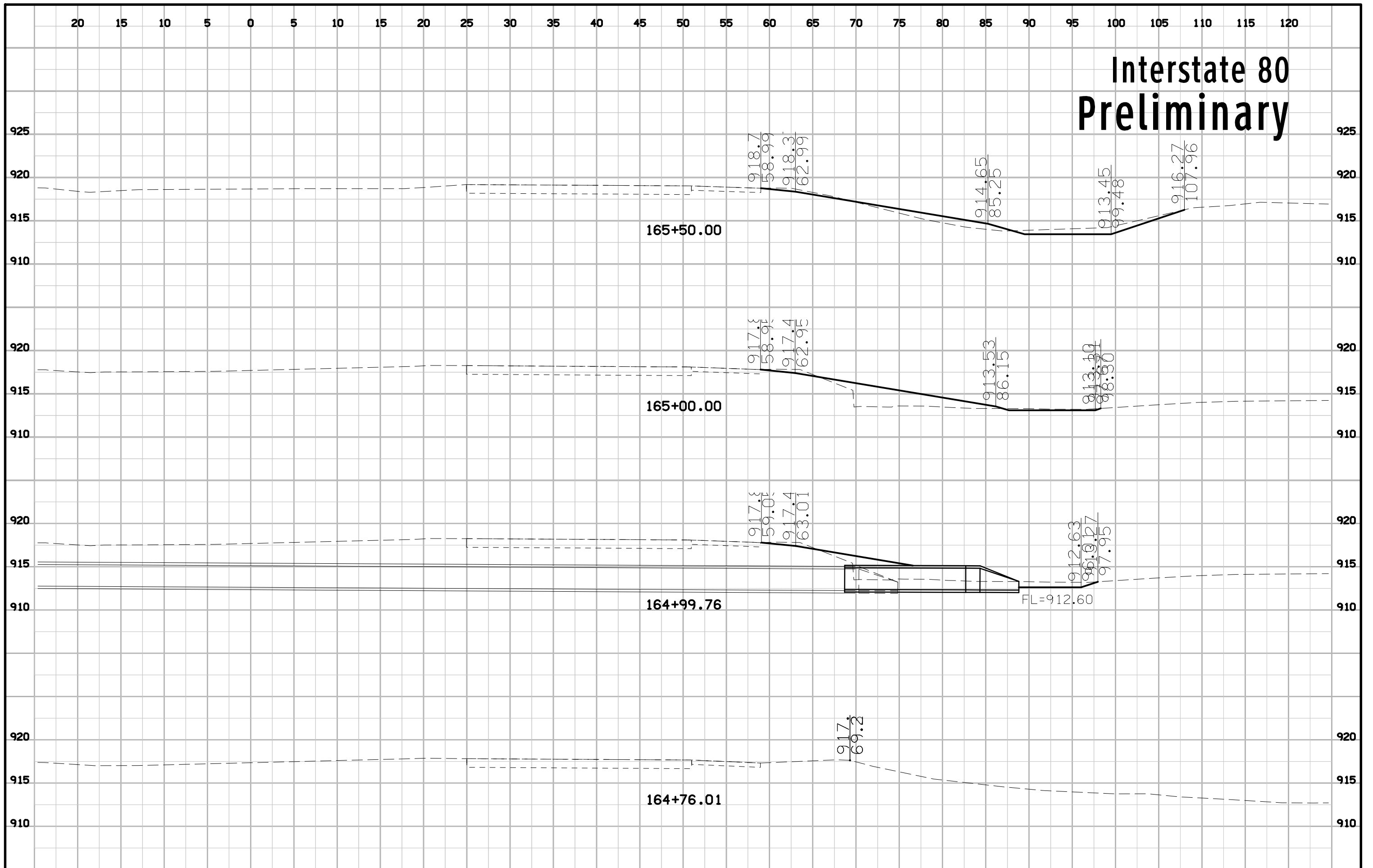
**SYMBOL LEGEND OF CROSS SECTION SHEETS**

- Existing ROW  
|  
Existing Right-of-Way Limit
- Proposed ROW  
|  
Proposed Right-of-Way Limit
- Temporary ROW  
|  
Temporary Right-of-Way Limit

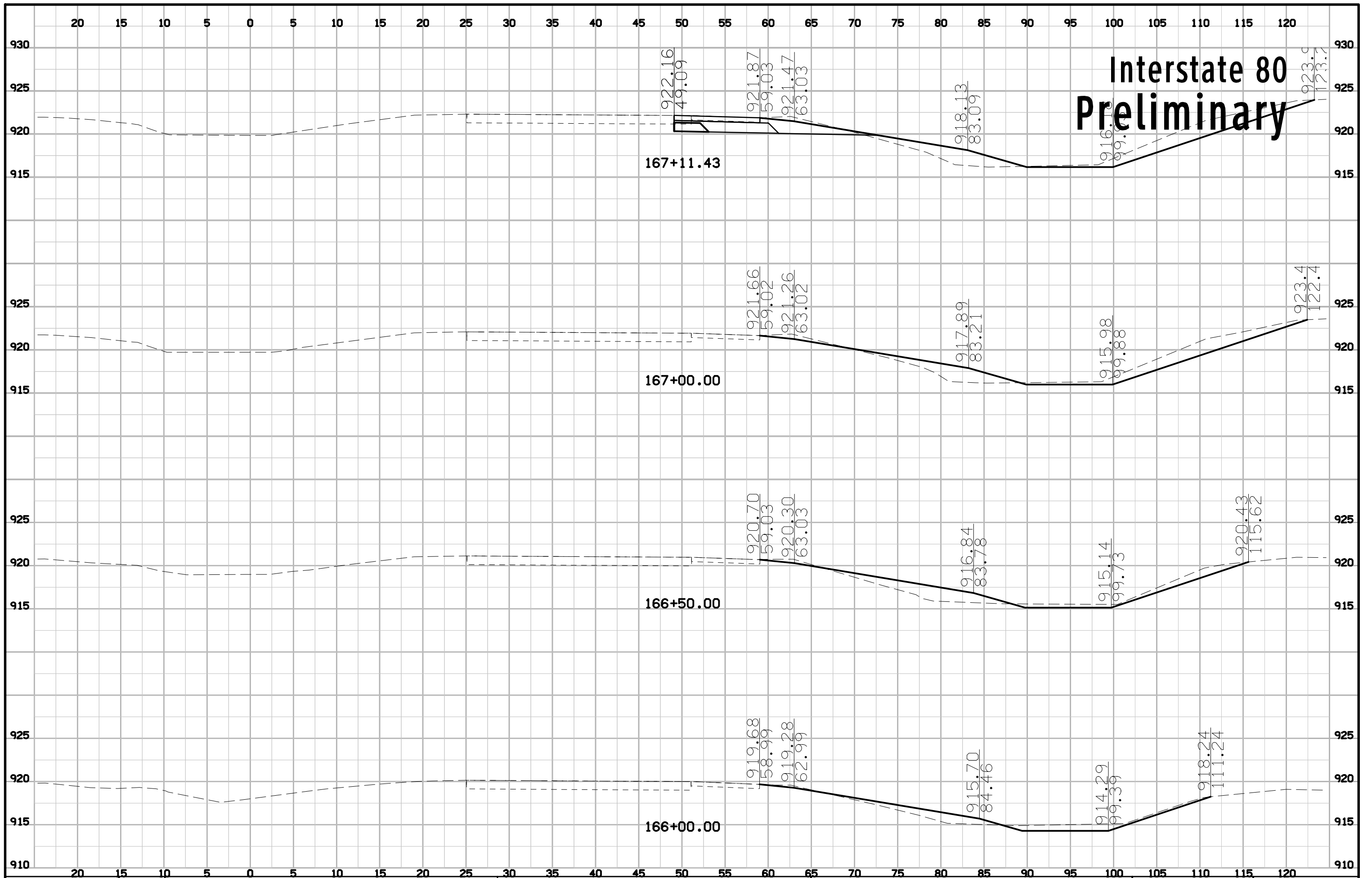
**CROSS SECTION  
LEGEND AND SYMBOL  
INFORMATION SHEET**

(COVERS SHEET SERIES W, X, Y, & Z)

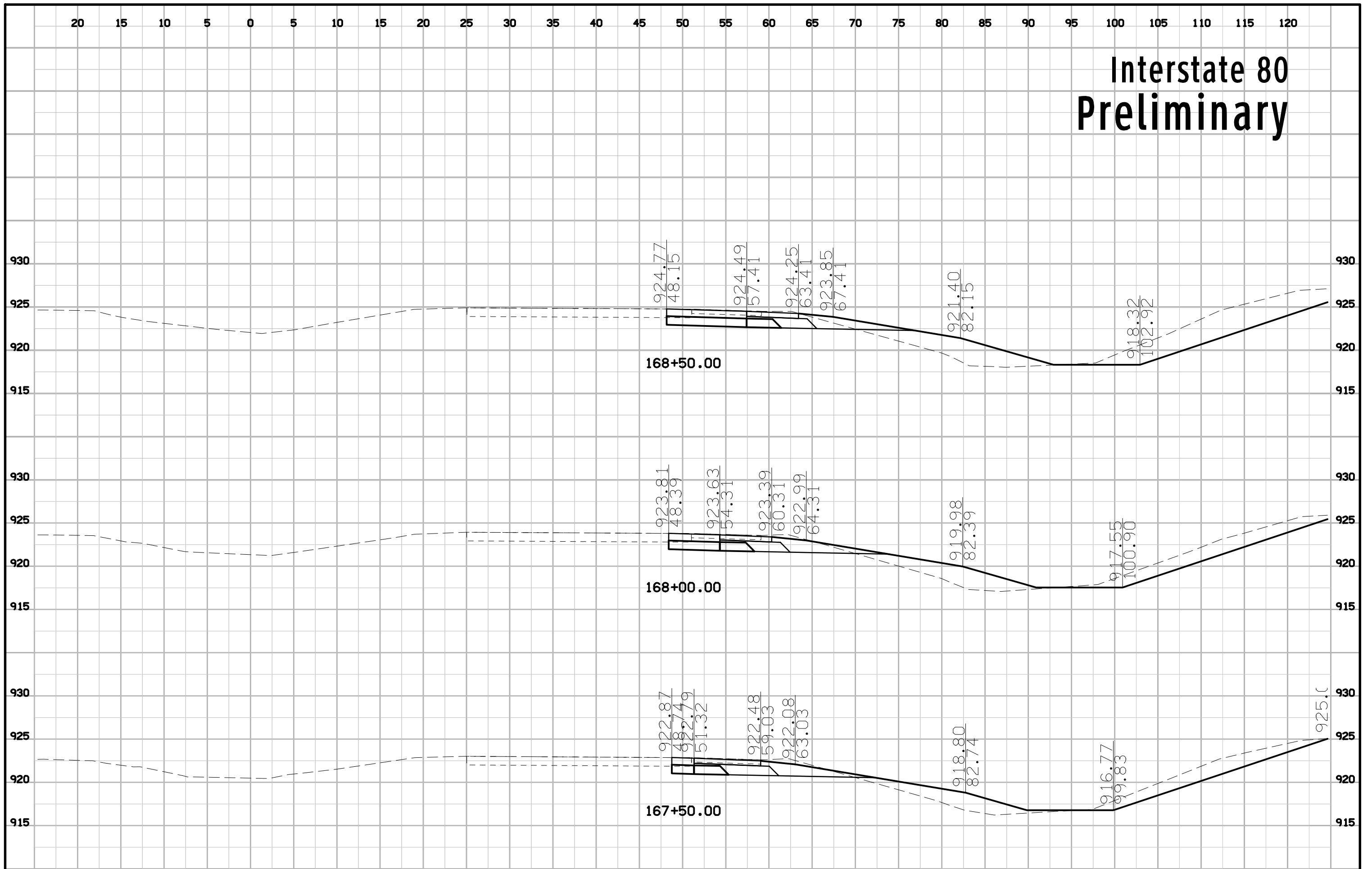
# Interstate 80 Preliminary



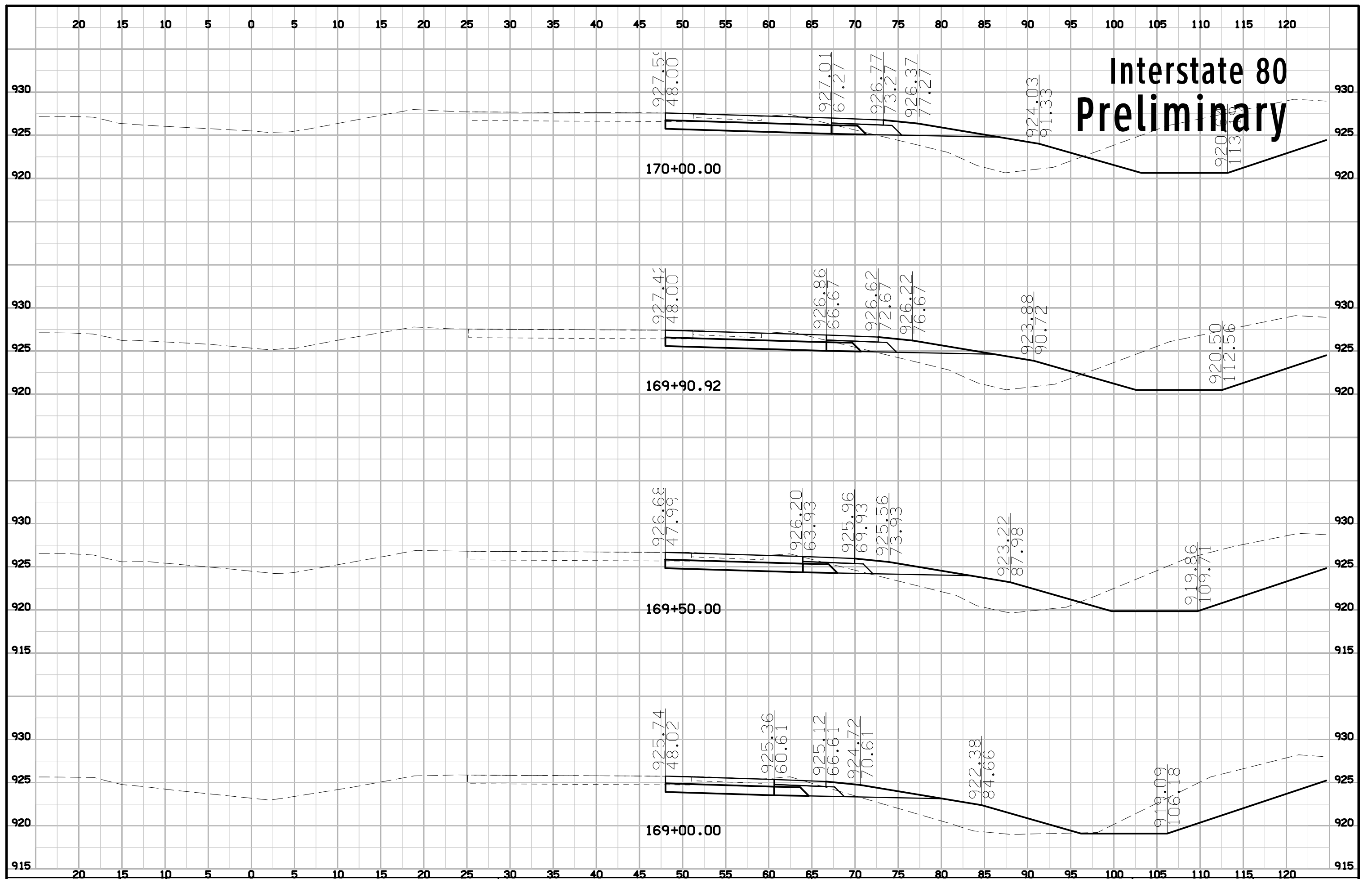
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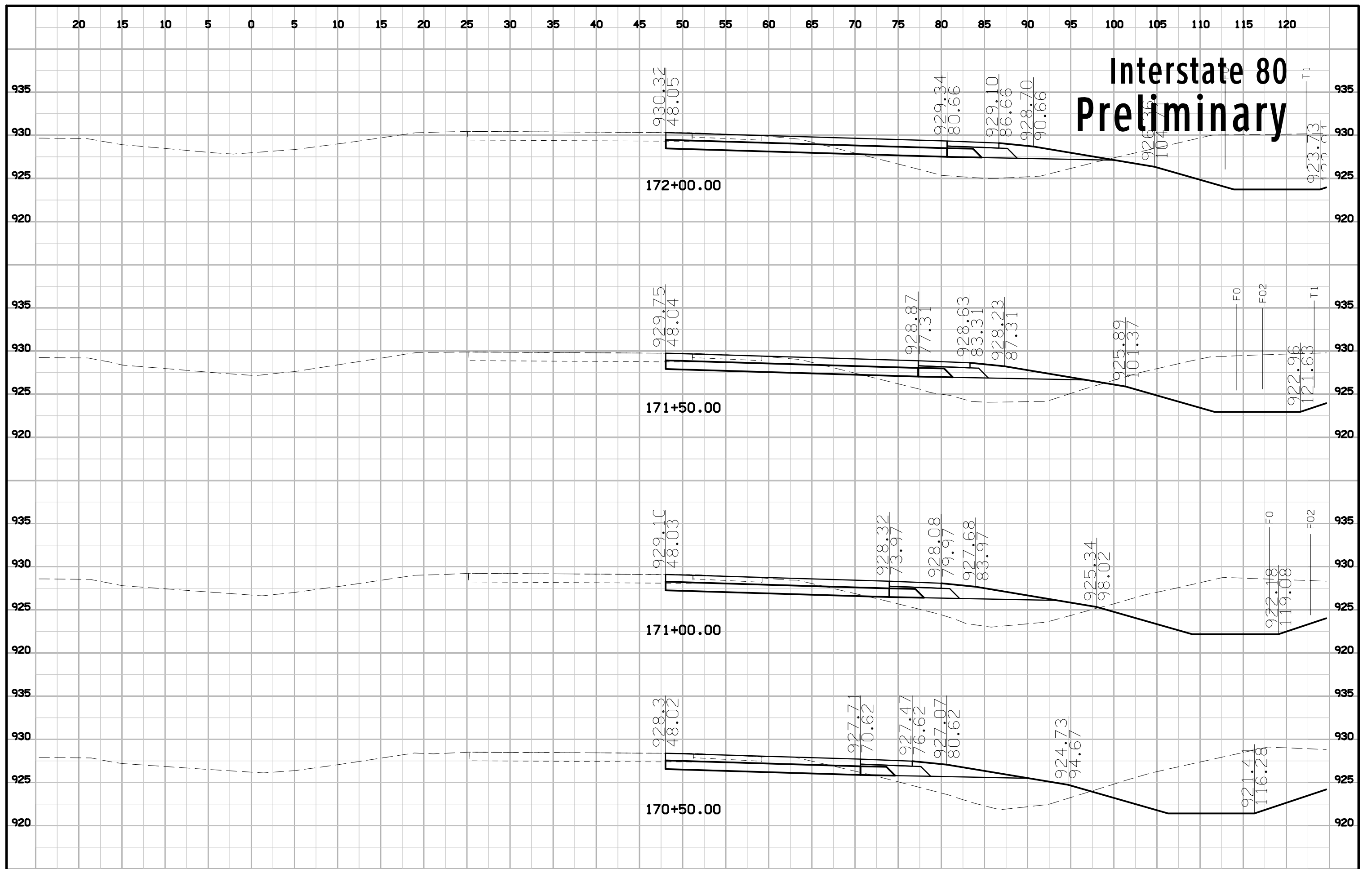
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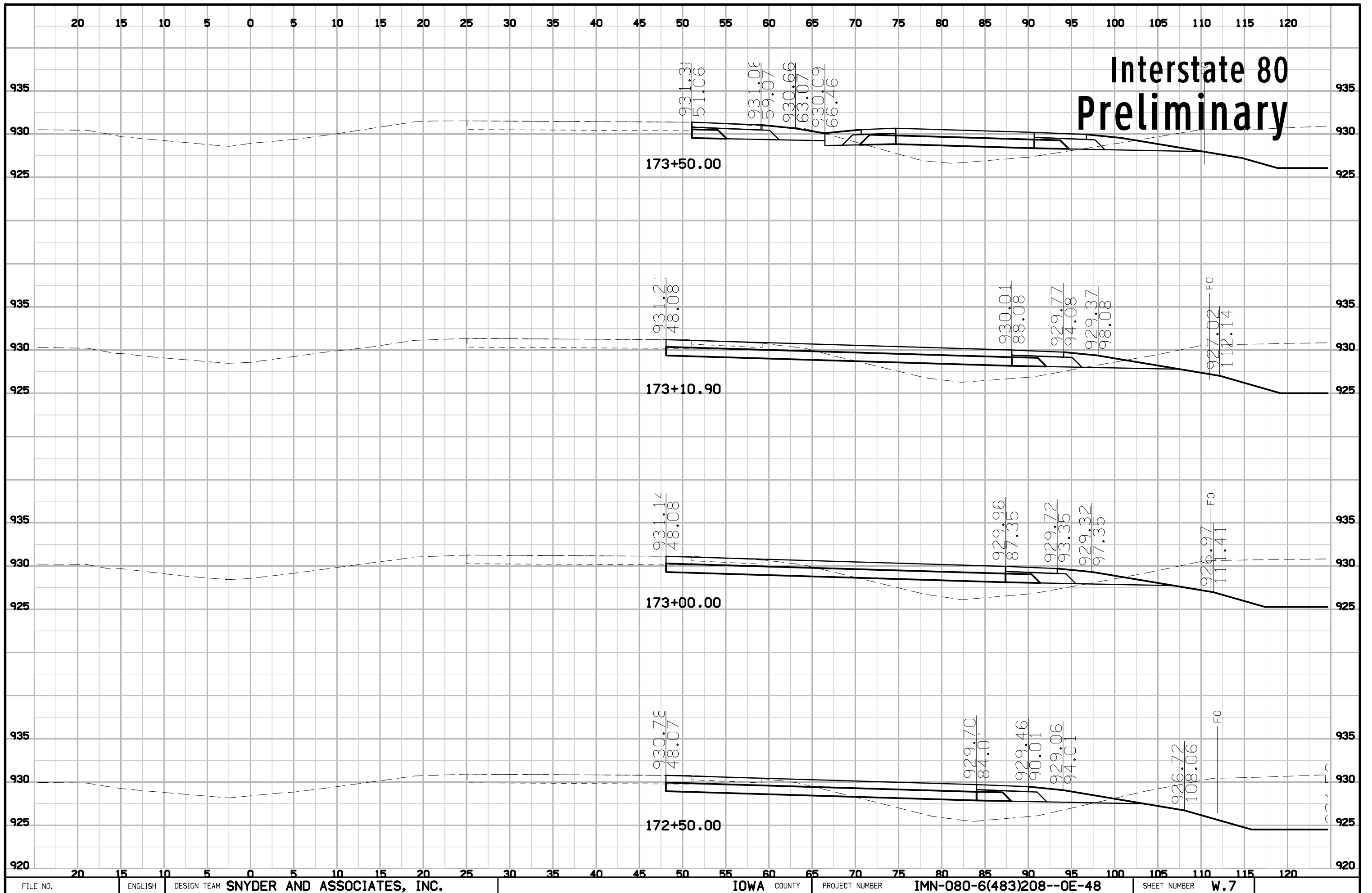
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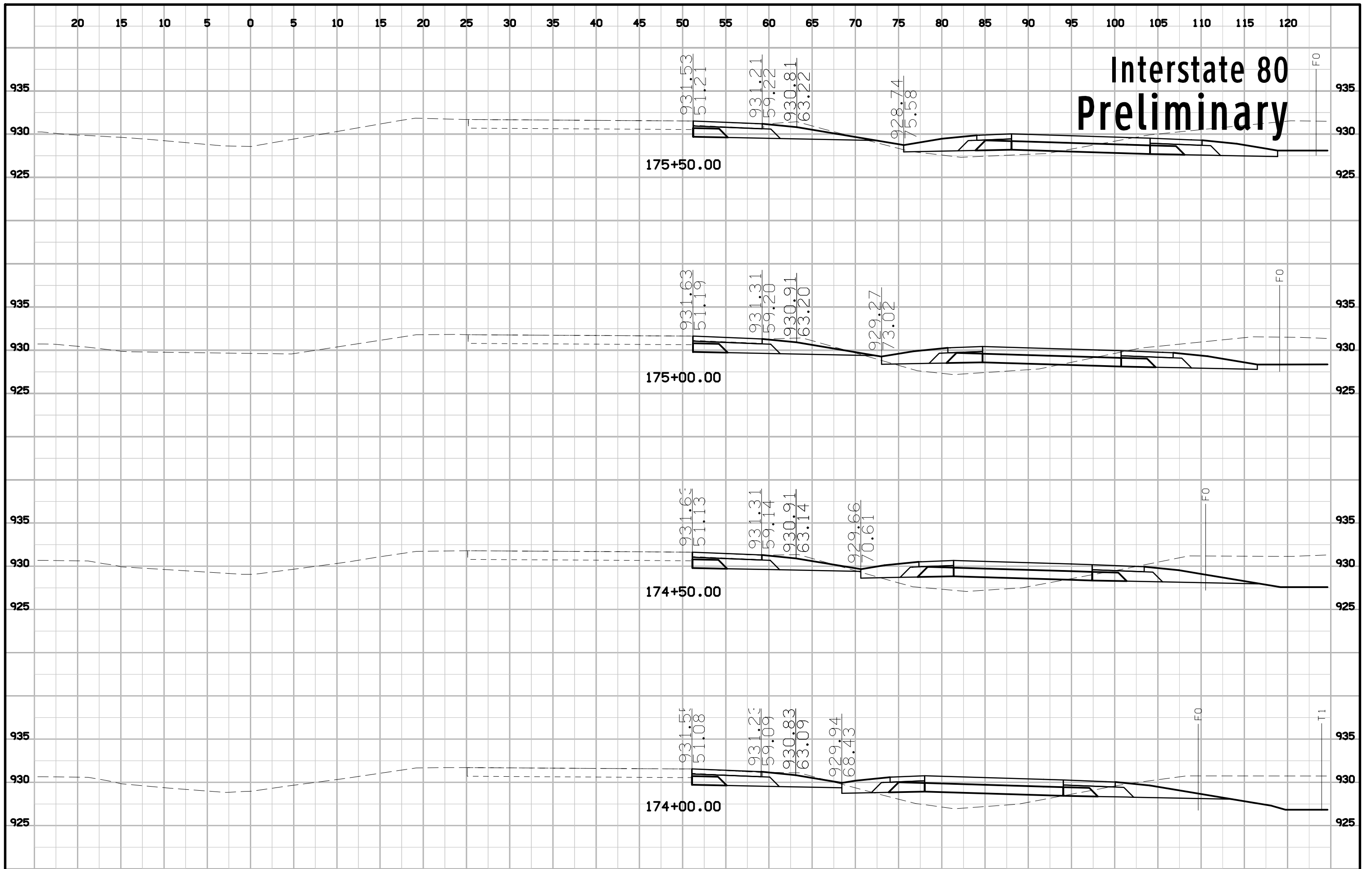
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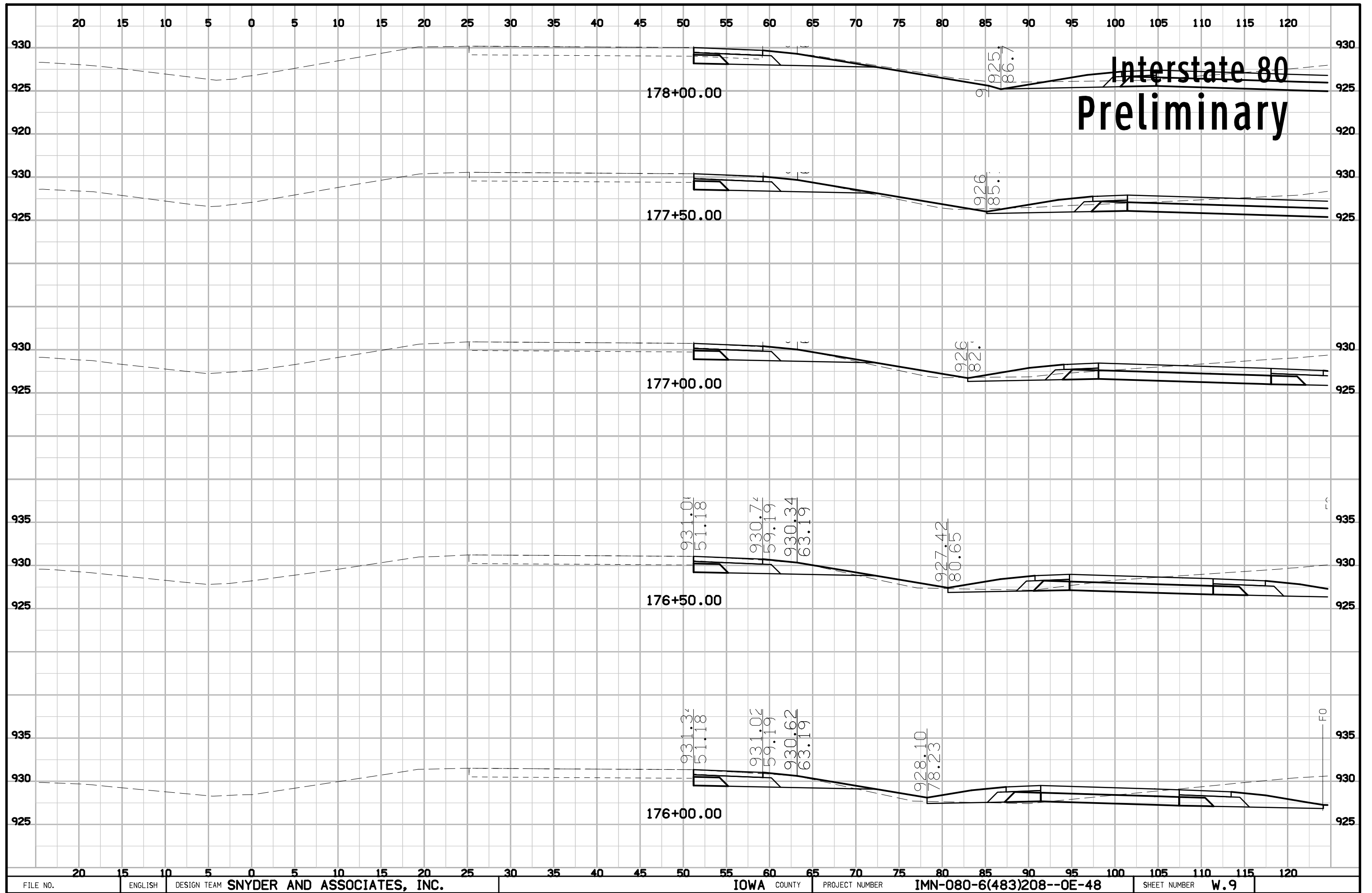
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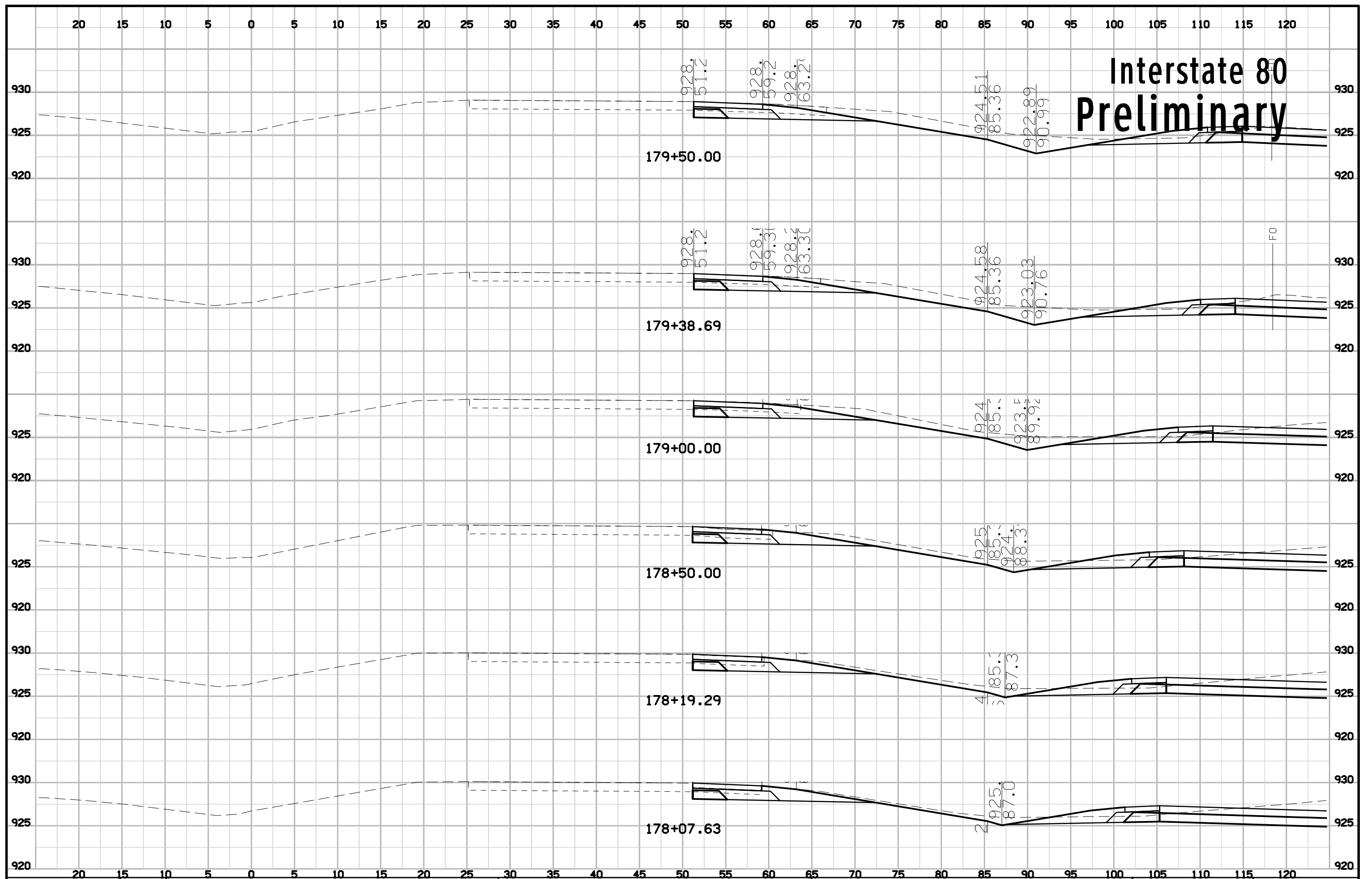
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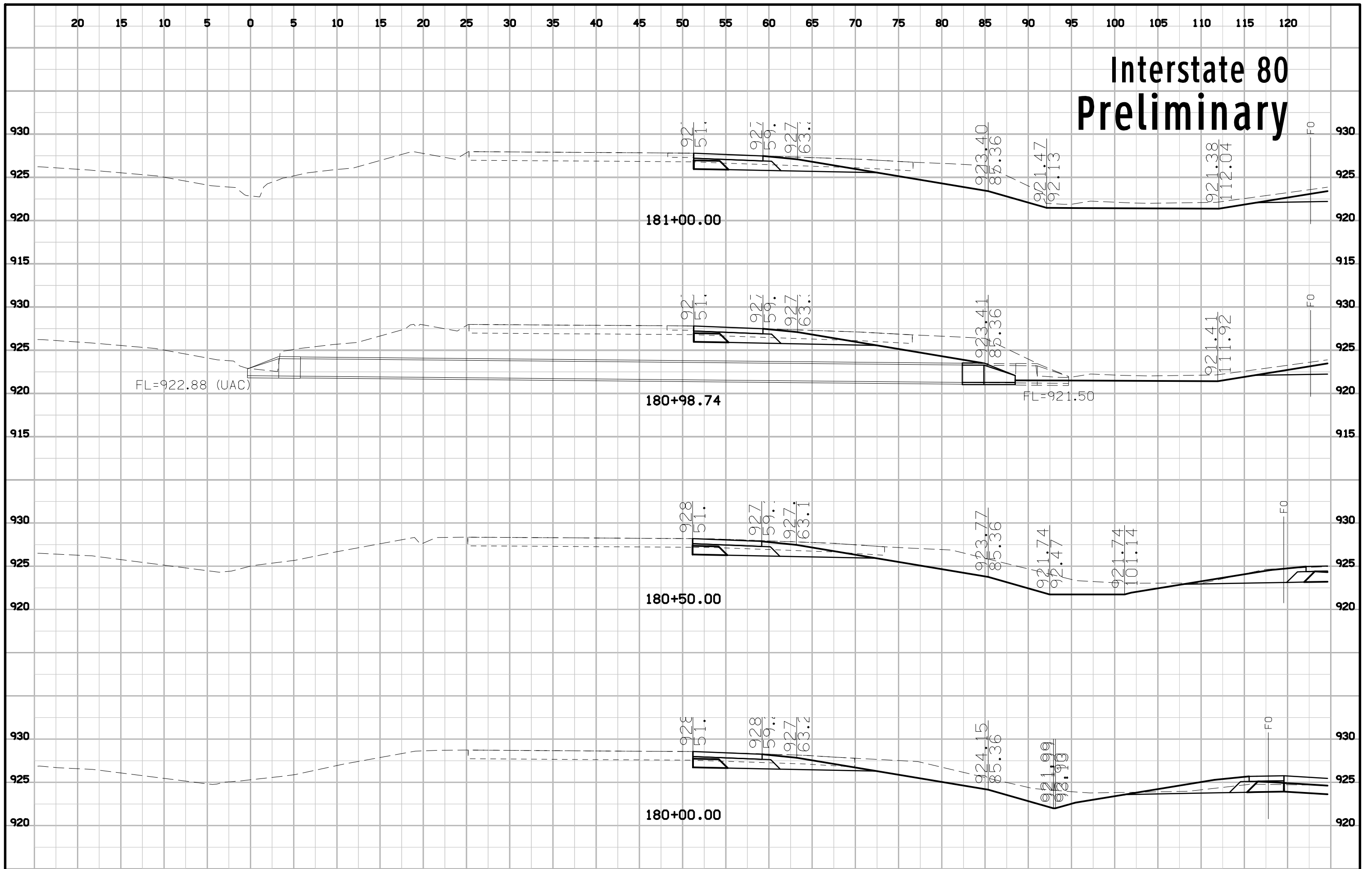




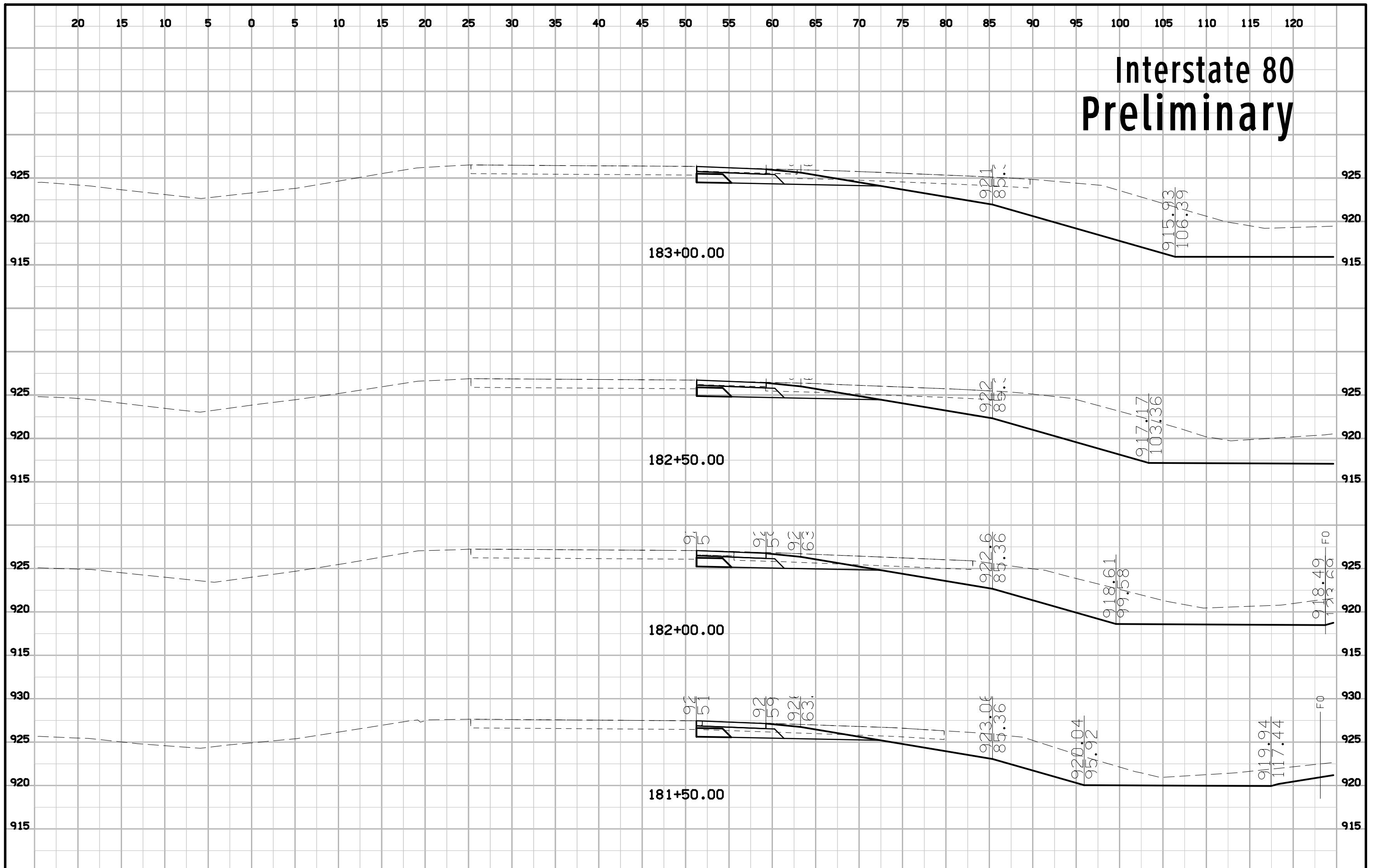
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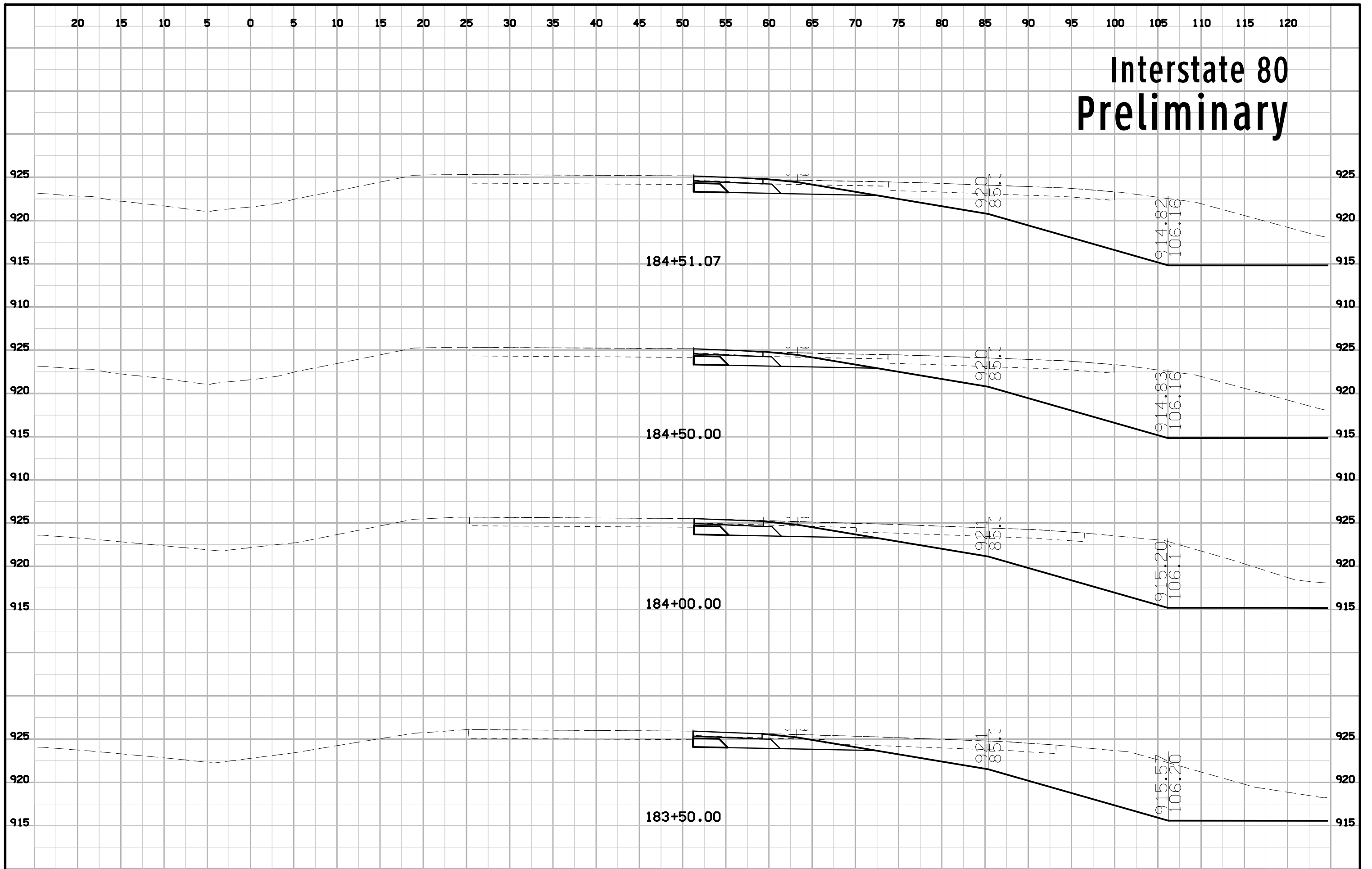
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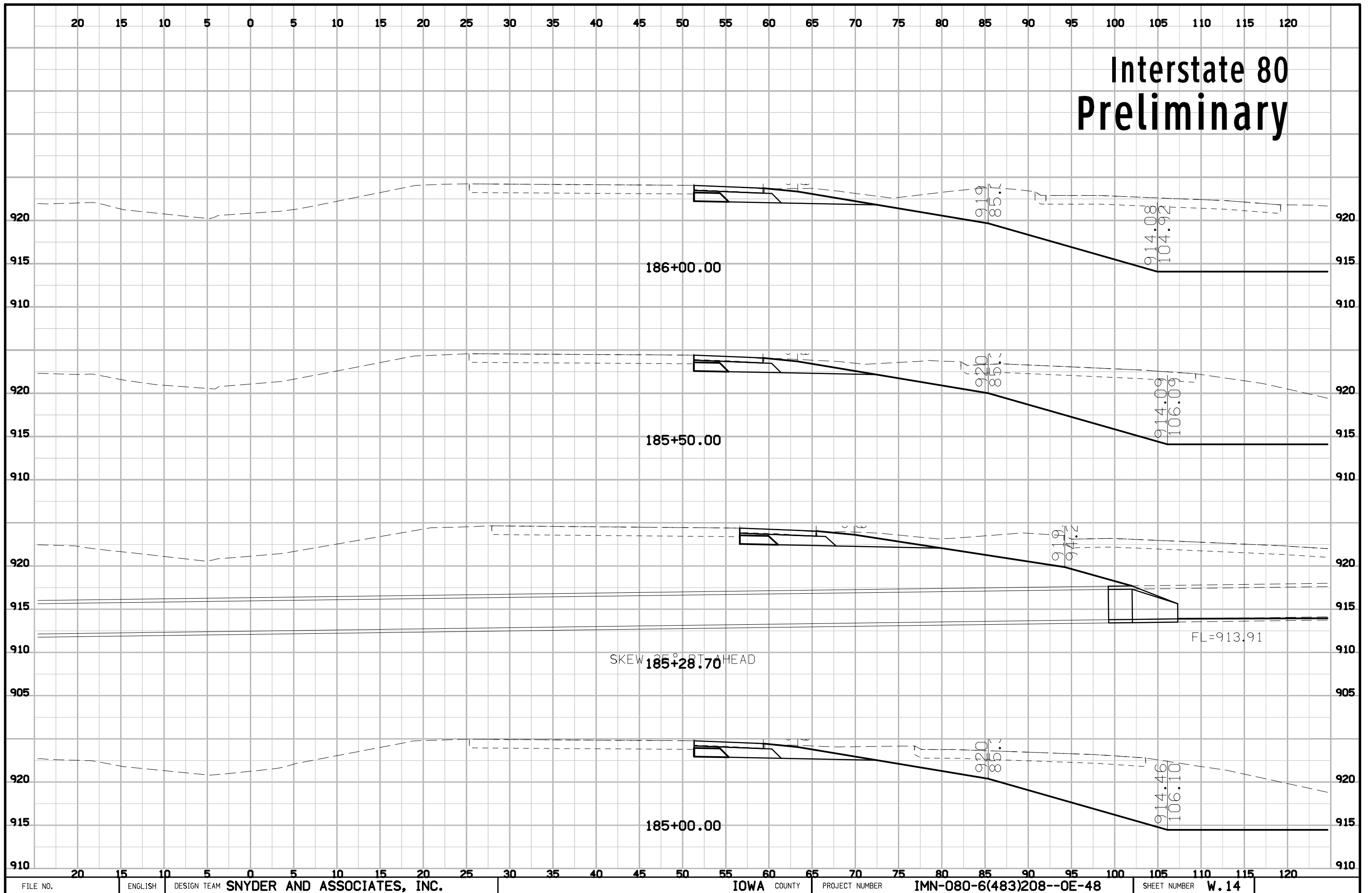
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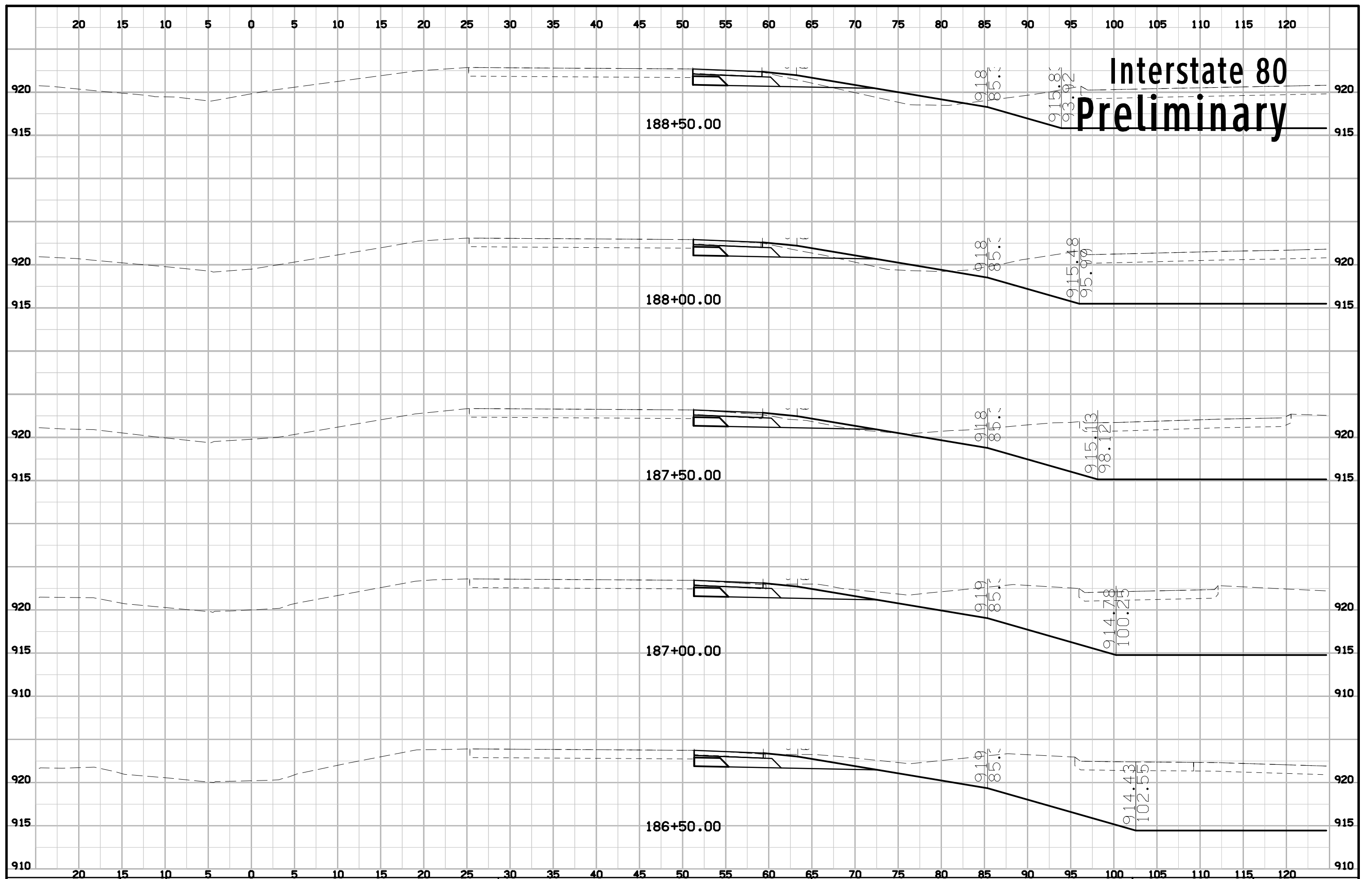
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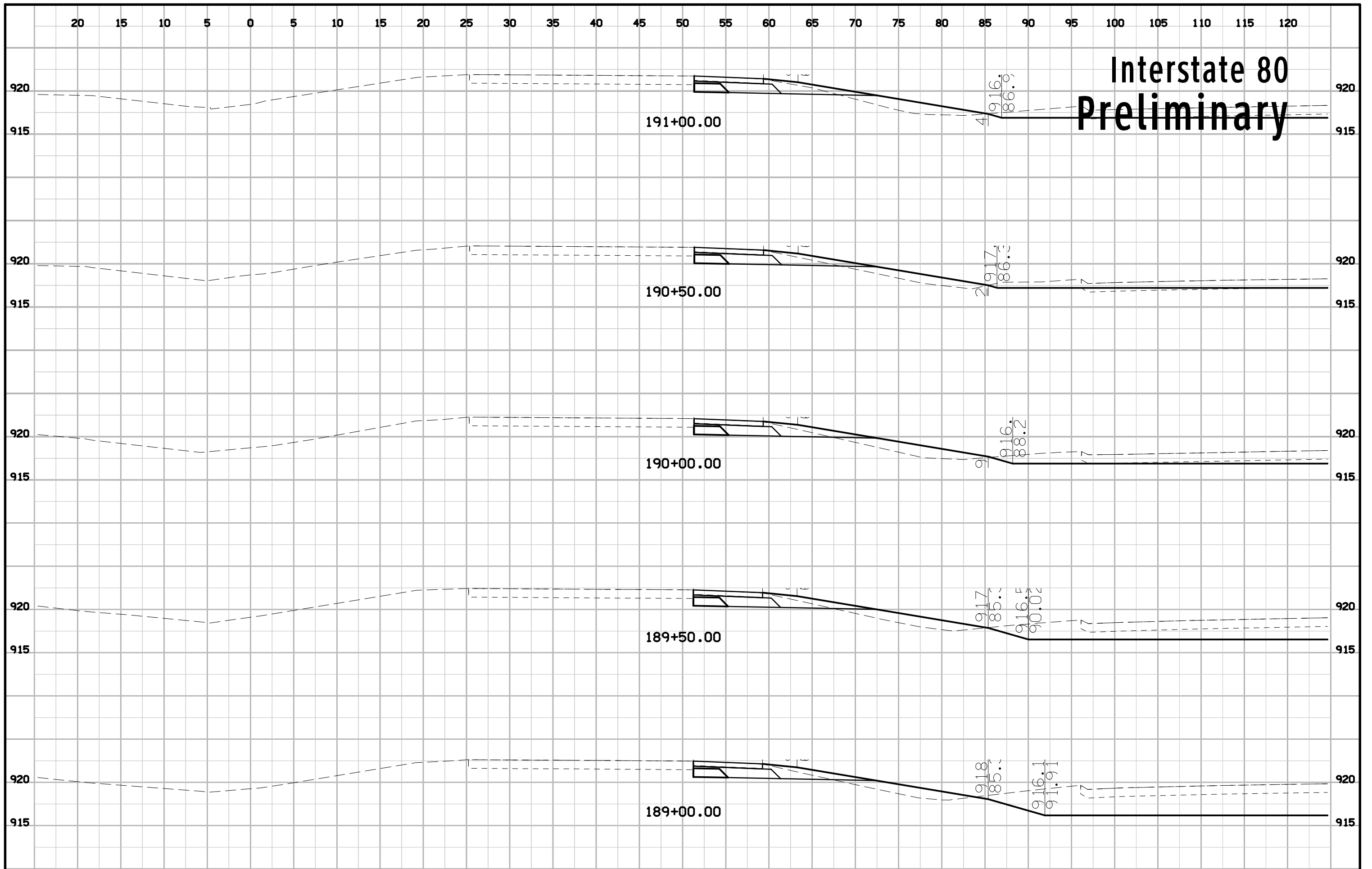
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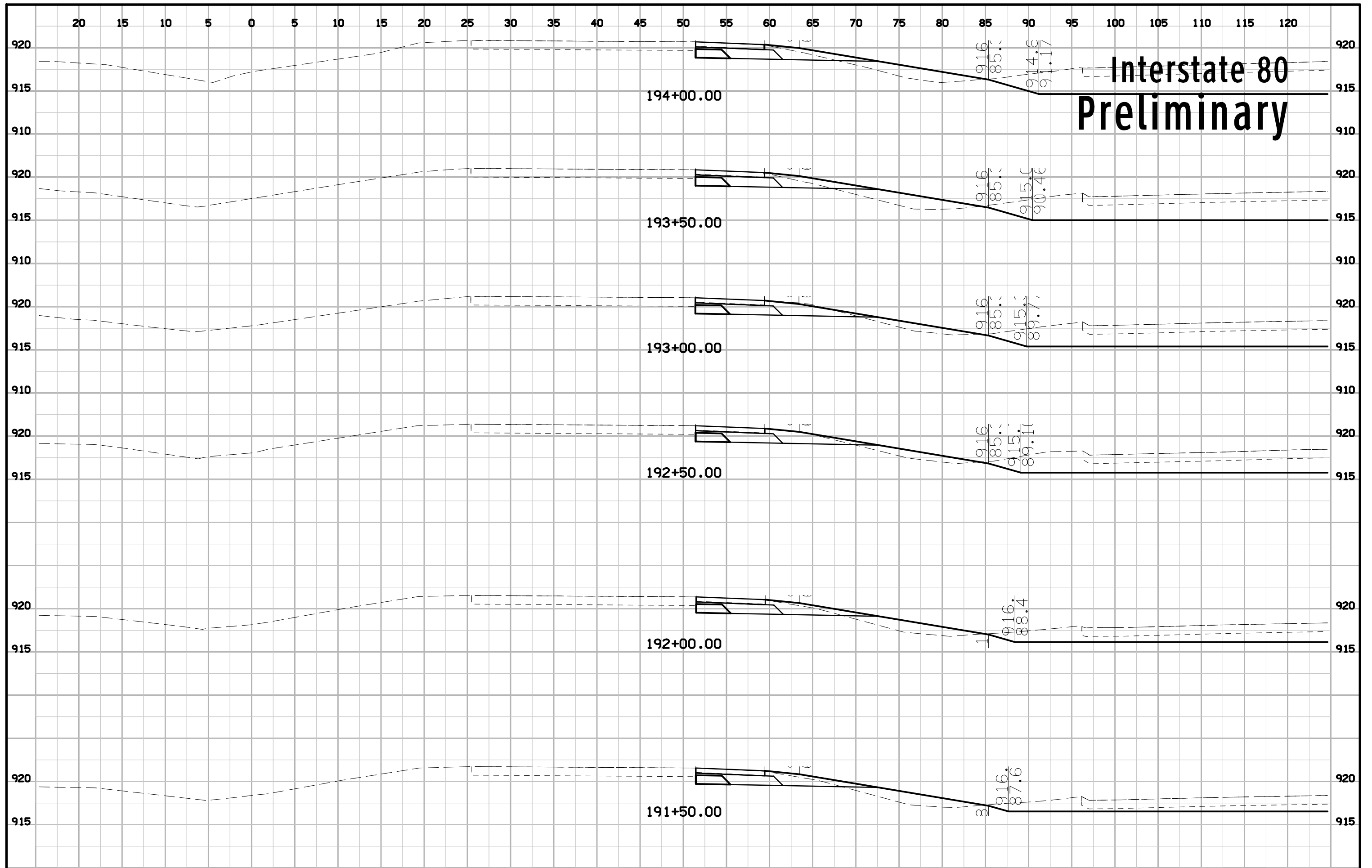
# Interstate 80 Preliminary



# Interstate 80 Preliminary

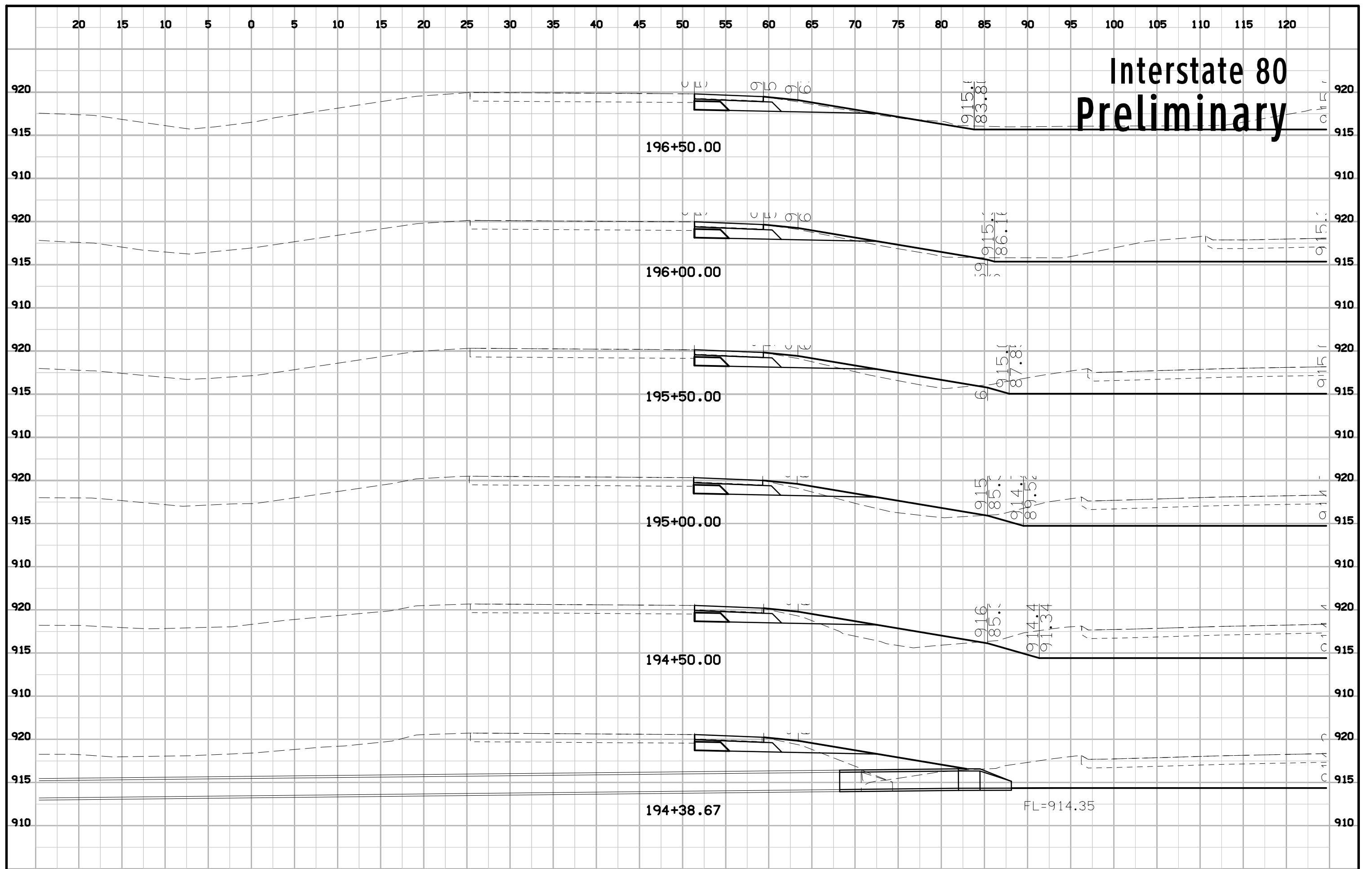




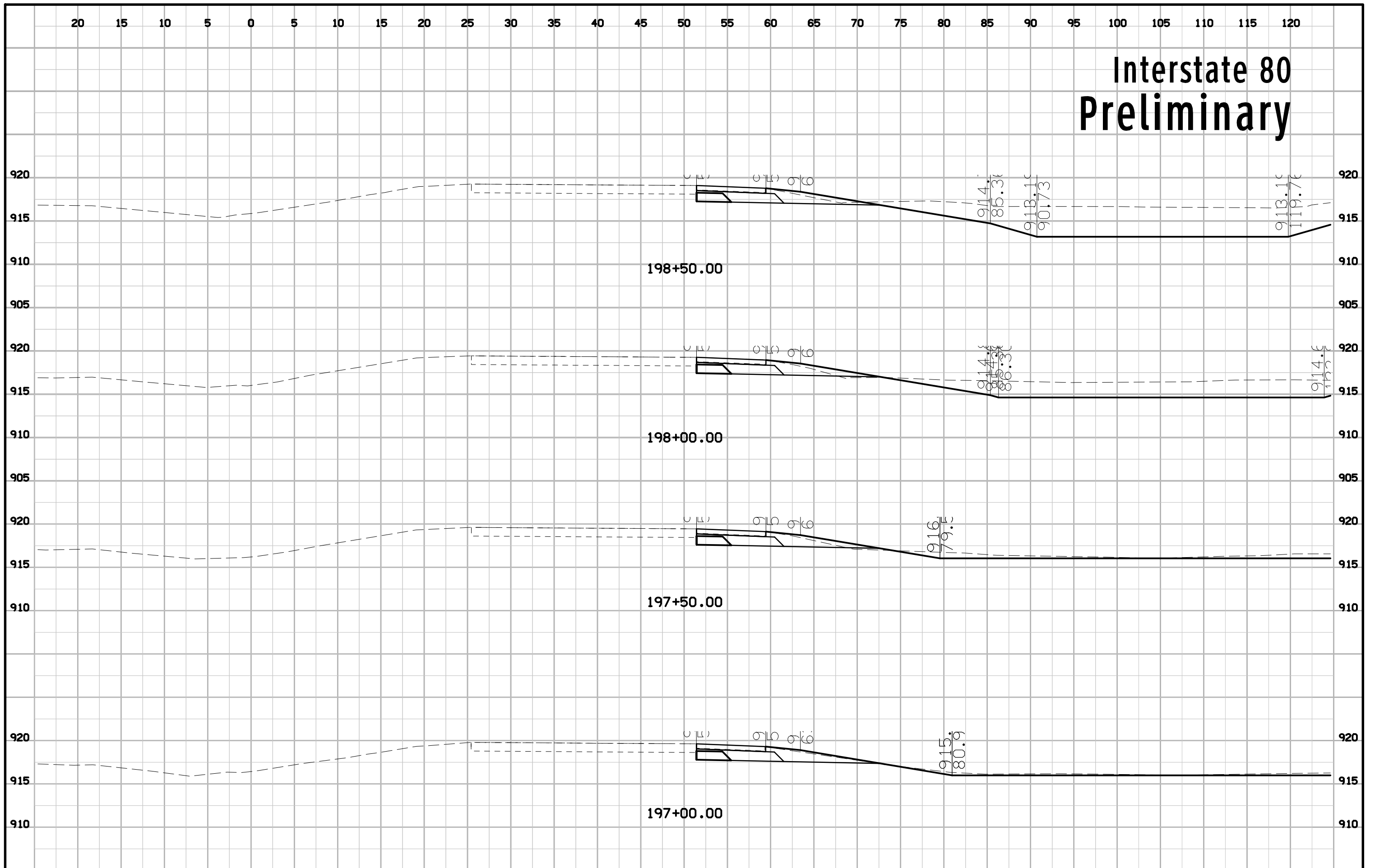


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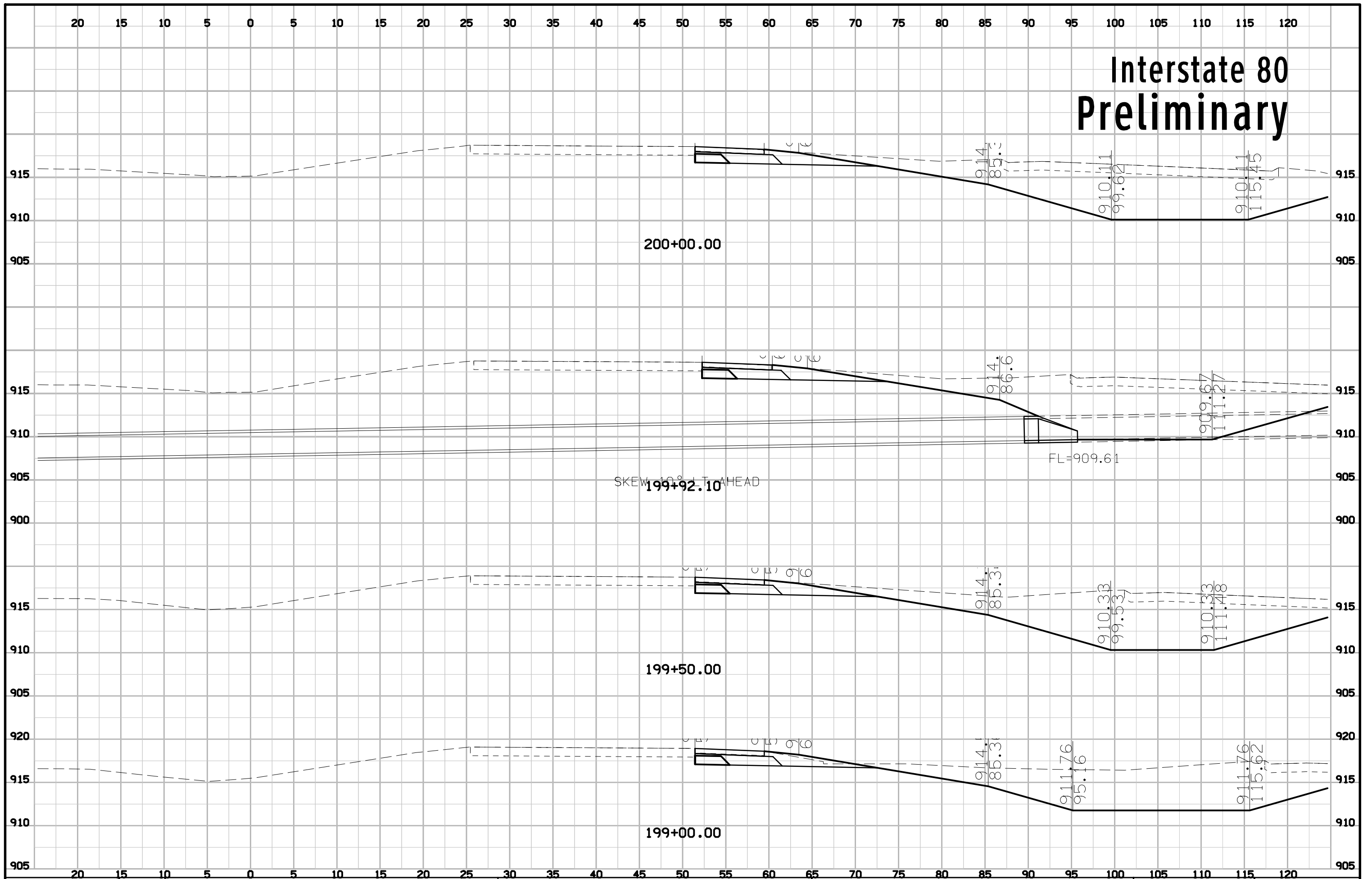
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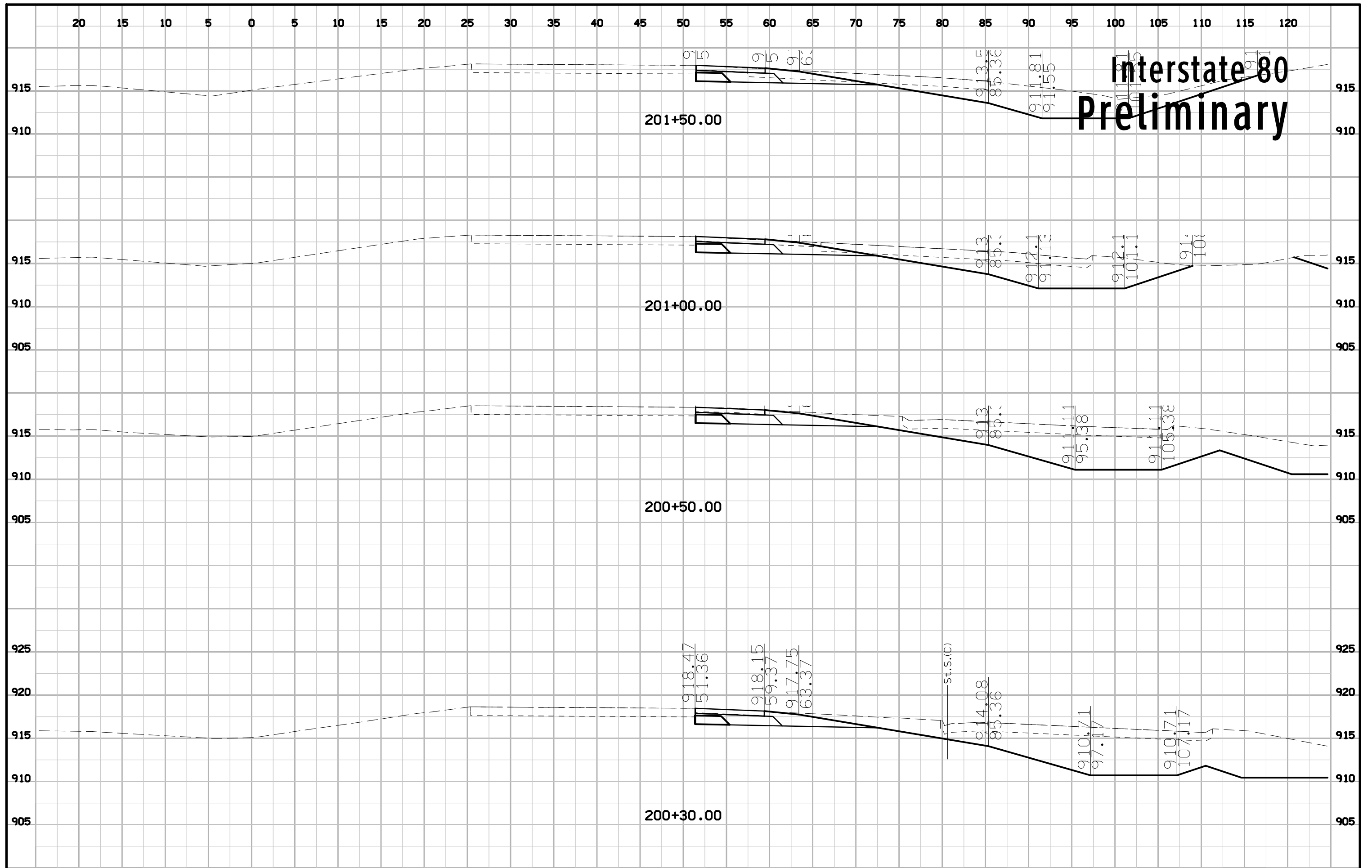


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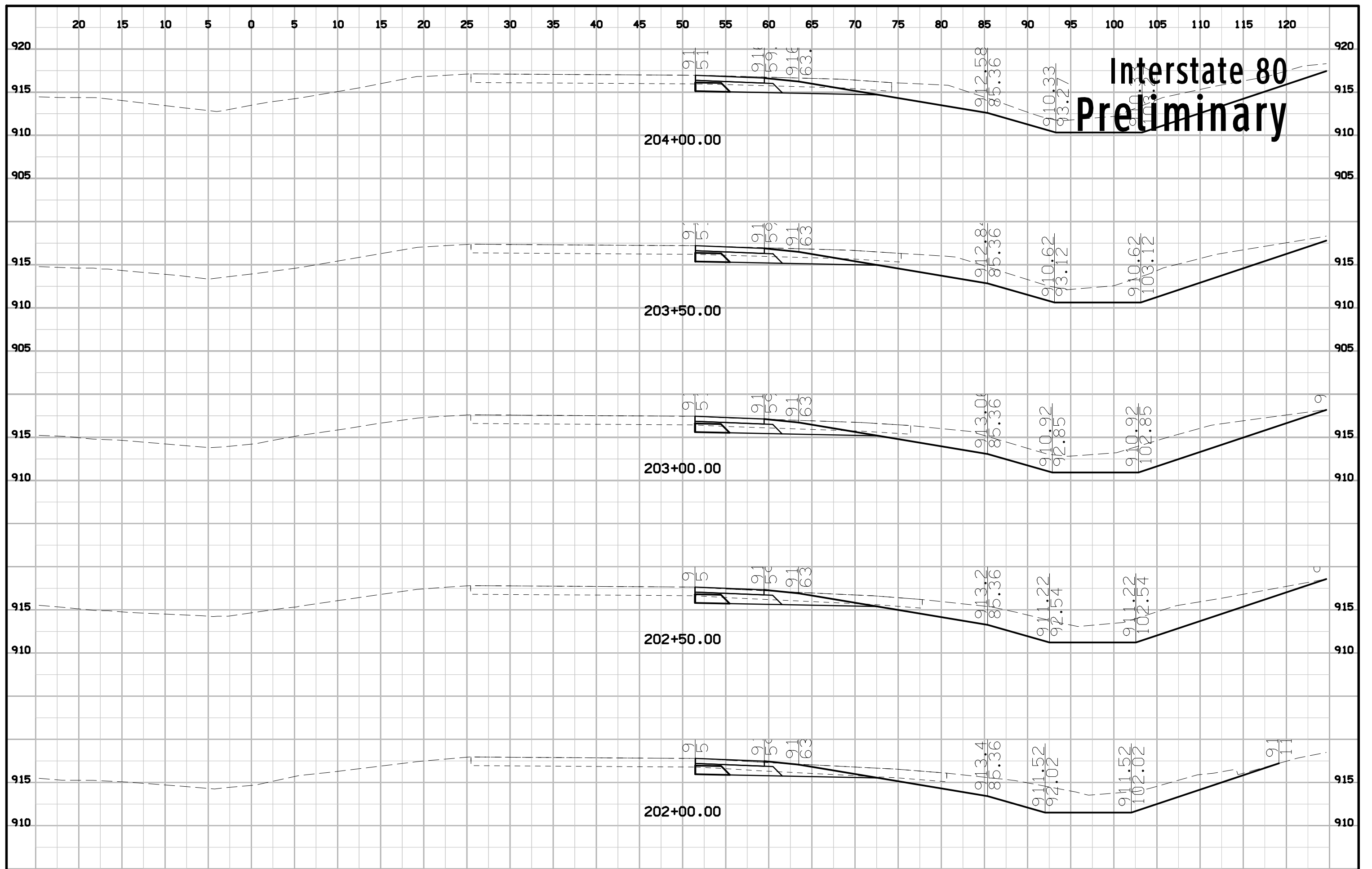


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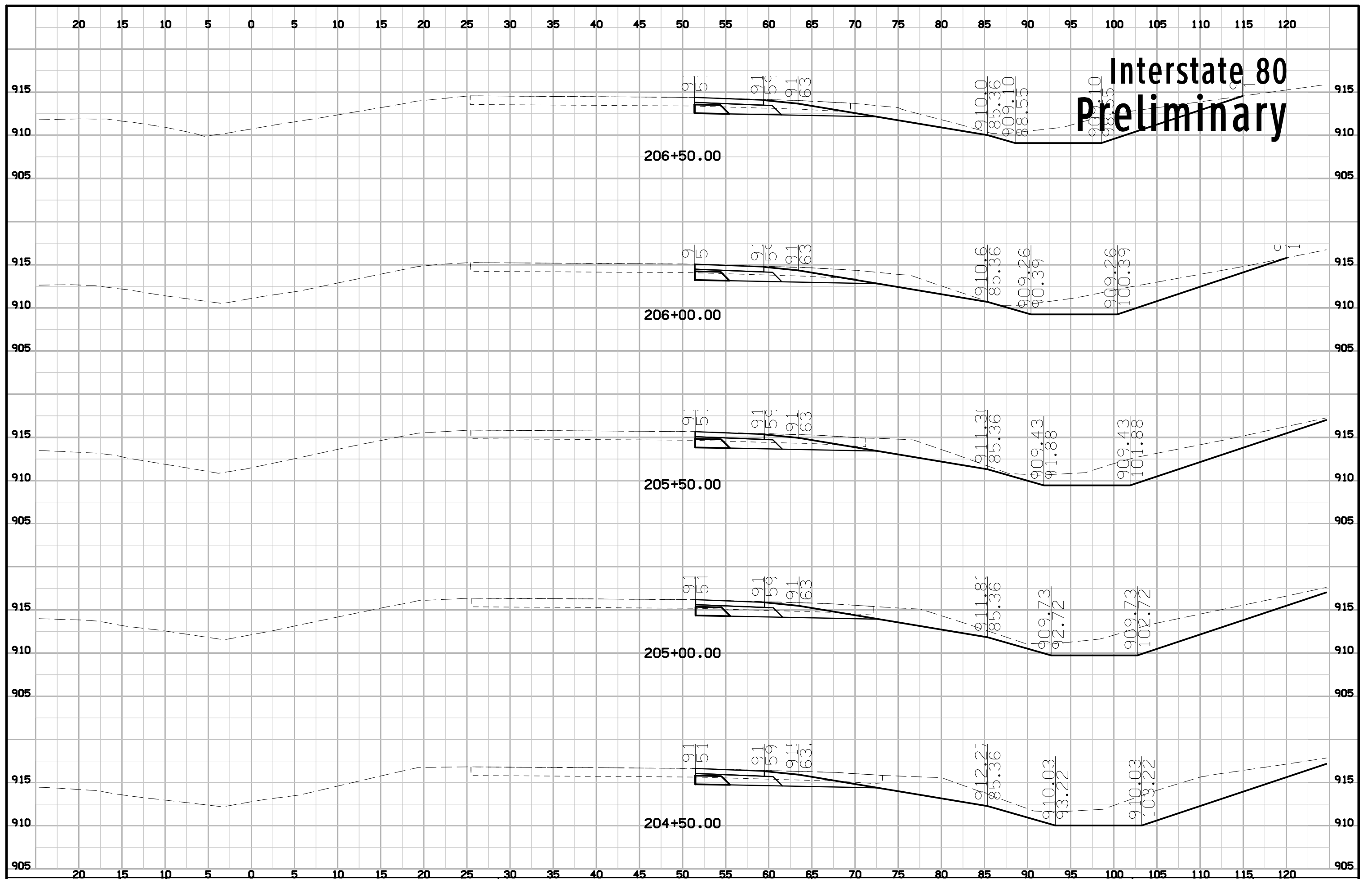




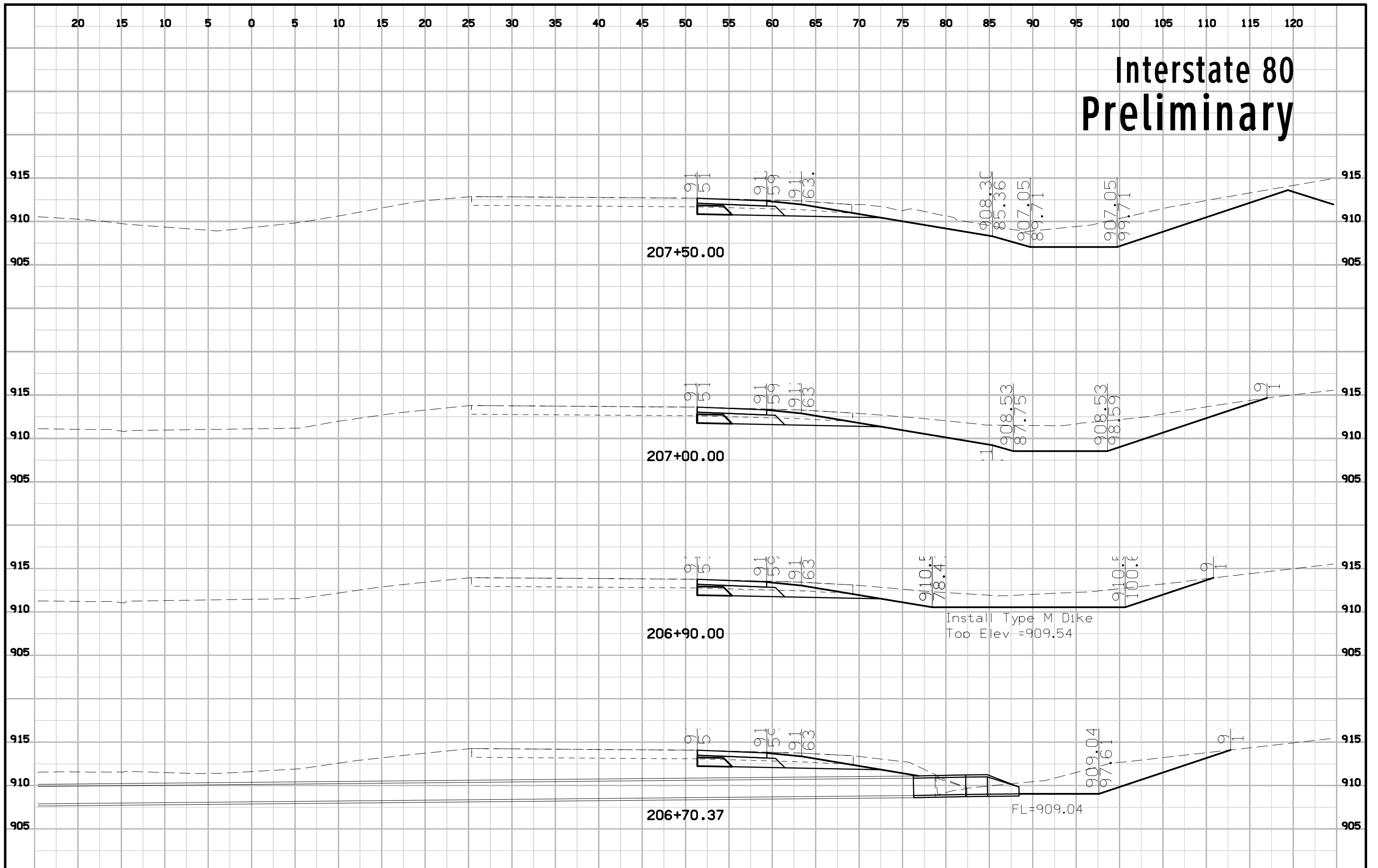
# Interstate 80 Preliminary



# Interstate 80 Preliminary



# Interstate 80 Preliminary

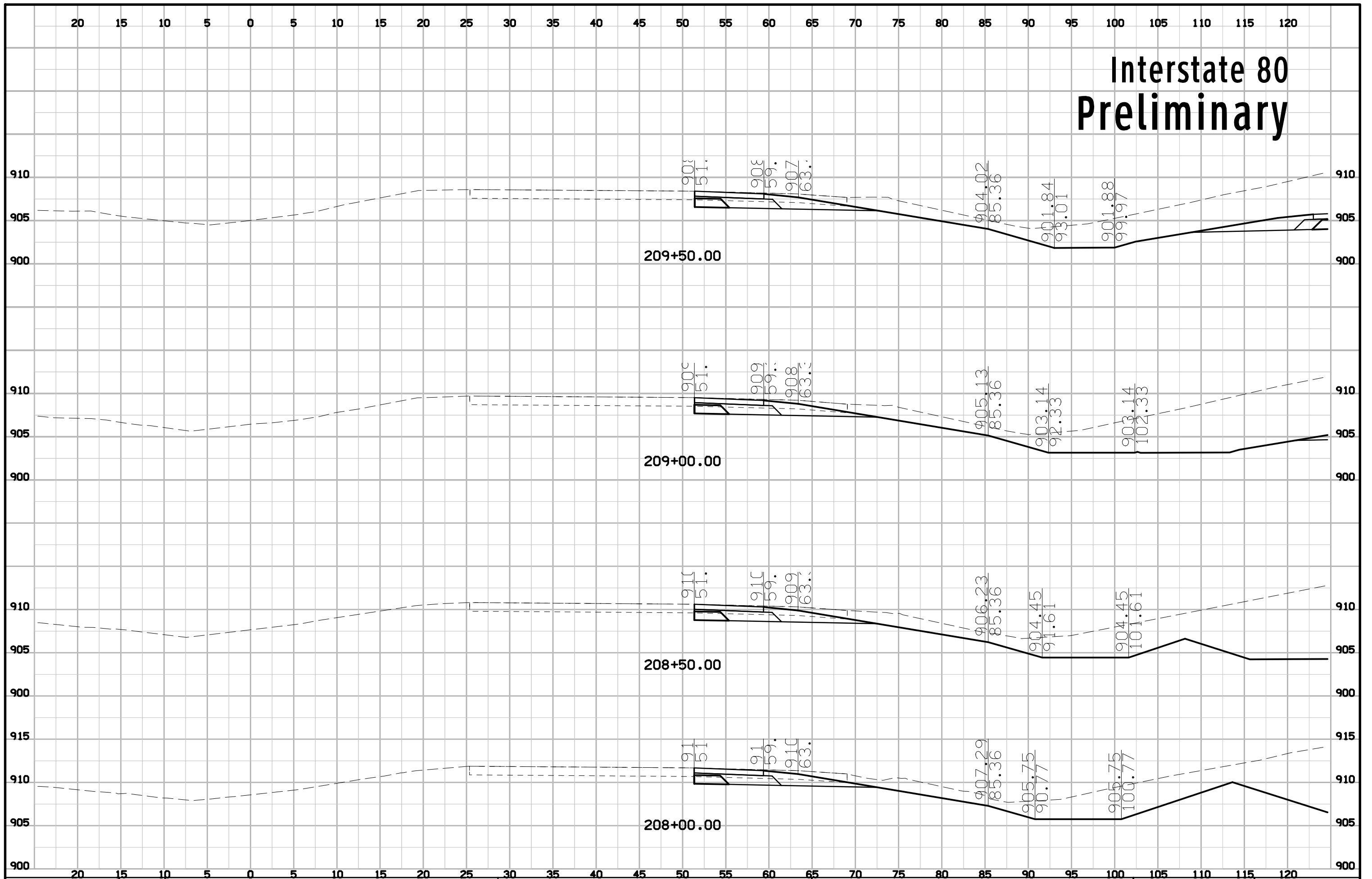


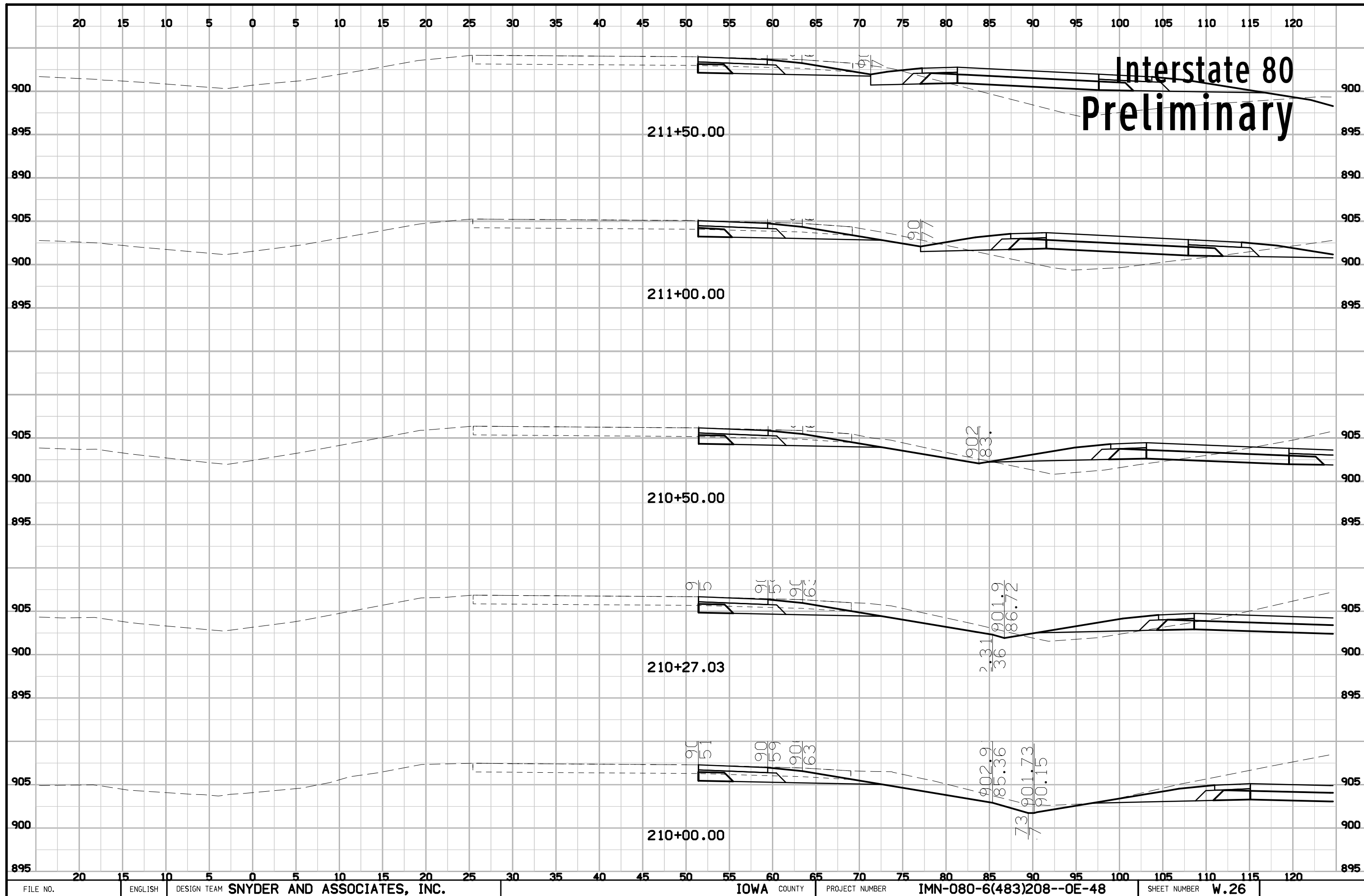
Install Type M Dike  
Top Elev = 909.54

FL=909.04



# Interstate 80 Preliminary





# Interstate 80 Preliminary

211+50.00

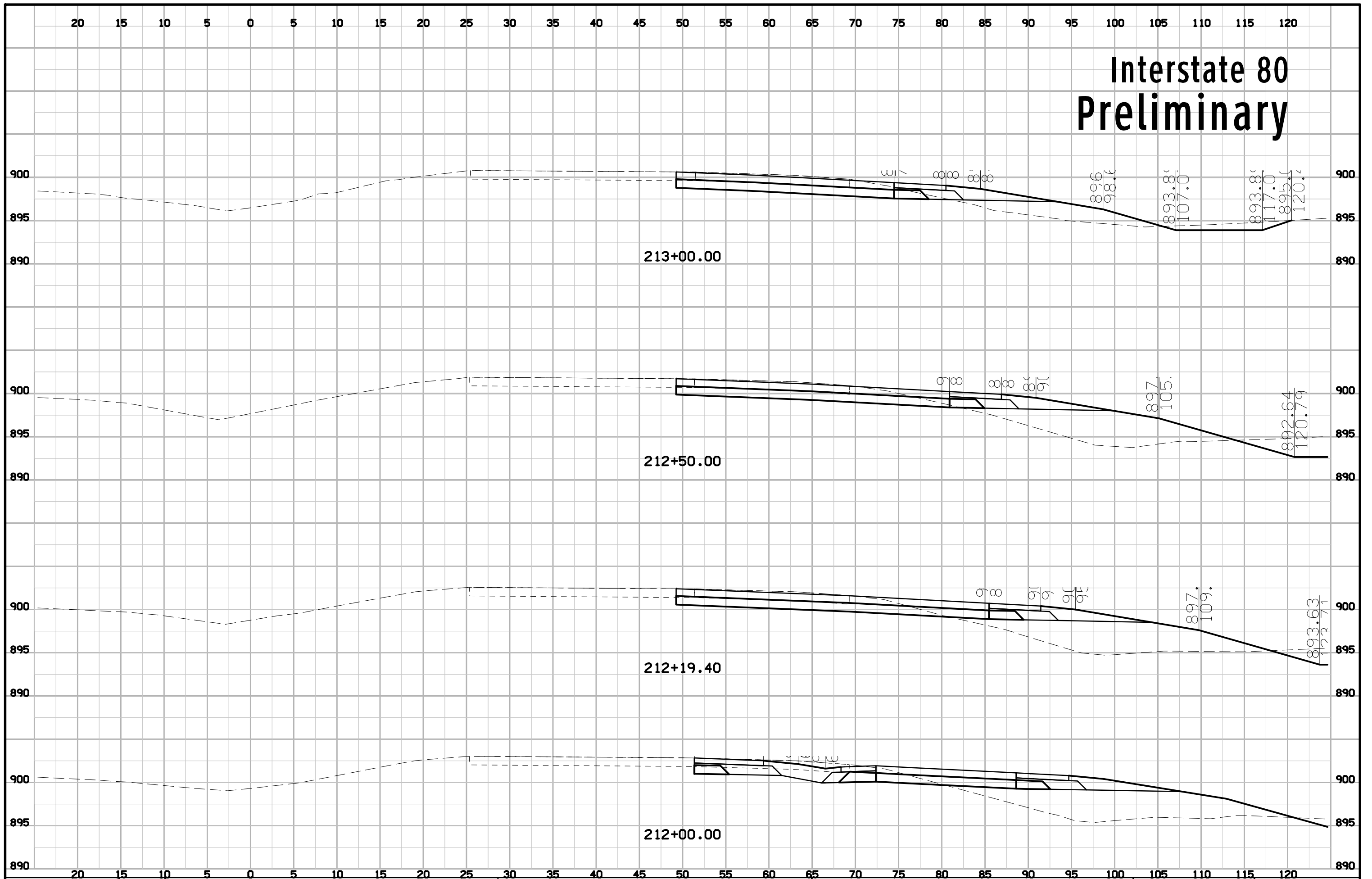
211+00.00

210+50.00

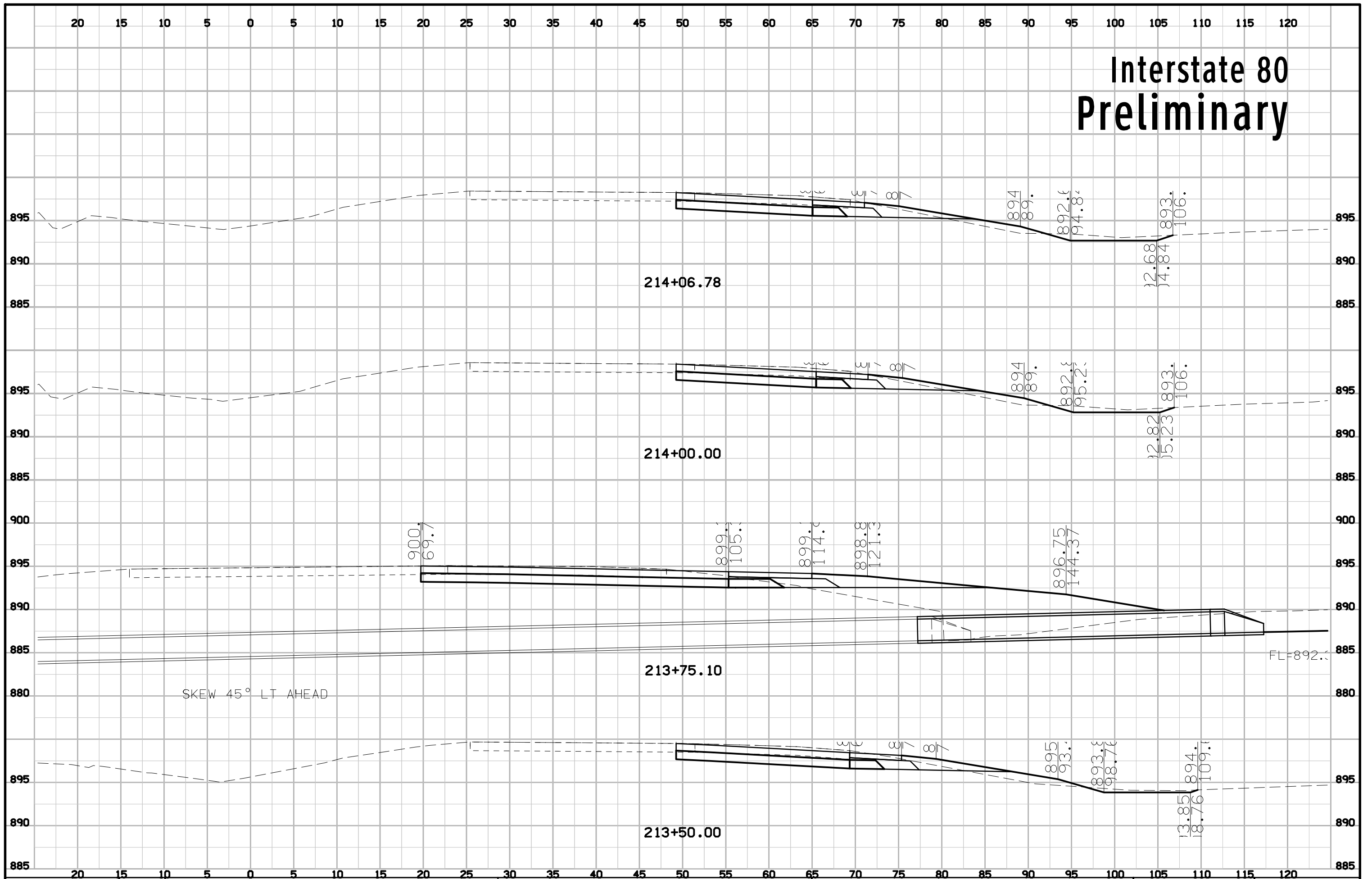
210+27.03

210+00.00

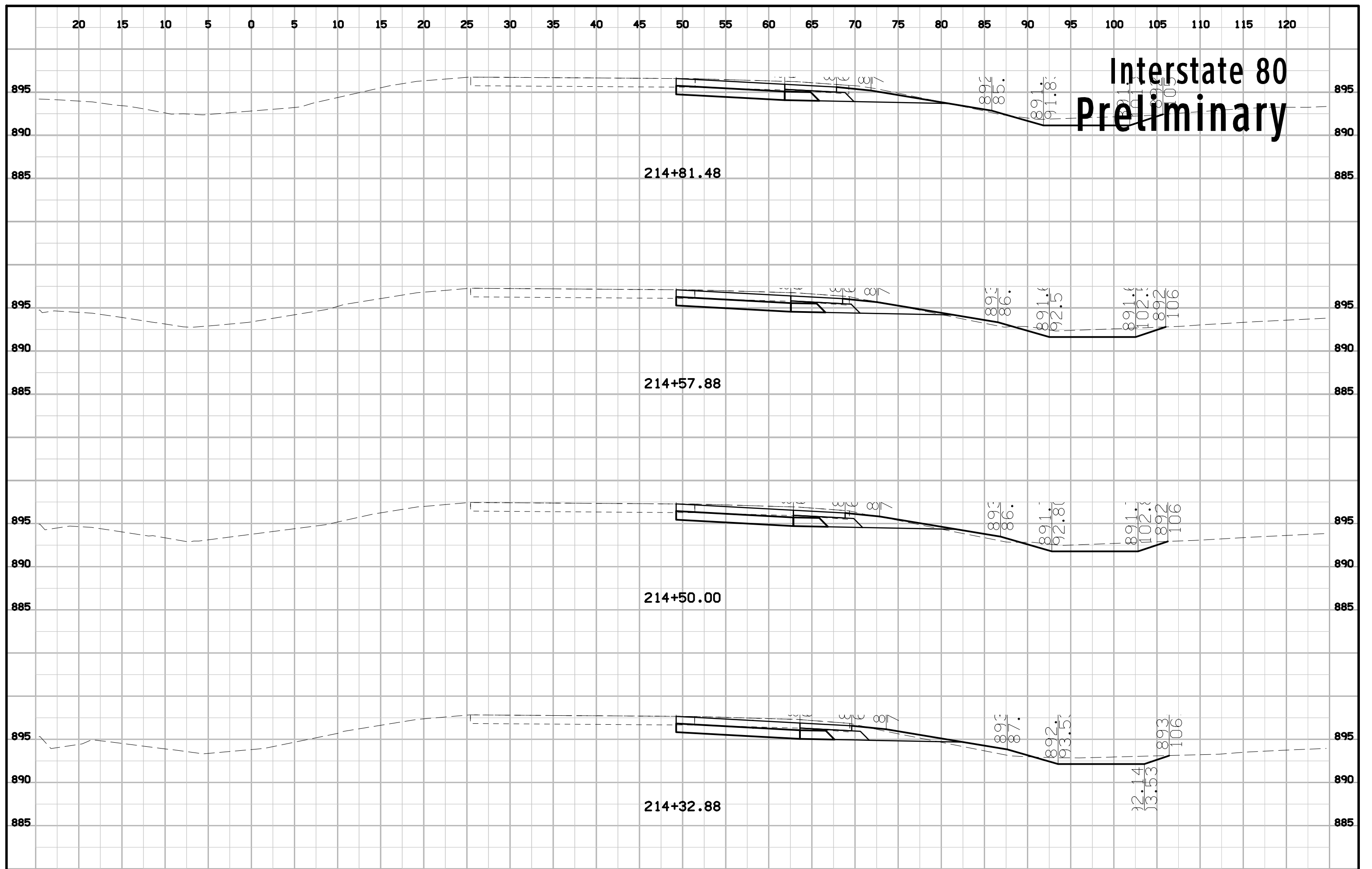
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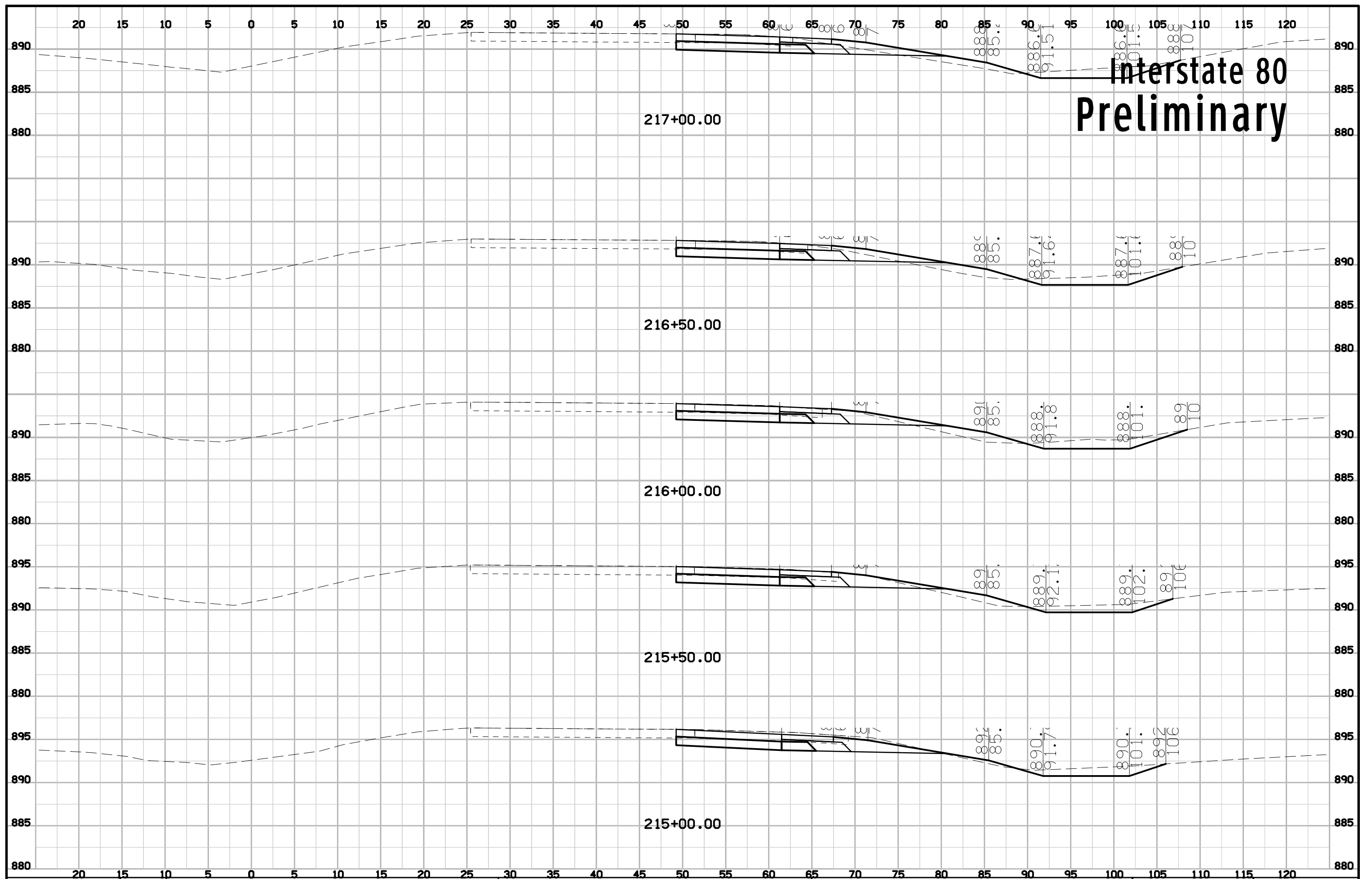
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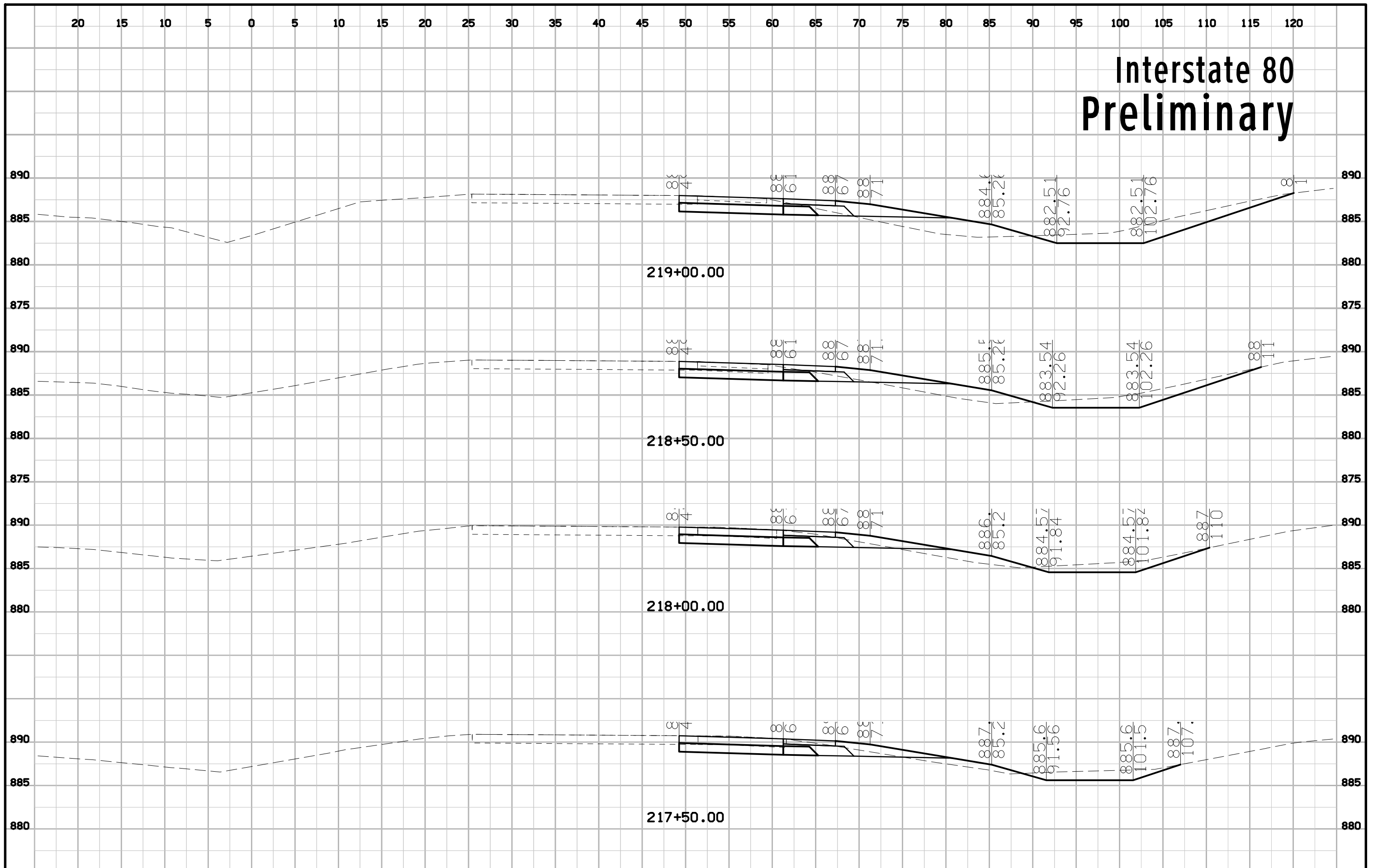
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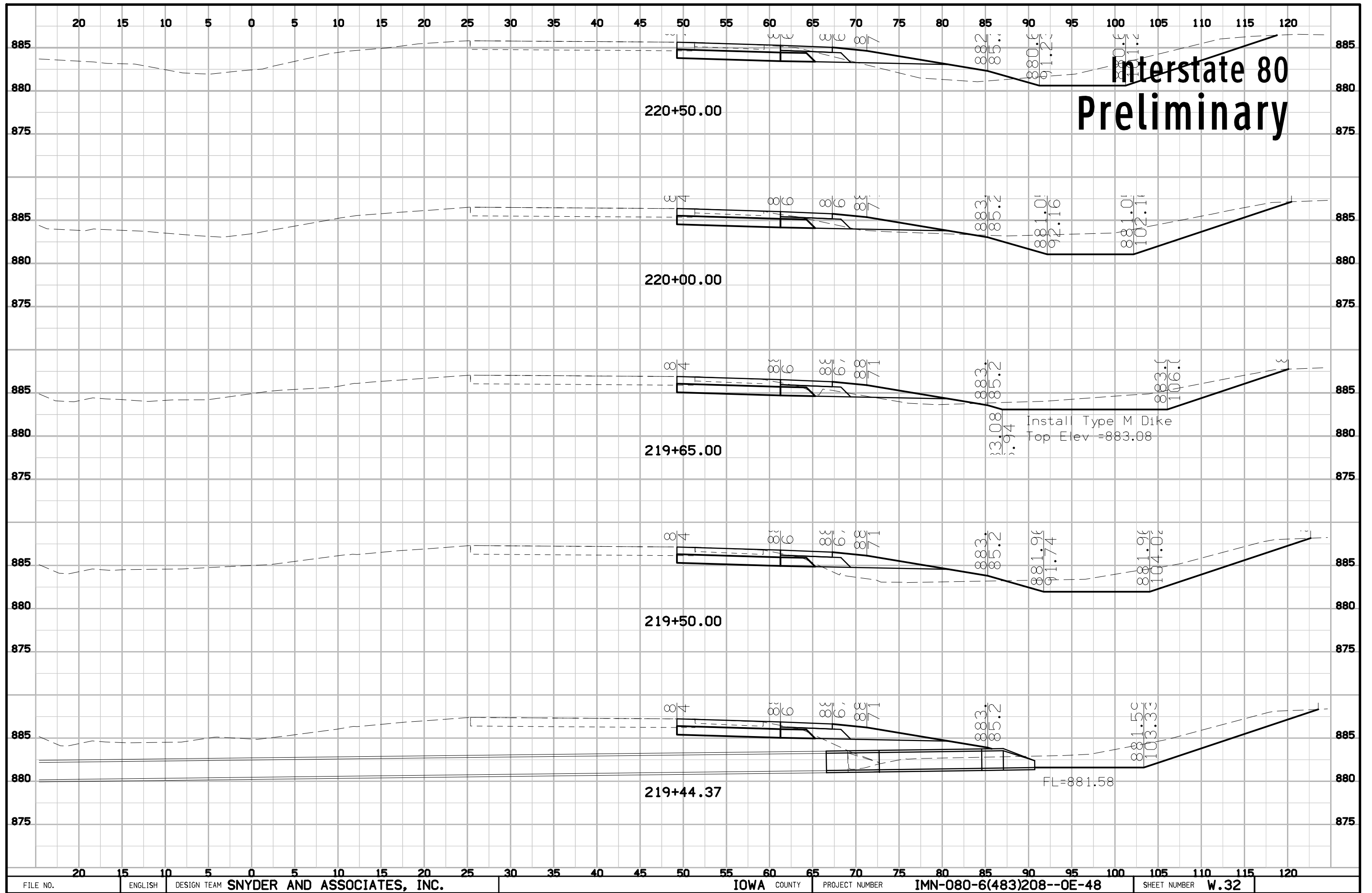


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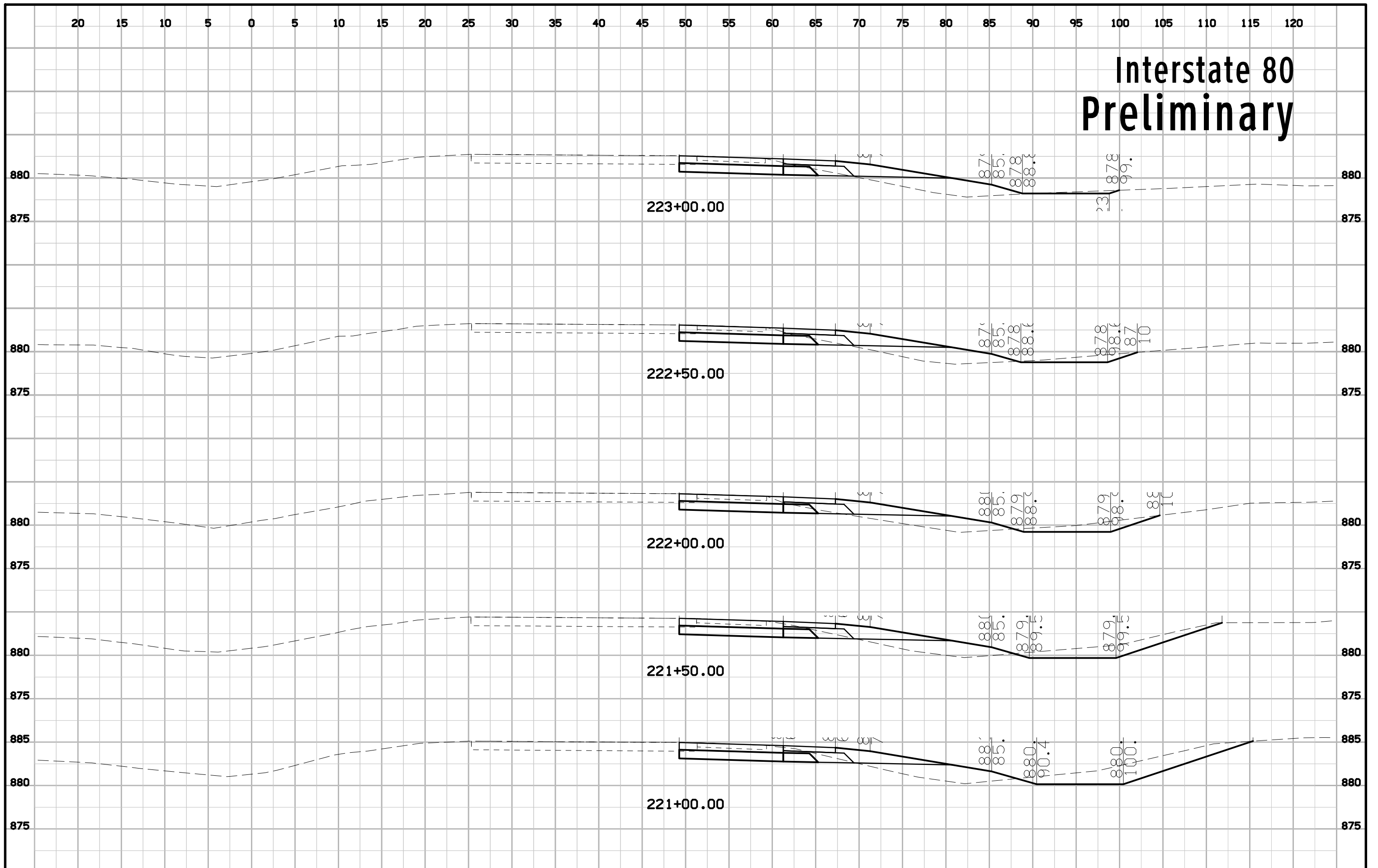
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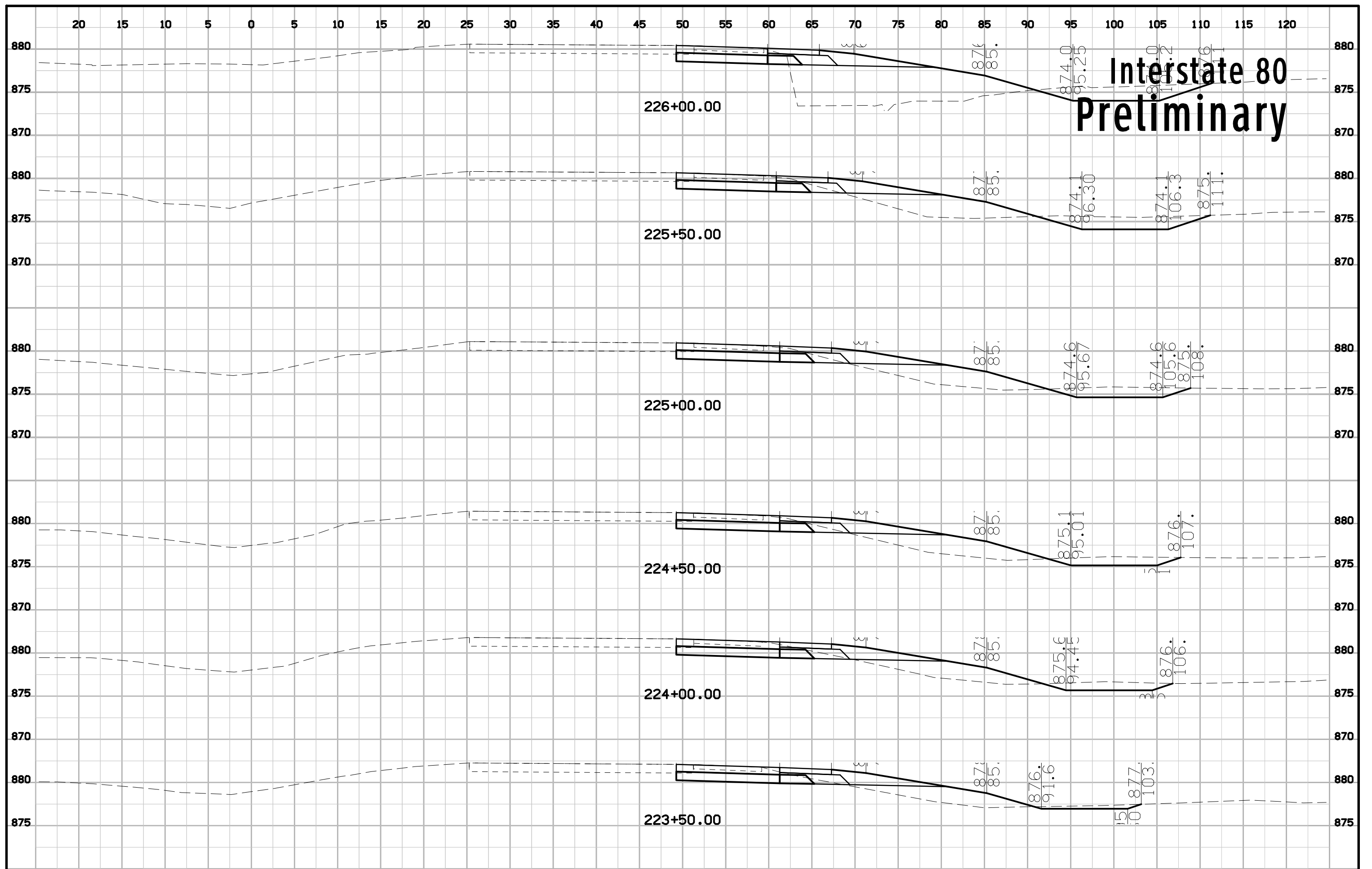




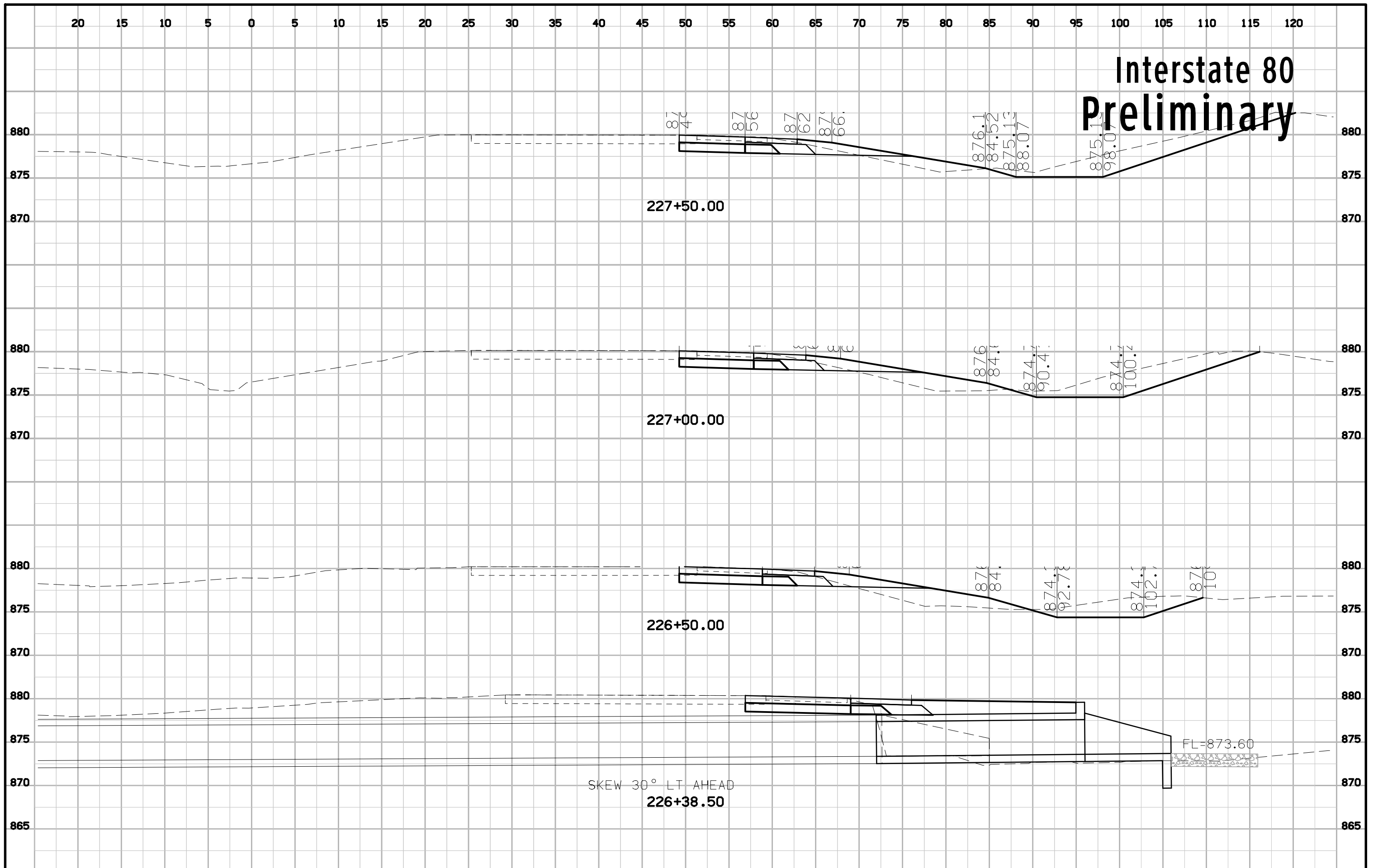
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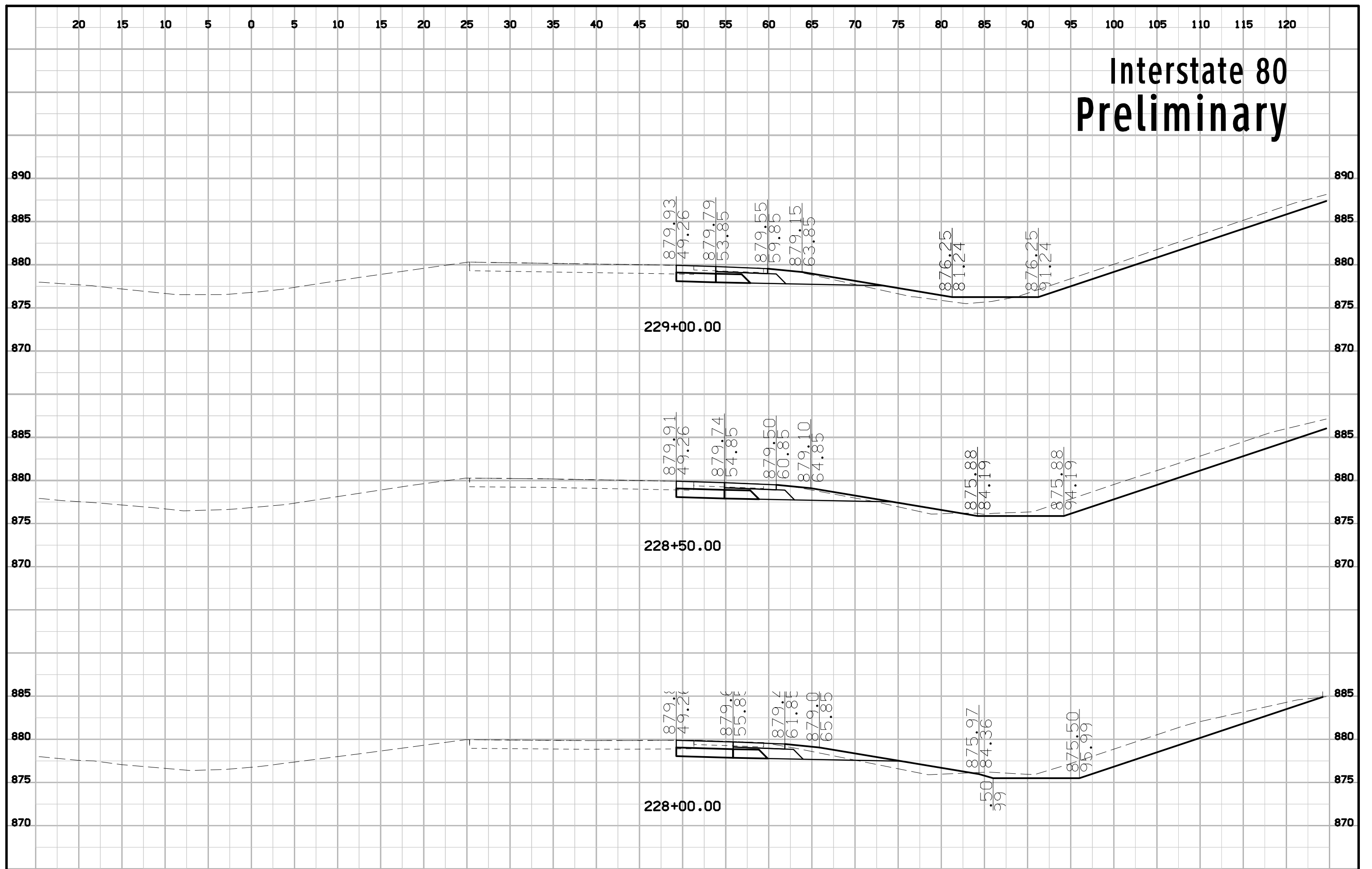
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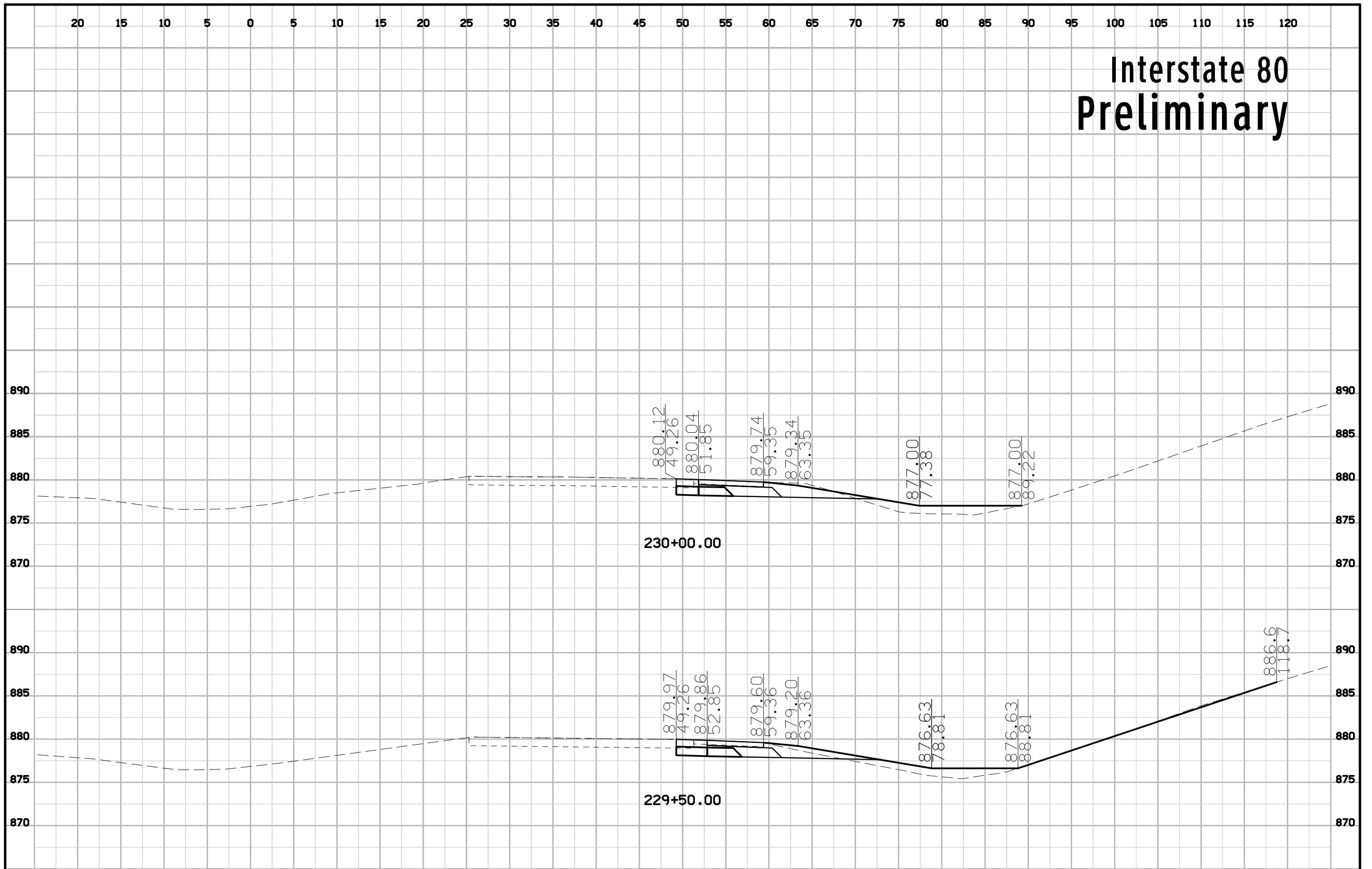
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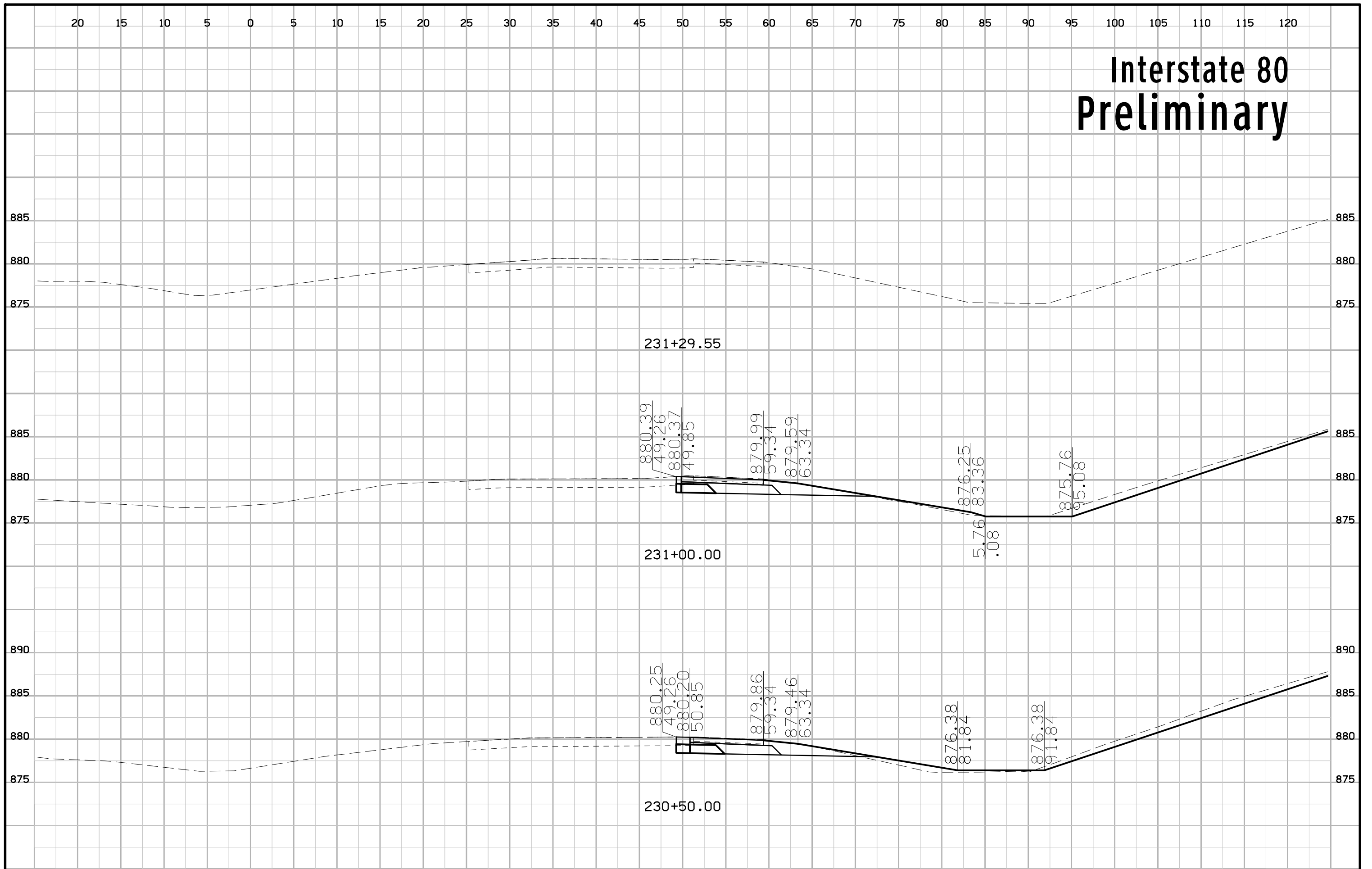
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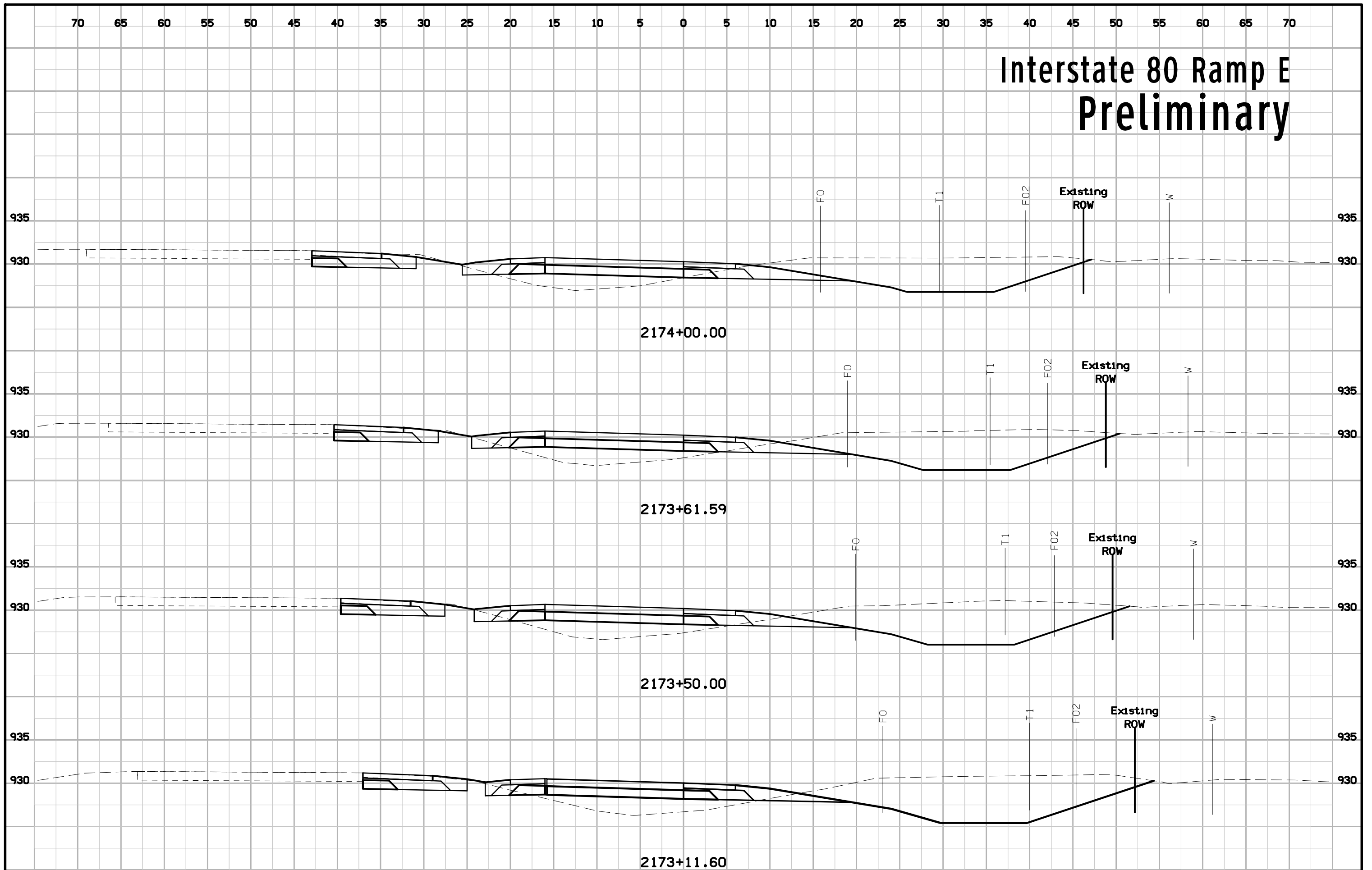
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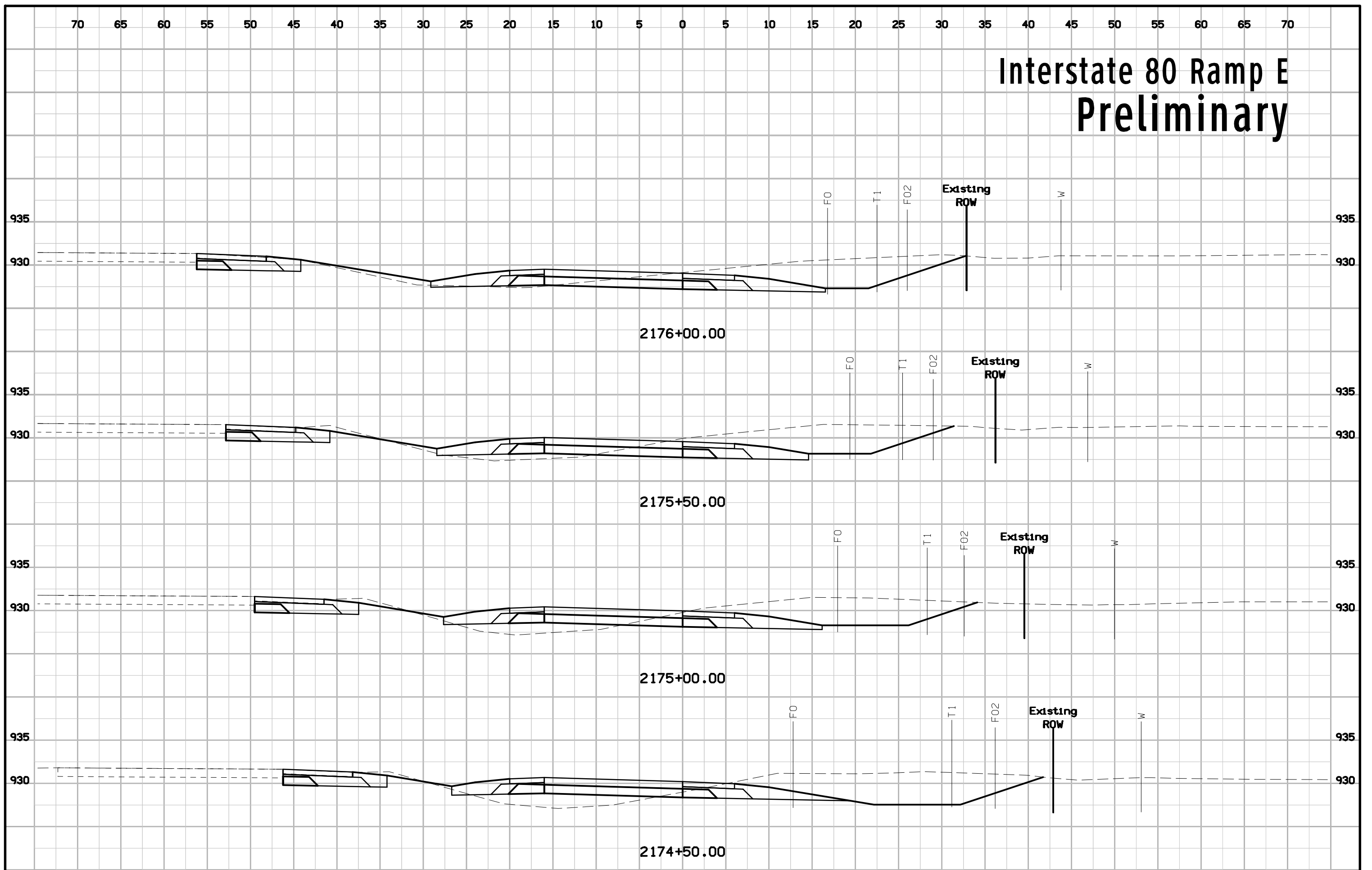
# Interstate 80 Preliminary



# Interstate 80 Ramp E Preliminary

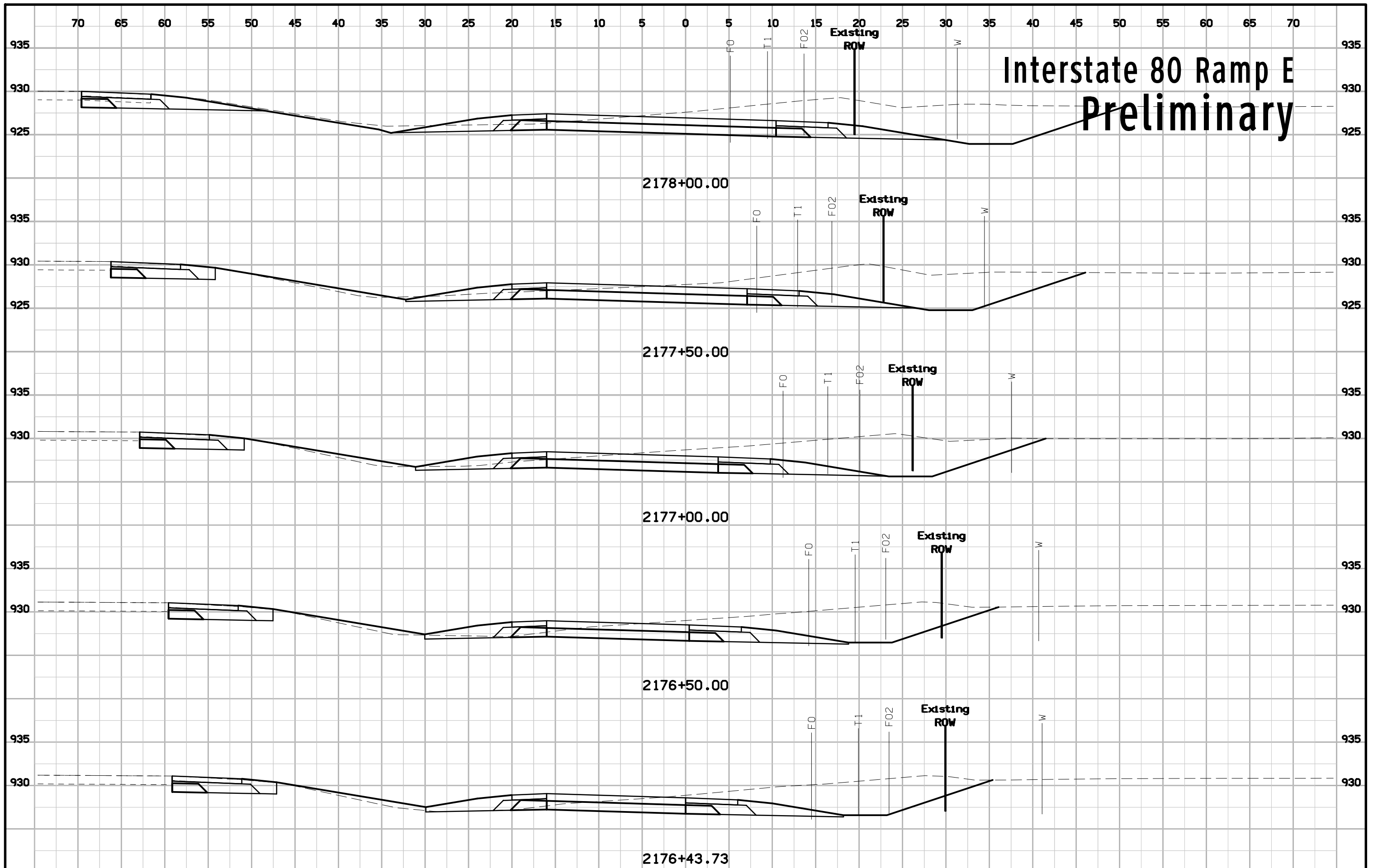


# Interstate 80 Ramp E Preliminary

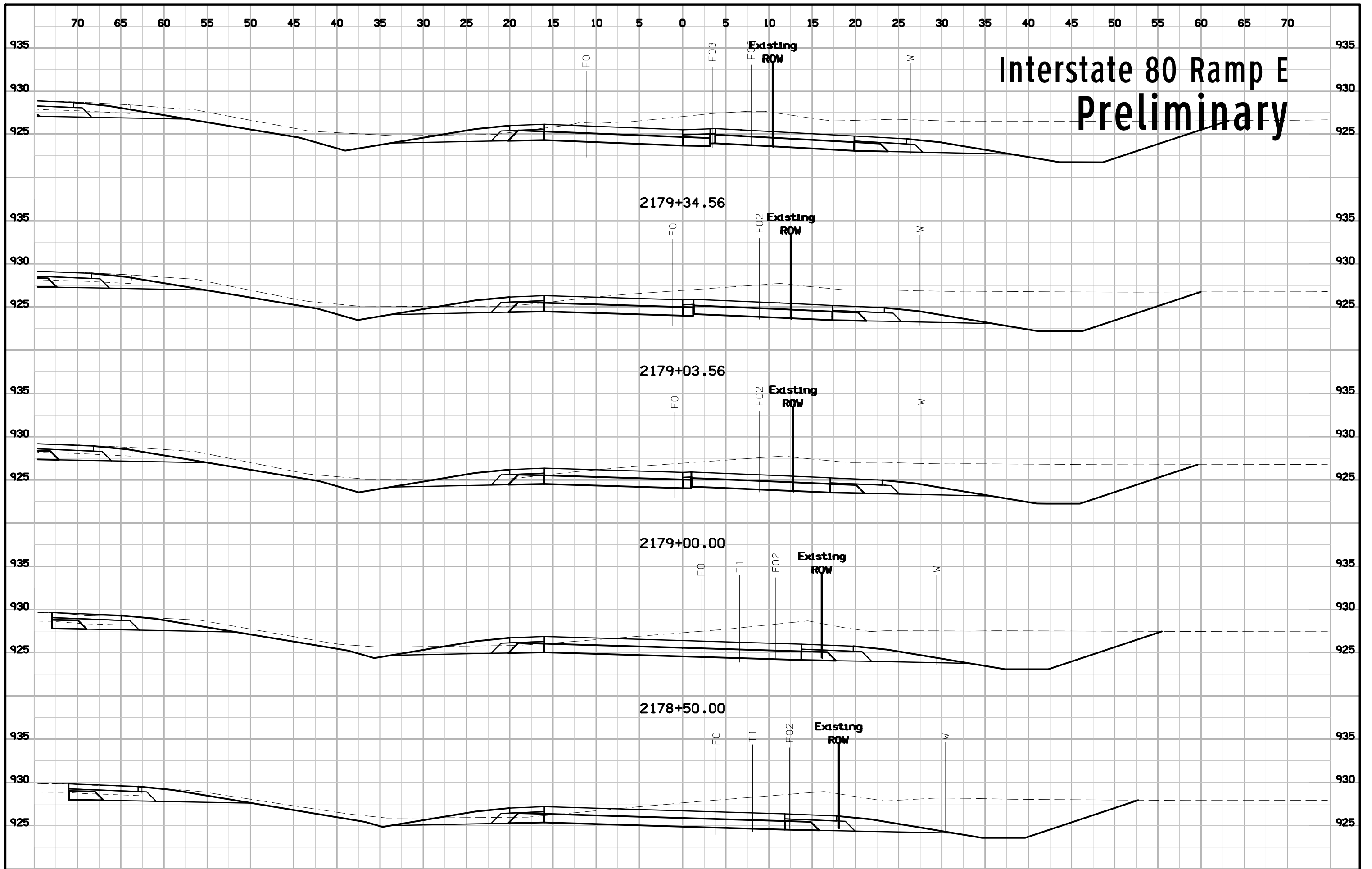




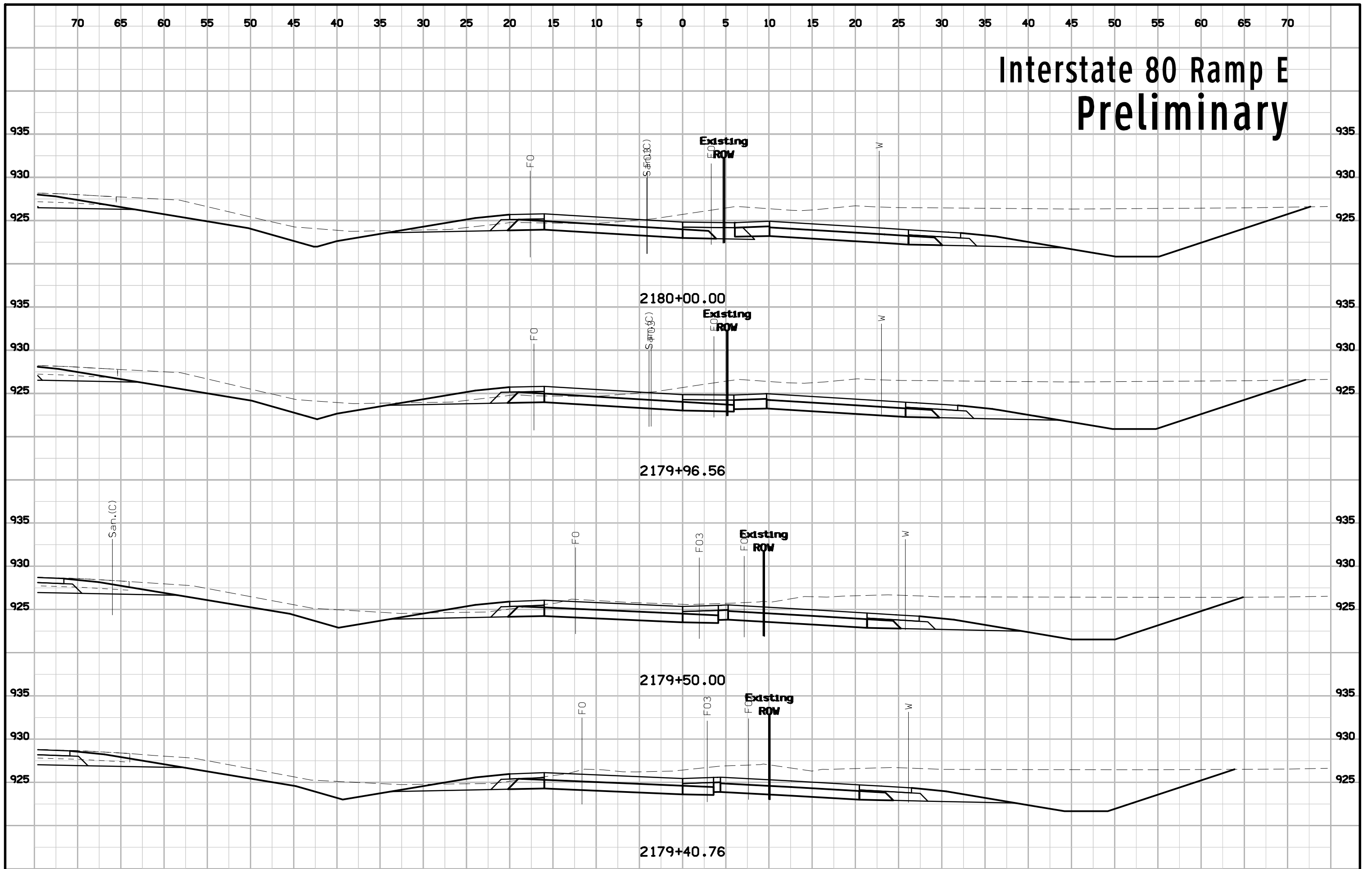
# Interstate 80 Ramp E Preliminary



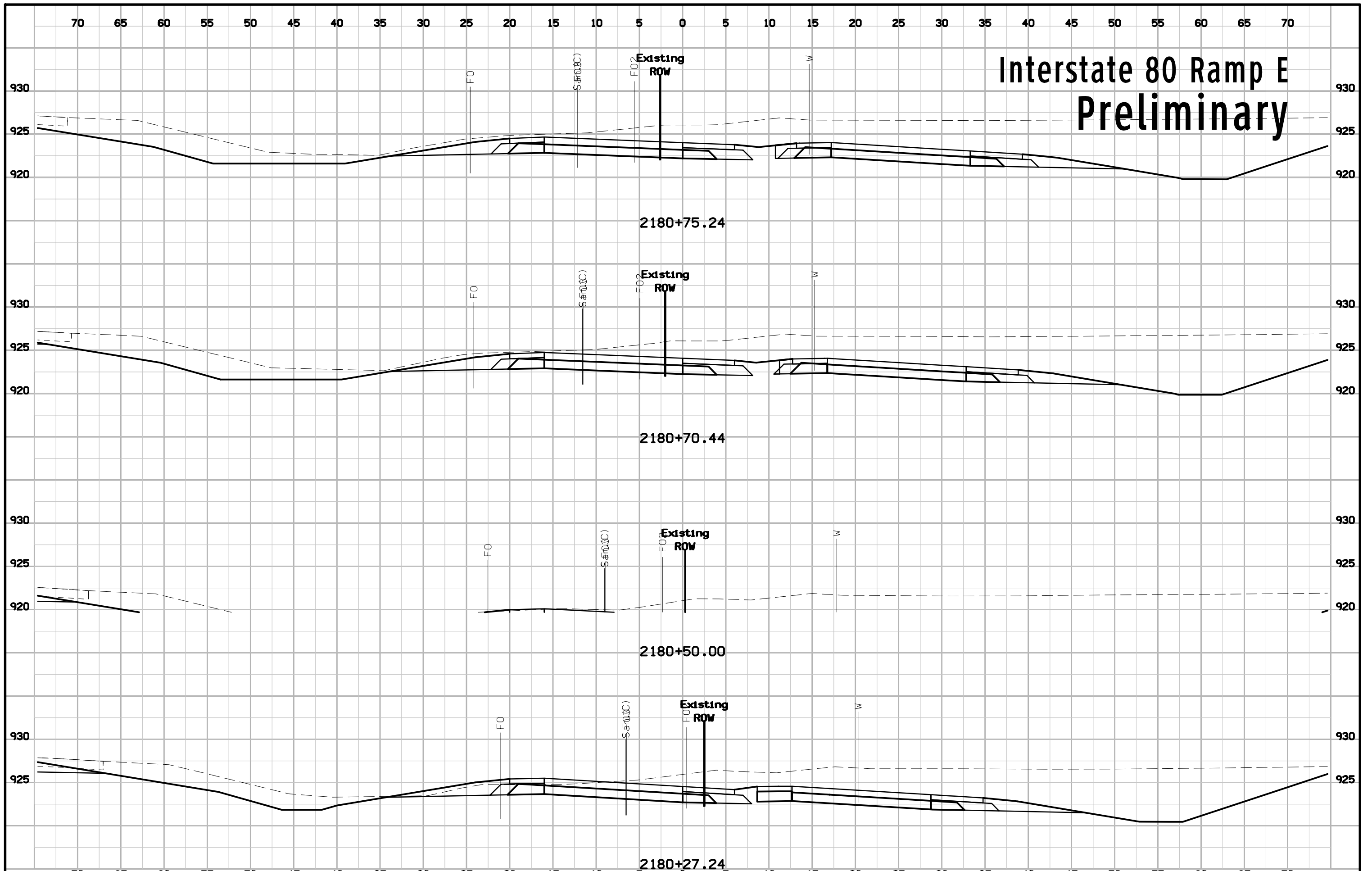
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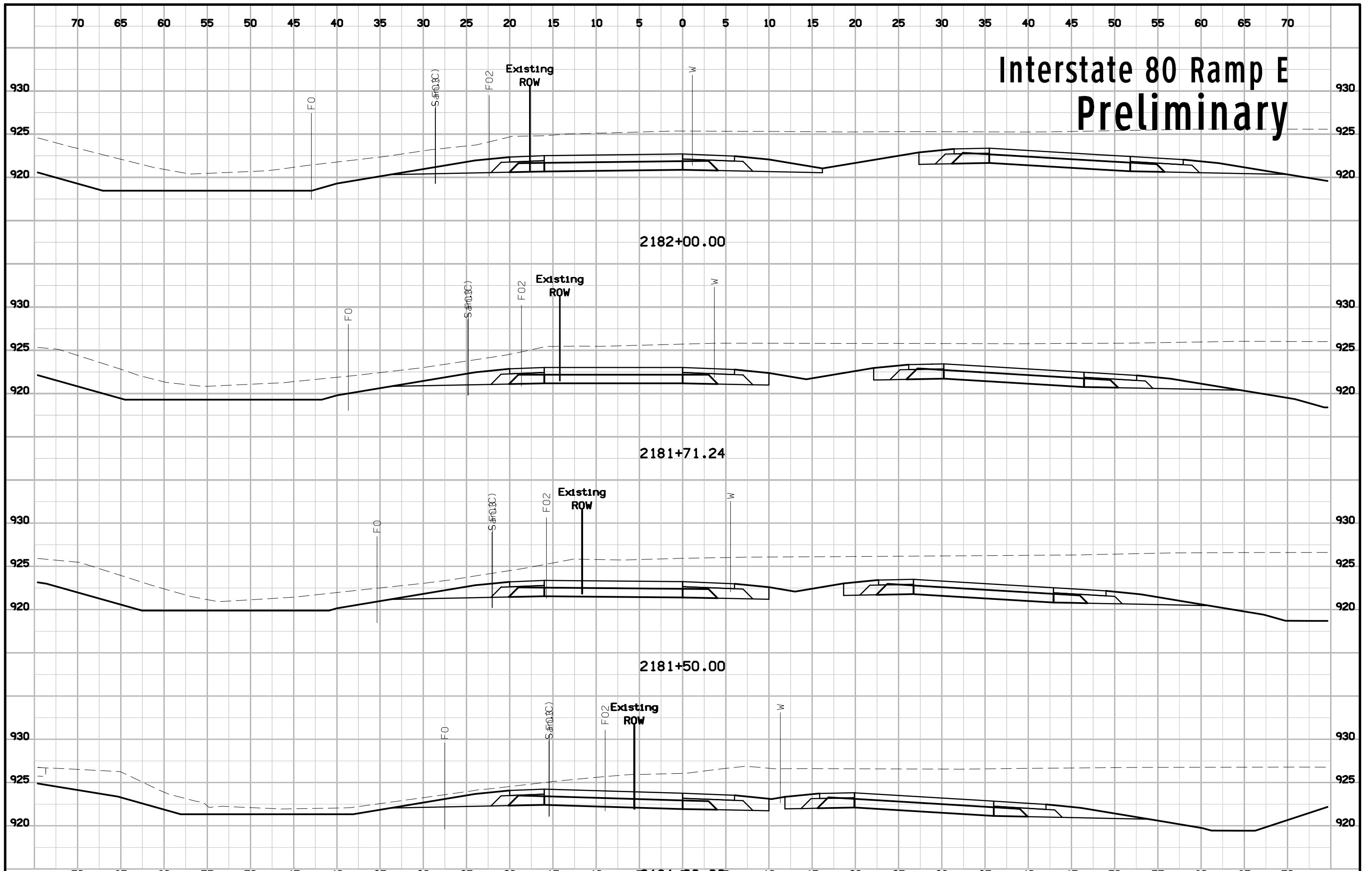
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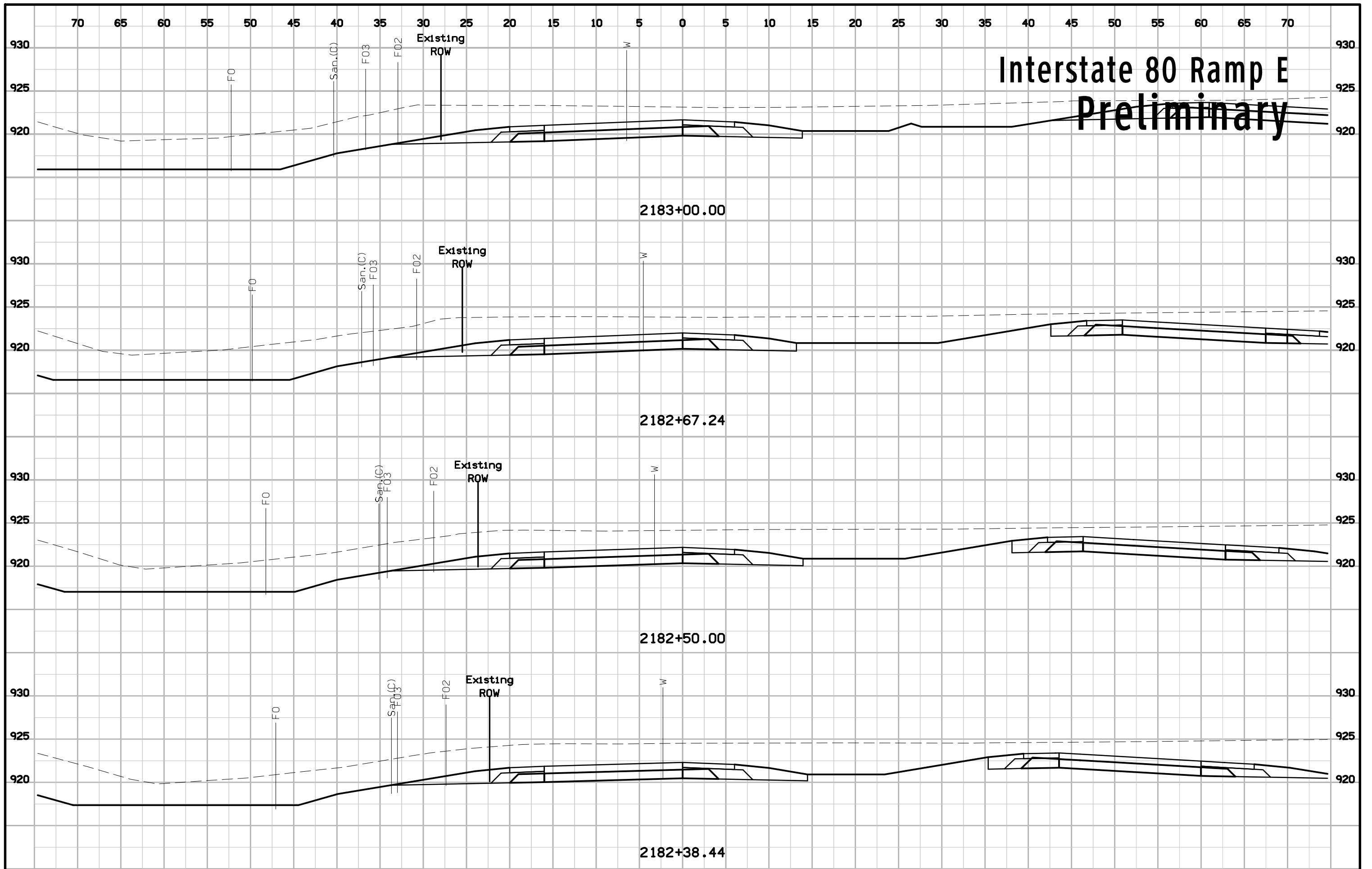
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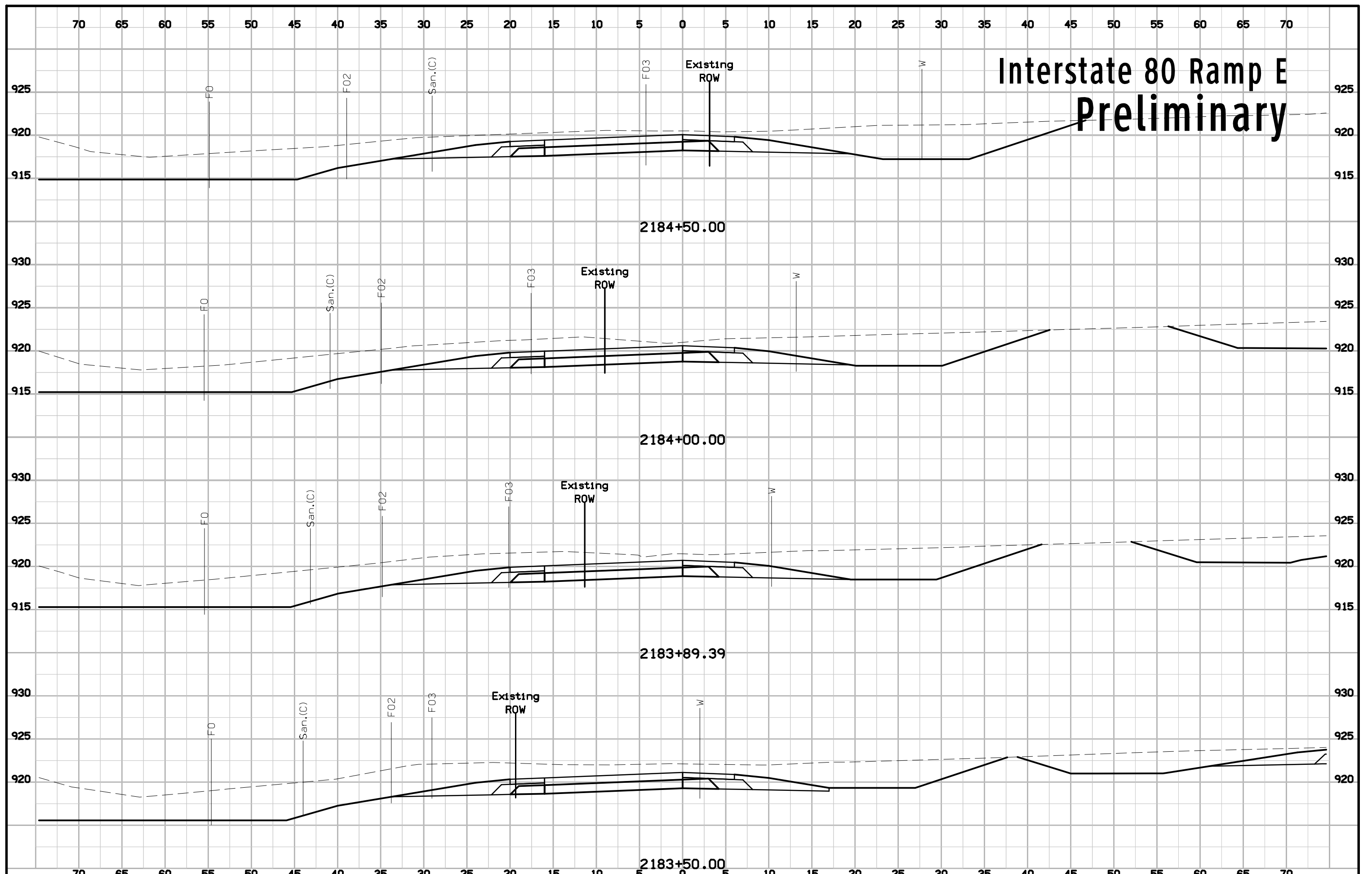
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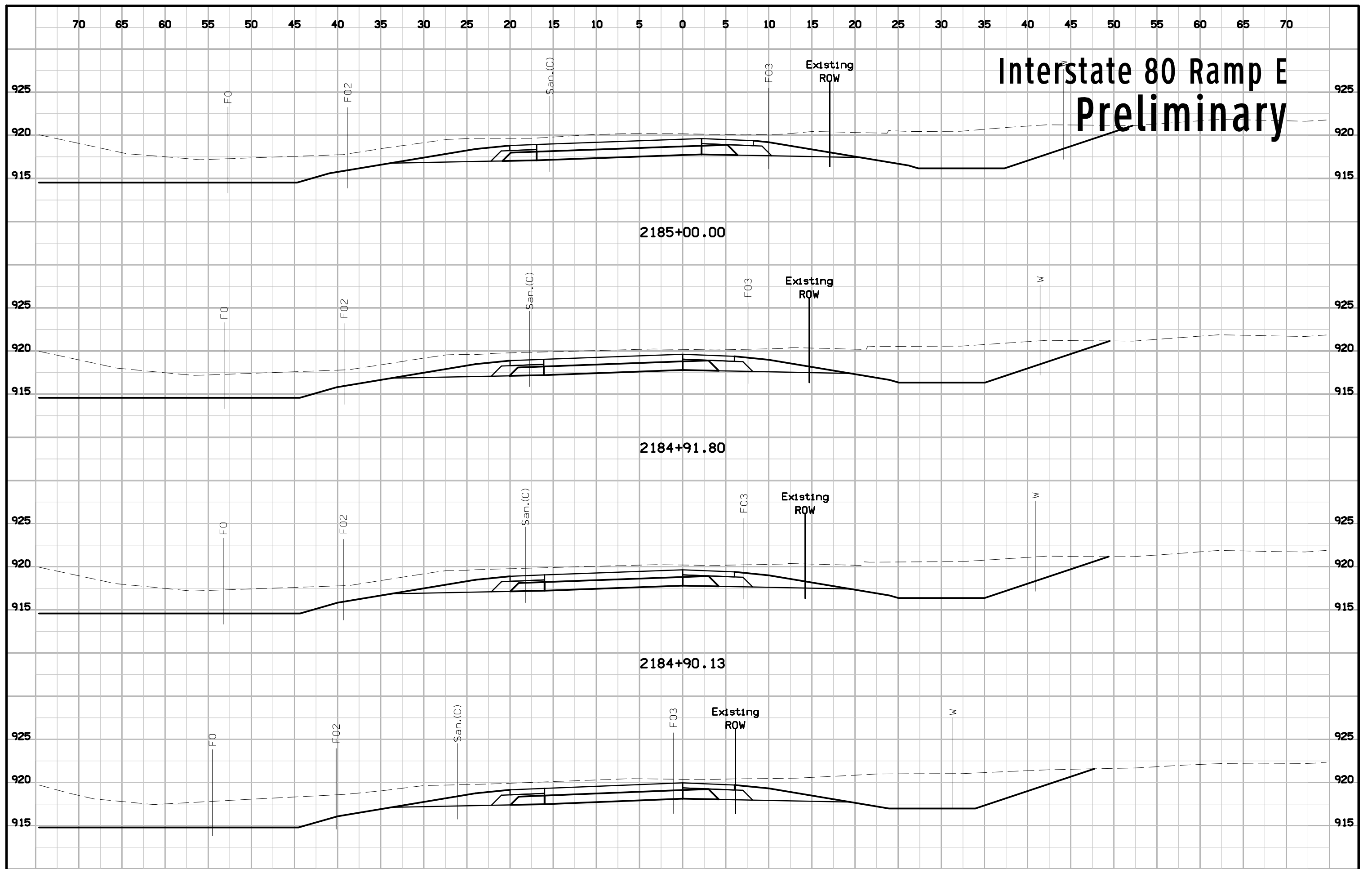
# Interstate 80 Ramp E Preliminary



# Interstate 80 Ramp E Preliminary

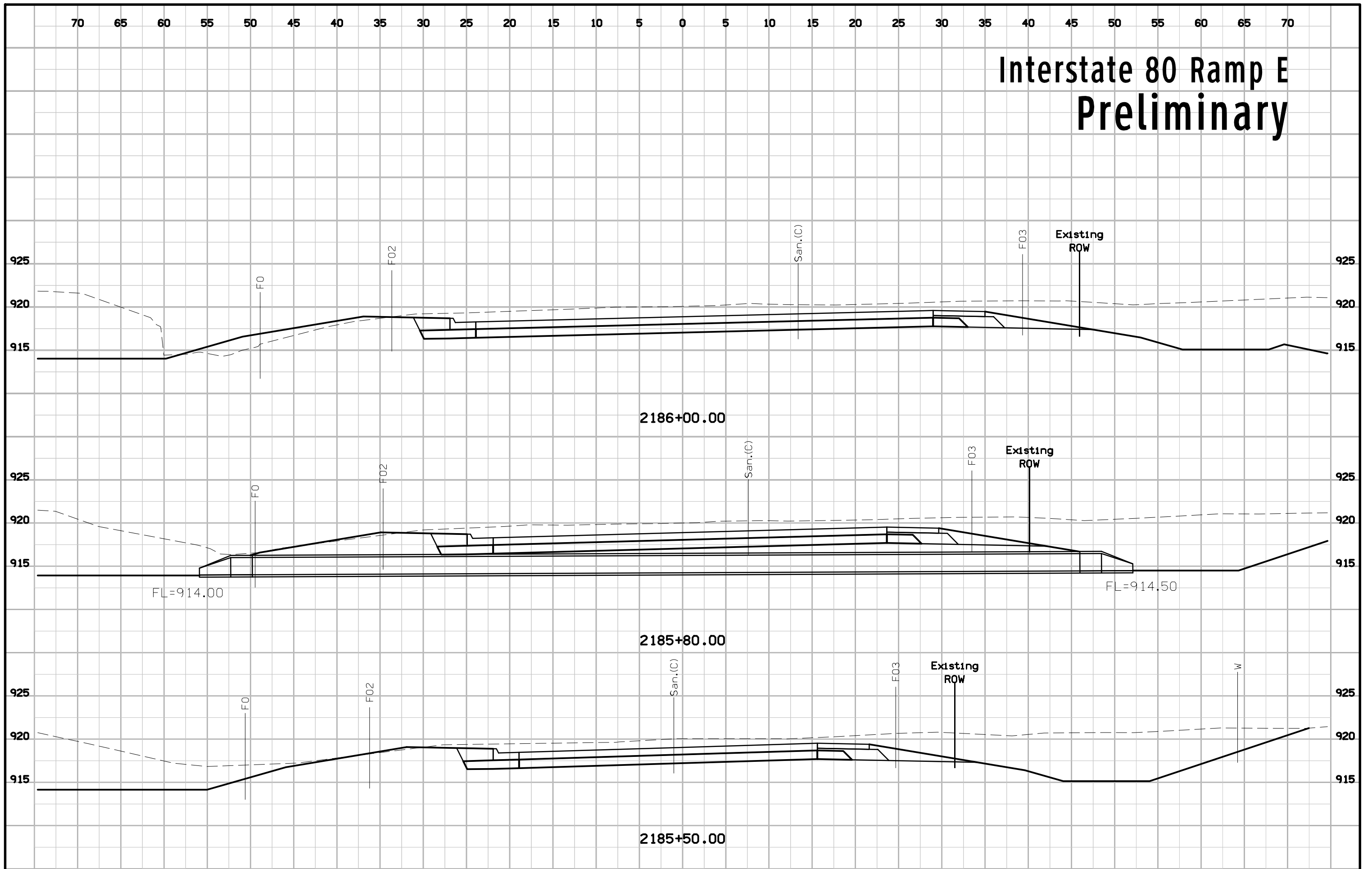


# Interstate 80 Ramp E Preliminary

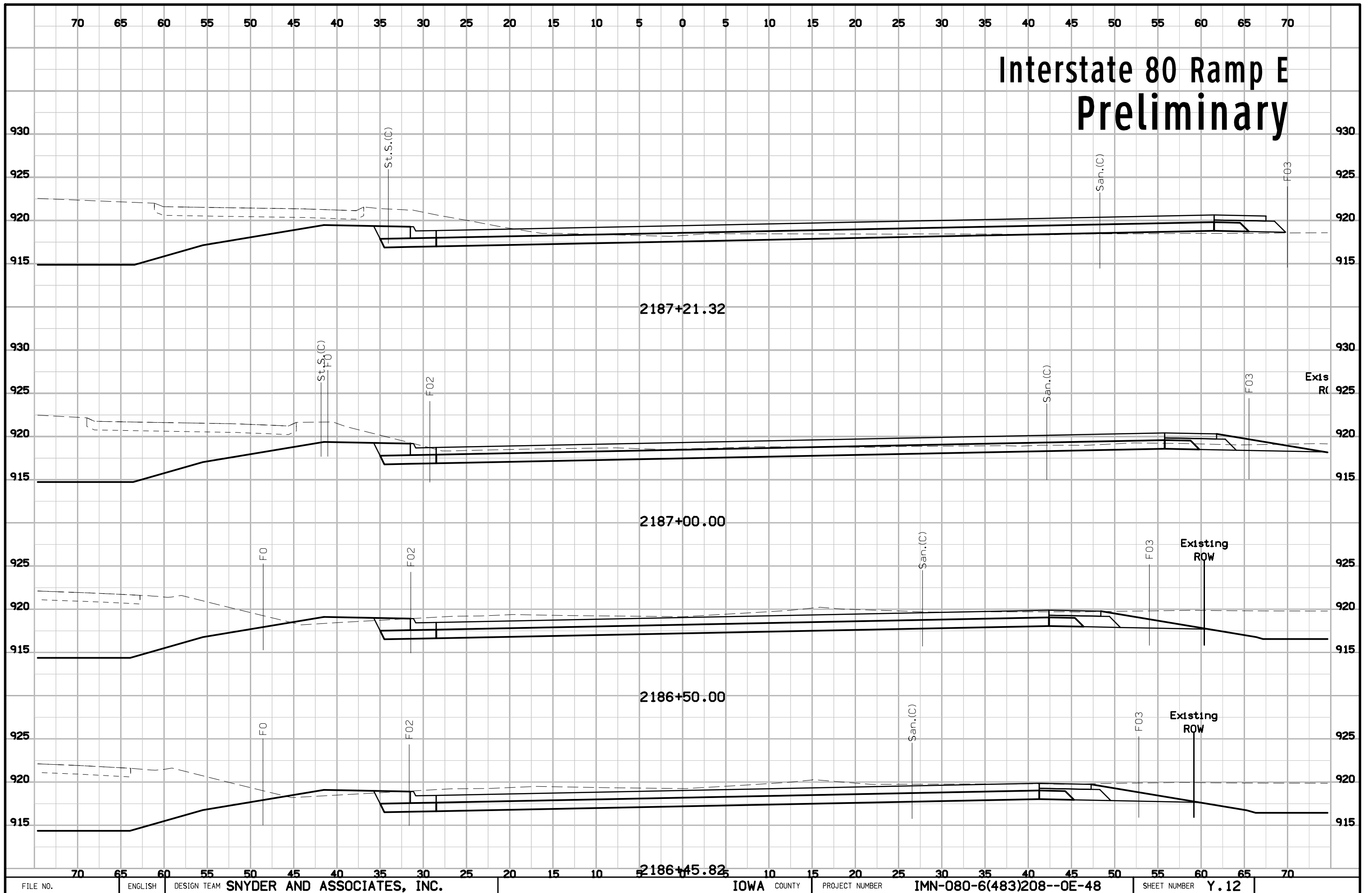




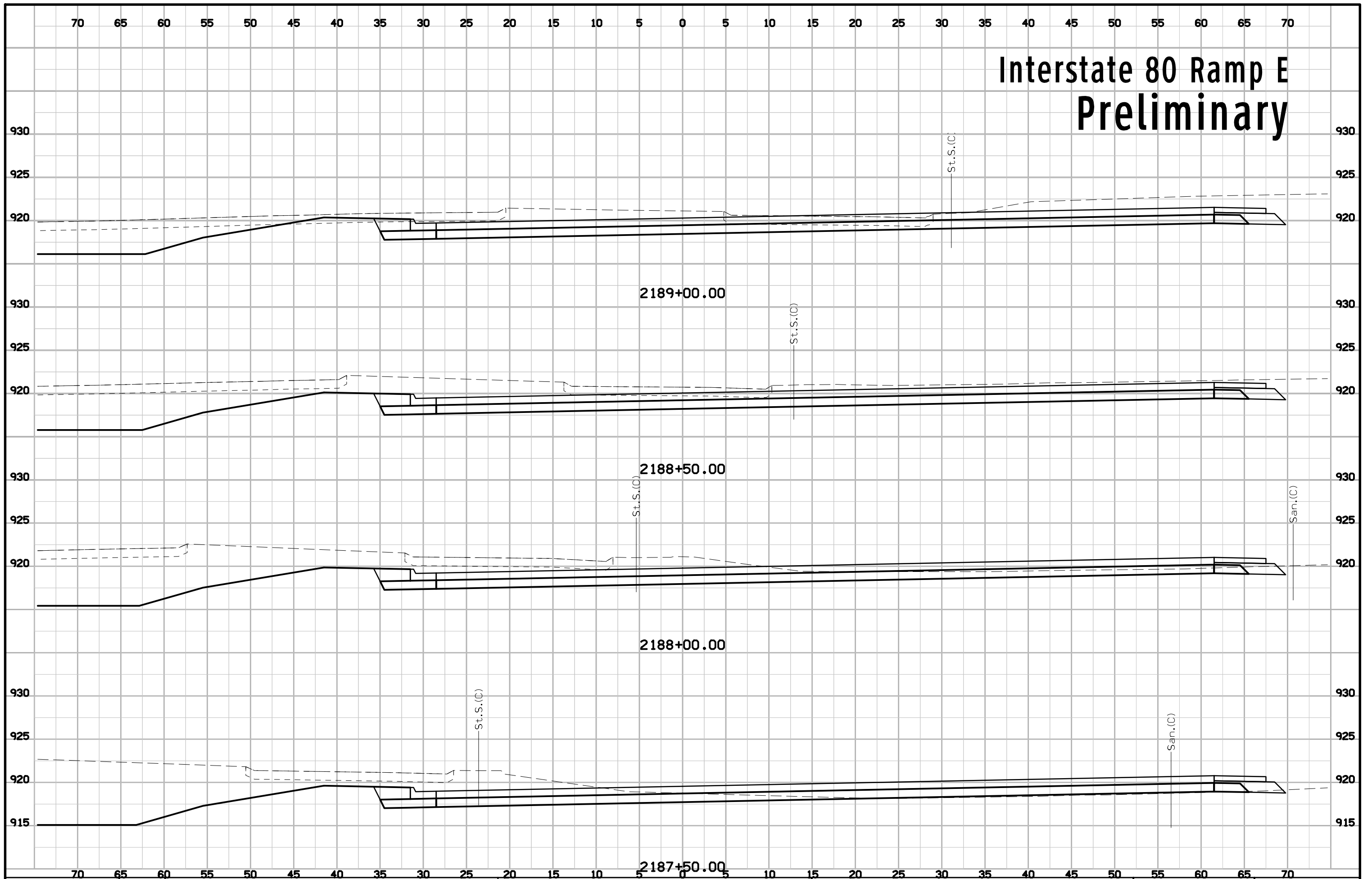
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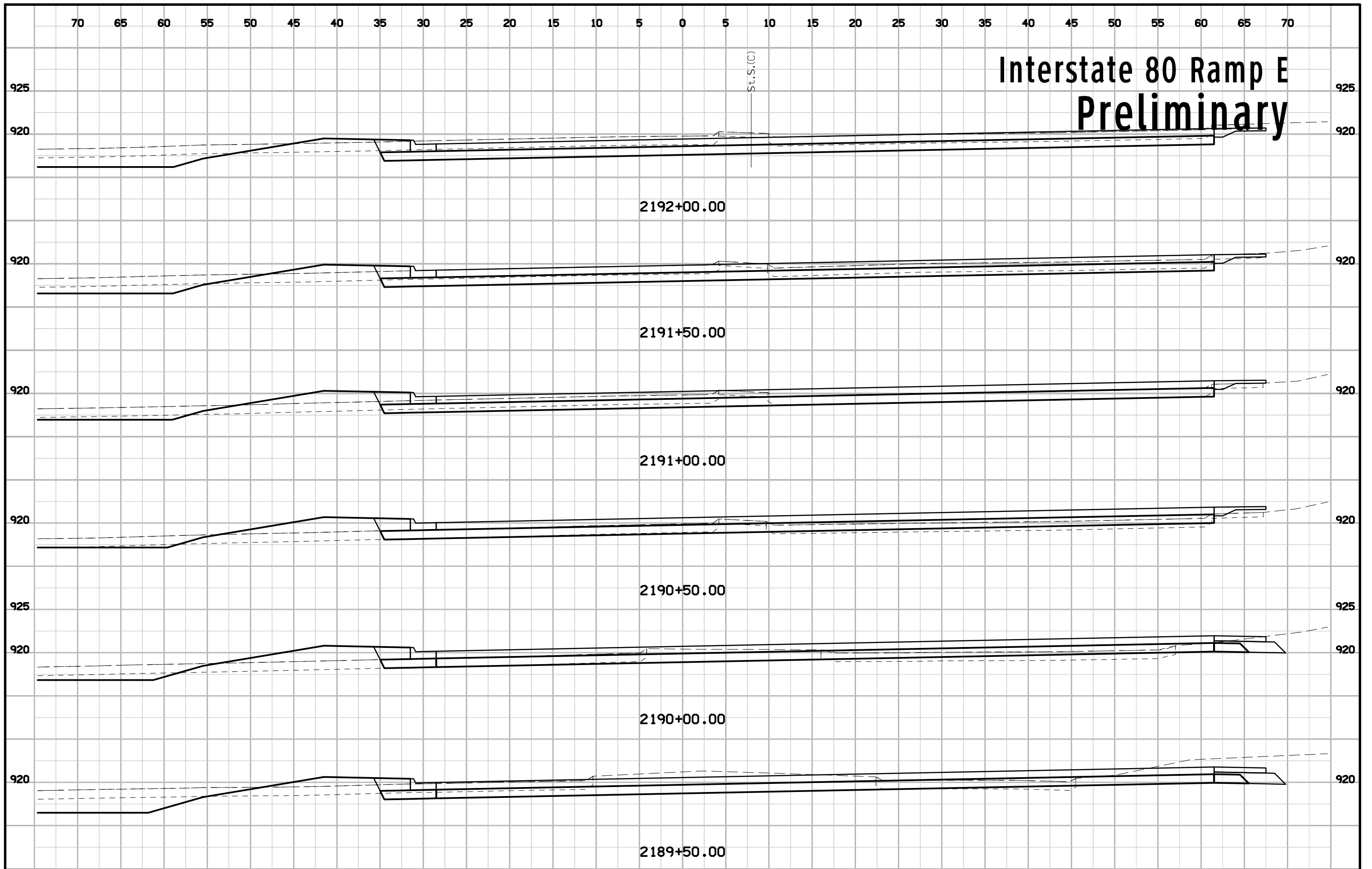
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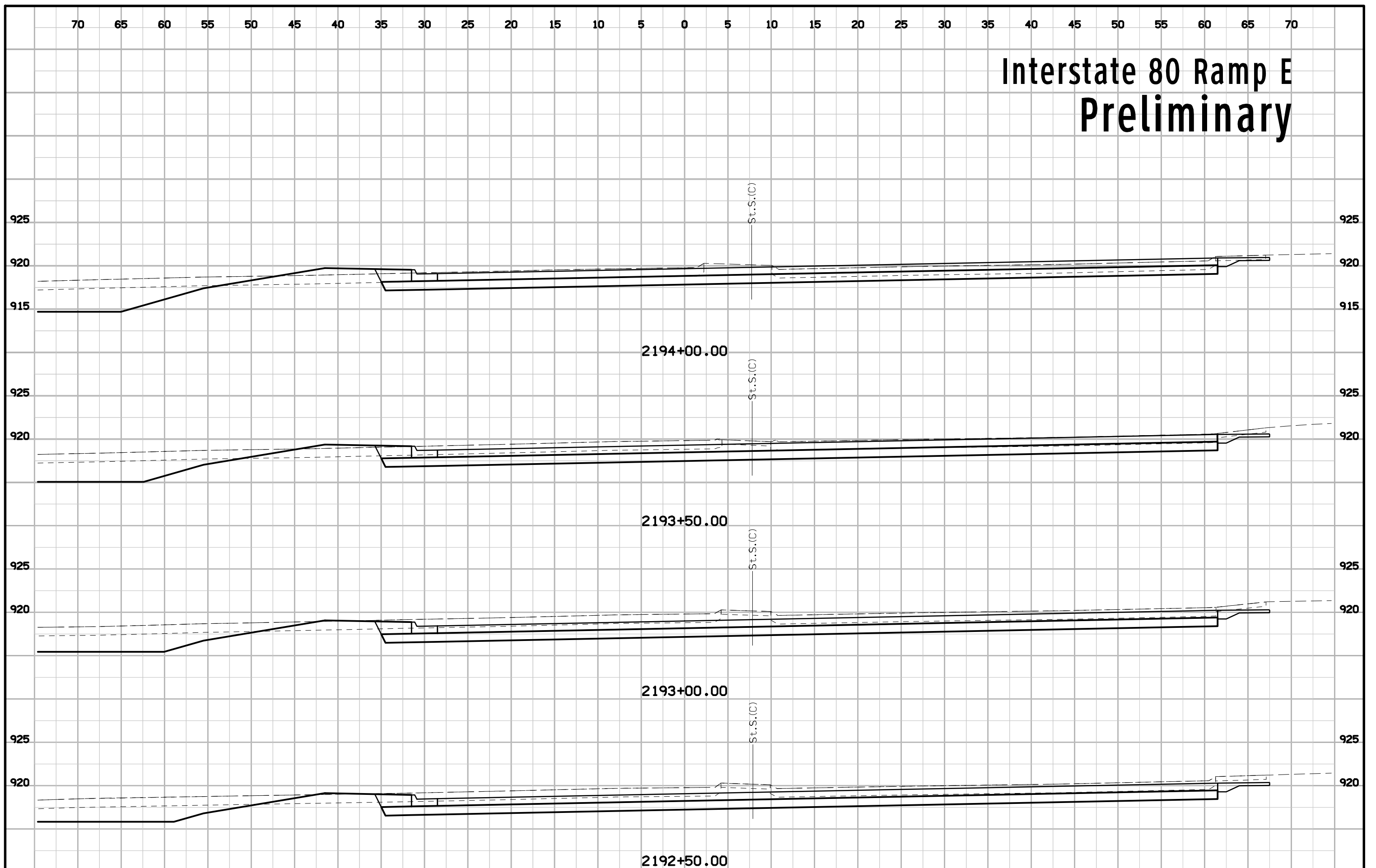
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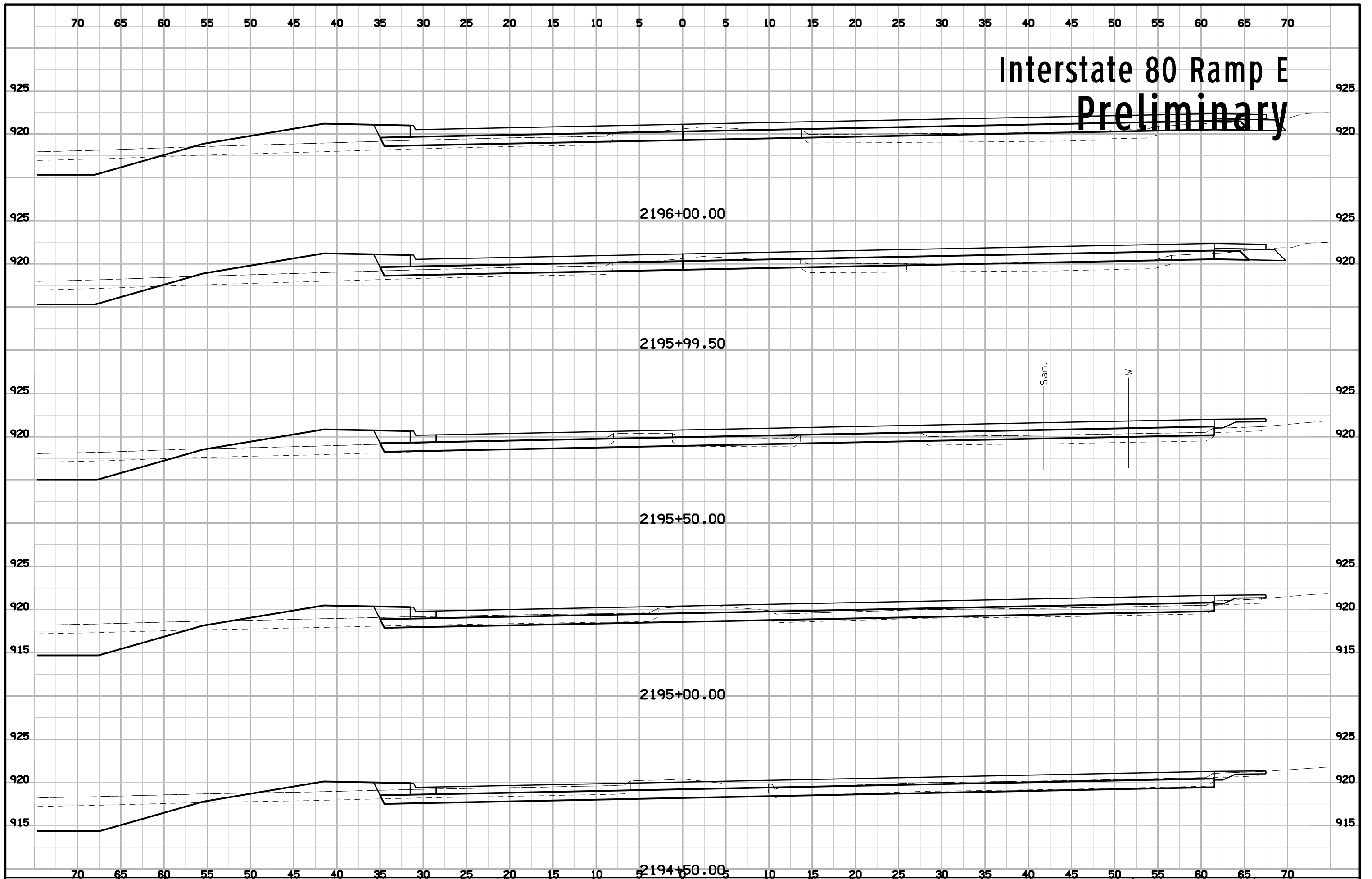
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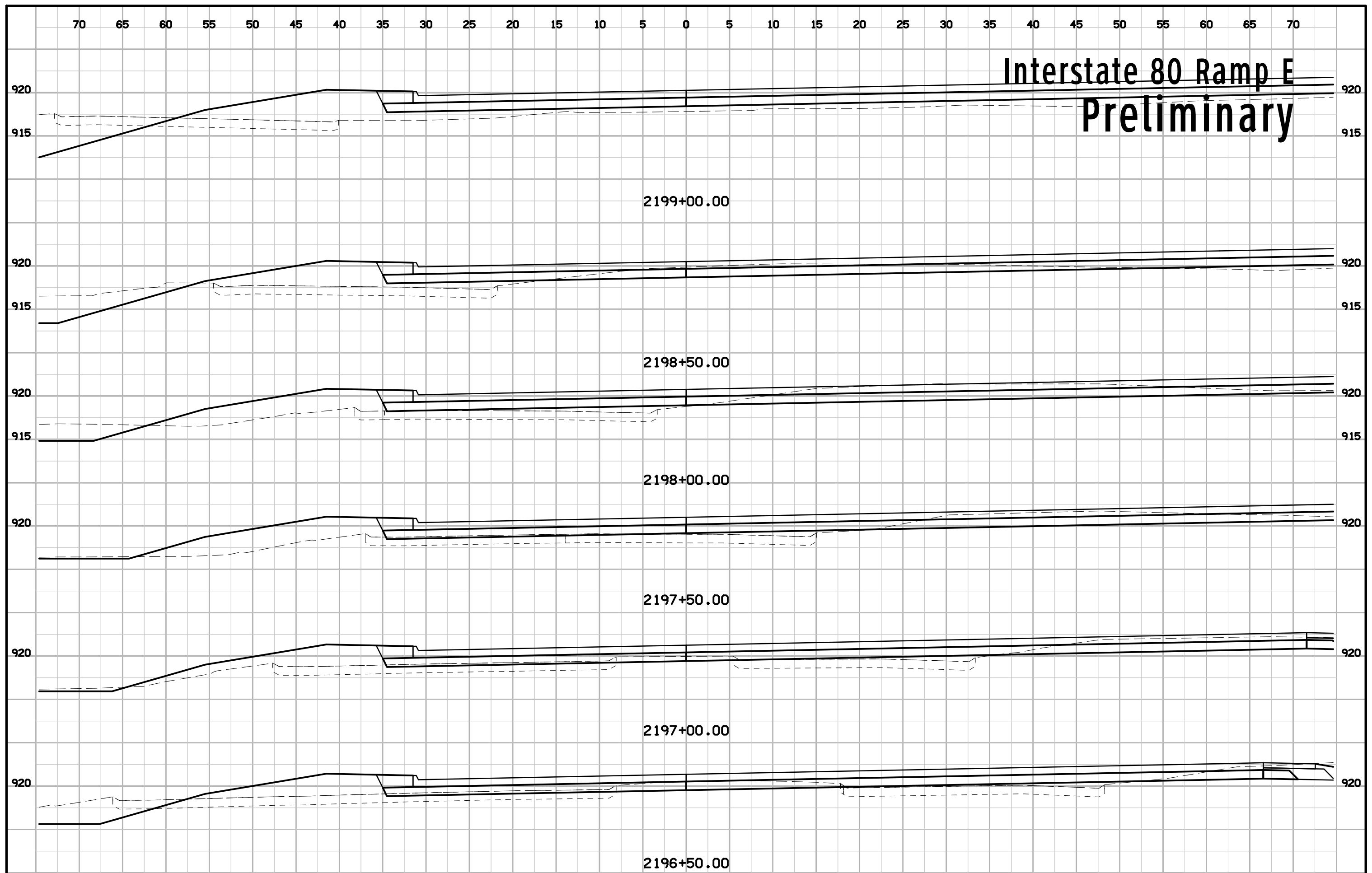
# Interstate 80 Ramp E Preliminary

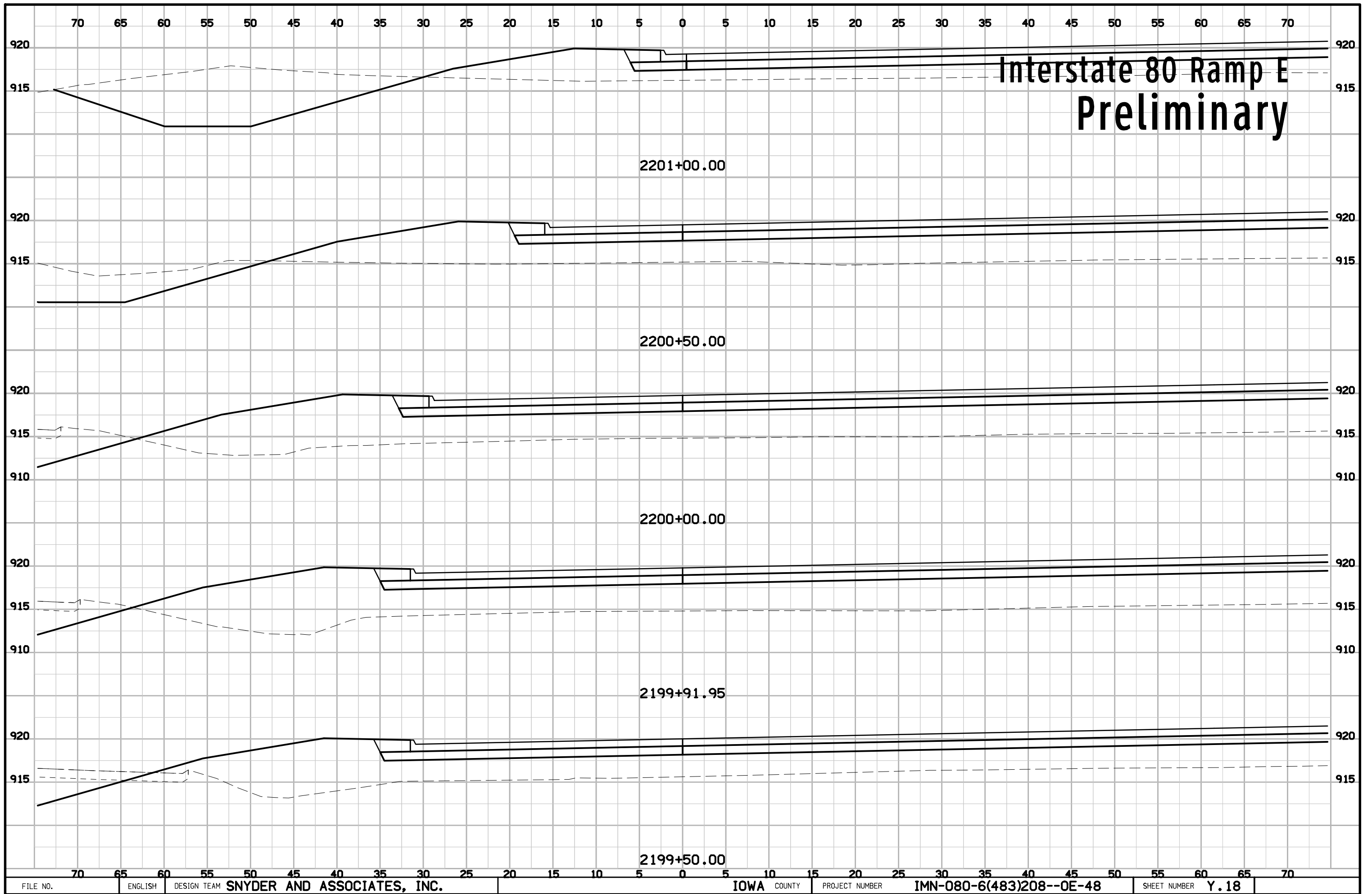


# Interstate 80 Ramp E Preliminary



# Interstate 80 Ramp E Preliminary





# Interstate 80 Ramp E Preliminary

2201+00.00

2200+50.00

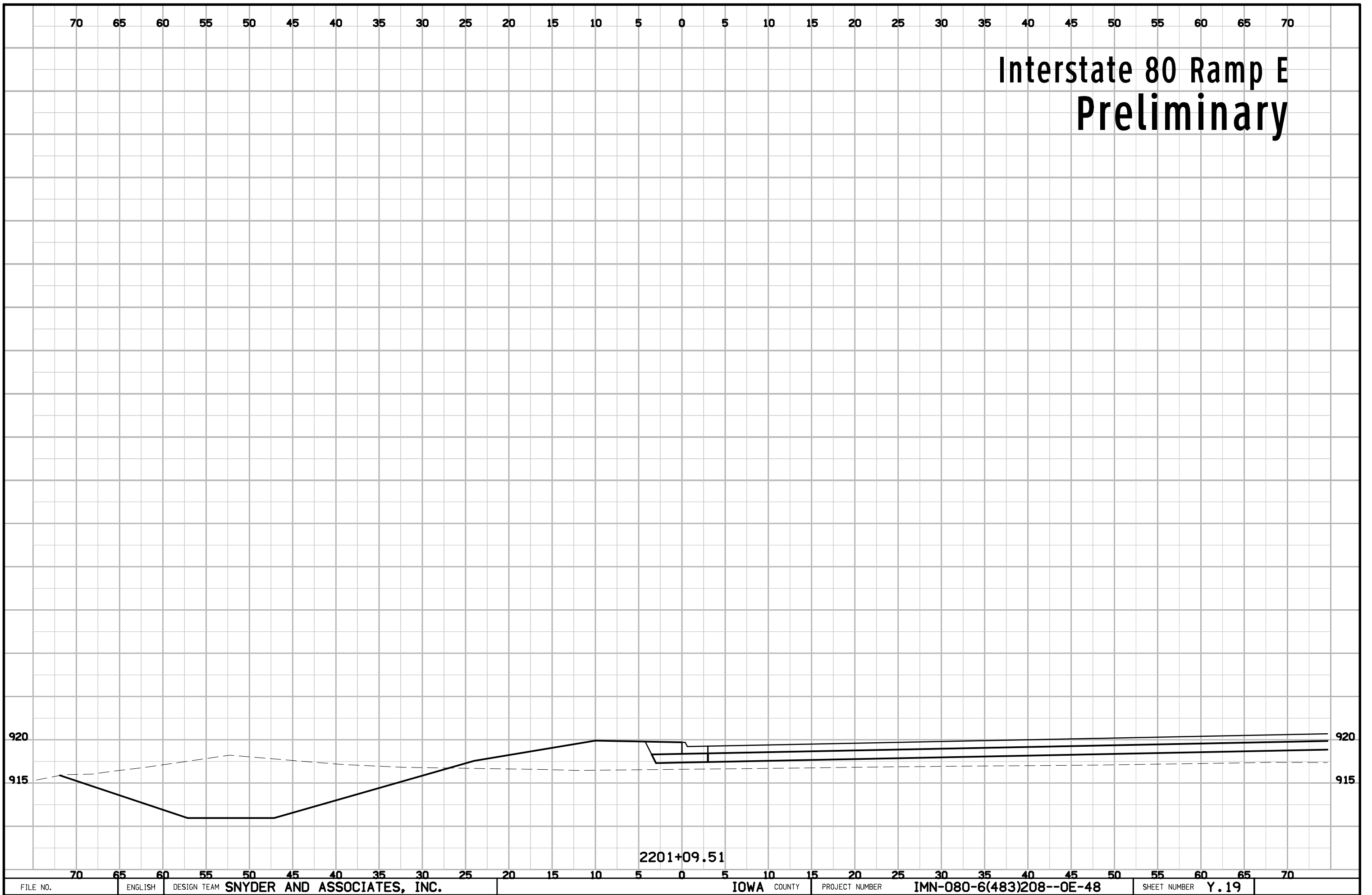
2200+00.00

2199+91.95

2199+50.00

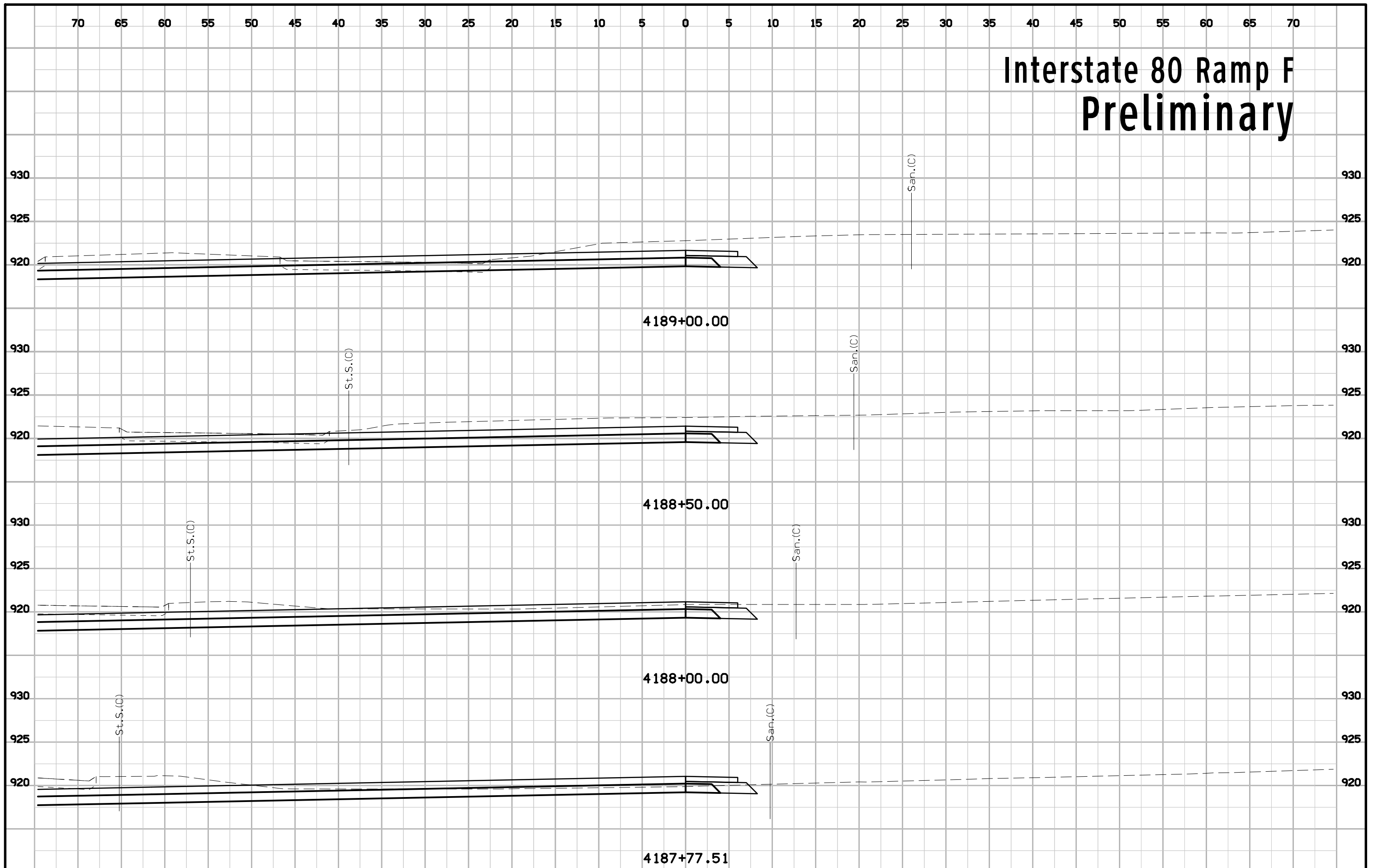


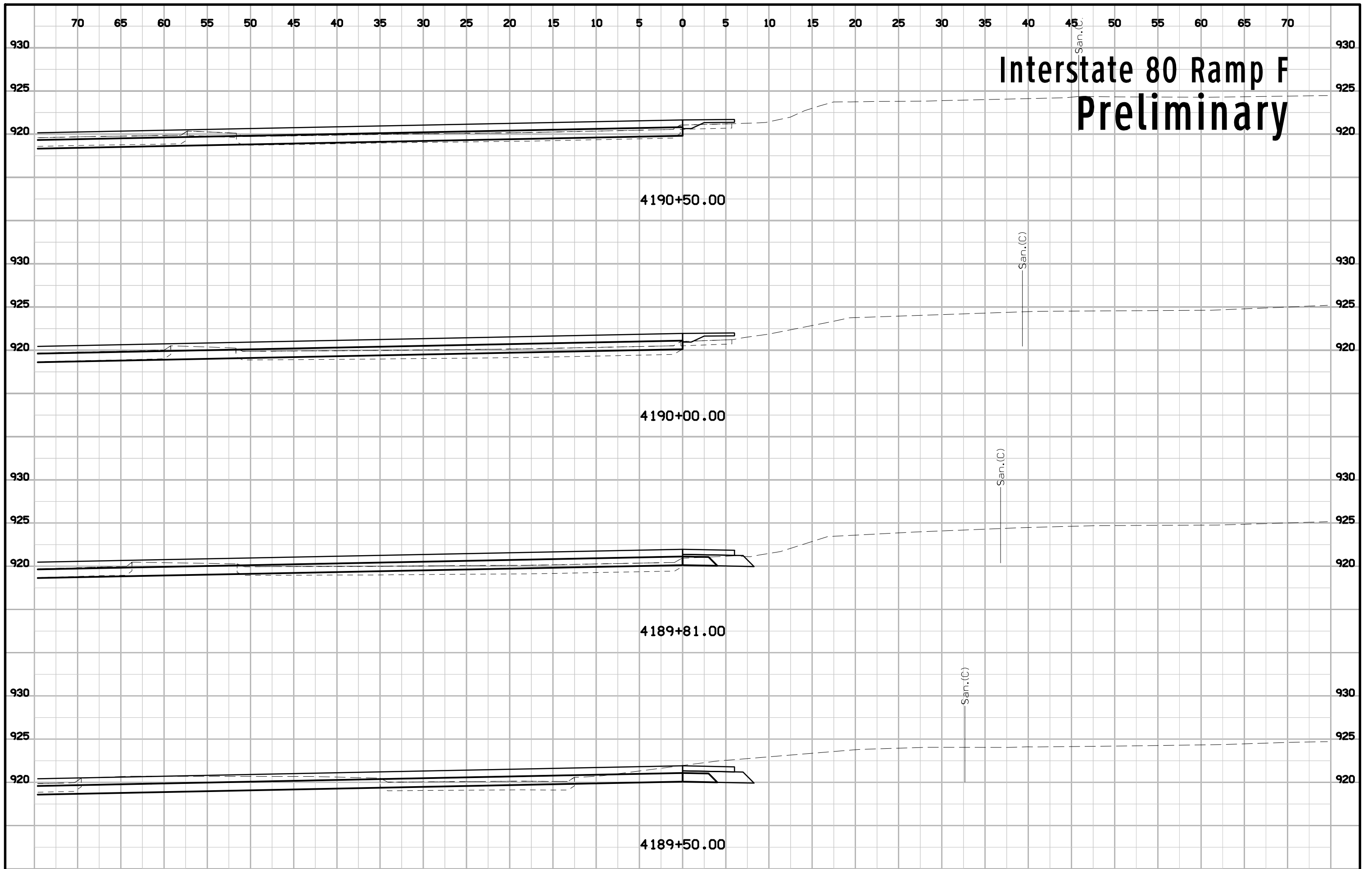
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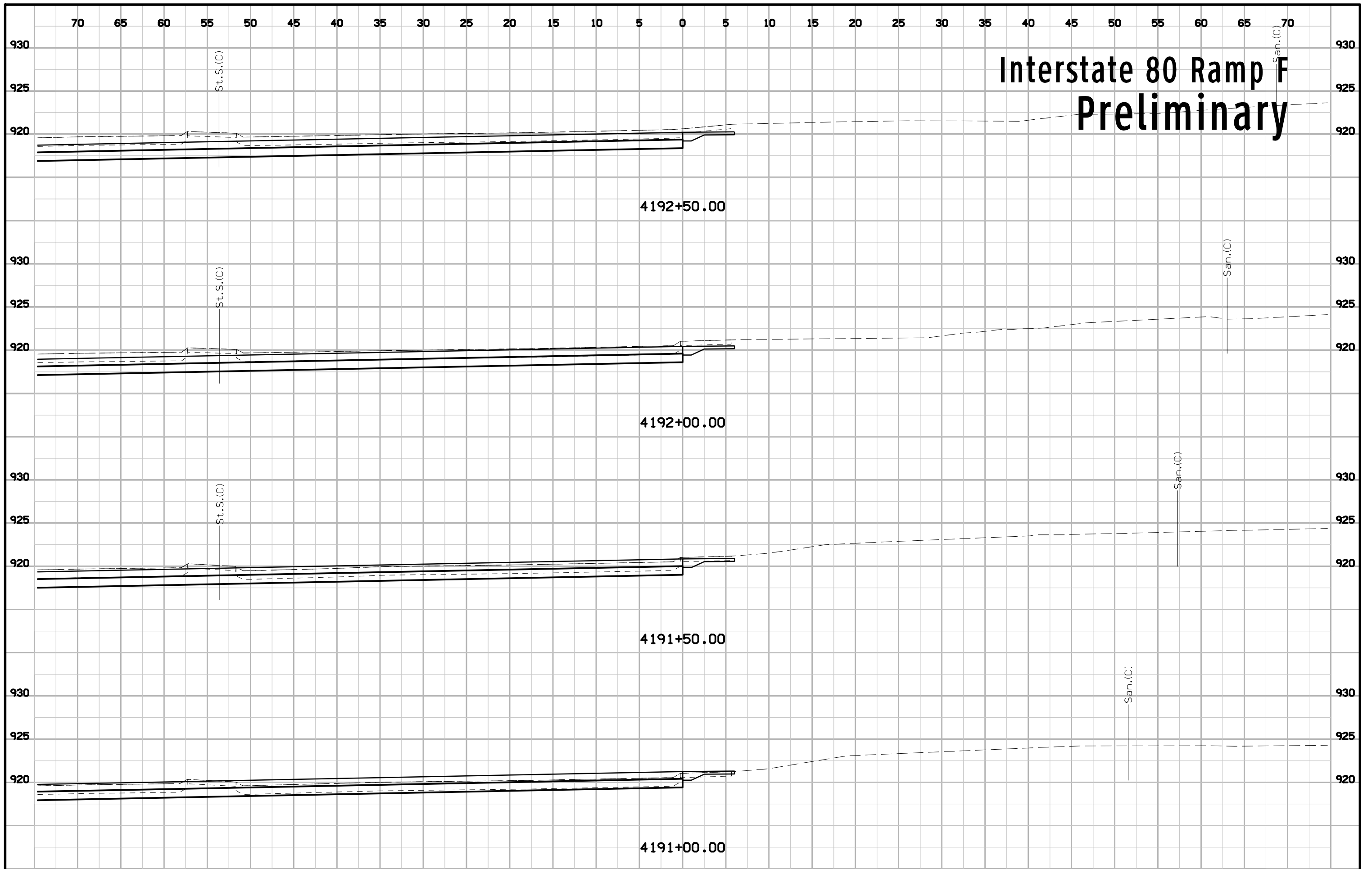
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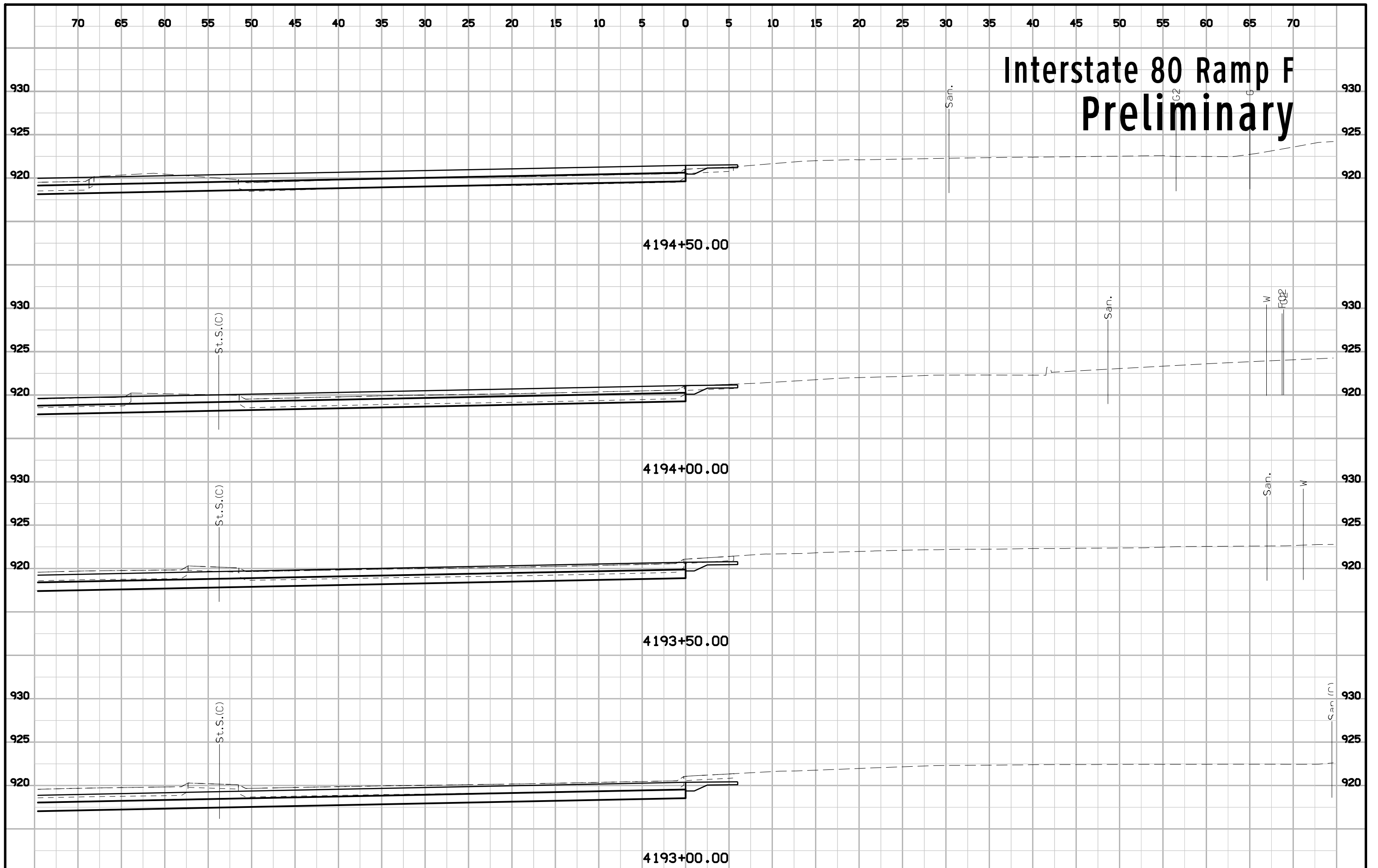


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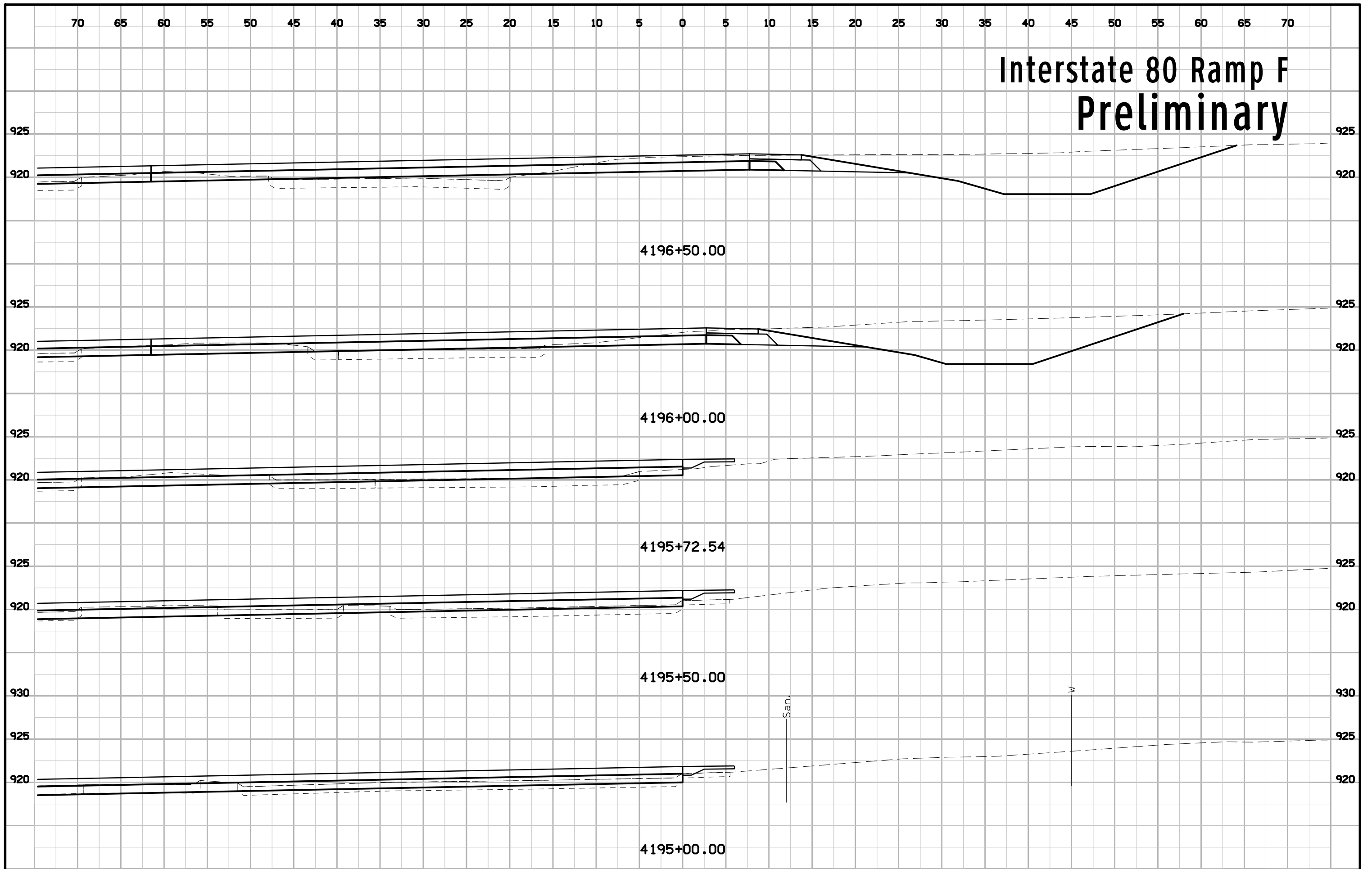
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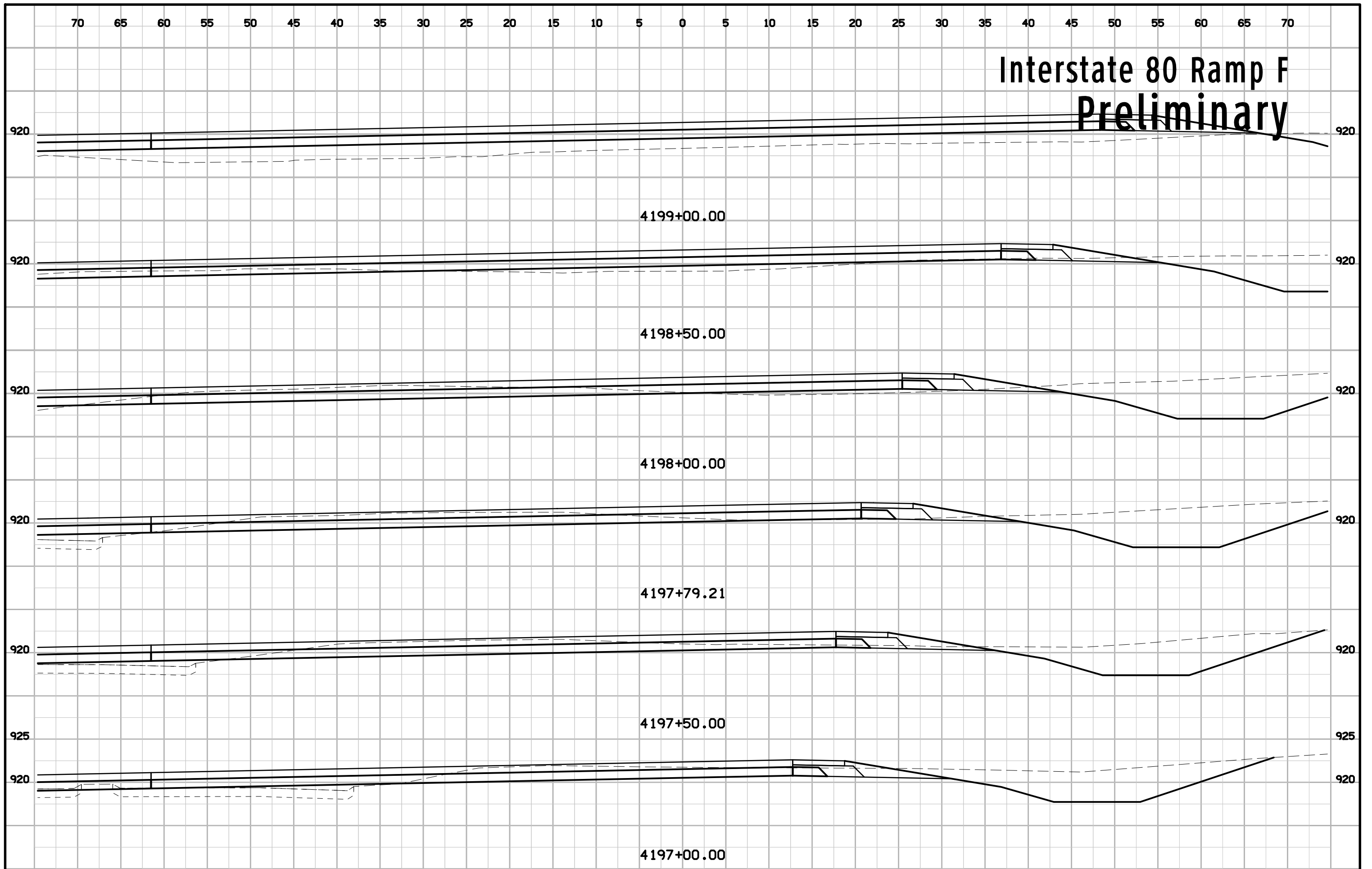
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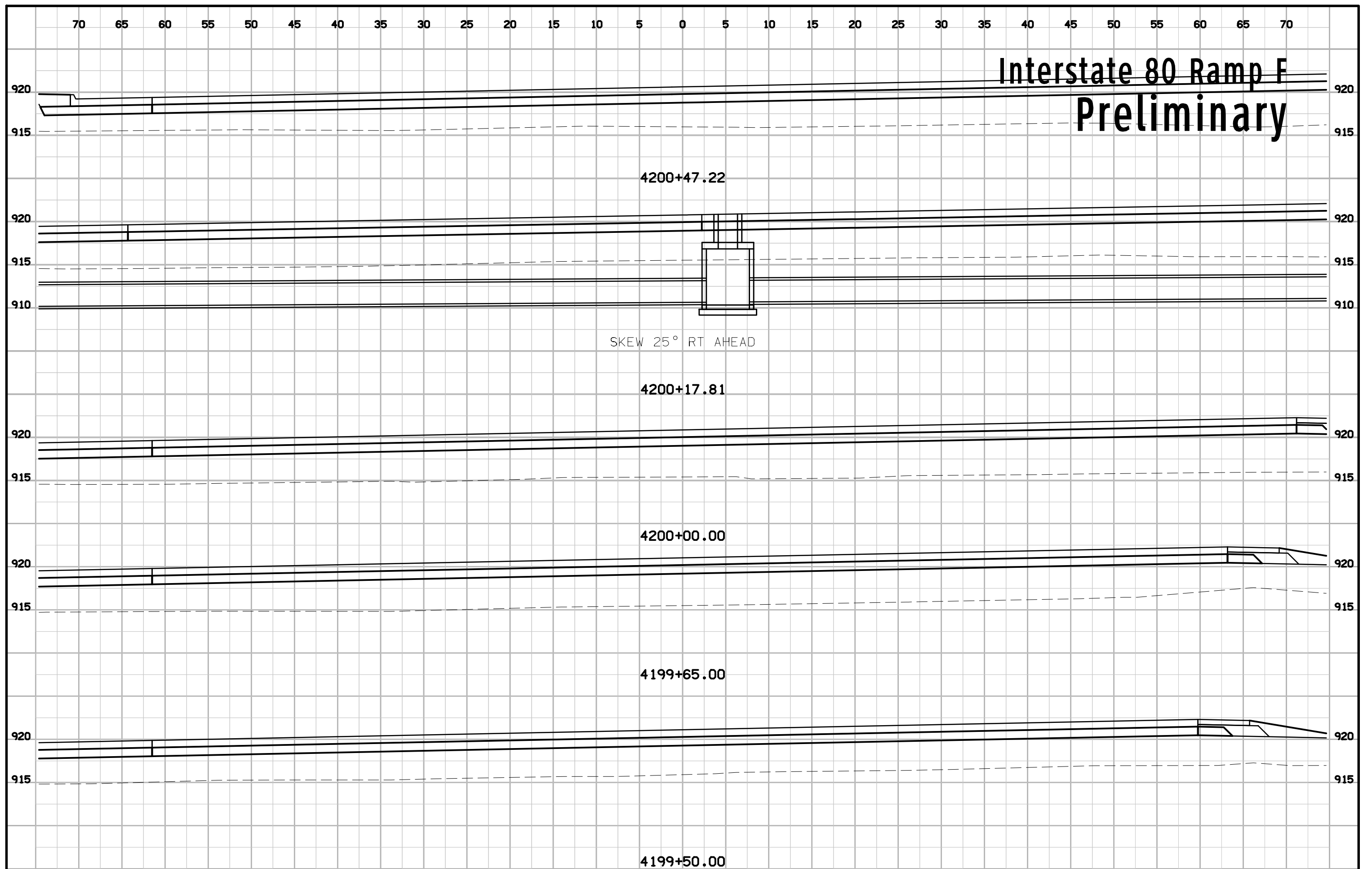
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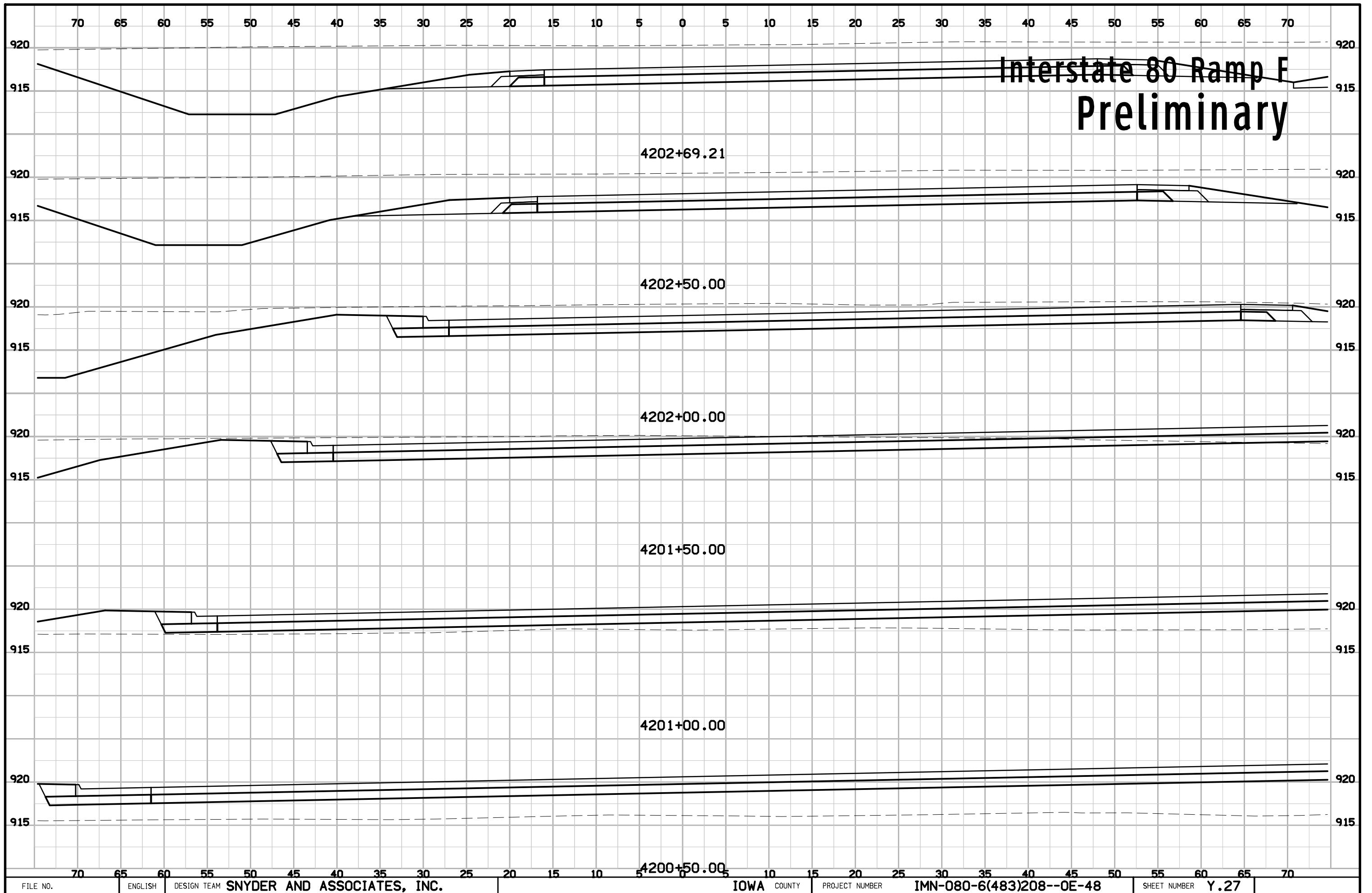
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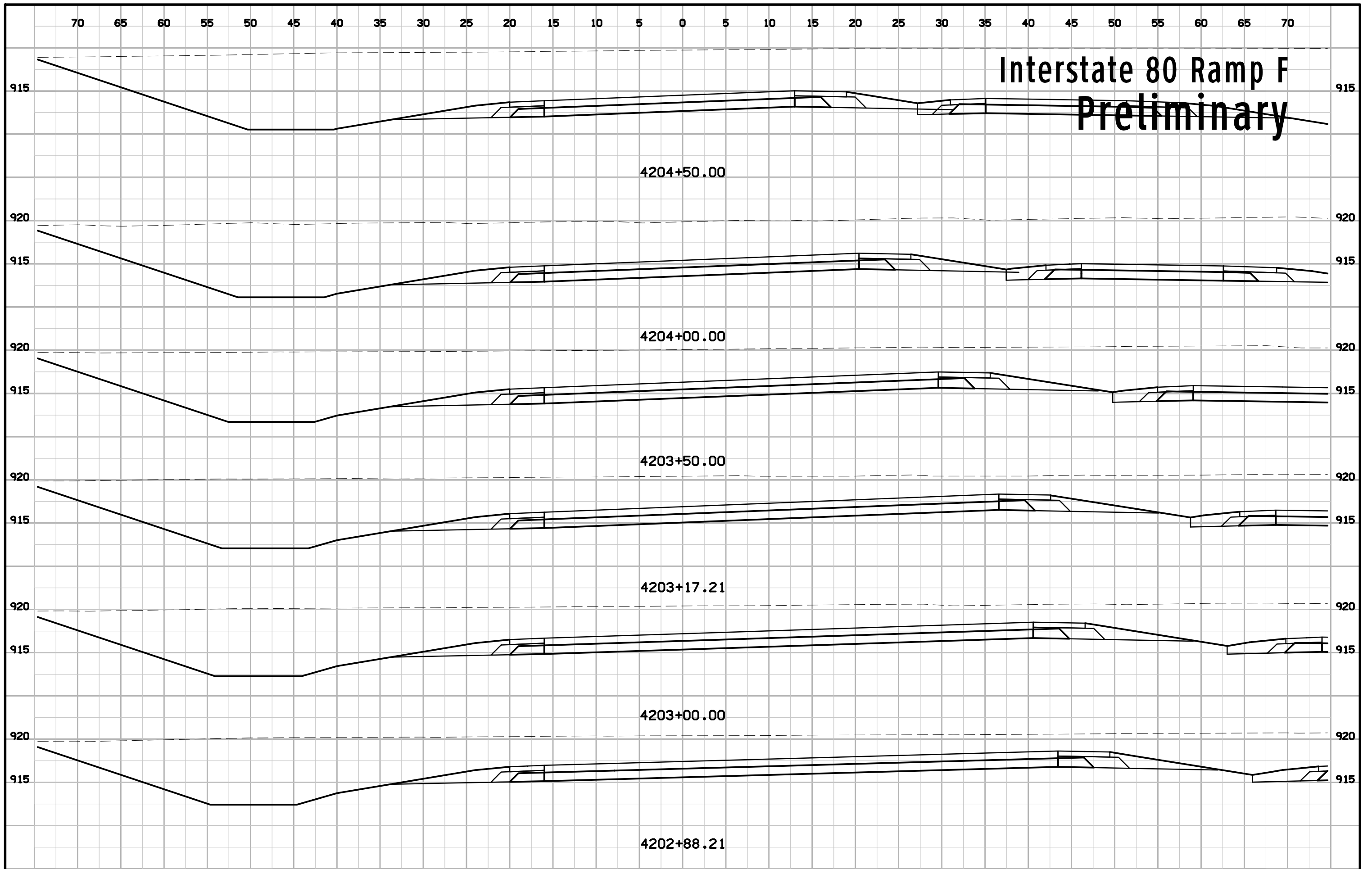


# Interstate 80 Ramp F Preliminary









# Interstate 80 Ramp F Preliminary

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4204+00.00

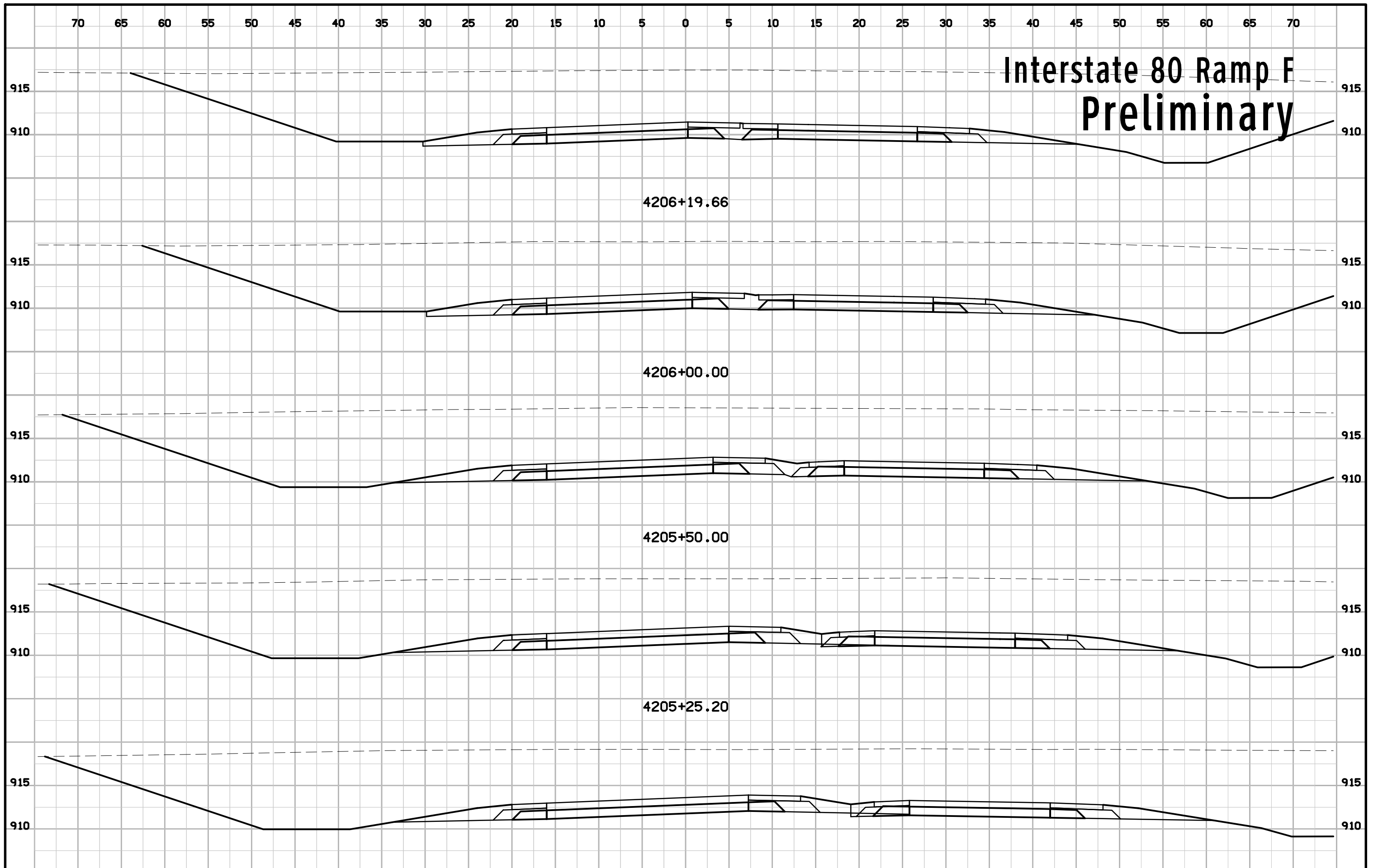
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4203+17.21

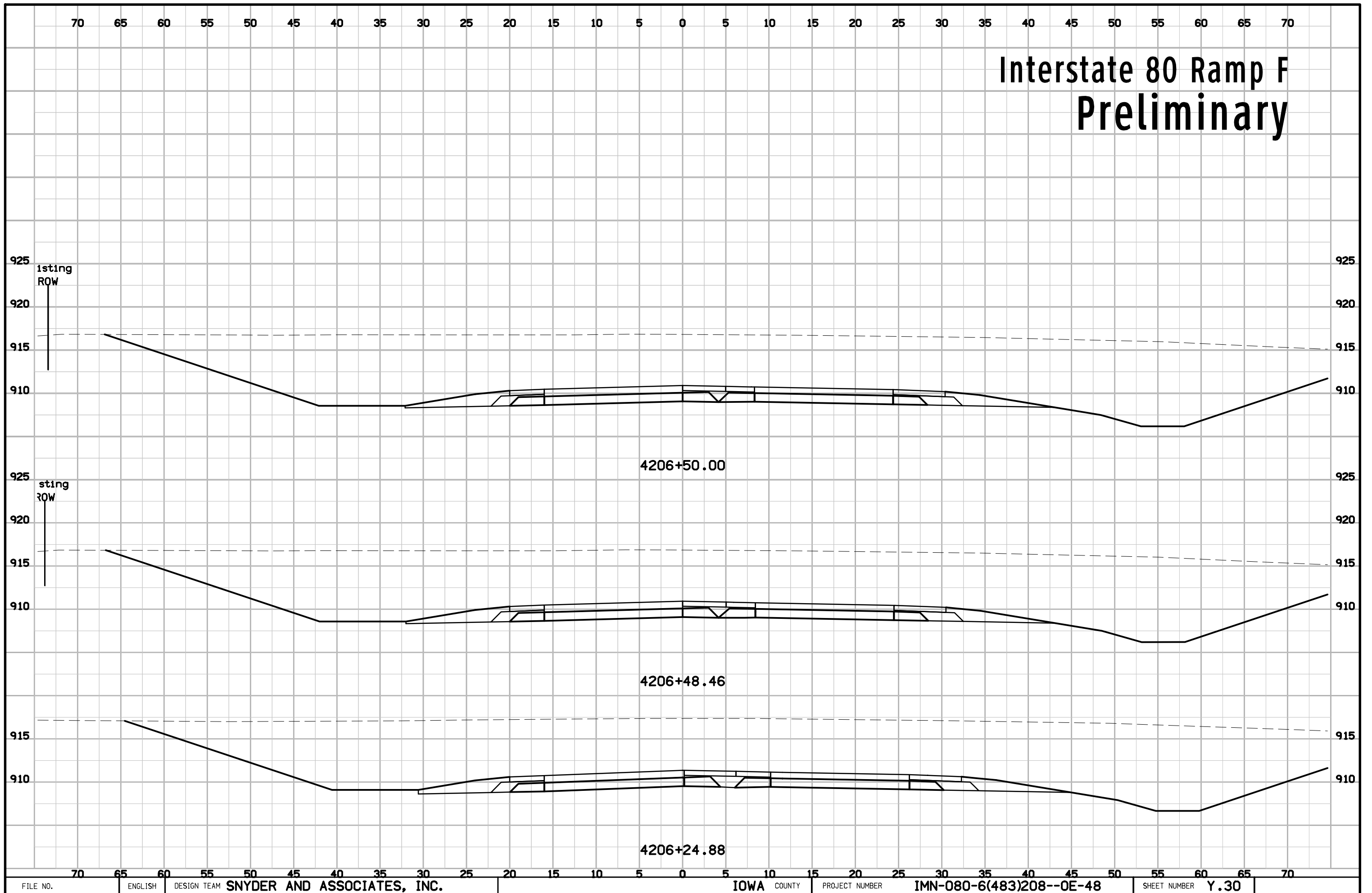
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4202+88.21

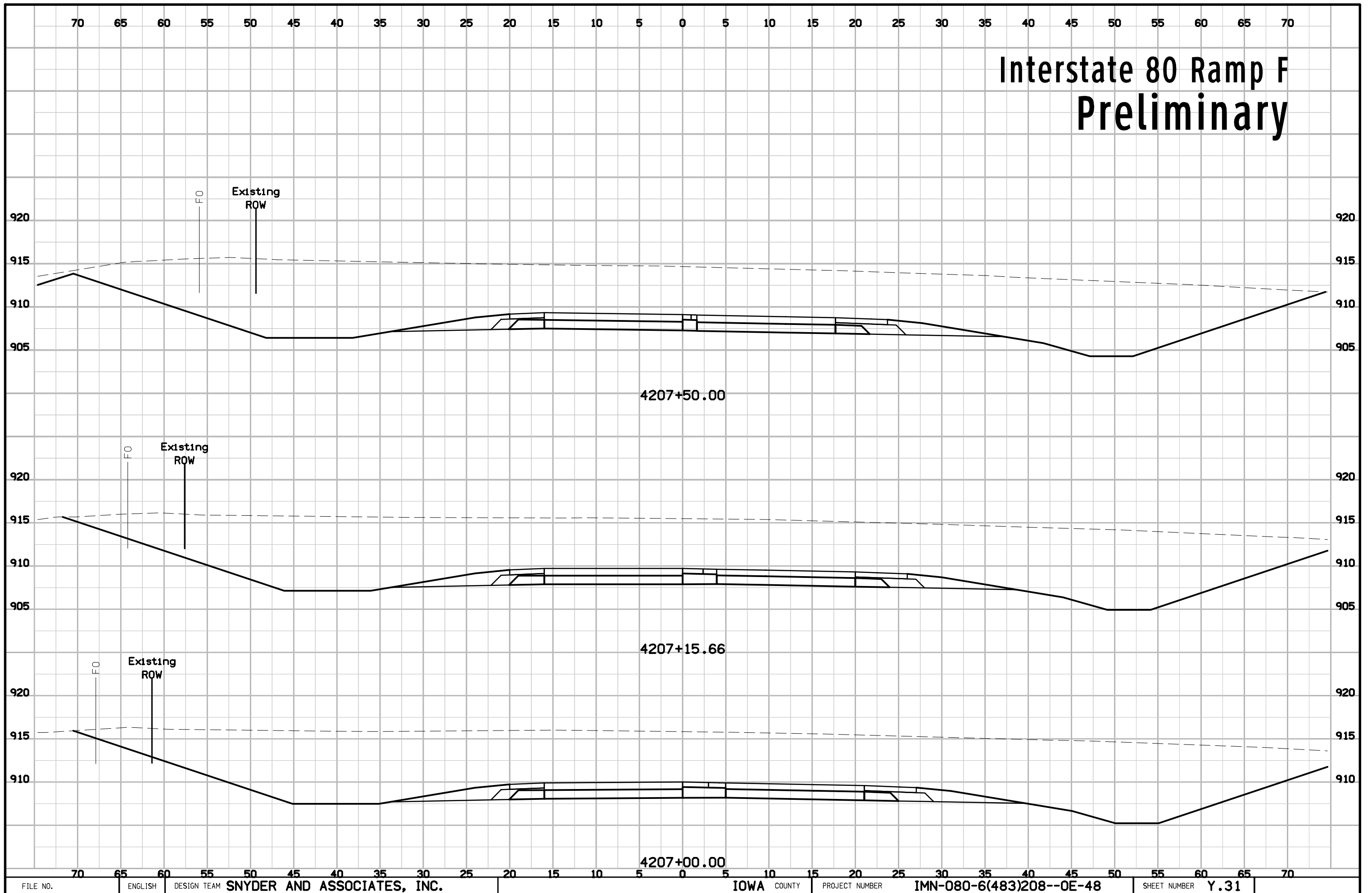
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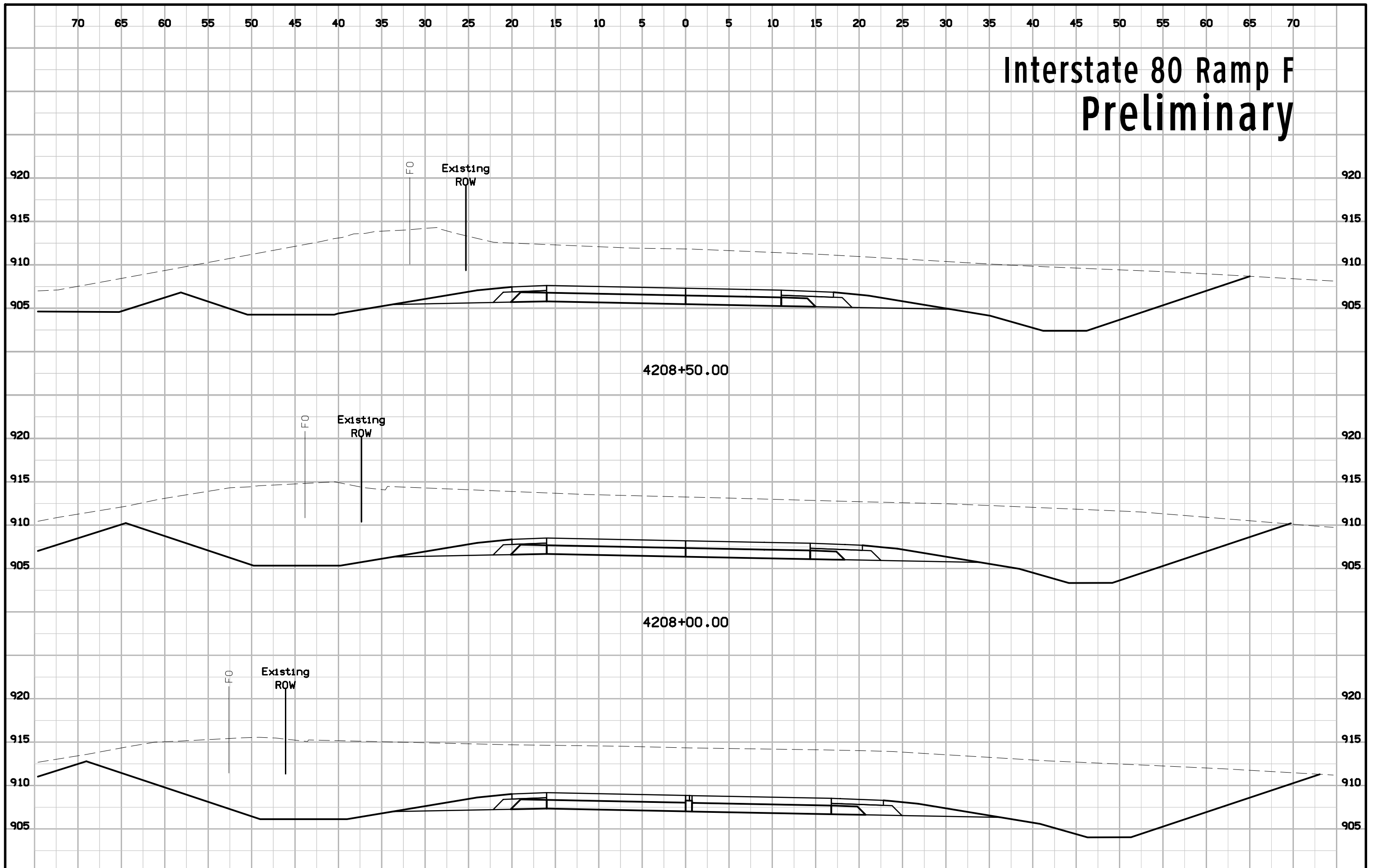
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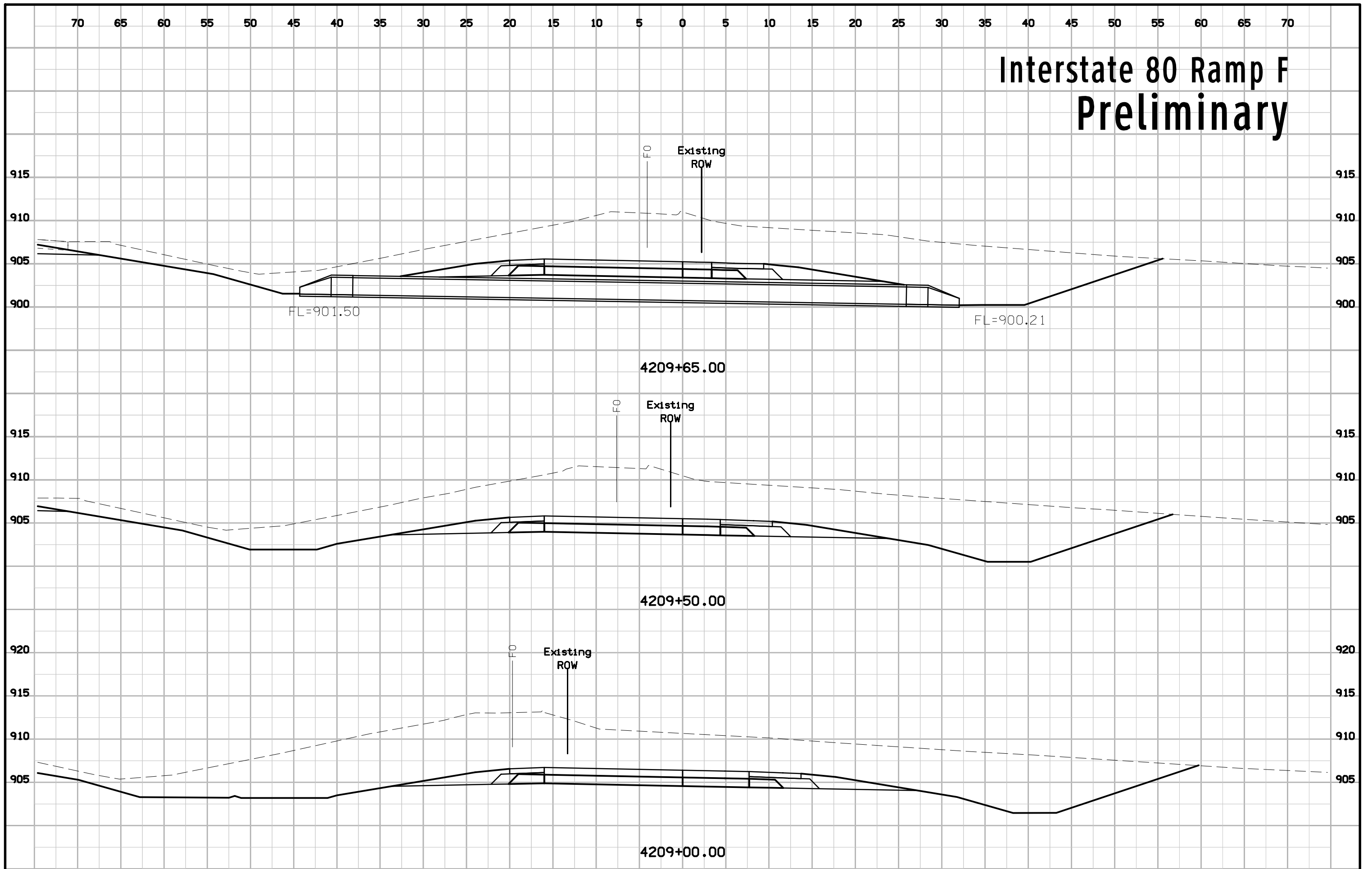
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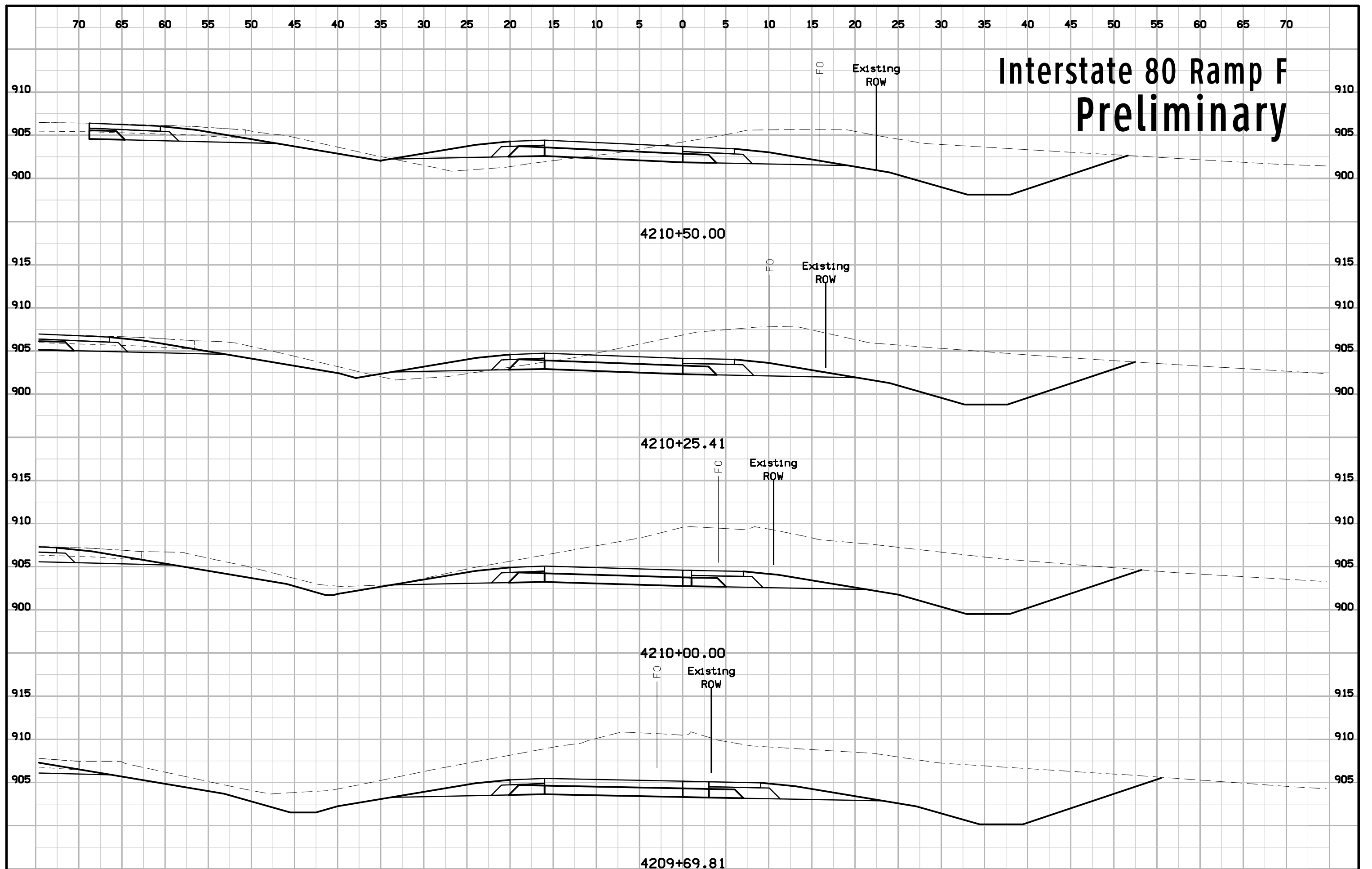
# Interstate 80 Ramp F Preliminary



# Interstate 80 Ramp F Preliminary

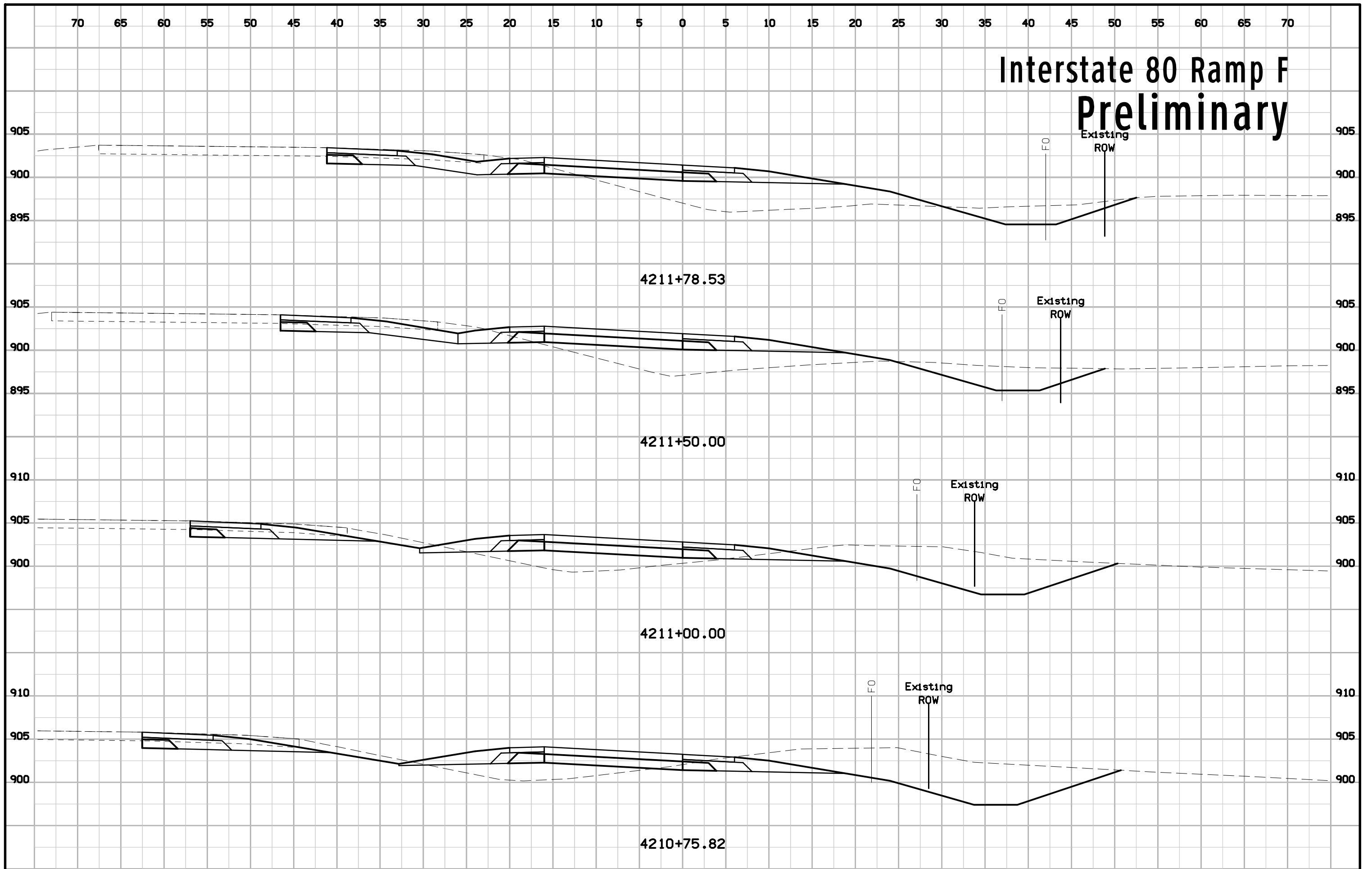


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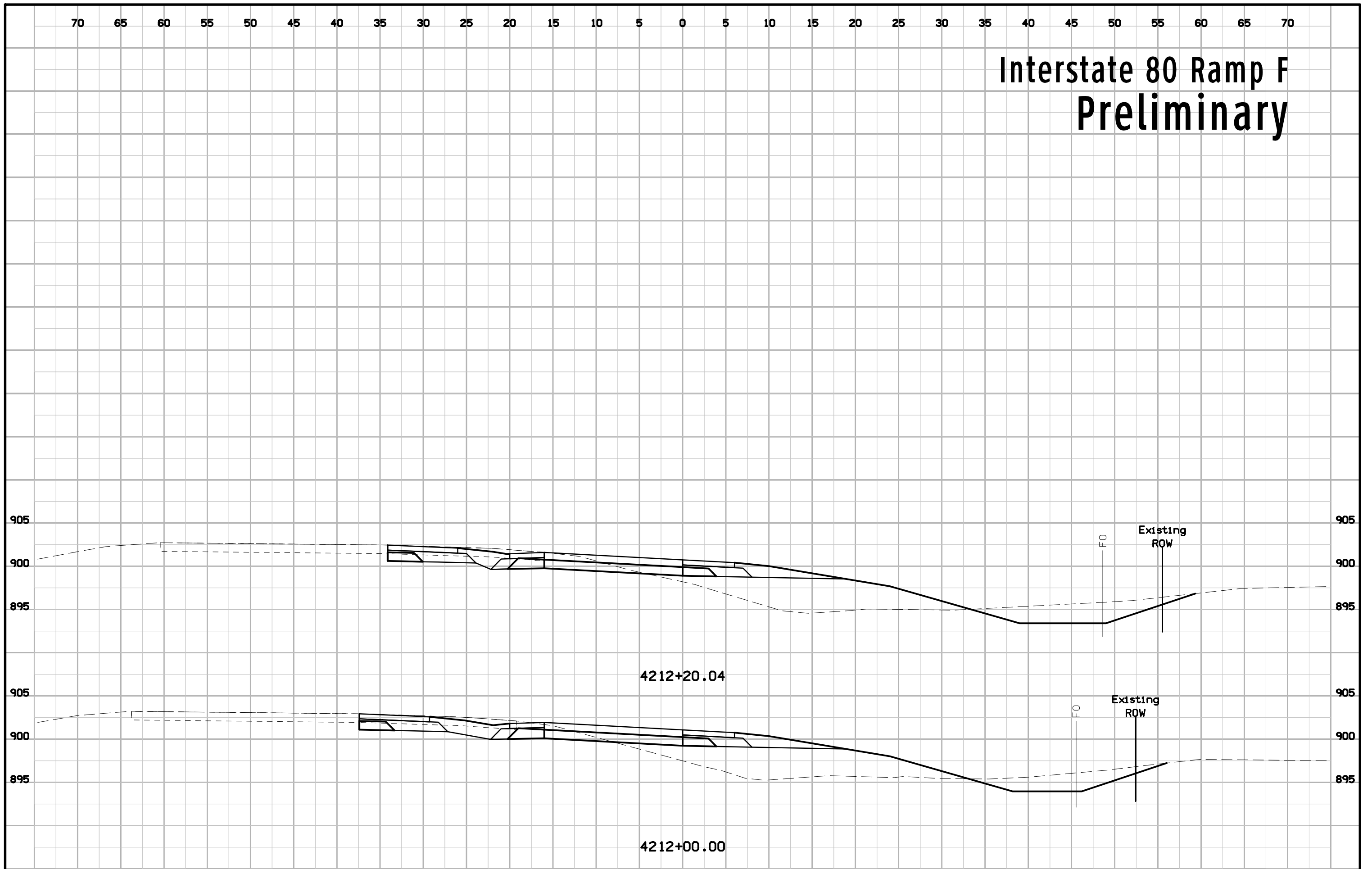




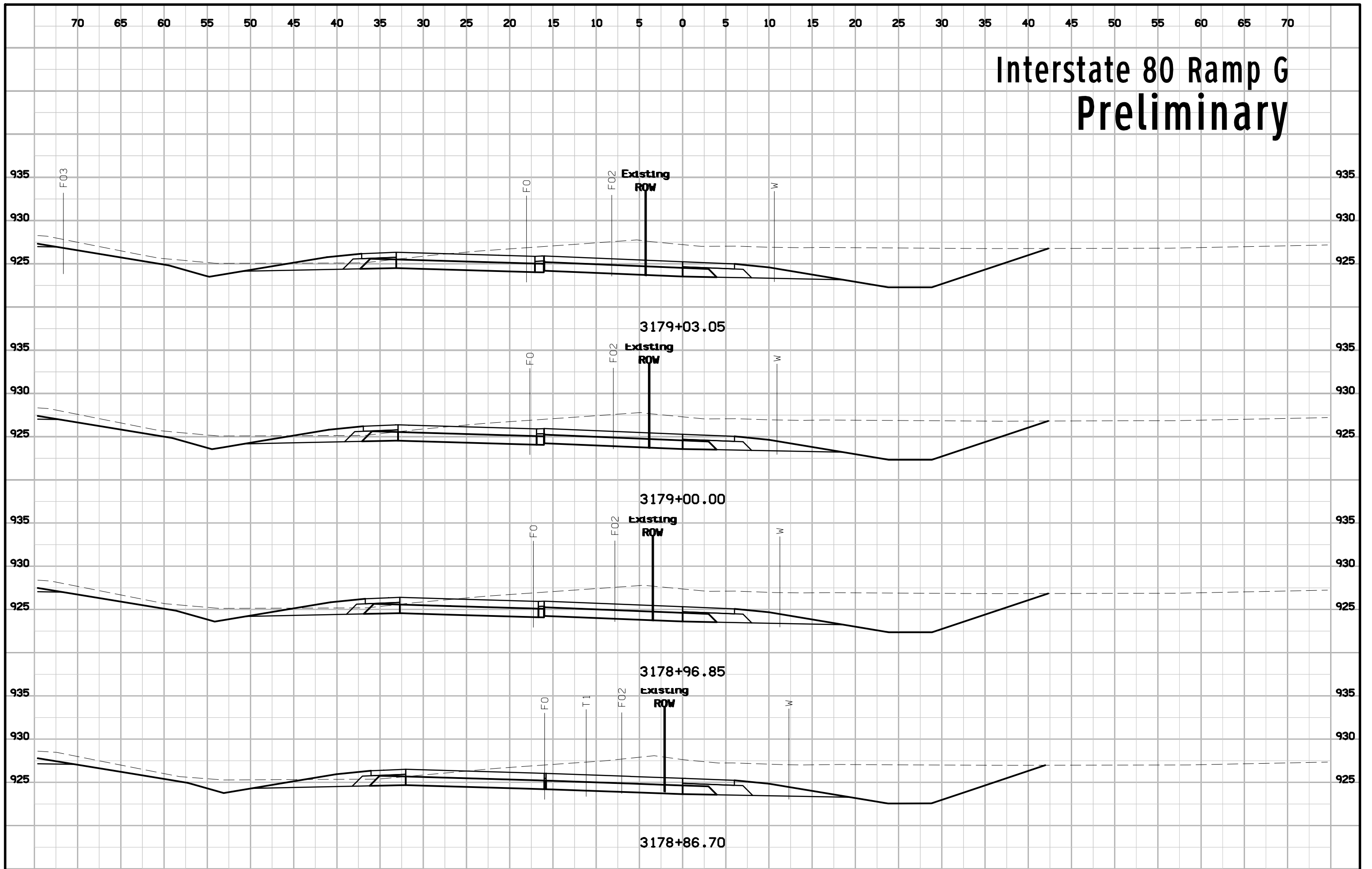
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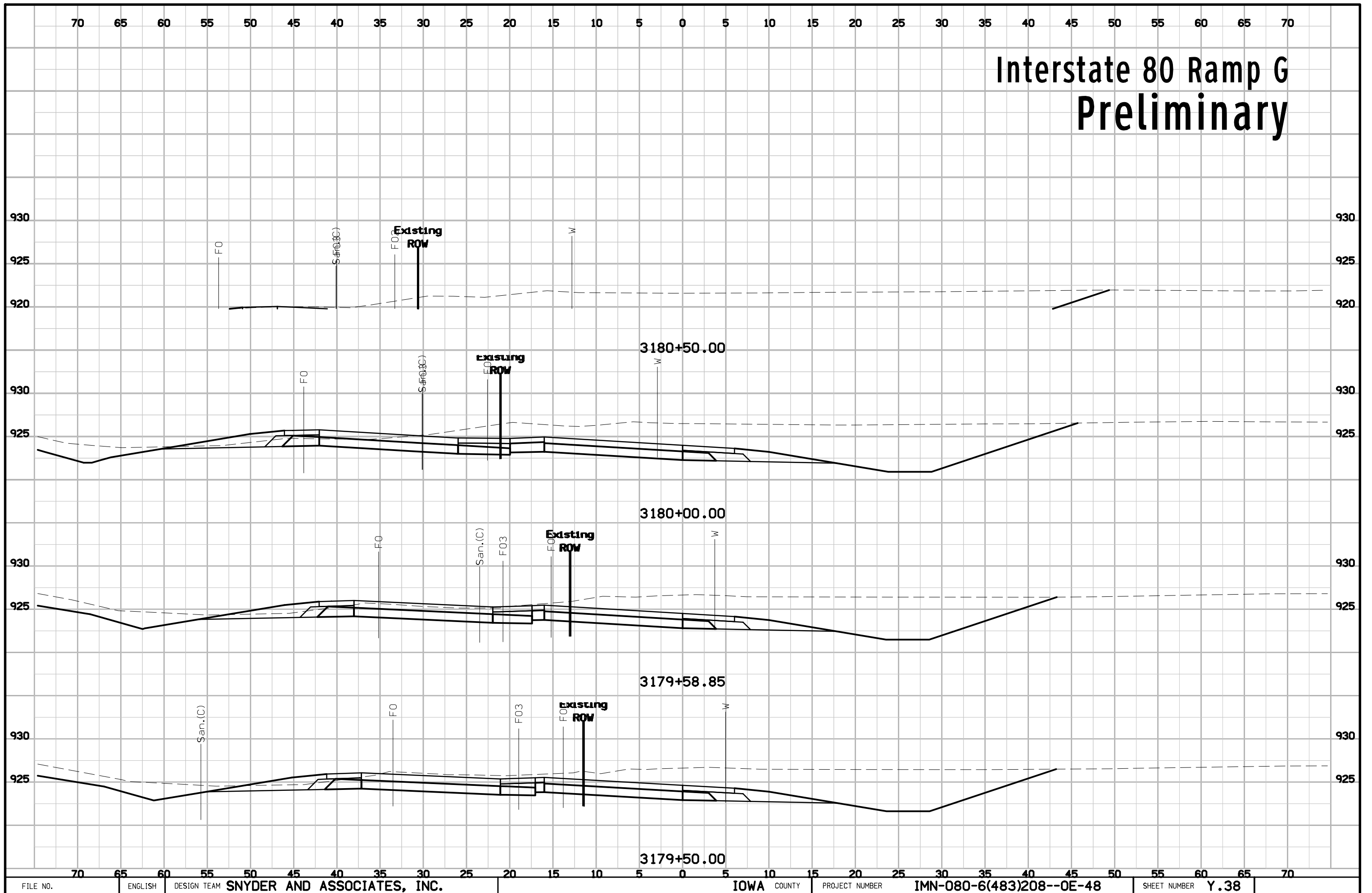
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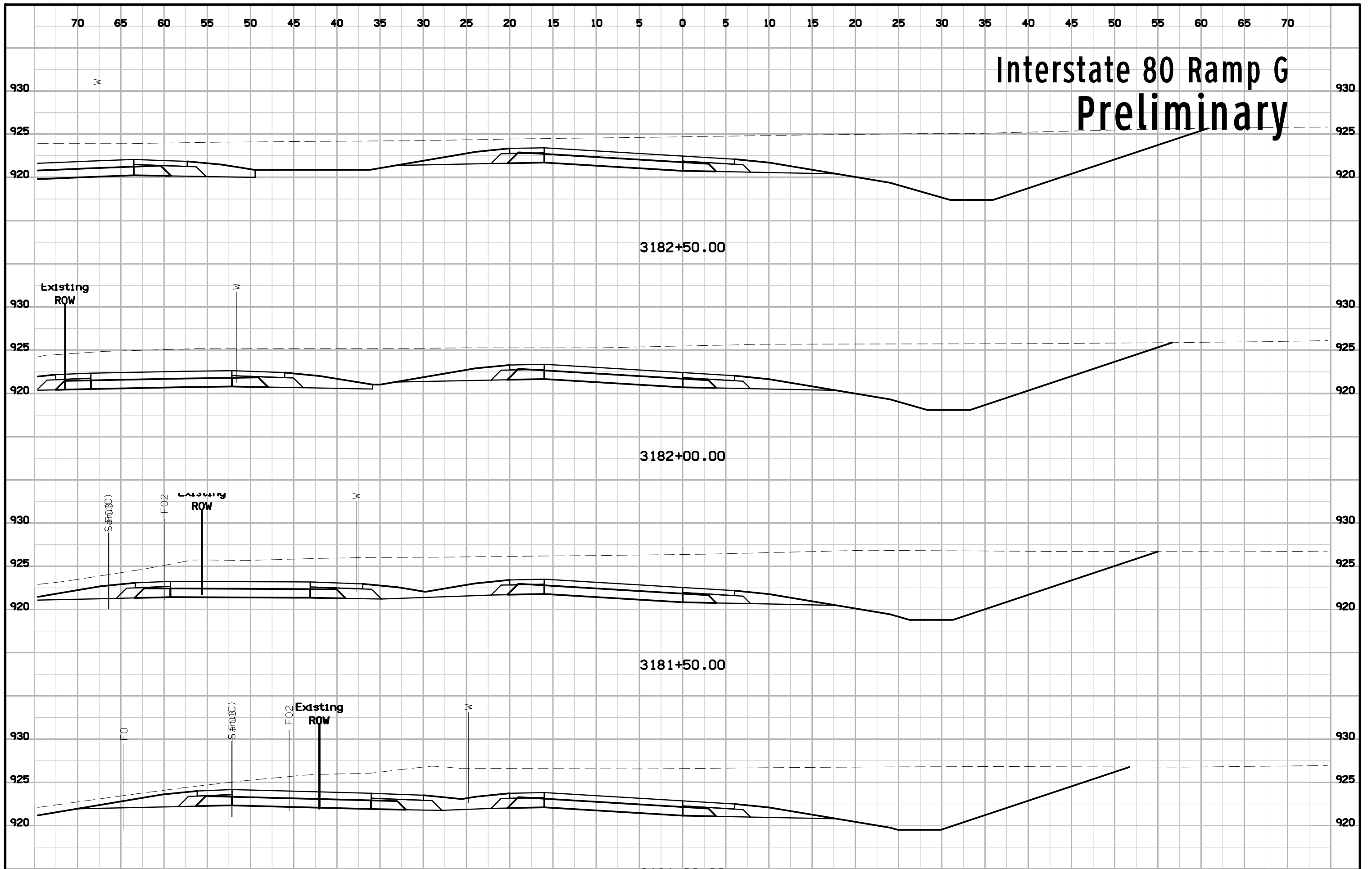
# Interstate 80 Ramp G Preliminary



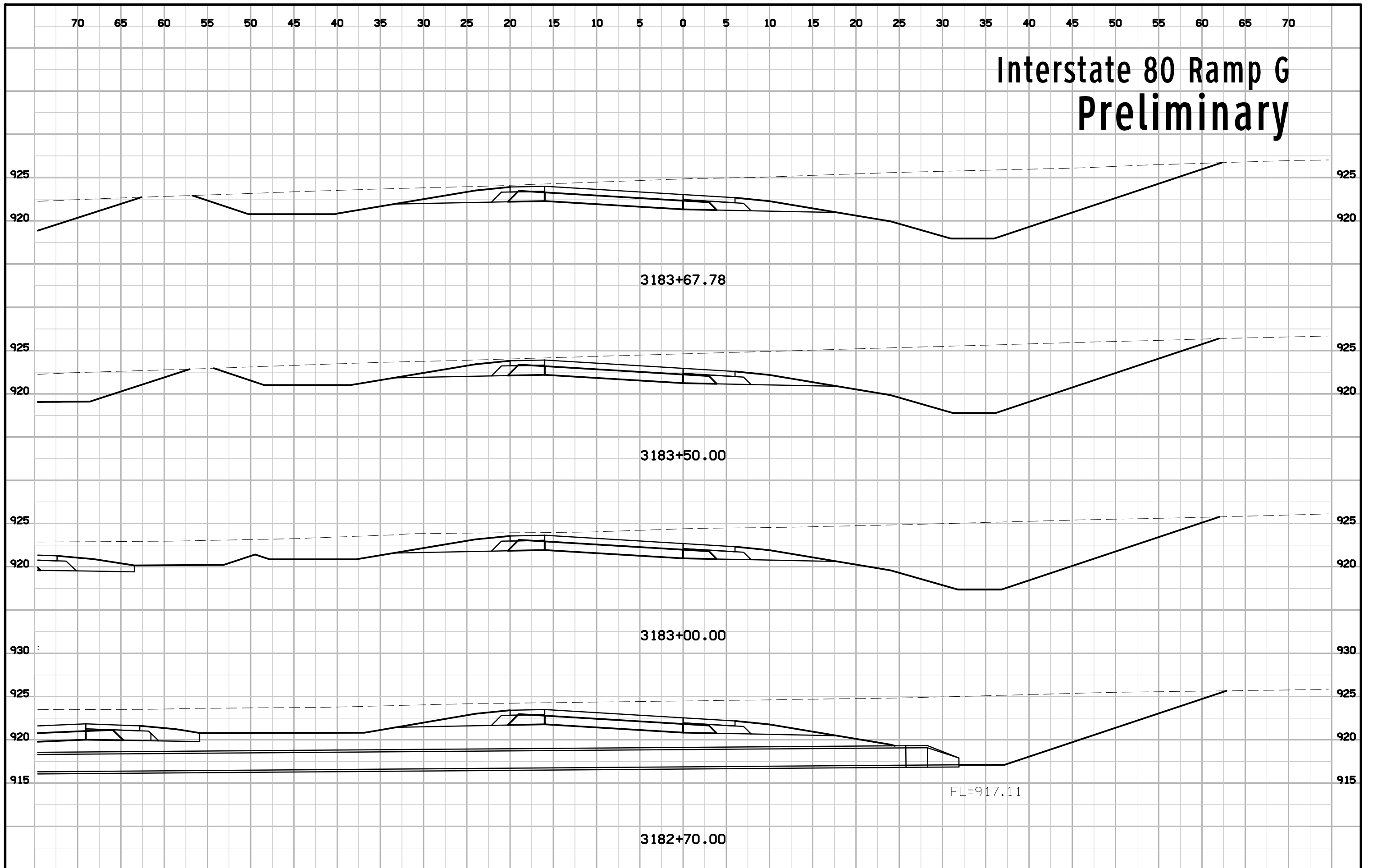
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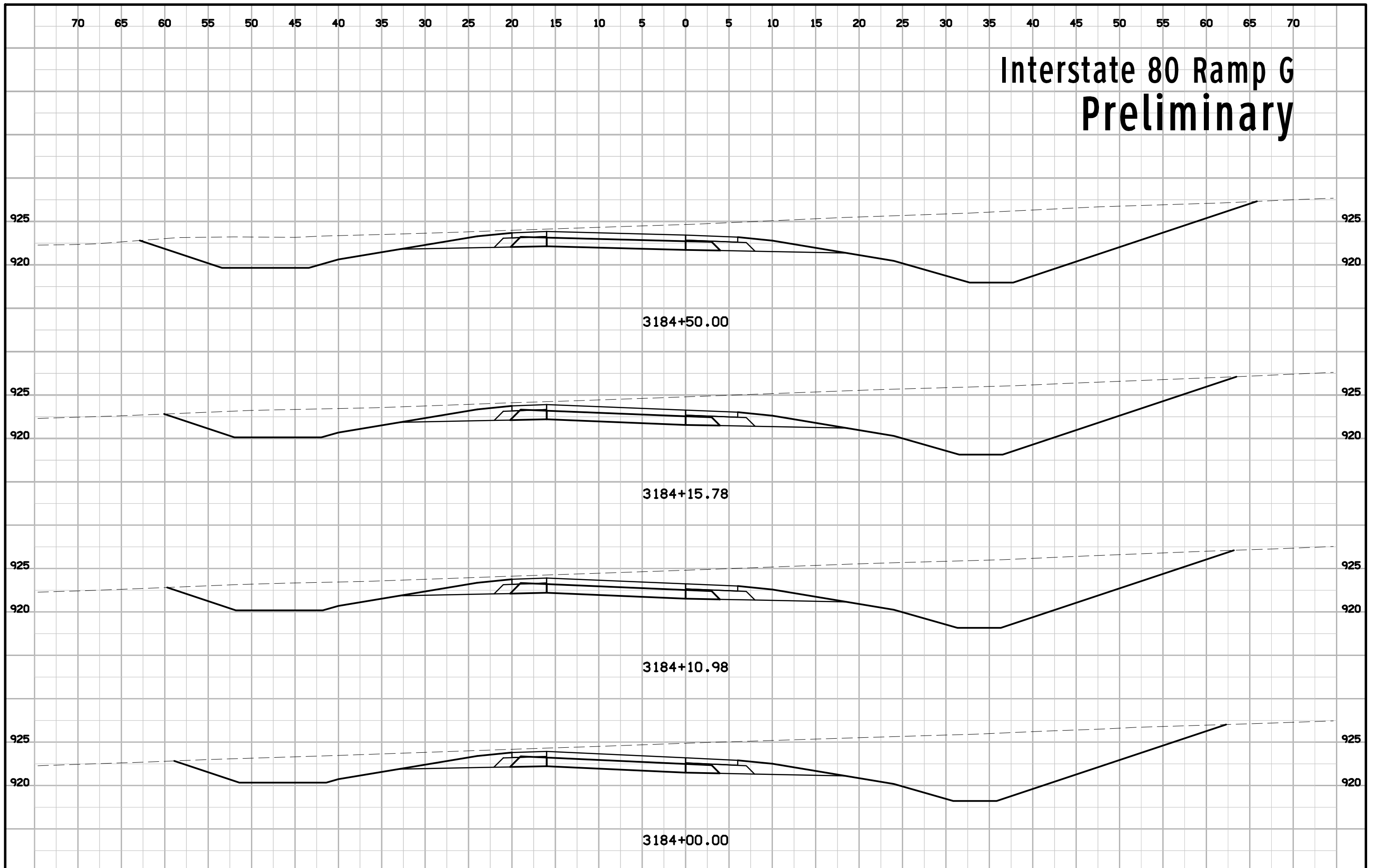
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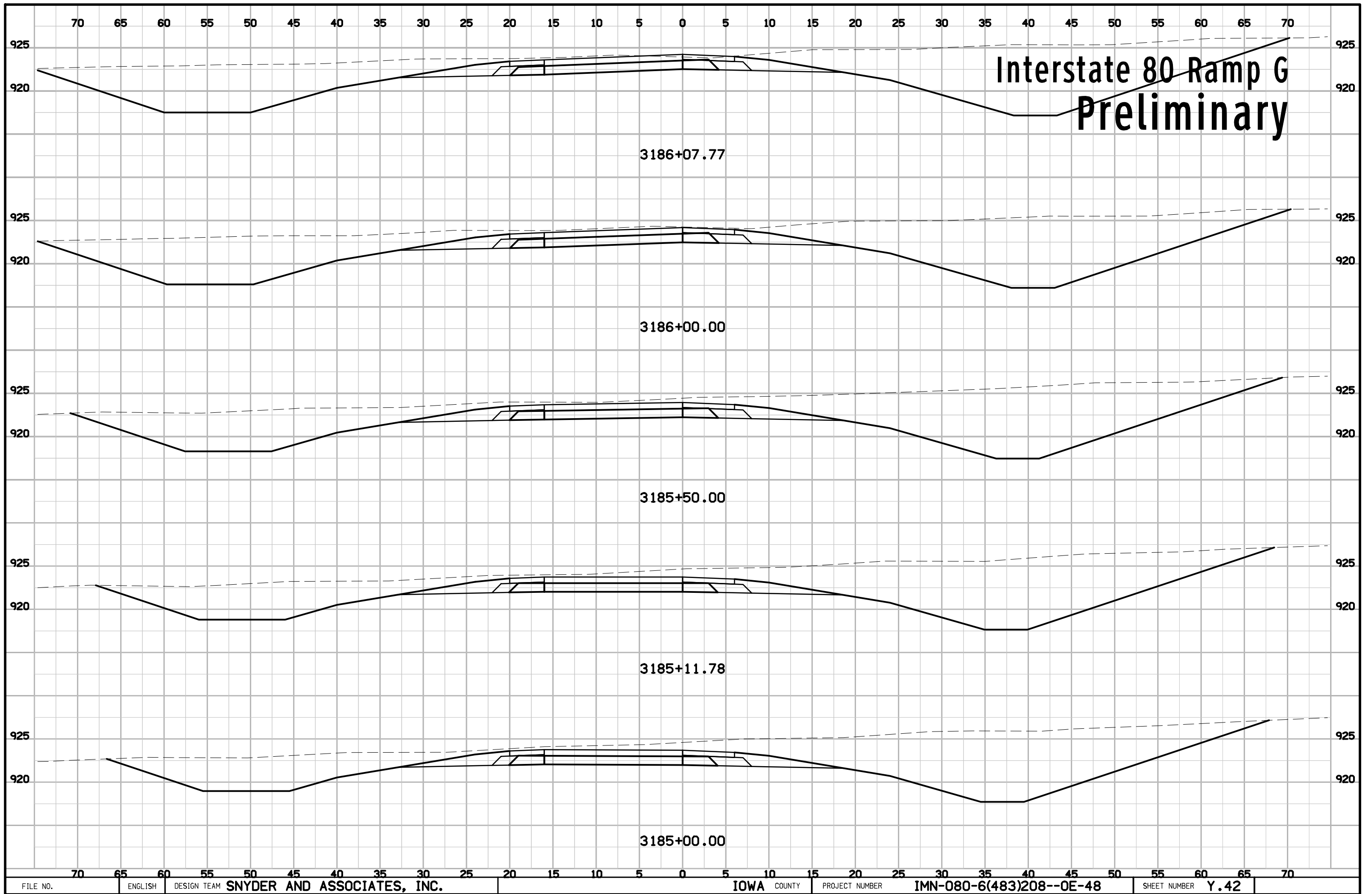


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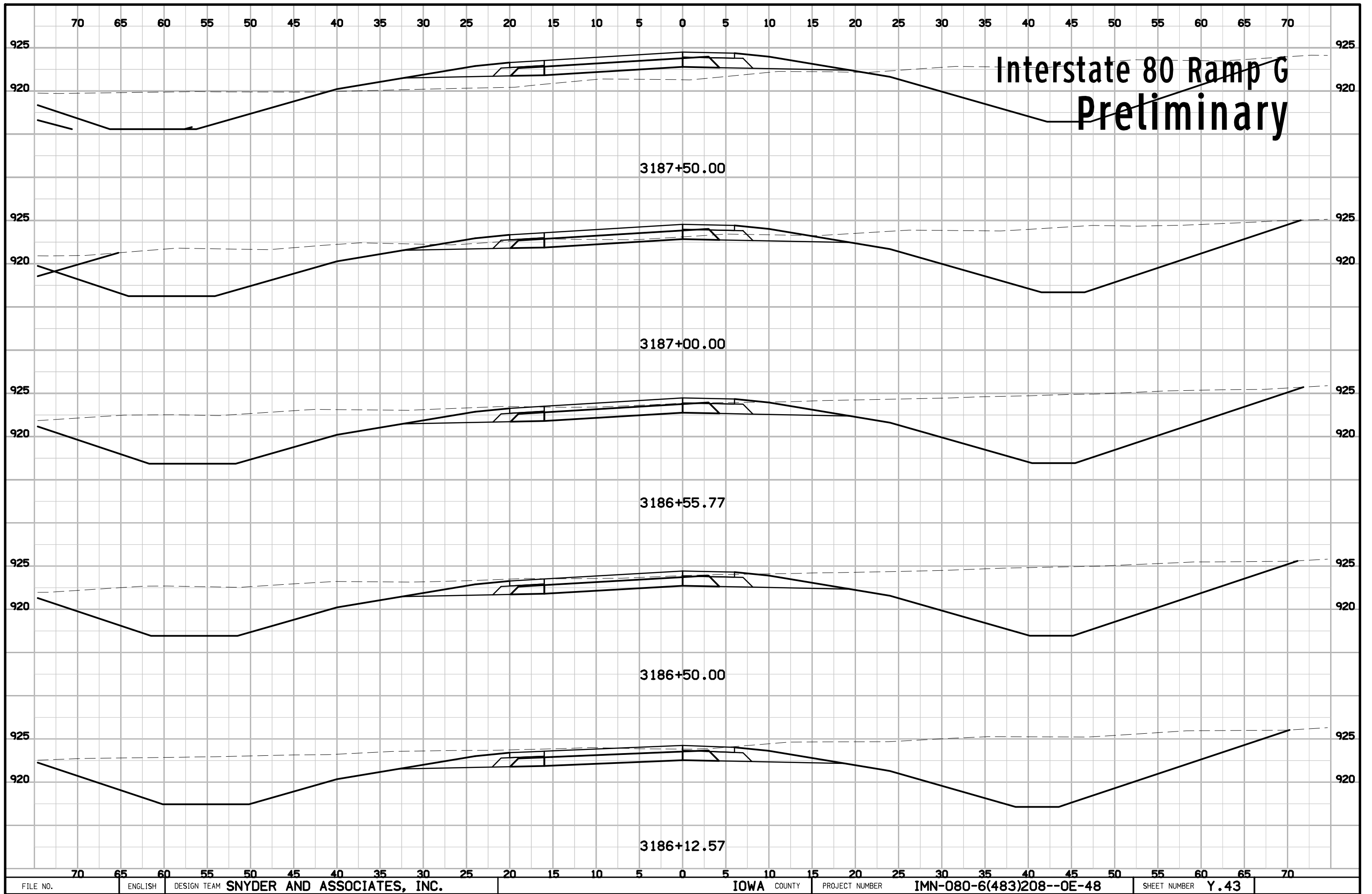


# Interstate 80 Ramp G Preliminary









# Interstate 80 Ramp G Preliminary

3187+50.00

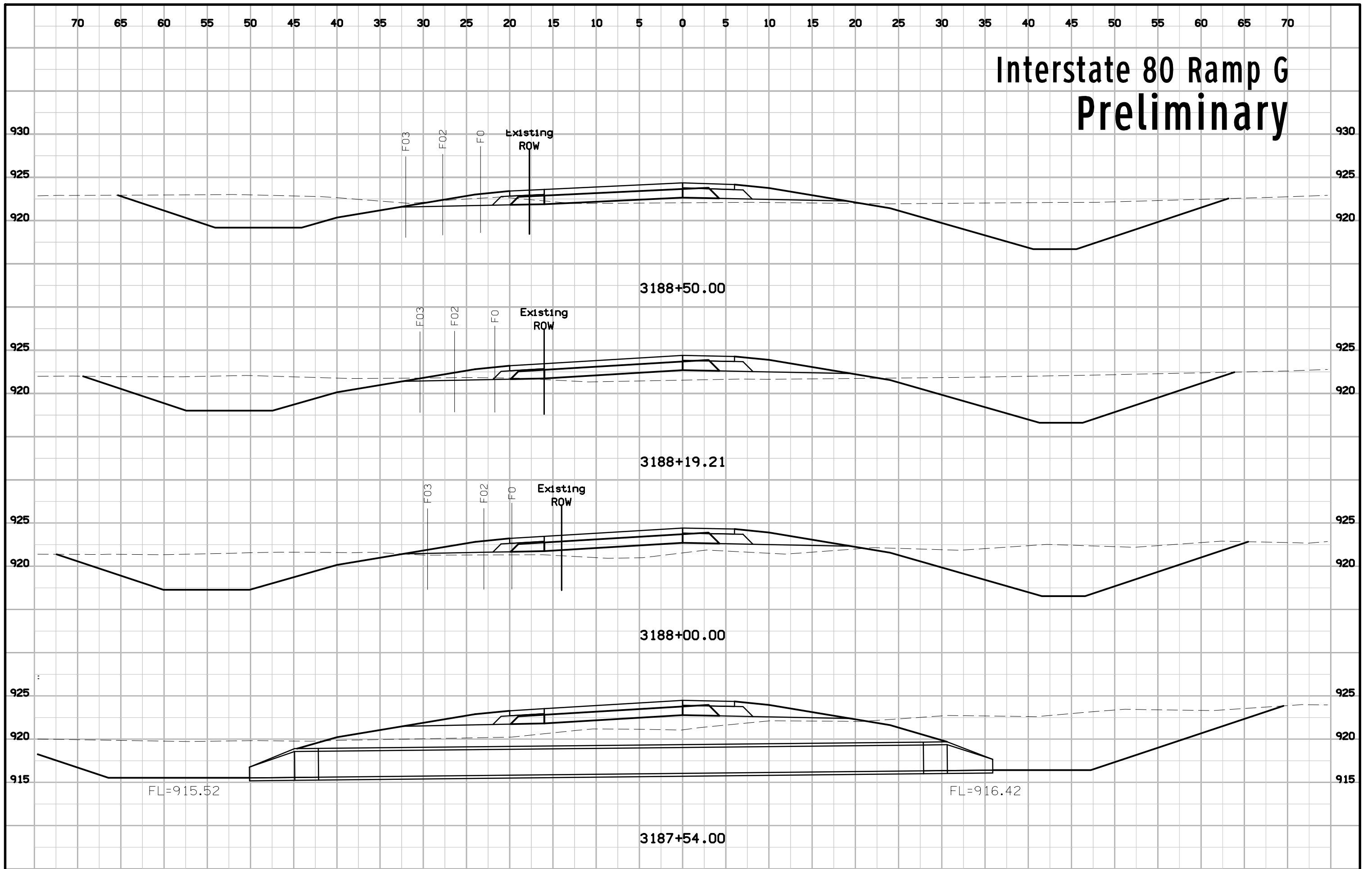
3187+00.00

3186+55.77

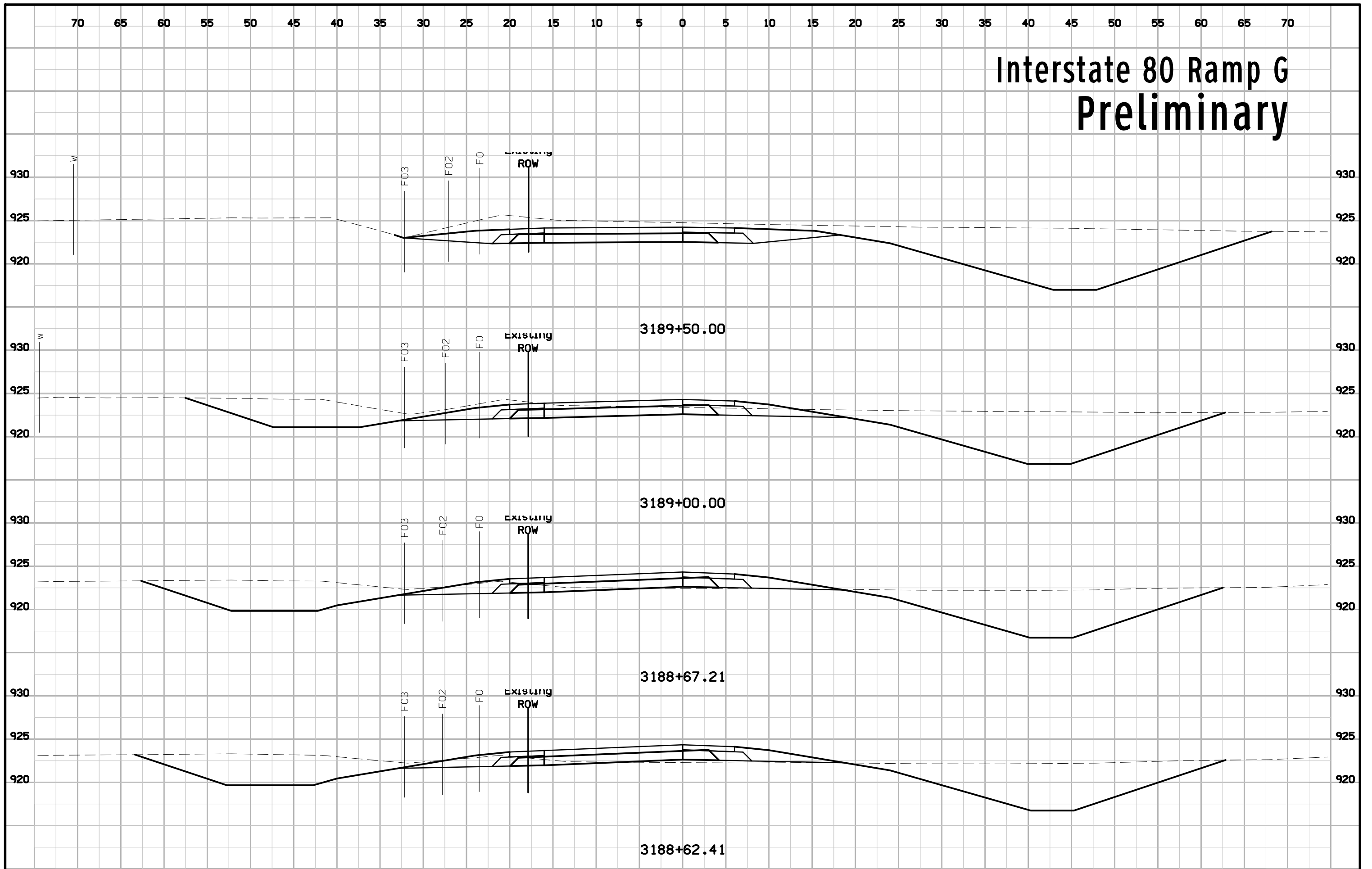
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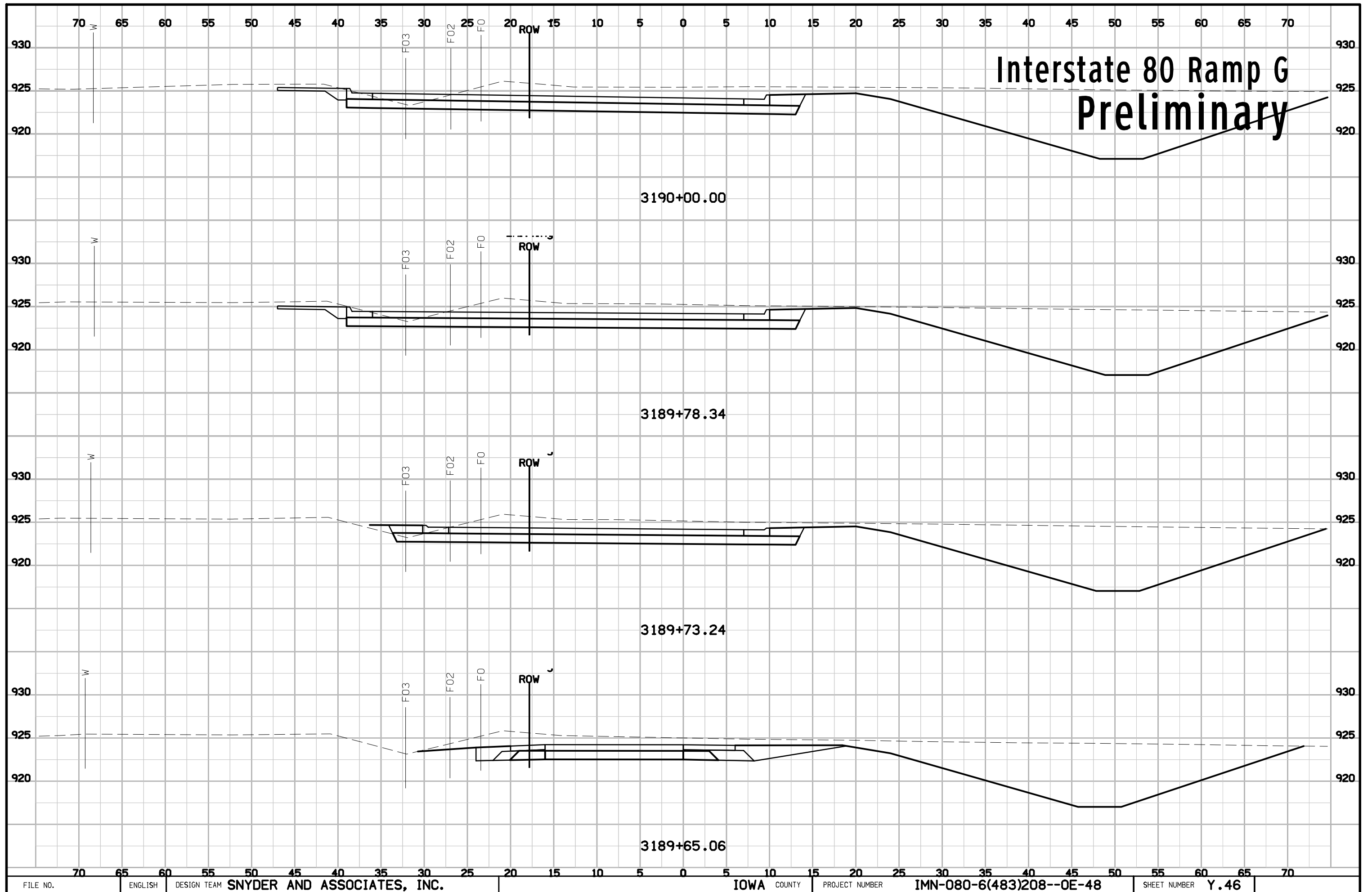
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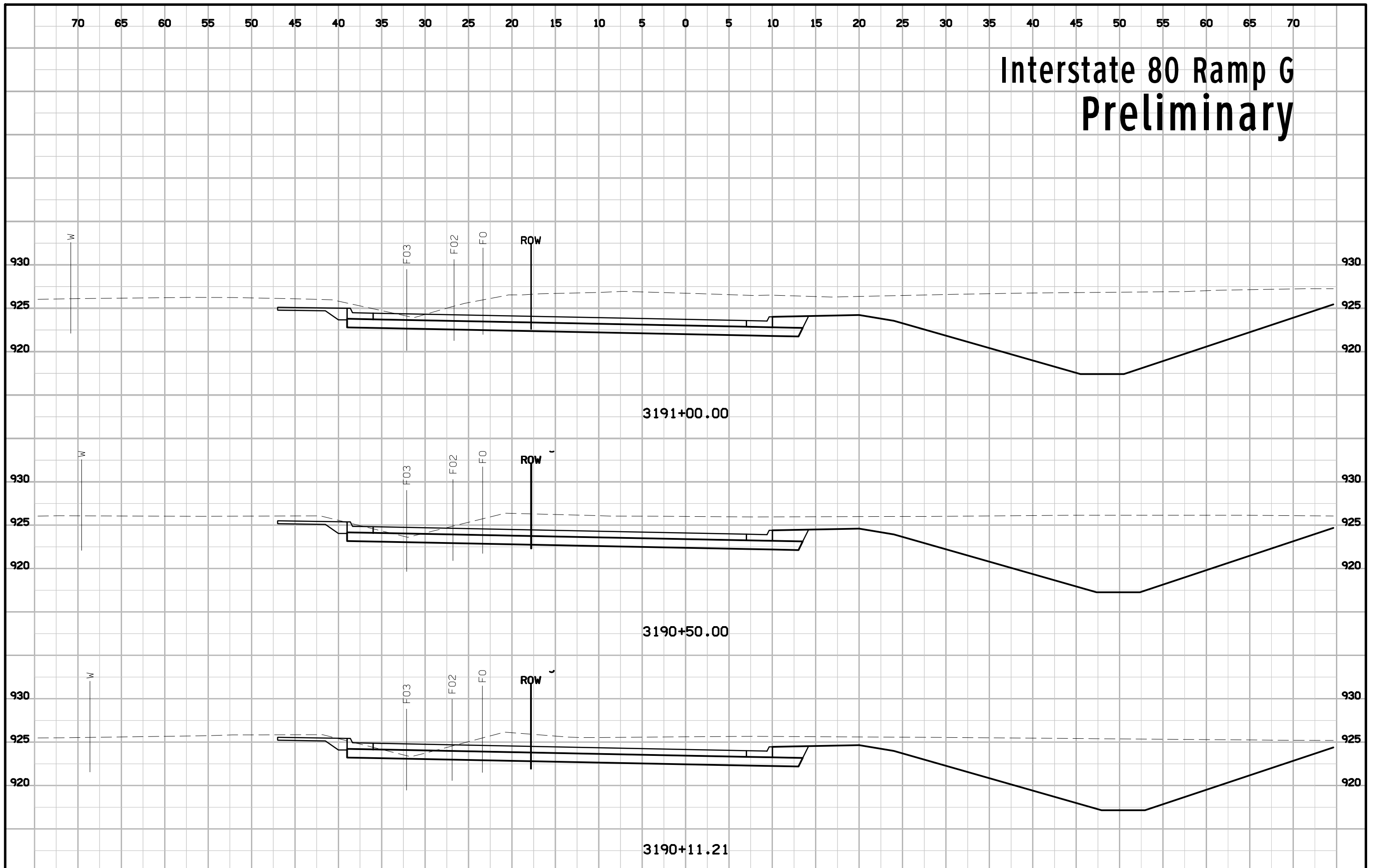


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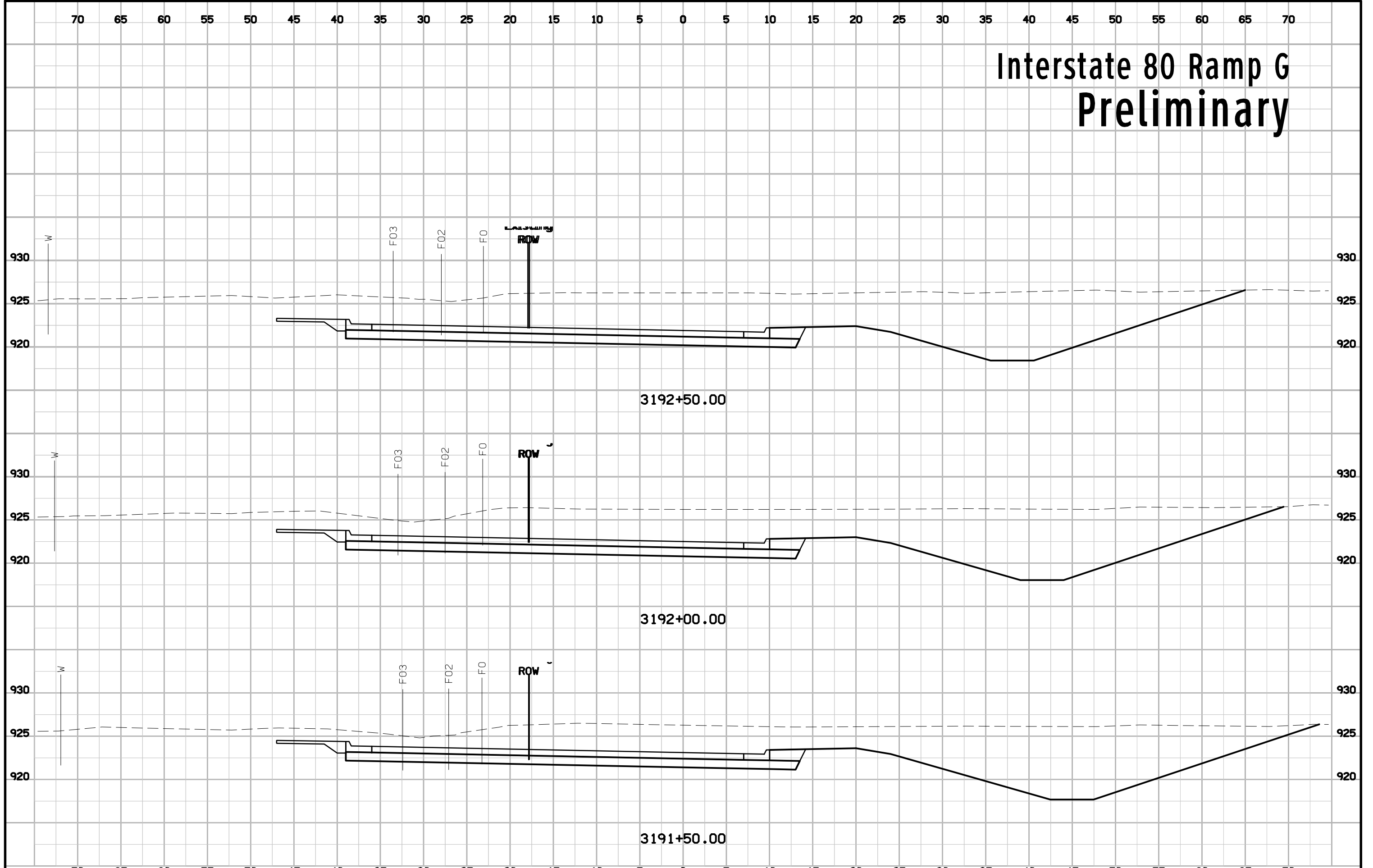




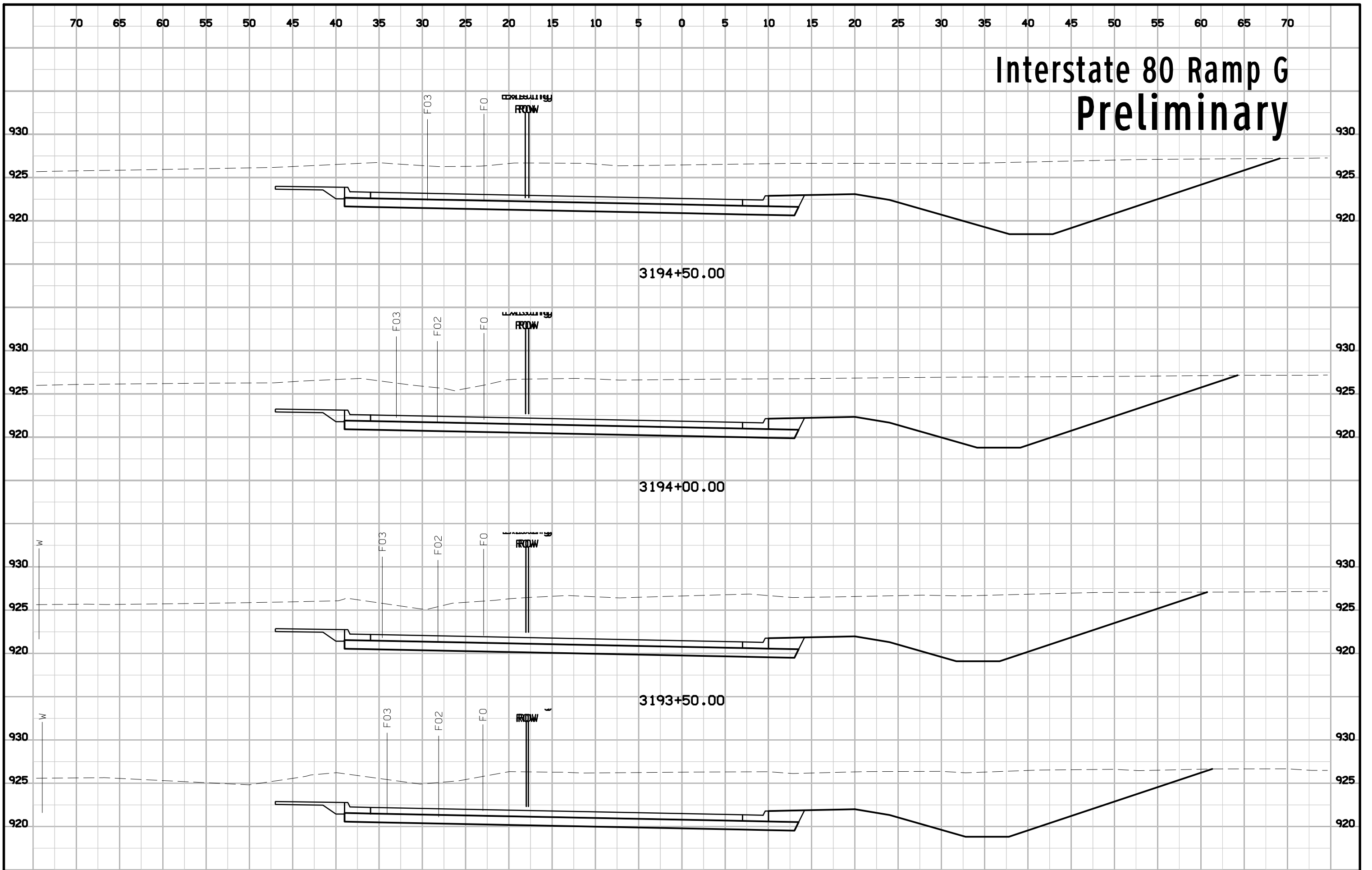
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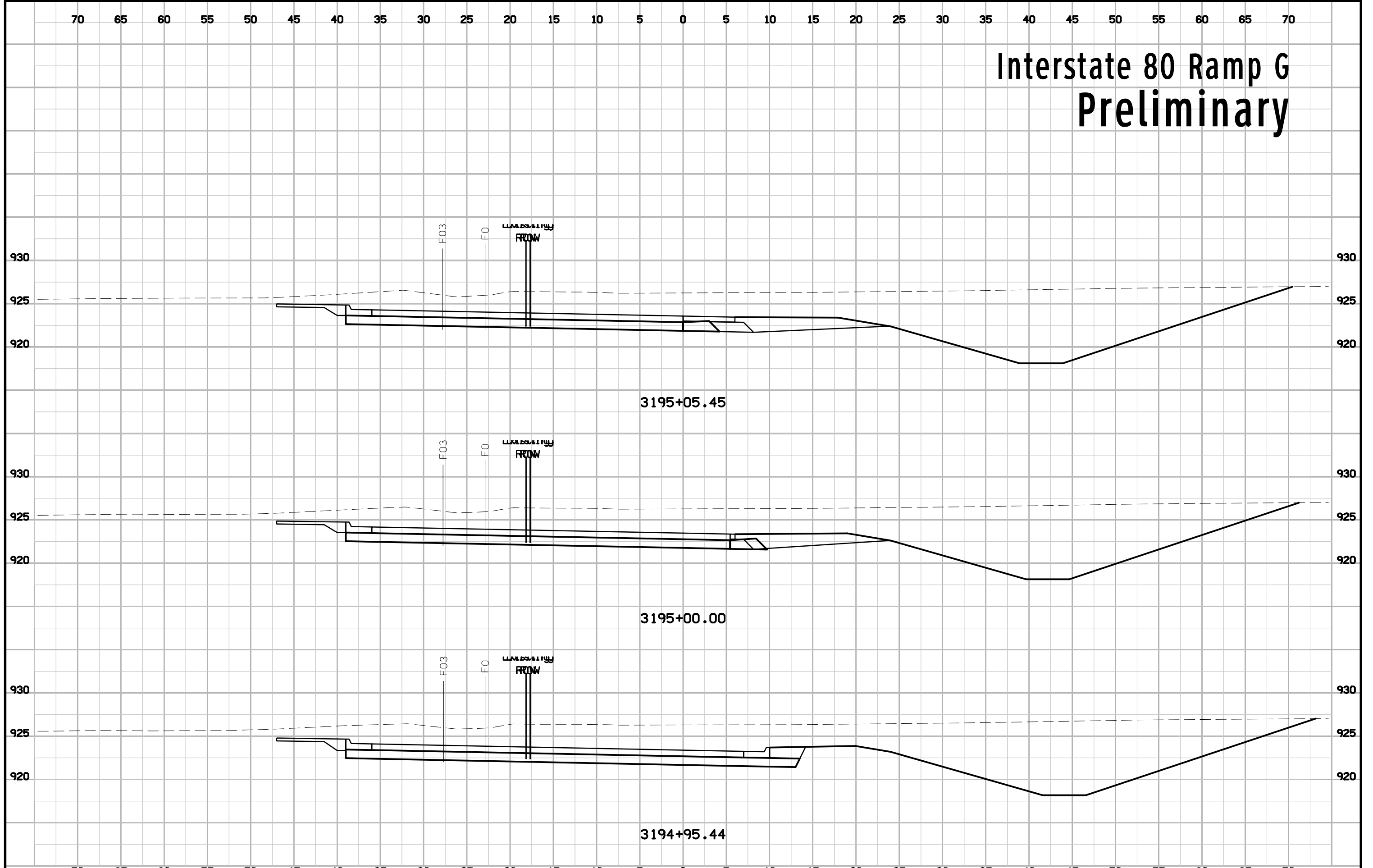
# Interstate 80 Ramp G Preliminary



# Interstate 80 Ramp G Preliminary

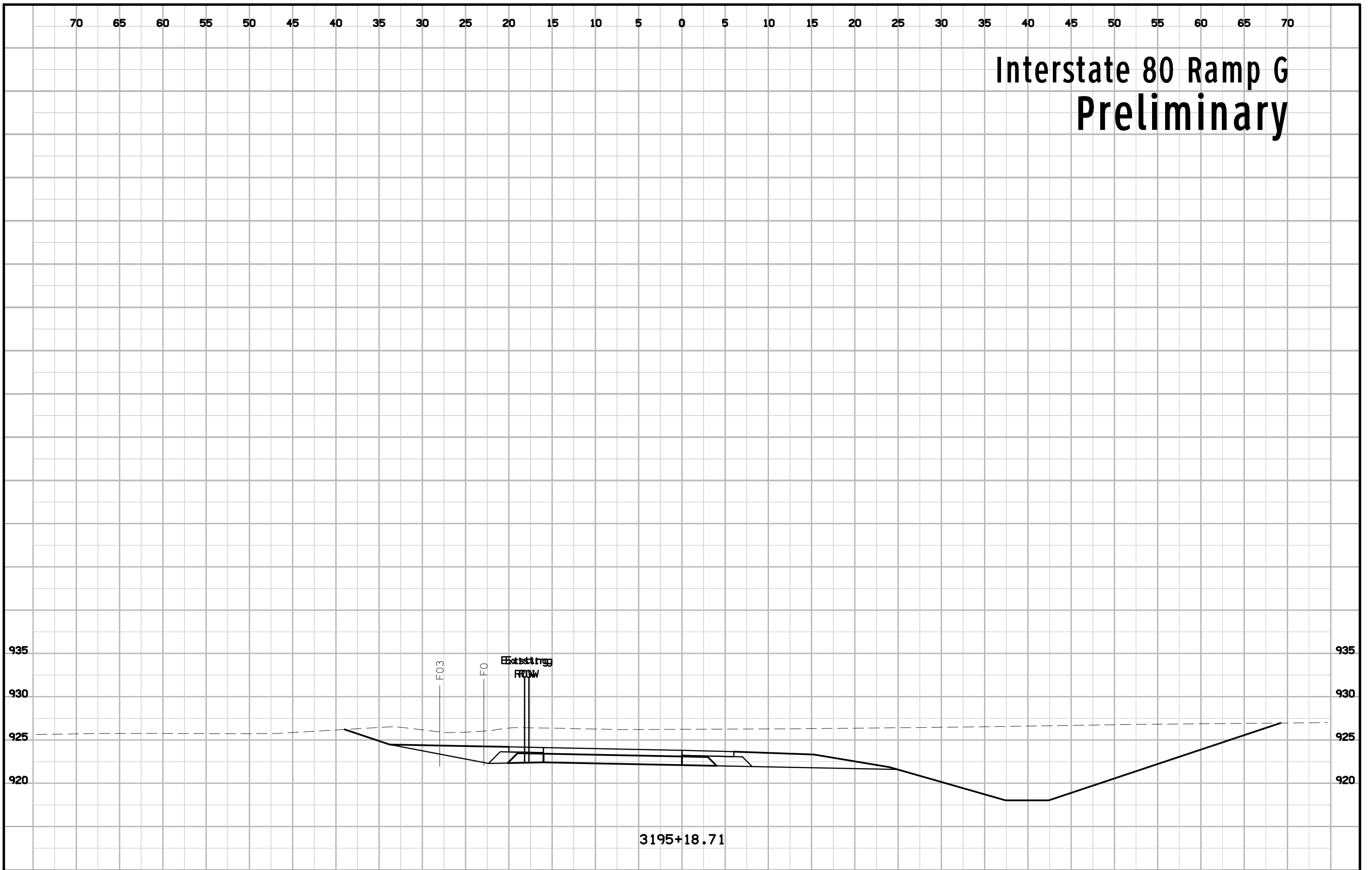


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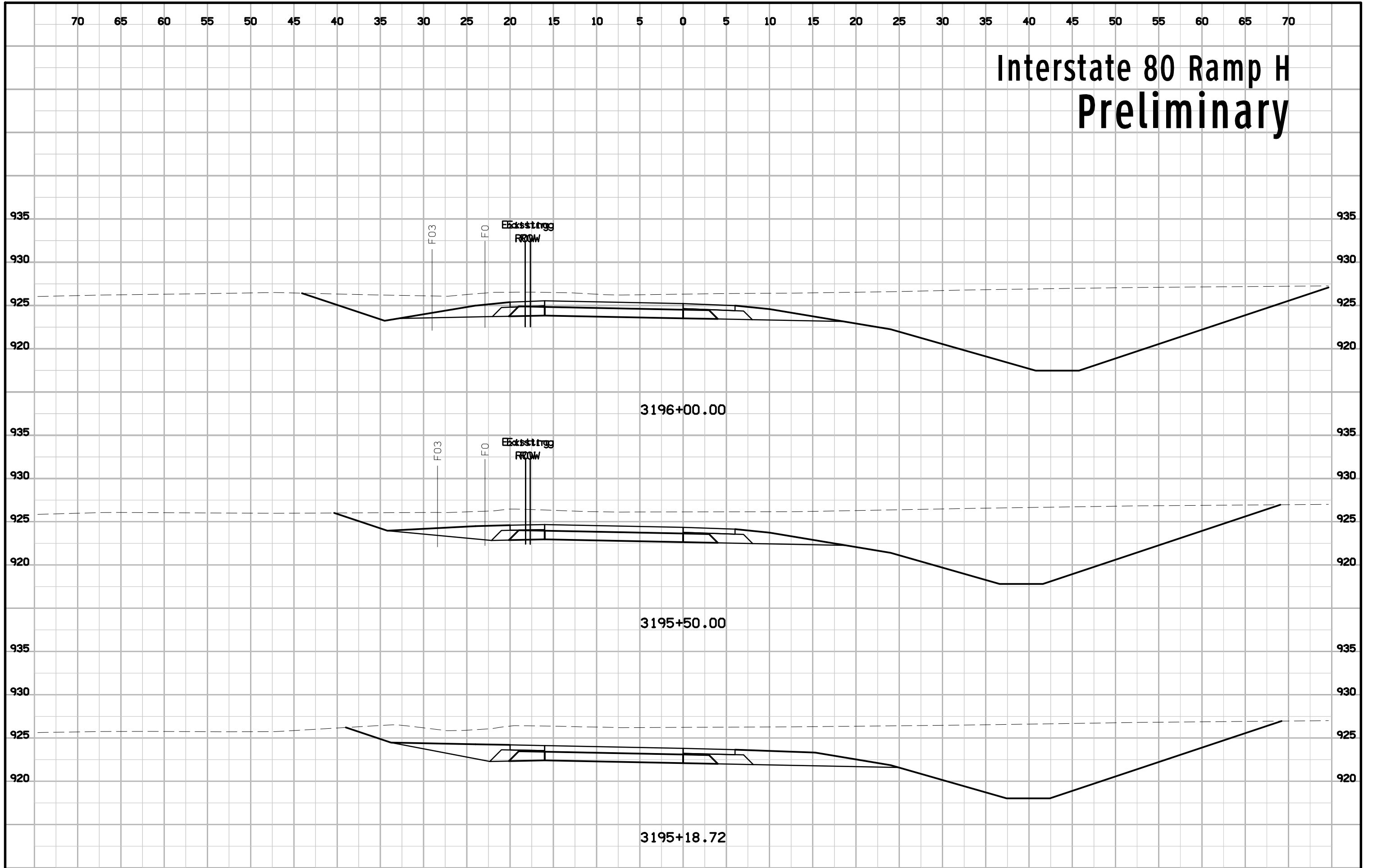


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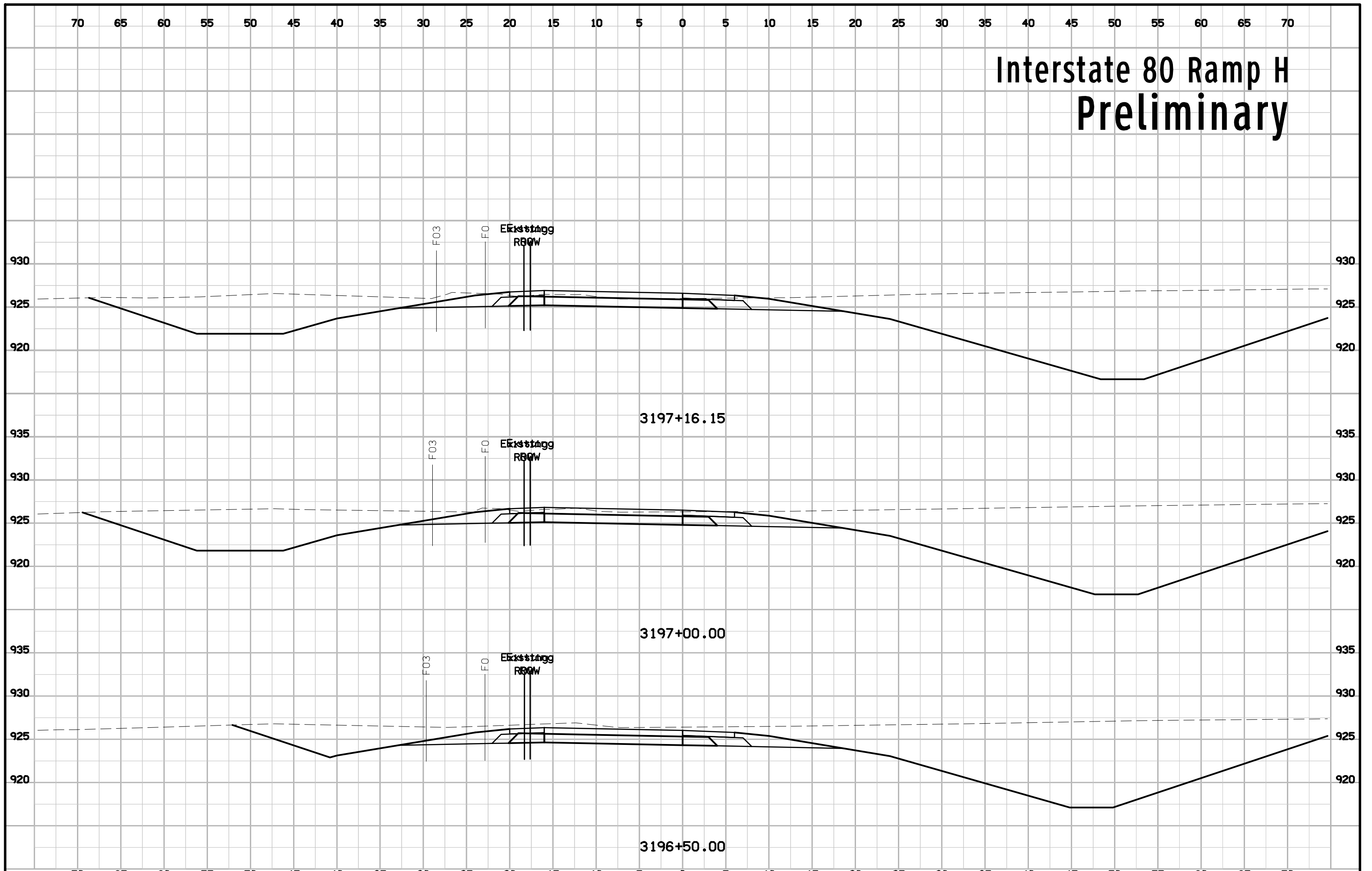


3195+18.71

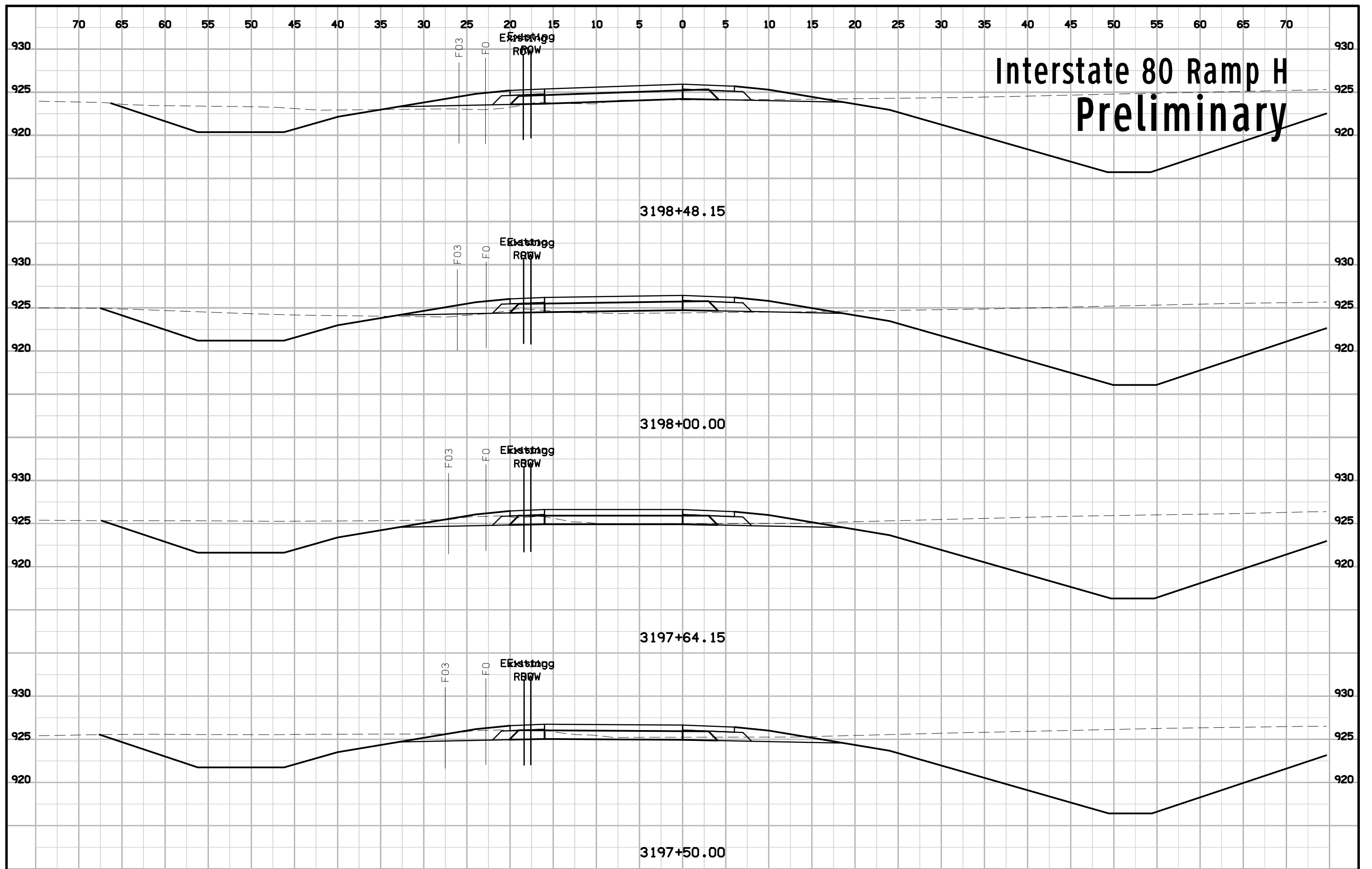
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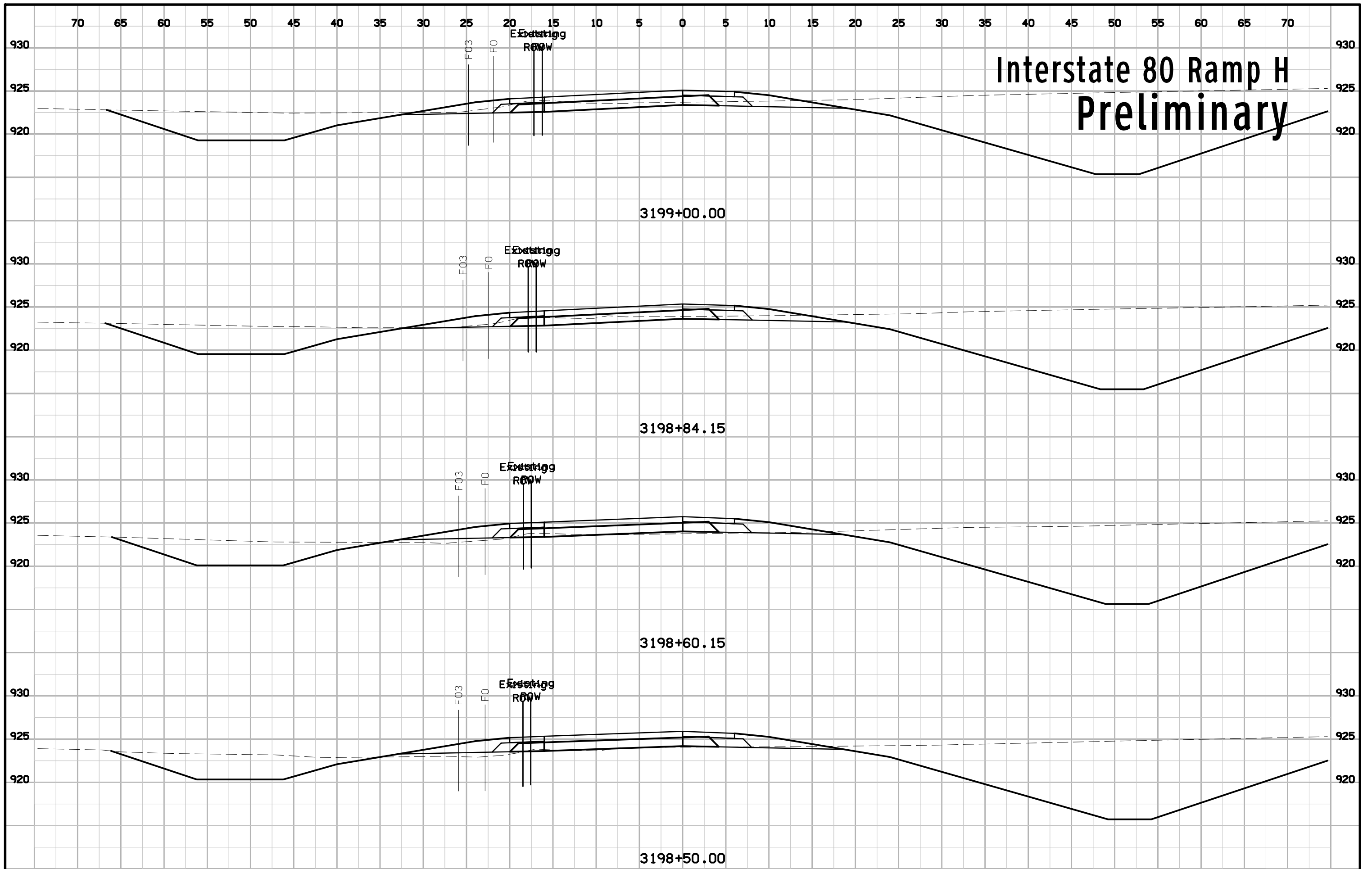
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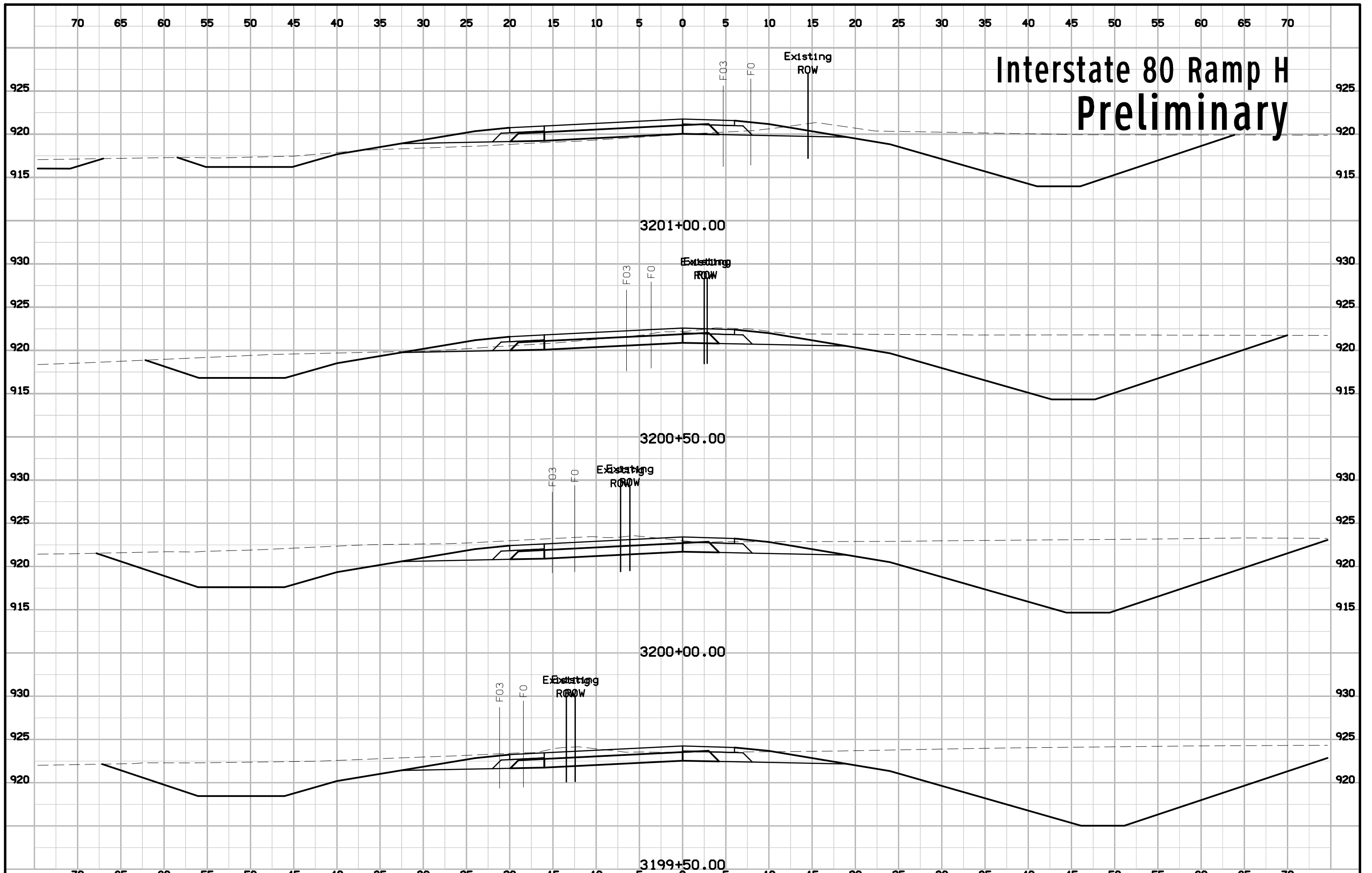
# Interstate 80 Ramp H Preliminary



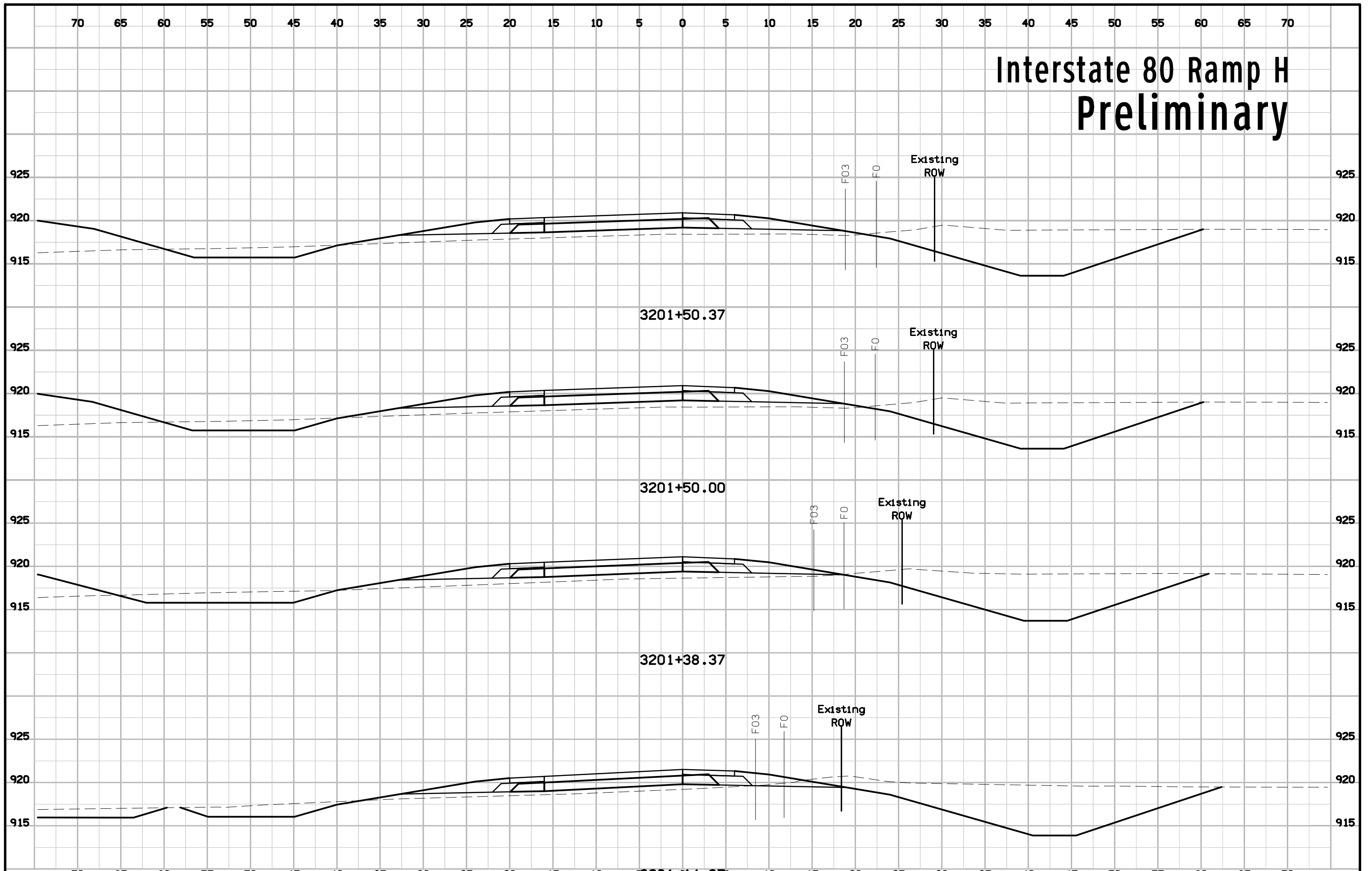
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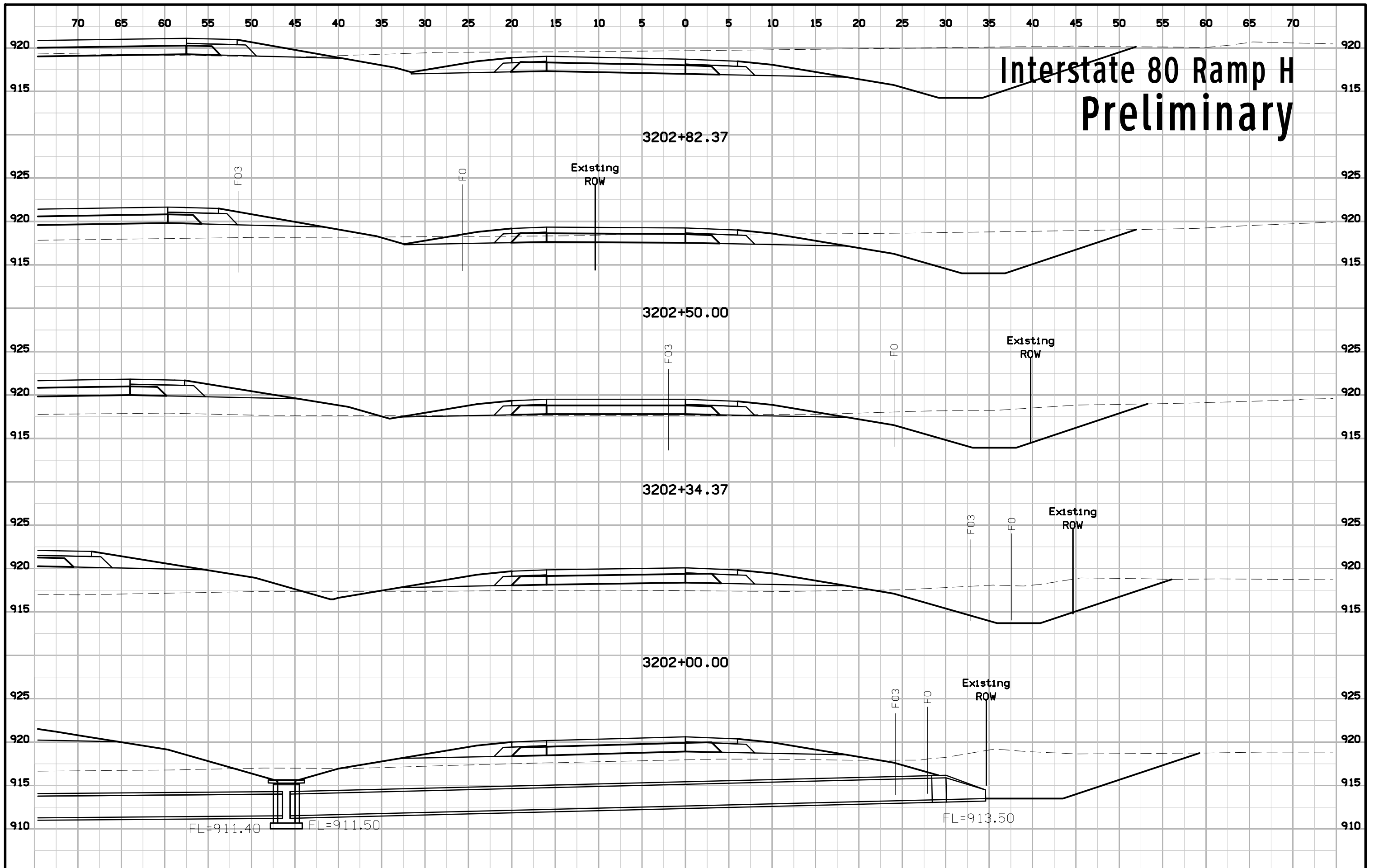
# Interstate 80 Ramp H Preliminary



# Interstate 80 Ramp H Preliminary

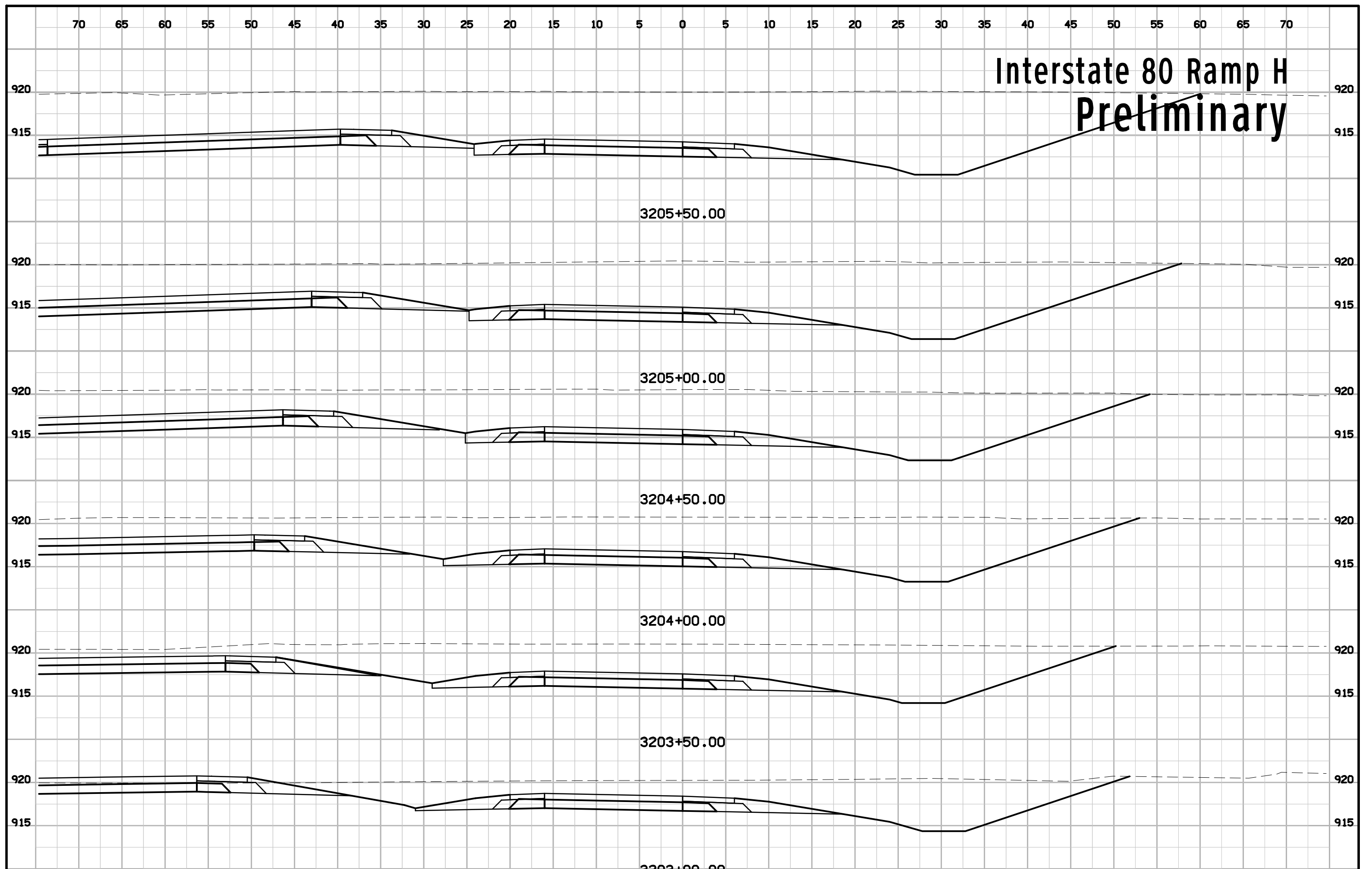


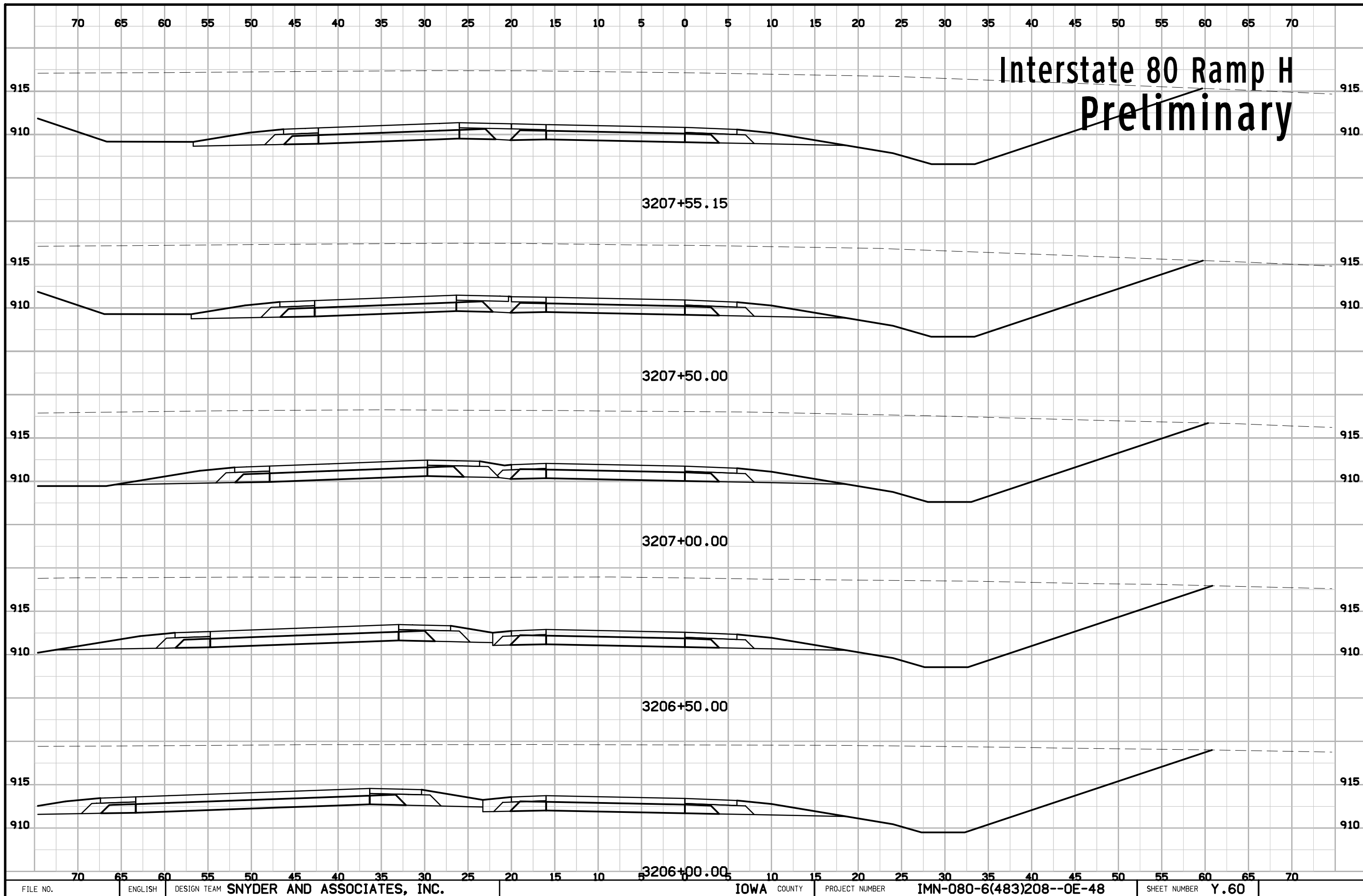
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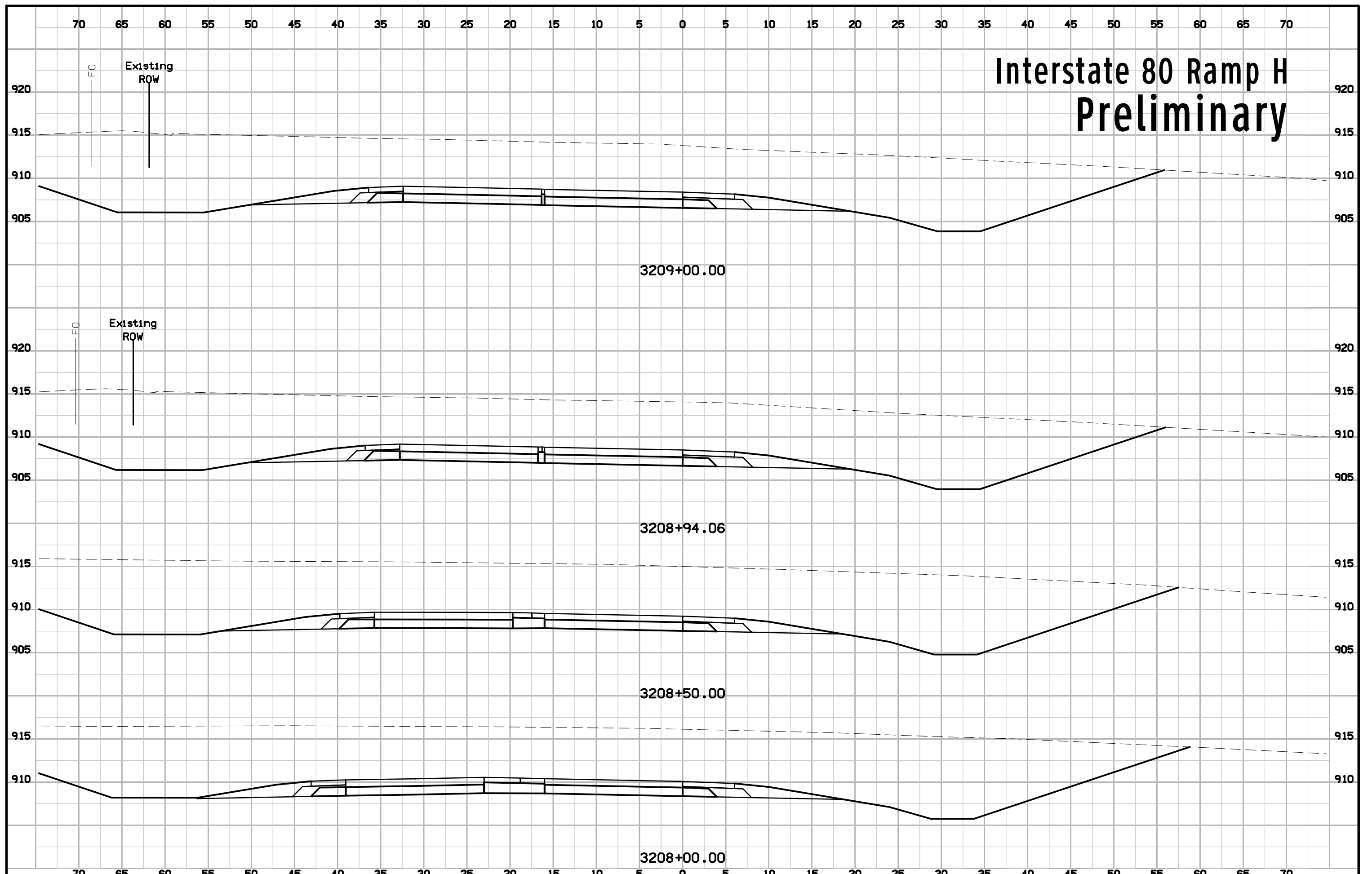


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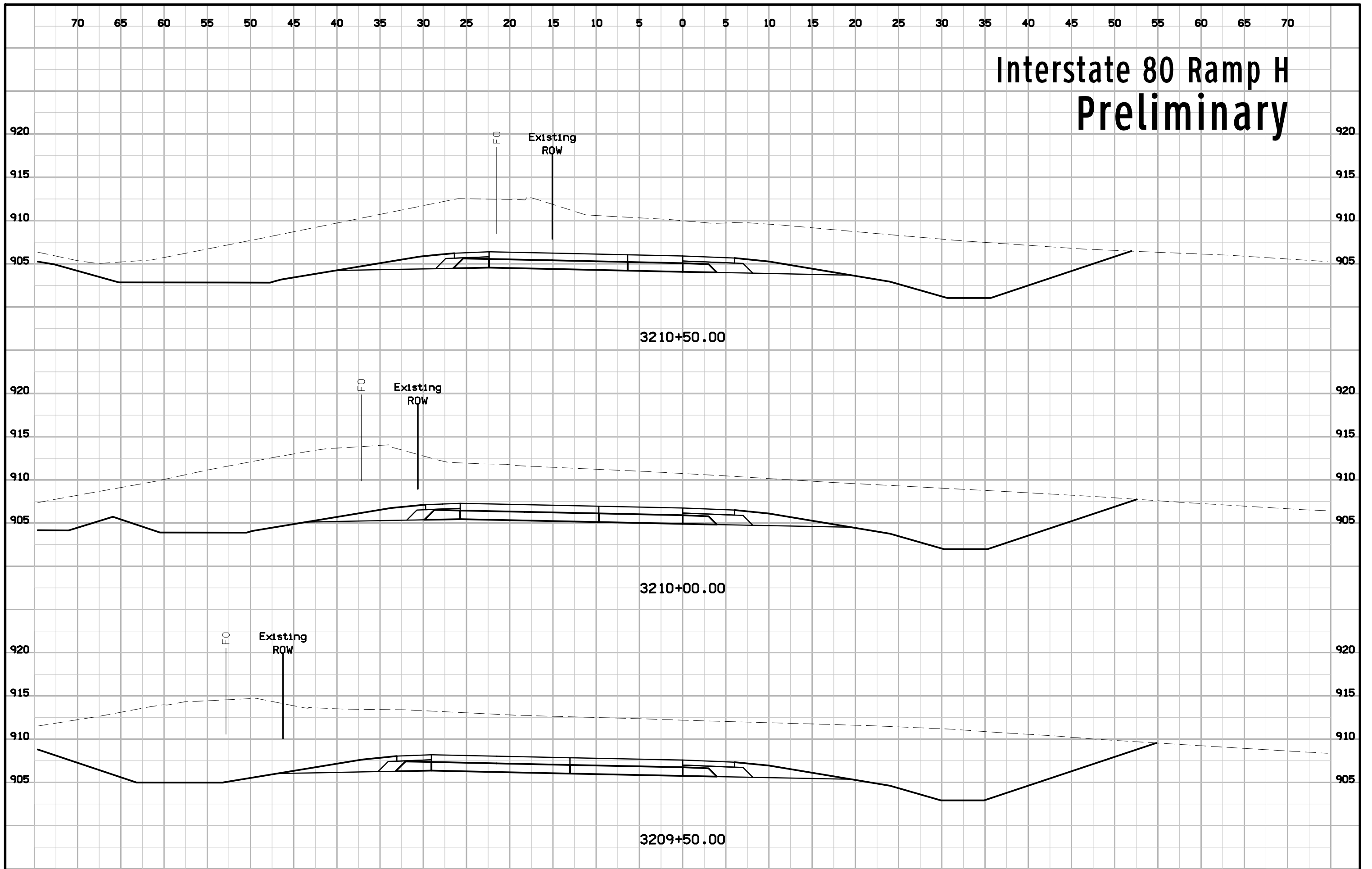




# Interstate 80 Ramp H Preliminary



# Interstate 80 Ramp H Preliminary



# Interstate 80 Ramp H Preliminary

