

UNKNOWN PAVEMENT - GRADE AND NEW  
IM-080-4(069)125--13-77

POLK CO.

LETTING DATE  
XX-XX-XXXX

INDEX OF SHEETS	
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* A.6	Traffic Data Hickman Raod
* A.7 - 9	Design Criteria
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	* Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE  
**INTERSTATE ROAD SYSTEM**  
**POLK COUNTY**  
**UNKNOWN PAVEMENT - GRADE AND NEW**  
**RECONSTRUCTION OF THE EXISTING INTERCHANGE**  
**U.S. HIGHWAY 6 (HICKMAN ROAD) AND**  
**INTERSTATE 35 / INTERSTATE 80 (I-35/80)**  
SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

**NO MILEAGE SUMMARY**

A bid item will be necessary for jetting median drains.

A separate meeting will be scheduled to discuss staging and traffic control in detail.

May 24, 2022

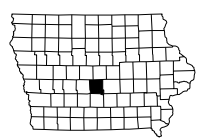
REVISIONS		TOTAL
		359
PROJECT IDENTIFICATION NUMBER		
15-77-080-060		
PROJECT NUMBER		
IM-080-4(069)125--13-77		
R.O.W. PROJECT NUMBER		
IMN-080-3(279)124--0E-77		

**Preliminary Earthwork:**  
400,000 CY Cut (Total)  
400,000 CY Fill (Total)

**Anticipated Project Development Schedule:**

- IJR5 Interchange Justification Report  
August 28, 2019
- D2 Design Field Exam  
December 2, 2021
- D3 Plans for Preliminary Bridge  
February 4, 2022
- B1 Bridges and Structures Layout  
March 24, 2022
- S2 Identification of Soils Related ROW Issues  
June 3, 2022
- D5 Plans to Right-of-Way  
July 1, 2022
- R1 Right-of-Way Layout  
September 30, 2022
- P09 Public Information Meeting (PIM)  
November, 2022

For Project Location Map refer to Sheet A.2



U.S. Hwy. 6				I-35/80			
DESIGN DATA RURAL				DESIGN DATA RURAL			
2015	AADT	39,600	V.P.D.	2015	AADT	108,600	V.P.D.
2042	AADT	57,100	V.P.D.	2042	AADT	163,400	V.P.D.
2042	DHV	5,060	V.P.H.	2042	DHV	15,610	V.P.H.
	TRUCKS	6	%		TRUCKS	13	%
	Total				Total		
	Design ESALs	--			Design ESALs	--	

**FIELD EXAM PLANS**

Subject to change by final design.

**D2 PLAN - Date: Dec. 2, 2021**

T-78N

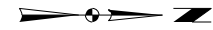
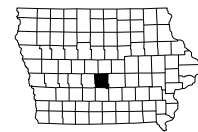
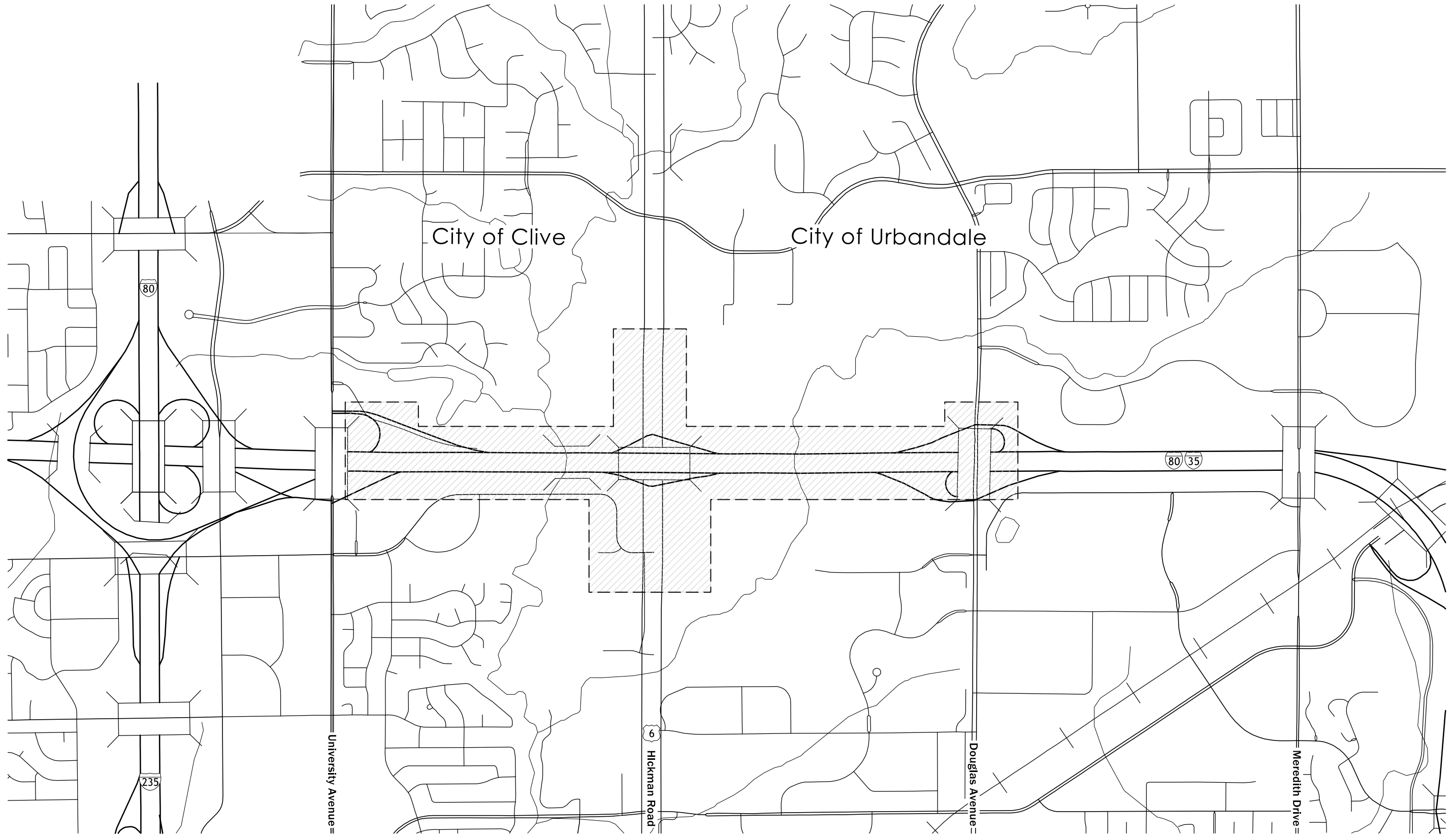
T-79N

City of Clive

City of Urbandale

R-25W

R-25W



LOCATION MAP NOT TO SCALE

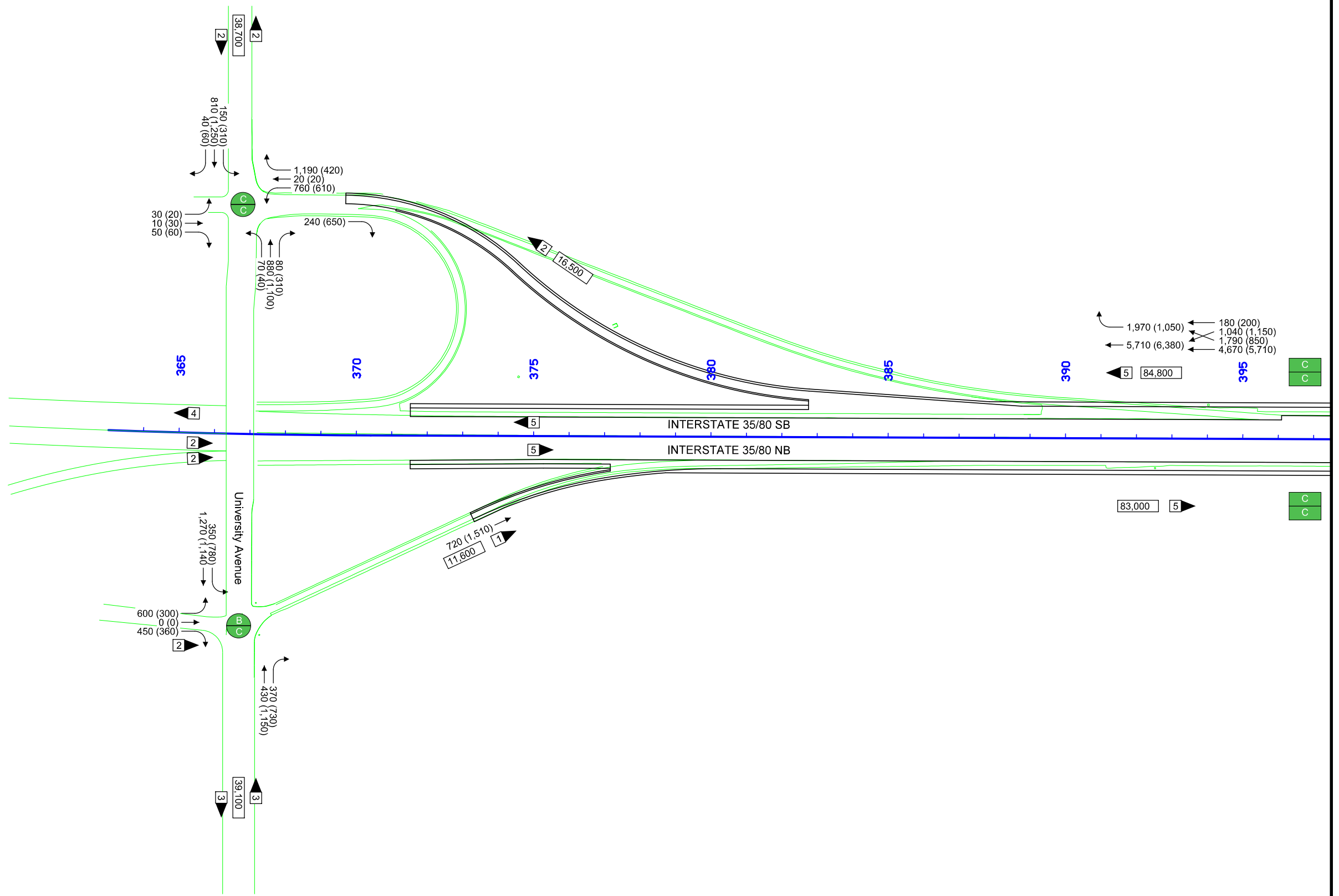
**Legend**

- X,XXX 2042 AM Peak Hour Volumes
- (X,XXX) 2042 PM Peak Hour Volumes
- XX,XXX 2042 AADT
- X▶ Number of Lanes

**Level of Service**



- AM Ramp Merge
- AM Ramp Diverge
- AM Weaving Segment
- AM Traffic Signal



**TRAFFIC DATA  
Interstate 35/80  
at University Avenue**

**Legend**

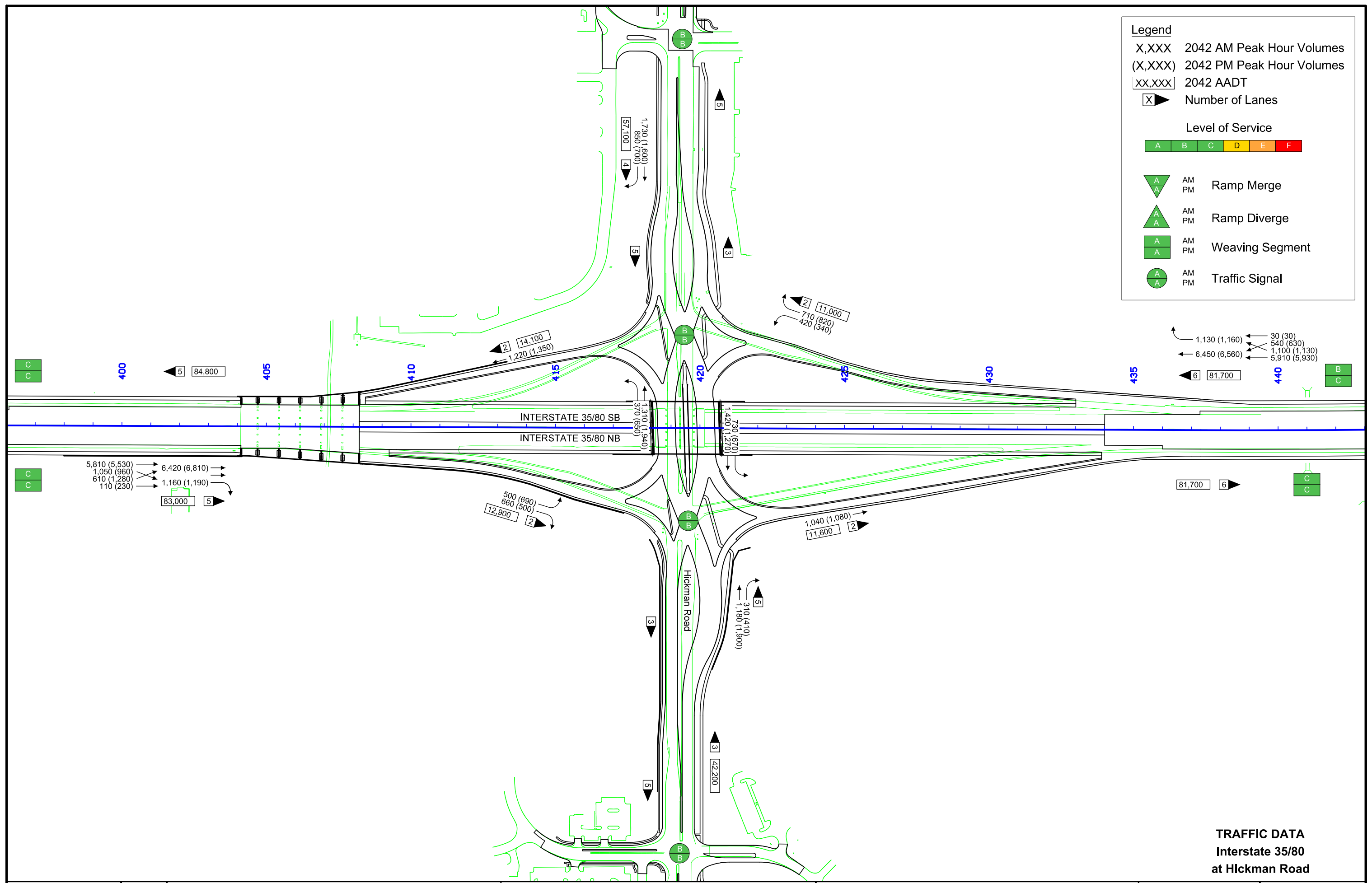
X,XXX 2042 AM Peak Hour Volumes  
 (X,XXX) 2042 PM Peak Hour Volumes  
 XX,XXX 2042 AADT

X▶ Number of Lanes

**Level of Service**

A	B	C	D	E	F
---	---	---	---	---	---

▶ AM Ramp Merge  
 ▶ AM Ramp Diverge  
 ▶ AM Weaving Segment  
 ○ AM Traffic Signal



**TRAFFIC DATA**  
**Interstate 35/80**  
**at Hickman Road**

**Legend**

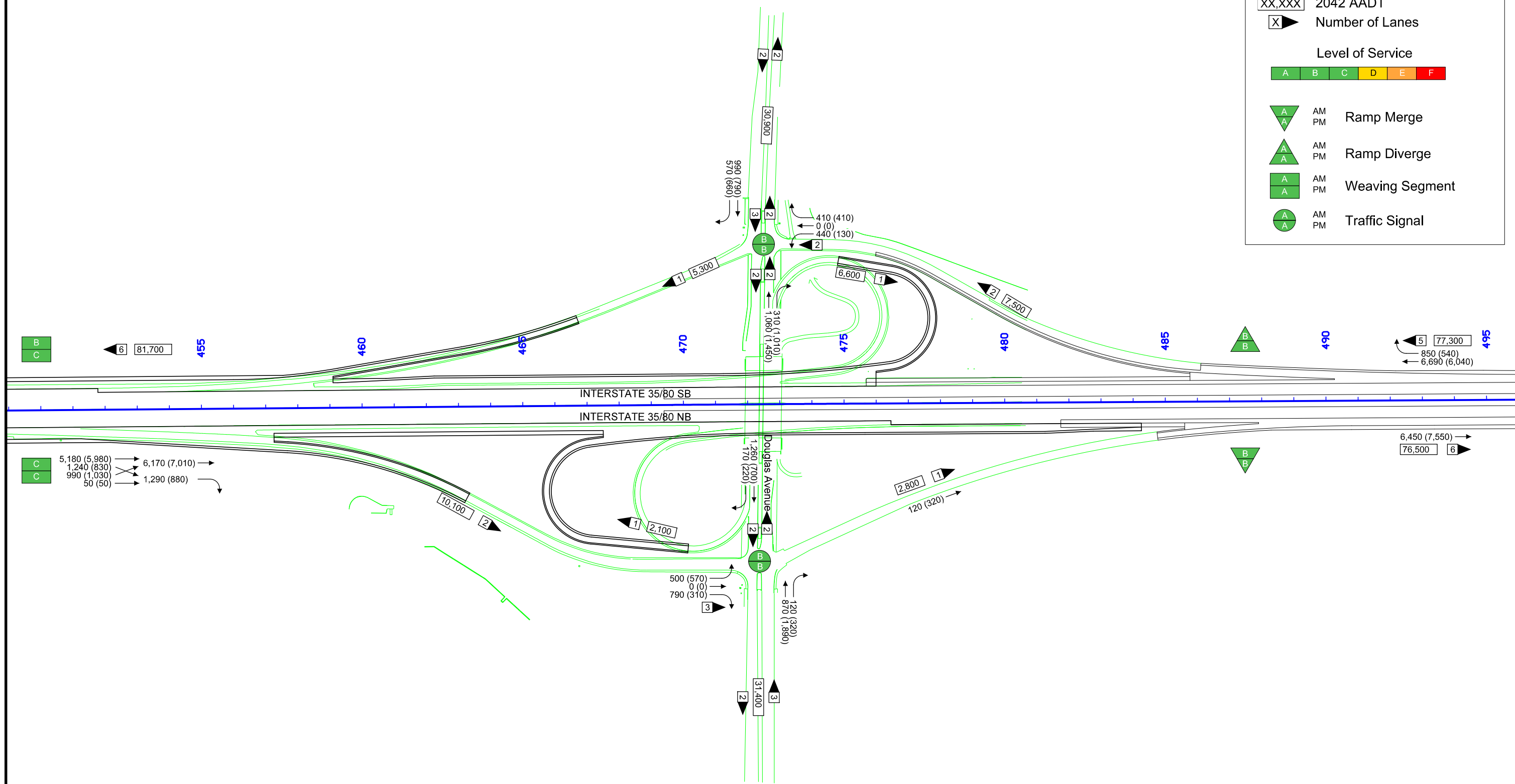
X,XXX 2042 AM Peak Hour Volumes  
 (X,XXX) 2042 PM Peak Hour Volumes  
 XX,XXX 2042 AADT

X▶ Number of Lanes

**Level of Service**

A	B	C	D	E	F
---	---	---	---	---	---

▶ AM Ramp Merge  
 ▶ AM Ramp Diverge  
 ▶ AM Weaving Segment  
 ○ AM Traffic Signal



**TRAFFIC DATA**  
**Interstate 35/80**  
**at Douglas Avenue**





**Legend**

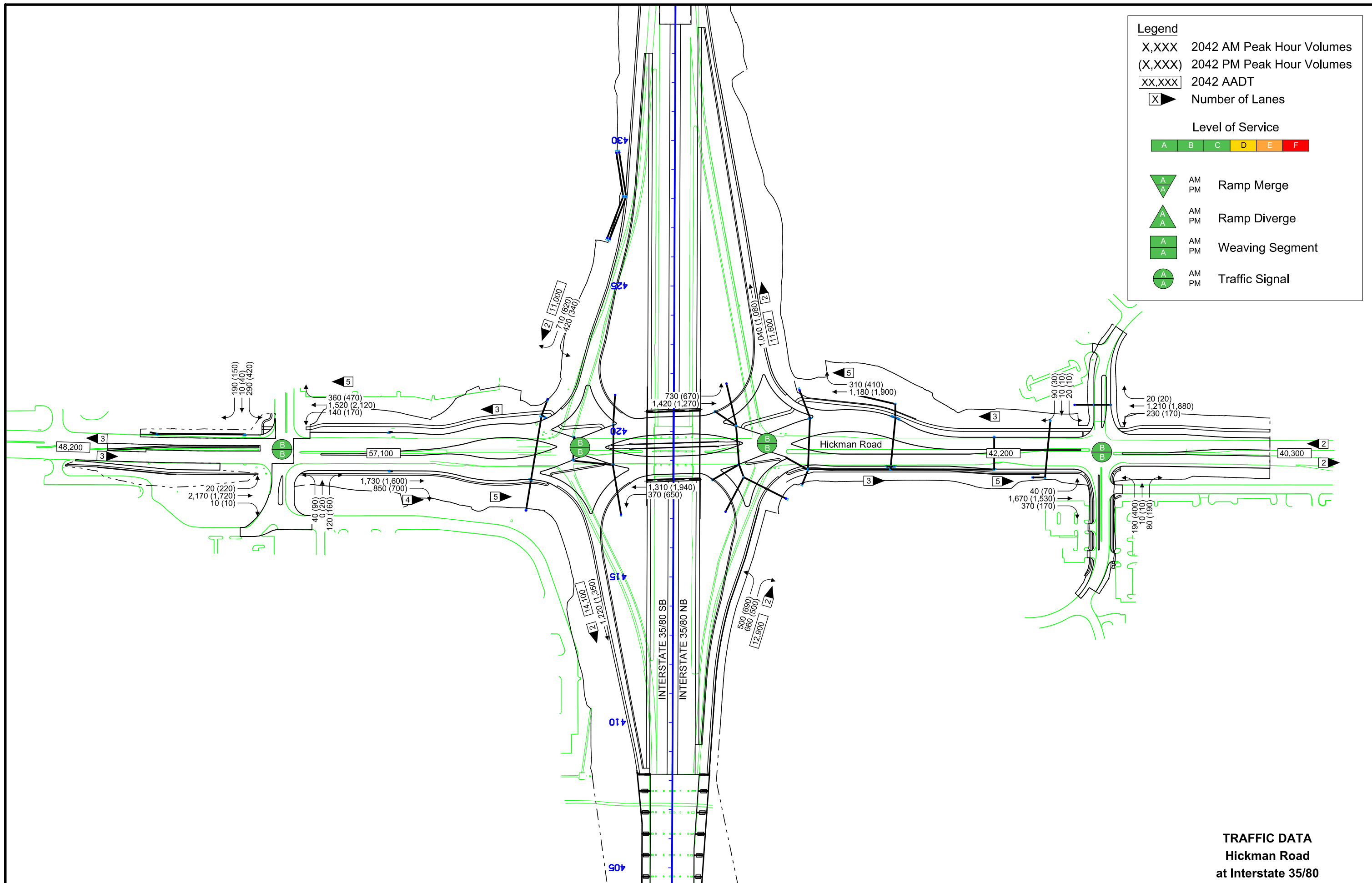
X,XXX 2042 AM Peak Hour Volumes  
 (X,XXX) 2042 PM Peak Hour Volumes  
 XX,XXX 2042 AADT

X▶ Number of Lanes

**Level of Service**

A	B	C	D	E	F
---	---	---	---	---	---

 AM Ramp Merge  
 AM Ramp Diverge  
 AM Weaving Segment  
 AM Traffic Signal



**TRAFFIC DATA  
 Hickman Road  
 at Interstate 35/80**

<b>Roadway</b>	<b>Interstate 35/80</b>		<b>Submittal Date</b>	08/09/21
<b>PIN Number</b>	13-77-080-040-69		<b>Approval Date</b>	
<b>Project Number</b>	IM-080-4(069)125--13-77			
<b>District</b>	District 1	<b>Assistant District Engineer</b>	Allison Smyth	
<b>County</b>	Polk	<b>or</b>		
<b>Route</b>	I-35/80	<b>Office Director</b>		
<b>Location</b>	North of University Avenue to North of Douglas Avenue			
<b>Work Type</b>	Unknown Pavement Grade and New			
<b>Segment Manager</b>	Snyder & Associates, Inc.			

		Urban Interstates (Urban Freeways)		Project Values
Design Element	Preferred	Acceptable		
Design speed (mph)	5 miles above the anticipated posted speed limit	50		70
Maximum superelevation rate (%) (Refer to Section 2A-2)	6	8		6
Design lane width (ft)	12	12		12
Full depth paved width (ft)	12	12		12
Auxiliary-lane width (ft)	12	12		12
Through lanes	2%, However, when adjacent lanes slope in the same direction, increase slope by 0.5% per lane up to 3%	1.5% minimum, 3 % maximum		2%
Auxiliary lanes	3%	3% maximum		3%
Crown break at centerline	4%	4% maximum		4%
Interstates	4%			4%
Freeways	4%			N/A
Curb type	4-inch sloped	4-inch sloped		No Curb
(Refer to Section 3C-2)	4-inch sloped	4-inch sloped		N/A
Foreslope	10:1 for 4' then 6:1	4:1 for Interstates, 3:1 for Freeways*		10:1 for 4' then 6:1
(For fill areas greater than 40 ft, contact the Soils Design design clear zone Section for assistance)	3.5:1	3:1		3.5:1
Curbed roadways	2%	4:1 for Interstates, 3:1 for Freeways*		N/A
Backslope (For cut areas greater than 25 feet, contact the Soils Design Section for assistance with backslope benches.)	3:1	2.5:1		3:1
Transverse Slopes	8:1	6:1		8:1
w/ drainage structures	10:1	6:1		10:1
w/o drainage structures	5 x 10	--		5 x 10
Ditches (Refer to Section 3G-1)	4	--		N/A Barrier Rail
Median ditch depth (ft)	34	10		36
Interstates	34	10		N/A
Freeways	34			N/A
Bridge width—new***	design lane widths + effective shoulder widths	design lane widths + effective shoulder widths		N/A
Bridge length ≤ 200 ft	design lane widths + effective shoulder widths	design lane width + 4' right and left of the design lane widths		88'-10.5"
Bridge length > 200 ft	design lane widths + no less than 10' right and 3.5' left	design lane widths + 10' right shoulder and 3.5' left shoulder		N/A
Bridge width—existing**	design lane widths + no less than 3.5' left and right	design lane widths + 3.5' right and left of the design lane widths		62'-10.5"
Vertical clearance (ft)	16.5	16		16.5
(above lanes, shoulders and 25 feet left and right of the center of railroad tracks))	16.5 at interchange locations, 15 ft at all other locations	14		16.5
Over non-primary	23.3	23.3		N/A
Over railroad	17.5	17		17
Sign trusses and pedestrian crossings	Contact Office of Bridges and Structures	Contact Office of Bridges and Structures		HL-93
Structural Capacity	C	C**		C
Level of Service	C	C**		C
Freeway segments	C	C**		C
Auxiliary Facilities	C	C**		C

\*Design Exception not required for Freeways  
 \*\*LOS D may be acceptable in spot locations with FHWA approval  
 \*\*\*FHWA notification via email is required if acceptable criteria is not met on the Interstate or NHS systems. (No formal design exception required)

### Directional Design Hourly Volume (DDHV) for Trucks = 700

Design Manual Section 1C-1 Last Updated: 04-29-19		Effective Shoulder Width and Type for Interstates (Freeways)		Project Values
Design Element	Preferred (values shown in feet)	Acceptable (values shown in feet)		
Auxiliary Lanes	Effective Shoulder Width 6	Effective Shoulder Width 6	Paved Width 6	6

### 4-Lane Sections

Design Element	Outside		Median Side		Outside		Median Side		Project Values
	Effective Shoulder Width	Paved Width	Effective Shoulder Width	Paved Width	Effective Shoulder Width	Paved Width	Effective Shoulder Width	Paved Width	
Design Year Traffic	10	10	6	6	10	10	4	4	N/A
Less than or equal to 250 DDHV	12	12	6	6	12	12	4	4	N/A
Greater than 250 DDHV									

### Sections with 6 or more lanes

Design Element	Outside		Median Side		Outside		Median Side		Project Values
	Effective Shoulder Width	Paved Width	Effective Shoulder Width	Paved Width	Effective Shoulder Width	Paved Width	Effective Shoulder Width	Paved Width	
Design Year Traffic	10	10	10	10	10	10	10	10	N/A
Less than or equal to 250 DDHV	12	12	12	12	12	12	12	12	12
Greater than 250 DDHV									

Curbs should be located beyond the outer edge of the paved shoulder

### Roadway Design Speed (mph) = 70

Design Element	Preferred Criteria				Acceptable Criteria				Project Values
	Design Speed, mph	Design Speed, mph	Design Speed, mph	Design Speed, mph	Design Speed, mph	Design Speed, mph	Design Speed, mph	Design Speed, mph	
Stopping sight distance (ft) (Refer to Section 6D-1)	50	55	60	65	70	75	80	85	75
Minimum horizontal curve radius (ft)	425	495	570	645	730	820	915	1010	820
(Refer to Sections 2A-2 and 2A-3)	833	1060	1330	1660	2040	2500	3000	3500	2500
Minimum vertical curve length (ft) (Refer to Section 2B-1)	150	165	180	195	210	225	240	255	2210
crest vertical curves	84	114	151	193	247	312	384	465	210
sag vertical curves	96	115	136	157	181	206	231	256	210
(Refer to Section 2B-1)	96	115	136	157	181	206	231	256	210
Minimum gradient (%)	0.5								
(Refer to Section 2B-1)	0.3% with a curb, 0.0% without a curb								
Maximum gradient (%)	4	3	3	3	3	3	3	3	3
(Refer to Section 2B-1)	See "Preferred Clear Zone" table in Section 8A-2								
Clear zone	See "Acceptable Clear Zone" table in Section 8A-2								

## Interstate 35/80 Design Criteria

<b>Roadway</b>				<b>Interstate 35/80: University, Hickman and Douglas Interchange Ramps</b>			
<b>PIN Number</b>	13-77-080-040-69	<b>Submittal Date</b>	08/09/21				
<b>Project Number</b>	IM-080-4(069)125--13-77	<b>Assistant District Engineer</b>	Allison Smyth				
<b>District</b>	District 1	<b>or</b>					
<b>County</b>	Polk	<b>Office Director</b>					
<b>Route</b>	I-35/80	<b>Office Director</b>					
<b>Location</b>	University, Hickman Road and Douglas Interchange Ramps						
<b>Work Type</b>	Unknown Pavement Grade and New						
<b>Segment Manager</b>	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, 25 (Loop)
Design lane width (ft)		12	12	12
Turn-lane width (ft)	Interstate ramps	12	10	N/A
	Non-interstate ramps	2%		2%
Pavement cross-slope (on tangent sections)		4	1.5% minimum, 2% maximum	4%
Shoulder cross-slope (on tangent sections)		10:1 for 4' then 6:1	Shoulder cross-slope cannot be less than the adjacent lane, 6% max for paved or granular shoulders, 8% max for earth shoulders	10:1 for 4' then 6:1
Foreslope	Adjacent to shoulder	3.5:1	3:1	3.5:1
(For fill areas greater than 40 ft, contact the Soils Design Section for assistance)	Beyond standard ditch depth and design clear zone	2%	not steeper than 3:1	2%
Curbed roadways	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	16.5
Vertical clearance (ft) (above lanes, shoulders and 25 feet left and right of the center of railroad tracks)	Over primary over non-primary over railroad sign truss and pedestrian bridges	16.5 at interchange locations, 15 at all other locations	14	N/A
		23.3	23.3	N/A
Structural Capacity	Contact Office of Bridges and Structures	17.5	17	N/A
	Contact Office of Bridges and Structures		Contact Office of Bridges and Structures	N/A

\*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 one lane	Diagonal two lane	Loop	Semi-Directional one lane	Semi-Directional two lane	Directional one lane	Diagonal Radius > 500 feet* one lane	Diagonal Radius > 500 feet* two lane	Loop	Semi-Directional Radius > 500 feet* one lane	Semi-Directional Radius > 500 feet* two lane	Directional Radius > 500 feet one lane	Directional Radius > 500 feet two lane		
Full depth paved width (ft)	16	24	18	16	24	16	24	18	16	24	14	22	14	22	16, 24, 18
Design lane width (ft)	16	12	18	16	12	16	12	18	16	12	14	11	14	11	16, 12, 18
Paved shoulder width (ft) (in the direction of travel)**	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
***Granular shoulder width (ft) (in the direction of travel)	4	-	-	-	-	-	-	-	-	-	-	-	-	-	6
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A
Curb type	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

Design Element	Design Criteria for Ramps Based Upon Design Speed																		
	Preferred Criteria									Acceptable Criteria									
	25	30	35	40	45	50	55	60	60	75	90	105	120	135	150	165	180	180	
Stopping sight distance (ft) (Refer to Section 6C-1)	155	200	250	305	360	425	495	570	155	200	250	305	360	425	495	570	570	155	
Minimum horizontal curve radius (ft) and superlevation side friction distribution rate (Refer to Sections 2A-2 and 2A-3)	144	231	340	485	643	833	1060	1300	144	231	340	485	643	833	1060	1300	1300	144	
Minimum vertical curve length (ft) (Refer to Section 2B-1)	75	90	105	120	135	150	165	180	75	90	105	120	135	150	165	180	180	75	
Minimum Rate of Vertical Curvature (Refer to Section 2B-1)	12	19	29	44	61	84	114	151	12	19	29	44	61	84	114	151	151	12	
Maximum gradient (%) on ramps (Refer to Sections 2B-1)	26	37	49	64	79	96	115	136	26	37	49	64	79	96	115	136	136	26	
Maximum gradient (%) on ramps (Refer to Sections 2B-1)	26	37	49	64	79	96	115	136	14	20	27	35	44	54	66	78	136	26	
Clear zone	0.5									0.3% with a curb, 0.0% without a curb									0.5%
	4									Equal to the maximum upgrade gradient. In special cases, may be 2% greater but in no case greater than 8%									5%
	See "Preferred Clear Zone" table in Section 8A-2																		

Design Element	Design Speed for Ramps										
	Preferred					Acceptable					
	Diagonal All curves near free flow terminals	Diagonal Curves near at-grade terminals	Loop	Semi-Directional	Directional	All curves near free flow terminals	Diagonal Curves near at-grade terminals	Loop	Semi-Directional	Directional	
Design speed (mph)	60	40	30	50	60	50	35	25	40	40	60, 25 (Loop)
Maximum superlevation rate (Refer to Section 2A-2 for details)	6%	4%	30	6%	60	50	8%	25	40	40	6%

## Interchange Ramp Design Criteria



Roadway		U.S. Highway 6 (Hickman Road)	
PIN Number	13-77-080-040-69	Submission Date	08/09/21
Project Number	IM-080-4(069)125--13-77	Approval Date	
District	District 1	Assistant District Engineer	Allison Smyth
County	Polk	or	
Route	I-35/80	Office Director	
Location	I-35/80 Interchange		
Work Type	Unknown Pavement Grade and New		
Segment Manager			
Designer	Snyder & Associates, Inc.		
<b>Urban Multilane Roadways (Urban Arterials)</b>			
Design Element		Preferred	Acceptable Criteria
Design speed (mph)	The anticipated posted speed limit	4%	30
Maximum superelevation rate (Refer to Section 2A-2)	4%	4%	4%
Design lane width (ft)	12	11	11', 14', 12'
Full depth paved width (ft)	Design lane width + curb and gutter unit or 12 feet for roadways with shoulders	Match design lane width	15', 17'
Inside lane(s)	Design lane width + curb and gutter unit. 12' for roadways without a curb and gutter unit	Match design lane width	15', 17'
Right turn lane or an auxiliary lane (ft)	12	10	13'
With raised or painted median	12 ft + median	10 ft + median	19'
With depressed median	12	10	12'
Two-way left turn lane (ft)	14	11	N/A
Parking lane width (ft)	10	7	N/A
Pavement cross-slope (on tangent sections)	2%, However, when adjacent lanes slope in the same direction, increase slope by 0.5% per lane up to 3%	1.5% minimum, 3% maximum	2%
Auxiliary and turn lanes	3%	3% maximum	3%
Crown break at centerline	4%	4% maximum	4%
Shoulders	4%	Shoulder cross-slope cannot be less than the adjacent lane, 6% max for paved or granular shoulders, 8% max for earth shoulders	N/A
Curb and gutter units	Match pavement cross-slope	6% maximum	Pvmt Slope
Parking lanes	1% greater than pavement cross-slope	6% maximum	N/A
Curb type (Refer to Section 3C-2)	Design speed $\leq$ 45 mph	any shape	6-inch sloped
Foreslope	Adjacent to shoulder	10:1 for 4' then 6:1	N/A
(For fill areas greater than 40 ft, Beyond standard ditch depth and contact the Soils Design Section for assistance)	3.5:1	3:1	3:1
Curbed roadways	2%	not steeper than 3:1	4%
Backslope (For cut areas greater than 25 feet, contact the Soils Design Section for assistance with backslope benches.)	3:1	2.5:1	3:1
Transverse Slopes	8:1	6:1	8:1
w/o drainage structures	10:1	6:1	10:1
Ditches (Refer to Section 3G-1) Outside ditch (depth x width) (ft)	5 x 10	-	Varies
Median width (ft) (Refer to Section 3E-1)	See Section 3E-1	0	Varies, 4' Min
Bridge width—new*	design lane widths + effective shoulder widths or design lane width + 3 ft each side in curb and gutter section	design lane widths + effective shoulder widths or curb-to-curb width in curb and gutter section**	N/A
Bridge length > 200 ft	design lane widths + effective shoulder widths or design lane width + 3 ft each side in curb and gutter section	design lane widths + 4 ft offset each side for roadways with shoulders or curb-to-curb width in curb and gutter section**	N/A
Bridge width—existing*	design lane widths + no less than 2 ft left and right	design lane widths + 2 ft left and right of the design widths	N/A
Vertical clearance (ft) (above lanes, shoulders and 25 feet left and right of the center of railroad tracks)	16.5	16	16.5'
Over primary	16.5 at interchange locations, 15 at all other locations	14	N/A
Over non-primary	23.3	23.3	N/A
Over railroad	17.5	17	17.5'
Sign truss and pedestrian crossings	Contact Office of Bridges and Structures	Contact Office of Bridges and Structures	N/A
Structural Capacity	C	D	C
Level of Service	C	D	C
*FHWA notification via email is required if acceptable criteria is not met on the NHS system (No formal design exception required)			
** If travel lanes are less than 12 ft wide contact the Methods Section for assistance.			

Design year ADT =	60000
<b>Effective Shoulder Width and Type for Multilane Arterials</b>	
Design Manual Section 1C-1 Last Updated: 04-29-19	
Preferred (Values shown in feet)	
Auxiliary lanes or turn lanes with shoulders	Urban Roadways 6
Turn lanes with curbs	Rural Roadways 6
Expressways	Urban Roadways See Section 3C-2
	Median Side Effective Shoulder Width
Routes where bicycles are to be accommodated On roadways approaching urban areas (due to increased bike traffic)	Paved Width 10
	Effective Shoulder Width 10
On all curves with a superelevation rate of 7.0% or greater	Paved Width 10
	Effective Shoulder Width 10
On roadways with design year ADT > 6500 vpd On all other Expressways (Multilane Arterials)	Paved Width 6
	Effective Shoulder Width 6
*Requires safety edge-See Section 3C-5	
Curb should be located beyond the outer edge of the effective shoulder width in rural areas	
Refer to Section 3C-2 for curb offsets in urban areas	
Acceptable (Values shown in feet)	
Auxiliary lanes or turn lanes with shoulders	Urban Roadways 6
Turn lanes with curbs	Rural Roadways 6
Expressways	Urban Roadways See Section 3C-2
	Median Side Effective Shoulder Width
Routes where bicycles are to be accommodated On roadways approaching urban areas (due to increased bike traffic)	Paved Width 6
	Effective Shoulder Width 6
On all curves with a superelevation rate of 7.0% or greater	Paved Width 6
	Effective Shoulder Width 6
On roadways with design year ADT > 6500 vpd On all other Expressways (Multilane Arterials)	Paved Width 6
	Effective Shoulder Width 6
*Requires safety edge-See Section 3C-5	
Curb should be located beyond the outer edge of the effective shoulder width in rural areas	
Refer to Section 3C-2 for curb offsets in urban areas	
Project Values	
Auxiliary lanes or turn lanes with shoulders	Urban Roadways 0
Turn lanes with curbs	Rural Roadways 0
Expressways	Urban Roadways 0
	Median Side Effective Shoulder Width
Routes where bicycles are to be accommodated On roadways approaching urban areas (due to increased bike traffic)	Paved Width 4
	Effective Shoulder Width 8
On all curves with a superelevation rate of 7.0% or greater	Paved Width 4
	Effective Shoulder Width 8
On roadways with design year ADT > 6500 vpd On all other Expressways (Multilane Arterials)	Paved Width 0'
	Effective Shoulder Width 4
3' Curb and Gutter Section	

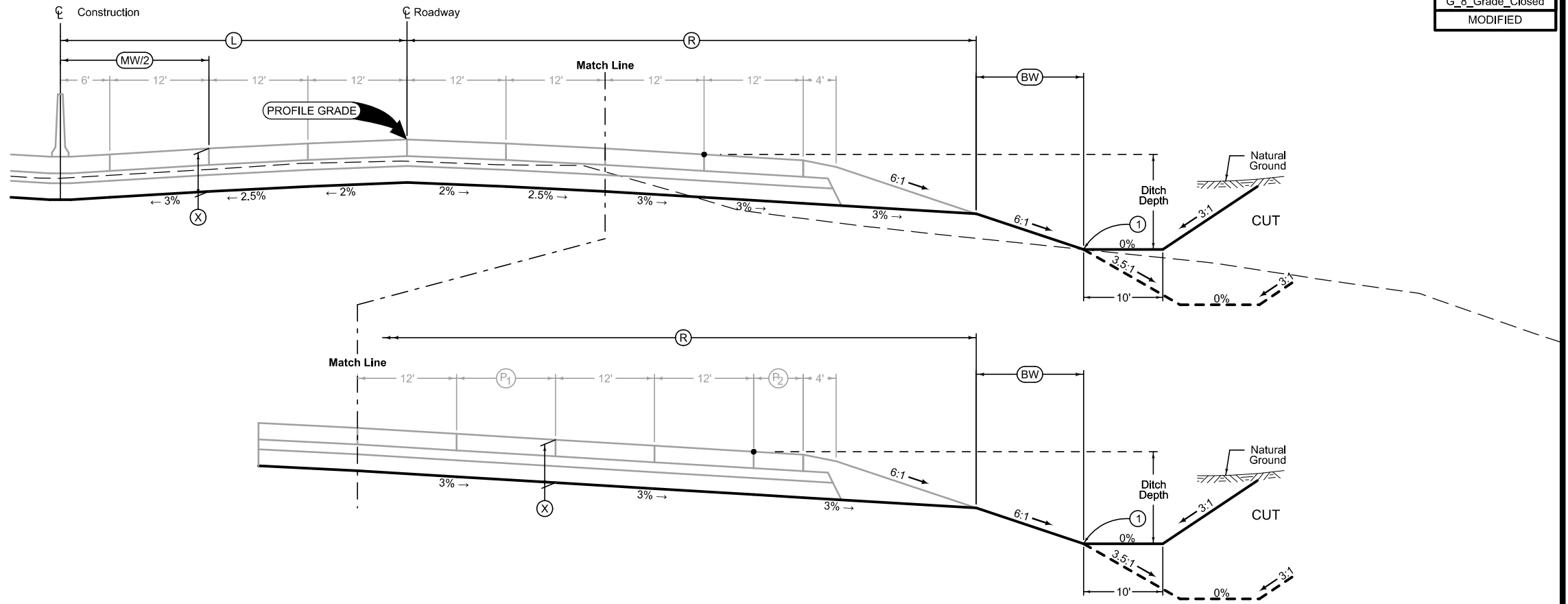
Roadway Design Speed (mph) = 45, 35 in DDI										
Design Element	Preferred Criteria					Acceptable Criteria				
	25	30	35	40	45	25	30	35	40	45
Stopping sight distance (ft) (Refer to Section 8D-1)	155	200	250	305	360	155	200	250	305	360
Minimum horizontal curve radius (ft) and side friction distribution	144	231	340	485	643	144	231	340	485	643
Minimum horizontal curve length (ft) (Refer to Section 2B-1)	--	--	--	--	--	134	214	314	444	587
Minimum vertical curve length (ft) (Refer to Section 2B-1)	75	90	105	120	135	75	90	105	120	135
Minimum rate of vertical curvature (K)	12	19	29	44	61	12	19	29	44	61
(Refer to Section 2B-1)	26	37	49	64	79	26	37	49	64	79
Minimum gradient (%) (Refer to Section 2B-1)	26	37	49	64	79	14	20	27	35	44
Maximum gradient (%) (Refer to Section 2B-1)			0.5			0.3% with a curb, 0.0% without a curb				
Clear zone			5			--	9	8	8	7
						--	--	--	6	6
						See "Preferred Clear Zone" table in Section 8A-2				
						See "Acceptable Clear Zone" table in Section 8A-2				

# U.S. Highway 6 (Hickman Road) Design Criteria

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

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

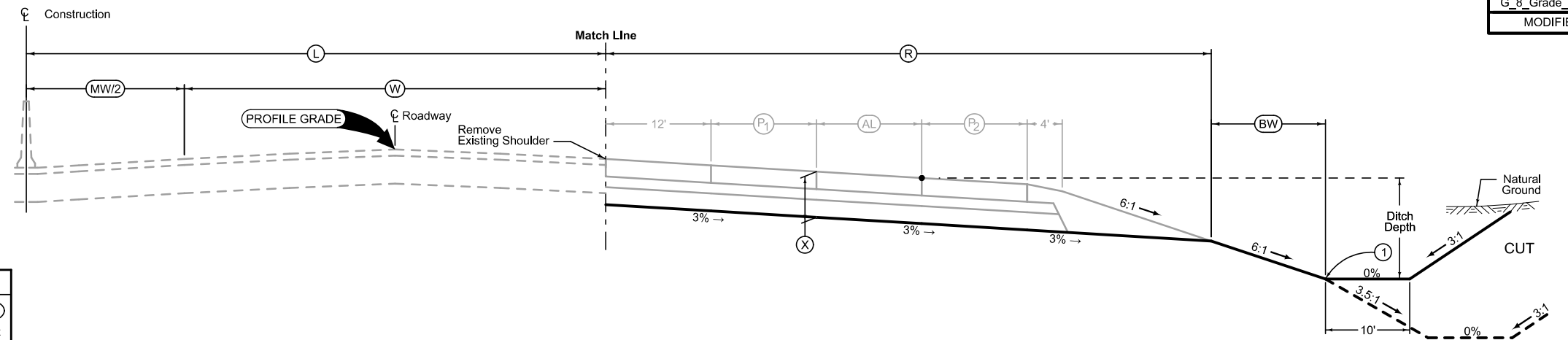
① Refer to project plan and cross sections for specific location of foreslope change.



I-35/80 Northbound

MAINLINE GRADING  
FULL REMOVE AND REPLACE  
Interstate 35/80

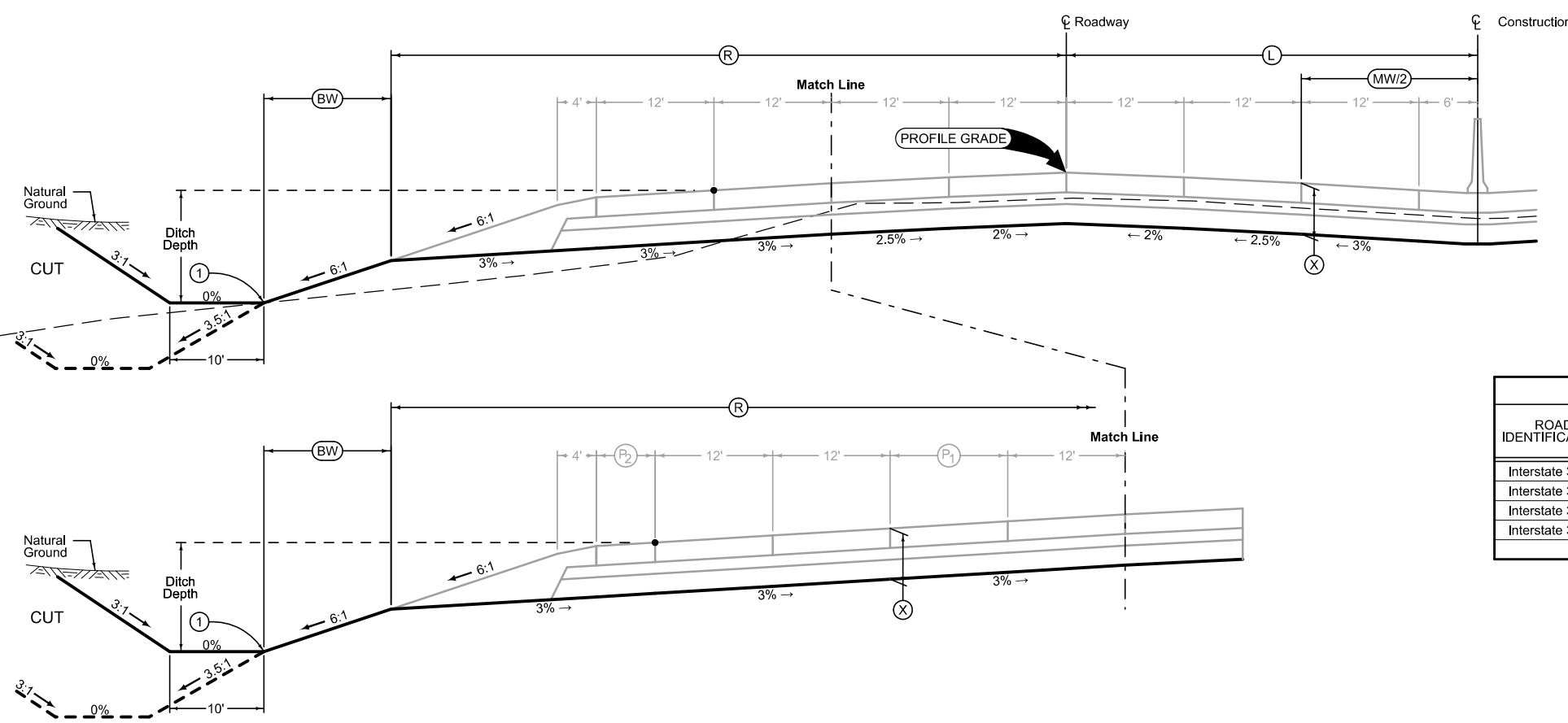
LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	Direction of Travel	STATION TO STATION	L Feet	R Feet	X Inches	BW Feet	MW Feet
Interstate 35/80	NB	408+22.00 - 410+50.50	42	x	30	13	36
Interstate 35/80	NB	410+50.50 - 418+31.75	42	69	30	13	36
Interstate 35/80	NB	420+73.75 - 428+29.50	42	69	30	13	36
Interstate 35/80	NB	428+29.50 - 429+07.75	42	x	30	13	36



I-35/80 Northbound

MAINLINE GRADING  
ADD ADDITIONAL LANES  
Interstate 35/80

LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	Direction of Travel	STATION TO STATION	L Feet	R Feet	X Inches	BW Feet	MW Feet
Interstate 35/80	NB	371+52.00 - 377+45.00	70-66	45	30	x	36
Interstate 35/80	NB	377+45.00 - 380+75.00	66	77-57	30	x	36
Interstate 35/80	NB	380+75.00 - 404+10.00	66	57	30	x	36
Interstate 35/80	NB	429+07.75 - 435+98.00	54	92-72	30	x	36
Interstate 35/80	NB	435+98.00 - 441+68.00	66	60-57	30	x	36
Interstate 35/80	NB	441+68.00 - 446+19.00	66	57	30	x	36
Interstate 35/80	NB	446+19.00 - 451+13.00	54	69	30	x	36
Interstate 35/80	NB	451+13.00 - 457+12.50	54	69-103	30	x	36
Interstate 35/80	NB	457+12.50 - 469+91.00	54	57	30	x	36



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

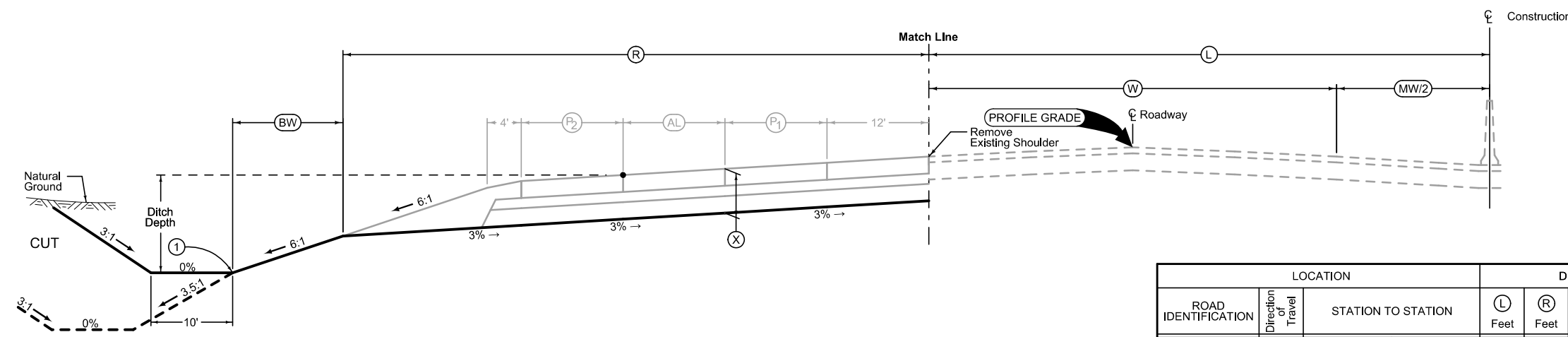
See Plan & Profiles sheets and cross sections for additional details of ditches and backslopes.

① Refer to project plan and cross sections for specific location of foreslope change.

ROAD IDENTIFICATION	Direction of Travel	LOCATION		DIMENSIONS				
		STATION TO STATION		L Feet	R Feet	X Inches	BW Feet	MW Feet
Interstate 35/80	SB	408+22.00	410+40.00	42	x	30	13	36
Interstate 35/80	SB	410+40.00	418+31.75	42	69	30	13	36
Interstate 35/80	SB	420+73.75	428+29.50	42	69	30	13	36
Interstate 35/80	SB	428+29.50	429+07.75	42	69	30	13	36

I-35/80 Southbound

MAINLINE GRADING  
FULL REMOVE AND REPLACE  
Interstate 35/80

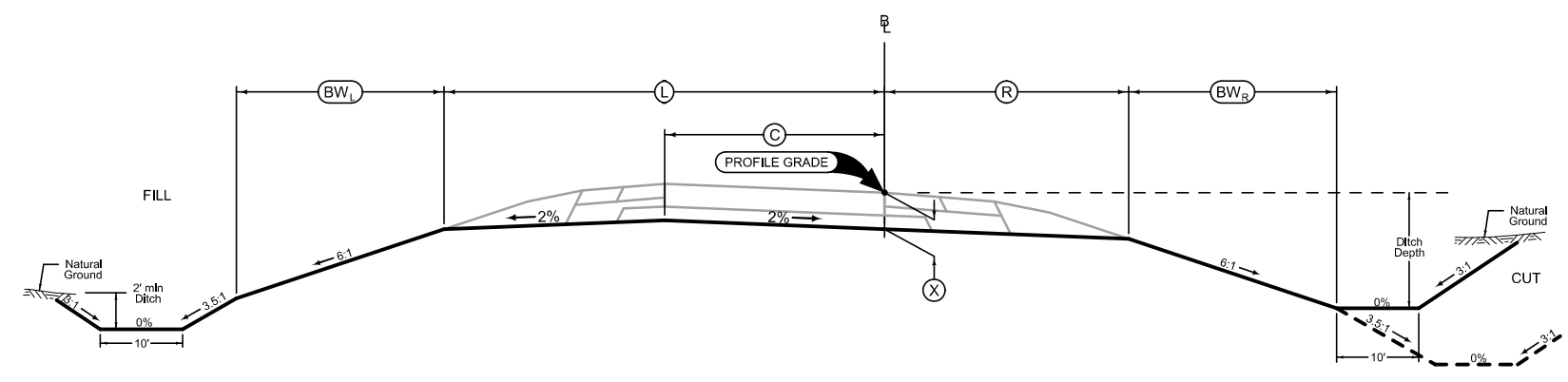


ROAD IDENTIFICATION	Direction of Travel	LOCATION		DIMENSIONS				
		STATION TO STATION		L Feet	R Feet	X Inches	BW Feet	MW Feet
Interstate 35/80	SB	371+52.00	383+91.00	54	57	30	x	36
Interstate 35/80	SB	383+91.00	389+01.00	54	103-69	30	x	36
Interstate 35/80	SB	389+01.00	396+13.00	54	69	30	x	36
Interstate 35/80	SB	396+13.00	401+10.00	66	57	30	x	36
Interstate 35/80	SB	401+10.00	404+10.50	66	57-63	30	x	36
Interstate 35/80	SB	429+07.75	430+13.00	54	57	30	x	36
Interstate 35/80	SB	430+13.00	435+25.00	54	103-69	30	x	36
Interstate 35/80	SB	435+25.00	437+28.50	54	69	30	x	36
Interstate 35/80	SB	437+28.50	451+78.50	66	57	30	x	36
Interstate 35/80	SB	451+78.50	455+97.50	54	69	30	x	36
Interstate 35/80	SB	455+97.50	459+27.00	54	69-89	30	x	36
Interstate 35/80	SB	459+27.00	462+27.00	54	51-63	30	x	36
Interstate 35/80	SB	462+27.00	471+27.00	54	63	30	x	36
Interstate 35/80	SB	471+27.00	476+02.00	54	63-91	30	x	36

I-35/80 Southbound

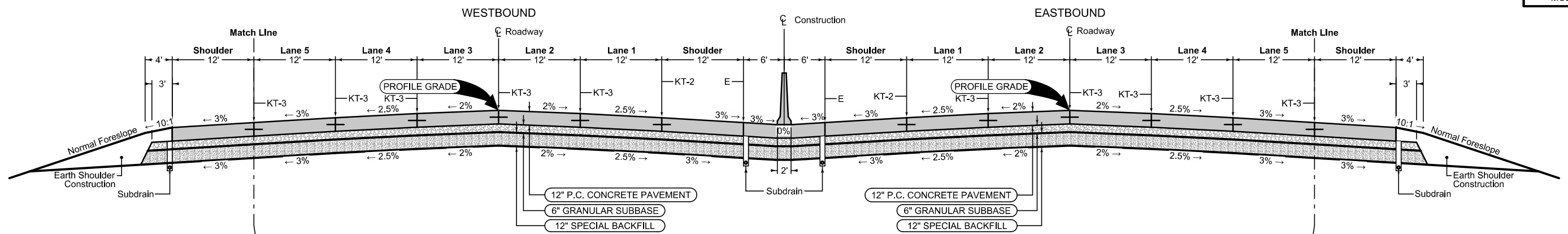
MAINLINE GRADING  
ADD ADDITIONAL LANES  
Interstate 35/80

LOCATION			DIMENSIONS					
INTERCHANGE	RAMP	STATION TO STATION	Ⓛ Feet	Ⓡ Feet	Ⓢ Feet	Ⓧ Inches	Ⓟ <sub>L</sub> Feet	Ⓟ <sub>R</sub> Feet



Section view is in direction of traffic.  
Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as Intersections or superelevated curves.

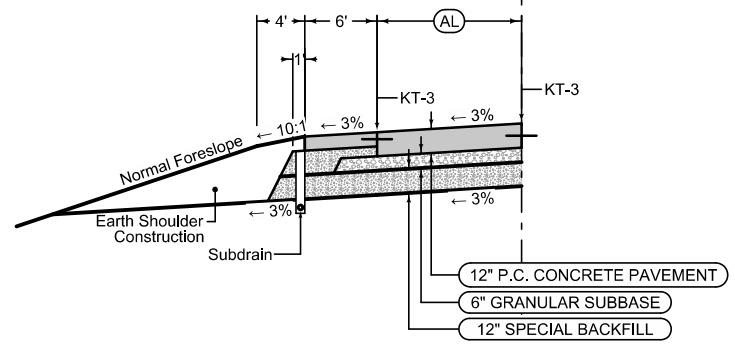
RAMP GRADING



**Full Depth PCC**

Mainline Jointing:  
Transverse joints: CD at 17' spacing

Direction of Travel	BEGIN STATION	END STATION
WB	408+35.15	418+34.10
WB	420+70.81	433+00.00
EB	409+50.00	418+34.10
EB	420+70.81	433+89.85



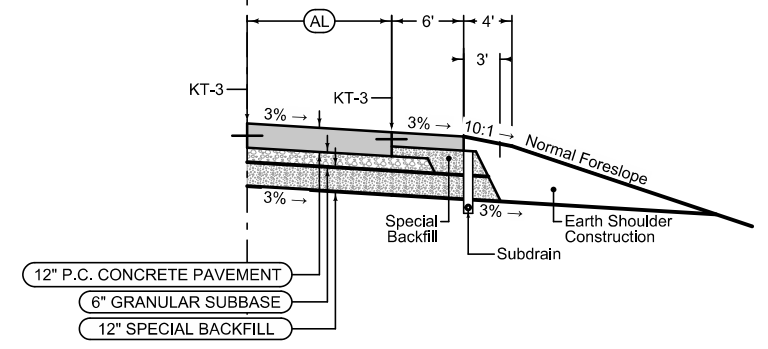
**Full Depth PCC**

Mainline Jointing:  
Transverse joints: CD at 17' spacing

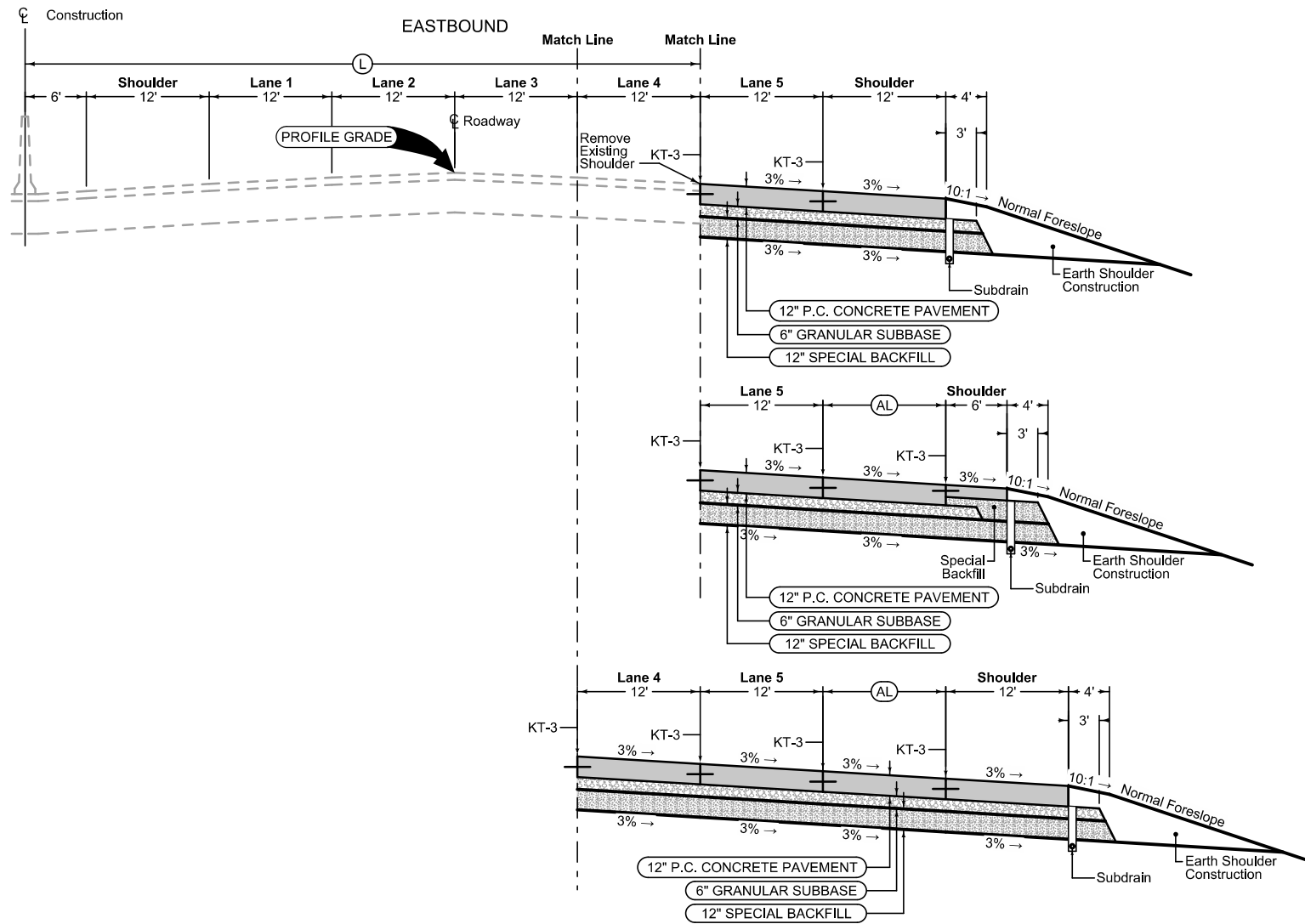
Auxiliary Lane Jointing:  
Transverse joints: Match Mainline

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

Direction of Travel	BEGIN STATION	END STATION	(AL) Feet
WB	408+21.57	408+35.15	34-36
WB	433+00.00	434+00.00	130-125
EB	408+21.57	408+35.15	43-52
EB	433+89.85	434+00.00	114-111



**MAINLINE PAVING  
FULL REMOVE AND REPLACE  
Interstate 35/80**



Mainline Jointing:  
 Transverse joints: CD Match Existing (17' Max. spacing)

BEGIN STATION	END STATION

Mainline Jointing:  
 Transverse joints: CD Match Existing (17' Max. spacing)

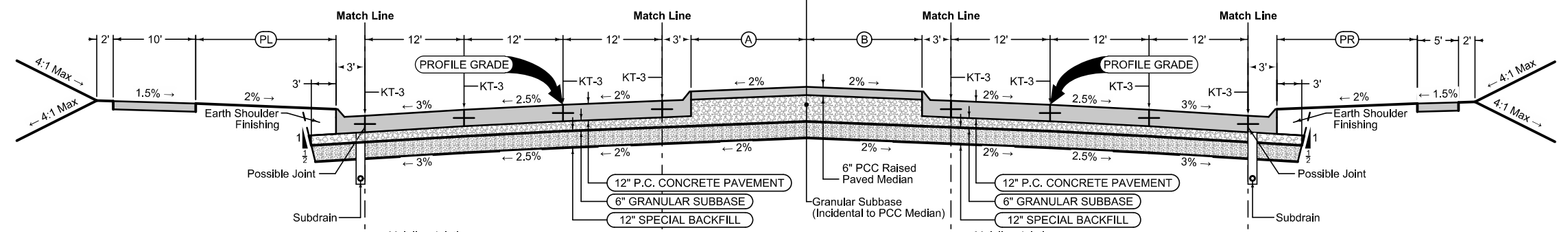
BEGIN STATION	END STATION	(AL) Feet	(P) Feet

Mainline Jointing:  
 Transverse joints: CD Match Existing (17' Max. spacing)

BEGIN STATION	END STATION	(AL) Feet	(P) Feet

**MAINLINE PAVING  
 LANE WIDENING  
 Interstate 35/80**

West Bound East Bound



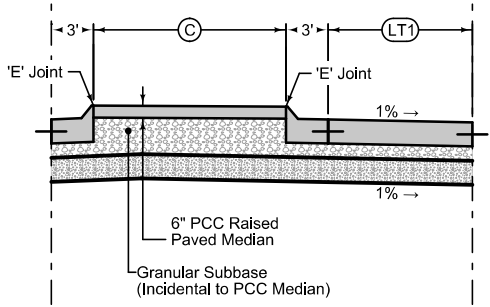
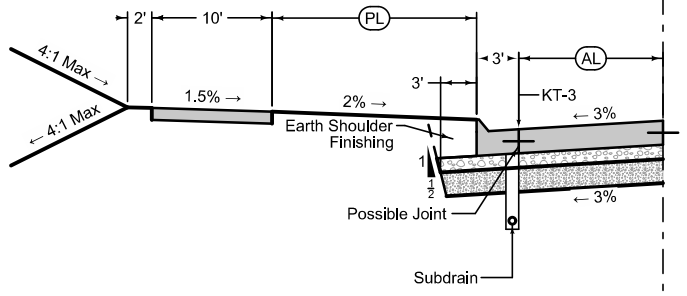
Mainline Jointing:  
Transverse joints: CD at 17' spacing  
Longitudinal joint: L-2

BEGIN STATION	END STATION

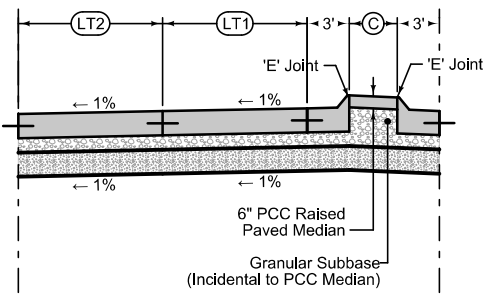
BEGIN STATION	END STATION	(A) Feet	(B) Feet

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

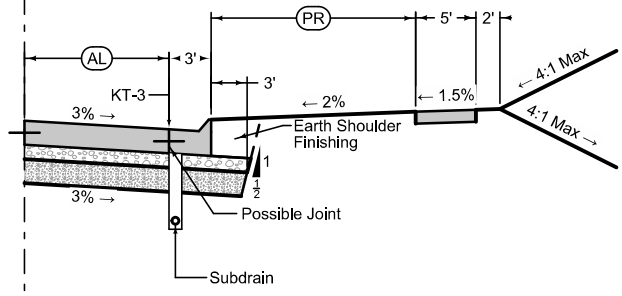
BEGIN STATION	END STATION



BEGIN STATION	END STATION	(C) Feet	(LT1) Feet	(LT2) Feet



BEGIN STATION	END STATION	(C) Feet	(LT1) Feet	(LT2) Feet

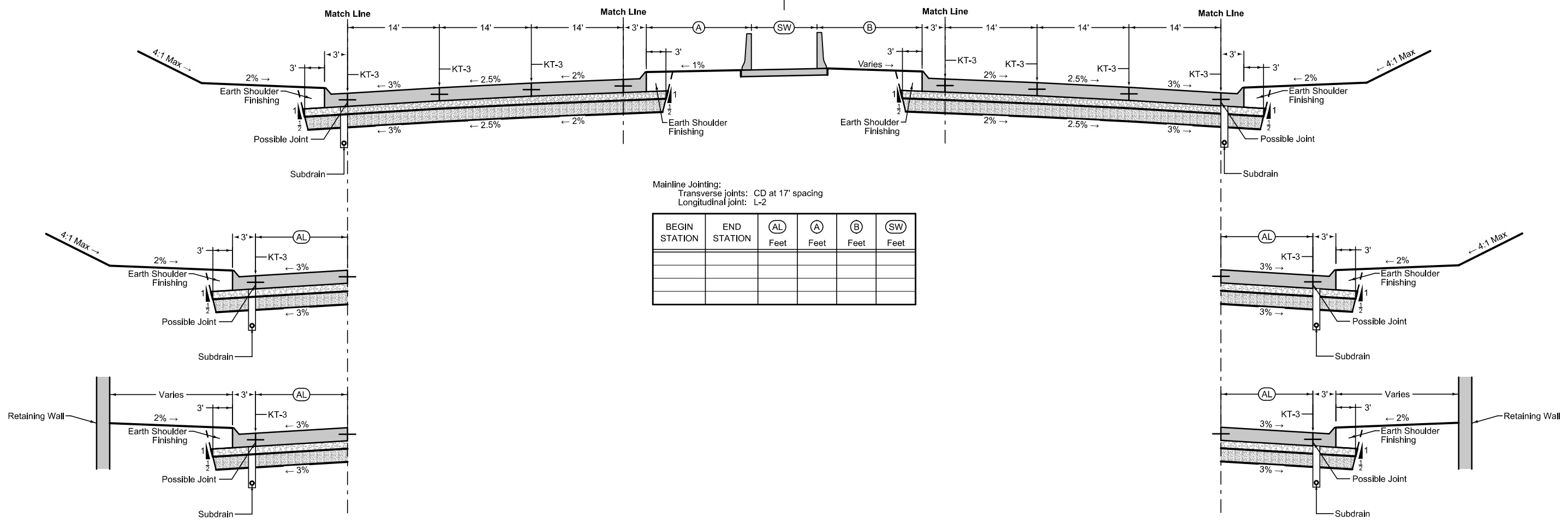


Hickman Road DDI  
Normal Lane Direction

East Bound

West Bound

Construction

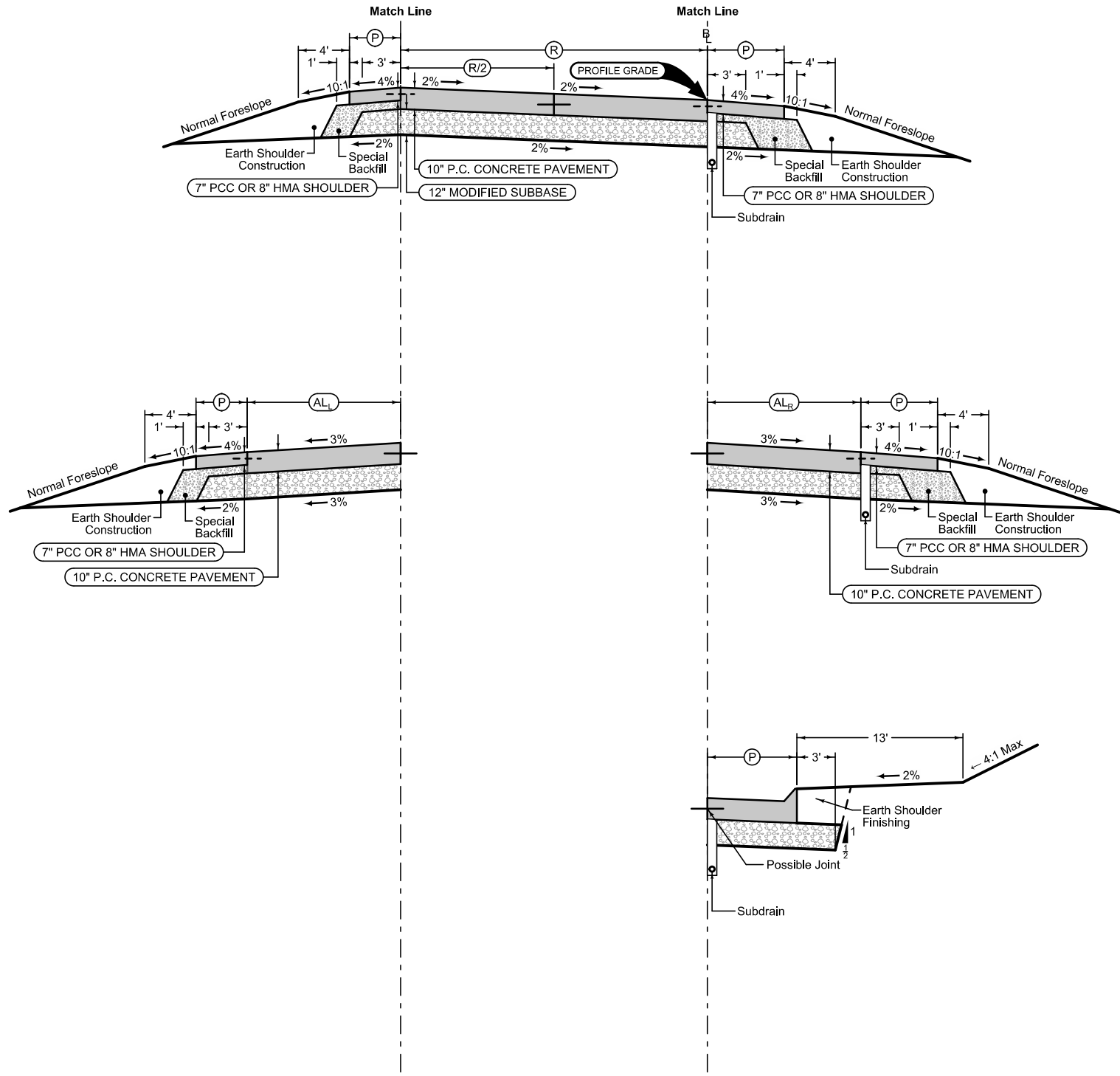


Hickman Road DDI  
Opposite Lane Direction



LOCATION			DIMENSIONS			
INTERCHANGE	RAMP	STATION TO STATION	(R) Feet	(P) Feet	(AL <sub>L</sub> ) Feet	(AL <sub>R</sub> ) Feet
Hickman Road	A	0+00.00 - 0+00.00	0	0	0	0
Hickman Road	A	0+00.00 - 0+00.00	0	0	0	0
Douglas Avenue						
University Avenue						

2RP\_  
MODIFIED



Section shown in the direction of traffic.

Ramp Jointing (2RP):  
Transverse joints: CD at 17' spacing.  
Longitudinal joint: L-2

PCC Auxiliary Lane Jointing (2\_AuxLane\_PCC):  
Longitudinal joint: L or KT  
Transverse joint: Match Mainline

PCC Shoulder Jointing (1R\_P\_ALT):  
Longitudinal joint: BT-1 or BT-5  
Transverse joints: C at 15' spacing

HMA Shoulder Jointing (1R\_P\_ALT):  
Longitudinal joint: B

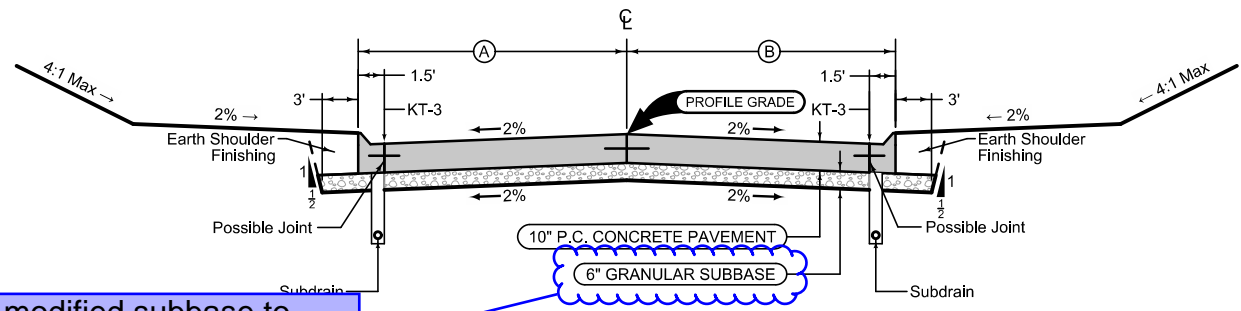
**Curbed Shoulder**  
Shoulder jointing:  
Longitudinal joint not required when distance from back of curb to nearest joint is less than 16':

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

1R_Curb_ 04-21-20			
BEGIN STATION	END STATION	(P) Feet	Curb Type See PV-102

**Interchange Ramps**

11:05:55 AM 12/2/2021 mbeerends pw:\projectwise.dot.int.lan:PWMain\Documents\Projects\7708006015\Design\\_(069)\_PrelimDesign\CADD\_Files\Sheet\_Files\SHT\_77080069Z08\_B01.dgn

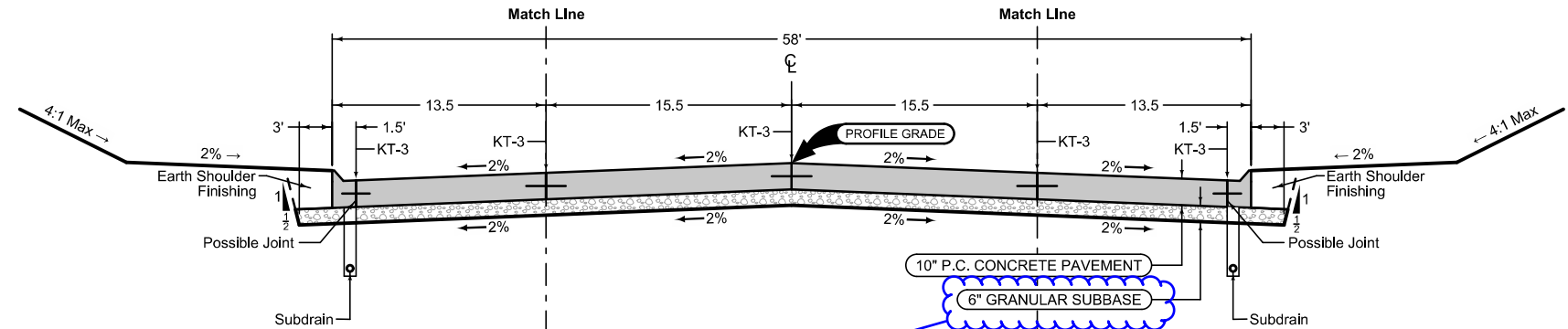


Consider modified subbase to handle traffic during construction.

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

STATION TO STATION	(A) Feet	(B) Feet

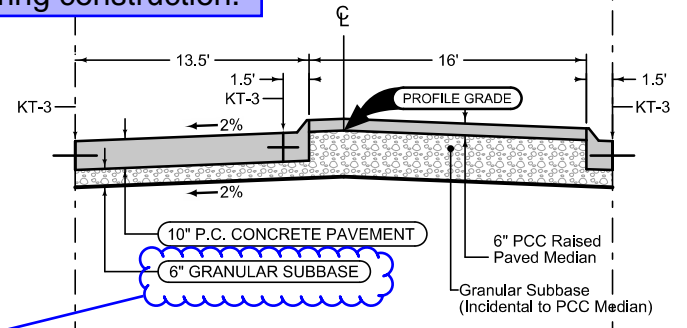
NW 111th Street



Consider modified subbase to handle traffic during construction.

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

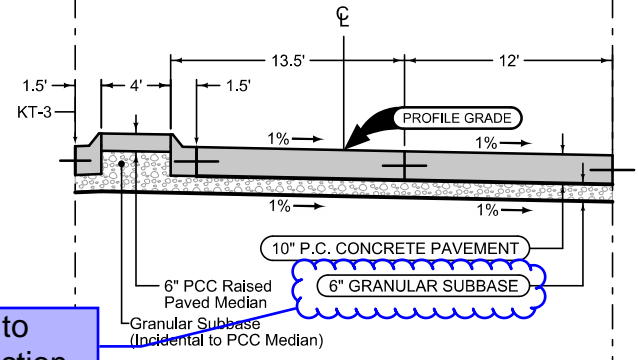
2P 04-21-20
STATION TO STATION



Consider modified subbase to handle traffic during construction.

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

2P 04-21-20
STATION TO STATION



Consider modified subbase to handle traffic during construction.

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

2P 04-21-20
STATION TO STATION

NW 111th Street

**SURVEY SYMBOLS**

- CP Control Point
- ▣ FENO FENO Monument
- ▲ BM Bench Mark
- WC Wild Card (Misc. Field Shot)
- BL Topo Breakline
- GR Ground Shot
- CON Concrete or A/C Slab
- EW Edge of Water
- C Centerline BL of Road (ML or SR)
- BLS Bridge Low Steel
- TOP Top of Bridge Pier
- GU Gutter In Front of Curb
- CU Back of Curb
- EP Edge of Paved Roads (ML or SR)
- GDL Guard Rail Steel
- RET Retaining Walls
- PRO Profile Shot
- BRG Bridge
- BD Bridge Deck
- CUL Culvert
- PLG Location of General Photo
- ⊕ MH Utility Access (Manhole)
- ⊗ IN Storm Sewer Intake
- MIS Miscellaneous
- BLD Building or Foundation
- ⊕ TDC Tree Deciduous
- SWK Sidewalk
- TLNL Tree Line Left
- LUM Luminaire
- PIP Pipe Culvert
- SNP Unpaved Shoulder
- ⊗ WEL Well
- DU Centerline Draw or Stream (Up)
- PR Electric Riser Pole
- PPA Power Pole Co. 1
- TA Tower Anchor
- EG Edge of Gravel Road
- UV Underground Utility Vault
- TLNR Tree Line Right
- D Centerline Draw or Stream (Down)
- FW Wire Fence
- SIGN SI Sign
- RIP Rip-Rap
- WV Water Valve
- ⊗ FHD Fire Hydrants
- TVP TV Pedestal
- EB Electrical Box
- ⊗ SHR Shrub
- TSG Traffic Signal
- TCB TCB Traffic Signal Box
- BB Billboard
- UB Utility Box
- STP Stump
- \* TEV Evergreen Tree
- ⊗ GP GP Guard Post (Less Than 4 Posts)
- GV Gas Valve
- ⊕ TFR Tree Fruit
- WH WHD Water Hydrant
- GPR Guard Post (4 or More Posts)
- WHU RV Water Hook Up
- FCL Chain Link and Security Fence
- FLg FLG Flag Poles
- TSL Traffic Signal and Luminaire
- LIN Miscellaneous Line
- BNK Stream Bank
- SIGN SL Speed Limit Sign
- TP TPD Telephone Pedestal
- ▲ PCP Photo Control Point
- ⊗ INB Storm Sewer Beehive Intake
- FWD Wood Fence
- UE Utility Elevation

Update legend clipping.

**UTILITY LEGEND**

- Remark abbreviations  
 \LA - Quality Level A Highest guideline quality level  
 \LD - Quality Level D Lowest guideline quality level
- EL1D MidAmerican Energy Electric - Quality D
  - FO1D Zayo Fiber Optic - Quality D
  - FO2D Consolidated Communications Fiber Optic - Quality D
  - FO3D City of Clive Fiber Optic - Quality D
  - FO4D CenturyLink Fiber Optic - Quality D
  - FO5D Aureon Fiber Optic - Quality D
  - FO6D Windstream Fiber Optic - Quality D
  - FO7D Verizon/MCI Fiber Optic - Quality D
  - FO8D Unite Private Network Fiber Optic - Quality D
  - FO9D No Name (Unidentified) Fiber Optic - Quality D
  - FO10D Iowa Communications Network Fiber Optic - Quality D
  - G GL1D MidAmerican Energy Gas Line - Quality D
  - PR MidAmerican Energy Riser Pole
  - PPA Power Pole MidAmerican Energy
  - SAN.1 SA1D City of Clive Sanitary Sewer - Quality D
  - SAN.2 SA2D Des Moines Waste Water Sanitary Sewer - Quality D
  - SAN.3 SA3D City of Urbandale Sanitary Sewer - Quality D
  - ST 5 ST1D Storm Sewer Co. 1 - Quality D
  - TV TV1D CenturyLink TV Cable - Quality D
  - TV2 TV2D Mediacom TV Cable - Quality D
  - W WL1D Urbandale Water Line - Quality D
  - W2 WL2D Des Moines Water Works Water Line - Quality D
  - W3 WL3D City of Clive Water Line - Quality D

Review legend for accuracy, add contact information.

**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**

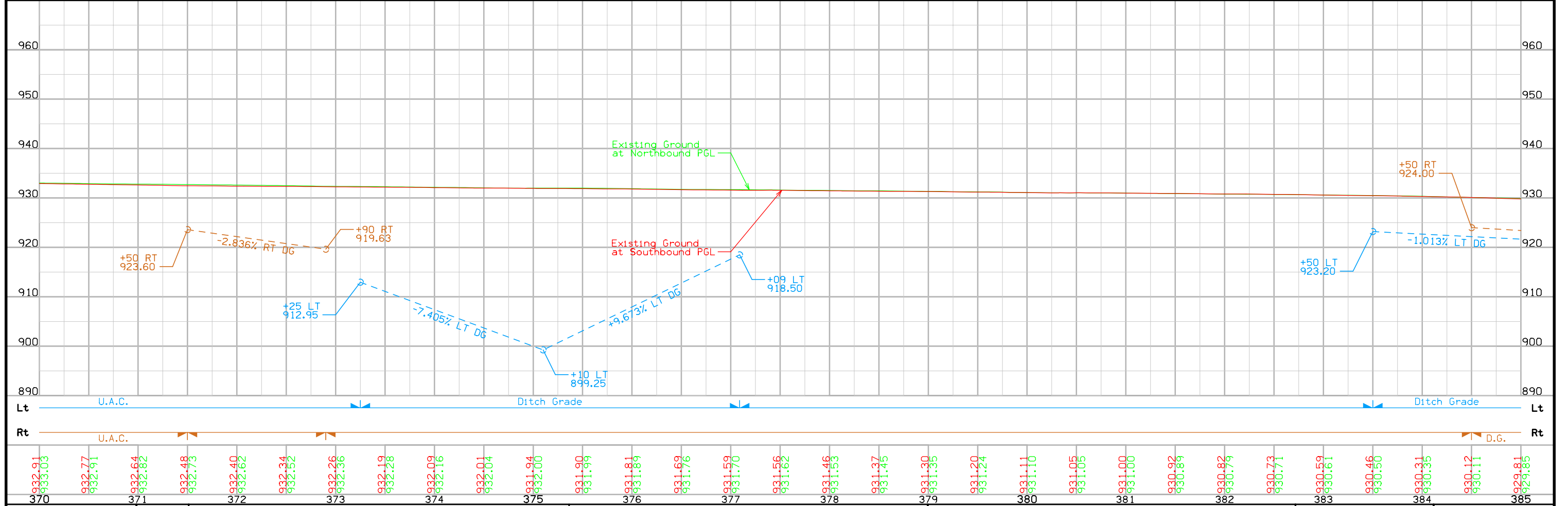
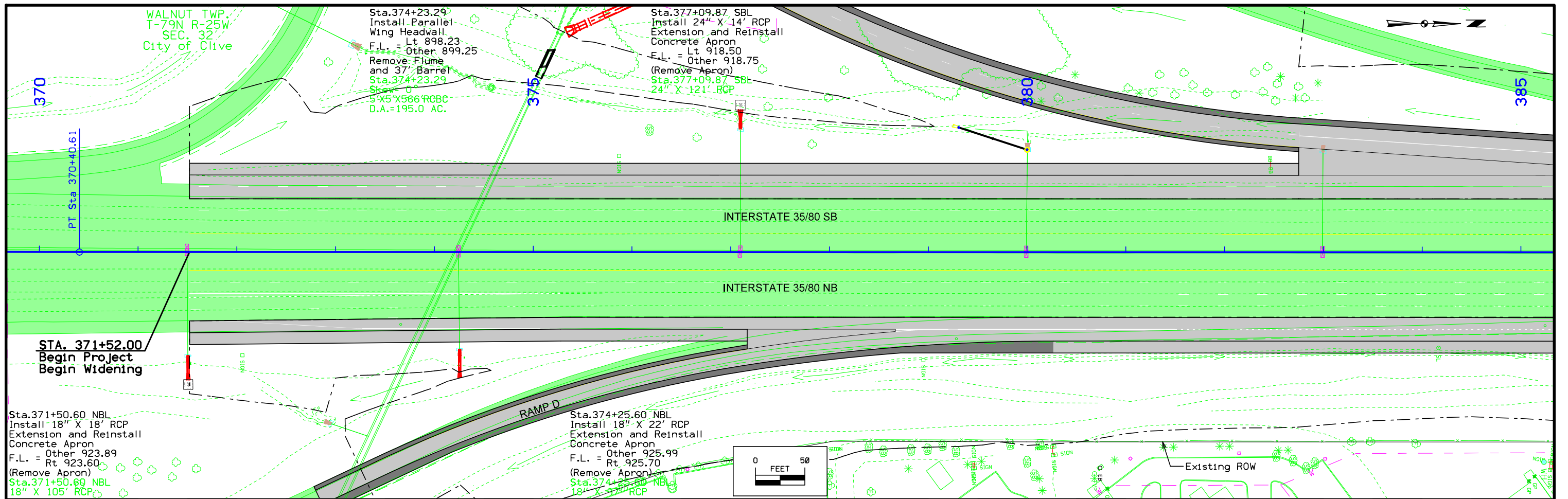
LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

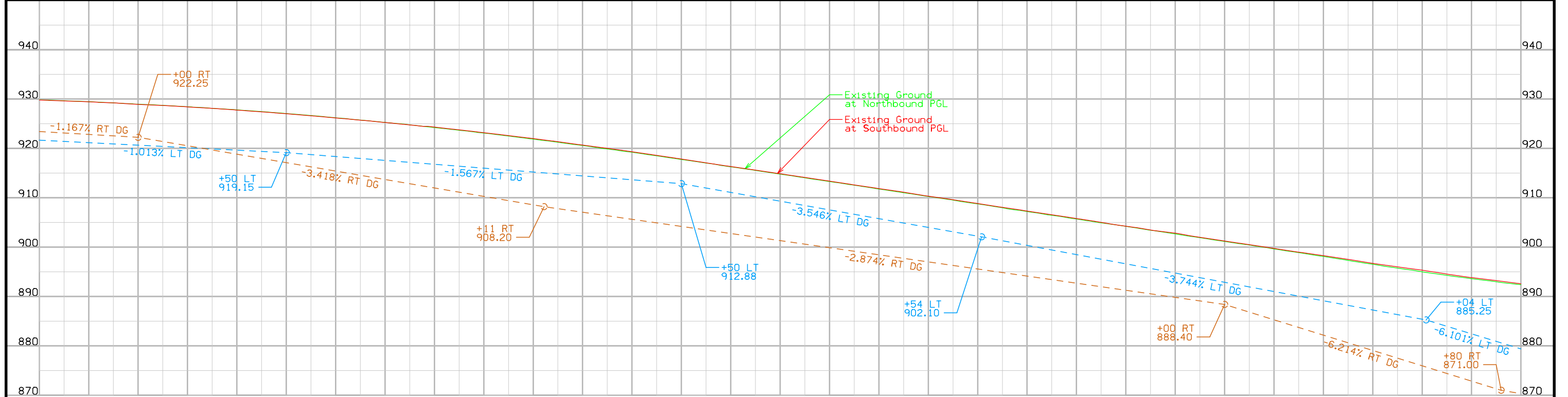
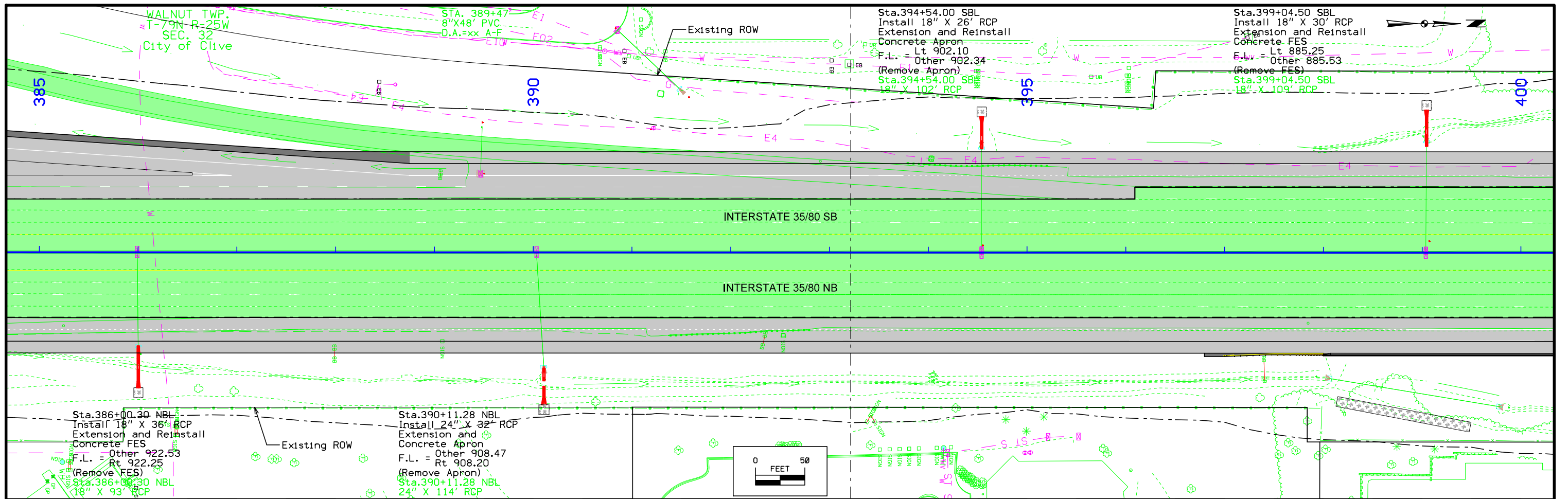
- Reference Point
- Station
  - Survey Line
  - Section Corner
  - Ground Line Intercept
  - Saw Cut
  - Guardrail
  - Trench Drain
  - HighTension Cable Guardrail
  - Sheet Pile
  - Pavement Removal
  - Clearing & Grubbing Area

- 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
  - Access Control
  - Property Line

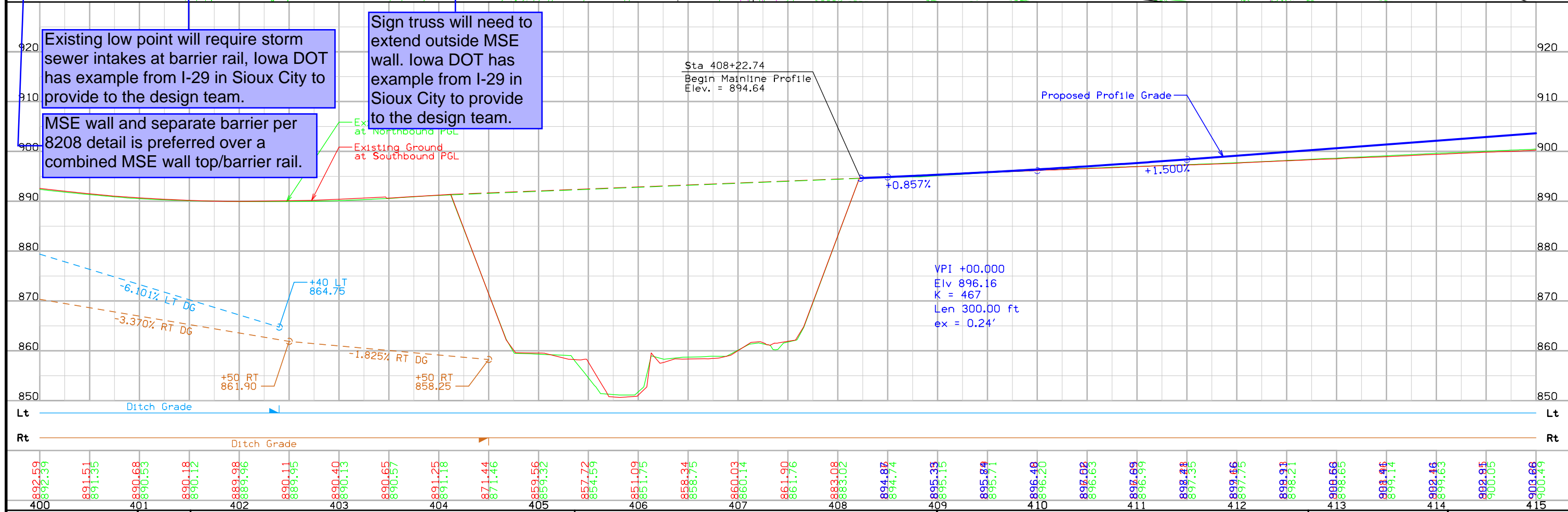
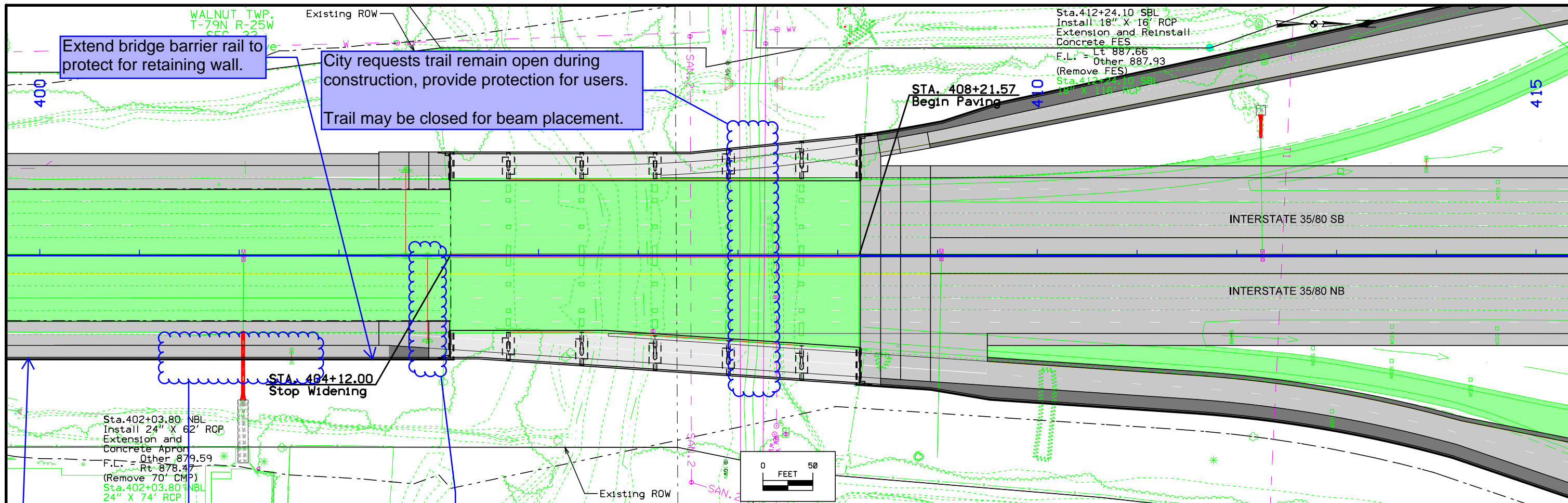
**PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET**

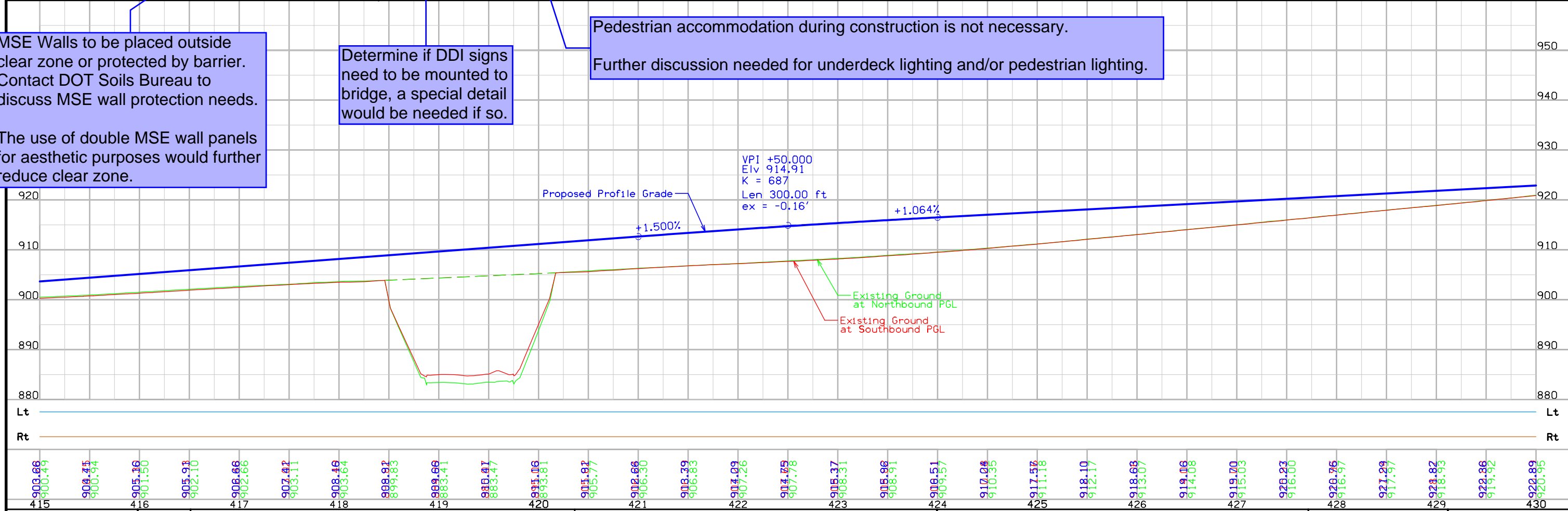
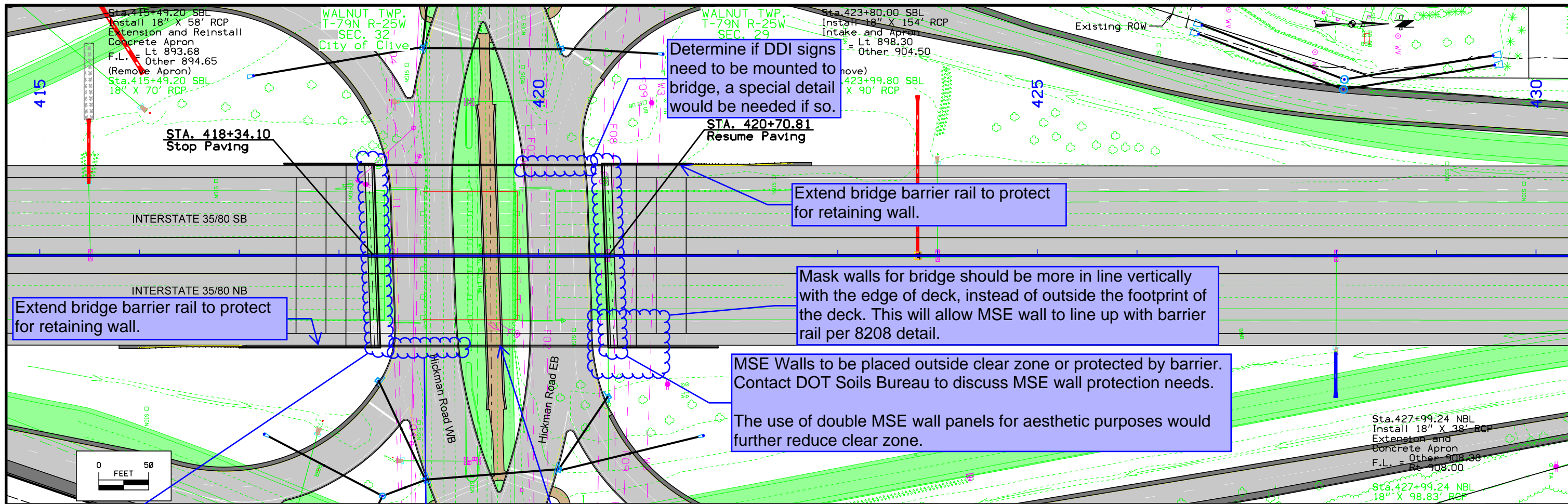
(COVERS SHEET SERIES D, E, F, & K)



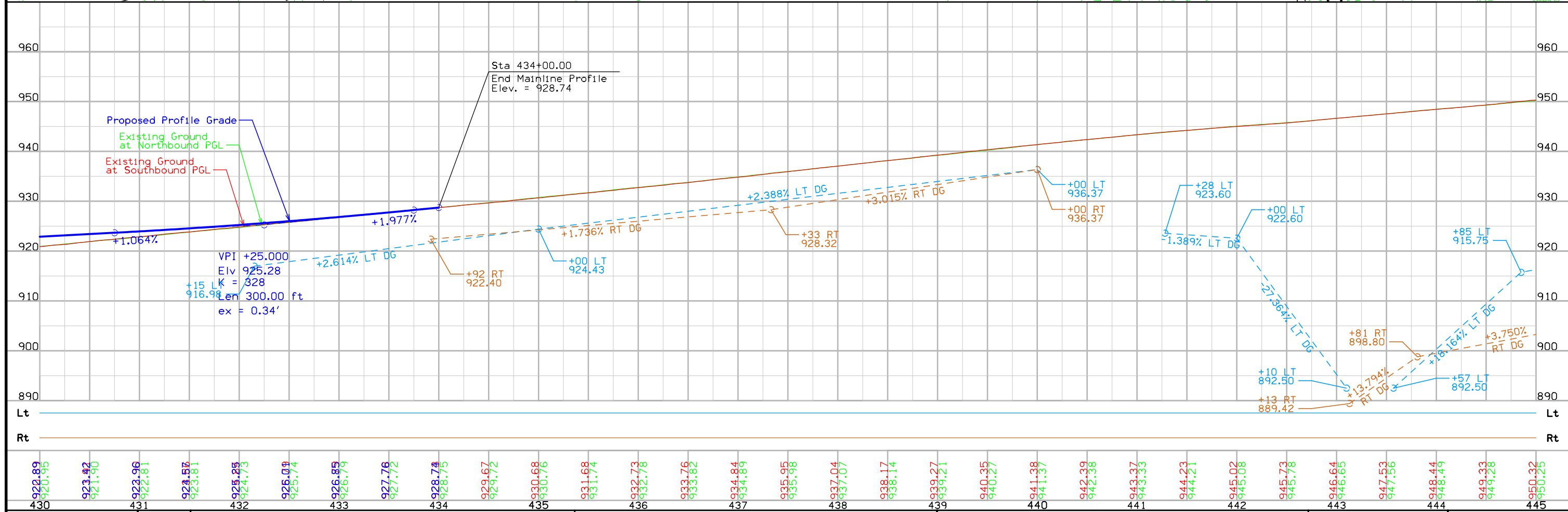
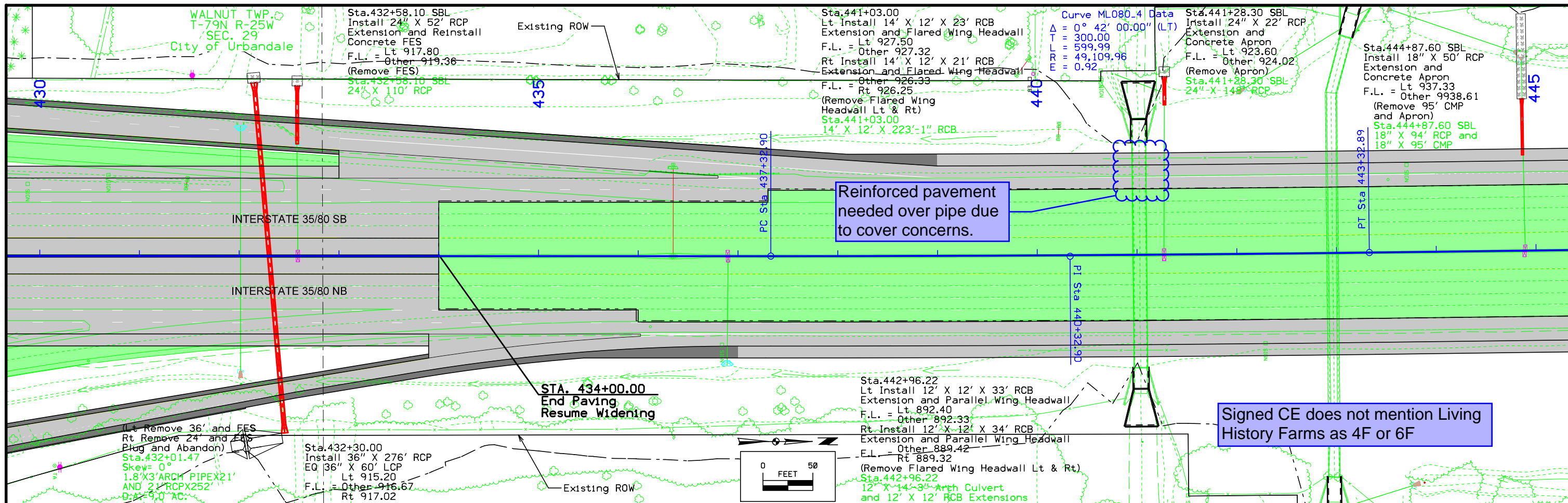


Station	Right Side Elevation	Left Side Elevation
385	929.81	929.85
386	929.45	929.49
387	928.94	928.98
388	928.42	928.45
389	927.78	927.82
390	927.04	927.08
391	926.19	926.22
392	925.26	925.29
393	924.32	924.23
394	923.19	923.12
395	922.00	921.89
396	920.69	920.60
397	919.34	919.24
398	917.85	917.77
399	916.34	916.28
400	914.87	914.79
	913.38	913.29
	911.88	911.79
	910.34	910.28
	908.85	908.77
	907.32	907.21
	905.80	905.70
	904.25	904.21
	902.82	902.68
	901.25	901.16
	899.75	899.65
	898.27	898.13
	896.71	896.54
	895.34	895.101
	893.82	893.63
	892.59	892.39

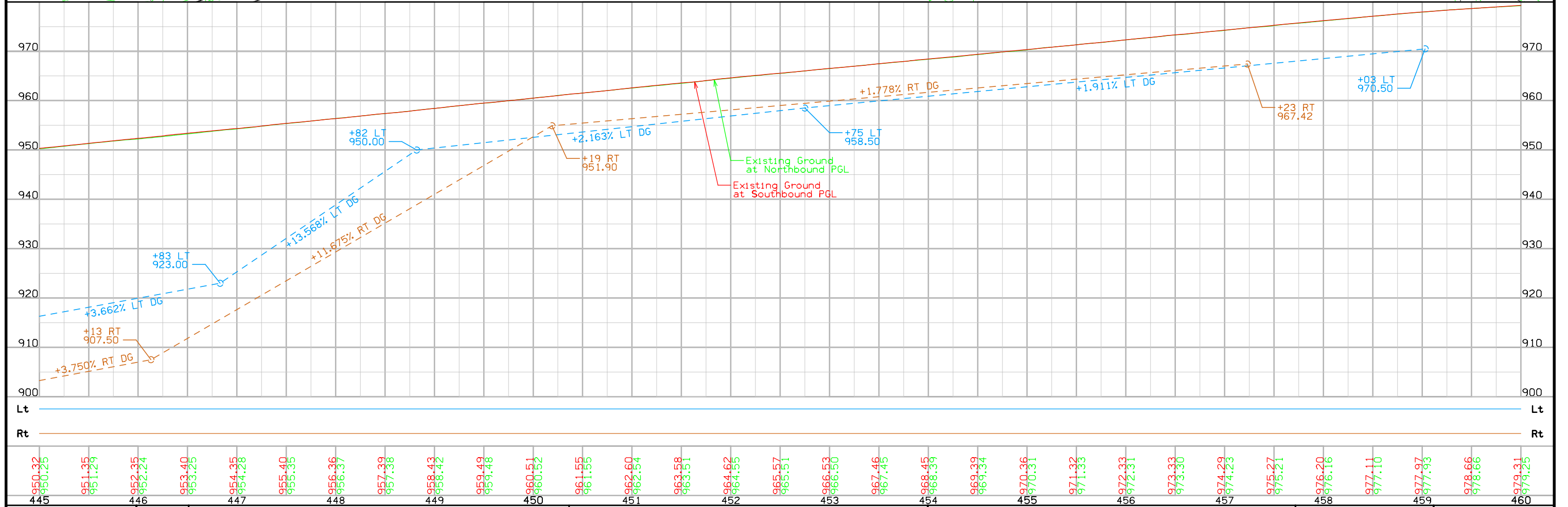
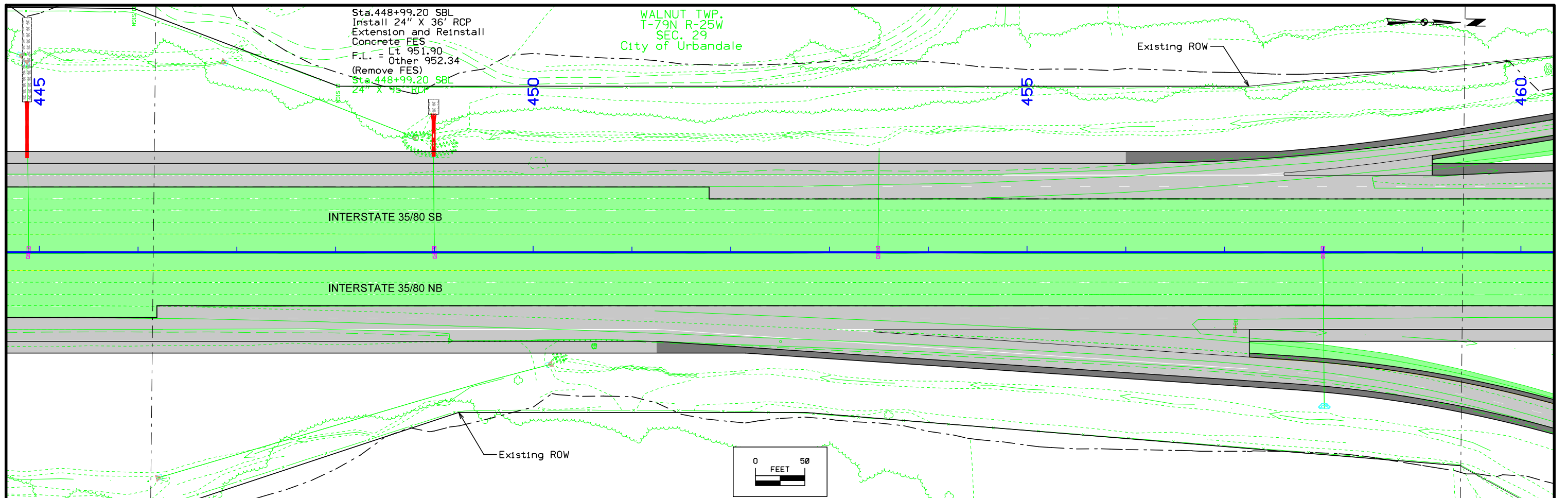


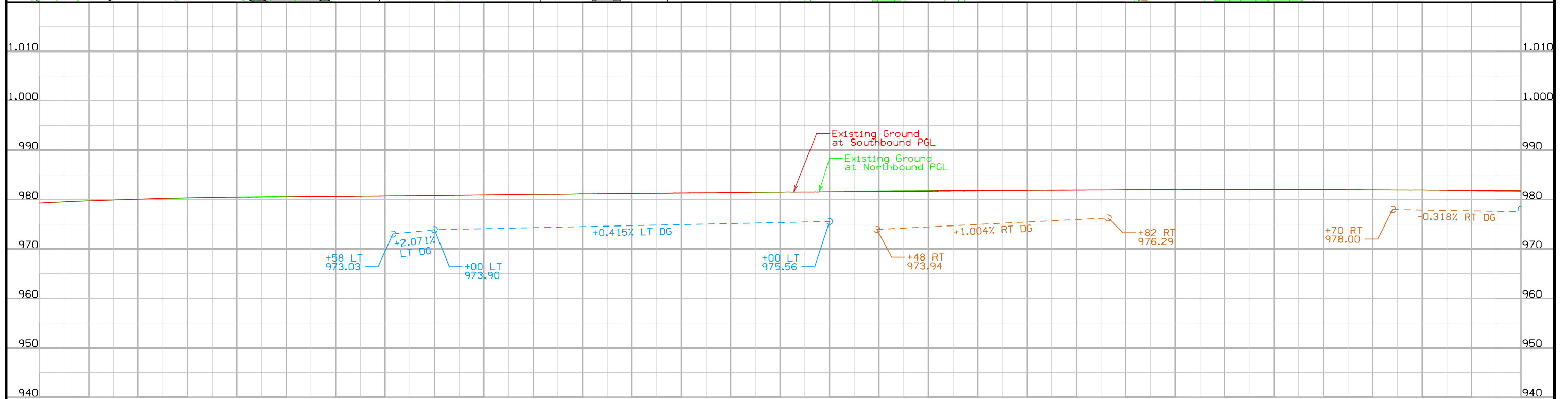
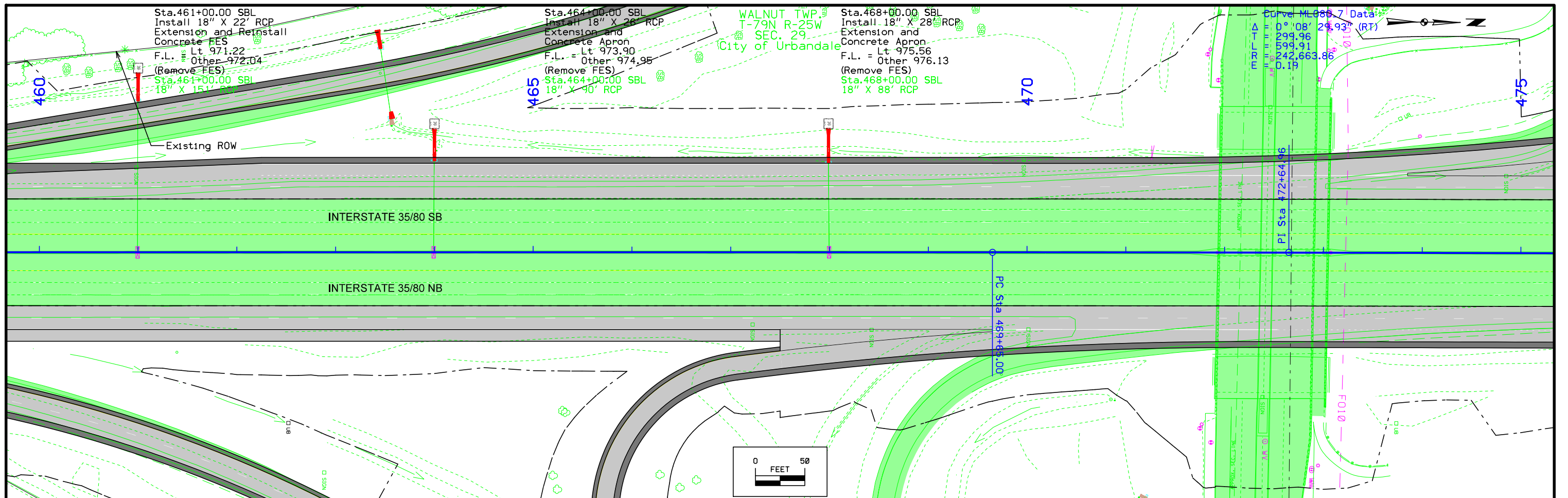


FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>D.5</b>
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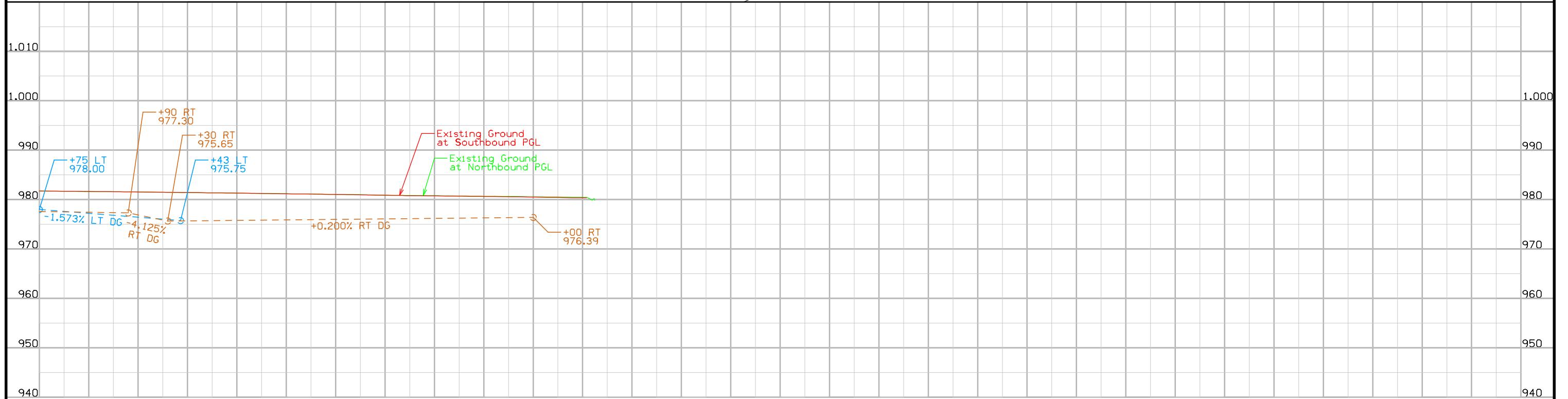
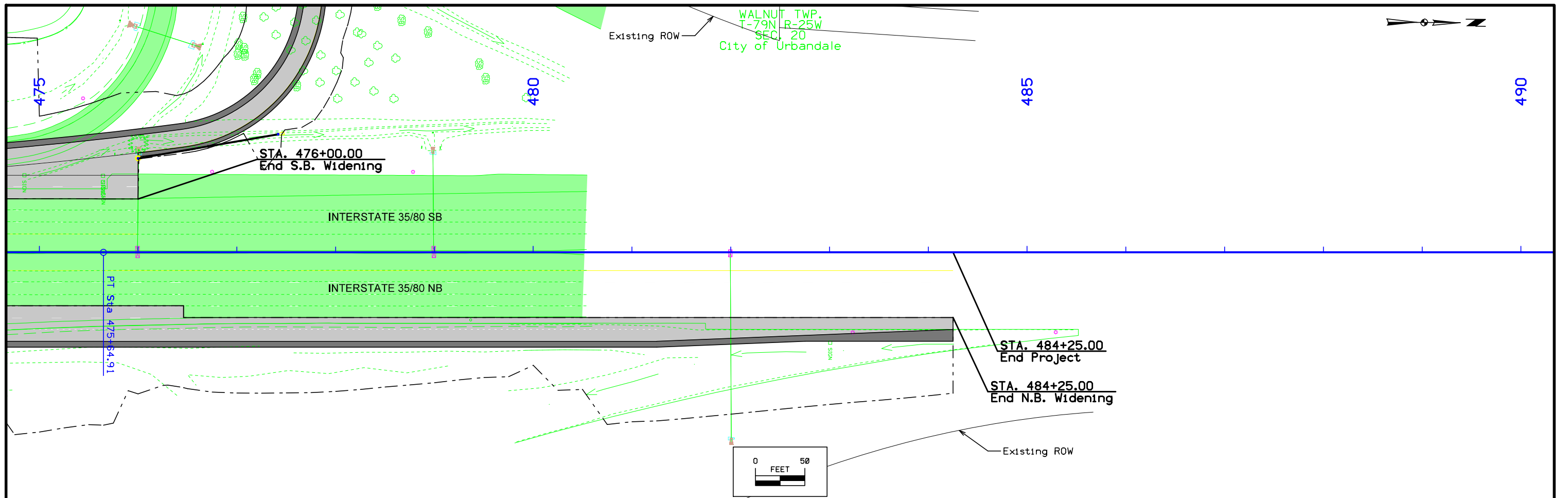








979.31	979.72	980.08	980.35	980.48	980.56	980.66	980.75	980.87	980.98	981.09	981.20	981.28	981.40	981.48	981.57	981.60	981.66	981.70	981.82	981.87	981.94	981.97	982.00	981.99	981.98	981.93	981.89	981.80	981.73
979.25	979.74	980.04	980.31	980.53	980.62	980.66	980.78	980.85	980.94	981.08	981.17	981.24	981.33	981.45	981.54	981.63	981.69	981.77	981.83	981.91	981.97	981.95	982.02	982.02	982.01	981.93	981.89	981.81	981.75
460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475														



Lt											Lt	
Rt											Rt	
981.73	981.64	981.55	981.44	981.32	981.16	981.03	980.87	980.75	980.63	980.50	980.37	
981.75	981.63	981.54	981.43	981.30	981.19	981.05	980.90	980.78	980.68	980.56	980.46	
475	476	477	478	479	480	481	482	483	484	485	486	487

WALNUT TWP.  
T-79N R-25W  
SEC. 29

CITY OF  
URBANDALE

WALNUT TWP.  
T-79N R-25W  
SEC. 28

Curve SR006_9 Data	Curve SR006_WB_3 Data	Curve SR006_WB_4 Data	Curve SR006_WB_7 Data
Δ = 2° 00' 01.95" (LT)	Δ = 15° 20' 00.98" (LT)	Δ = 33° 19' 59.03" (RT)	Δ = 20° 00' 00.00" (LT)
T = 17.46	T = 69.60	T = 150.59	T = 91.16
L = 34.92	L = 138.14	L = 292.15	L = 180.47
R = 1,000.00	R = 517.00	R = 503.00	R = 517.00
E = 0.15	E = 4.66	E = 22.06	E = 7.98

Curve SR006_12 Data	Curve SR006_15 Data	Curve SR006_WB_10 Data
Δ = 6° 16' 14.38" (RT)	Δ = 4° 30' 27.18" (LT)	Δ = 20° 00' 00.00" (LT)
T = 54.78	T = 39.36	T = 91.16
L = 109.44	L = 78.67	L = 180.47
R = 1,000.00	R = 1,000.00	R = 517.00
E = 1.50	E = 0.77	E = 7.98

Curve SR006_WB_13 Data	Curve SR006_WB_14 Data
Δ = 44° 10' 18.45" (RT)	Δ = 22° 24' 31.25" (LT)
T = 204.10	T = 102.41
L = 387.78	L = 202.20
R = 503.00	R = 517.00
E = 39.83	E = 10.05



Begin DDI WB  
POT Sta 1668+00.00 =  
Sta 668+00.00, 30.00' LT

End DDI WB  
POT Sta 1687+49.05 =  
Sta. 687+00.00, 23.00' LT

Begin DDI EB  
POT Sta 2668+00.00 =  
Sta. 668+00.00, 28.00' RT

End DDI EB  
POT Sta 2687+39.28 =  
Sta. 687+00.00, 23.00' RT

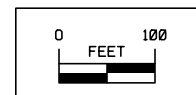
Curve SR006_EB_3 Data	Curve SR006_EB_4 Data
Δ = 13° 15' 57.52" (RT)	Δ = 35° 15' 59.47" (LT)
T = 60.12	T = 159.88
L = 119.70	L = 309.60
R = 517.00	R = 503.00
E = 3.48	E = 24.80

Curve SR006_EB_10 Data	Curve SR006_EB_13 Data
Δ = 20° 00' 00.00" (RT)	Δ = 18° 14' 12.80" (LT)
T = 91.16	T = 80.73
L = 180.47	L = 160.10
R = 517.00	R = 503.00
E = 7.98	E = 6.44

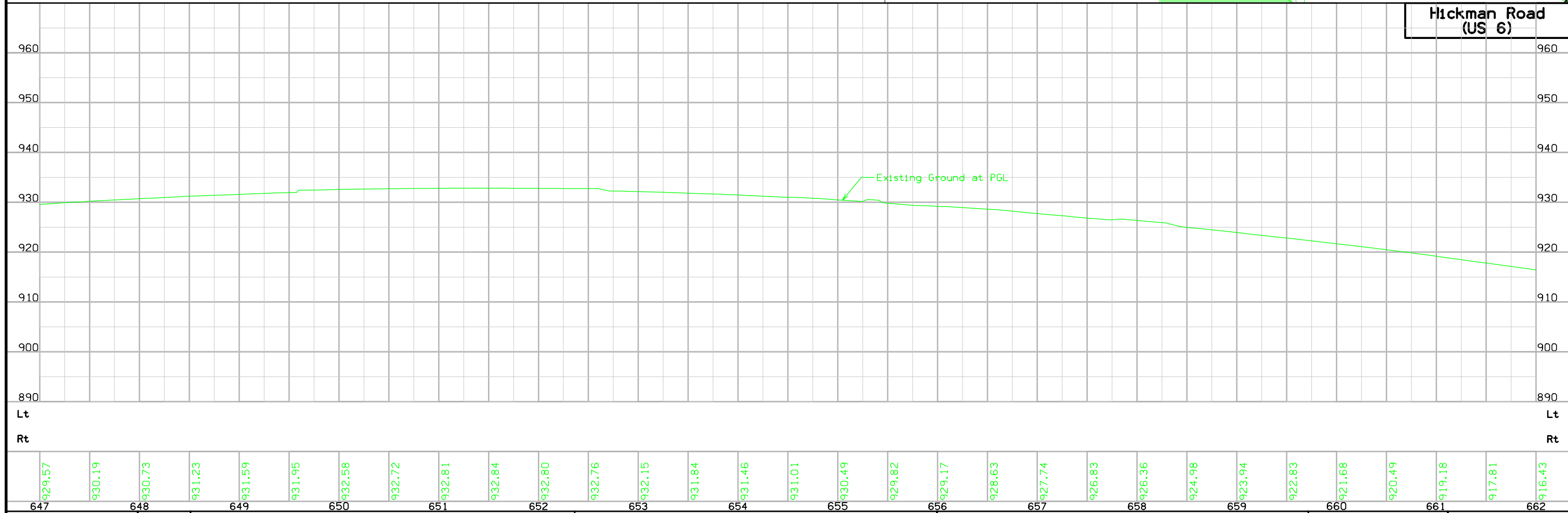
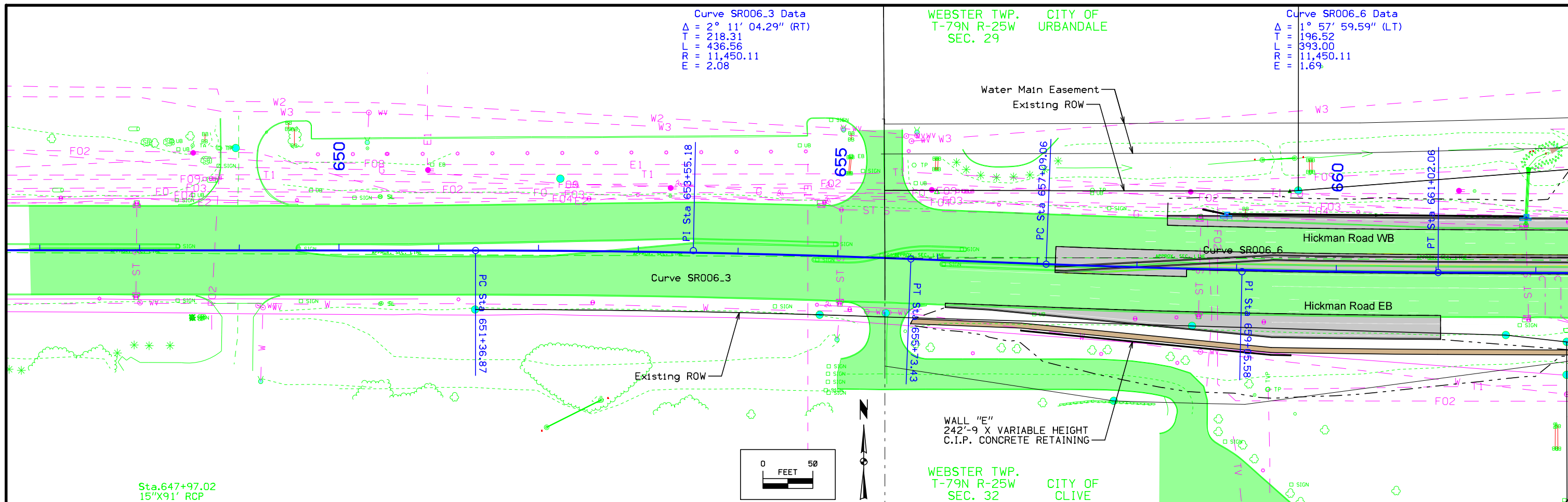
WALNUT TWP.  
T-79N R-25W  
SEC. 32

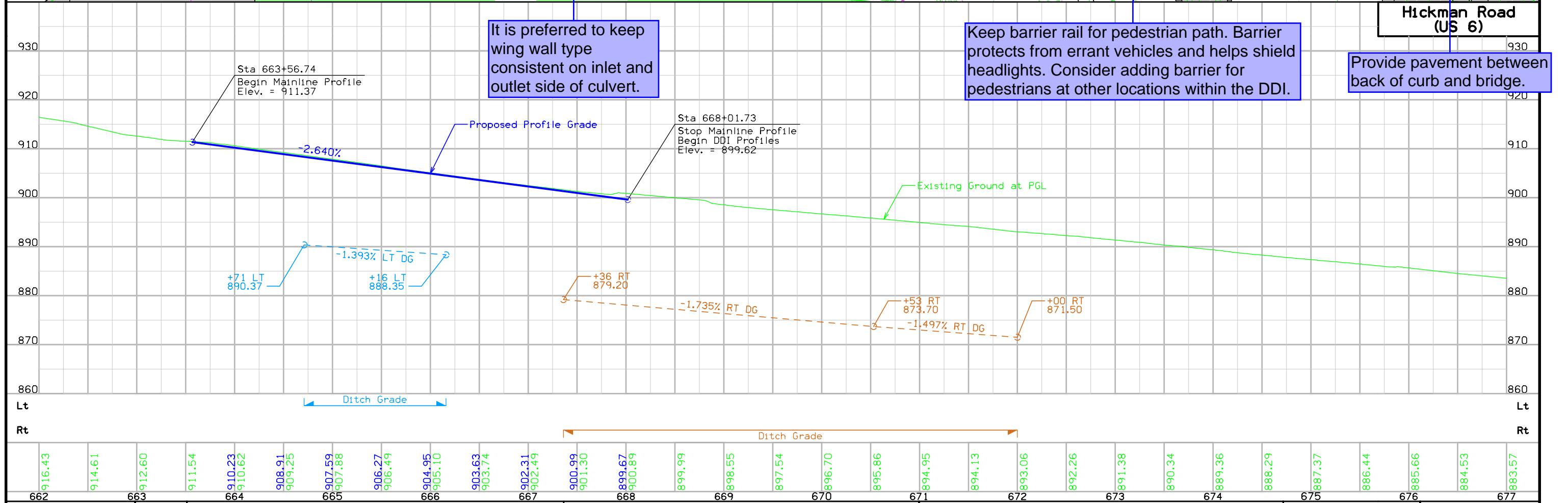
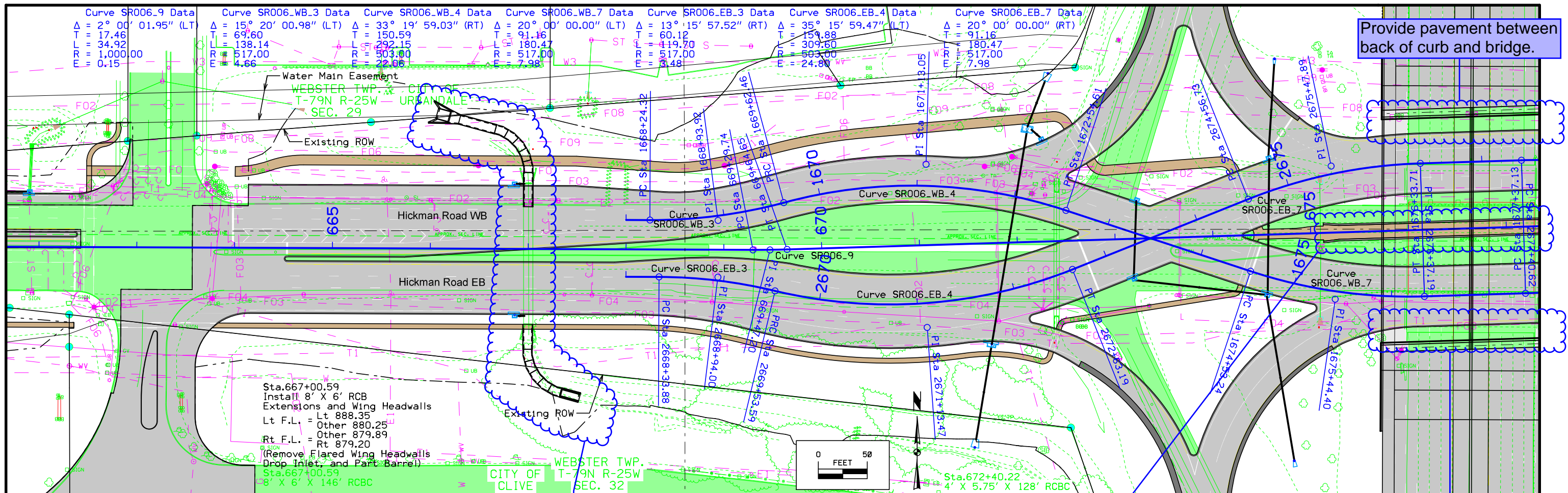
CITY OF  
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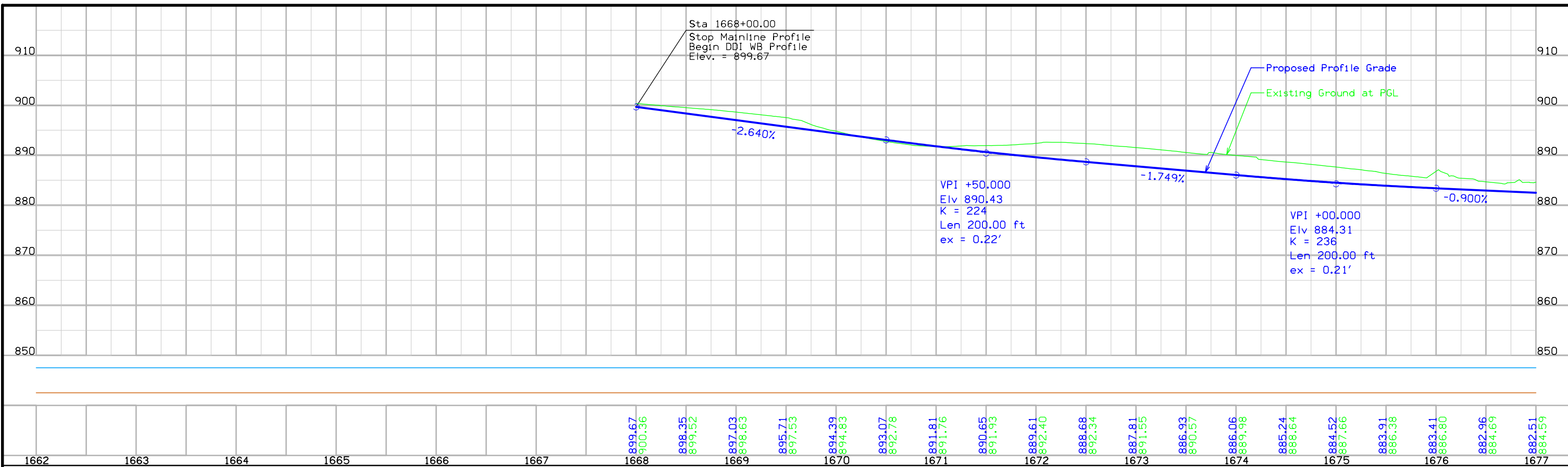
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T-79N R-25W  
SEC. 33



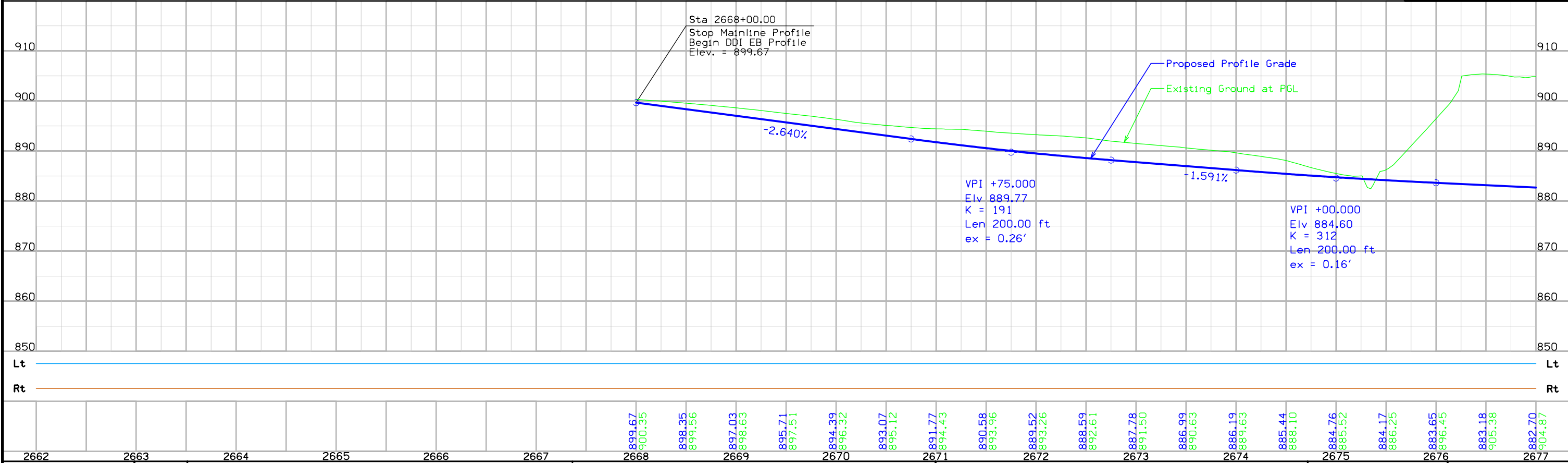
GEOMETRIC PLAN  
PROPOSED INTERCHANGE  
INTERSTATE 35/80  
WITH HICKMAN ROAD (US 6)



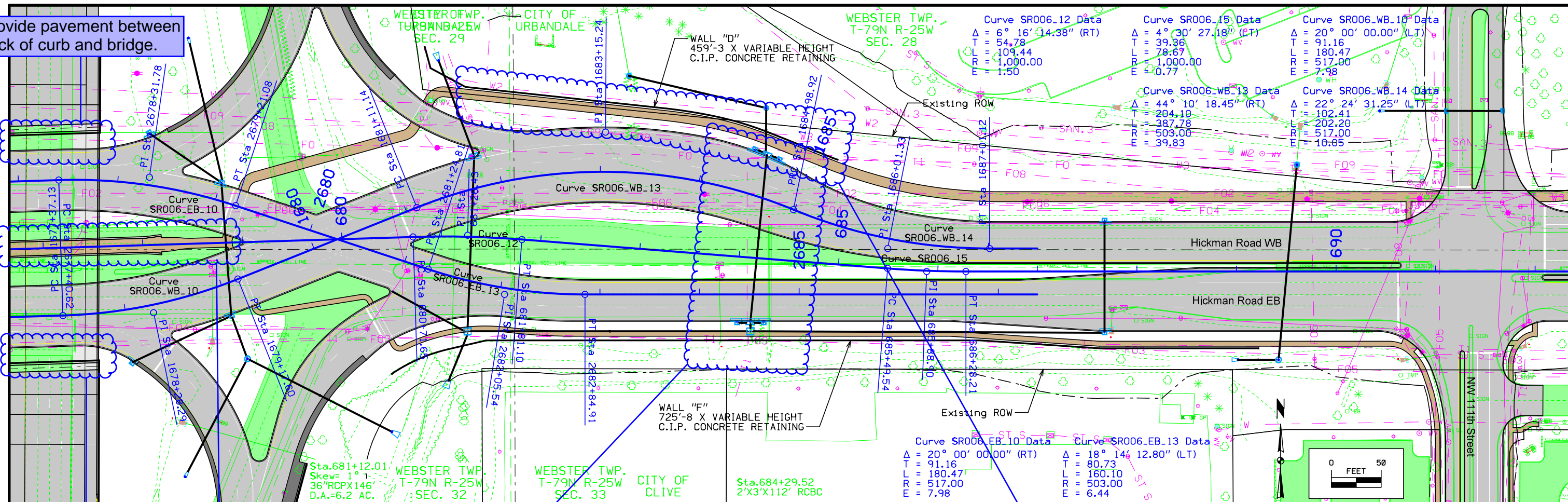




**Hickman Road  
(US 6)**



Provide pavement between back of curb and bridge.



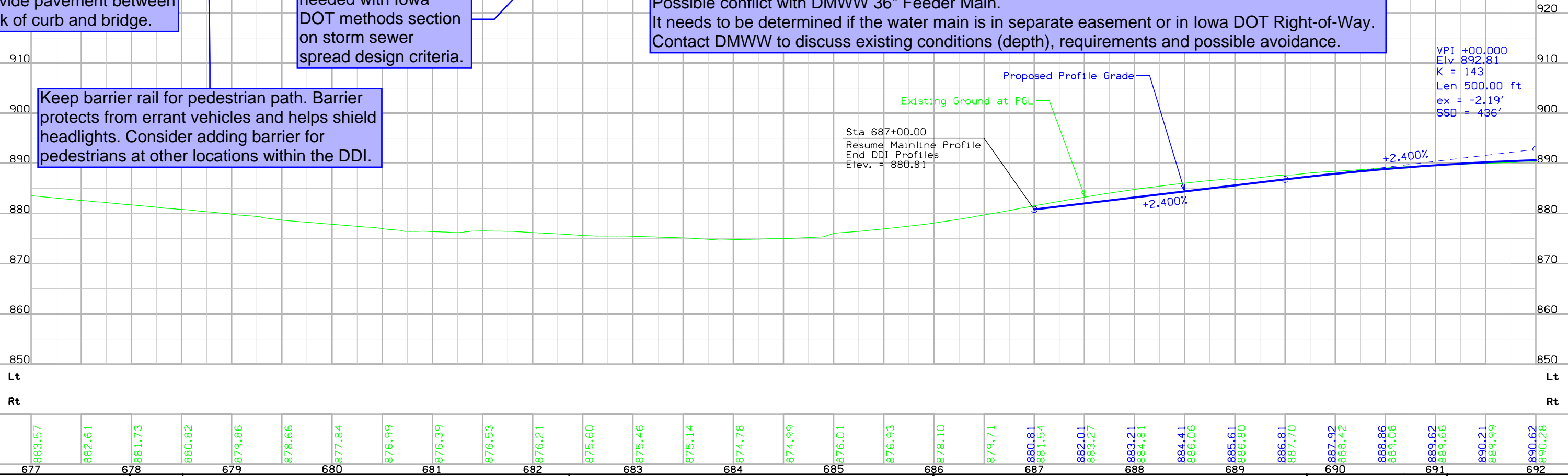
Provide pavement between back of curb and bridge.

Further discussion needed with Iowa DOT methods section on storm sewer spread design criteria.

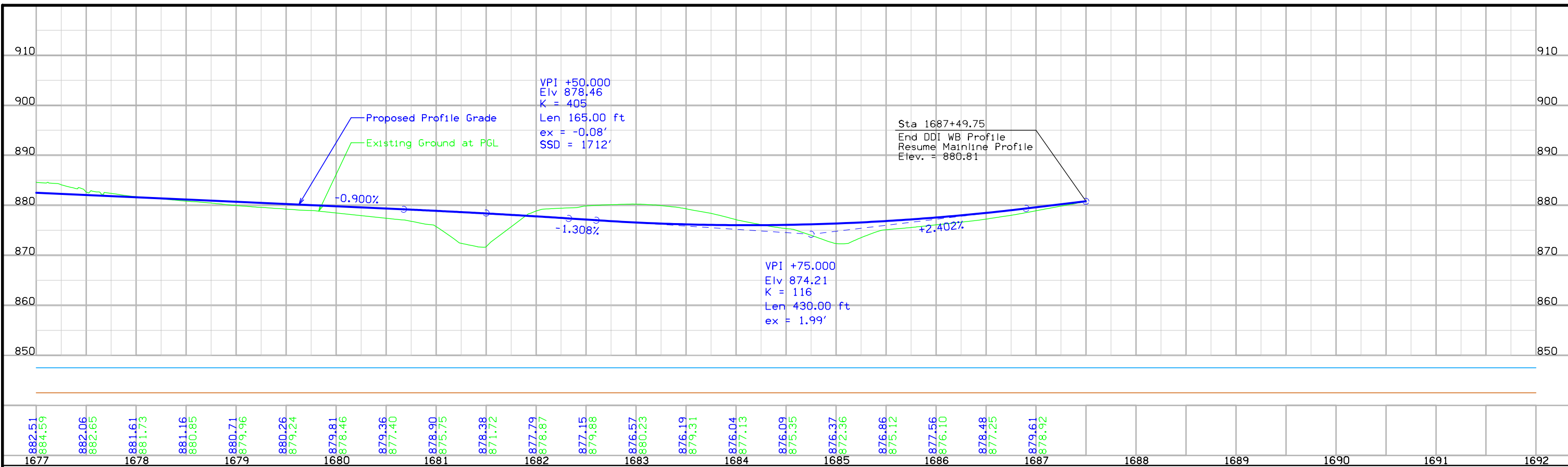
Possible conflict with DMWW 36" Feeder Main. It needs to be determined if the water main is in separate easement or in Iowa DOT Right-of-Way. Contact DMWW to discuss existing conditions (depth), requirements and possible avoidance.

Keep barrier rail for pedestrian path. Barrier protects from errant vehicles and helps shield headlights. Consider adding barrier for pedestrians at other locations within the DDI.

**Hickman Road (US 6)**

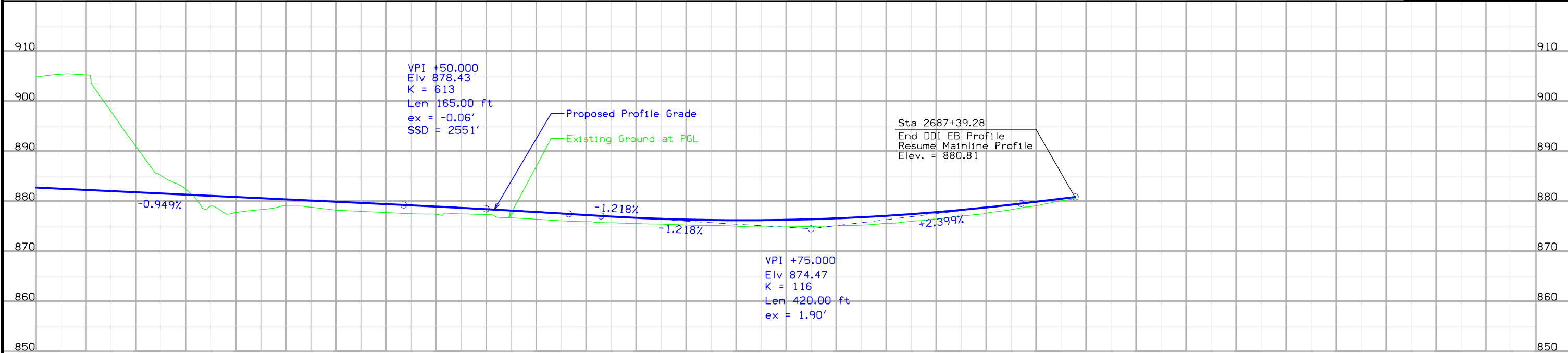




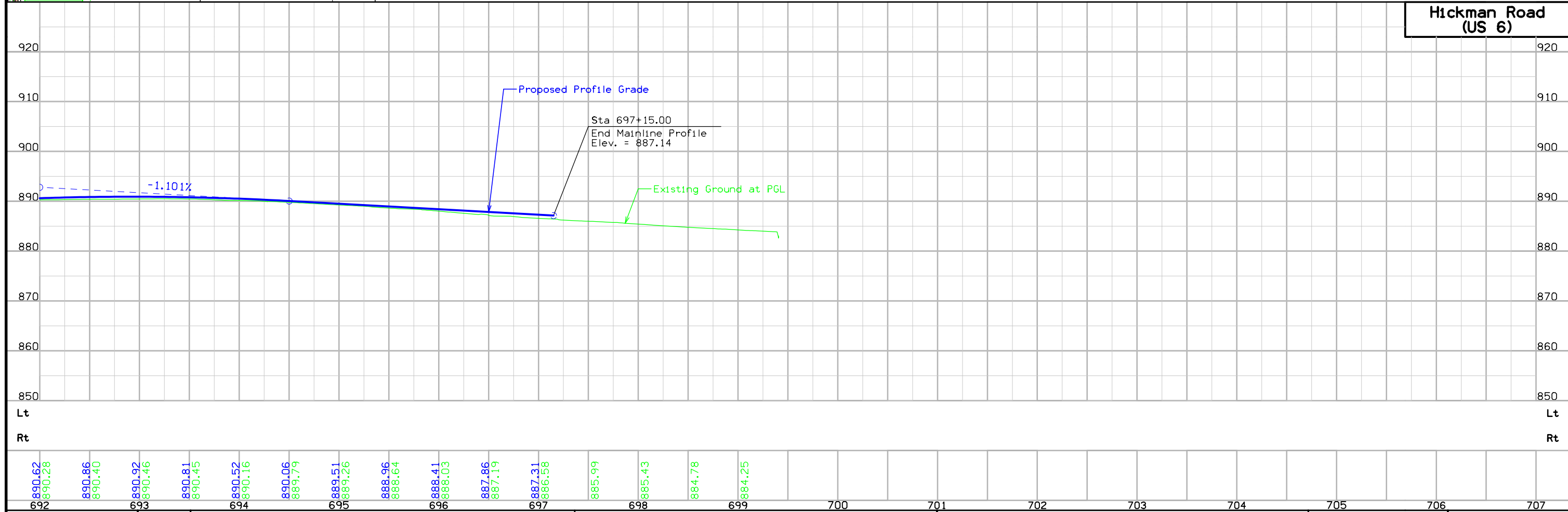
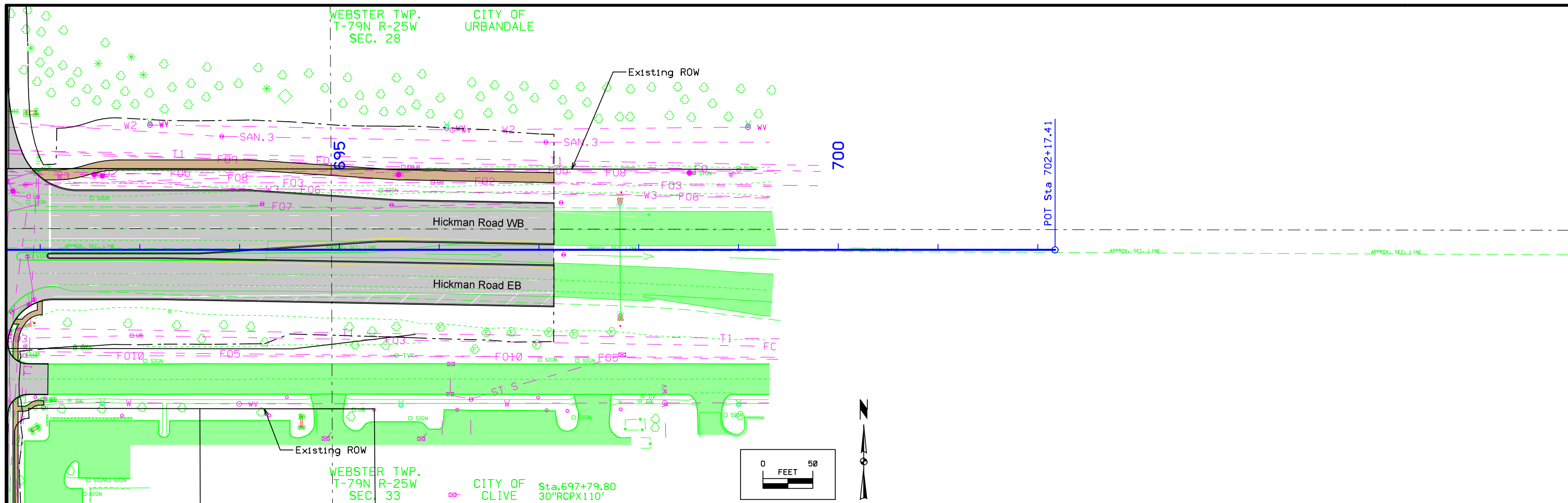


882.51 884.59	882.06 882.65	881.61 881.73	881.16 880.85	880.71 879.96	880.26 879.24	879.81 878.46	879.36 877.40	878.90 875.75	878.38 871.72	877.79 878.87	877.15 879.88	876.57 880.23	876.19 879.31	876.04 877.13	876.09 875.35	876.37 872.36	876.86 875.12	877.56 876.10	878.48 877.25	879.61 878.92						
1677		1678		1679		1680		1681		1682		1683		1684		1685		1686		1687		1688	1689	1690	1691	1692

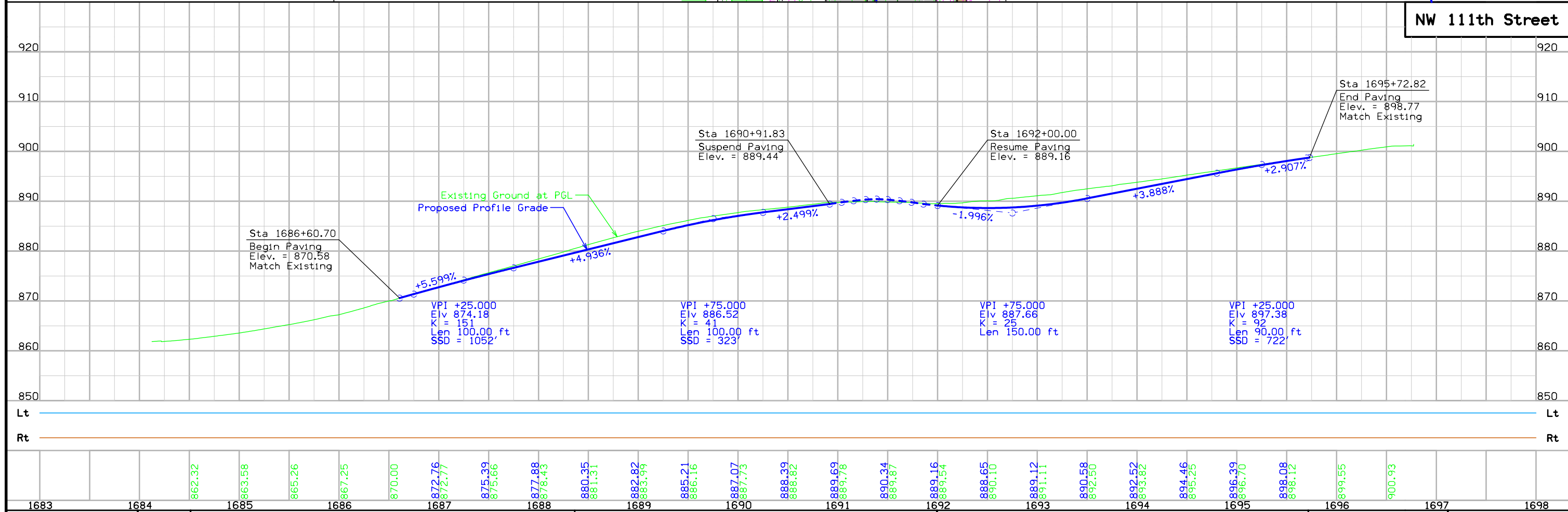
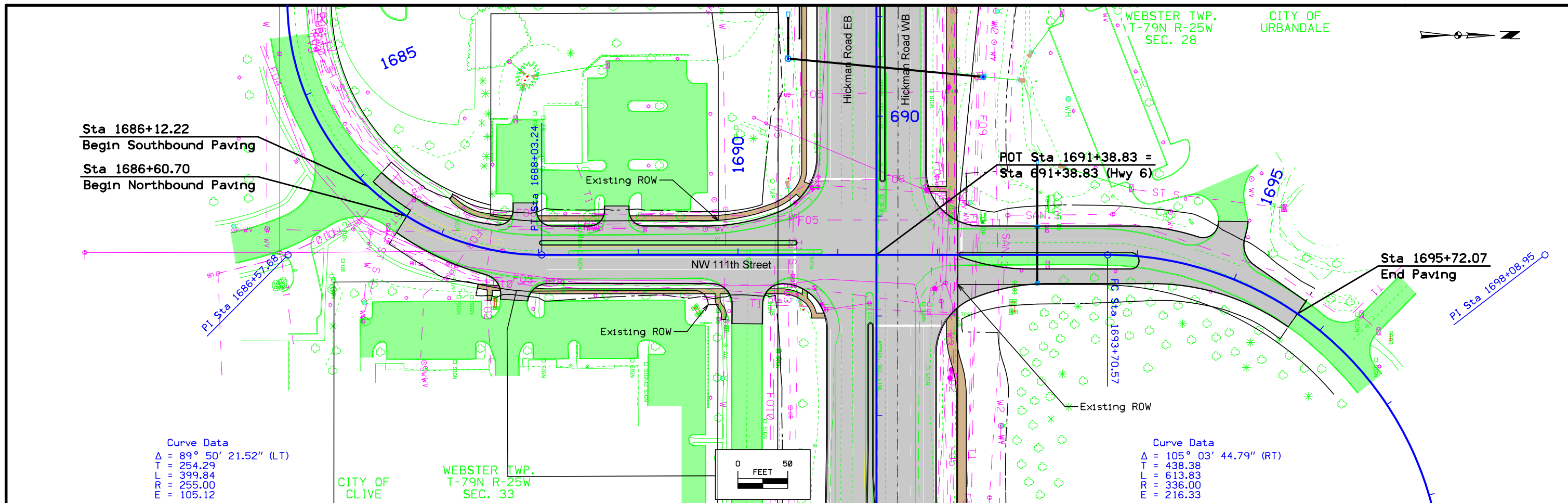
**Hickman Road  
(US 6)**



882.70 904.87	882.23 905.24	881.75 890.86	881.28 882.32	880.80 877.70	880.33 879.02	879.85 878.19	879.38 877.71	878.90 877.35	878.37 877.29	877.81 876.37	877.21 875.90	876.66 875.50	876.30 875.21	876.17 874.98	876.25 874.84	876.54 875.04	877.05 875.55	877.78 876.42	878.72 877.55	879.87 879.08						
2677		2678		2679		2680		2681		2682		2683		2684		2685		2686		2687		2688	2689	2690	2691	2692



FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>E.7</b>
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FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>E.8</b>
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## Survey Information

POLK COUNTY  
 IM-080-4(69)125--13-77  
 I-35/80 & US HWY 6/HICKMAN ROAD INTERCHANGE  
 PIN 13770804069  
 SAP#04129

### General Information

Measurement units for this survey are US survey feet. This survey is Preliminary Engineering Survey for the proposed Hickman Interchange project. This project is a Partial DTM survey. Traditional survey was performed within the project limits, with the exception of interstate pavement. For efficiency and safety, UAS was utilized to collect photo generated point cloud data on the interstate. The point cloud data was used to generate 3D line in the SUR file.

### Vertical Control

Vertical datum for this survey is relative to NAVD88 Geoid 12b. Vertical datum originated from Hickman Road and 128th intersection, NHSX-006-4(189)--77, SAP 07011. Vertical positions originated from City of Urbandale published city benchmark report. BM #55 was used as the primary vertical control and is an IHC brass marker located at NE corner of northbound I-35 bridge over U.S. Highway 6. This survey observed three City of Urbandale Benchmark Monuments with published NAVD88 elevations:

City of Urbandale Benchmark #55 has a published Elev. of 929.83  
 Survey Elev. = 929.83

City of Urbandale Benchmark #45 has a published Elev. of 908.05  
 IR-35-2(204)73--12-77 published Elev. of 907.82  
 Survey Elev. = 908.05

BM #38B Project STP-6-49119)--2C-77 published Elev. of 889.17 (271.021m)  
 Survey Elev.= 889.46

City of Urbandale Benchmark #57 has a published Elev. of 899.61  
 Survey Elev. = 899.61

IDOT performed a 2018 survey of the SB University exit ramp, Project IMN-080-3(235)124--OE-77, SAP 0412.8. A difference of 0.07' was found. Vertical difference between this current survey and the SB University exit ramp project are shown below.

Control Point	Published Elevation	Surveyed Elevation
FENO1	915.08	915.02
FENO2	895.27	895.21
G032	937.70	937.63

### Horizontal Control

The project coordinate system is the Iowa Regional Coordinate System, Zone 8. Horizontal datum is NAD83 (2011) for Epoch 2010.00. The projection parameters for Zone 8 of the IaRCS is defined below:

Traverse Mercator Projection North American Datum of 1983  
 Origin Lat: 40°15'00"N  
 Origin Central Meridian: 093°43'00"W  
 Central Meridian Scale: 1.000033  
 False Northing: 7,000,000  
 False Easting: 18,500,000

Coordinates were determined by averaging a minimum of three IaRTN observations with appropriate time spans between. The horizontal standard deviation of these observations was less than 0.05' at 95% confidence level.

### Alignment Information

The horizontal alignments for I-35 was a retrace of as-built pacing plans for project IR-35-2(204)73--12-77. Stationing was held at POT Station 419+51.50 and ran ahead and back without equation.

P.C. 363+05.61 (plan) = P.C. 363+00.68 (this survey)

P.T. 370+45.61 (plan) = P.C. 370+40.61 (this survey)

### Plan Equation

P.O.T. 388+16.72 (plan back) = P.O.T. 388+17.60 (plan ahead) = P.C. 388+21.85 (this survey)

P.O.T. 419+51.50 (plan) = P.O.T 419+51.50 (this survey)

P.C. 437+32.9 (plan) = P.C. 437+32.9 (this survey)

P.T. 443+32.9 (plan) = P.T. 443+32.89 (this survey)

P.C. 469+65.5 (plan) = P.C. 469+65.5 (this survey)

P.T. 475+65.5 (plan) = P.T. 475+64.91 (this survey)

P.C. 522+83.36 (plan) = P.C. 522+84.09 (this survey)

The horizontal alignments for U.S. Highway 6 and 128th Street was provided by Iowa DOT District 1 Office. Description of alignment as received described below.

The horizontal alignment for U.S. 6 (Hickman Road) is a retrace of as-built paving plan for project STP-6-4(119)--2C-77. Plan stationing is in metric and was converted to U.S. survey foot for this survey. Stationing was held at P.I. 186+92.513m (converted to station 613+27.02 in U.S. survey foot) and ran ahead without equation.

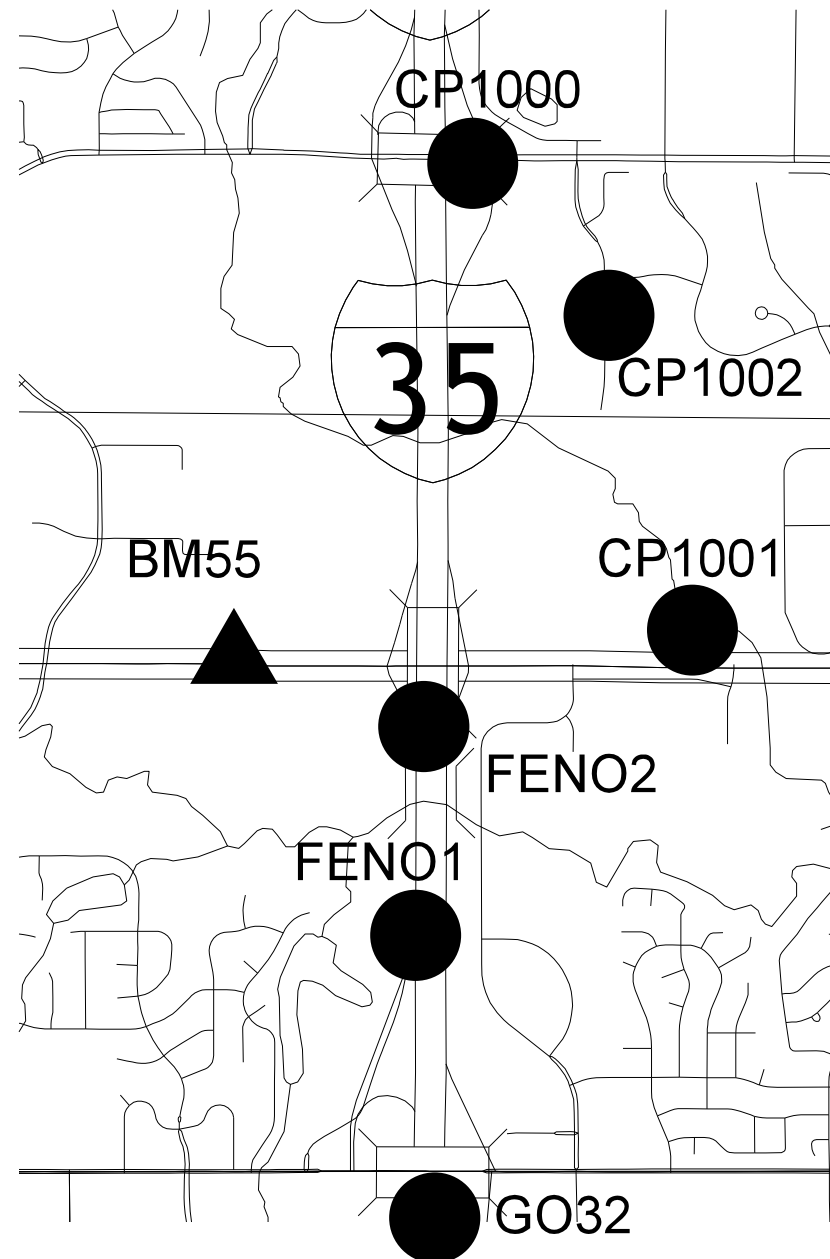
P.I. 186+92.513m (613+27.02 U.S. survey foot) = P.I. 186+92.513m (613+27.02 U.S. survey foot) (this survey)  
 Found "P-K" nail in conc. crossover

P.C. 198+53.721m (651+36.75 U.S. survey foot) = P.C. 198+53.757 (651+36.87 U.S. survey foot) (this survey)  
 Found 5/8" re-rod (flush)

Utilizing the provided alignment and the same as-built paving plans for project STP-6-4(119)--2C-77, Snyder & Associates extended alignment east from 651+36.75 to 673+00.

### 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 8

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 8

Point Name	Northing	Easting	Elevation	Feature Definition
CP1000	7502552.37	18483969.64	999.20	FENO-SET MONUMENT +/- 25' SOUTH OF DOUGLAS AVE, +/-25' OFF RAMP.
CP1001	7497688.97	18486259.21	876.70	FENO-SET MONUMENT NORTH SIDE NW 11TH ST, 8' NORTH OF BACK OF CURB, 40' SW OF LIGHT POLE.
CP1002	7500968.72	18485389.65	935.99	FENO-SET MONUMENT EAST SIDE OF 11TH ST, +/- 7' EAST OF 1ST HYDRANT SOUTH OF JOHNSTON SUPPLY.
FEN01	7494509.38	18483375.02	915.02	FENO-FOUND MONUMENT WEST SIDE OF I-35 AT START OF UNIVERSITY OFF RAMP.
FEN02	7496684.19	18483459.91	895.21	FENO-FOUND MOUNUMENT WEST SIDE I-35 AND EAST OF SB ON RAMP OF HICKMAN ROAD.
G032	7491564.87	18483573.86	937.63	FENO-FOUND MONUMENT +/- 5' EAST OF EAST SHOULDER NB I-35, 500' SOUTH OF UNIVERSITY AVE.
BM55	7497393.85	18481482.57	929.83	URBANDALE BM55//FOUND BRASS PLUG IN CONCRETE/NORTH SIDE OF HICKMAN ROAD

**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	x														
			%	FT	FT														
University Ave																			
Ramp A	A-1	724	6.0	200	67	PV-303	1366+19.74	1366+86.74	1368+26.74	1368+86.74							1368+20.07		
								1373+61.98		1371+61.98						1372+28.65	1372+28.65		
Ramp A	A-2	1340	6.0	240	80	PV-303		1373+61.98		1376+01.98						1375+21.98	1375+21.98		
Ramp D	D-1	1340	6.0	186	62	PV-303	1383+22.57		1382+74.57	1382+02.57						1382+82.57			Normal cross slope at A-A is 3.0%
Ramp D	D-2	2000	5.4	168	62	PV-303	2372+61.12		2373+29.32	2373+85.12						2373+23.12	2373+23.12		
										2376+89.87									
										2377+08.47									
Hickman Road																			
Ramp A	A-1	1340	6.0	240	80	PV-303	3425+01.86		3425+89.86	3426+61.86						3425+81.86	3425+81.86		
								3429+41.11		3428+53.11	3427+81.11					3428+61.11	3428+61.11		
Ramp B	B-1	1340	6.0	240	80	PV-303	4410+56.21		4411+44.21	4412+16.21						4411+36.21	4411+36.21		
								4414+89.90		4414+01.90	4413+29.90					4414+09.90	4414+09.90		
Ramp C	C-1	2000	5.4	160	53	PV-303													
Ramp D	D-1	2000	5.4	160	53	PV-303	5409+67.97		5409+08.97	5408+60.97						5409+02.45	5409+02.45		
								6432+83.47		6433+42.47	6433+90.47					6433+48.99	6433+48.99		
Douglas Ave																			
Ramp B	B-1	1340	6.0	240	80	PV-303	7457+20.31		7457+68.31	7458+40.31						7457+60.31	7457+60.31		Normal cross slope at A-A is 3.0%
									7463+48.69	7462+76.69									
Ramp C	C-1	2000	5.4	168	62	PV-303	8460+14.92		8459+59.32	8459+08.92						8459+52.48			
								8462+62.50		8463+18.10	8463+68.50					8463+24.94	8463+24.94		
Ramp C	C-2	2000	5.4	168	62	PV-303				8466+42.62					8466+86.18	8466+86.18			
Ramp E	E-3	144	6.0	128	43	PV-303				9476+83.74					9476+41.07				Normal cross slope at A-A is 4.0%
								9481+00.92		9480+54.32	9480+15.92				9480+58.59	9480+58.59			
Ramp F	F-2	144	6.0	128	43	PV-303	10462+38.89		10462+85.49	10463+23.89					10462+81.22	10462+81.22			Normal cross slope at A-A is 4.0%
								10467+00.54		10466+96.27	10466+57.87				10467+00.54				

**TRAFFIC CONTROL PLAN**

Unless absolutely necessary or specified in the staging plans, traffic lanes are intended to be a minimum width of 12'. Any traffic lane width changes require the Engineer's approval.

Traffic control on this project shall be in accordance with the standard road plans and the specific layouts shown in the plans. For additional complementary information, refer to Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD) and the current standard specifications and supplemental specification.

The Contractor shall coordinate traffic control with other projects in the area.

The Contractor shall be responsible for furnishing, installing, maintaining, and removing the signage for the temporary detours.

The Engineer may require modifications to the pavement marking details shown. Conflicting permanent edge lines, centerlines, or lane lines shall be removed. Where applicable, permanent edge lines, centerlines, and lane lines shall be placed before the roadway is returned to normal traffic. The current Standard Specifications and Supplemental Specifications shall apply.

The Contractor shall maintain clean pavement in and out of the work area at all times.

Through traffic will be maintained on I-35/80, US 6, and NE 111th Street throughout the project corridor at all times. The Contractor shall be responsible for installings and maintaining temporary and permanent signing along the project corridor.

Access for garbage and postal service must be maintained at all times unless arranged otherwise by agreement between the Contractor and property owner.

All signs to be in place longer than three days must be post mounted.

The Contractor will be responsible for securing a safe storage area for equipment and materials to be used on the project.

Refer to the remaining J-Sheets for special layouts for each individual stage of construction.

1. Interstate 35/80  
No lane closures will be allowed on I-35/80 from 6:00 AM to 8:00 PM; all day on Fridays, Saturdays, Holidays, or during the dates of special events listed by the Engineer. These dates and times are considered "Peak Times." Temporary single lanes closures may be allowed on I-35/80 during "off-peak" travel periods, which is defined as daily from 8:00 PM to 6:00 AM from Sunday thru Friday. However the time, length, and duration of each lane closure shall be approved by the Resident Construction Engineer. The Iowa DOT reserves the right to modify these restrictions to accommodate specific contractor activities, unforeseen traffic conditions and special events.
2. US Highway 6  
A minimum of 2 lanes of traffic in each direction will be maintained at all times, except for bridge removal and bridge replacement operations.
3. NW 111th Street  
A minimum of 1 lane of traffic in each direction will be maintained at all times, south of the US 6 intersection. The street is allowed to be closed north of the US 6 intersection. Traffic will be detoured to use the NW 108th Street and US 6 intersection to access businesses along NW 111th Street.

A note will be needed in the pavement marking paragraph stating that all pavement markings shall be by water blasting unless approved by the Engineer. Would also be a good idea to include note in the ERI, once developed. This is preferred to minimize scarring of the pavement.

A TC note is needed for the Menards/Loves/Lifetime intersection on the west side of the interchange.

All median work on the interstate will need to be night work.

Delivery of equipment and materials requiring a lane closure - note allowed times.

Two week notification required to Iowa DOT, Cities and impacted businesses prior to a road closure.

Include a special events tabulation.

Notes are needed for full interstate closures to install overhead sign trusses. Detour plans will be needed for these closures and an agreement is needed between Iowa DOT and Cities.

**STAGING NOTES**

Interstate 35/80 and Highway 6 are high volume roadways, construction activity in the area will disrupt traffic on Interstate 35/80 and Highway 6. Therefore, it is advisable to adopt a construction sequence that directs activities in an orderly manner and minimizes disruptions to traffic as much as practical.

It is recognized that as the various activities related to construction progress, certain situations may arise which will preclude adhering to the original construction sequence or which, in the opinion of the Contractor, should result in more efficient staging operations. Should the Contractor desire to deviate from the original plan, they shall submit a written alternative plan to the Resident Construction Engineer for approval.

Stage 1 - Bridge Construction, Pavement Widening and Reconstruction

Stage 1A

Interstate 35/80

- Install traffic control on I-35/80 per Standard Road Plan TC-XXX
- Shift northbound and southbound traffic to use the inside shoulders. Maintain three lanes of traffic in both directions.
- Remove the outside of the existing bridge of US 6.
- Remove the outside shoulder of existing northbound and southbound lanes.
- Remove the outside lane and shoulder of the existing northbound and southbound lanes at the US 6 bridge.
- Construct retaining walls at the US 6 bridge.
- Construct outside lanes of the northbound and southbound bridge over US 6.
- Construct the bridge widening of both the northbound and south bound bridge over Walnut Creek.
- Construct Culvert extensions along the northbound and southbound lanes.
- Grade and pave northbound and southbound pavement widening.
- Grade and pave the outside northbound and southbound lanes from Sta 408+21.57 to Sta 434+00.00. Gap construction at the existing ramps.
- Grade and pave temporary pavement required in the next stage.

Stage 1B

Interstate 35/80

- Construction operations in this stage can be completed concurrently as construction operations in Stage 1A.
- Only one ramp can be closed for construction at a time
- Install traffic control on I-35/80 per Standard Road Plan TC-XXX
- Remove existing ramp pavement
- Construct proposed storm sewer and culverts at the interstate ramps.
- Construct retaining walls at the ramps.
- Grade and pave northbound ramps at University Avenue, Douglas Avenue, and US 6.
- Grade and pave southbound ramps at University Avenue, Ramp C at Douglas Avenue, and US 6.
- Grade and pave temporary pavement required in the next stage.

Stage 1C

Interstate 35/80

- Install traffic control on I-35/80 per Standard Road Plan TC-XXX
- Shift northbound and southbound traffic to use the newly constructed outside shoulders. Maintain three lanes of traffic in both directions.
- Remove the inside of the existing bridge of US 6.
- Remove the inside lanes and shoulder of the existing northbound and southbound lanes at the US 6 bridge.
- Construct retaining walls at the US 6 bridge.
- Construct inside lanes of the northbound and southbound bridge over US 6.
- Grade and pave the inside northbound and southbound lanes from Sta 408+21.57 to Sta 434+00.00.

Stage 1D

Interstate 35/80

- Install traffic control on I-35/80 per Standard Road Plan TC-XXX
- Shift northbound and southbound traffic to use the newly constructed inside shoulders at the US 6 bridge. Maintain three lanes of traffic in both directions.
- Remove temporary pavement used in Stage 1C for the temporary barrier rail placement from 408+21.57 to Sta 434+00.00.
- Grade and pave the middle northbound and southbound lane from Sta 408+21.57 to Sta 434+00.00.

Stage 2 - Pavement Widening

Stage 2A

Highway 6

- Install traffic control on I-35/80 per Standard Road Plan TC-XXX
- Remove median pavement at the I-35/80 bridge.
- Grade and pave temporary pavement in the median at the I-35/80 bridge.

Stage 2B

Interstate 35/80

- Install traffic control on I-35/80 per Standard Road Plan TC-XXX
- Shift southbound traffic to use the inside shoulder. Maintain three lanes of traffic.
- Remove the outside shoulder of existing southbound lanes.
- Grade and pave southbound along the existing Douglas Avenue Ramp E.
- Grade and pave temporary pavement required in the next stage.

Highway 6

- Install traffic control on US 6 per Standard Road Plan TC-XXX
- Reduce US 6 traffic to two lanes in both directions.
- Construct proposed storm sewer.
- Grade and pave proposed pavement outside of the existing pavement.
- Grade and pave temporary pavement required in the next stage.

Stage 2C

Interstate 35/80

- Construction operations in this stage can be completed concurrently as construction operations in Stage 2B.
- Only one ramp can be closed for construction at a time
- Install traffic control on I-35/80 per Standard Road Plan TC-XXX
- Remove existing ramp pavement



**STAGING NOTES**

- Construct proposed storm sewer and culverts at the interstate ramps.
  - Construct retaining walls at the ramps.
  - Grade and pave southbound ramps at Douglas Avenue Ramp E and US 6.
  - Grade and pave temporary pavement required in the next stage.
- Stage 3 - Pavement Reconstruction
- Stage 3A  
Highway 6
- Install traffic control on US 6 per Standard Road Plan TC-XXX
  - Shift eastbound and westbound traffic onto the proposed outside lanes and temporary pavement constructed in Stage 2.
  - Close the median at the ramps intersection west of I-35/80.
  - Remove existing pavement at the west I-35/80 ramp intersection.
  - Construct storm sewer.
  - Grade and pave the proposed cross over pavement west of the interstate.
  - Grade and pave temporary pavement required in the next stage.
- Stage 3B  
Highway 6
- Install traffic control on US 6 per Standard Road Plan TC-XXX
  - Remove existing pavement from the Lifetime entrance east through the interchange.
  - Remove existing raised median west of the Lifetime entrance.
  - Construct storm sewer.
  - Grade and pave proposed eastbound pavement west of the interchange
  - Grade and pave proposed westbound pavement at the diverging diamond interchange.
  - Grade and pave temporary pavement at the median west of the Lifetime entrance.
- Stage 3C  
Highway 6
- Install traffic control on US 6 per Standard Road Plan TC-XXX
  - Close the median at the ramps intersection east of I-35/80.
  - Remove existing pavement at the east I-35/80 ramp intersection.
  - Construct storm sewer.
  - Grade and pave the proposed cross over pavement east of the interstate.
  - Grade and pave the proposed median pavement within the diverging diamond interchange.
  - Grade and pave temporary pavement along the north shoulder of the westbound US 6 lanes, east of the interchange.
  - Grade and pave temporary crossover in the US 6 median, east of the 111th Street intersection.
- NW 111th Street
- Install traffic control on NW 111th Street per Standard Road Plan TC-XXX
  - Grade and pave temporary pavement along the west side of the southbound 111th Street lane, south of US 6 intersection.
- Stage 3D  
Highway 6
- Install traffic control on US 6 per Standard Road Plan TC-XXX
  - Maintain median closure at the ramps intersection east of I-35/80.
  - Remove existing pavement at the east I-35/80 ramp intersection.
  - Construct storm sewer.
  - Grade and pave proposed Ramp B pavement at the US 6 intersection.
  - Grade and pave proposed US 6 pavement at the Ramp B intersection.
- Stage 3E  
Highway 6
- Install traffic control on US 6 per Standard Road Plan TC-XXX
  - Shift both directions of traffic to the newly constructed east bound lanes, west of the interchange. Cross over traffic at the DDI to continue on the proposed eastbound lanes. Continue traffic on existing westbound lanes east of the DDI. Shift traffic back onto existing lanes east of NW 111th Street.
  - Remove existing westbound lanes west of the interchange and existing eastbound lanes east of the interchange. Gap removals at the NW 111th Street intersection.
  - Construct storm sewer.
  - Grade and pave westbound lanes and median west of I-35/80.
  - Grade and pave eastbound lanes east of I-35/80, gap paving at NW 11th Street.
  - Grade and pave temporary pavement along eastbound lanes, east of the interchange.
- NW 111th Street
- Install traffic control on NW 111th Street per Standard Road Plan TC-XXX
  - Shift traffic onto temporary pavement and the existing southbound lane.
  - Remove existing northbound through lane and turn lanes pavement.
  - Construct storm sewer.
  - Grade and pave proposed northbound lane and right turn lane, south of the US 6 intersection.
- Stage 3F  
NW 111th Street
- Install traffic control on NW 111th Street per Standard Road Plan TC-XXX
  - Shift traffic onto proposed pavement built in the previous stage.
  - Remove existing southbound through lane pavement.
  - Construct storm sewer.
  - Grade and pave proposed southbound lane and the northbound left turn lane, south of the US 6 intersection.
  - Grade and pave the intersection with the eastbound US 6 lanes.
  - Grade and pave temporary pavement required in the next stage.
- Stage 3G  
Highway 6
- Install traffic control on US 6 per Standard Road Plan TC-XXX
  - Shift both directions of traffic to their proposed lanes west of and through the interchange.
  - Shift westbound lanes onto proposed eastbound east of the interchange and past NW 111th Street.

**STAGING NOTES**

- Remove existing westbound pavement, east of the interchange. Gap removals at NW 111th Street.
  - Construct storm sewer
  - Construct retaining wall along the northside of US 6.
  - Grade and pave proposed westbound lanes east of the I-35/80 interchange. Gap paving at NW 111th Street.
- Stage 3H  
Highway 6
- Install traffic control on US 6 per Standard Road Plan TC-XXX
  - Grade and pave median pavement and left turn lanes east of the I-35/80 interchange.
  - Grade and pave the intersection with NW 111th Street.
- NW 111th Street
- Install traffic control on NW 111th Street per Standard Road Plan TC-XXX
  - Close NW 111th Street to traffic north of the intersection with US 6.
  - Construct storm sewer.
  - Grade and pave proposed NW 111th Street pavement north of the intersection with US 6.
- Stage 3I  
Highway 6
- Install traffic control on US 6 per Standard Road Plan TC-XXX
  - Shift both directions of traffic to their proposed lanes.
  - Remove temporary pavement at the ramp intersections, along the eastbound lanes, and the median crossover east of NW 111th Street.
  - Grade and pave sidewalks at the ramp intersections.
  - Grade and pave the eastbound right turn lane at NW 111th Street.
  - Pave curb and gutter at locations where temporary pavement was removed.

**PEDESTRIAN PATH CLOSURES**

Refer to TC-601.

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

Location	Side	Type III Barricades*	Remarks
		No.	
Highway 6			
Station 655+82	LT	2	Place closure east of the Stew Hansen entrance
Station 662+81	LT	1	Place closure along the Lifetime entrance
Station 663+69	LT	1	Place closure along the Lifetime entrance
NW 111th Street			
Station 1683+75	LT	1	Place closure east of the Smart Honda entrance
Station 1686+27	RT	1	Place closure east of the curb ramp

**COORDINATED OPERATIONS**

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

Project	Type of Work
IM-080-3(266)125-13-77	NB 35/80 Bridge Over Walnut Crk
IM-080-3(267)125-13-77	NB 35/80 Bridge Over US 6
IM-080-3(271)125-13-77	SB 35/80 Bridge Over Walnut Crk
IM-080-3(272)125-13-77	SB 35/80 Bridge Over US 6

**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

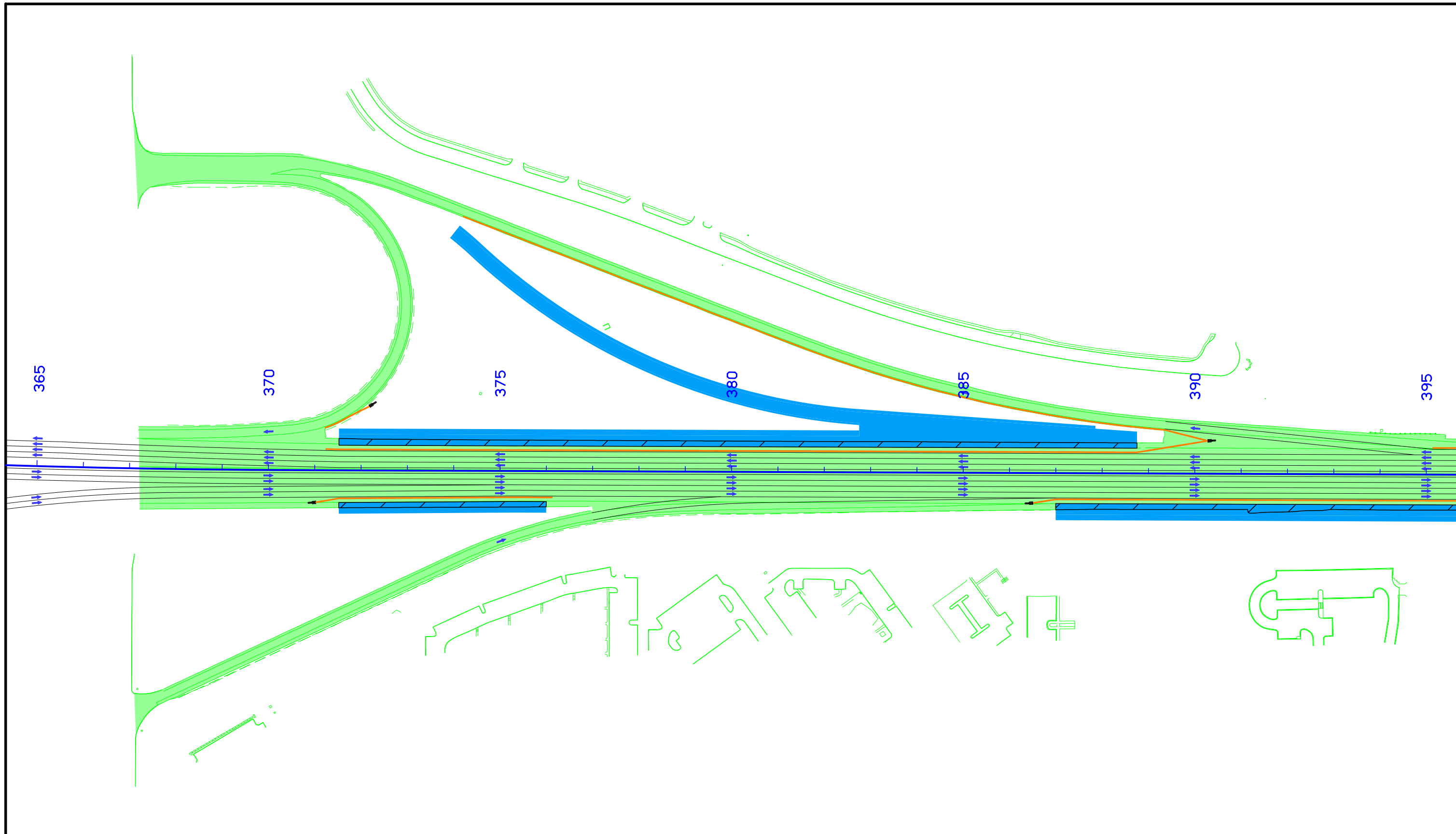
**PLAN VIEW PATTERN AND SYMBOL LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**

	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

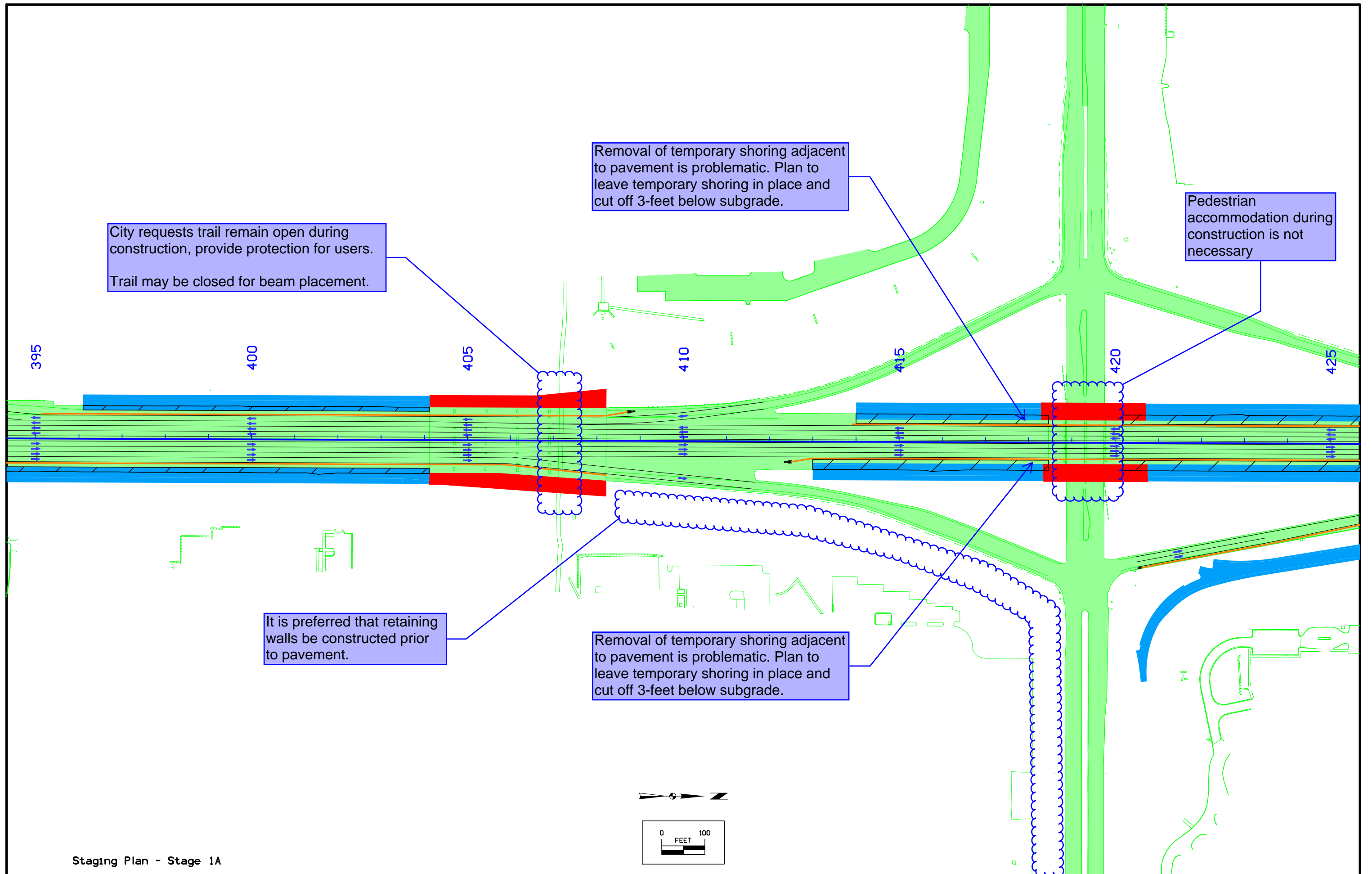
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

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

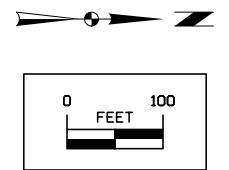
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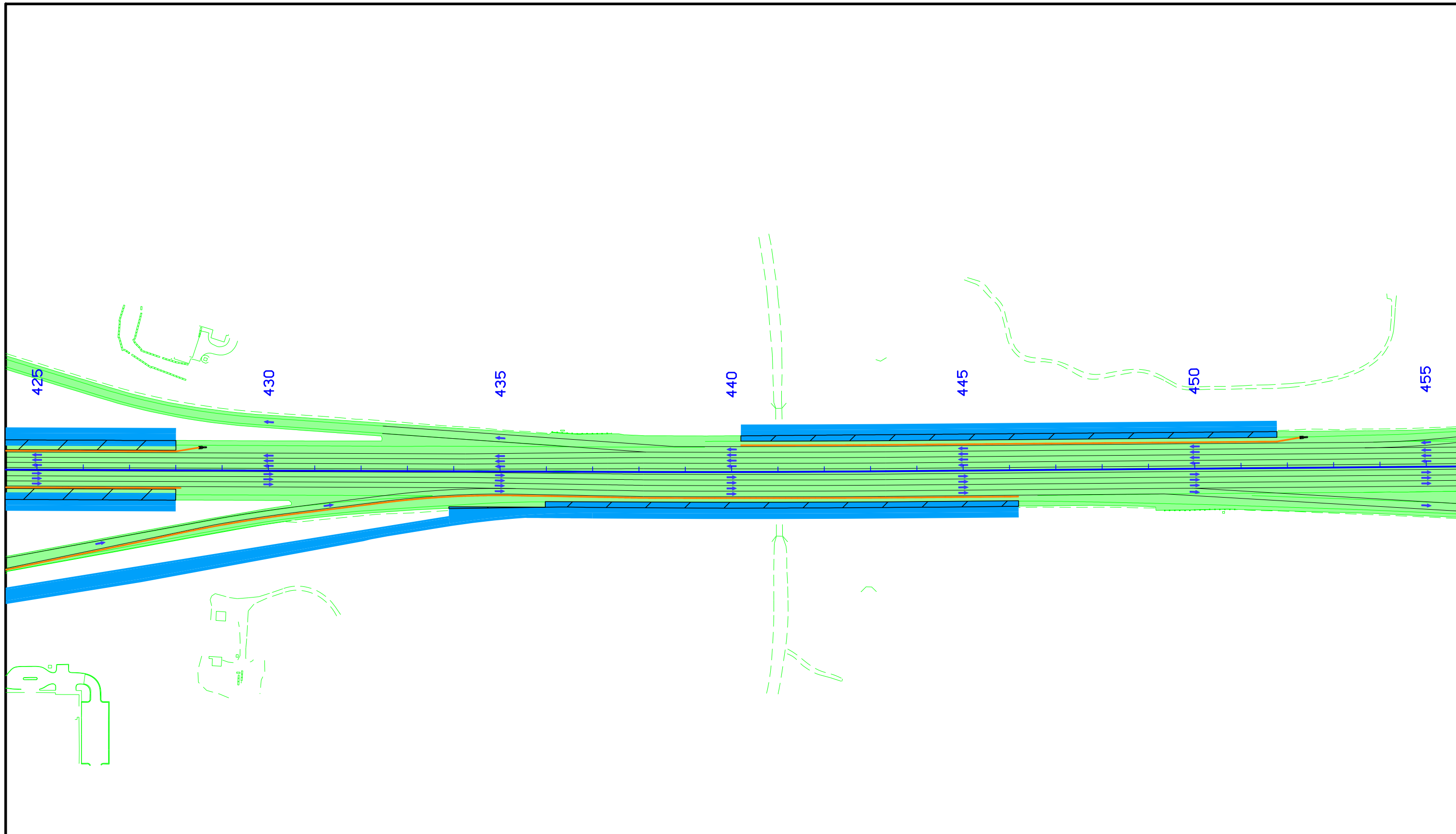


Staging Plan - Stage 1A



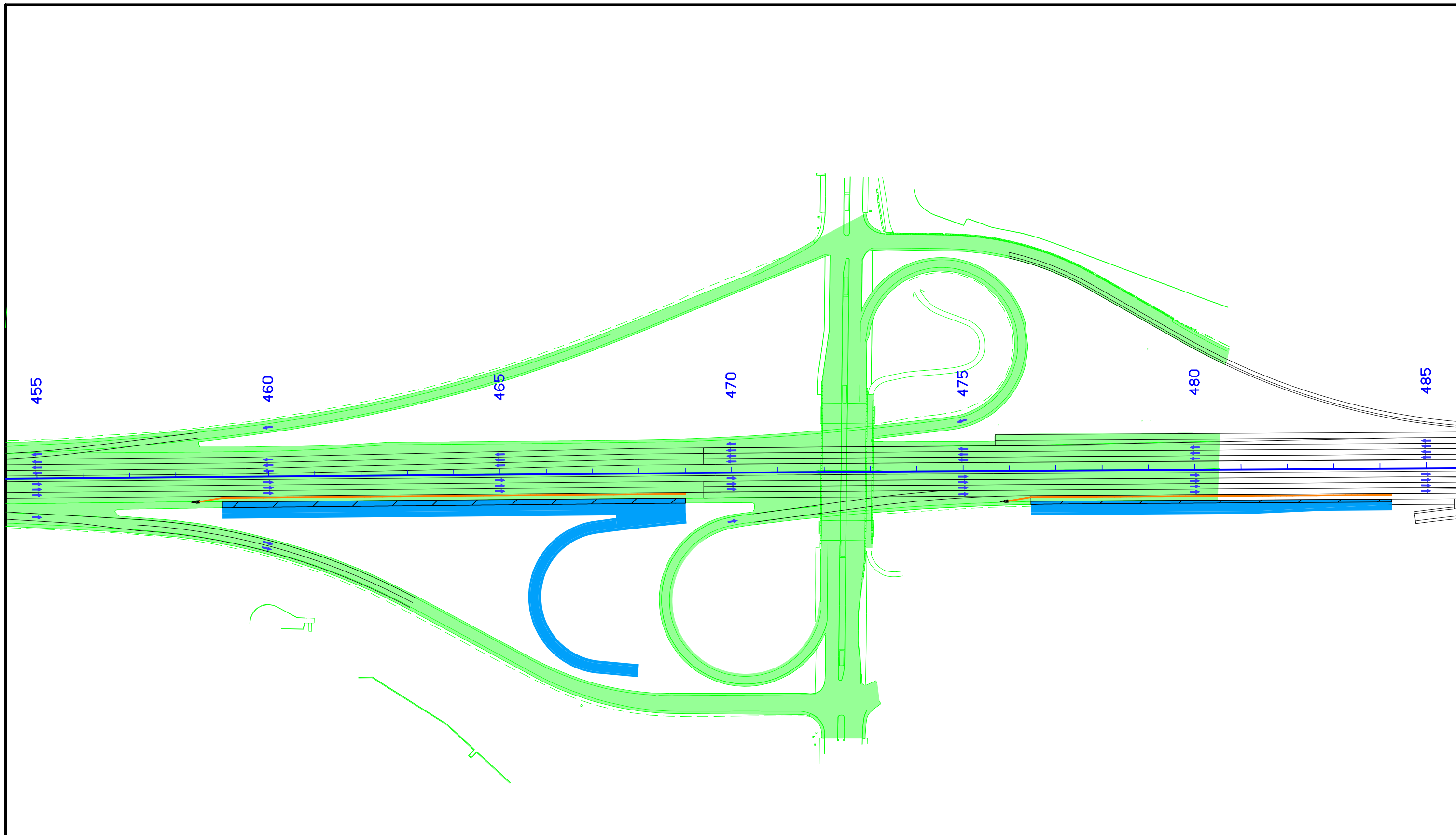
Staging Plan - Stage 1A





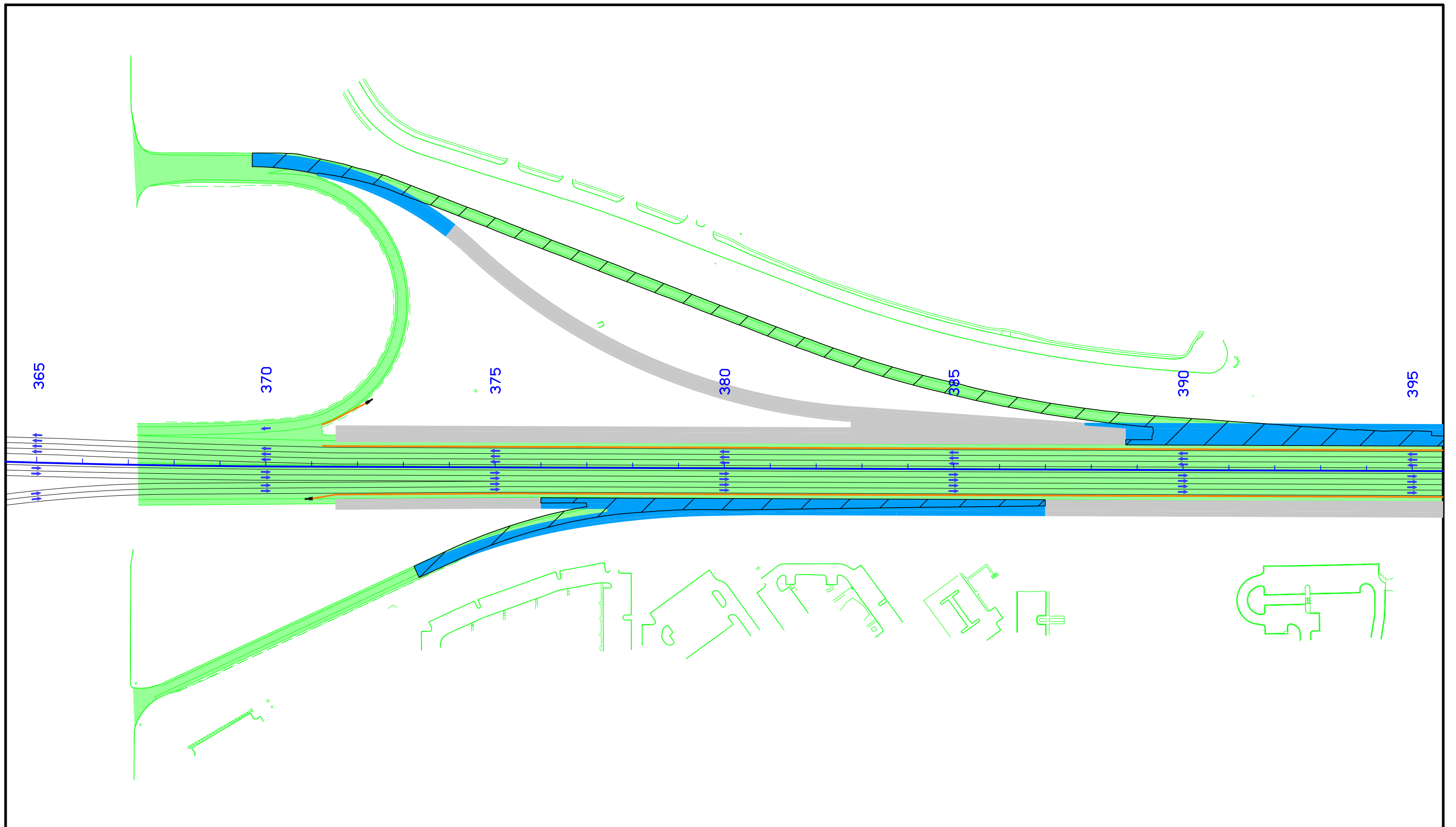
Staging Plan - Stage 1A

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.6</b>
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Staging Plan - Stage 1A

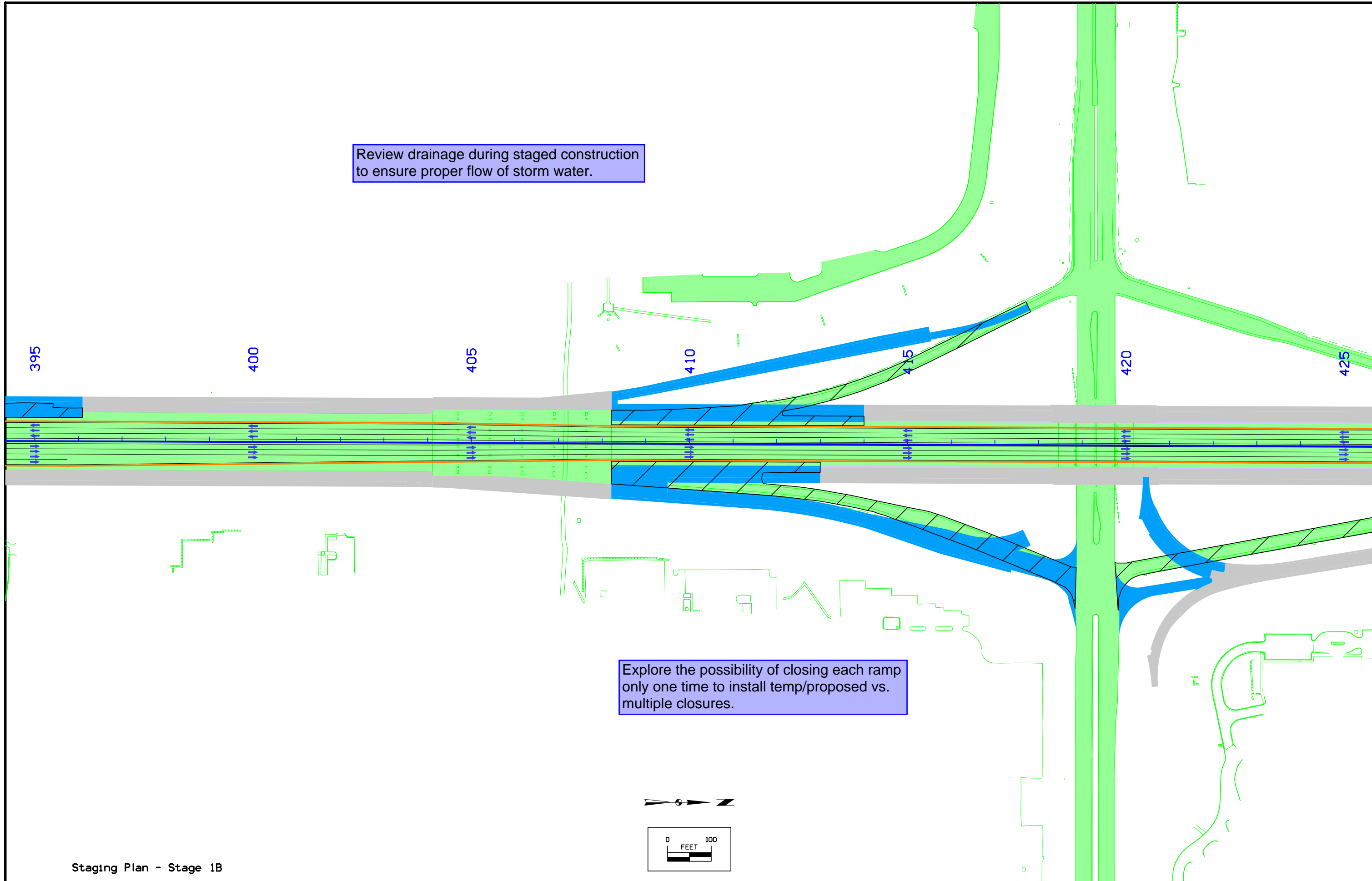
FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.7</b>
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Staging Plan - Stage 1B

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.8</b>
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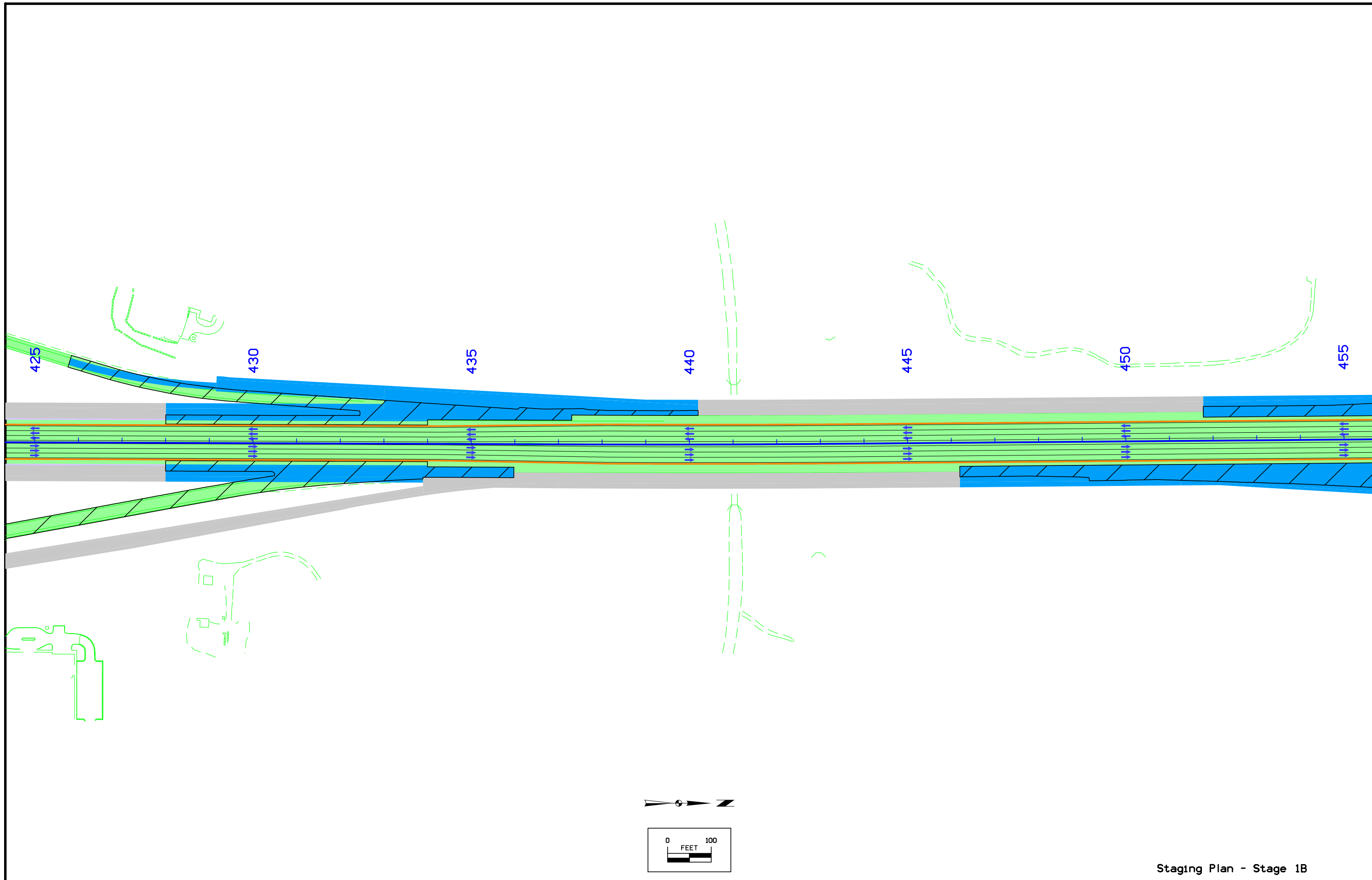
Review drainage during staged construction to ensure proper flow of storm water.



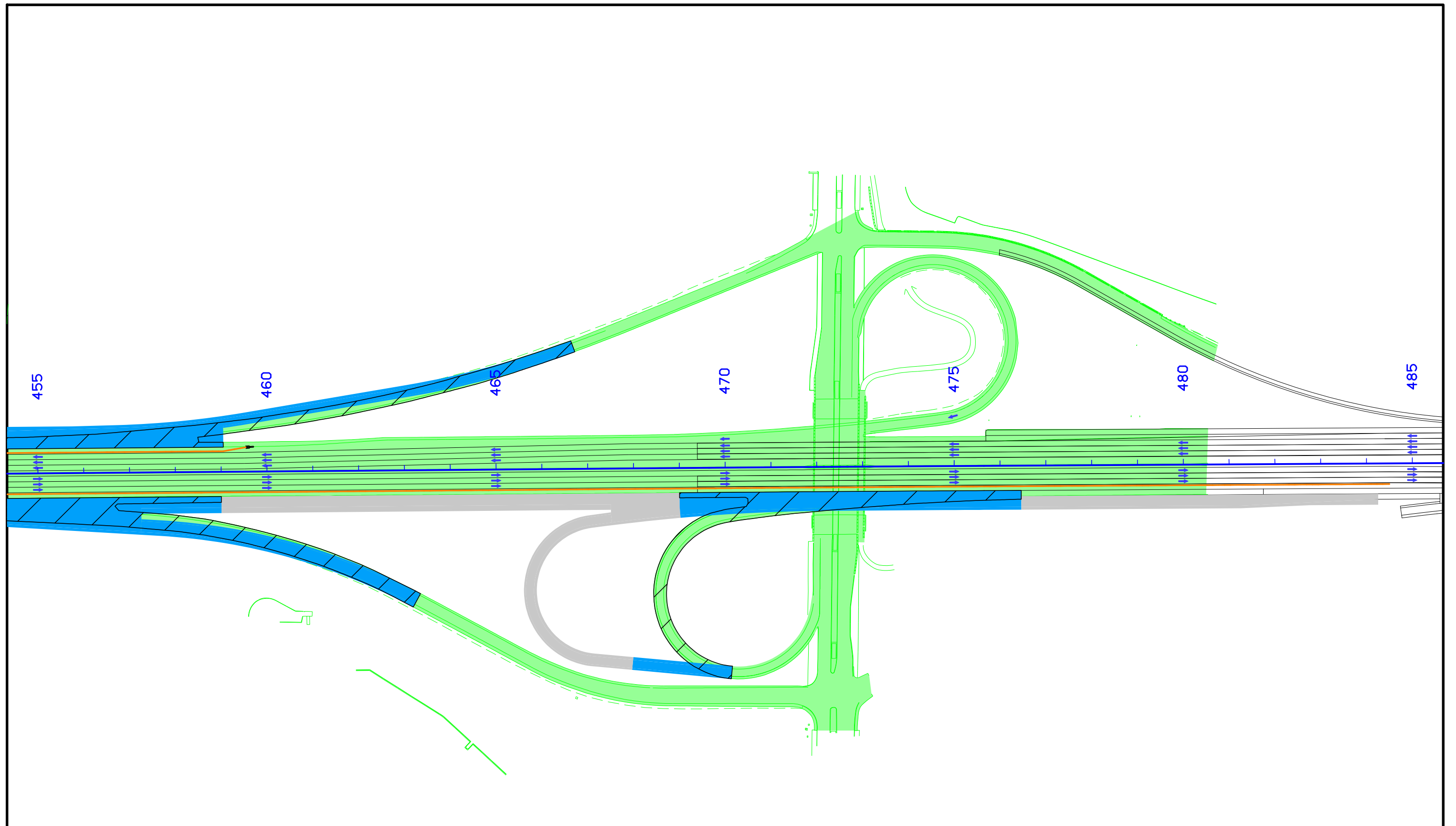
Explore the possibility of closing each ramp only one time to install temp/proposed vs. multiple closures.

Staging Plan - Stage 1B



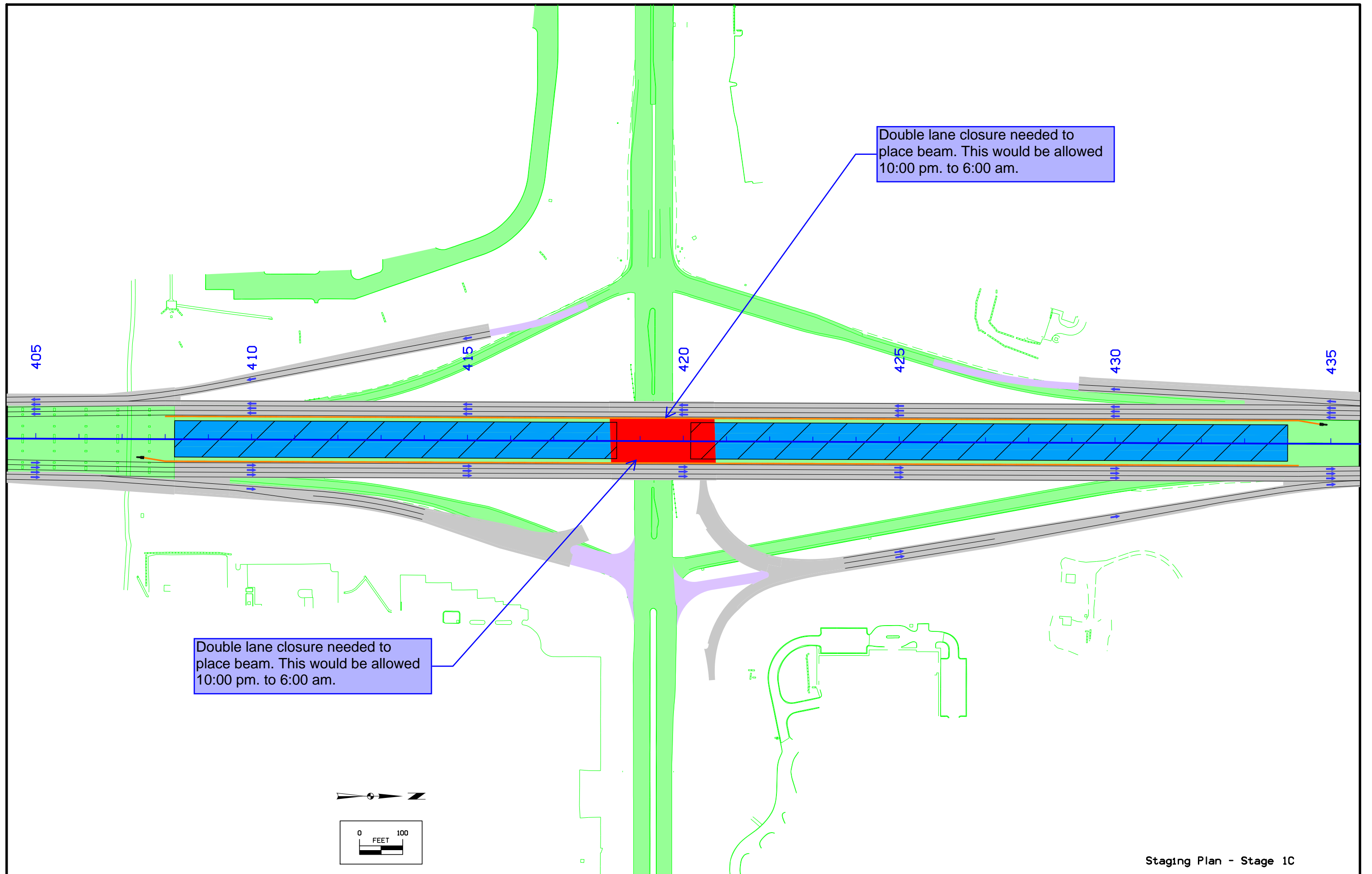


Staging Plan - Stage 1B



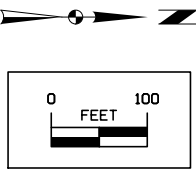
Staging Plan - Stage 1B

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.11</b>
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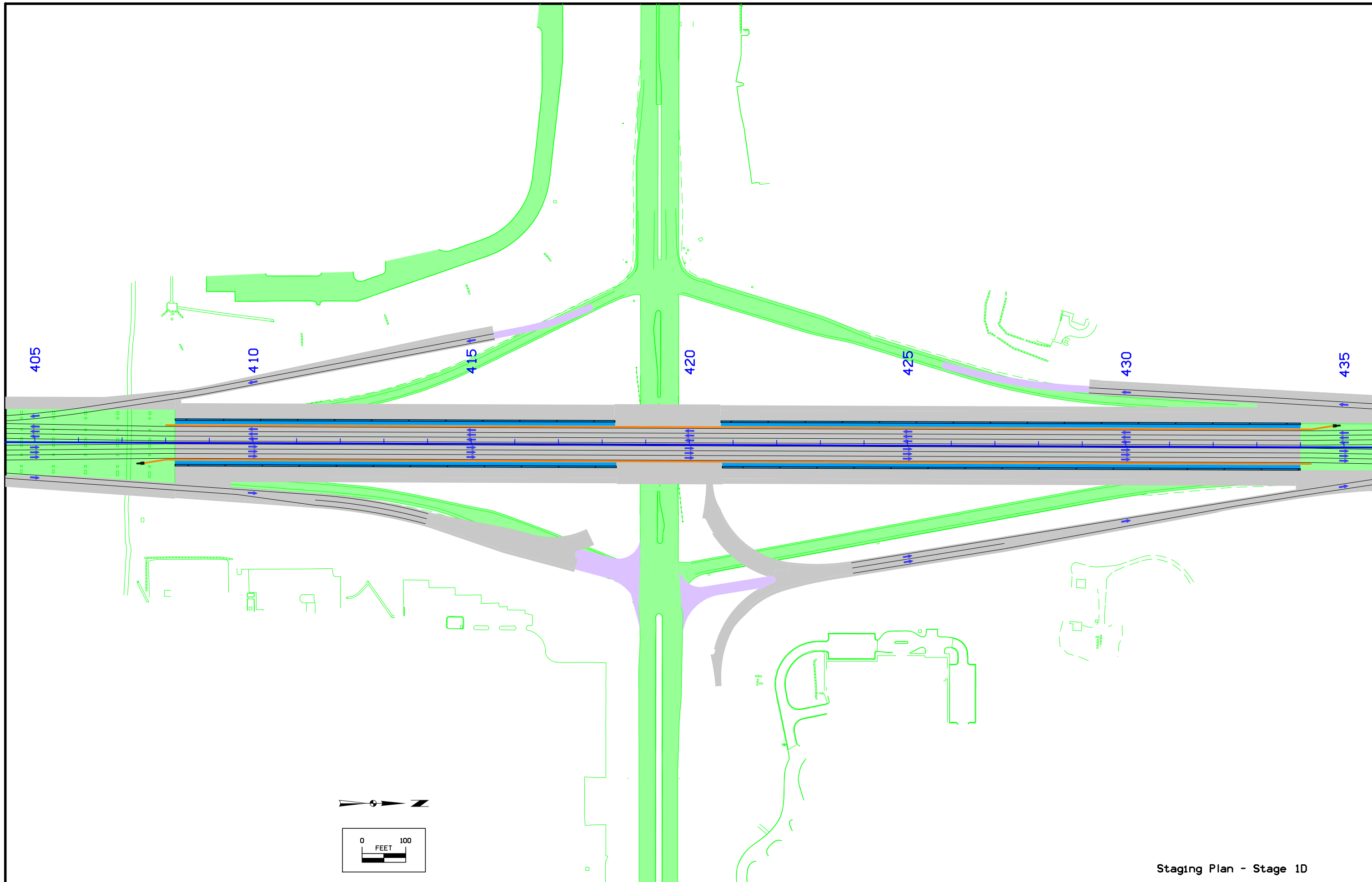


Double lane closure needed to place beam. This would be allowed 10:00 pm. to 6:00 am.

Double lane closure needed to place beam. This would be allowed 10:00 pm. to 6:00 am.

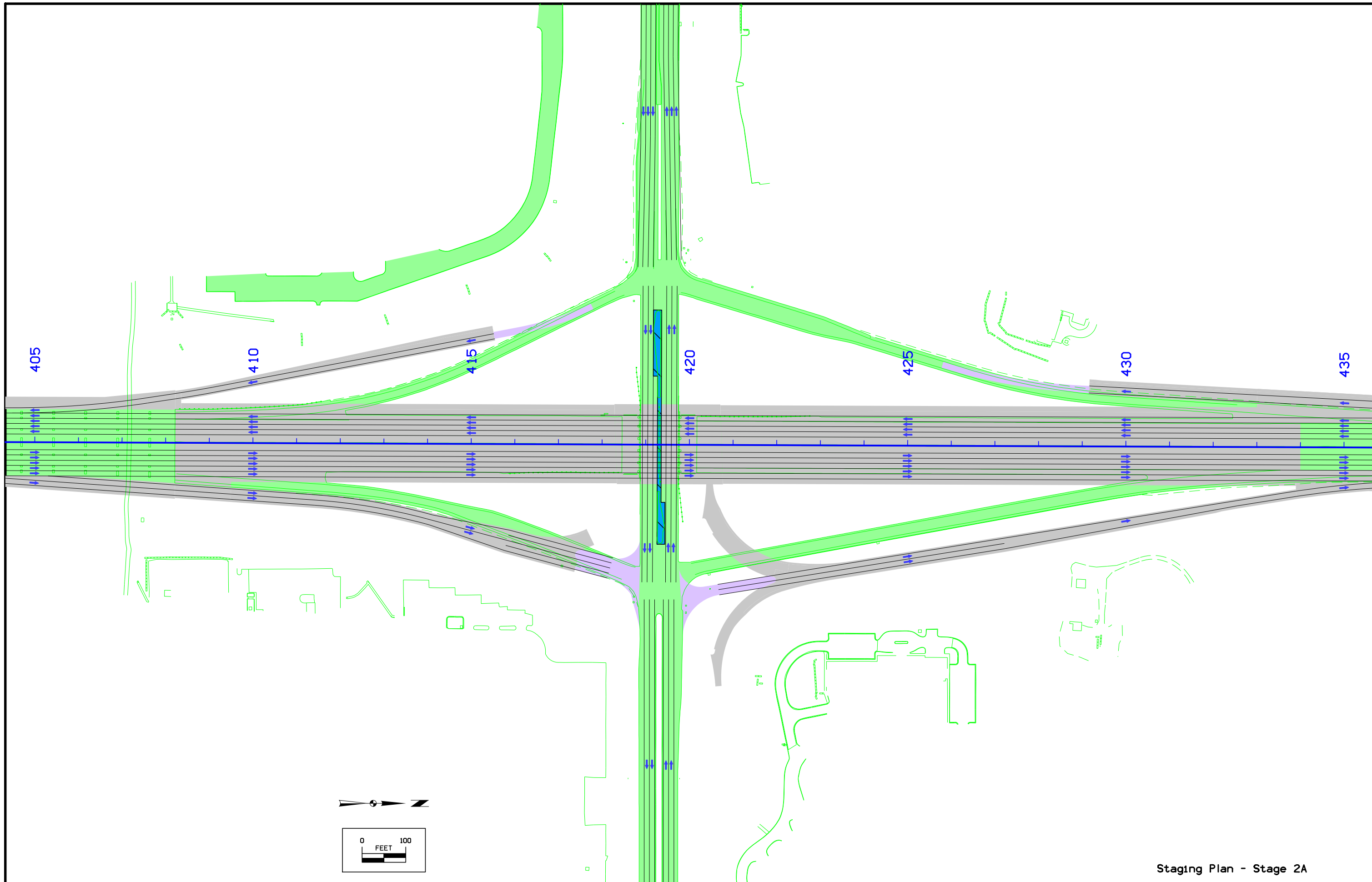


Staging Plan - Stage 1C



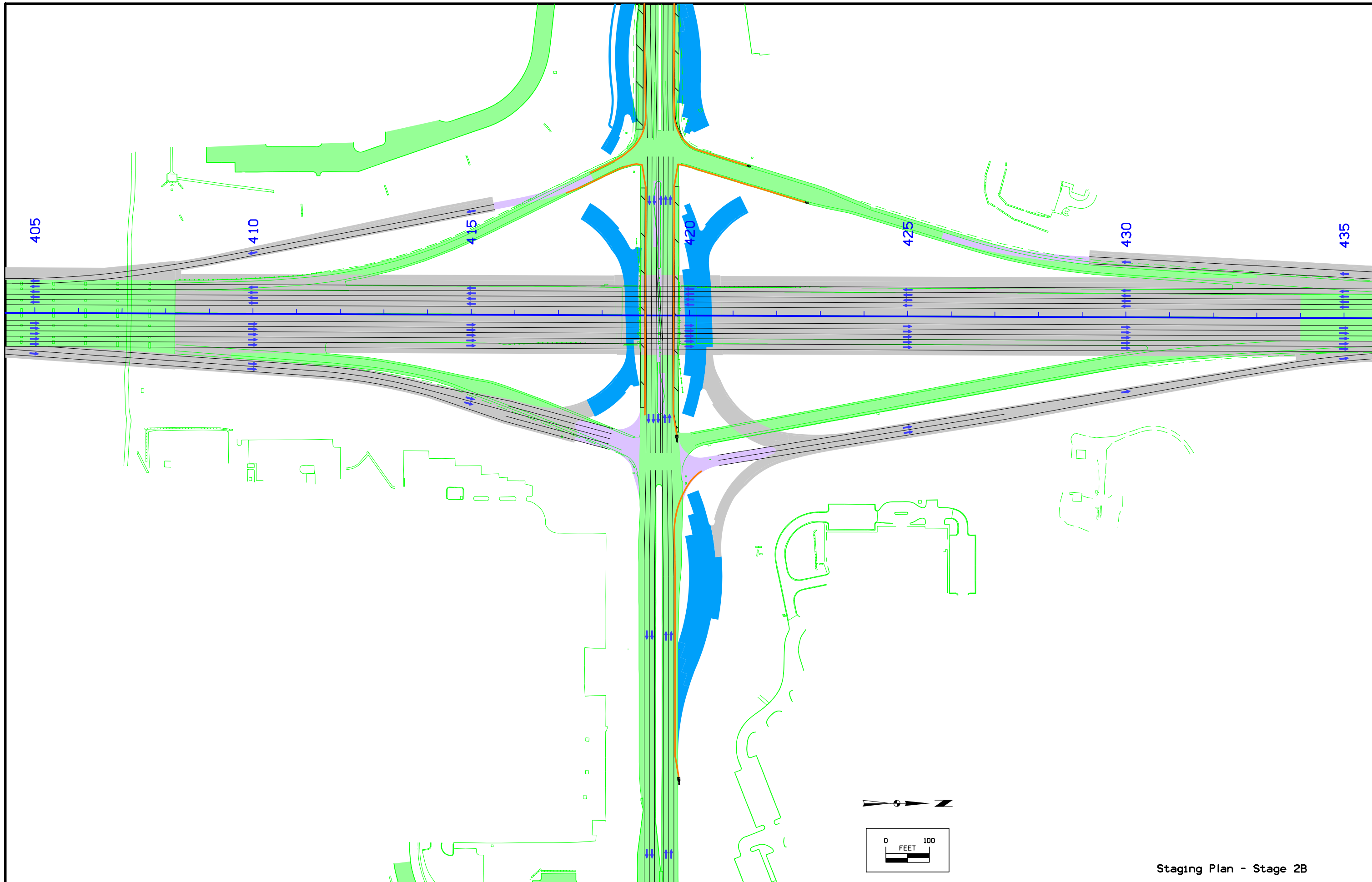
Staging Plan - Stage 1D

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.12</b>
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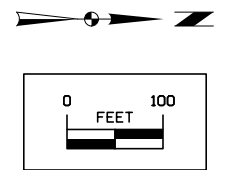
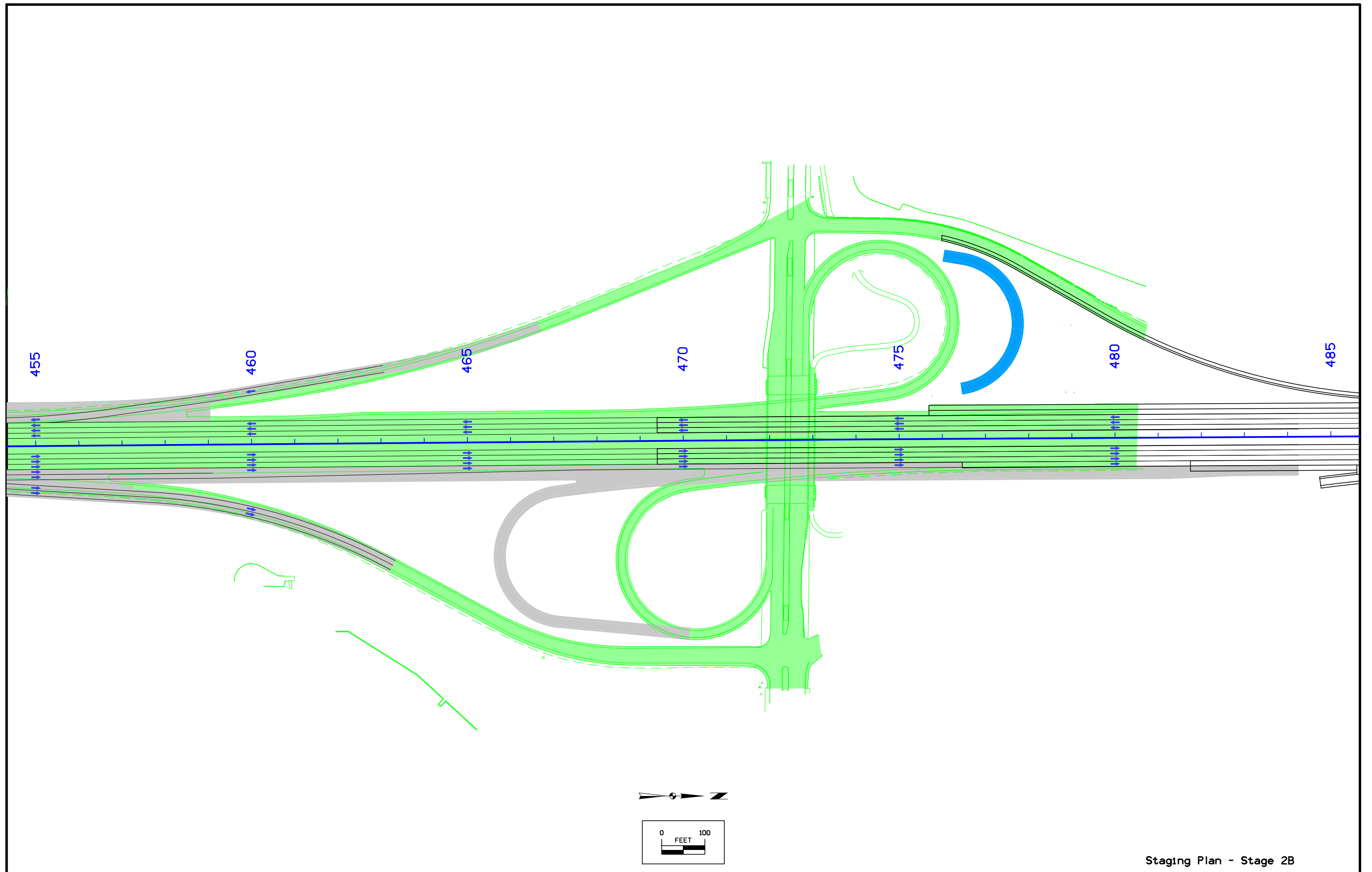


Staging Plan - Stage 2A

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.13</b>
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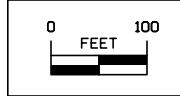
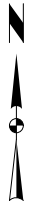
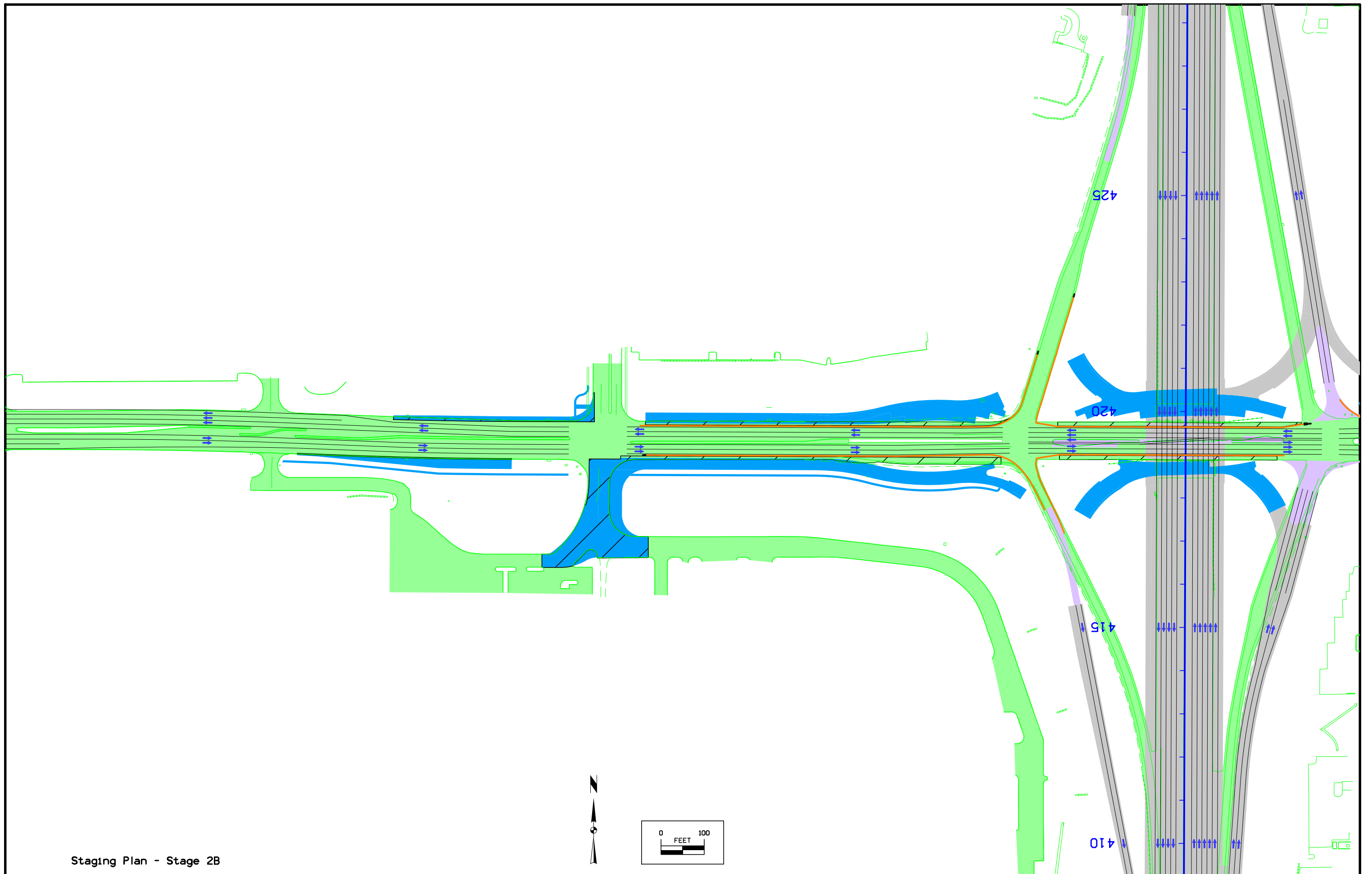
Staging Plan - Stage 2B



Staging Plan - Stage 2B

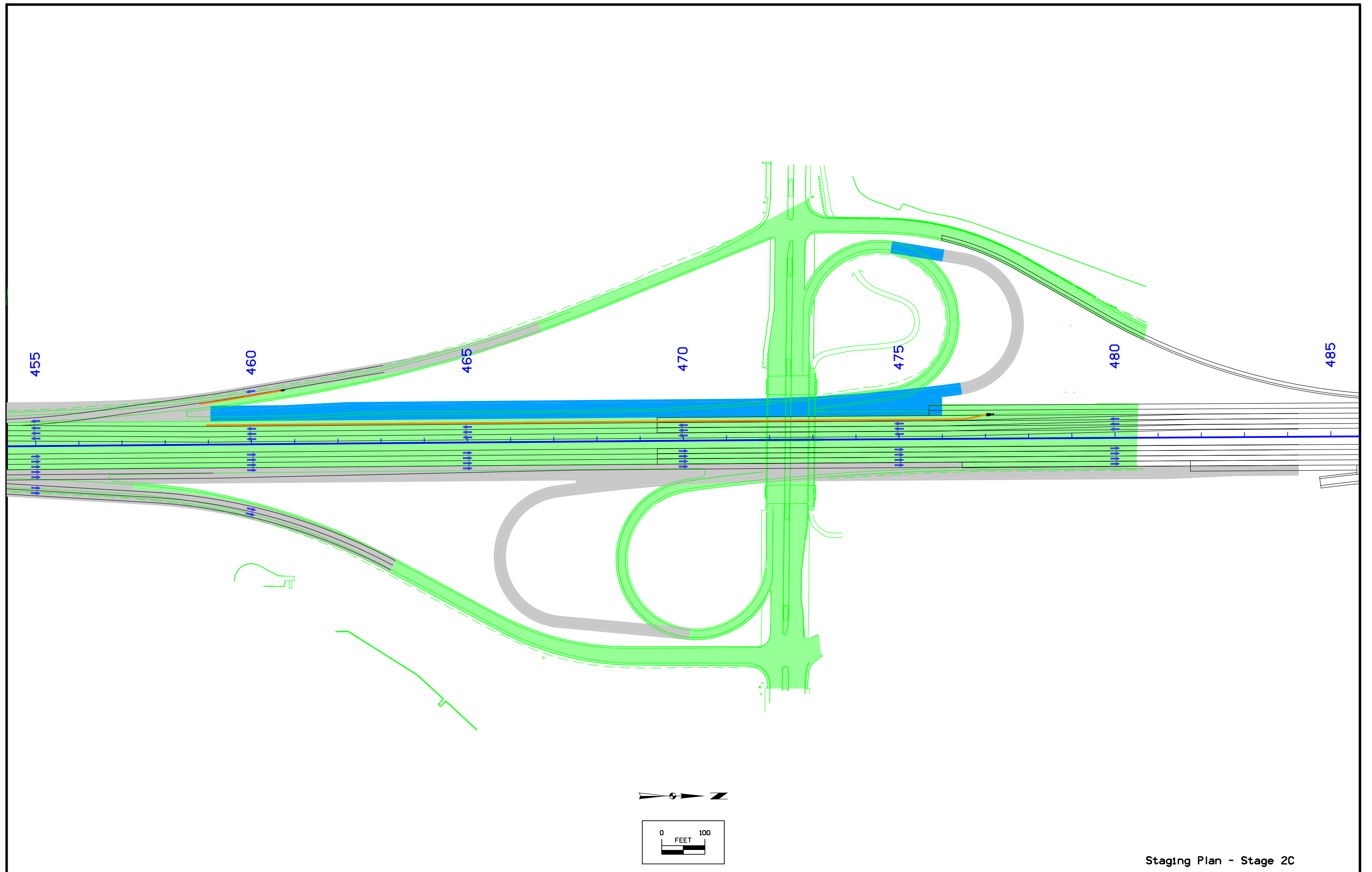
FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.16</b>
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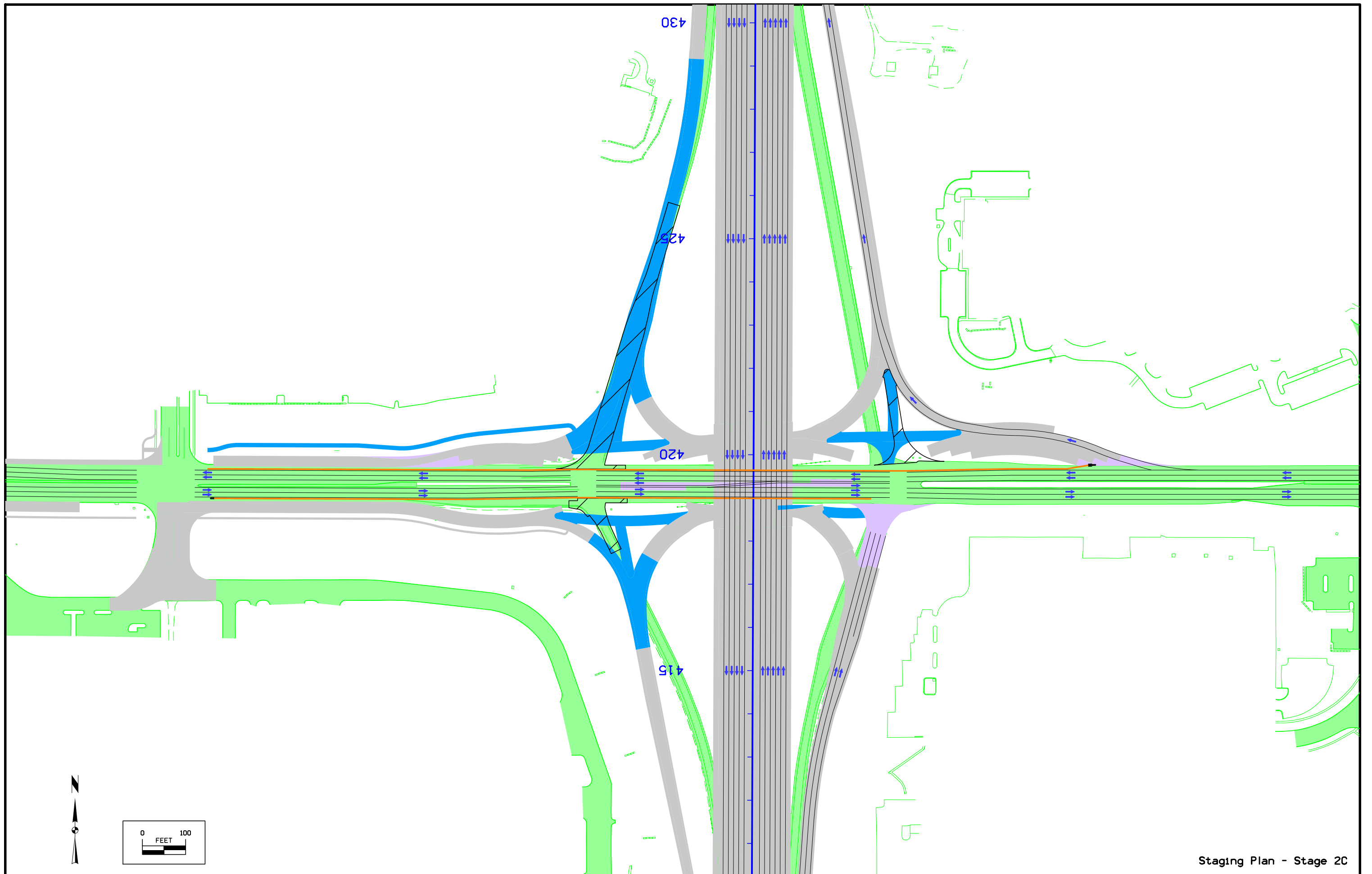
Staging Plan - Stage 2B





Staging Plan - Stage 2C

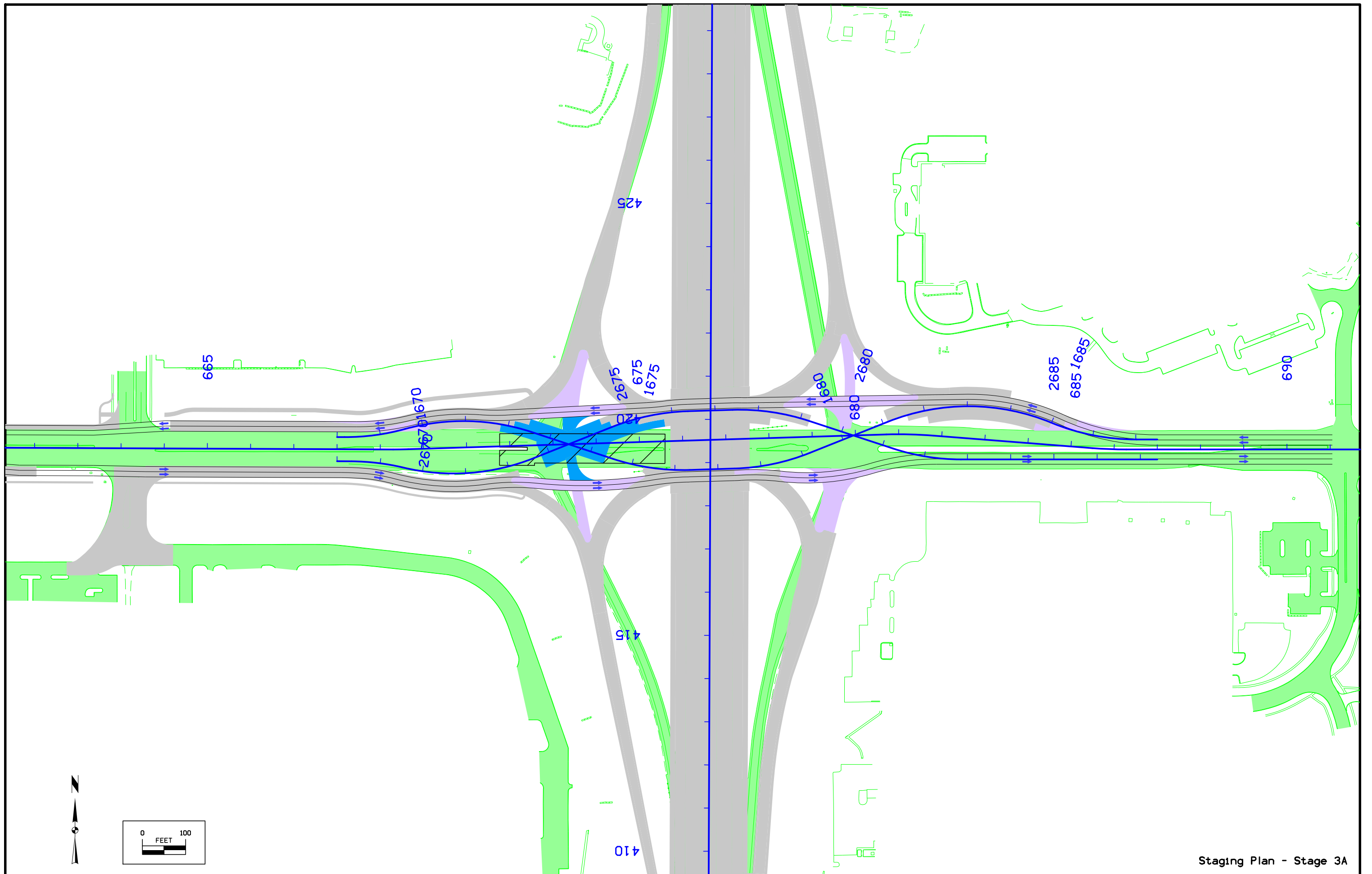
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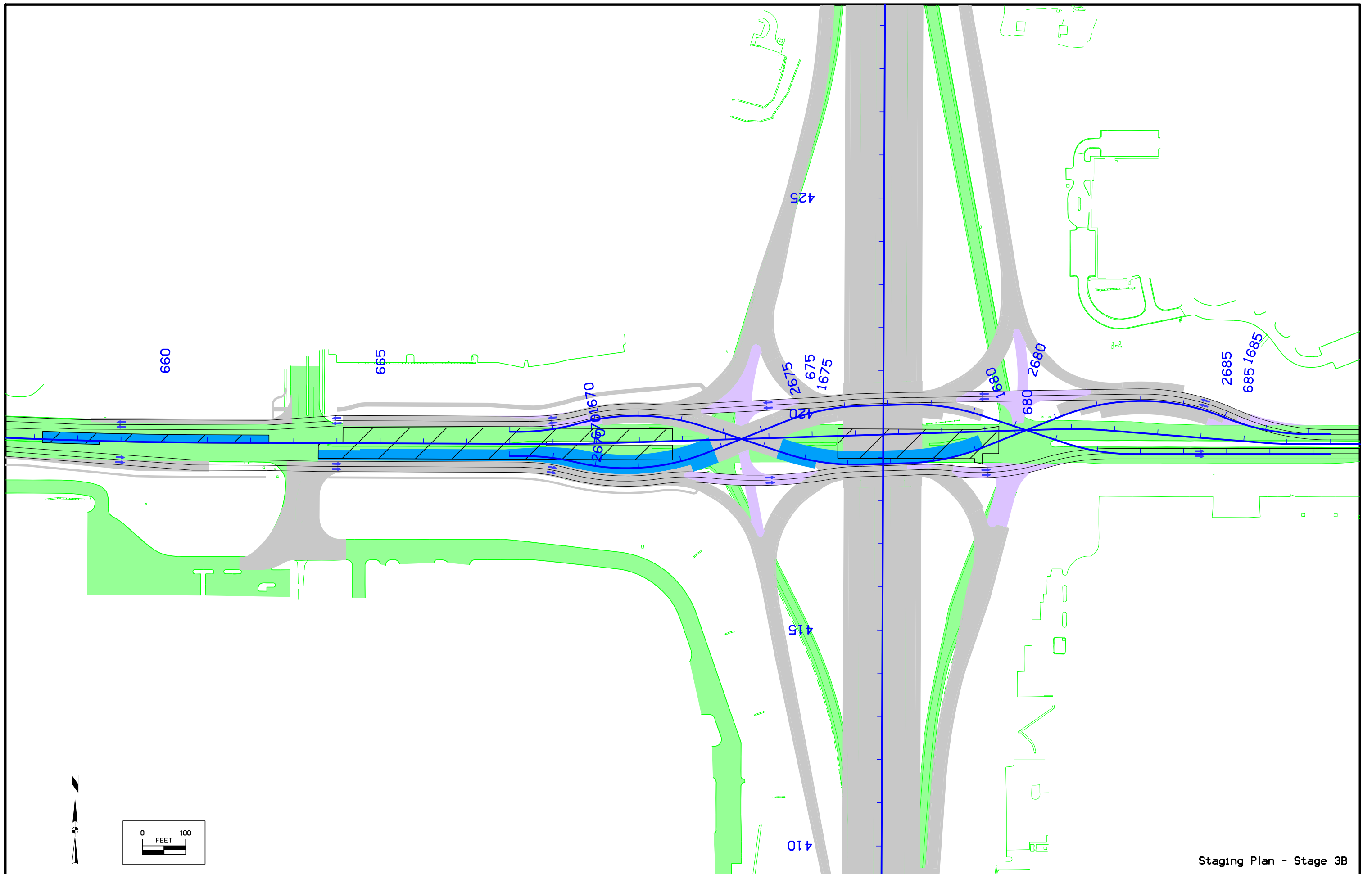
Staging Plan - Stage 2C

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.19</b>
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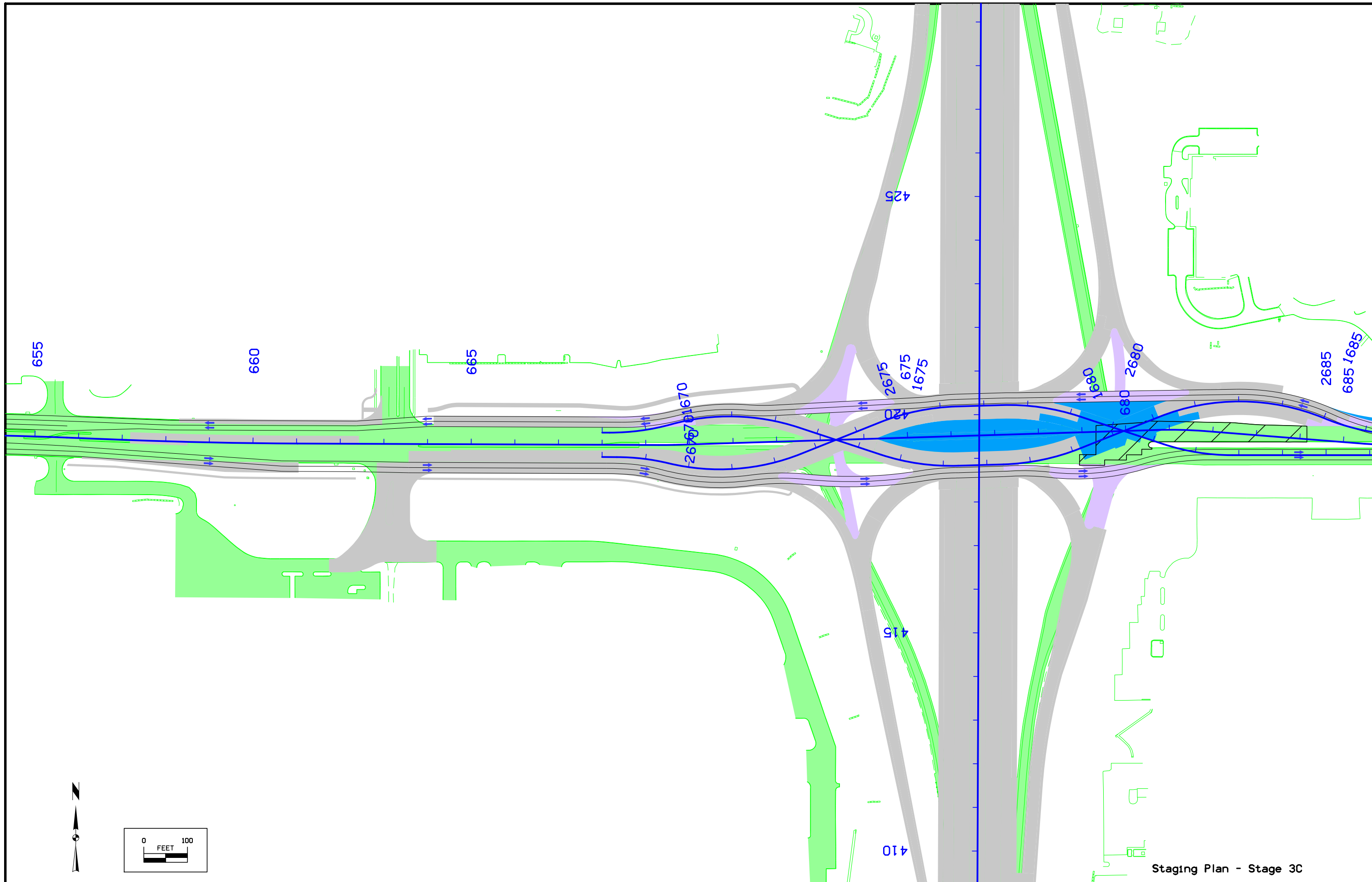


Staging Plan - Stage 3A



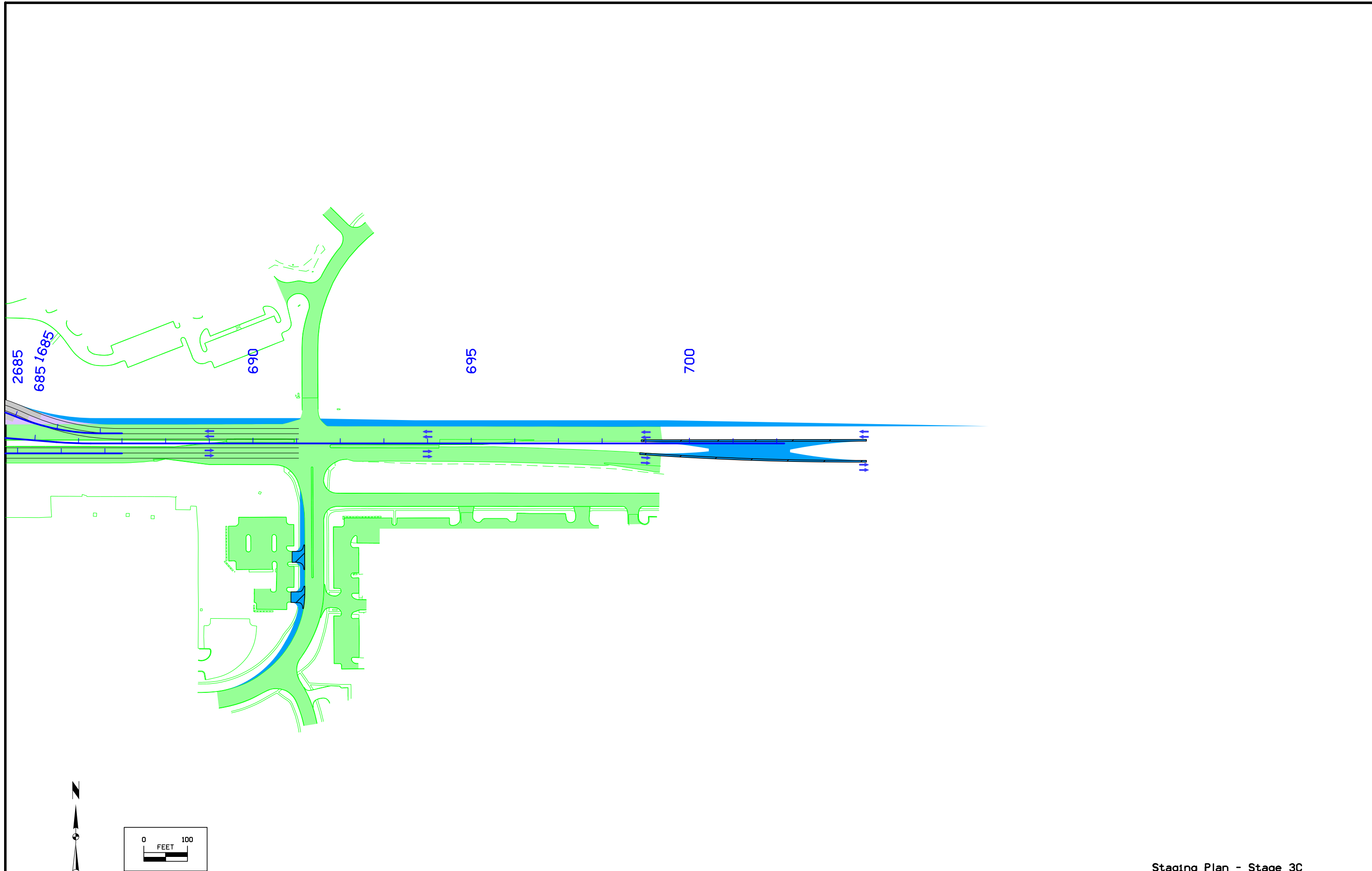
Staging Plan - Stage 3B

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.21</b>
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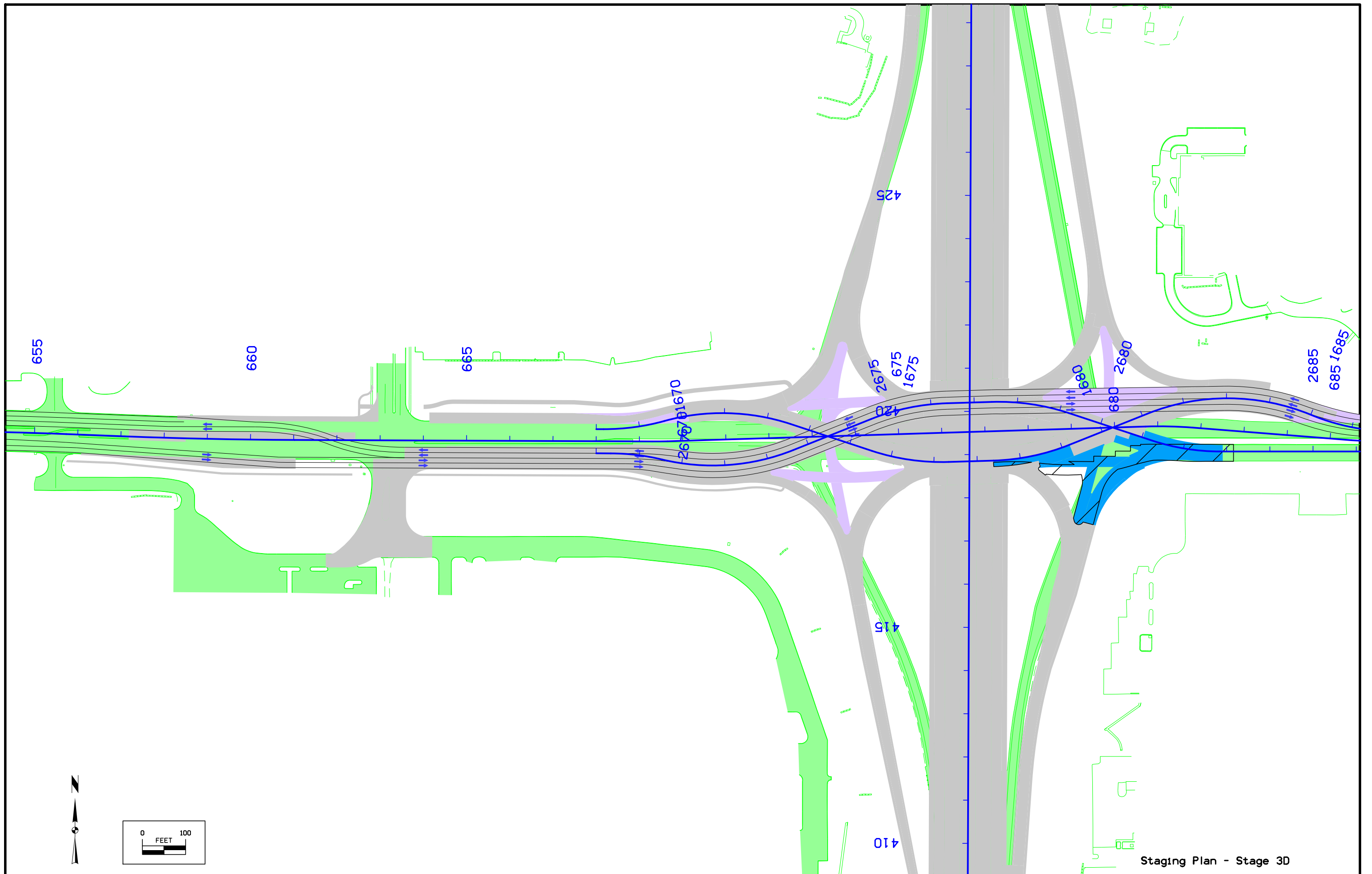
Staging Plan - Stage 3C

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.22</b>
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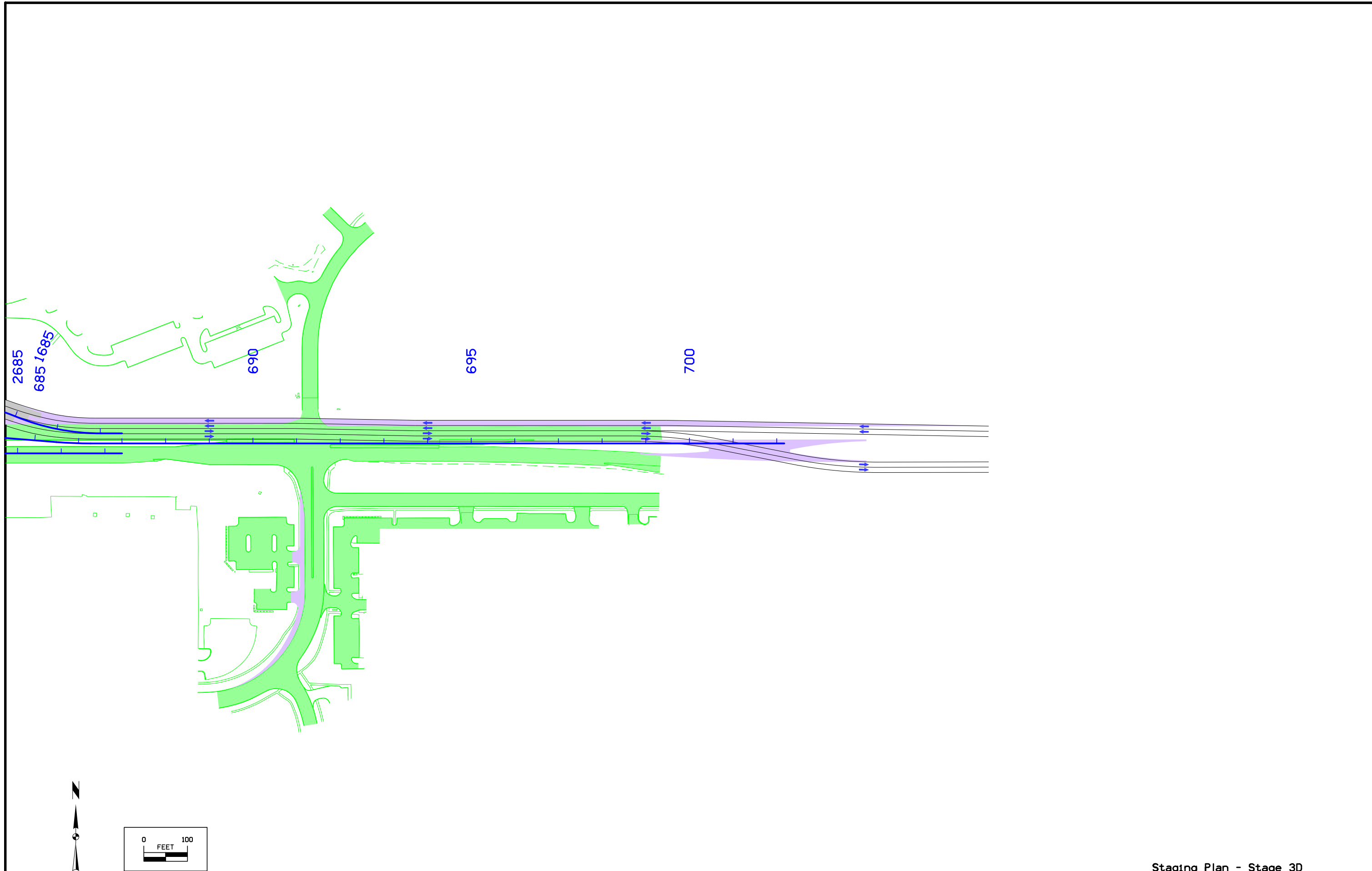
Staging Plan - Stage 3C

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.23</b>
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Staging Plan - Stage 3D

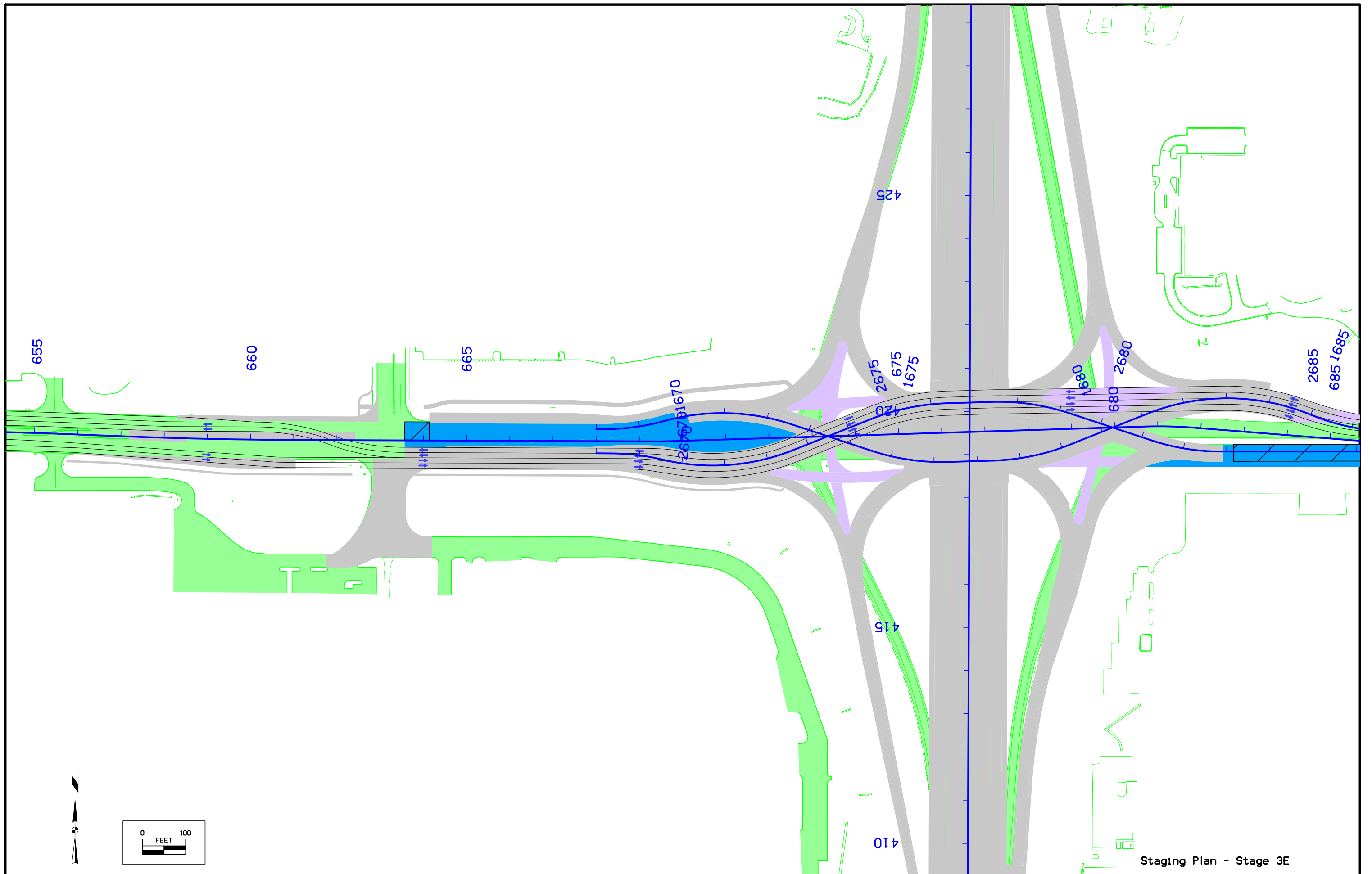
FILE NO.	ENGLISH	DESIGN TEAM <b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER <b>IM-080-4(069)125--13-77</b>	SHEET NUMBER <b>J.24</b>
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Staging Plan - Stage 3D

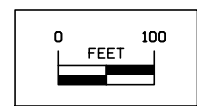
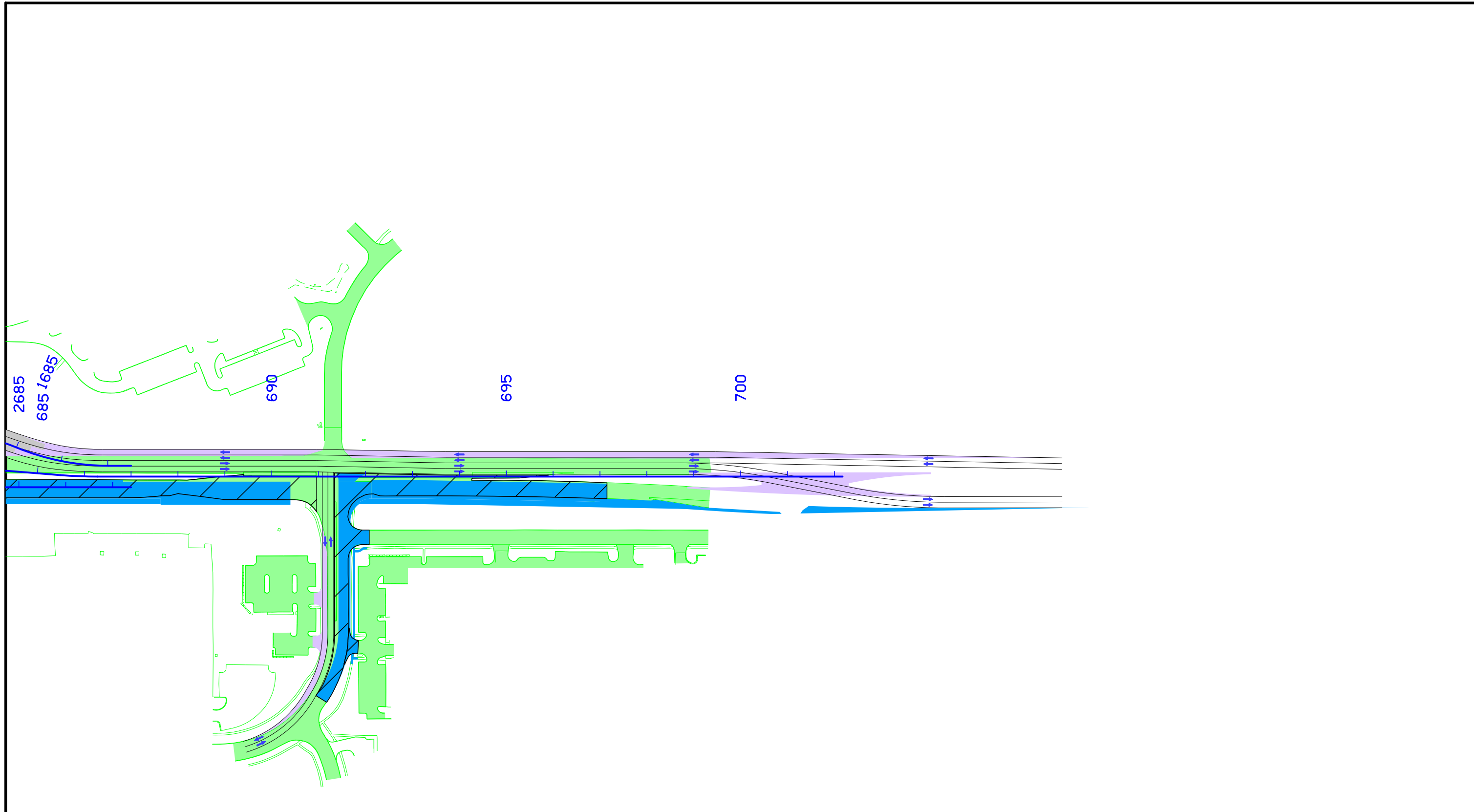
FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.25</b>
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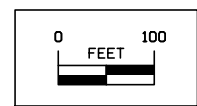
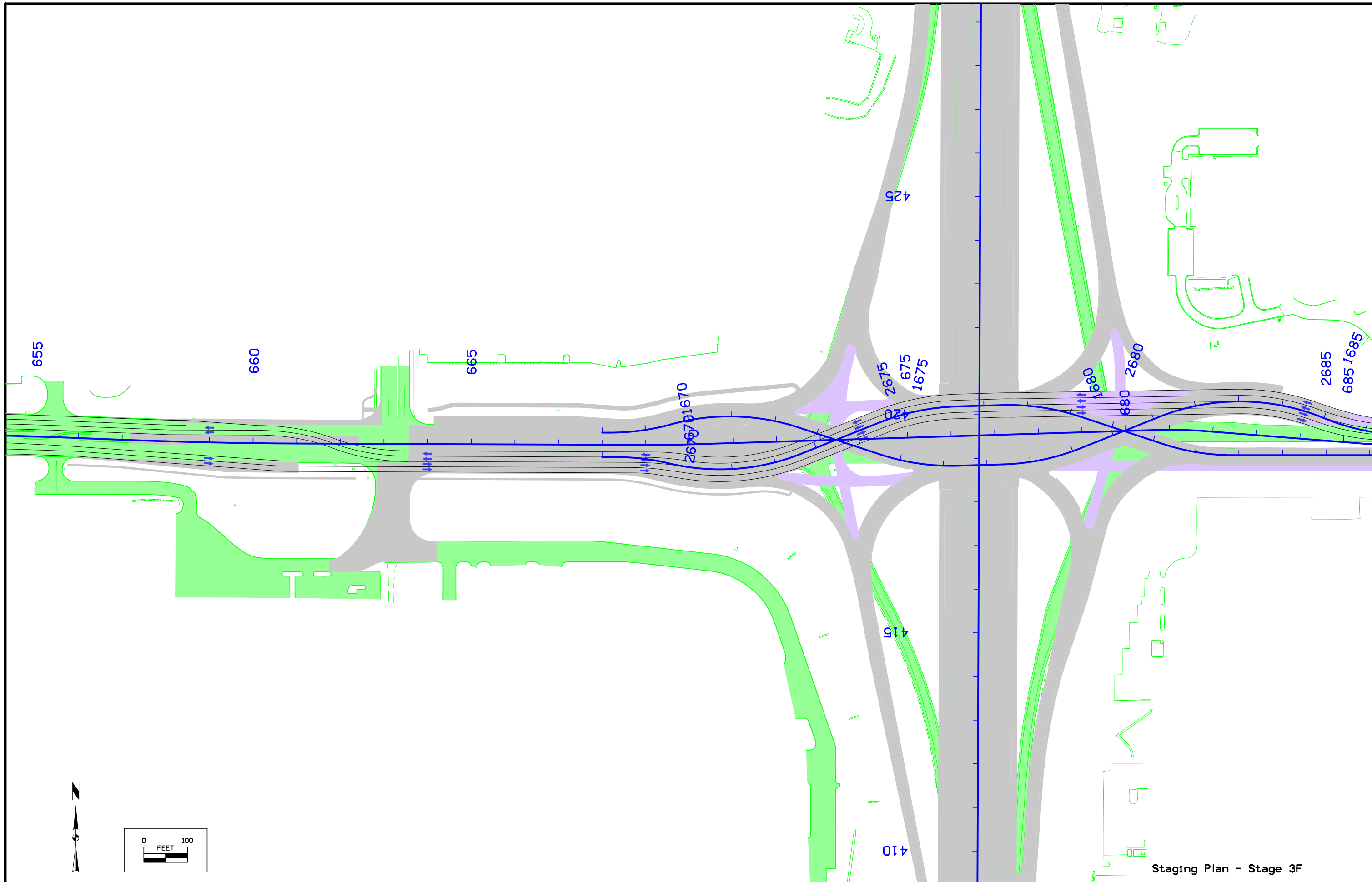
Staging Plan - Stage 3E

FILE NO.	ENGLISH	DESIGN TEAM <b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER <b>IM-080-4(069)125--13-77</b>	SHEET NUMBER <b>J.26</b>
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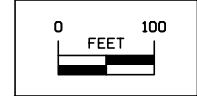
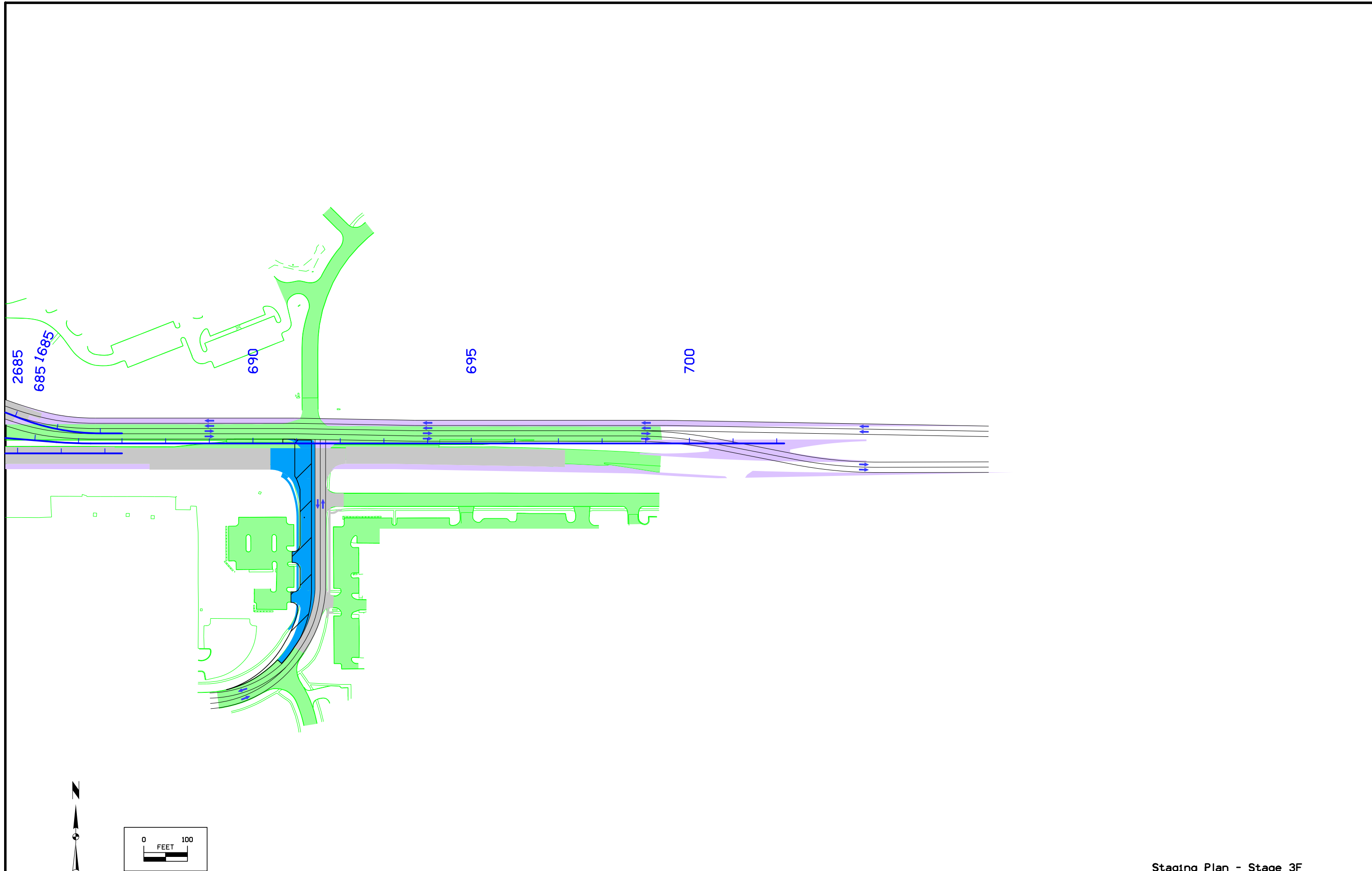
Staging Plan - Stage 3E

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.27</b>
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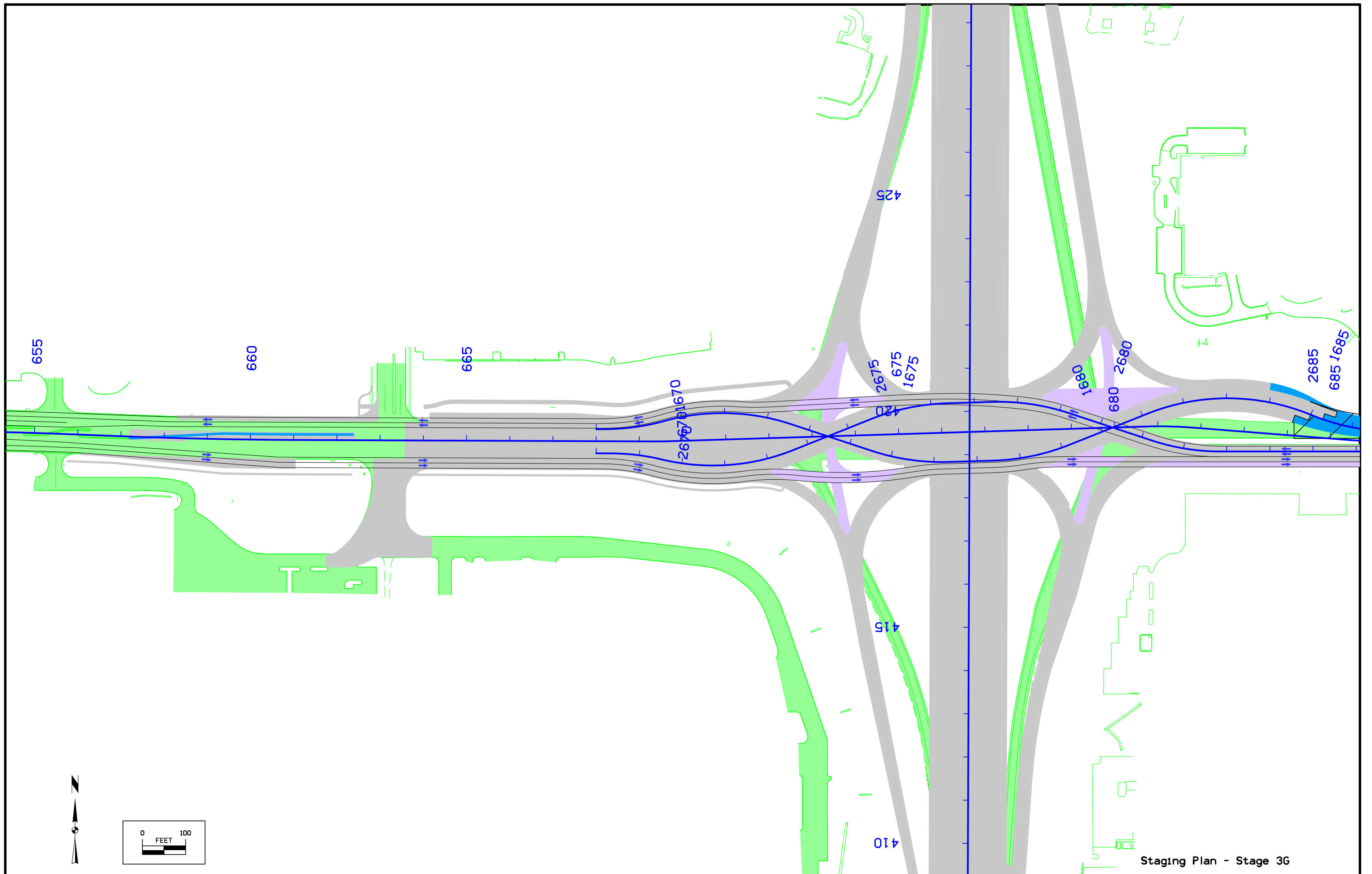
Staging Plan - Stage 3F

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.28</b>
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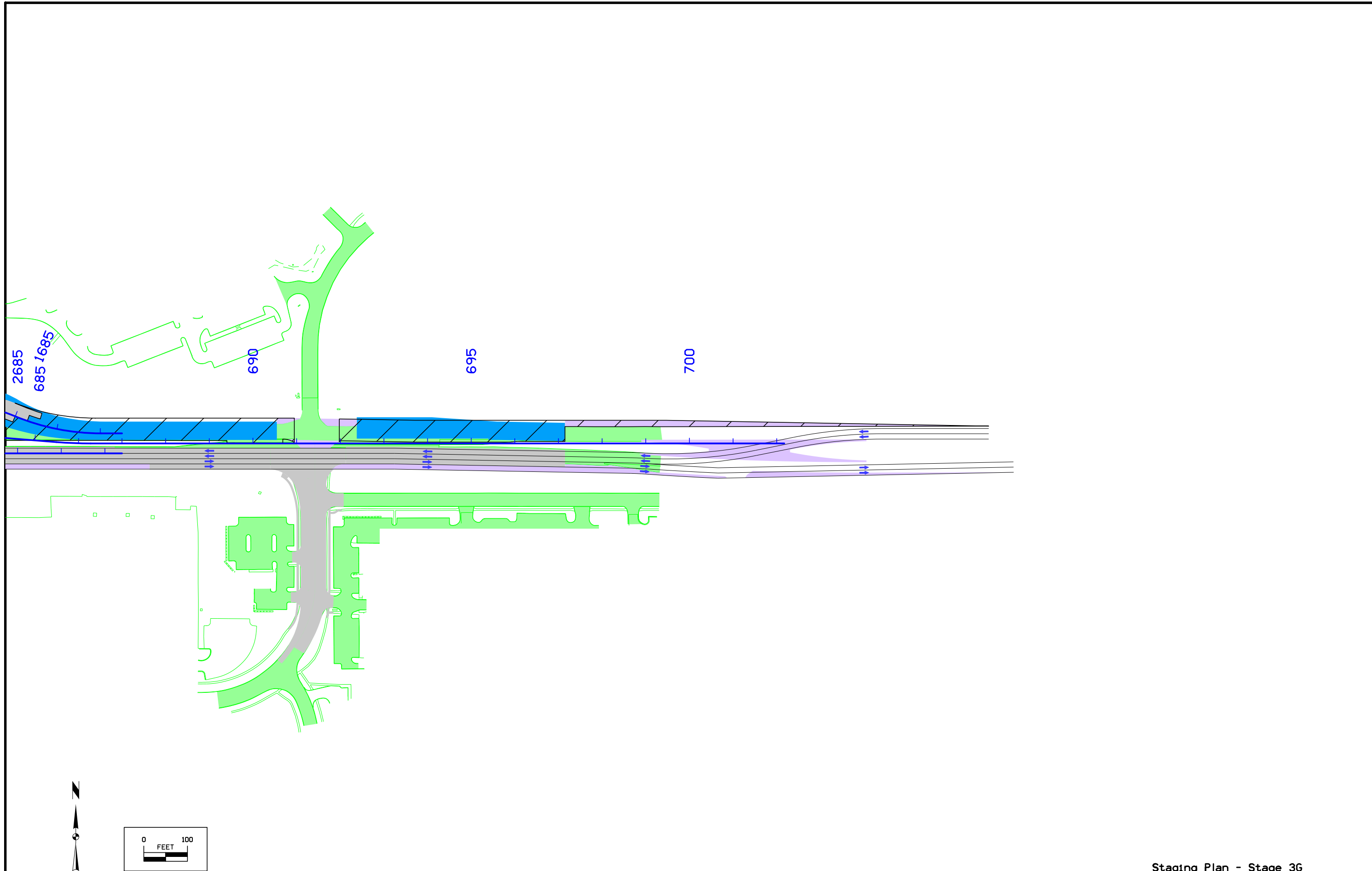
Staging Plan - Stage 3F

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.29</b>
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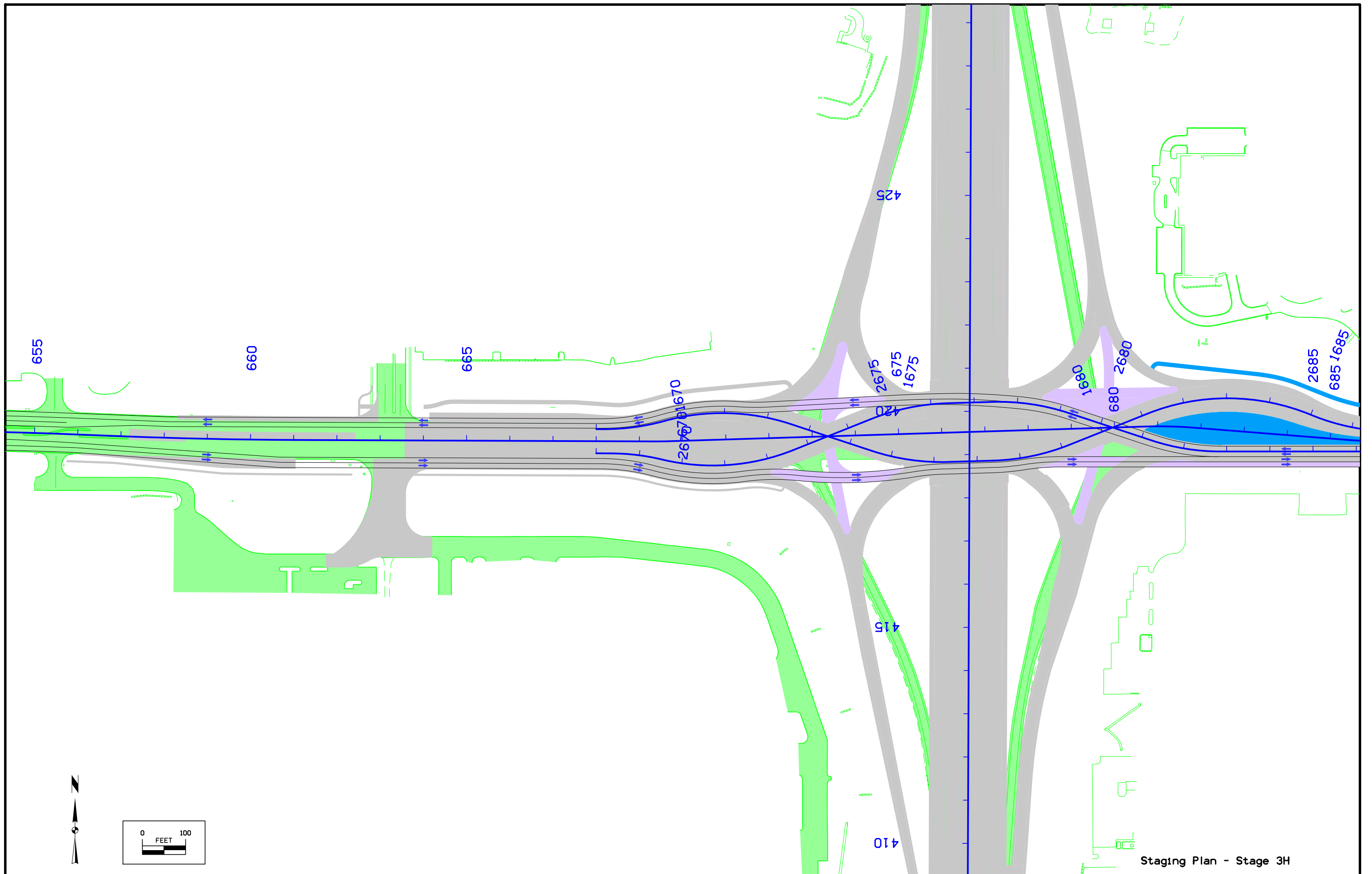
Staging Plan - Stage 3G

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.30</b>
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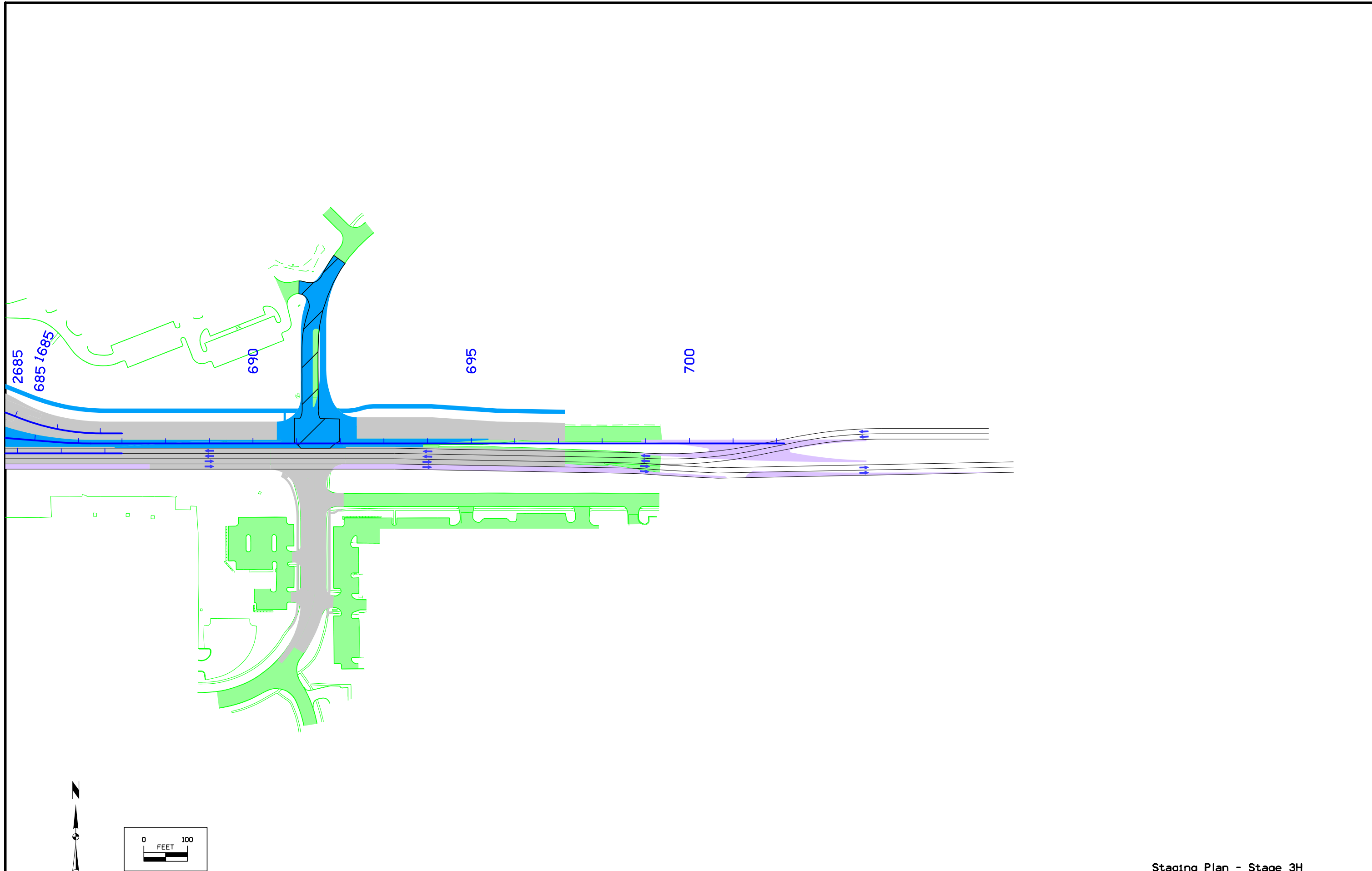
Staging Plan - Stage 3G

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.31</b>
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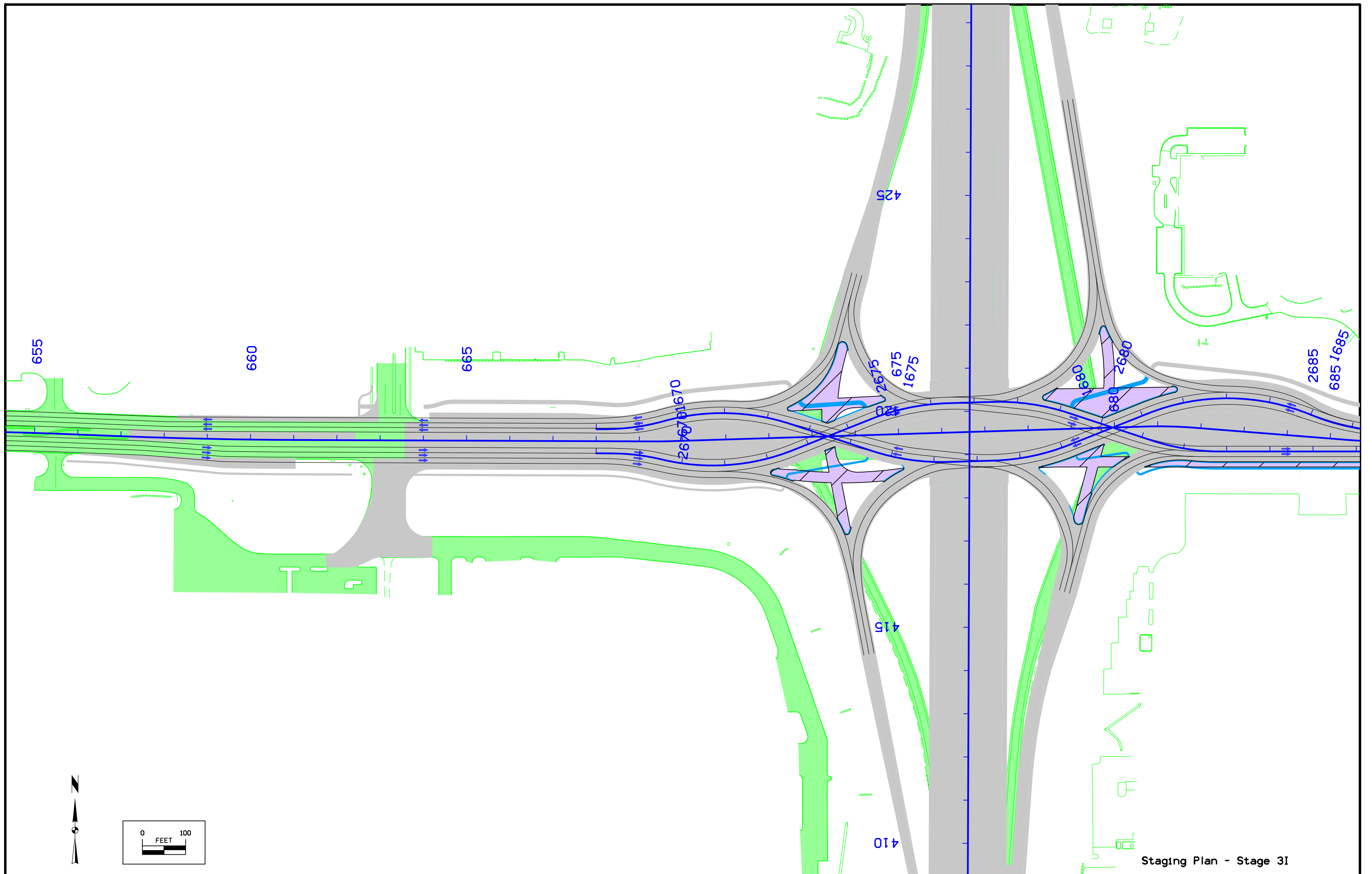
Staging Plan - Stage 3H

FILE NO.	ENGLISH	DESIGN TEAM <b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER <b>IM-080-4(069)125--13-77</b>	SHEET NUMBER <b>J.32</b>
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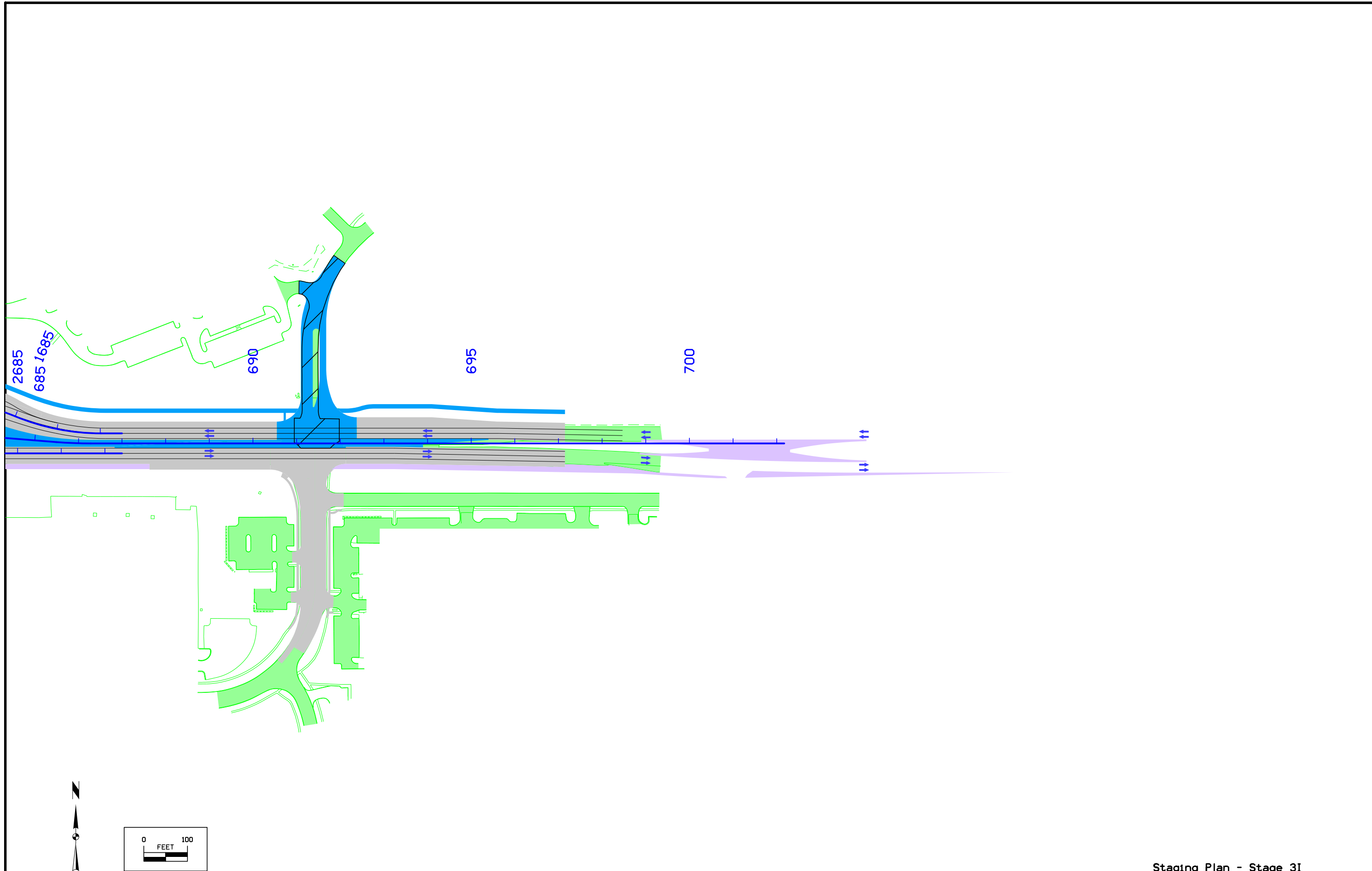


Staging Plan - Stage 3H

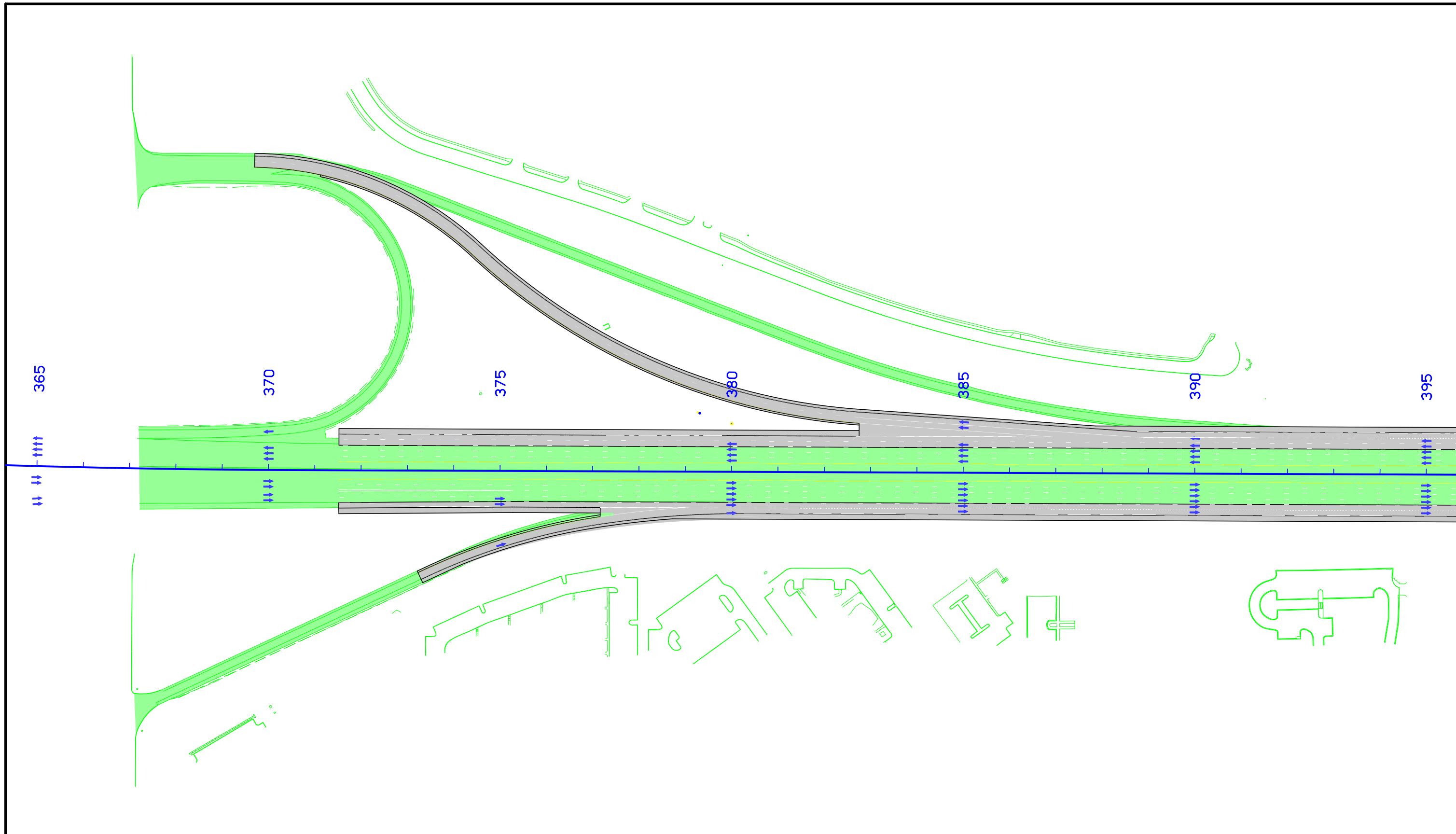




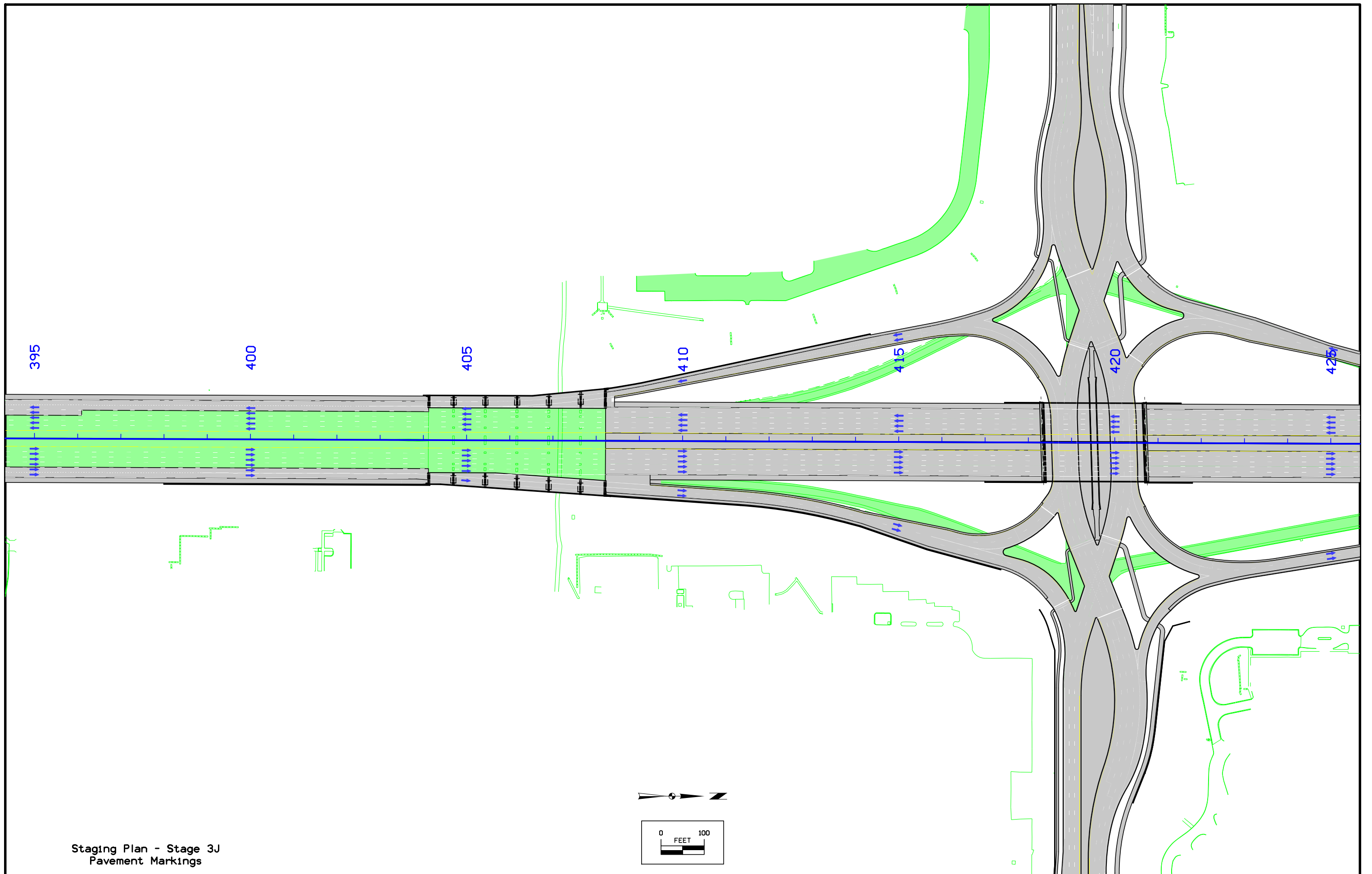
Staging Plan - Stage 3I



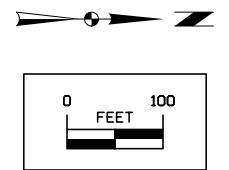
Staging Plan - Stage 3I

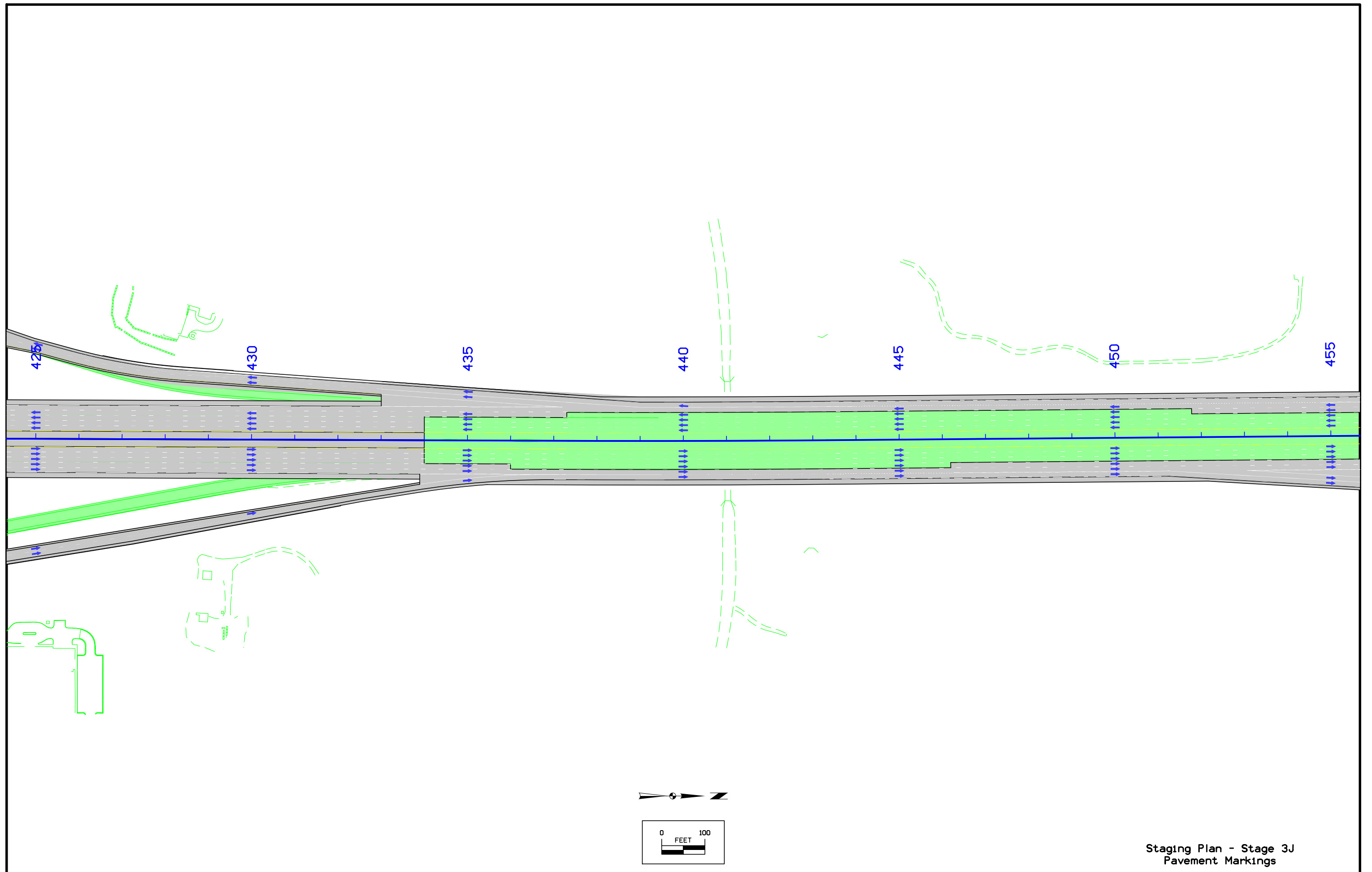


Staging Plan - Stage 3J  
Pavement Markings

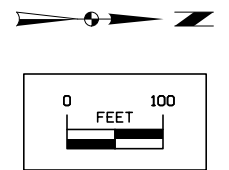
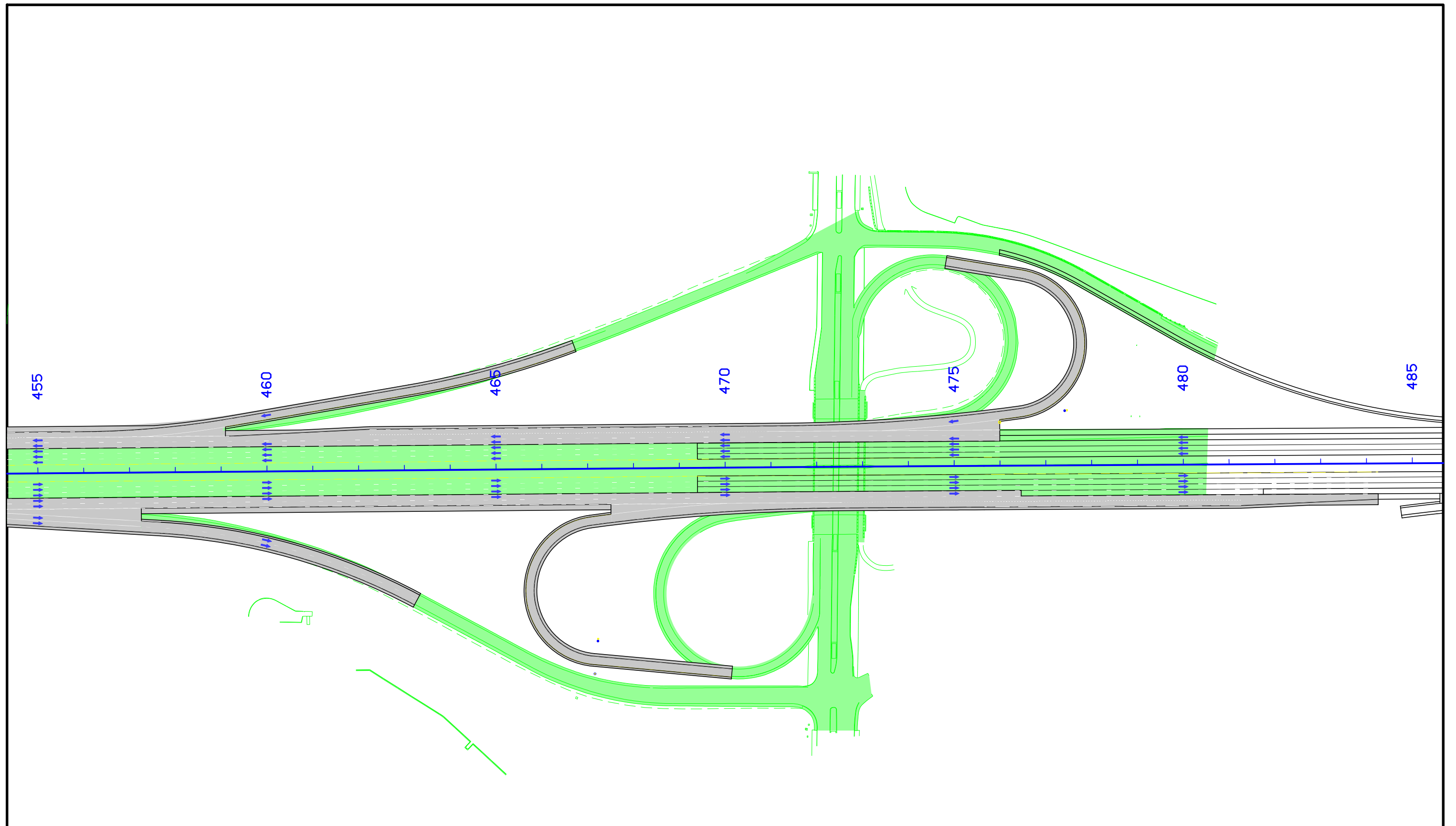


Staging Plan - Stage 3J  
Pavement Markings



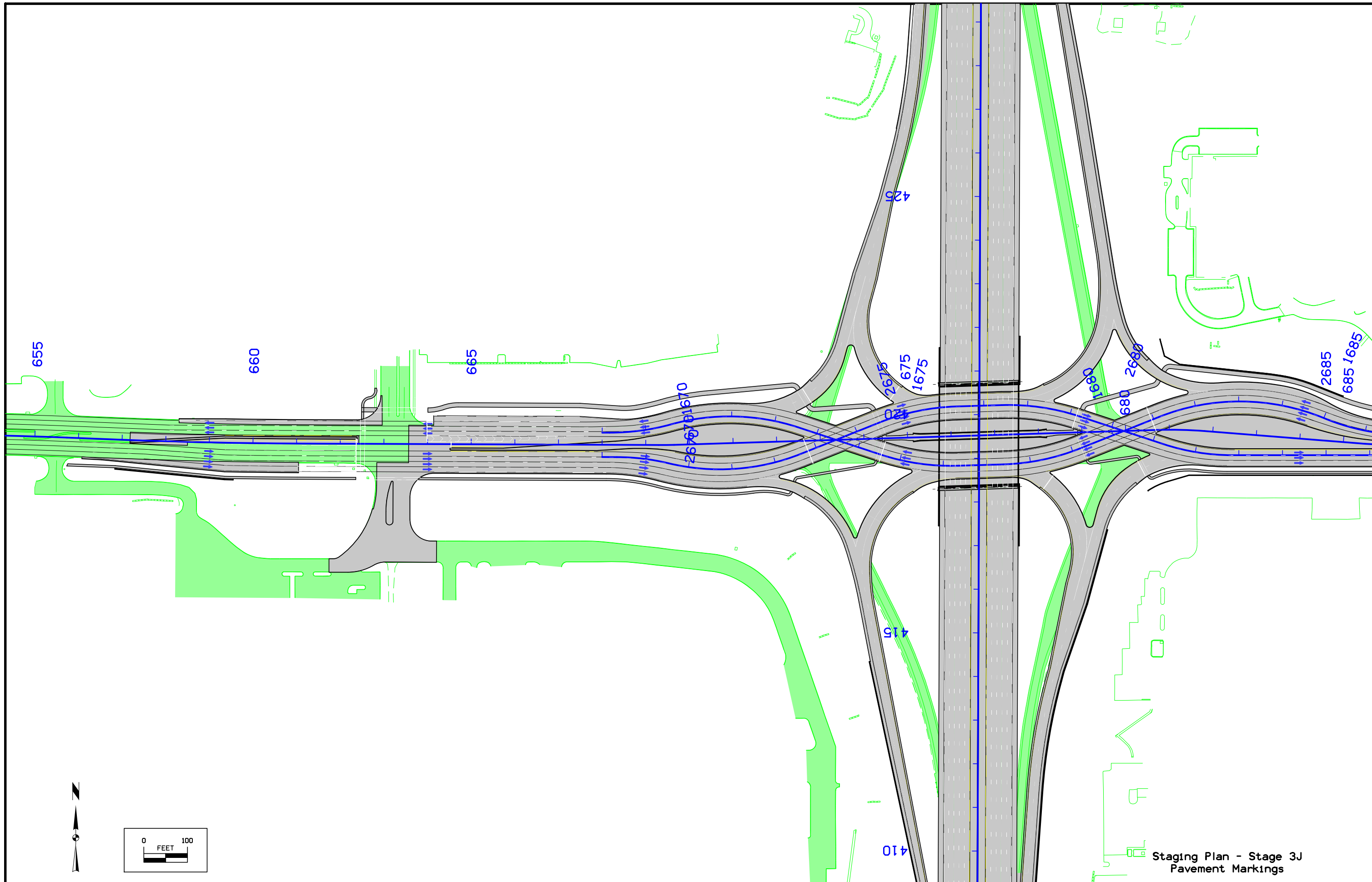


Staging Plan - Stage 3J  
Pavement Markings



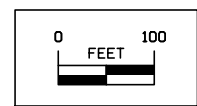
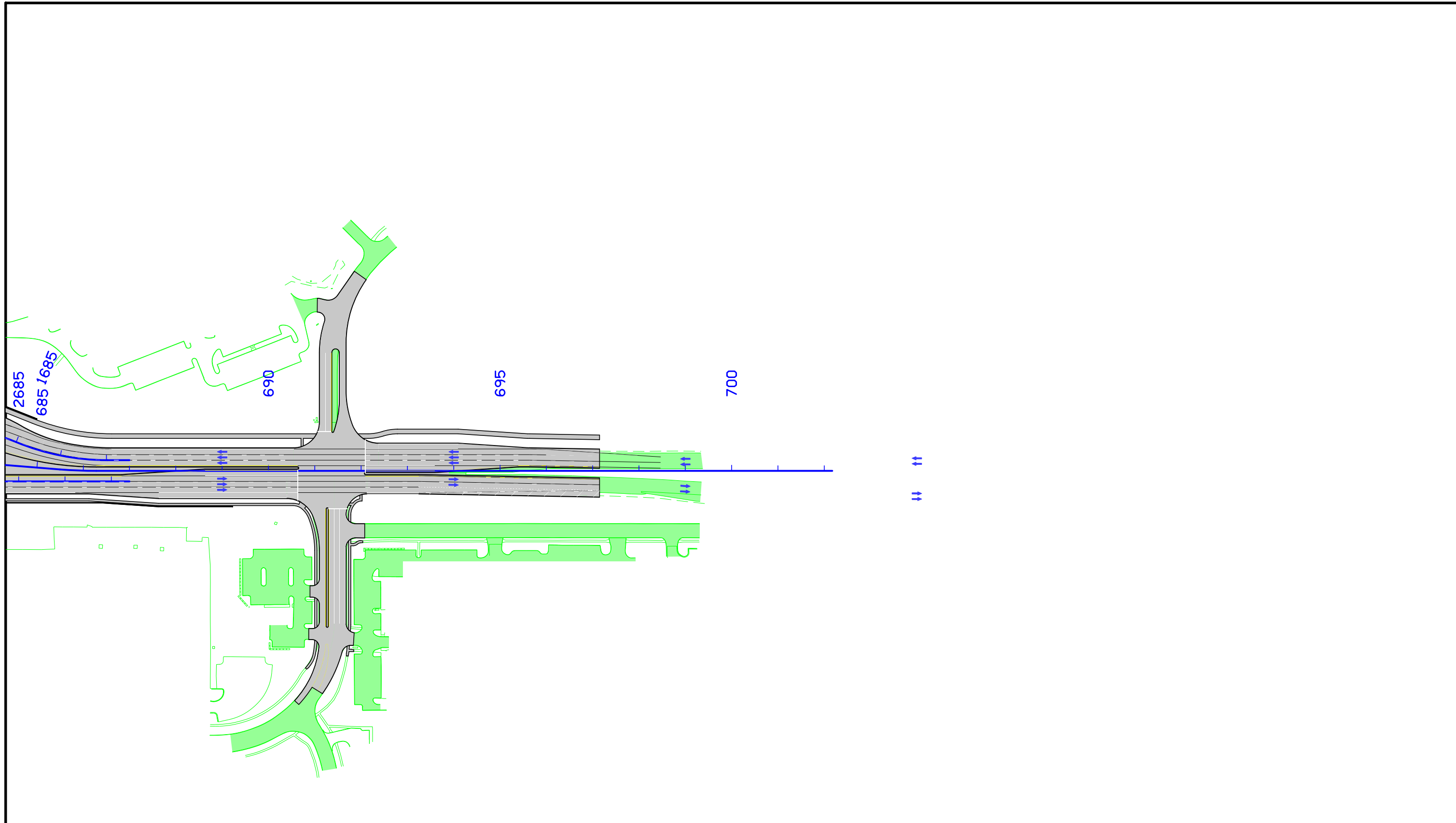
Staging Plan - Stage 3J  
Pavement Markings

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.39</b>
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Staging Plan - Stage 3J  
Pavement Markings

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.40</b>
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Staging Plan - Stage 3J  
Pavement Markings

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>J.41</b>
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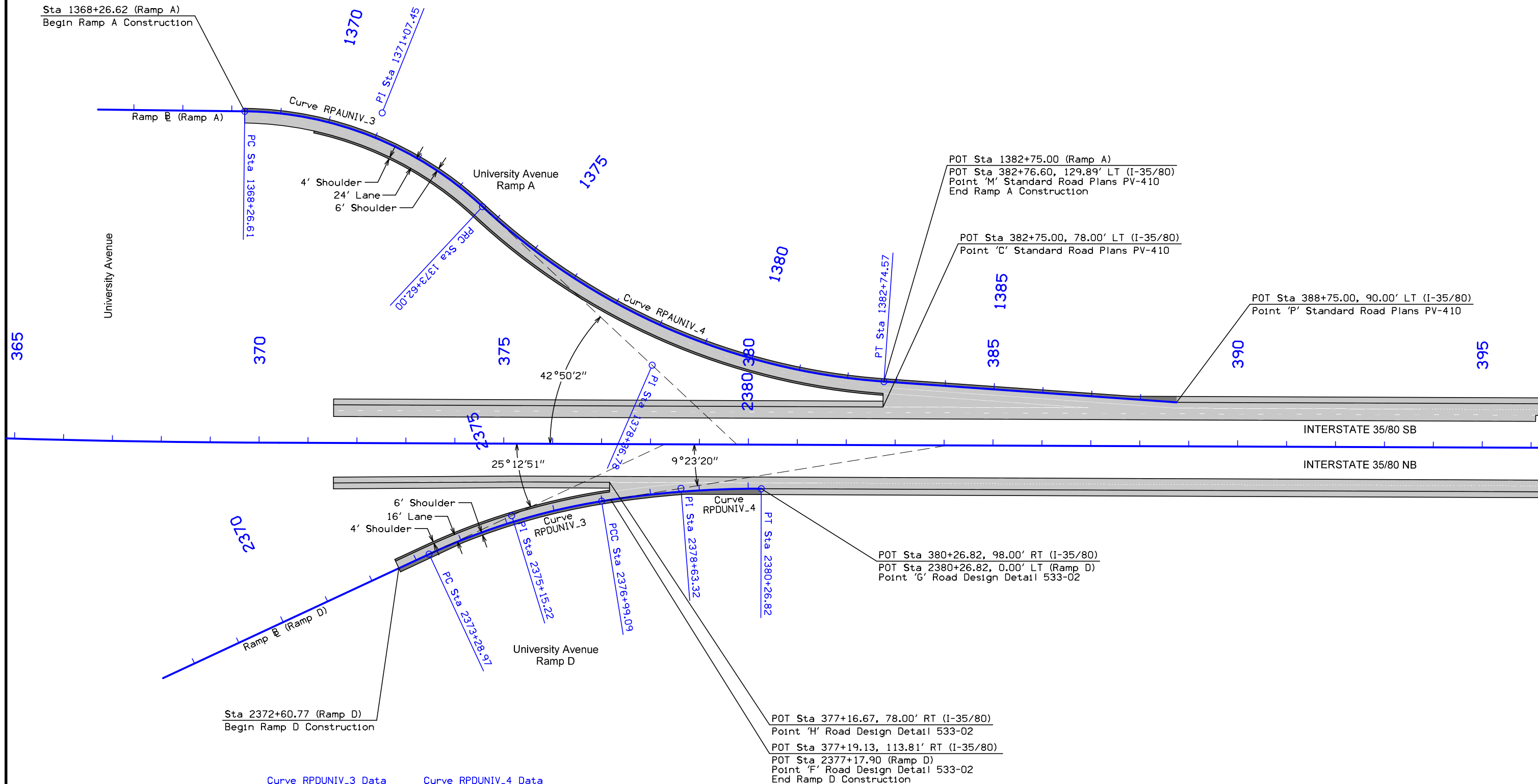
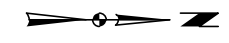


WALNUT TWP.  
T-78N R-25W  
SEC. 6  
City of West  
Des Moines

WALNUT TWP.  
T-79N R-25W  
SEC. 32  
City of Clive

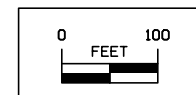
Curve RPAUNIV\_3 Data  
 $\Delta = 42^\circ 24' 10.74''$  (RT)  
 T = 280.84  
 L = 535.39  
 R = 724.00  
 E = 52.56  
 e = 6.0%  
 L = 200'  
 x = 67'

Curve RPAUNIV\_4 Data  
 $\Delta = 39^\circ 01' 11.45''$  (LT)  
 T = 474.78  
 L = 912.57  
 R = 1,340.00  
 E = 81.62  
 e = 6.0%  
 L = 240'  
 x = 80'



Curve RPDUNIV\_3 Data  
 $\Delta = 15^\circ 49' 31.66''$  (RT)  
 T = 186.24  
 L = 370.12  
 R = 1,340.00  
 E = 12.88  
 e = 6.0%  
 L = 186'  
 x = 62'

Curve RPDUNIV\_4 Data  
 $\Delta = 9^\circ 23' 19.58''$  (RT)  
 T = 164.23  
 L = 327.73  
 R = 2,000.00  
 E = 6.73  
 e = 5.4%  
 L = 168'  
 x = 62'

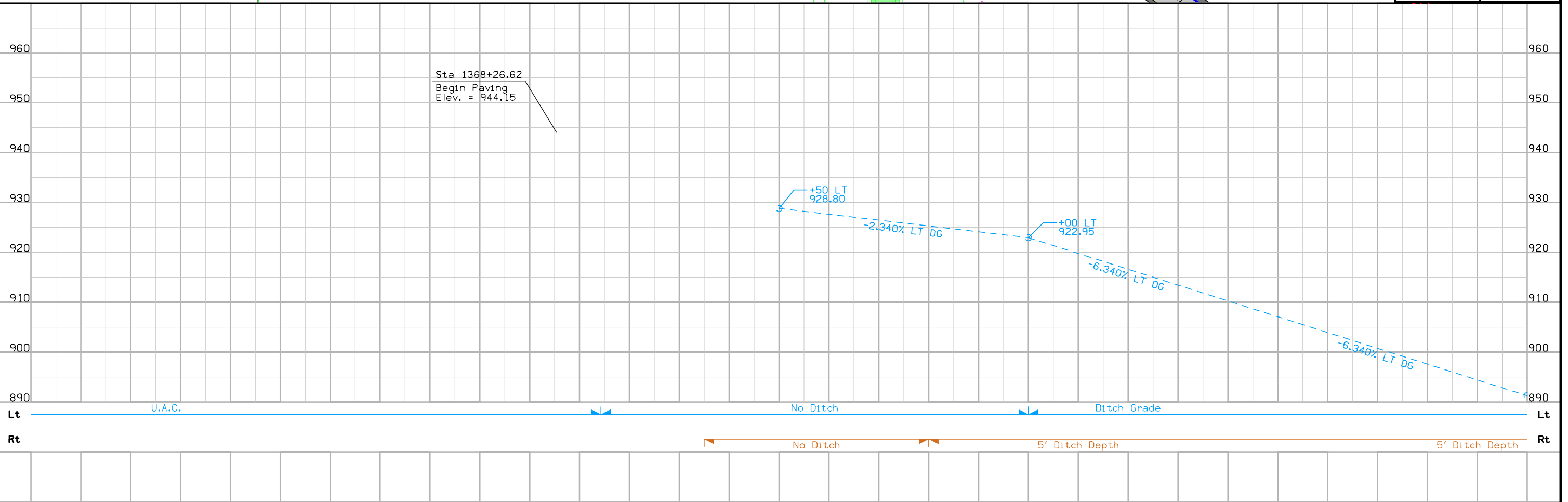
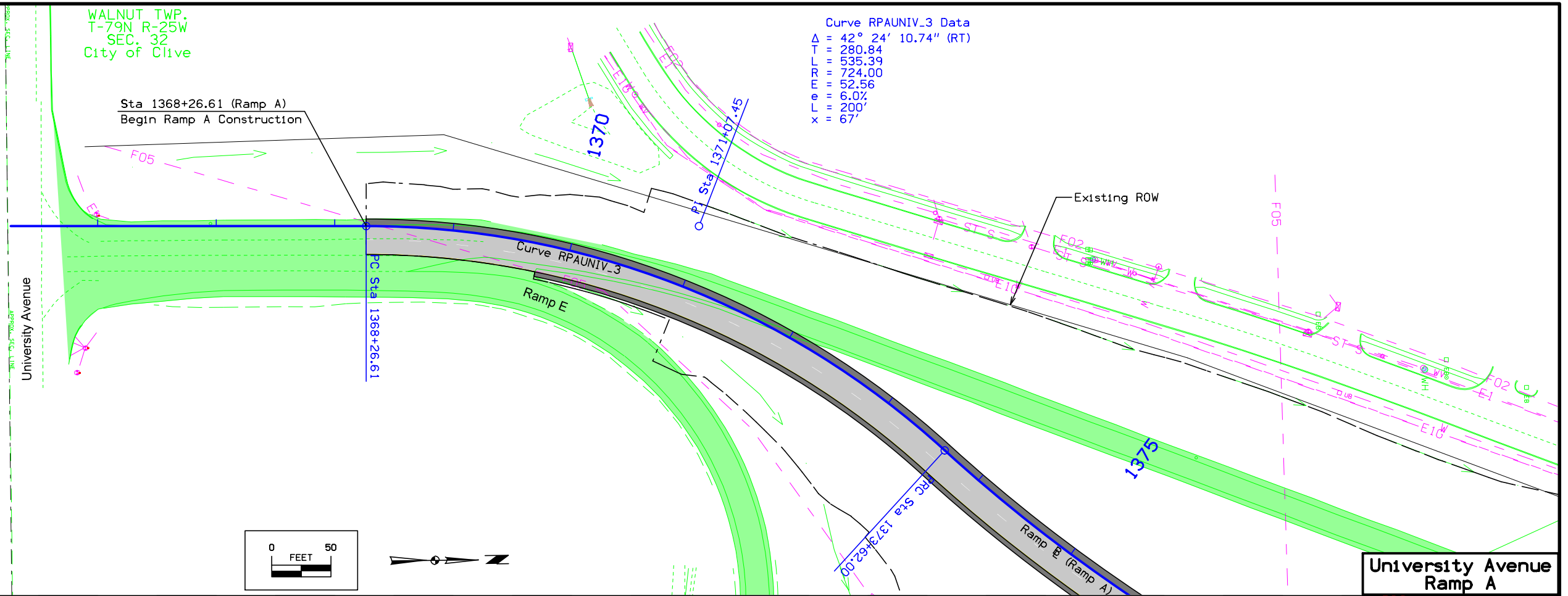


Geometric Plan  
 Proposed Interchange of  
 Interstate 35/80 with  
 University Avenue  
 Polk County

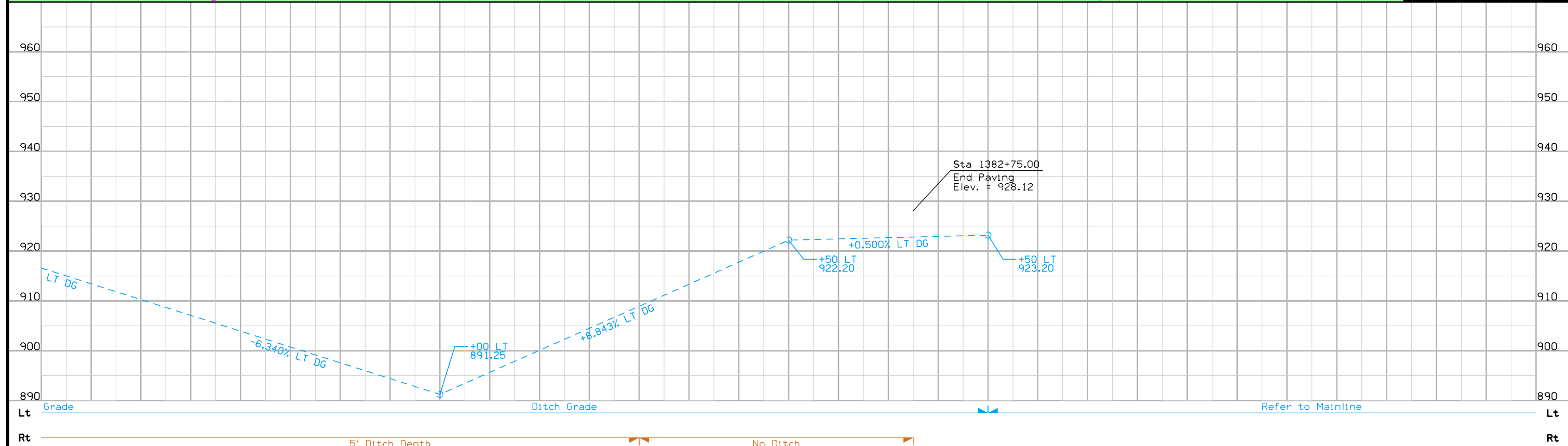
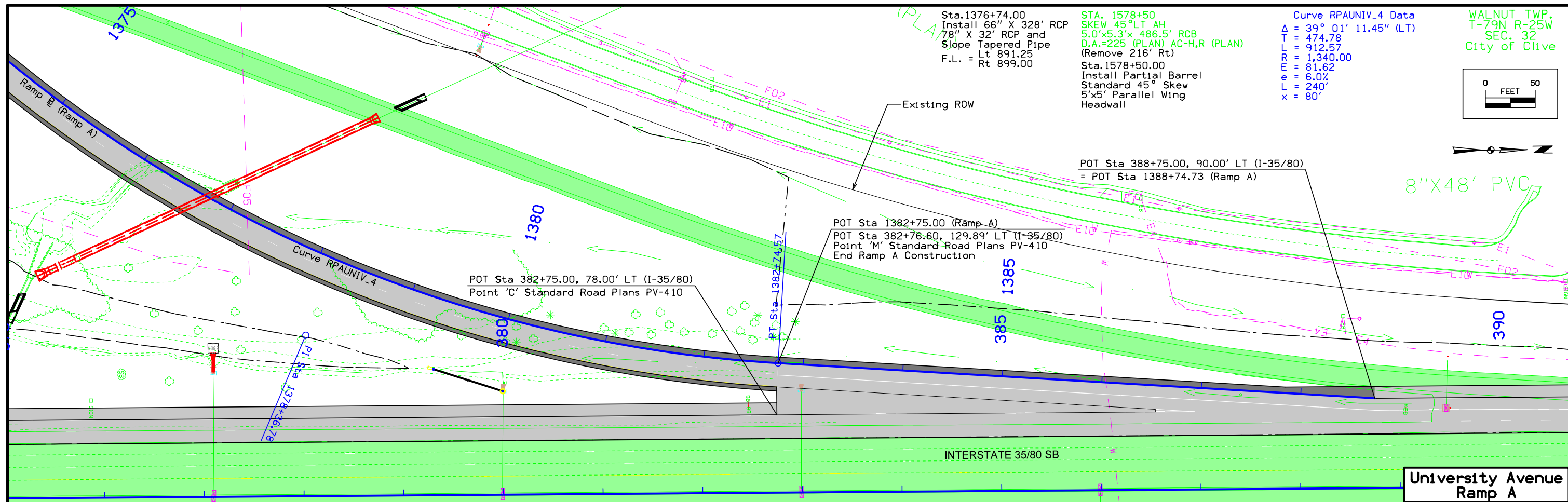
WALNUT TWP.  
T-78N R-25W  
SEC. 6  
City of West Des Moines

WALNUT TWP.  
T-79N R-25W  
SEC. 32  
City of Clive

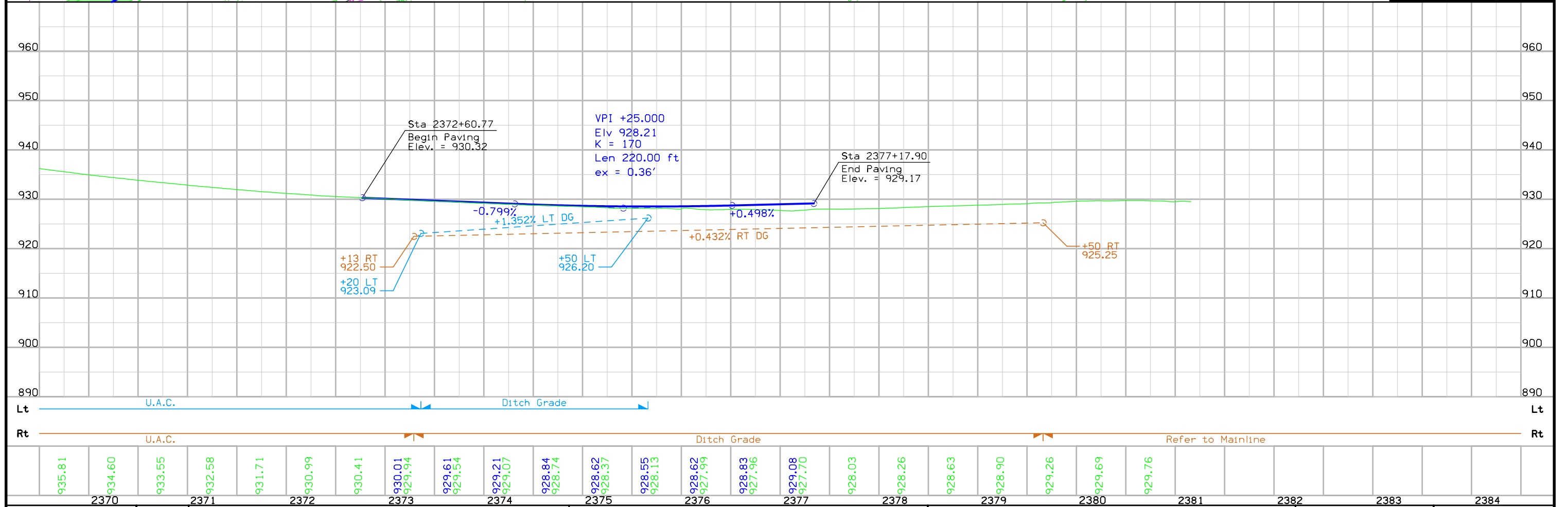
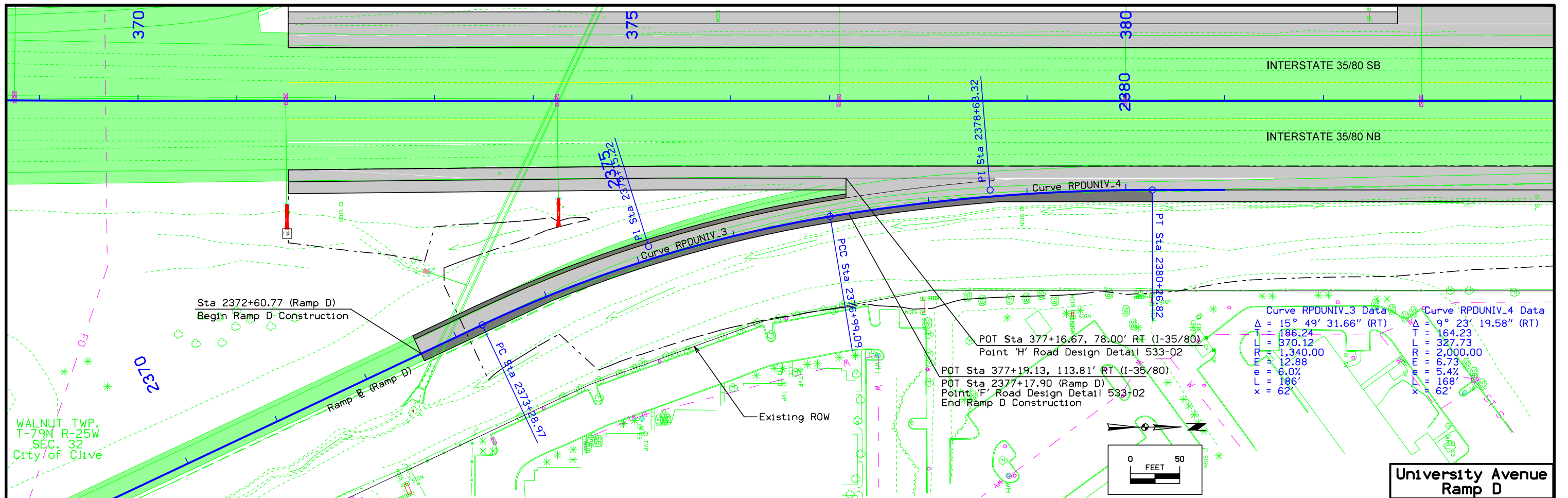
Curve RPAUNIV\_3 Data  
 $\Delta = 42^\circ 24' 10.74''$  (RT)  
 $T = 280.84$   
 $L = 535.39$   
 $R = 724.00$   
 $E = 52.56$   
 $e = 6.0\%$   
 $L = 200'$   
 $x = 67'$



FILE NO.	ENGLISH	DESIGN TEAM	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	
SNYDER & ASSOCIATES, INC.			POLK COUNTY														
PROJECT NUMBER											IM-080-4(069)125--13-77			SHEET NUMBER			K.2



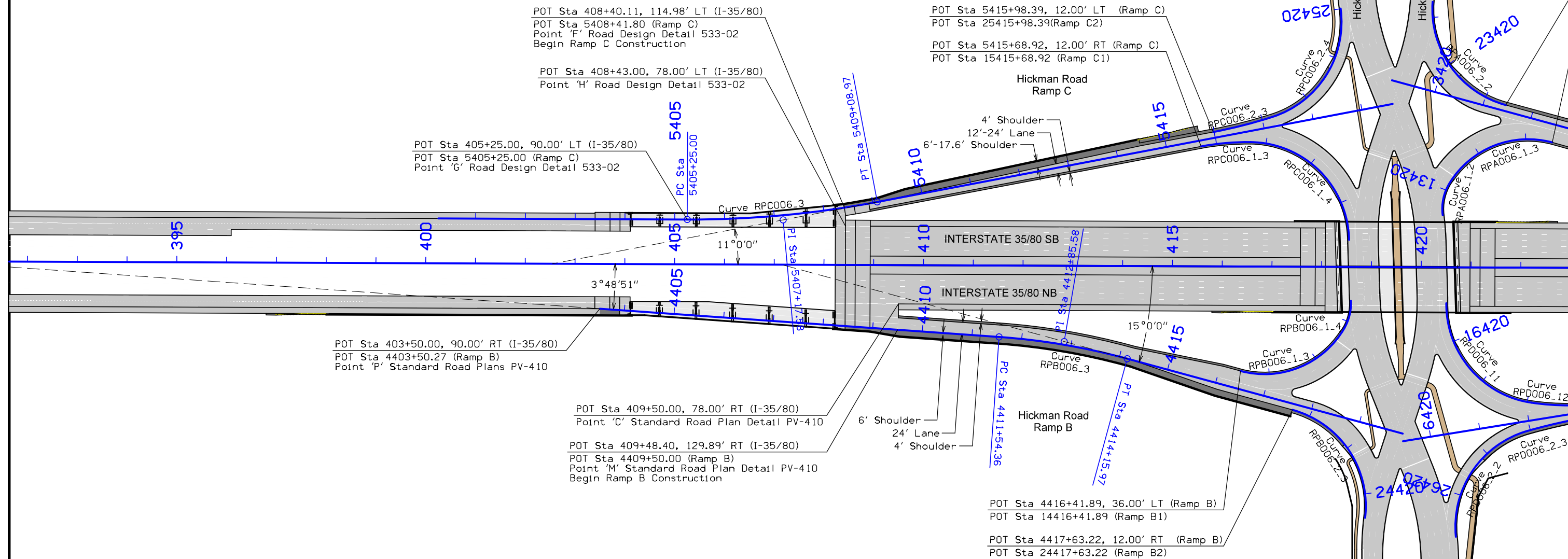
1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389
FILE NO.	ENGLISH	DESIGN TEAM	SNYDER & ASSOCIATES, INC.				POLK COUNTY	PROJECT NUMBER	IM-080-4(069)125--13-77			SHEET NUMBER	K.3		



FILE NO.	ENGLISH	DESIGN TEAM	SNYDER & ASSOCIATES, INC.										POLK COUNTY	PROJECT NUMBER	IM-080-4(069)125--13-77	SHEET NUMBER	K.4
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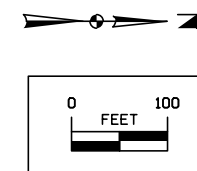
Curve RPC006_3 Data	Curve RPC006_1.3 Data	Curve RPC006_1.4 Data	Curve RPC006_2.3 Data	Curve RPC006_2.4 Data
$\Delta = 11^\circ 00' 00.00''$ (LT)	$\Delta = 11^\circ 28' 42.03''$ (RT)	$\Delta = 88^\circ 18' 48.89''$ (RT)	$\Delta = 7^\circ 01' 17.99''$ (LT)	$\Delta = 80^\circ 04' 58.41''$ (LT)
T = 192.58	T = 50.25	T = 194.20	T = 61.35	T = 168.07
L = 383.97	L = 100.17	L = 308.27	L = 122.55	L = 279.54
R = 2,000.00	R = 500.00	R = 200.00	R = 1,000.00	R = 200.00
E = 9.25	E = 2.52	E = 78.77	E = 1.88	E = 61.24
e = 5.4%				
L = 160'				
x = 53'				

WALNUT TWP.  
T-79N R-25W  
SEC. 32  
City of Clive



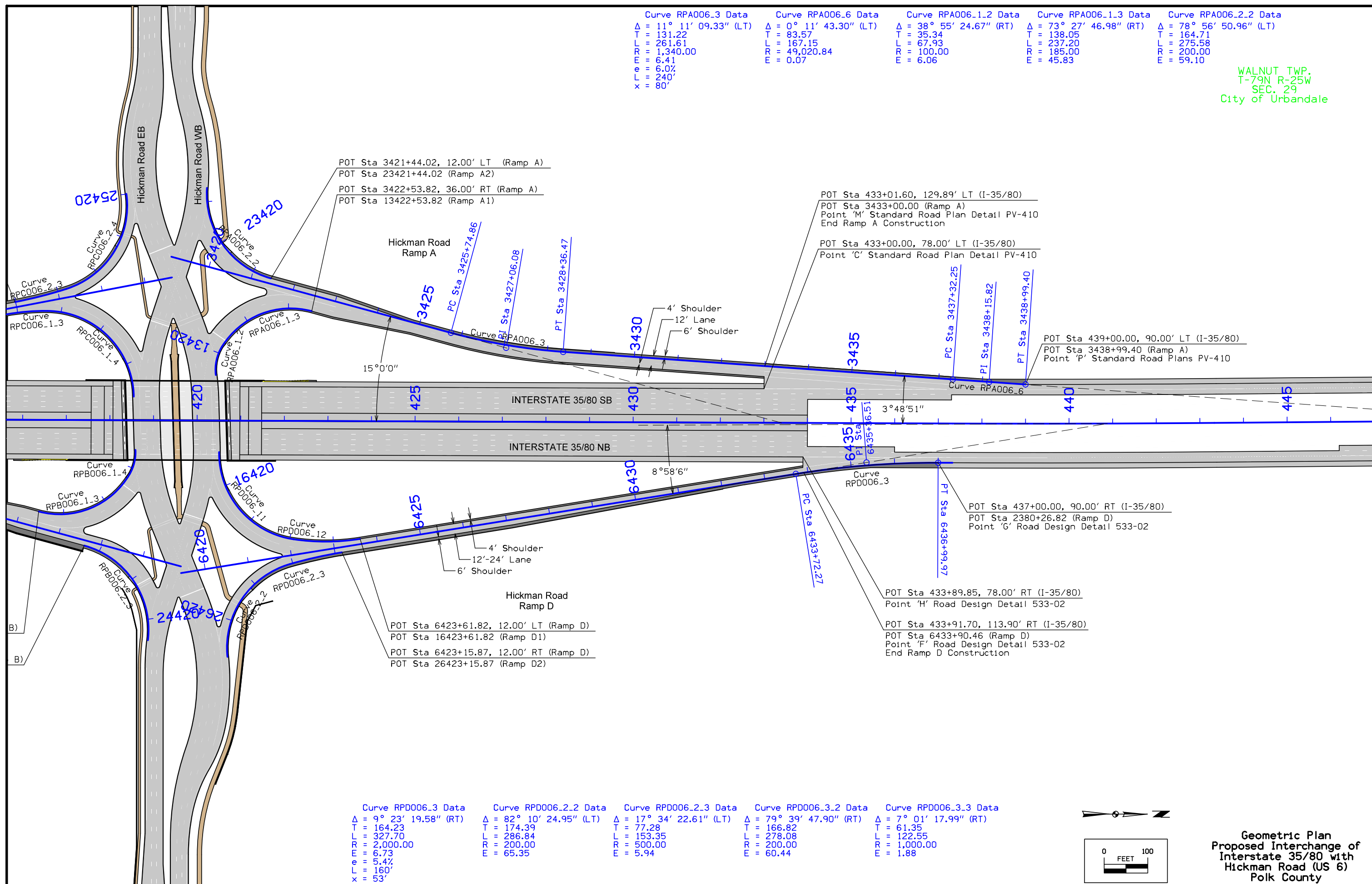
Curve RPB006_3 Data	Curve RPB006_1.3 Data	Curve RPB006_1.4 Data	Curve RPB006_2.3 Data
$\Delta = 11^\circ 11' 09.33''$ (RT)	$\Delta = 75^\circ 03' 59.70''$ (LT)	$\Delta = 33^\circ 08' 01.34''$ (LT)	$\Delta = 81^\circ 40' 08.63''$ (RT)
T = 131.22	T = 142.13	T = 29.75	T = 172.85
L = 261.61	L = 242.38	L = 57.83	L = 285.08
R = 1,340.00	R = 185.00	R = 100.00	R = 200.00
E = 6.41	E = 48.29	E = 4.33	E = 64.34
e = 6.0%			
L = 240'			
x = 80'			

Geometric Plan  
Proposed Interchange of  
Interstate 35/80 with  
Hickman Road (US 6)  
Polk County

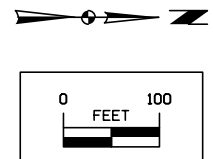


Curve RPA006.3 Data	Curve RPA006.6 Data	Curve RPA006.1.2 Data	Curve RPA006.1.3 Data	Curve RPA006.2.2 Data
$\Delta = 11^\circ 11' 09.33''$ (LT)	$\Delta = 0^\circ 11' 43.30''$ (LT)	$\Delta = 38^\circ 55' 24.67''$ (RT)	$\Delta = 73^\circ 27' 46.98''$ (RT)	$\Delta = 78^\circ 56' 50.96''$ (LT)
T = 131.22	T = 83.57	T = 35.34	T = 138.05	T = 164.71
L = 261.61	L = 167.15	L = 67.93	L = 237.20	L = 275.58
R = 1,340.00	R = 49,020.84	R = 100.00	R = 185.00	R = 200.00
E = 6.41	E = 0.07	E = 6.06	E = 45.83	E = 59.10
e = 6.0%				
L = 240'				
x = 80'				

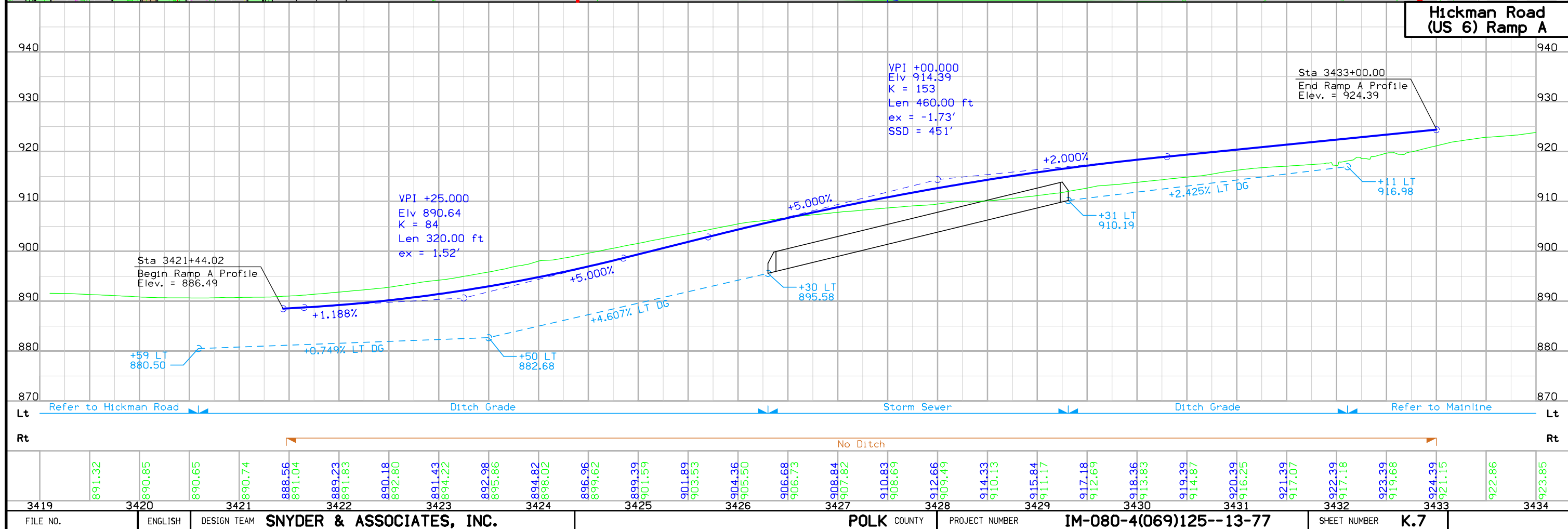
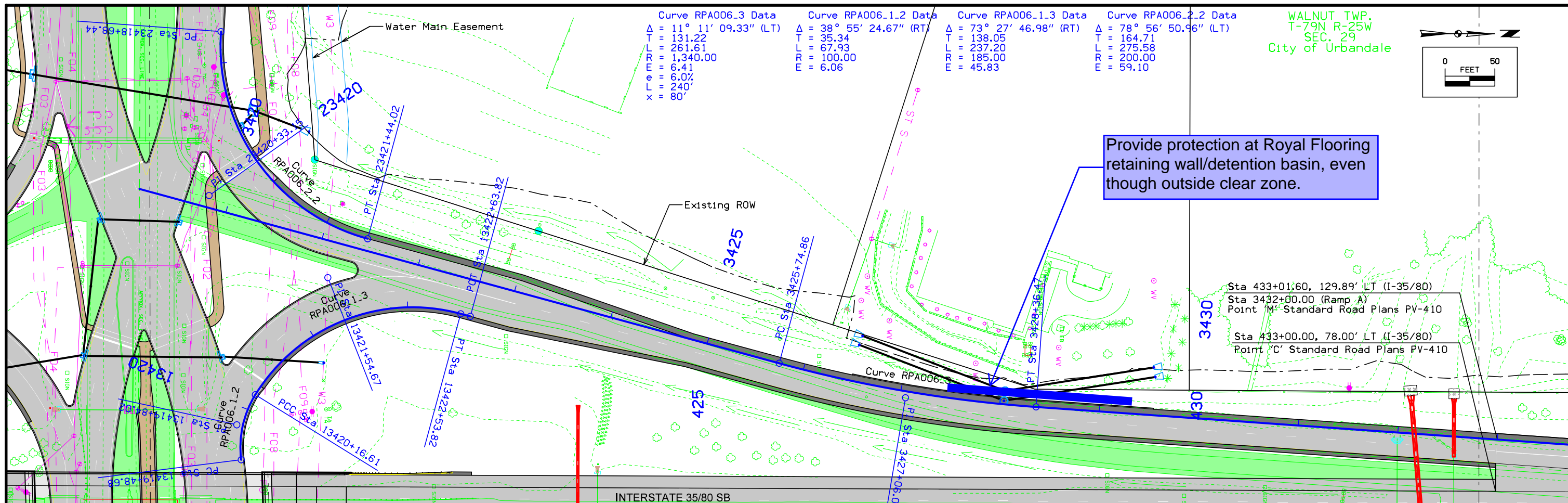
WALNUT TWP.  
T-79N R-25W  
SEC. 29  
City of Urbandale

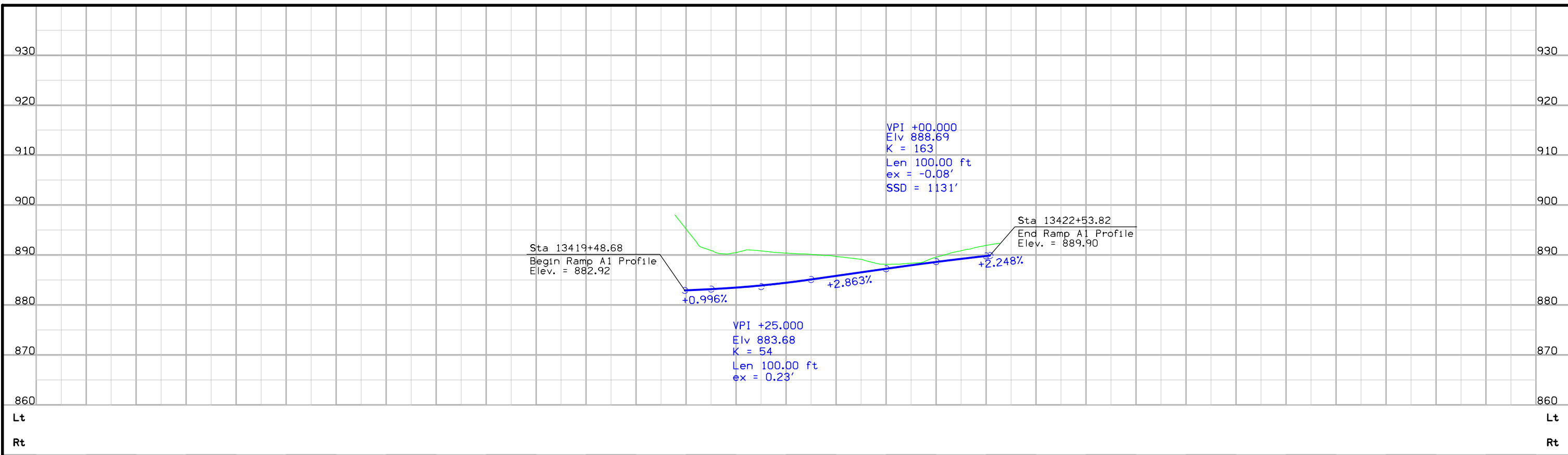


Curve RPD006.3 Data	Curve RPD006.2.2 Data	Curve RPD006.2.3 Data	Curve RPD006.3.2 Data	Curve RPD006.3.3 Data
$\Delta = 9^\circ 23' 19.58''$ (RT)	$\Delta = 82^\circ 10' 24.95''$ (LT)	$\Delta = 17^\circ 34' 22.61''$ (LT)	$\Delta = 79^\circ 39' 47.90''$ (RT)	$\Delta = 7^\circ 01' 17.99''$ (RT)
T = 164.23	T = 174.39	T = 77.28	T = 166.82	T = 61.35
L = 327.70	L = 286.84	L = 153.35	L = 278.08	L = 122.55
R = 2,000.00	R = 200.00	R = 500.00	R = 200.00	R = 1,000.00
E = 6.73	E = 65.35	E = 5.94	E = 60.44	E = 1.88
e = 5.4%				
L = 160'				
x = 53'				



Geometric Plan  
Proposed Interchange of  
Interstate 35/80 with  
Hickman Road (US 6)  
Polk County





13414

13415

13416

13417

13418

13419

882.93

895.19

883.49

890.50

884.45

890.38

885.83

889.73

887.26

888.16

888.61

889.56

889.81

891.92

13423

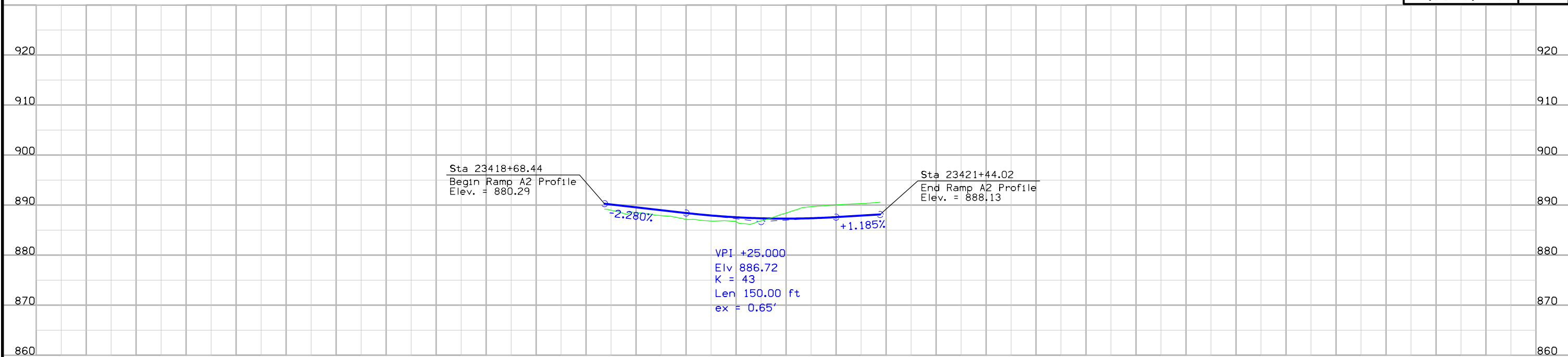
13424

13425

13426

13427

**Hickman Road  
(US 6) Ramp A**



23414

23415

23416

23417

23418

23419

889.57

889.57

888.43

888.43

887.58

887.58

887.30

887.30

887.61

887.61

23422

23423

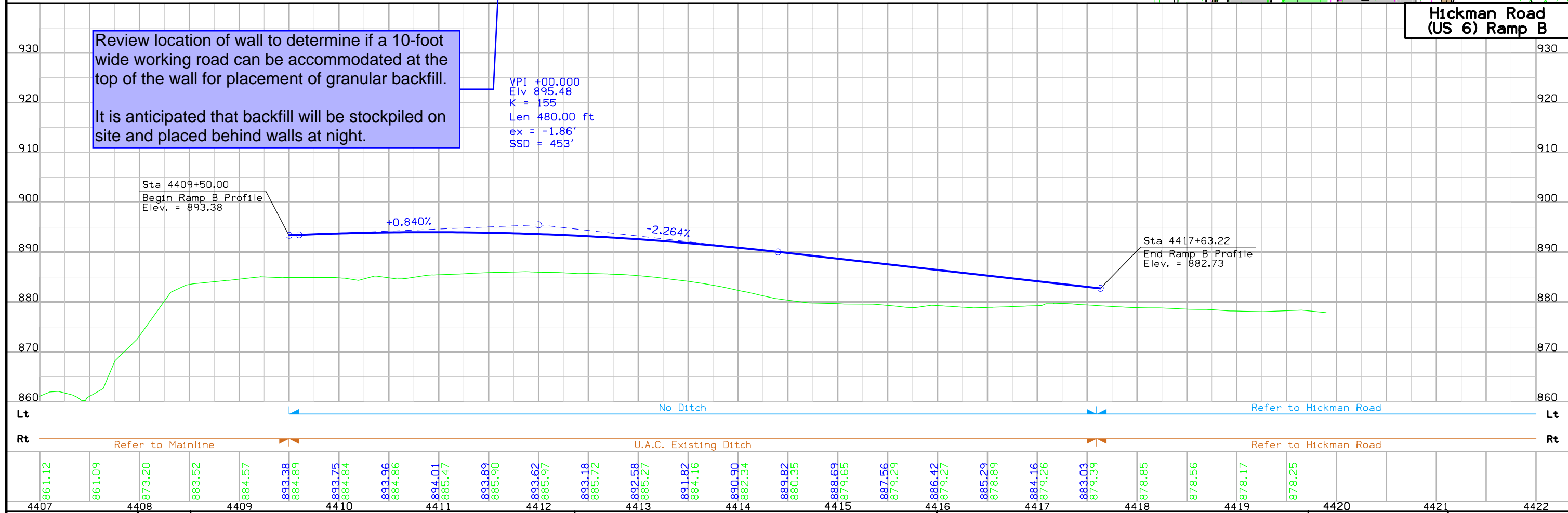
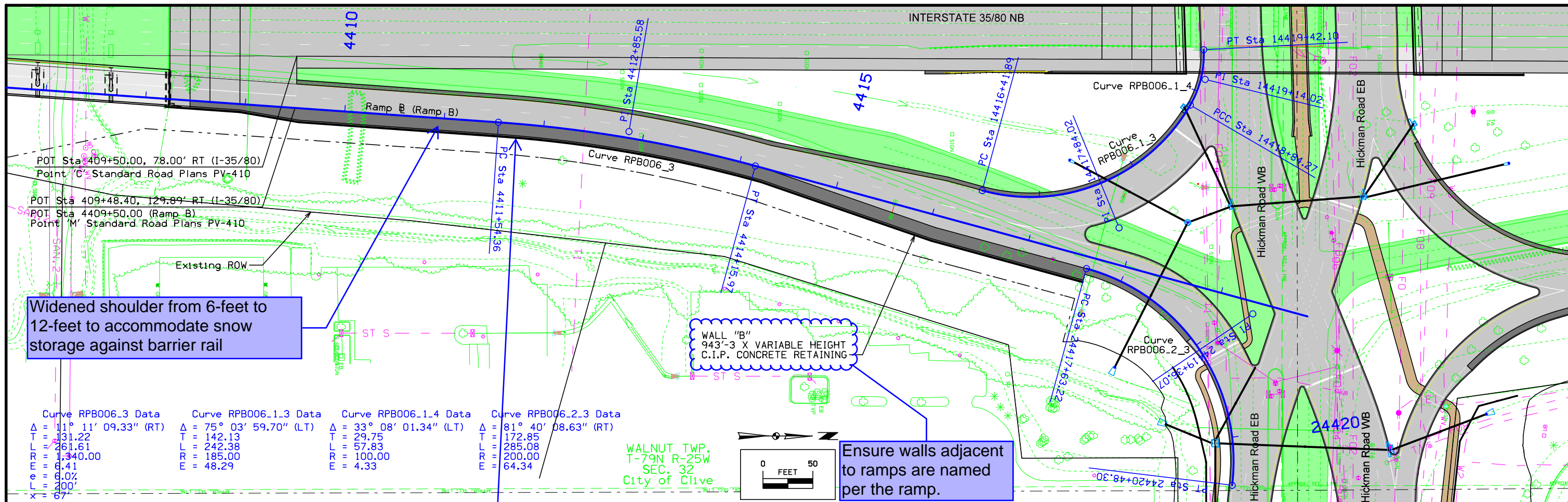
23424

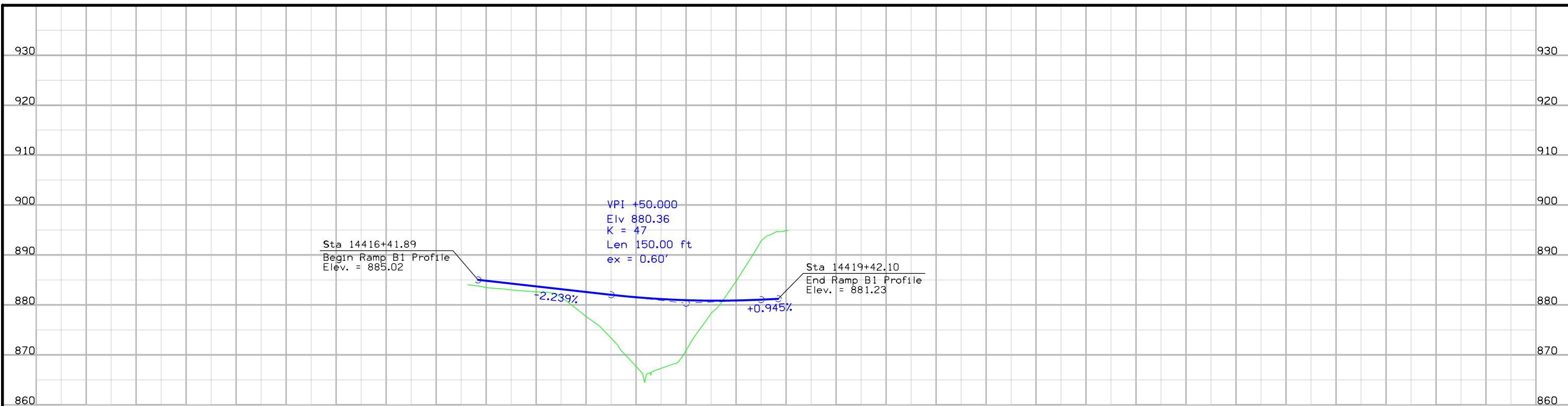
23425

23426

23427



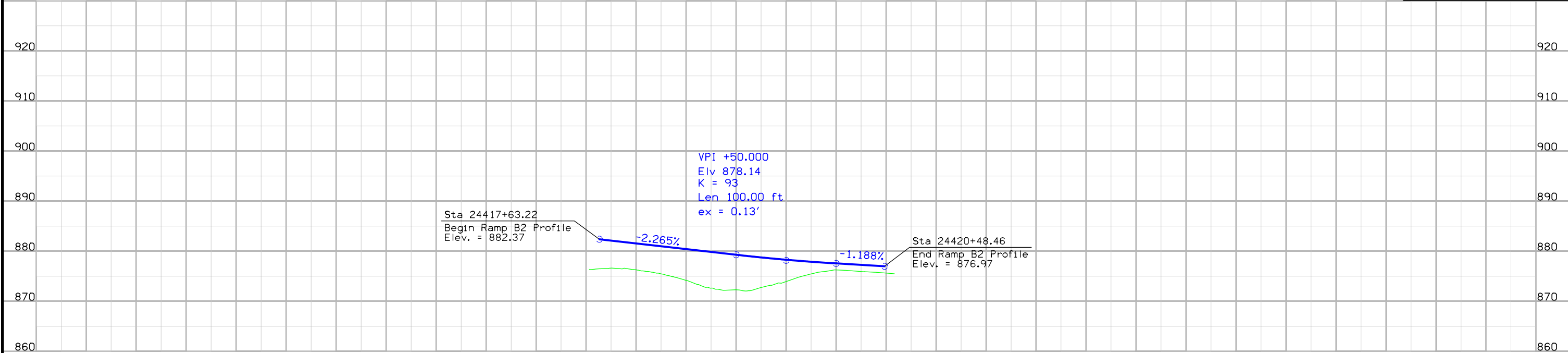




Lt Rt Lt Rt

14412	14413	14414	14415	14416	884.84 883.48	14417	883.72 882.64	882.60 877.69	14418	881.55 867.71	880.96 870.92	14419	880.90 884.79	894.84	14420	14421	14422	14423	14424	14425	14426	14427
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**Hickman Road  
(US 6) Ramp B**



Lt Rt Lt Rt

24412	24413	24414	24415	24416	24417	881.54 876.25	880.40 874.16	879.27 872.26	878.27 873.92	877.55 876.23	875.61	24421	24422	24423	24424	24425	24426	24427
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Curve RPC006\_3 Data  
 $\Delta = 11^\circ 00' 00.00''$  (LT)  
 $T = 192.58$   
 $L = 383.97$   
 $R = 2,000.00$   
 $E = 9.25$   
 $e = 5.47$   
 $L = 160'$   
 $x = 53'$

Curve RPC006\_1.3 Data  
 $\Delta = 11^\circ 28' 42.03''$  (RT)  
 $T = 50.25$   
 $L = 100.17$   
 $R = 500.00$   
 $E = 2.52$

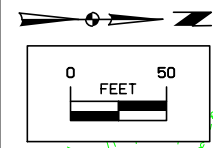
Curve RPC006\_1.4 Data  
 $\Delta = 88^\circ 18' 48.89''$  (RT)  
 $T = 194.20$   
 $L = 308.27$   
 $R = 200.00$   
 $E = 78.77$

Curve RPC006\_2.3 Data  
 $\Delta = 7^\circ 01' 17.99''$  (LT)  
 $T = 61.35$   
 $L = 122.55$   
 $R = 1,000.00$   
 $E = 1.88$

Curve RPC006\_2.4 Data  
 $\Delta = 80^\circ 04' 58.41''$  (LT)  
 $T = 168.07$   
 $L = 279.54$   
 $R = 200.00$   
 $E = 61.24$

Sta. 5415+73.50  
 Install 30" X 164' RCP  
 and Concrete Aprons  
 F.L. = Lt 863.63  
 (Remove)  
 Sta. 1415+45 Skew 20°  
 24" X 165' RCP

WALNUT TWP.  
 T-79N R-25W  
 SEC. 32  
 City of Clive

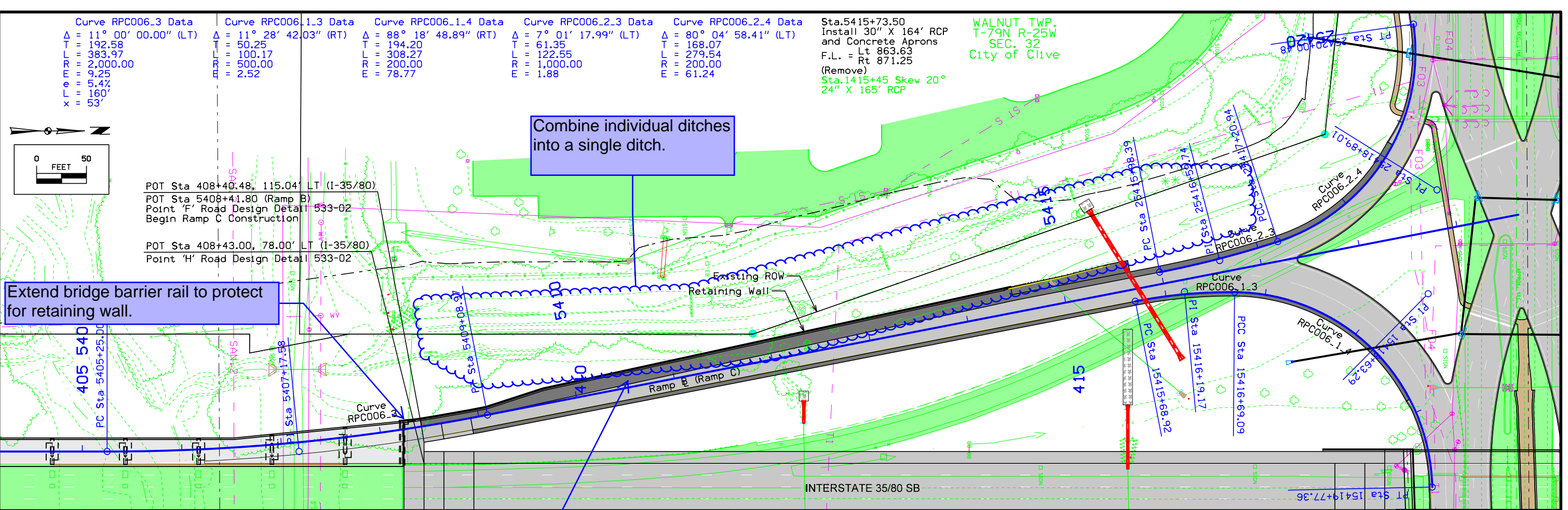


Combine individual ditches into a single ditch.

POT Sta 408+40.48, 115.04' LT (I-35/80)  
 POT Sta 5408+41.80 (Ramp B)  
 Point 'F' Road Design Detail 533-02  
 Begin Ramp C Construction

POT Sta 408+43.00, 78.00' LT (I-35/80)  
 Point 'H' Road Design Detail 533-02

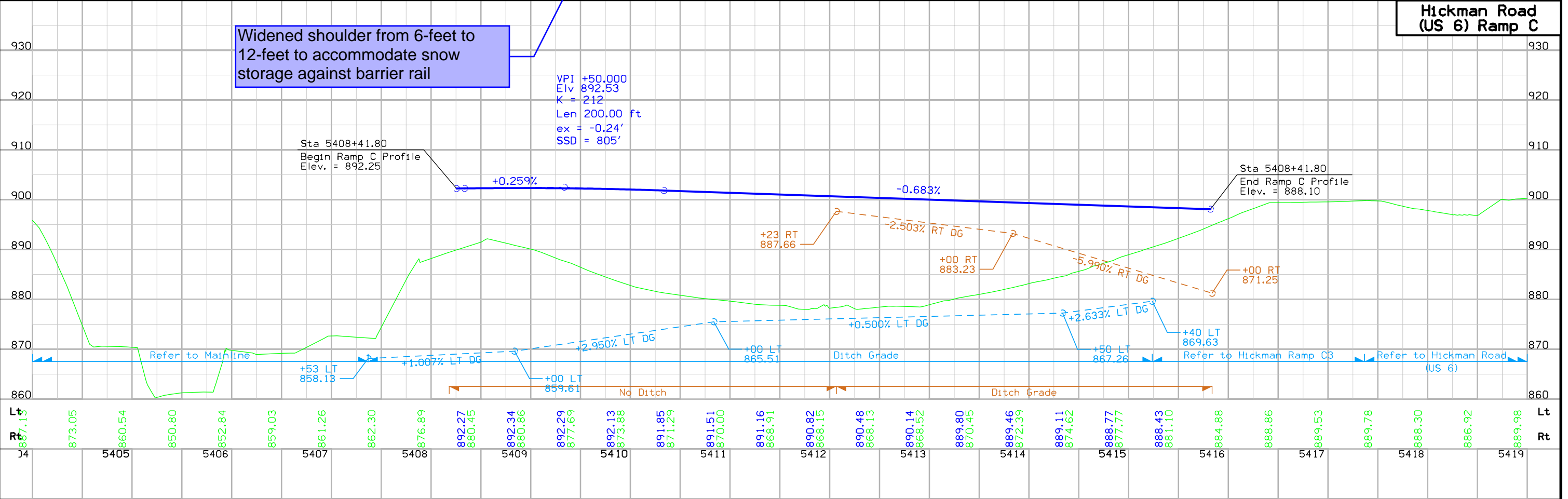
Extend bridge barrier rail to protect for retaining wall.

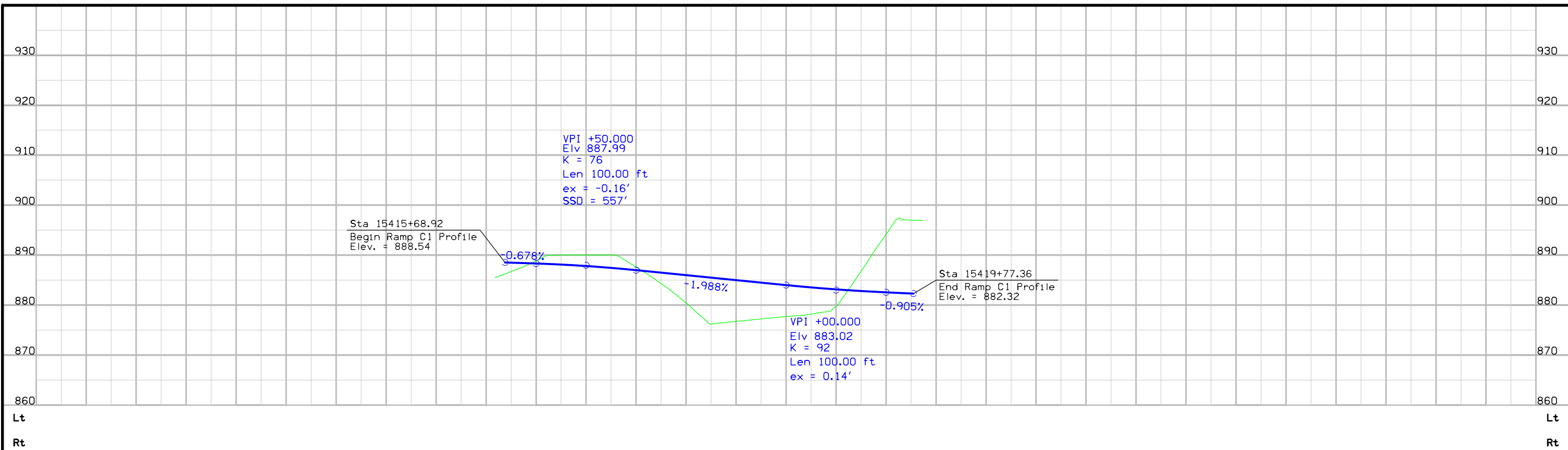


Widened shoulder from 6-feet to 12-feet to accommodate snow storage against barrier rail

VPI +50.000  
 Elev 892.53  
 K = 212  
 Len 200.00 ft  
 ex = -0.24'  
 SSD = 805'

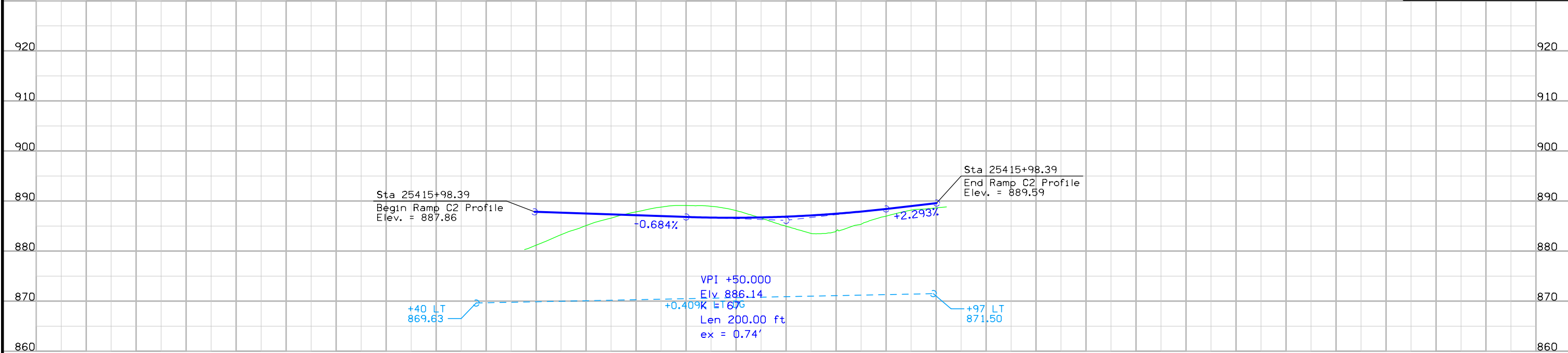
Hickman Road (US 6) Ramp C





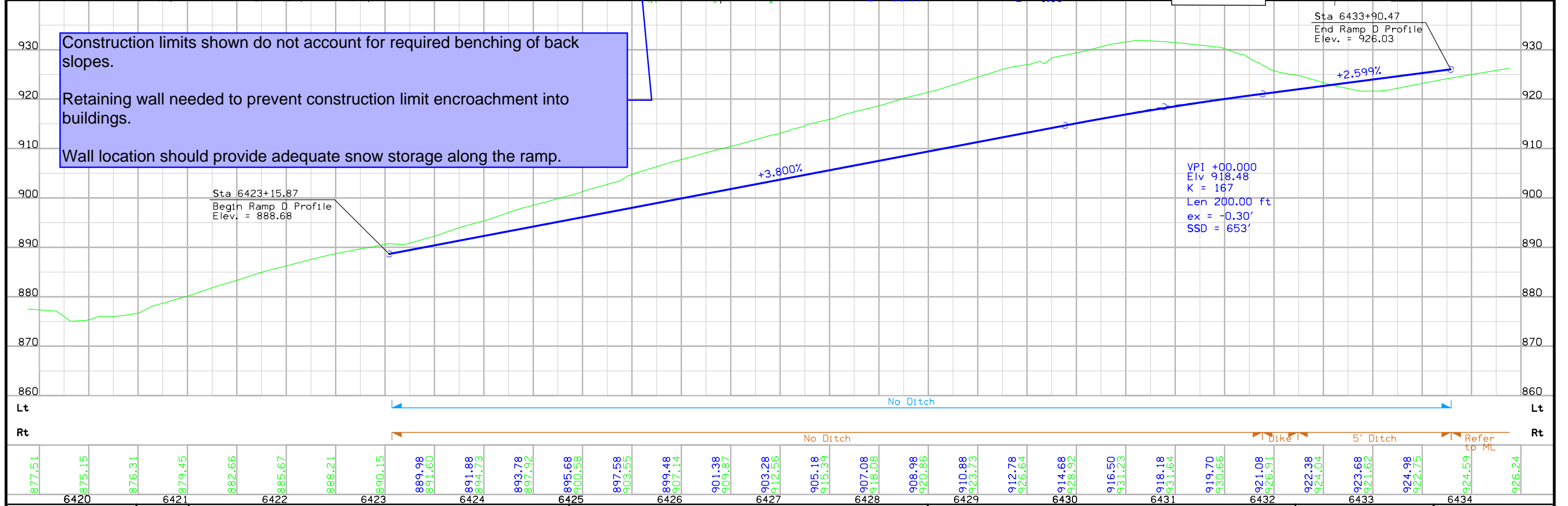
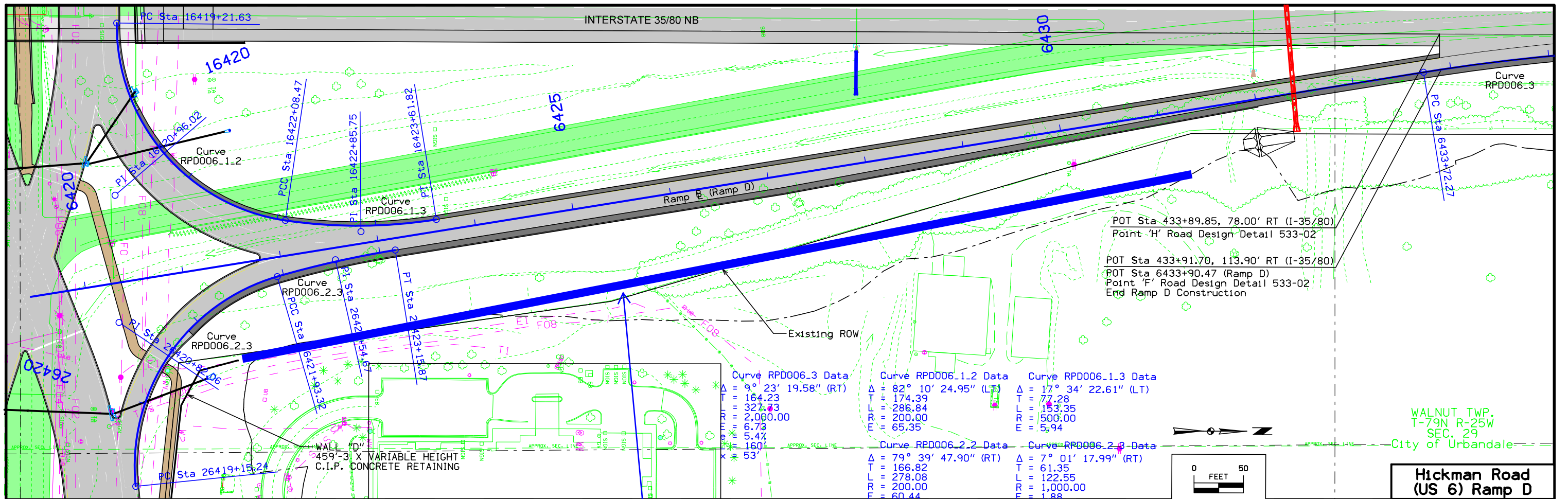
15411	15412	15413	15414	15415	15416	15417	15418	15419	15420	15421	15422	15423	15424	15425	15426
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

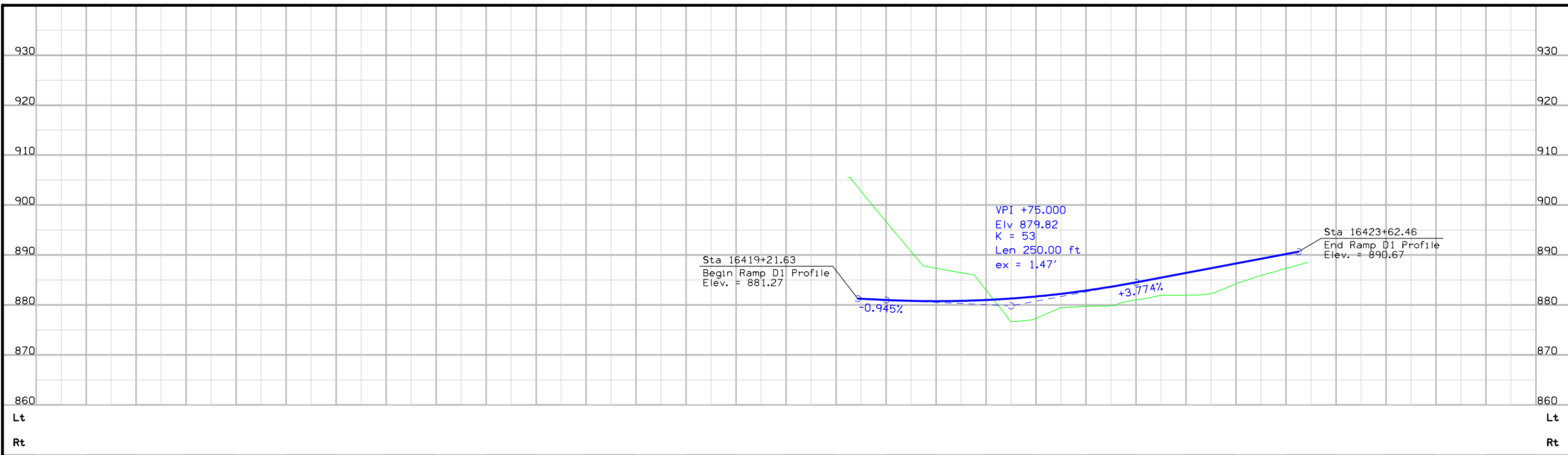
**Hickman Road  
(US 6) Ramp C**



Lt Refer to Ramp C Ditch Grade Refer to Hickman Road (US 6) Rt

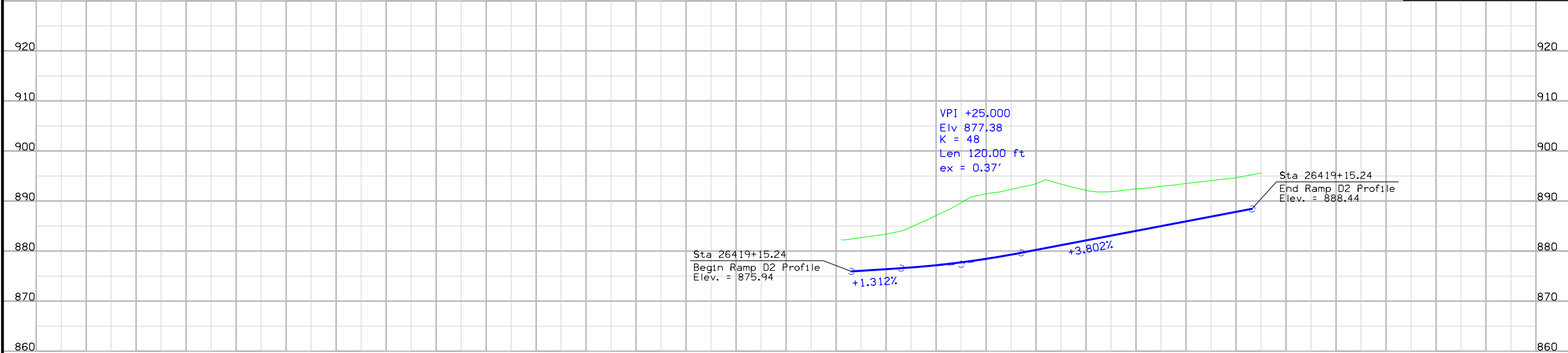
25411	25412	25413	25414	25415	25416	25417	25418	25419	25420	25421	25422	25423	25424	25425	25426
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------





16411	16412	16413	16414	16415	16416	16417	16418	16419	16420	16421	16422	16423	16424	16425	16426	
								881.00 896.67	880.77 887.35	881.00 882.98	881.71 877.34	882.89 879.75	884.54 881.01	886.43 881.97	888.31 884.27	890.20 887.34

**Hickman Road  
(US 6) Ramp D**



26411	26412	26413	26414	26415	26416	26417	26418	26419	26420	26421	26422	26423	26424	26425	26426
								876.40 883.41	877.18 887.09	878.46 891.44	880.23 893.47	882.13 892.18	884.03 892.42	885.94 893.50	887.84 894.66

WALNUT TWP.  
T-79N R-25W  
SEC. 29  
City of Urbandale

WALNUT TWP.  
T-79N R-25W  
SEC. 20  
City of Urbandale

WALNUT TWP.  
T-79N R-25W  
SEC. 21  
City of Urbandale

Curve RPCDOUG\_3 Data  
Δ = 9° 23' 19.62" (LT)  
T = 164.23  
L = 327.73  
R = 2,000.00  
E = 6.73  
e = 5.4%  
L = 168'  
x = 62'

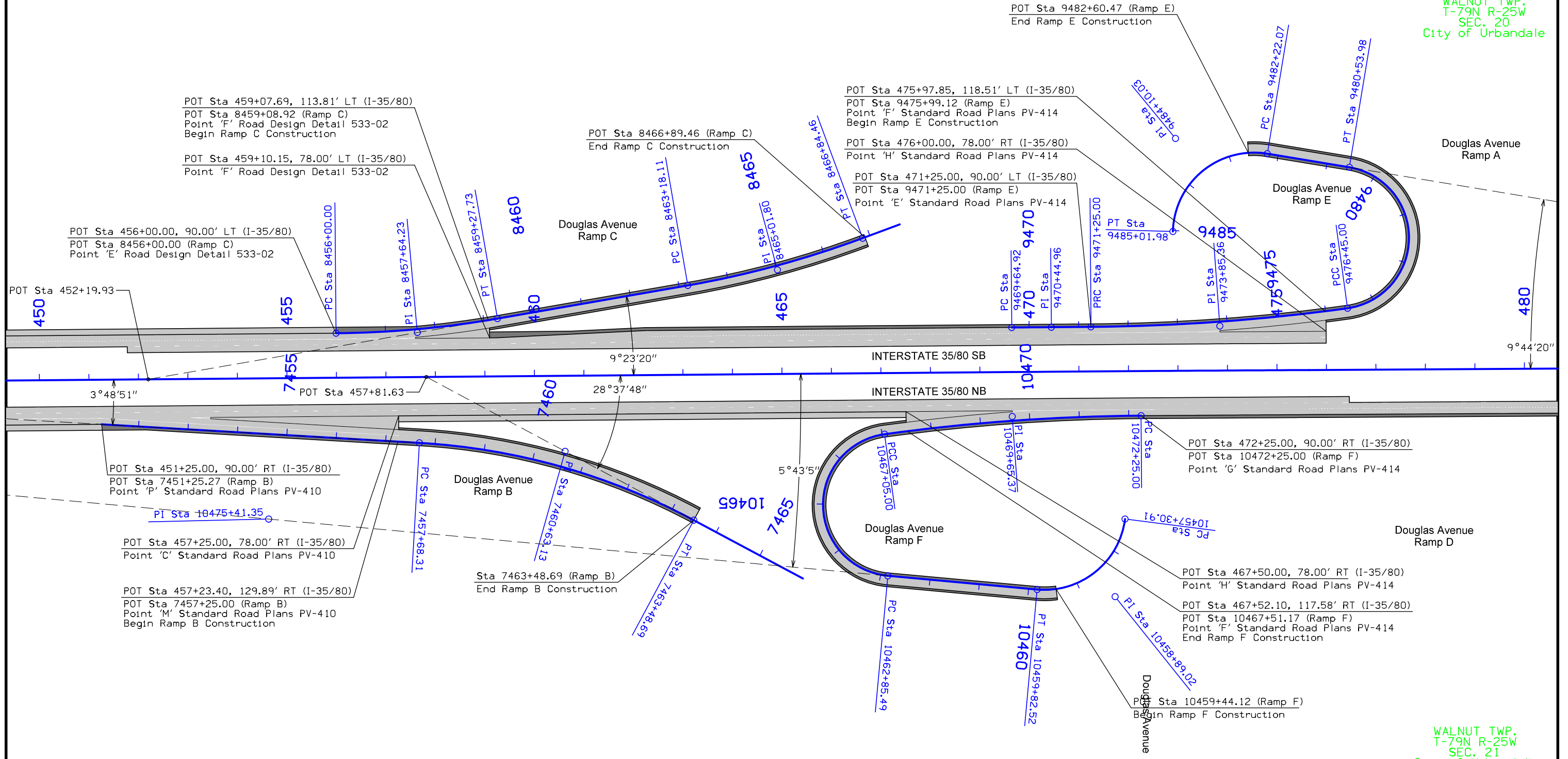
Curve RPCDOUG\_6 Data  
Δ = 10° 29' 42.73" (LT)  
T = 183.69  
L = 366.35  
R = 2,000.00  
E = 8.42  
e = 5.4%  
L = 168'  
x = 62'

Curve RPEDOUG\_5 Data  
Δ = 0° 02' 16.01" (RT)  
T = 80.04  
L = 160.08  
R = 242,753.81  
E = 0.01

Curve RPEDOUG\_6 Data  
Δ = 7° 26' 54.42" (LT)  
T = 260.37  
L = 520.00  
R = 4,000.00  
E = 8.46

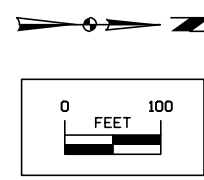
Curve RPEDOUG\_7 Data  
Δ = 162° 43' 46.68" (LT)  
T = 948.22  
L = 408.98  
R = 144.00  
E = 815.09  
e = 6.0%  
L = 128'  
x = 43'

Curve RPEDOUG\_10 Data  
Δ = 97° 47' 21.20" (LT)  
T = 187.96  
L = 279.91  
R = 164.00  
E = 85.45  
e = 6.0%  
L = 128'  
x = 43'



WALNUT TWP.  
T-79N R-25W  
SEC. 28  
City of Urbandale

Curve RPBDOUG\_3 Data  
Δ = 24° 48' 57.31" (RT)  
T = 294.81  
L = 580.38  
R = 1,340.00  
E = 32.05  
e = 6.0%  
L = 240'  
x = 80'

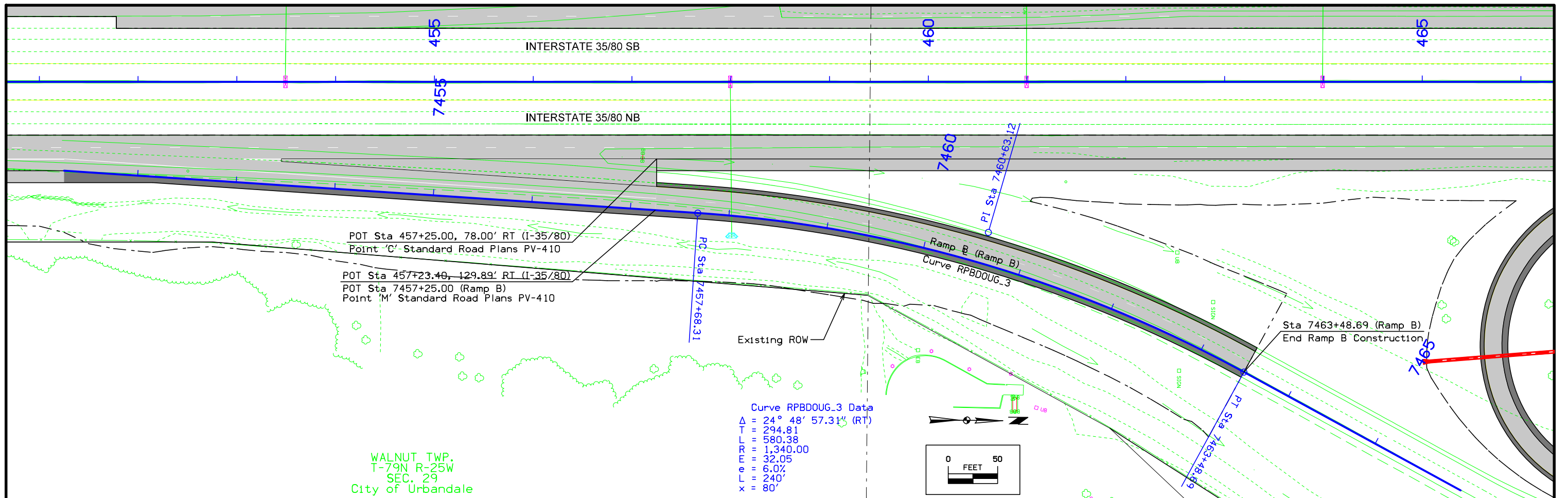


Curve RPFDOUG\_1 Data  
Δ = 87° 54' 18.36" (RT)  
T = 158.11  
L = 251.61  
R = 164.00  
E = 63.80  
e = 6.0%  
L = 128'  
x = 43'

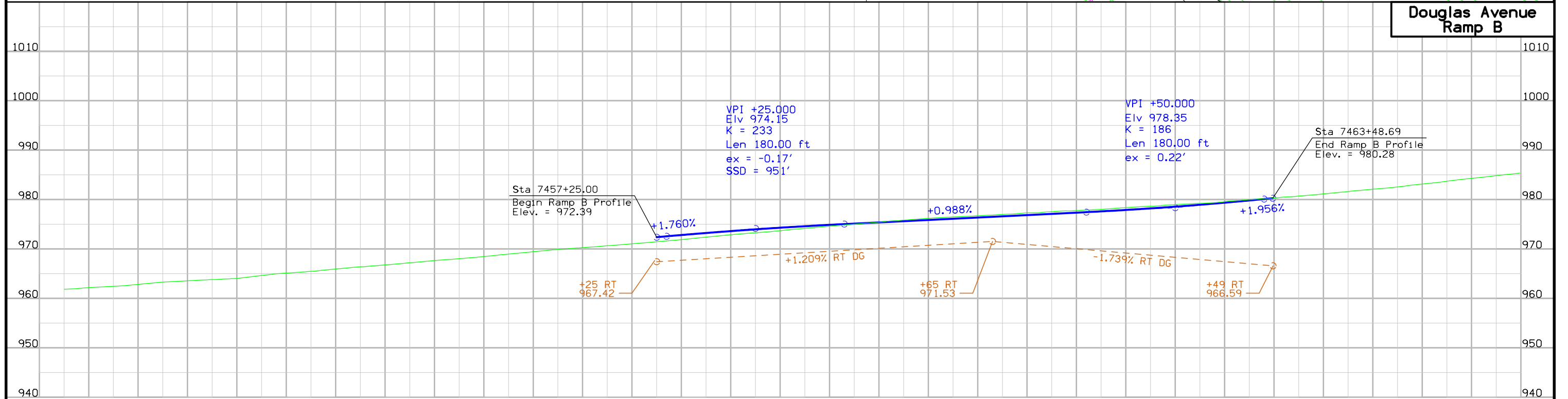
Curve RPFDOUG\_4 Data  
Δ = 166° 55' 04.00" (RT)  
T = 1,255.86  
L = 419.51  
R = 144.00  
E = 1,120.09  
e = 6.0%  
L = 128'  
x = 43'

Curve RPFDOUG\_5 Data  
Δ = 7° 26' 54.42" (RT)  
T = 260.37  
L = 520.00  
R = 4,000.00  
E = 8.46

Geometric Plan  
Proposed Interchange of  
Interstate 35/80 with  
Douglas Avenue  
Polk County

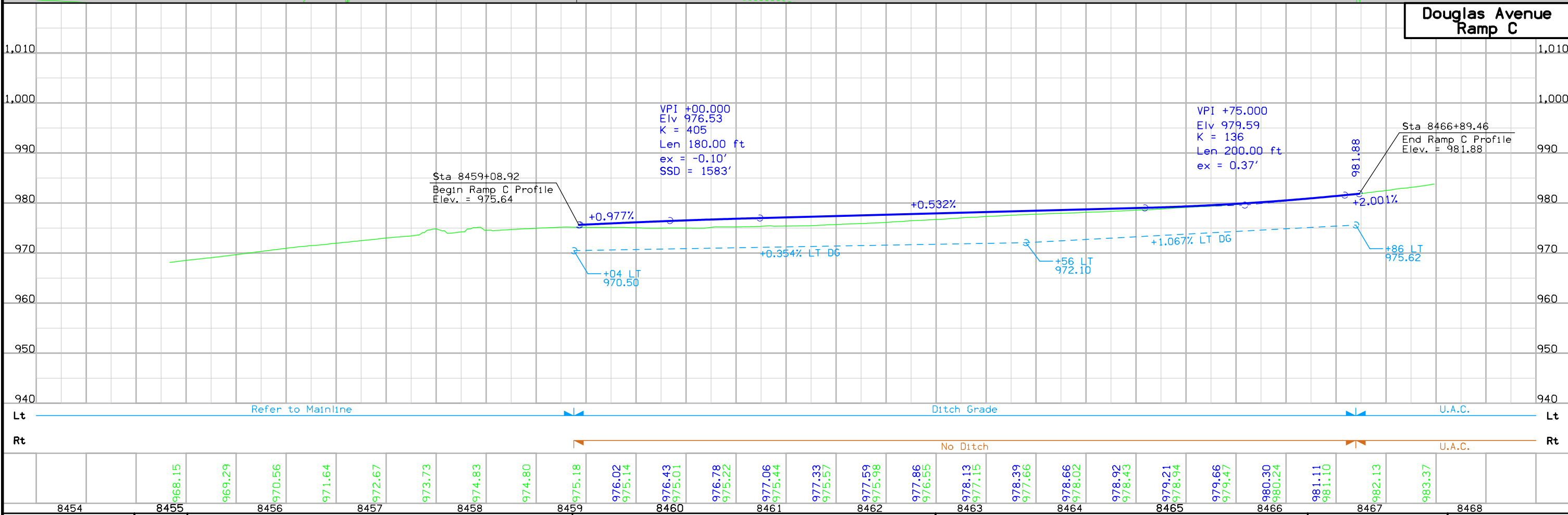
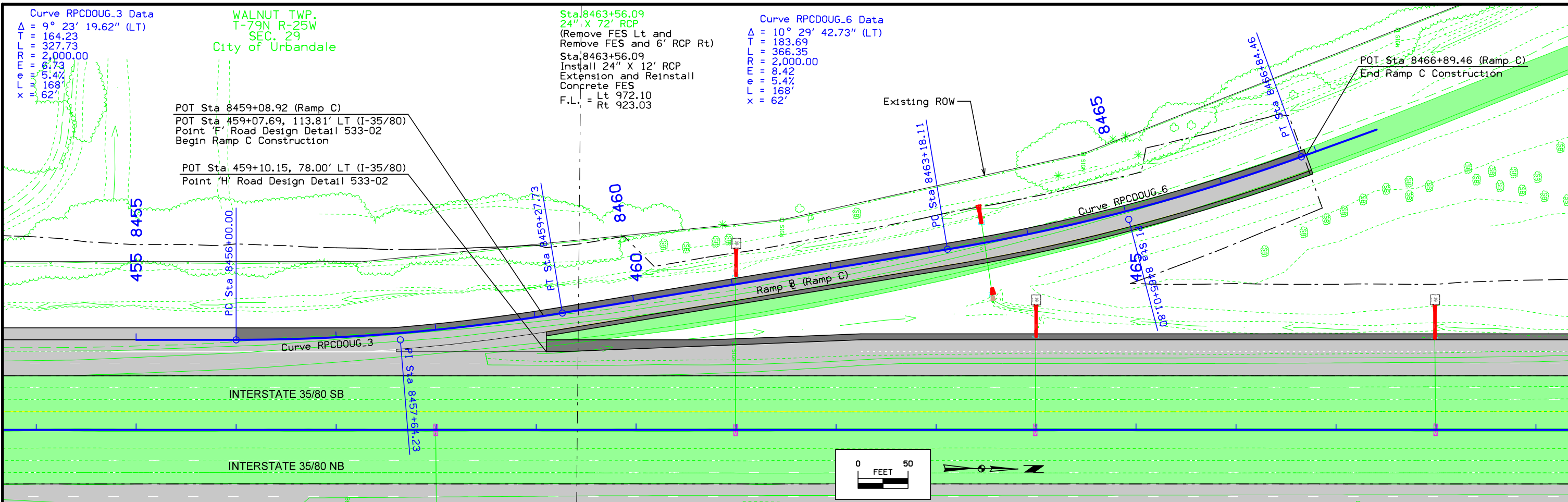


**Douglas Avenue  
 Ramp B**

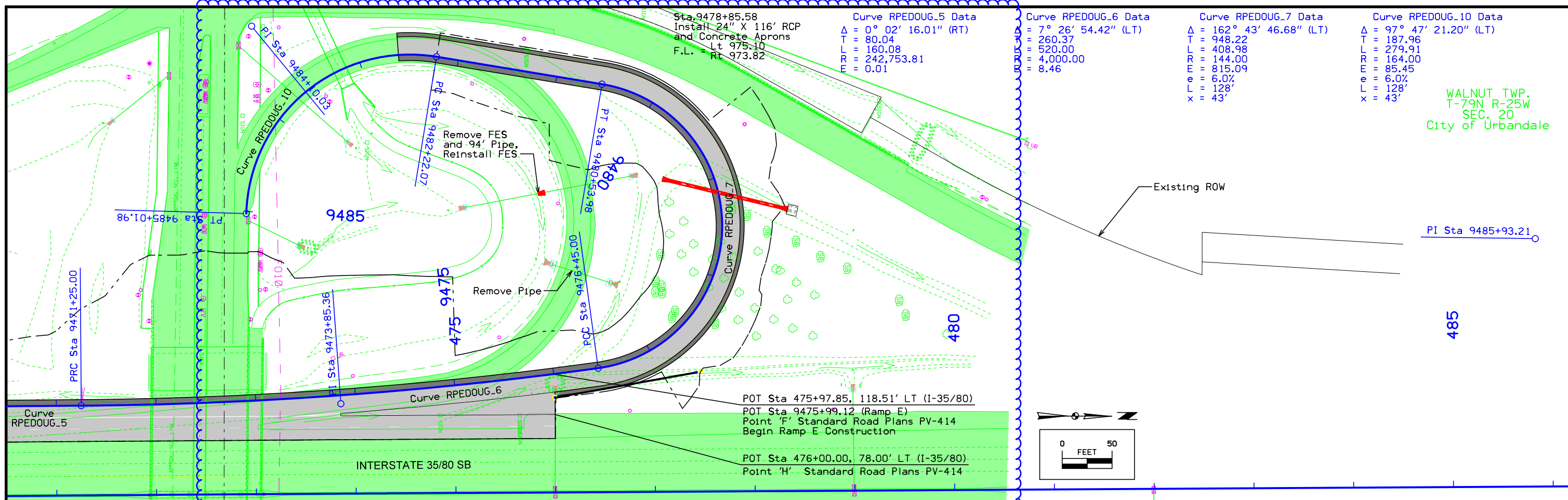


Lt																					Lt																					
Rt	Refer to ML										RT Ditch Grade										U.A.C.		Rt																			
	962.17	962.83	963.56	964.04	965.11	965.94	966.78	967.65	968.47	969.45	970.27	971.04	972.83	971.89	973.62	972.89	974.31	973.71	974.89	974.62	975.39	975.41	975.88	976.21	976.37	976.73	976.87	977.30	977.36	977.79	977.90	978.37	978.57	978.98	979.37	979.57	980.31	981.15	982.11	983.13	984.29	
	7451	7452	7453	7454	7455	7456	7457	7458	7459	7460	7461	7462	7463	7464	7465	7466																										



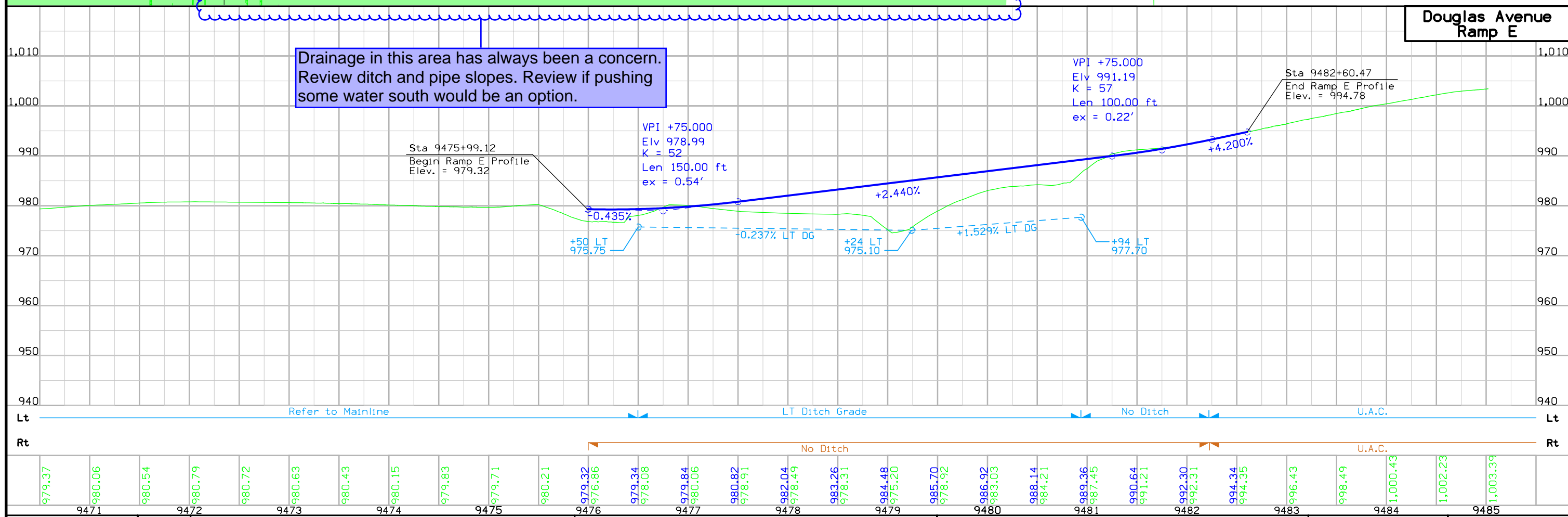


FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>K.17</b>
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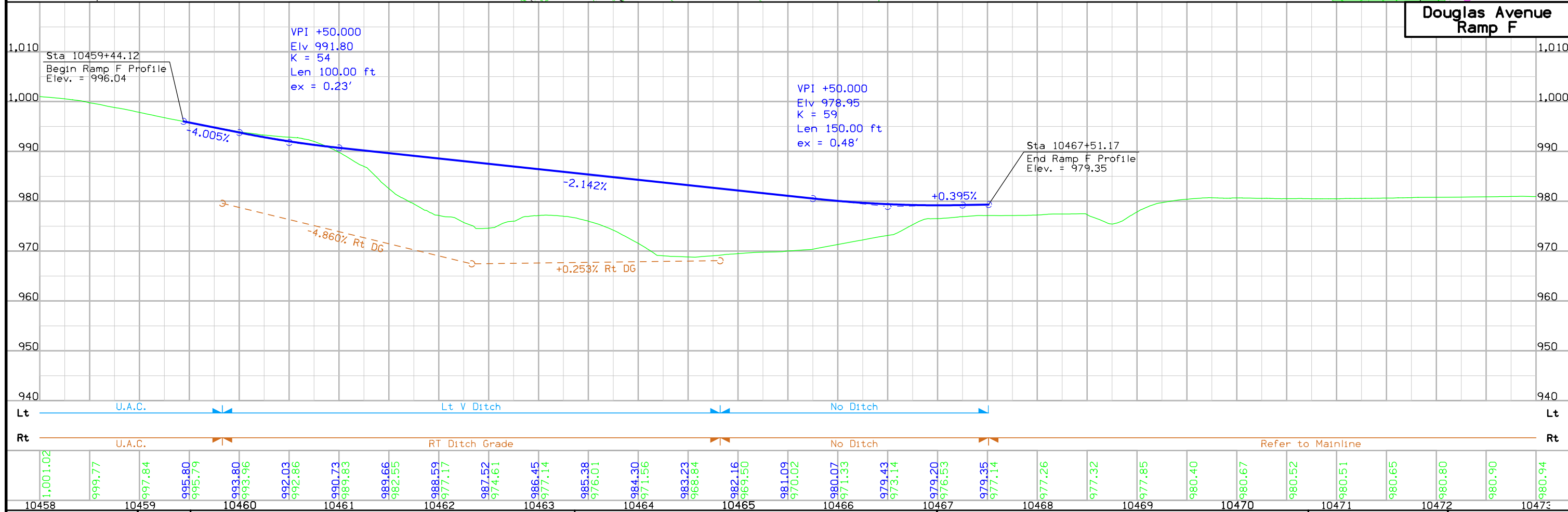
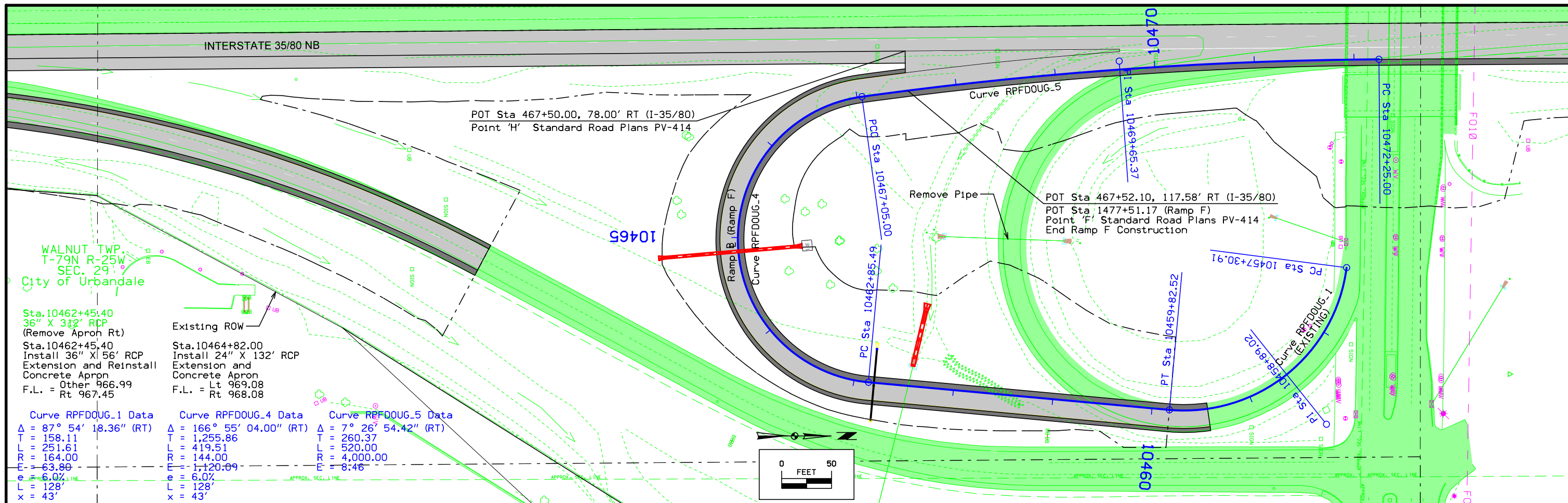
Curve RPEDOUG_5 Data	Curve RPEDOUG_6 Data	Curve RPEDOUG_7 Data	Curve RPEDOUG_10 Data
$\Delta = 0^\circ 02' 16.01''$ (RT)	$\Delta = 7^\circ 26' 54.42''$ (LT)	$\Delta = 162^\circ 43' 46.68''$ (LT)	$\Delta = 97^\circ 47' 21.20''$ (LT)
T = 80.04	T = 260.37	T = 948.22	T = 187.96
L = 160.08	L = 520.00	L = 408.98	L = 279.91
R = 242,753.81	R = 4,000.00	R = 144.00	R = 164.00
E = 0.01	E = 8.46	E = 815.09	E = 85.45
		e = 6.0%	e = 6.0%
		L = 128'	L = 128'
		x = 43'	x = 43'

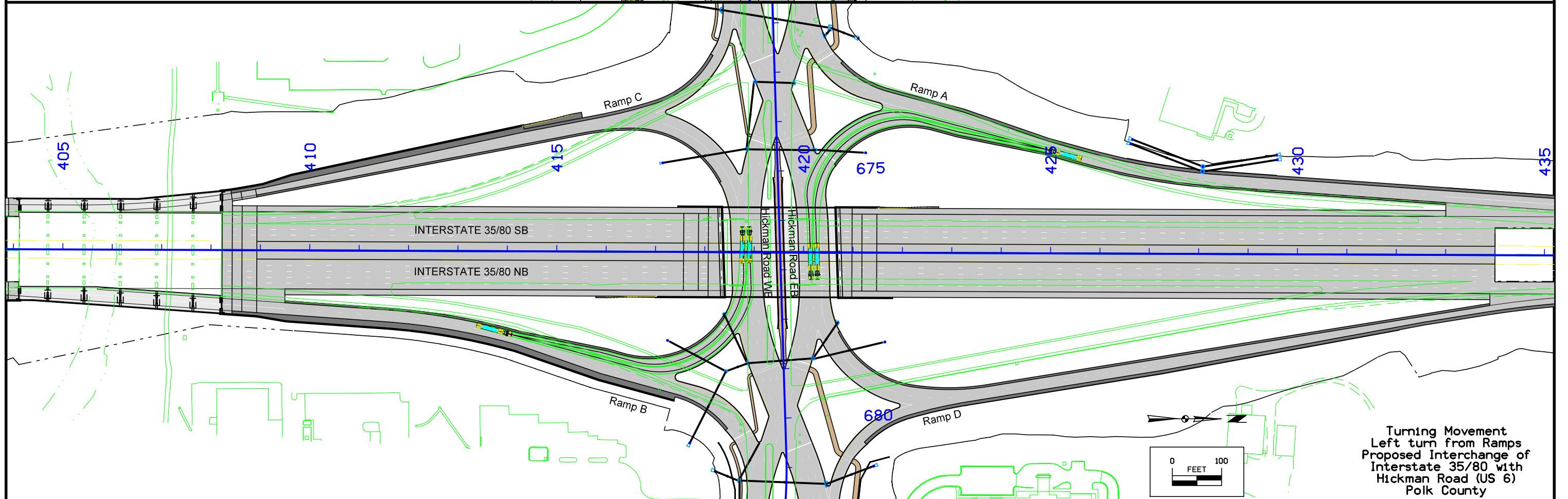
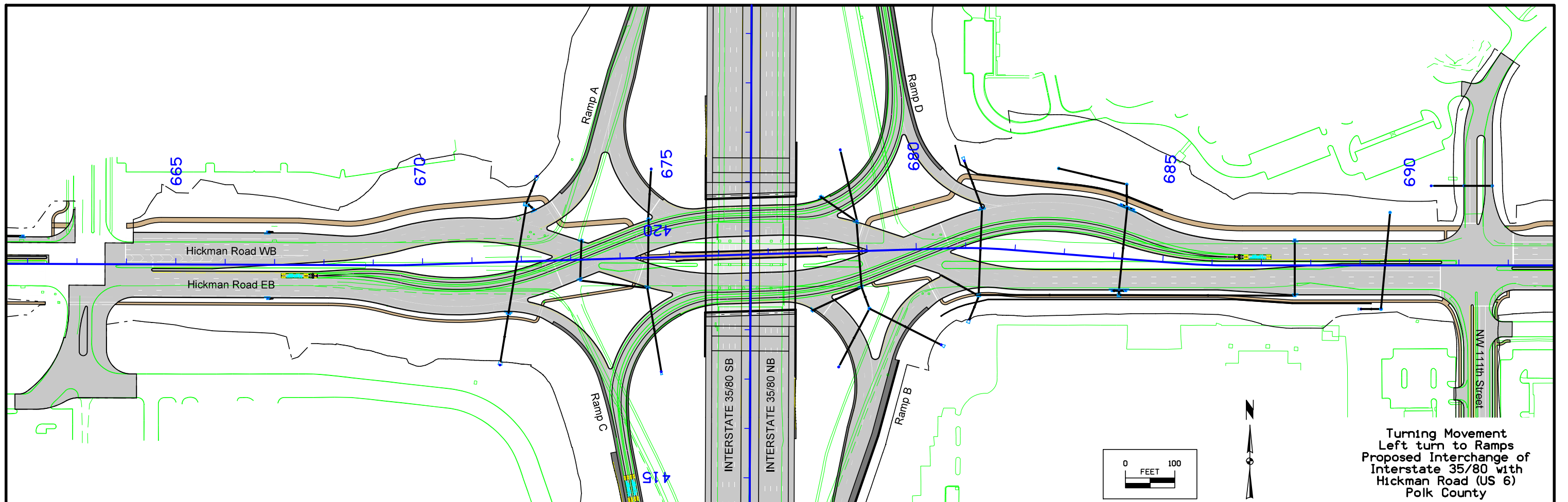
WALNUT TWP.  
T-79N R-25W  
SEC. 20  
City of Urbandale

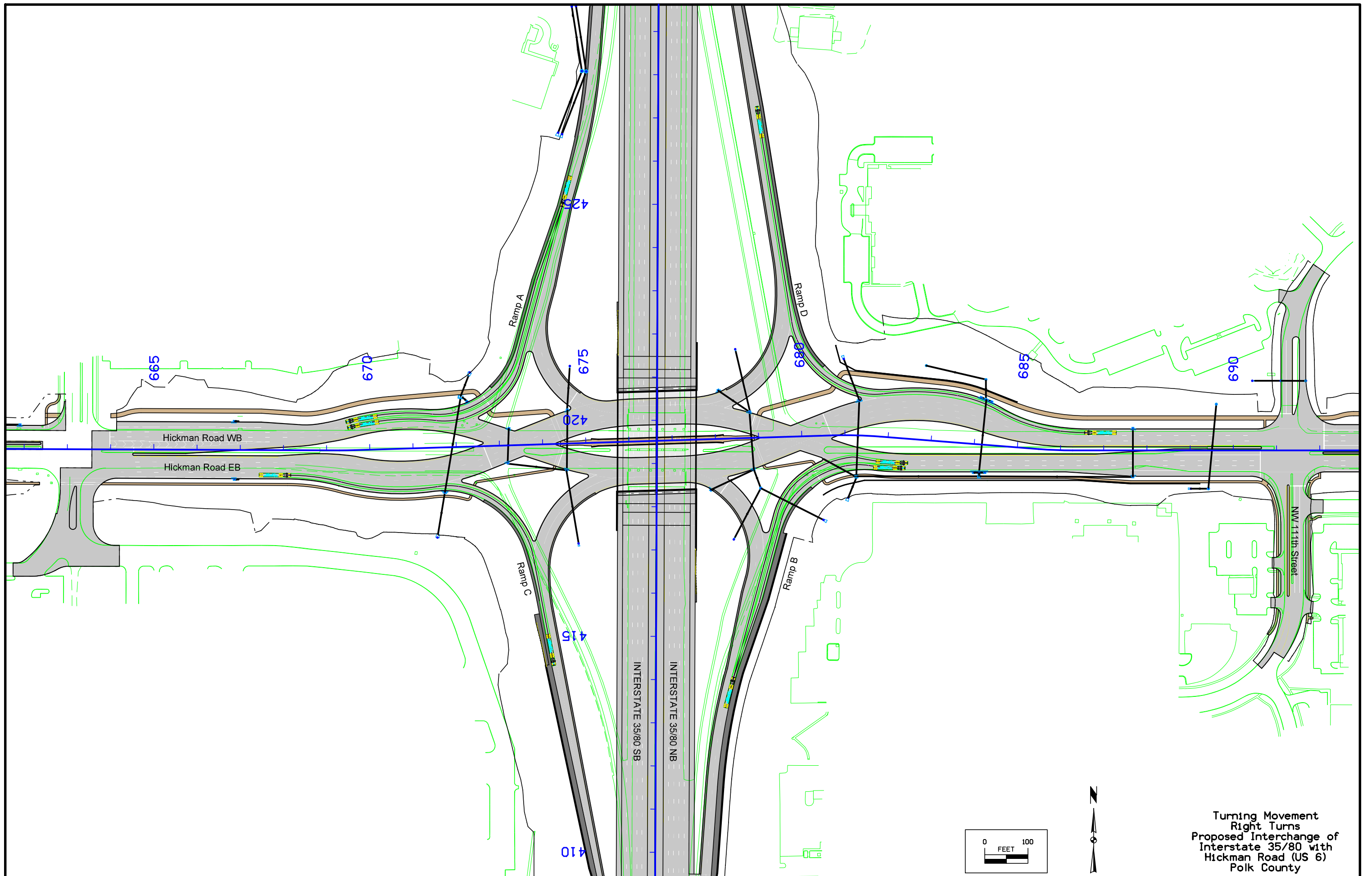


Drainage in this area has always been a concern. Review ditch and pipe slopes. Review if pushing some water south would be an option.

FILE NO.	ENGLISH	DESIGN TEAM	<b>SNYDER &amp; ASSOCIATES, INC.</b>	POLK COUNTY	PROJECT NUMBER	<b>IM-080-4(069)125--13-77</b>	SHEET NUMBER	<b>K.18</b>
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### STORM SEWER

① Diameter or equivalent diameter  
\* Bid Item  
\*\* For SW-545

INTAKES AND UTILITY ACCESSES						PIPES															
						Design Length, Slope, and Flowlines are calculated from center to center of structures.															
No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade	Bottom Well	Extension Length**	Notes	Line Number	Intake/Utility Access No.		Class 'D'	Pipe Size ①	Bid* Length	Design Length	Slope %	Connected Pipe Joint (DR-121) Type	Flow Lines			Pipe Profile Sheet No.	Notes	
			Elev.	Elev.	FT			From	To							Inlet Elevation	Outlet Elevation	Other Elevation			
1	380+00.00, 103.6' LT	SW-401	926.1	926.76		48" DIA	1	1	2	2000	18	74	80.1	1.4		923.62	922.5				
2	379+25.00, 128.0' LT	FES																			
3	476+00.00, 95.0' LT	SW-401	980.1	975.45		48" DIA	3	3	4	2000	18	144	150.1	0.43		975.95	975.3				
4	477+48.00, 120.5' LT	FES																			
5	10462+80.00, 38.0' LT	SW-512	985.22	979.72		24" DIA	5	5	6	2000	18	66	72.1	1		980.22	979.44				
6	10462+80.00, 39.9' RT	FES																			

### ROCK EROSION CONTROL

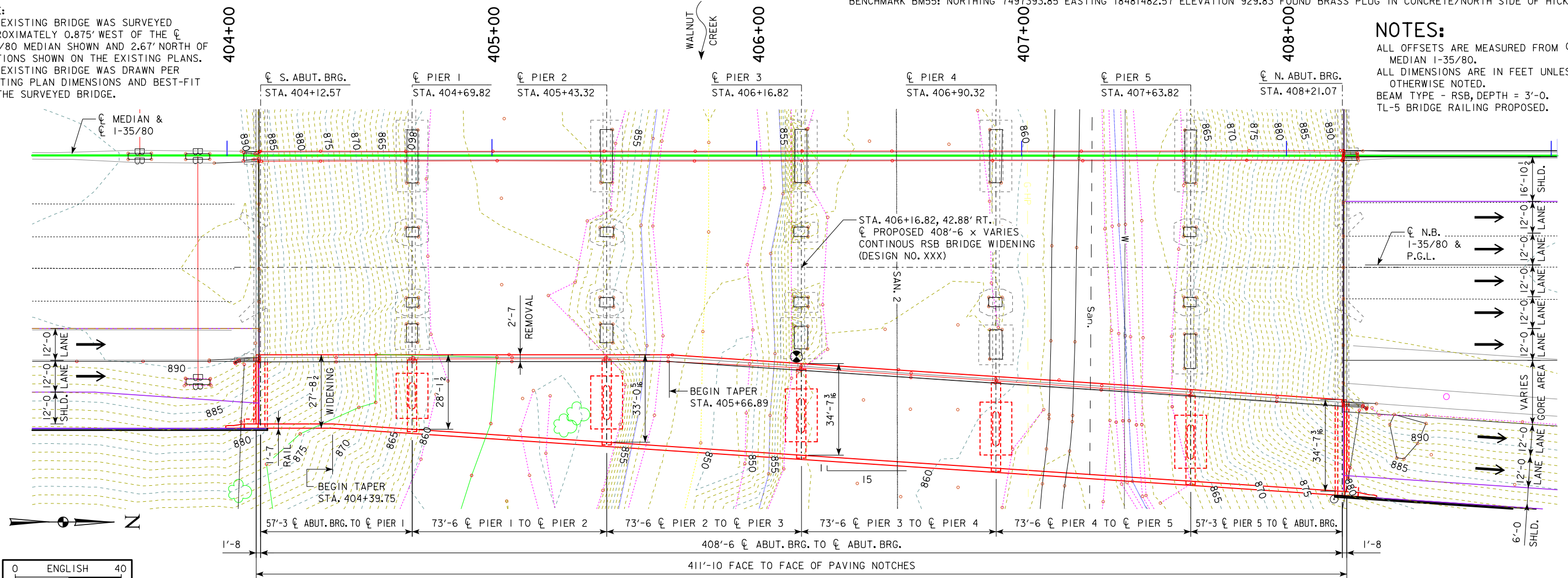
Refer to EC-301 and Detail 570-8

Location			Side	L	W	Rock Erosion Control (REC)					Material Bid Quantities			Remarks
Road Identification	Begin Station	End Station				Lt./Rt.	FT	FT	Type 1	Type 2	Type 3	Type 4	Type 5	
			Rock Ditch Check	Rock Ditch	Rock Flume				Rock Splash Basin	Rock Slope Protection	SY	TON	TON	
I-35/80	371+50.60		RT	9.4	10				X		20.8	10.3		
	373+25.00	375+10.00	LT	185	16		X				420.0	325.6		
	374+25.60		RT	9.4	10					X	20.8	10.3		
	375+10.00		LT							X				
	375+10.00	377+14.60	LT	204.6	16		X				463.6	360.1		
	379+25.00		LT	9.4	10					X	20.8	10.3		
	386+00.00		RT	9.4	10					X	20.8	10.3		
	390+11.30		RT	10.5	10					X	22.6	11.6		
	394+54.00		LT	9.4	10					X	20.8	10.3		
	397+90.00	399+80.00	RT	190	16		X				431.1	334.4		
	399+04.50		LT	9.4	10					X	20.8	10.3		
	402+03.80		RT	10.5	63.1			X			108.1	72.9		
	412+24.00		LT	9.4	10					X	20.8	10.3		
	415+49.20		LT	9.4	76.2			X			119.4	78.8		
	422+99.80		LT	9.4				X						
	432+58.10		LT	10.5	10					X	22.6	11.6		
	441+28.30		LT	10.5	10					X	22.6	11.6		
	442+00.00	443+10.00	LT	110	16		X				253.3	193.6		
	443+13.00	443+81.00	RT	68	16		X				160.0	119.7		
	443+57.00	444+85.00	LT	128	16		X				293.3	225.3		
	444+87.60		LT	9.4	85.2			X			132.8	88.1		
	446+13.00	450+19.00	RT	406	16		X				911.1	714.6		
	446+83.00	448+82.00	LT	199	16		X				451.1	350.2		
	448+99.20		LT	10.5	15.4			X			31.3	17.8		
	461+00.00		LT	9.4	10					X	20.8	10.3		
	464+00.00		LT	9.4	10					X	20.8	10.3		
	468+00.00		LT	9.4	10					X	20.8	10.3		
	477+48.00		LT	9.4	10					X	20.8	10.3		
University Ramp A	1378+00.00	1381+50.00	LT	350	16			X			786.7	616.0		
Hickman Ramp A	3426+20.00	3426+30.00	LT	10	21.7					X	40.0	23.9		
Hickman Ramp A	3432+11.30		LT	12.7	10					X	26.0	14.0		
Hickman Ramp C	5415+41.00		LT	11.6	10					X	24.3	12.8		
Douglas Ramp E	9480+94.00		LT	10.5	10					X	22.6	11.6		
	9478+85.58		RT	10.5	10					X	22.6	11.6		
Douglas Ramp F	10462+80.00		RT	9.4	51.6			X			82.8	53.4		
	10464+82.00		RT	10.5	10					X	22.6	11.6		

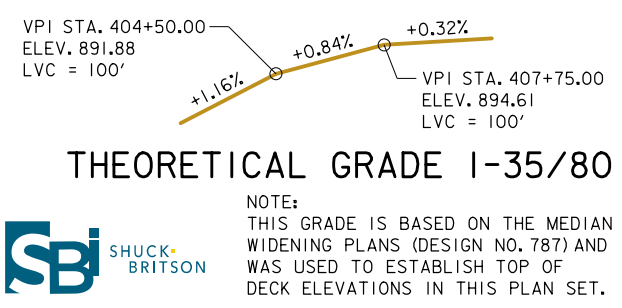
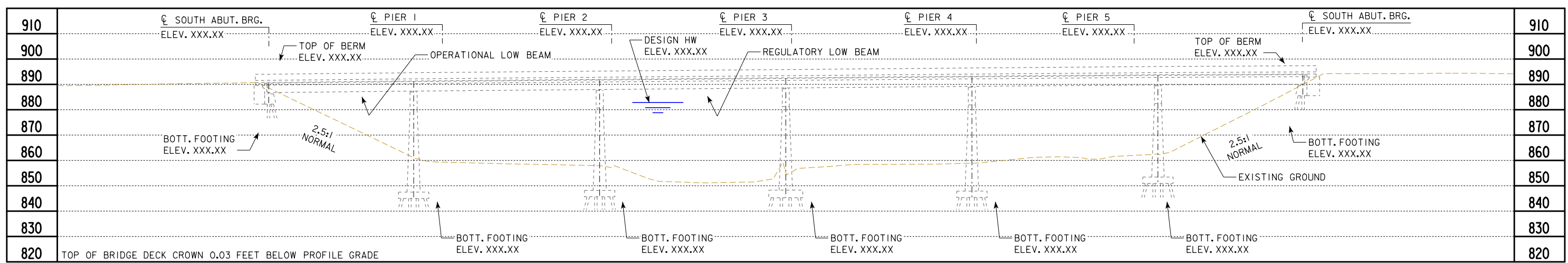
NOTE:  
THE EXISTING BRIDGE WAS SURVEYED APPROXIMATELY 0.875' WEST OF THE CL I-35/80 MEDIAN SHOWN AND 2.67' NORTH OF STATIONS SHOWN ON THE EXISTING PLANS. THE EXISTING BRIDGE WAS DRAWN PER EXISTING PLAN DIMENSIONS AND BEST-FIT TO THE SURVEYED BRIDGE.

BENCHMARK BM55: NORTHING 7497393.85 EASTING 18481482.57 ELEVATION 929.83 FOUND BRASS PLUG IN CONCRETE/NORTH SIDE OF HICKMAN ROAD

NOTES:  
ALL OFFSETS ARE MEASURED FROM CL MEDIAN I-35/80.  
ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.  
BEAM TYPE - RSB, DEPTH = 3'-0".  
TL-5 BRIDGE RAILING PROPOSED.



SITUATION PLAN



**LONGITUDINAL SECTION ALONG CL N.B. I-35/80**

**HYDRAULIC DATA**  
DRAINAGE AREA = 56 SQ. MILES  
Q<sub>50</sub> = 6700 CFS  
Q<sub>50</sub> NATURAL STAGE = 863.0  
Q<sub>100</sub> = 7670 CFS  
Q<sub>100</sub> NATURAL STAGE = 863.5  
EXT. H.W. = 863.0 (DATE UNKNOWN)

**TRAFFIC ESTIMATE**  
200\_ AADT \_\_\_\_\_ V.P.D.  
202\_ AADT \_\_\_\_\_ V.P.D.  
202\_ DHV \_\_\_\_\_ V.P.H.  
TRUCKS \_\_\_\_\_ %  
TOTAL DESIGN ESALs \_\_\_\_\_

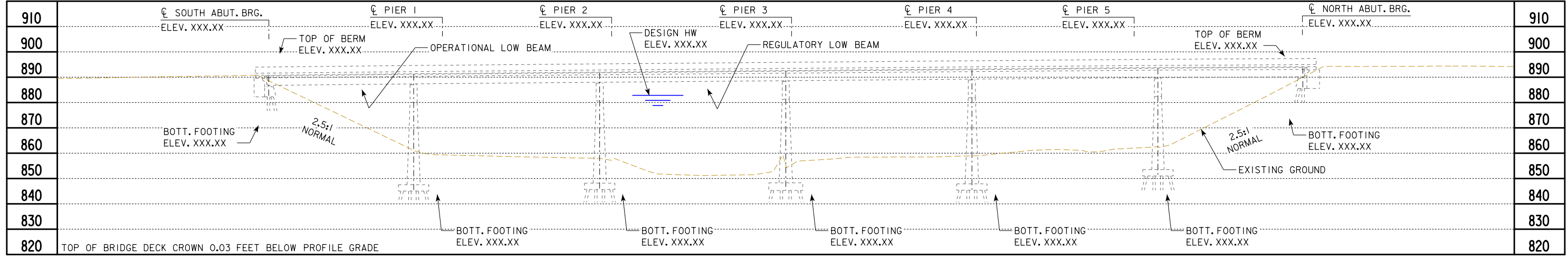
**UTILITY LEGEND**  
--G-HP-- GAS  
--San.-- SANITARY SEWER  
--SAN.2-- SANITARY SEWER  
--W-- WATER

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

**LOCATION**  
N.B. I-35 AND I-80 OVER WALNUT CREEK & BIKE TRAIL  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY  
FHWA NO. 41280  
BRIDGE MAINT. NO. 7724.8R080  
LATITUDE 41.611276°  
LONGITUDE -93.776695°

PRELIMINARY  
DESIGN FOR 0° SKEW  
**408'-6 X VAR. ROLLED STEEL BEAM BRIDGE WIDENING TO 408'-6 X VAR.**  
57'-3 END SPANS 4 - 73'-6 INTERIOR SPANS  
**SITUATION PLAN - N.B.**  
STATION 406+16.82, 42.88' RT. (CL I-35/80) MONTH, YEAR  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_\_ OF ? FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_

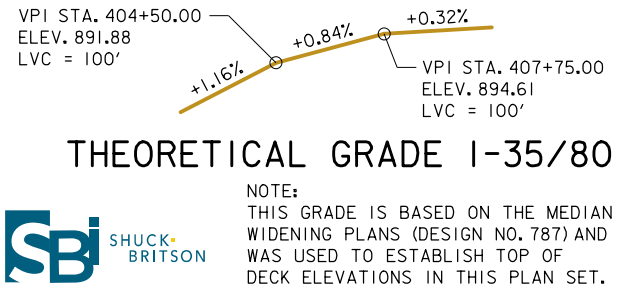
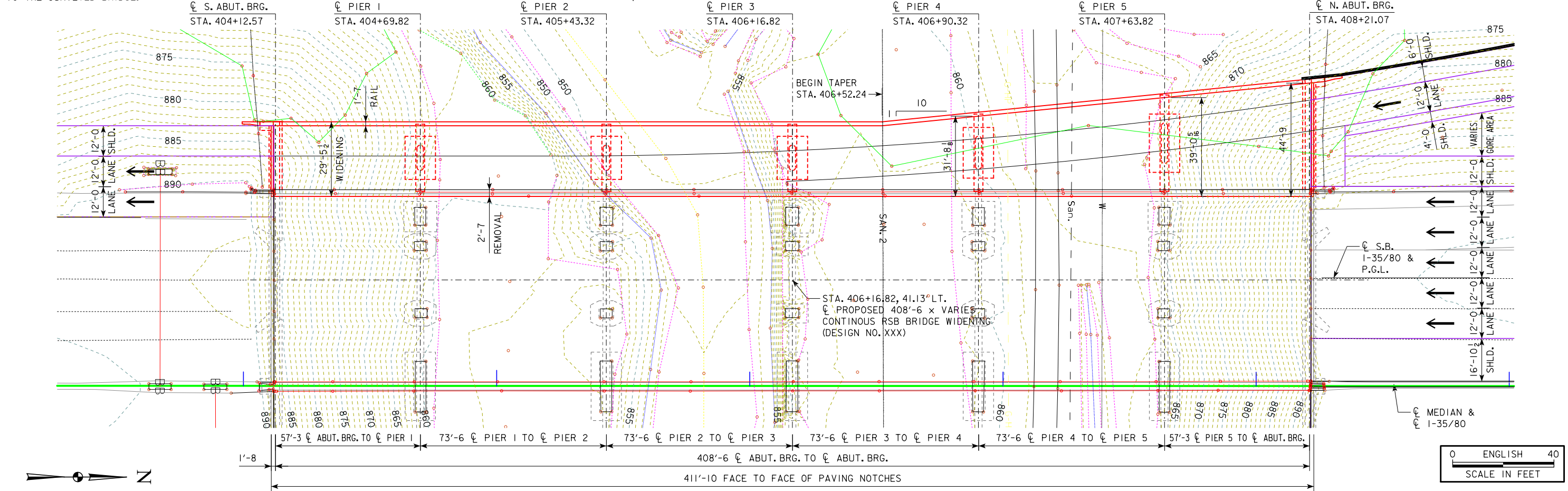




NOTE:  
THE EXISTING BRIDGE WAS SURVEYED APPROXIMATELY 0.875' WEST OF THE S.B. 1-35/80 MEDIAN SHOWN AND 2.67' NORTH OF STATIONS SHOWN ON THE EXISTING PLANS. THE EXISTING BRIDGE WAS DRAWN PER EXISTING PLAN DIMENSIONS AND BEST-FIT TO THE SURVEYED BRIDGE.

NOTES:  
ALL OFFSETS ARE MEASURED FROM S.B. 1-35/80 MEDIAN. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED. BEAM TYPE - RSB, DEPTH = 3'-0". TL-5 BRIDGE RAILING PROPOSED.

LONGITUDINAL SECTION ALONG S.B. 1-35/80



**HYDRAULIC DATA**  
DRAINAGE AREA = 56 SQ. MILES  
Q<sub>50</sub> = 6700 CFS  
Q<sub>50</sub> NATURAL STAGE = 863.0  
Q<sub>100</sub> = 7670 CFS  
Q<sub>100</sub> NATURAL STAGE = 863.5  
EXT. H.W. = 863.0 (DATE UNKNOWN)  
NOTE: HYDRAULIC DATA IS BASED ON THE MEDIAN WIDENING PLANS (DESIGN NO. 787).

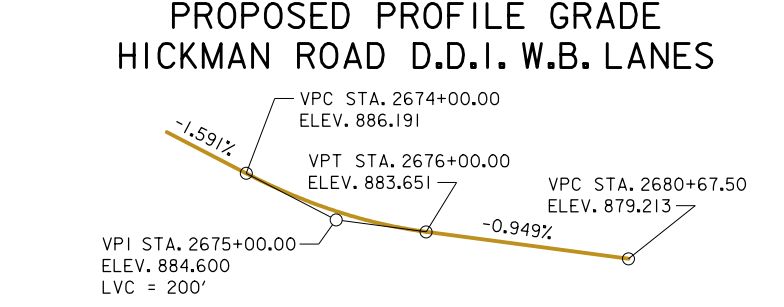
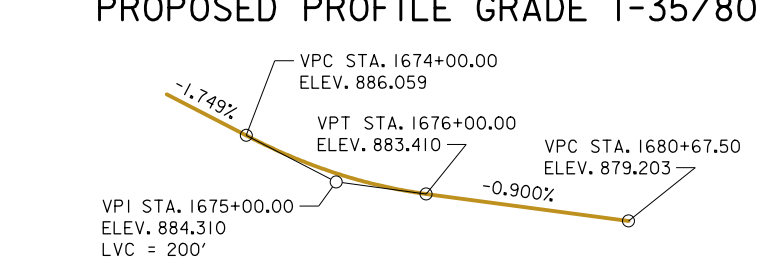
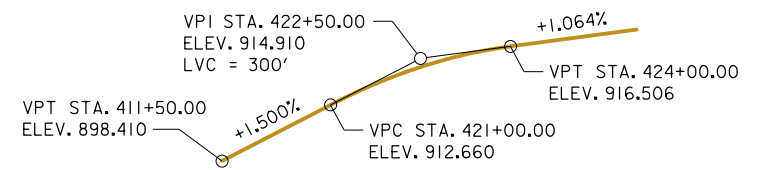
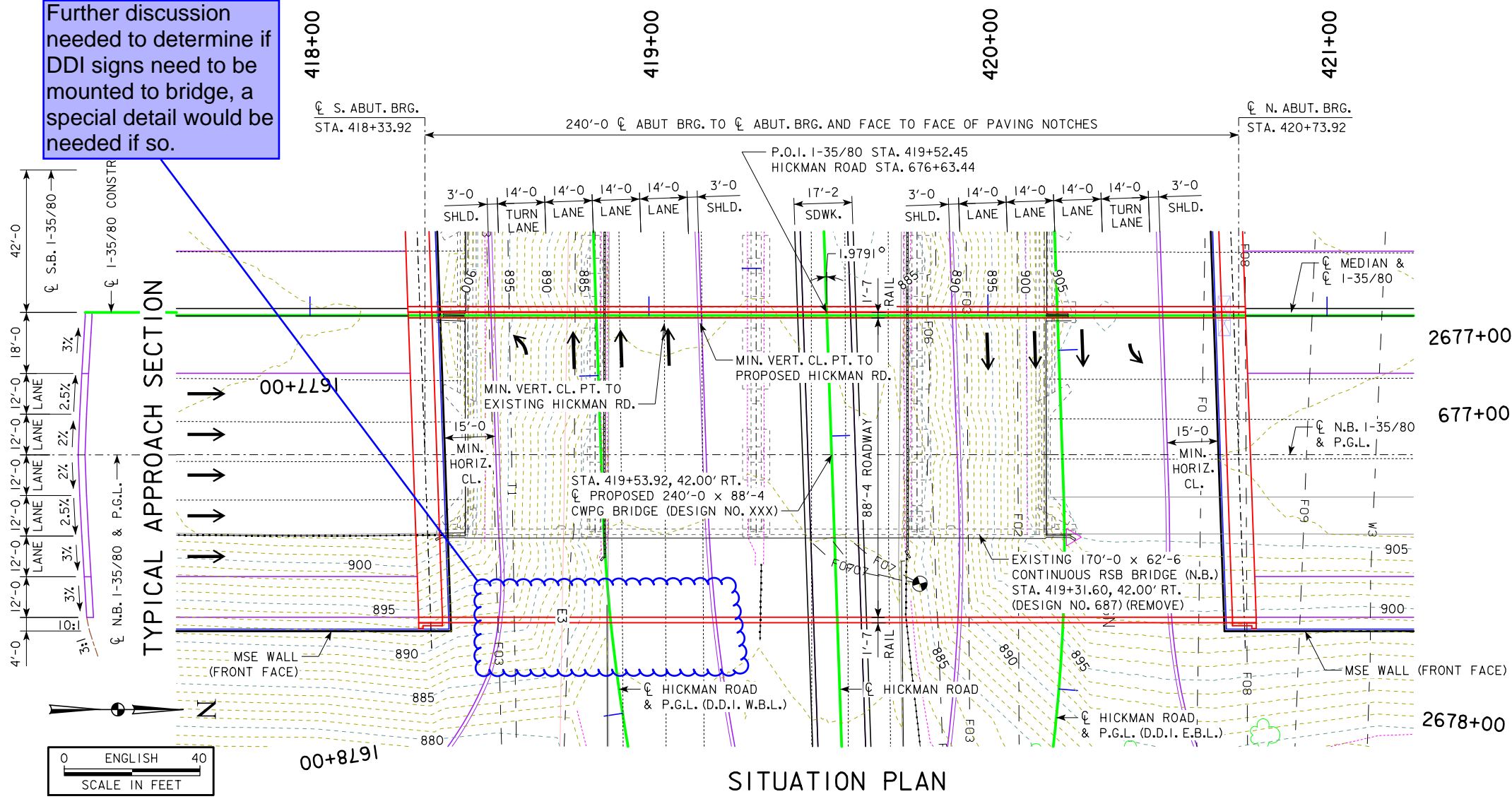
**I-35/80 S.B. TRAFFIC ESTIMATE**  
200- AADT \_\_\_\_\_ V.P.D.  
202- AADT \_\_\_\_\_ V.P.D.  
202- DHV \_\_\_\_\_ V.P.H.  
TRUCKS \_\_\_\_\_ %  
TOTAL DESIGN ESALS \_\_\_\_\_

**UTILITY LEGEND**  
--G--HP-- GAS  
--San.-- SANITARY SEWER  
--SAN.2-- SANITARY SEWER  
--W-- WATER  
UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

**LOCATION**  
S.B. 1-35 AND I-80 OVER WALNUT CREEK & BIKE TRAIL  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY  
FHWA NO. 41290  
BRIDGE MAINT. NO. 7724.8L080  
LATITUDE 41.61276°  
LONGITUDE -93.776852°

PRELIMINARY  
DESIGN FOR 0° SKEW  
**408'-6" X 74'-6" ROLLED STEEL BEAM BRIDGE WIDENING TO 408'-6" X VAR.**  
57'-3" END SPANS 4 - 73'-6" INTERIOR SPANS  
**SITUATION PLAN - S.B.**  
STATION 406+16.82, 41.13° LT. (S.B. 1-35/80) MONTH, YEAR  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_\_ OF ? FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_

Further discussion needed to determine if DDI signs need to be mounted to bridge, a special detail would be needed if so.



HICKMAN ROAD TRAFFIC ESTIMATE		I-35/80 N.B. TRAFFIC ESTIMATE	
200_ AADT	___ V.P.D.	200_ AADT	___ V.P.D.
202_ AADT	___ V.P.D.	202_ AADT	___ V.P.D.
202_ DHV	___ V.P.H.	202_ DHV	___ V.P.H.
TRUCKS	___ %	TRUCKS	___ %
TOTAL DESIGN ESALs	___	TOTAL DESIGN ESALs	___

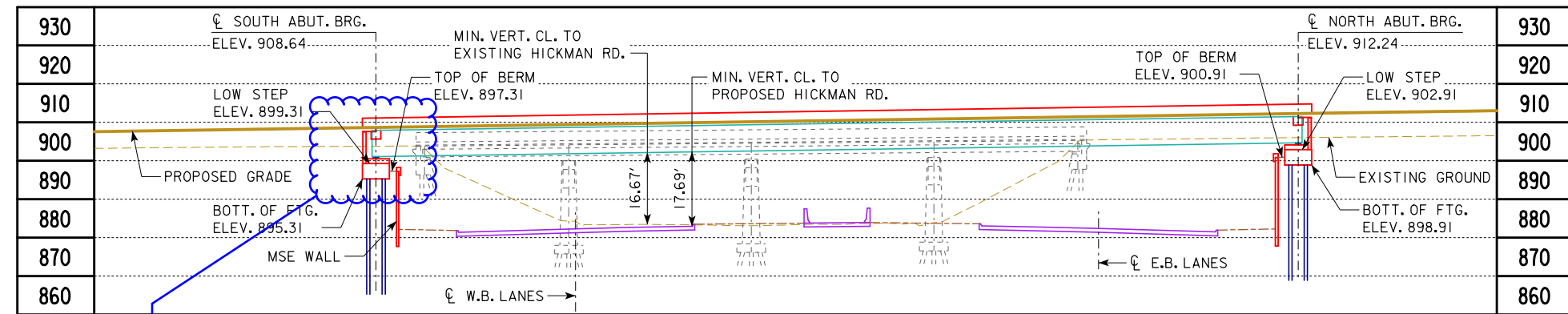
UTILITY LEGEND	
--E3--	ELECTRIC
--F0--	FIBER OPTIC
--F02--	FIBER OPTIC
--F03--	FIBER OPTIC
--F04--	FIBER OPTIC
--F06--	FIBER OPTIC
--F08--	FIBER OPTIC
--F09--	FIBER OPTIC
--T1--	TELEPHONE
--W3--	WATER
⊕	POWER POLE

**LOCATION**  
 N.B. I-35 AND I-80  
 OVER HICKMAN RD.  
 T-79N R-25W  
 SECTIONS 29 & 32  
 WALNUT TOWNSHIP  
 POLK COUNTY  
 FHWA NO. ?  
 BRIDGE MAINT. NO. ?  
 LATITUDE 41.614945°  
 LONGITUDE -93.776683°

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

PRELIMINARY

DESIGN FOR 2° SKEW (R.A.)  
**240'-0 X 88'-4 CONTINUOUS WELDED PLATE GIRDER BRIDGE**  
 240'-0 SPAN  
**SITUATION PLAN - N.B.**  
 STATION 419+53.92, 42.00' RT. (CL I-35/80) MONTH, YEAR  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?



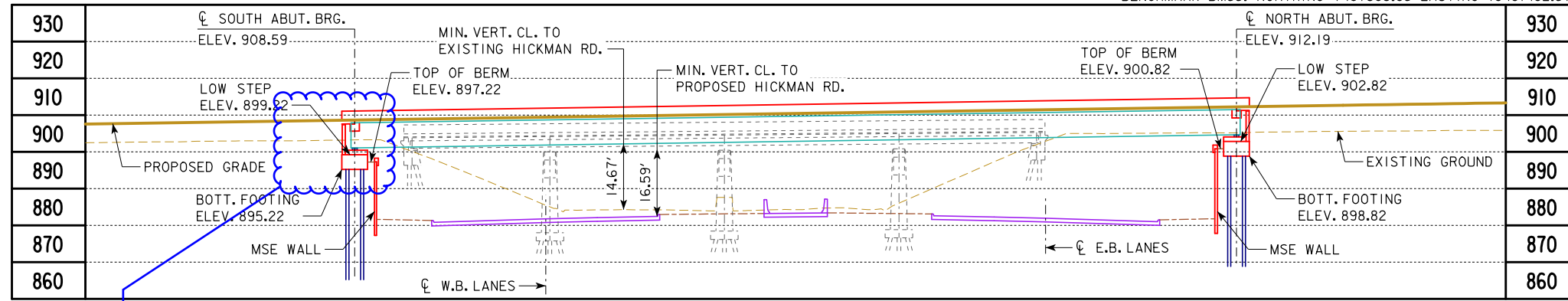
Mask walls for bridge should be more in line vertically with the edge of deck, instead of outside the footprint of the deck.

LONGITUDINAL SECTION ALONG CL N.B. I-35/80  
 OF BRIDGE DECK AT CL N.B. I-35/80 IS 0.03' BELOW THE PROFILE GRADE TO ACCOUNT FOR THE PARABOLIC CROWN.

TYPICAL CLEARANCE HICKMAN ROAD	MINIMUM VERTICAL CLEARANCE TO EXISTING HICKMAN ROAD
OVERHEAD STATION = 419+55.04, OFFSET 3.17' RT. OVERHEAD ELEVATION = 908.90 DEPTH OF SUPERSTRUCTURE = 7.58' LIVE LOAD DEFLECTION = 0.30' UNDERPASS STATION (D.D.I. W.B.) = 1676+85.55, OFFSET 30.50' LT. UNDERPASS ELEVATION = 883.33 MINIMUM VERTICAL CLEARANCE = 17.69'	OVERHEAD STATION = 419+04.54, OFFSET 3.17' RT. OVERHEAD ELEVATION = 908.74 DEPTH OF SUPERSTRUCTURE = 7.58' LIVE LOAD DEFLECTION = 0.30' UNDERPASS STATION (CL HICKMAN RD.) = 676+64.95, OFFSET 48.00' RT. UNDERPASS ELEVATION = 884.19 MINIMUM VERTICAL CLEARANCE = 16.67'

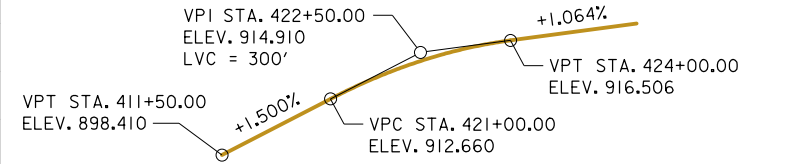
**NOTES:**  
 ALL OFFSETS ARE MEASURED FROM CL MEDIAN I-35/80.  
 ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.  
 BEAM TYPE - CWPG, DEPTH = 6'-10.  
 TL-5 BRIDGE RAILING PROPOSED.  
 BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.



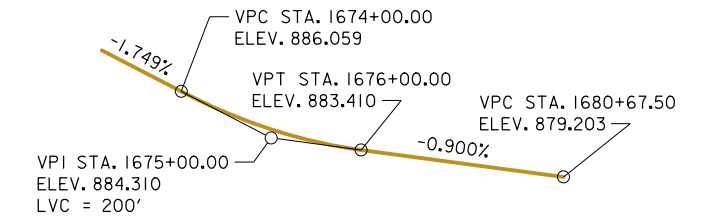


**LONGITUDINAL SECTION ALONG CL S.B. 1-35/80**

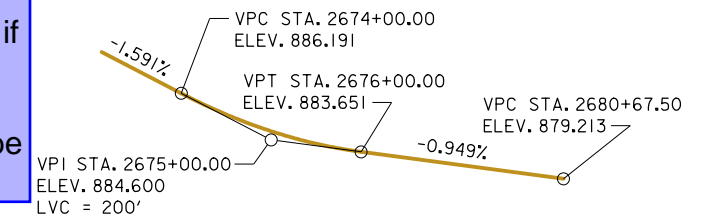
TOP OF BRIDGE DECK AT CL S.B. 1-35/80 IS 0.03' BELOW THE PROFILE GRADE TO ACCOUNT FOR THE PARABOLIC CROWN.



**PROPOSED PROFILE GRADE I-35/80**



**PROPOSED PROFILE GRADE HICKMAN ROAD D.D.I. W.B. LANES**



**PROPOSED PROFILE GRADE HICKMAN ROAD D.D.I. E.B. LANES**

HICKMAN ROAD TRAFFIC ESTIMATE		I-35/80 S.B. TRAFFIC ESTIMATE	
200_ AADT	— V.P.D.	200_ AADT	— V.P.D.
202_ AADT	— V.P.D.	202_ AADT	— V.P.D.
202_ DHV	— V.P.H.	202_ DHV	— V.P.H.
TRUCKS	— %	TRUCKS	— %
TOTAL DESIGN ESALs	—	TOTAL DESIGN ESALs	—

UTILITY LEGEND	
--E3--	ELECTRIC
--F0--	FIBER OPTIC
--F02--	FIBER OPTIC
--F03--	FIBER OPTIC
--F04--	FIBER OPTIC
--F06--	FIBER OPTIC
--F08--	FIBER OPTIC
--F09--	FIBER OPTIC
--T1--	TELEPHONE
--W3--	WATER
—P—	POWER POLE

**LOCATION**  
 S.B. I-35 AND I-80  
 OVER HICKMAN RD.  
 T-79N R-25W  
 SECTIONS 30 & 31  
 WALNUT TOWNSHIP  
 POLK COUNTY  
 FHWA NO. ?  
 BRIDGE MAINT. NO. ?  
 LATITUDE 41.614938°  
 LONGITUDE -93.776990°

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

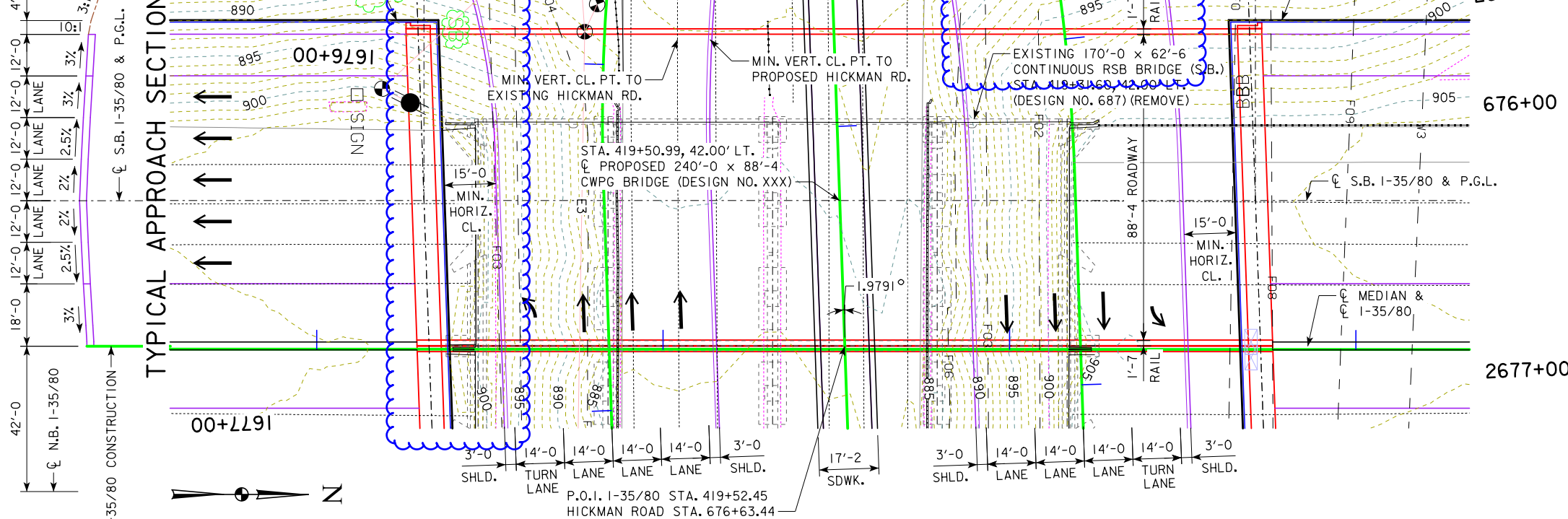
PRELIMINARY

DESIGN FOR 2° SKEW (R.A.)  
**240'-0 X 88'-4 CONTINUOUS WELDED PLATE GIRDER BRIDGE**  
 240'-0 SPAN  
**SITUATION PLAN - S.B.**  
 STATION 419+50.99, 42.00' LT. (CL I-35/80) MONTH, YEAR  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?

Mask walls for bridge should be more in line vertically with the edge of deck, instead of outside the footprint of the deck.

MSE Walls to be placed outside clear zone or protected by barrier. Contact DOT Soils Bureau to discuss MSE wall protection needs.

Further discussion needed to determine if DDI signs need to be mounted to bridge, a special detail would be needed if so.



**SITUATION PLAN**

**MINIMUM VERTICAL CLEARANCE TO PROPOSED HICKMAN ROAD**

OVERHEAD STATION = 419+13.57, OFFSET 88.50' LT.  
 OVERHEAD ELEVATION = 908.65  
 DEPTH OF SUPERSTRUCTURE = 7.58'  
 LIVE LOAD DEFLECTION = 0.30'  
 UNDERPASS STATION (D.D.I. W.B.) = 1675+91.30, OFFSET 30.50' LT.  
 UNDERPASS ELEVATION = 884.18  
 MINIMUM VERTICAL CLEARANCE = 16.59'

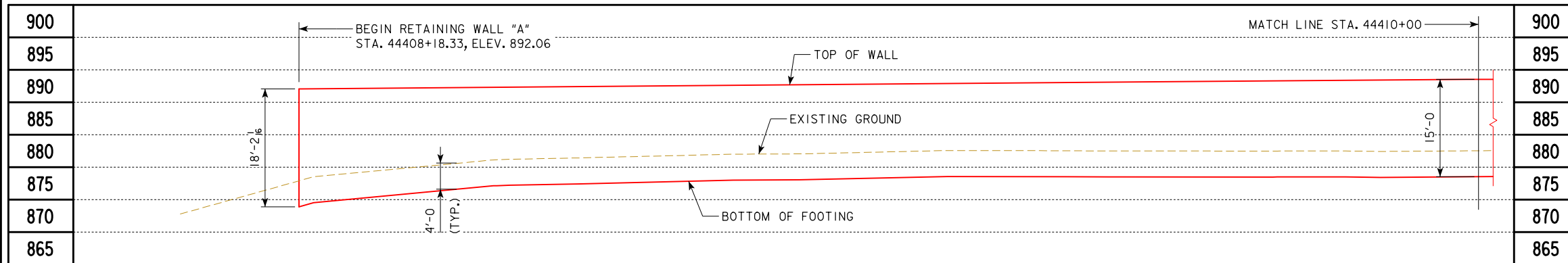
**MINIMUM VERTICAL CLEARANCE TO EXISTING HICKMAN ROAD**

OVERHEAD STATION = 419+04.17, OFFSET 88.50' LT.  
 OVERHEAD ELEVATION = 908.51  
 DEPTH OF SUPERSTRUCTURE = 7.58'  
 LIVE LOAD DEFLECTION = 0.30'  
 UNDERPASS STATION (CL HICKMAN RD.) = 675+73.33, OFFSET 45.20' RT.  
 UNDERPASS ELEVATION = 885.95  
 MINIMUM VERTICAL CLEARANCE = 14.67'

**NOTES:**

ALL OFFSETS ARE MEASURED FROM CL MEDIAN I-35/80.  
 ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.  
 BEAM TYPE - CWPG, DEPTH = 6'-10.  
 TL-5 BRIDGE RAILING PROPOSED.  
 BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.

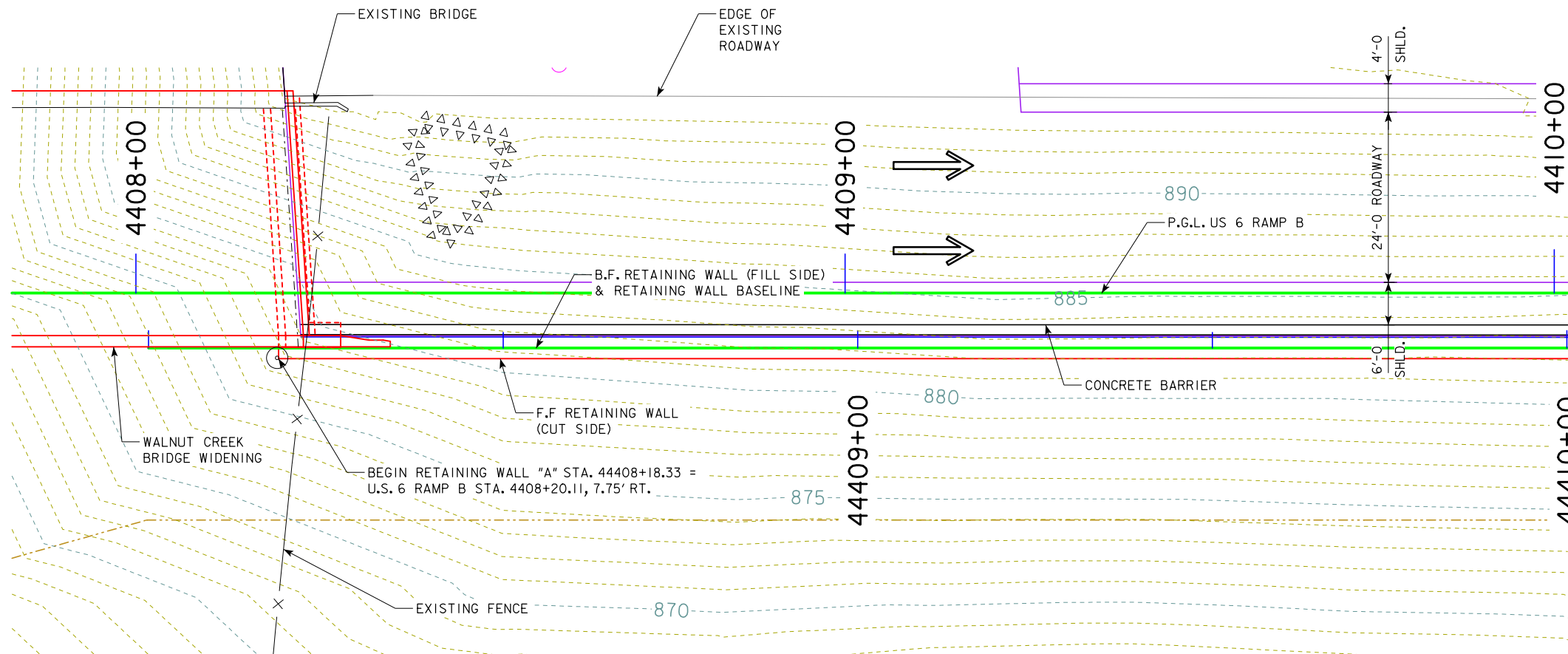




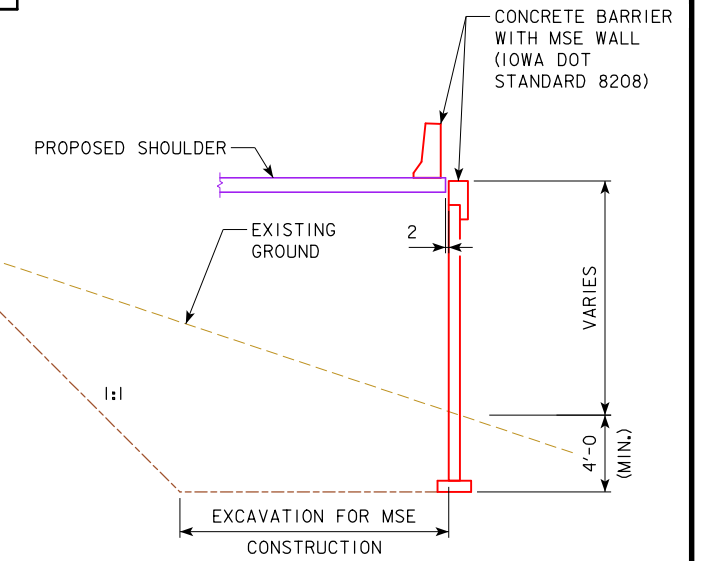
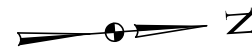
**RETAINING WALL "A" ELEVATION**  
 STA. 4408+18.33 TO STA. 4410+00.00

CONCRETE BARRIER NOT SHOWN.

**PROPOSED PROFILE GRADE**  
 (U.S. 6 RAMP B)



**RETAINING WALL "A" - SITUATION PLAN**  
 ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



**WALL TYPICAL SECTION**  
 (LOOKING NORTH)

**UTILITIES LEGEND**

T1 - TELEPHONE - CENTURYLINK  
 UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

**LOCATION**

RETAINING WALL "A"  
 I-35/80 N.B. U.S. 6 RAMP B  
 (HICKMAN ROAD)  
 T-79N R-25W  
 SECTION 32  
 WALNUT TOWNSHIP  
 POLK COUNTY

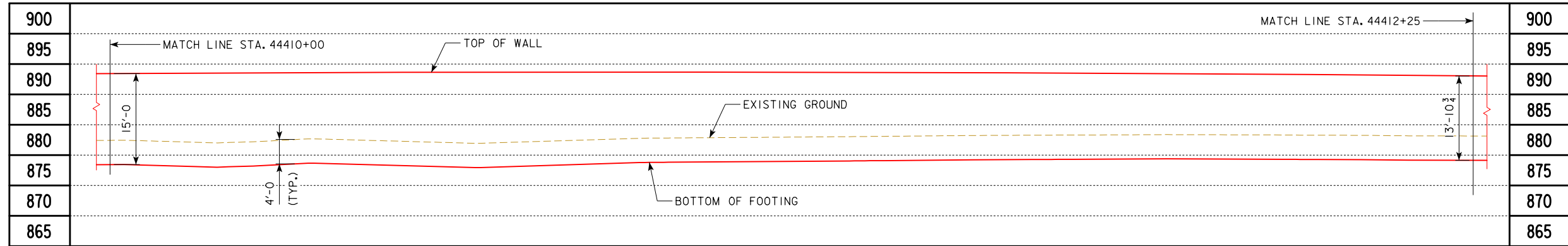
PRELIMINARY

U.S. 6 RAMP B TRAFFIC ESTIMATE		I-35/80 S.B. TRAFFIC ESTIMATE	
200_ AADT	___ V.P.D.	200_ AADT	___ V.P.D.
202_ AADT	___ V.P.D.	202_ AADT	___ V.P.D.
202_ DHV	___ V.P.H.	202_ DHV	___ V.P.H.
TRUCKS	___ %	TRUCKS	___ %
TOTAL DESIGN ESALs	___	TOTAL DESIGN ESALs	___

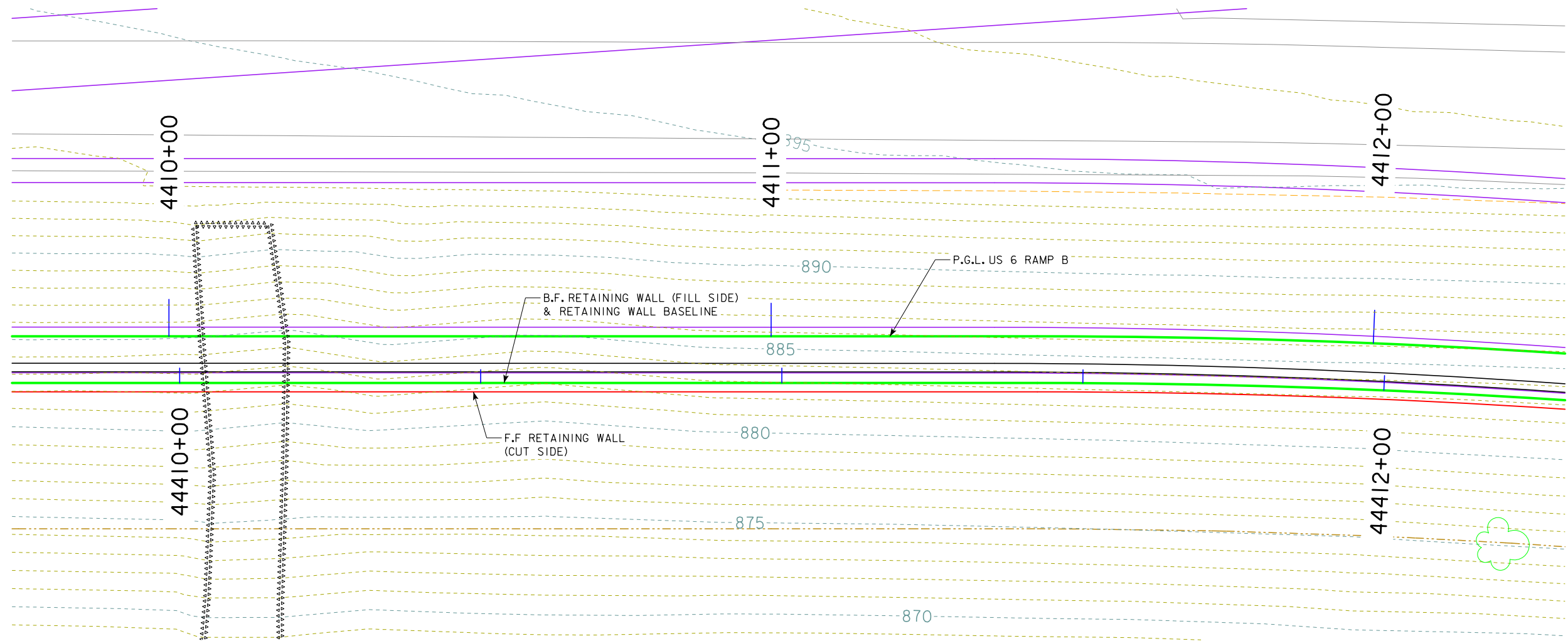
DESIGN FOR  
**938'-4 X VARIABLE HEIGHT  
 RETAINING WALL "A"**  
 SITUATION PLAN  
 STA. 44408+18.33 TO 44417+56.65 (OFFSET U.S. 6 RAMP B) DECEMBER, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?



BENCH MARK NO:

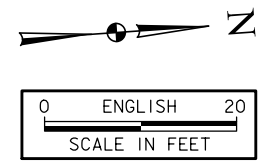


**RETAINING WALL "A" ELEVATION**  
 STA. 4410+00.00 TO STA. 4412+25.00  
 CONCRETE BARRIER NOT SHOWN.



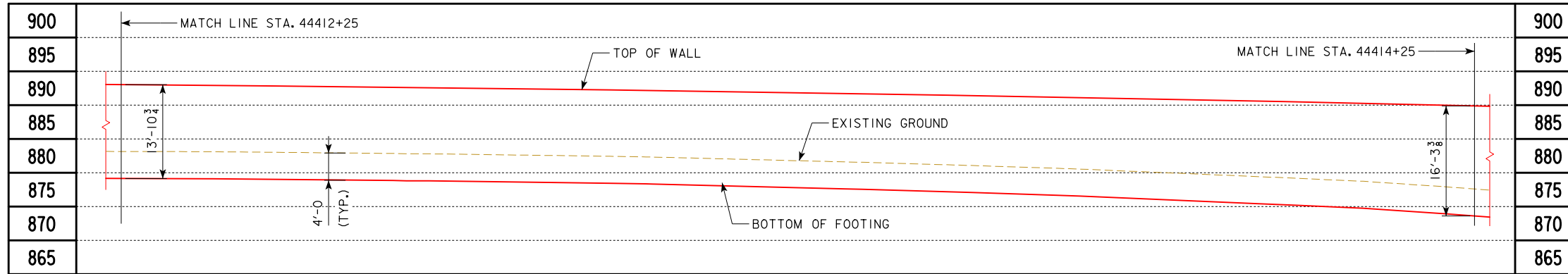
PRELIMINARY

**RETAINING WALL "A" - SITUATION PLAN**  
 ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



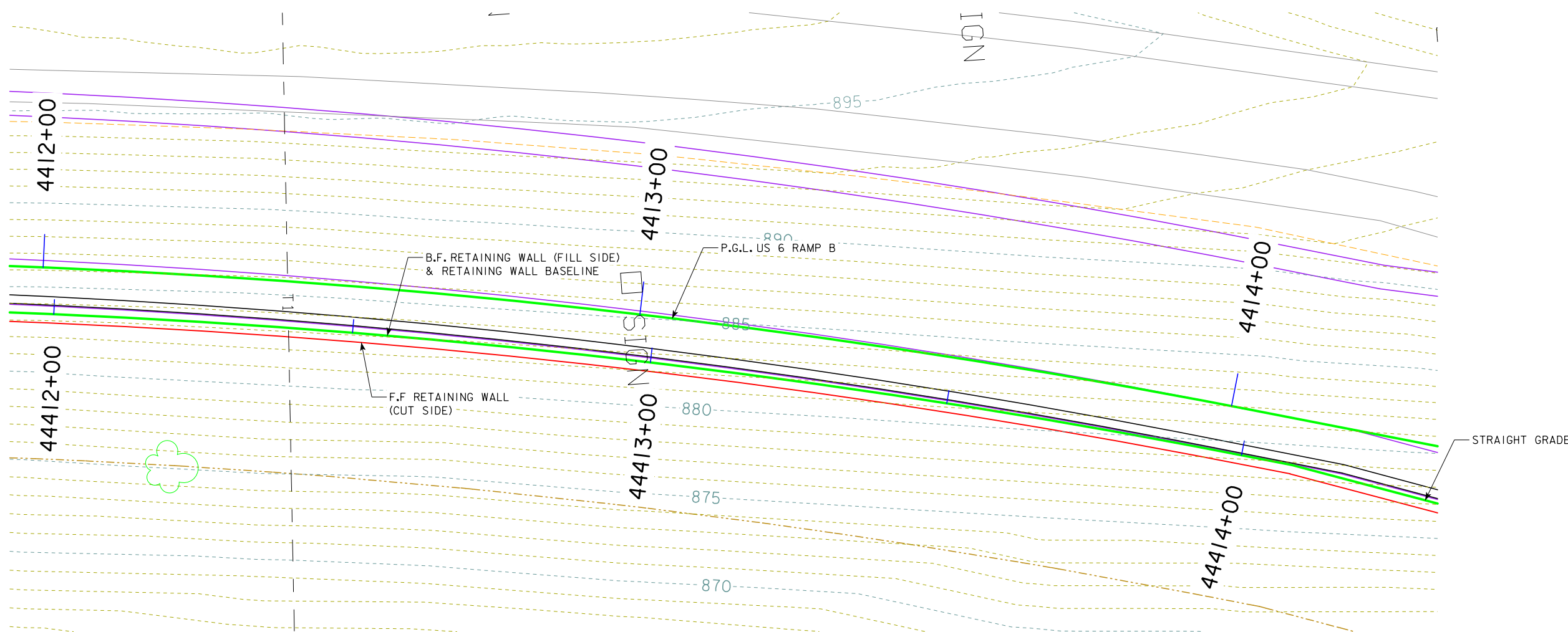
DESIGN FOR  
**938'-4 X VARIABLE HEIGHT**  
**RETAINING WALL "A"**  
 SITUATION PLAN  
 STA. 44408+18.33 TO 44417+56.65 (OFFSET U.S. 6 RAMP B) DECEMBER, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?





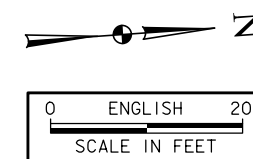
RETAINING WALL "A" ELEVATION  
 STA. 4412+25.00 TO STA. 4414+25.00

CONCRETE BARRIER NOT SHOWN.



RETAINING WALL "A" - SITUATION PLAN

ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



PRELIMINARY

DESIGN FOR  
 938'-4 X VARIABLE HEIGHT  
 RETAINING WALL "A"  
 SITUATION PLAN

STA. 44408+18.33 TO 44417+56.65 (OFFSET U.S. 6 RAMP B) DECEMBER, 2021

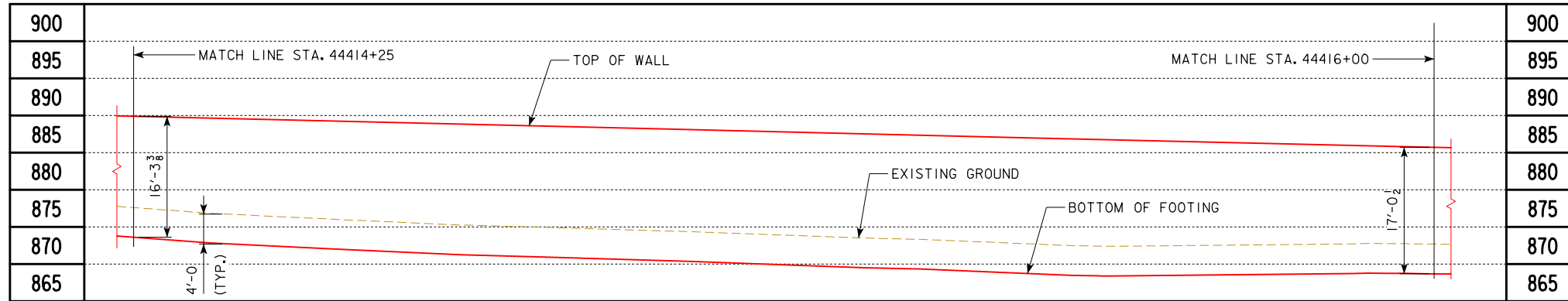
POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

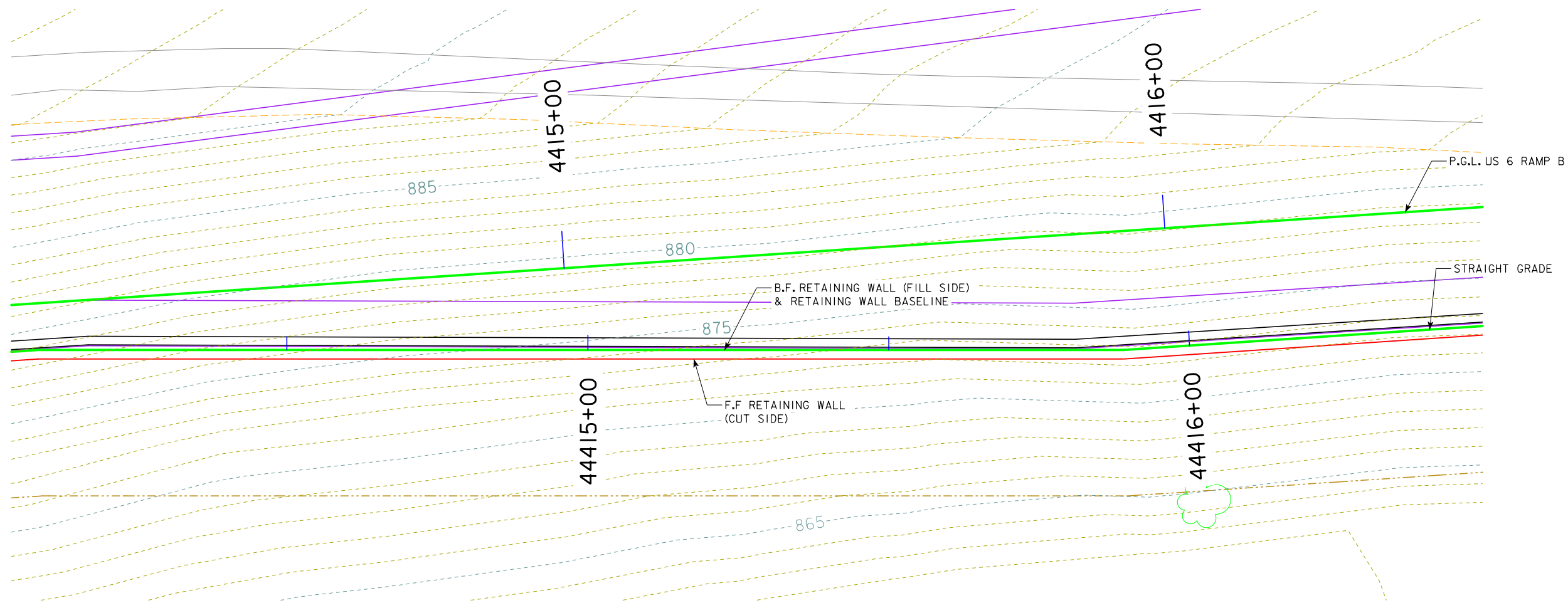
DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?



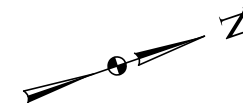
BENCH MARK NO:



RETAINING WALL "A" ELEVATION  
 STA. STA. 4414+25.00 TO STA. 4416+00.00  
 CONCRETE BARRIER NOT SHOWN.



RETAINING WALL "A" - SITUATION PLAN  
 ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



PRELIMINARY

DESIGN FOR  
 938'-4 X VARIABLE HEIGHT  
 RETAINING WALL "A"  
 SITUATION PLAN

STA. 44408+18.33 TO 44417+56.65 (OFFSET U.S. 6 RAMP B) DECEMBER, 2021

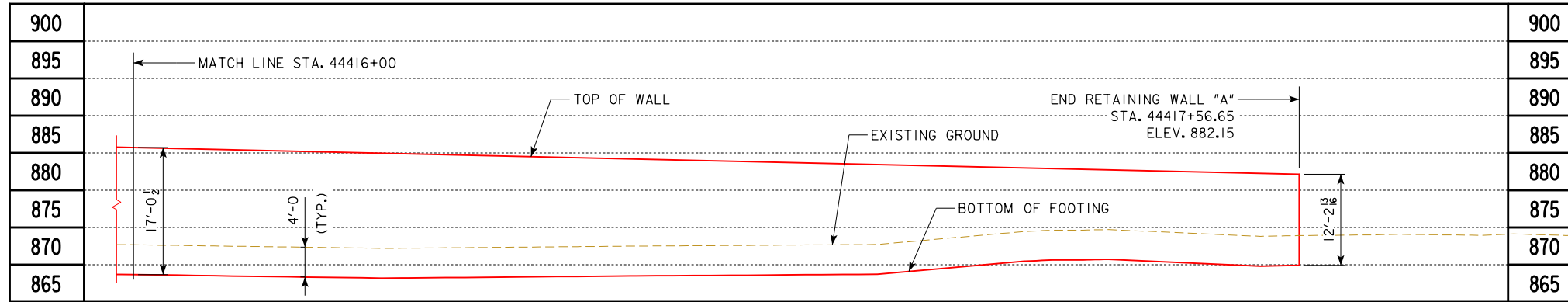
POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?

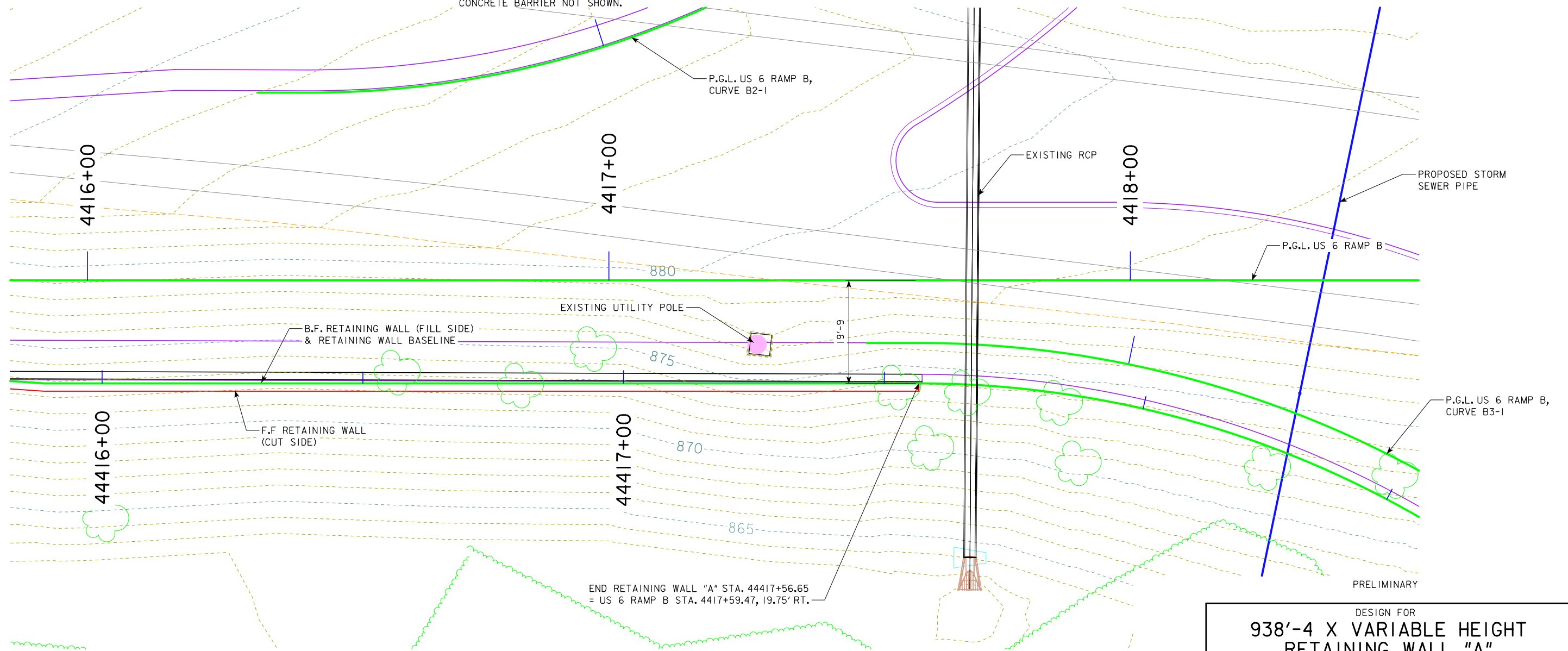


BENCH MARK NO:

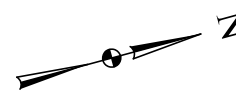


**RETAINING WALL "A" ELEVATION**  
 STA. 4416+00.00 TO STA. 4417+53.78

CONCRETE BARRIER NOT SHOWN.



**RETAINING WALL "A" - SITUATION PLAN**  
 ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.

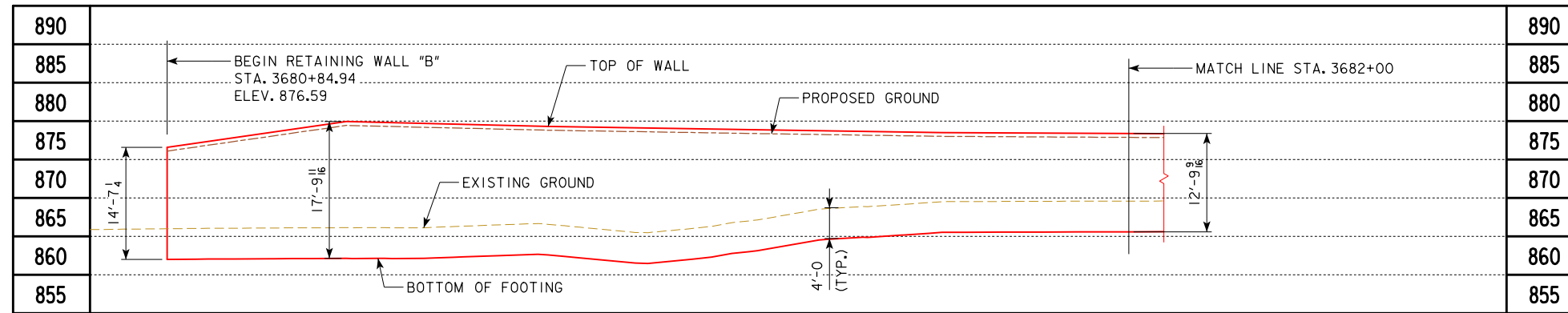


DESIGN FOR  
**938'-4 X VARIABLE HEIGHT**  
**RETAINING WALL "A"**  
 SITUATION PLAN  
 STA. 44408+18.33 TO 44417+56.65 (OFFSET U.S. 6 RAMP B) DECEMBER, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?





BENCH MARK NO:

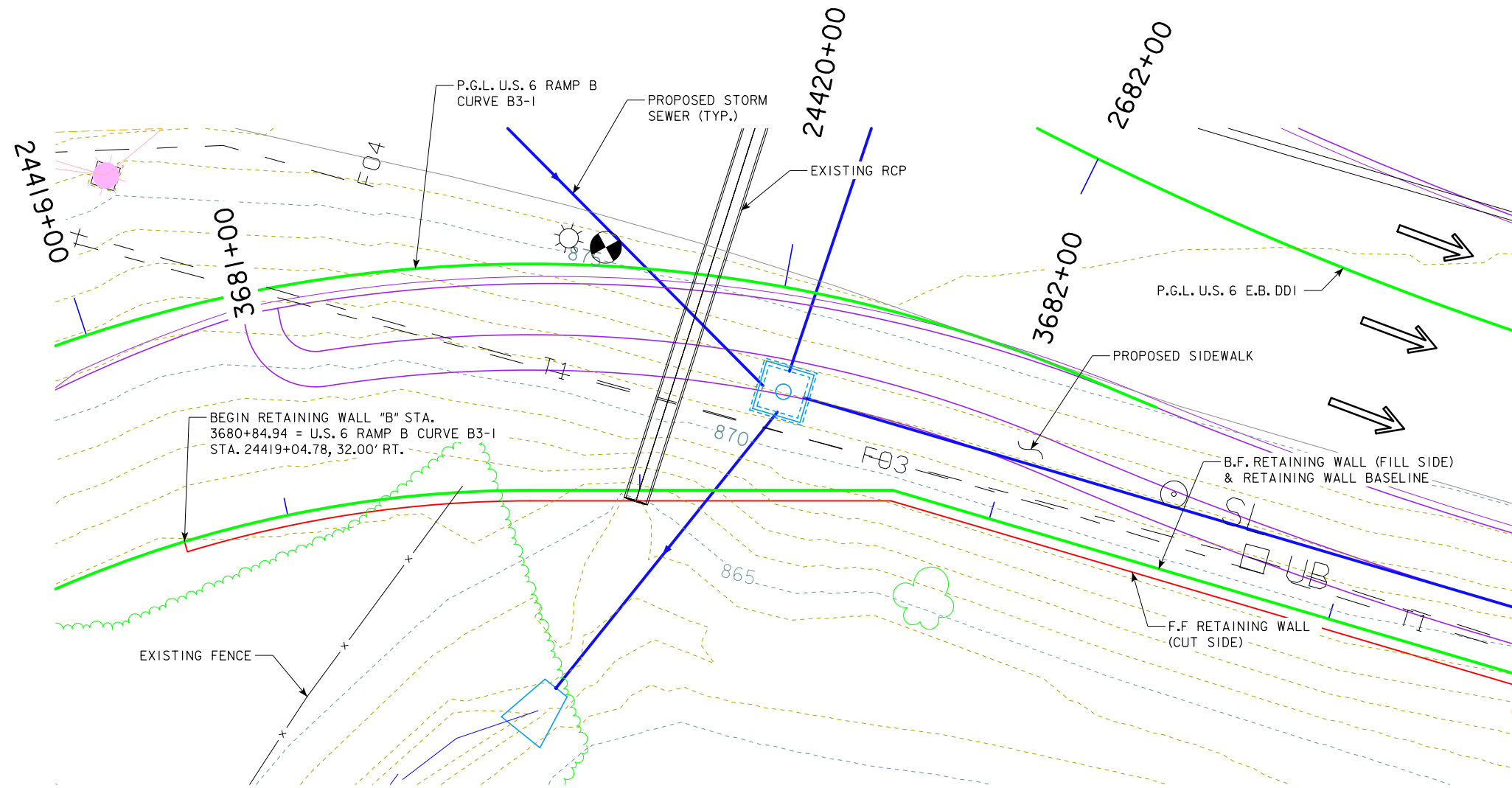


**RETAINING WALL "B" ELEVATION  
STA. 3680+84.94 TO STA. 3682+10.00**

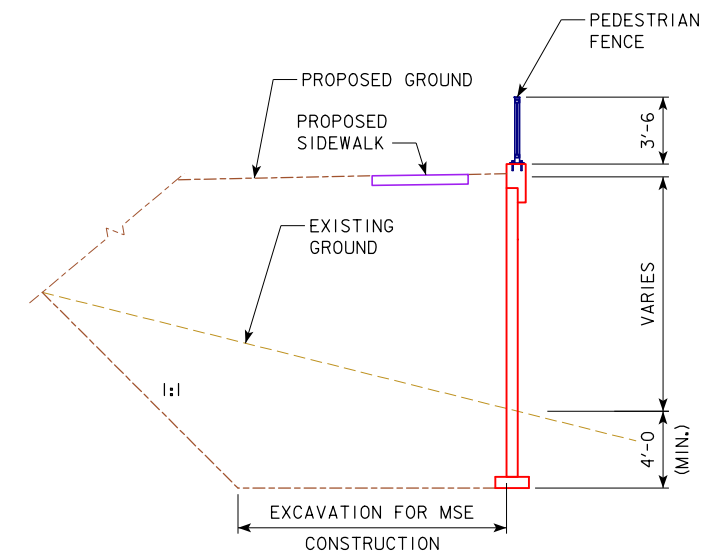
PROPOSED PROFILE GRADE  
U.S. 6 MAINLINE

PROPOSED PROFILE GRADE  
U.S. 6 E.B. DDI

PROPOSED PROFILE GRADE  
U.S. 6 RAMP B CURVE B3-1



**RETAINING WALL "B" - SITUATION PLAN**  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



**WALL TYPICAL SECTION  
(LOOKING EAST)**

**LOCATION**

RETAINING WALL "B"  
U.S. 6 (HICKMAN ROAD)  
T-79N R-25W  
SECTION 33  
WALNUT TOWNSHIP  
POLK COUNTY

**UTILITIES LEGEND**

E3 - ELECTRIC - CITY OF CLIVE  
F03 - FIBER OPTIC - MC1/VERIZON  
F04 - FIBER OPTIC - ICN  
TI - TELEPHONE - CENTURLINK

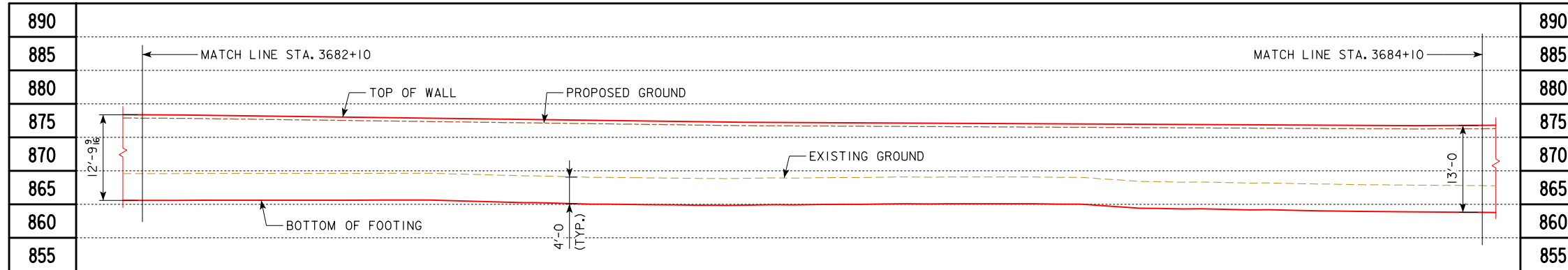
UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

PRELIMINARY

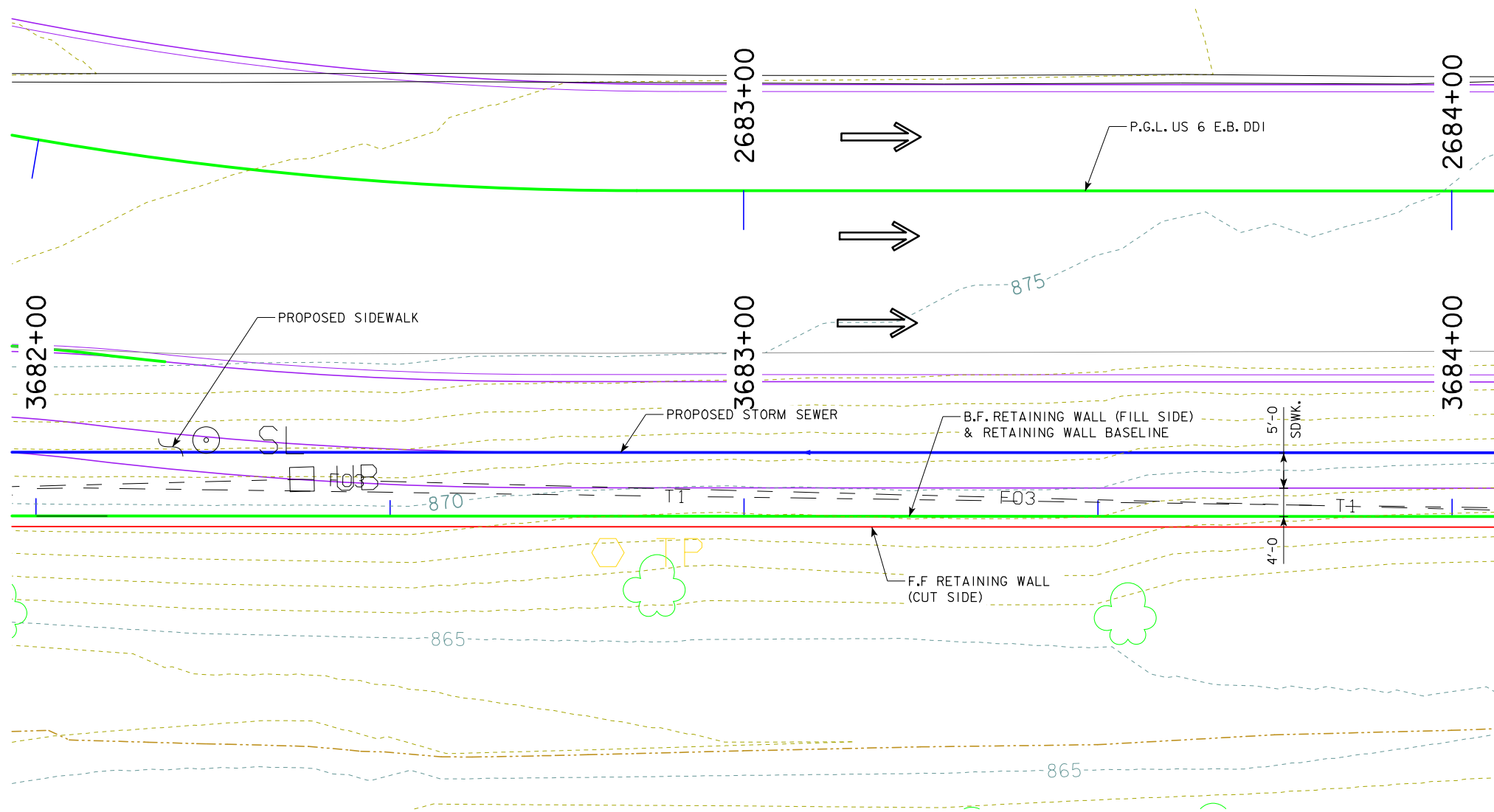


U.S. 6 RAMP C TRAFFIC ESTIMATE		U.S. 6 E.B. TRAFFIC ESTIMATE	
200_ AADT	___ V.P.D.	200_ AADT	___ V.P.D.
202_ AADT	___ V.P.D.	202_ AADT	___ V.P.D.
202_ DHV	___ V.P.H.	202_ DHV	___ V.P.H.
TRUCKS	___ %	TRUCKS	___ %
TOTAL DESIGN ESALs	___	TOTAL DESIGN ESALs	___

DESIGN FOR  
**876'-9" X VARIABLE HEIGHT  
RETAINING WALL "B"**  
**SITUATION PLAN**  
STA. 3680+84.94 TO STA. 3689+61.69 (OFFSET U.S. 6) DECEMBER, 2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?



RETAINING WALL "B" ELEVATION  
STA. 3682+10.00 TO STA. 3684+10.00



RETAINING WALL "B" - SITUATION PLAN  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



PRELIMINARY

DESIGN FOR  
**876'-9" X VARIABLE HEIGHT  
RETAINING WALL "B"**  
SITUATION PLAN

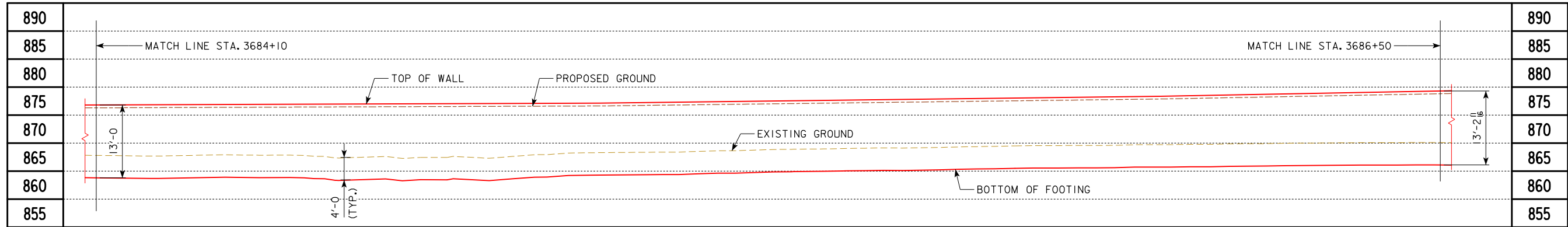
STA. 3680+84.94 TO STA. 3689+61.69 (OFFSET U.S. 6) DECEMBER, 2021

**POLK COUNTY**

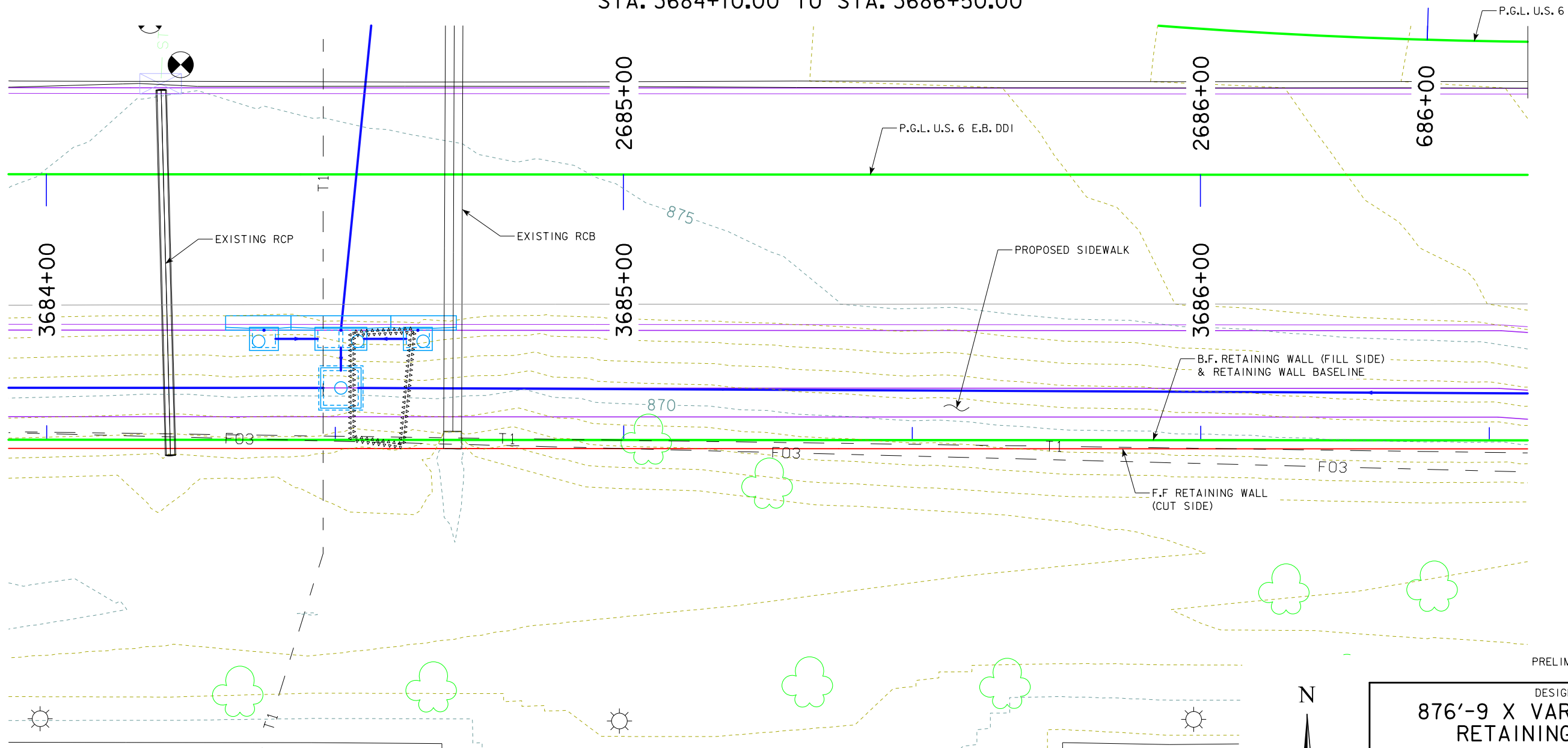
IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?





RETAINING WALL "B" ELEVATION  
STA. 3684+10.00 TO STA. 3686+50.00



RETAINING WALL "B" - SITUATION PLAN  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.

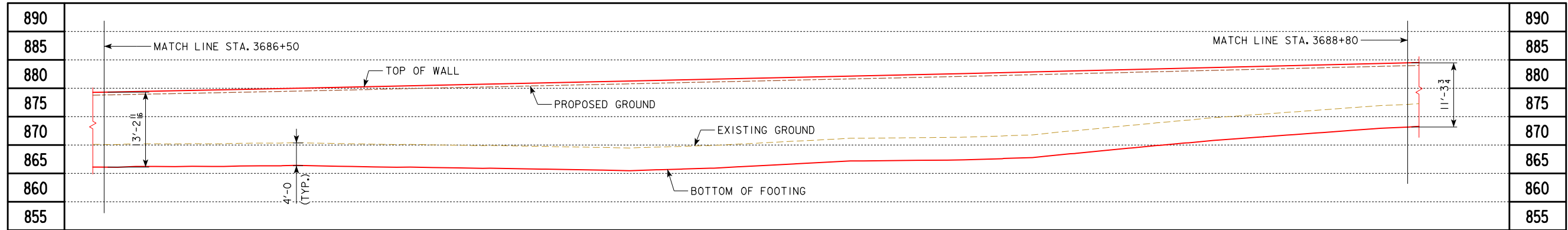


PRELIMINARY

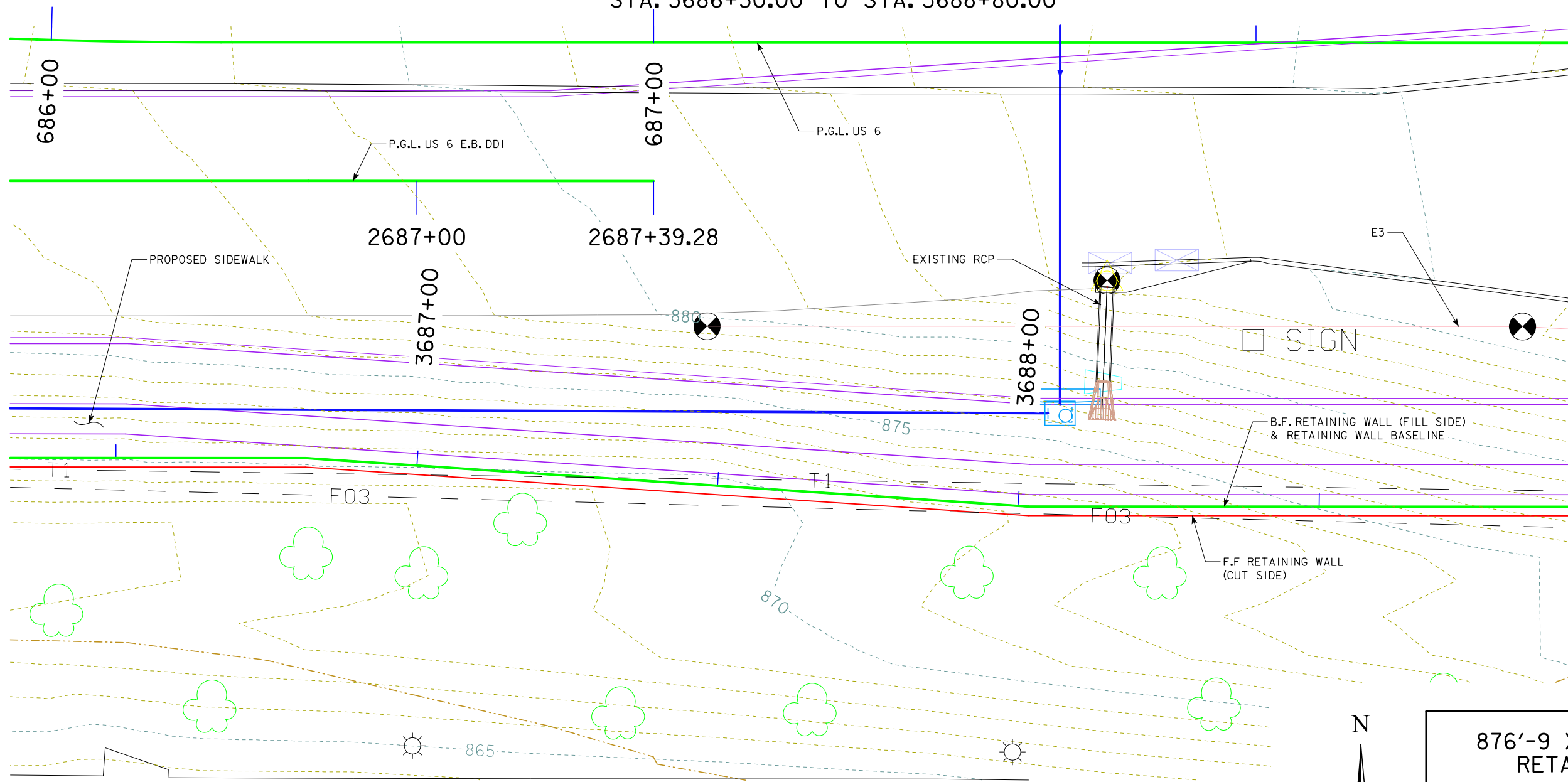
DESIGN FOR  
**876'-9" X VARIABLE HEIGHT  
RETAINING WALL "B"**  
SITUATION PLAN

STA. 3680+84.94 TO STA. 3689+61.69 (OFFSET U.S. 6) DECEMBER, 2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?





**RETAINING WALL "B" ELEVATION  
STA. 3686+50.00 TO STA. 3688+80.00**



**RETAINING WALL "B" - SITUATION PLAN**  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.

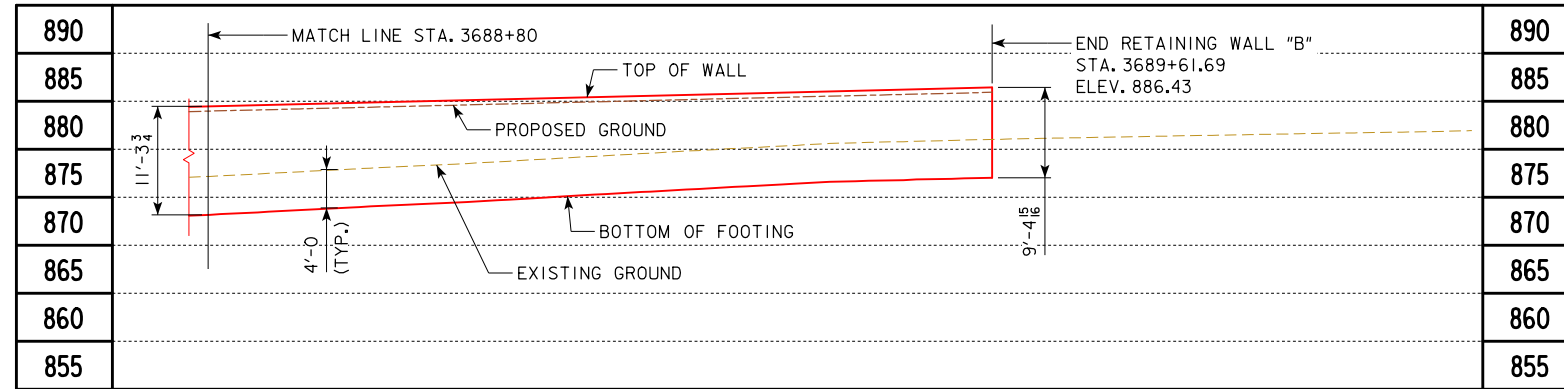


PRELIMINARY

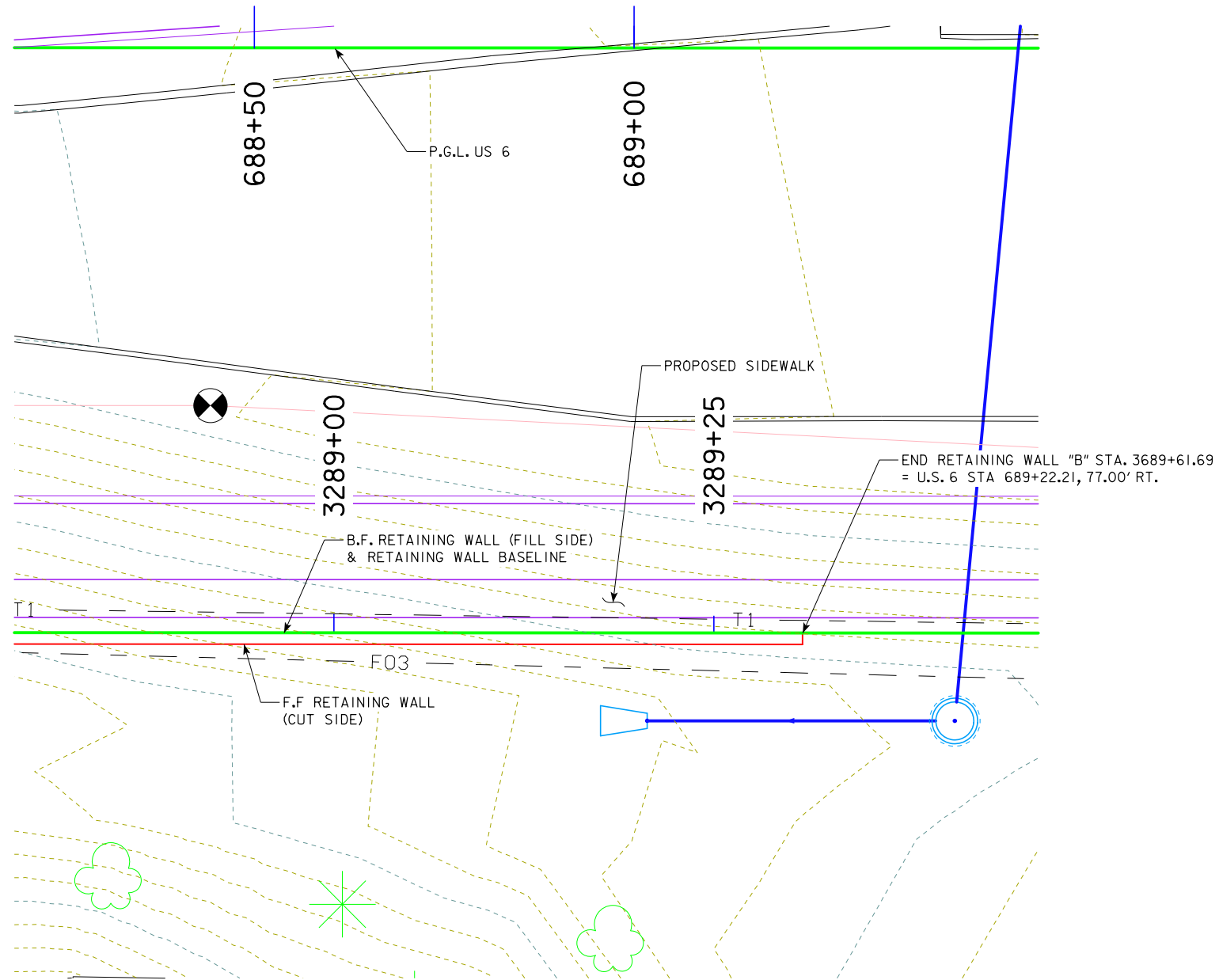
DESIGN FOR  
**876'-9 X VARIABLE HEIGHT  
RETAINING WALL "B"**  
**SITUATION PLAN**  
STA. 3680+84.94 TO STA. 3689+61.69 (OFFSET U.S. 6) DECEMBER, 2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_ OF ? FILE NO. ? DESIGN NO. ?



BENCH MARK NO:



RETAINING WALL "B" ELEVATION  
STA. 3688+80.00 TO STA. 3689+61.69



RETAINING WALL "B" - SITUATION PLAN  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



PRELIMINARY

DESIGN FOR  
**876'-9 X VARIABLE HEIGHT  
RETAINING WALL "B"**  
SITUATION PLAN

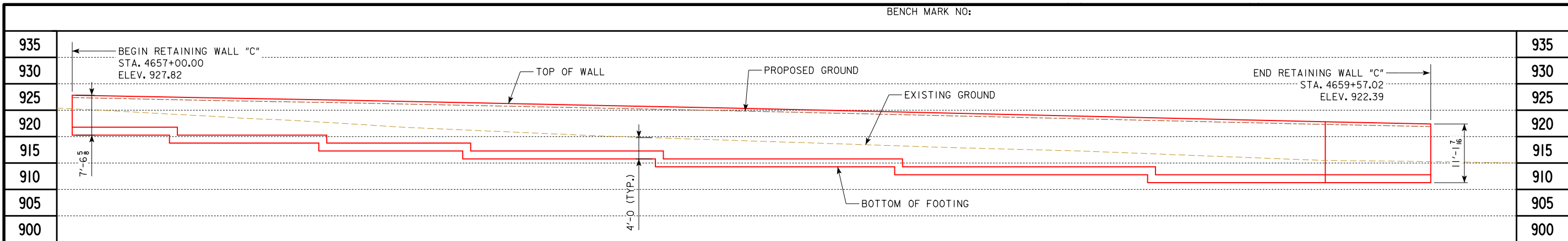
STA. 3680+84.94 TO STA. 3689+61.69 (OFFSET U.S. 6) DECEMBER, 2021

**POLK COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?





**RETAINING WALL "C" ELEVATION**  
ELEVATION SHOWN ALONG WALL FACE. PEDESTRIAN FENCE NOT SHOWN.

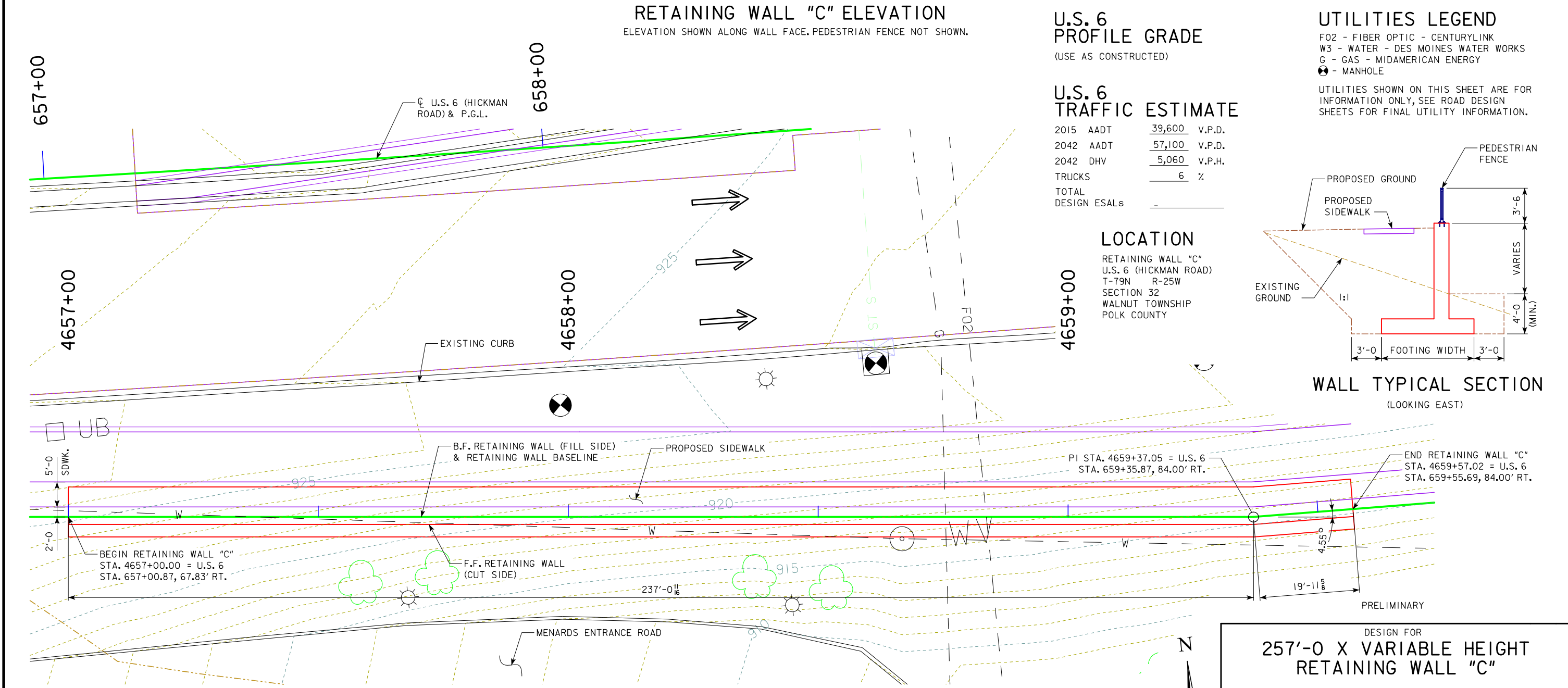
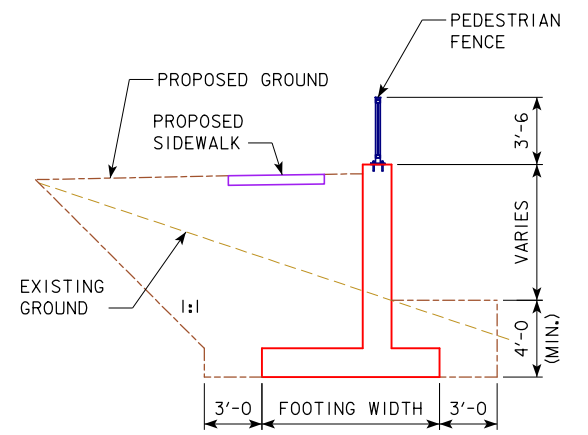
**U.S. 6 PROFILE GRADE**  
(USE AS CONSTRUCTED)

**UTILITIES LEGEND**  
 F02 - FIBER OPTIC - CENTURYLINK  
 W3 - WATER - DES MOINES WATER WORKS  
 G - GAS - MIDAMERICAN ENERGY  
 M - MANHOLE  
 UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

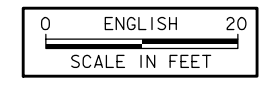
**U.S. 6 TRAFFIC ESTIMATE**

2015 AADT	39,600	V.P.D.
2042 AADT	57,100	V.P.D.
2042 DHV	5,060	V.P.H.
TRUCKS	6	%
TOTAL DESIGN ESALs	-	

**LOCATION**  
 RETAINING WALL "C"  
 U.S. 6 (HICKMAN ROAD)  
 T-79N R-25W  
 SECTION 32  
 WALNUT TOWNSHIP  
 POLK COUNTY

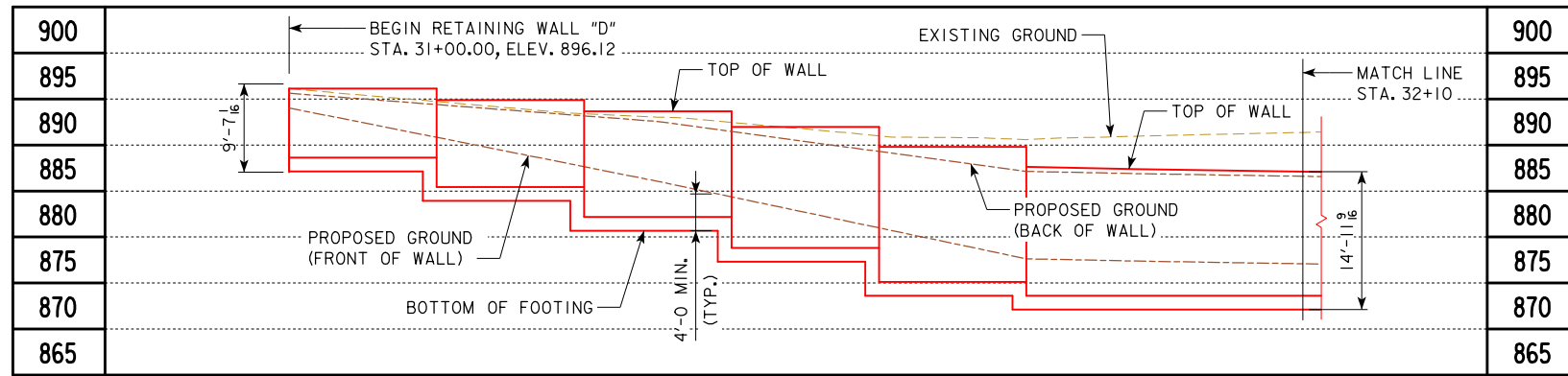


**RETAINING WALL "C" - SITUATION PLAN**  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



DESIGN FOR  
**257'-0" X VARIABLE HEIGHT  
 RETAINING WALL "C"**  
**SITUATION PLAN**  
 STA. 4657+00.00 TO 4659+57.02 (OFFSET U.S. 6)    DECEMBER, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_ OF ?    FILE NO. ?    DESIGN NO. ?

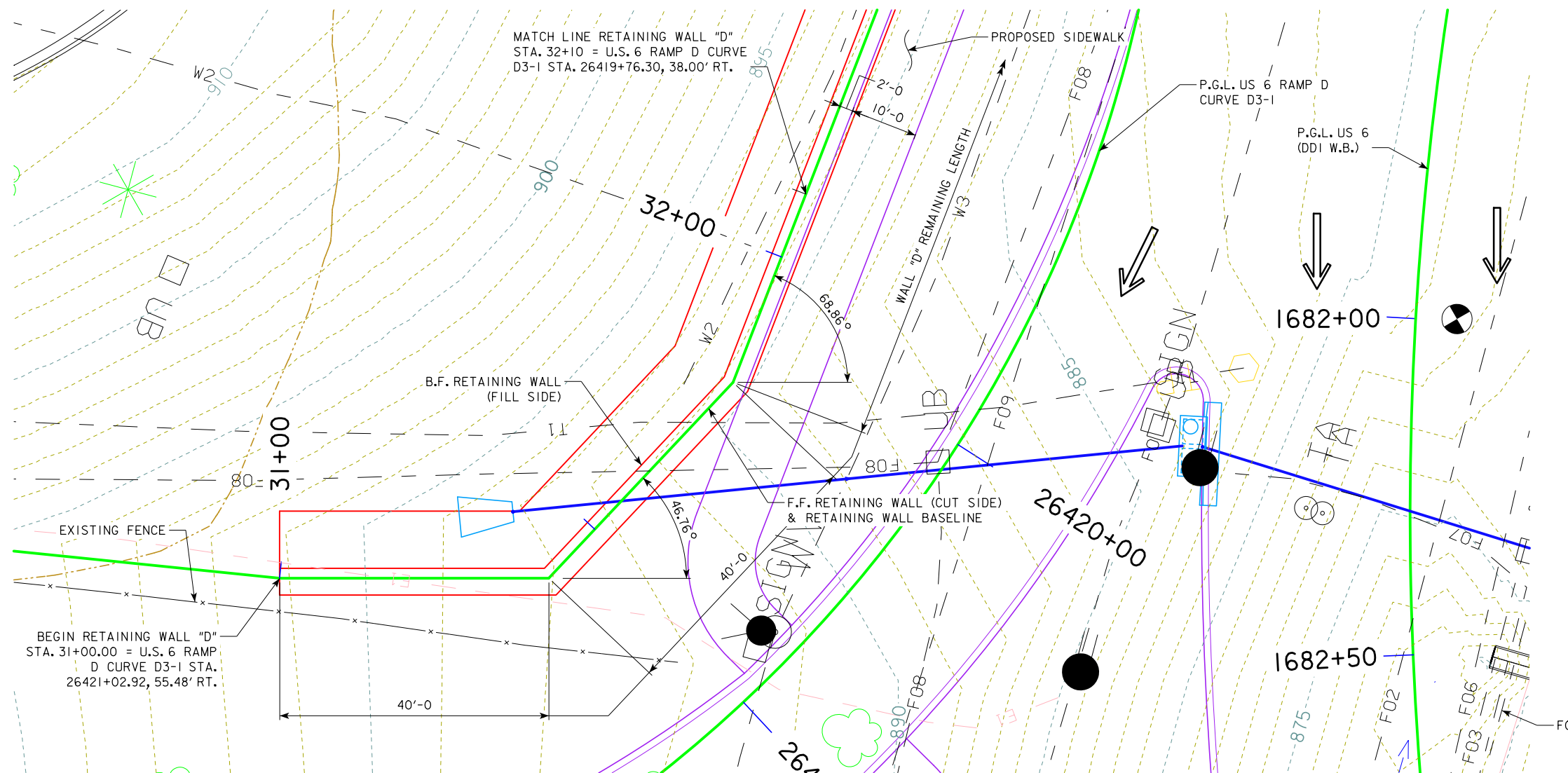




RETAINING WALL "D" ELEVATION  
STA. 31+00.00 TO STA. 32+10.00

SEE SHEET V.17 FOR TYPICAL WALL SECTION.

PROPOSED PROFILE GRADE (U.S. 6 RAMP D)



RETAINING WALL "D" - SITUATION PLAN  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.

PROPOSED PROFILE GRADE (U.S. 6 DDI W.B.)

UTILITIES LEGEND

- E1 - ELECTRIC - MIDAMERICAN ENERGY
- F0 - FIBER OPTIC - ZAYO
- F02 - FIBER OPTIC - CENTURYLINK
- F03 - FIBER OPTIC - MCI/VERIZON
- F04 - FIBER OPTIC - ICN
- F06 - FIBER OPTIC - UPN
- F07 - FIBER OPTIC - CITY OF CLIVE
- F08 - FIBER OPTIC - CONSOLIDATED COMMUNITY
- F09 - FIBER OPTIC - UNKNOWN
- T1 - TELEPHONE - CENTURYLINK
- W2 - WATER - CITY OF URBANDALE
- W3 - WATER - DES MOINES WATER WORKS
- - UTILITY POLE
- - MANHOLE

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

LOCATION	U.S. 6 TRAFFIC ESTIMATE
RETAINING WALL "D"	2015 AADT 39,600 V.P.D.
N.B. U.S. 6 RAMP D (HICKMAN ROAD)	2042 AADT 57,100 V.P.D.
T-79N R-25W SECTION 33 WALNUT TOWNSHIP POLK COUNTY	2042 DHV 5,060 V.P.H.
	TRUCKS 6 %
	TOTAL DESIGN ESALS -

PRELIMINARY

DESIGN FOR  
463'-4" X VARIABLE HEIGHT  
RETAINING WALL "D"  
SITUATION PLAN

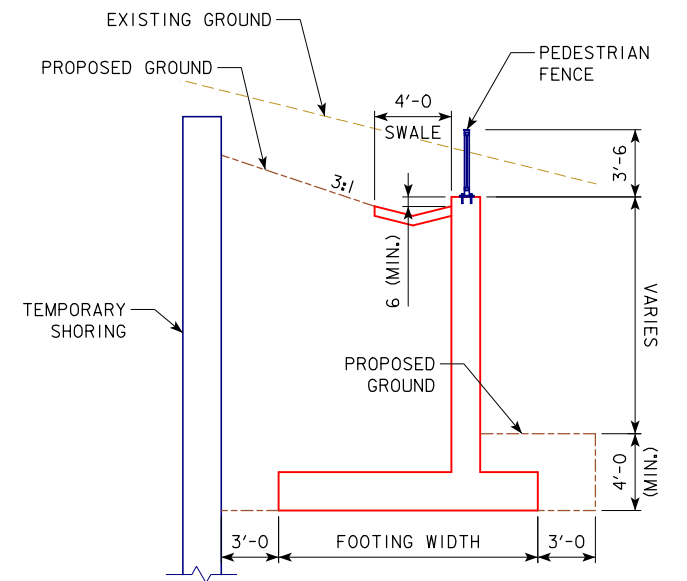
STA. 31+00 TO 35+63.35 (OFFSET U.S. 6 RAMP D) DECEMBER, 2021  
POLK COUNTY  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. ? OF ? FILE NO. ? DESIGN NO. ?



BENCH MARK NO:

900		900
895	MATCH LINE STA. 32+10	MATCH LINE STA. 33+70
890		
885	EXISTING GROUND	TOP OF WALL
880	PROPOSED GROUND (BACK OF WALL)	PROPOSED GROUND (FRONT OF WALL)
875		
870		
865	BOTTOM OF FOOTING	

RETAINING WALL "D" ELEVATION  
STA. 32+10.00 TO STA. 33+70.00

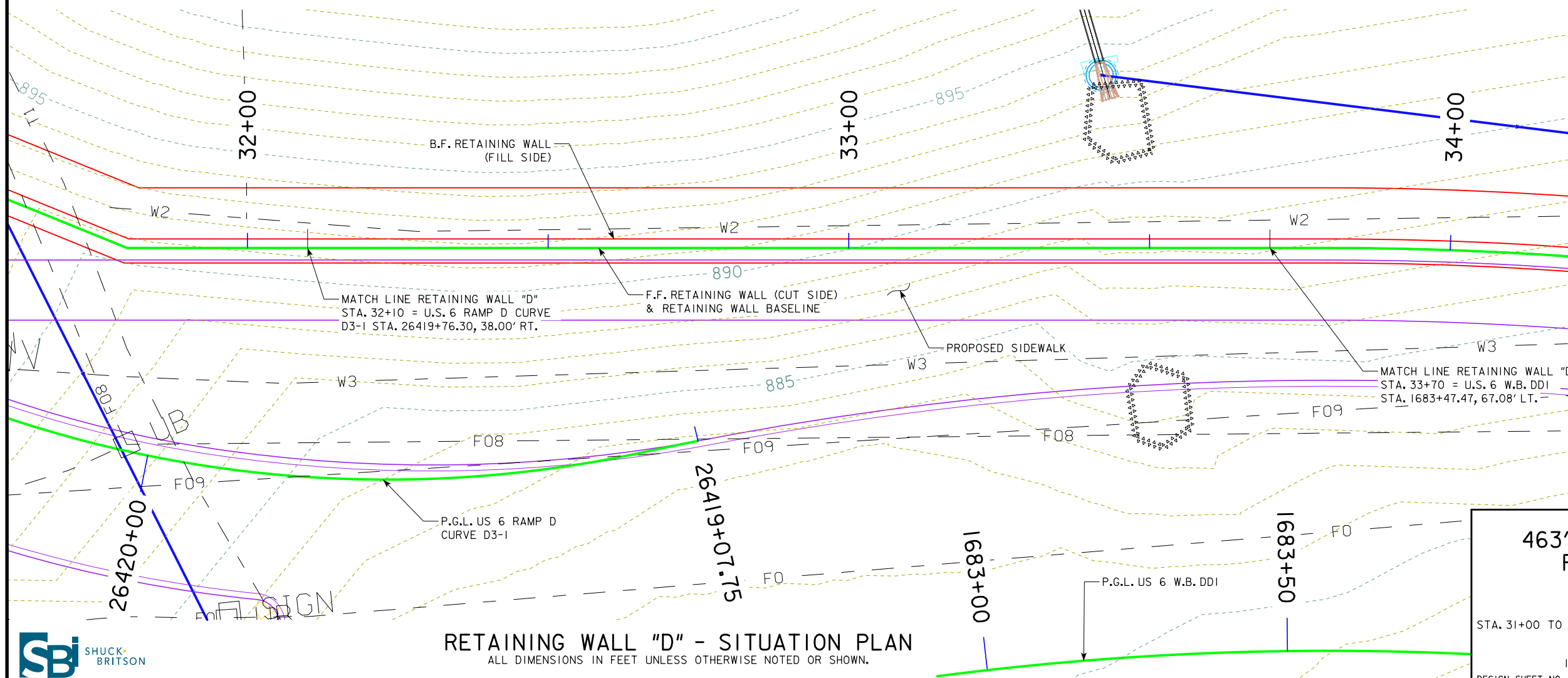


CURVE 1 DATA

PI STA. 34+01.47  
 $\Delta = 4^\circ 22' 31.10''$   
 T = 21.77'  
 L = 43.53'  
 E = 0.42'  
 R = 570.00'  
 PC STA. 33+79.69  
 PCC STA. 34+23.22

CURVE 2 DATA

PI STA. 34+56.53  
 $\Delta = 11^\circ 07' 37.06''$   
 T = 33.31'  
 L = 66.42'  
 E = 1.62'  
 R = 342.00'  
 PCC STA. 34+23.22  
 PT STA. 34+89.64



PRELIMINARY

DESIGN FOR  
**463'-4 X VARIABLE HEIGHT  
 RETAINING WALL "D"**  
 SITUATION PLAN

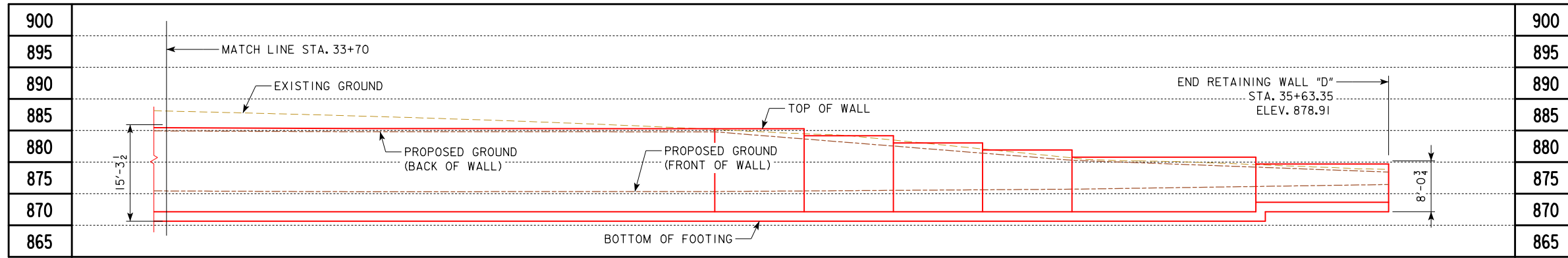
STA. 31+00 TO 35+63.35 (OFFSET U.S. 6 RAMP D) DECEMBER, 2021

**POLK COUNTY**

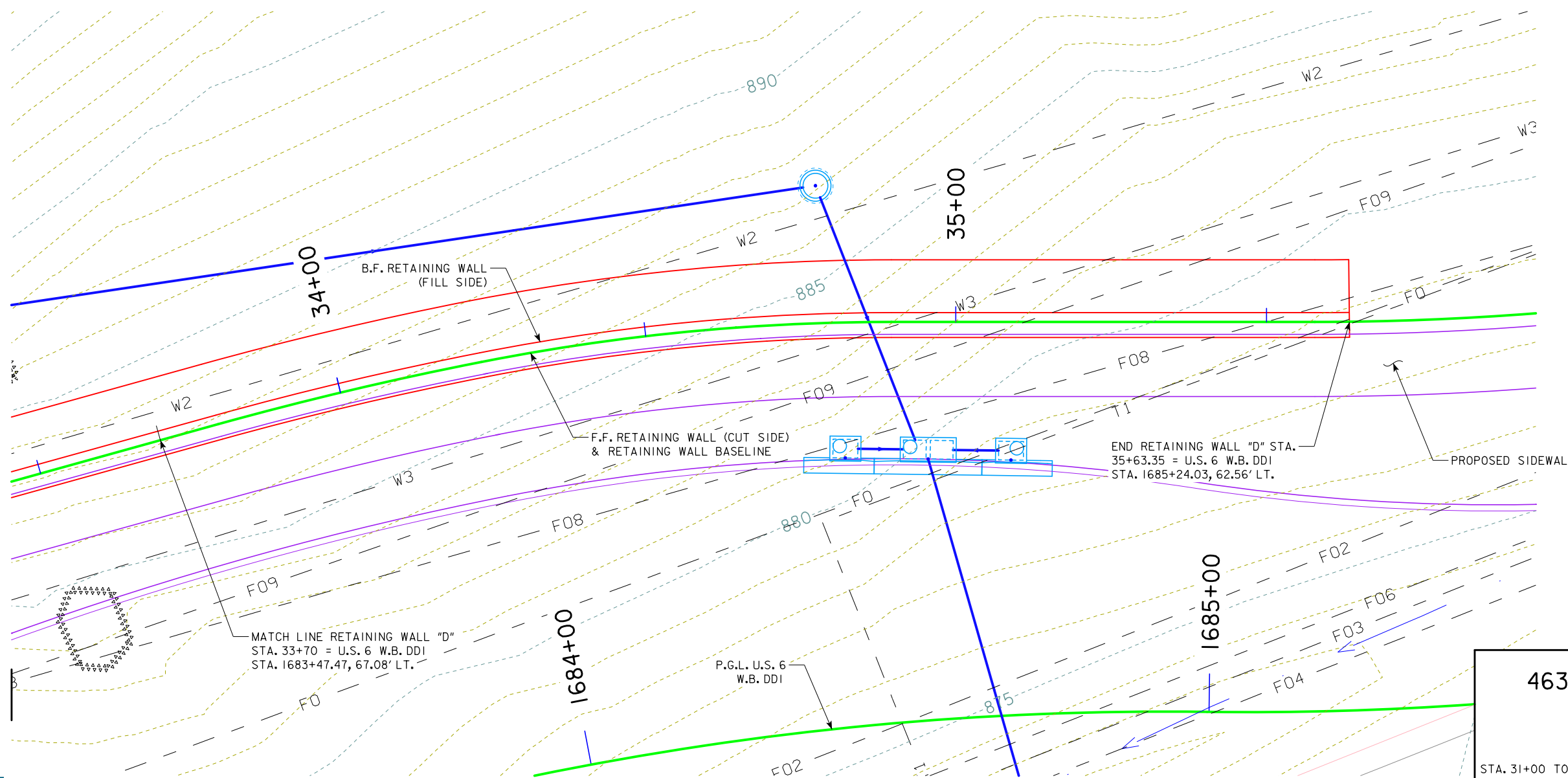
IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?





RETAINING WALL "D" ELEVATION  
STA. 33+70.00 TO STA. 35+63.35



CURVE 2 DATA

PI STA. 34+56.53  
 $\Delta = 11^\circ 07' 37.06''$   
 T = 33.31'  
 L = 66.42'  
 E = 1.62'  
 R = 342.00'  
 PCC STA. 34+23.22  
 PT STA. 34+89.64

CURVE 3 DATA

PI STA. 36+44.53  
 $\Delta = 21^\circ 38' 03.10''$   
 T = 86.75'  
 L = 171.42'  
 E = 8.21'  
 R = 454.00'  
 PC STA. 35+57.79  
 PT STA. 37+29.21

RETAINING WALL "D" - SITUATION PLAN  
 ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.

DESIGN FOR  
**463'-4 X VARIABLE HEIGHT  
 RETAINING WALL "D"**  
 SITUATION PLAN

STA. 31+00 TO 35+63.35 (OFFSET U.S. 6 RAMP D) DECEMBER, 2021

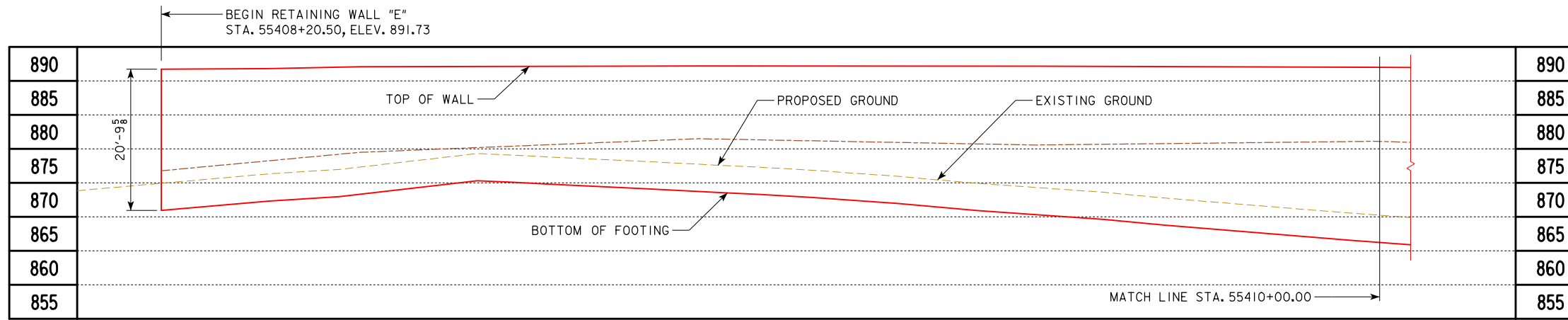
POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?

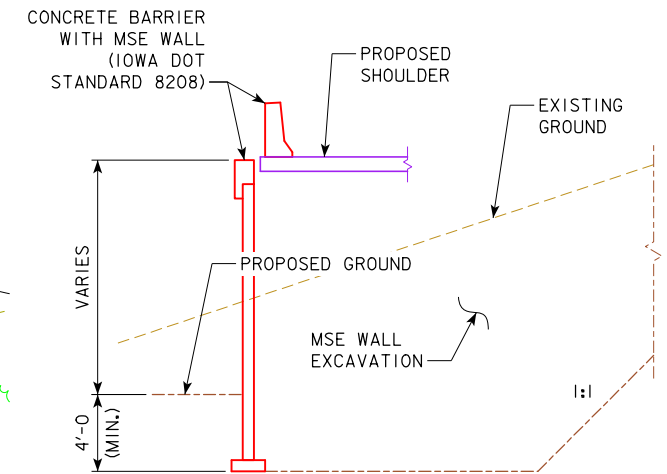


BENCH MARK NO:



RETAINING WALL "E" ELEVATION  
STA. 55408+20.50 TO STA. 55410+00.00

PROPOSED PROFILE GRADE  
(U.S. 6 RAMP C)



WALL TYPICAL SECTION  
(LOOKING NORTH)

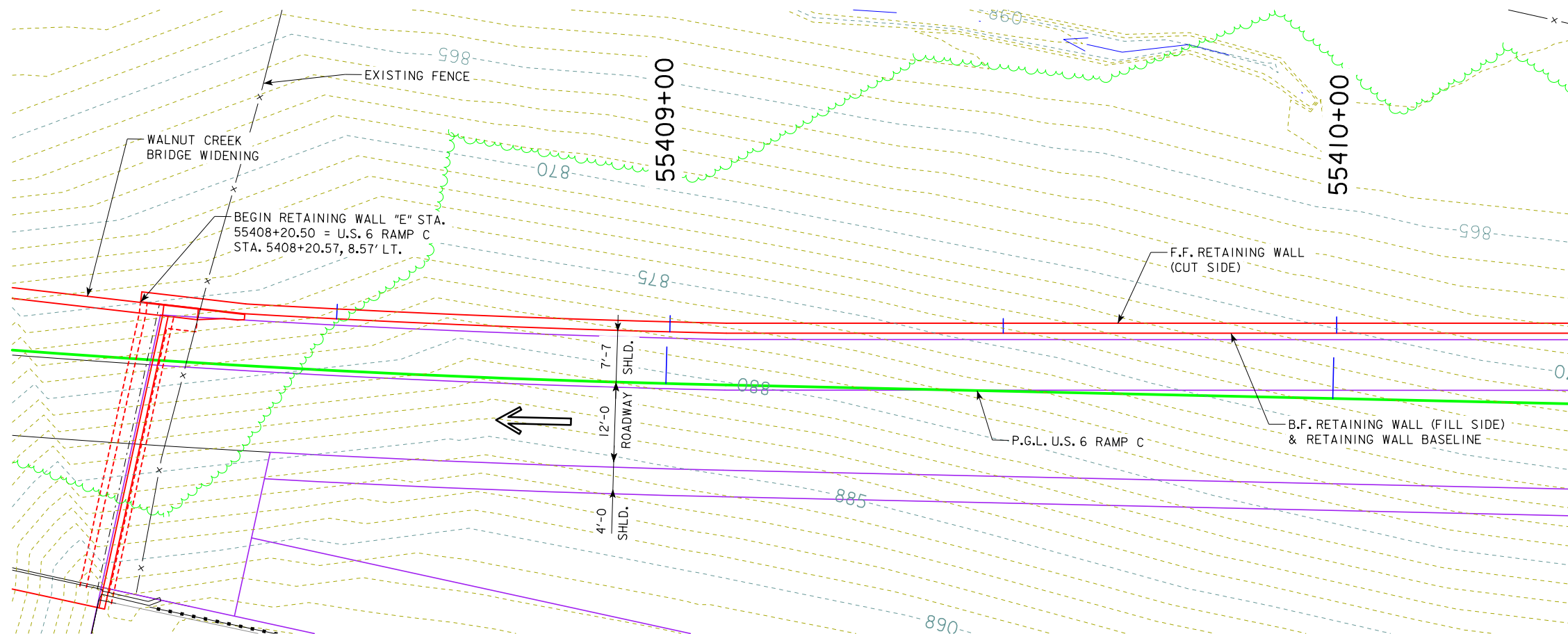
UTILITIES LEGEND

TI - TELEPHONE - CENTURYLINK  
UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

LOCATION

RETAINING WALL "E"  
I-35/80 S.B. U.S. 6 RAMP C  
(HICKMAN ROAD)  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

PRELIMINARY



RETAINING WALL "E" - SITUATION PLAN  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.

U.S. 6 RAMP C TRAFFIC ESTIMATE      I-35/80 S.B. TRAFFIC ESTIMATE

200_ AADT	_____	V.P.D.	200_ AADT	_____	V.P.D.
202_ AADT	_____	V.P.D.	202_ AADT	_____	V.P.D.
202_ DHV	_____	V.P.H.	202_ DHV	_____	V.P.H.
TRUCKS	_____	%	TRUCKS	_____	%
TOTAL DESIGN ESALs	_____		TOTAL DESIGN ESALs	_____	

DESIGN FOR  
628'-0" X VARIABLE HEIGHT  
RETAINING WALL "E"  
SITUATION PLAN

STA. 55408+20.50 TO 55414+48.53 (OFFSET U.S. 6 RAMP C) DECEMBER, 2021

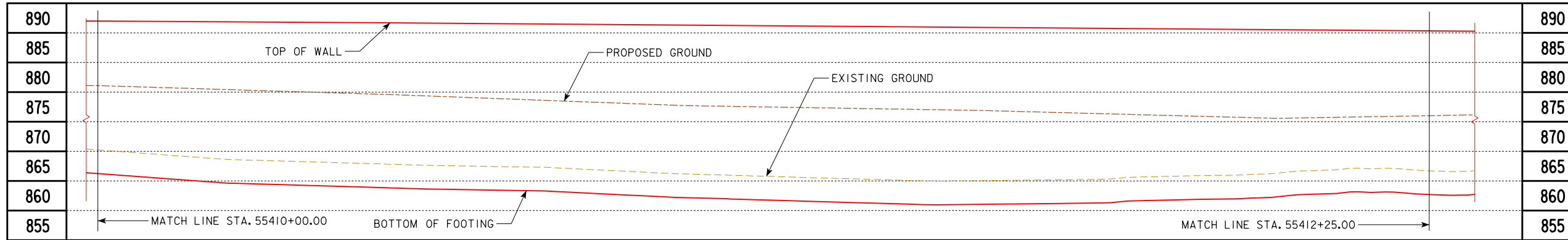
POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

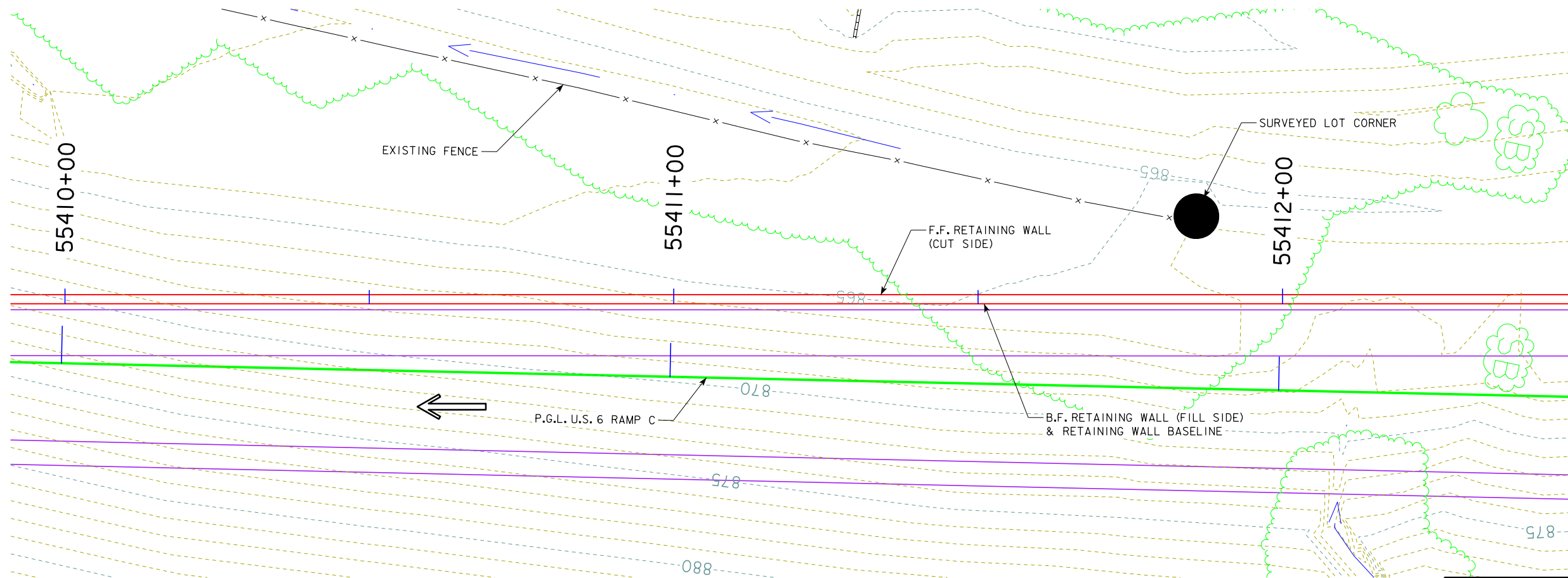
DESIGN SHEET NO. \_\_\_\_\_ OF ? FILE NO. ? DESIGN NO. ?



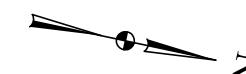
BENCH MARK NO:



RETAINING WALL "E" ELEVATION  
STA. 55410+00.00 TO STA. 55412+25.00



RETAINING WALL "E" - SITUATION PLAN  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



PRELIMINARY

DESIGN FOR  
**628'-0" X VARIABLE HEIGHT  
 RETAINING WALL "E"**  
 SITUATION PLAN

STA. 55408+20.50 TO 55414+48.53 (OFFSET U.S. 6 RAMP C) DECEMBER, 2021

POLK COUNTY

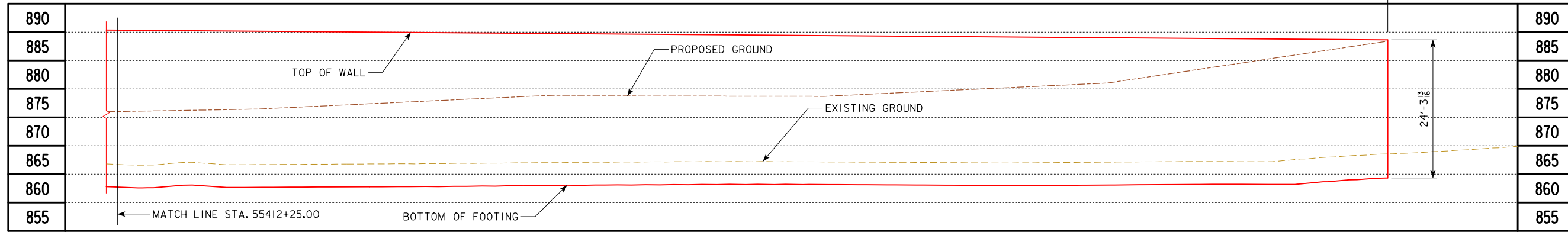
IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. ? OF ? FILE NO. ? DESIGN NO. ?

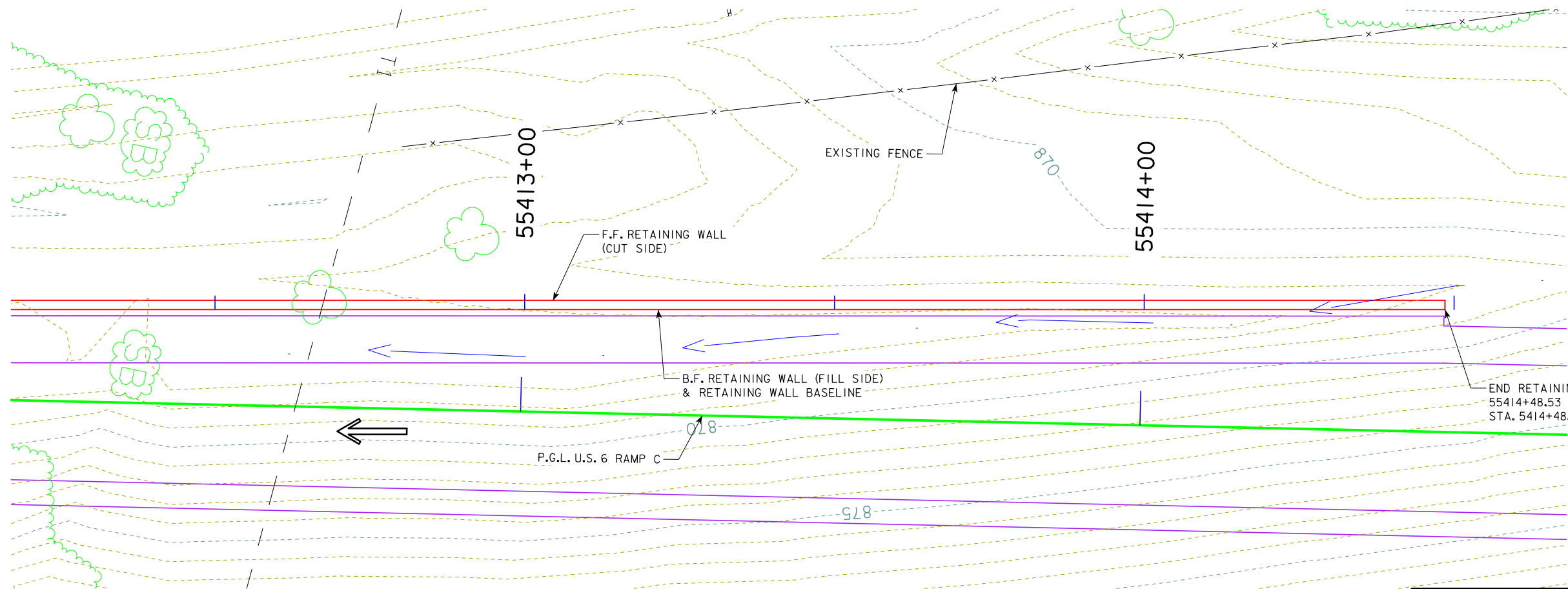


BENCH MARK NO:

END RETAINING WALL "E" STA.  
55414+48.53, ELEV. 888.64



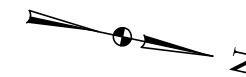
RETAINING WALL "E" ELEVATION  
STA. 55412+25.00 TO STA. 55414+48.53



END RETAINING WALL "E" STA.  
55414+48.53 = U.S. 6 RAMP C  
STA. 5414+48.80, 19.75' LT.

PRELIMINARY

RETAINING WALL "E" - SITUATION PLAN  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



DESIGN FOR  
628'-0 X VARIABLE HEIGHT  
RETAINING WALL "E"  
SITUATION PLAN

STA. 55408+20.50 TO 55414+48.53 (OFFSET U.S. 6 RAMP C) DECEMBER, 2021

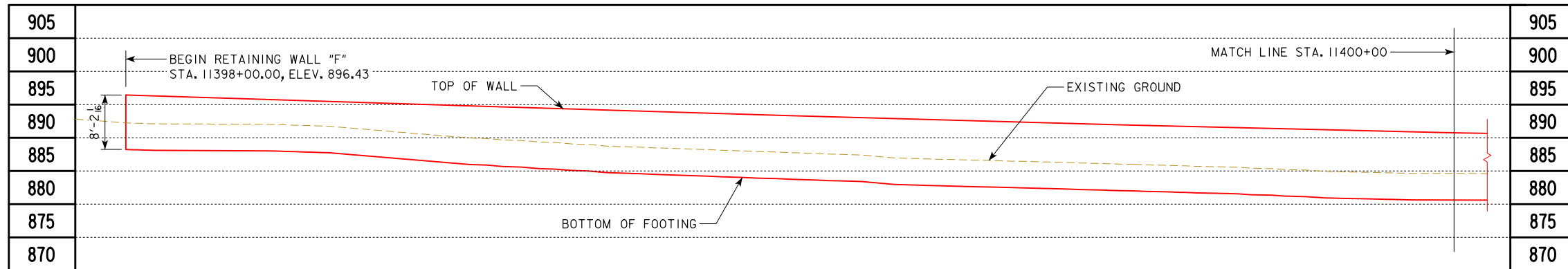
POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. ? OF ? FILE NO. ? DESIGN NO. ?



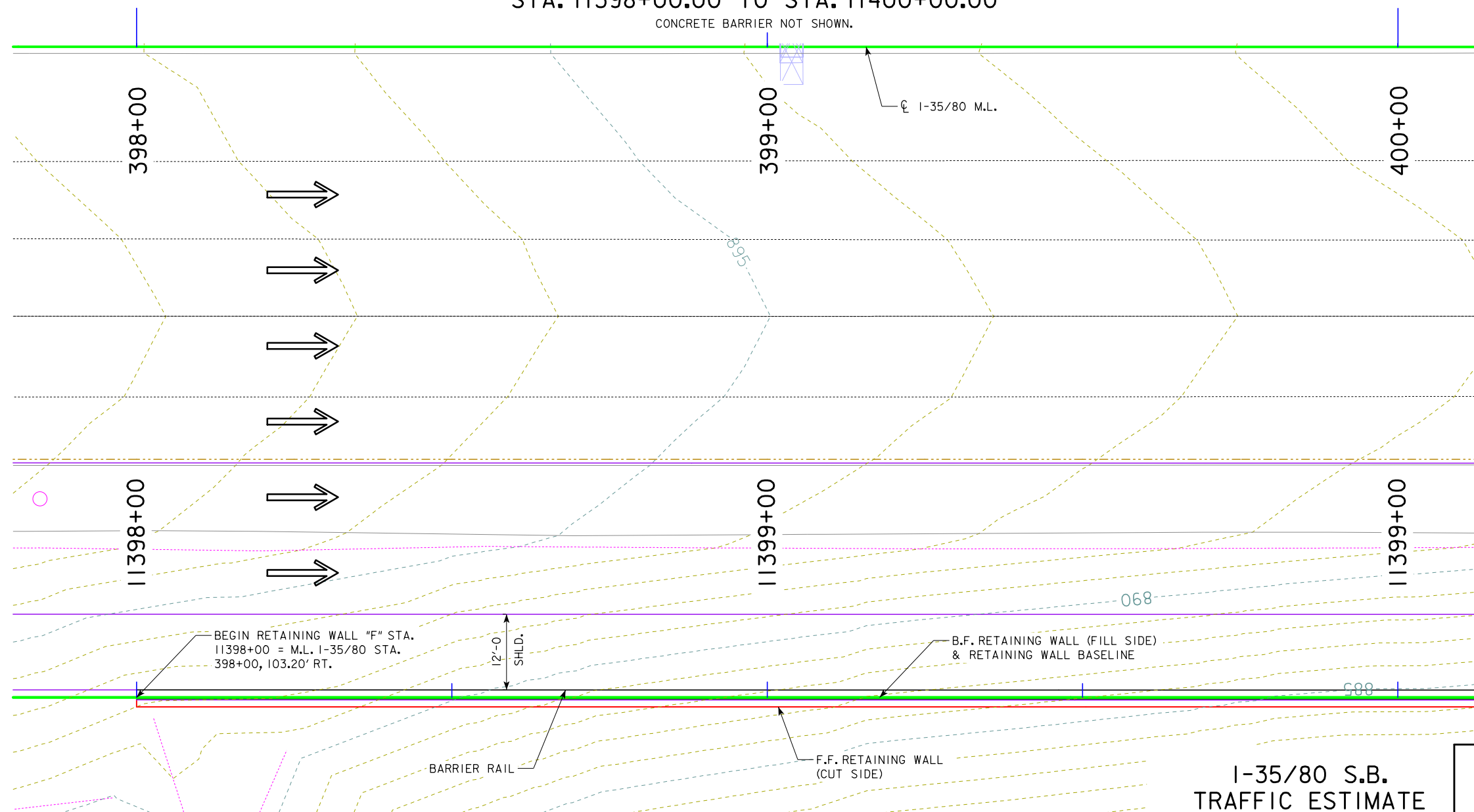
BENCH MARK NO:



PROPOSED PROFILE GRADE  
(I-35/80)

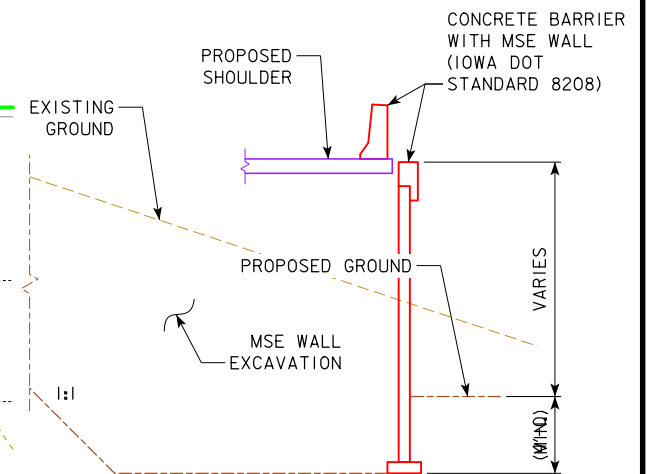
RETAINING WALL "F" ELEVATION  
STA. 11398+00.00 TO STA. 11400+00.00

CONCRETE BARRIER NOT SHOWN.



RETAINING WALL "F" - SITUATION PLAN

ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



WALL TYPICAL SECTION  
(LOOKING NORTH)

UTILITIES LEGEND

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

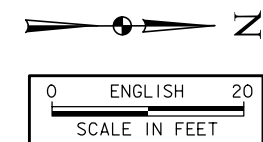
LOCATION

RETAINING WALL "F"  
I-35/80 N.B.  
T-79N R-25W  
SECTION 29  
WALNUT TOWNSHIP  
POLK COUNTY

PRELIMINARY

I-35/80 S.B.  
TRAFFIC ESTIMATE

200_ AADT	---	V.P.D.
202_ AADT	---	V.P.D.
202_ DHV	---	V.P.H.
TRUCKS	---	%
TOTAL DESIGN ESALS	---	



DESIGN FOR  
615'-3" X VARIABLE HEIGHT  
RETAINING WALL "F"  
SITUATION PLAN

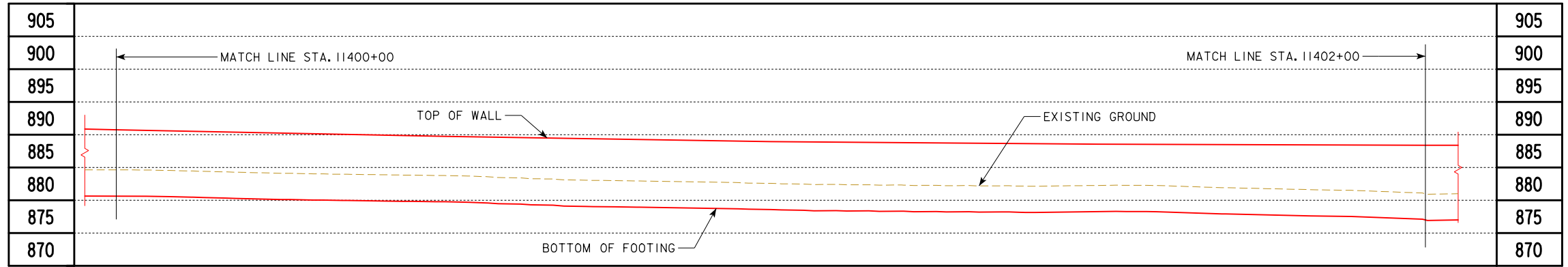
STA. 11398+00 TO 11404+15.24 (OFFSET  $\phi$  I-35/80) DECEMBER, 2021

POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

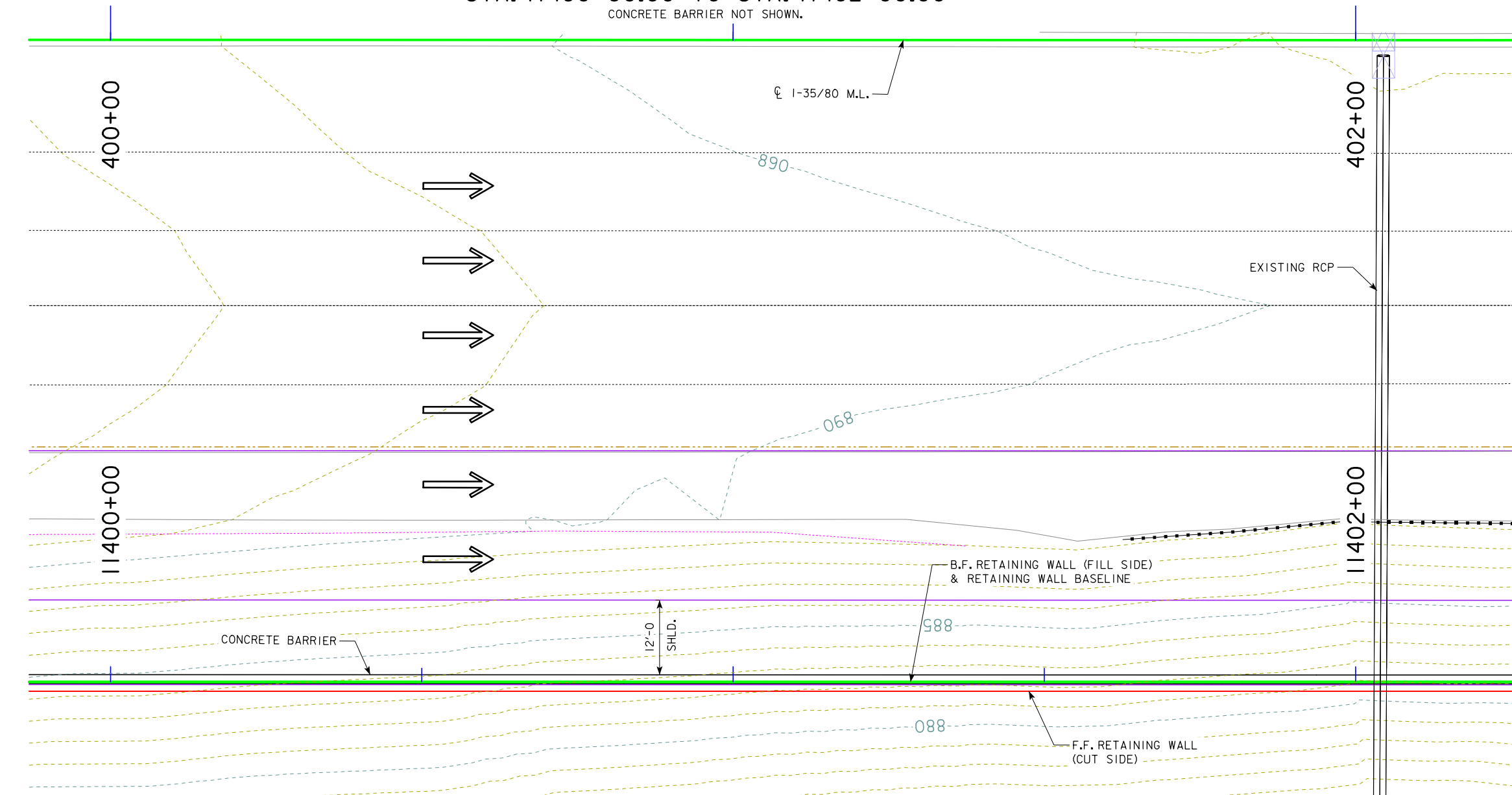
DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?



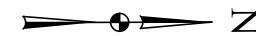


RETAINING WALL "F" ELEVATION  
 STA. 11400+00.00 TO STA. 11402+00.00

CONCRETE BARRIER NOT SHOWN.



RETAINING WALL "F" - SITUATION PLAN  
 ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



PRELIMINARY

DESIGN FOR  
 615'-3 X VARIABLE HEIGHT  
 RETAINING WALL "F"  
 SITUATION PLAN

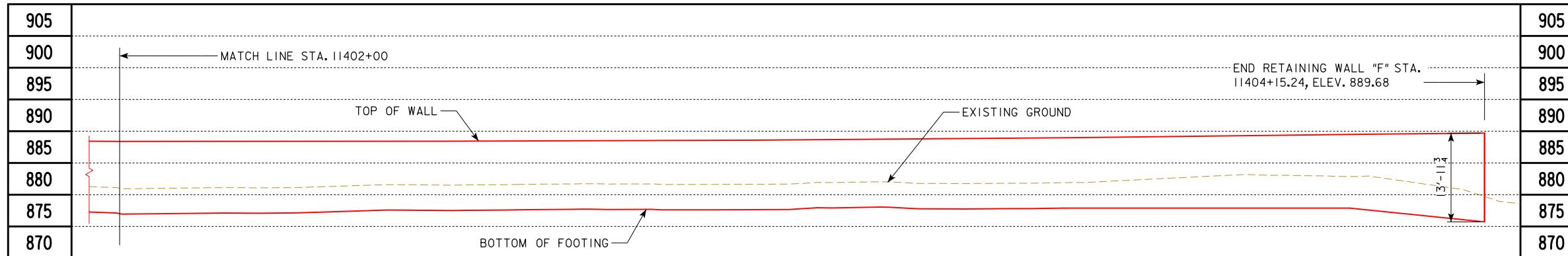
STA. 11398+00 TO 11404+15.24 (OFFSET  $\phi$  1-35/80) DECEMBER, 2021

POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

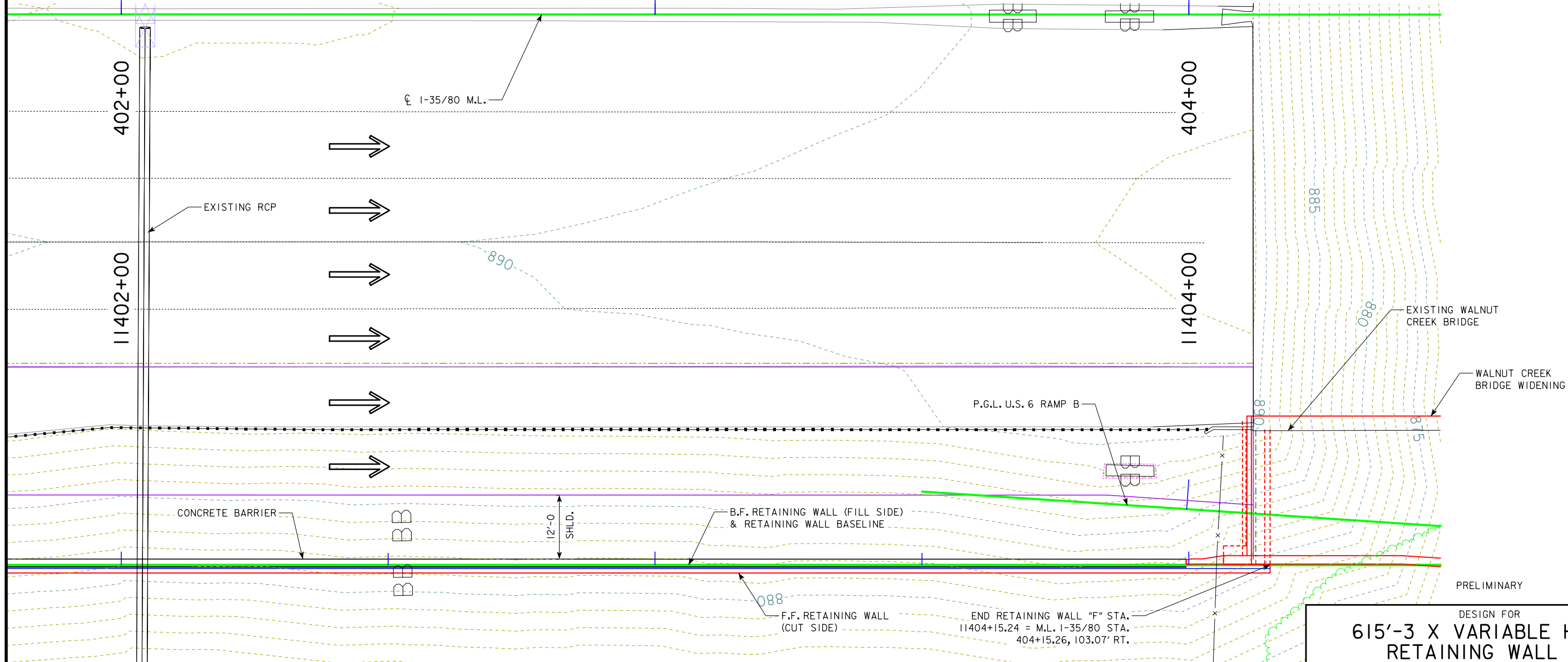
DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?



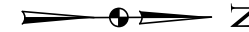


**RETAINING WALL "F" ELEVATION**  
**STA. 11402+00.00 TO STA. 11404+15.24**

CONCRETE BARRIER NOT SHOWN.



**RETAINING WALL "F" - SITUATION PLAN**  
 ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED OR SHOWN.



DESIGN FOR  
**615'-3" X VARIABLE HEIGHT**  
**RETAINING WALL "F"**  
**SITUATION PLAN**

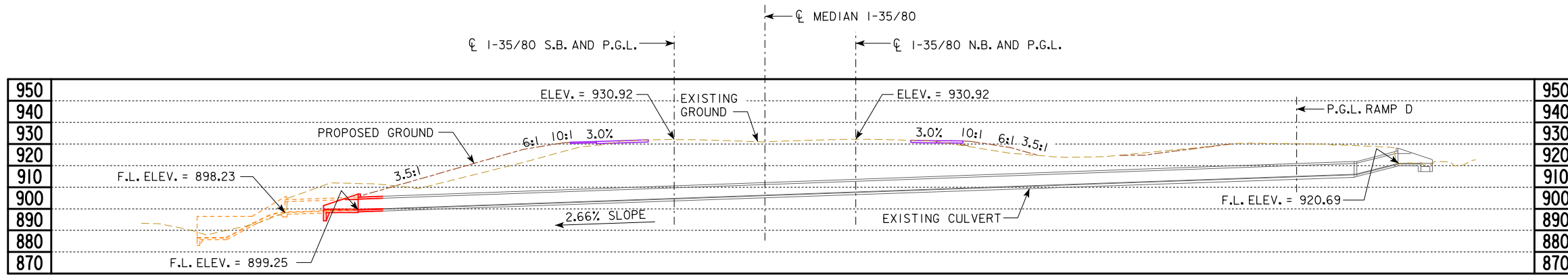
STA. 11398+00 TO 11404+15.24 (OFFSET  $\text{CL}$  1-35/80) DECEMBER, 2021

**POLK COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. \_\_\_\_\_ OF ? FILE NO. \_\_\_\_\_ ? DESIGN NO. \_\_\_\_\_ ?





**LONGITUDINAL SECTION ALONG  $\phi$  CULVERT**  
 NOTE: ANTICIPATED SETTLEMENT IS LESS THAN XX INCH.

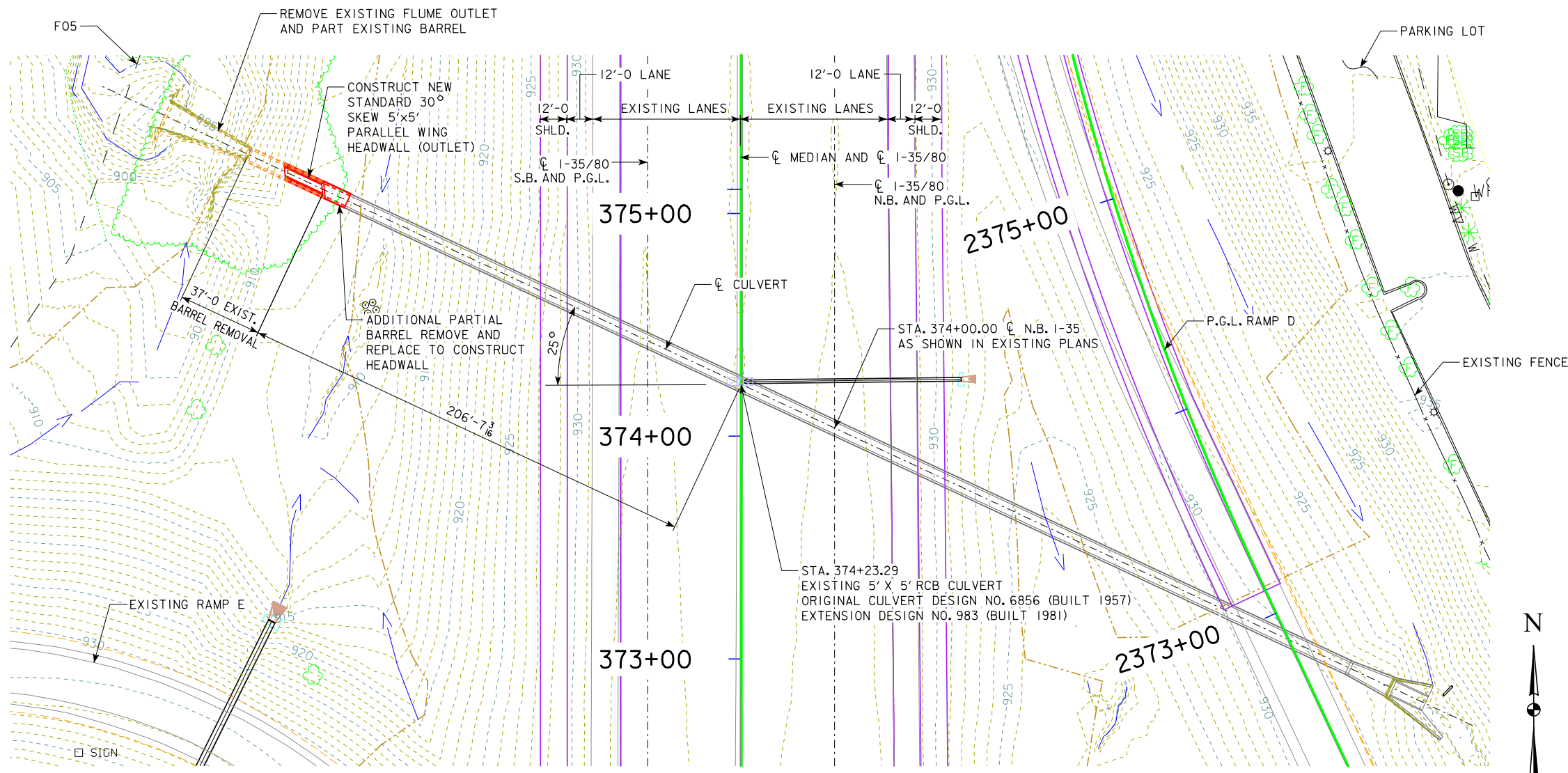
**PROFILE GRADE I-35/80**  
 (USE AS CONSTRUCTED)

**HYDRAULIC DATA**  
 DRAINAGE AREA = 195.0 ACRES  
 $Q_{50} = ?$  CFS  
 HW ELEV. = ???  
 STREAM SLOPE = ??? FT./MI.

**UTILITIES LEGEND:**  
 F05 - FIBER OPTIC - WIND STREAM  
 W - WATER - CLIVE PUBLIC WATER WORKS  
 UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

**I-35/80 TRAFFIC ESTIMATE**

2015 AADT	108,600	V.P.D.
2042 AADT	163,400	V.P.D.
2042 DHV	15,610	V.P.H.
TRUCKS	13	%
TOTAL DESIGN ESALS		



**LOCATION**  
 I-35/80  
 T-79N R-25W  
 SECTION 32  
 WALNUT TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41.602500°  
 LONGITUDE -93.776889°

**SITUATION PLAN**

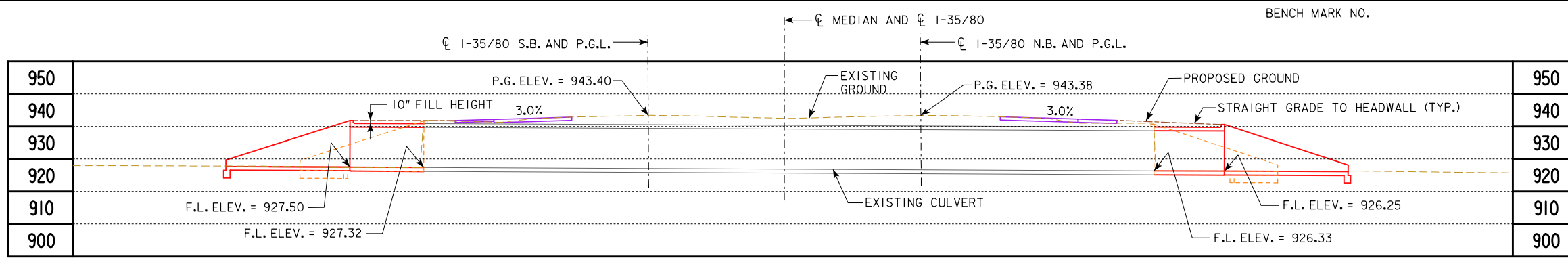
ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.



PRELIMINARY  
 DESIGN FOR 25° SKEW  
**5'-0 X 5'-0 RCB CULVERT PARTIAL REMOVAL**  
**SITUATION PLAN**  
 STA. 374+23.29 ( $\phi$  I-35/80) DECEMBER, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?







### PROPOSED GRADE FOR LIVING HISTORY FARMS ACCESS ROAD

VERTICAL CURVE FOR LIVING HISTORY FARMS ACCESS ROAD HAS NOT BEEN DEFINED, CULVERT EXTENSIONS WILL BE BUILT ON A STRAIGHT GRADE FROM EXISTING CULVERT ENDS TO ELEVATIONS SHOWN ON LONGITUDINAL SECTION.

### PROFILE GRADE I-35/80

(USE AS CONSTRUCTED)

### CURVE DATA

VPC STA. 437+32.90  
 VPI STA. 440+32.89  
 VPT STA. 443+32.89  
 $\Delta = 0^\circ 42' 0.00''$  (LT.)  
 T = 300.00  
 L = 599.99  
 R = 49,109.96  
 E = 0.92

### UTILITIES LEGEND:

NO KNOWN UTILITIES

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

### I-35/80 TRAFFIC ESTIMATE

2015 AADT	108,600	V.P.D.
2042 AADT	163,400	V.P.D.
2042 DHV	15,610	V.P.H.
TRUCKS	13	%
TOTAL DESIGN ESALS		

### LOCATION

LIVING HISTORY FARMS TRAIL  
 UNDER I-35/80  
 T-79N R-25W  
 SECTION 29  
 WALNUT TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41.620833°  
 LONGITUDE -93.776806°

PRELIMINARY

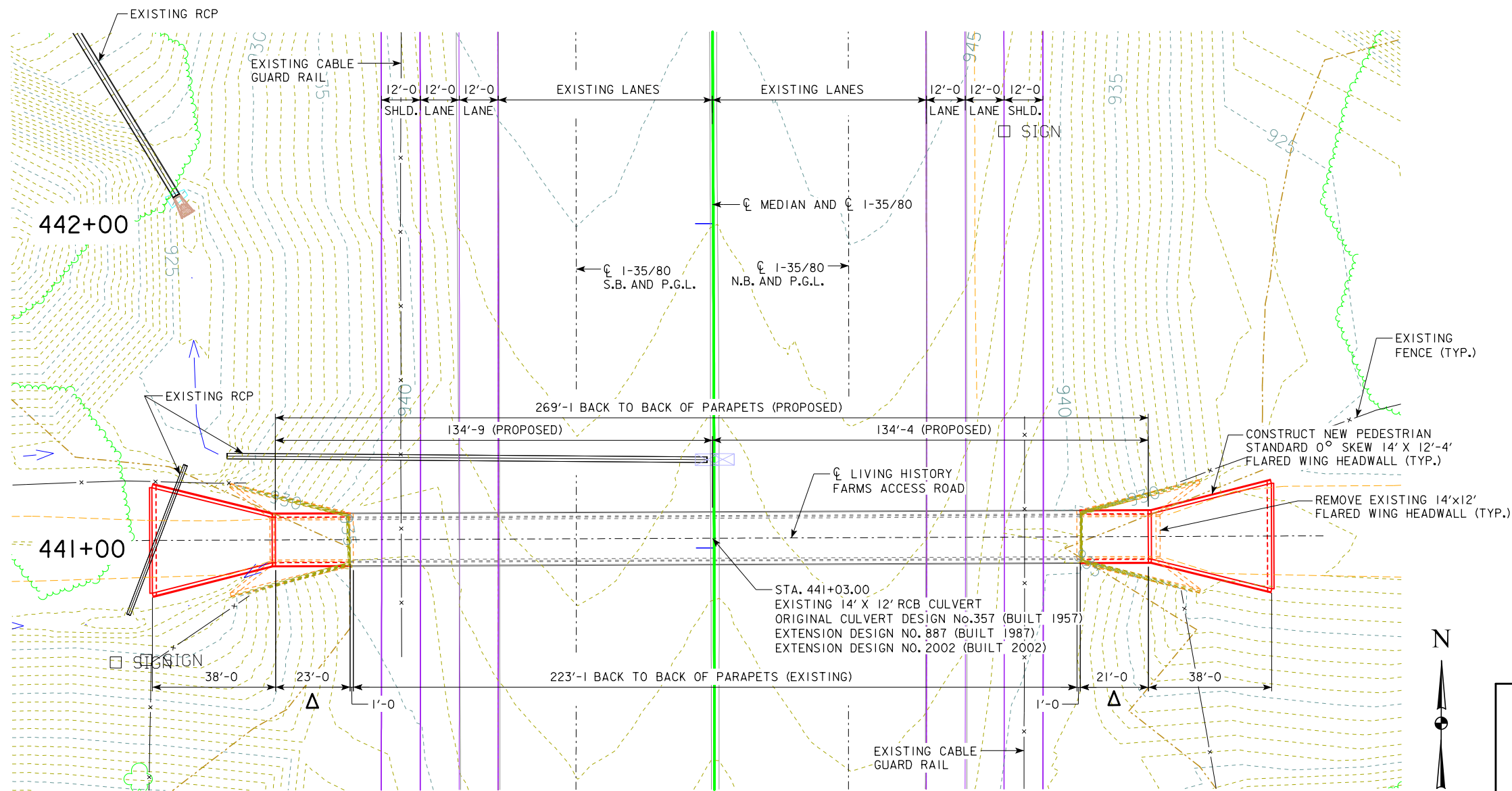
DESIGN FOR 0° SKEW  
**14'-0" X 12'-0" RCB CULVERT EXTENSION**  
**SITUATION PLAN**  
 STA. 441+03.00 (CL I-35/80) DECEMBER, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF ? FILE NO. ? DESIGN NO. ?

### LONGITUDINAL SECTION ALONG CL CULVERT

NOTE: ANTICIPATED SETTLEMENT IS LESS THAN XX INCH.

$\Delta$  EXTENSION LENGTH FROM FRONT OF EXISTING PARAPET TO BACK OF NEW PARAPET.

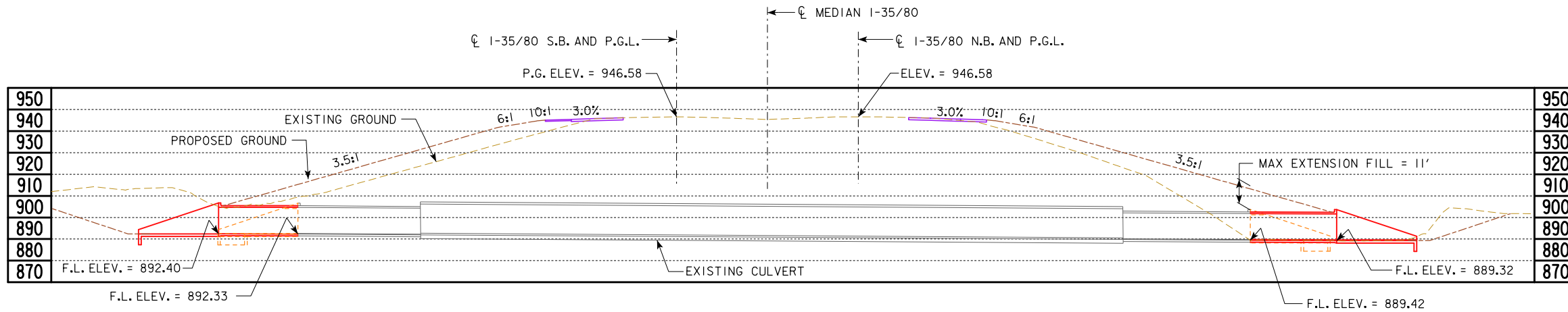
NOTES:  
 HEADWALL AESTHETICS TO BE INCORPORATED IN FINAL DESIGN.  
 EXISTING FROST TROUGHS TO BE TRANSITIONED TO MATCH CURRENT PEDESTRIAN TUNNEL STANDARD.



### SITUATION PLAN

ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.





**PROFILE GRADE I-35/80**  
(USE AS CONSTRUCTED)

**HYDRAULIC DATA**  
DRAINAGE AREA = 945.0 ACRES  
Q<sub>50</sub> = ??? CFS  
HW ELEV. = ???  
STREAM SLOPE = ??? FT./MI.

**LONGITUDINAL SECTION ALONG CL CULVERT**

NOTE: ANTICIPATED SETTLEMENT IS LESS THAN XX INCH.

▲ EXTENSION LENGTH FROM FRONT OF EXISTING PARAPET TO BACK OF NEW PARAPET.

**CURVE DATA**

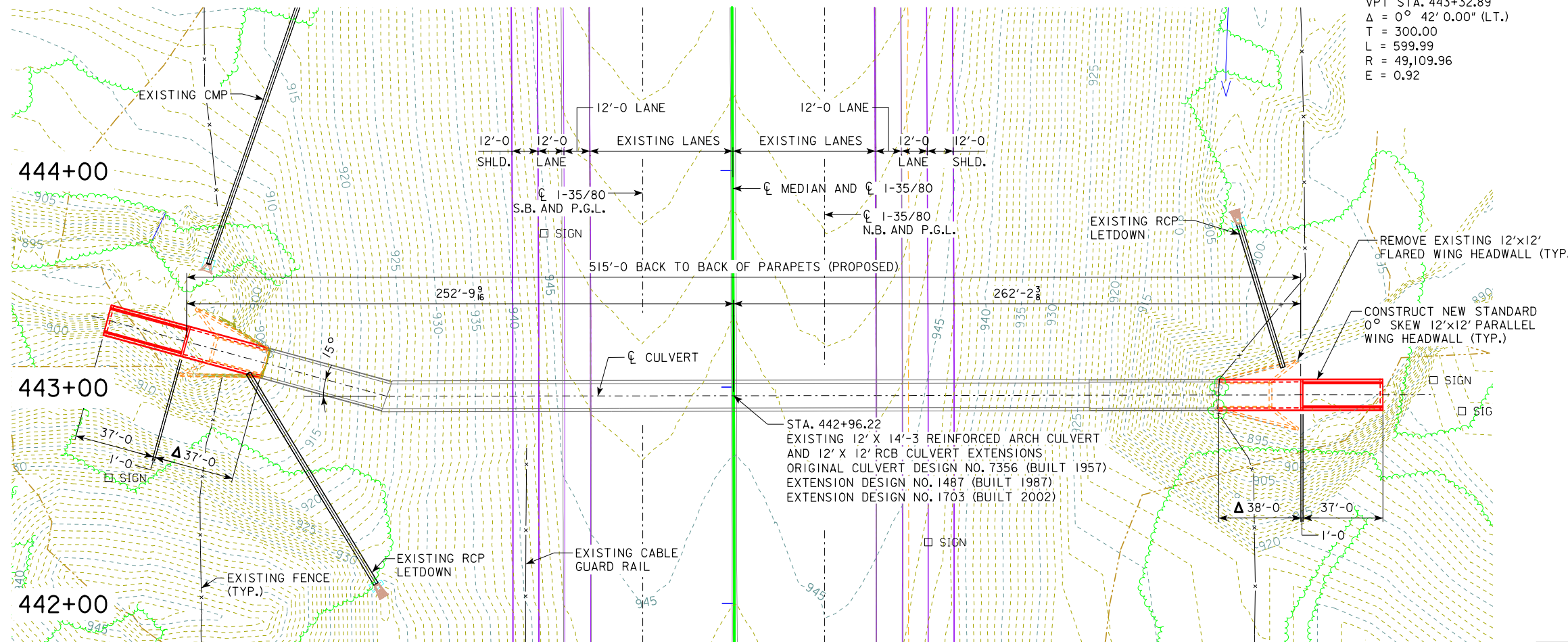
VPC STA. 437+32.90  
VPI STA. 440+32.89  
VPT STA. 443+32.89  
Δ = 0° 42' 0.00" (LT.)  
T = 300.00  
L = 599.99  
R = 49,109.96  
E = 0.92

**UTILITIES LEGEND:**  
NO KNOWN UTILITIES

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

**I-35/80 TRAFFIC ESTIMATE**

2015 AADT	108,600	V.P.D.
2042 AADT	163,400	V.P.D.
2042 DHV	15,610	V.P.H.
TRUCKS	13	%
TOTAL DESIGN ESALs		



**SITUATION PLAN**

ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.

**LOCATION**

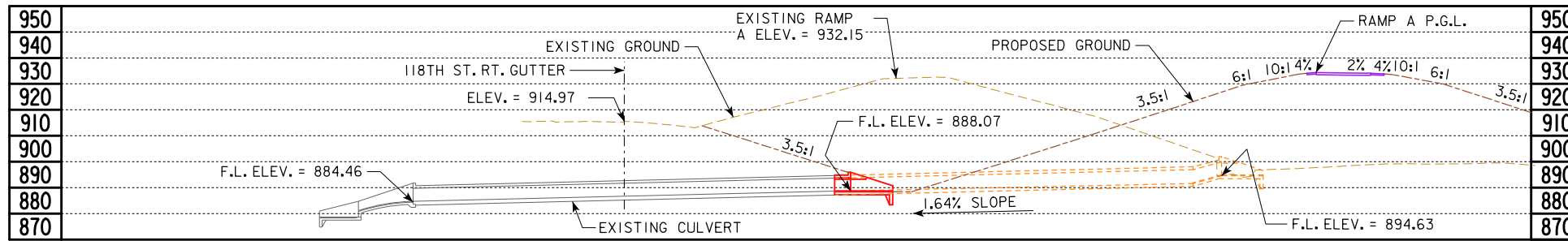
I-35/80  
T-79N R-25W  
SECTION 29  
WALNUT TOWNSHIP  
POLK COUNTY  
LATITUDE 41.621361°  
LONGITUDE -93.776806°

PRELIMINARY

DESIGN FOR 0° SKEW  
**12'-0 X 12'-0 RCB CULVERT EXTENSION**  
**SITUATION PLAN**

STA. 442+96.22 (CL I-35/80) DECEMBER, 2021  
POLK COUNTY  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?

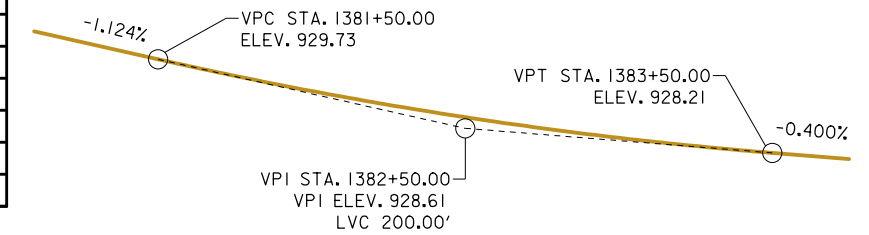




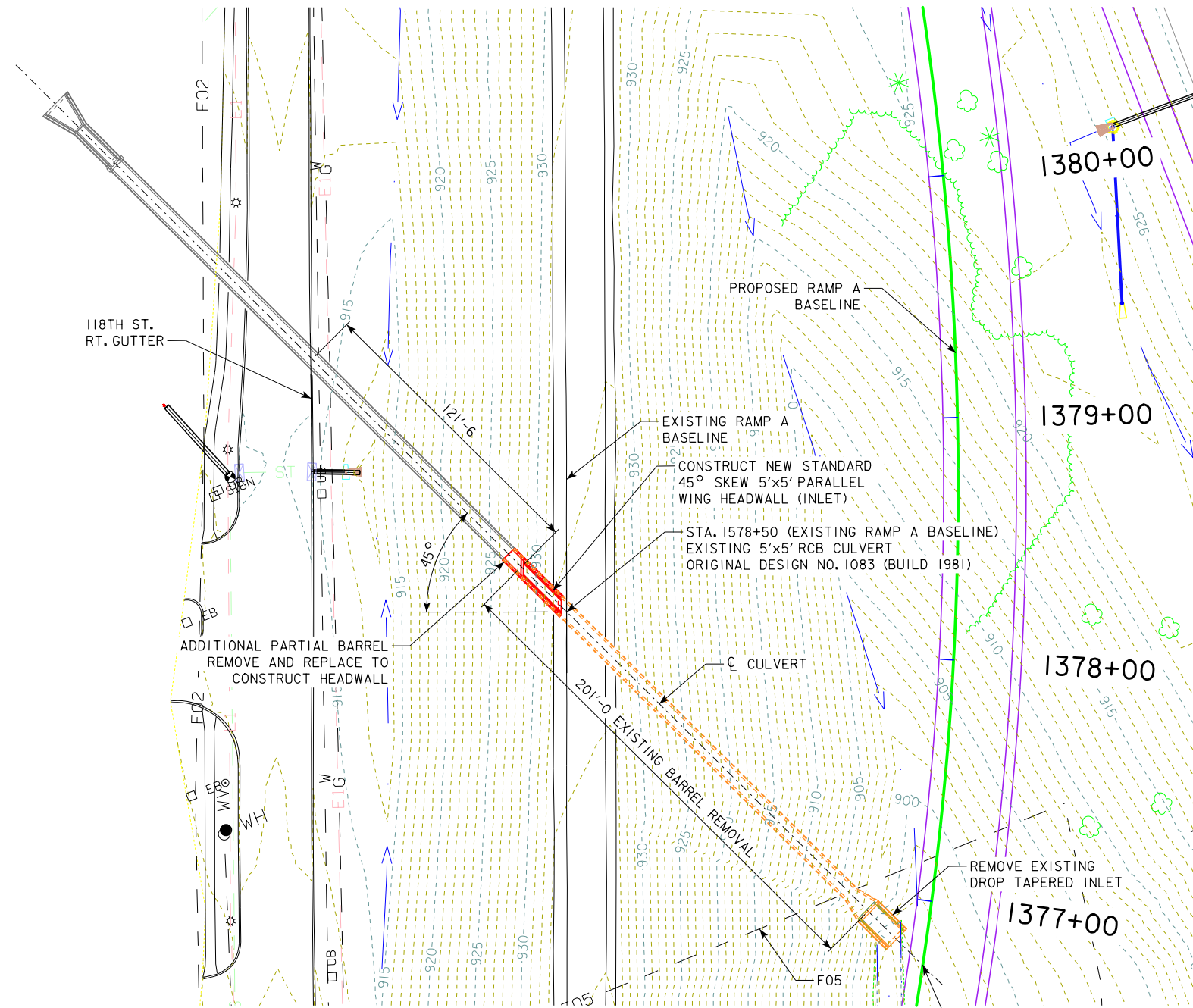
**LONGITUDINAL SECTION ALONG CULVERT**

NOTE: ANTICIPATED SETTLEMENT IS LESS THAN XX INCH.

BENCH MARK NO.



**PROPOSED PROFILE GRADE RAMP A**



**SITUATION PLAN**

ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.

**HYDRAULIC DATA**

DRAINAGE AREA = 225.0 ACRES  
 $Q_{50} = ?$  CFS  
 HW ELEV. = ???  
 STREAM SLOPE = ??? FT./MI.

**CURVE A-2 DATA  
 PROPOSED RAMP A**

PRC STA. 1373+61.98  
 $\Delta = 39^\circ 01' 13.76''$   
 $T = 474.79$   
 $L = 912.59$   
 $E = 81.63$   
 $R = 1340.00$   
 PC STA. 1368+26.74  
 PT STA. 1382+74.57

**UTILITIES LEGEND:**

F02 - FIBER OPTIC - CENTURYLINK  
 F05 - FIBER OPTIC - WINDSTREAM  
 EI - ELECTRIC - MIDAMERICAN ENERGY  
 G - GAS - MIDAMERICAN ENERGY  
 W - WATER - CLIVE PUBLIC WATER WORKS

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

**I-35/80  
 TRAFFIC ESTIMATE**

2015 AADT	108,600	V.P.D.
2042 AADT	163,400	V.P.D.
2042 DHV	15,610	V.P.H.
TRUCKS	13	%
TOTAL DESIGN ESALs	-	

**RAMP A  
 TRAFFIC ESTIMATE**

2015 AADT	-	V.P.D.
2042 AADT	81,700	V.P.D.
2042 DHV	-	V.P.H.
TRUCKS	-	%
TOTAL DESIGN ESALs	-	

**LOCATION**

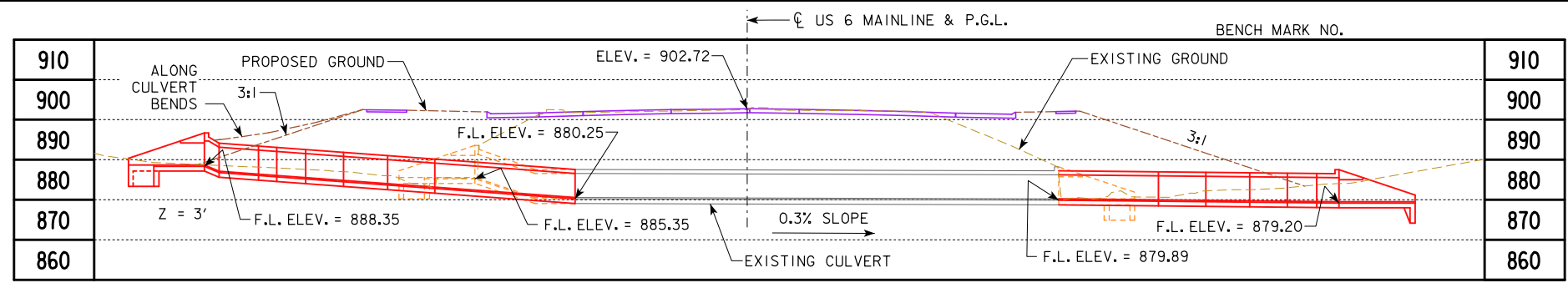
I-35/80 EXIT TO UNIVERSITY  
 EXISTING RAMP A  
 T-79N R-25W  
 SECTION 32  
 WALNUT TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41.603806°  
 LONGITUDE -93.778306°

PRELIMINARY

**DESIGN FOR 45° SKEW  
 5'-0 X 5'-0 RCB  
 CULVERT PARTIAL REMOVAL  
 SITUATION PLAN**

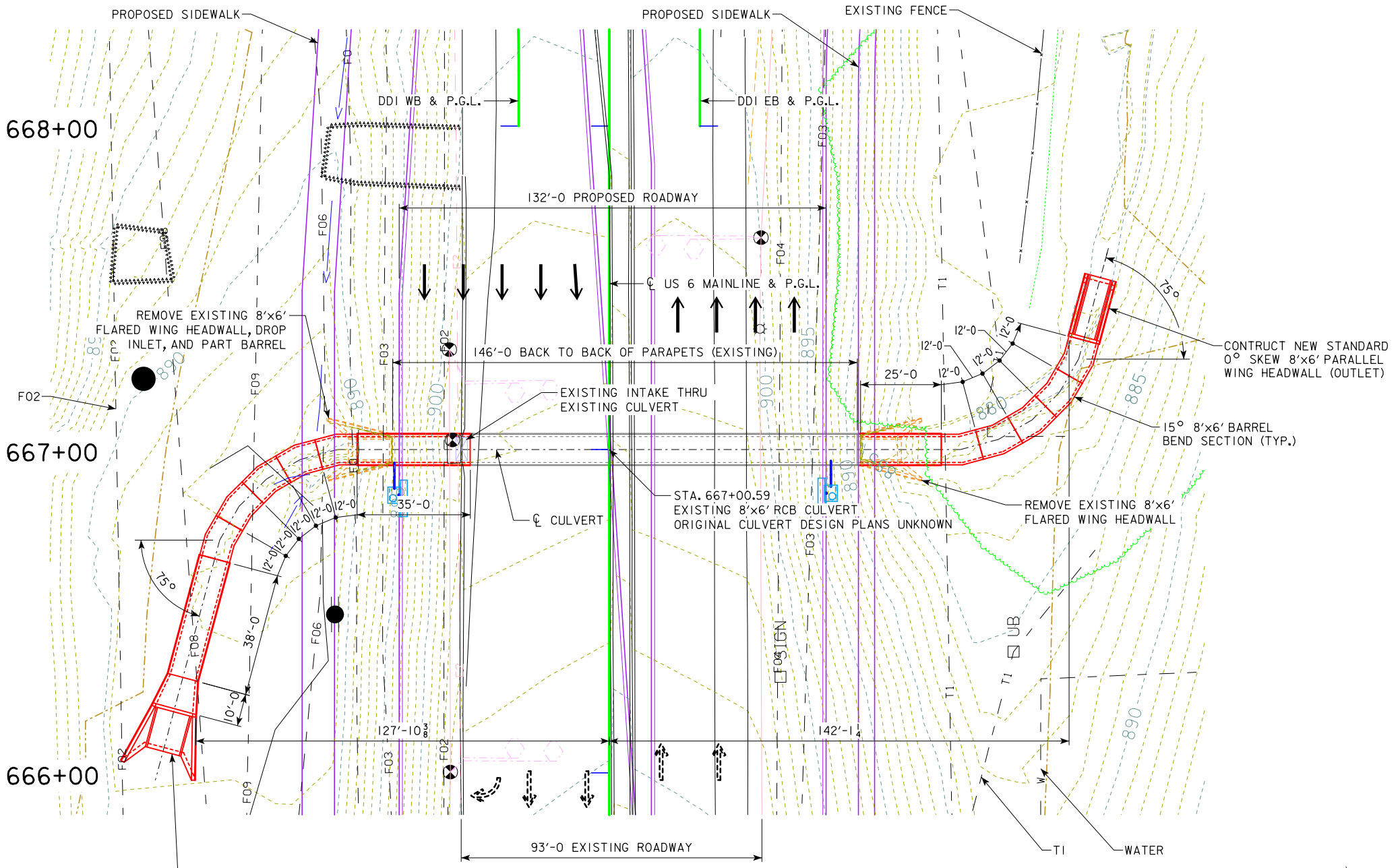
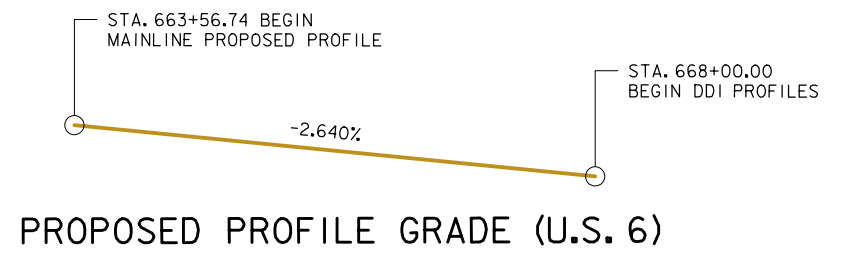
STA. 1578+50.00 (EXISTING RAMP A - UNIVERSITY) DECEMBER, 2021  
 POLK COUNTY  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. ? OF ? FILE NO. ? DESIGN NO. ?





**LONGITUDINAL SECTION ALONG CULVERT**

NOTE: ANTICIPATED SETTLEMENT IS LESS THAN XX INCH.



**SITUATION PLAN**

ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.

**HYDRAULIC DATA**

DRAINAGE AREA = 180.0 ACRES  
 Q<sub>50</sub> = 2,2?? CFS  
 HW ELEV. = ???  
 STREAM SLOPE = ??? FT./MI.

**UTILITIES LEGEND:**

- E2 - ELECTRIC - CITY OF URBANDALE
- F02 - FIBER OPTIC - CENTURYLINK
- F03 - FIBER OPTIC - MCI/VERIZON
- F04 - FIBER OPTIC - ICN
- F06 - FIBER OPTIC - UNITE
- F08 - FIBER OPTIC - CONSOLIDATED COMMUNITY
- F09 - FIBER OPTIC -
- T1 - TELEPHONE - CENTURY LINK
- W - WATER - CLIVE PUBLIC WORKS
- - UTILITY POLE
- ⊙ - MANHOLE

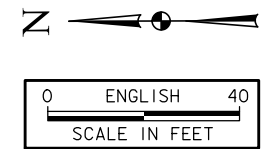
UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

**U.S. 6 TRAFFIC ESTIMATE**

2015 AADT	39,600	V.P.D.
2042 AADT	57,100	V.P.D.
2042 DHV	5,060	V.P.H.
TRUCKS	6	%
TOTAL DESIGN ESALS	-	

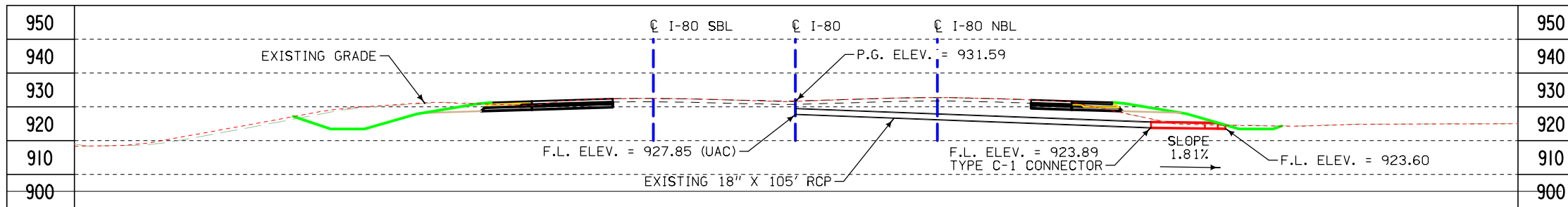
**LOCATION**

US 6 (HICKMAN ROAD)  
 T-79N R-25W  
 SECTION 29/32  
 WALNUT TOWNSHIP  
 POLK COUNTY  
 LATITUDE 41.614889°  
 LONGITUDE -93.780361°

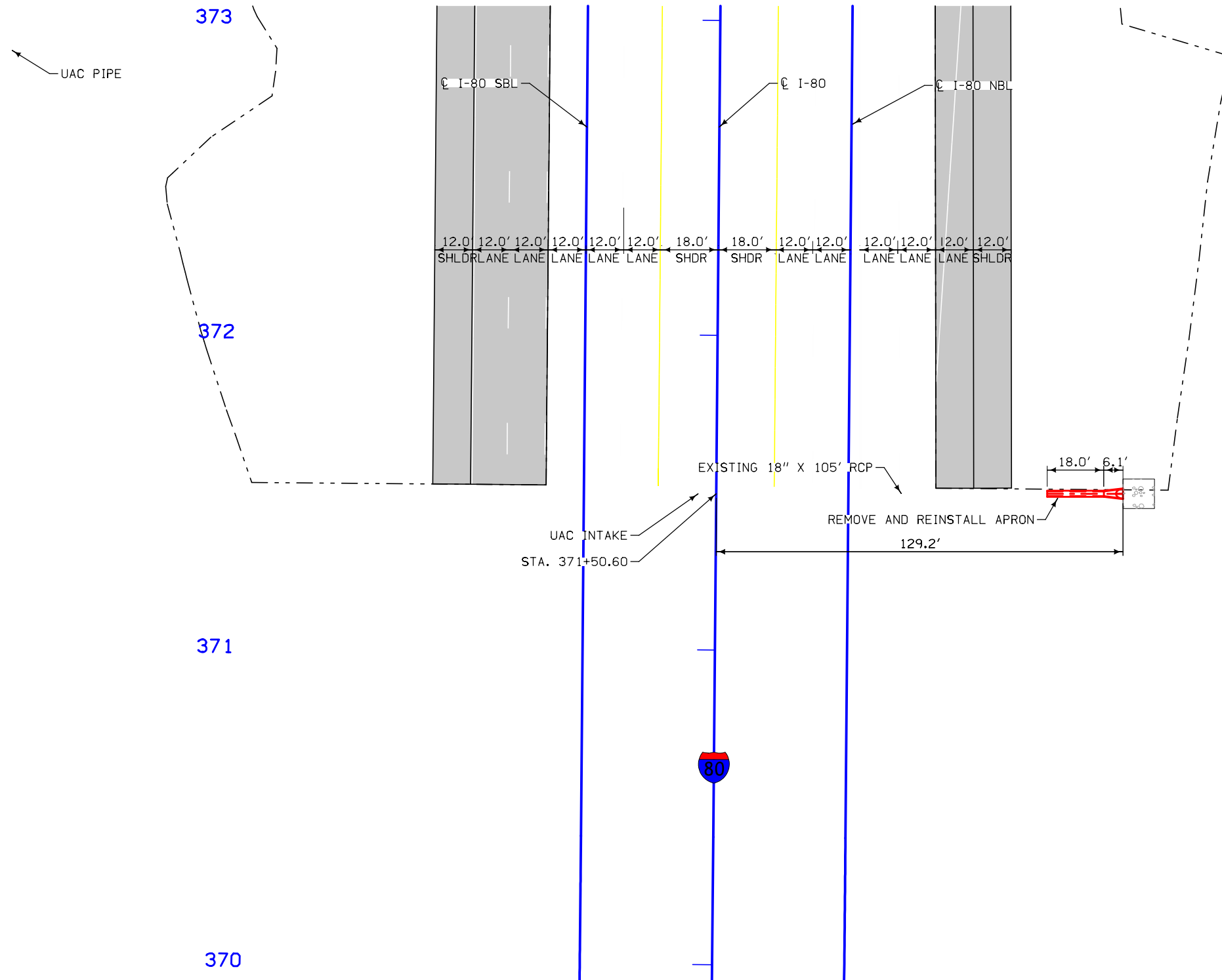


PRELIMINARY  
 DESIGN FOR 0° SKEW  
**8'-0 X 6'-0 RCB  
 CULVERT EXTENSION**  
 SITUATION PLAN  
 STA. 667+00.59 (U.S.6) DECEMBER, 2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_ OF ? FILE NO. ? DESIGN NO. ?

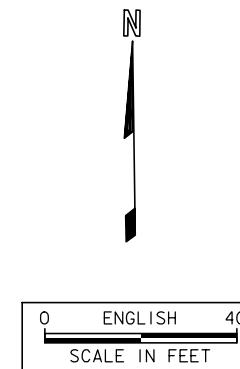




LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

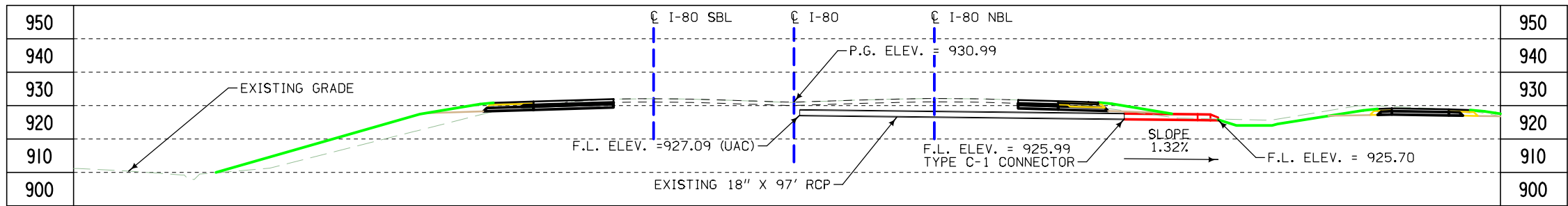


UTILITIES LEGEND:  
REFER TO D.I

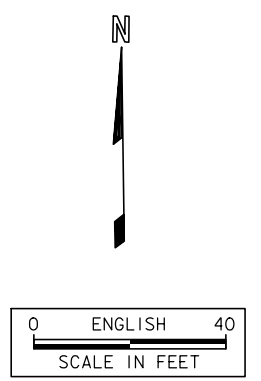
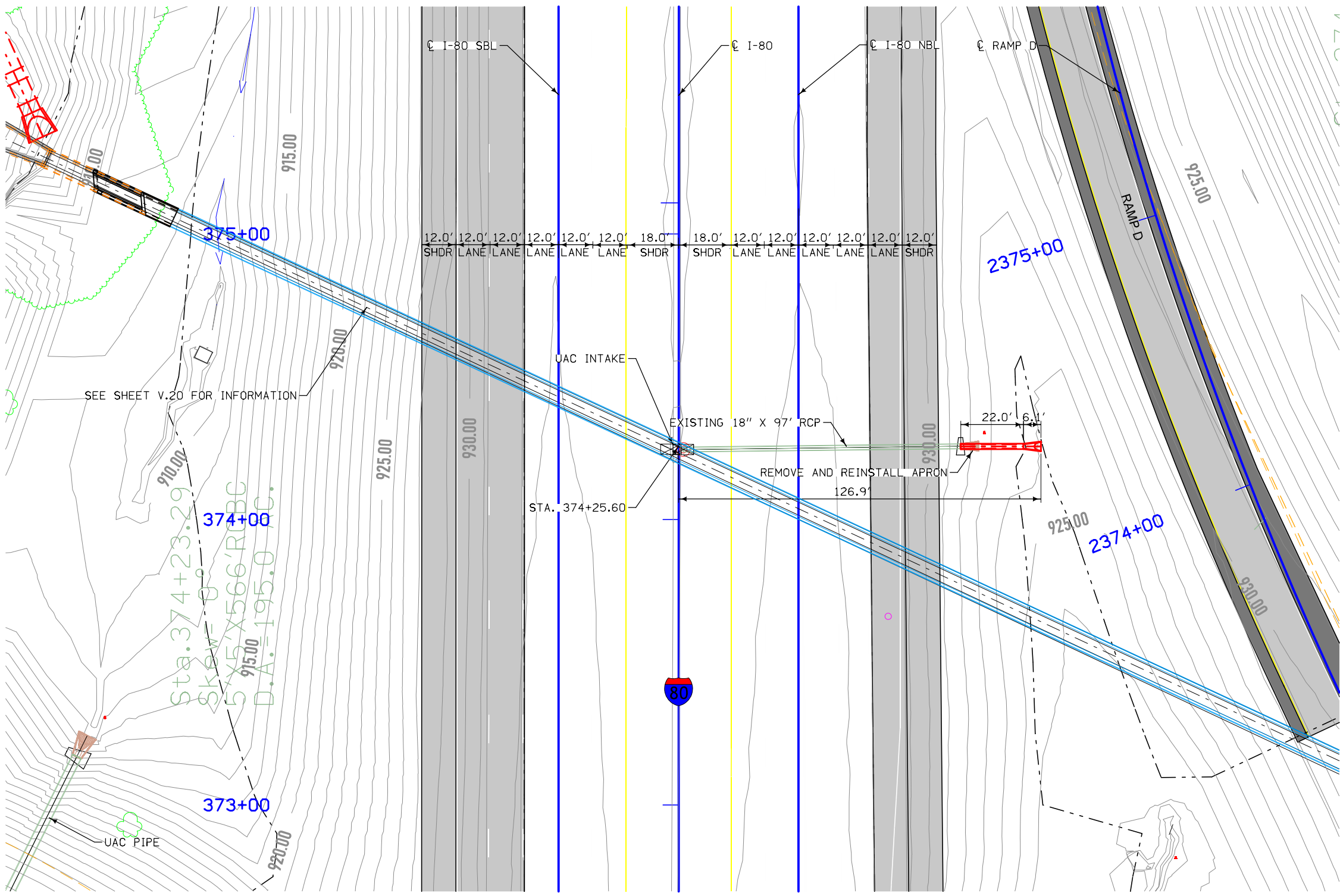
HYDRAULIC DATA  
DRAINAGE AREA = XX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 0° SKEW  
**18" X 18'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
STATION 371+50.60 NBL 11/19/2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG CL CULVERT



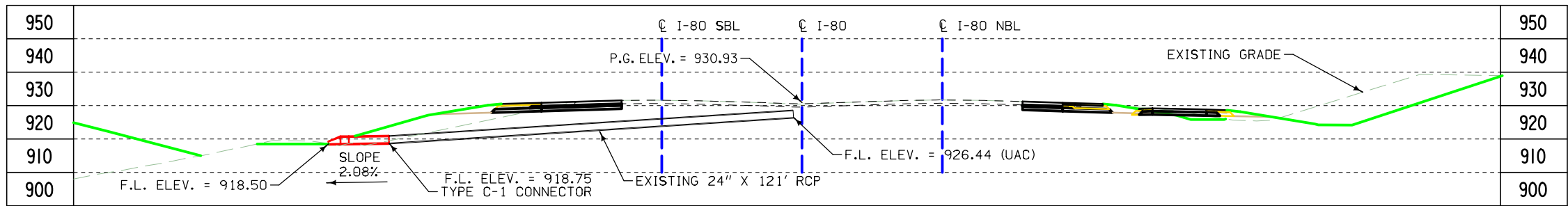
UTILITIES LEGEND:  
REFER TO D.I

HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

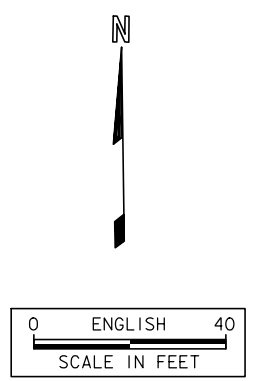
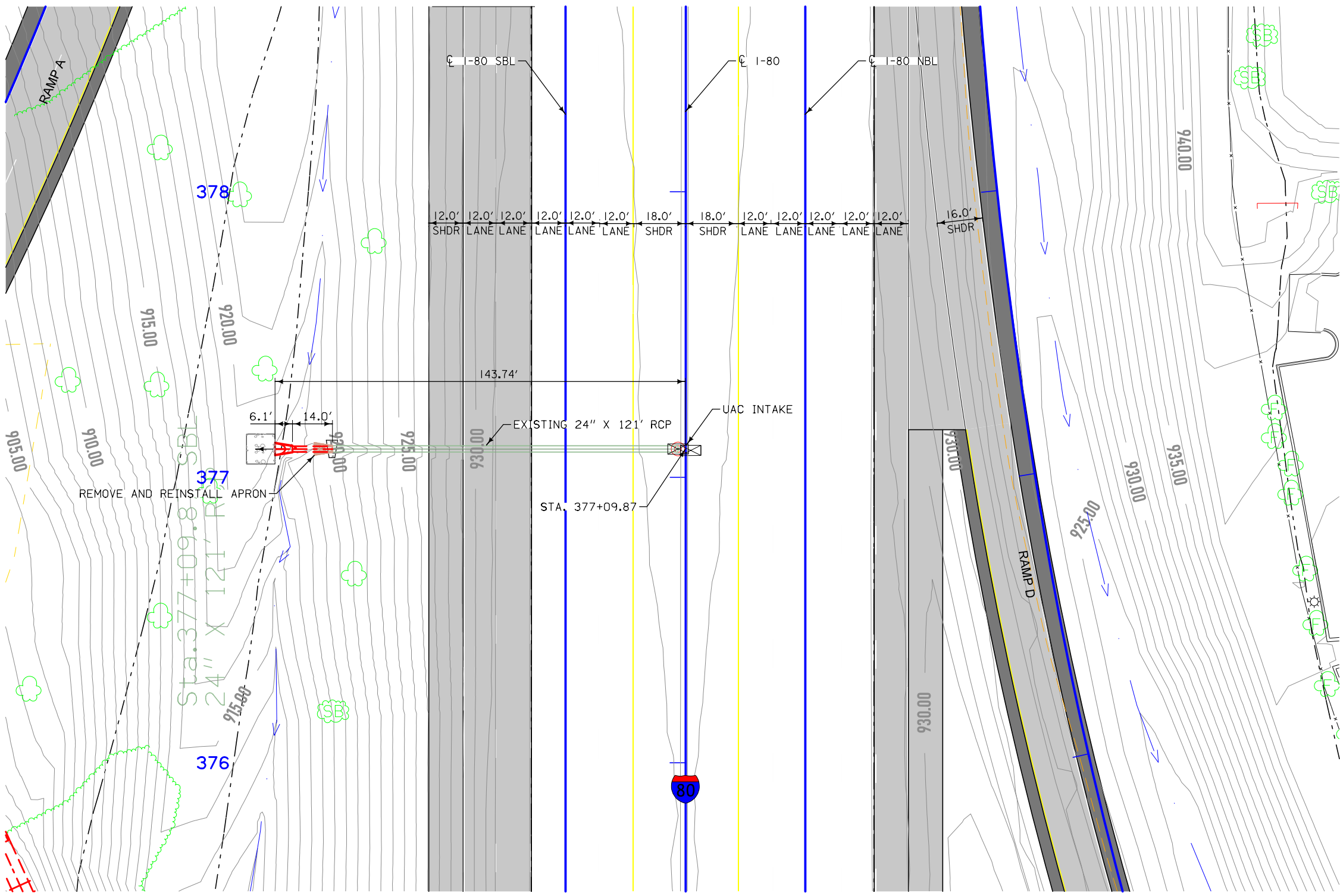
LOCATION  
I-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 0° SKEW  
**18" X 22'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 374+25.60 NBL 11/19/2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_ OF \_\_\_ FILE NO. \_\_\_ DESIGN NO. \_\_\_

PLAT PLAN



LONGITUDINAL SECTION ALONG ℄ CULVERT



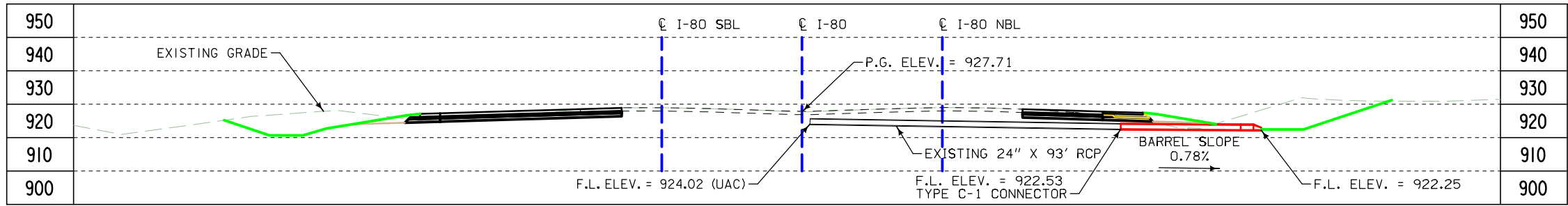
UTILITIES LEGEND:  
REFER TO D.I

HYDRAULIC DATA  
DRAINAGE AREA = XX.XX ACRES HILLY  
DESIGN DISCHARGE, Q<sub>50</sub> = XX.XX CFS

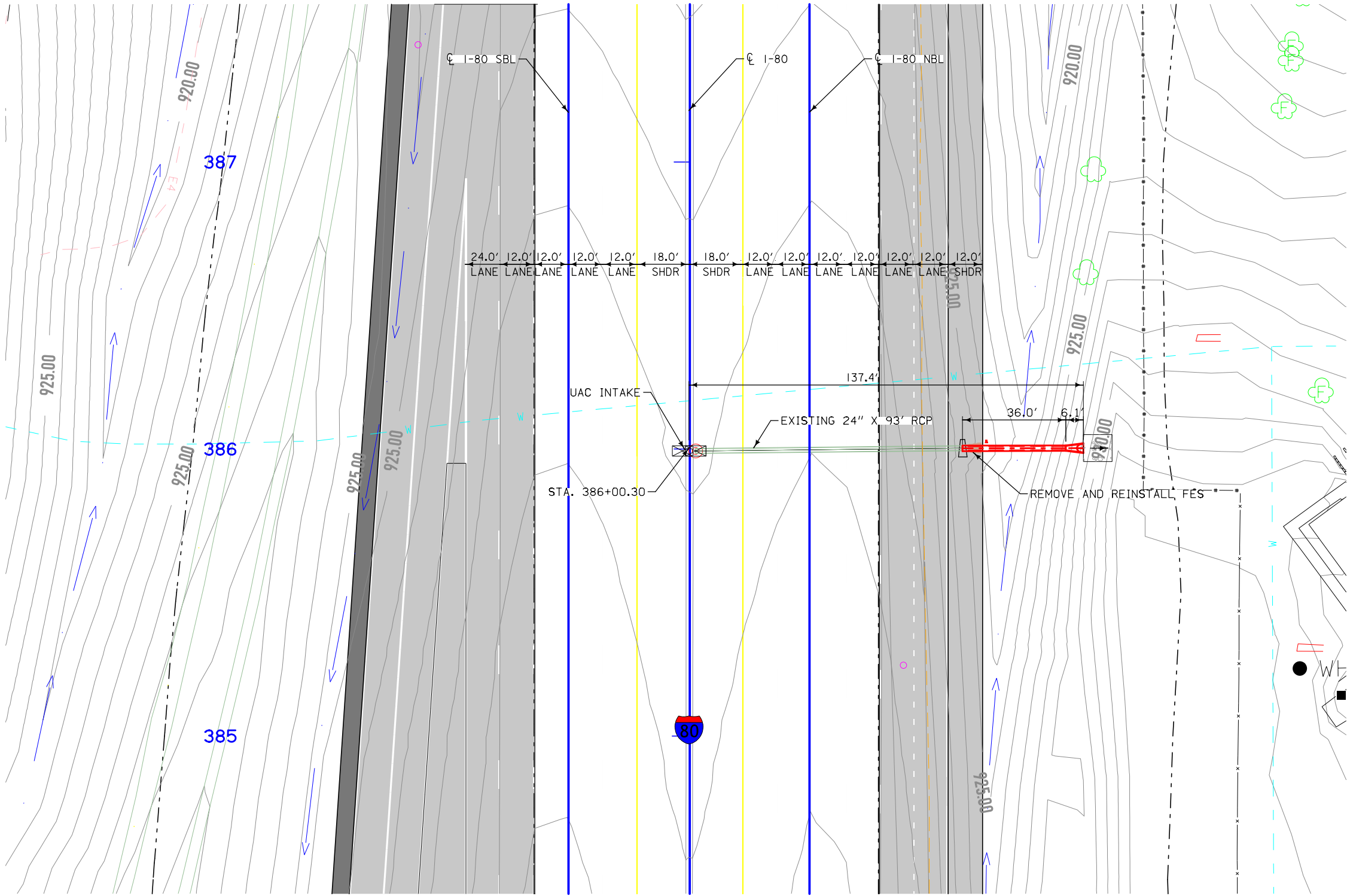
LOCATION  
I-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 0° SKEW  
**24" X 14'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
STATION 377+09.87 SBL 11/19/2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. OF FILE NO. DESIGN NO.

PLAT PLAN



LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN

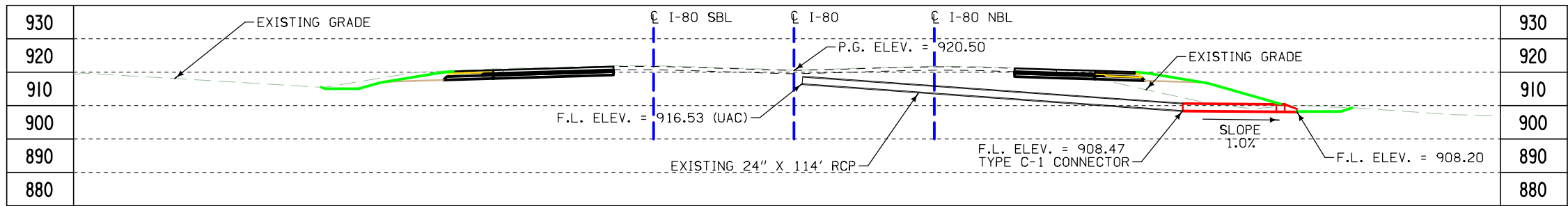
UTILITIES LEGEND:  
REFER TO D.I

HYDRAULIC DATA  
DRAINAGE AREA = XX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

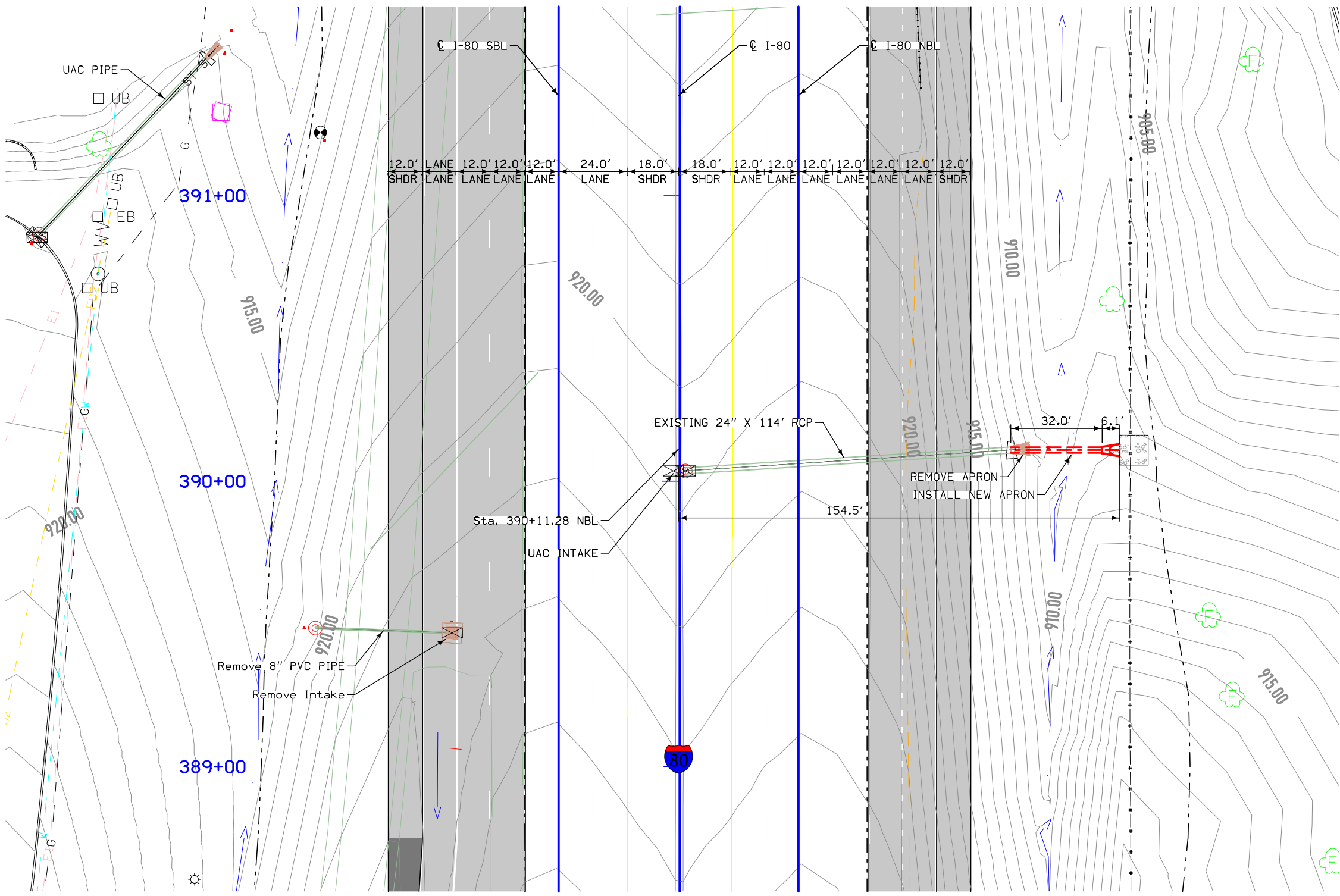
LOCATION  
I-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 0° SKEW  
**18" X 36'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
STATION 386+00.30 SBL 11/19/2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_





LONGITUDINAL SECTION ALONG CL CULVERT



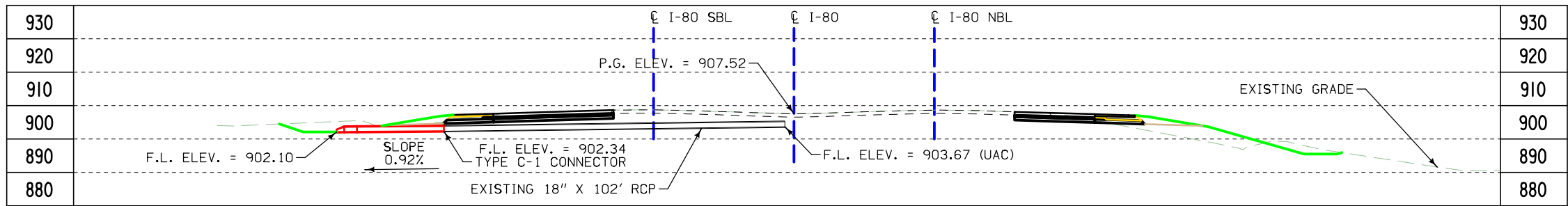
PLAT PLAN

UTILITIES LEGEND:  
REFER TO D.I

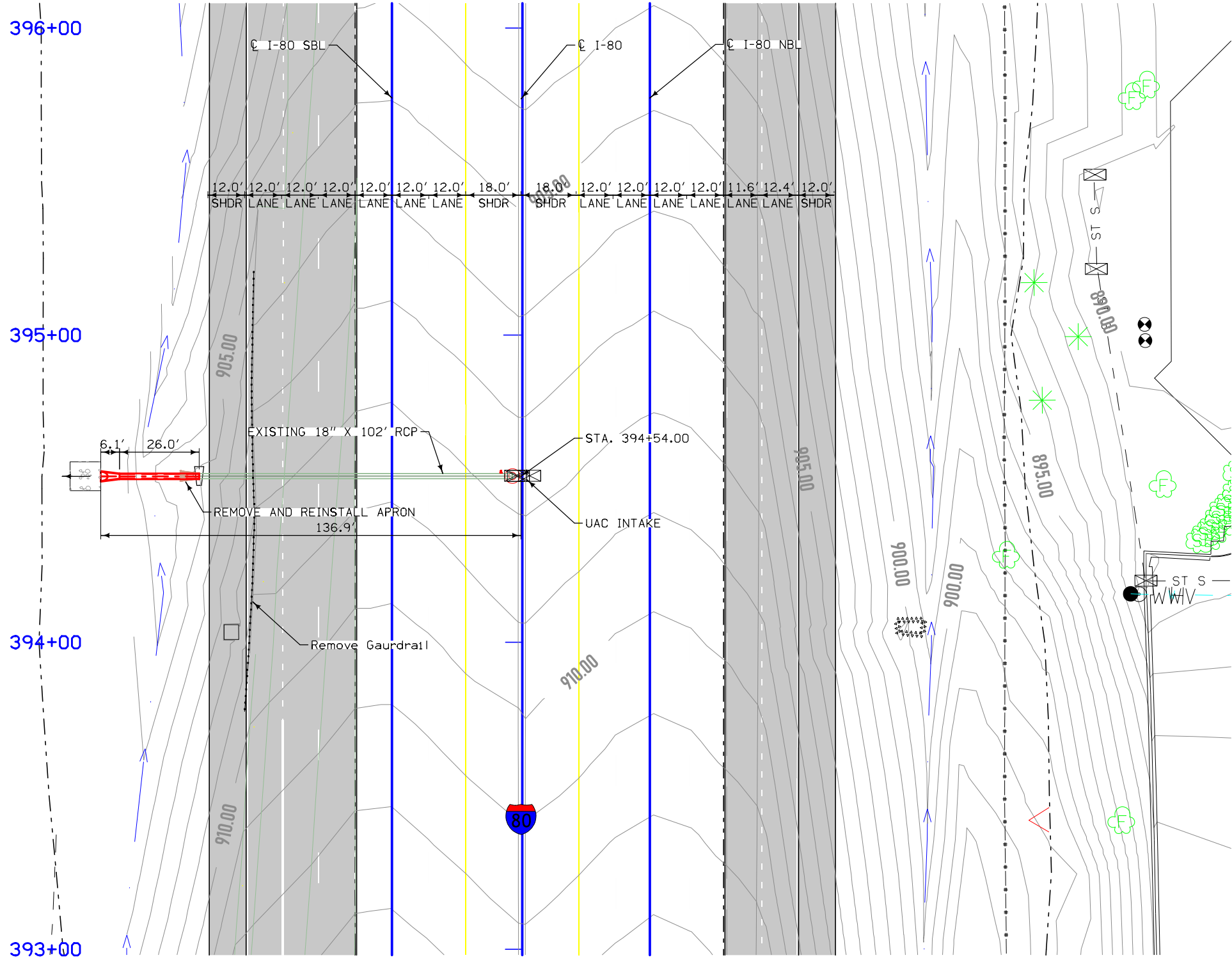
HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

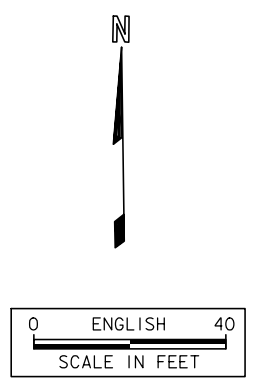
DESIGN FOR 0° SKEW  
**24" X 32'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 390+11.28 NBL 11/19/2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN

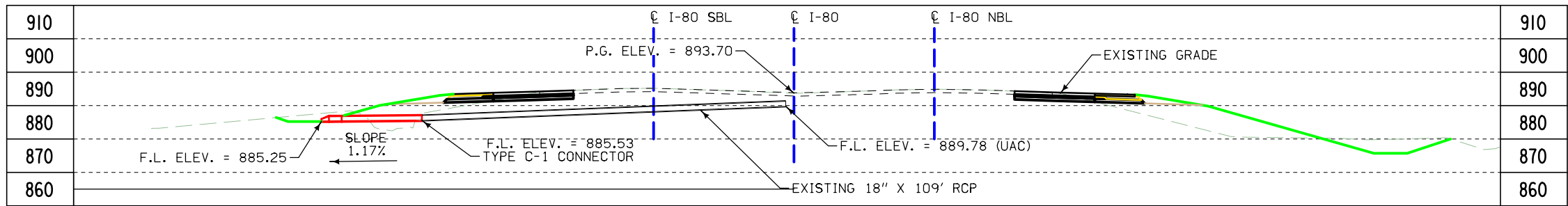


UTILITIES LEGEND:  
REFER TO D.I

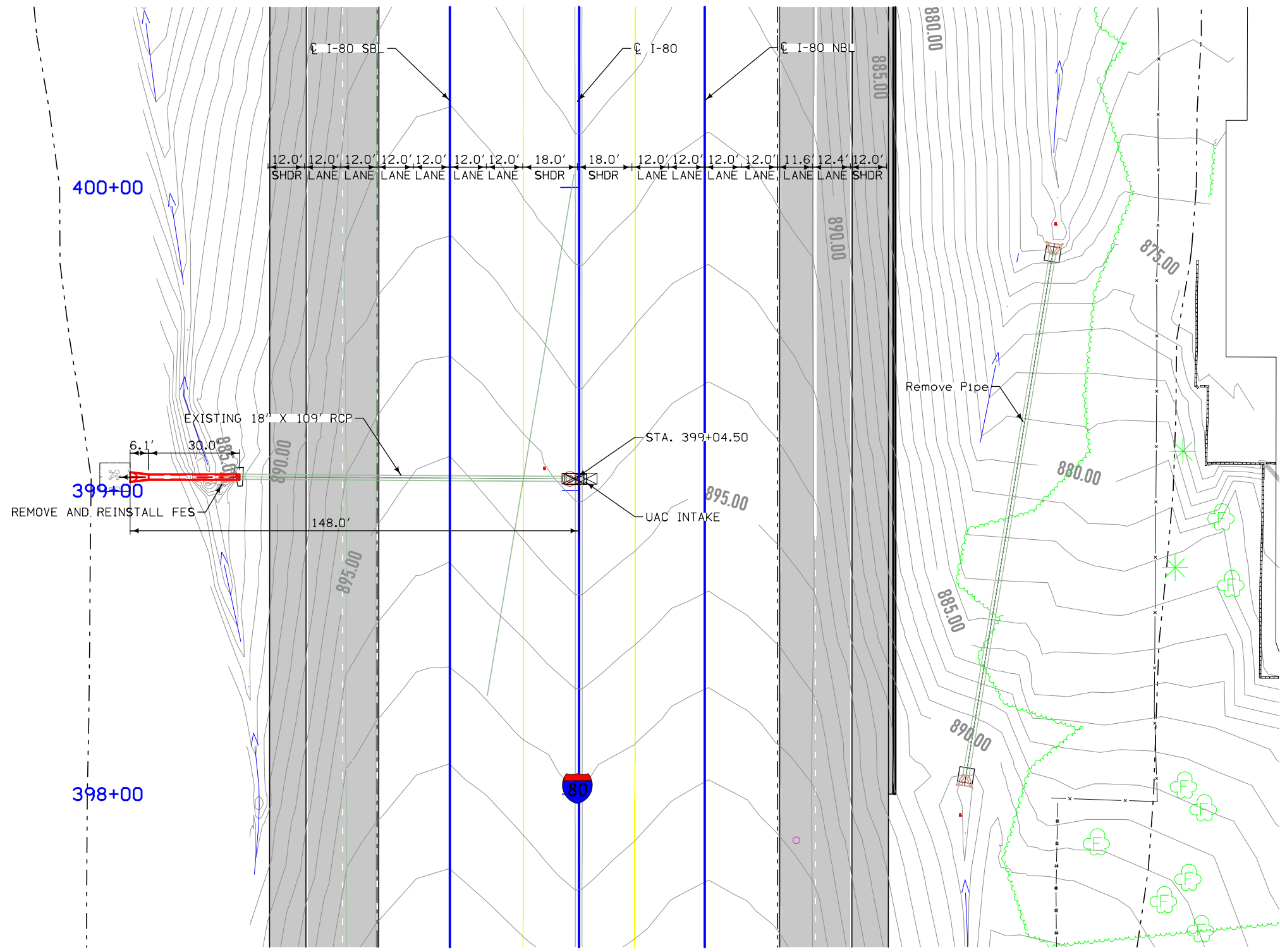
HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

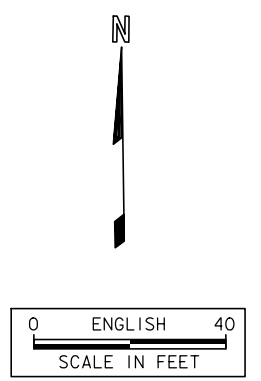
DESIGN FOR 0° SKEW  
**18" X 26'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 394+54.00 SBL 11/19/2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN

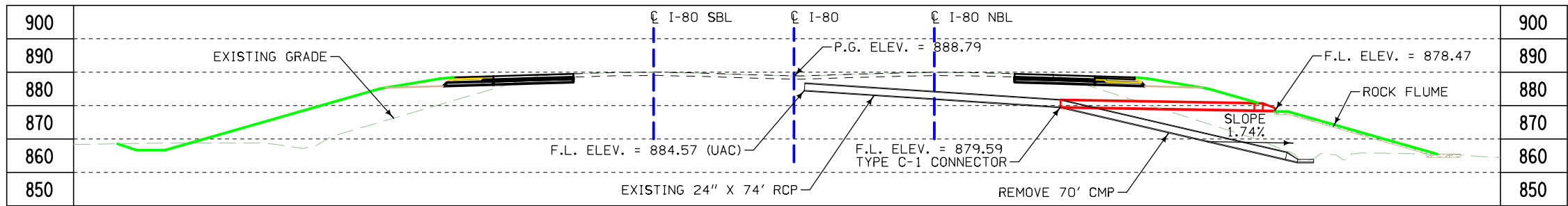


UTILITIES LEGEND:  
REFER TO D.I

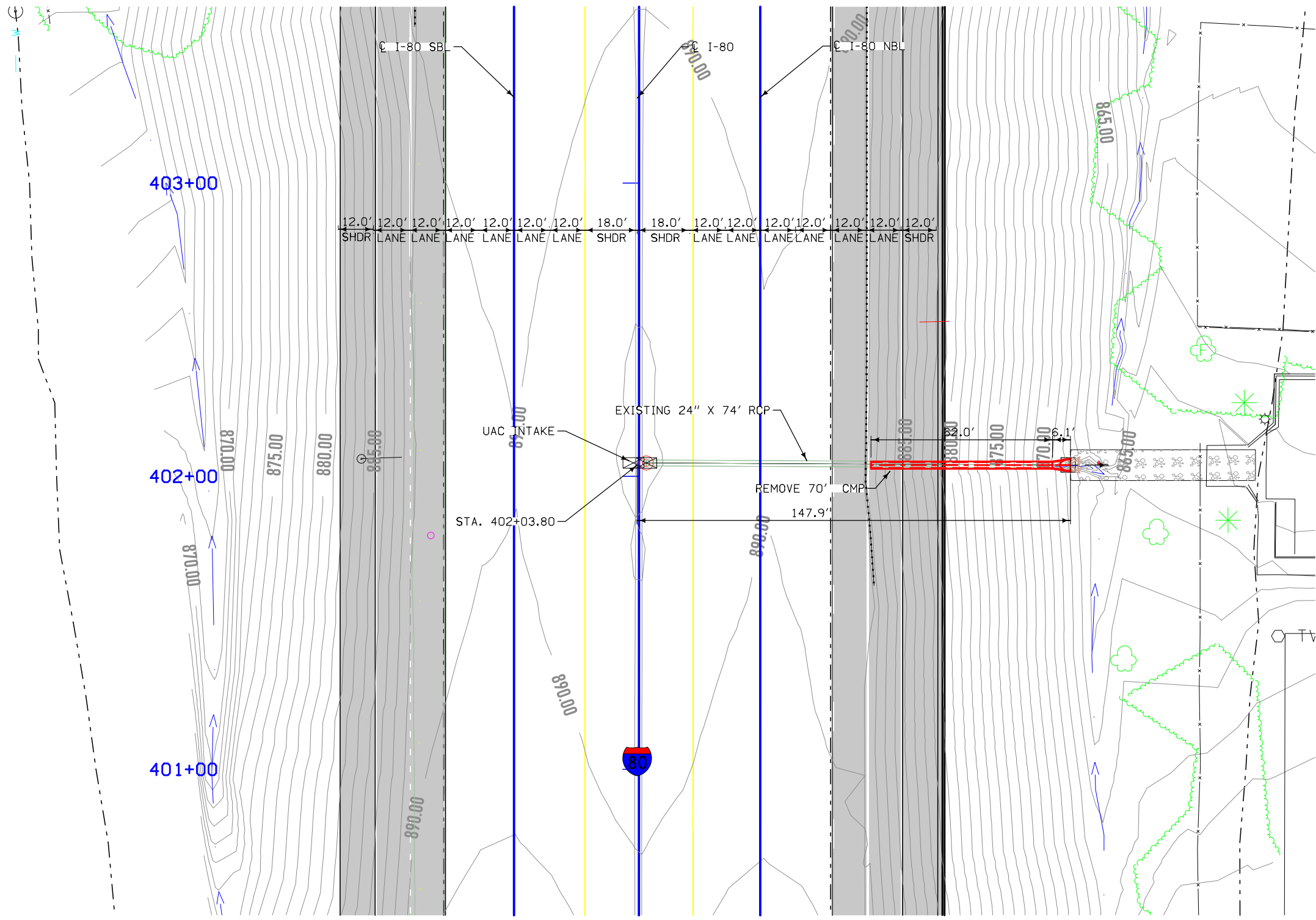
HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

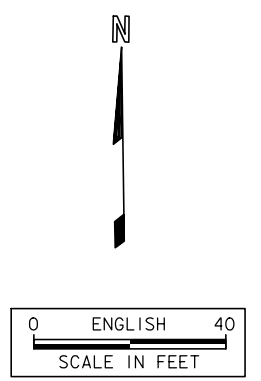
DESIGN FOR 0° SKEW  
**18" X 30'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
STATION 399+04.50 SBL 11/19/2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG  $\bar{C}$  CULVERT



PLAT PLAN

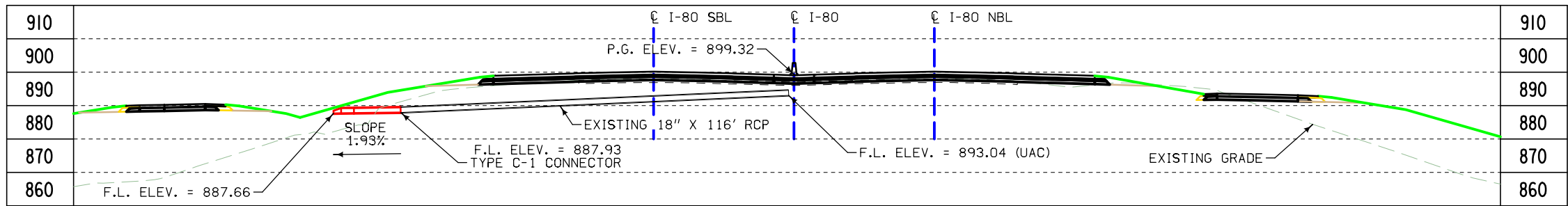


UTILITIES LEGEND:  
REFER TO D.I

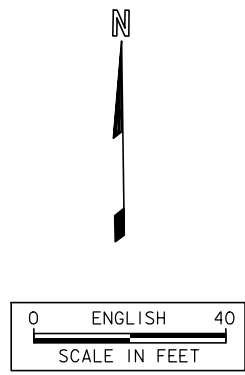
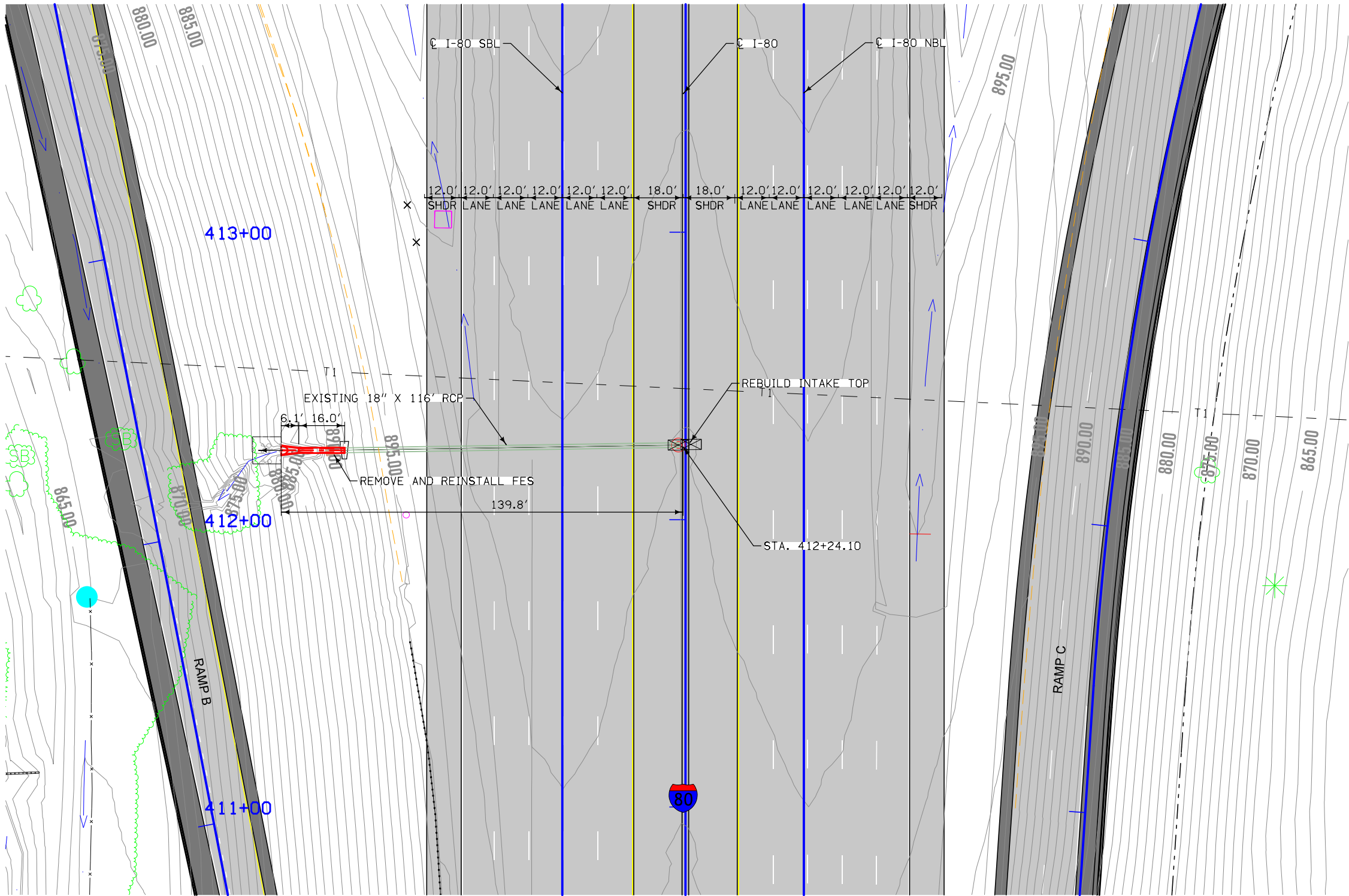
HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 0° SKEW  
**24" X 62'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
STATION 402+03.80 NBL 11/19/2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG CL CULVERT



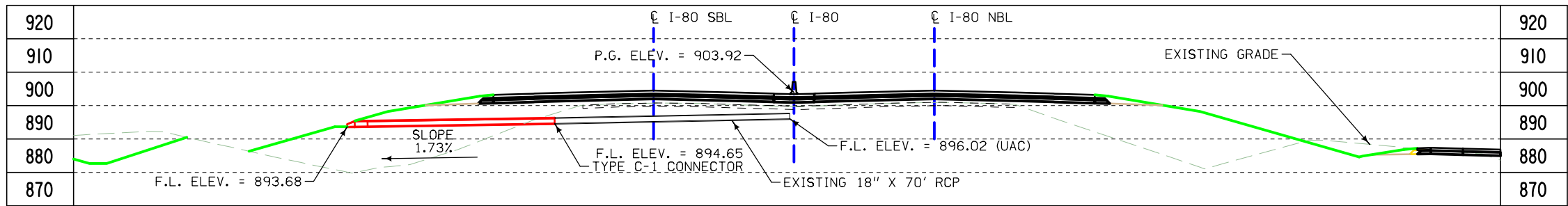
UTILITIES LEGEND:  
REFER TO D.I

HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

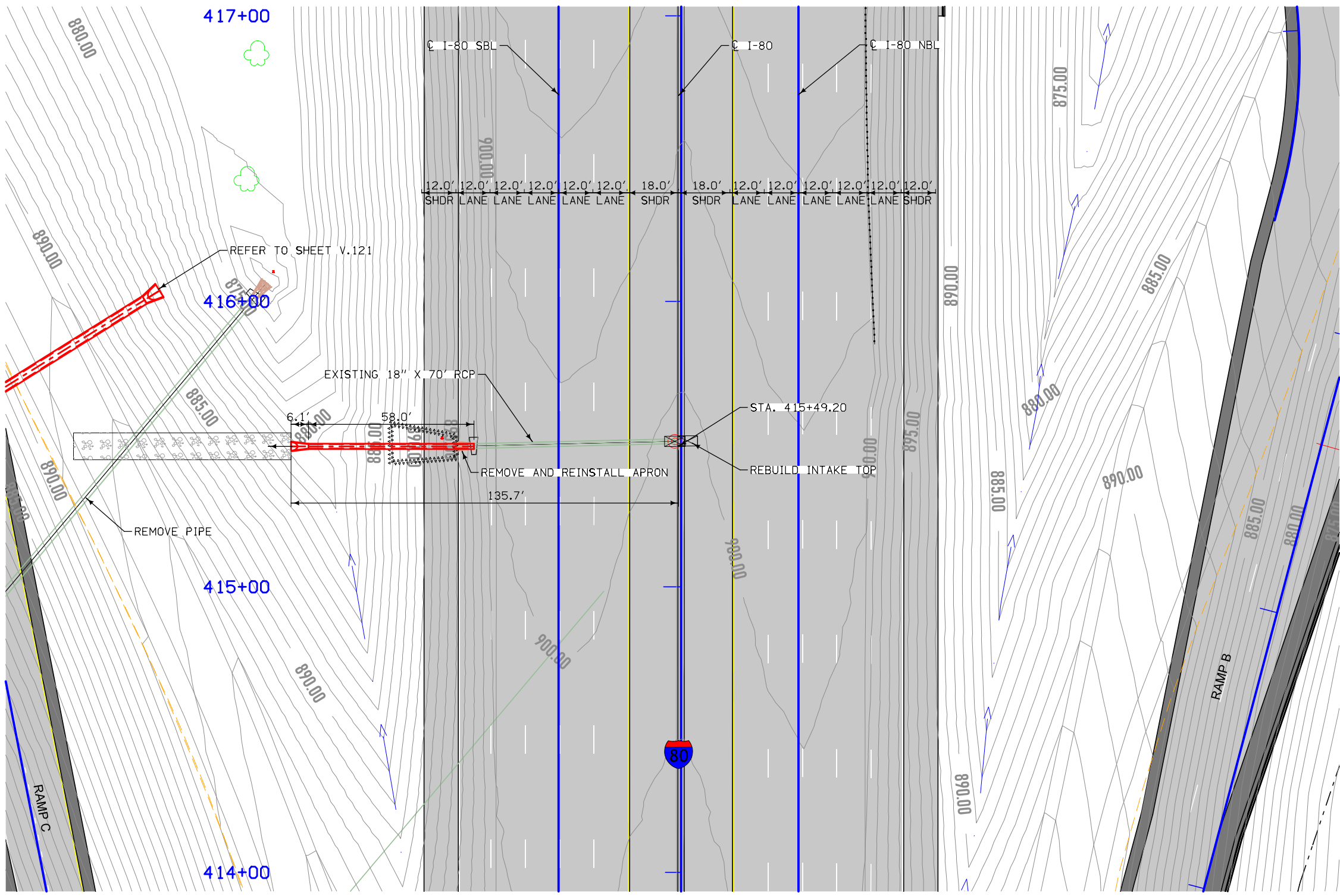
LOCATION  
I-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 0° SKEW  
**18" X 16'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 412+24.10 SBL 11/19/2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_

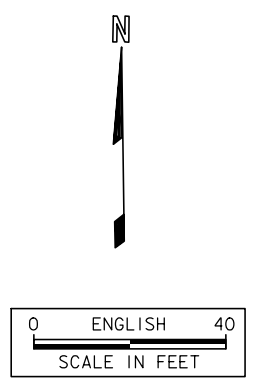
PLAT PLAN



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

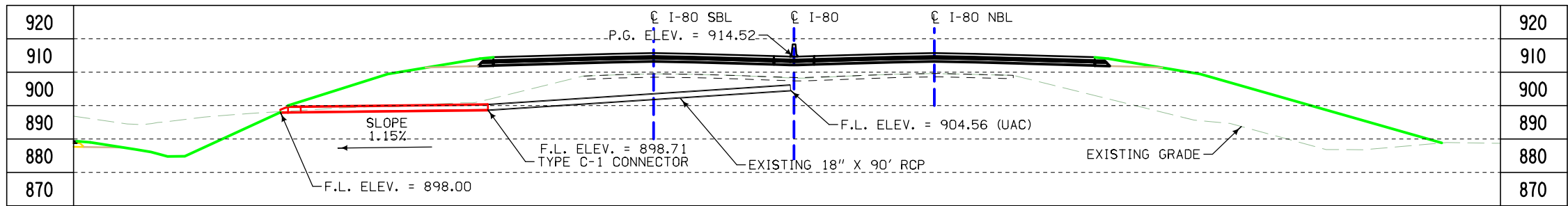


**UTILITIES LEGEND:**  
REFER TO D.I

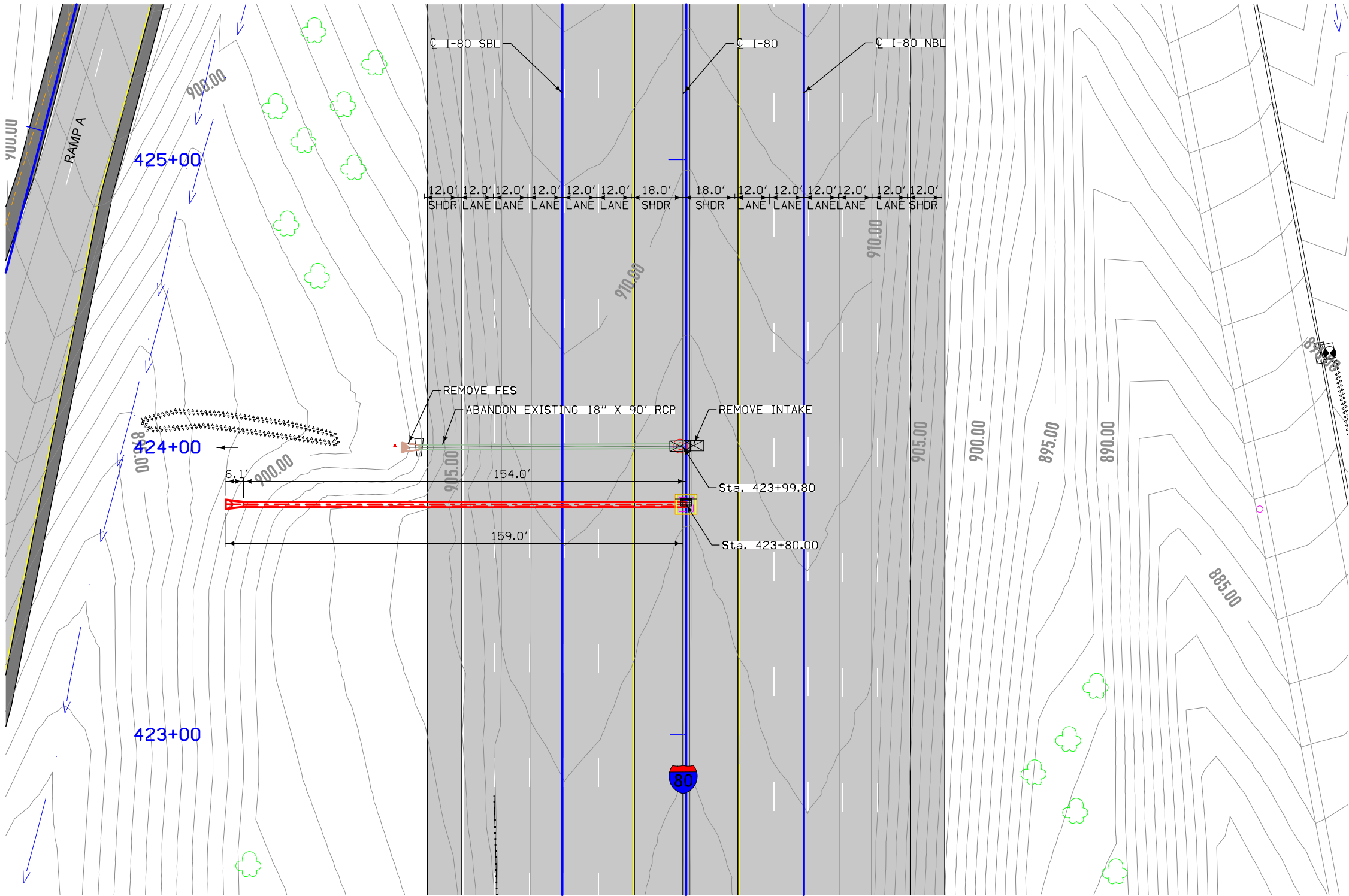
**HYDRAULIC DATA**  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

**LOCATION**  
I-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 0° SKEW  
**18" X 58'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 415+49.20 SBL 11/19/2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



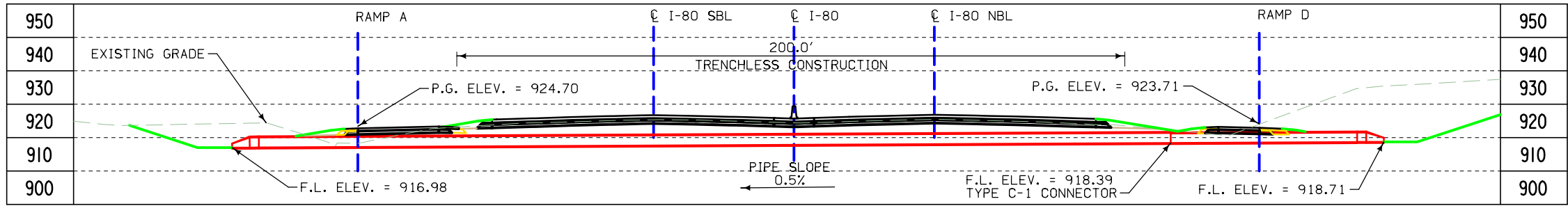
PLAT PLAN

UTILITIES LEGEND:  
REFER TO D.I

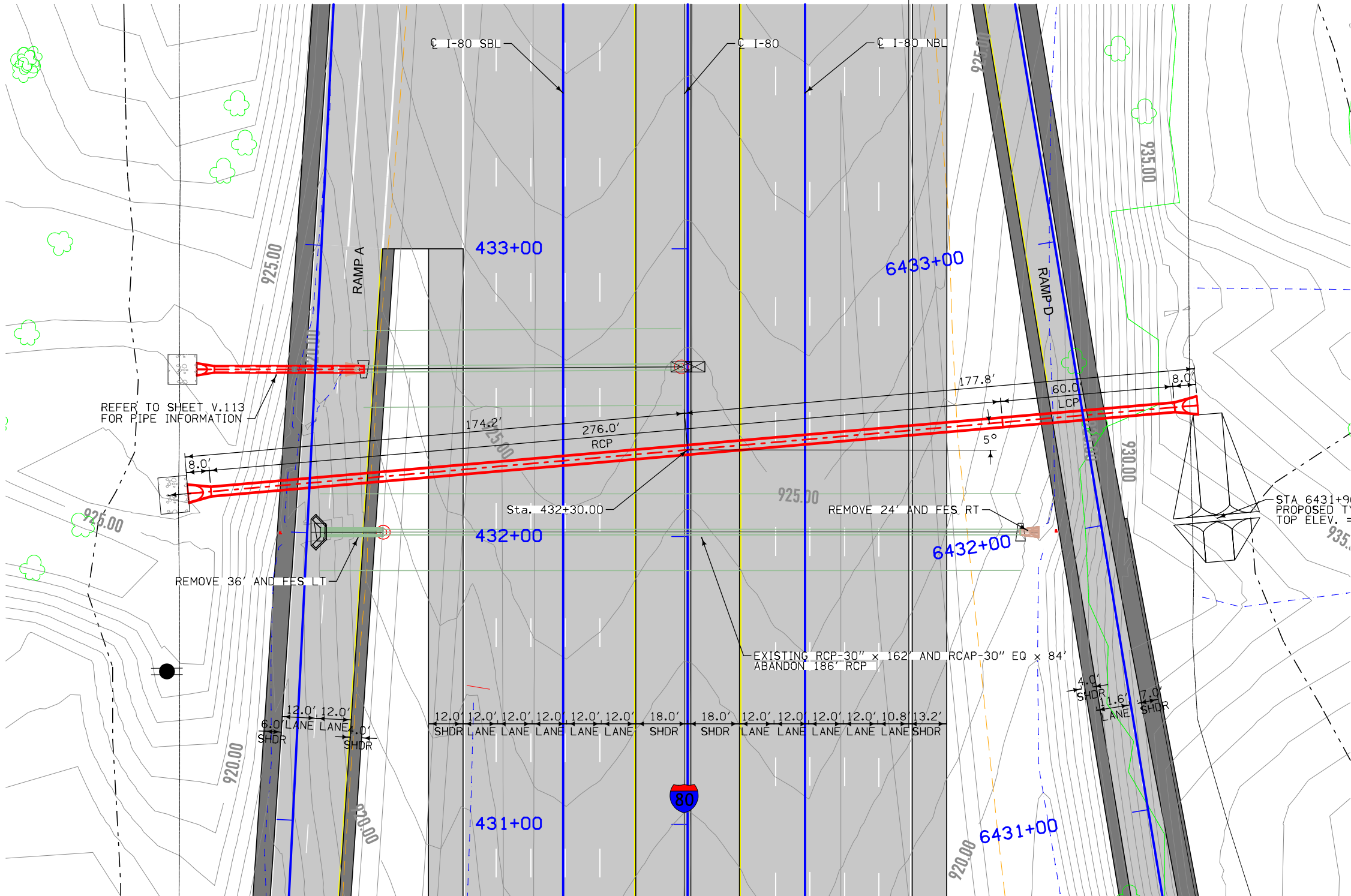
HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 0° SKEW  
**18" X 154'**  
**2000D REINFORCED CONCRETE**  
**PIPE**  
**PLAT PLAN**  
 STATION 423+80.00 SBL 11/19/2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG  $\text{CL}$  CULVERT



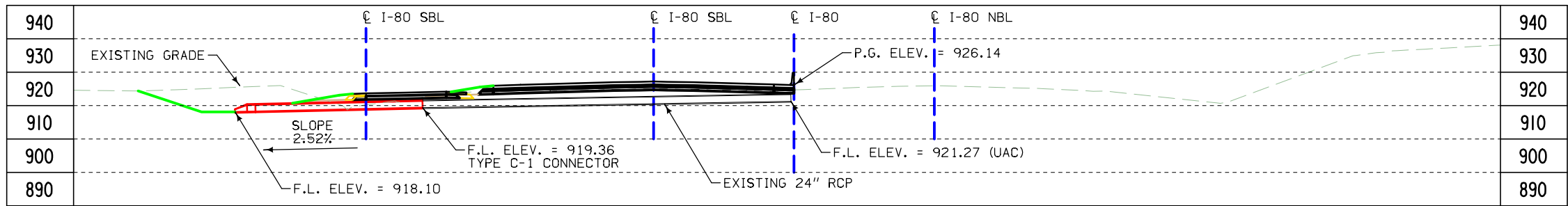
UTILITIES LEGEND:  
REFER TO D.I

HYDRAULIC DATA  
DRAINAGE AREA = 9.0 ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50} = XX.XX$  CFS

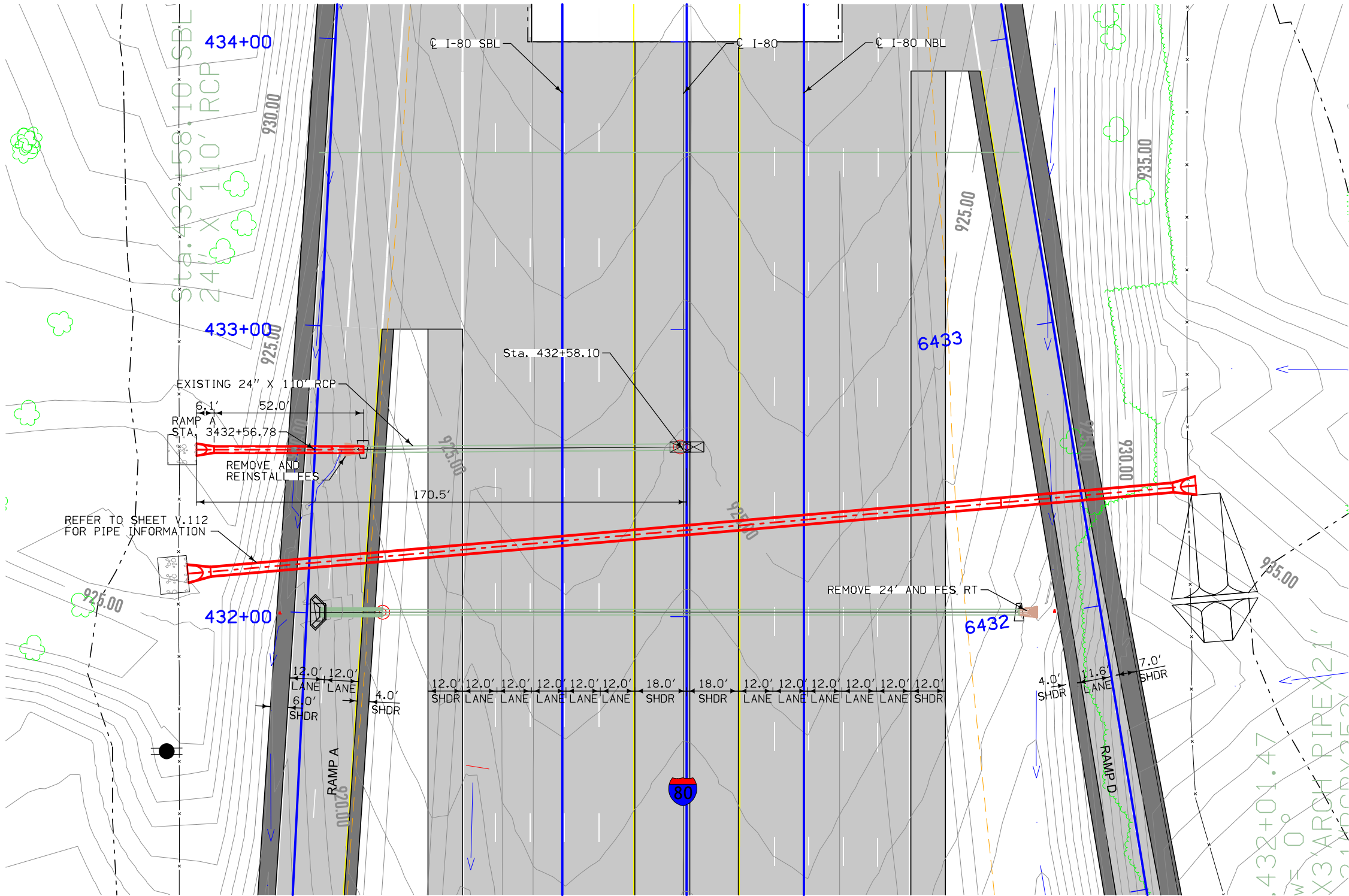
LOCATION  
I-80  
T-79N R-25W  
SECTION 29  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 5° SKEW RT AH  
**36" X 276'**  
**2000D REINFORCED CONCRETE PIPE**  
**EQ 36" X 60' LCP PIPE**  
**PLAT PLAN**  
STATION 432+30.00 11/19/2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_





LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

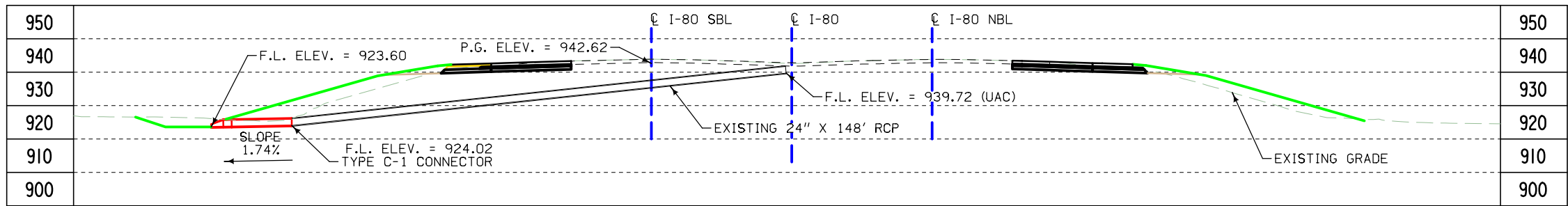


UTILITIES LEGEND:  
REFER TO D.I

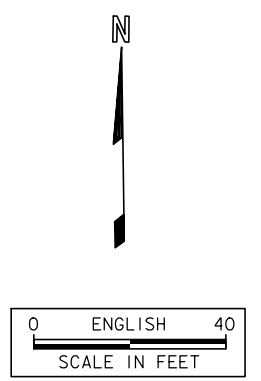
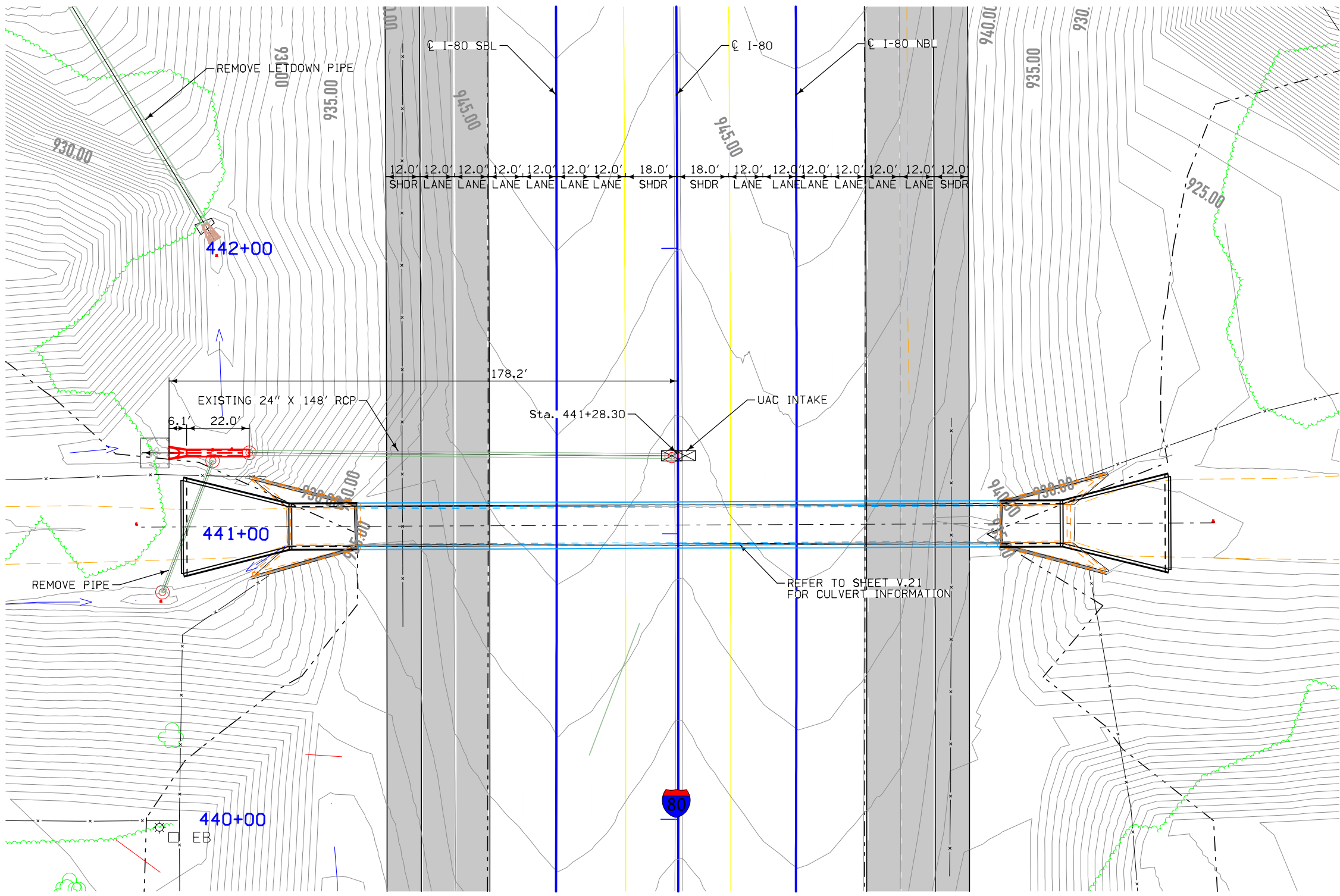
HYDRAULIC DATA  
DRAINAGE AREA = 9.0 ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 29  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 5° SKEW RT AH  
**24" X 52'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 432+58.10 SBL  
 POLK COUNTY  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT

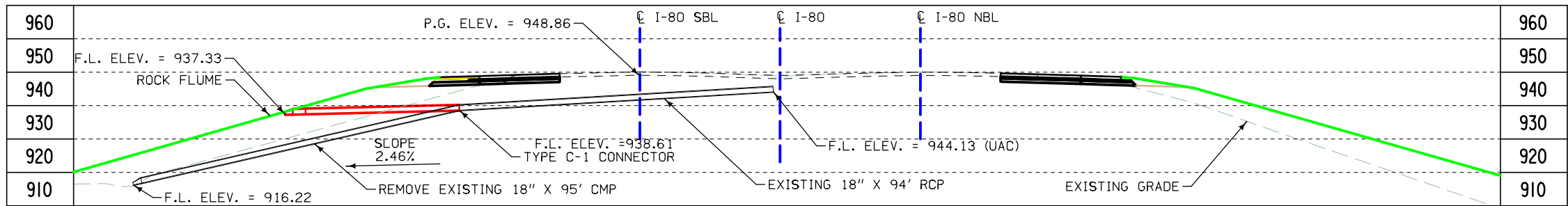


**UTILITIES LEGEND:**  
REFER TO D.I

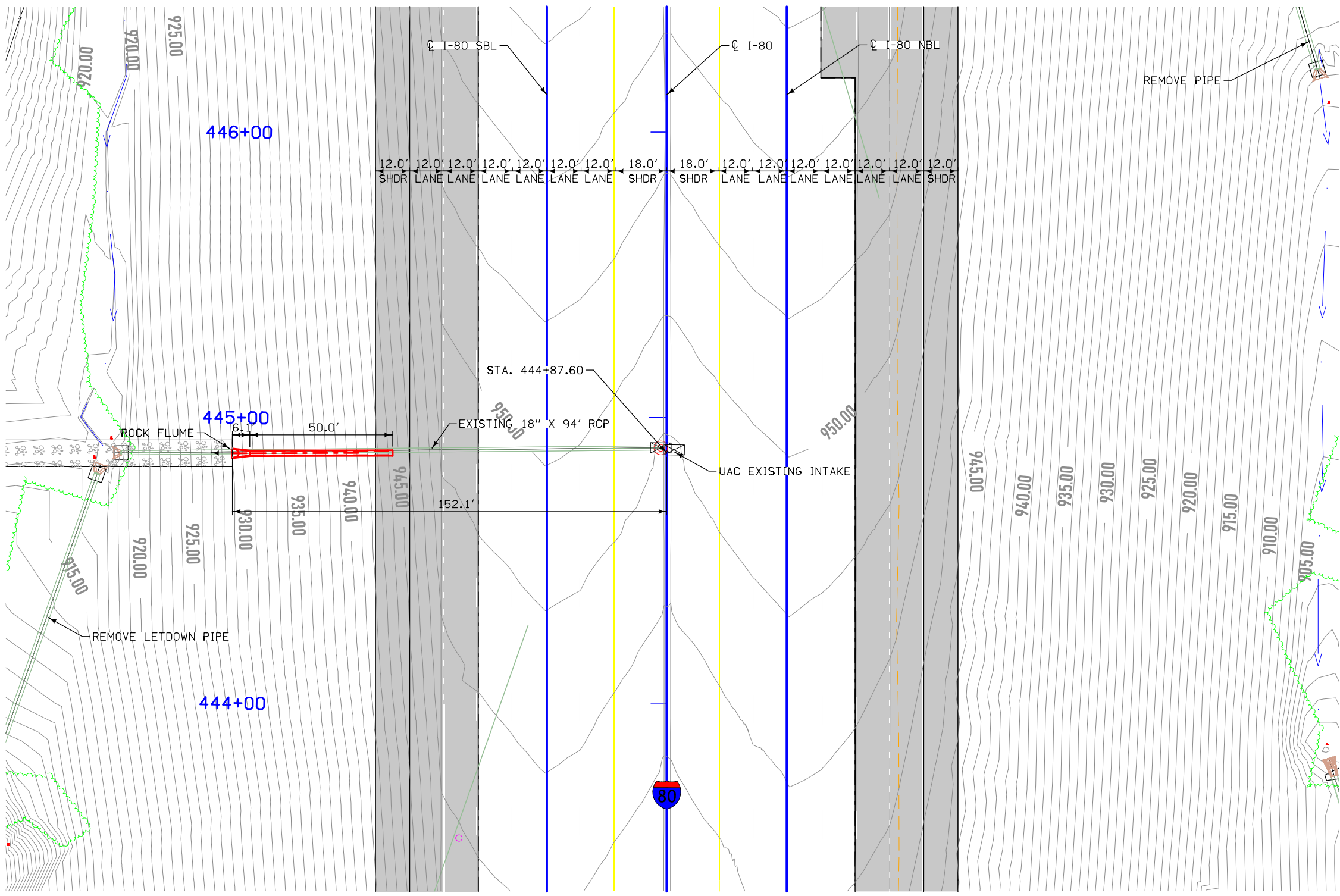
**HYDRAULIC DATA**  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

**LOCATION**  
I-80  
T-79N R-25W  
SECTION 29  
WALNUT TOWNSHIP  
POLK COUNTY

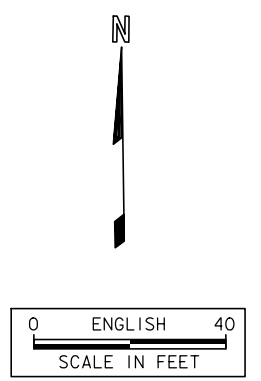
DESIGN FOR 0° SKEW  
**24" X 22'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
STATION 441+28.30 SBL  
POLK COUNTY  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

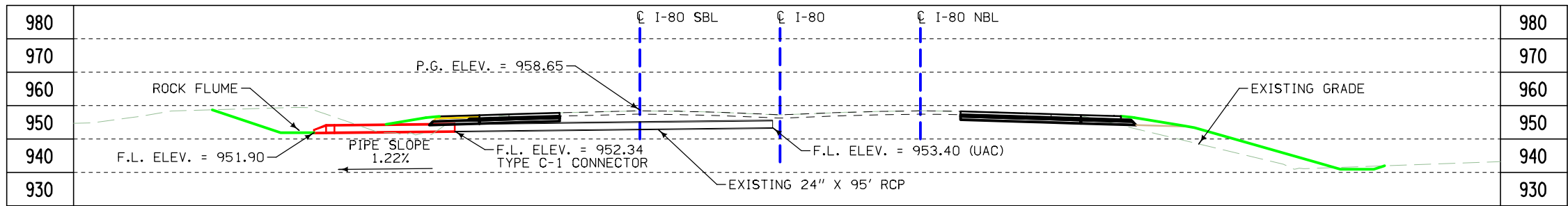


UTILITIES LEGEND:  
REFER TO D.I

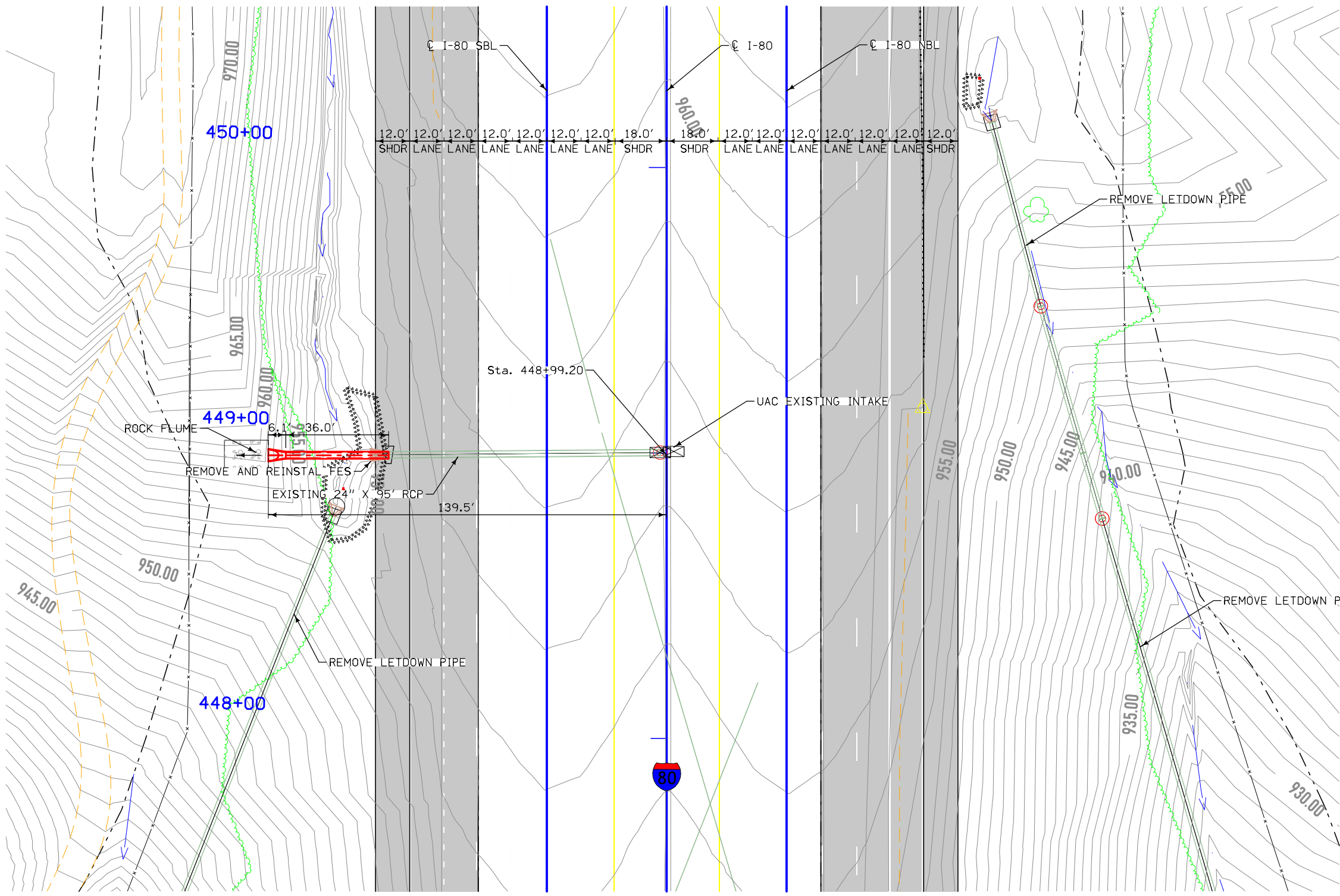
HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 29  
WALNUT TOWNSHIP  
POLK COUNTY

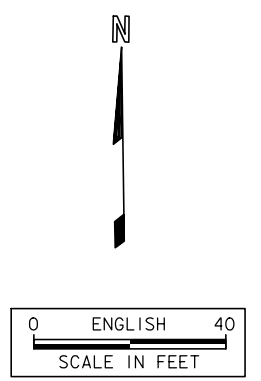
DESIGN FOR 0° SKEW  
**18" X 50'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 444+87.60 SBL 11/19/2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG ☉ CULVERT



PLAT PLAN

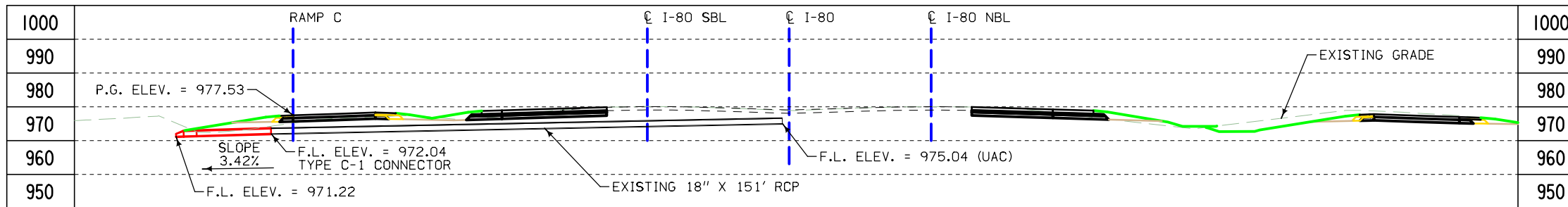


UTILITIES LEGEND:  
REFER TO D.I

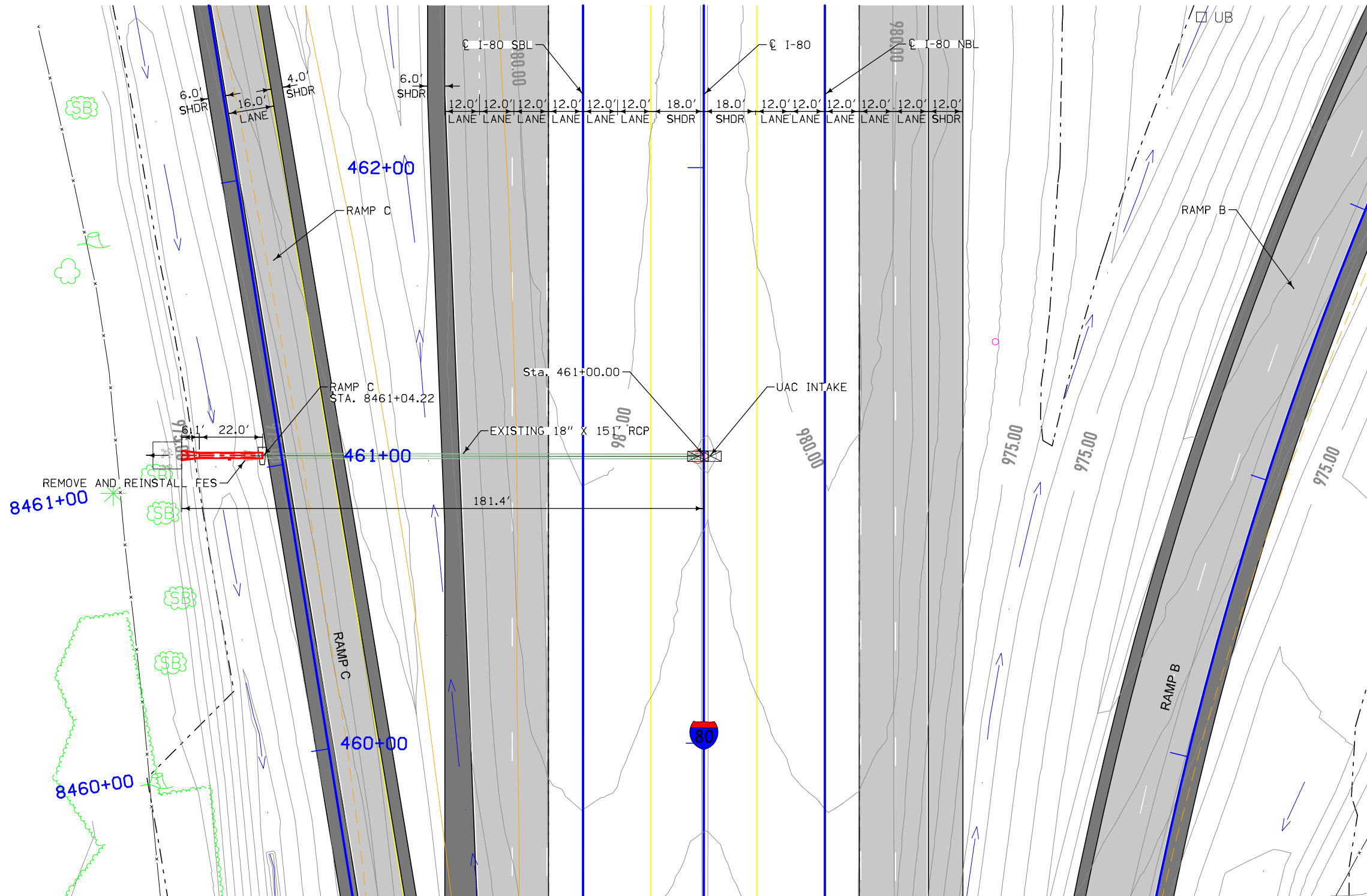
HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 29  
WALNUT TOWNSHIP  
POLK COUNTY

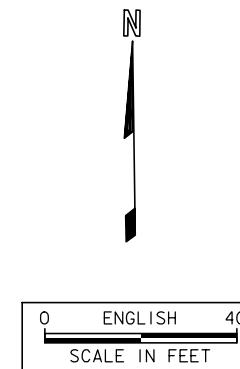
DESIGN FOR 0° SKEW  
**24" X 36'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 448+99.20 SBL 11/19/2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG  $\text{CL}$  CULVERT



PLAT PLAN

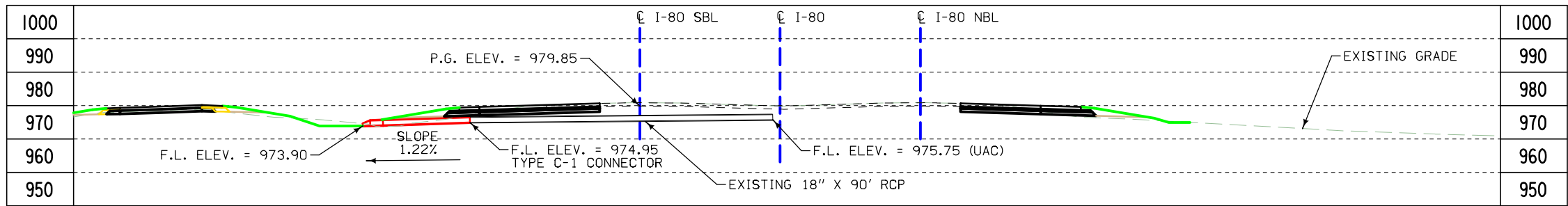


UTILITIES LEGEND:  
REFER TO D.I

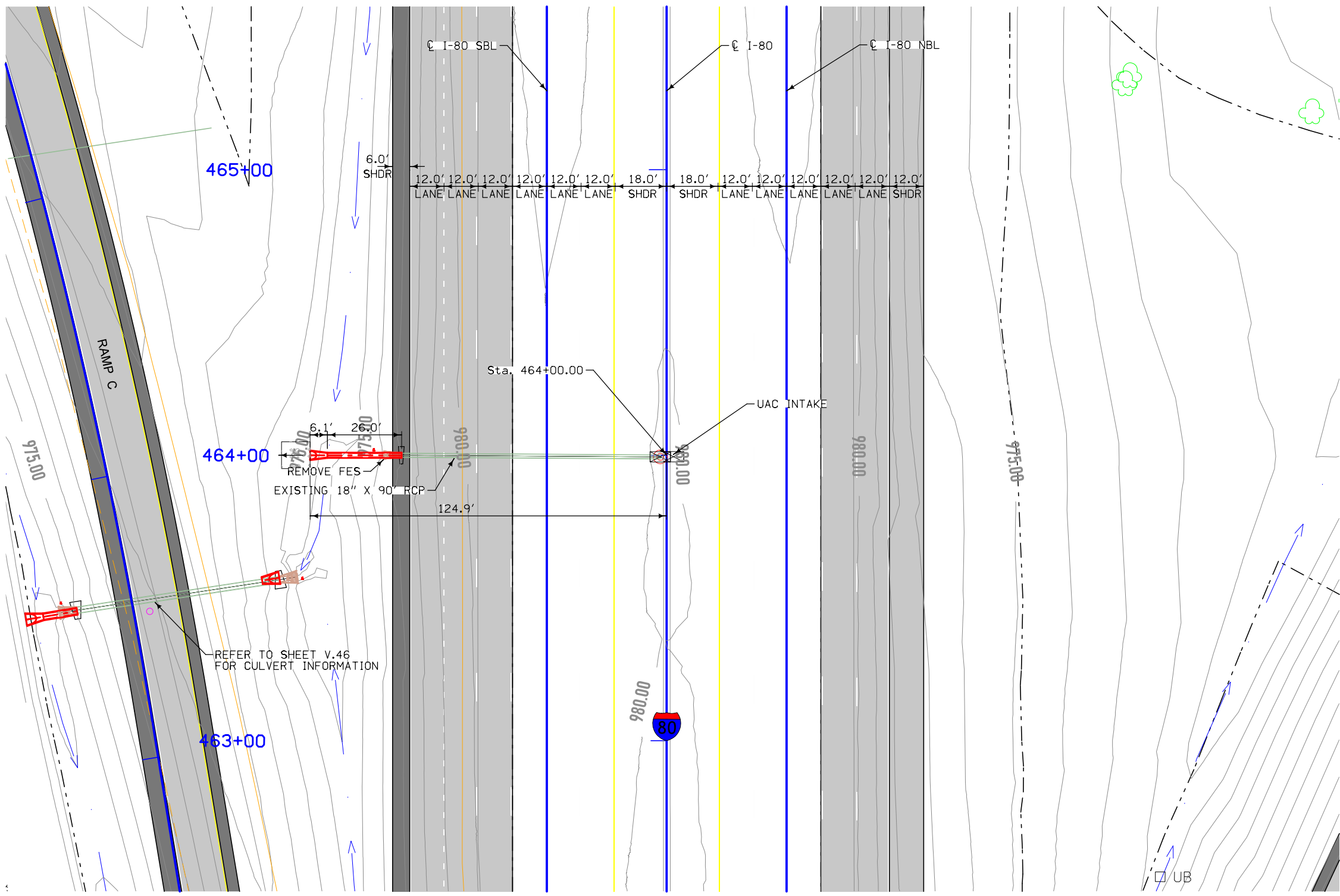
HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 29  
WBSTER TOWNSHIP  
POLK COUNTY

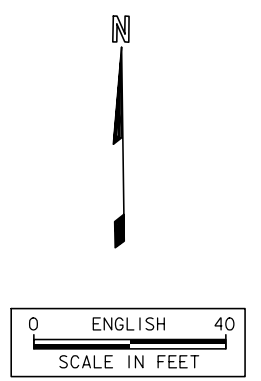
DESIGN FOR 0° SKEW  
**18" X 22'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
STATION 461+00.00 SBL 11/19/2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG CL CULVERT



PLAT PLAN

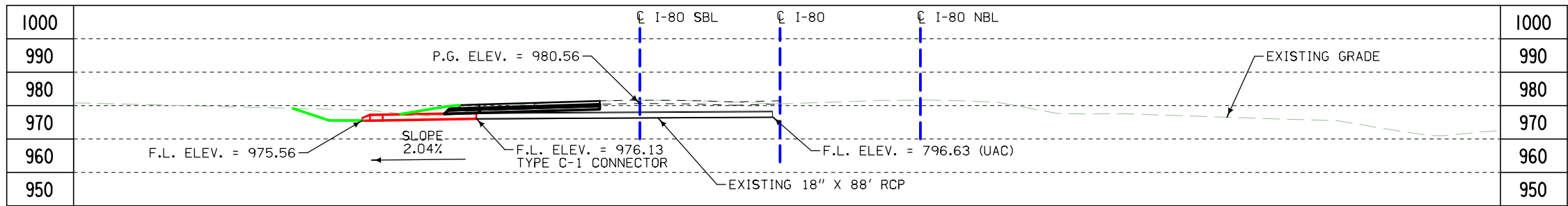


UTILITIES LEGEND:  
REFER TO D.I

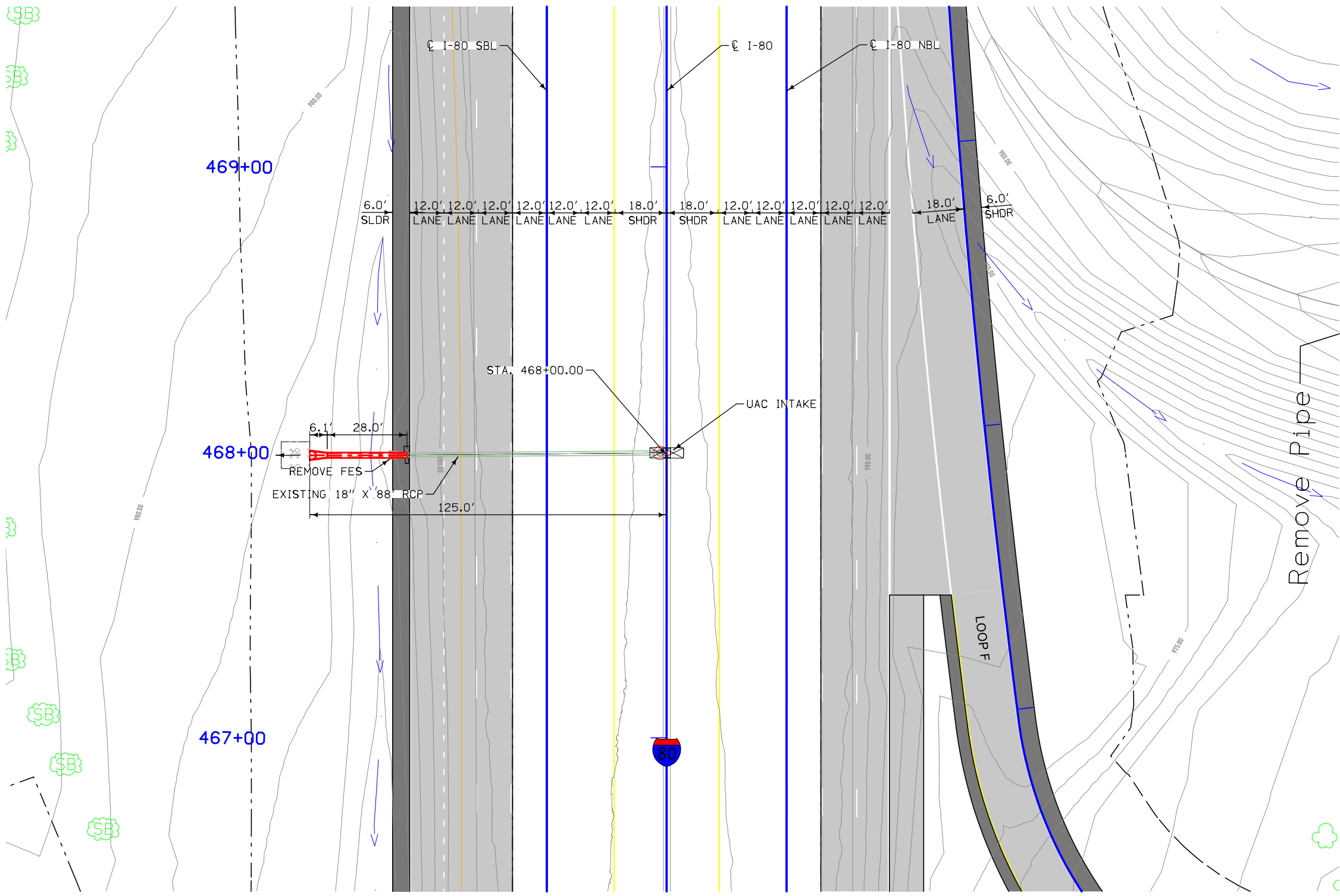
HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 29  
WEBSTER TOWNSHIP  
POLK COUNTY

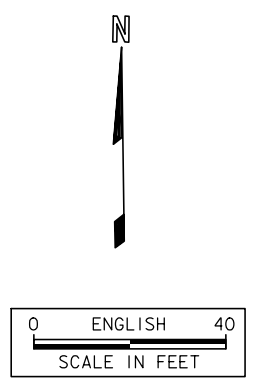
DESIGN FOR 0° SKEW  
**18" X 26'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
STATION 464+00.00 SBL 11/19/2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

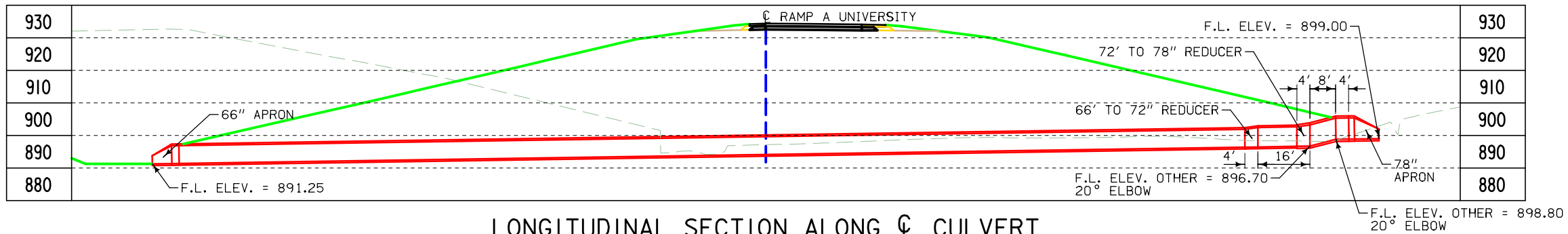


UTILITIES LEGEND:  
REFER TO D.I

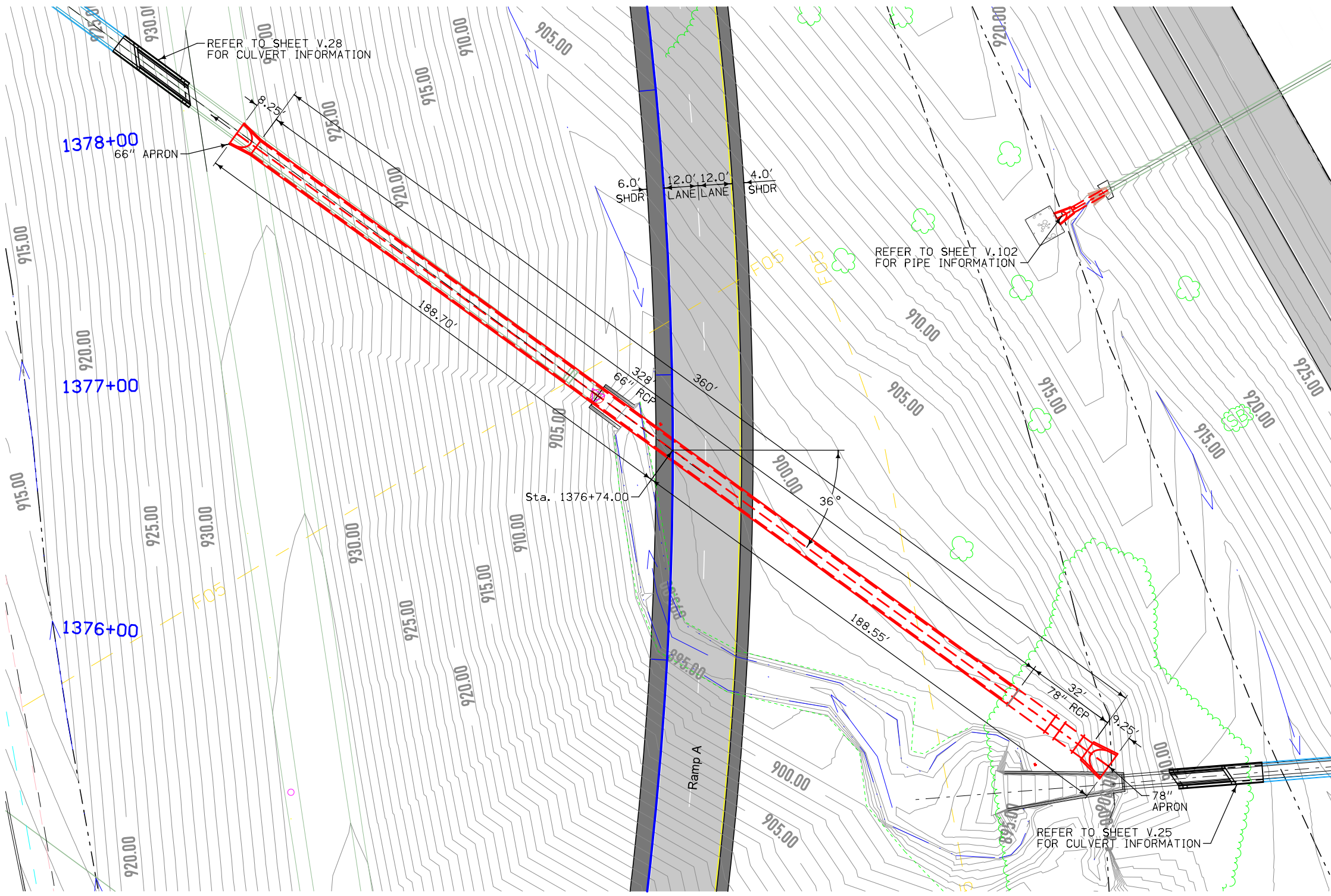
HYDRAULIC DATA  
DRAINAGE AREA = XXX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
I-80  
T-79N R-25W  
SECTION 29  
WEBSTER TOWNSHIP  
POLK COUNTY

DESIGN FOR 0° SKEW  
**18" X 28'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 468+00.00 SBL 11/19/2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG CULVERT



PLAT PLAN

UTILITIES LEGEND:  
REFER TO D.I

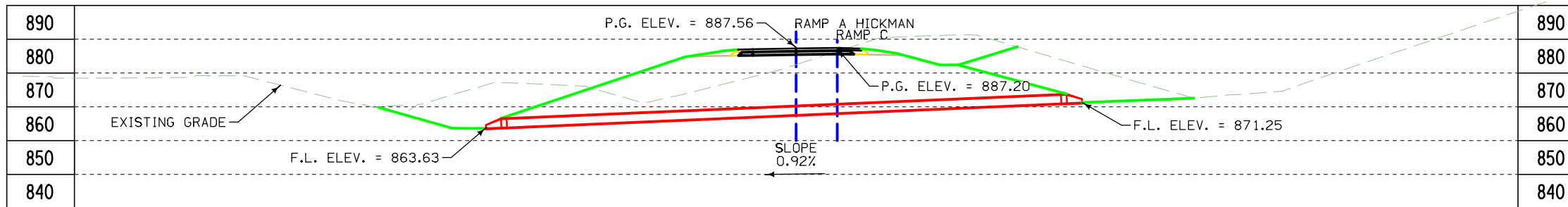
HYDRAULIC DATA  
DRAINAGE AREA = 209.3 ACRES HILLY/ROLLING  
DESIGN DISCHARGE,  $Q_{50}$  = 295.8 CFS

LOCATION  
1-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

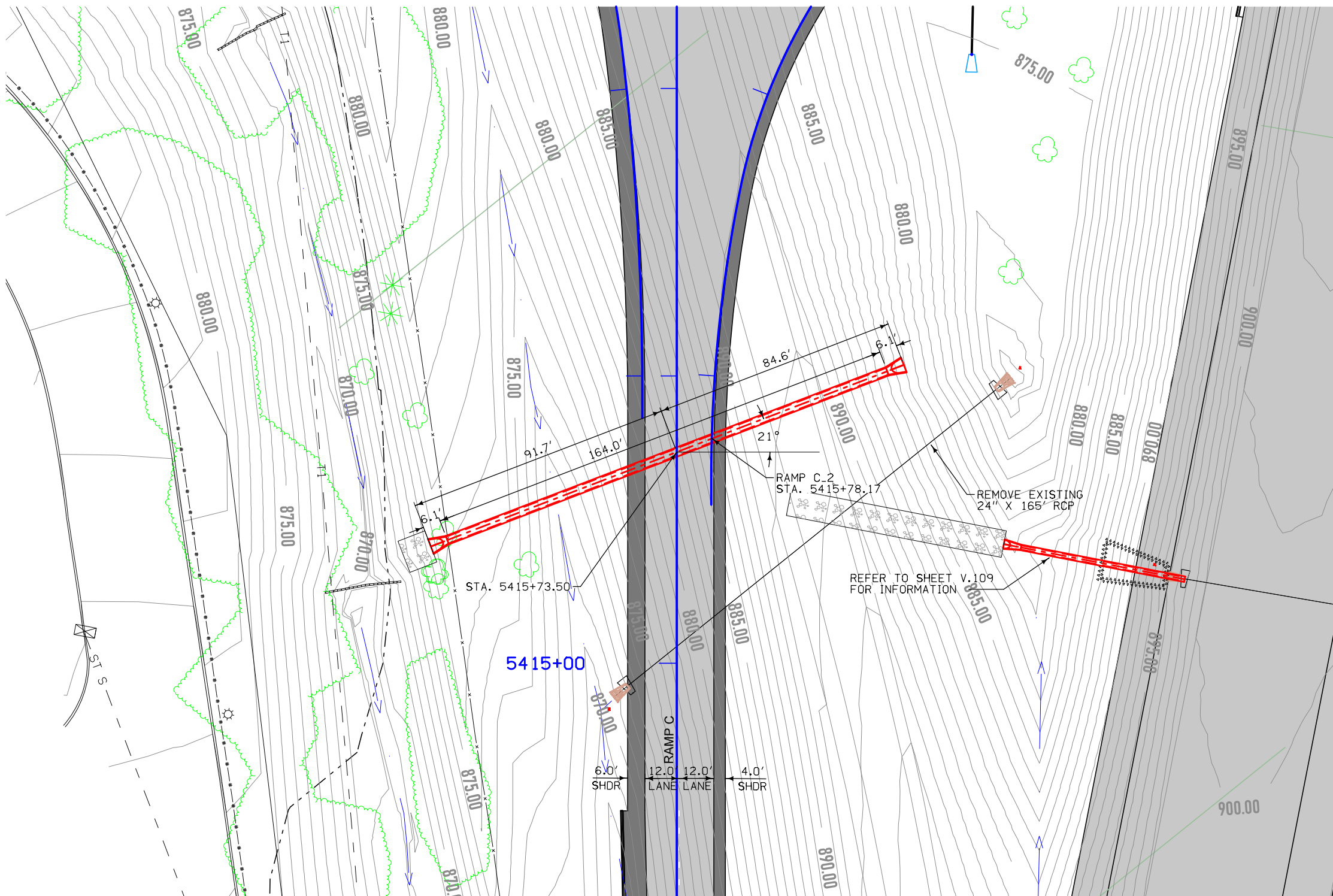
NOTE:  
SPECIAL BEDDING REQUIRED

DESIGN FOR 36° SKEW LT AH  
66" X 328' AND  
78" X 32'  
3750D REINFORCED CONCRETE  
SLOPE TAPERED PIPE  
PLAT PLAN  
POLK COUNTY  
STATION 1376+74.00 (RAMP A UNIVERSITY) 11/19/2021  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. OF FILE NO. DESIGN NO.

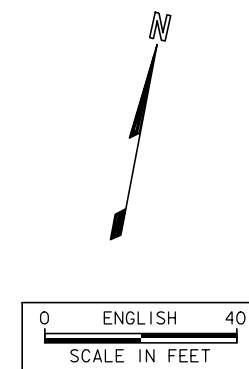




LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

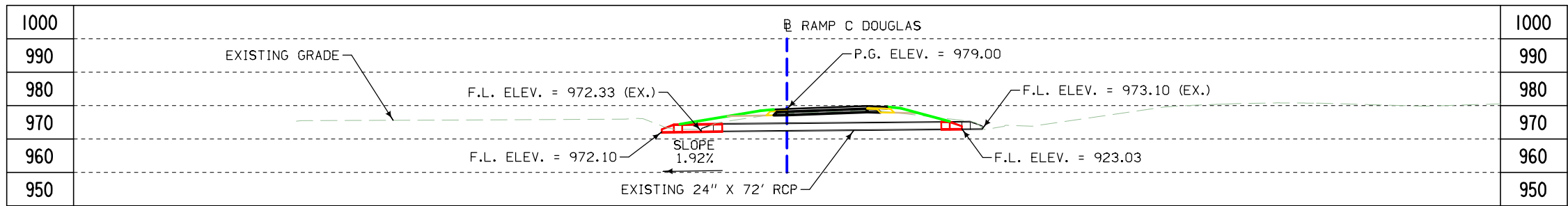


UTILITIES LEGEND:  
REFER TO D.I

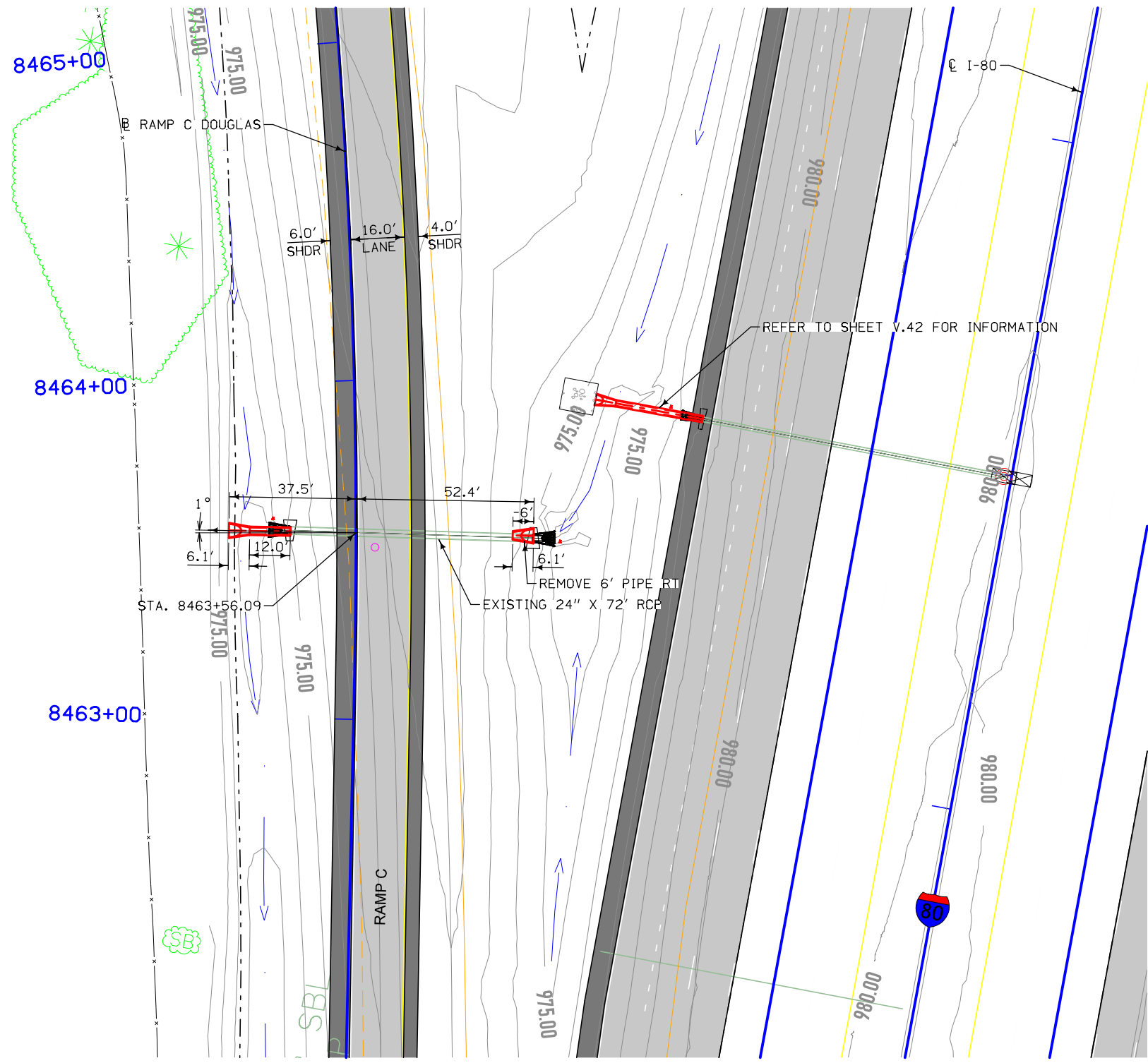
HYDRAULIC DATA  
DRAINAGE AREA = XX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
1-80  
T-79N R-25W  
SECTION 32  
WALNUT TOWNSHIP  
POLK COUNTY

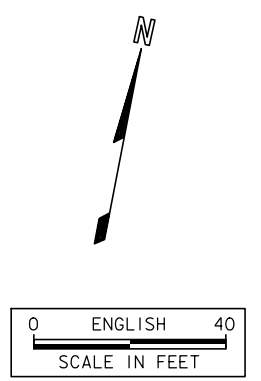
DESIGN FOR 21° SKEW RT AH  
**30" X 164'**  
**3000D REINFORCED CONCRETE PIPE**  
**PLAT PLAN**  
STATION 5415+73.50  
(RAMP C HICKMAN) 11/19/2021  
**POLK COUNTY**  
IOWA DEPARTMENT OF TRANSPORTATION  
DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

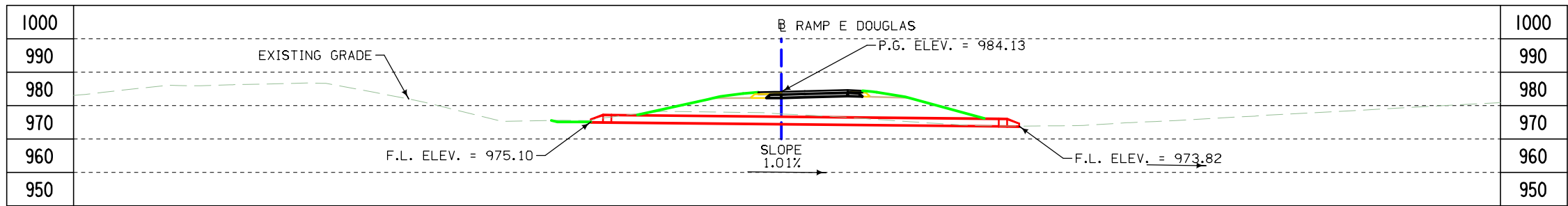


**UTILITIES LEGEND:**  
REFER TO D.I

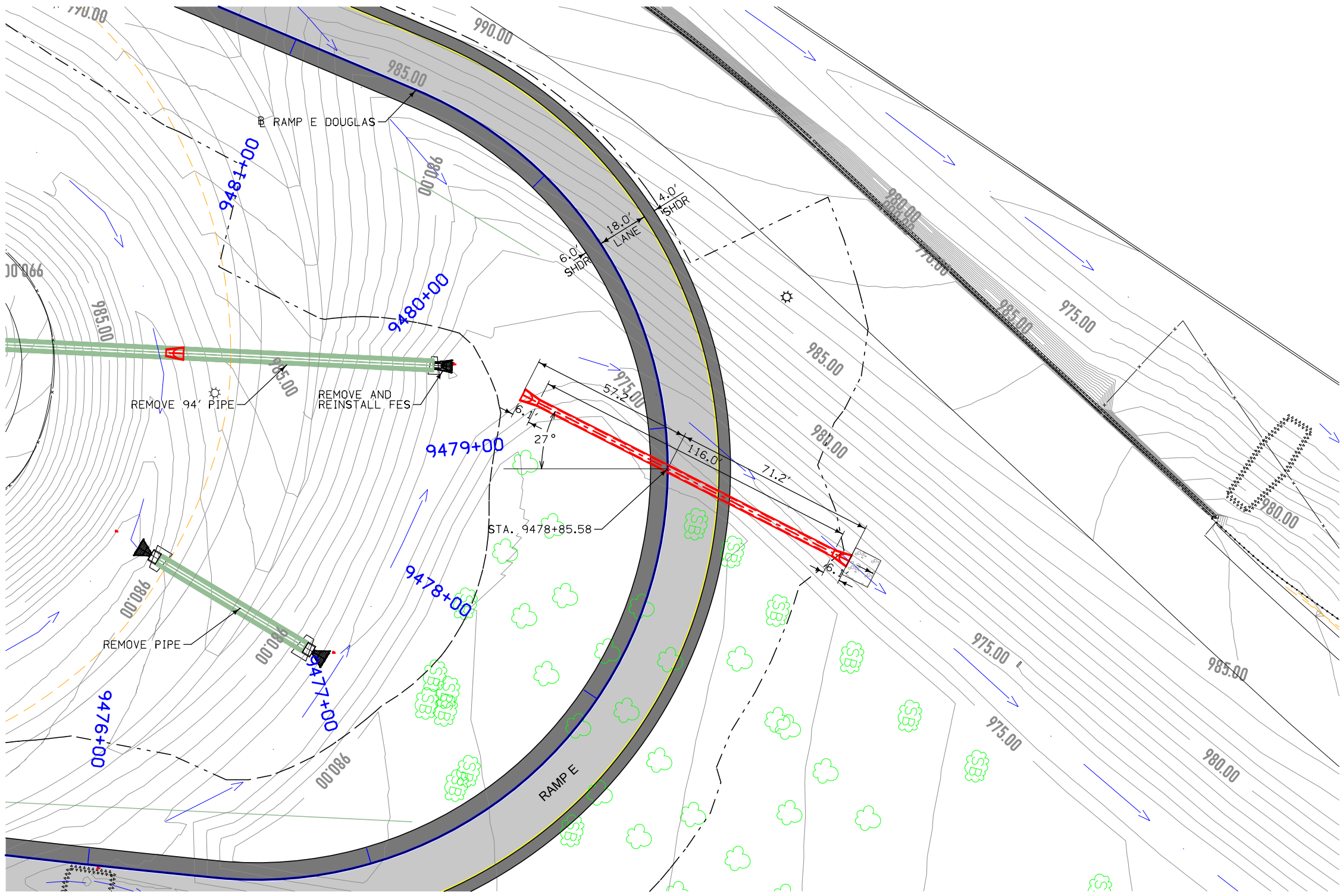
**HYDRAULIC DATA**  
DRAINAGE AREA = XX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

**LOCATION**  
I-80  
T-79N R-25W  
SECTION 29  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 1° SKEW LT AH  
**24" X 12' LT  
 2000D REINFORCED CONCRETE  
 PIPE EXTENSION  
 PLAT PLAN**  
 STATION 8463+56.09  
 (RAMP C DOUGLAS) **POLK COUNTY** 11/19/2021  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG CULVERT



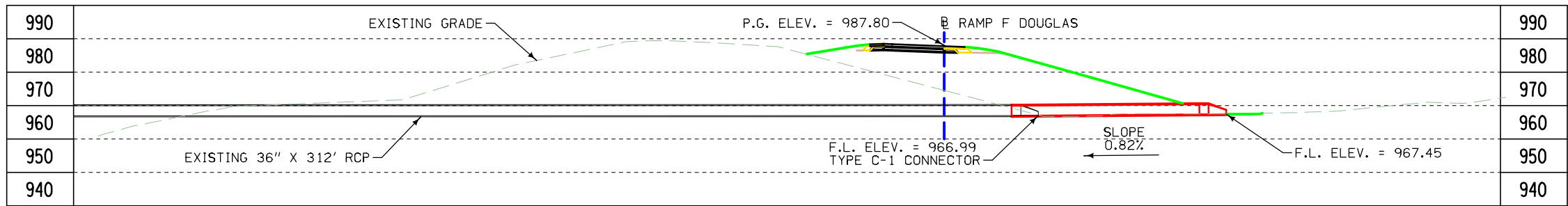
PLAT PLAN

UTILITIES LEGEND:  
REFER TO D.I

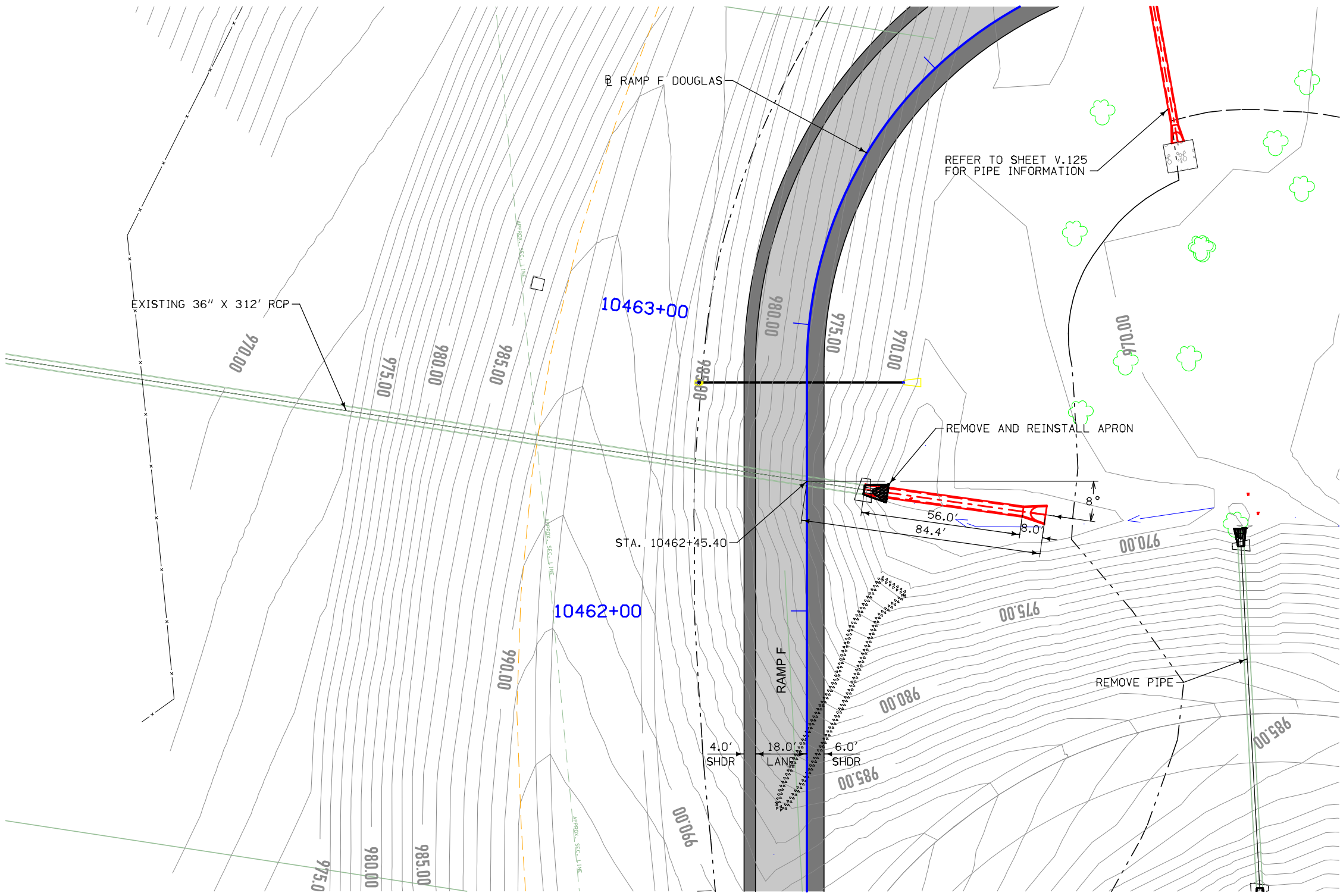
HYDRAULIC DATA  
DRAINAGE AREA = 5.00 ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
1-80  
T-79N R-25W  
SECTION 20  
WALNUT TOWNSHIP  
POLK COUNTY

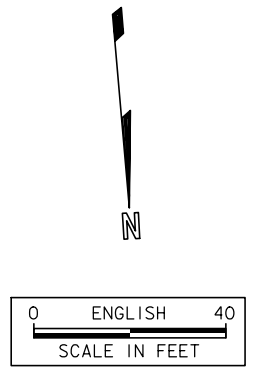
DESIGN FOR 27° SKEW LT AH  
**24" X 116'**  
**2000D REINFORCED CONCRETE**  
**PIPE**  
**PLAT PLAN**  
 STATION 9478+85.58  
 (RAMP E DOUGLAS) POLK COUNTY 11/19/2021  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. OF FILE NO. DESIGN NO.



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN

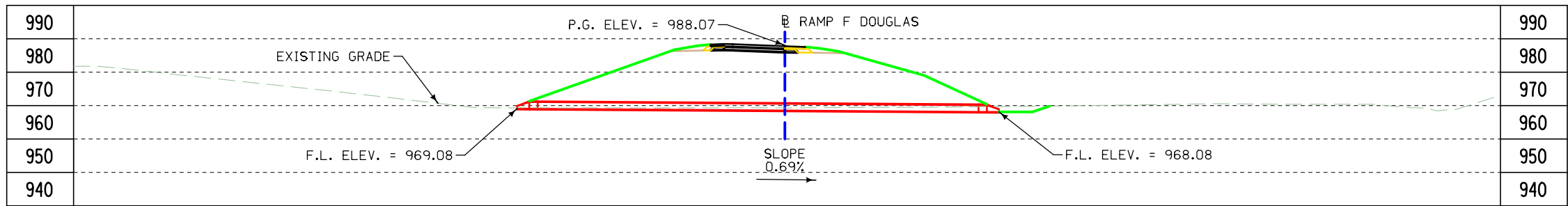


UTILITIES LEGEND:  
REFER TO D.I

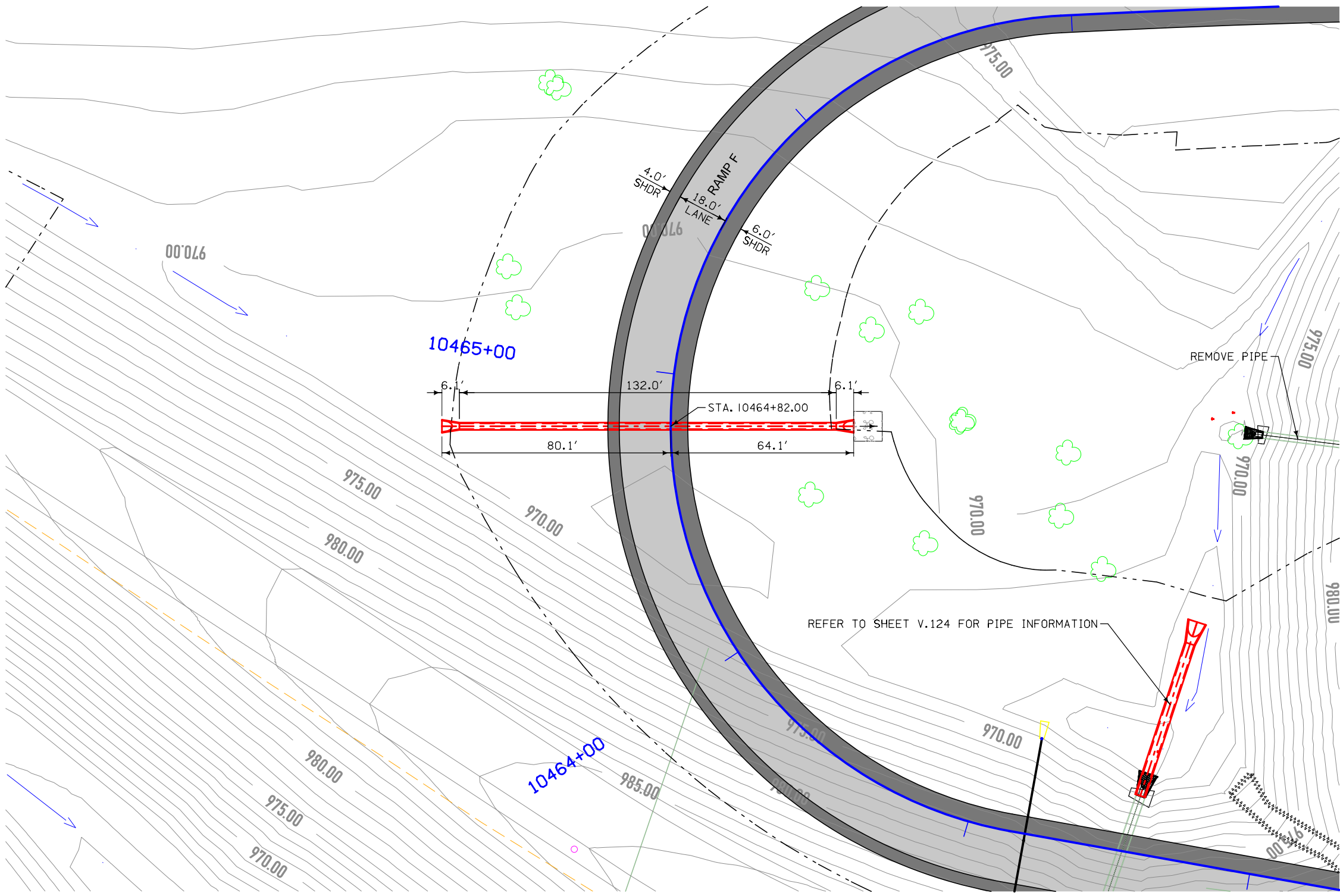
HYDRAULIC DATA  
DRAINAGE AREA = XX.XX ACRES HILLY  
DESIGN DISCHARGE,  $Q_{50}$  = XX.XX CFS

LOCATION  
1-80  
T-79N R-25W  
SECTION 29  
WALNUT TOWNSHIP  
POLK COUNTY

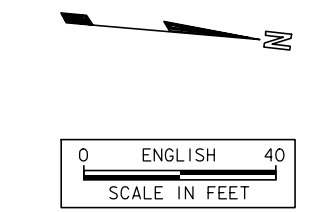
DESIGN FOR 8° SKEW LT AH  
**36" X 56'**  
**2000D REINFORCED CONCRETE**  
**PIPE EXTENSION**  
**PLAT PLAN**  
 STATION 10462+45.40  
 (RAMP F DOUGLAS)  
 POLK COUNTY  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ DESIGN NO. \_\_\_\_\_



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT



PLAT PLAN



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

**HYDRAULIC DATA**  
DRAINAGE AREA = 3.86 ACRES ROLLING  
DESIGN DISCHARGE,  $Q_{50}$  = 12.19 CFS

**LOCATION**  
1-80  
T-79N R-25W  
SECTION 29  
WALNUT TOWNSHIP  
POLK COUNTY

DESIGN FOR 0° SKEW  
**24" X 132'**  
**2000D REINFORCED CONCRETE**  
**PIPE**  
**PLAT PLAN**  
 STATION 10464+82.00  
 (RAMP F DOUGLAS) 11/19/2021  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_ FILE NO. \_\_\_\_\_ 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
- UG A ----- Unsuitable Type A Disposal
- UG B ----- Unsuitable Type B Disposal
- UG C ----- Unsuitable Type C Disposal
- SHALE ----- Shale
- WASTE ----- Waste
- BRK 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.

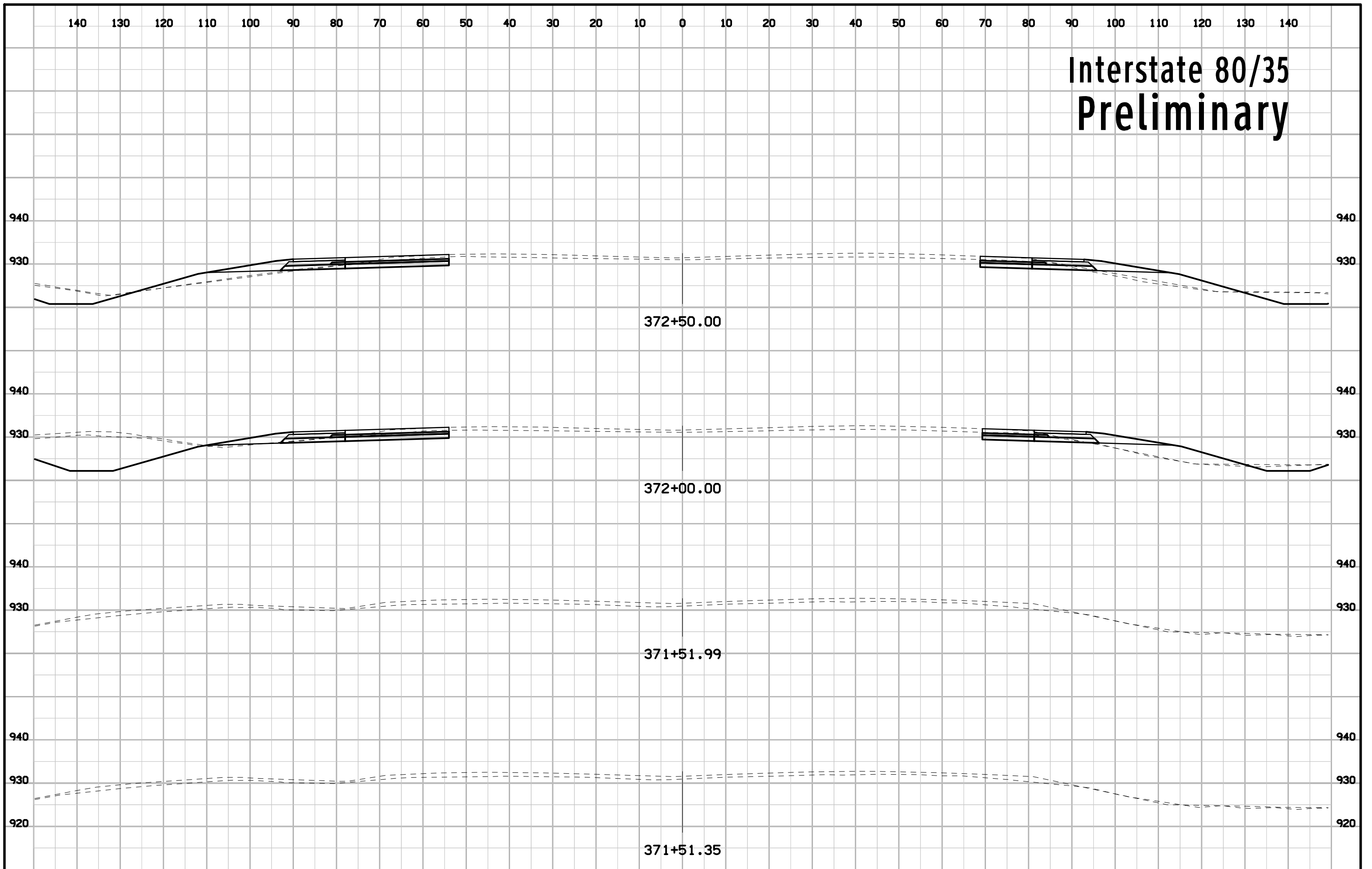
**SYMBOL LEGEND OF CROSS SECTION SHEETS**

- 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**

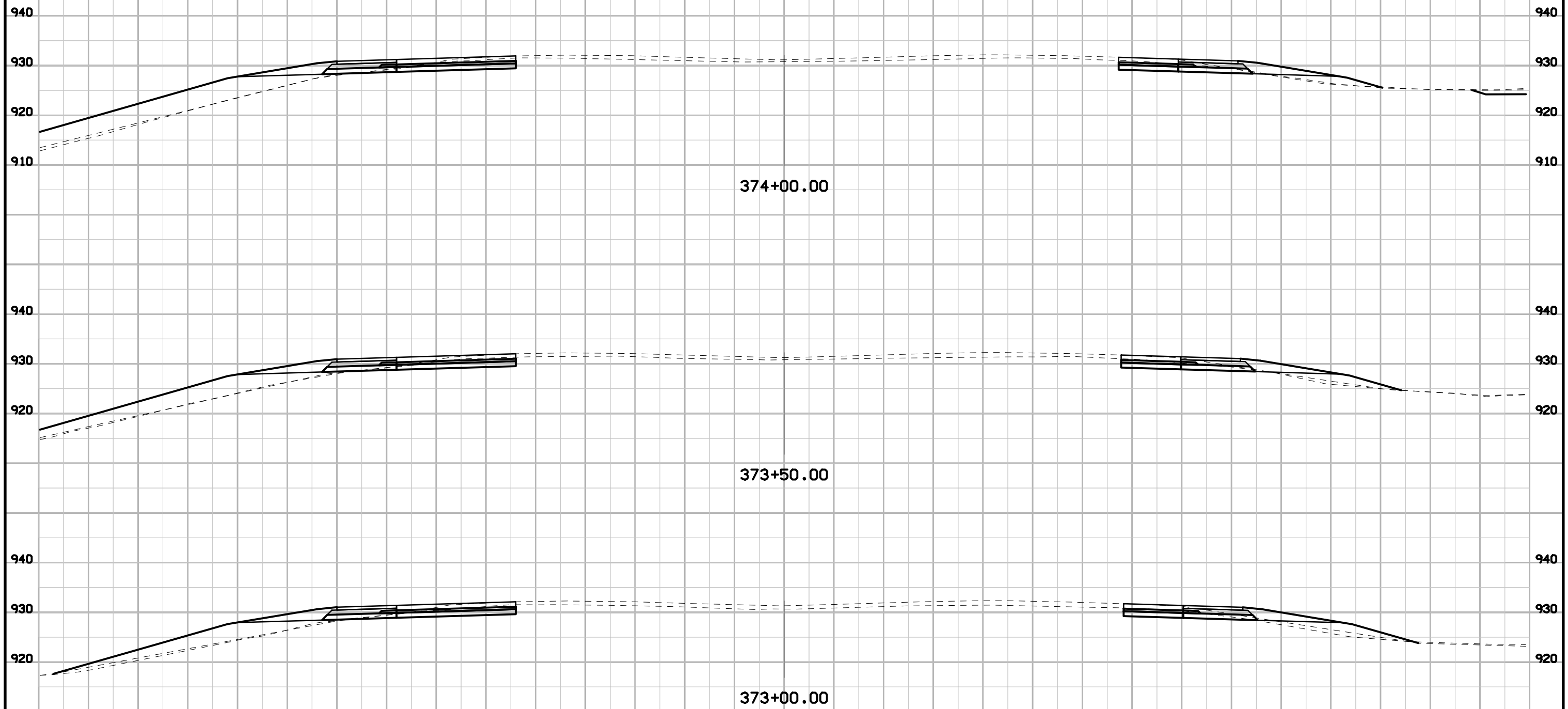
(COVERS SHEET SERIES W, X, Y, & Z)

# Interstate 80/35 Preliminary



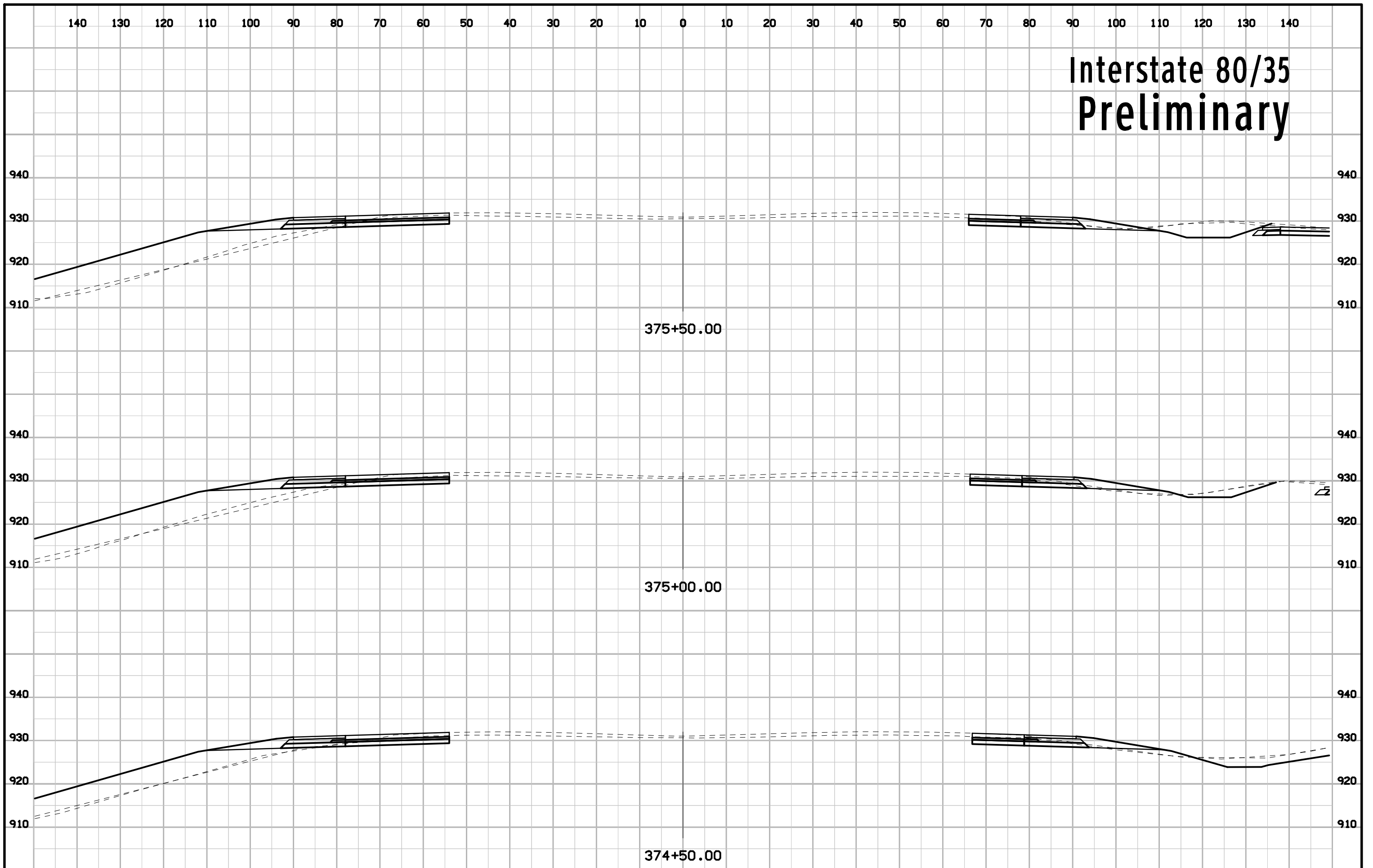
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# Interstate 80/35 Preliminary

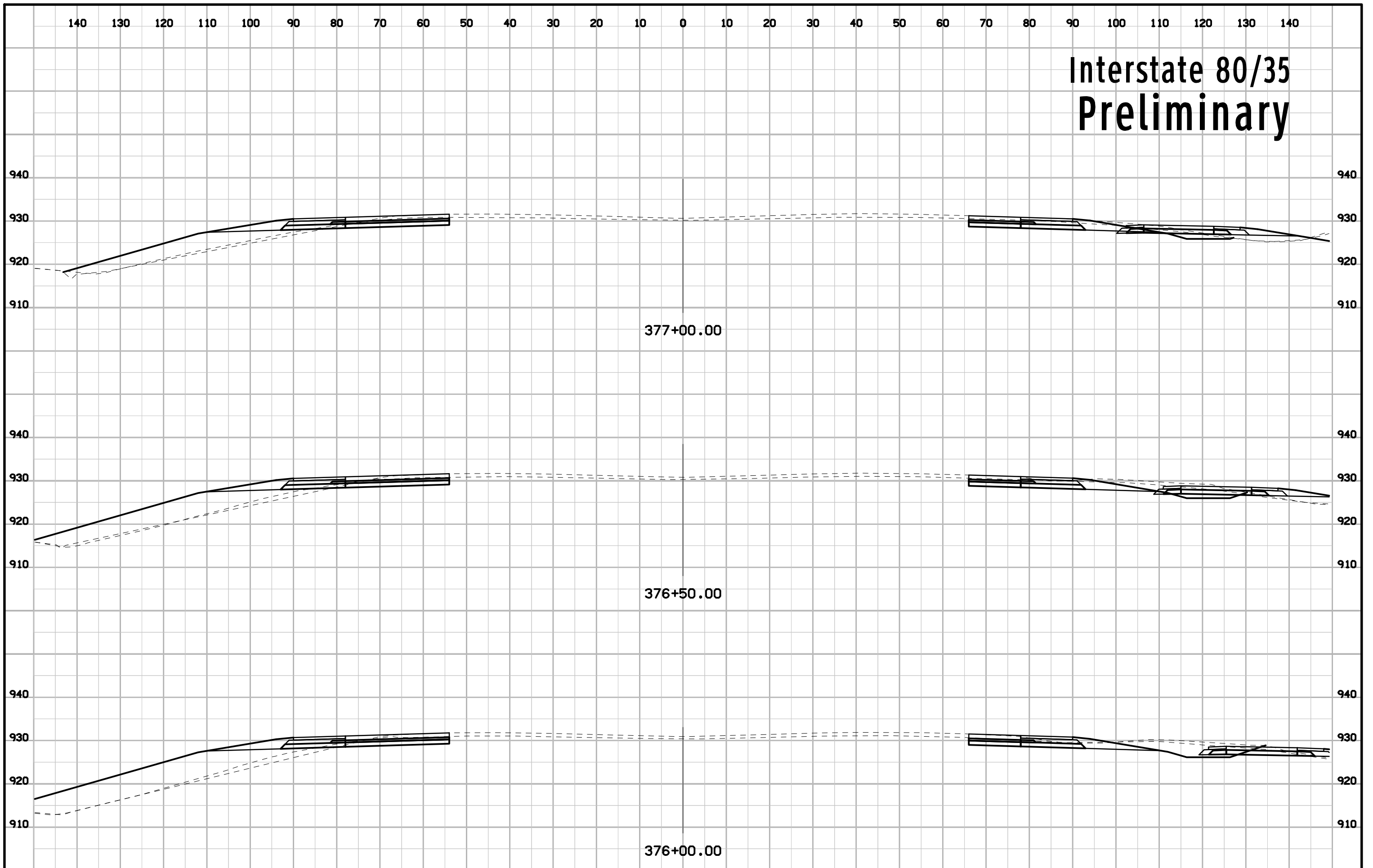




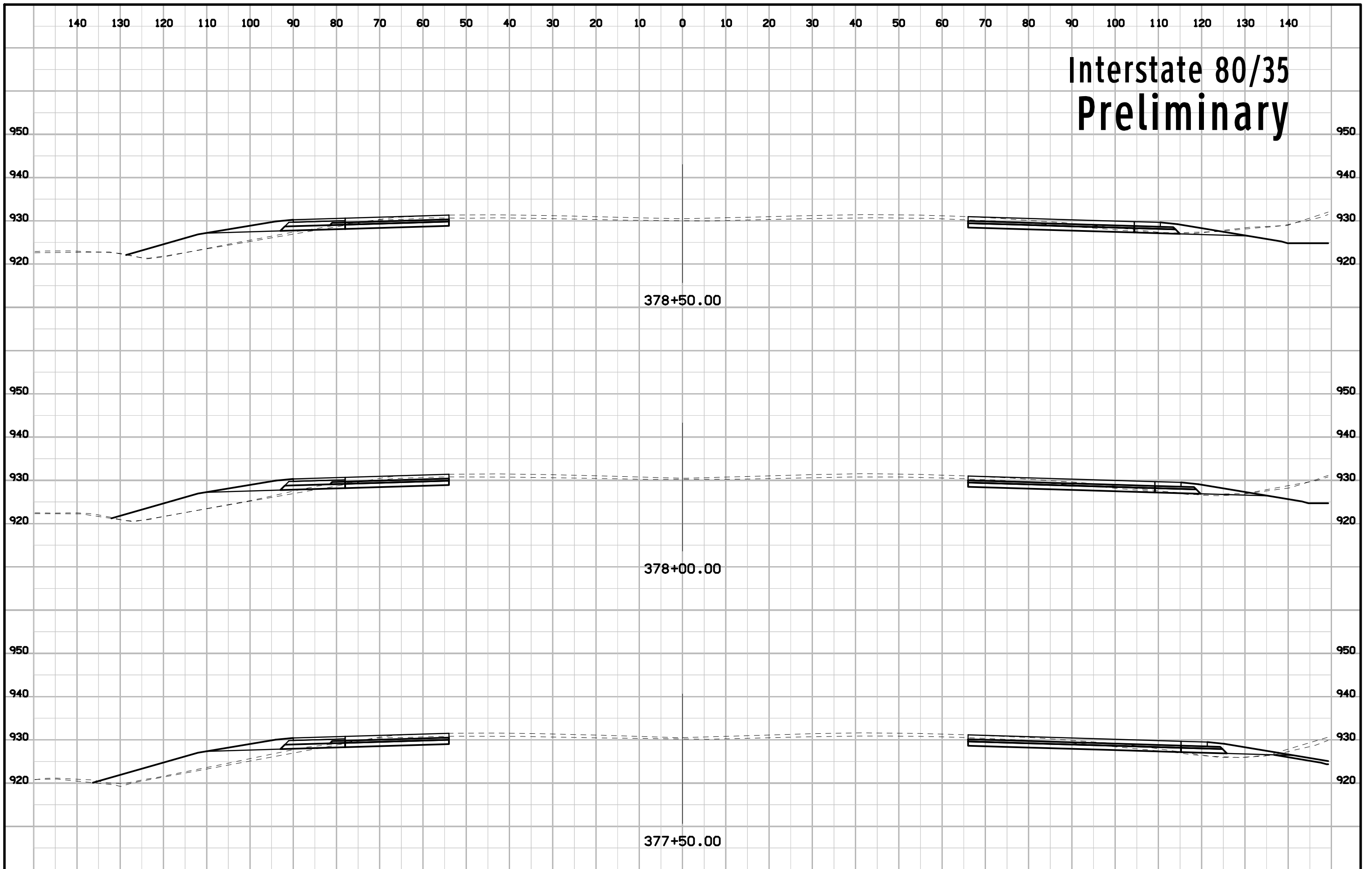
# Interstate 80/35 Preliminary



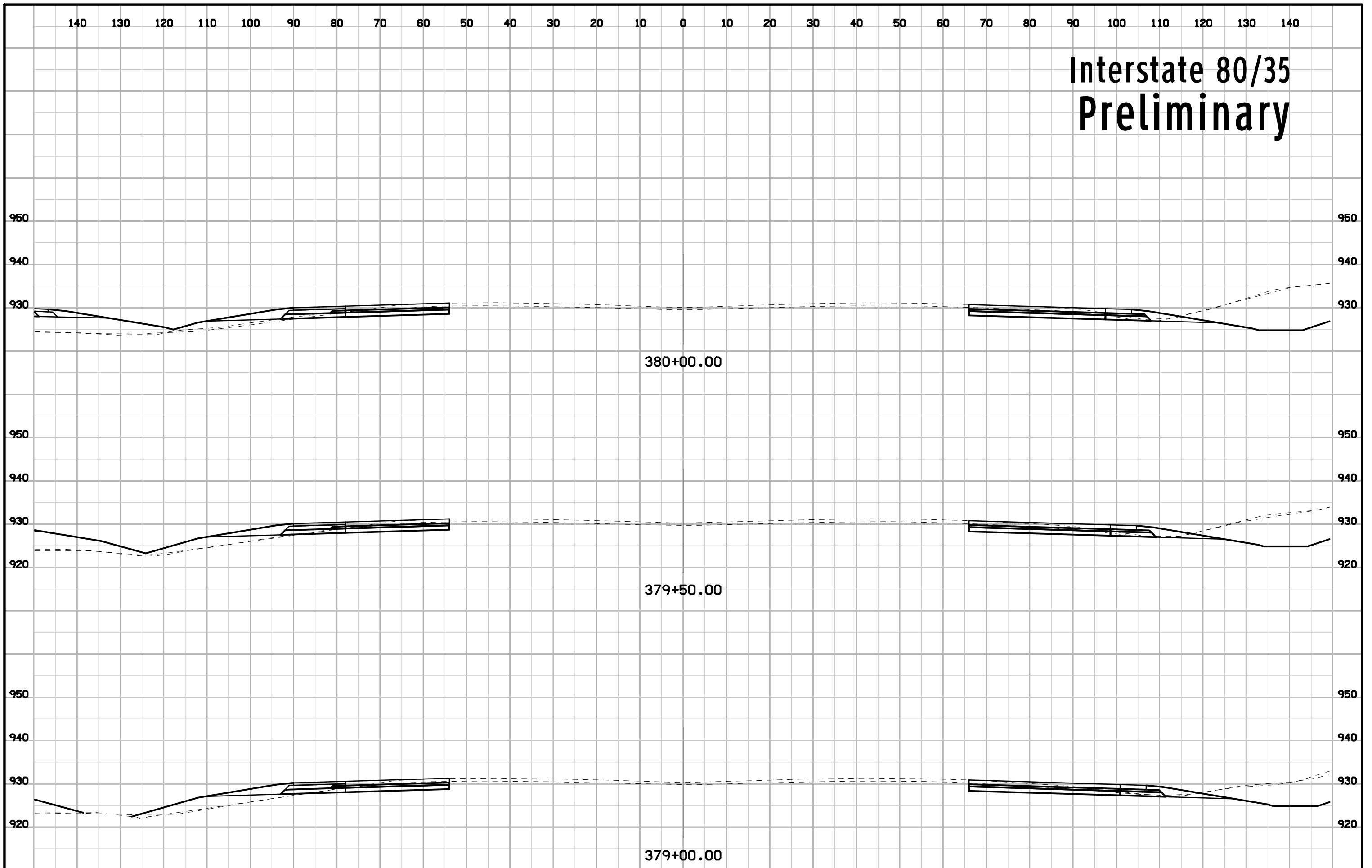
# Interstate 80/35 Preliminary



# Interstate 80/35 Preliminary

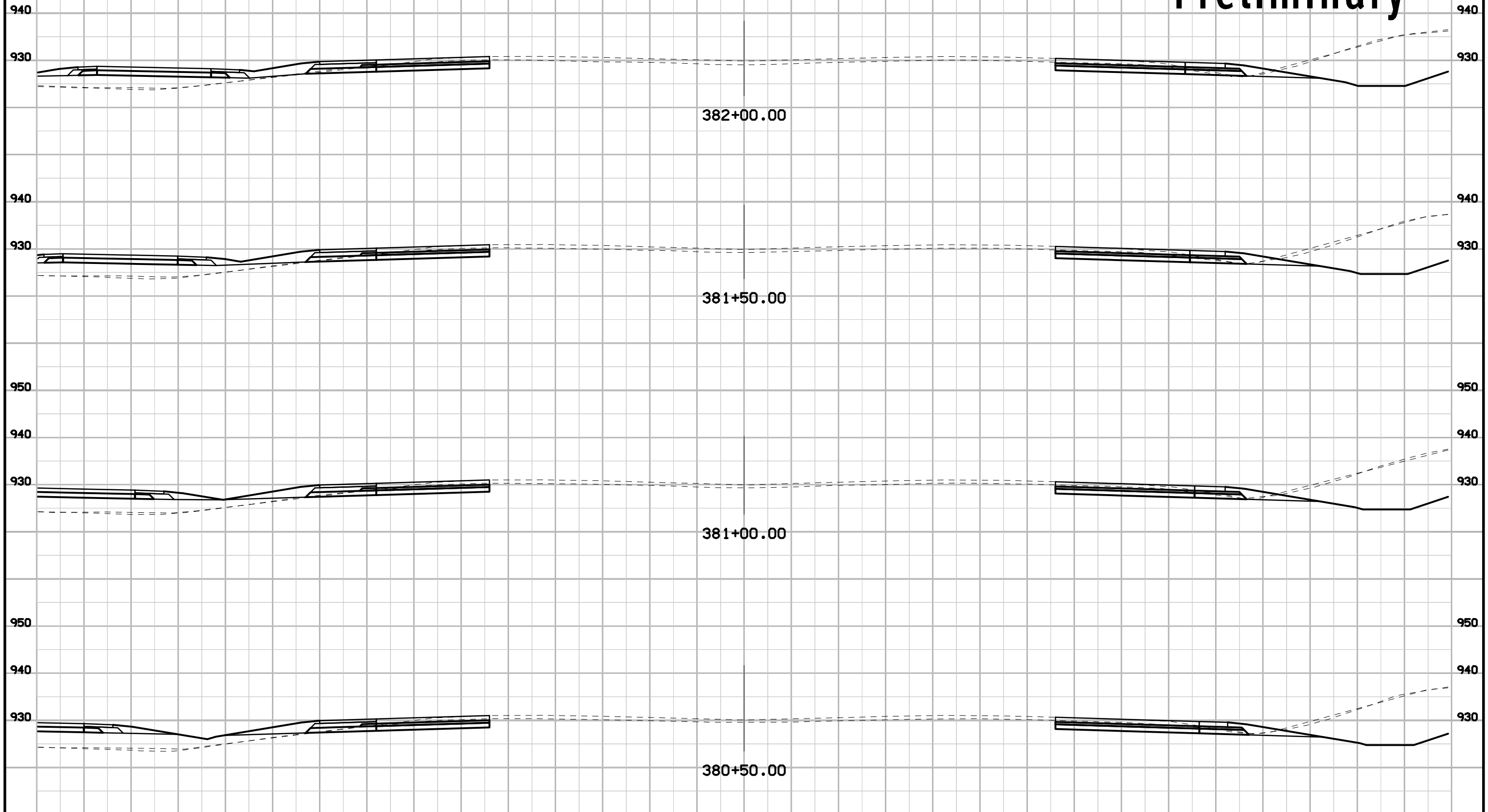


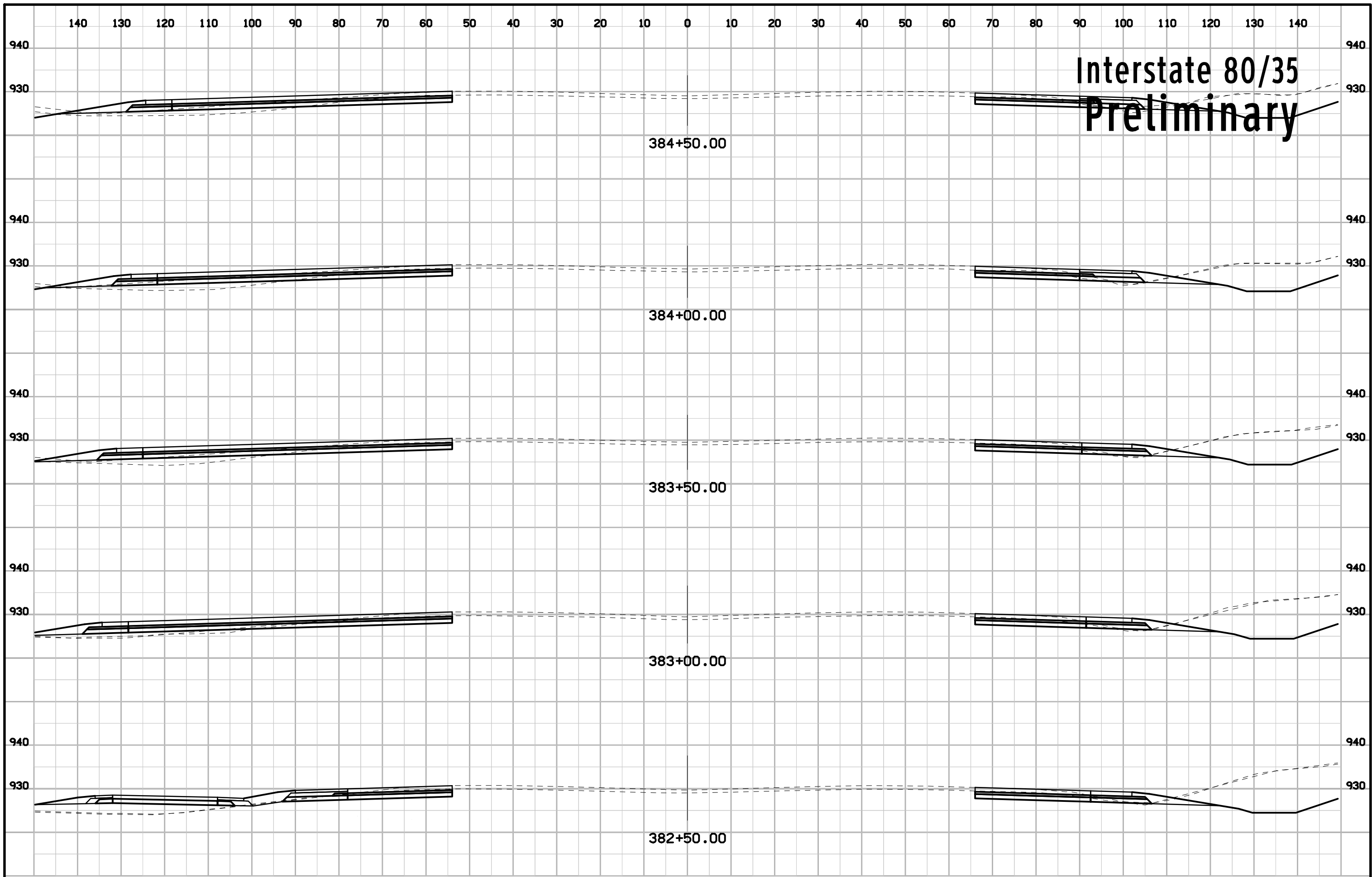
# Interstate 80/35 Preliminary



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# Interstate 80/35 Preliminary





**Interstate 80/35  
Preliminary**

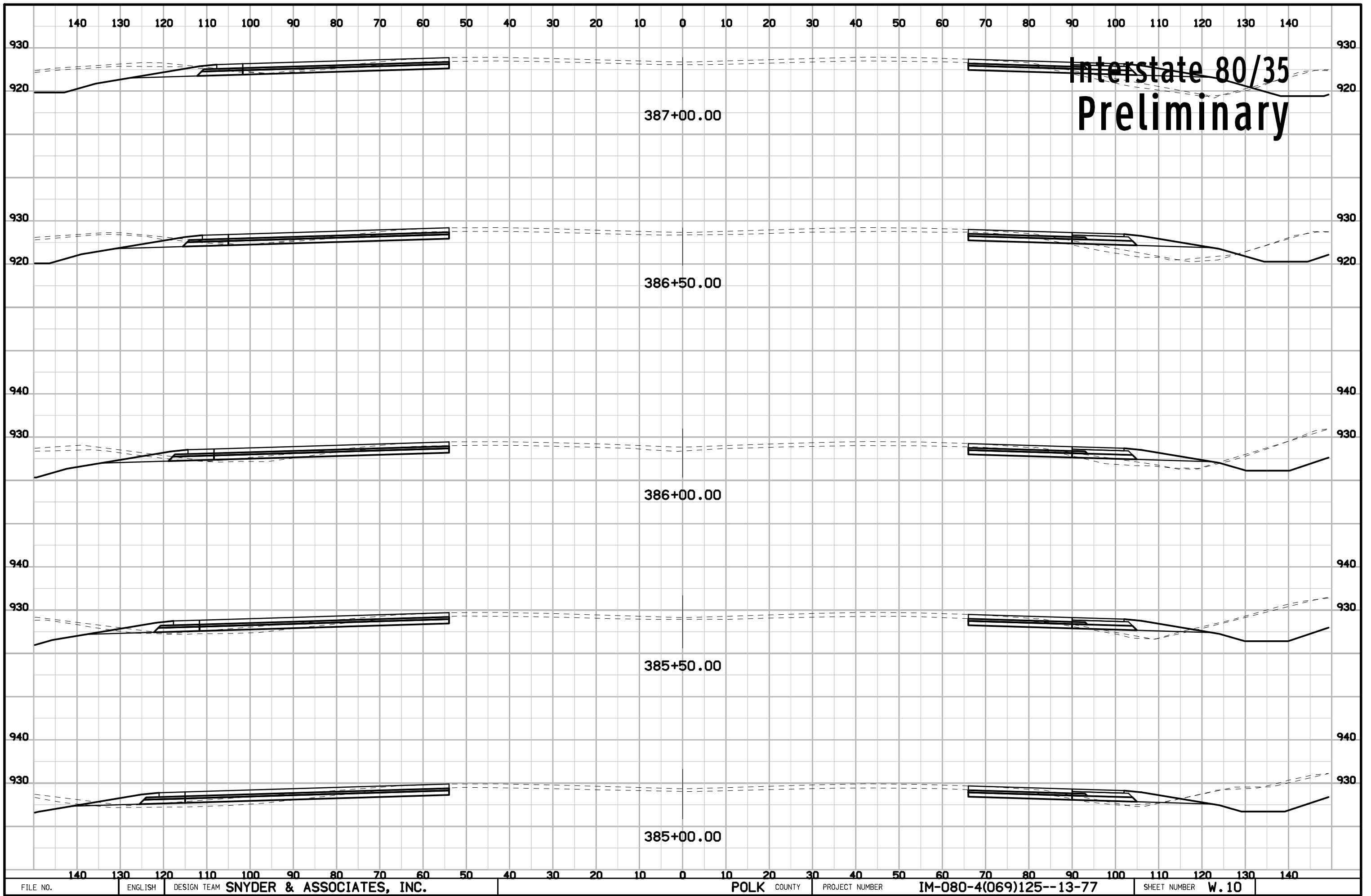
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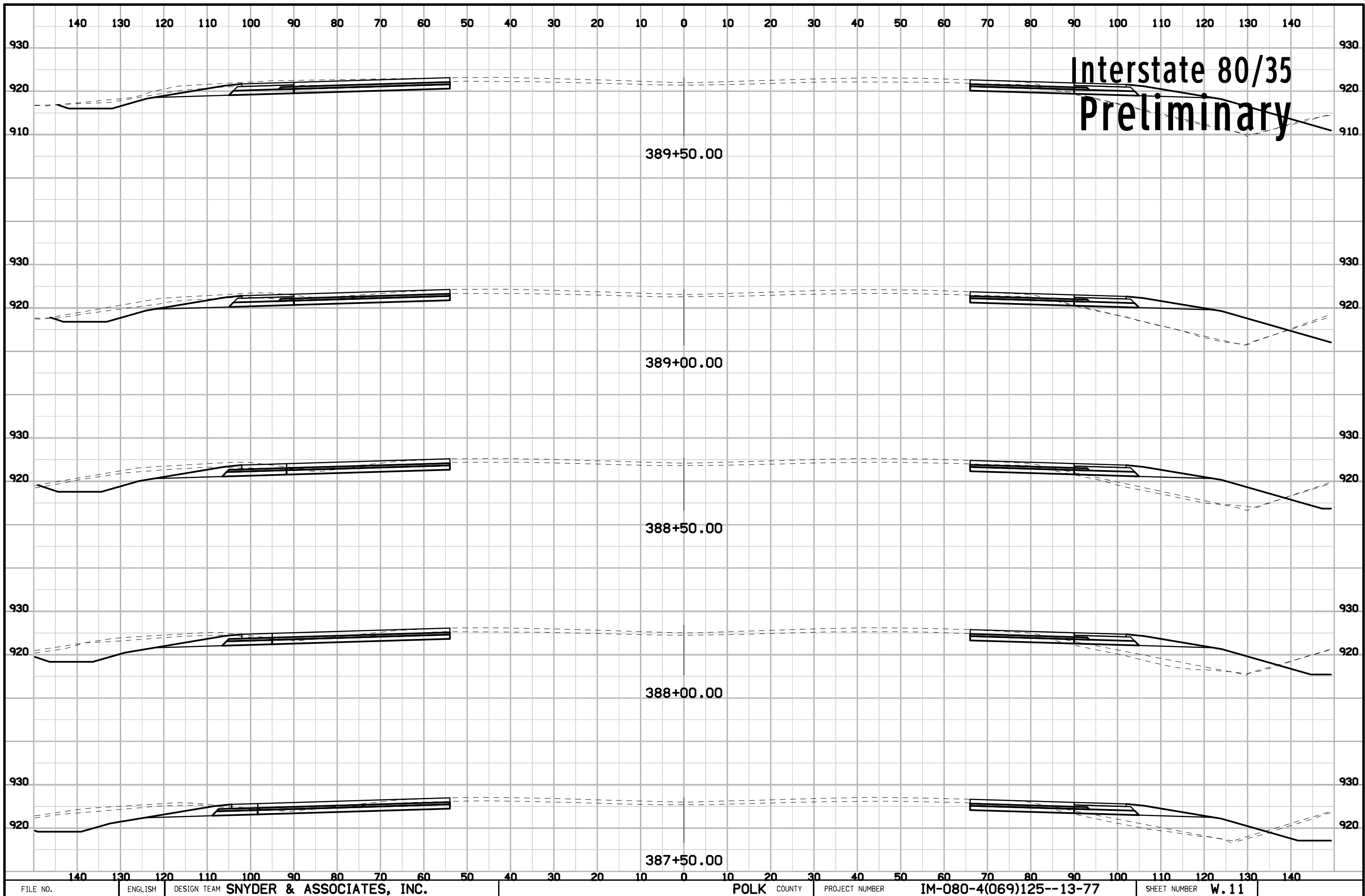
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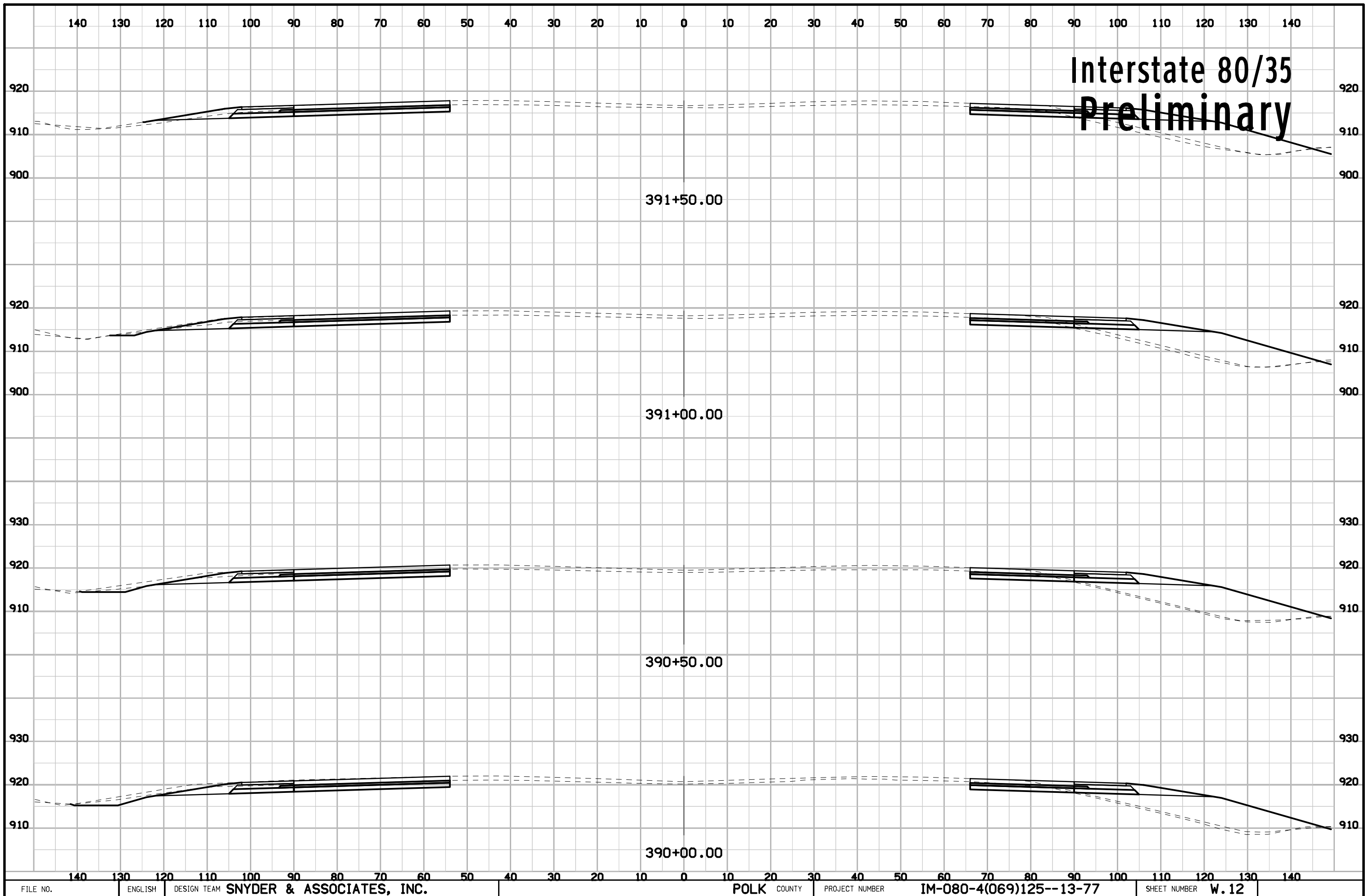
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**Interstate 80/35  
Preliminary**

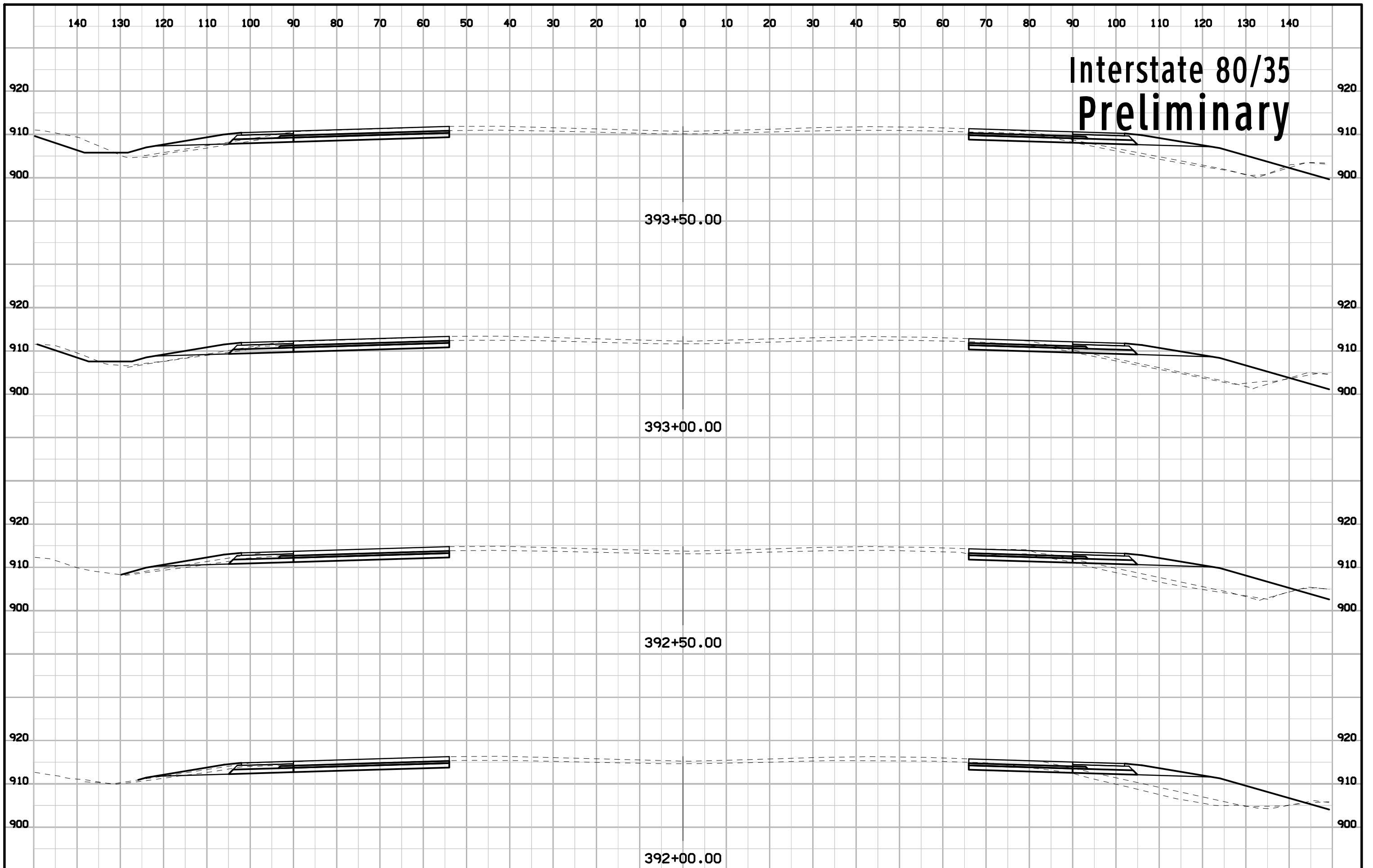
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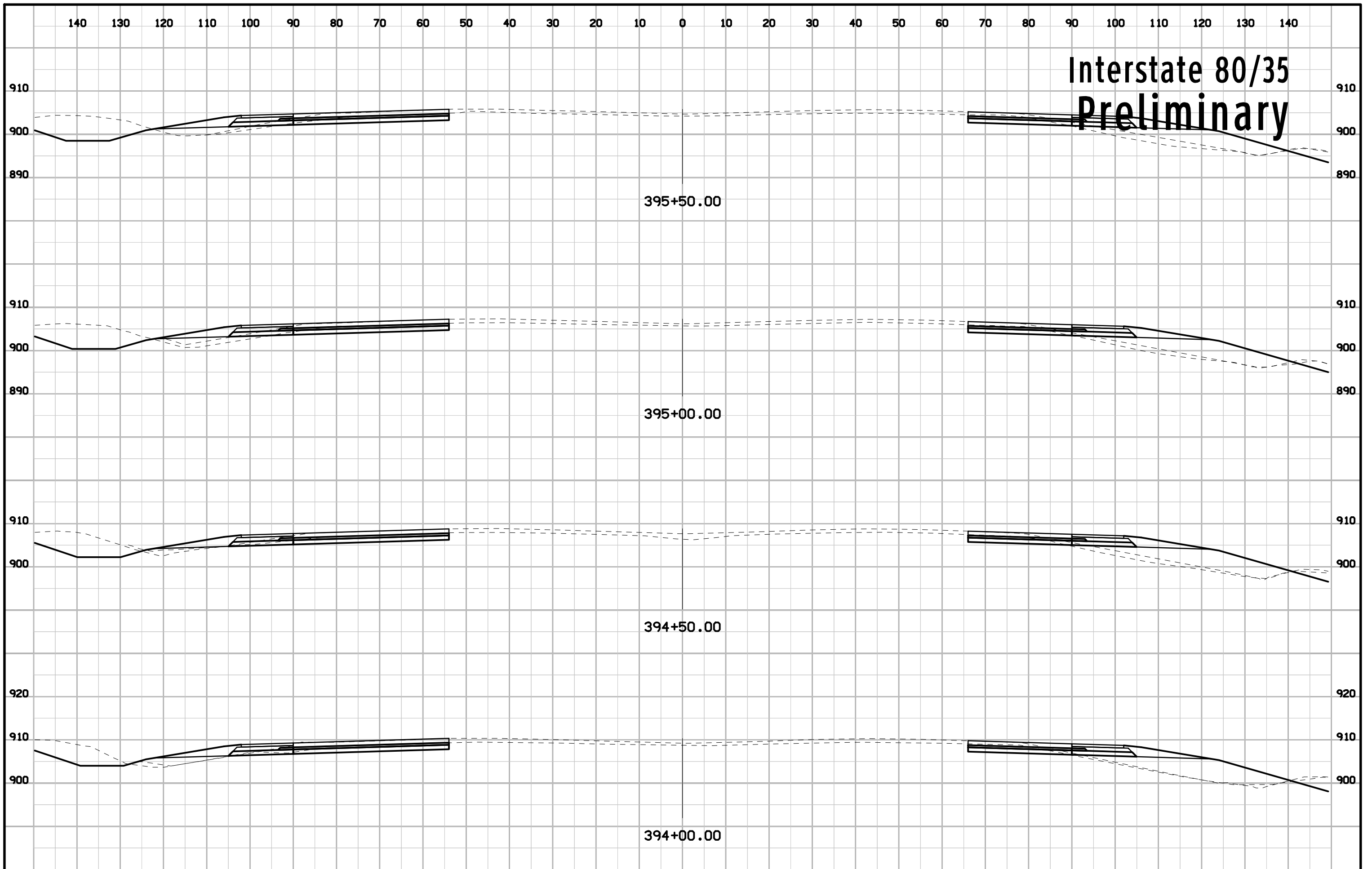
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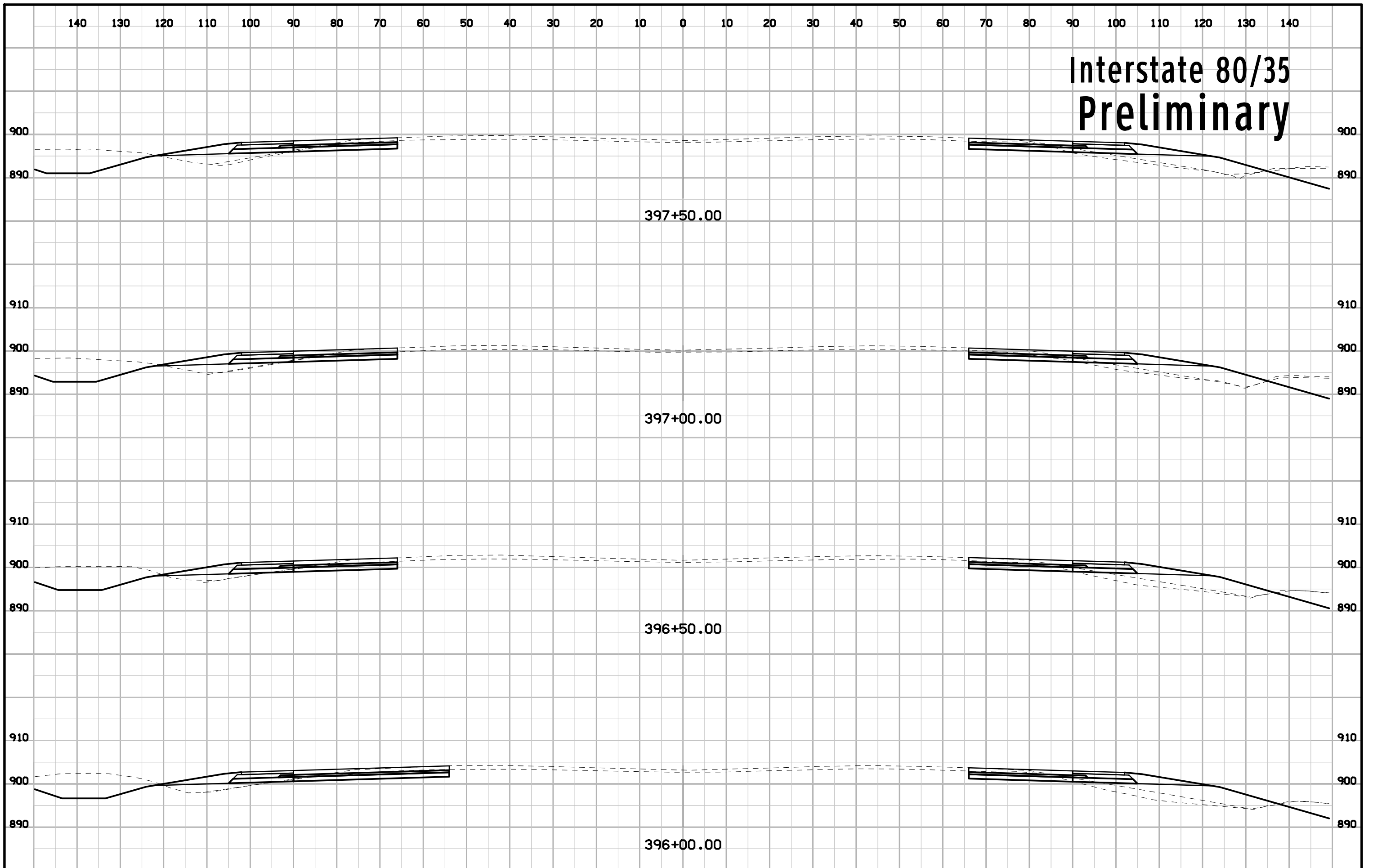
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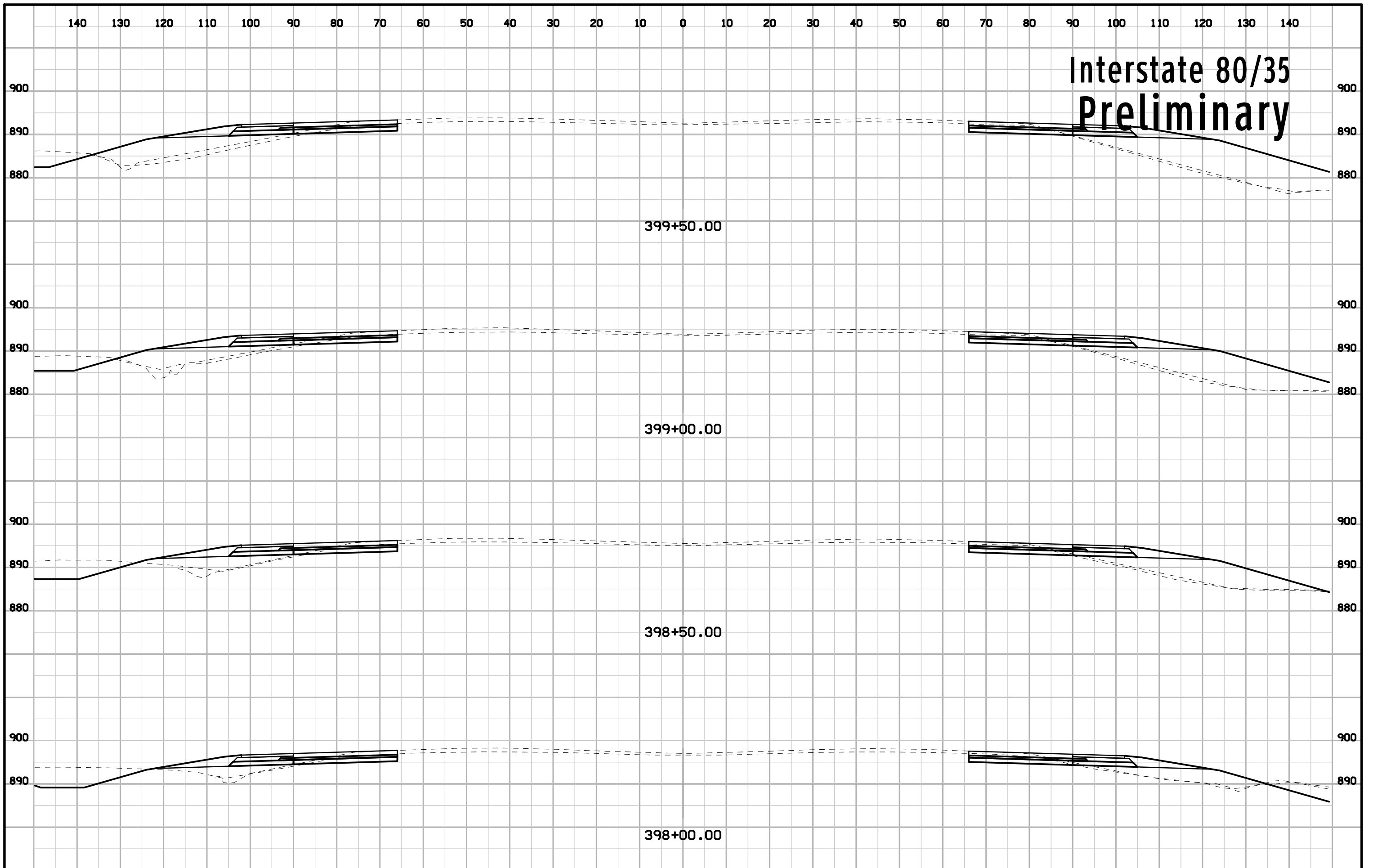
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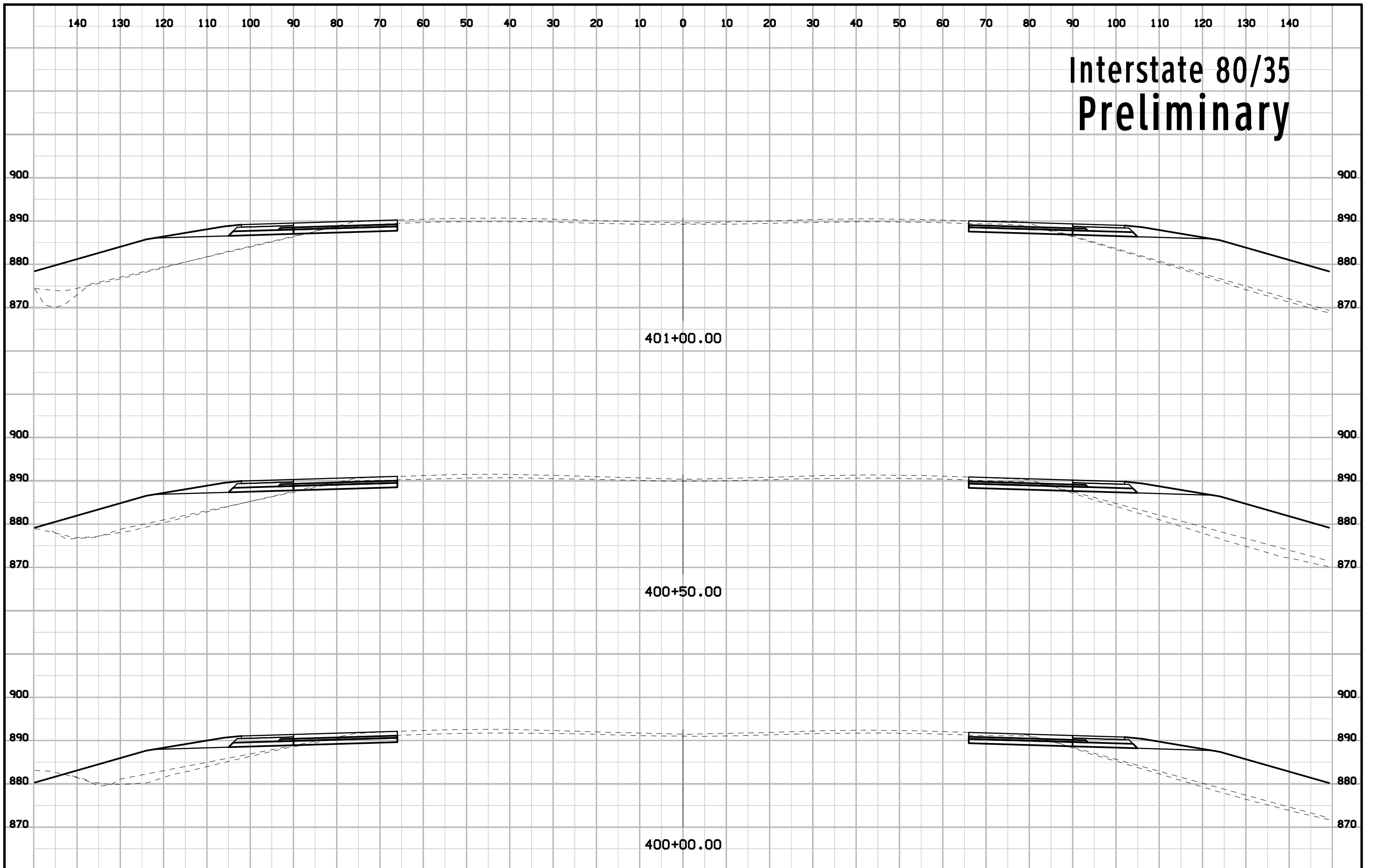
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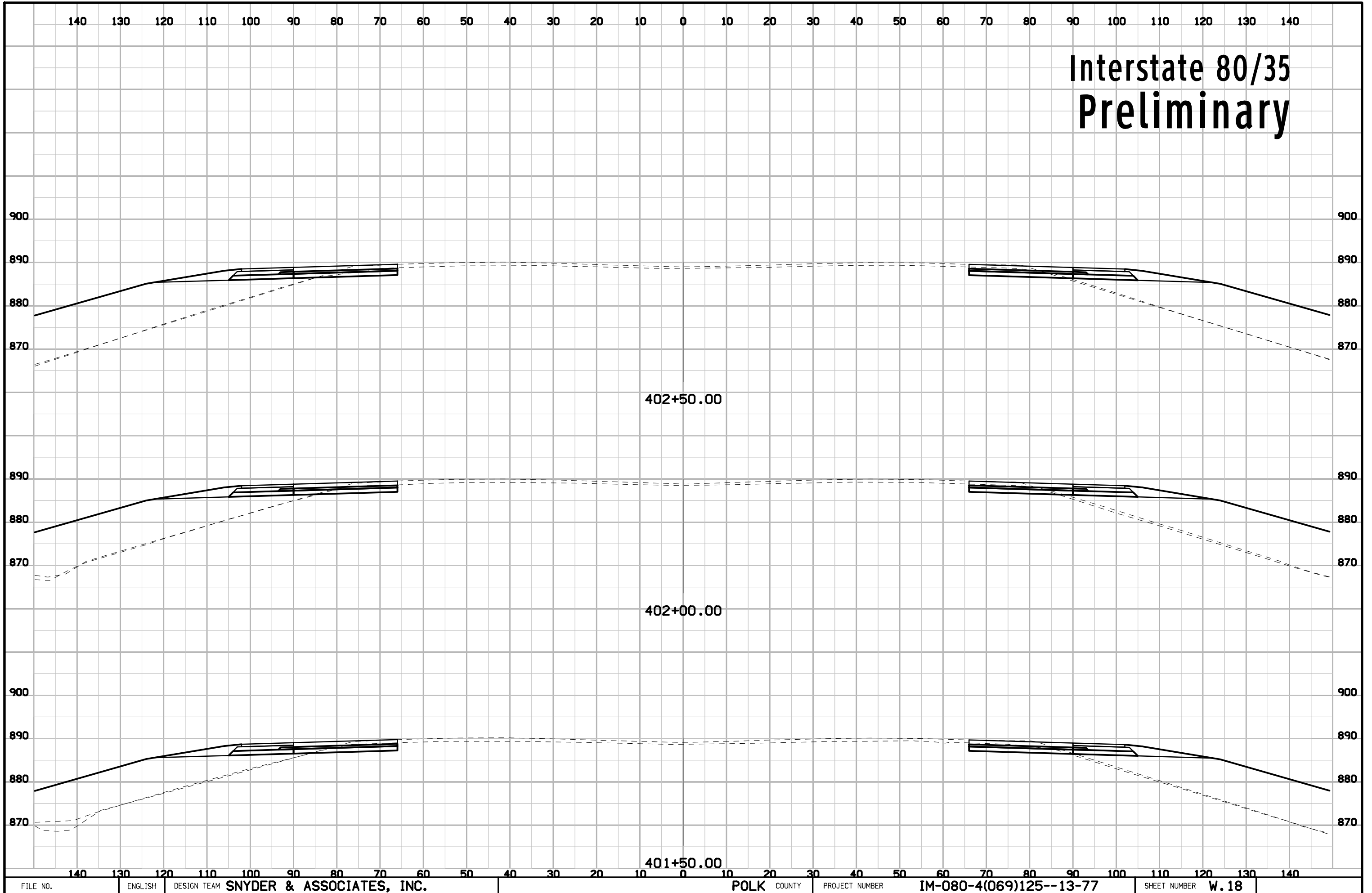
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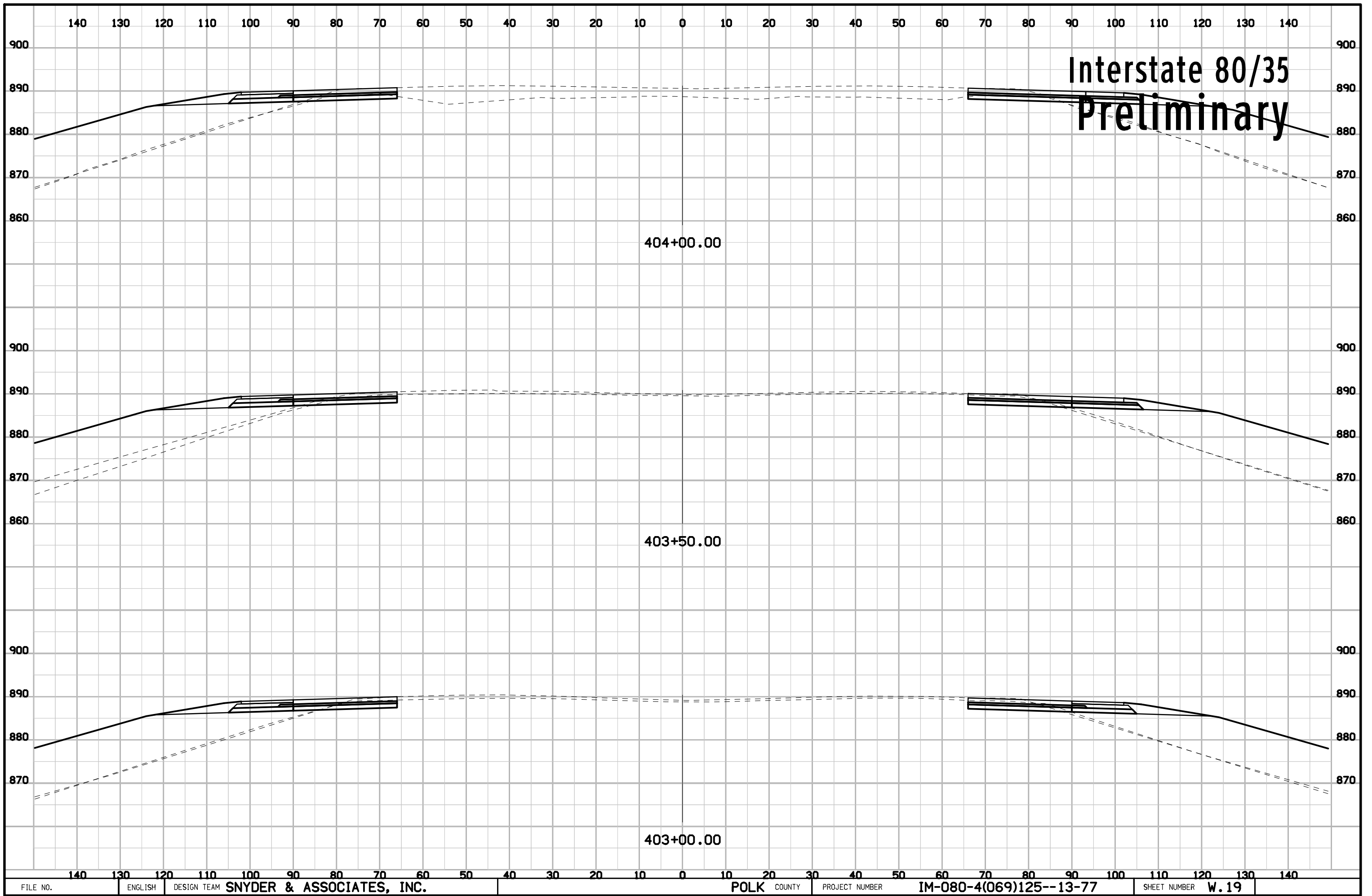


# Interstate 80/35 Preliminary



# Interstate 80/35 Preliminary

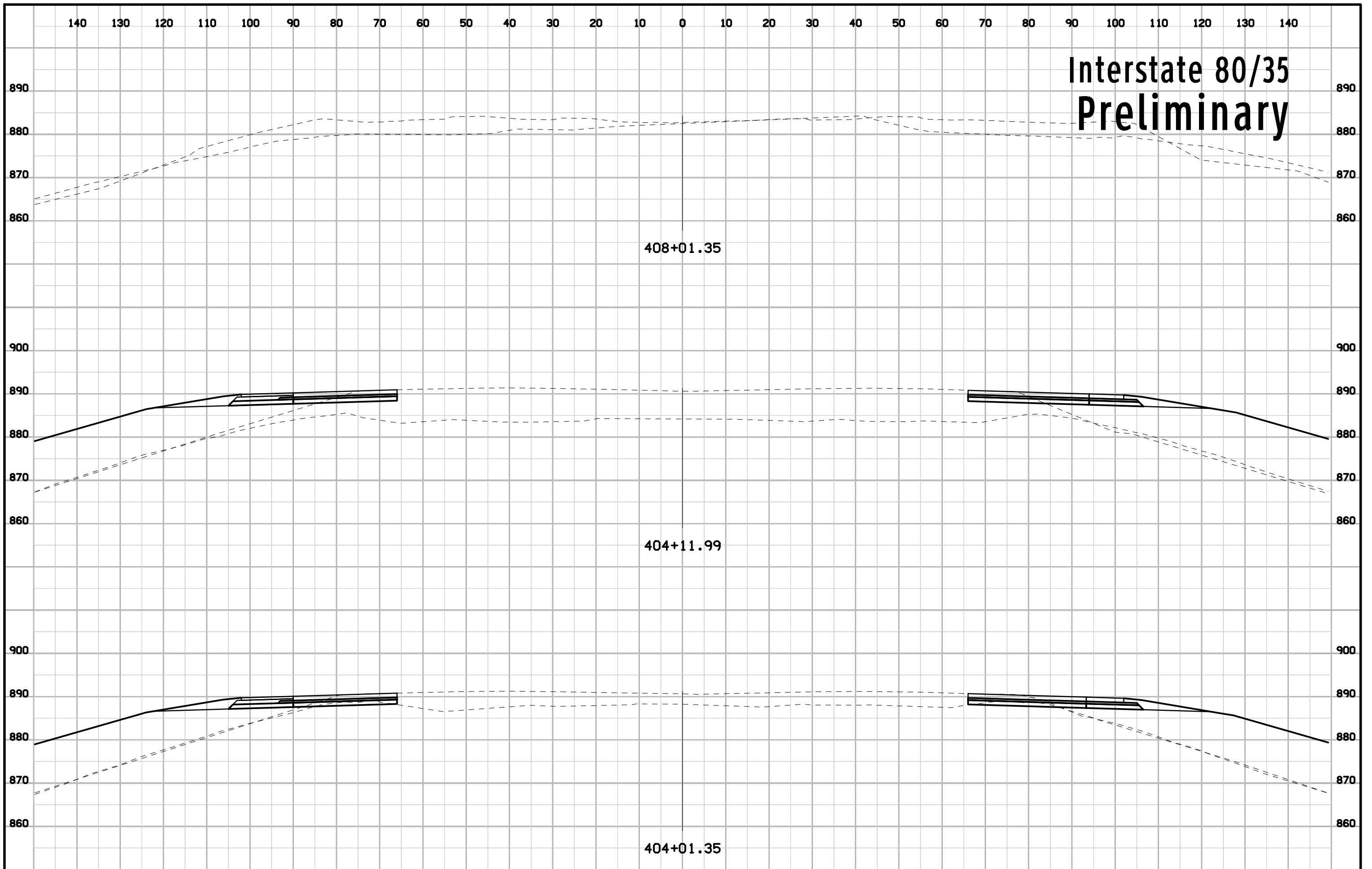




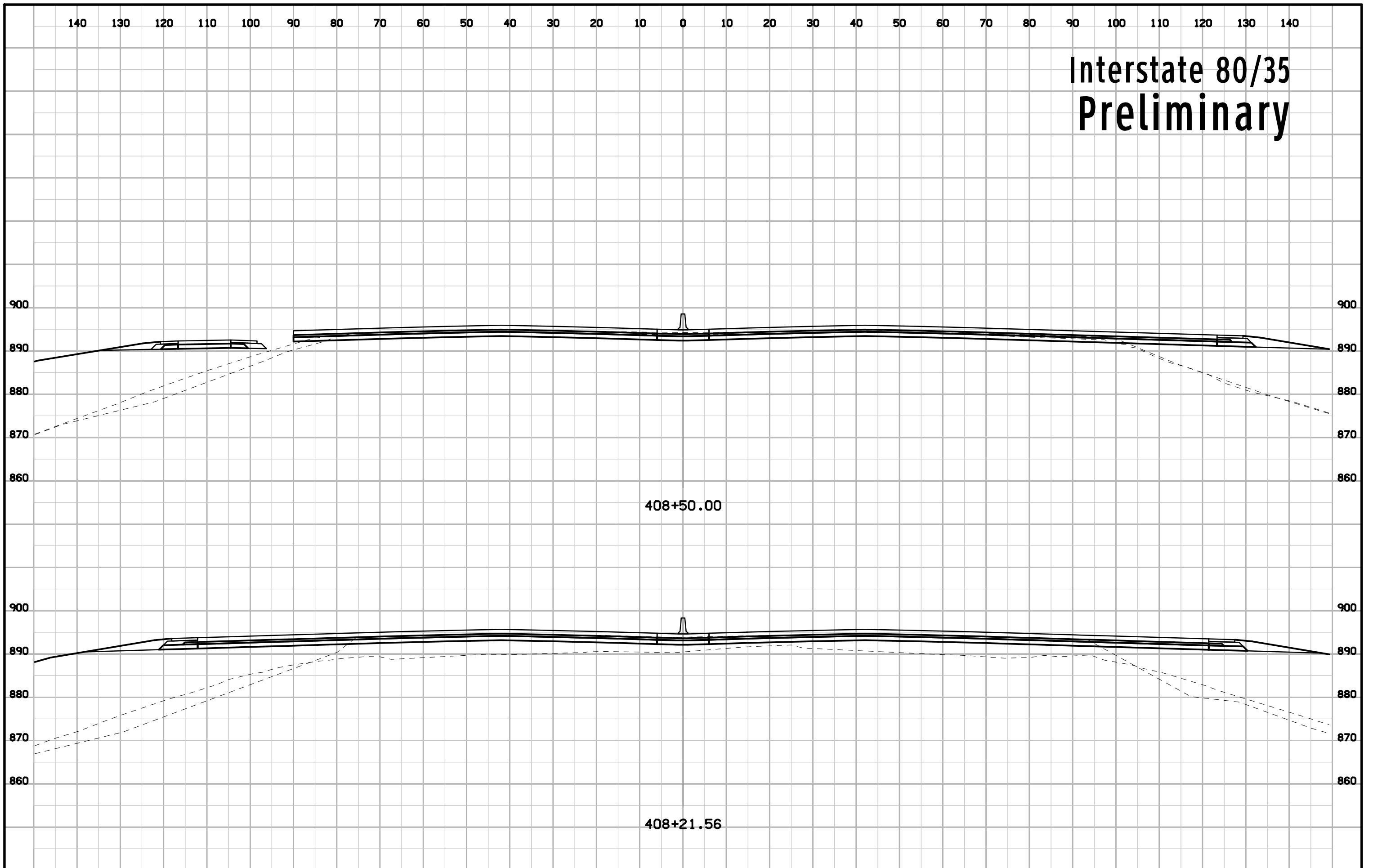
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Preliminary**



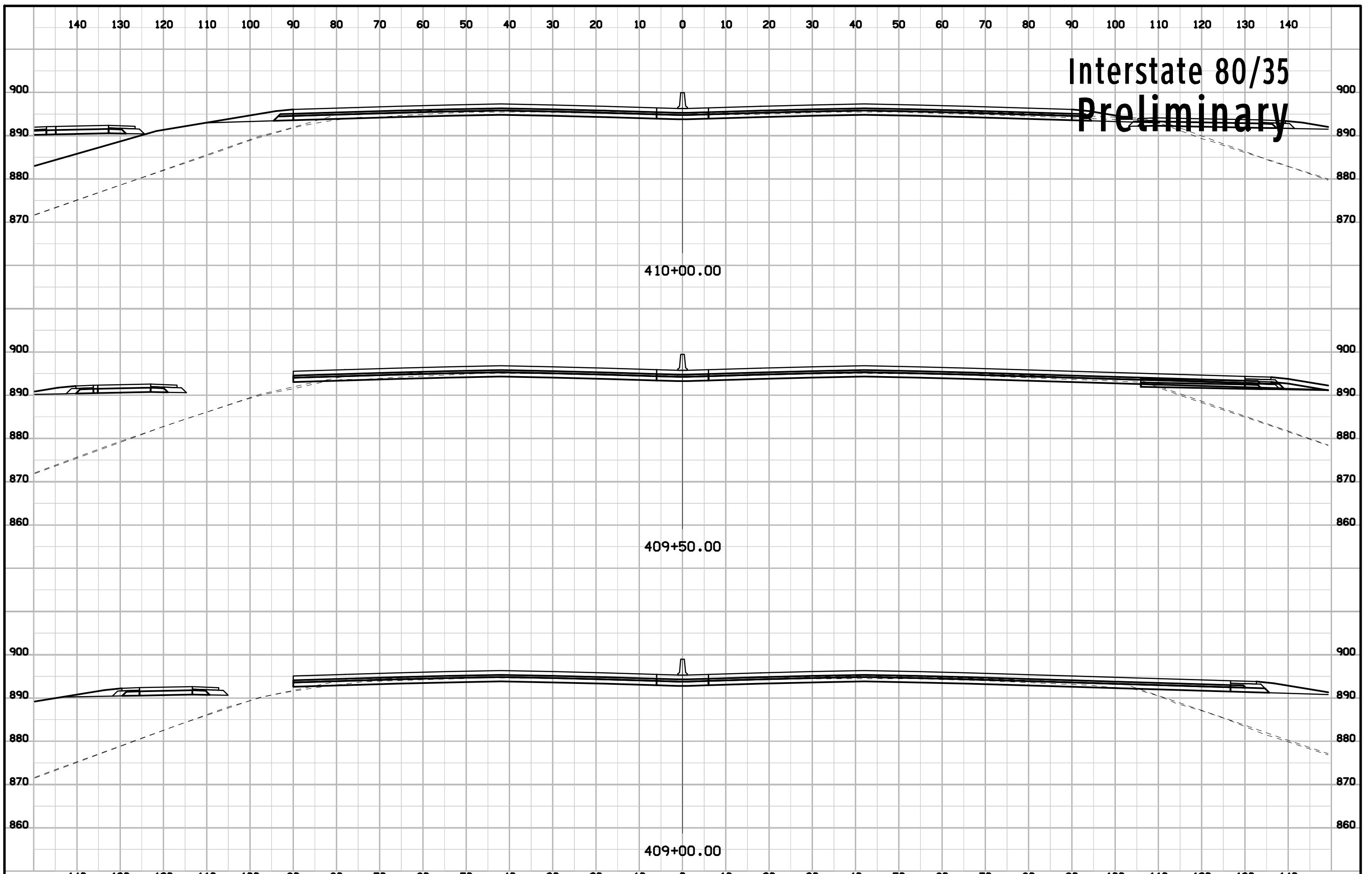
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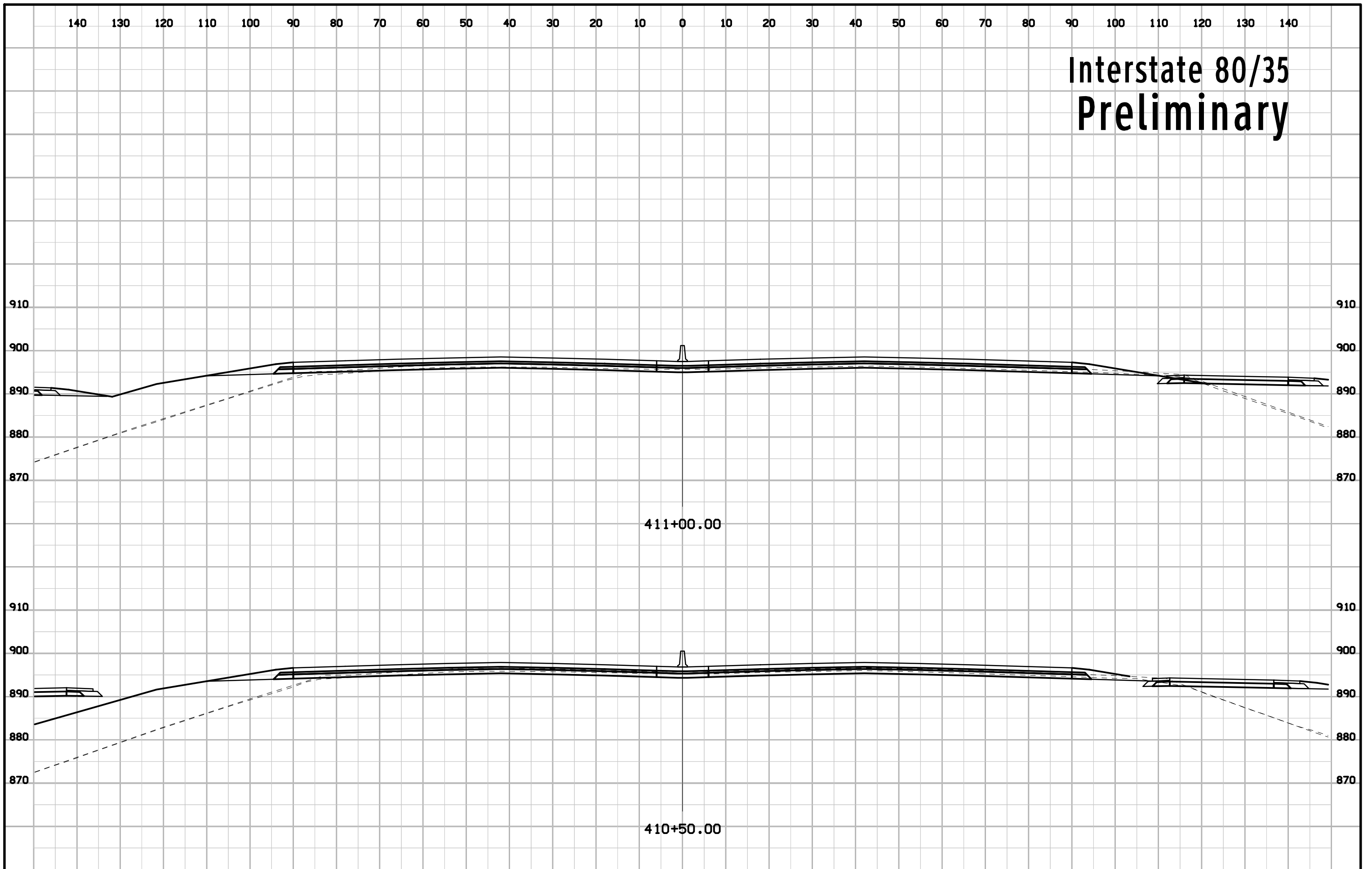
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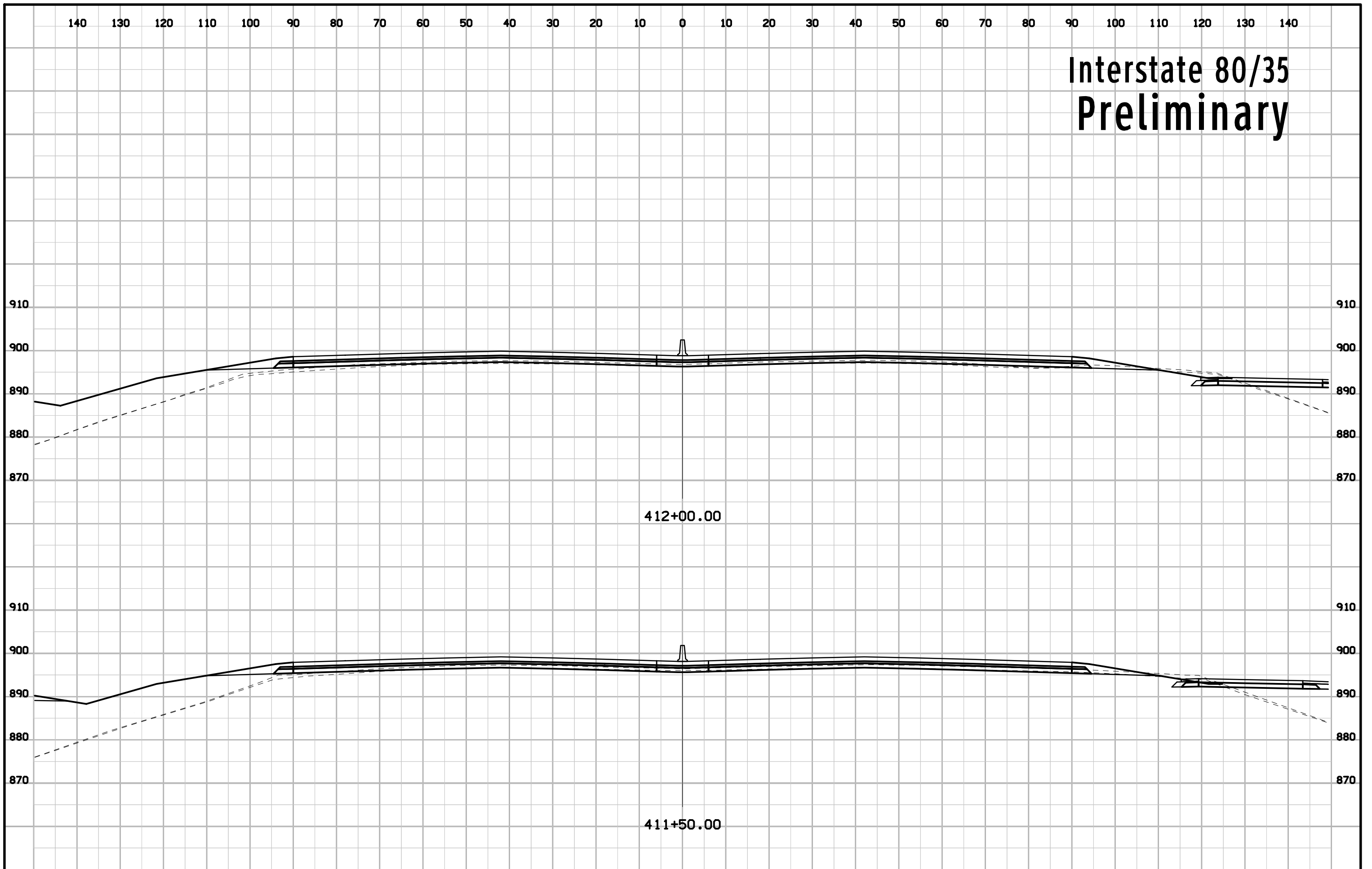
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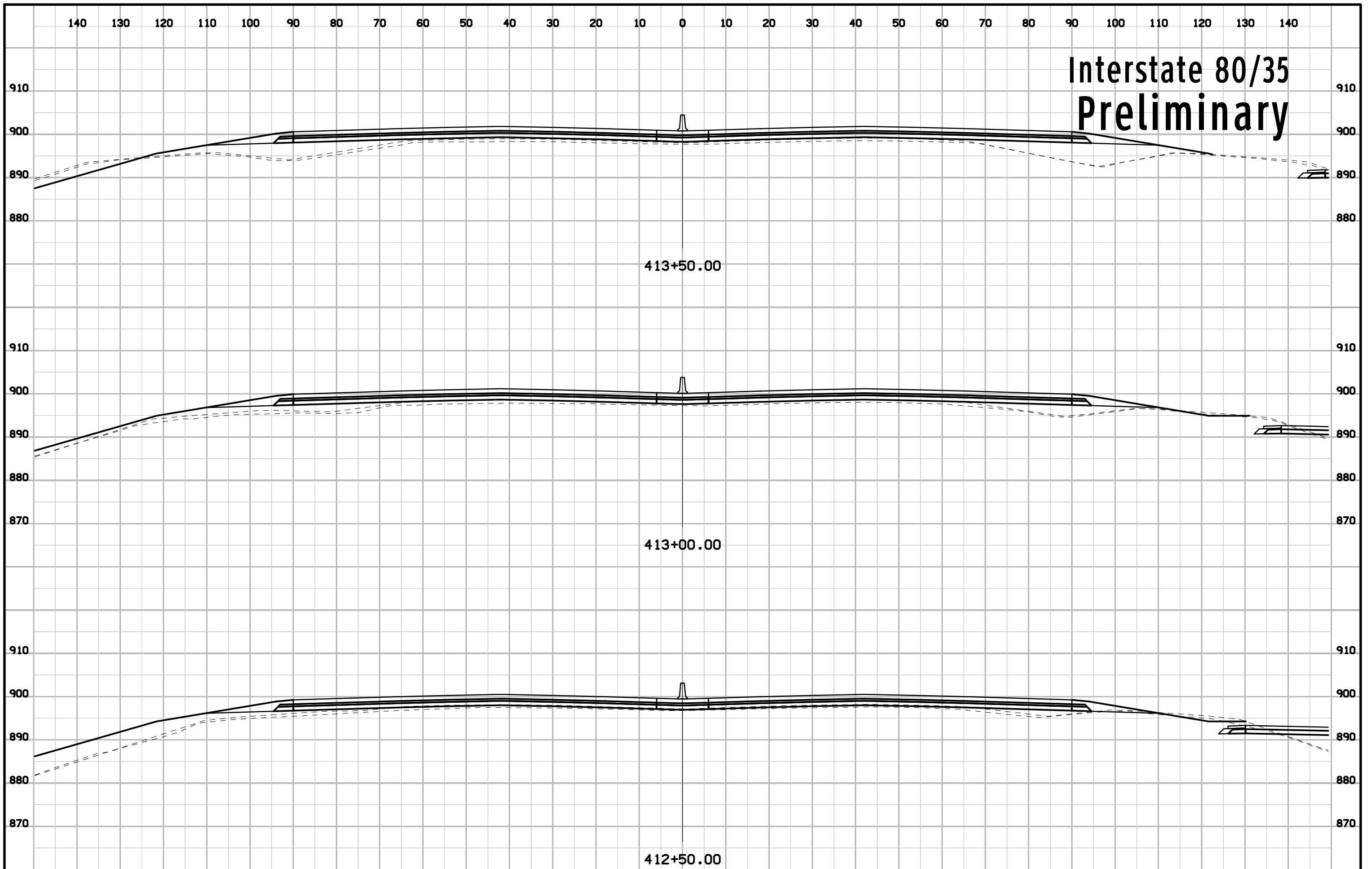
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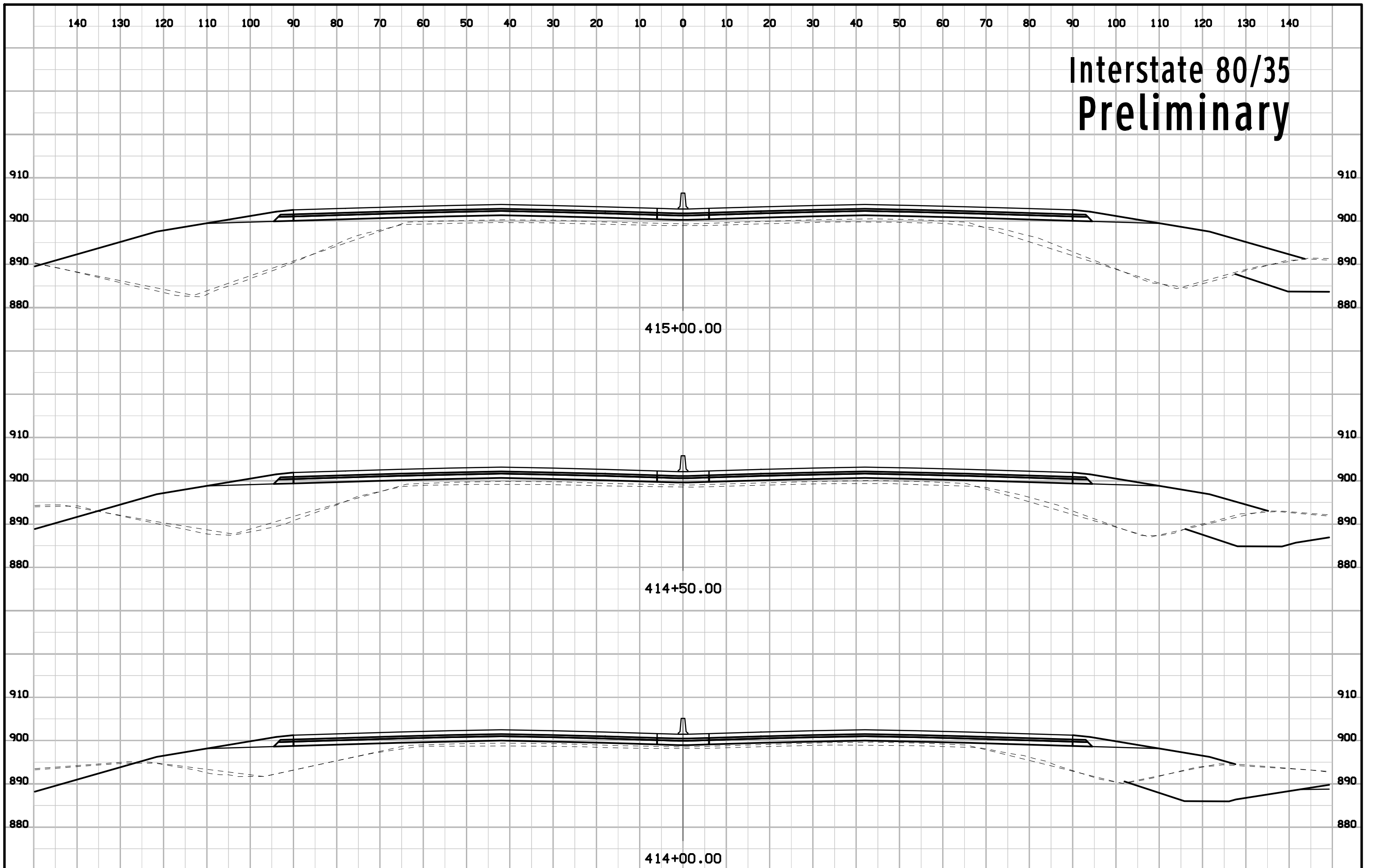
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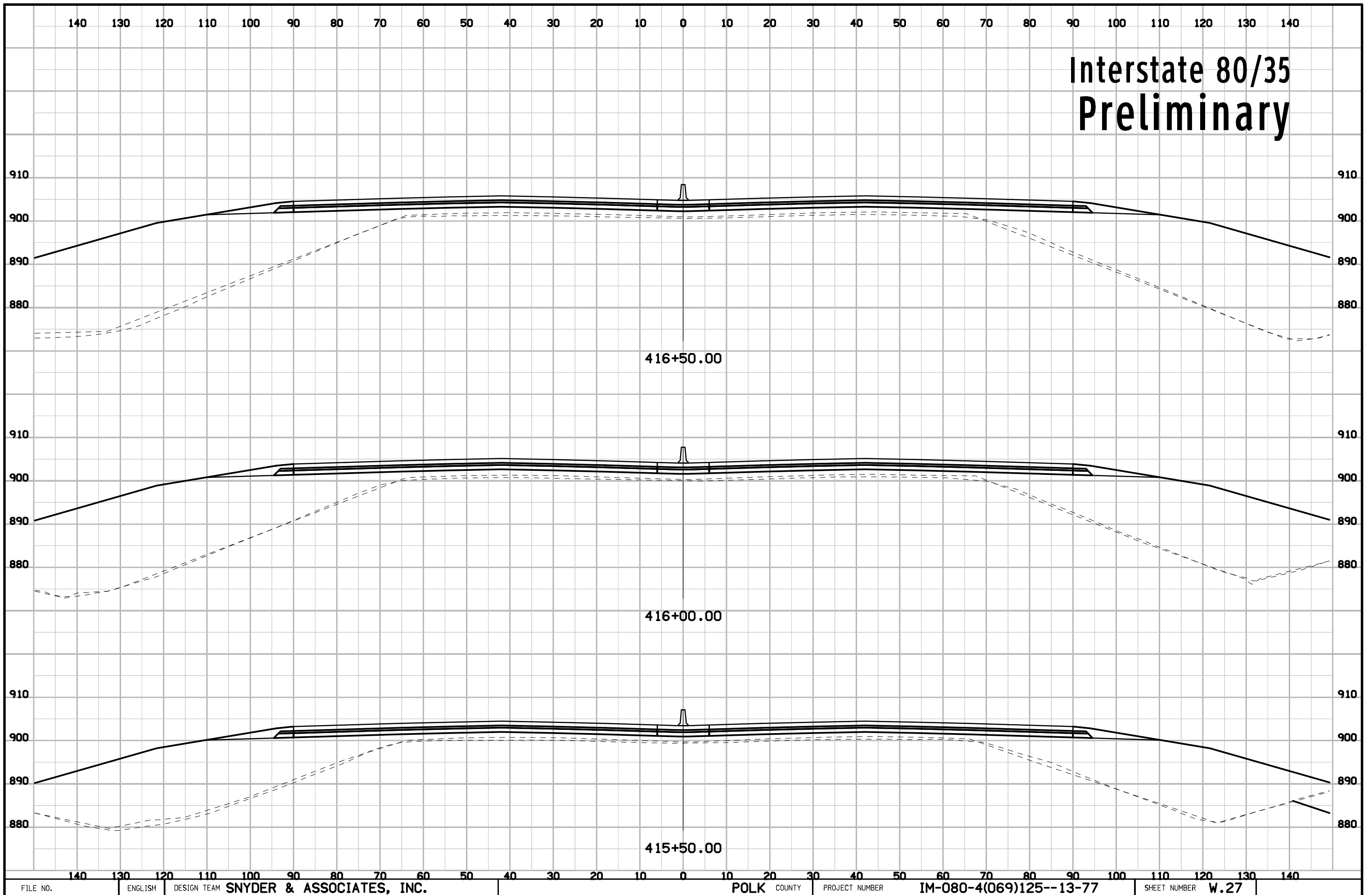
# Interstate 80/35 Preliminary



# Interstate 80/35 Preliminary

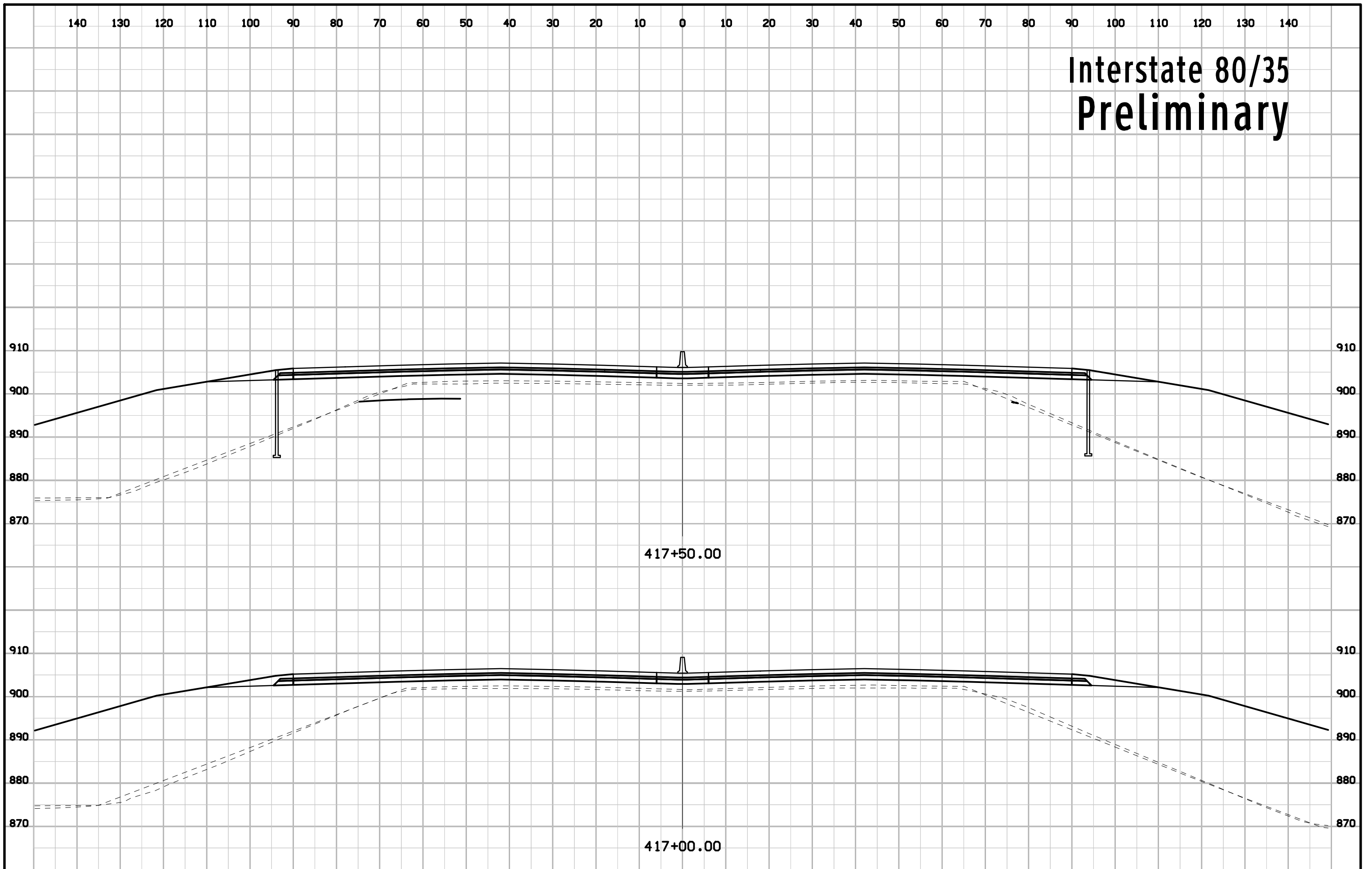


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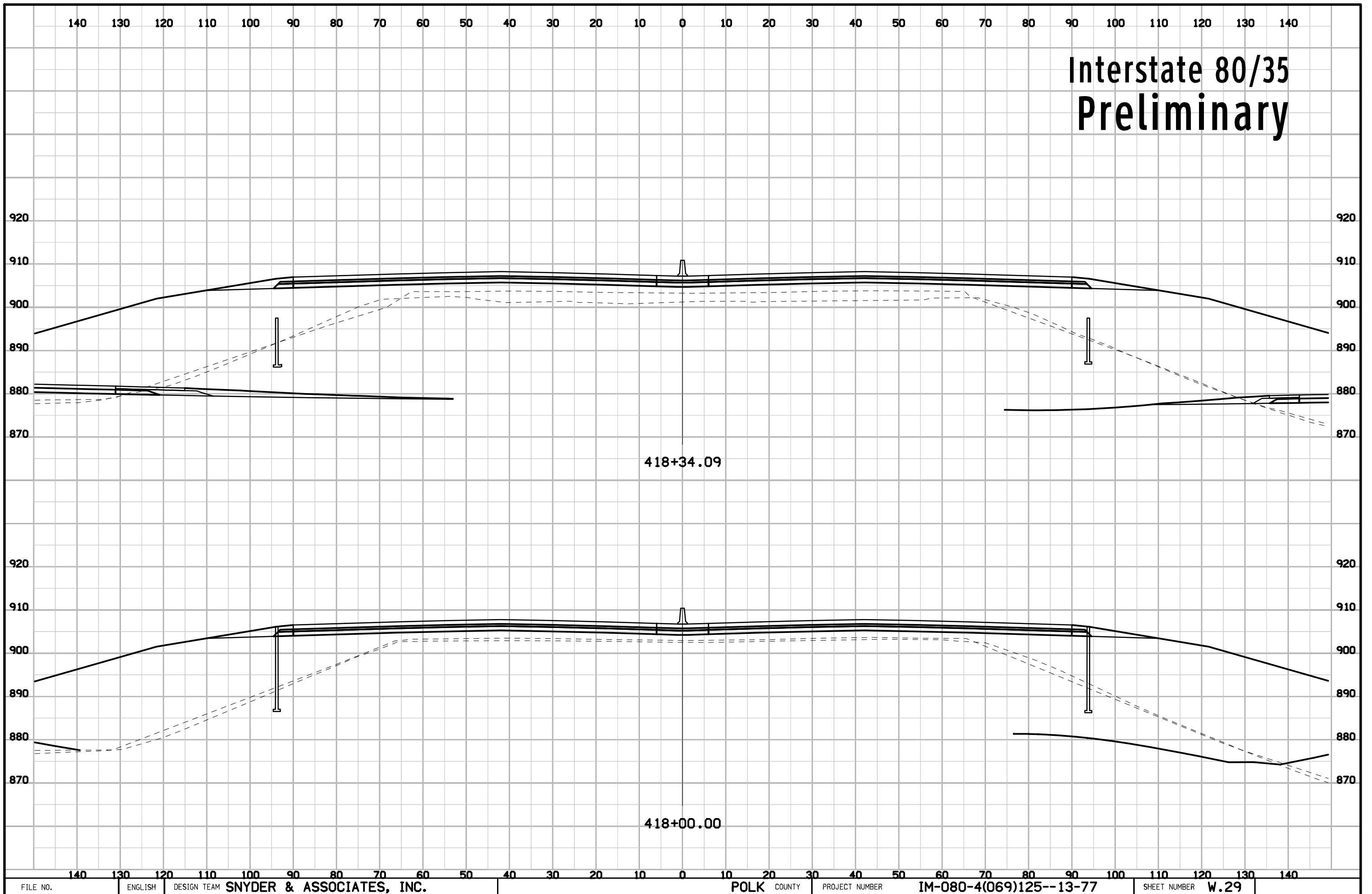




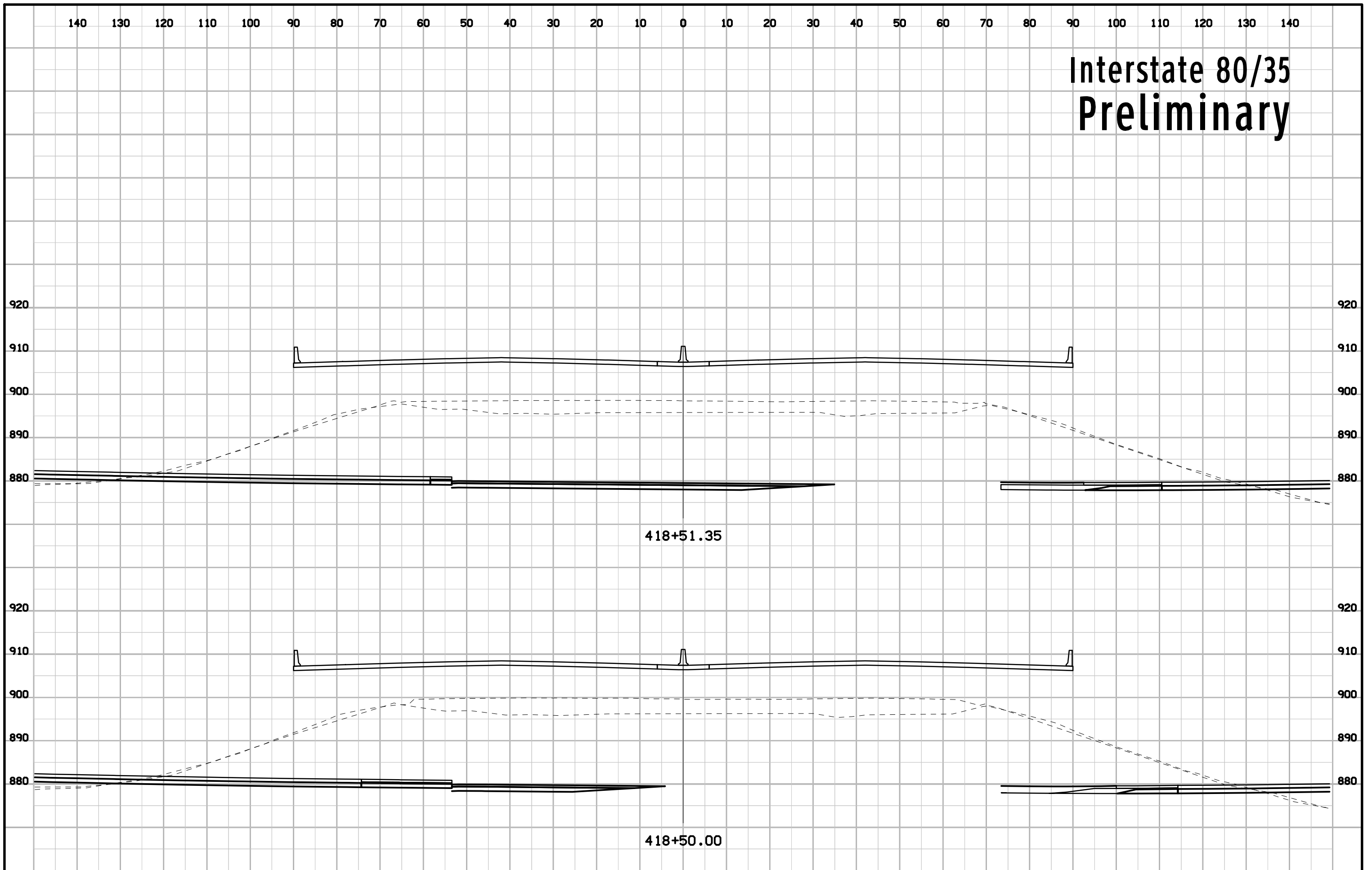
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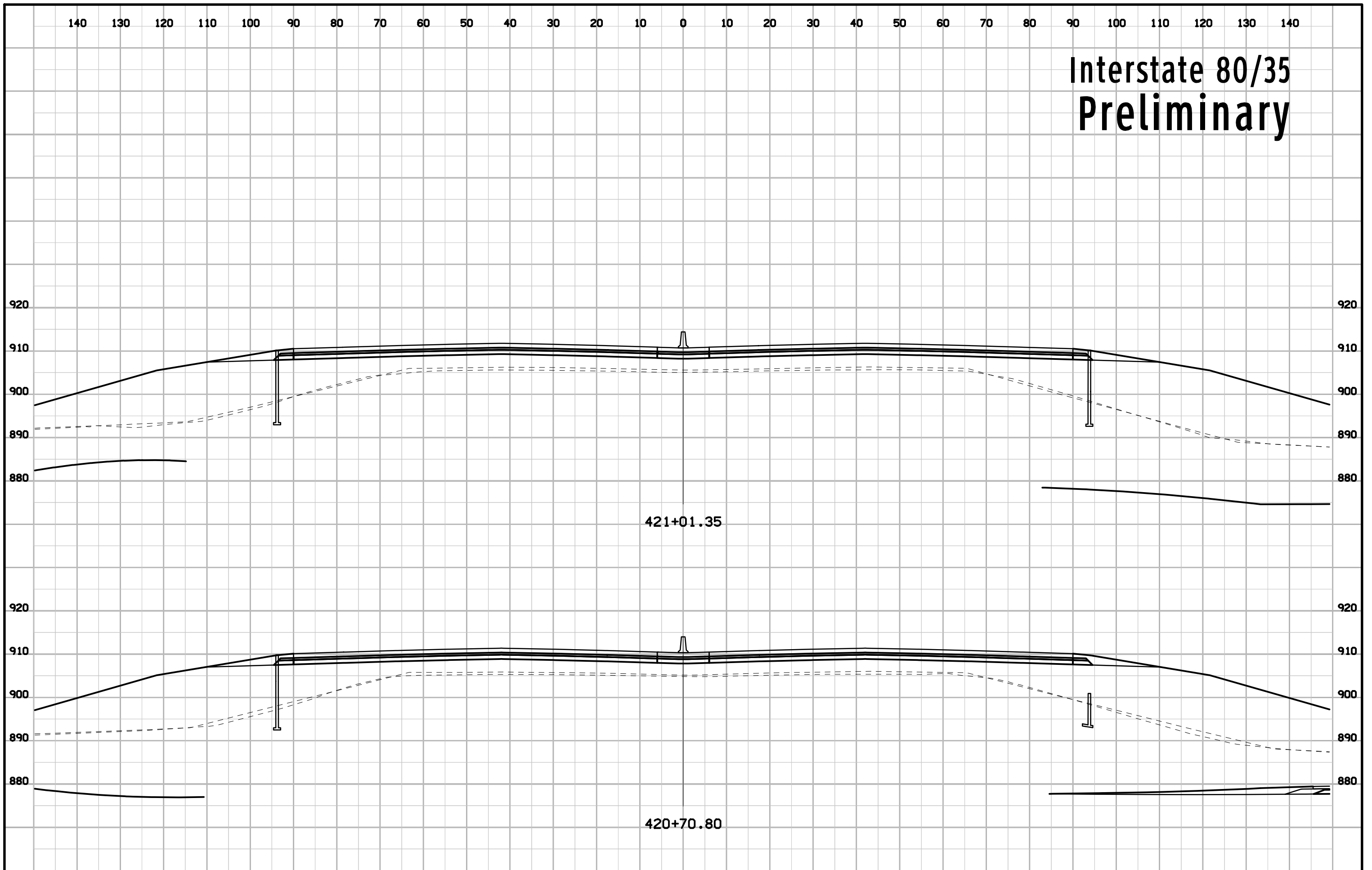
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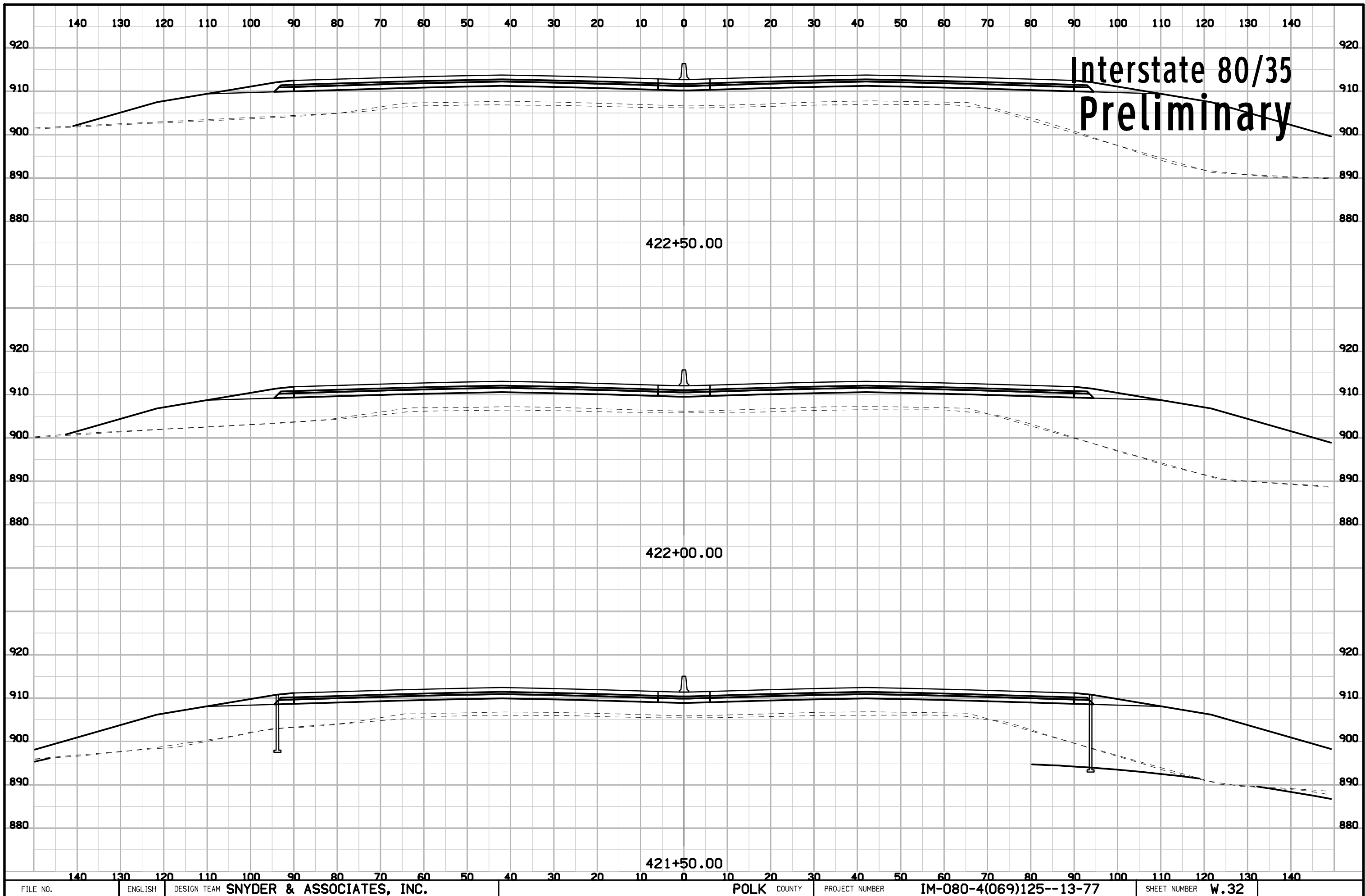


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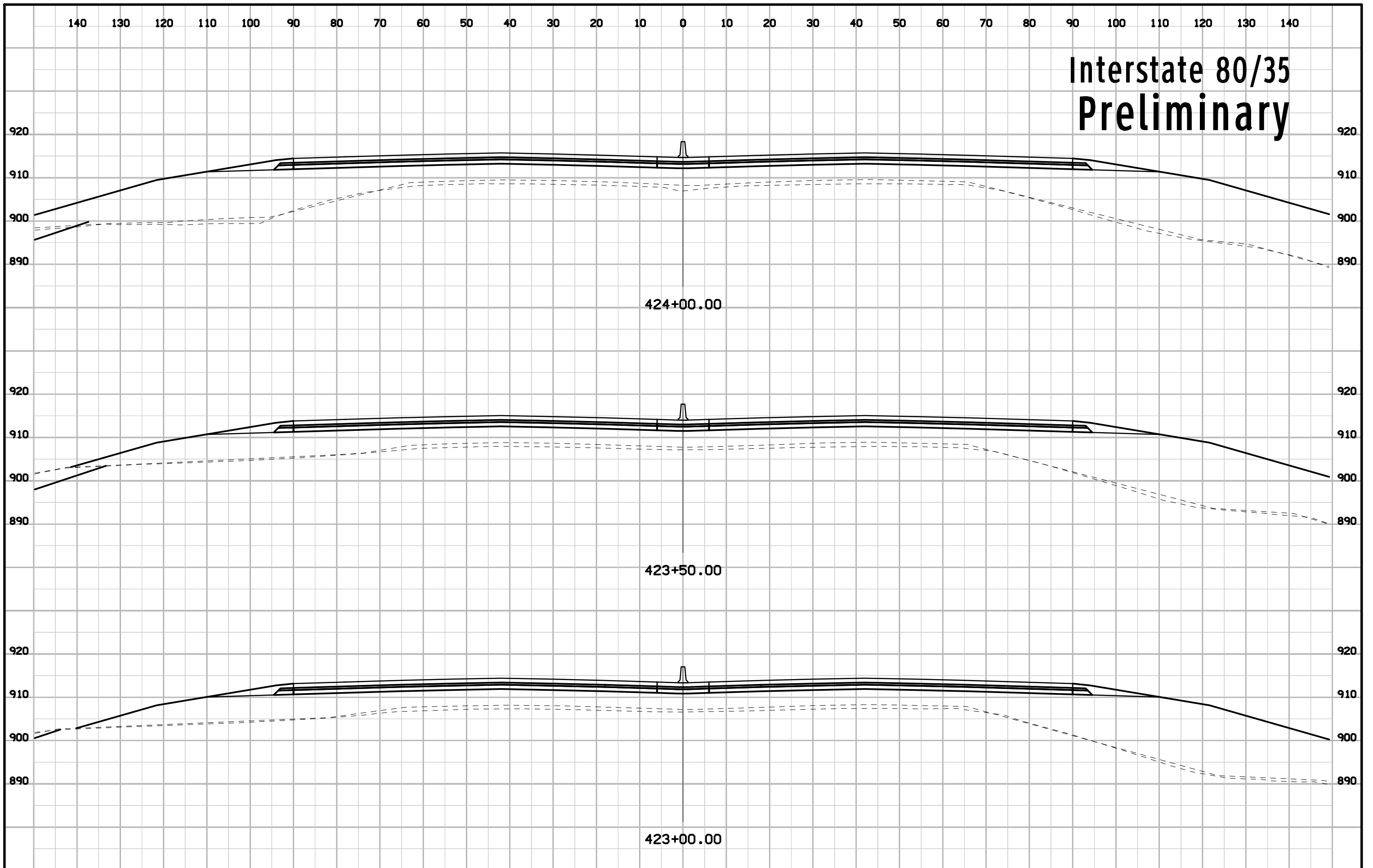


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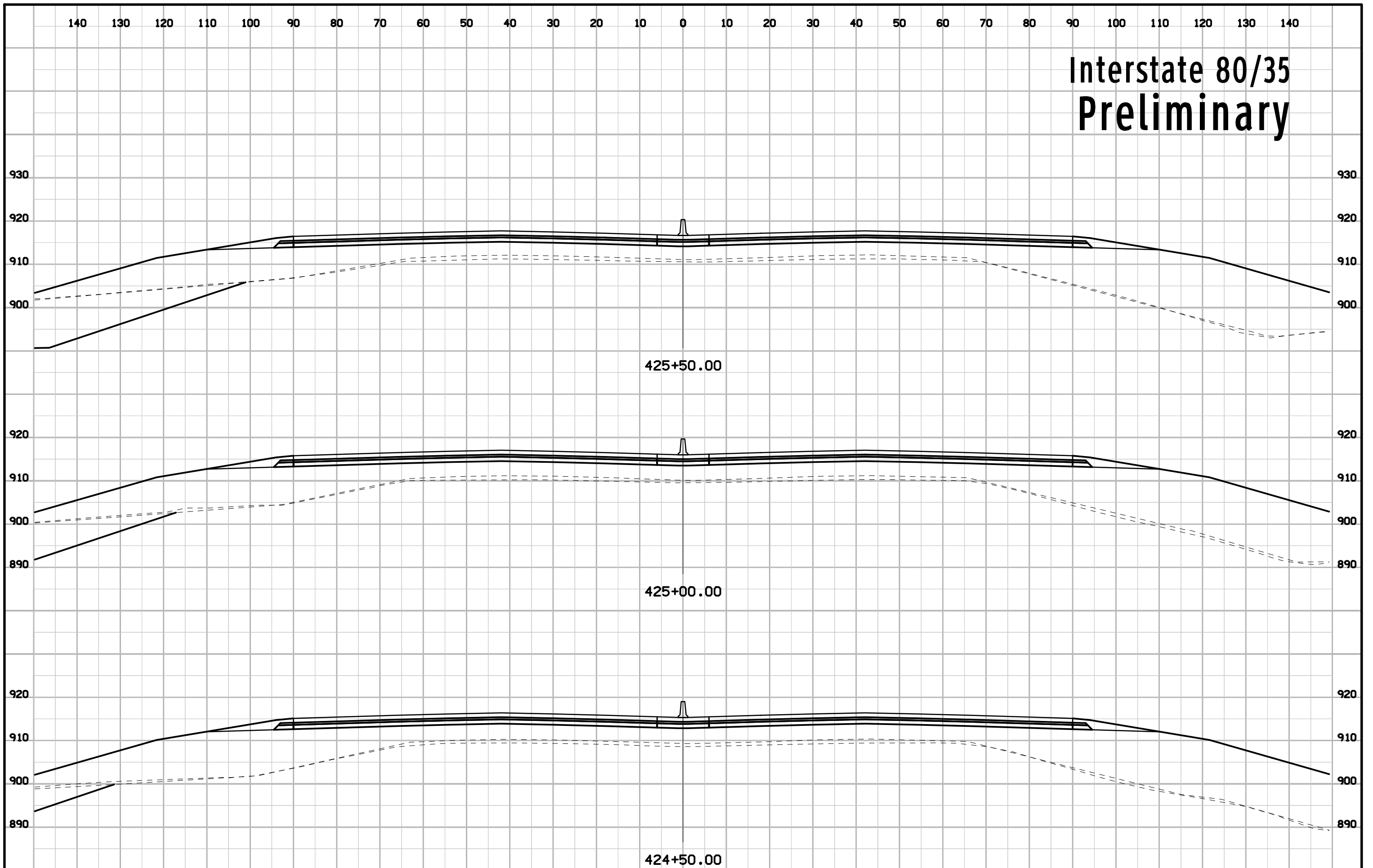




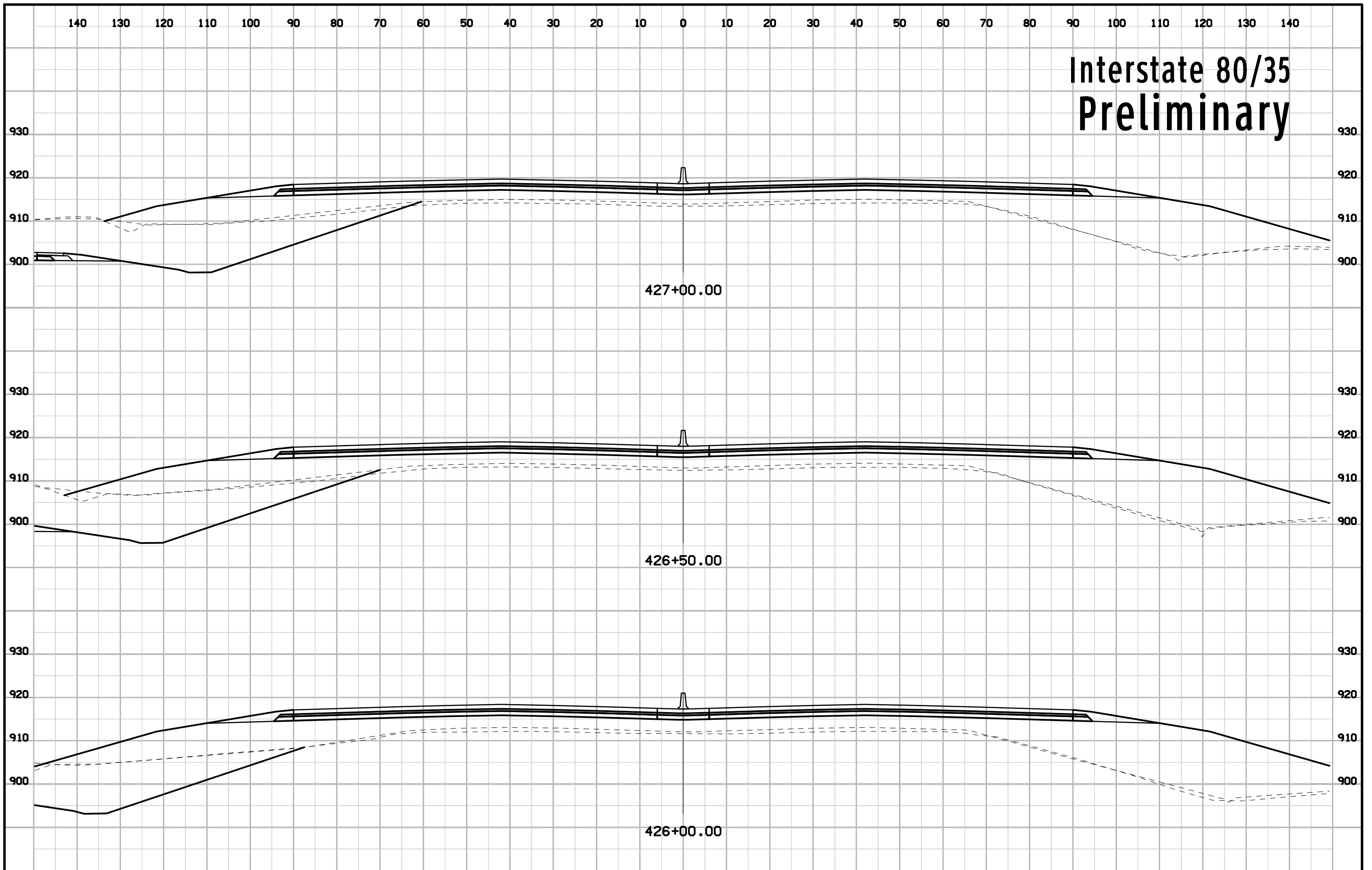
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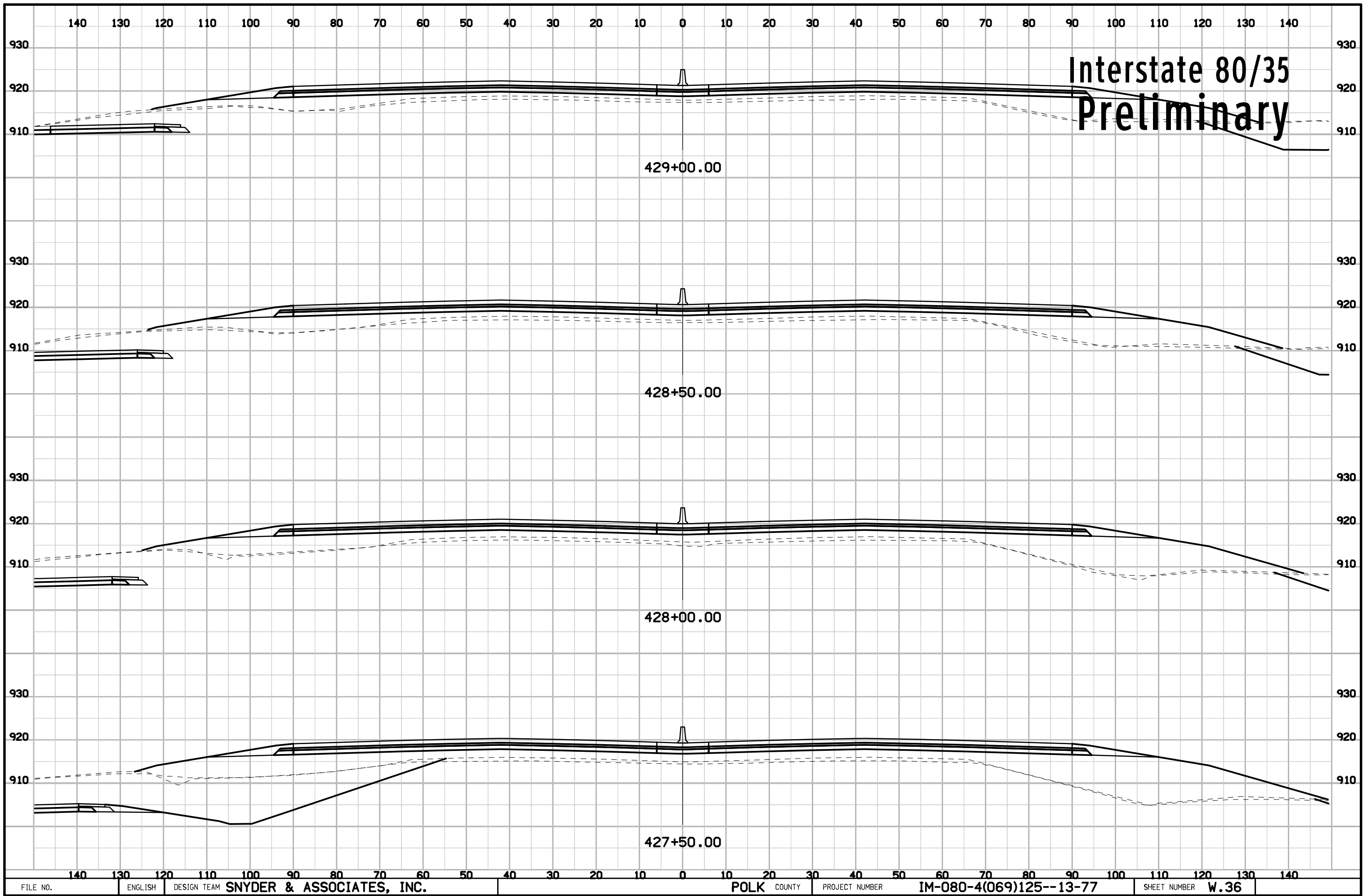
# Interstate 80/35 Preliminary



# Interstate 80/35 Preliminary







Interstate 80/35  
Preliminary

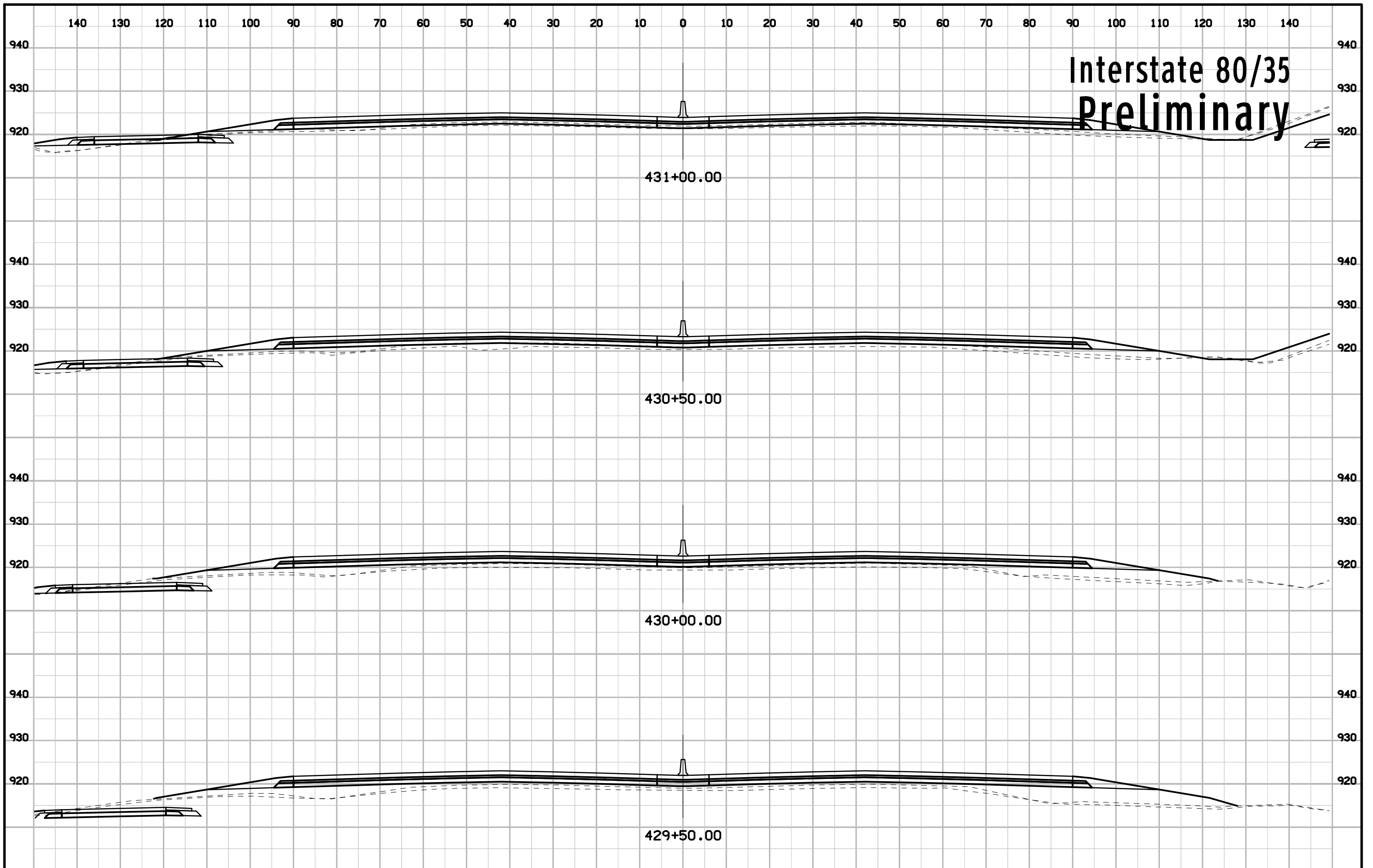
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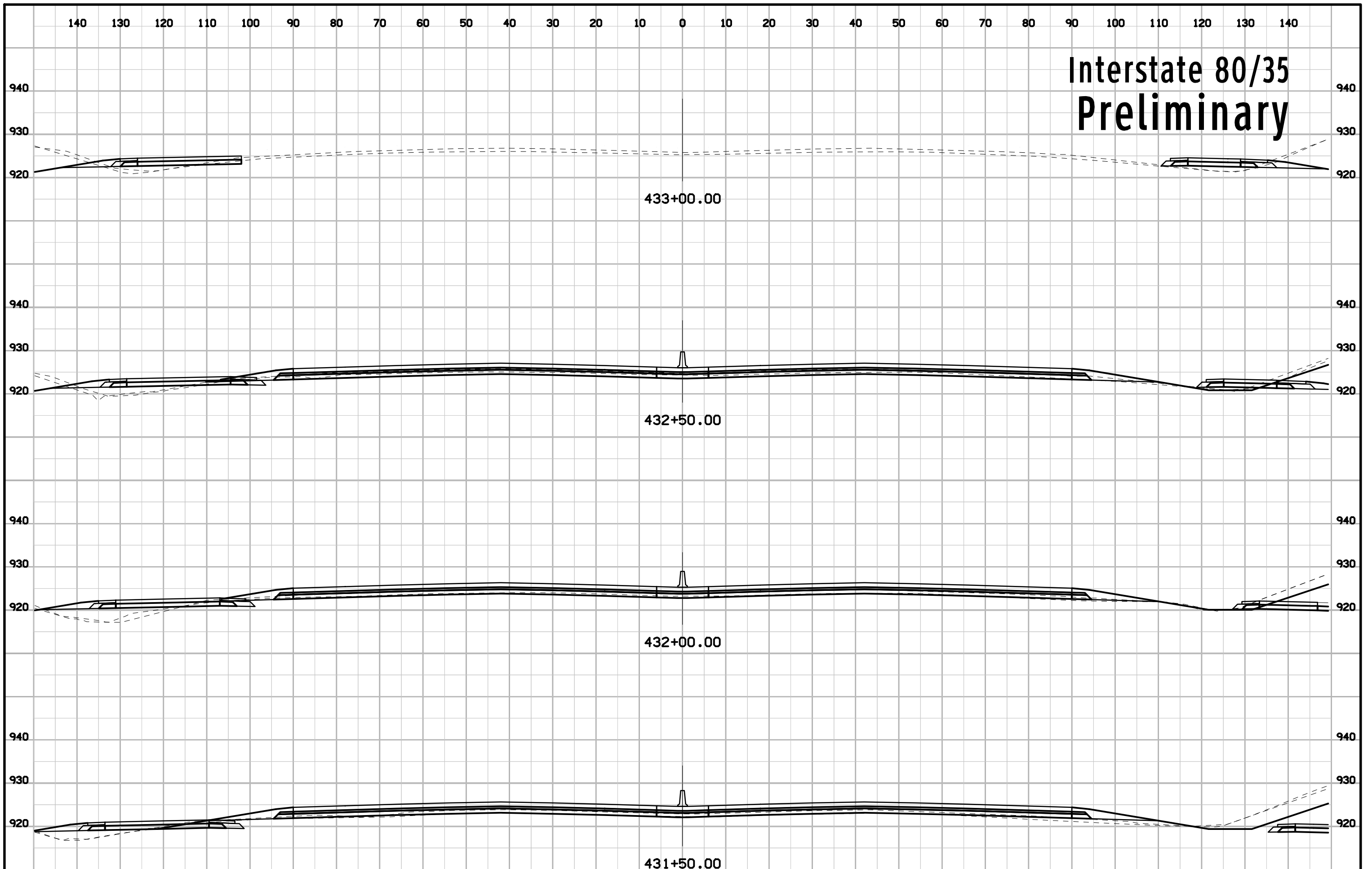
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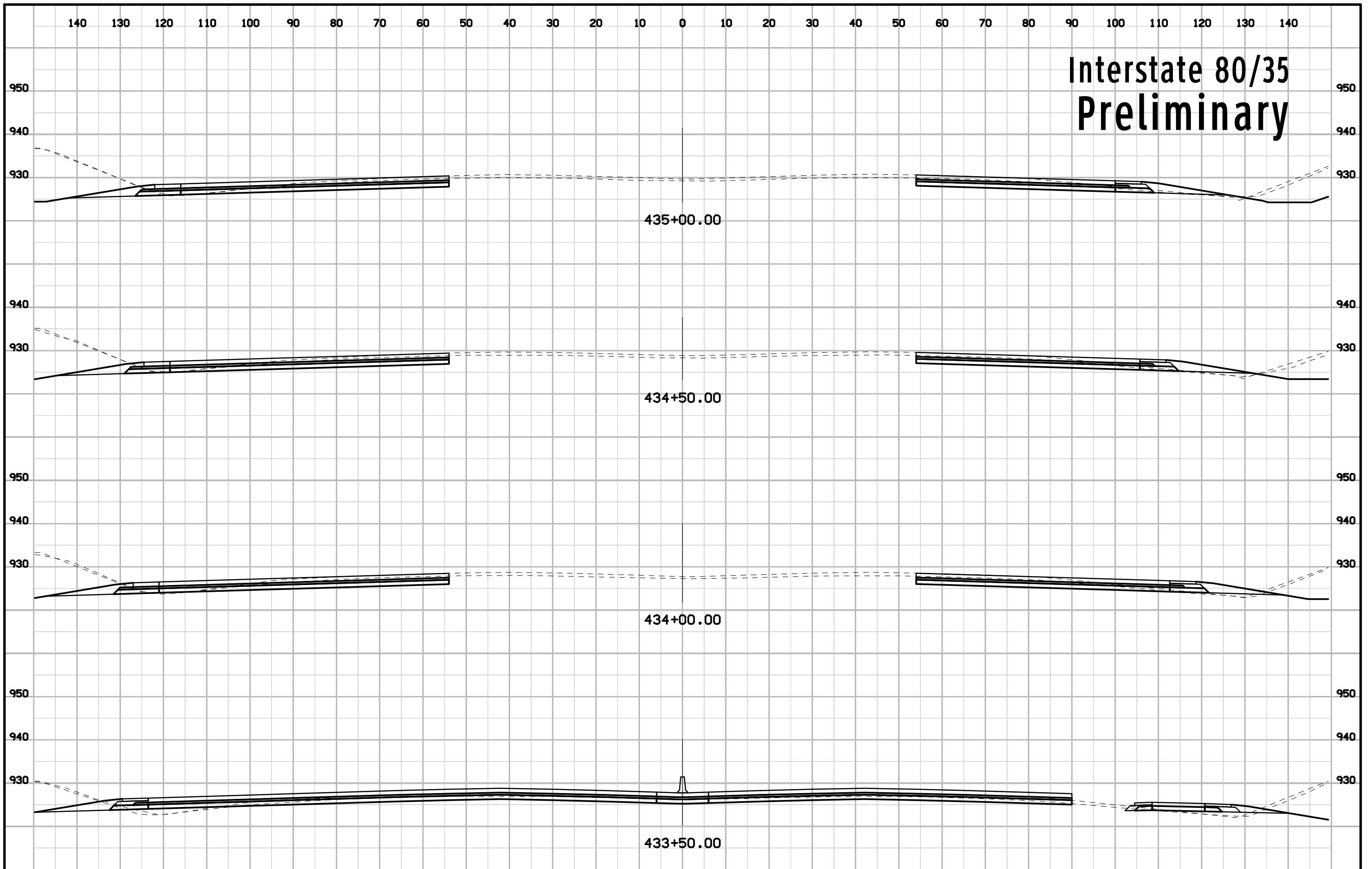
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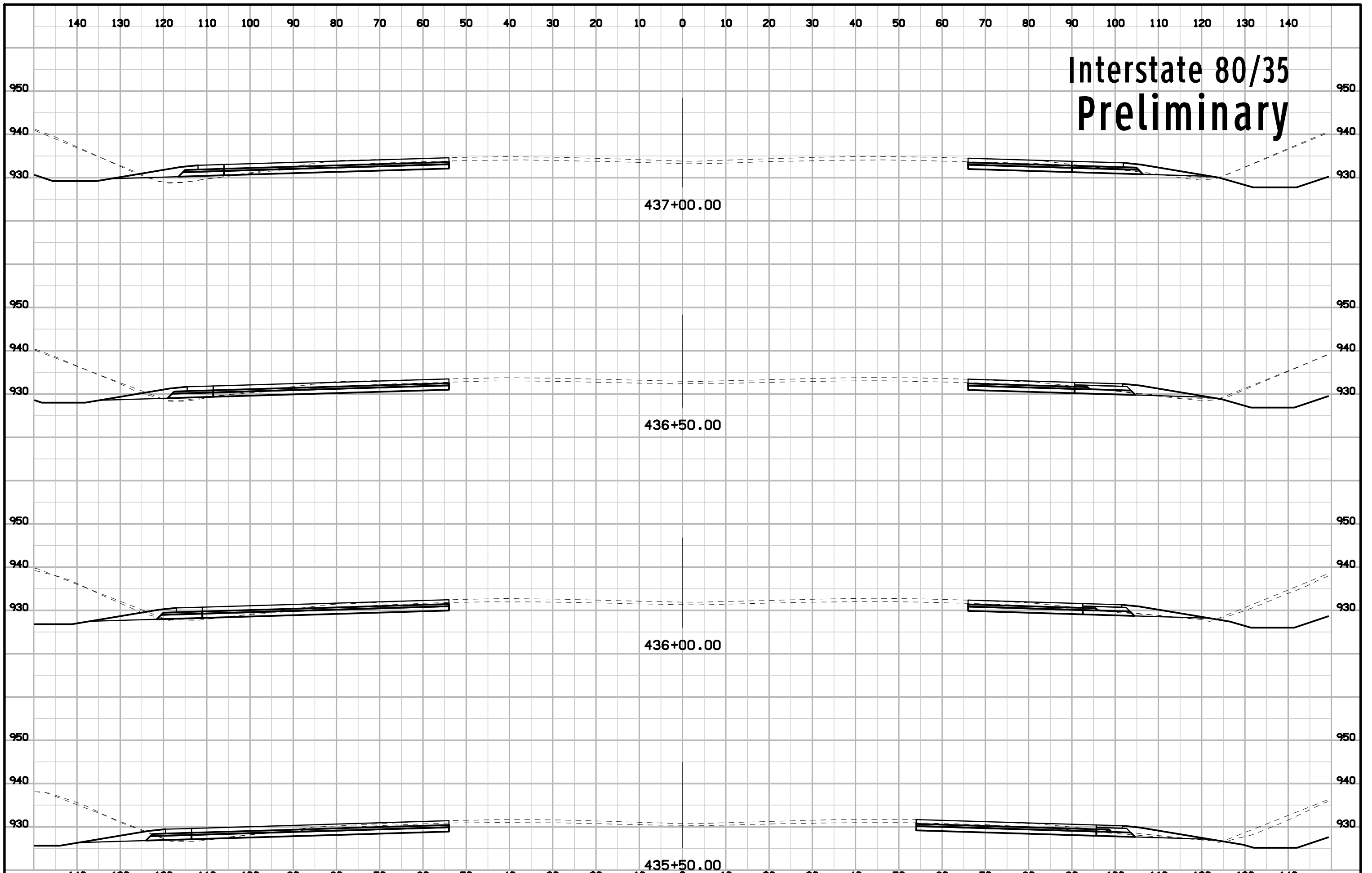
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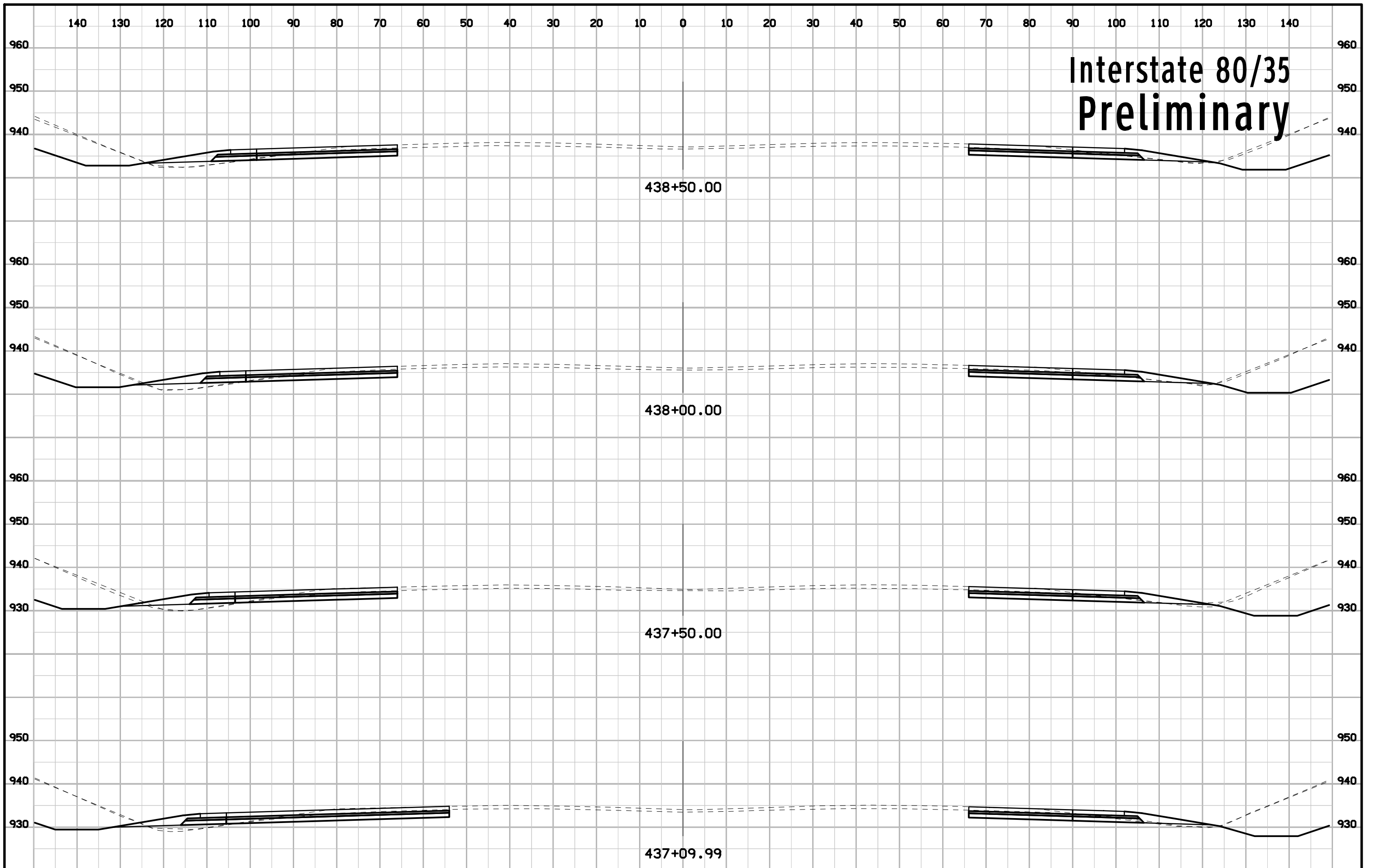
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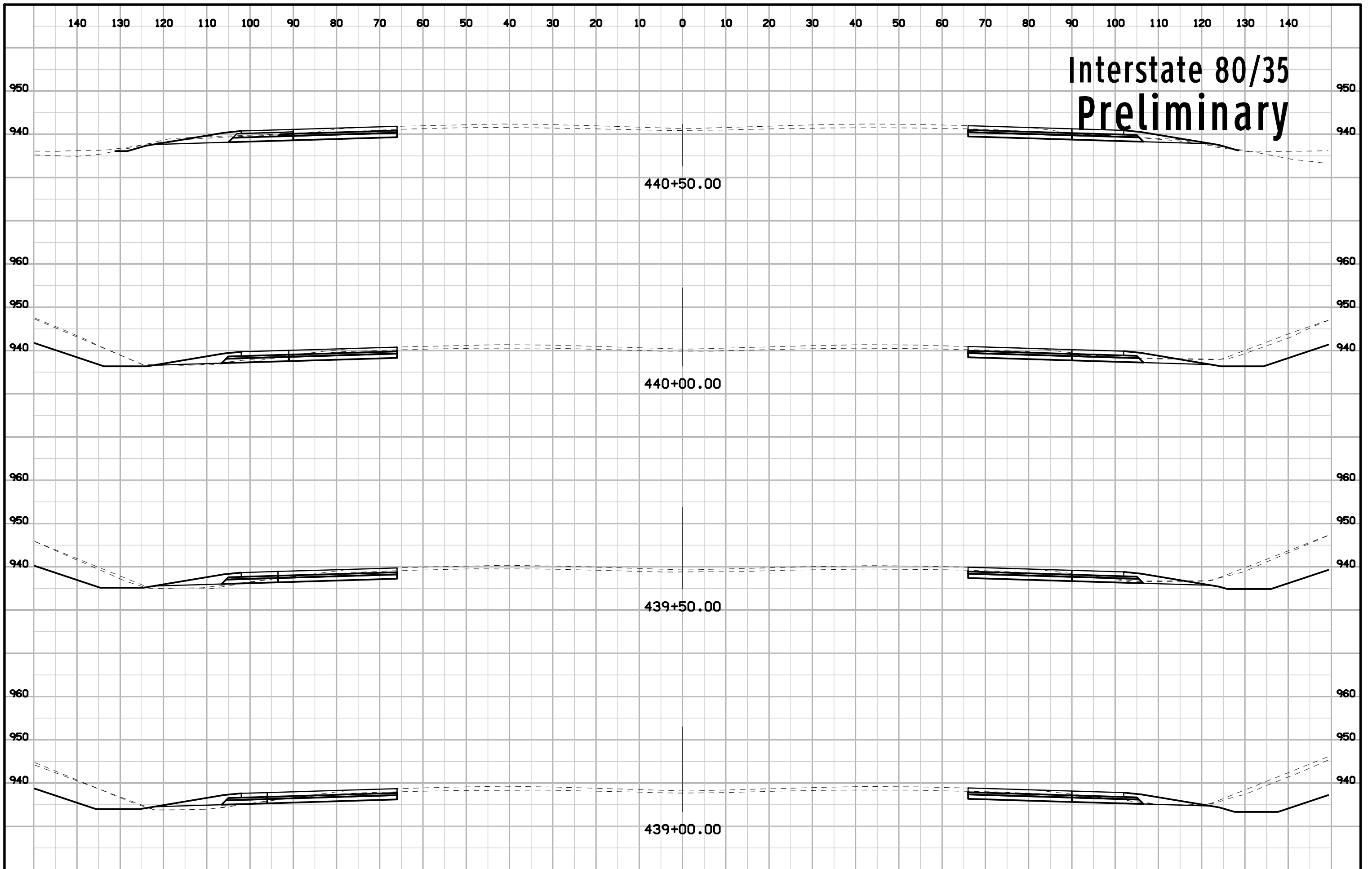
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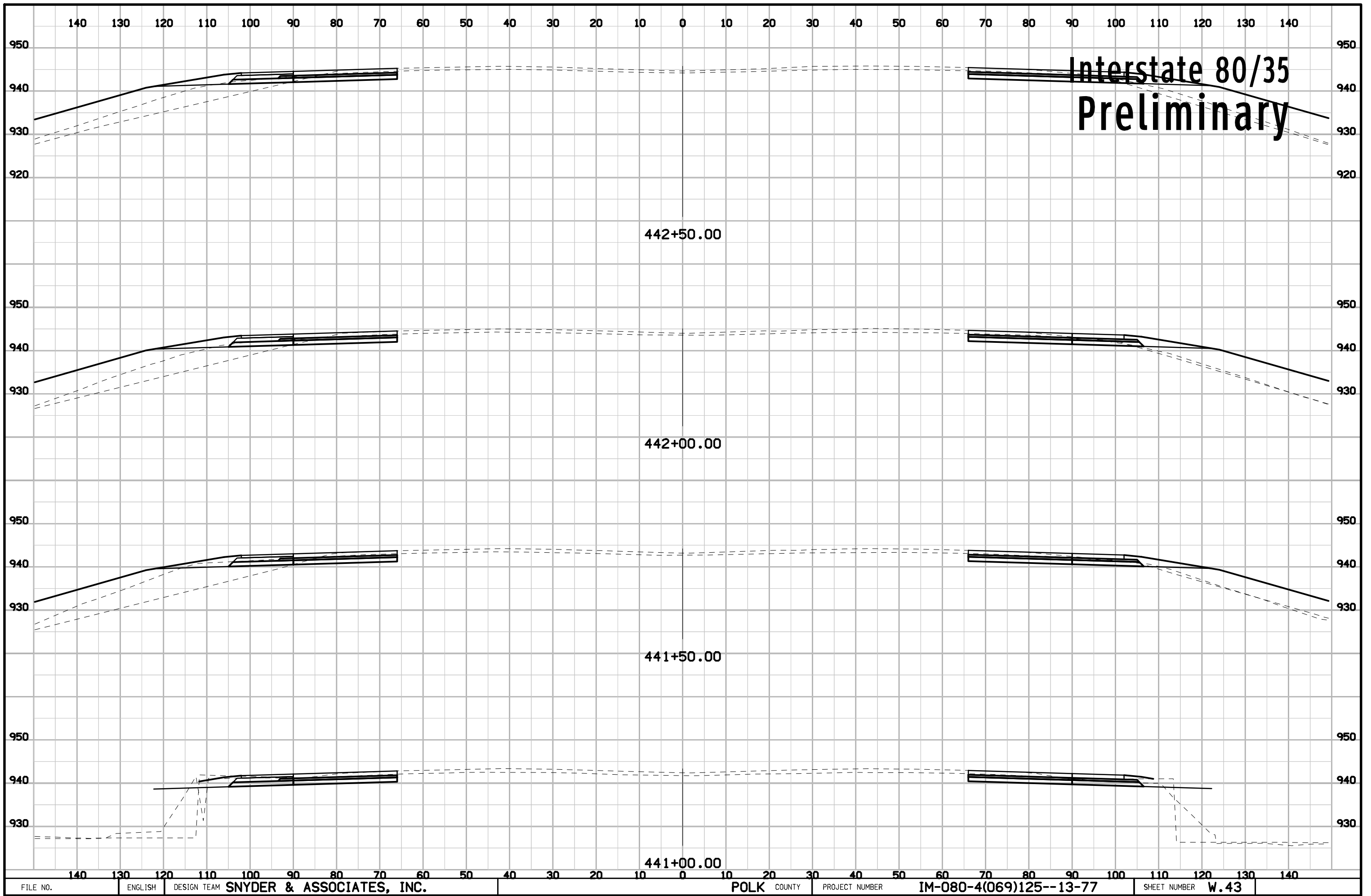


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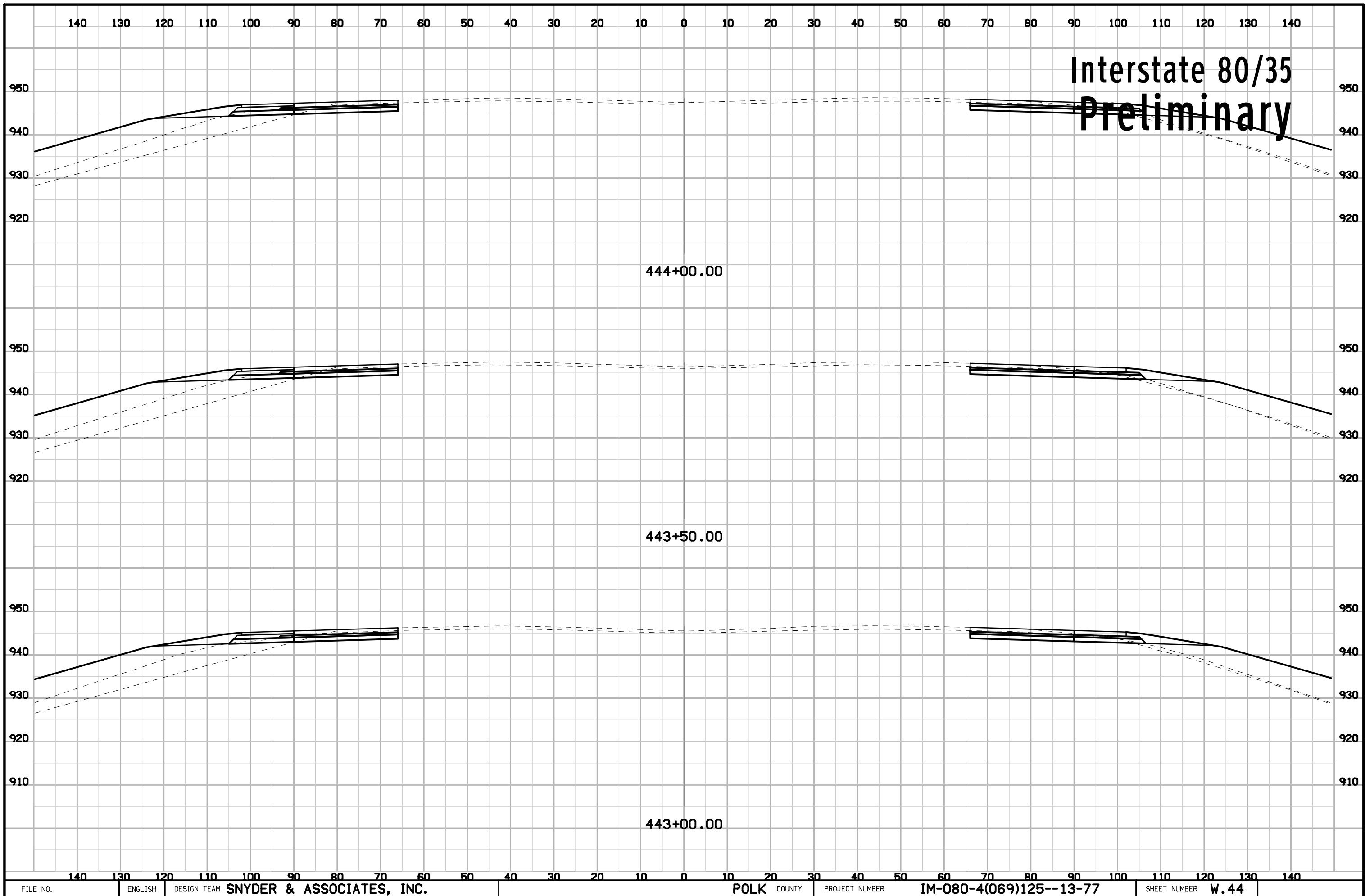


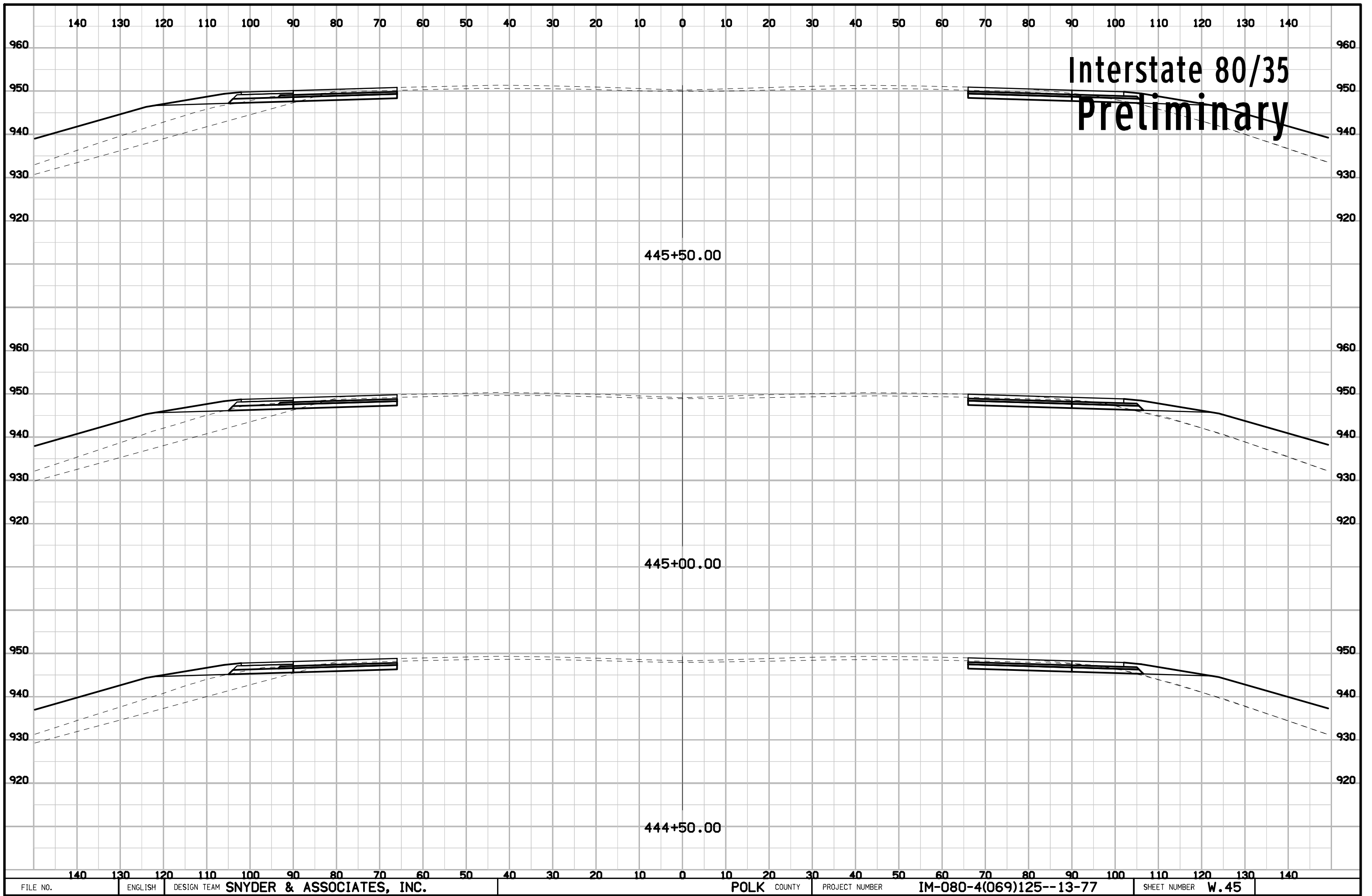
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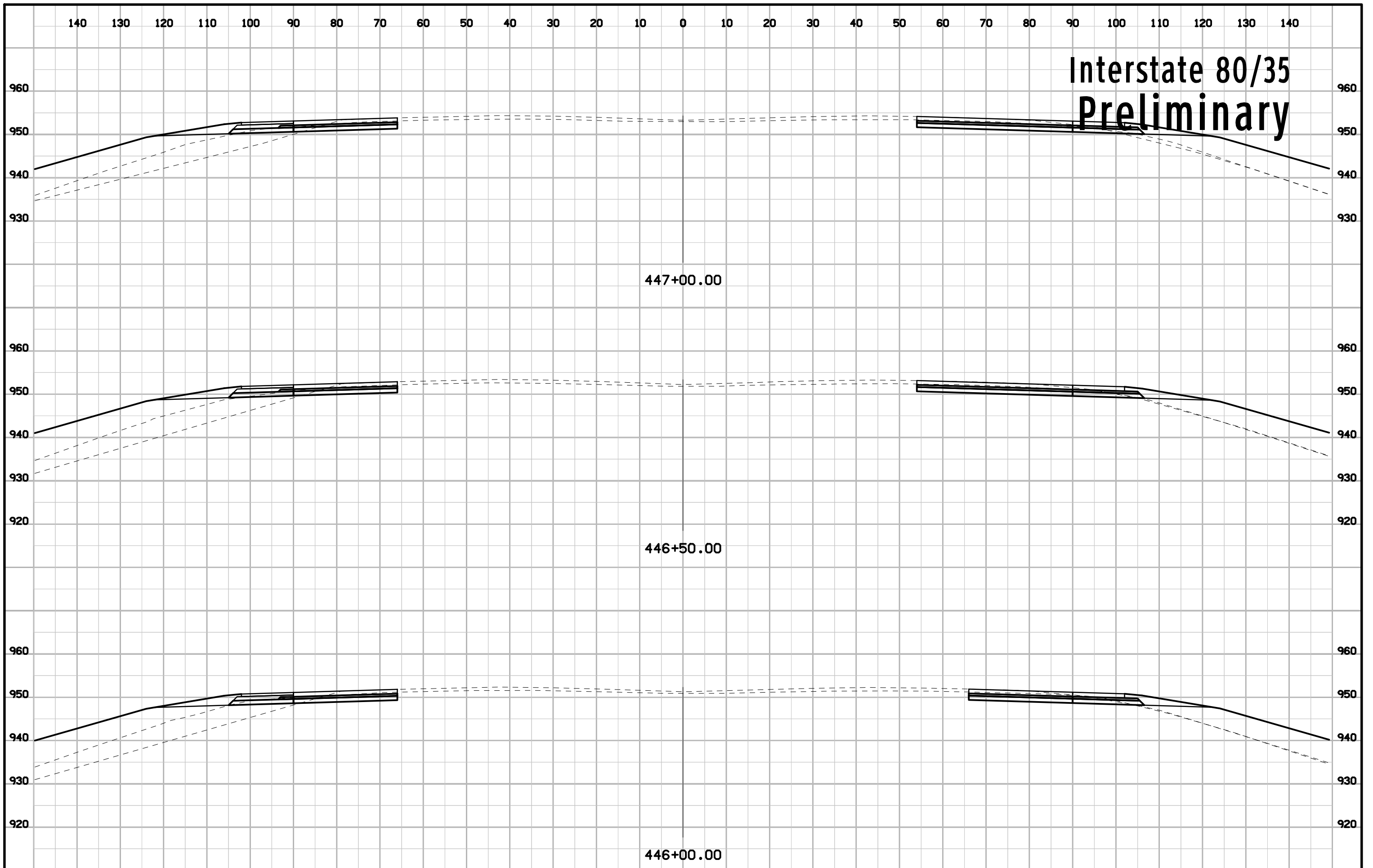




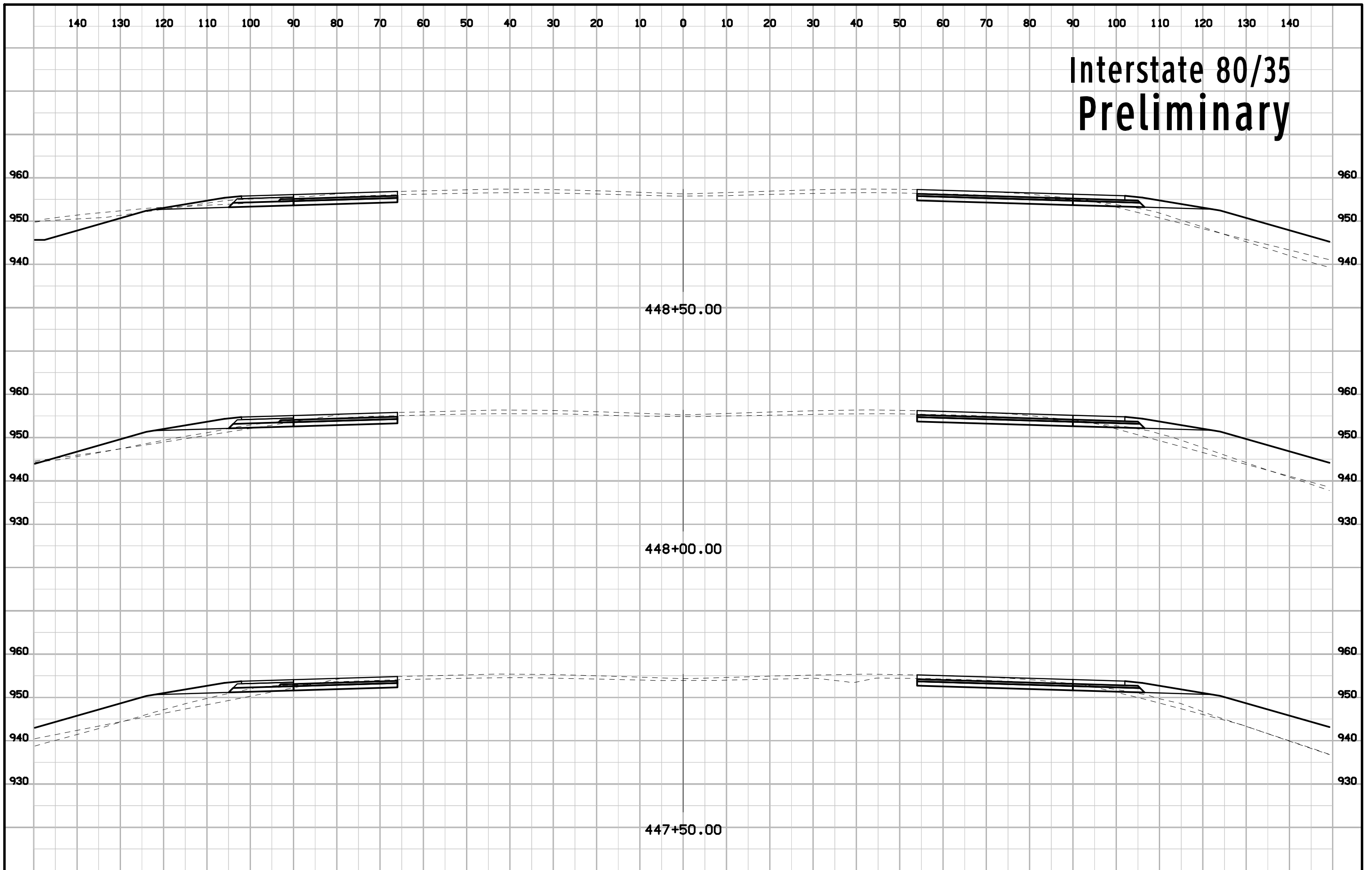




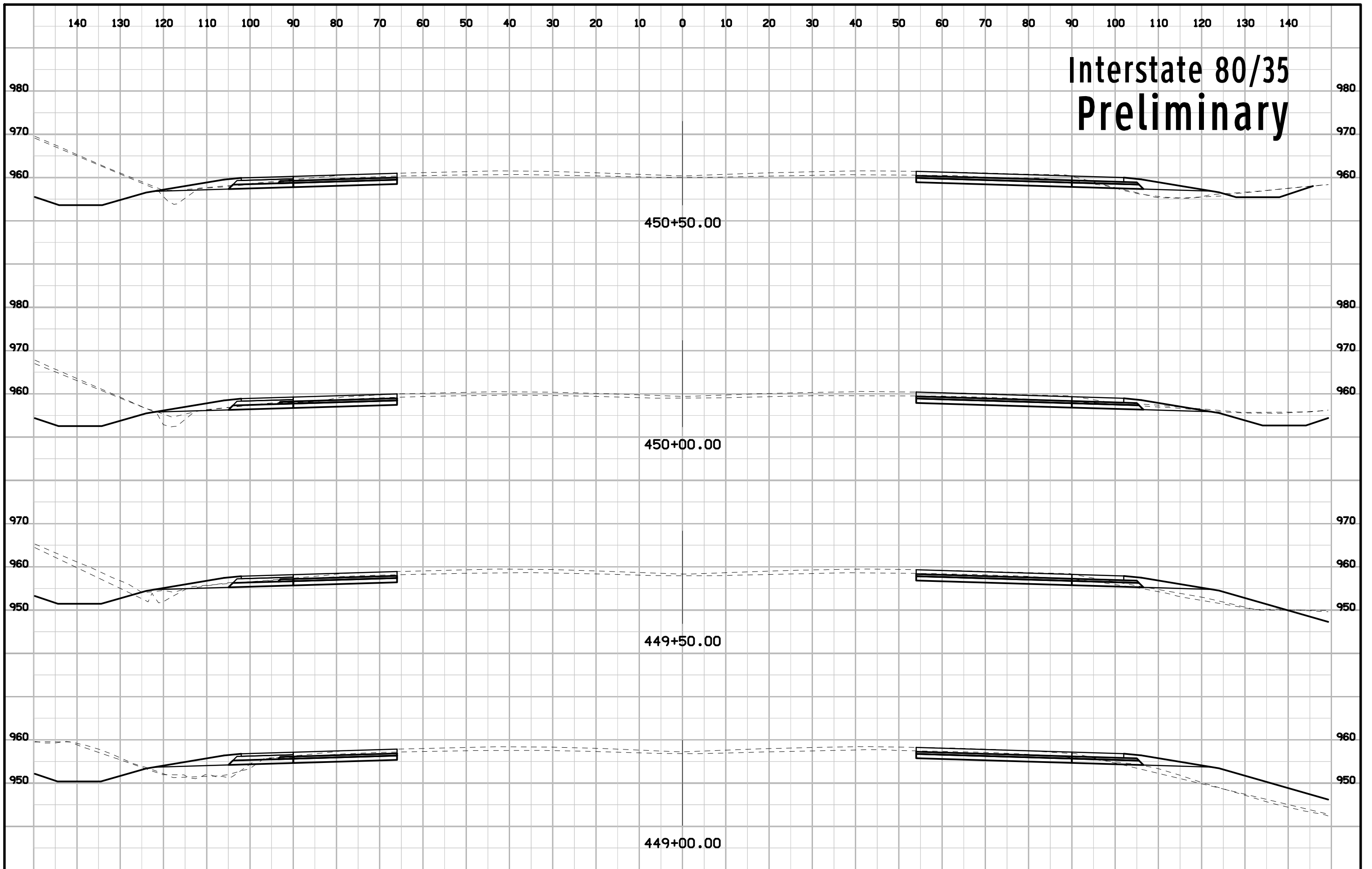
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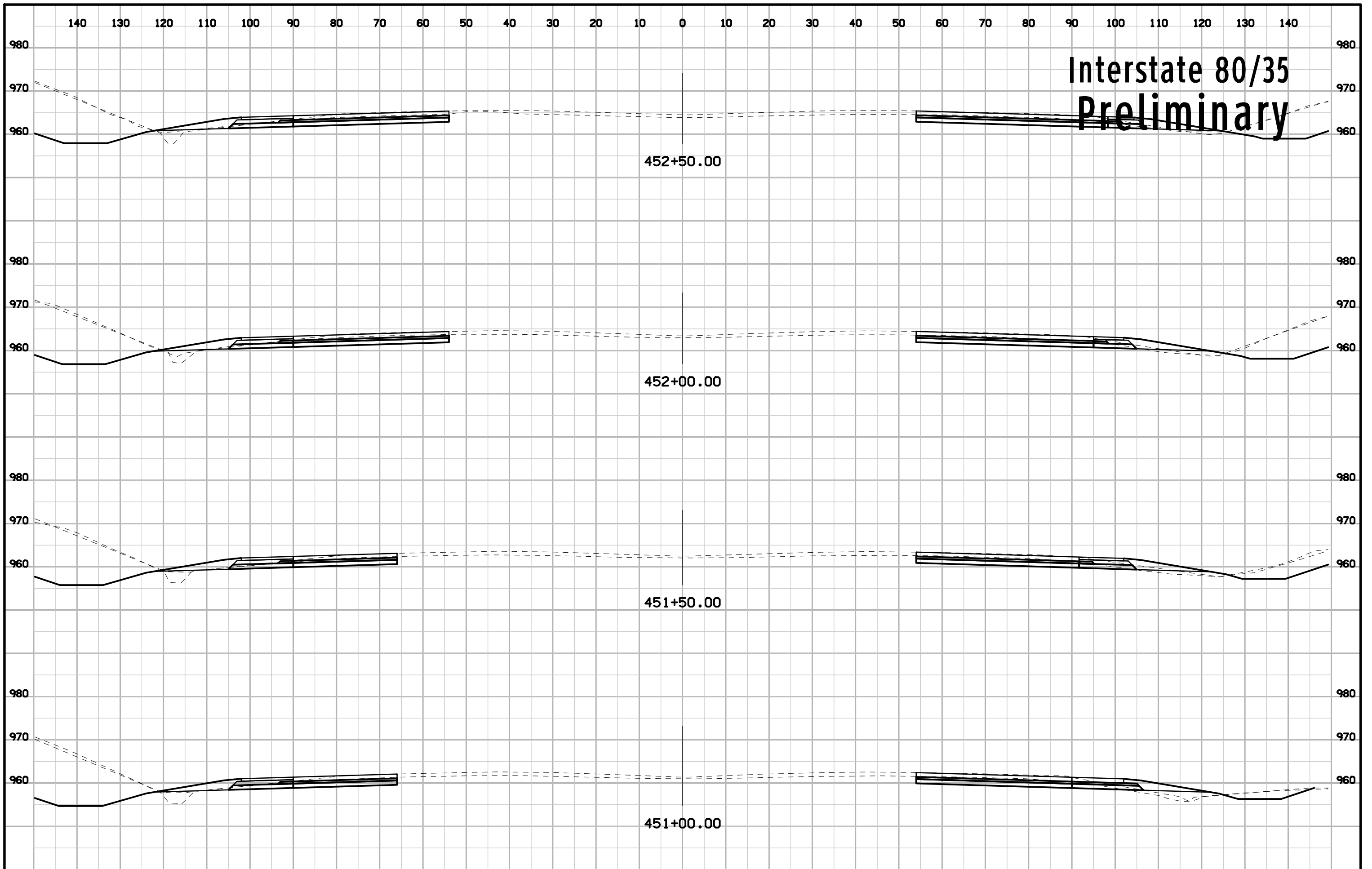
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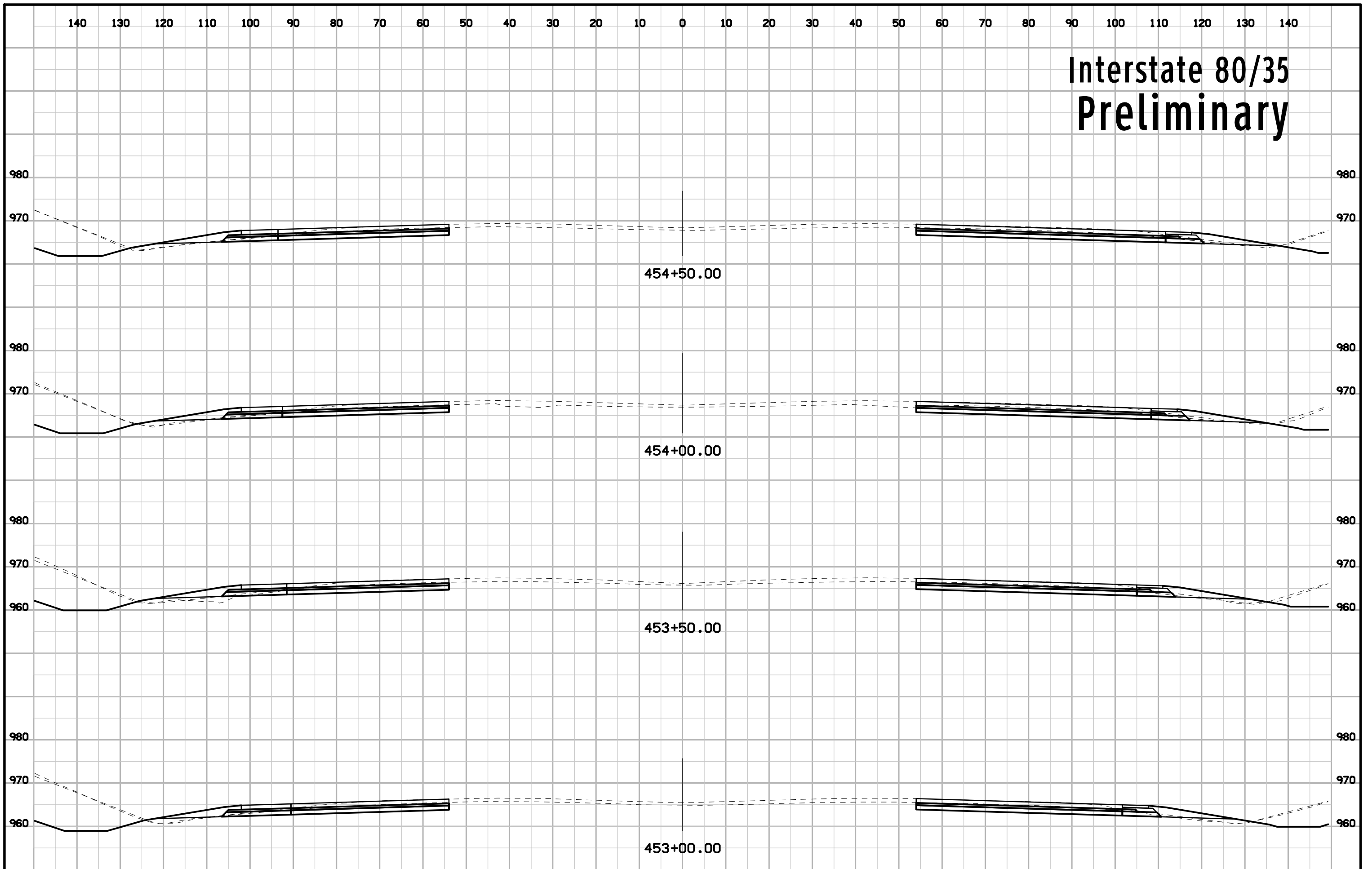
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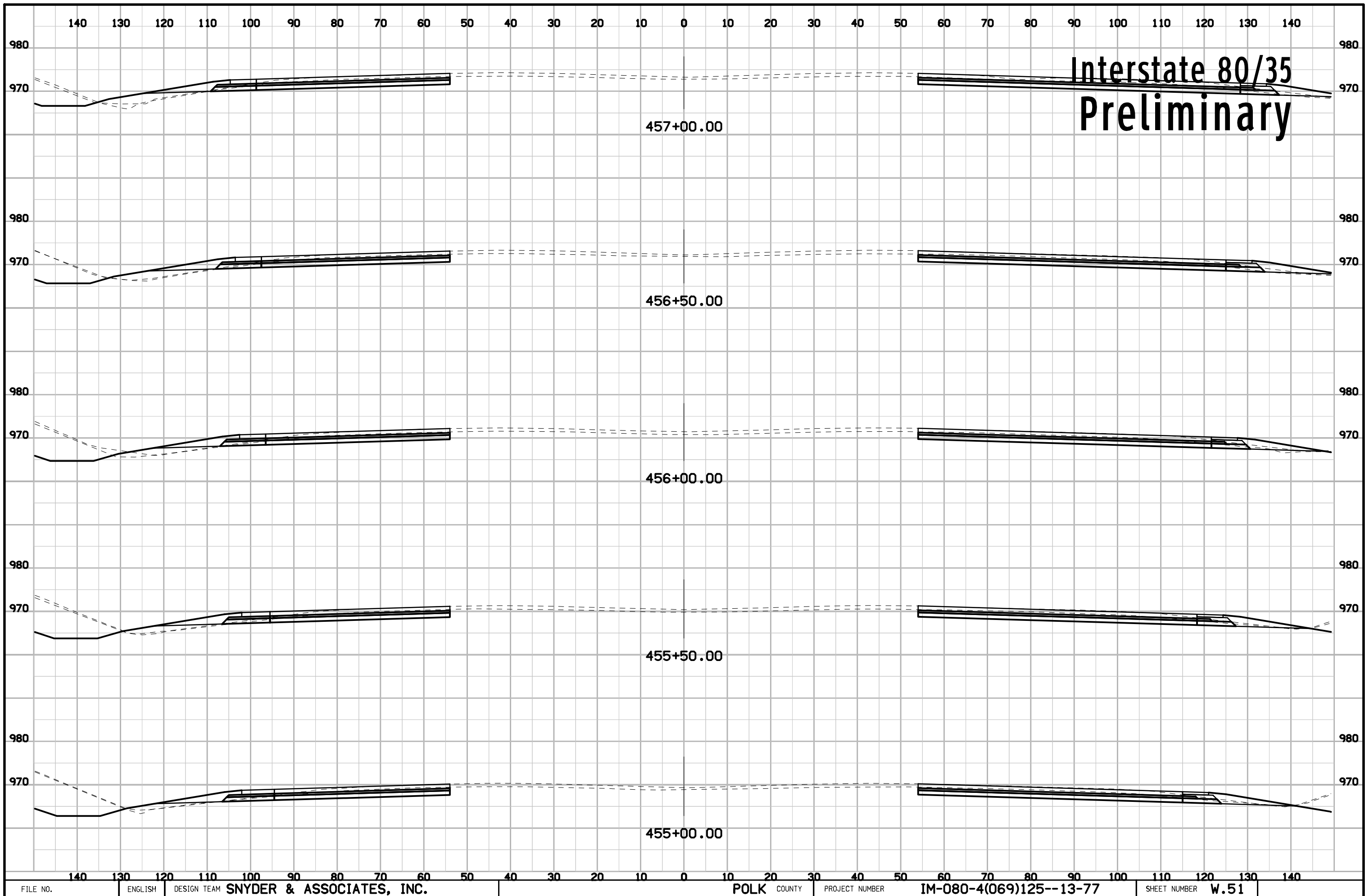


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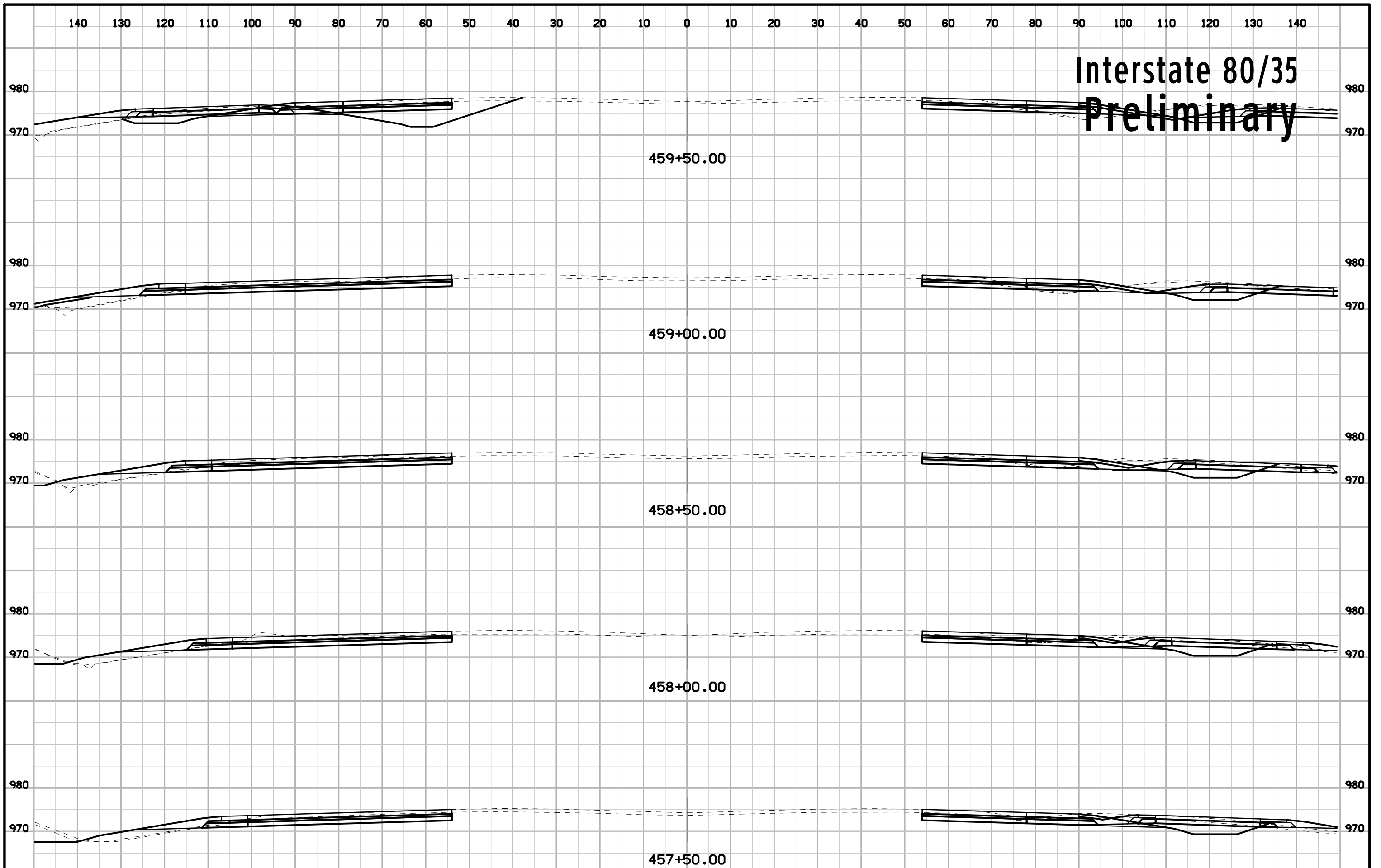
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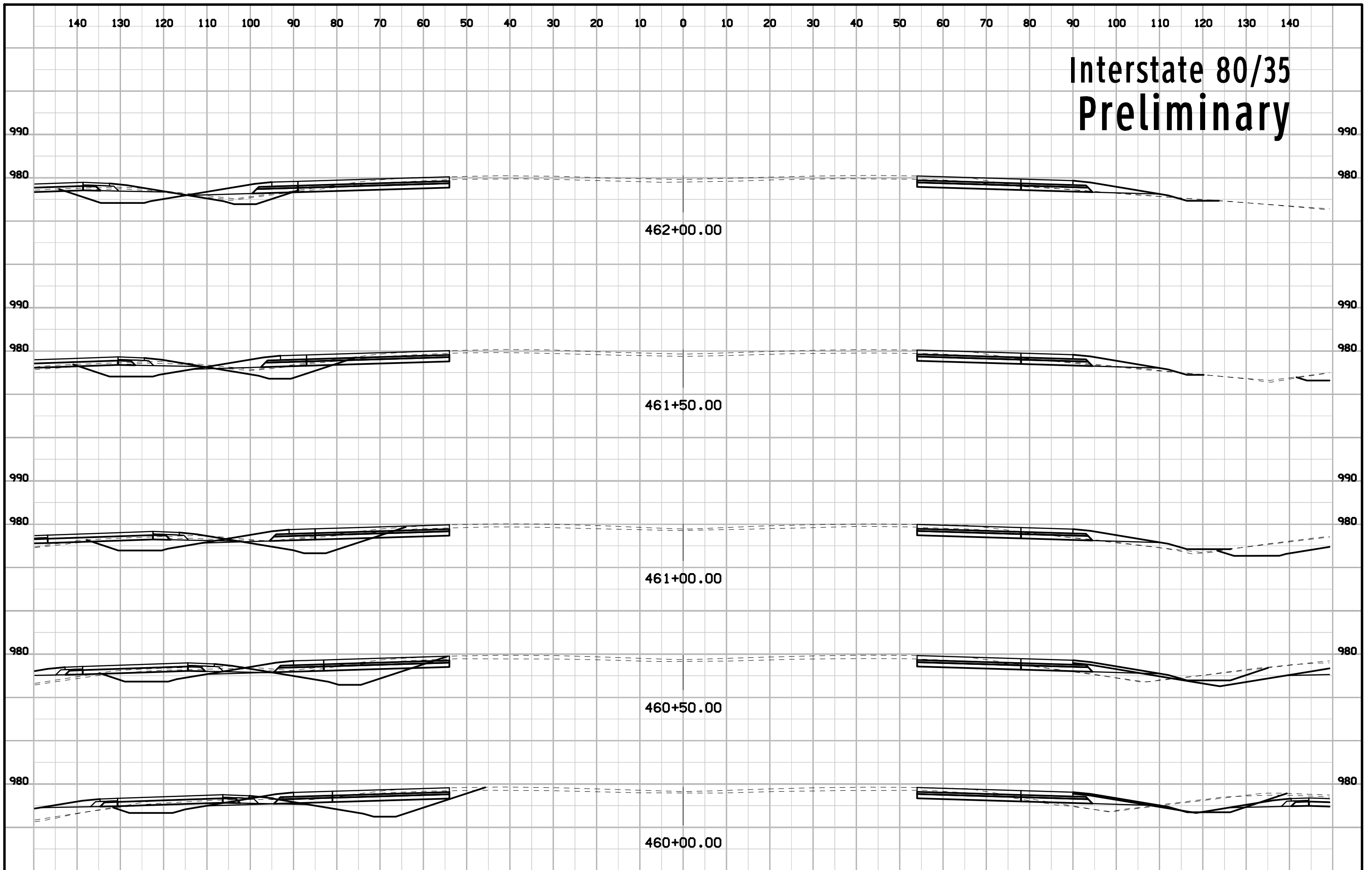




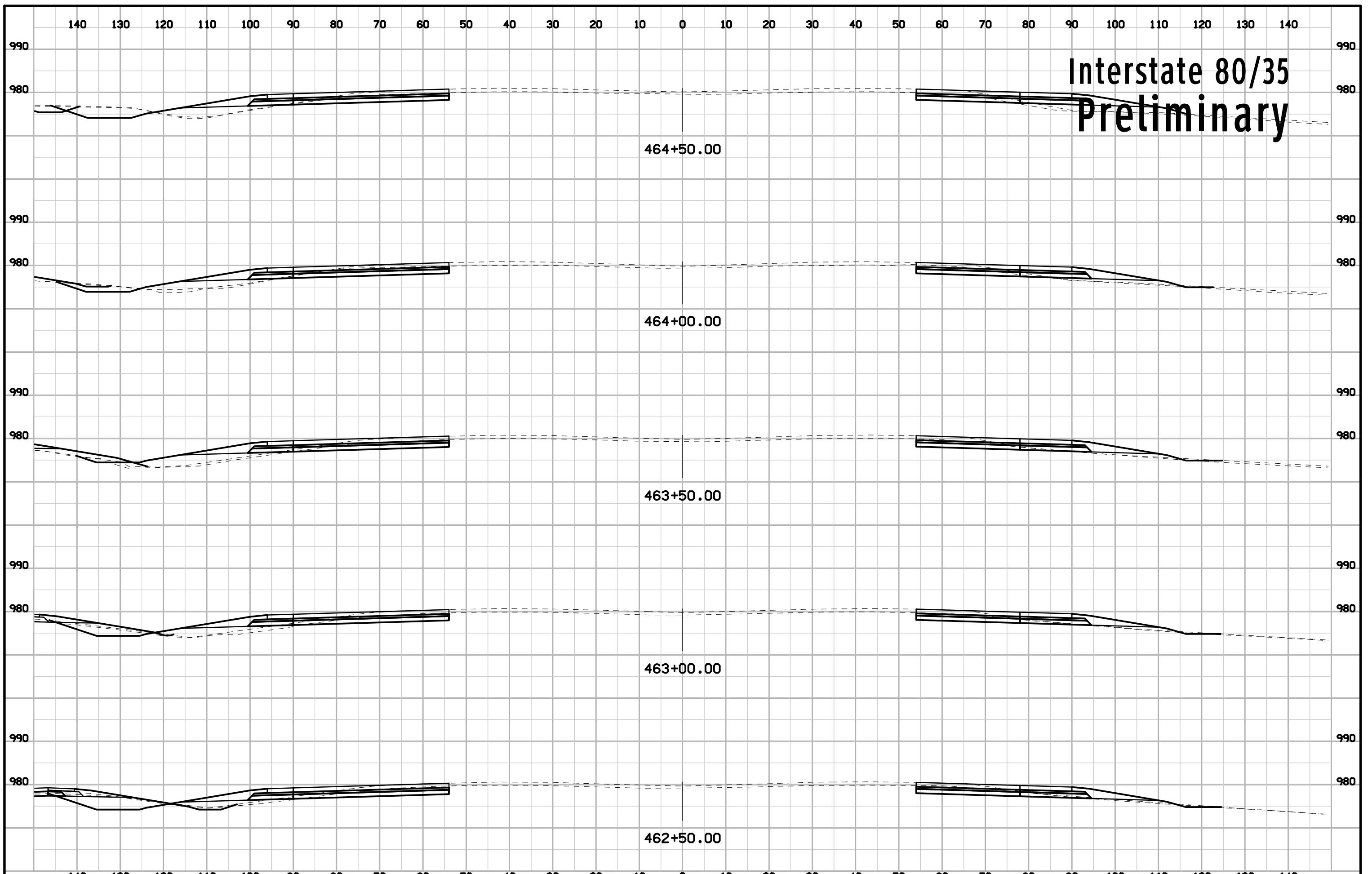
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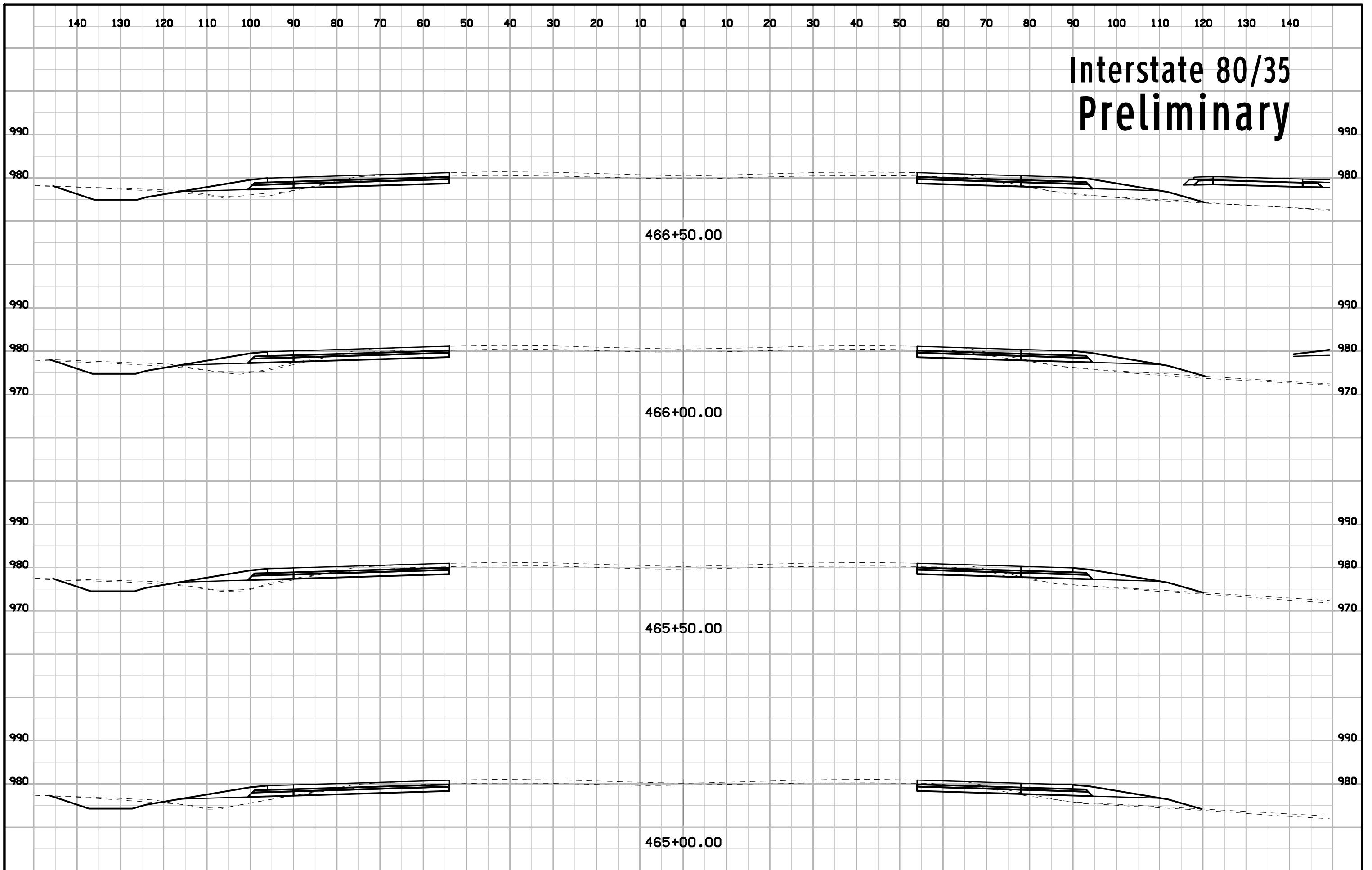
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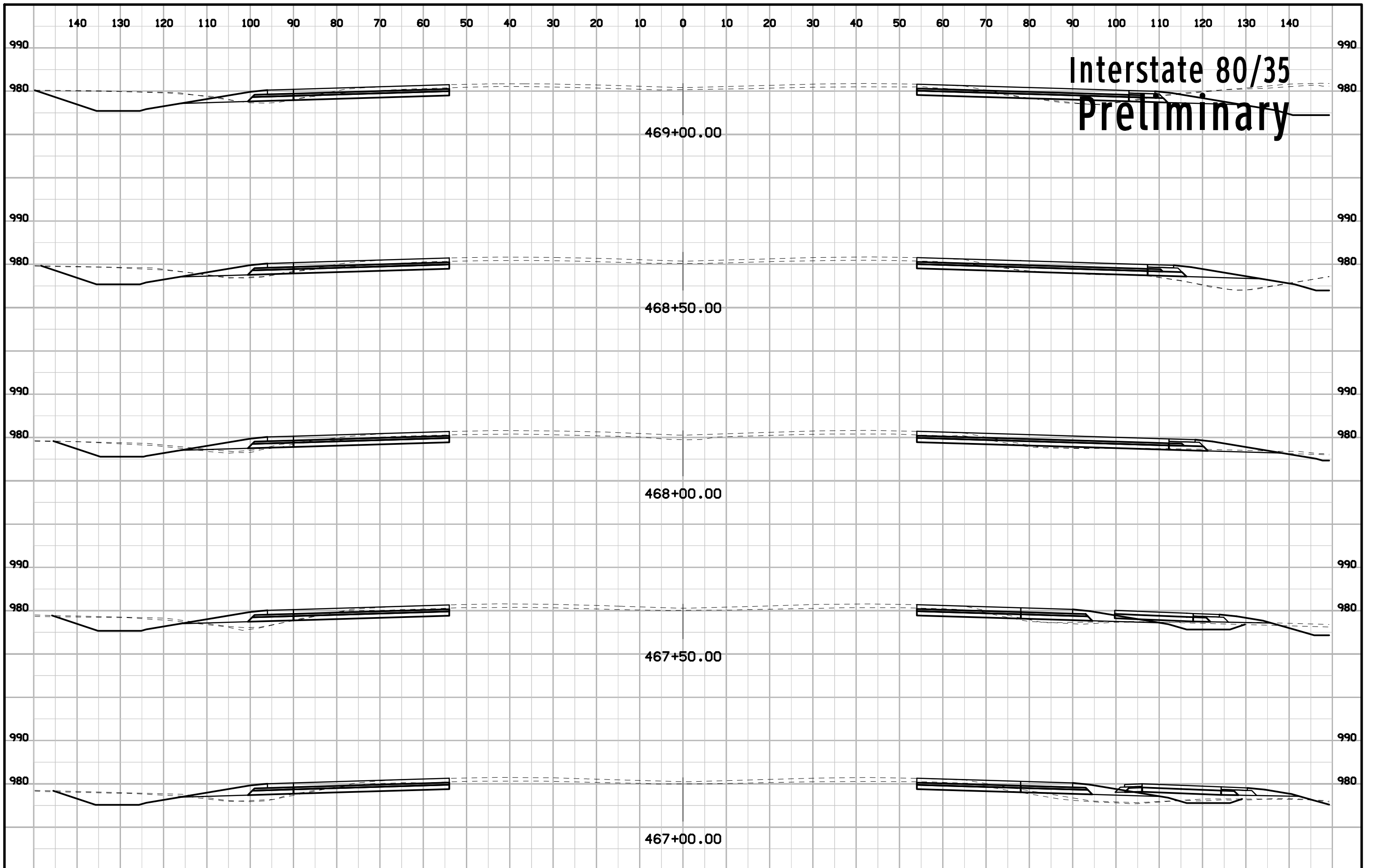


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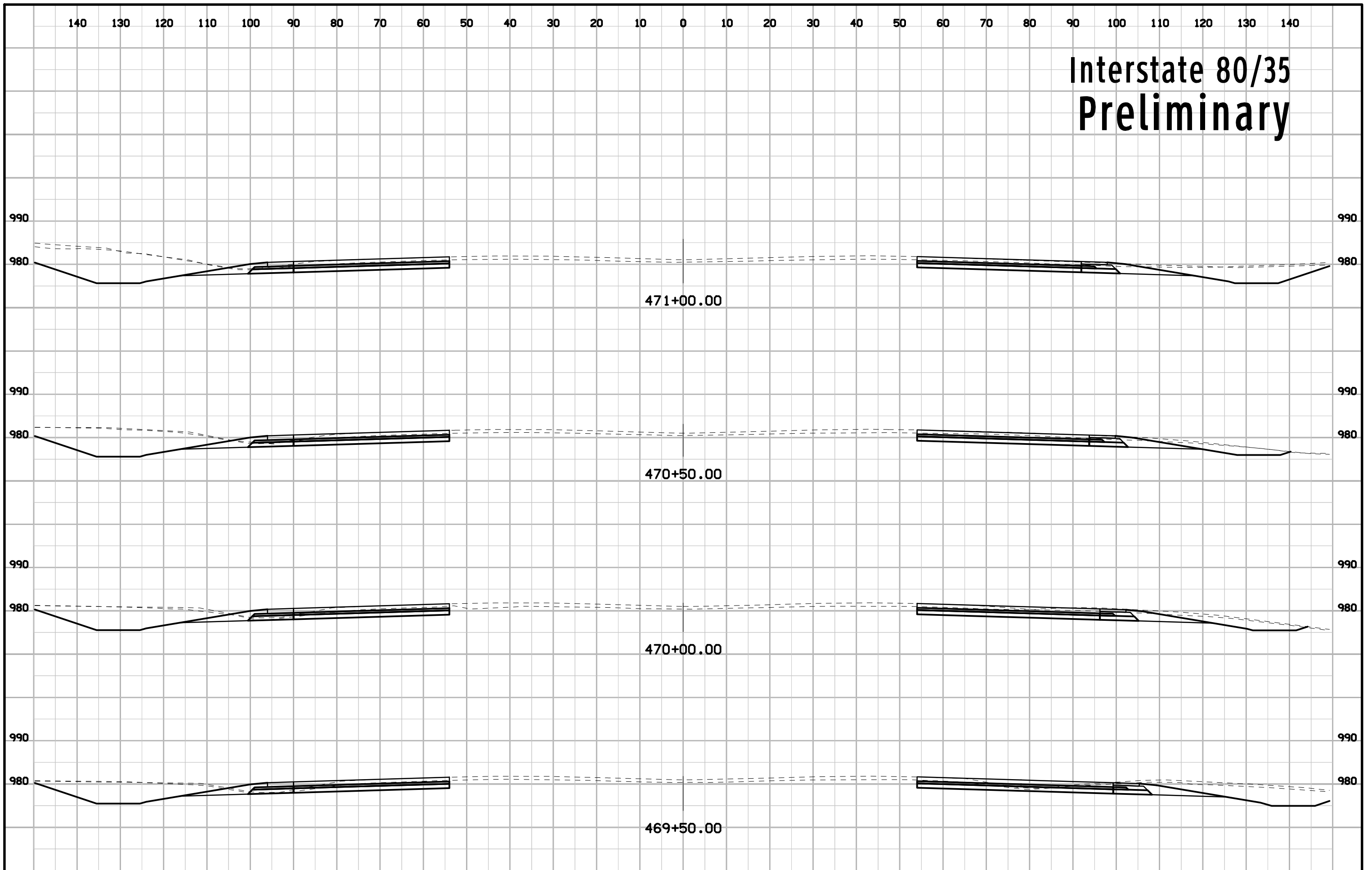


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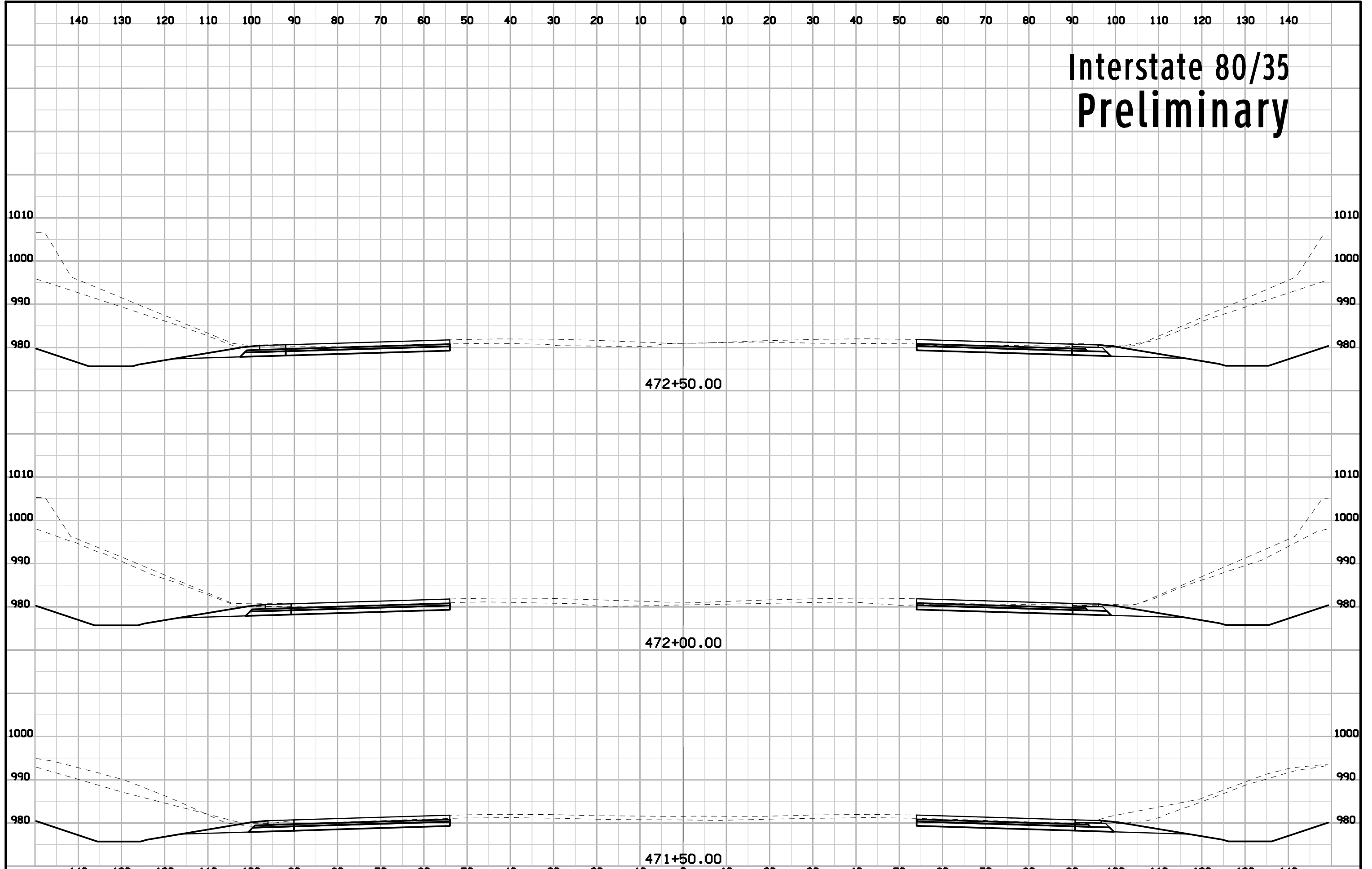




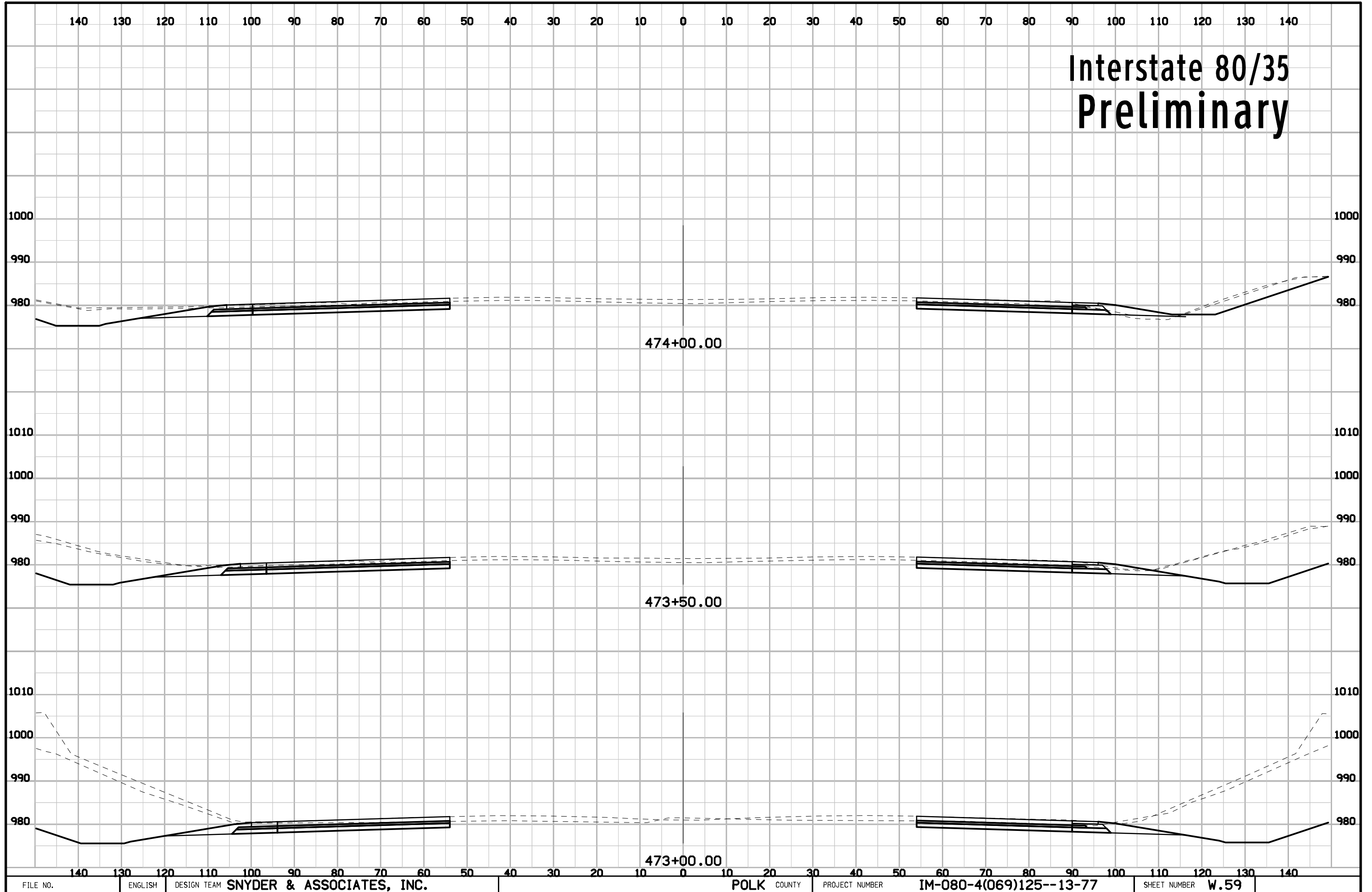
# Interstate 80/35 Preliminary



# Interstate 80/35 Preliminary

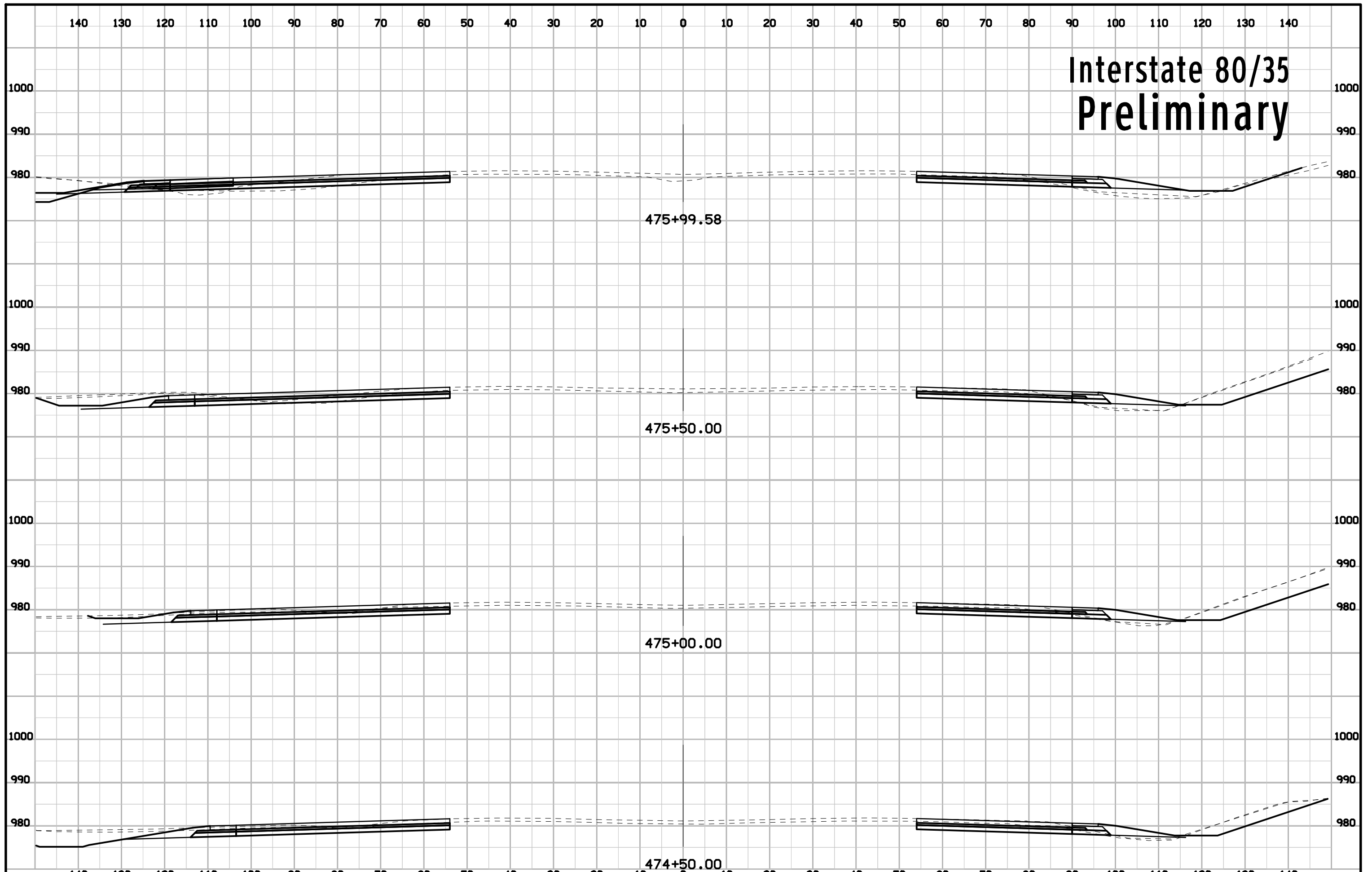


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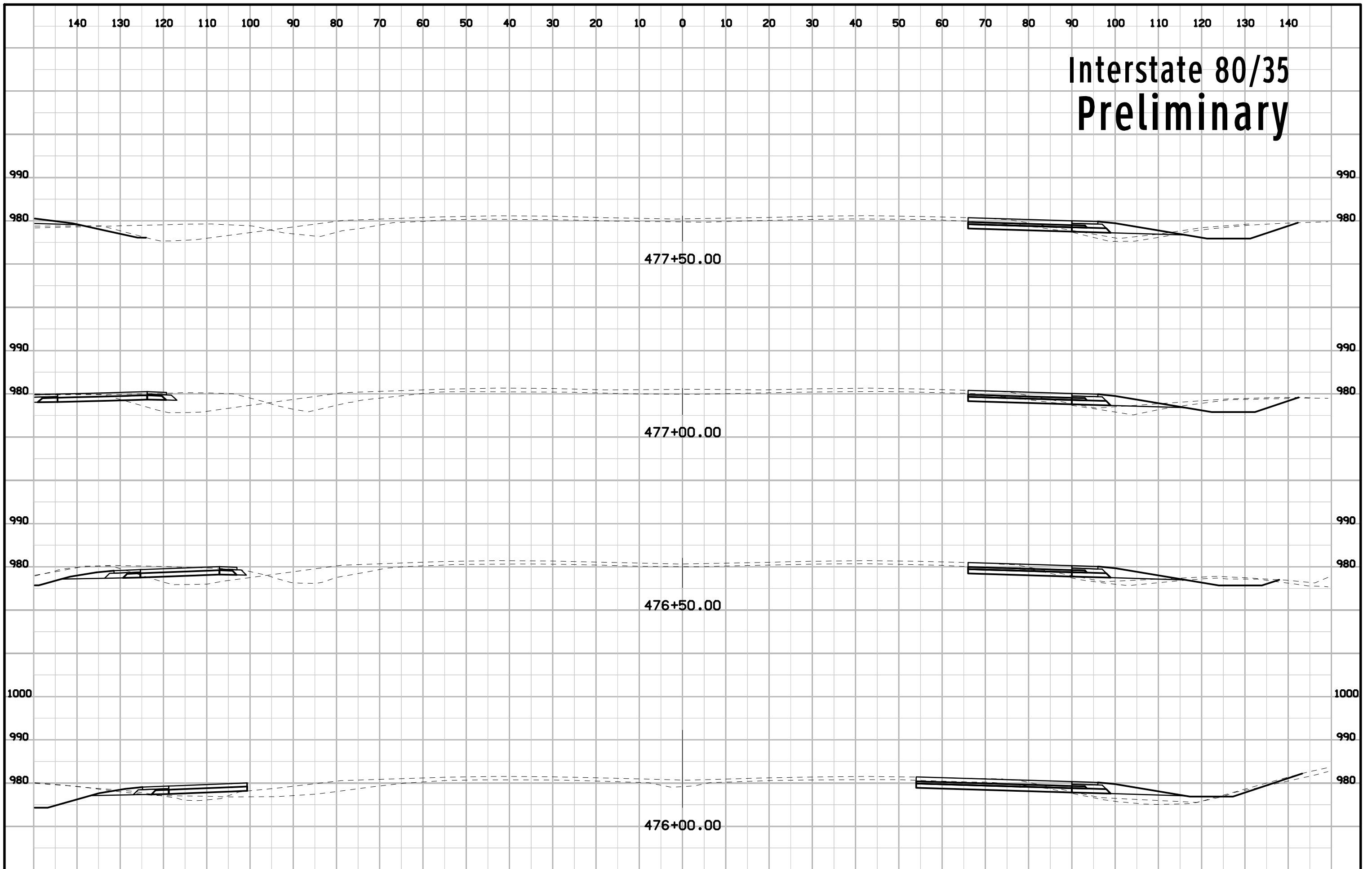


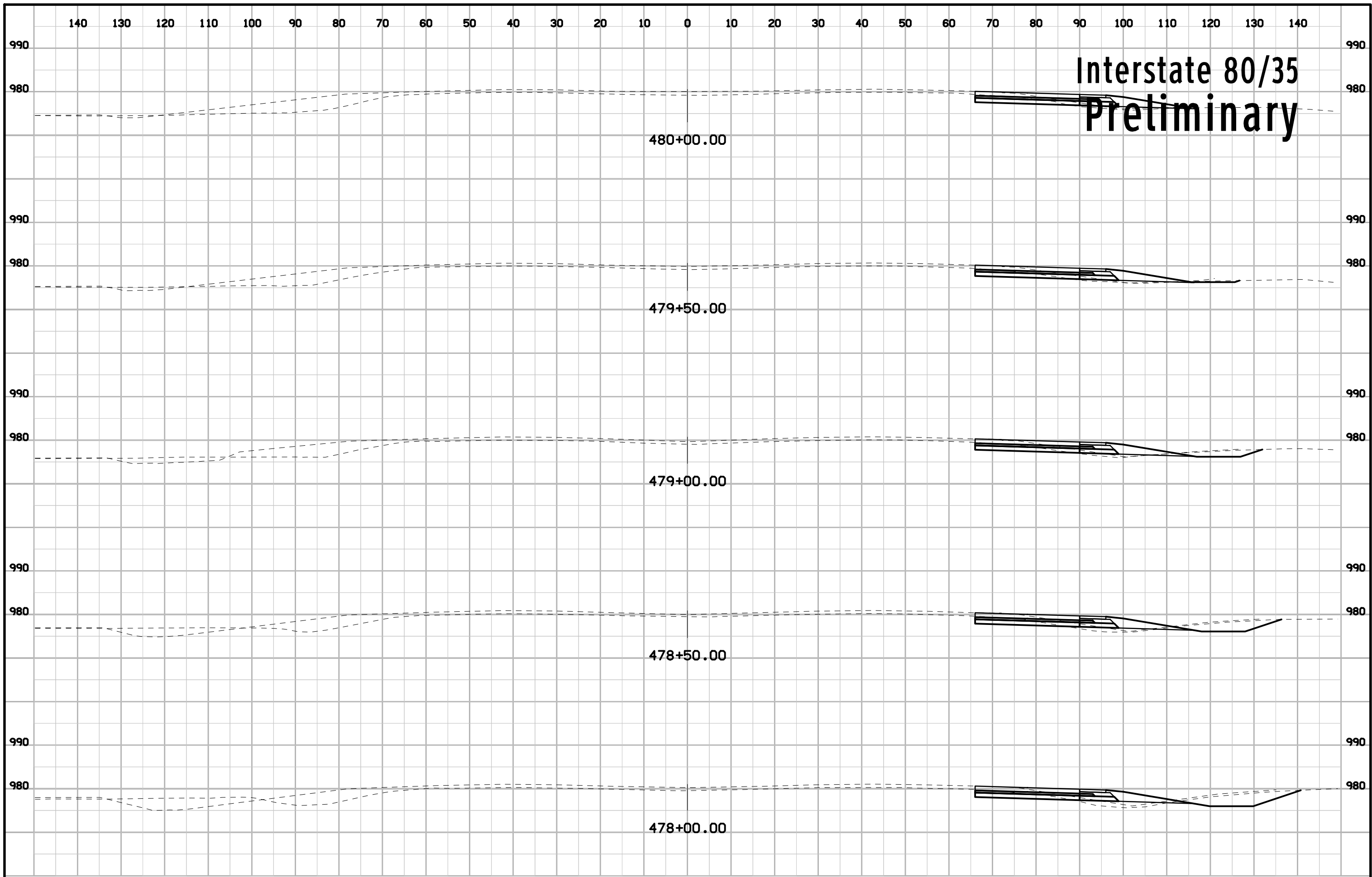


# Interstate 80/35 Preliminary



# Interstate 80/35 Preliminary





Interstate 80/35  
Preliminary

480+00.00

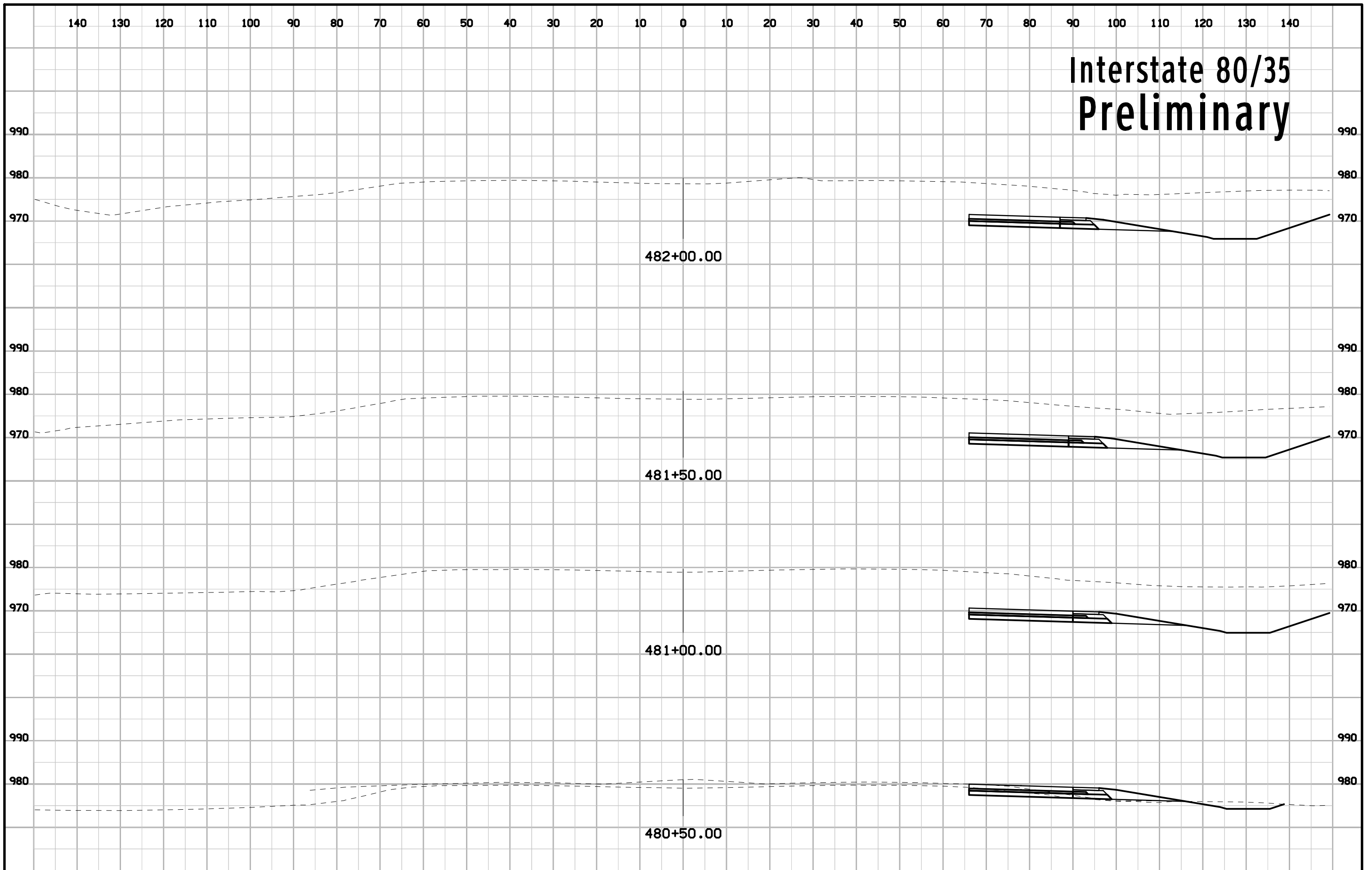
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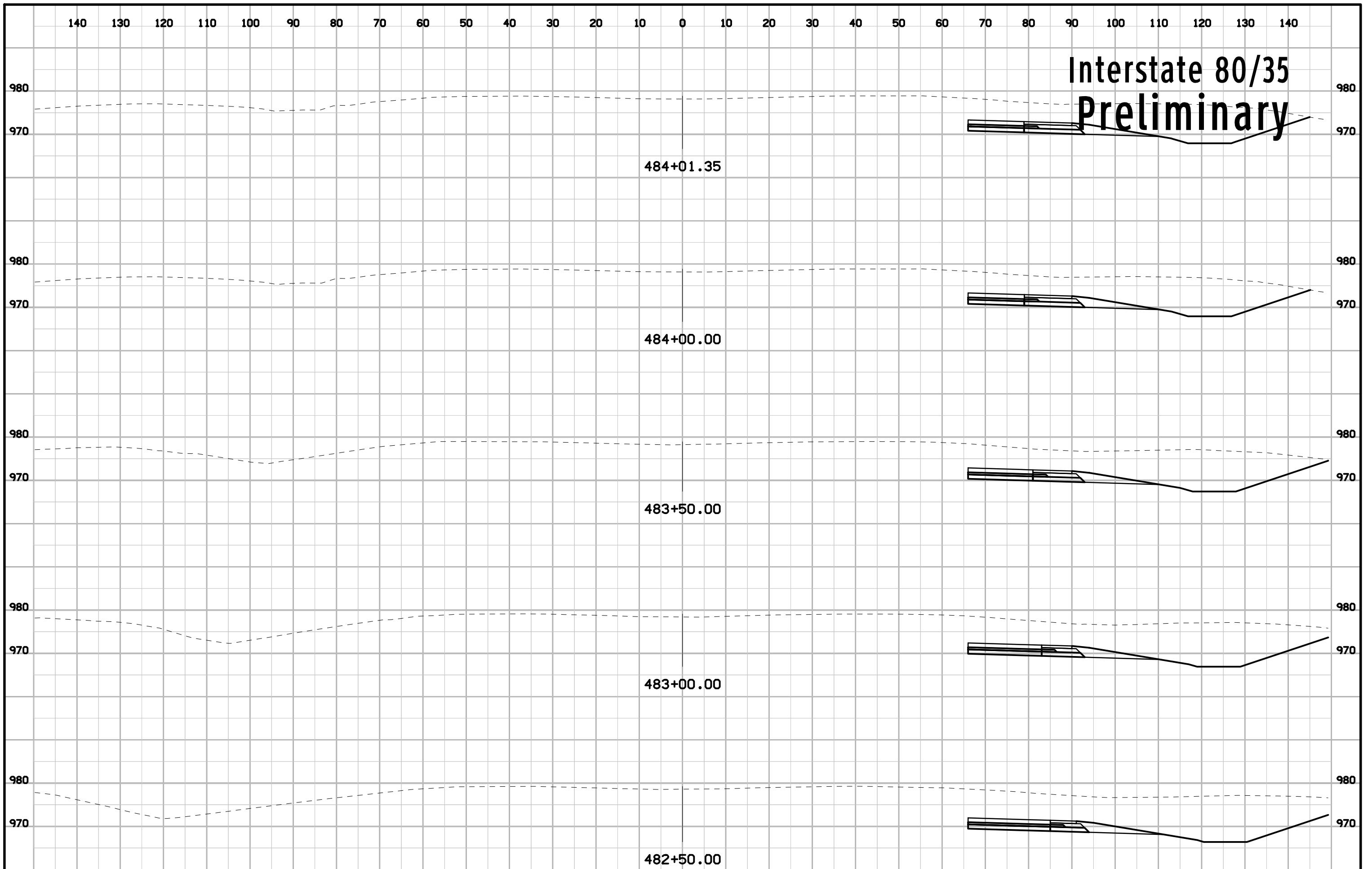
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478+00.00

# Interstate 80/35 Preliminary



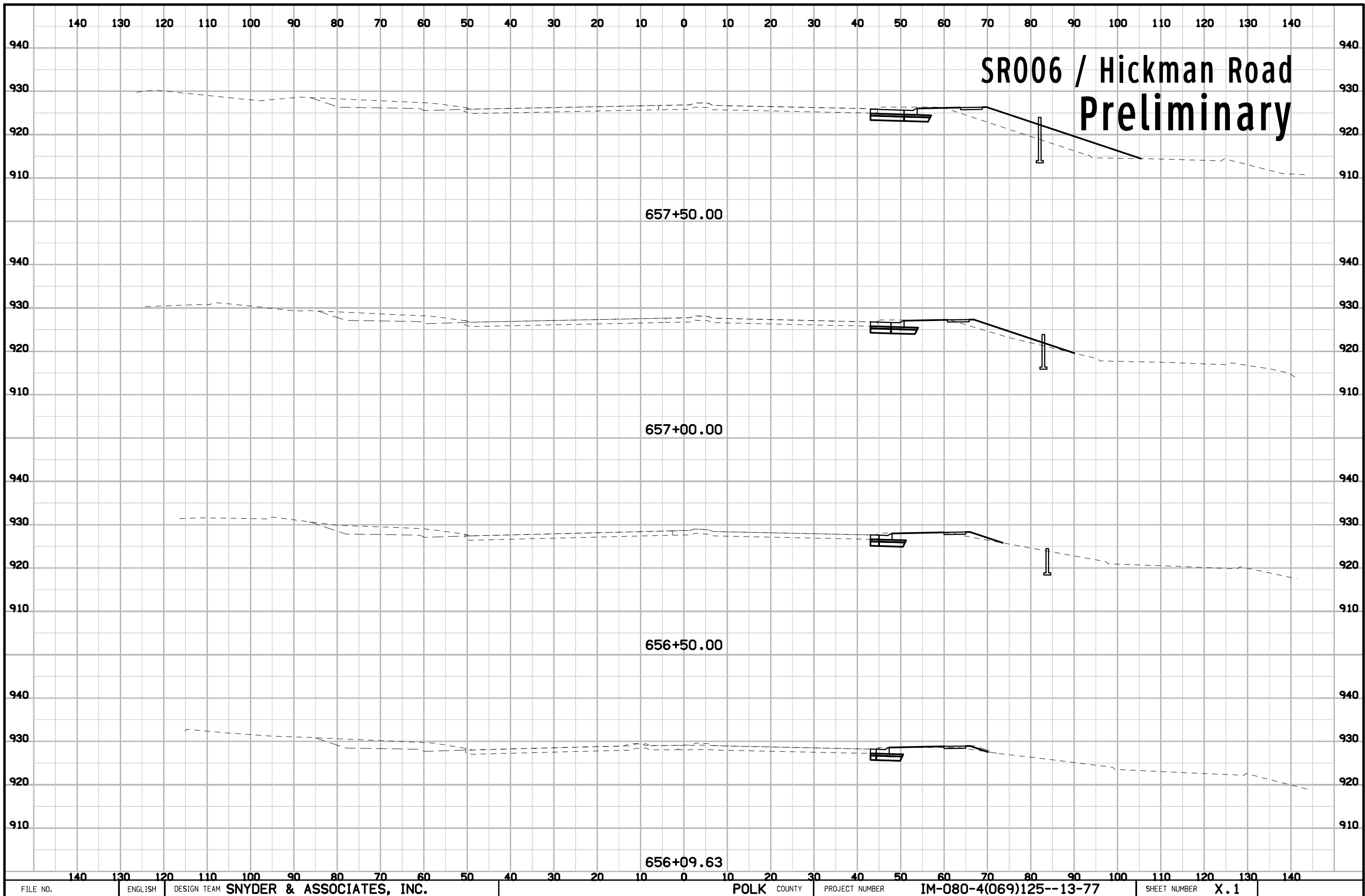
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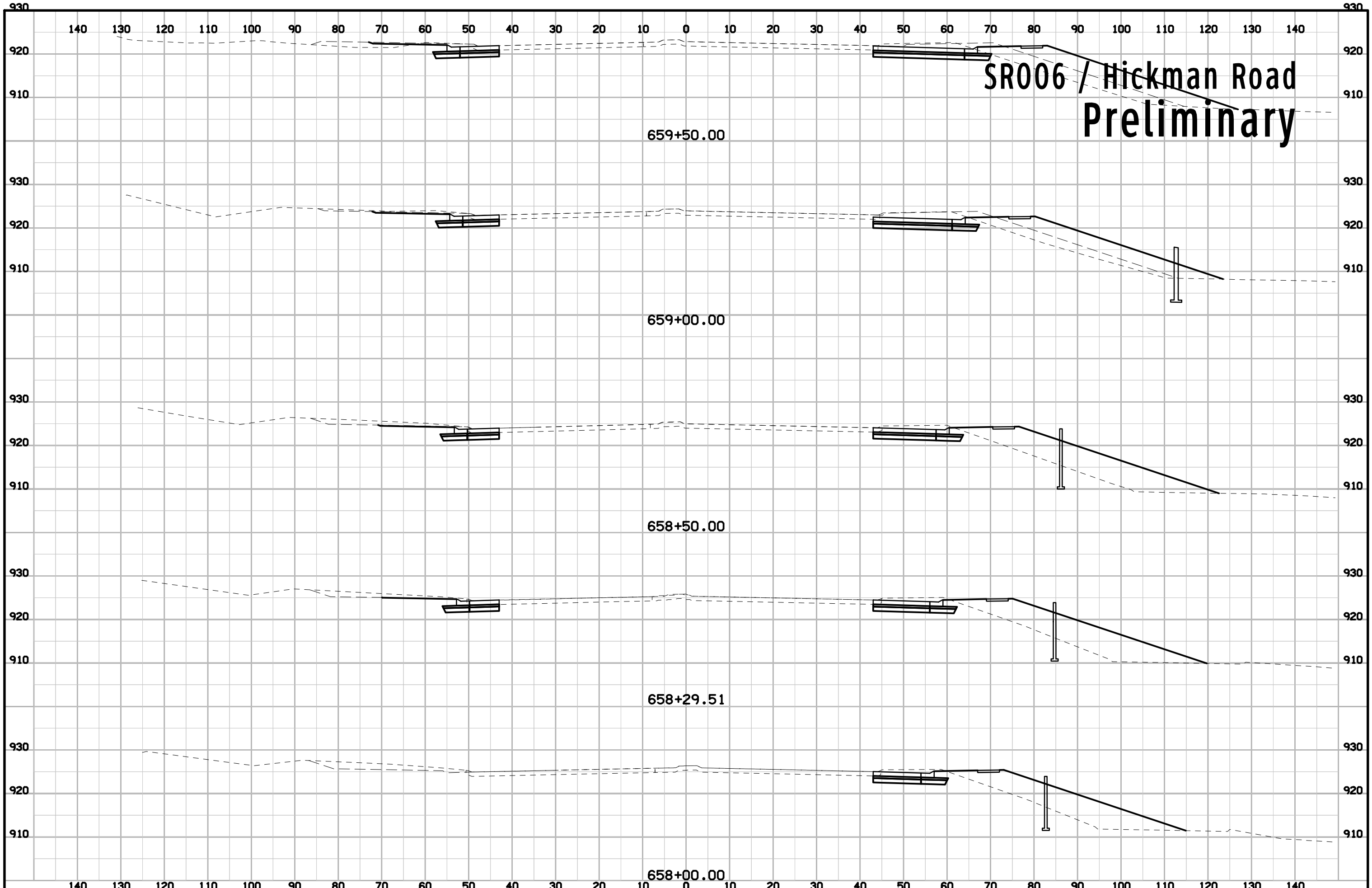


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# Interstate 80/35 Preliminary







**SR006 / Hickman Road  
Preliminary**

659+50.00

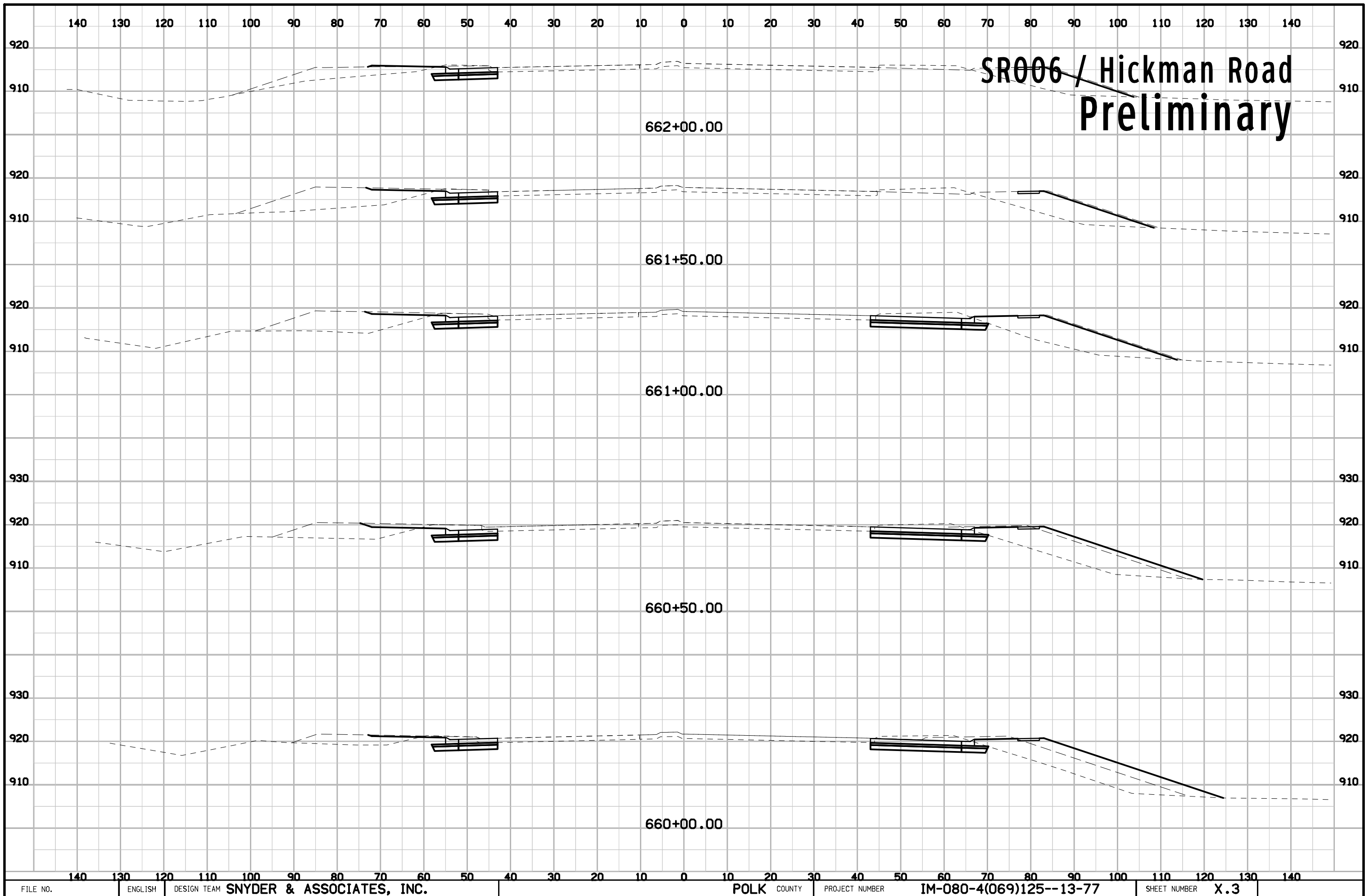
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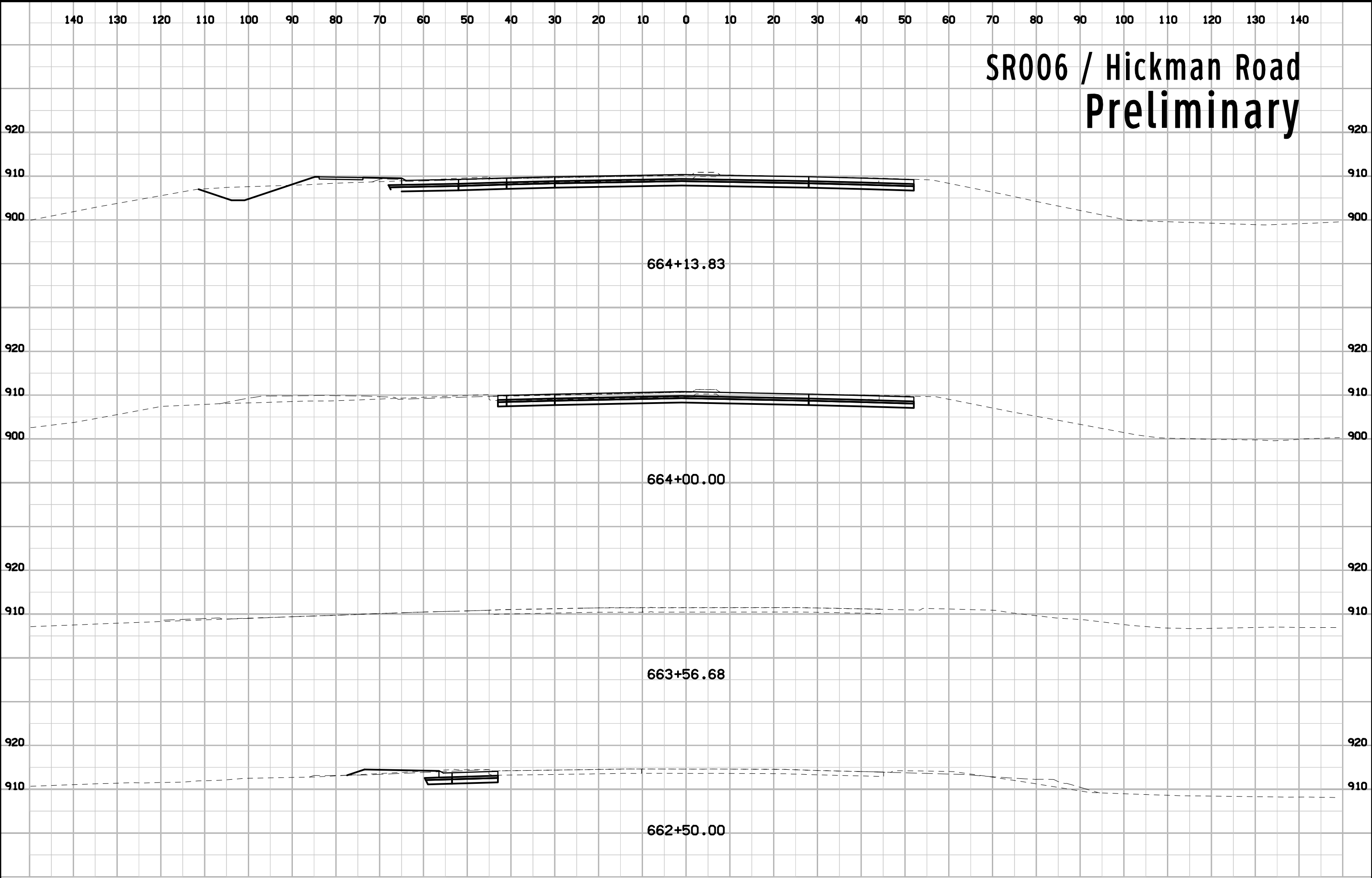
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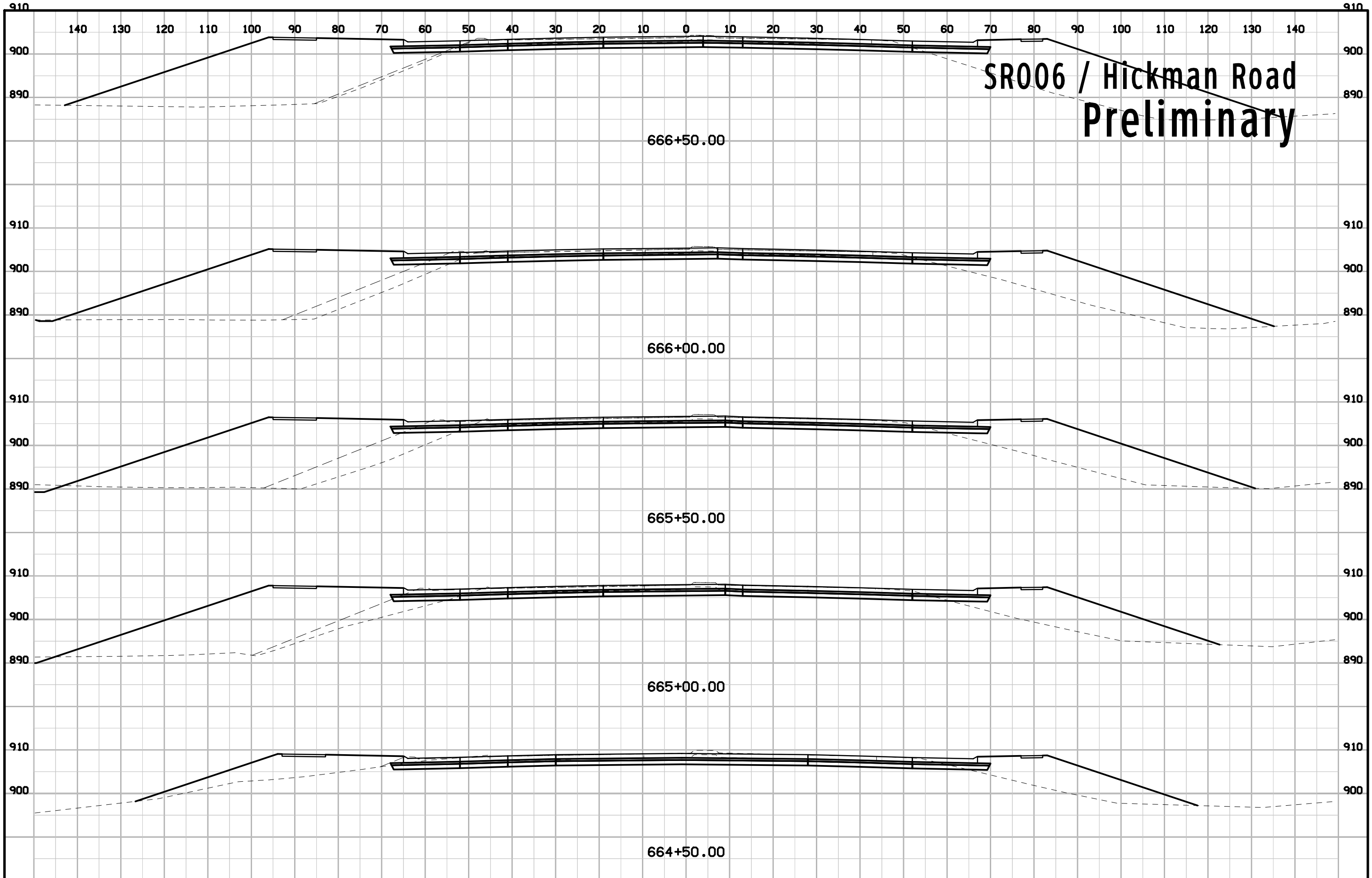
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# SR006 / Hickman Road Preliminary





**SR006 / Hickman Road  
Preliminary**

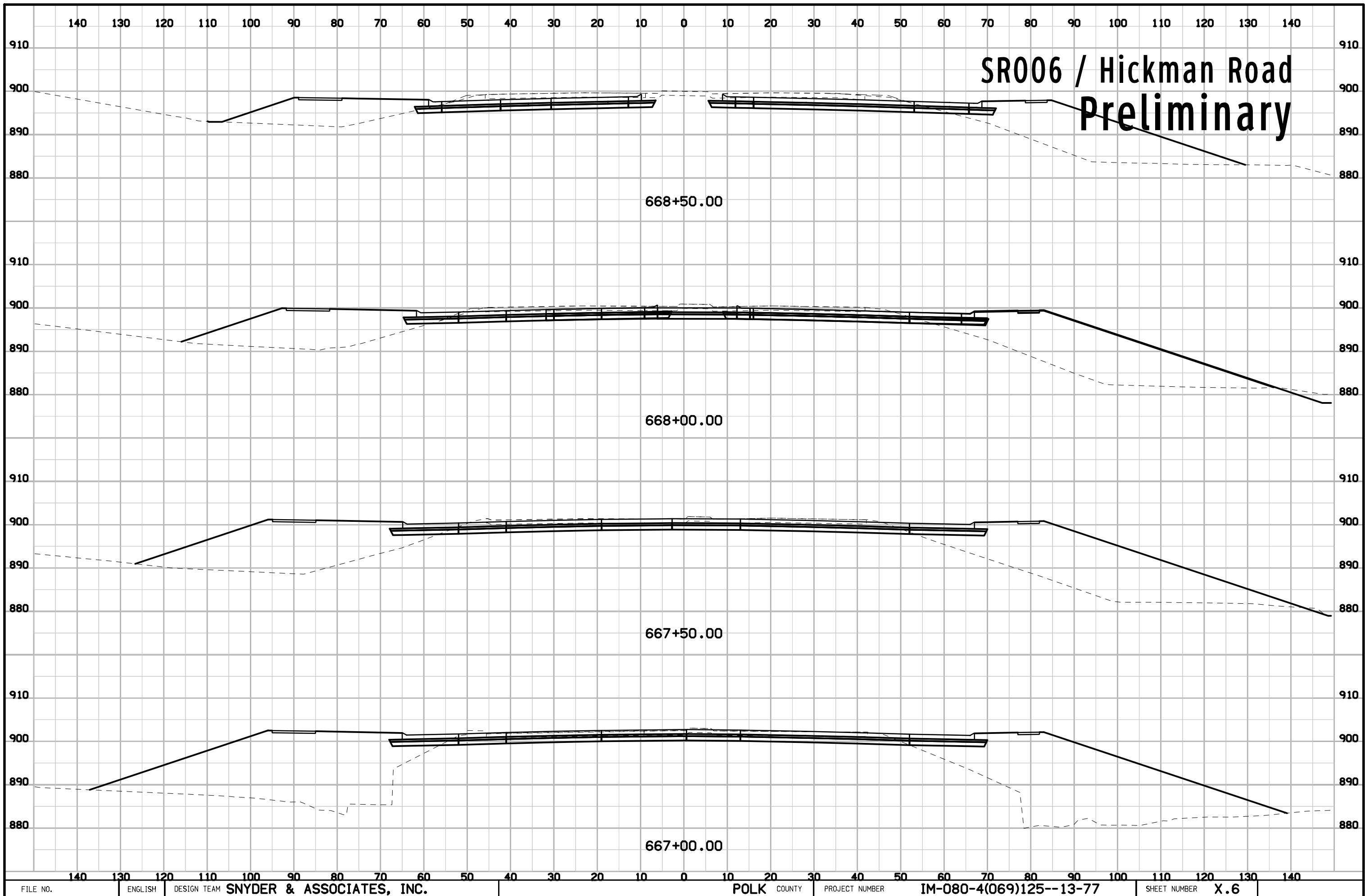
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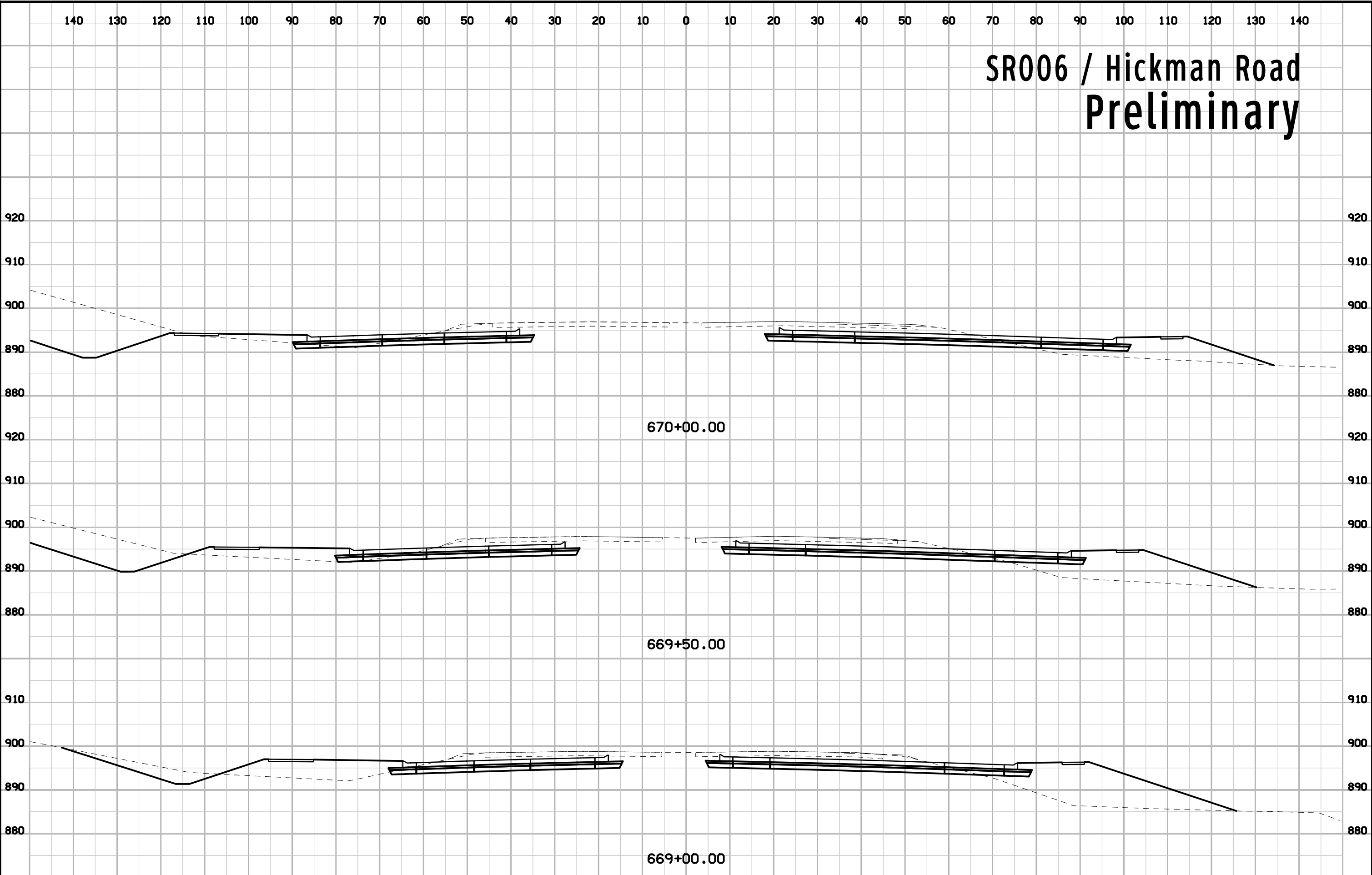
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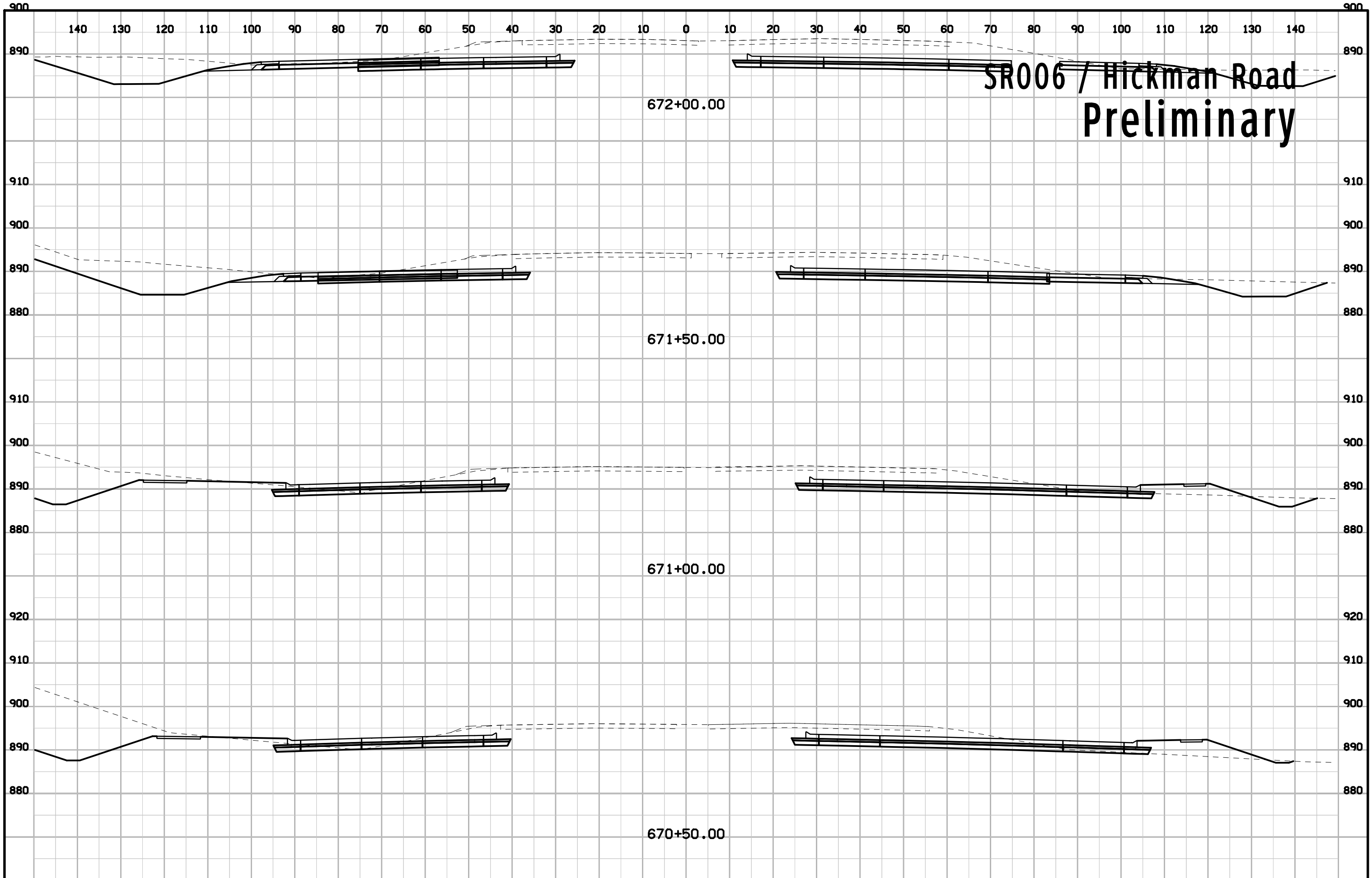
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664+50.00



# SR006 / Hickman Road Preliminary





**SR006 / Hickman Road  
Preliminary**

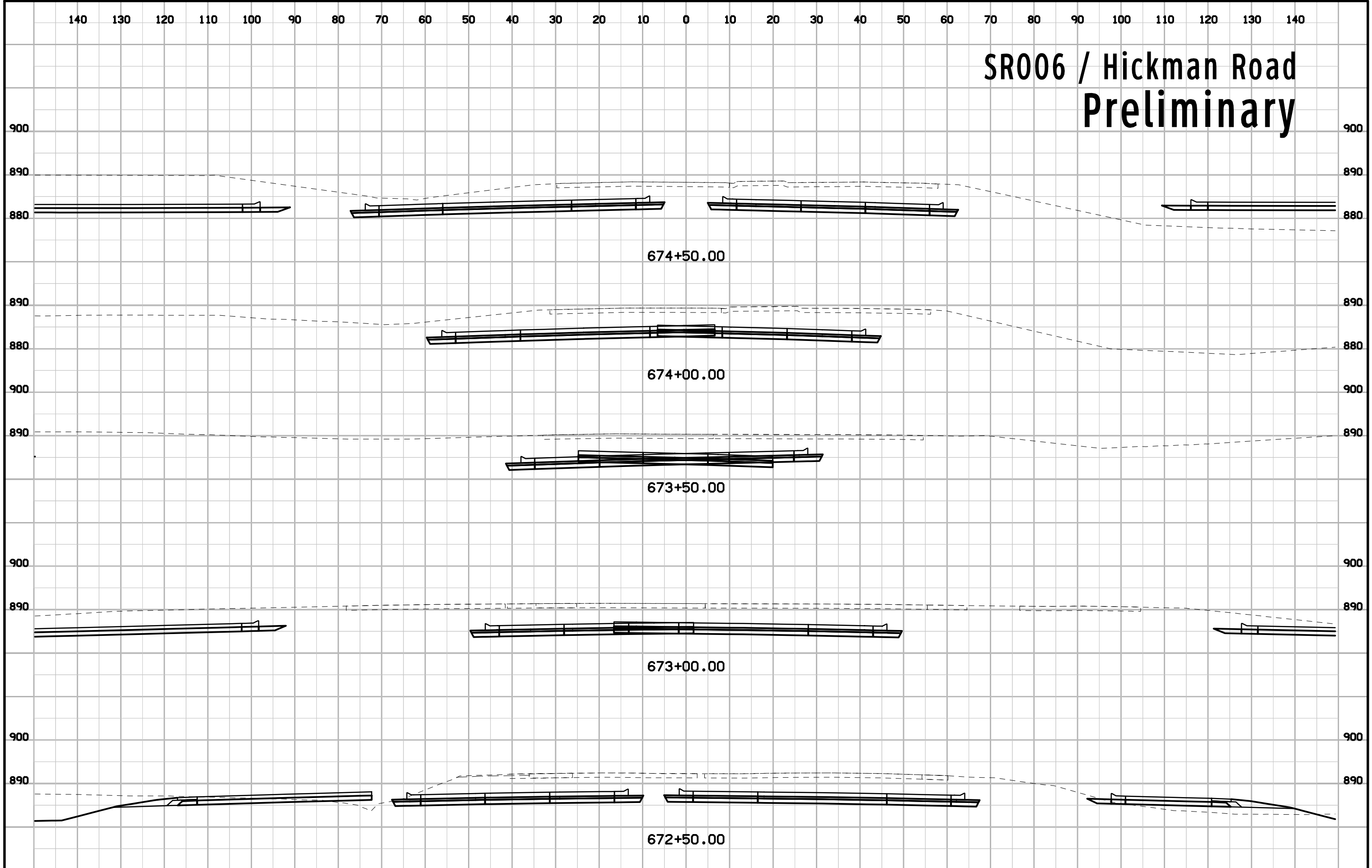
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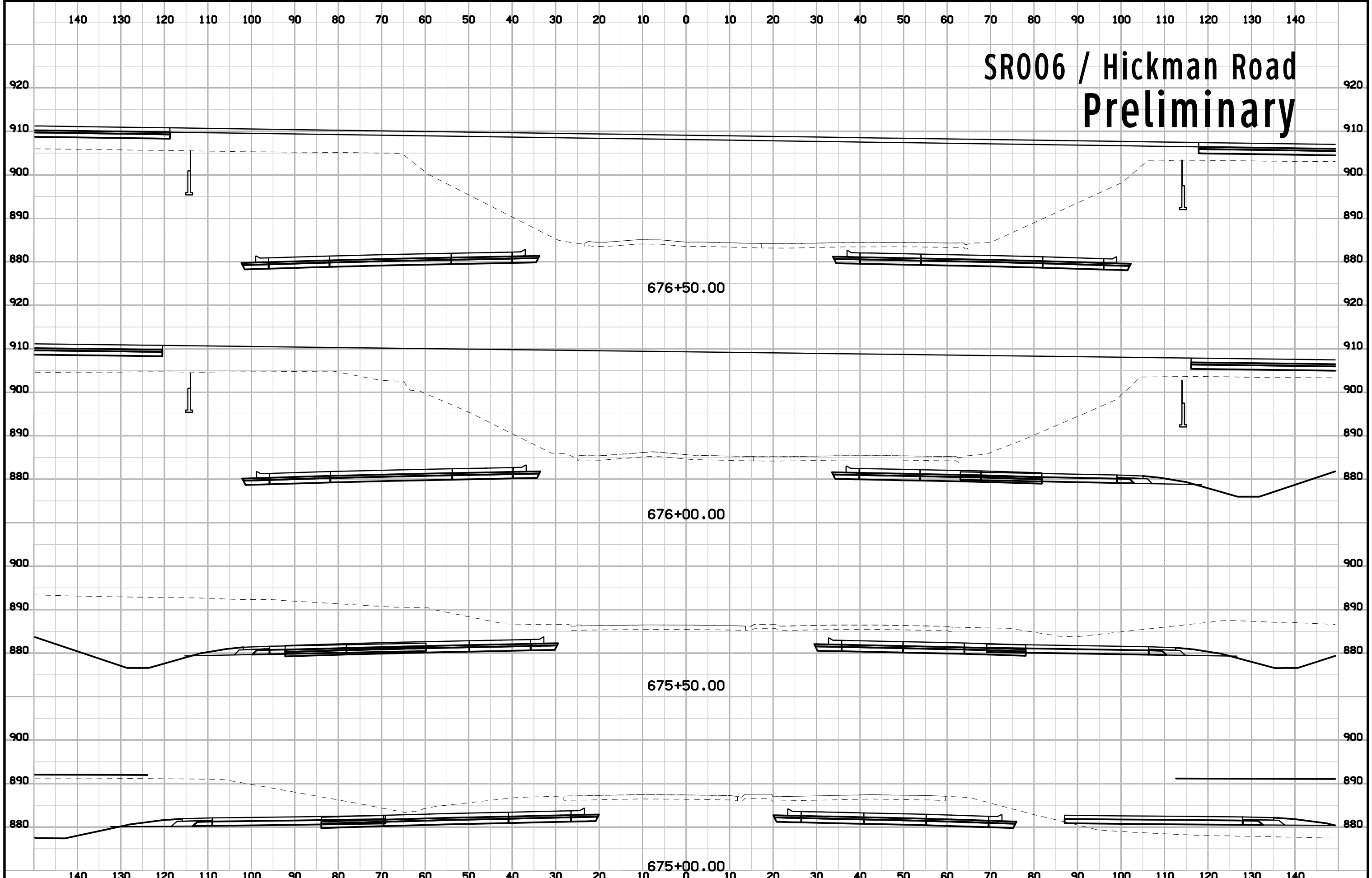
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# SR006 / Hickman Road Preliminary

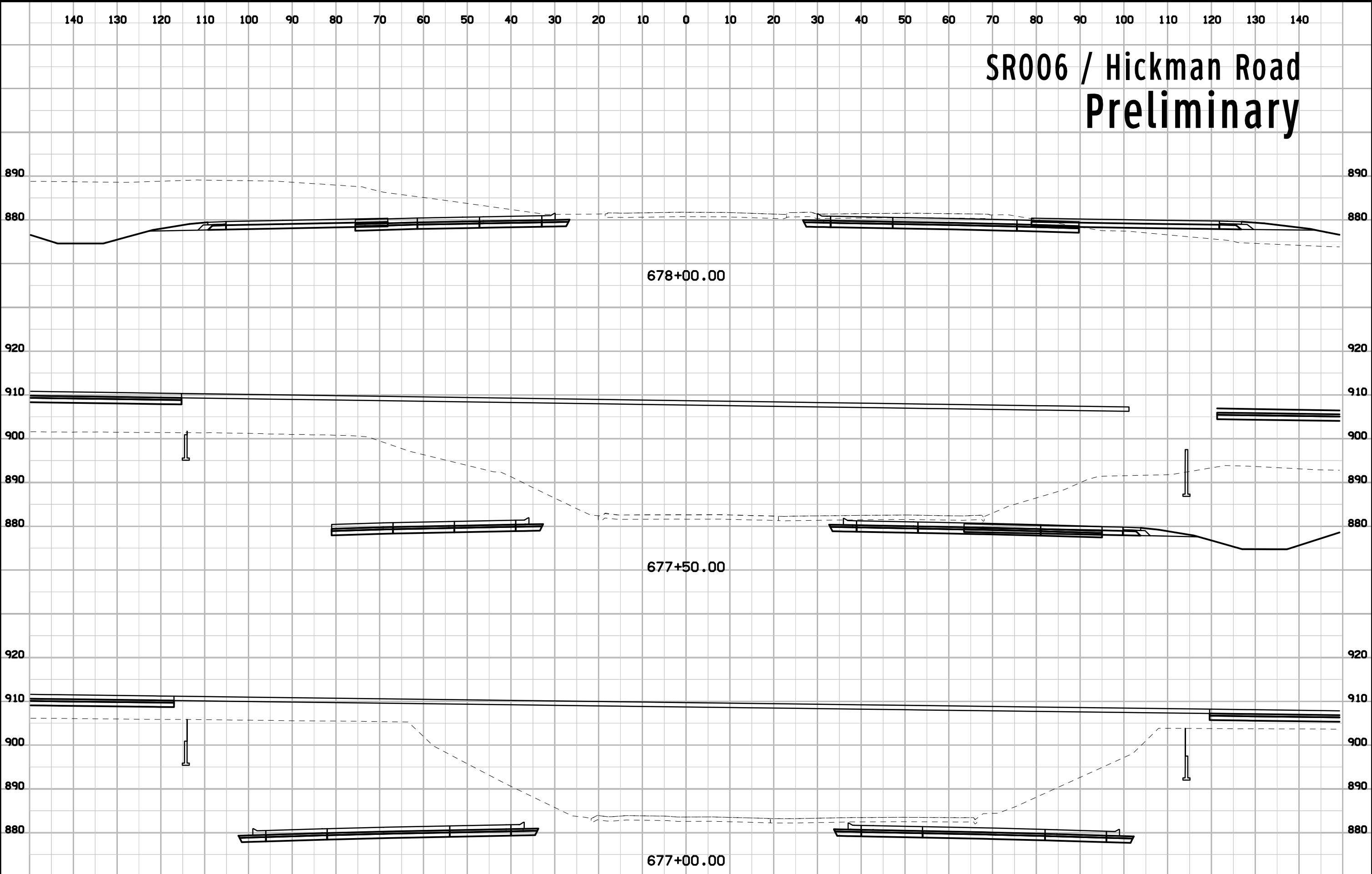


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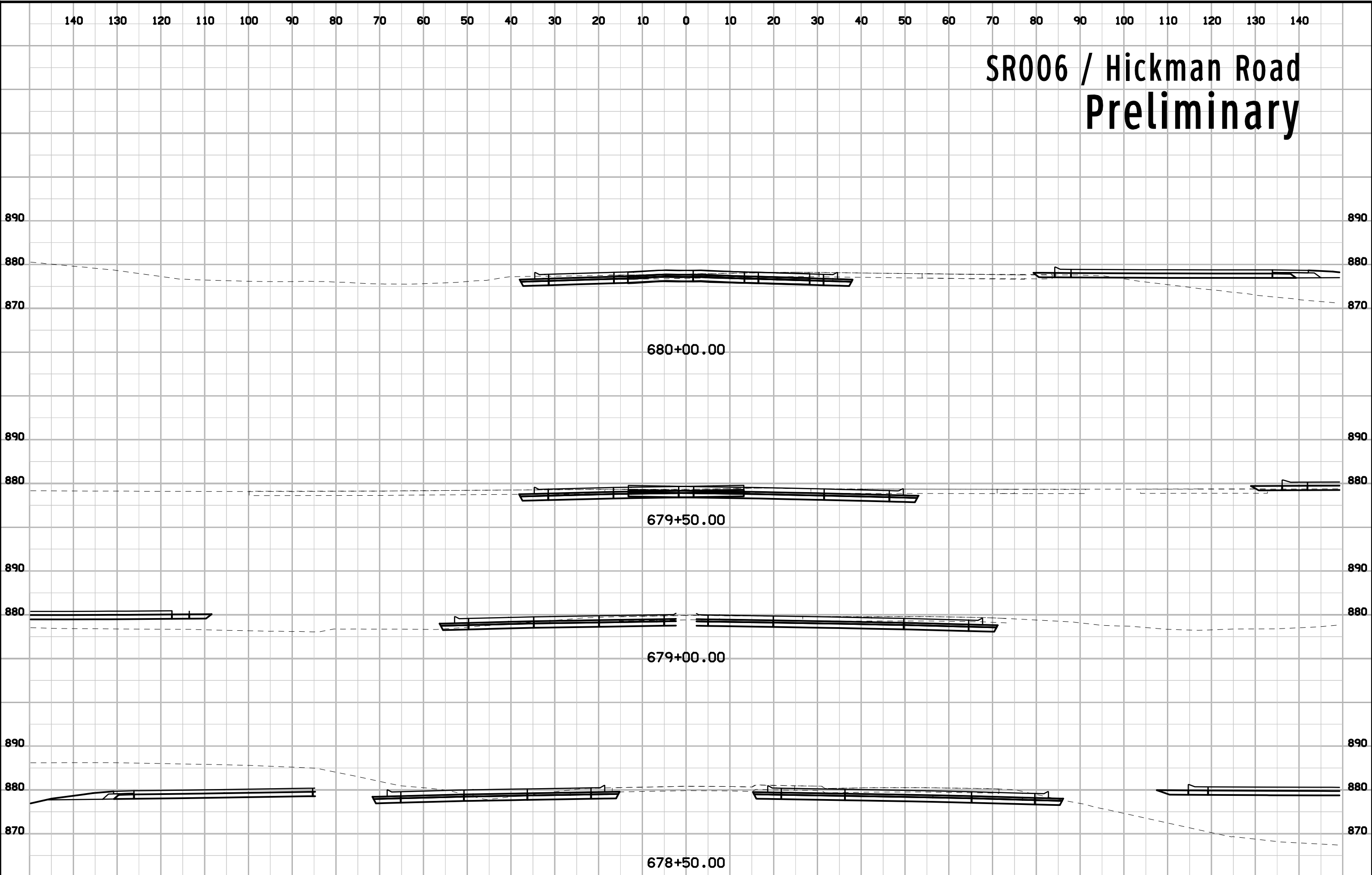




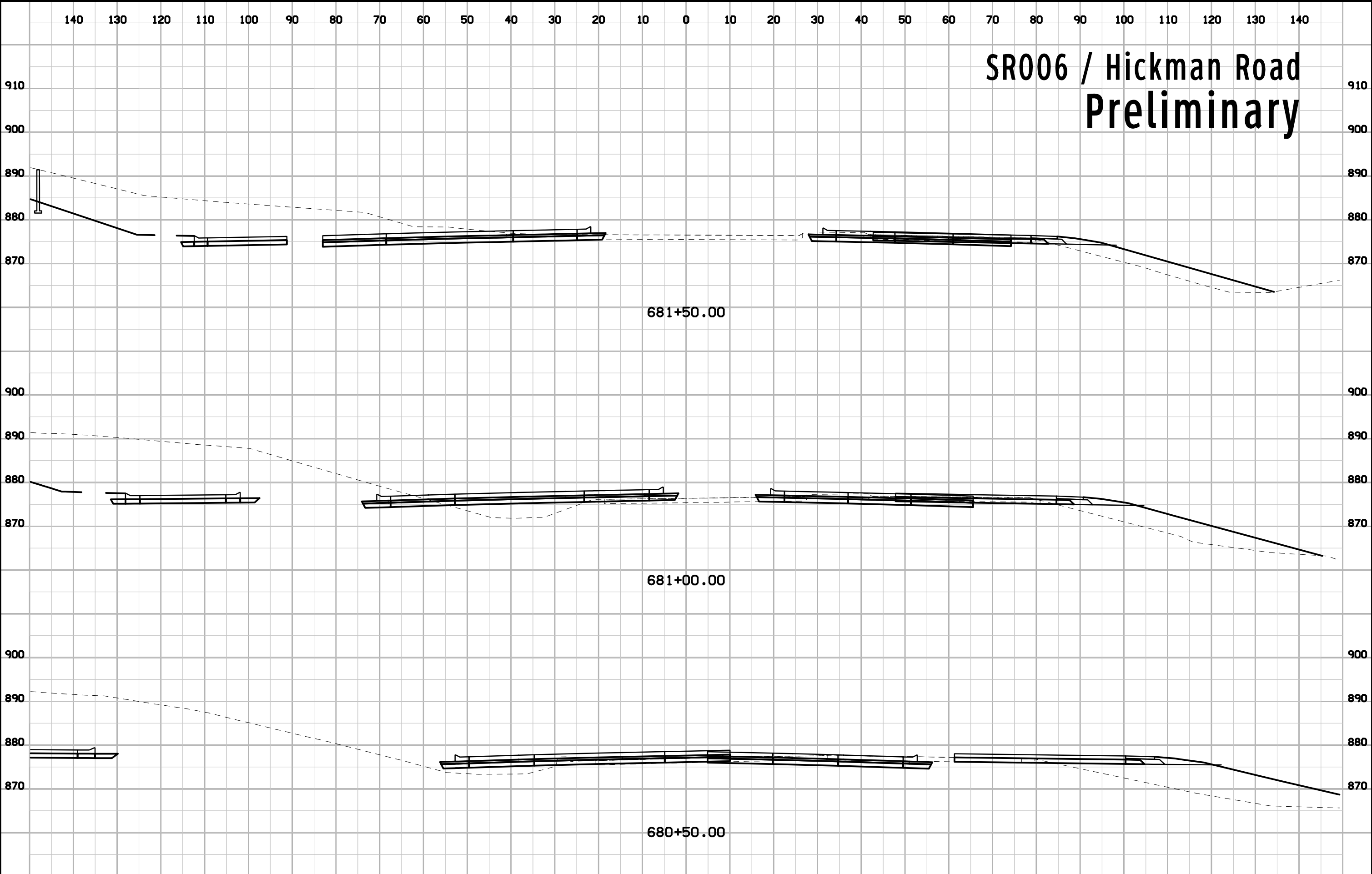
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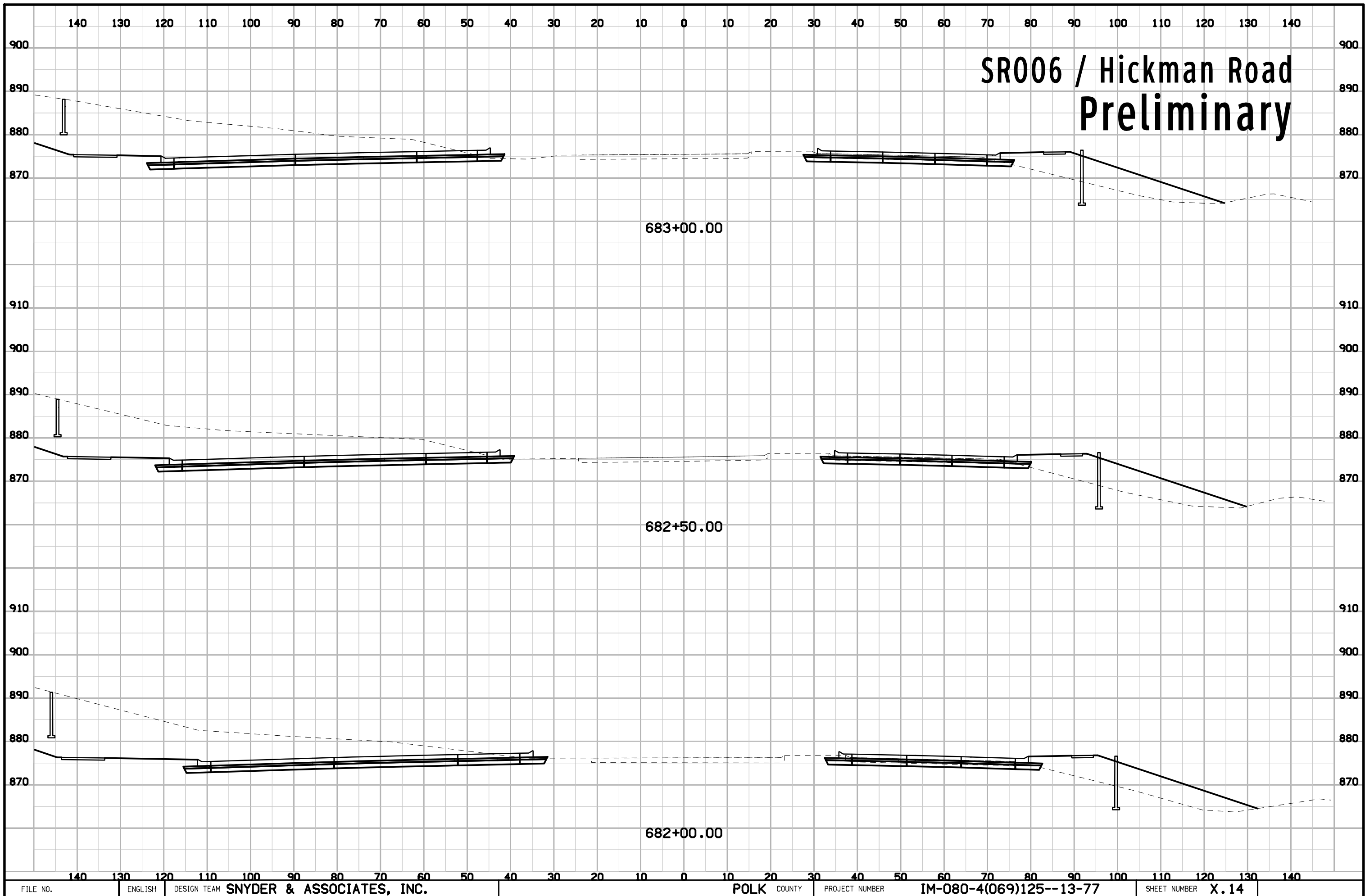


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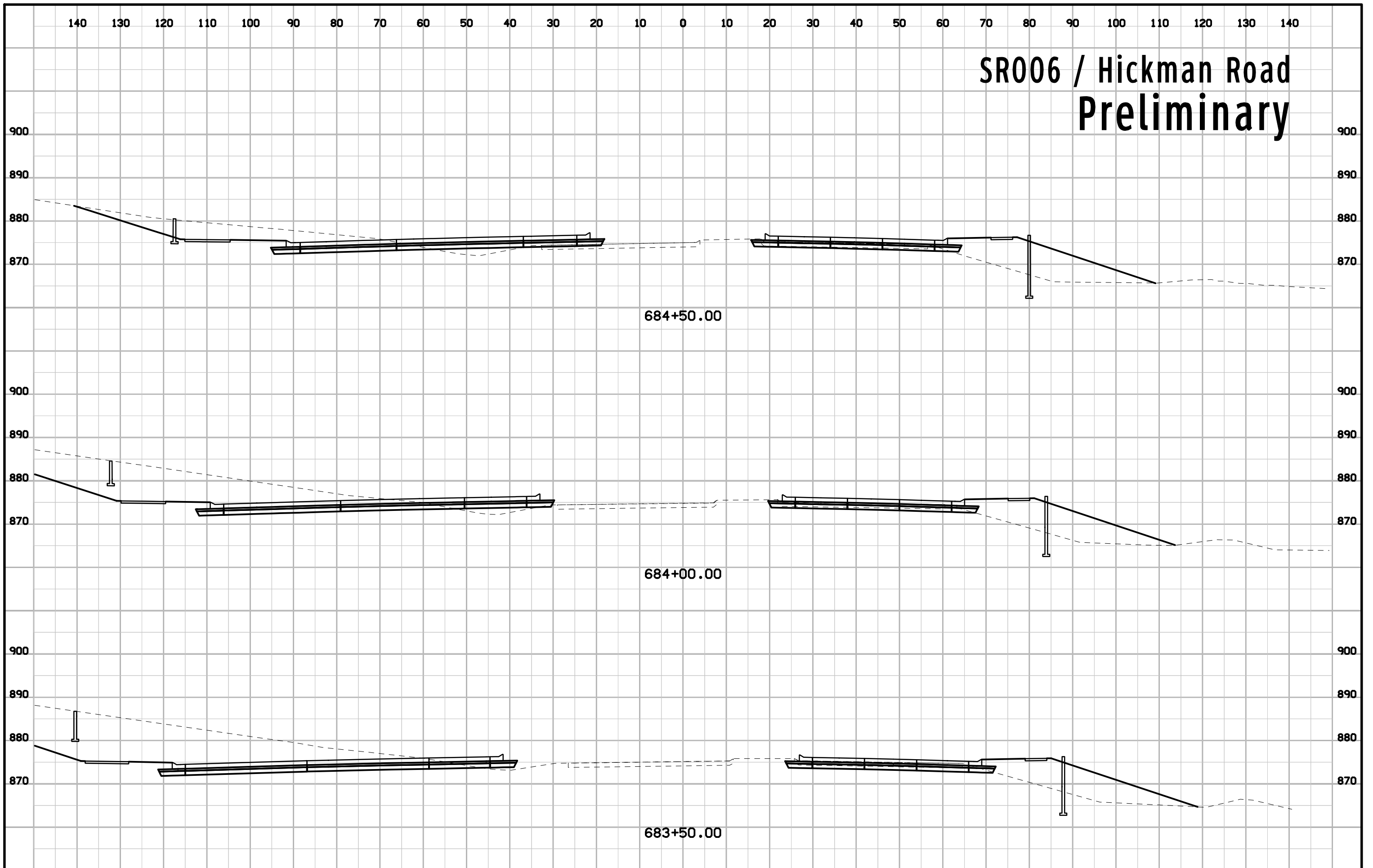


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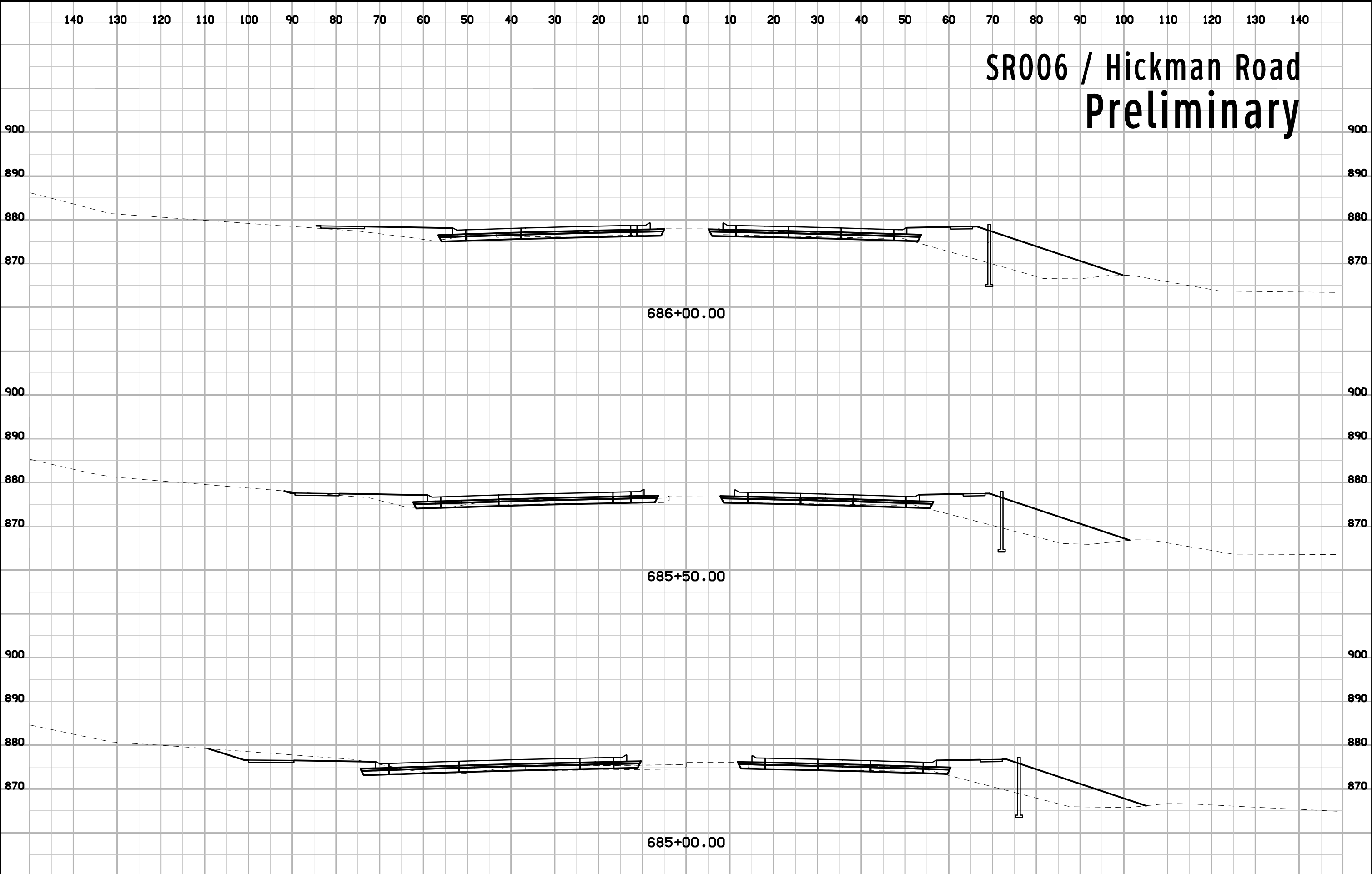




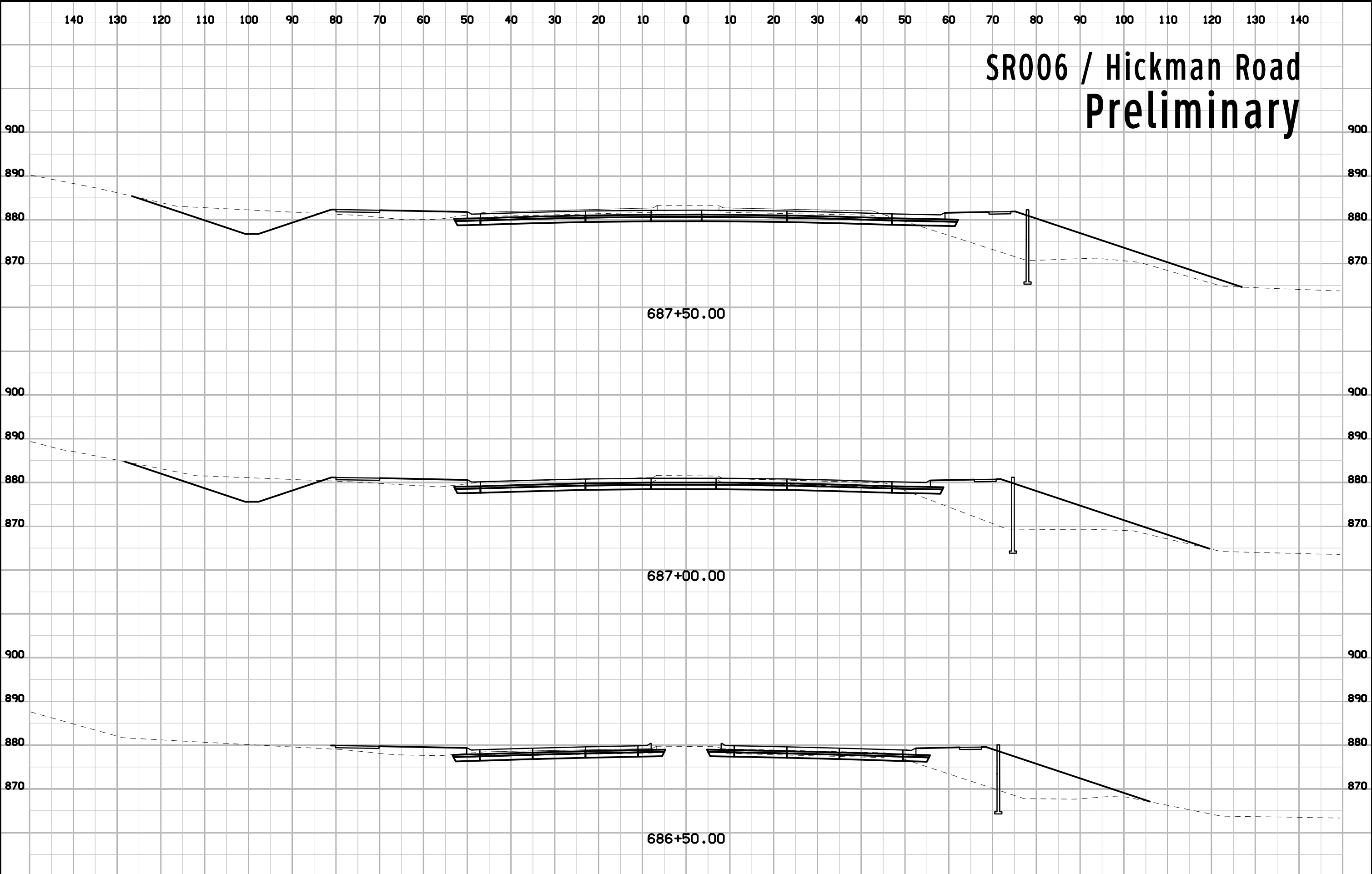
# SR006 / Hickman Road Preliminary



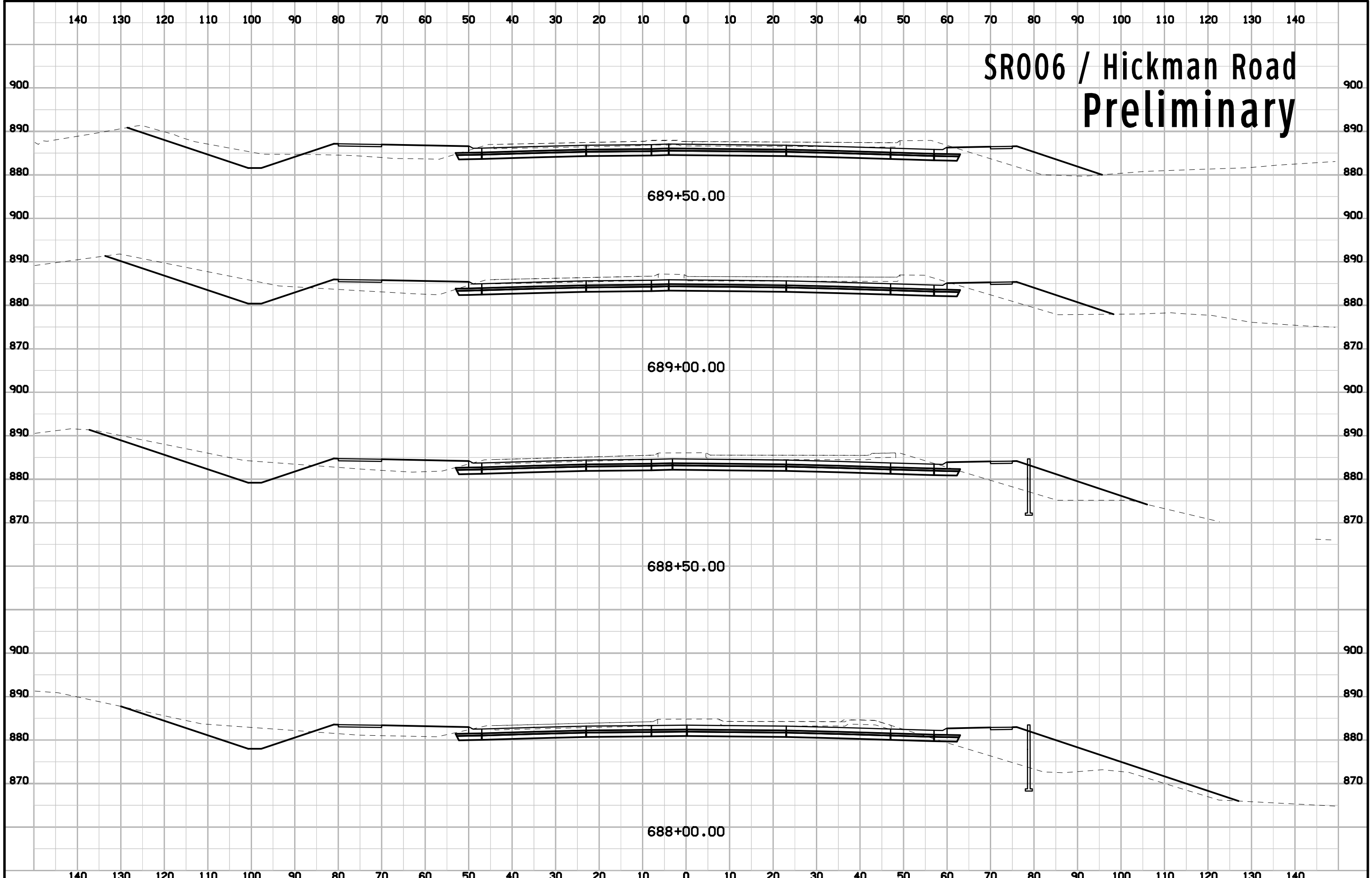
# SR006 / Hickman Road Preliminary



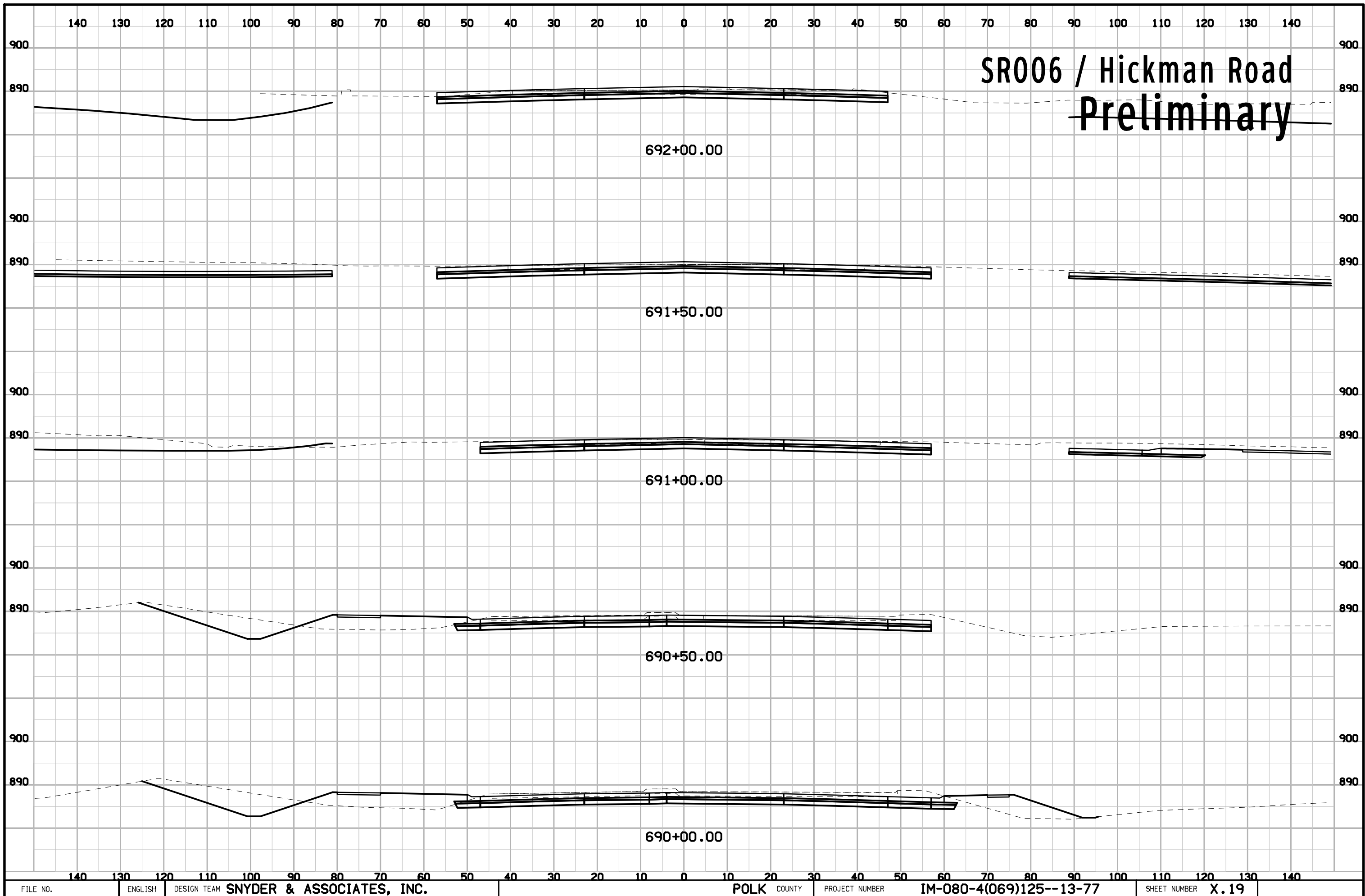
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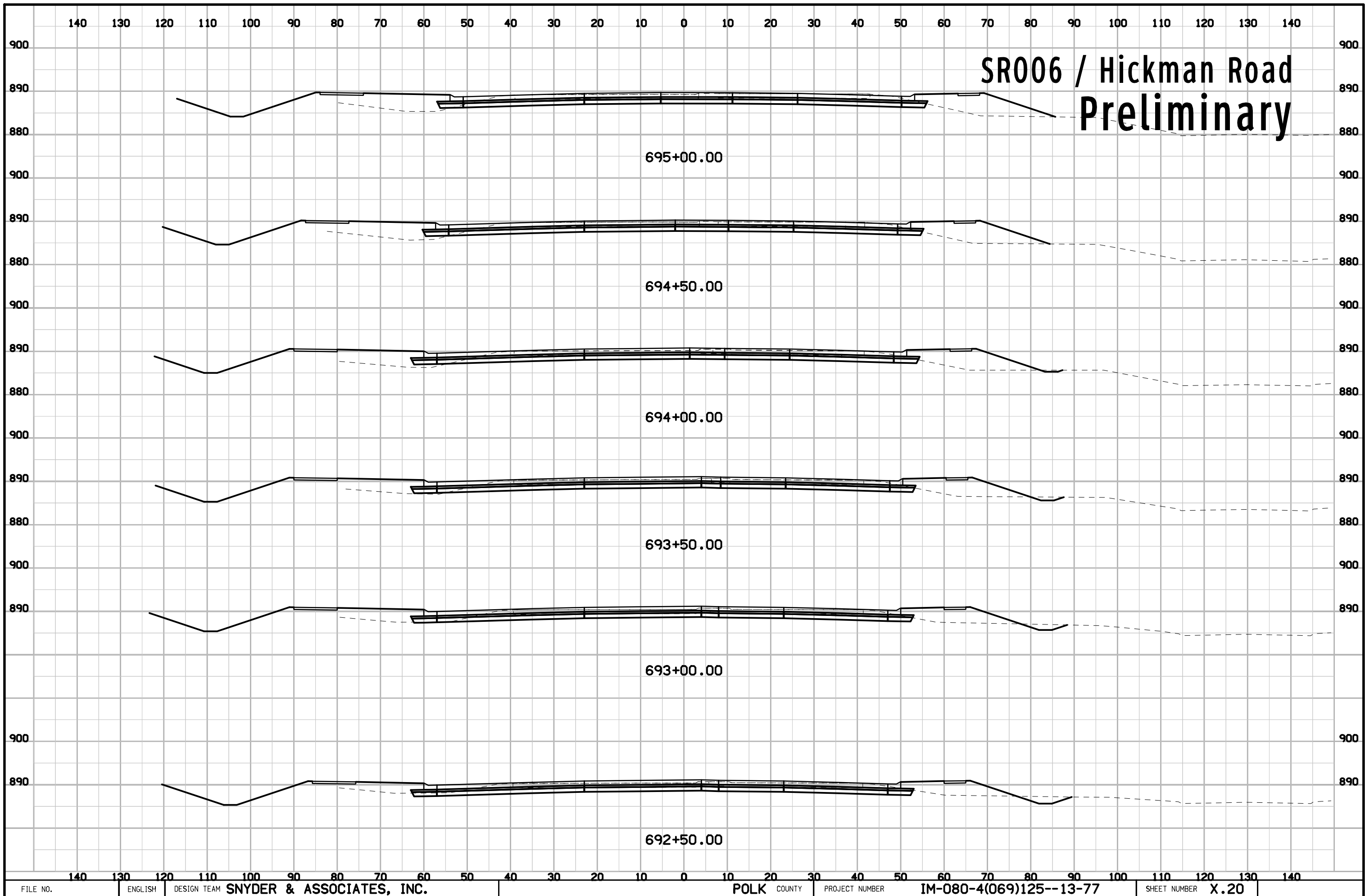


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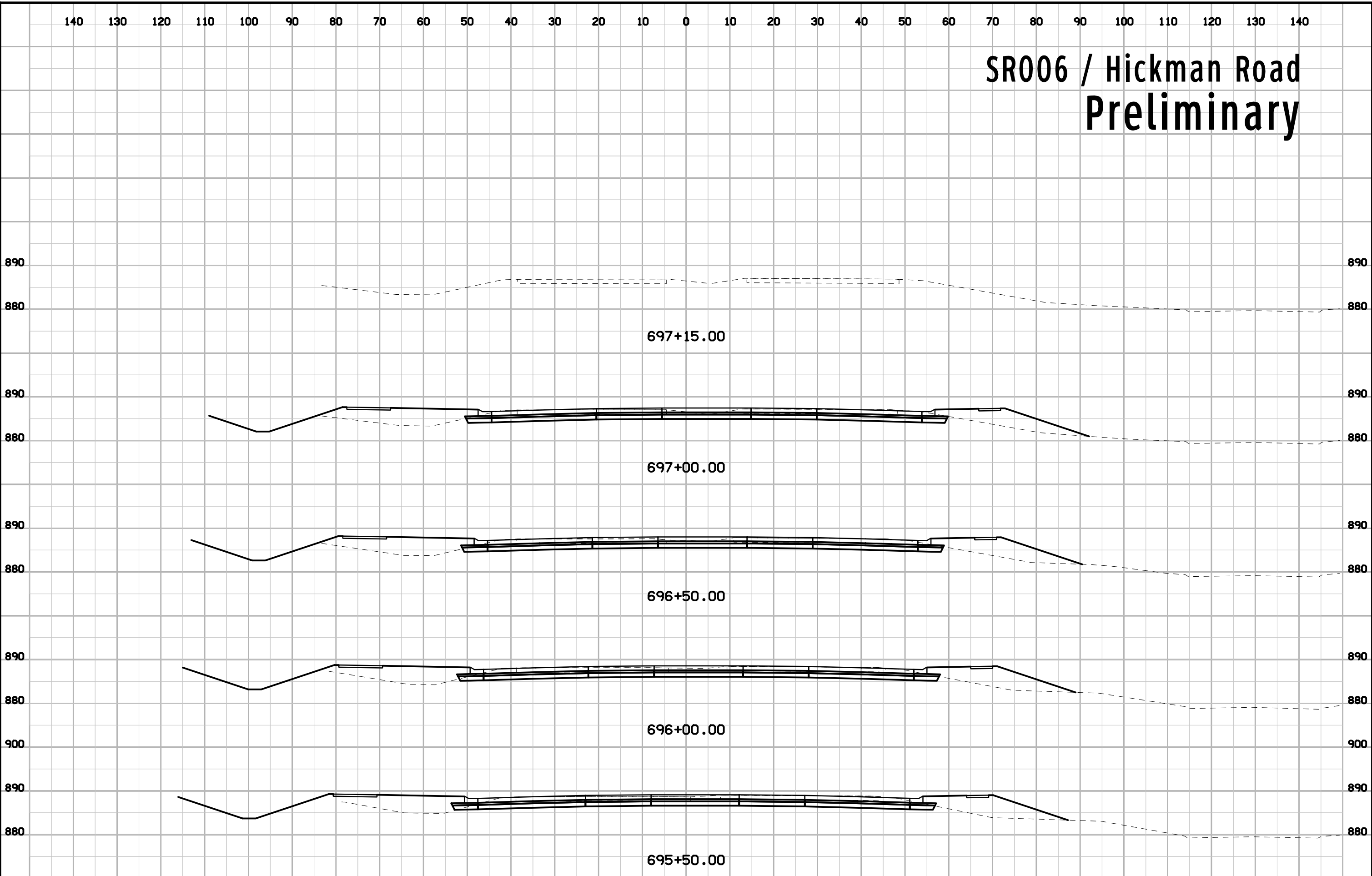




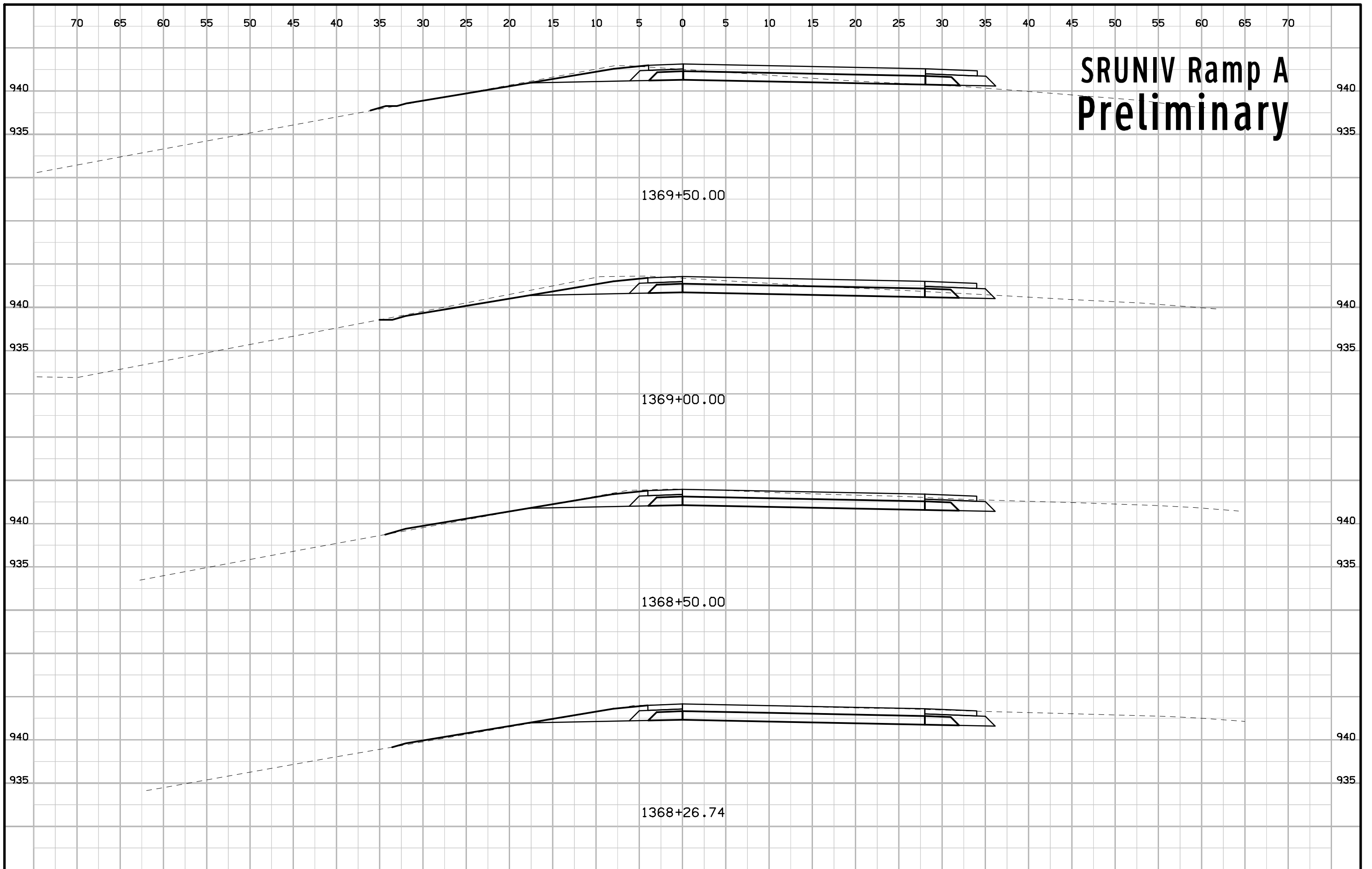




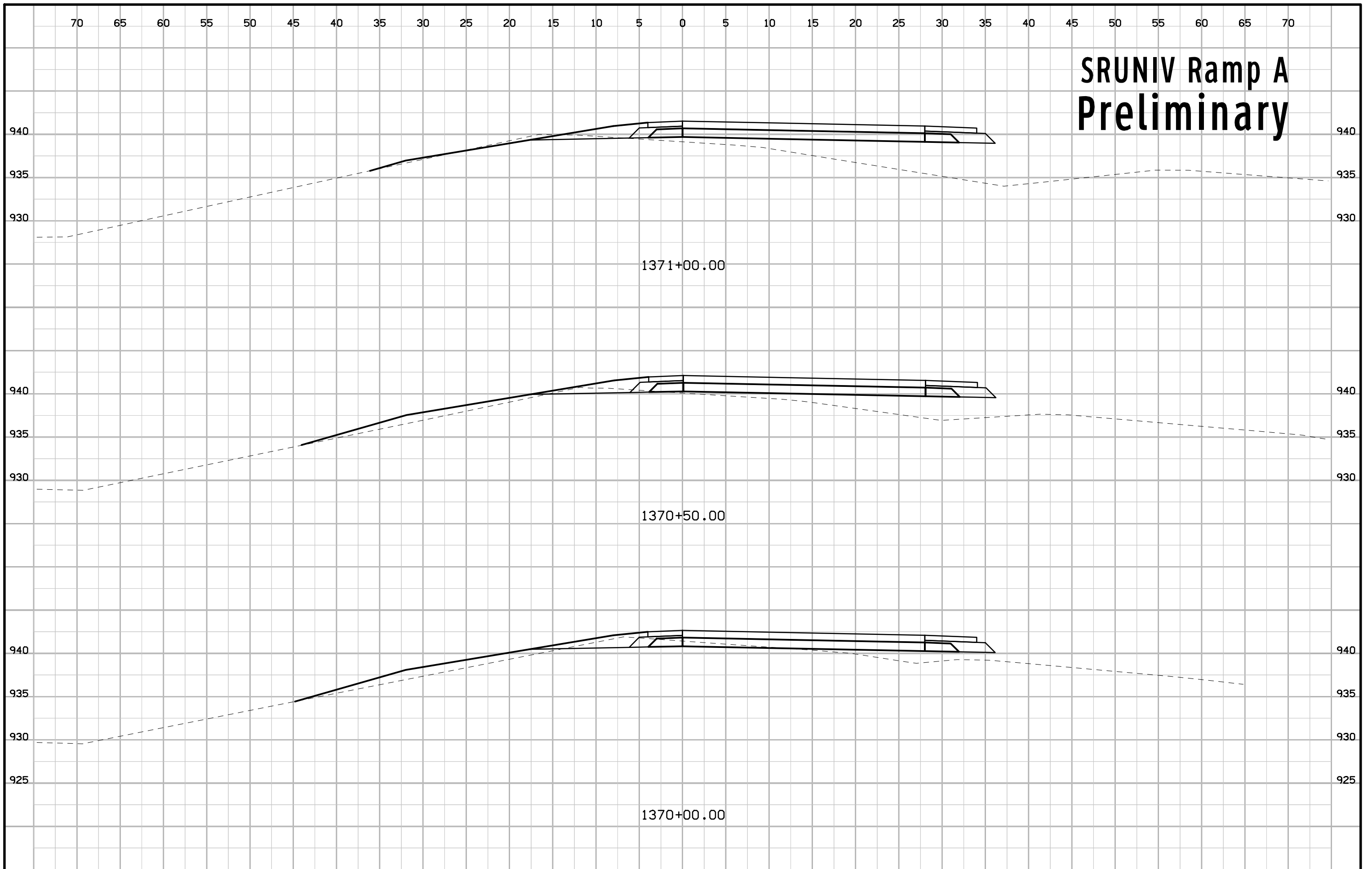
# SR006 / Hickman Road Preliminary



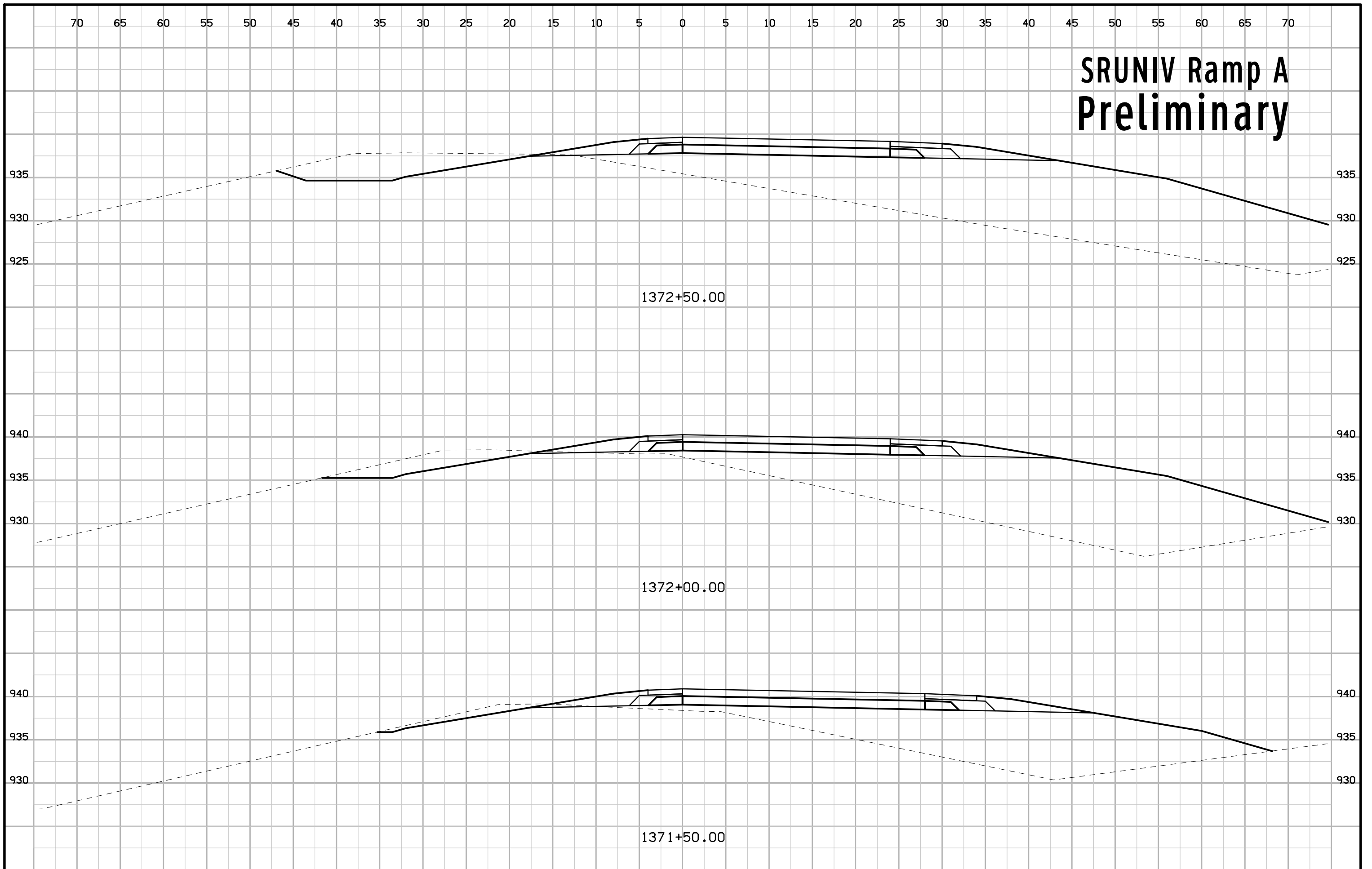
# SRUNIV Ramp A Preliminary



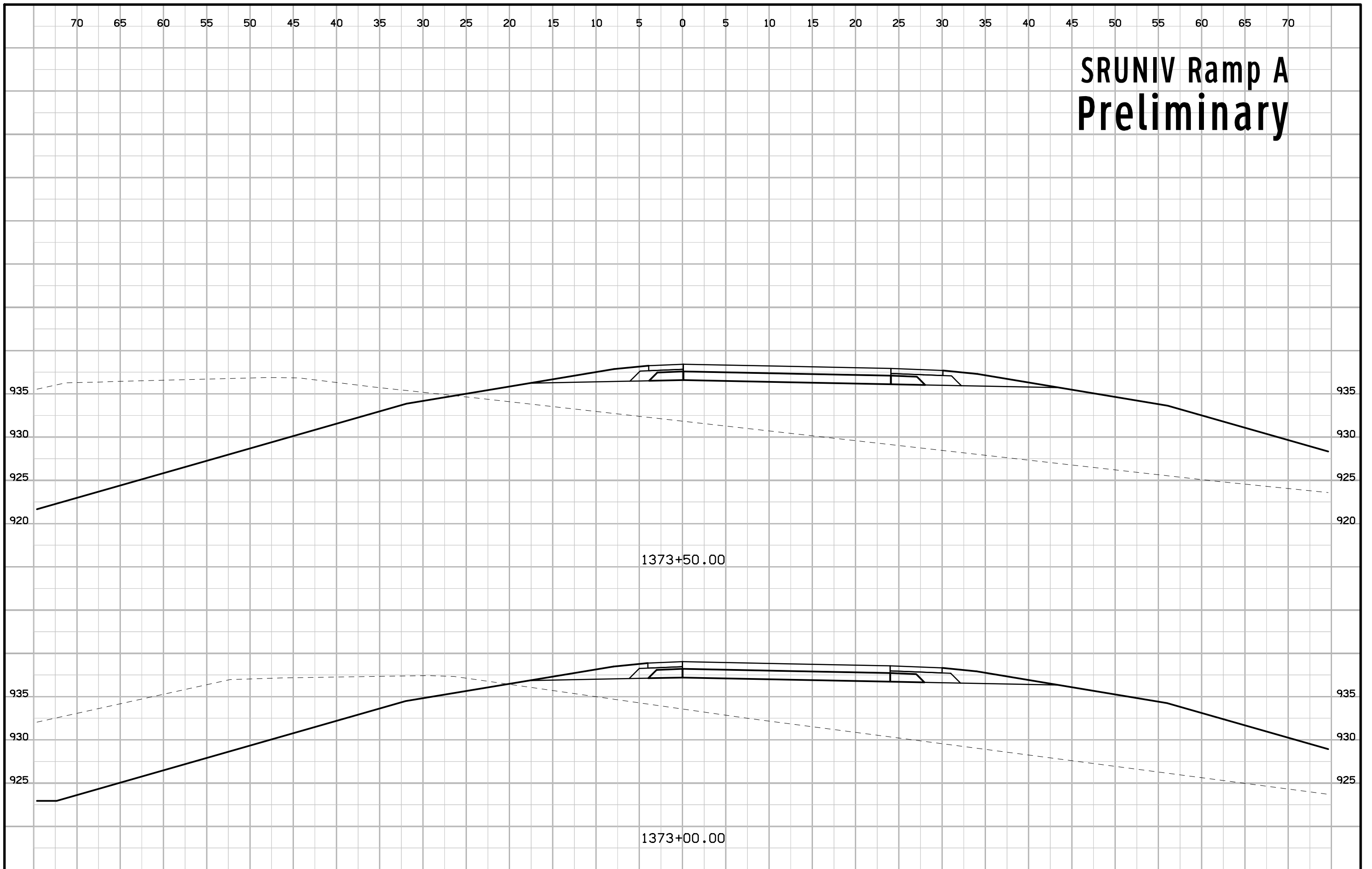
# SRUNIV Ramp A Preliminary



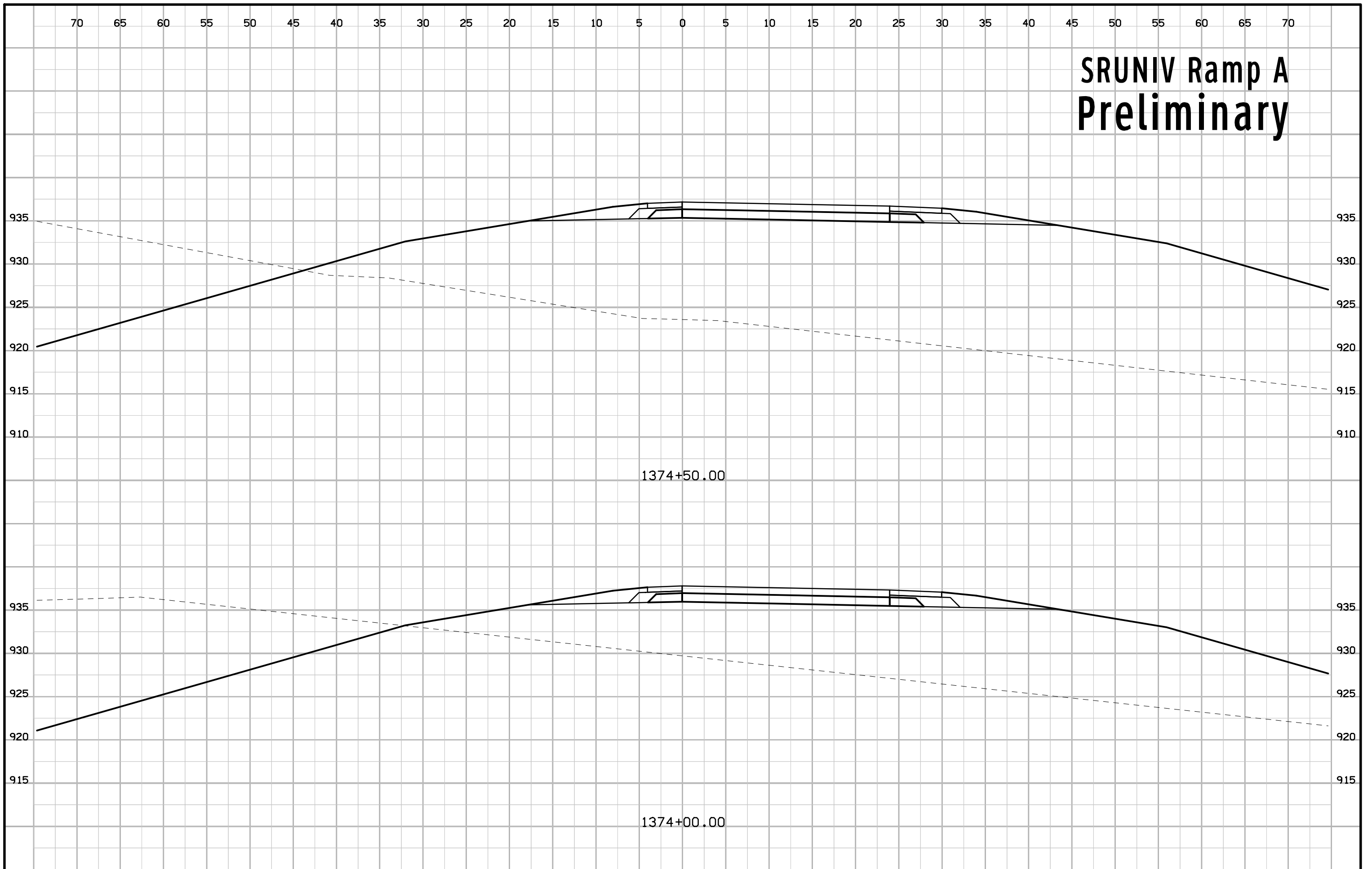
# SRUNIV Ramp A Preliminary



# SRUNIV Ramp A Preliminary

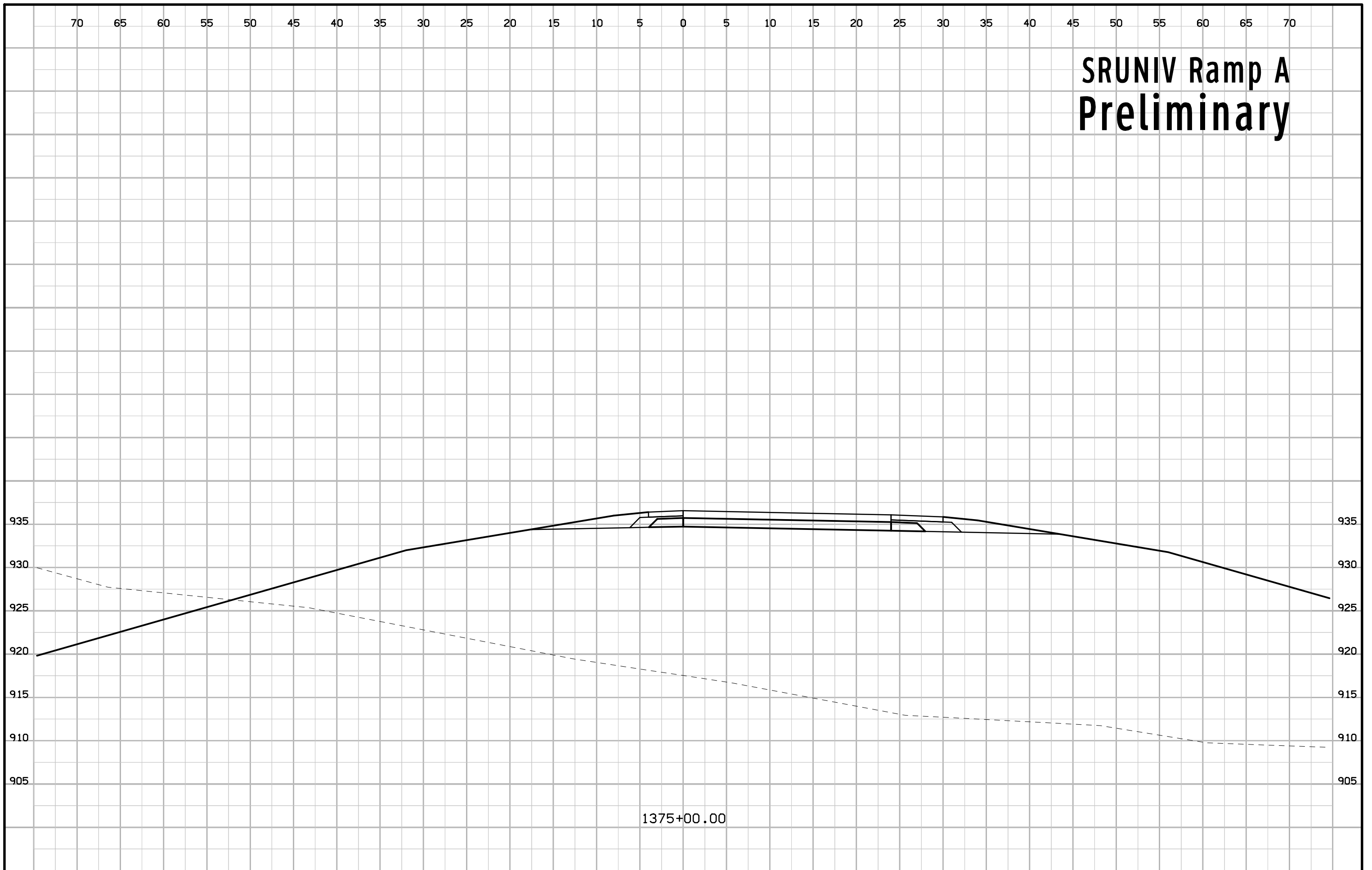


# SRUNIV Ramp A Preliminary



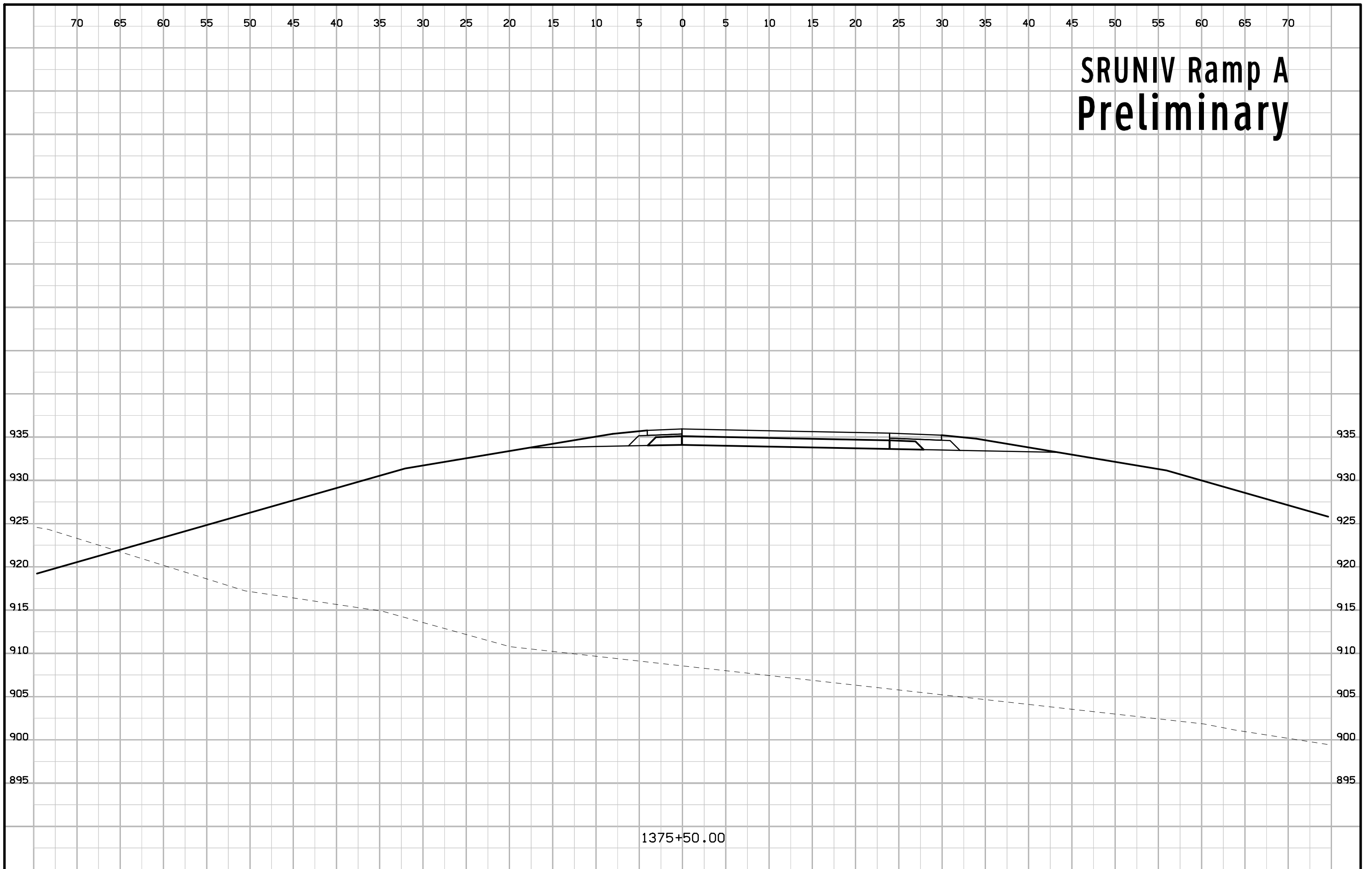


# SRUNIV Ramp A Preliminary



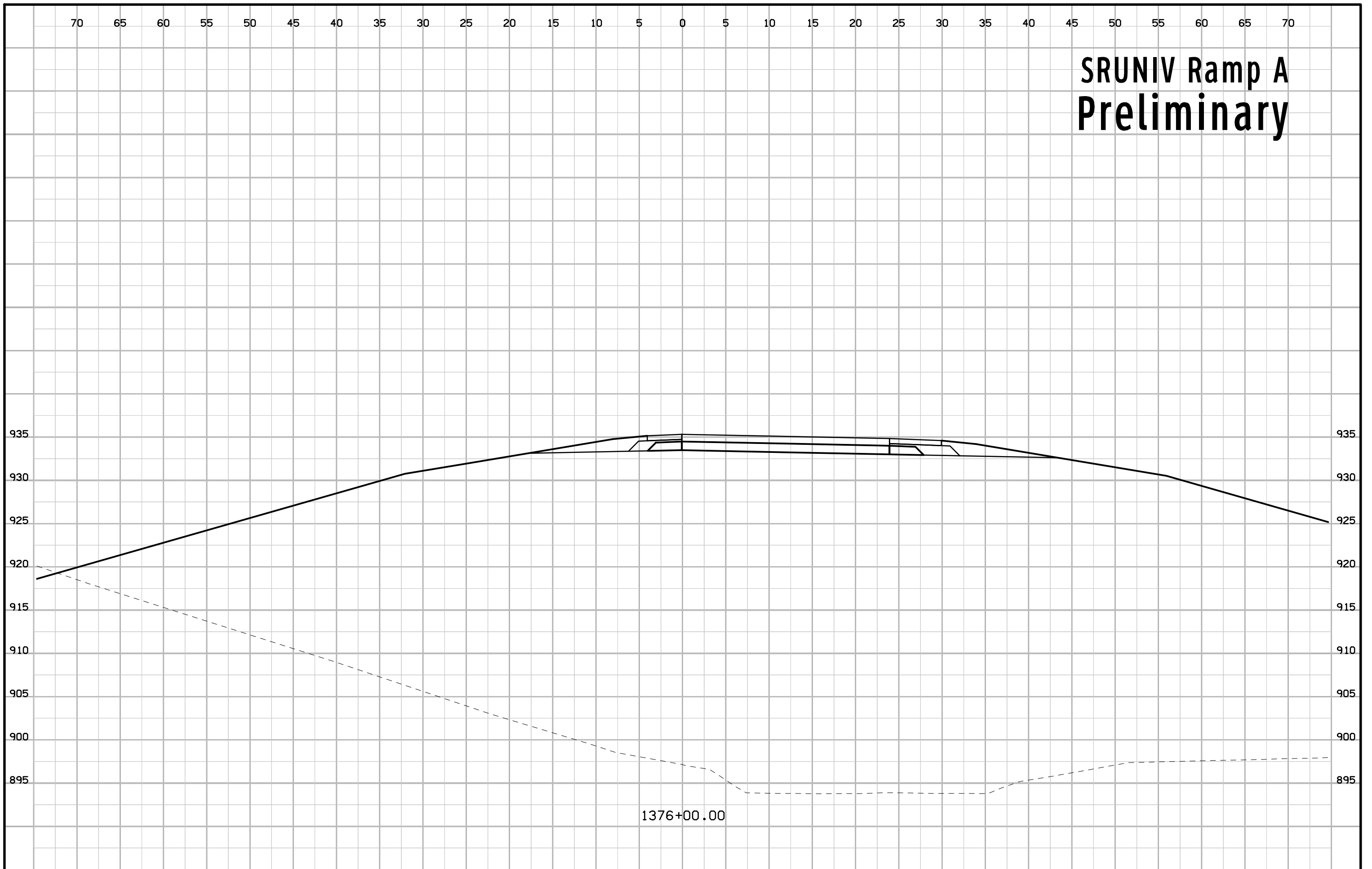
1375+00.00

# SRUNIV Ramp A Preliminary



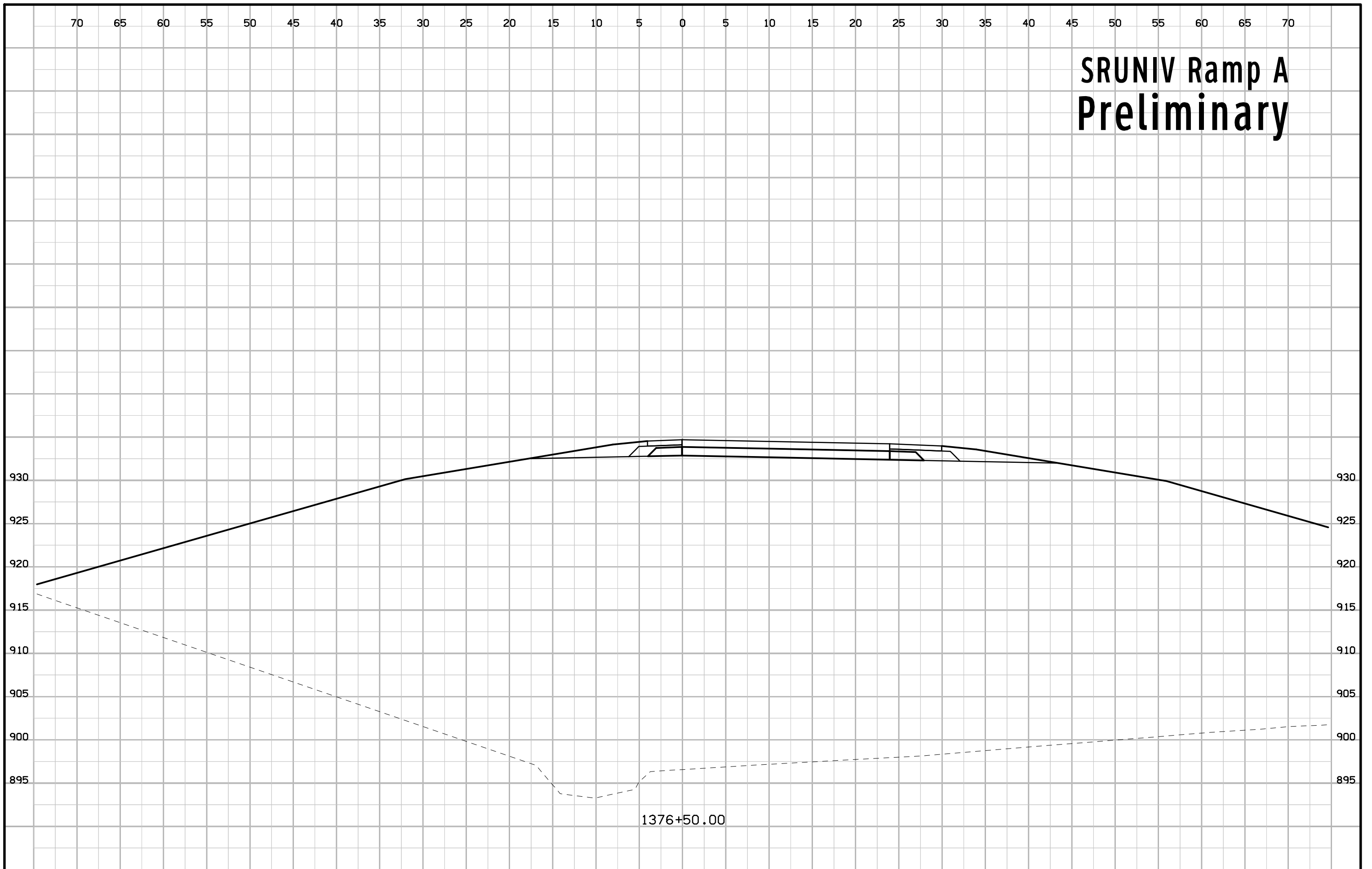
1375+50.00

# SRUNIV Ramp A Preliminary



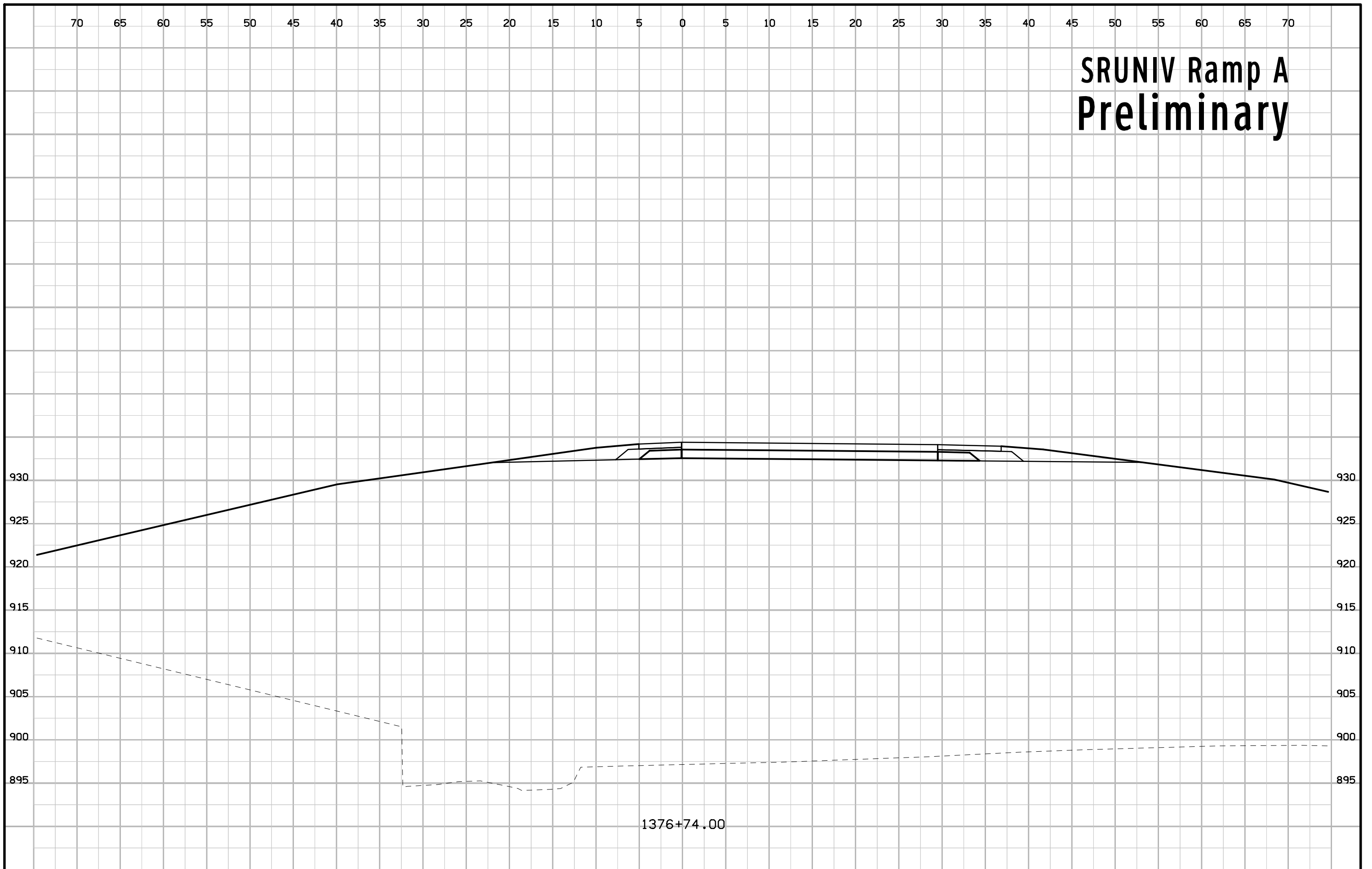
1376+00.00

# SRUNIV Ramp A Preliminary



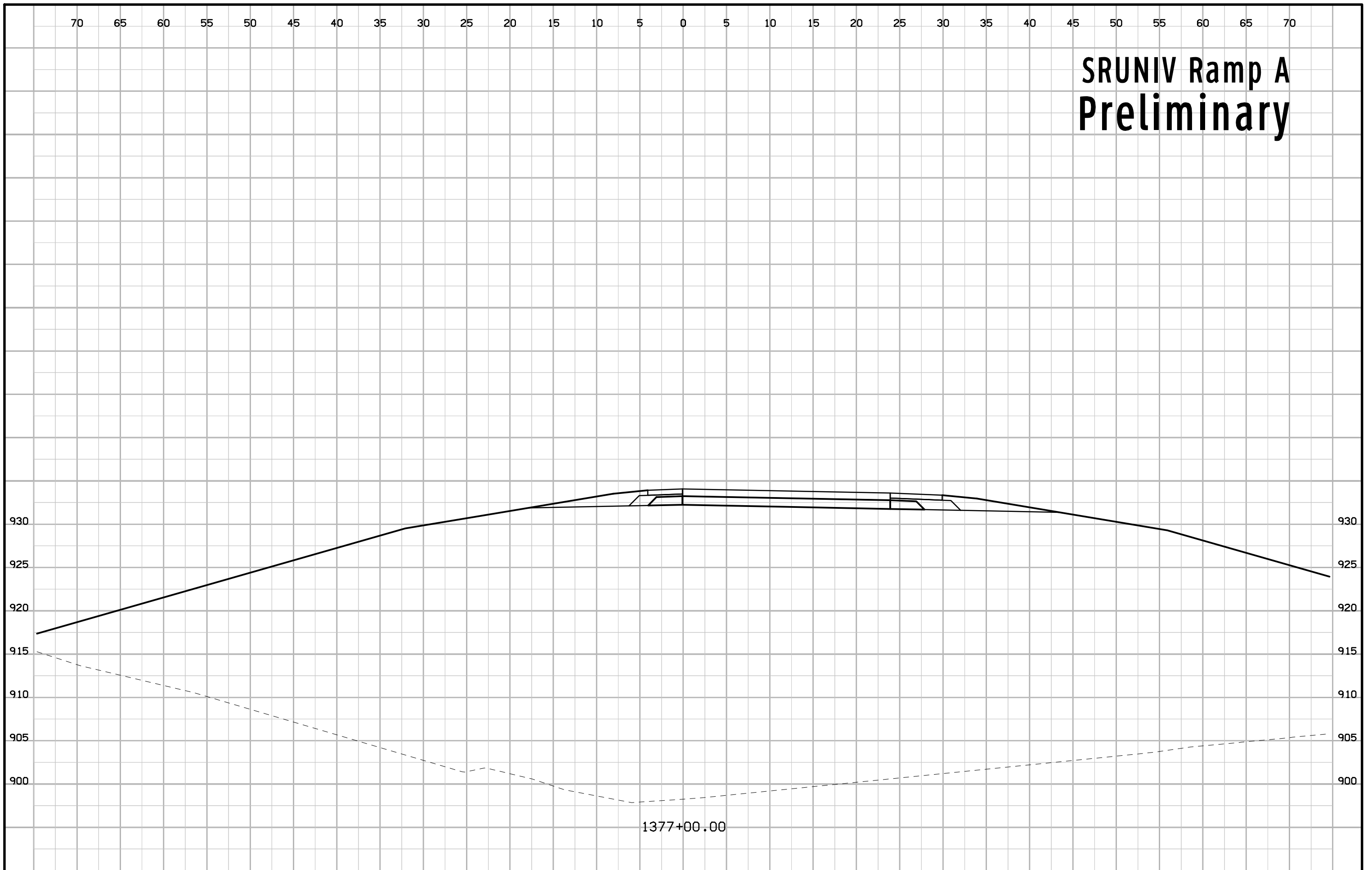
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# SRUNIV Ramp A Preliminary



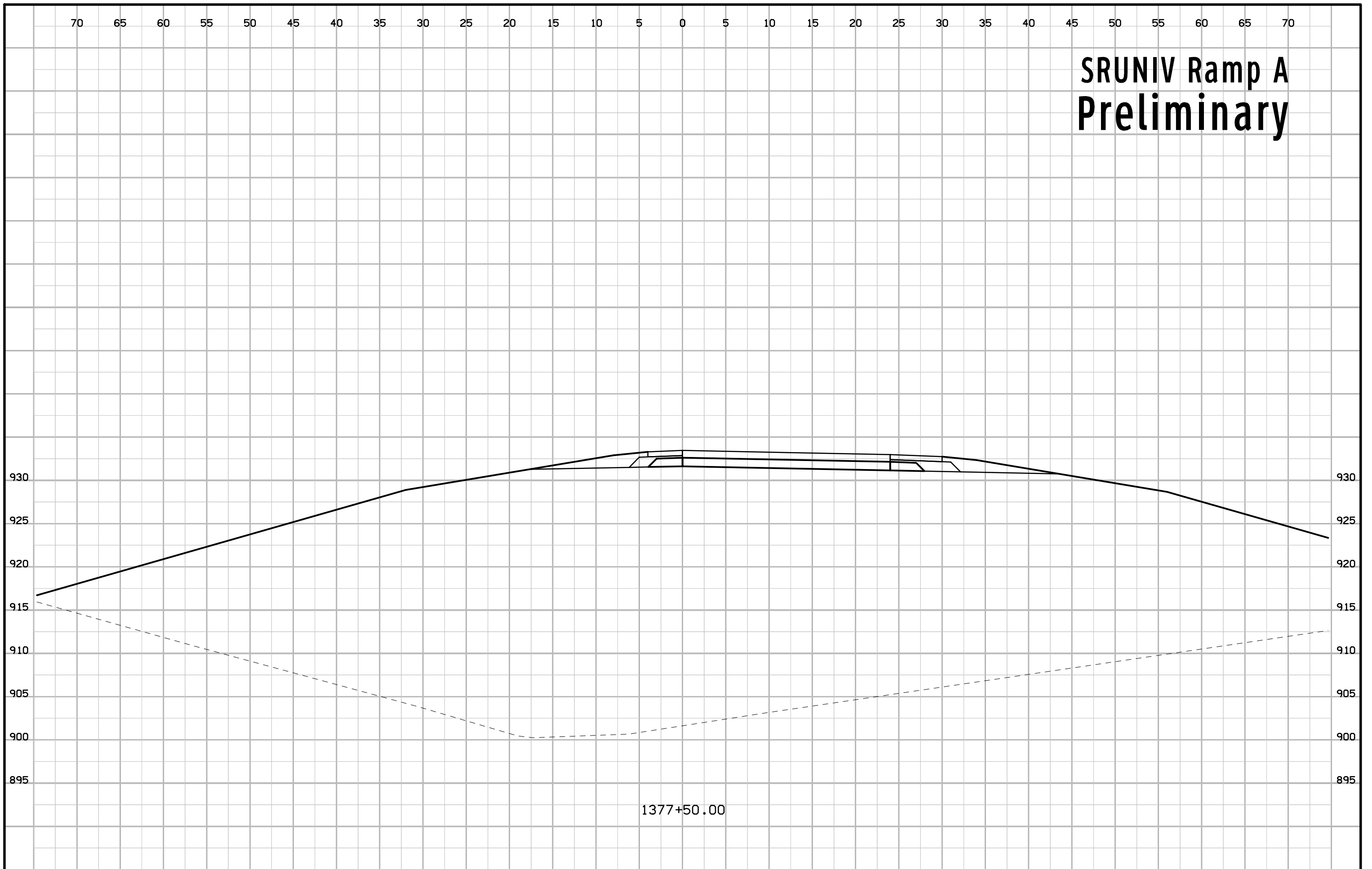
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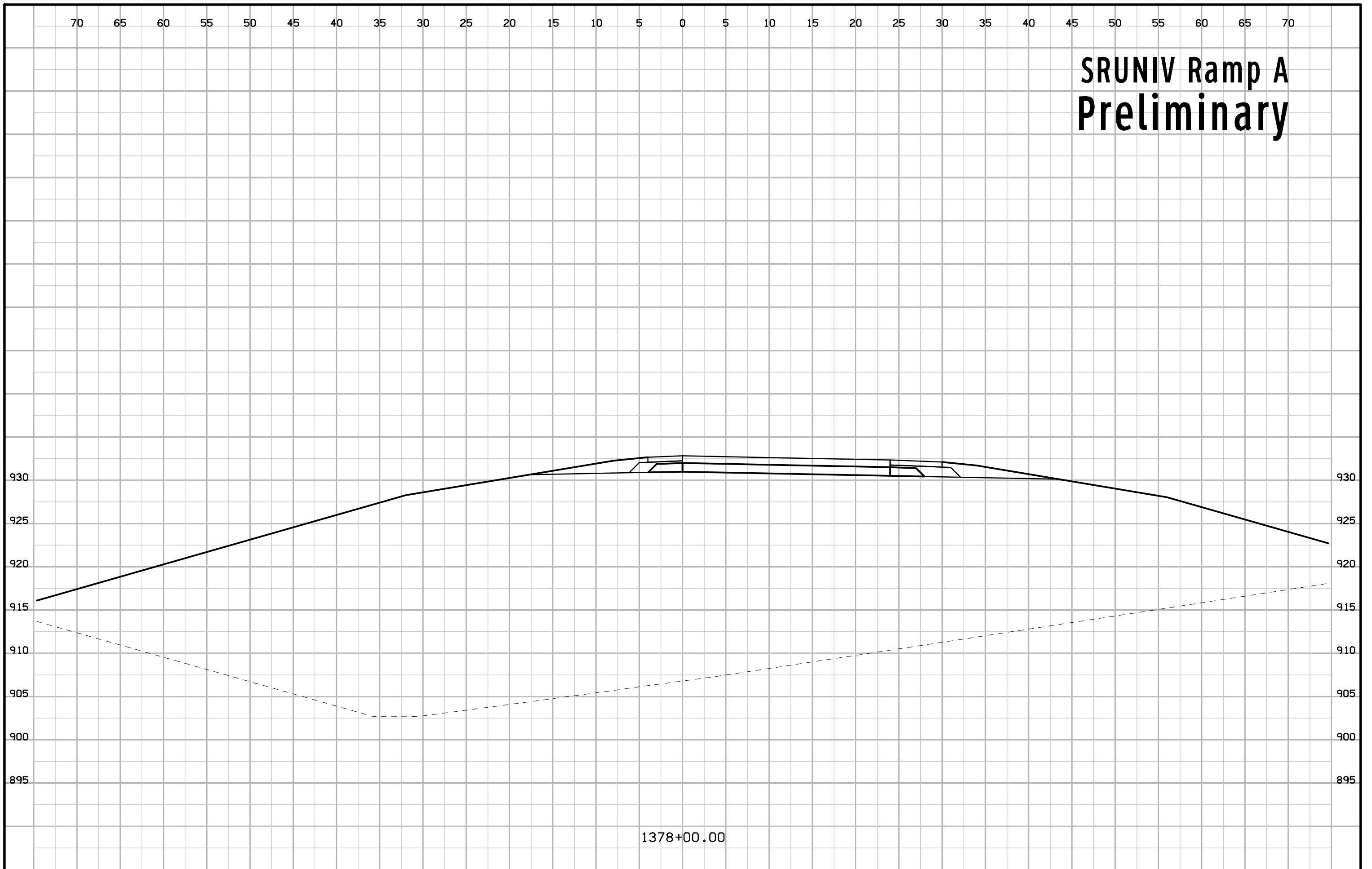
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# SRUNIV Ramp A Preliminary



1377+50.00

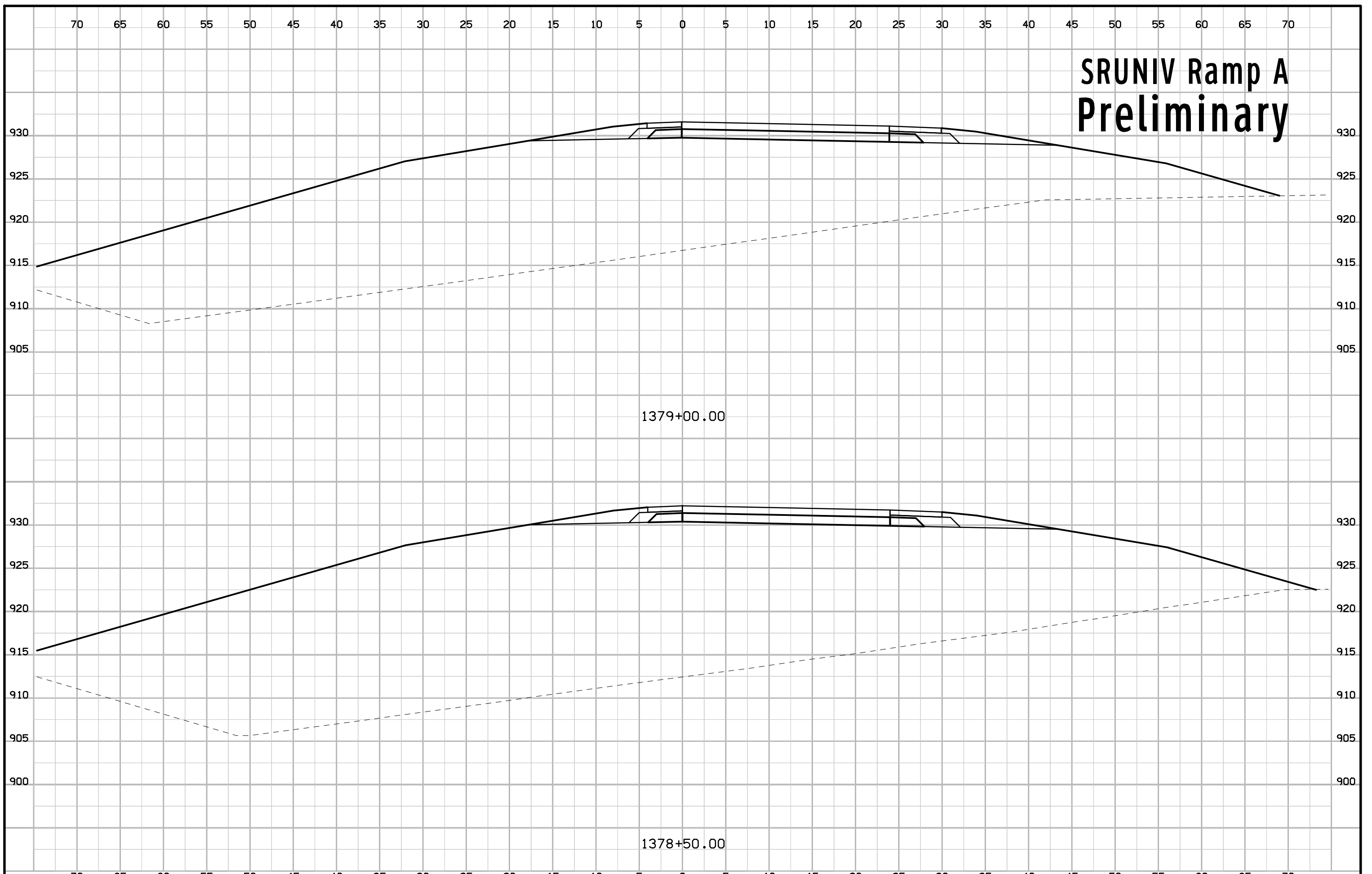
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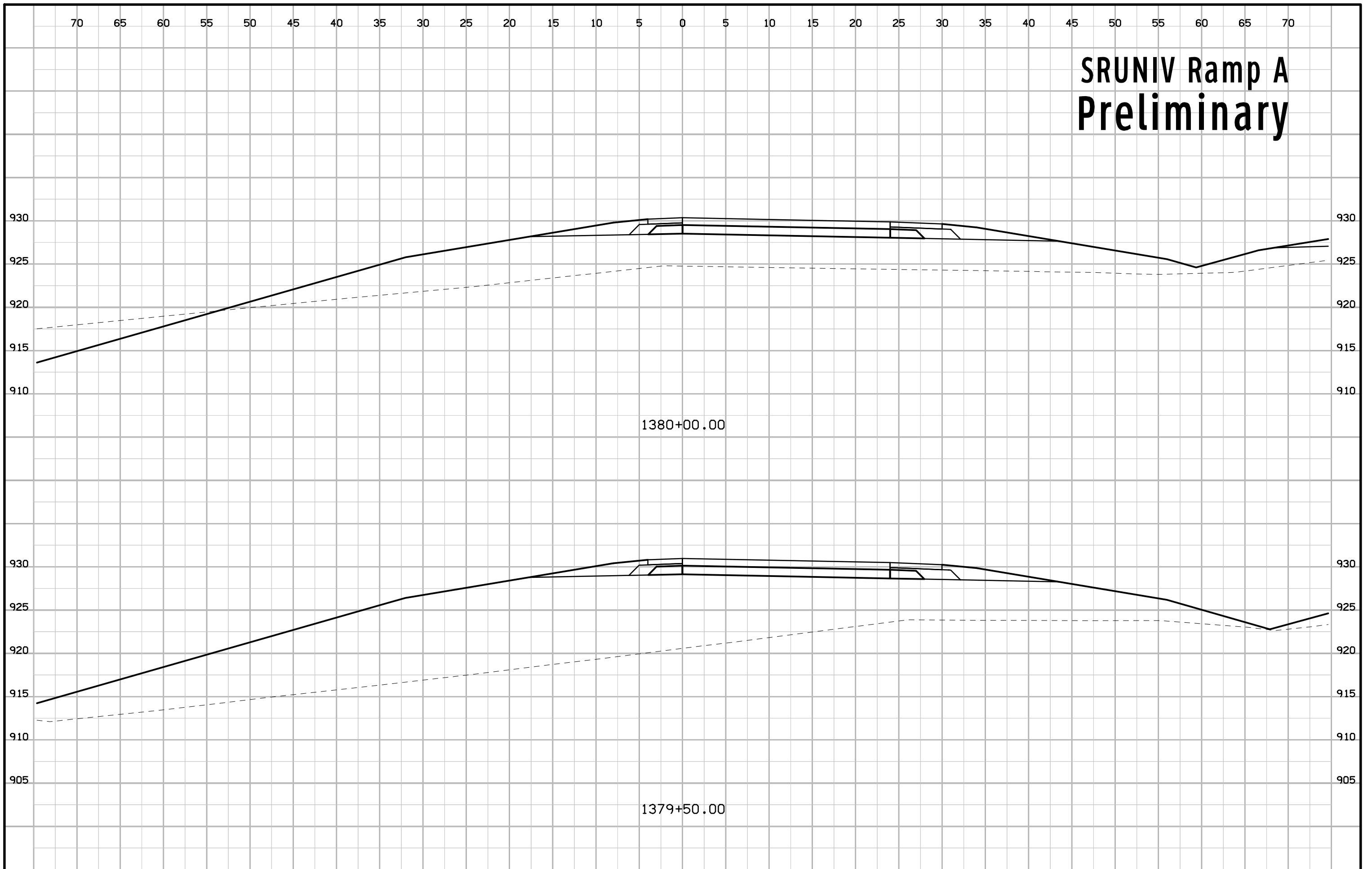
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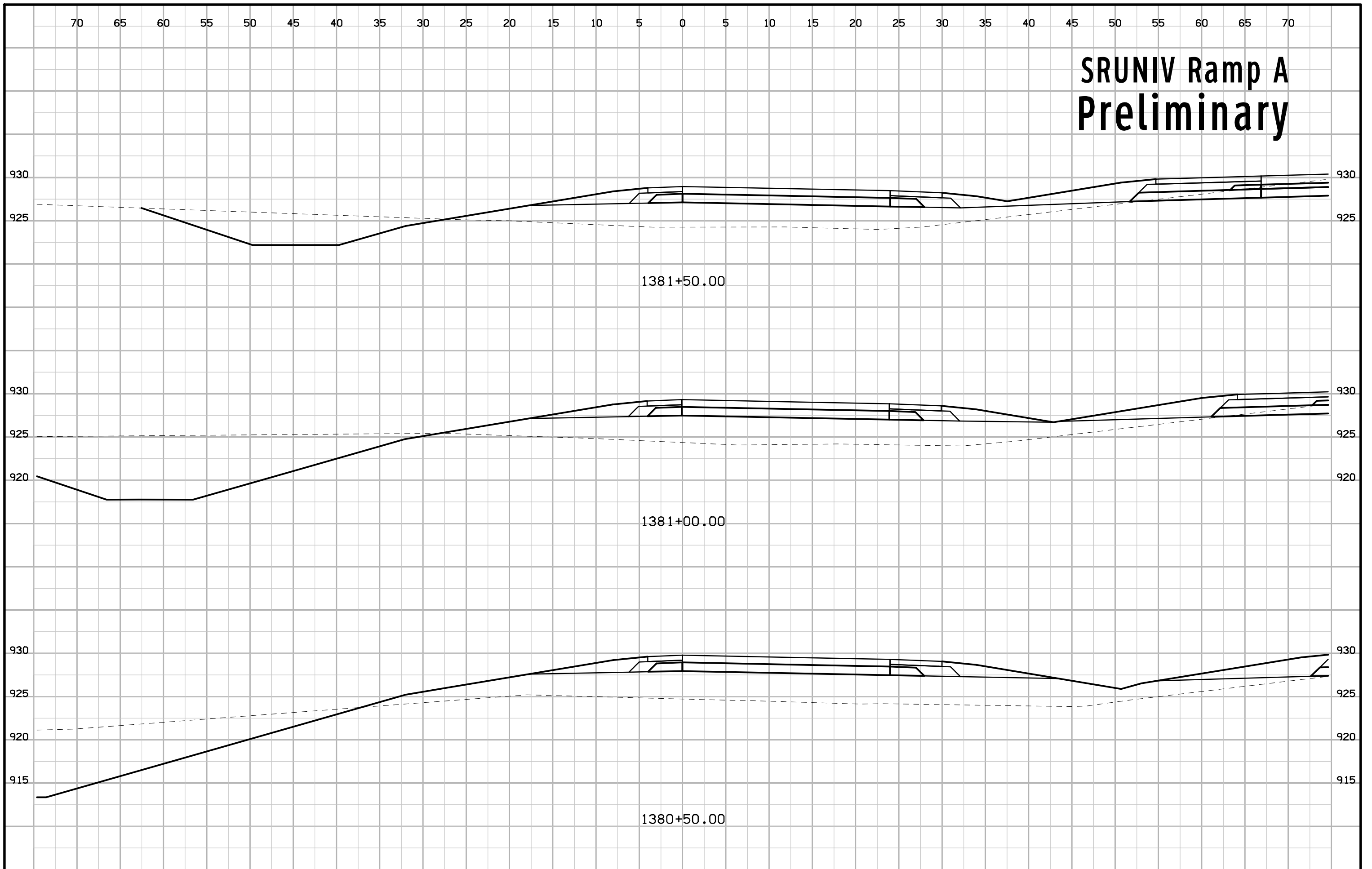
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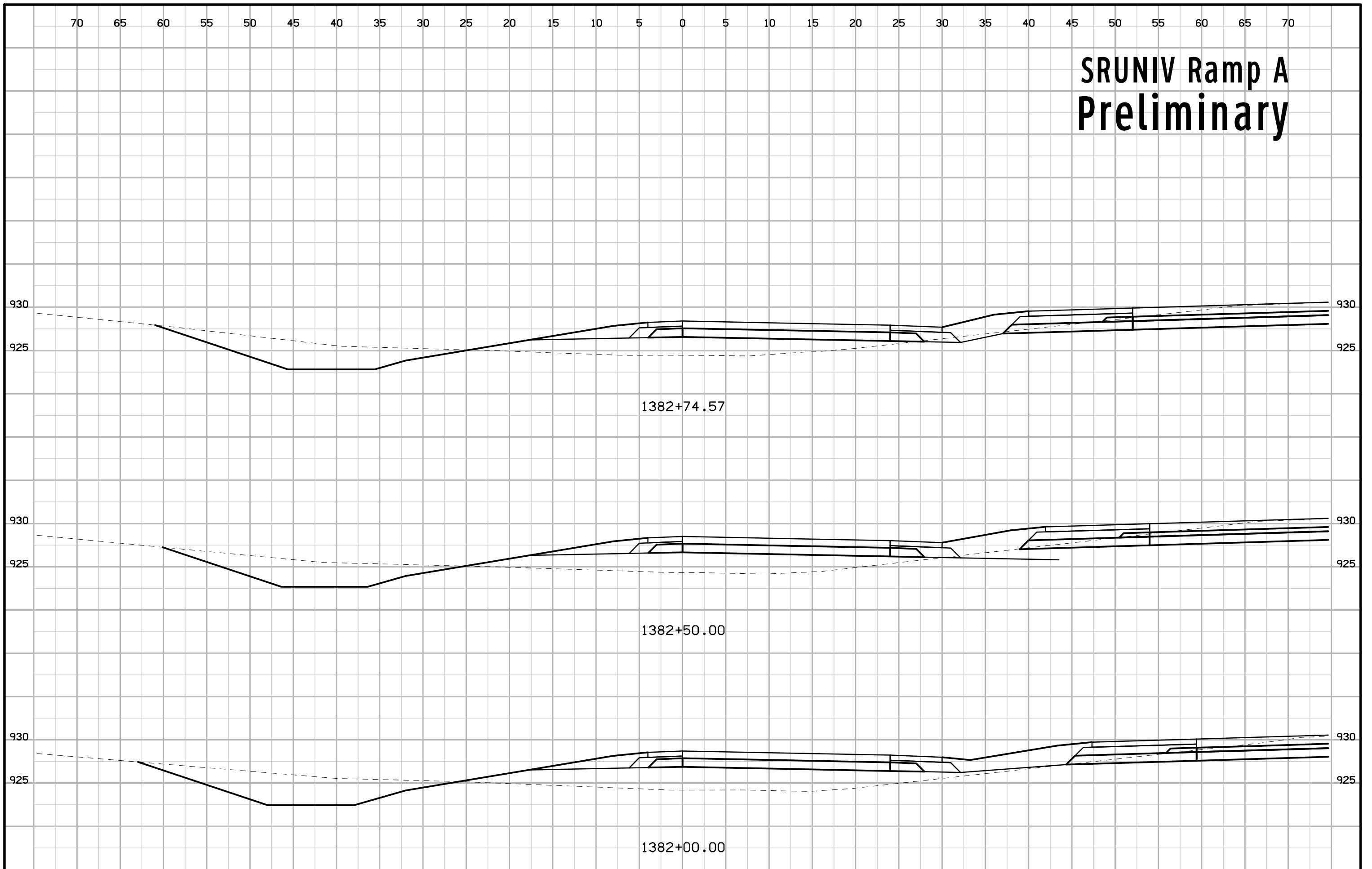
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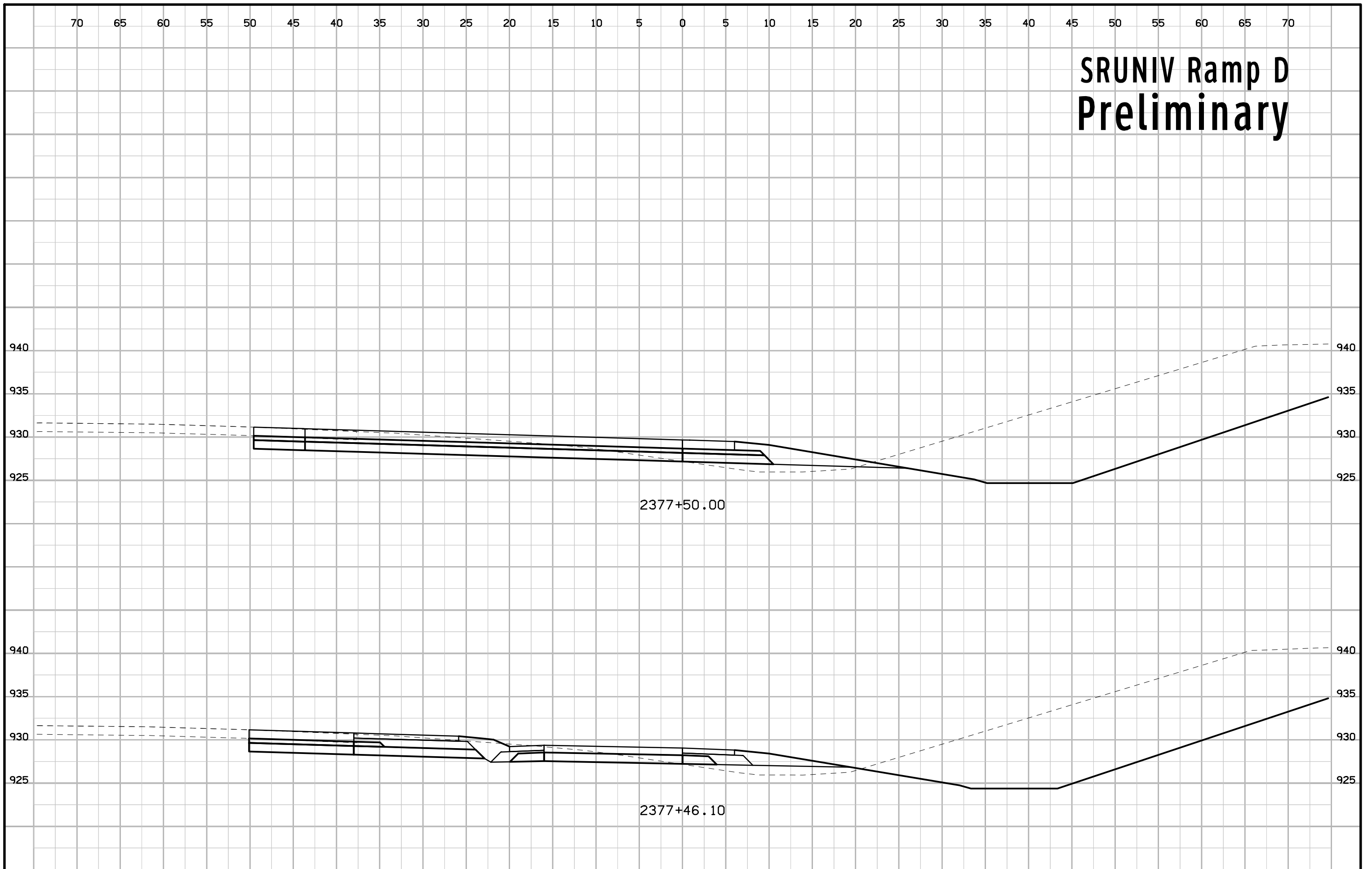
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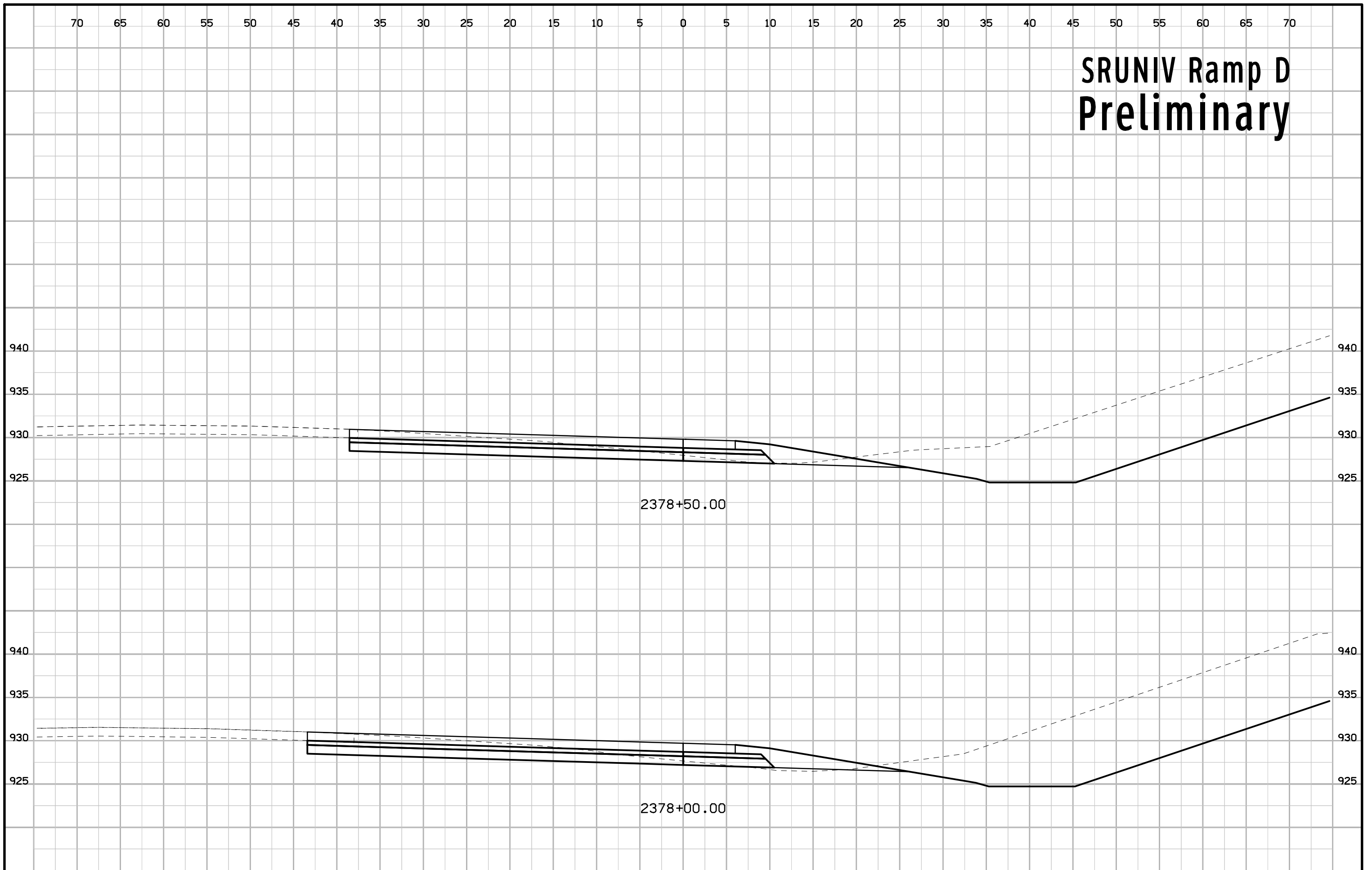
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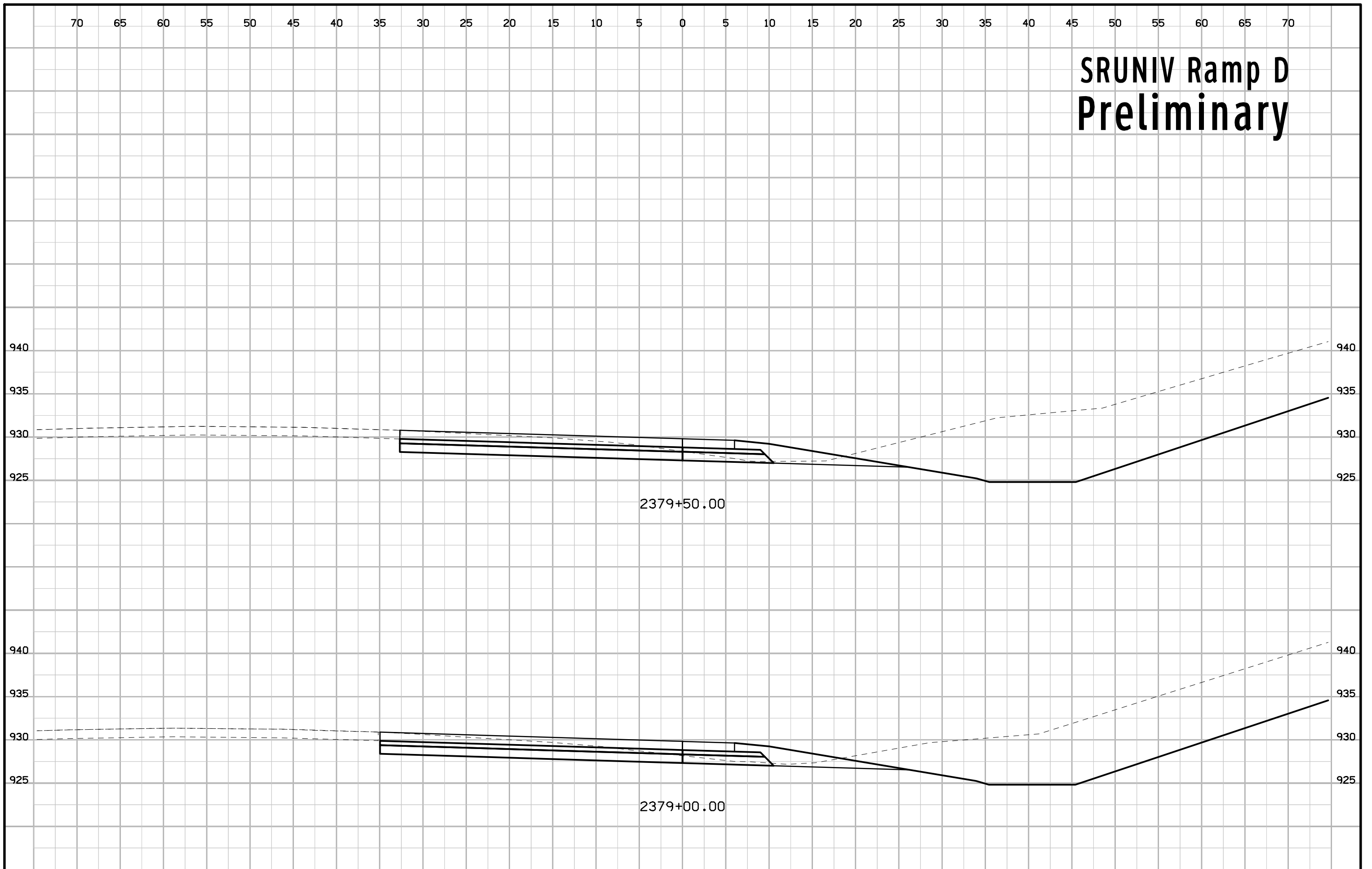
# SRUNIV Ramp D Preliminary



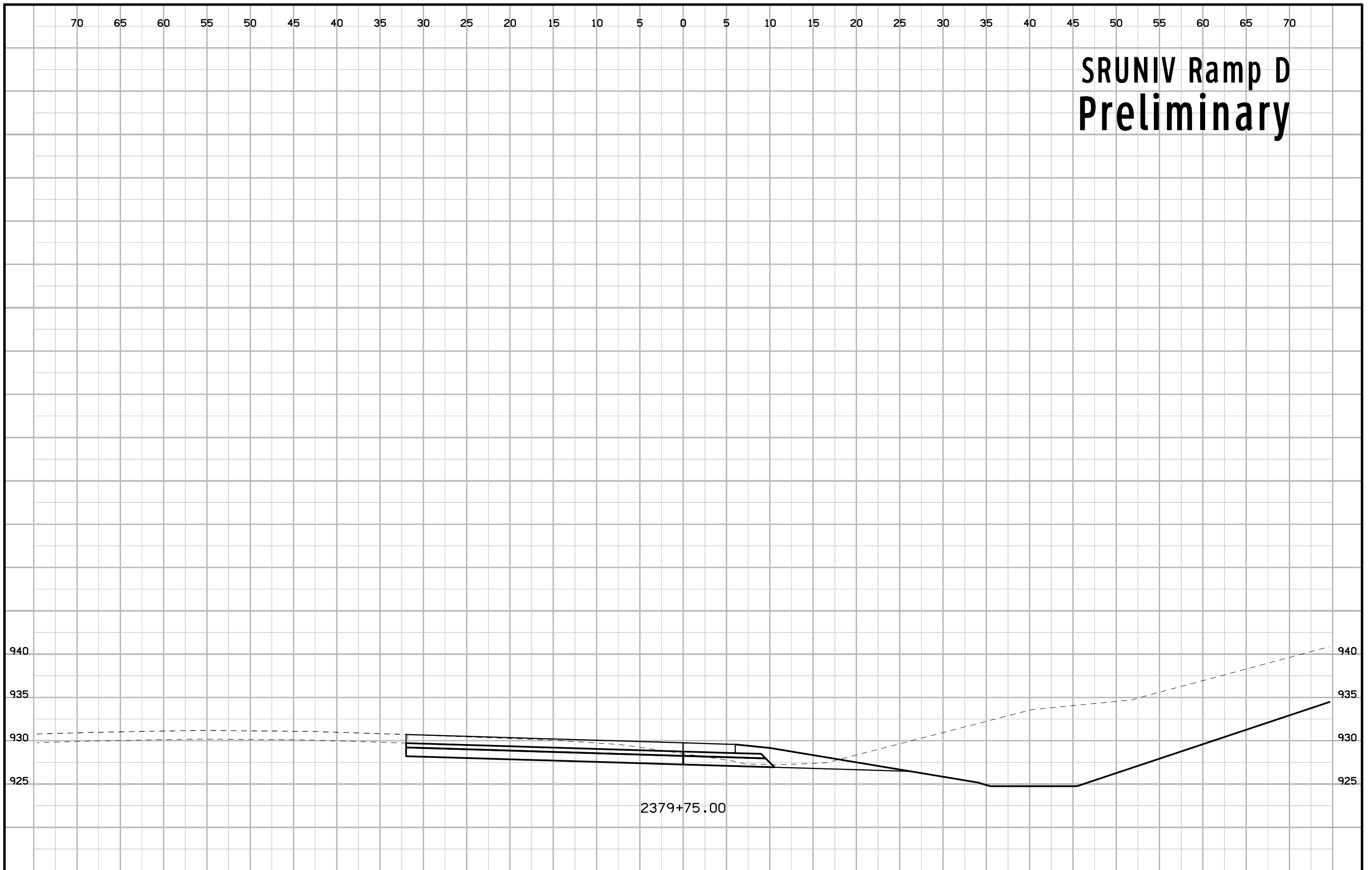
# SRUNIV Ramp D Preliminary



# SRUNIV Ramp D Preliminary



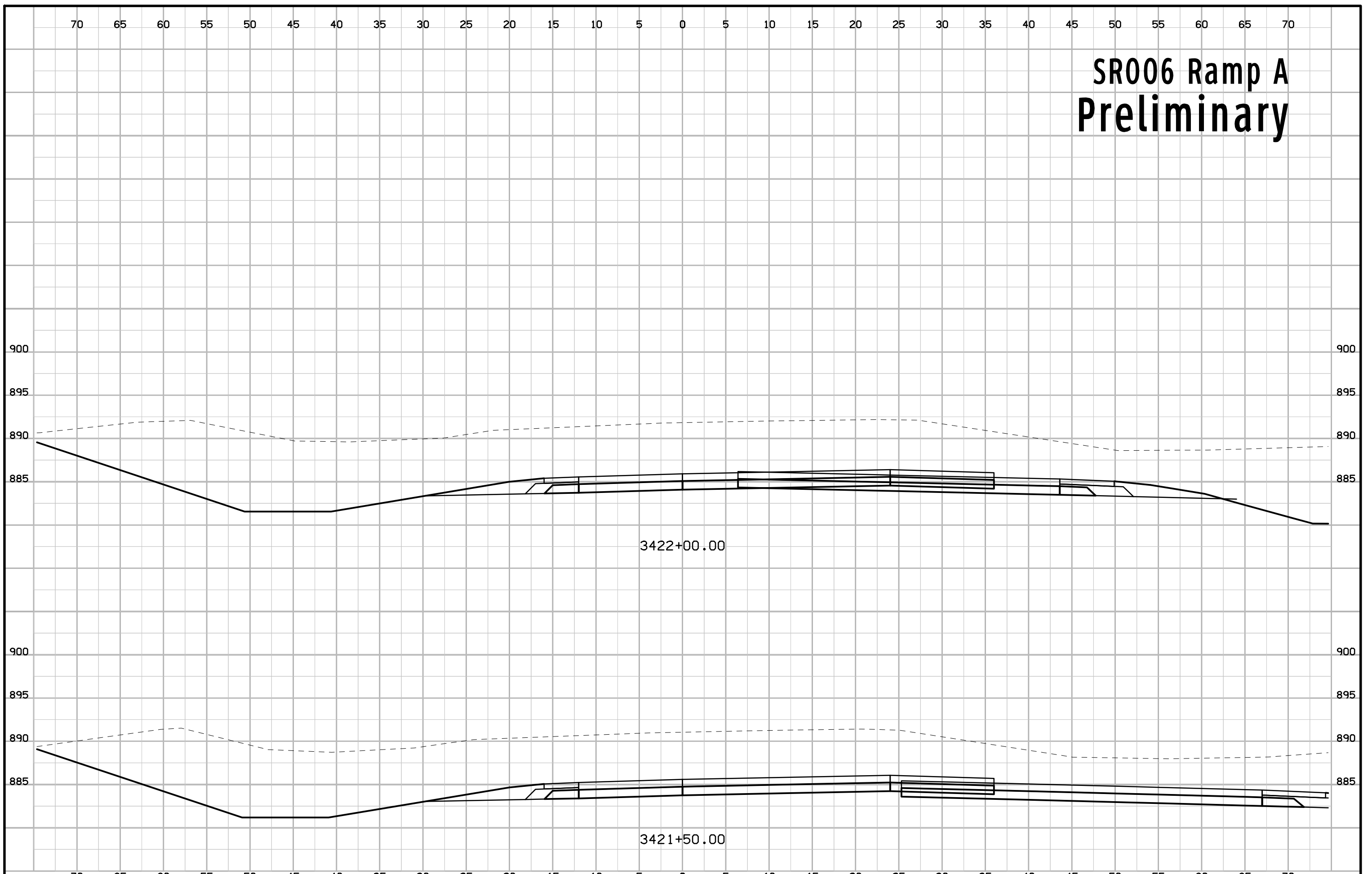
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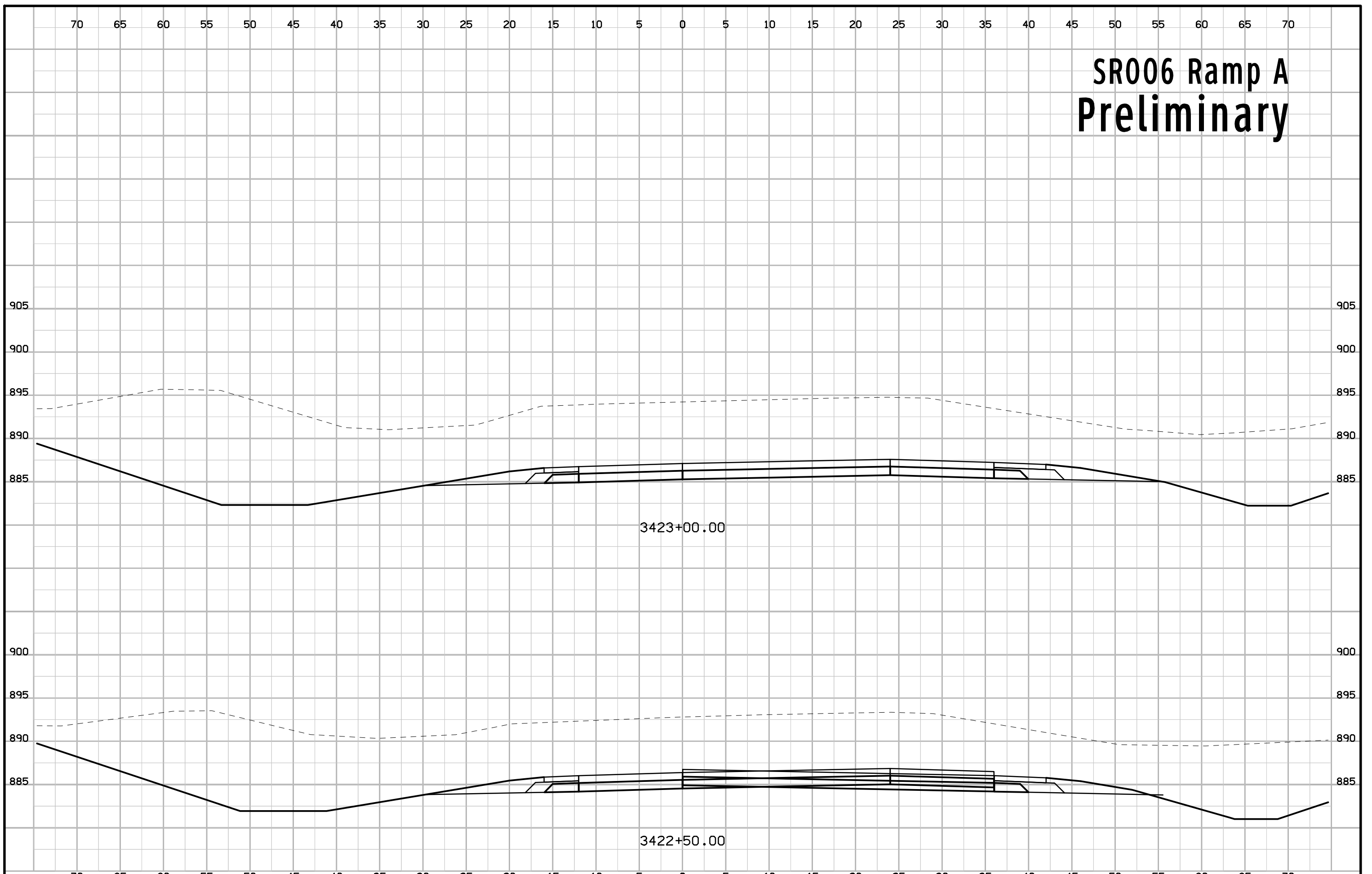
2379+75.00



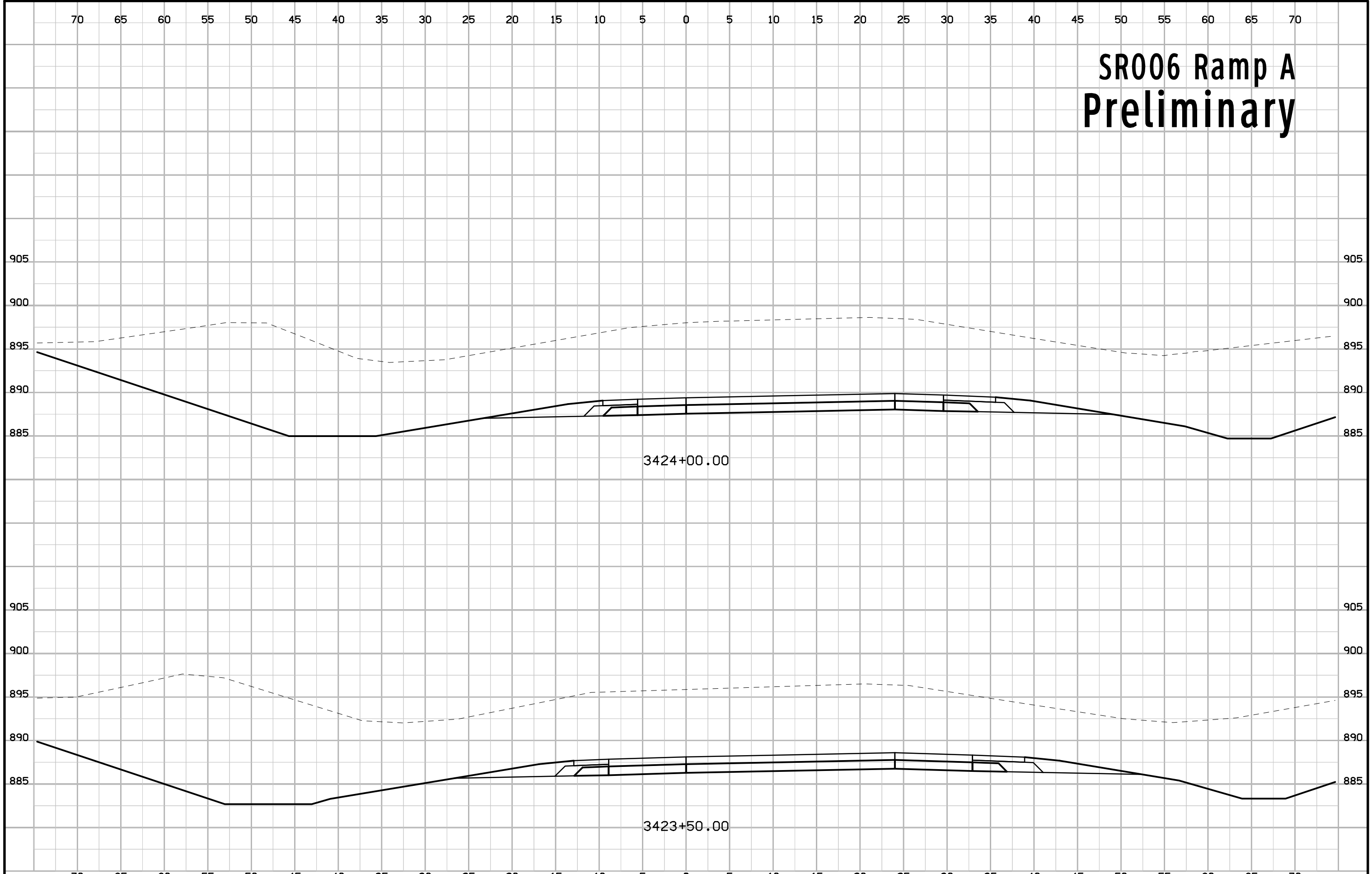
# SR006 Ramp A Preliminary



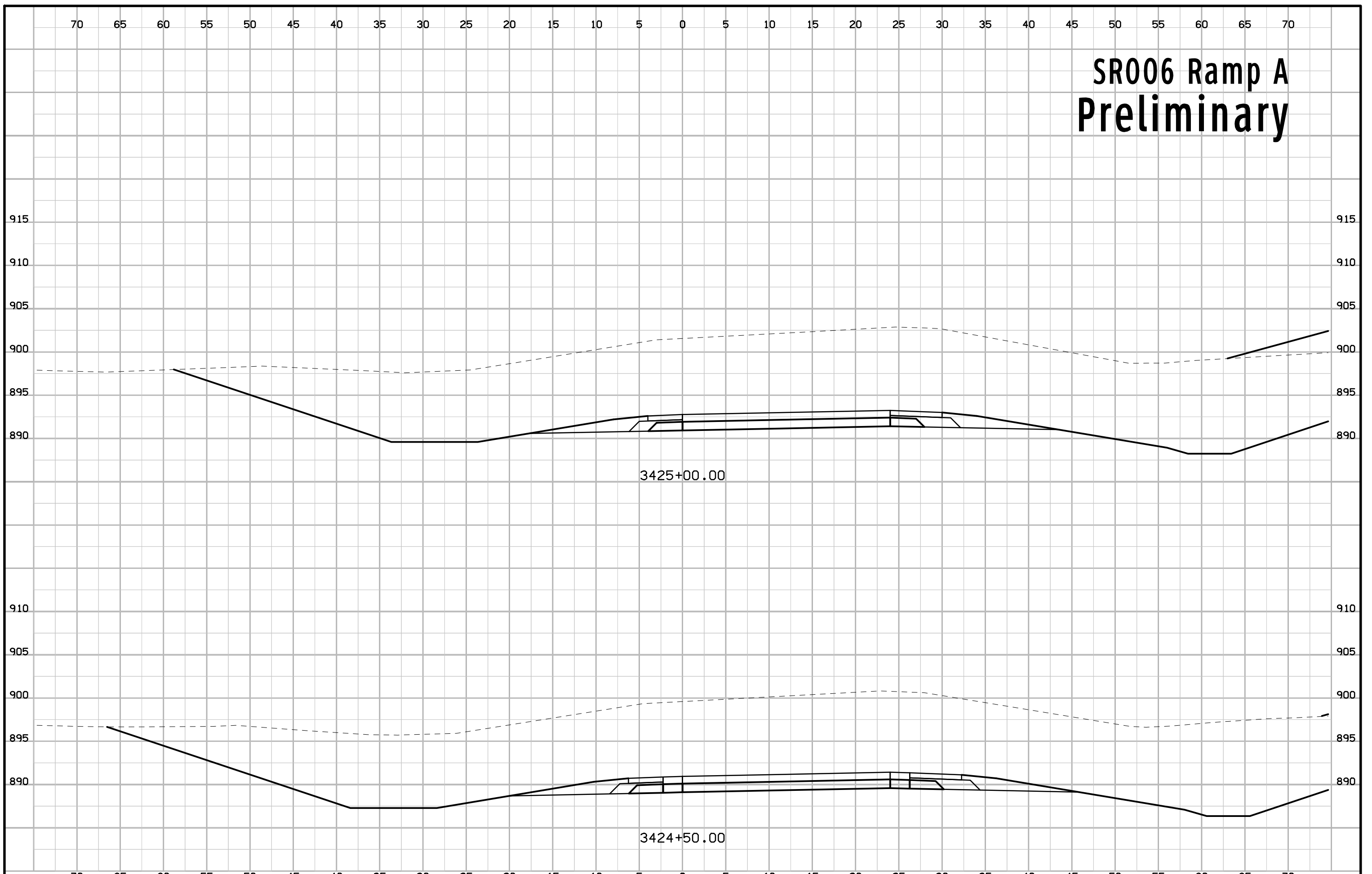
# SR006 Ramp A Preliminary



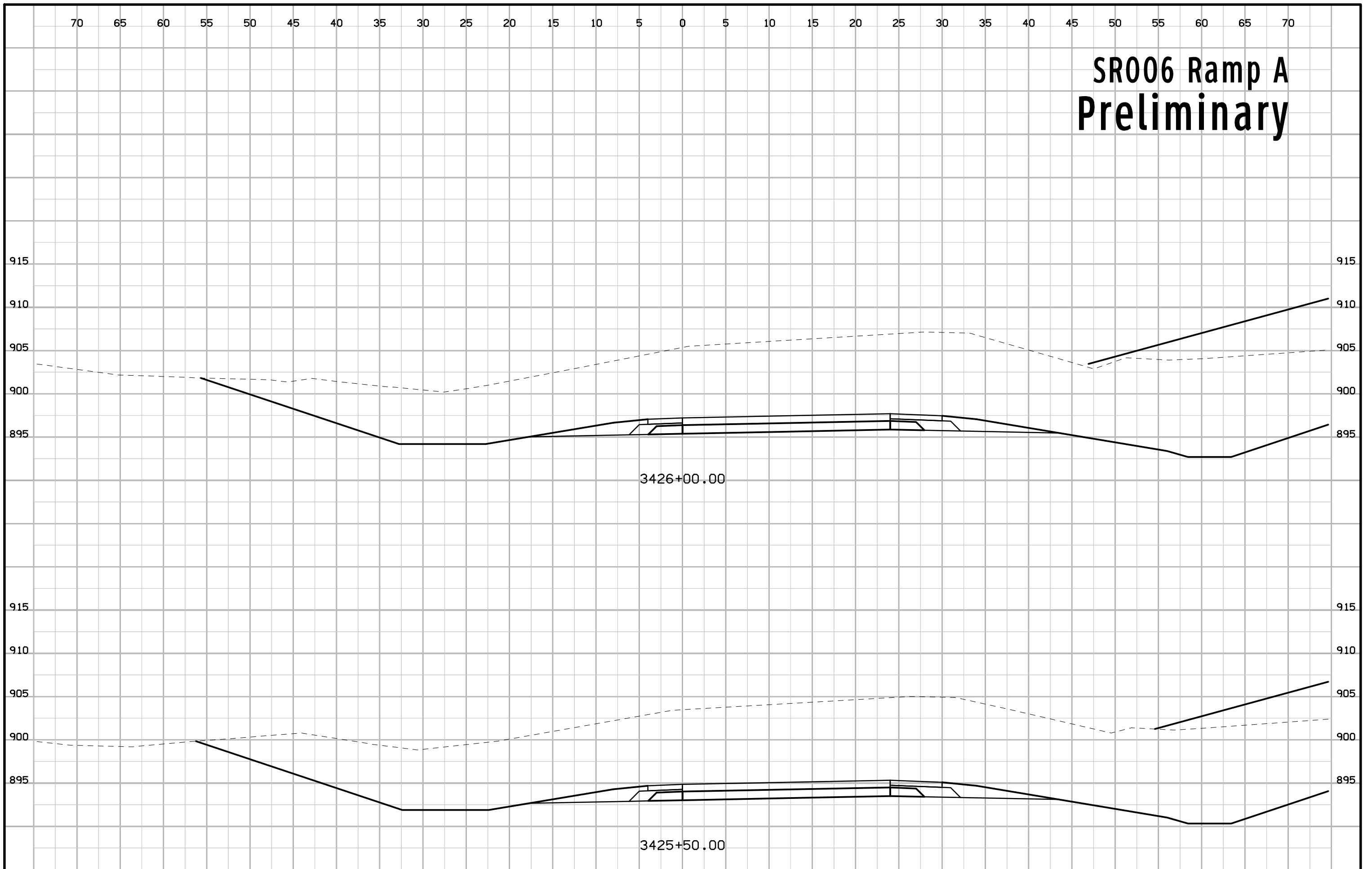
# SR006 Ramp A Preliminary

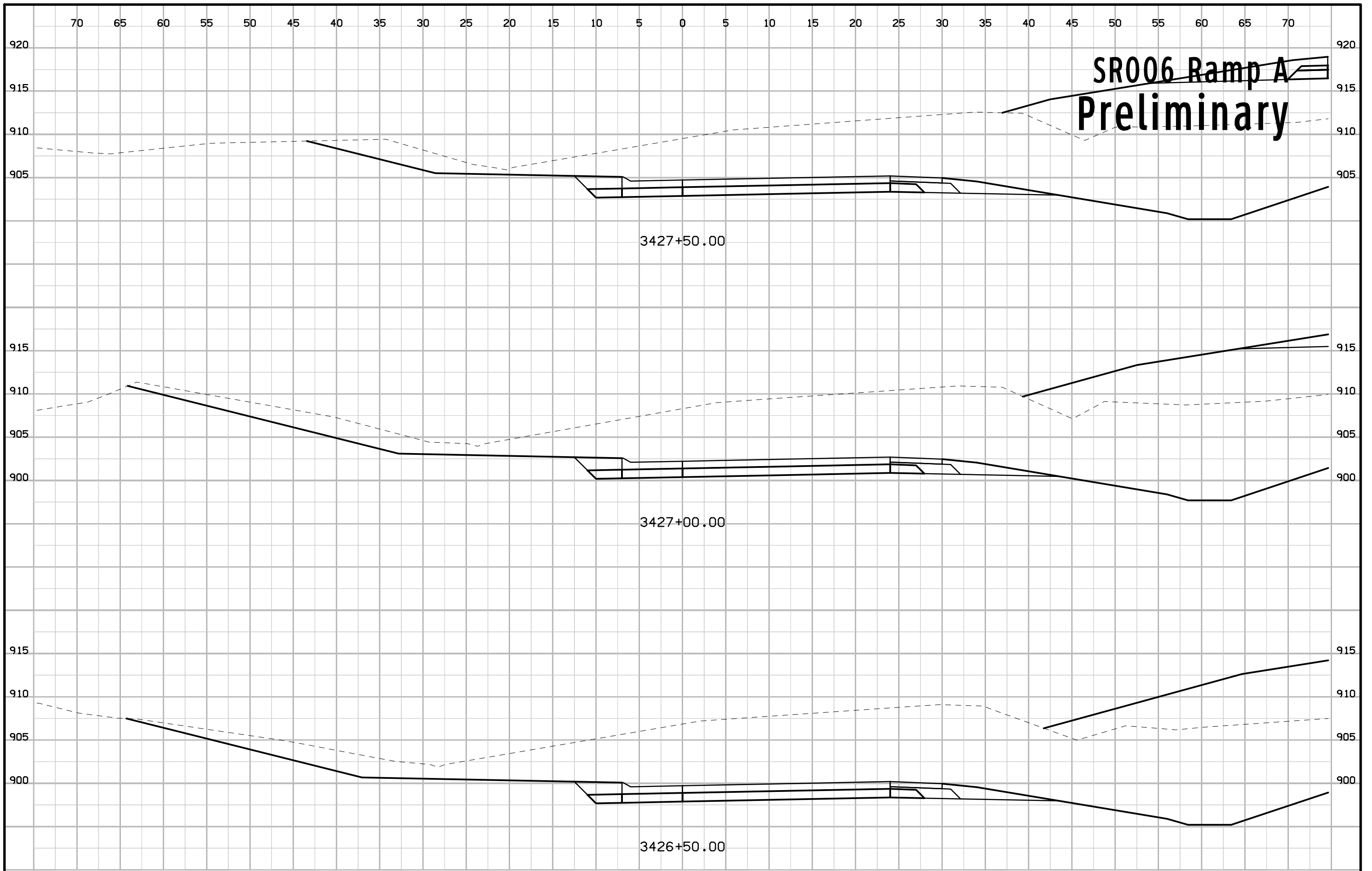


# SR006 Ramp A Preliminary



# SR006 Ramp A Preliminary





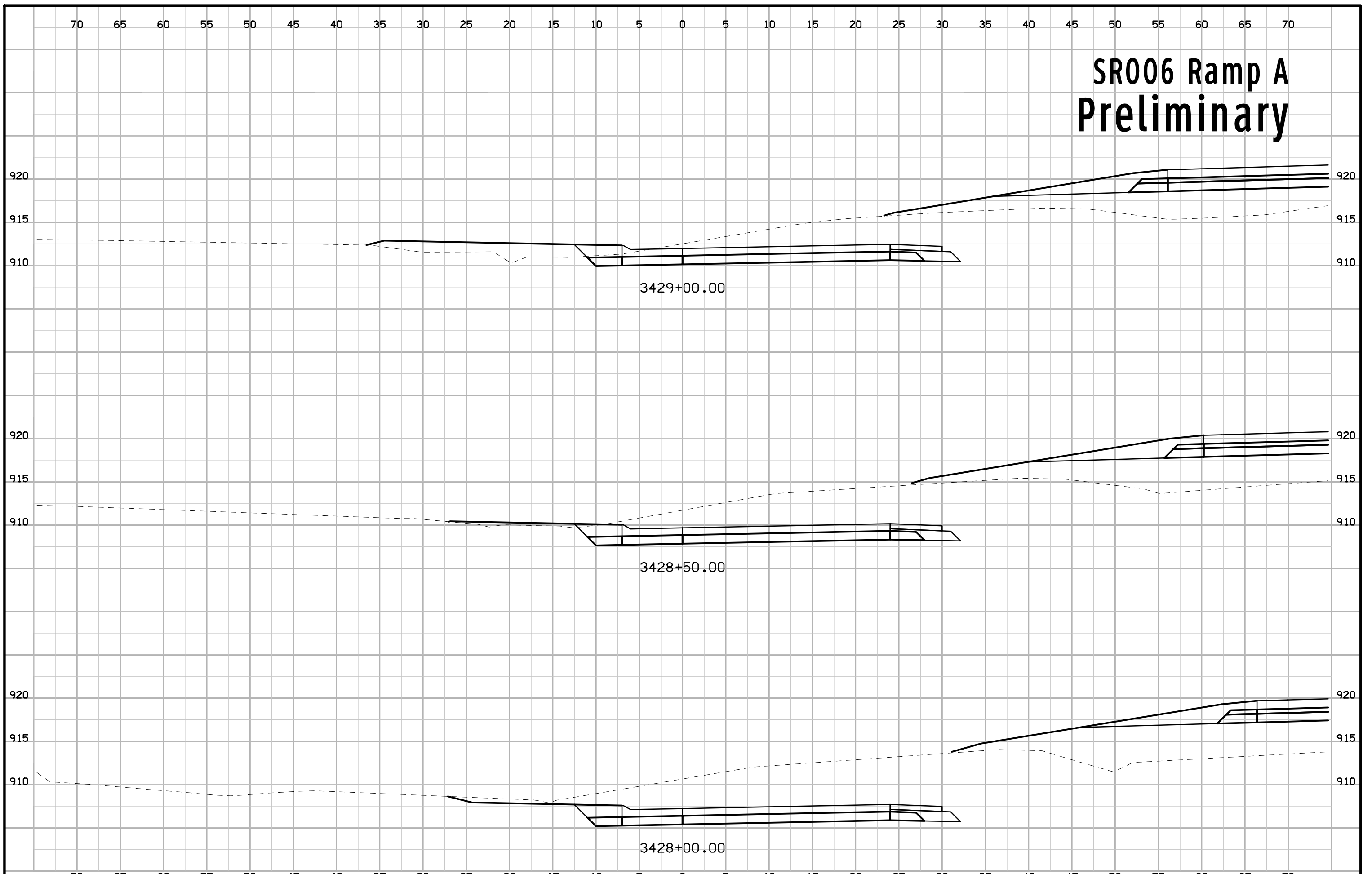
**SR006 Ramp A**  
**Preliminary**

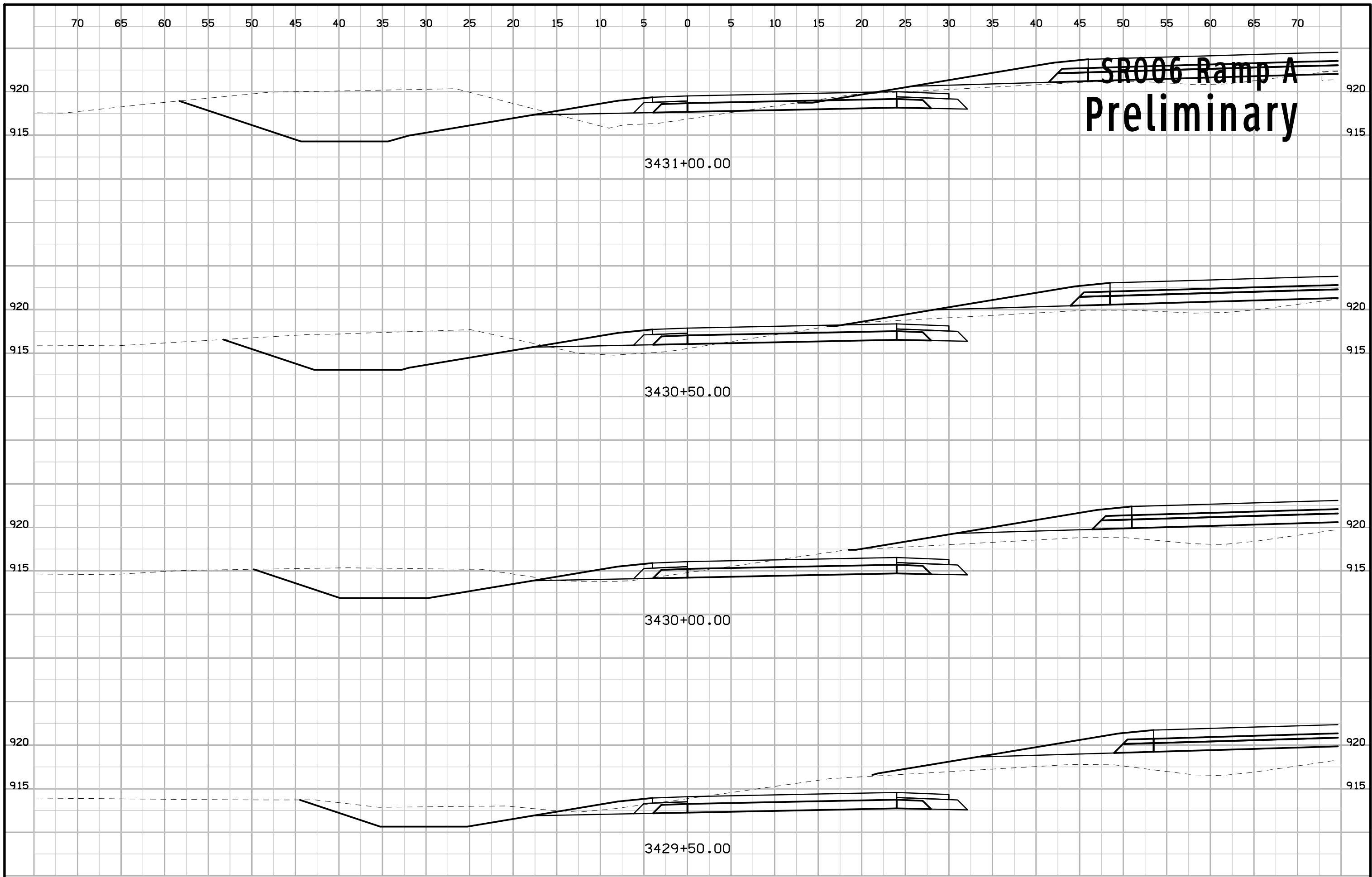
3427+50.00

3427+00.00

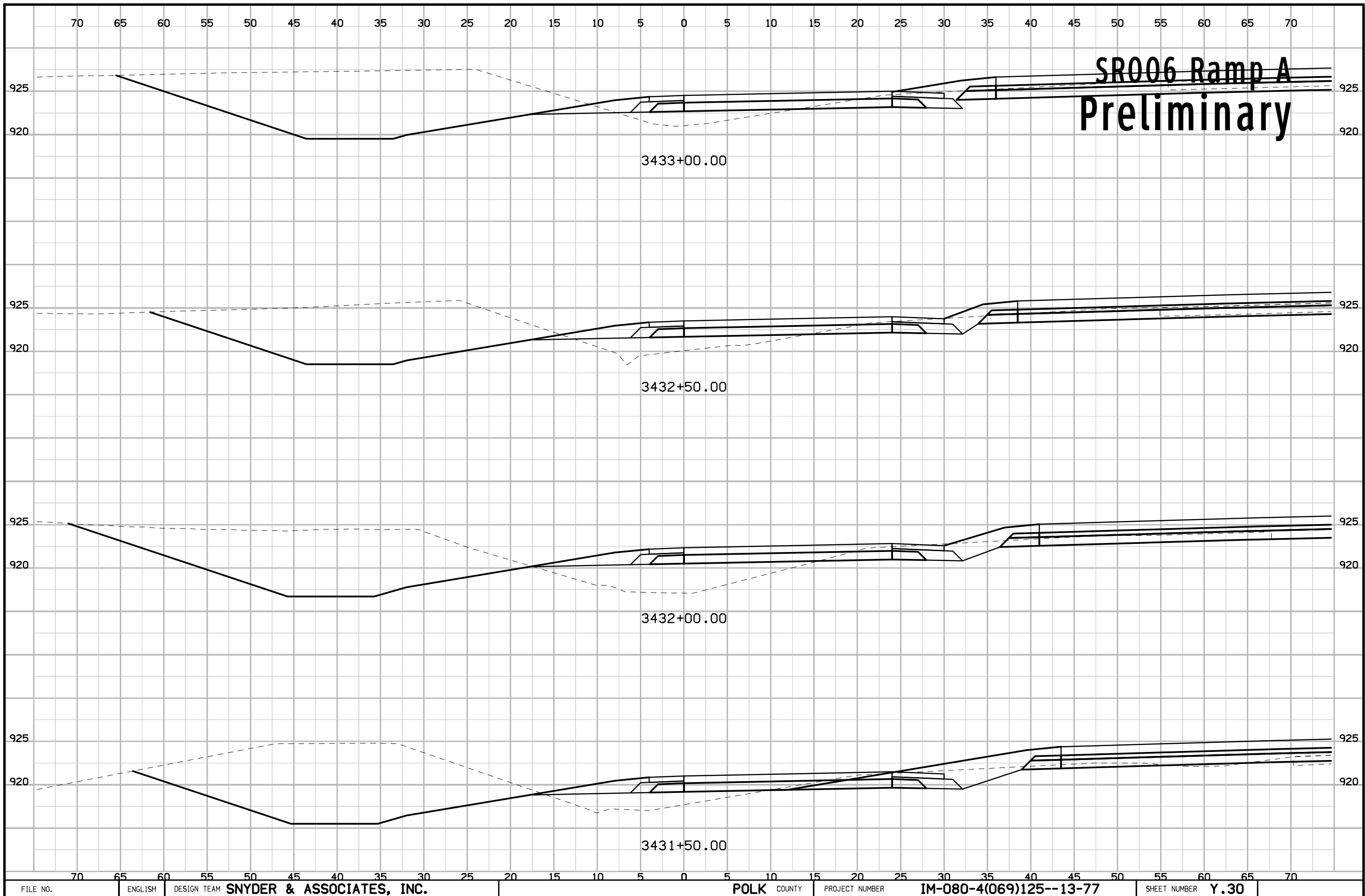
3426+50.00

# SR006 Ramp A Preliminary

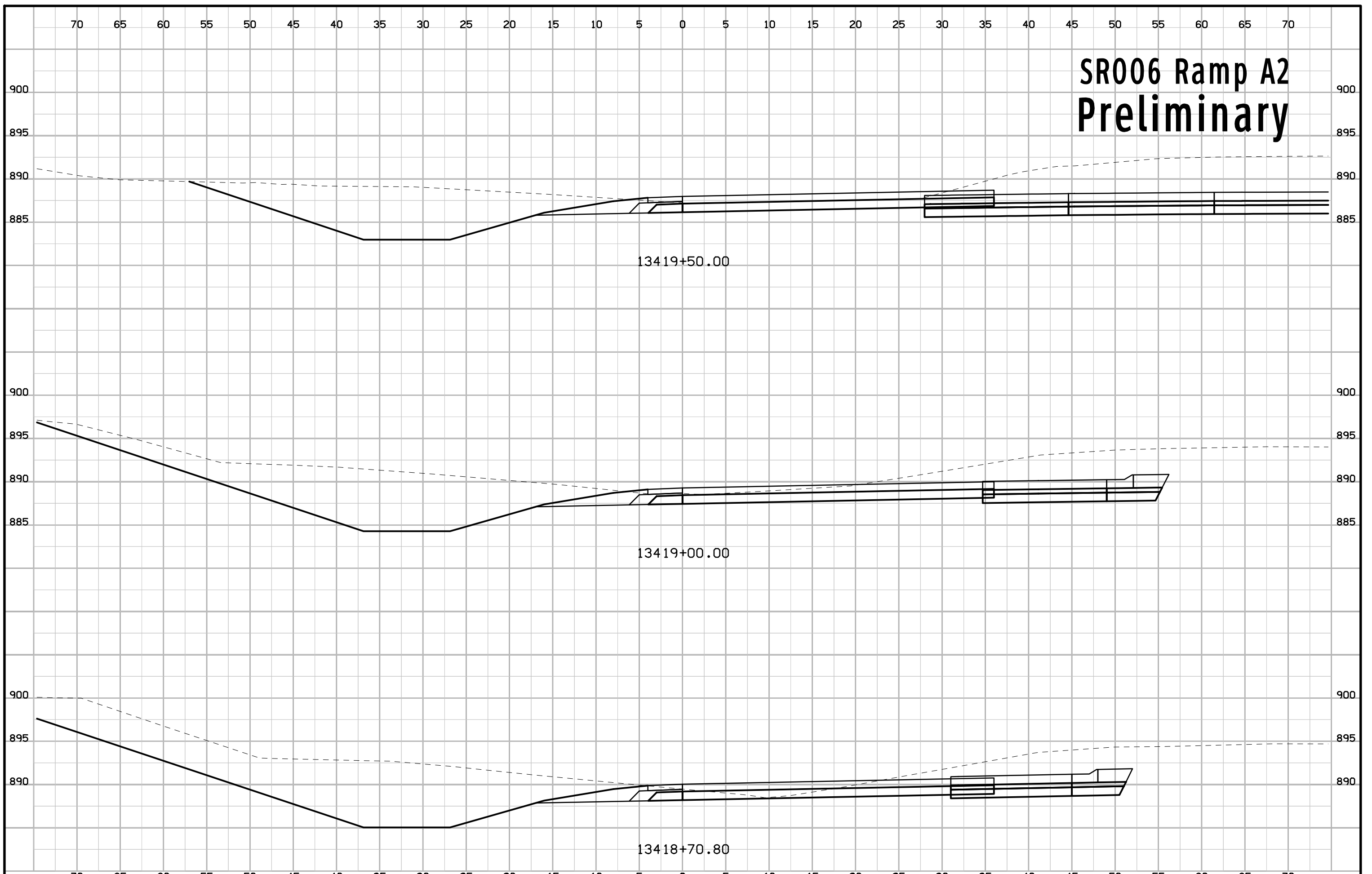




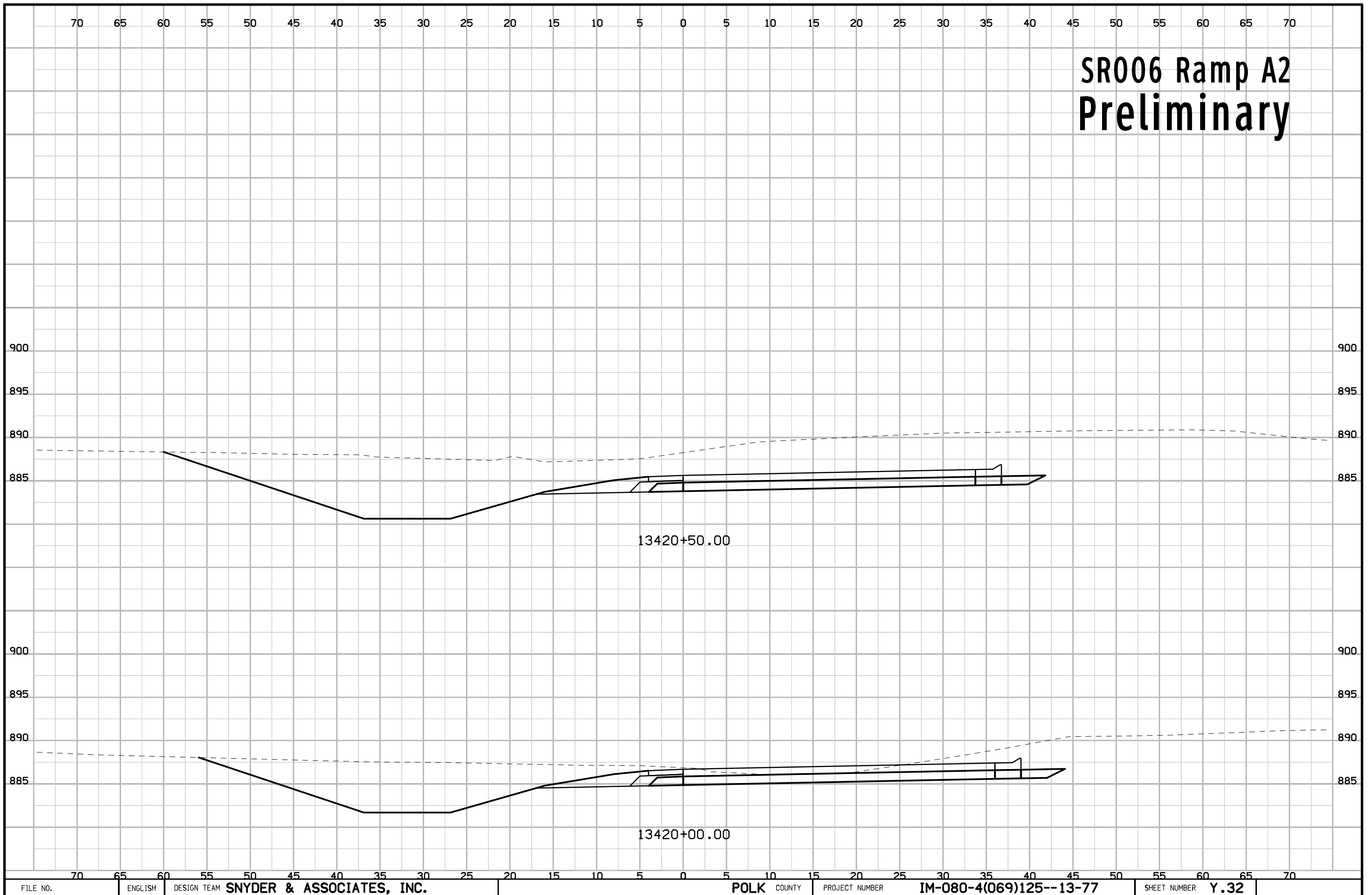




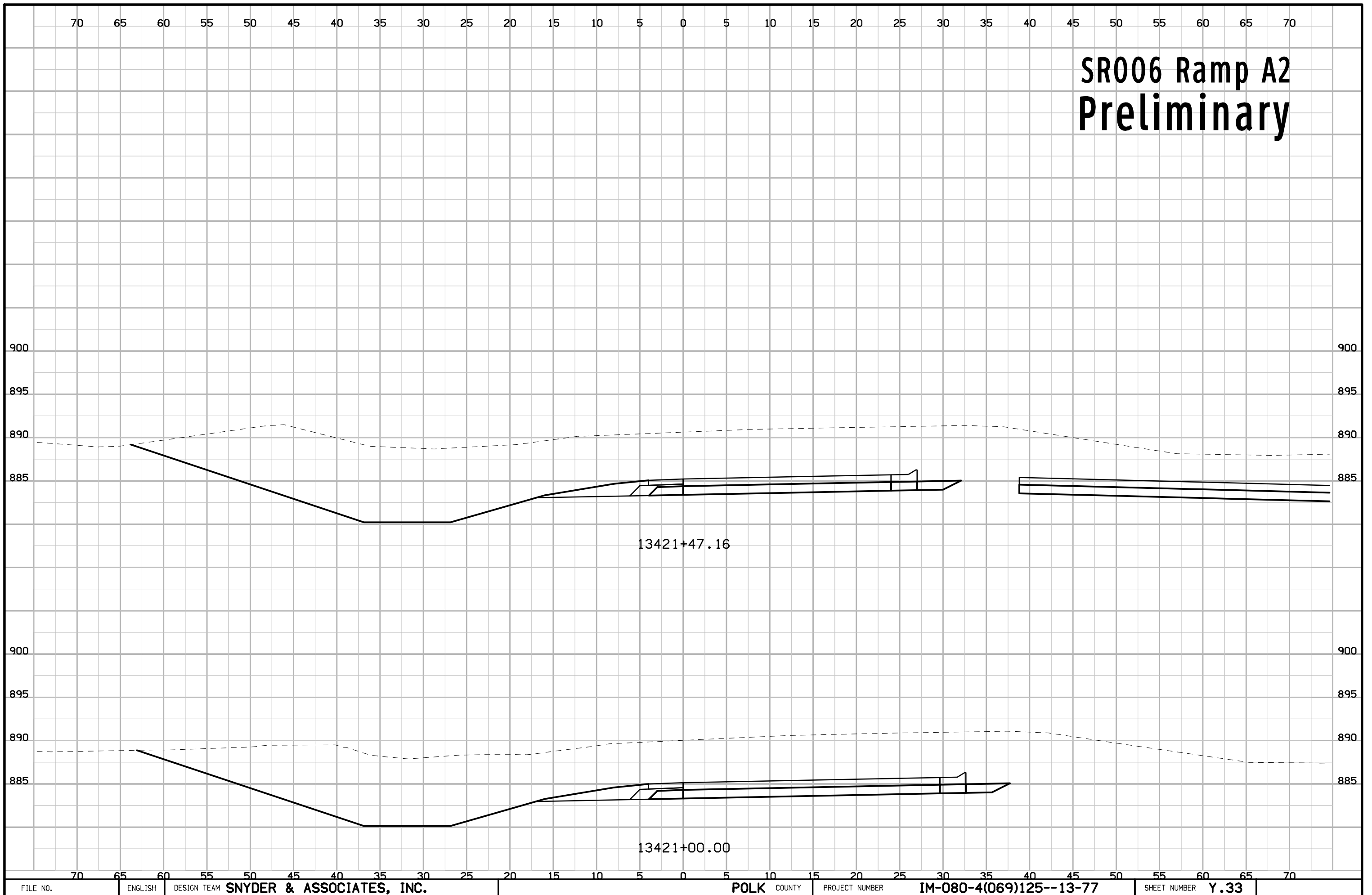
# SR006 Ramp A2 Preliminary



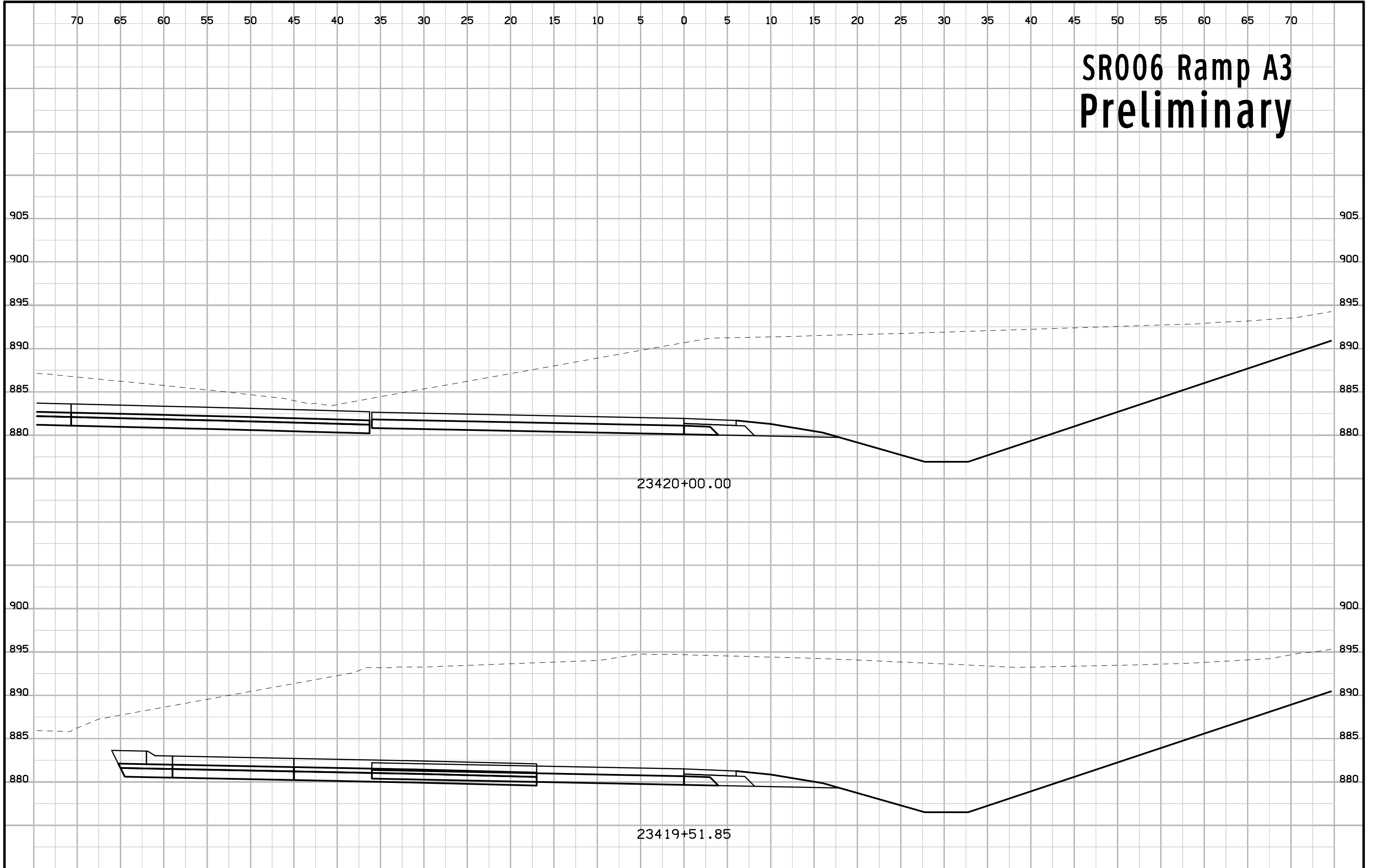
# SR006 Ramp A2 Preliminary



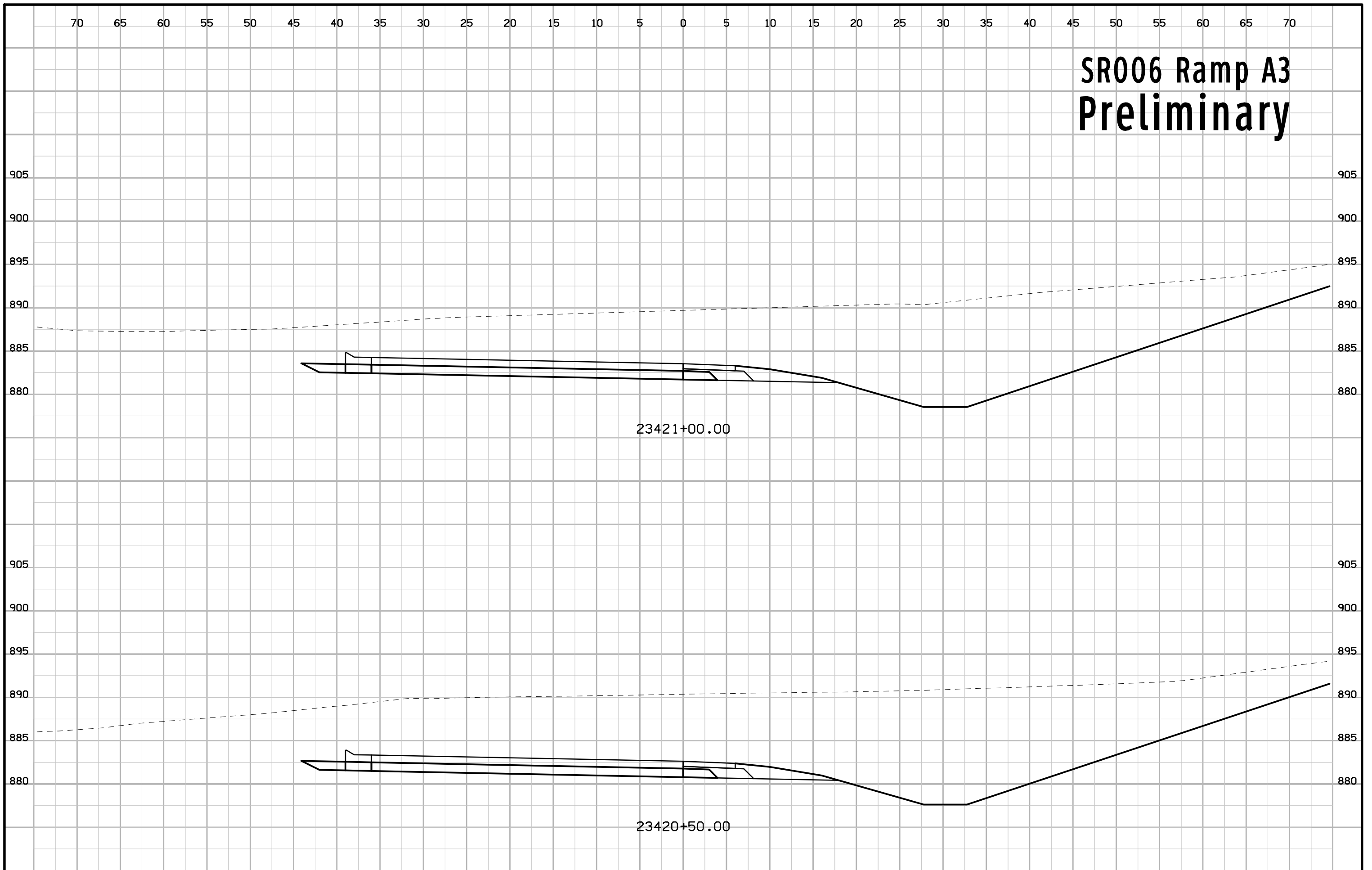
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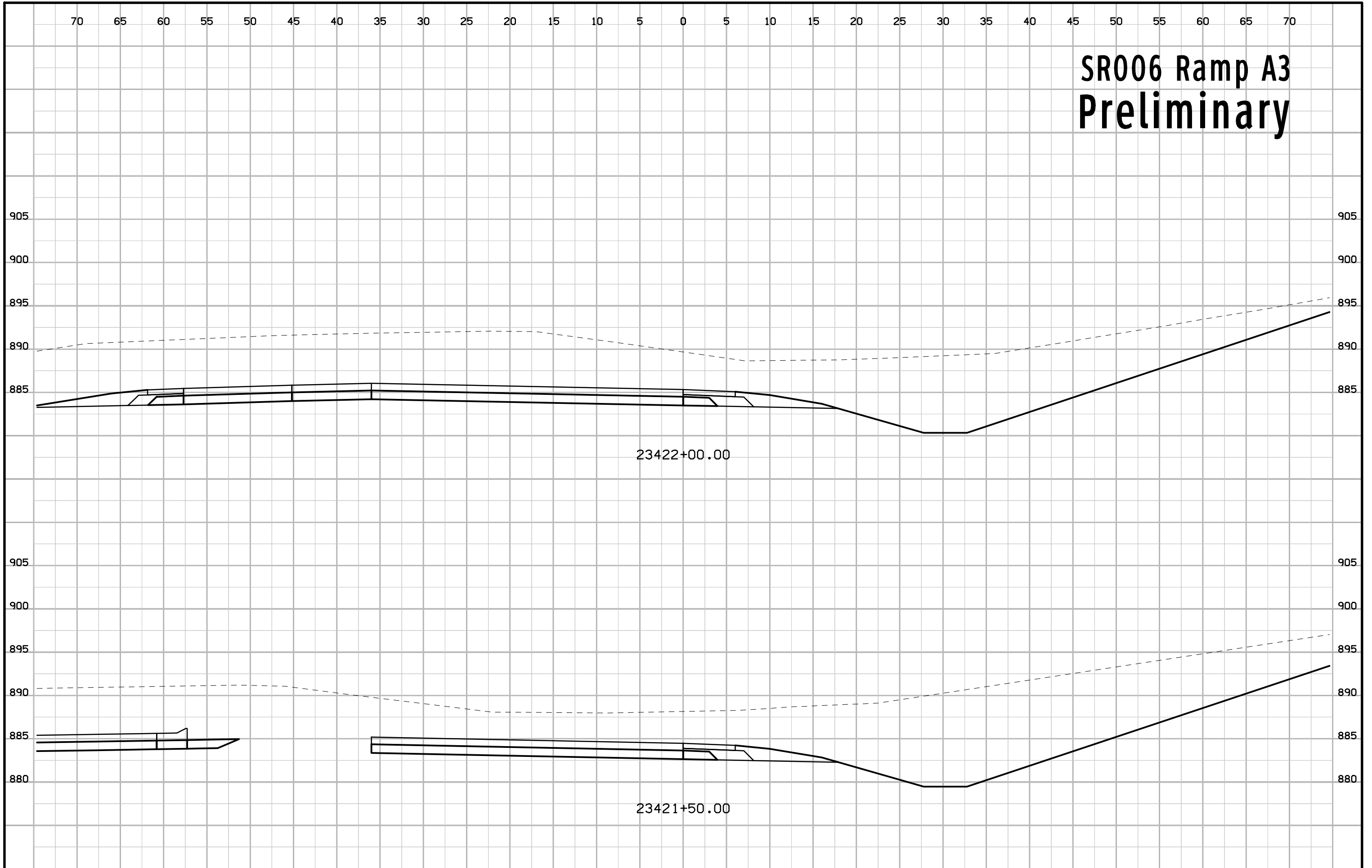
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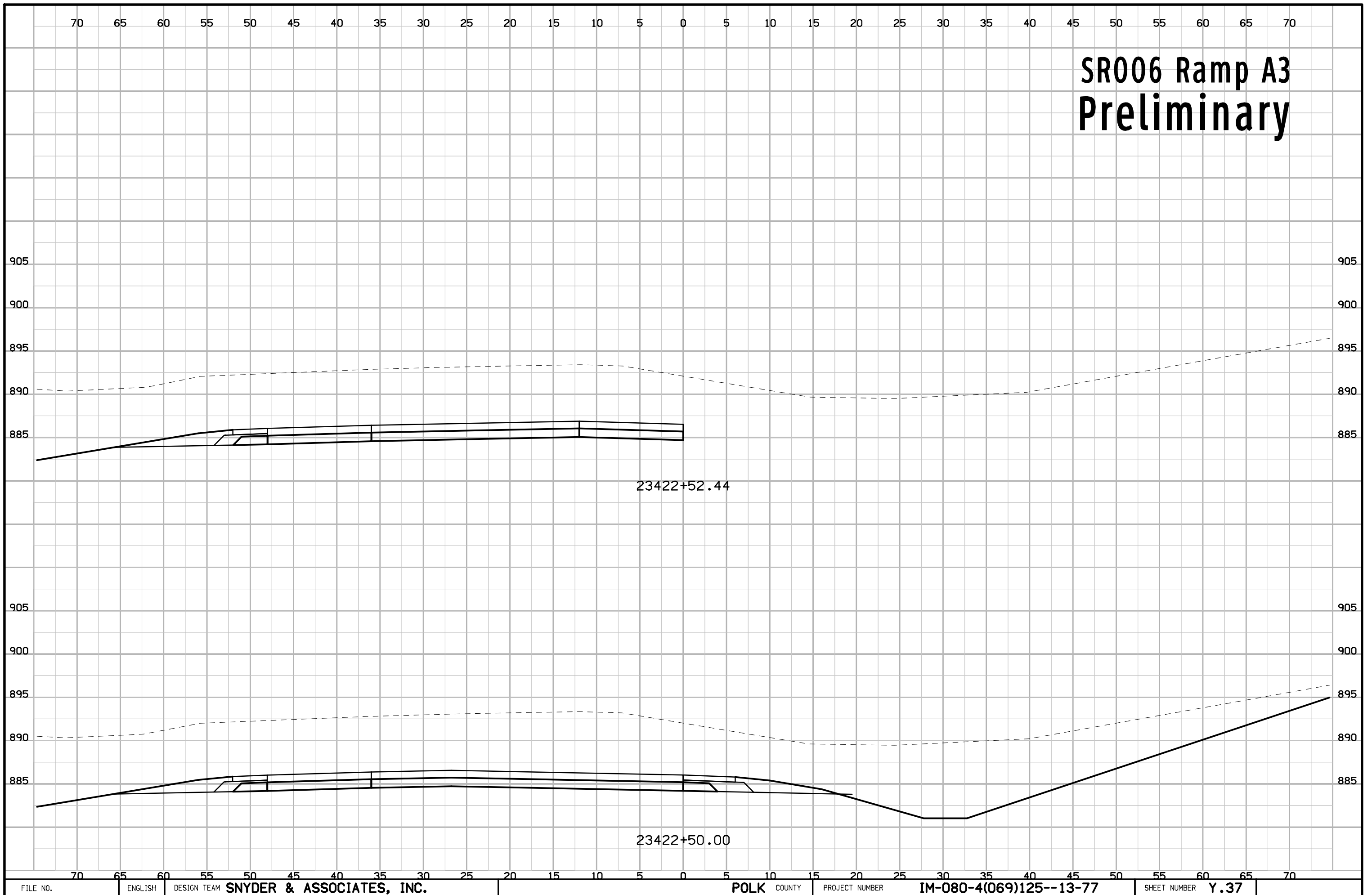
# SR006 Ramp A3 Preliminary



# SR006 Ramp A3 Preliminary

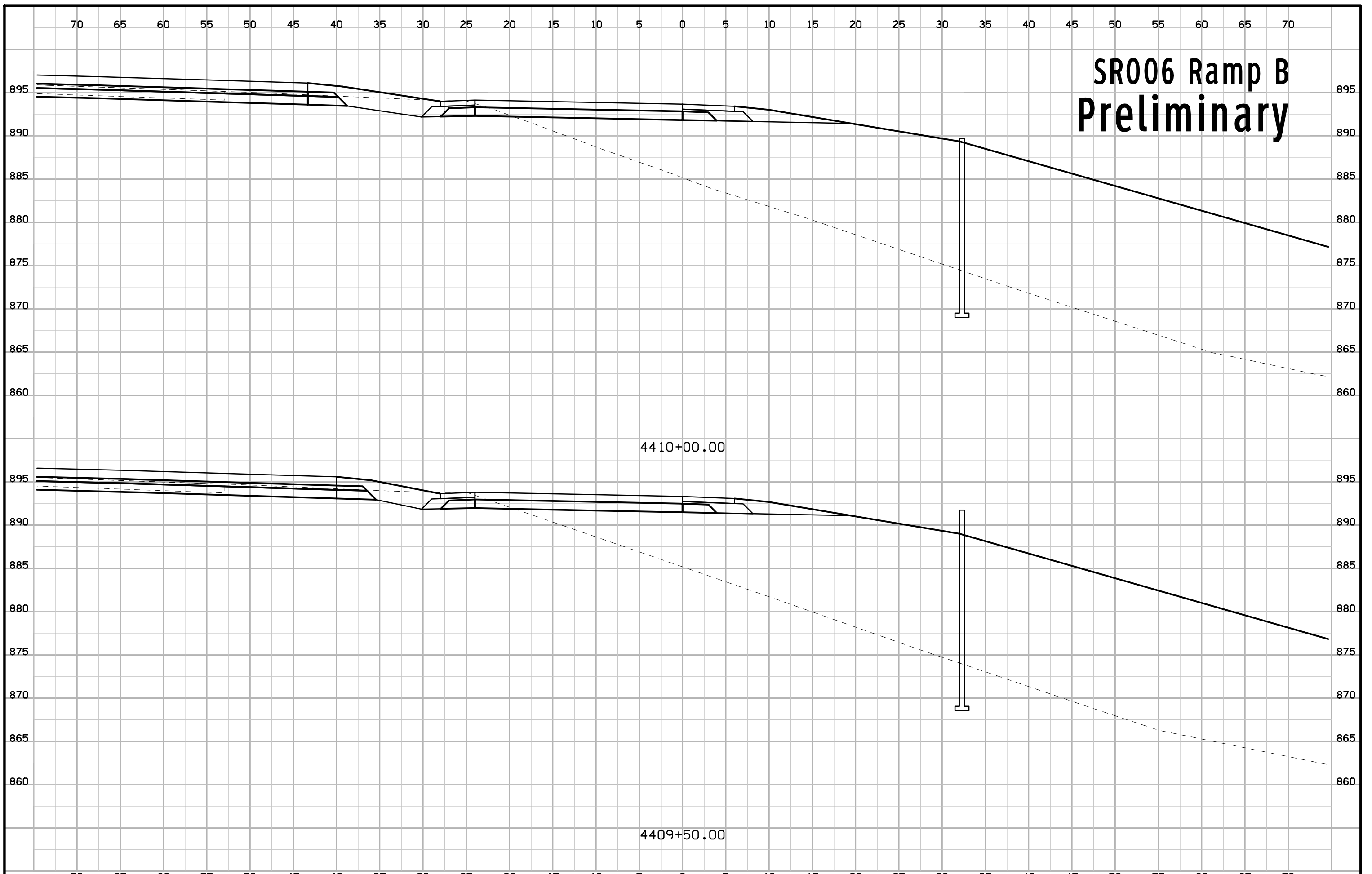


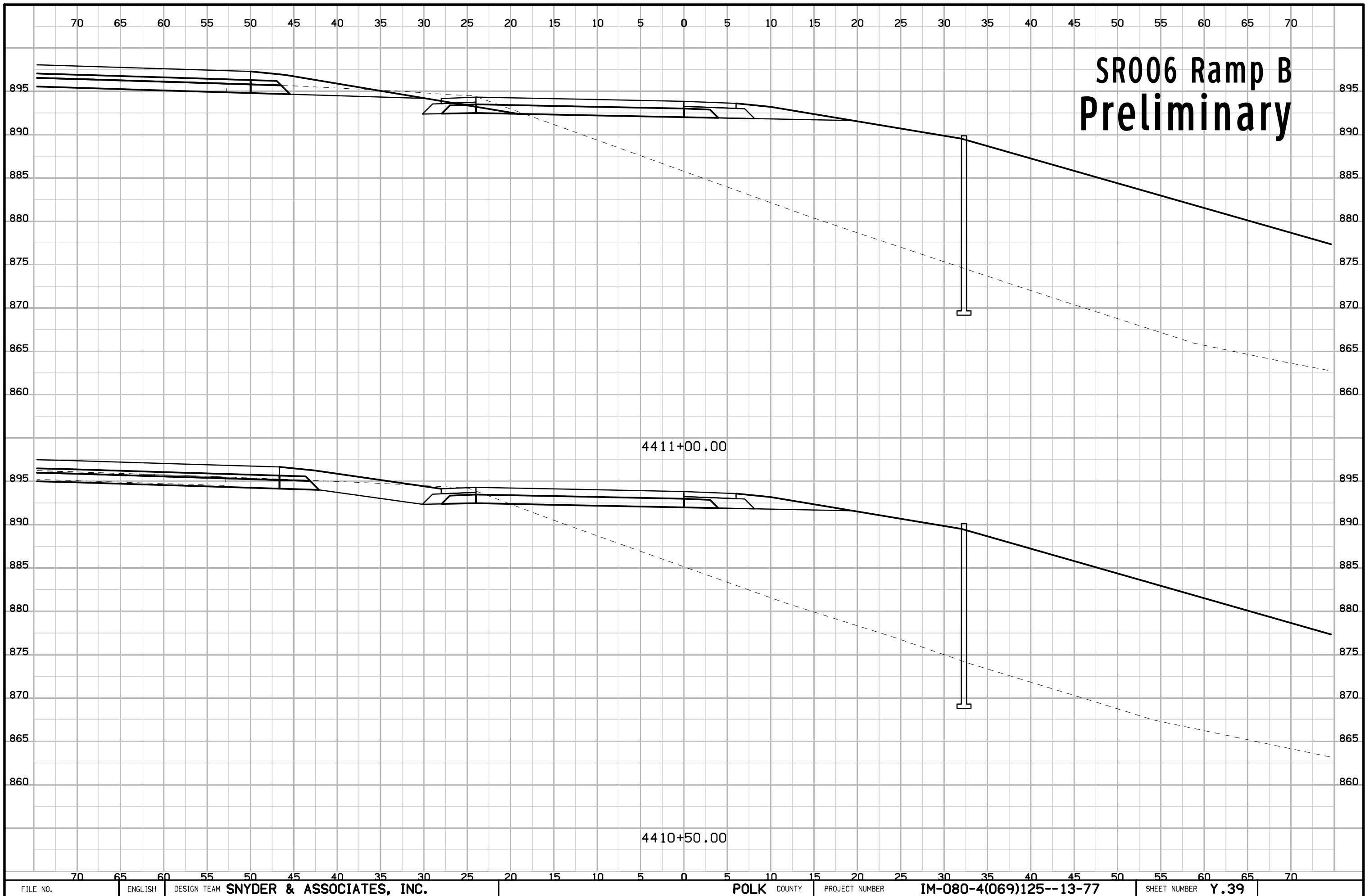
# SR006 Ramp A3 Preliminary





# SR006 Ramp B Preliminary



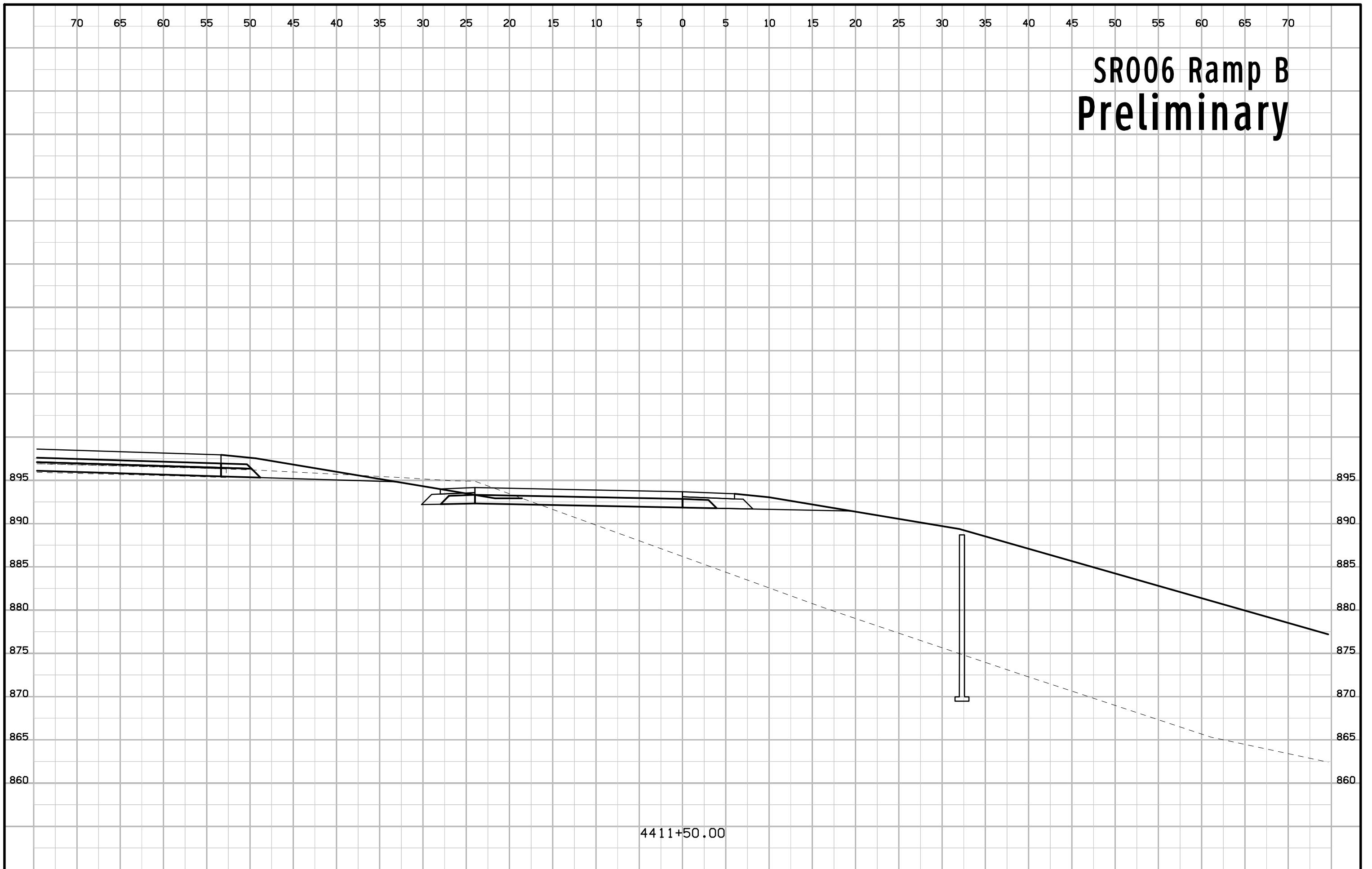


# SR006 Ramp B Preliminary

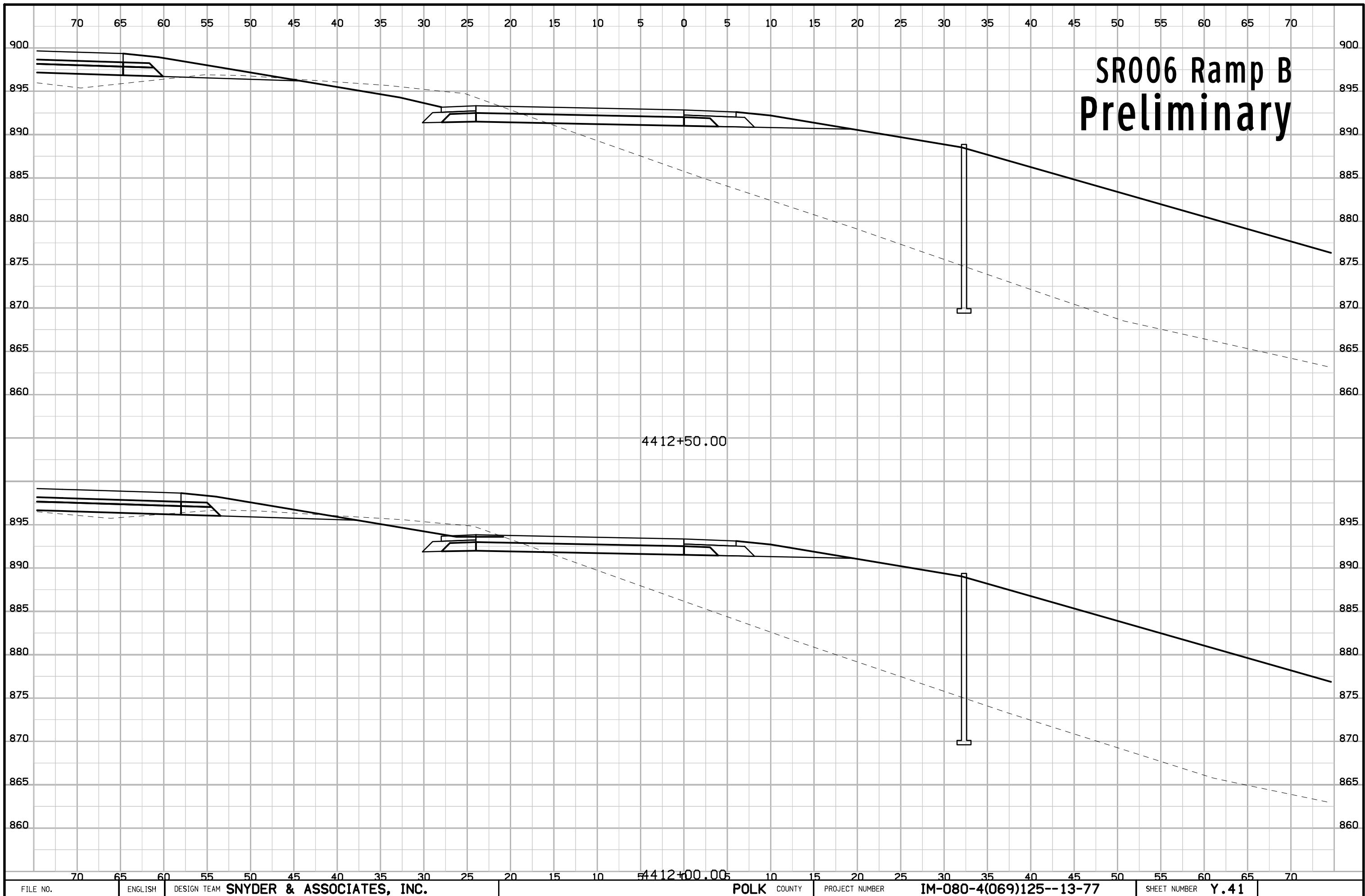
44 11+00.00

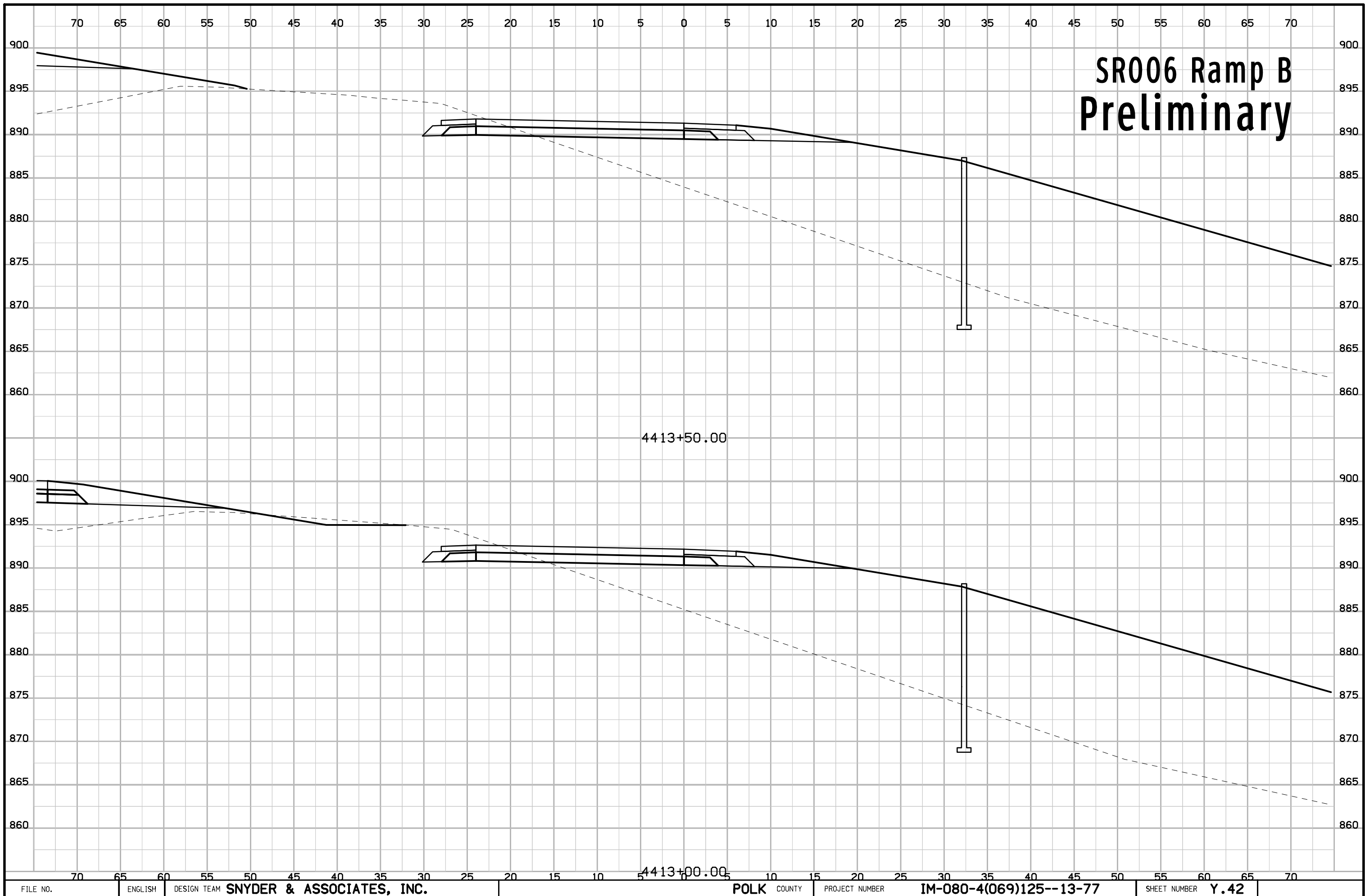
44 10+50.00

# SR006 Ramp B Preliminary

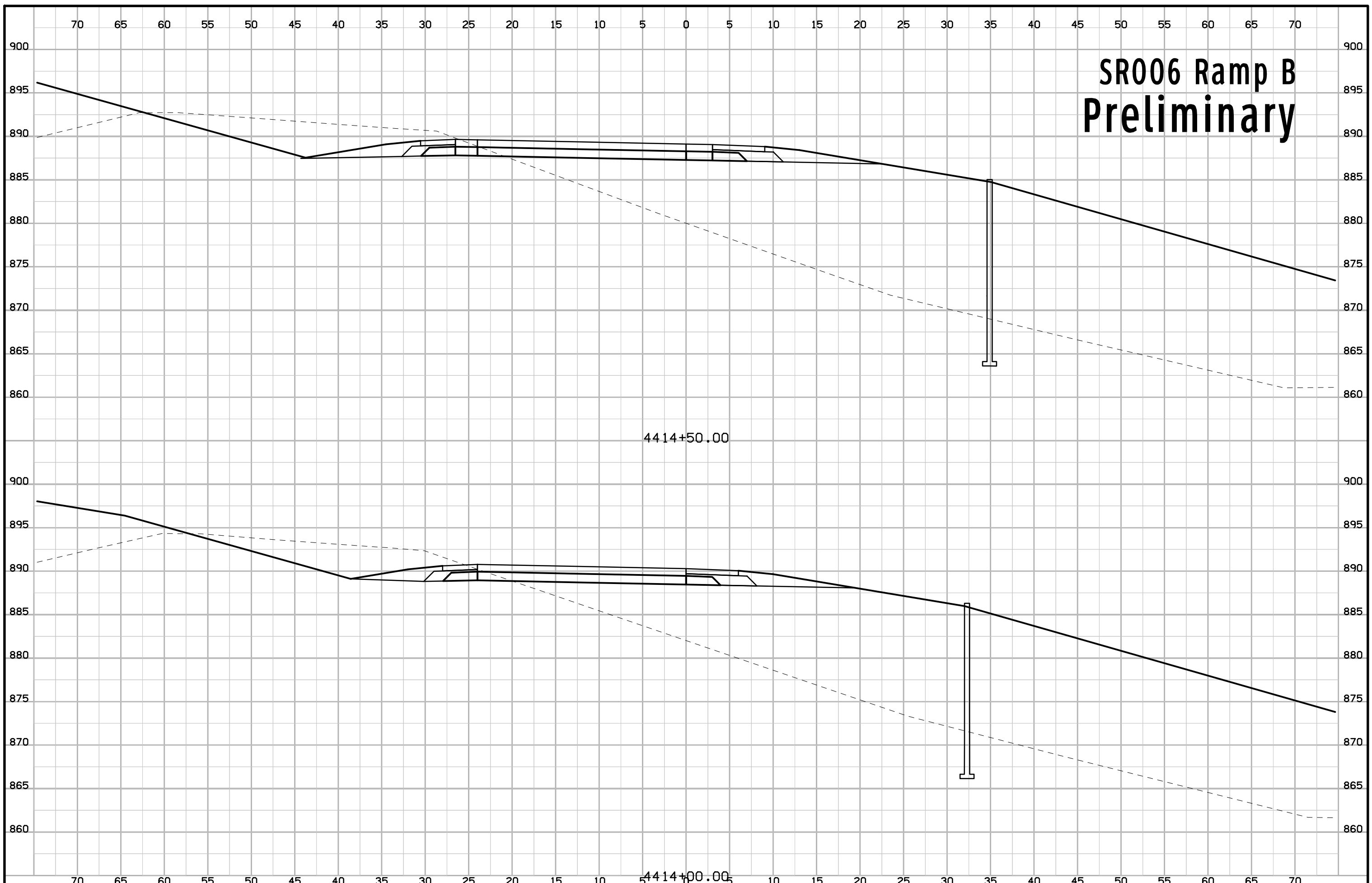


4411+50.00

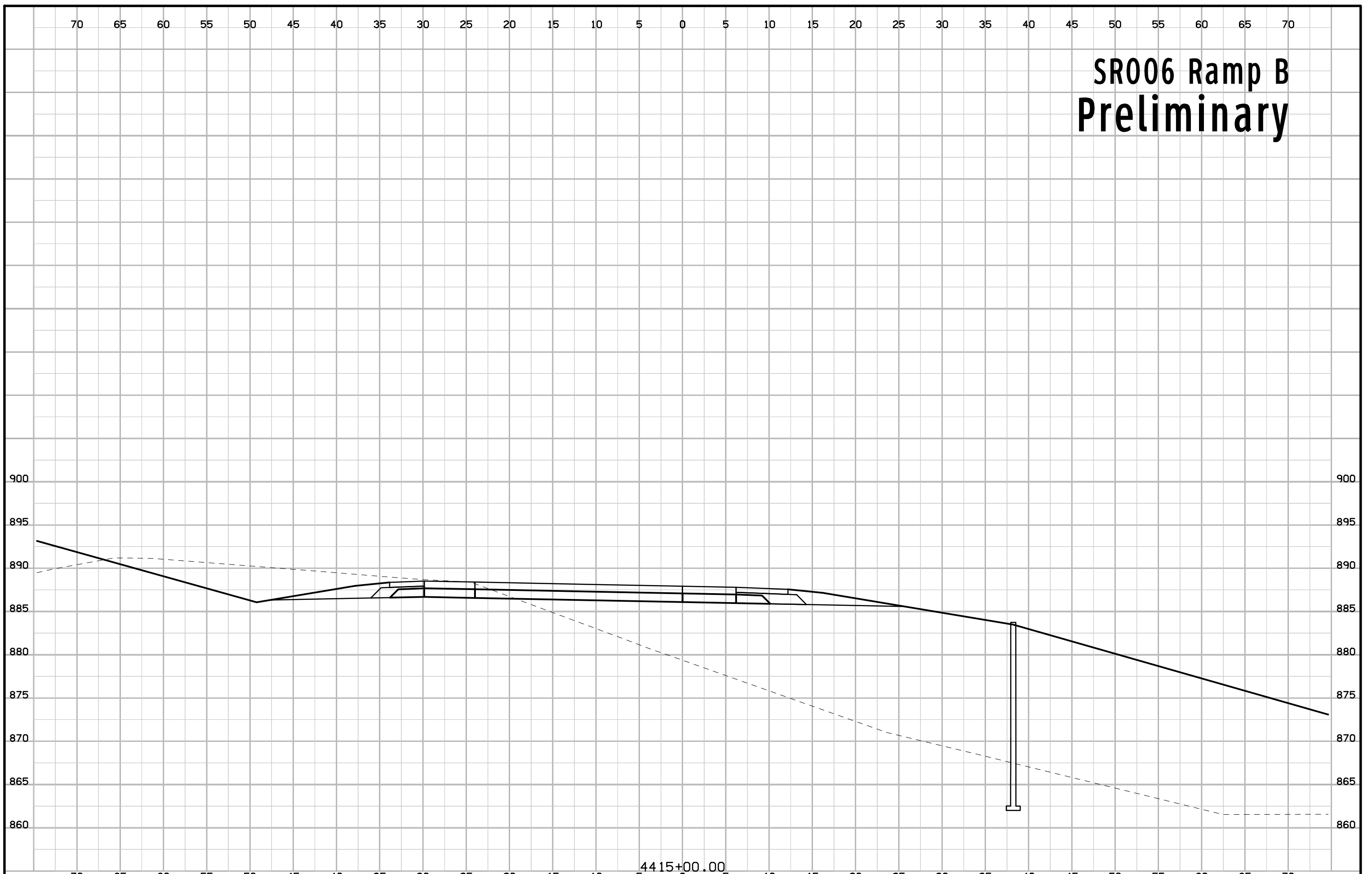




# SR006 Ramp B Preliminary

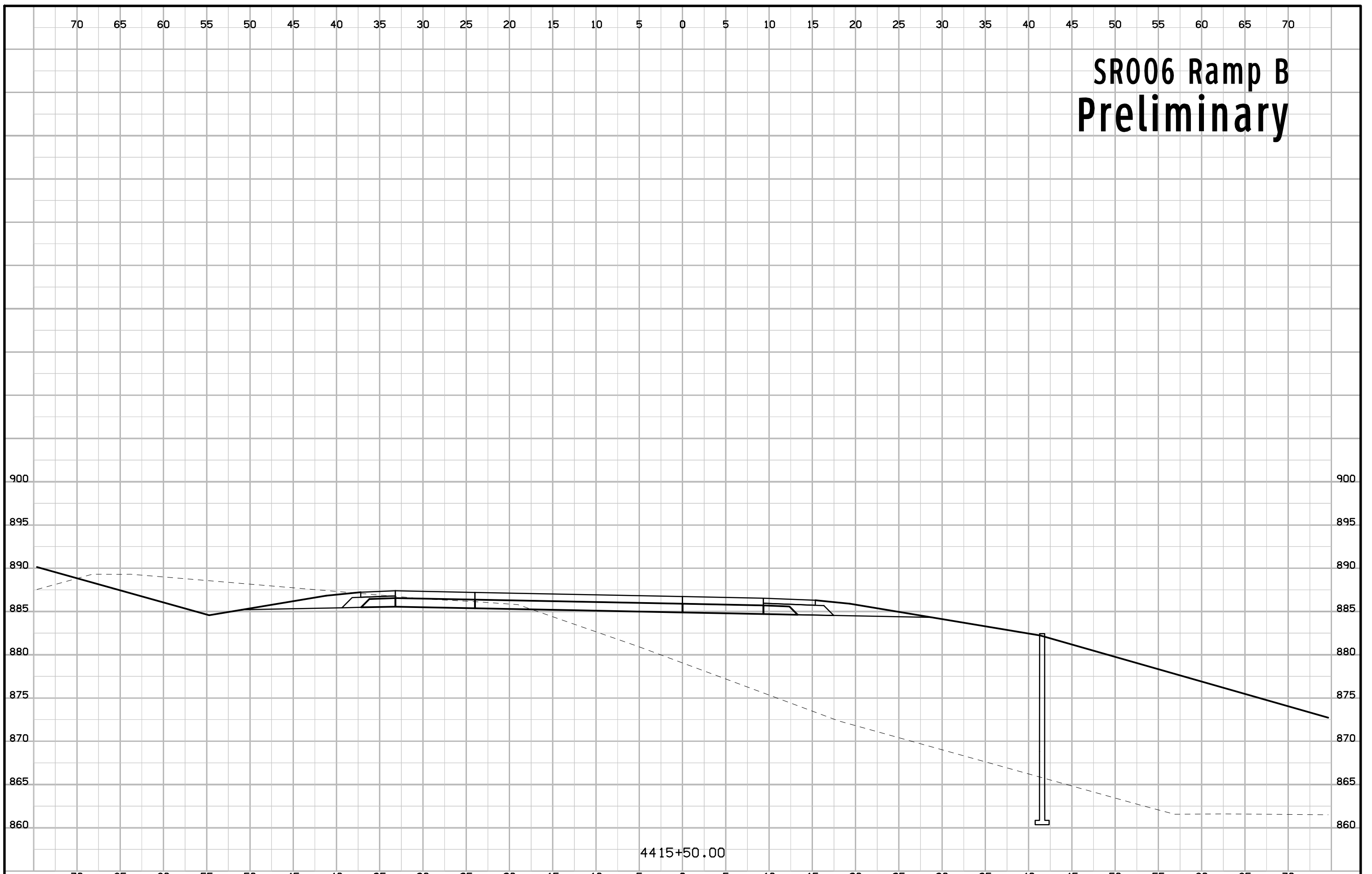


# SR006 Ramp B Preliminary



44 15+00.00

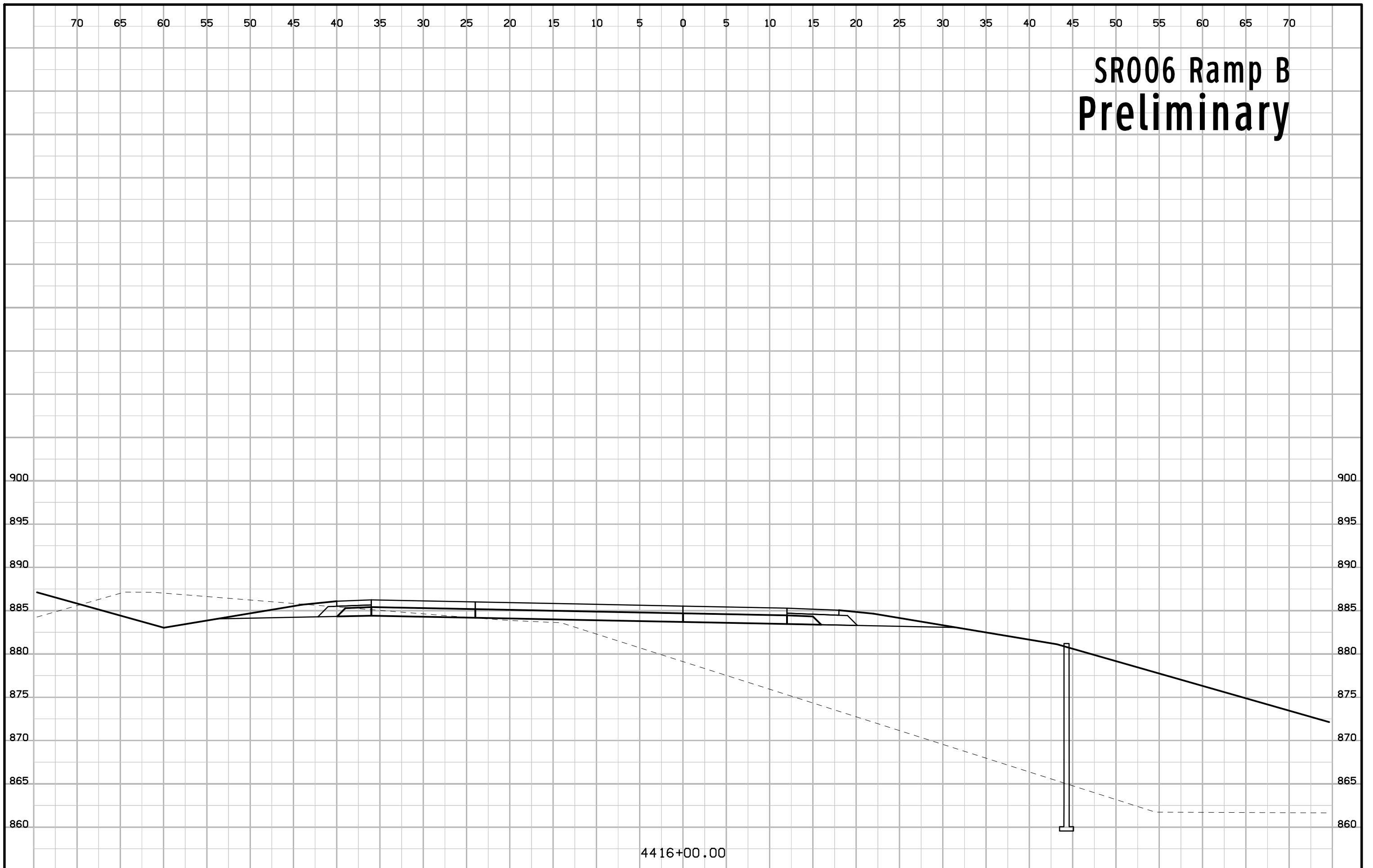
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44 15+50.00

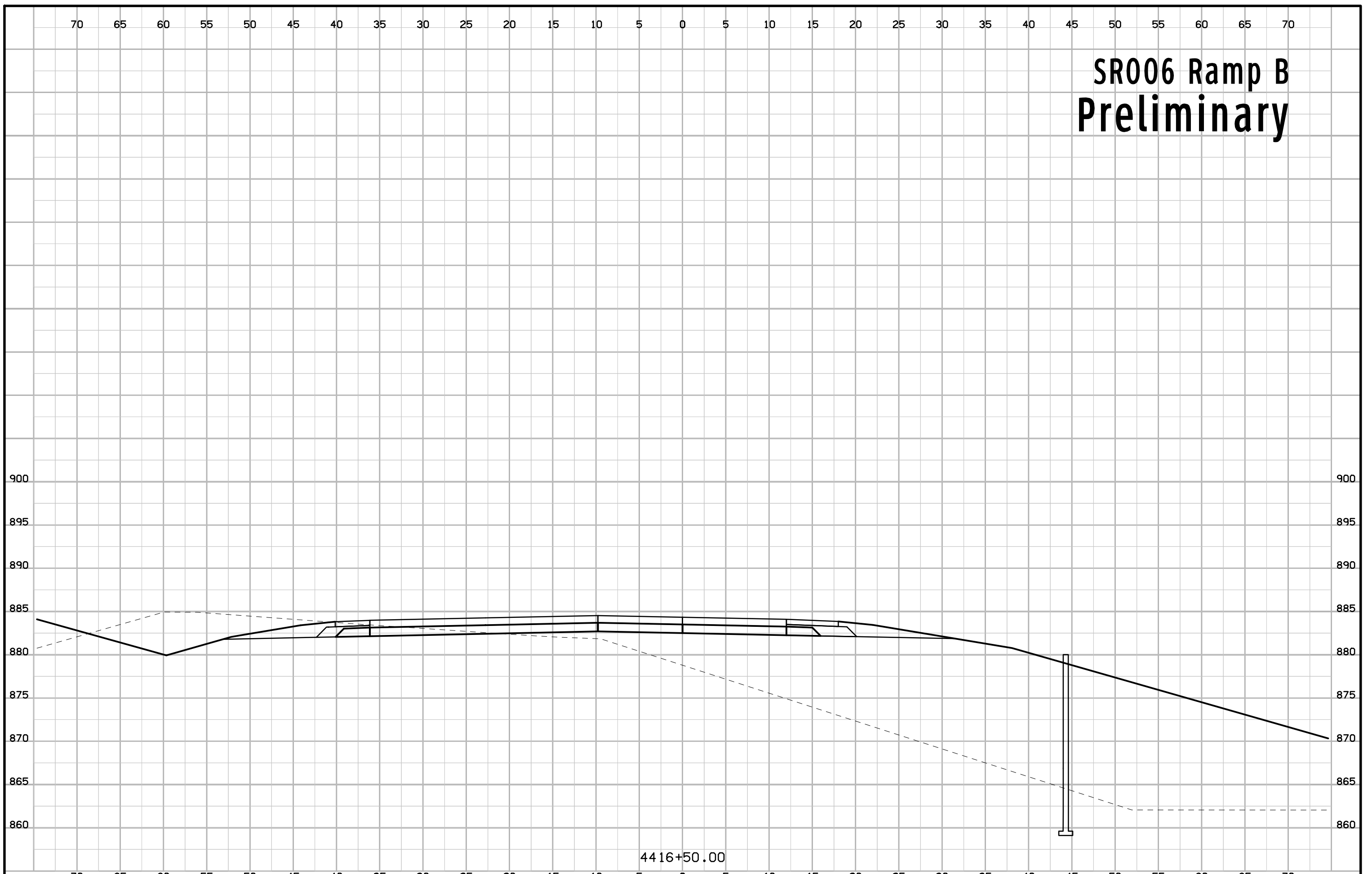


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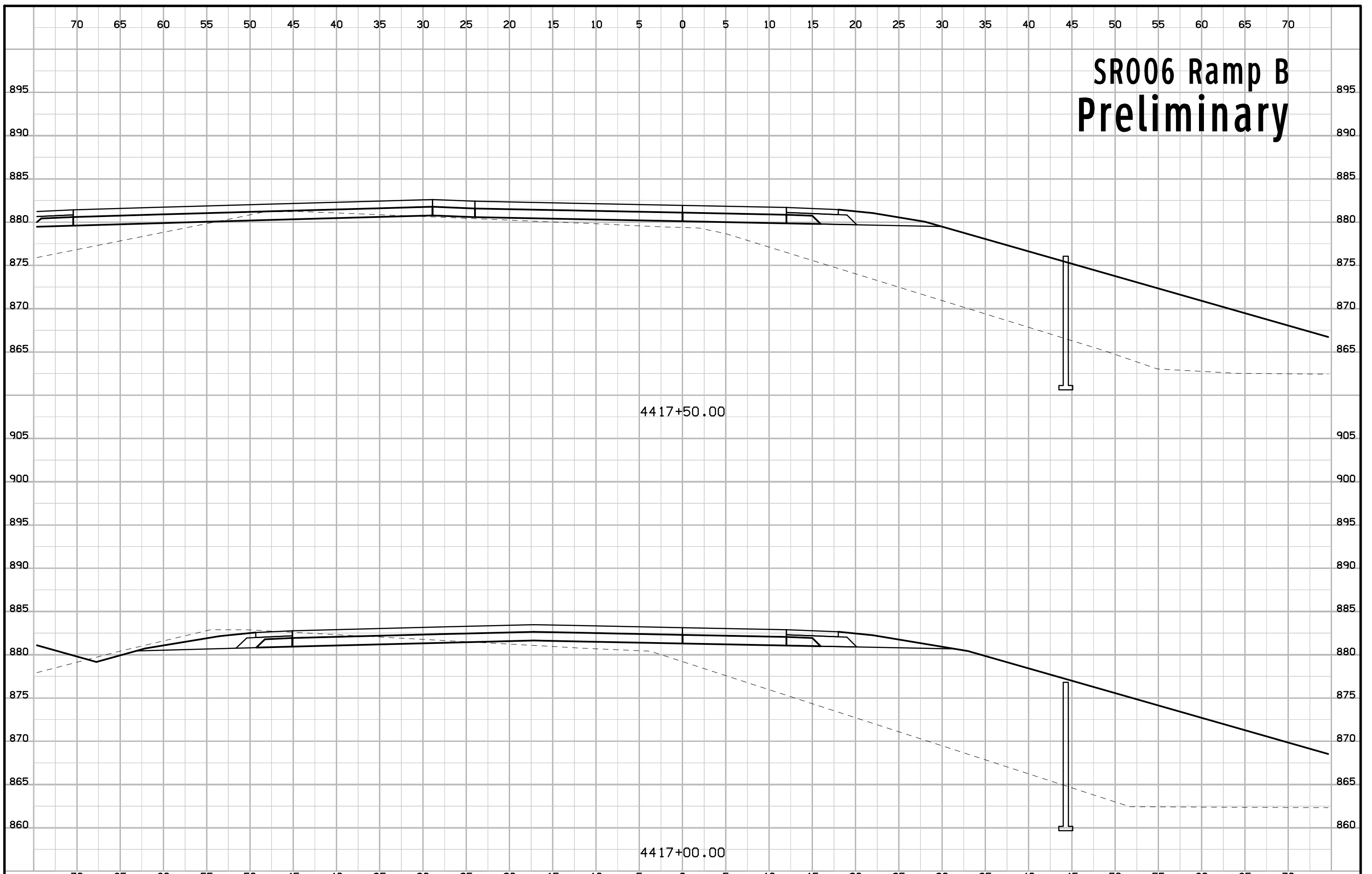
44 16+00.00

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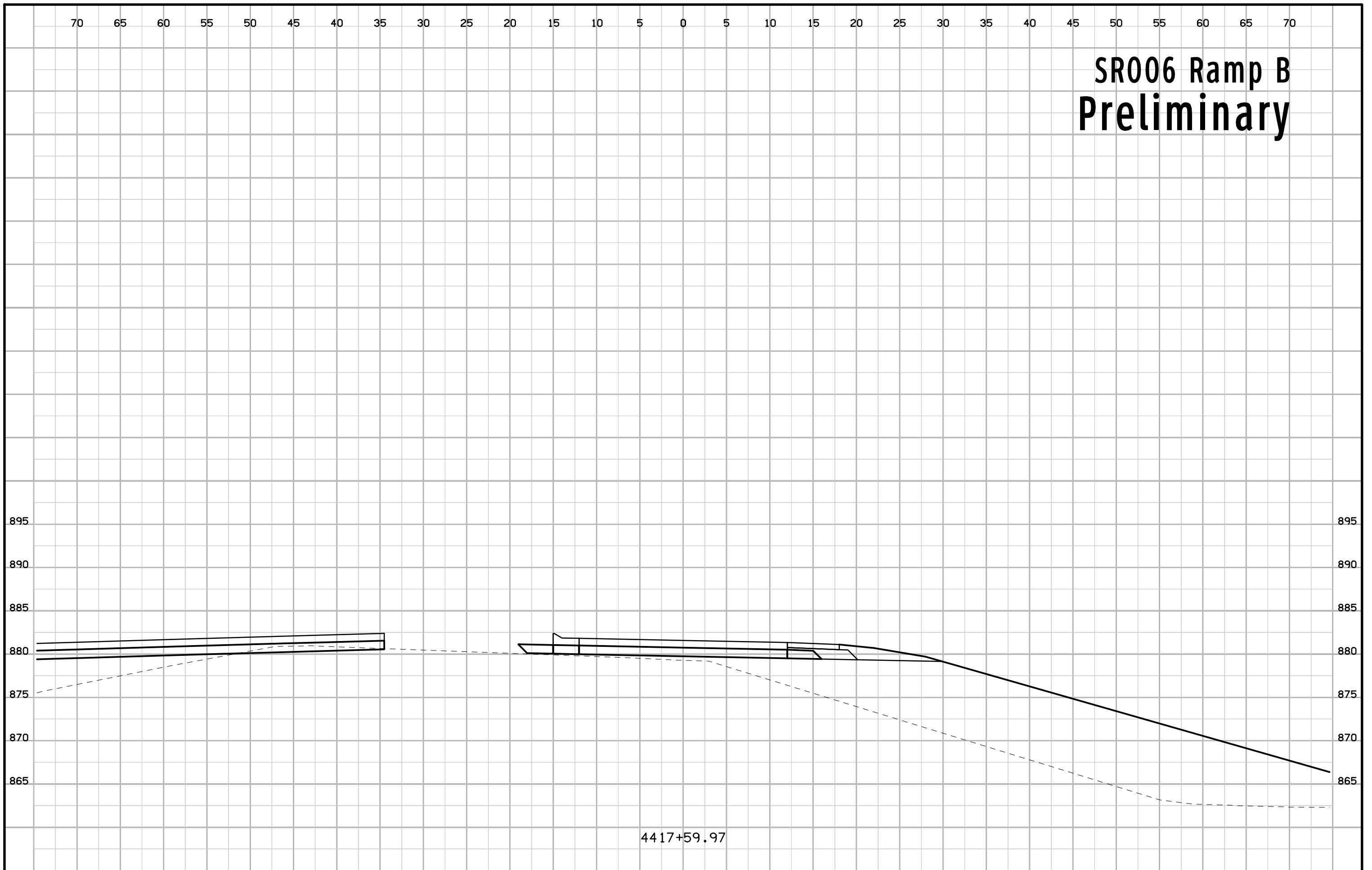


44 16+50.00

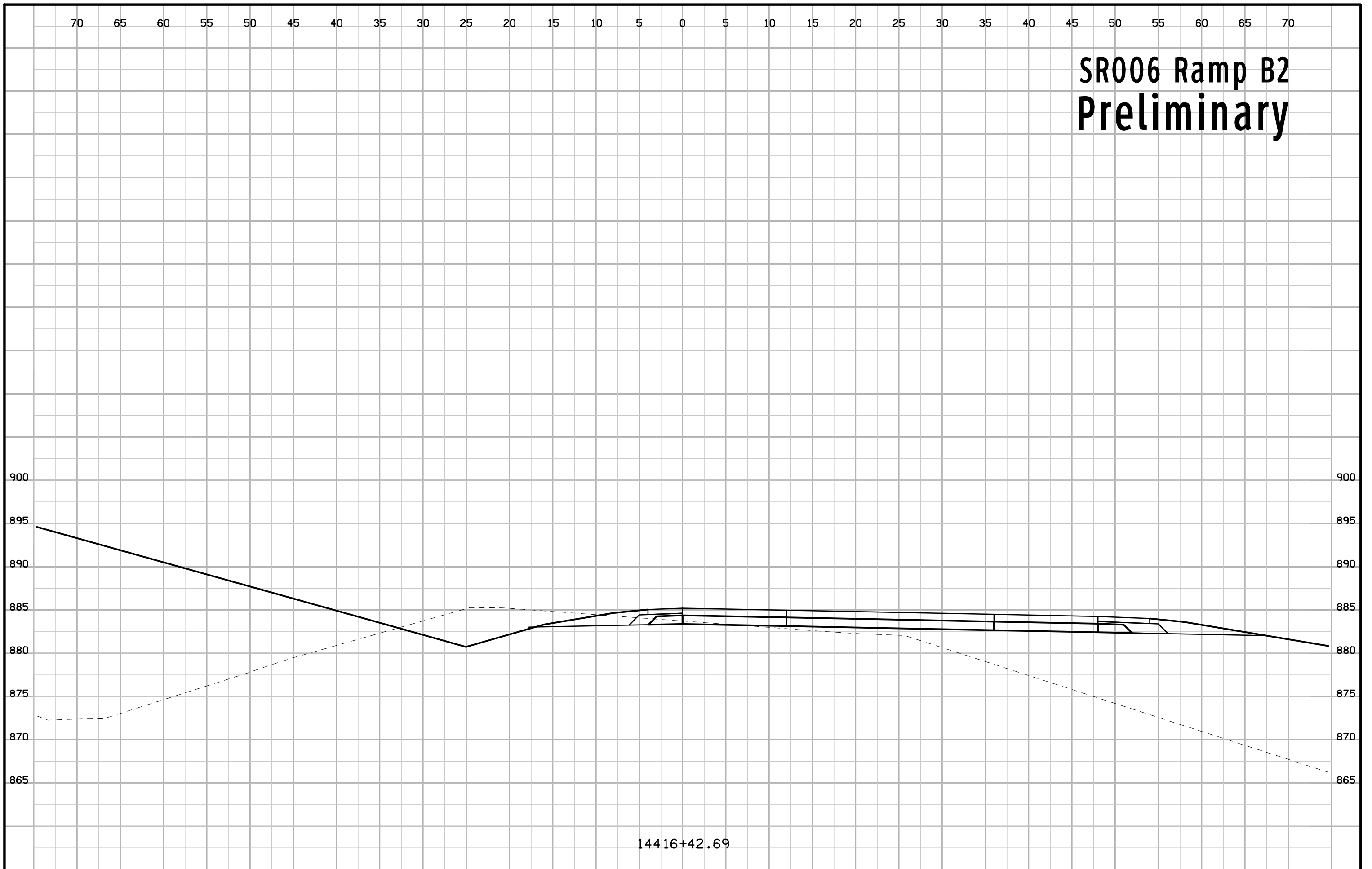
# SR006 Ramp B Preliminary



# SR006 Ramp B Preliminary

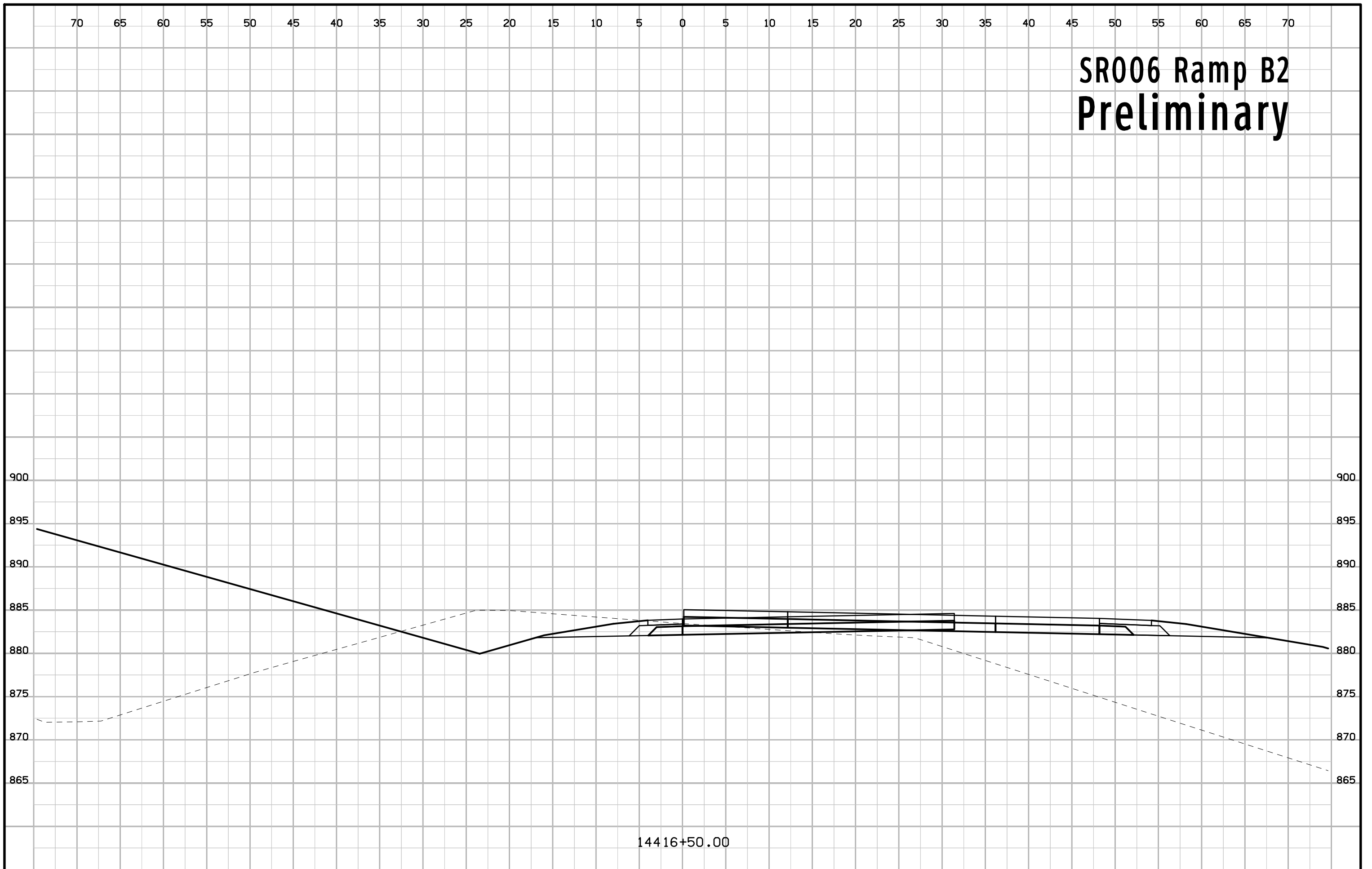


# SR006 Ramp B2 Preliminary



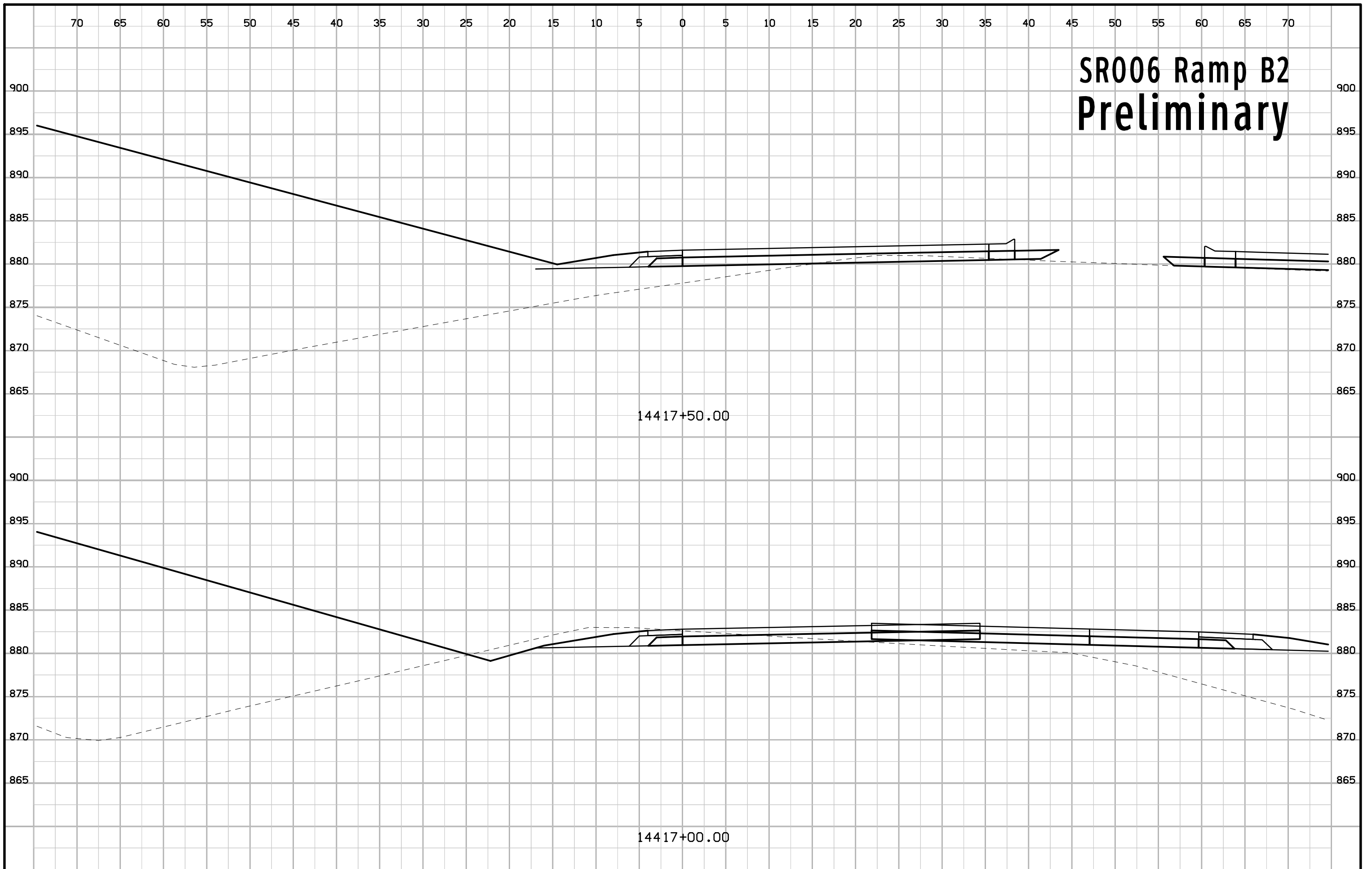
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# SR006 Ramp B2 Preliminary

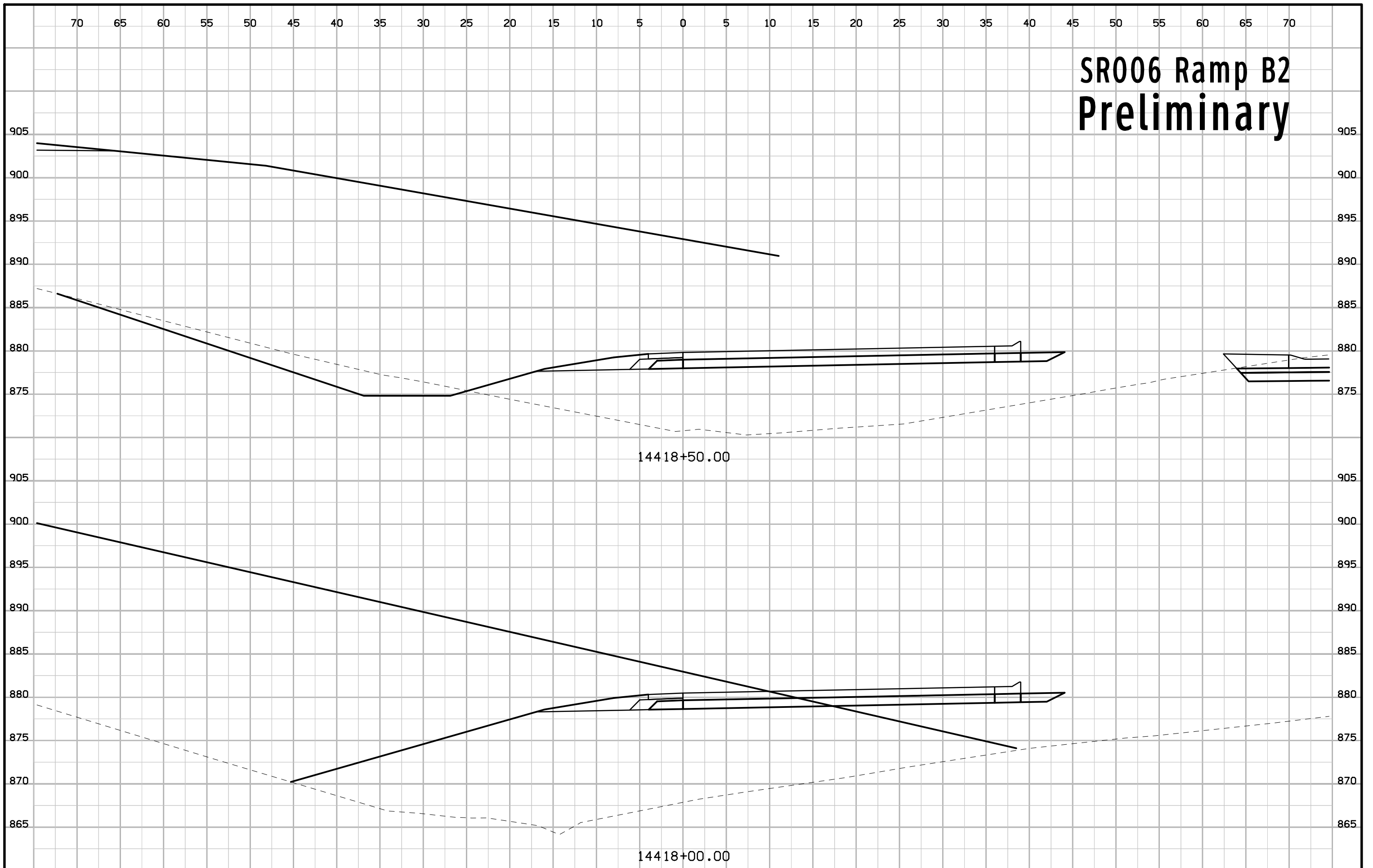


14416+50.00

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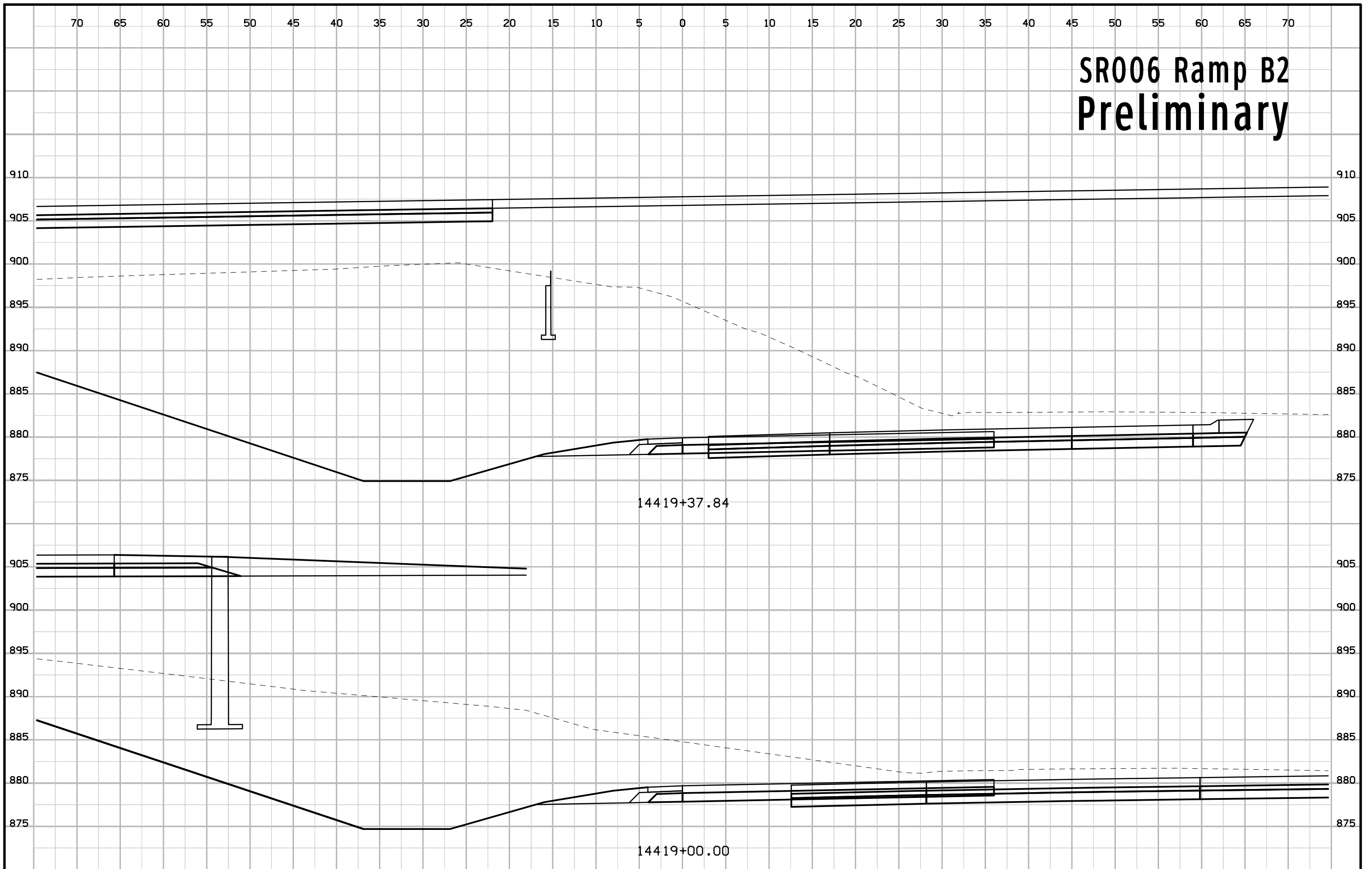


# SR006 Ramp B2 Preliminary





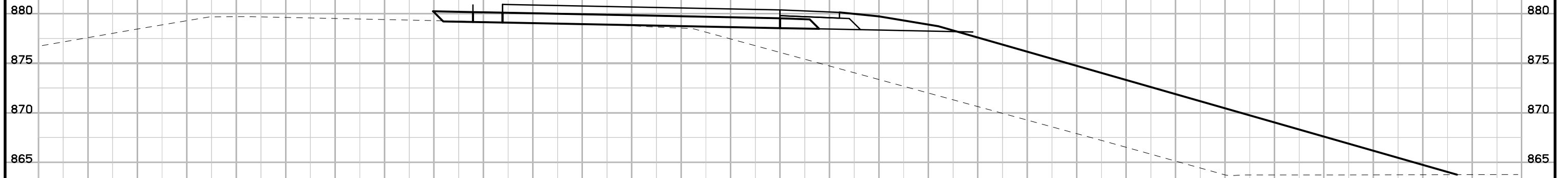
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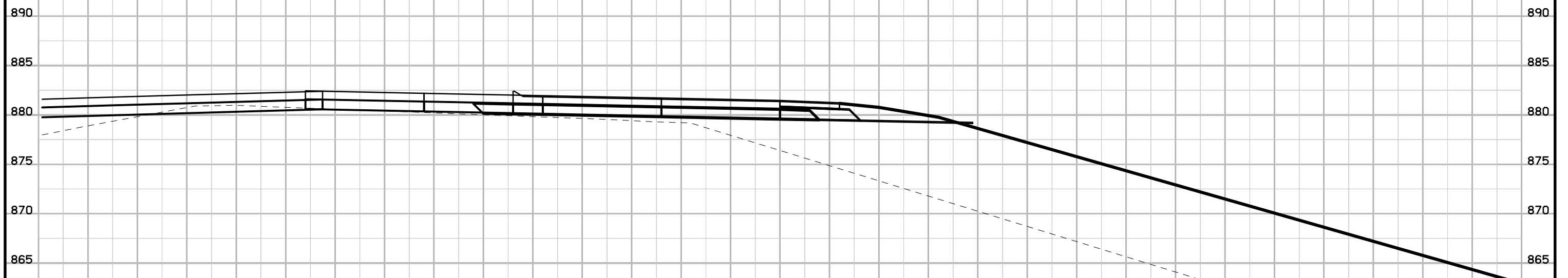
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14419+00.00

# SR006 Ramp B3 Preliminary

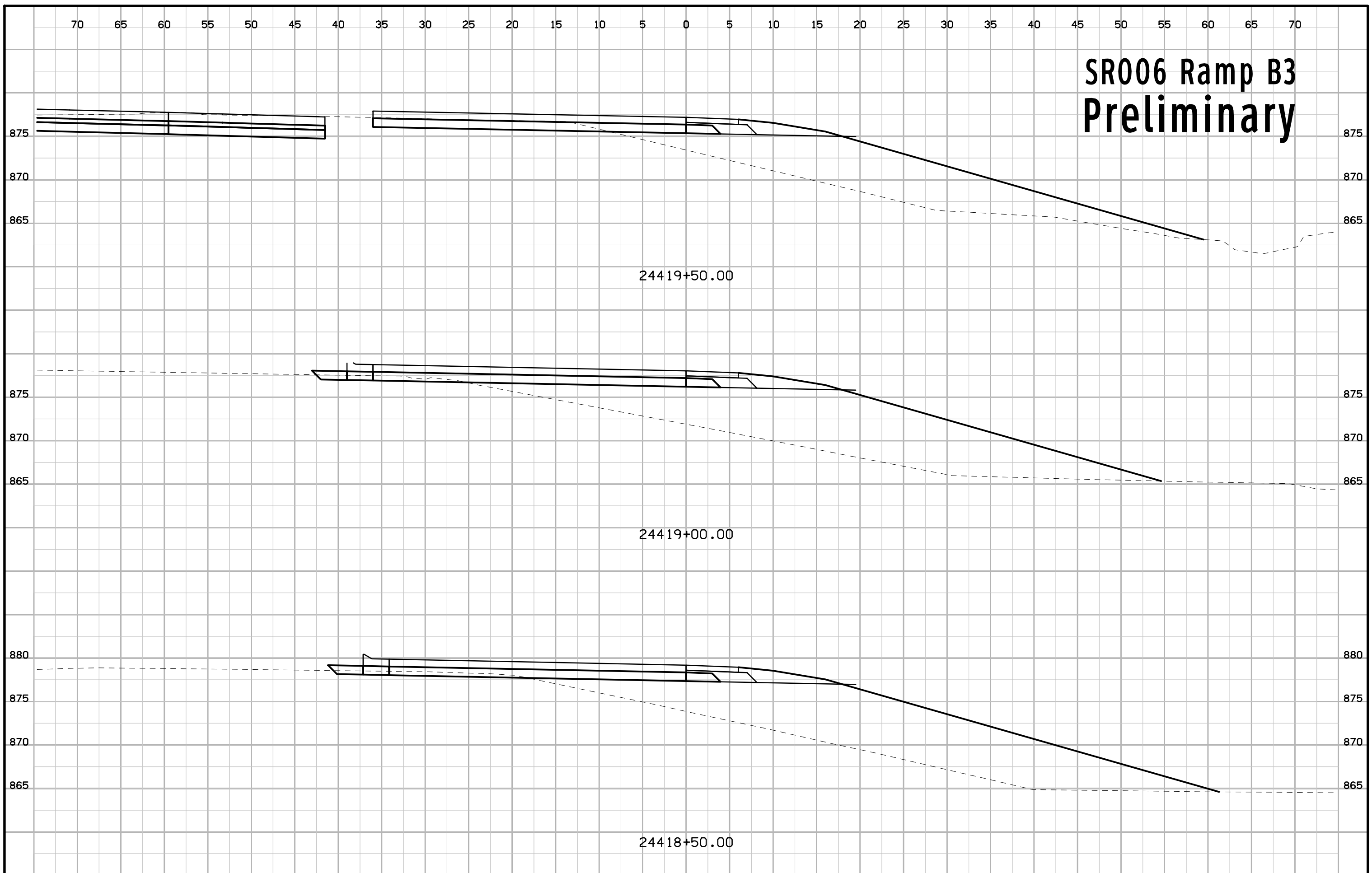


24418+00.00

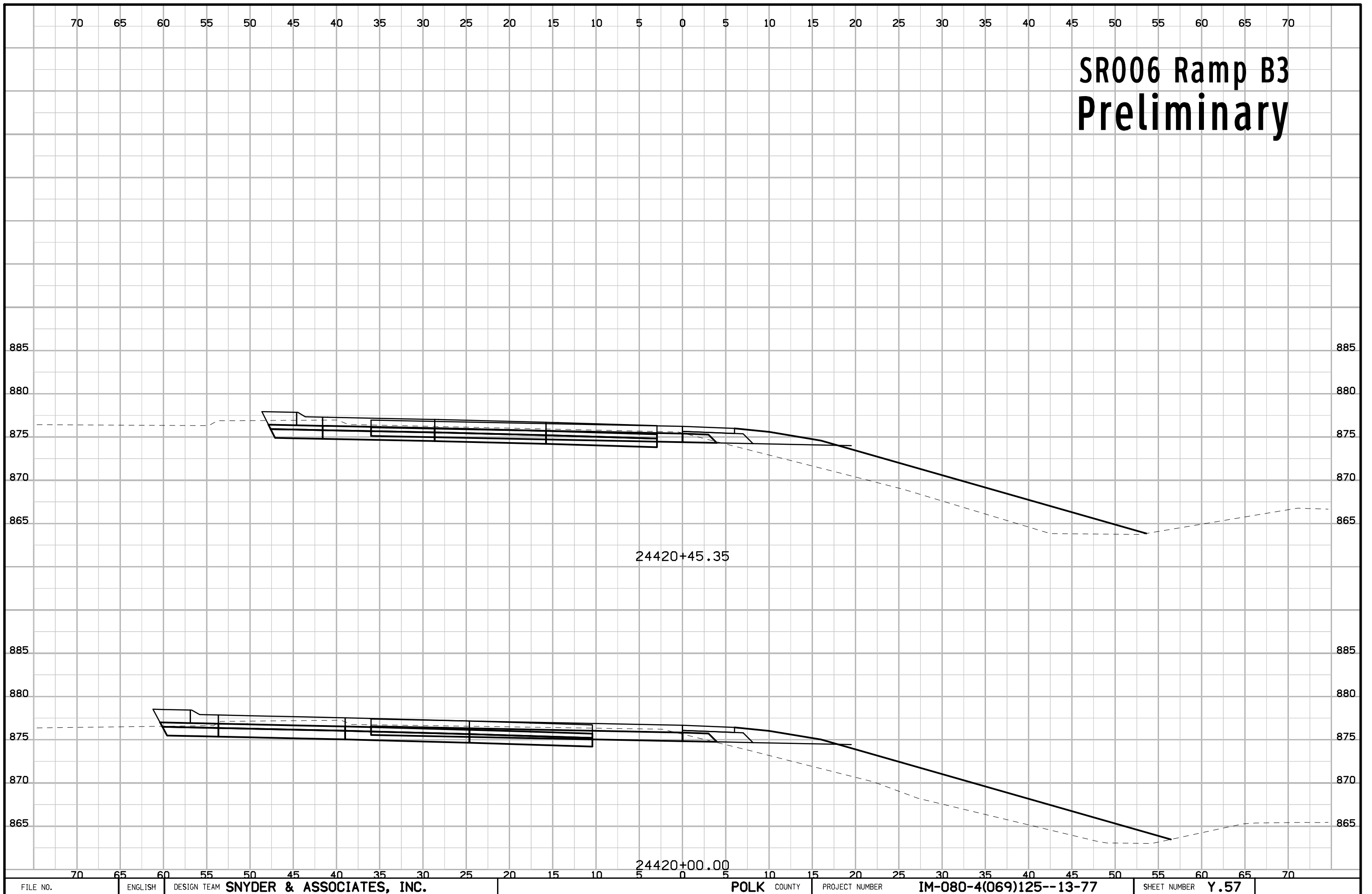


24417+59.53

# SR006 Ramp B3 Preliminary



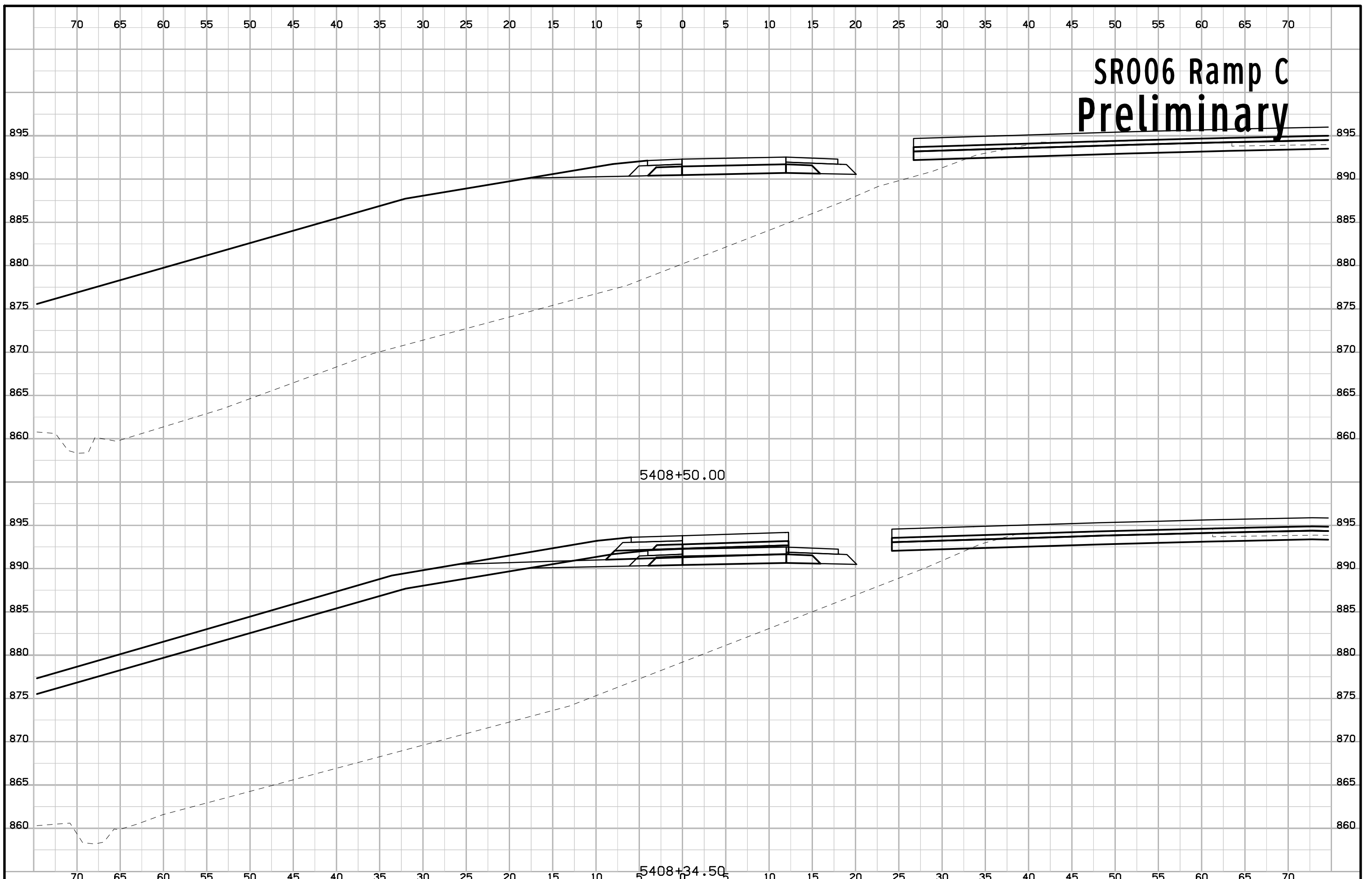
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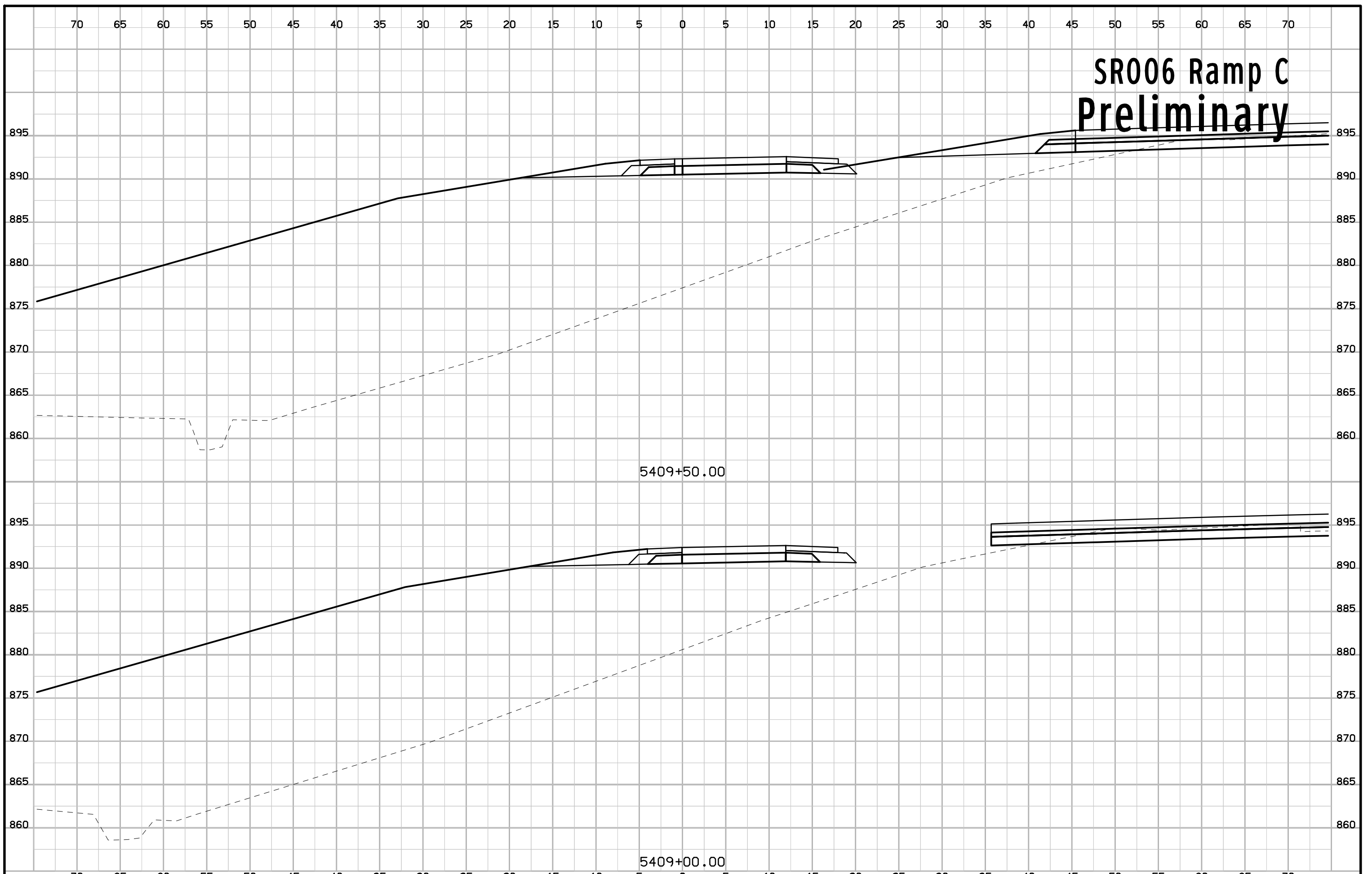
24420+45.35

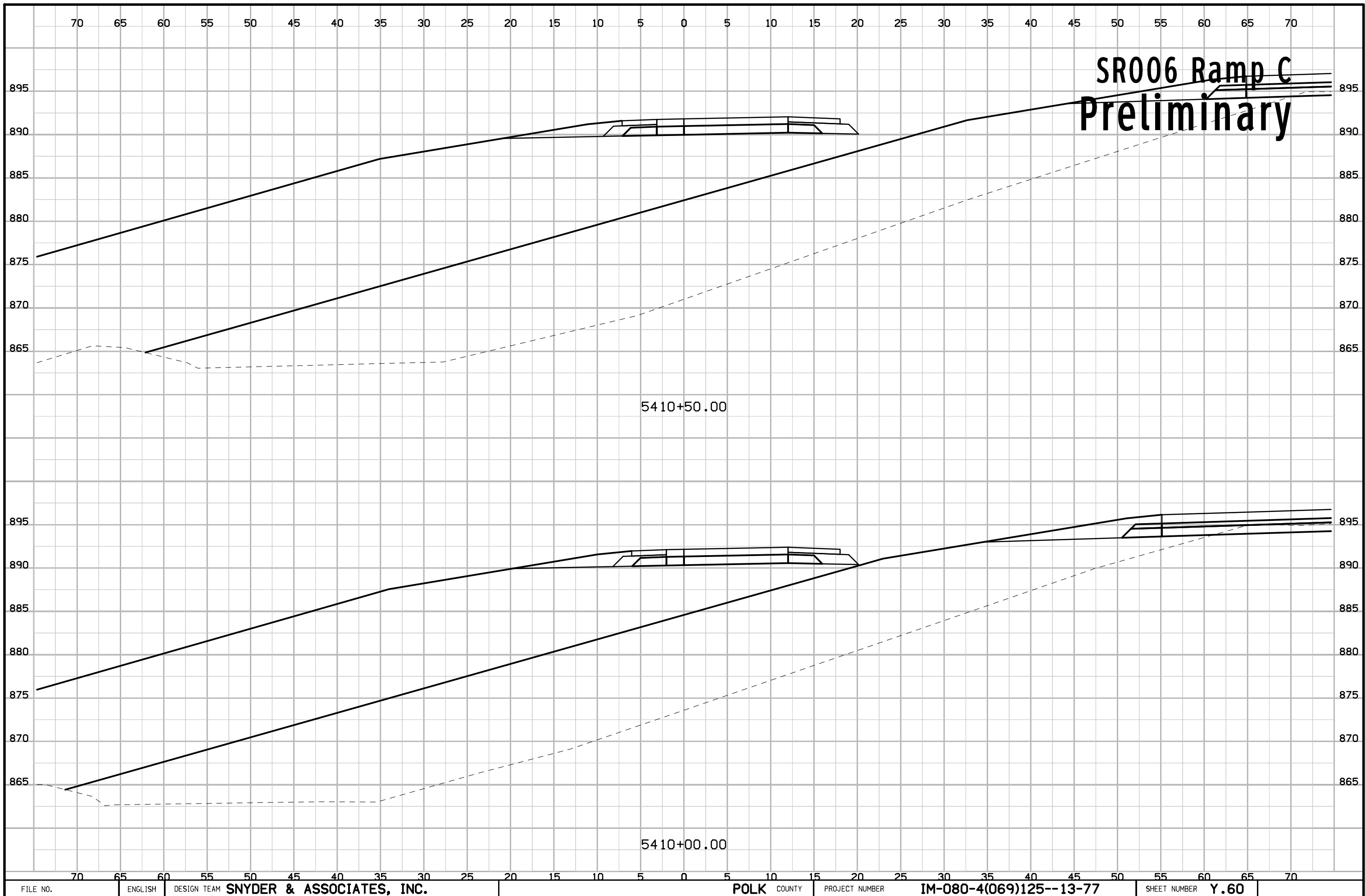
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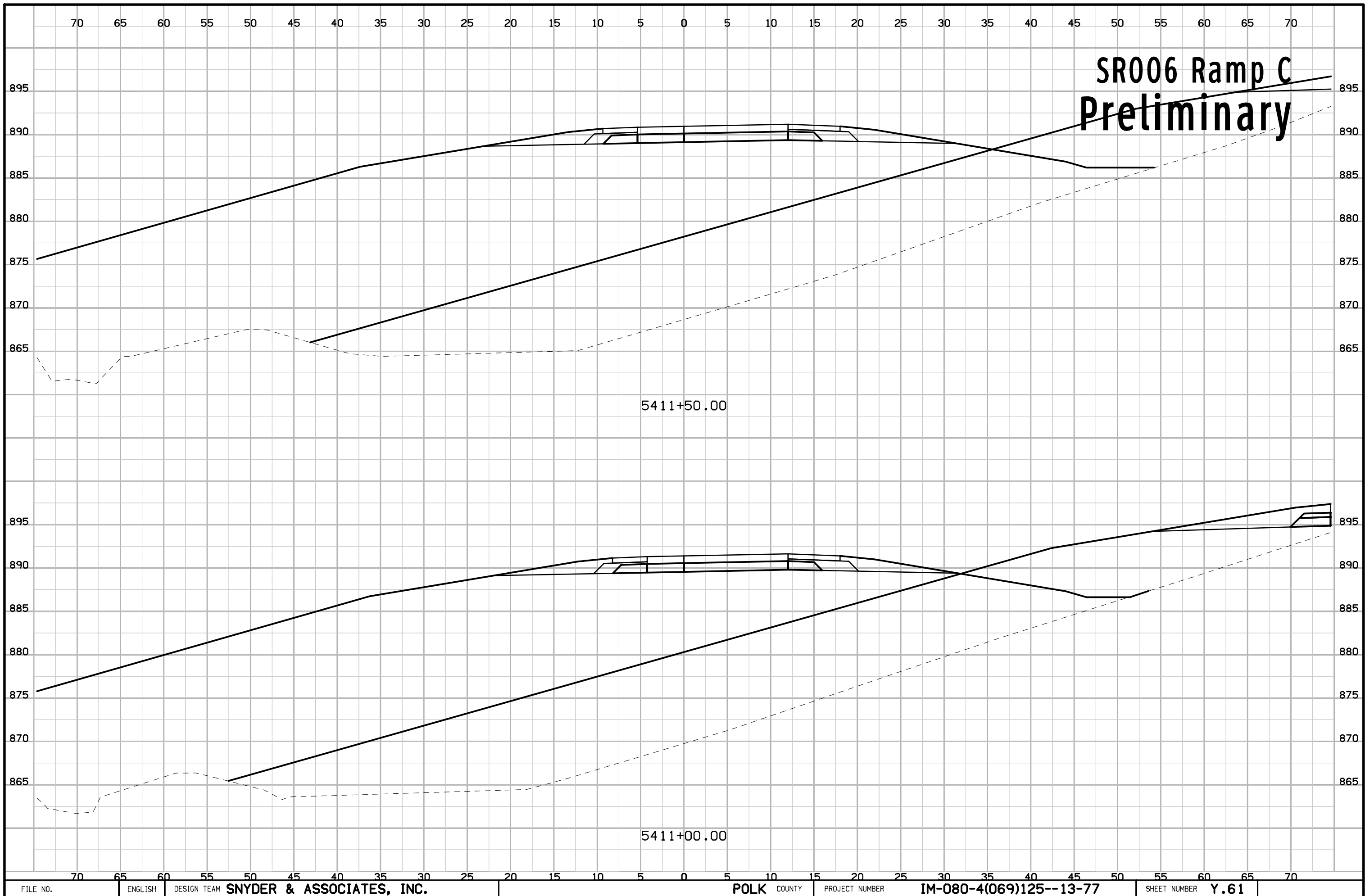
# SR006 Ramp C Preliminary



# SR006 Ramp C Preliminary







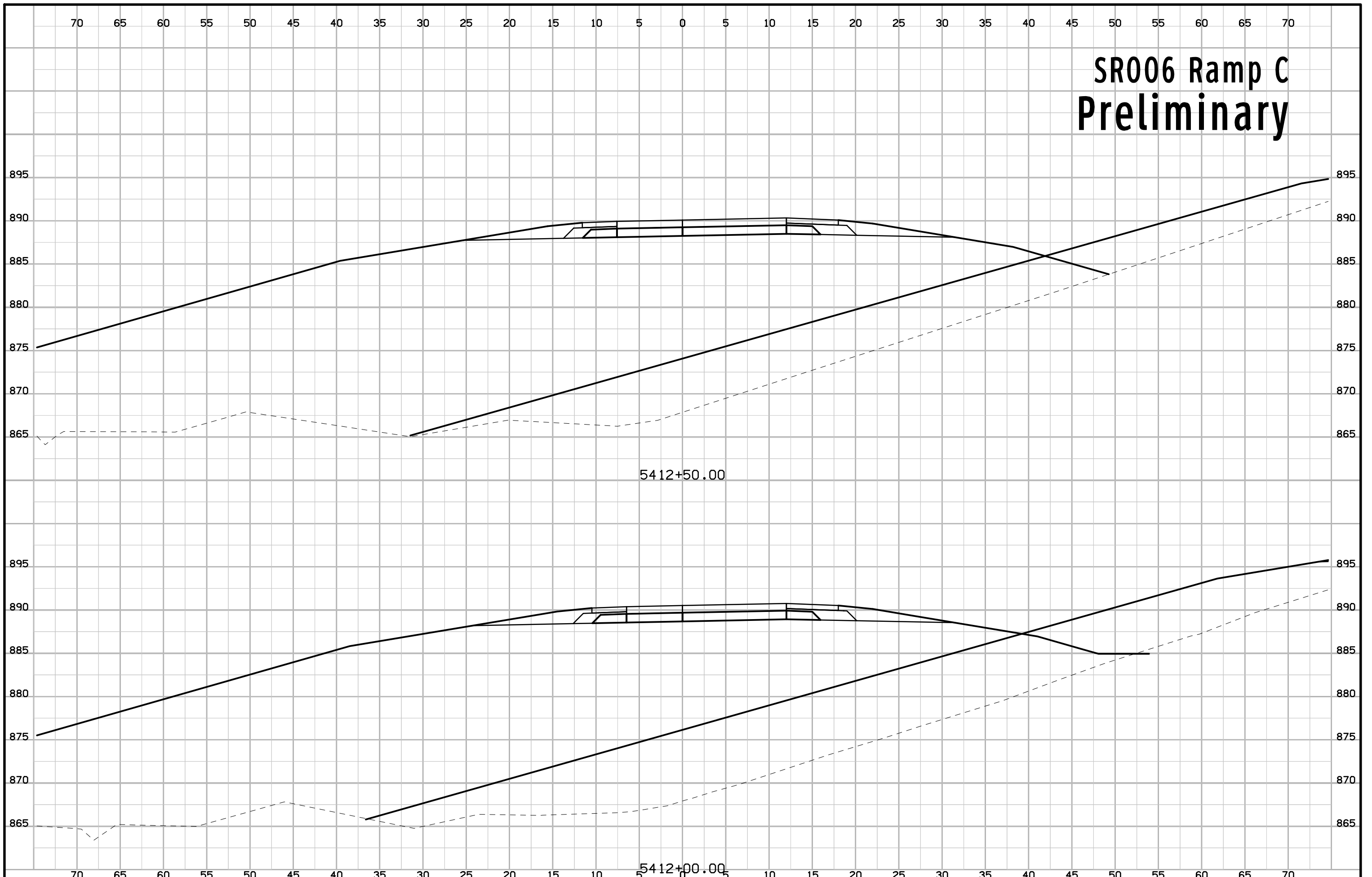
# SR006 Ramp C Preliminary

5411+50.00

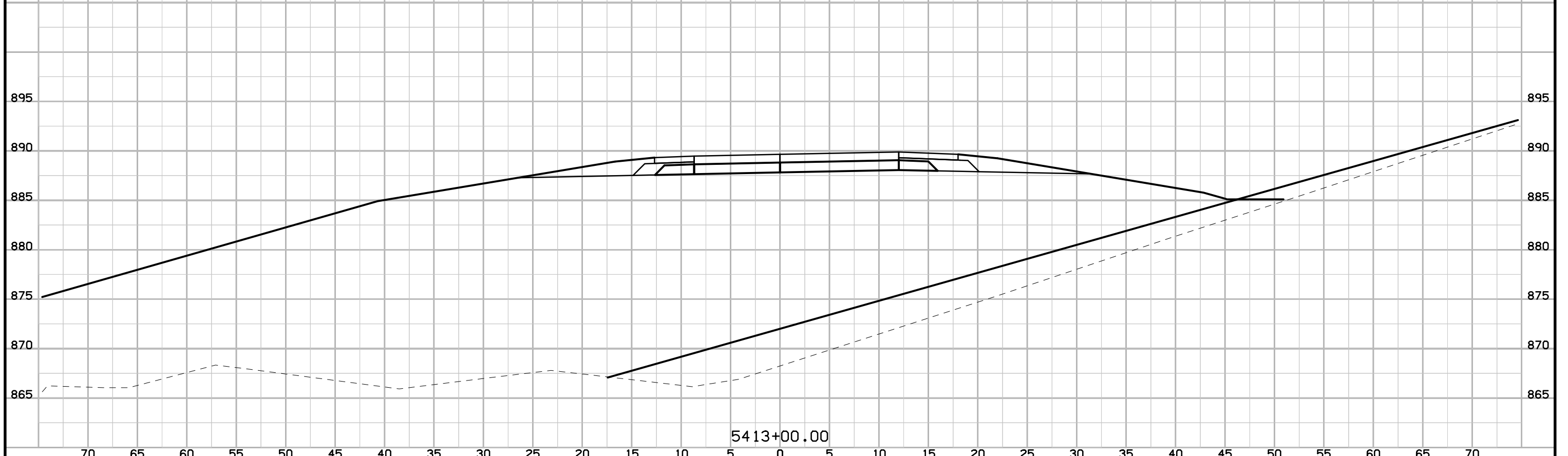
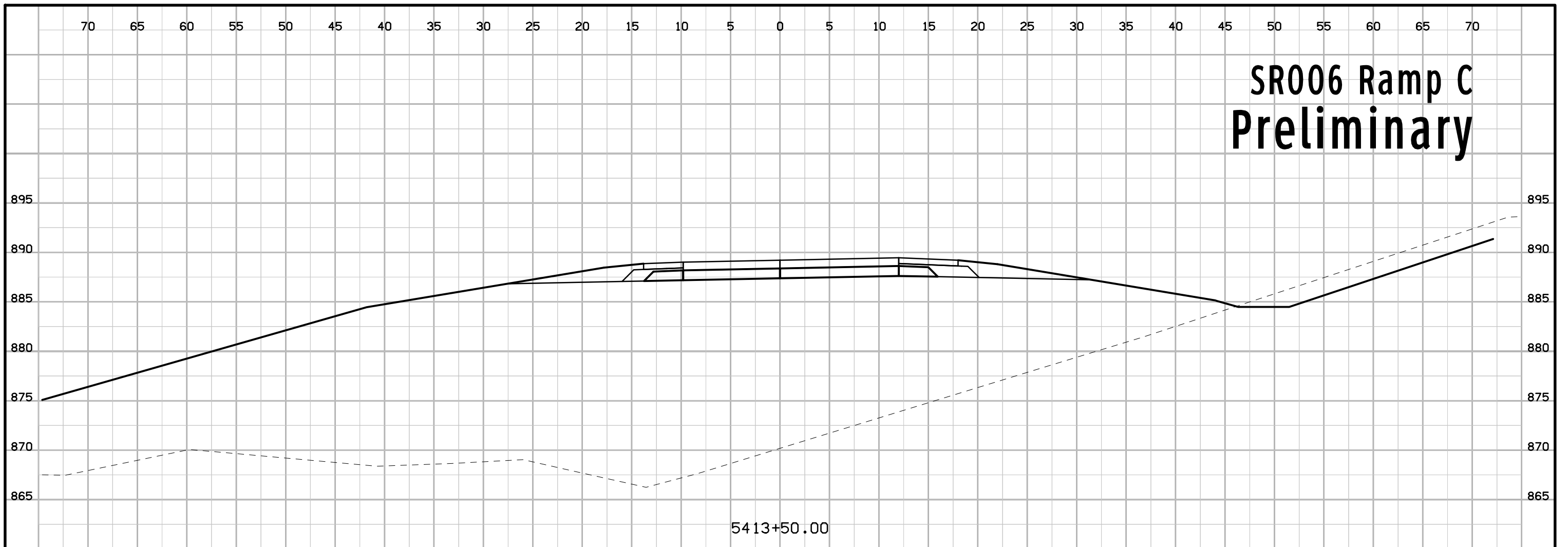
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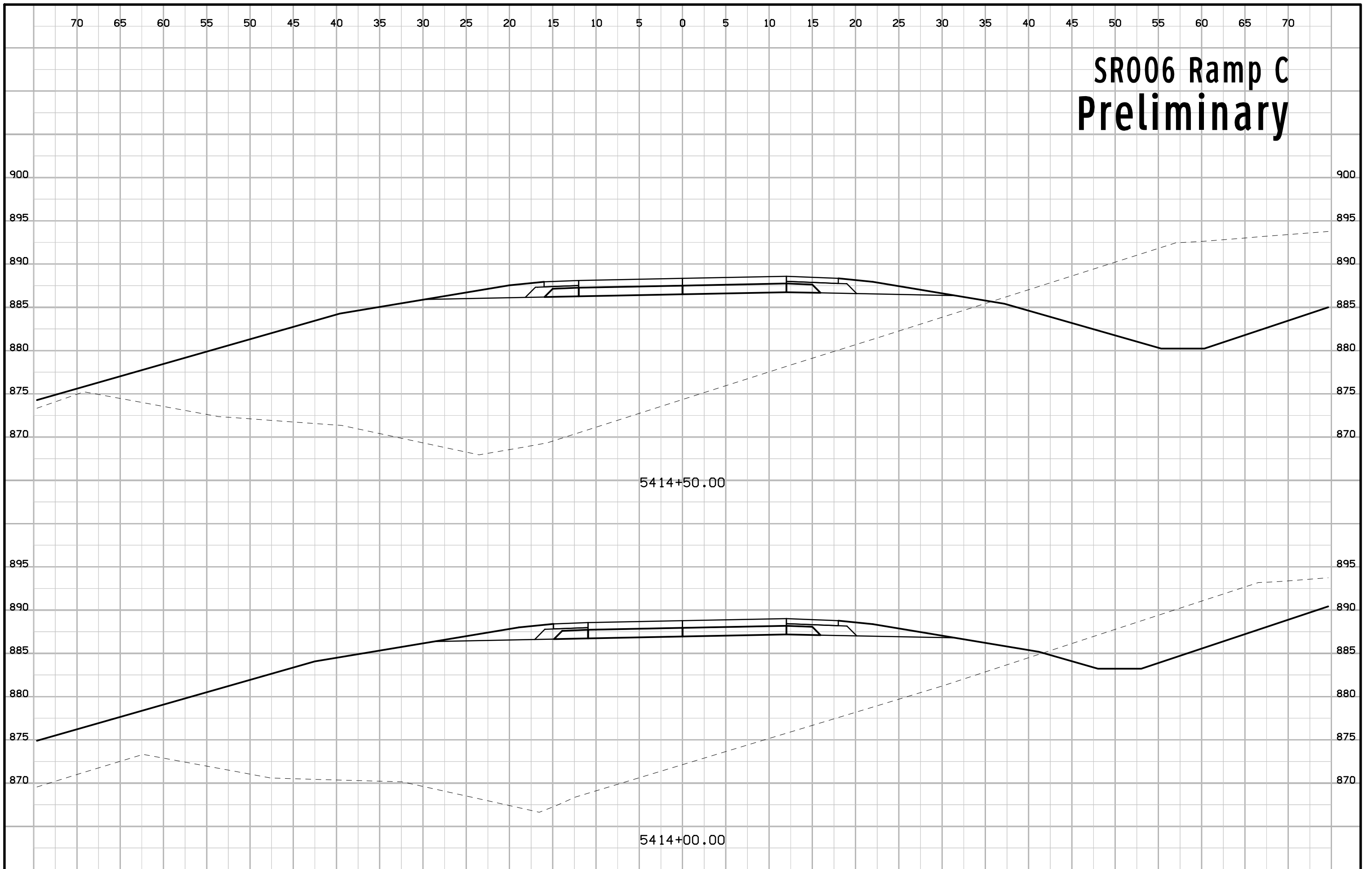
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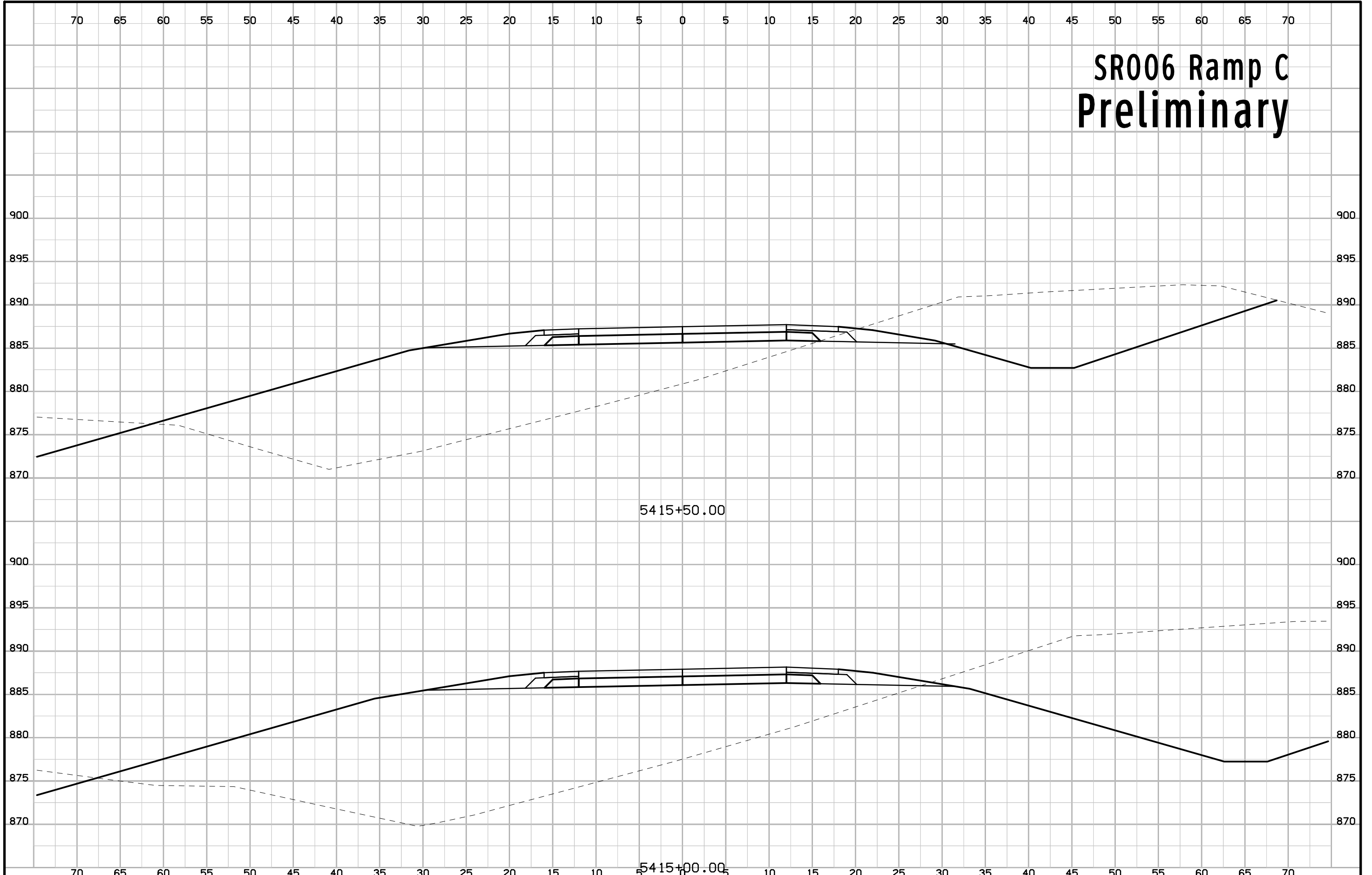
# SR006 Ramp C Preliminary



# SR006 Ramp C Preliminary



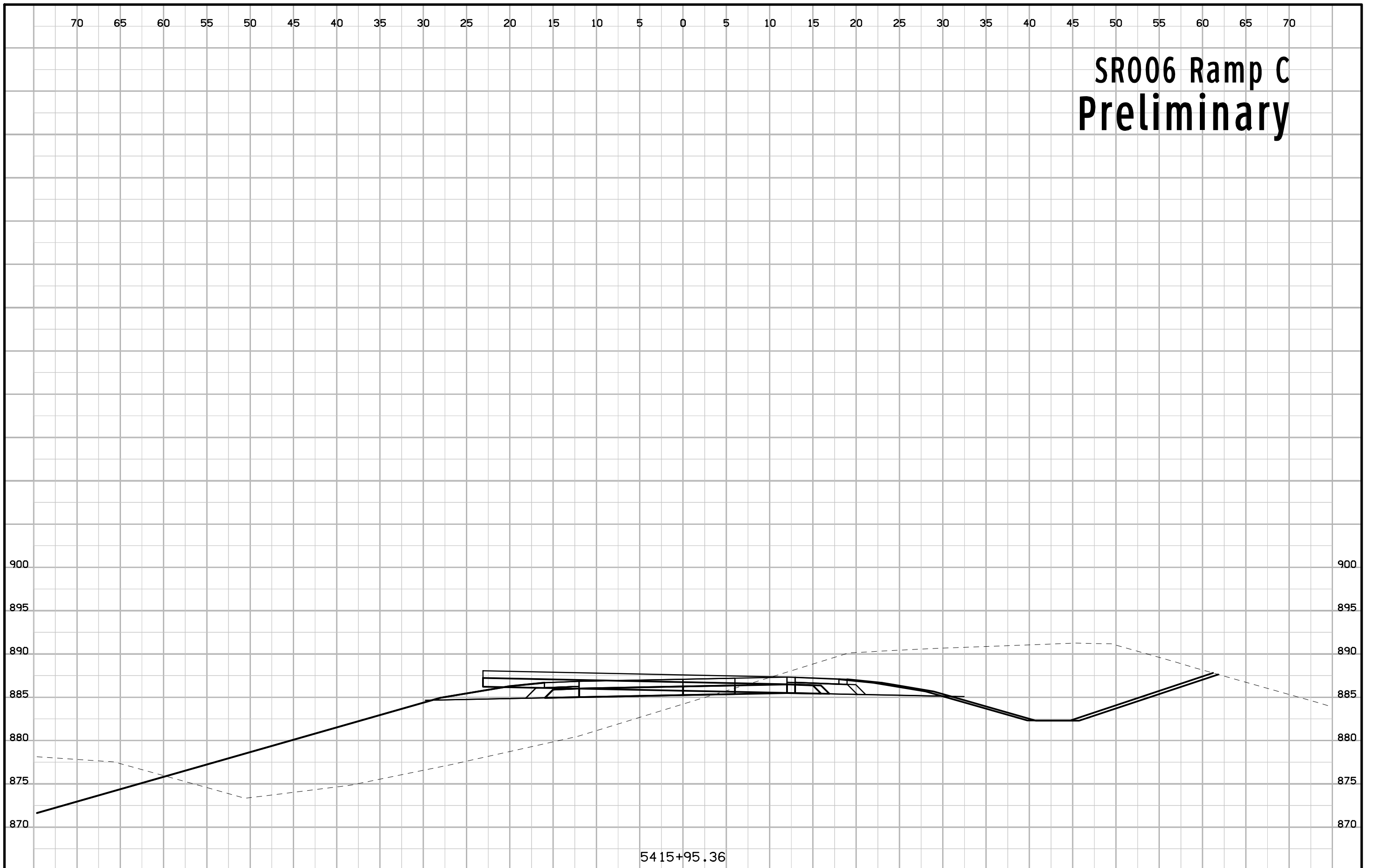
# SR006 Ramp C Preliminary



5415+50.00

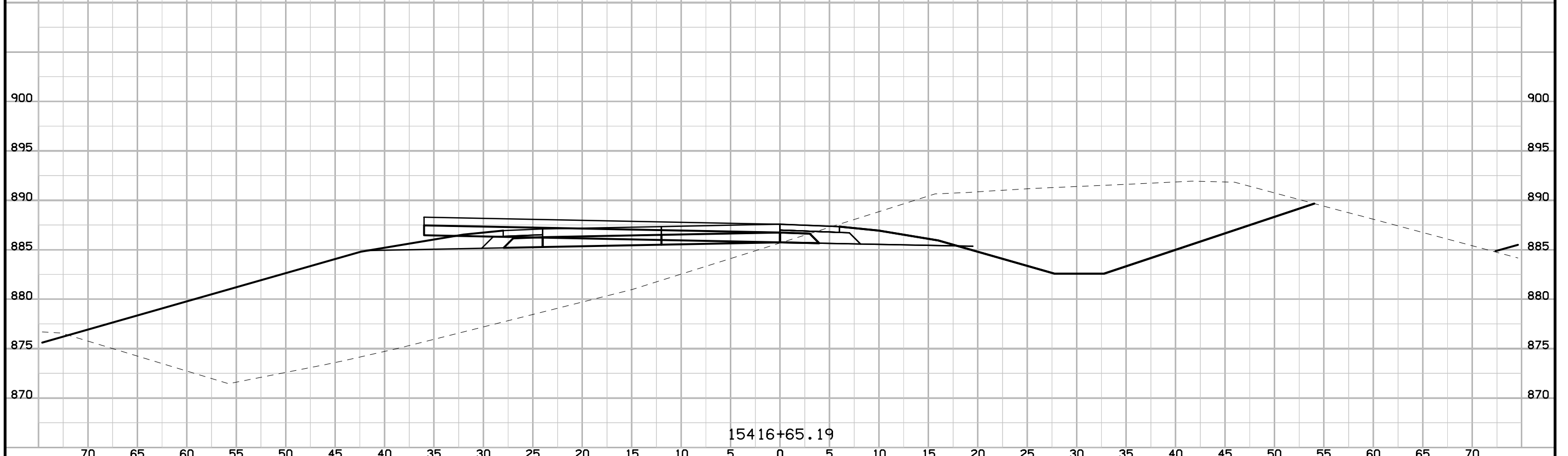
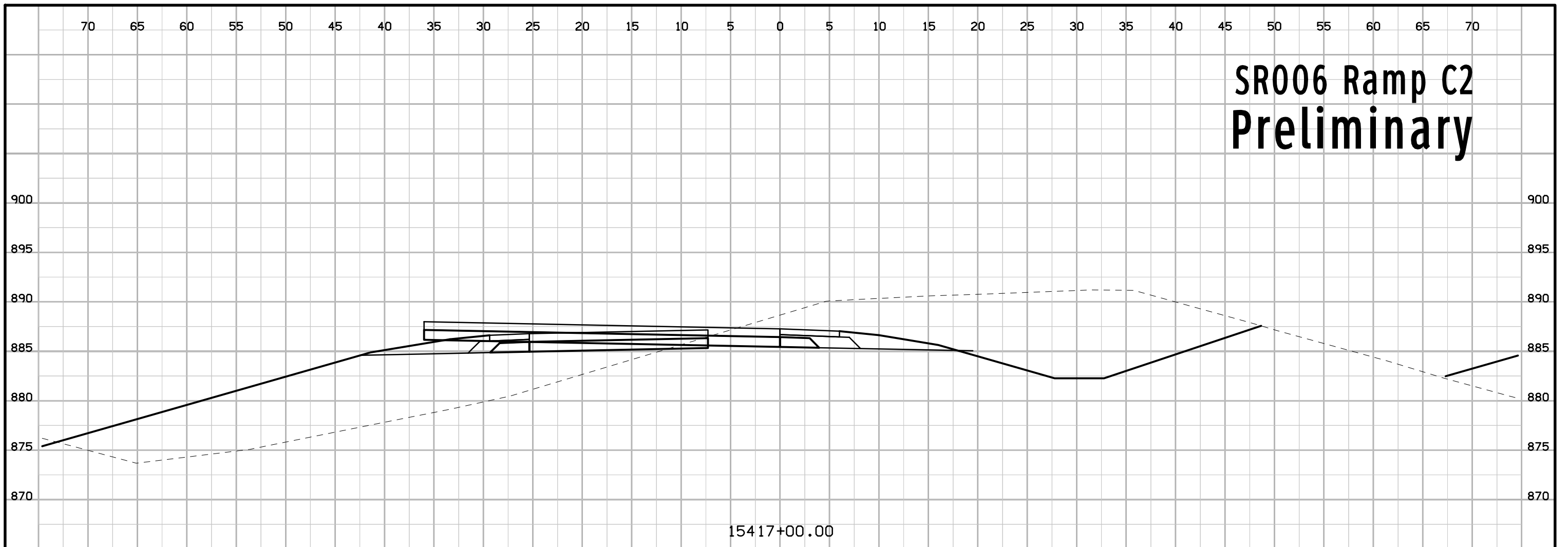
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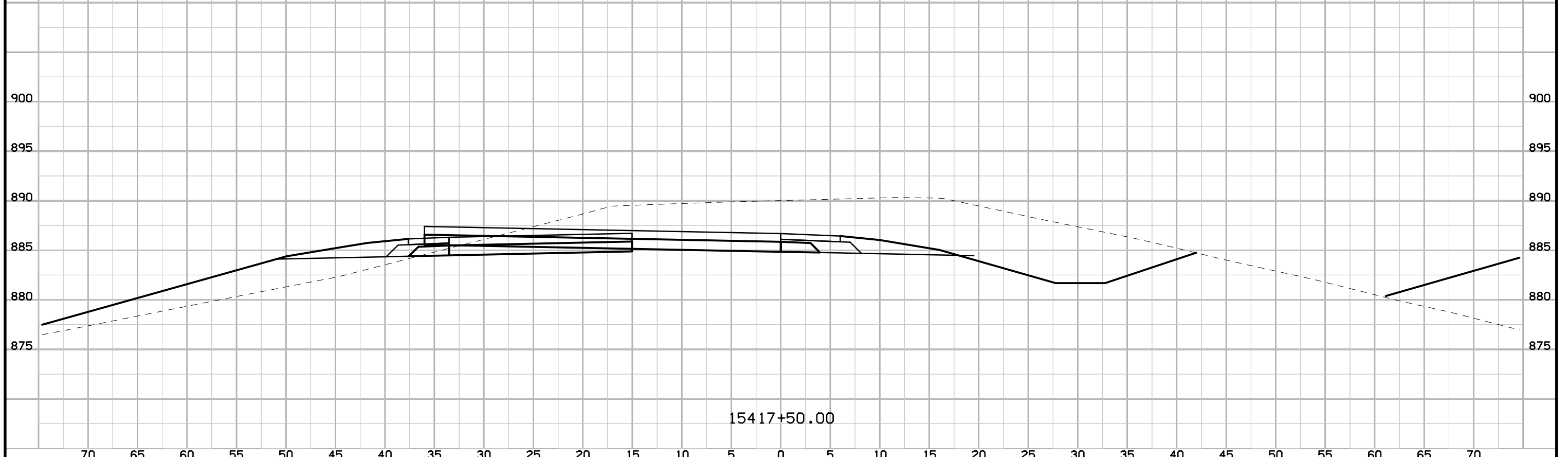
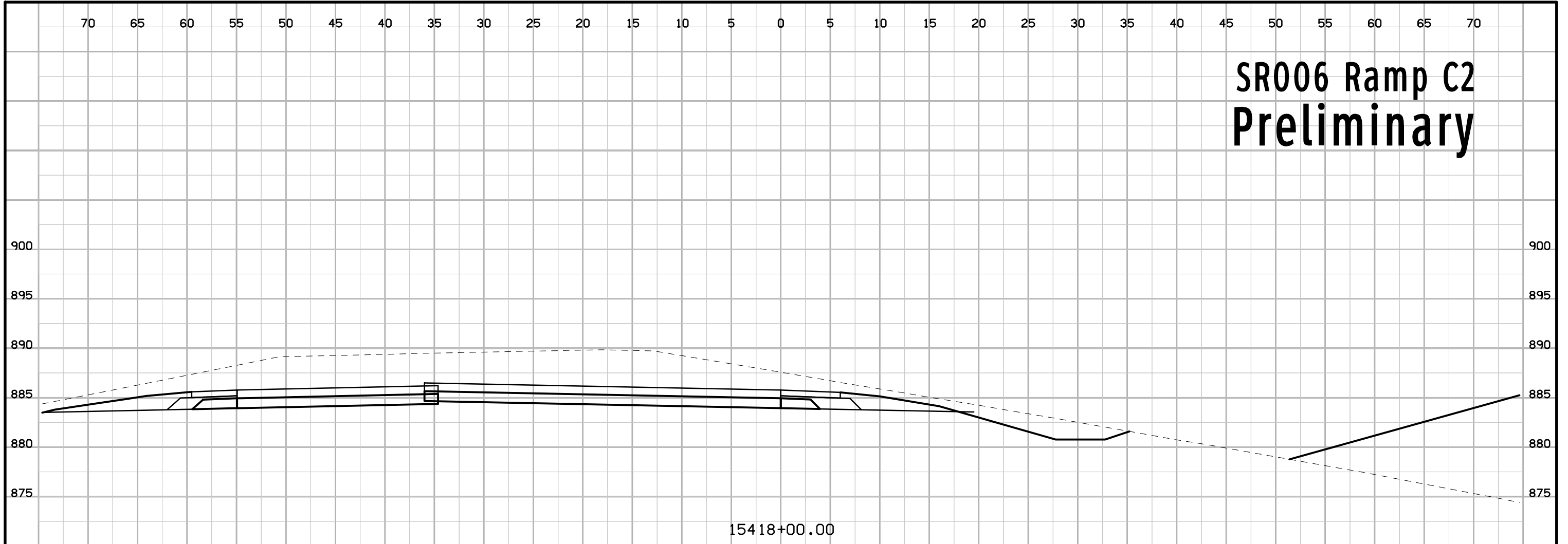


5415+95.36

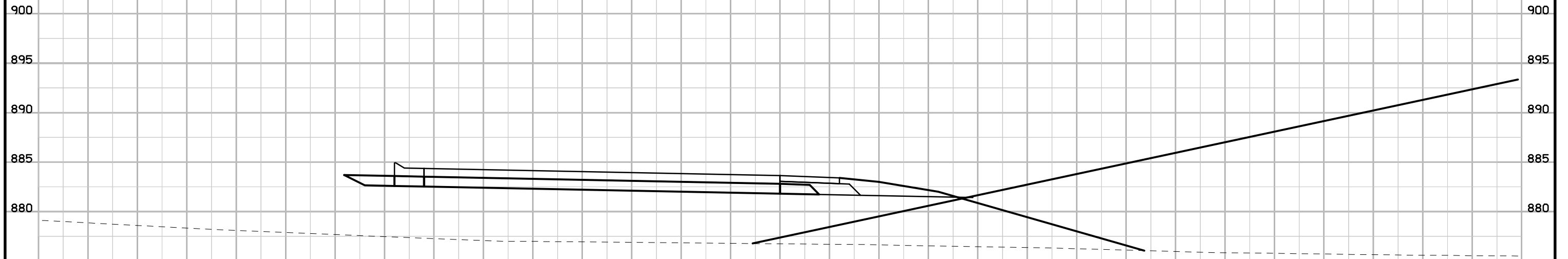
# SR006 Ramp C2 Preliminary



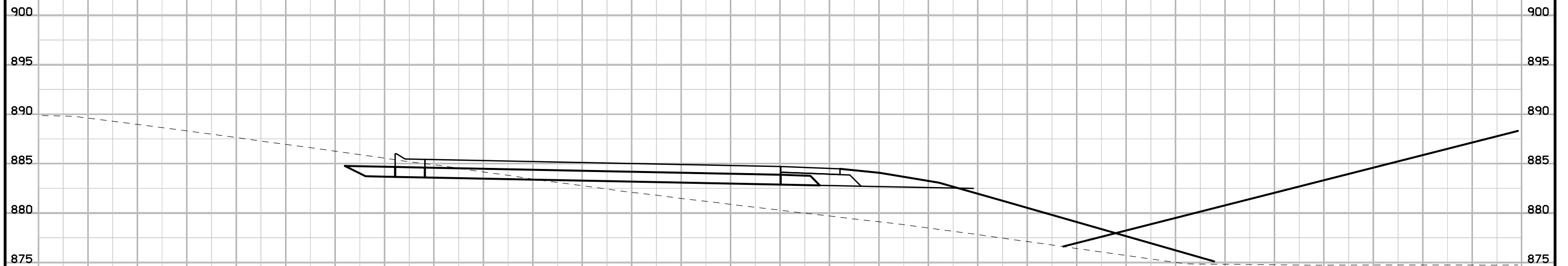
# SR006 Ramp C2 Preliminary



# SR006 Ramp C2 Preliminary



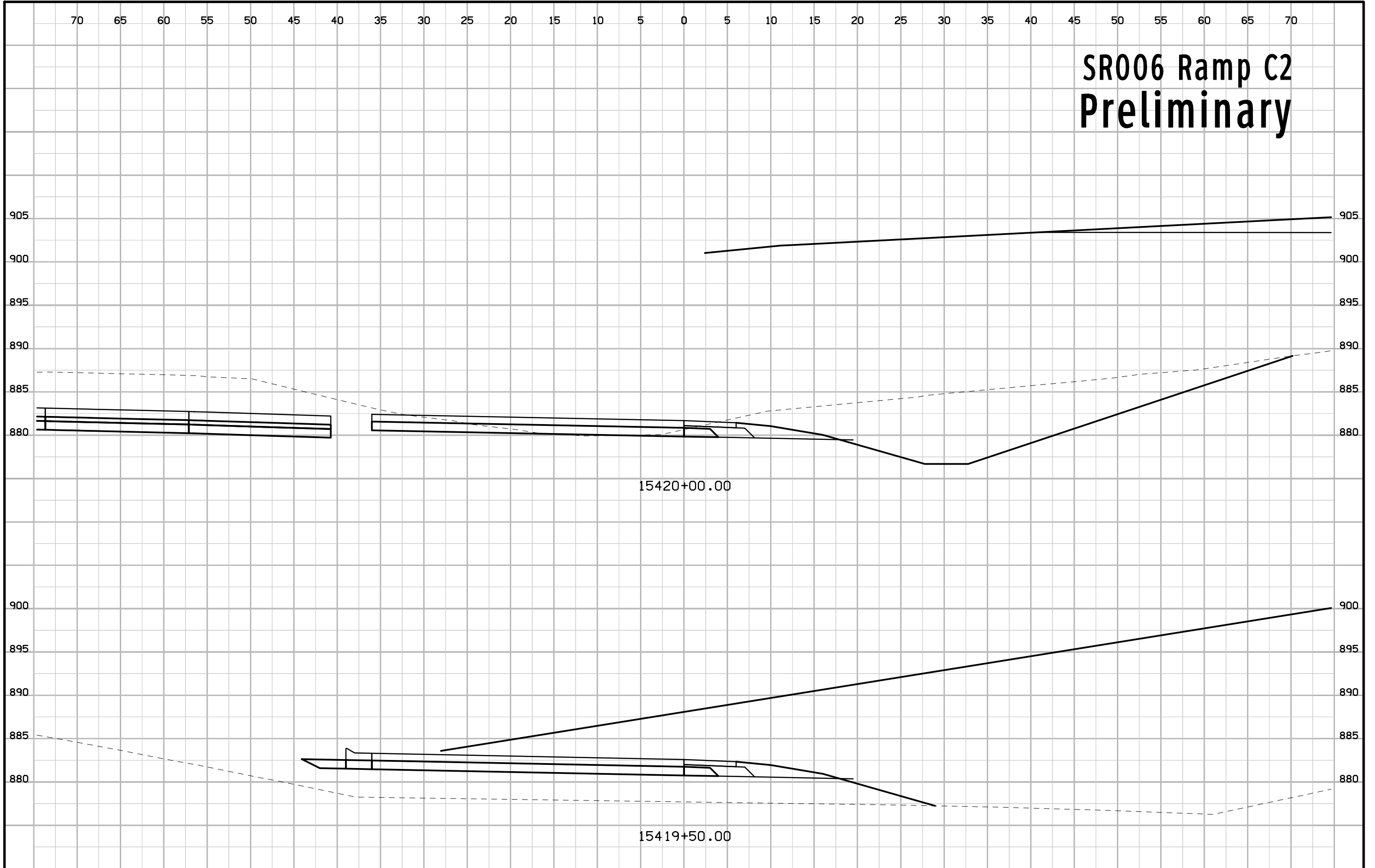
15419+00.00



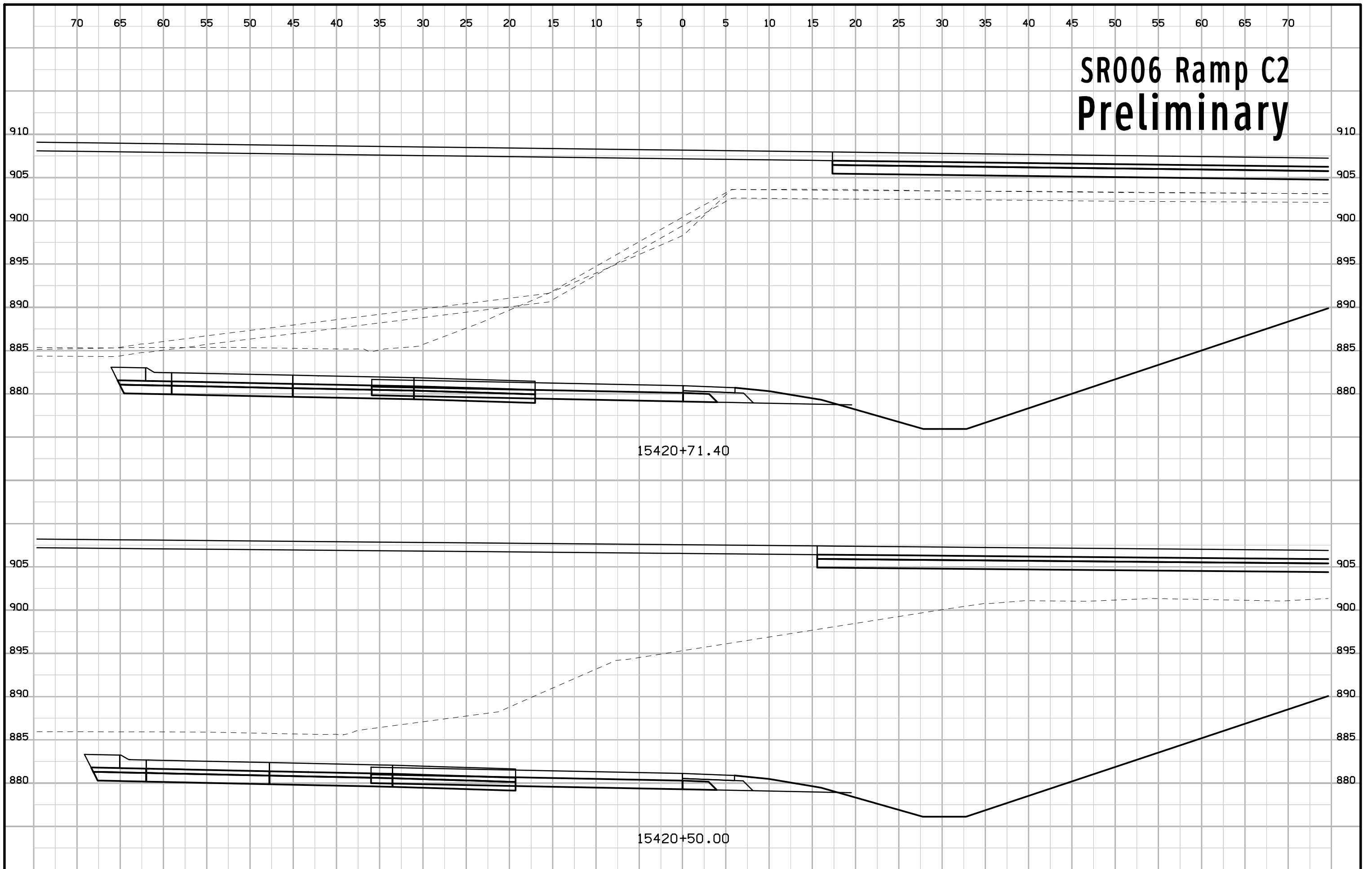
15418+50.00



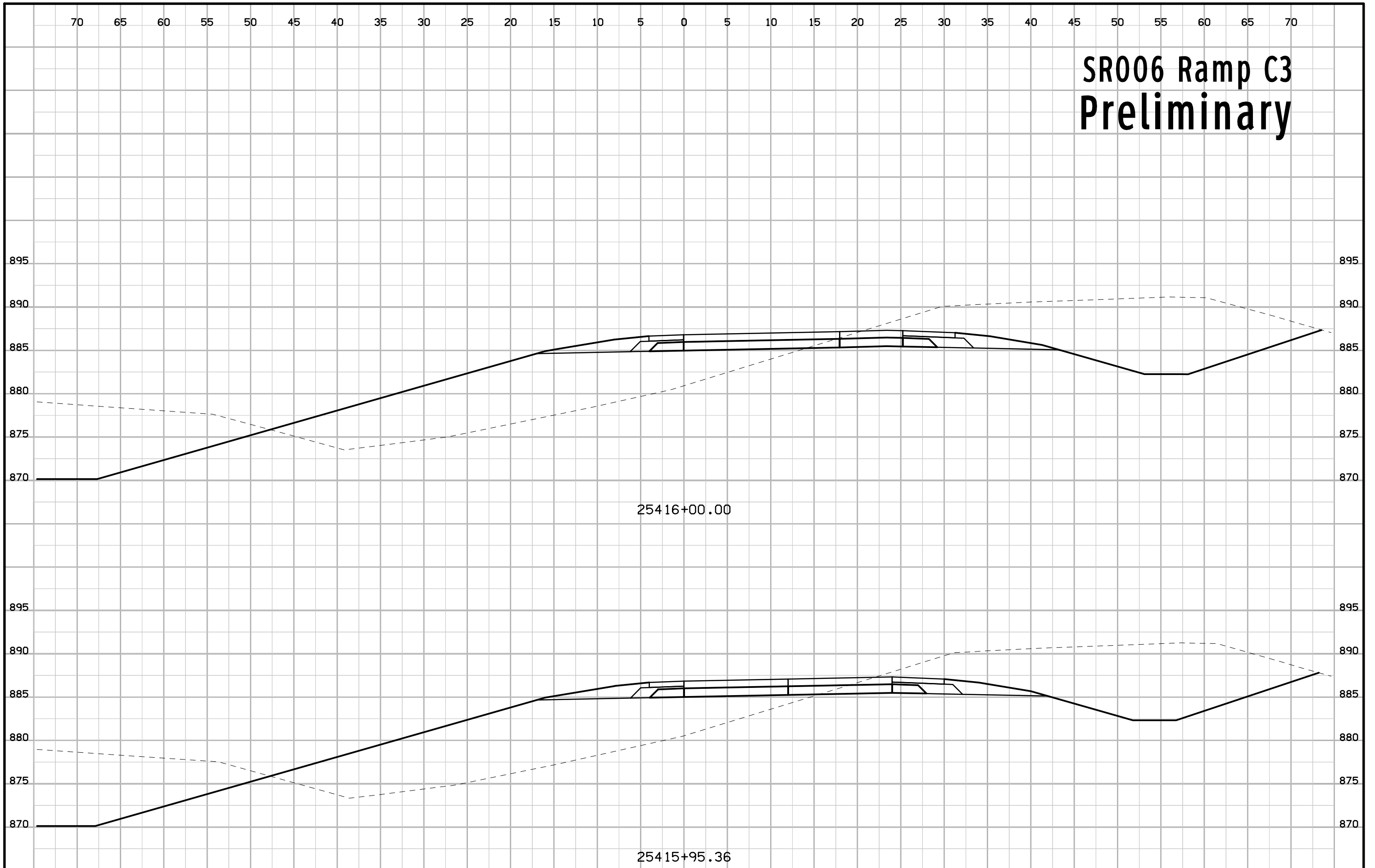
# SR006 Ramp C2 Preliminary



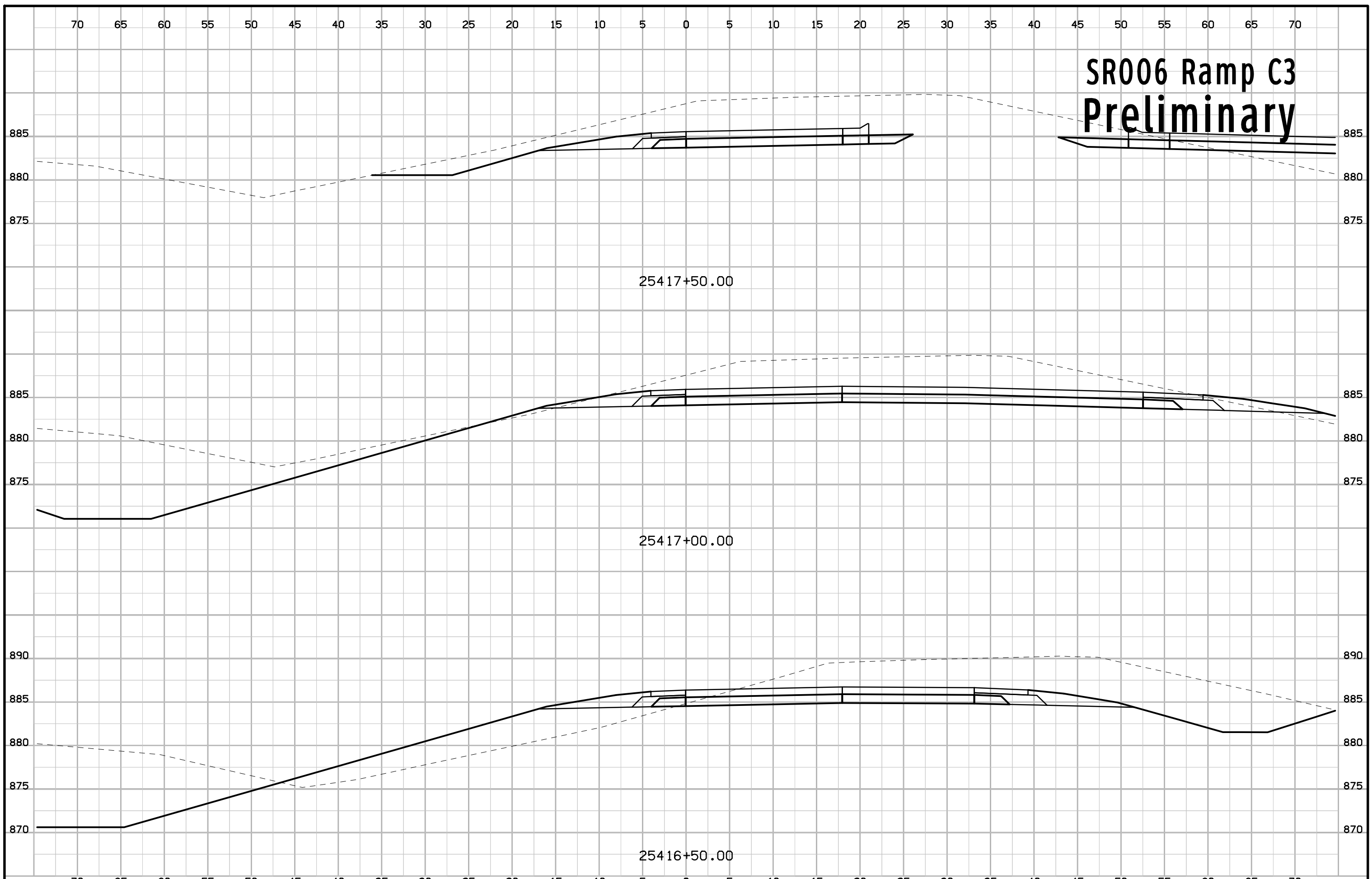
# SR006 Ramp C2 Preliminary

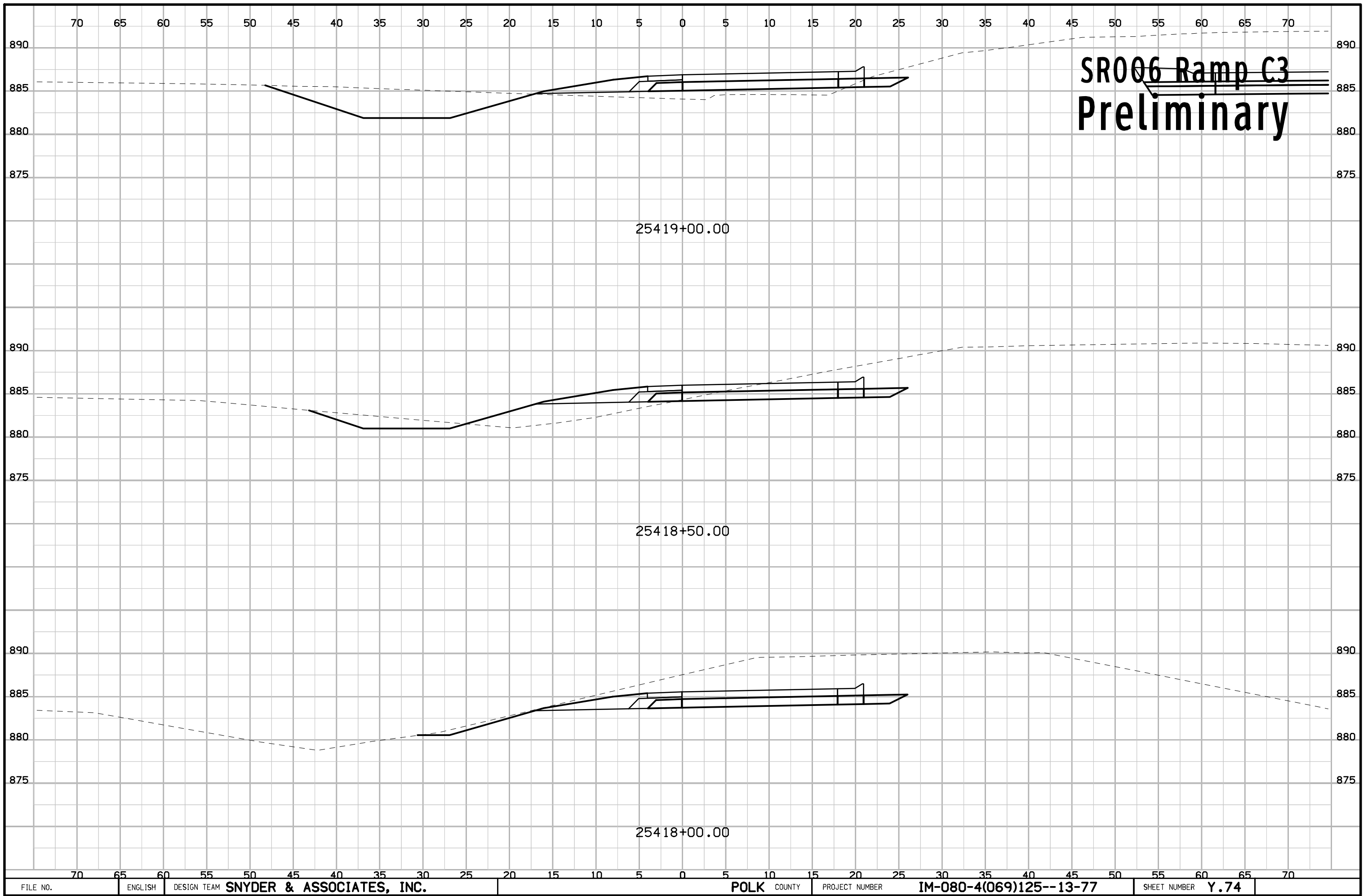


# SR006 Ramp C3 Preliminary



# SR006 Ramp C3 Preliminary





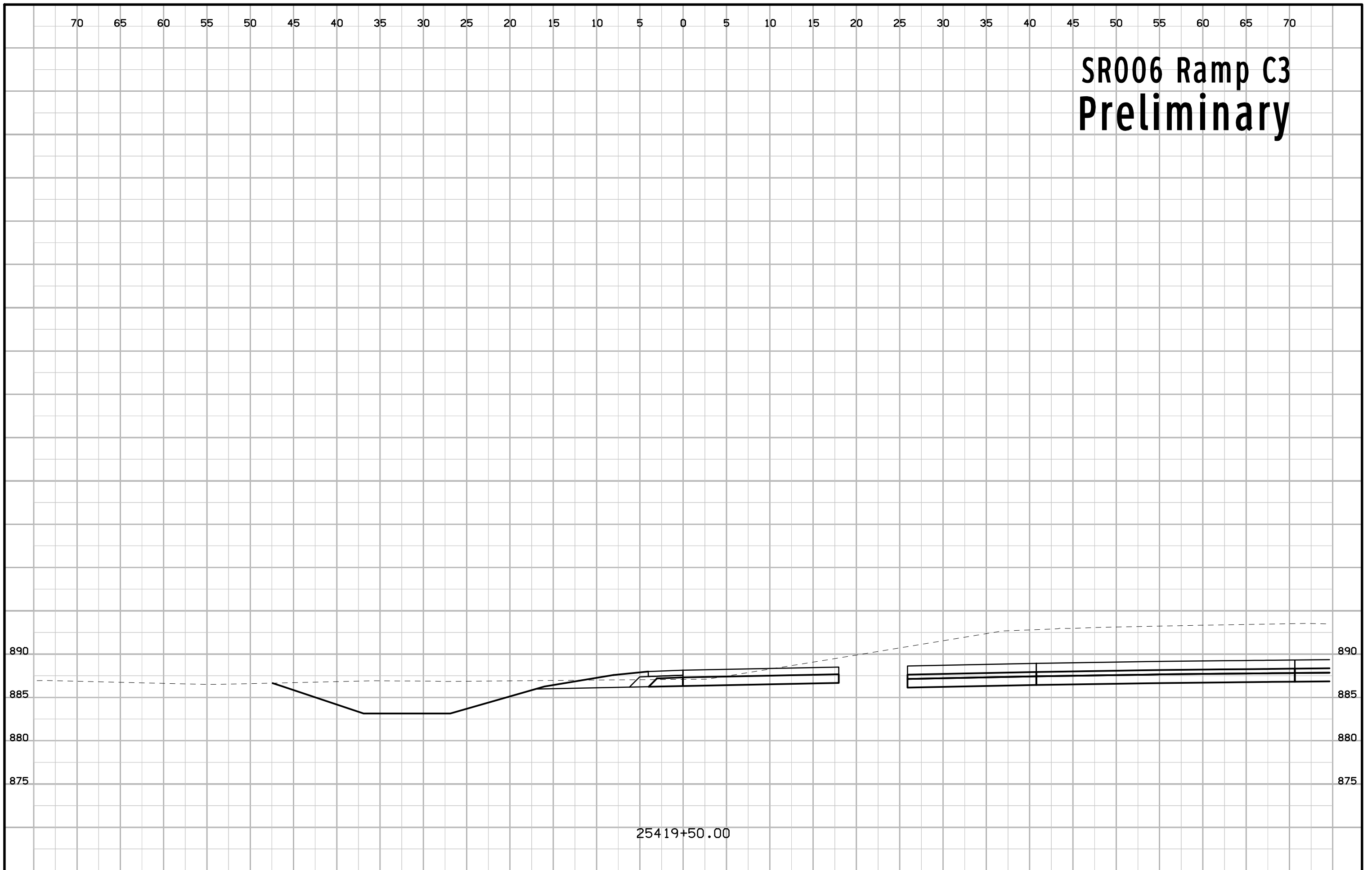
**SR006 Ramp C3  
Preliminary**

25419+00.00

25418+50.00

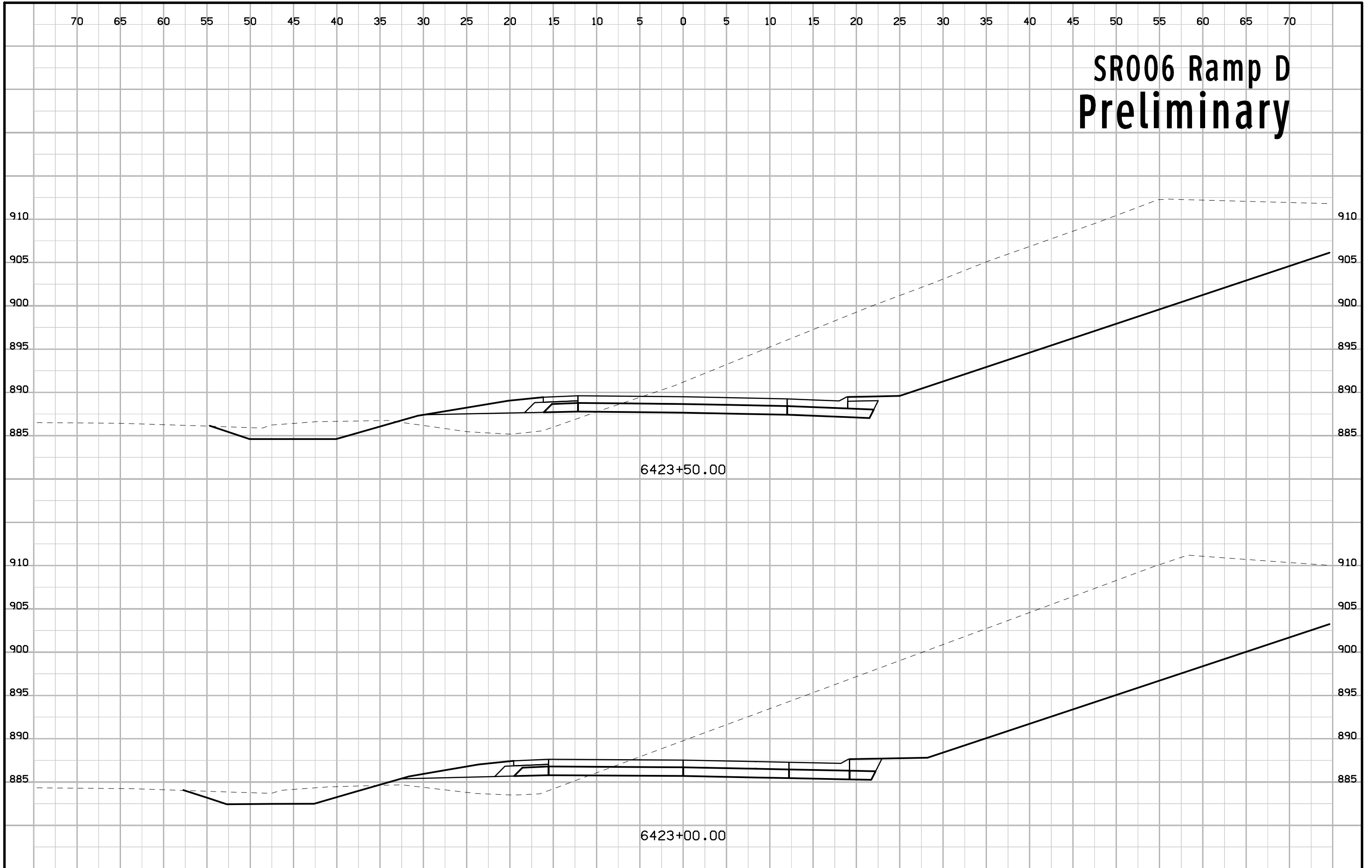
25418+00.00

# SR006 Ramp C3 Preliminary

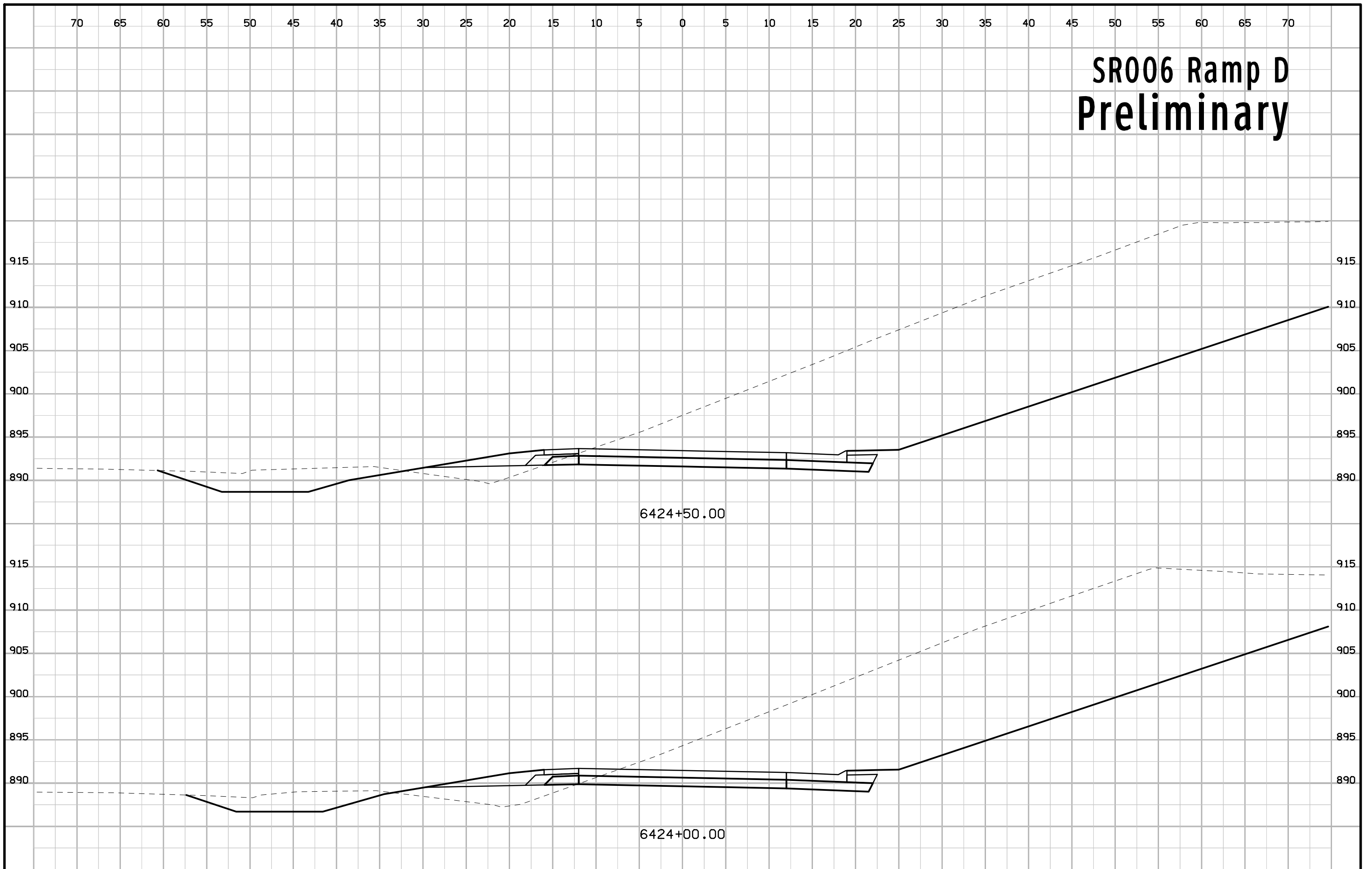


25419+50.00

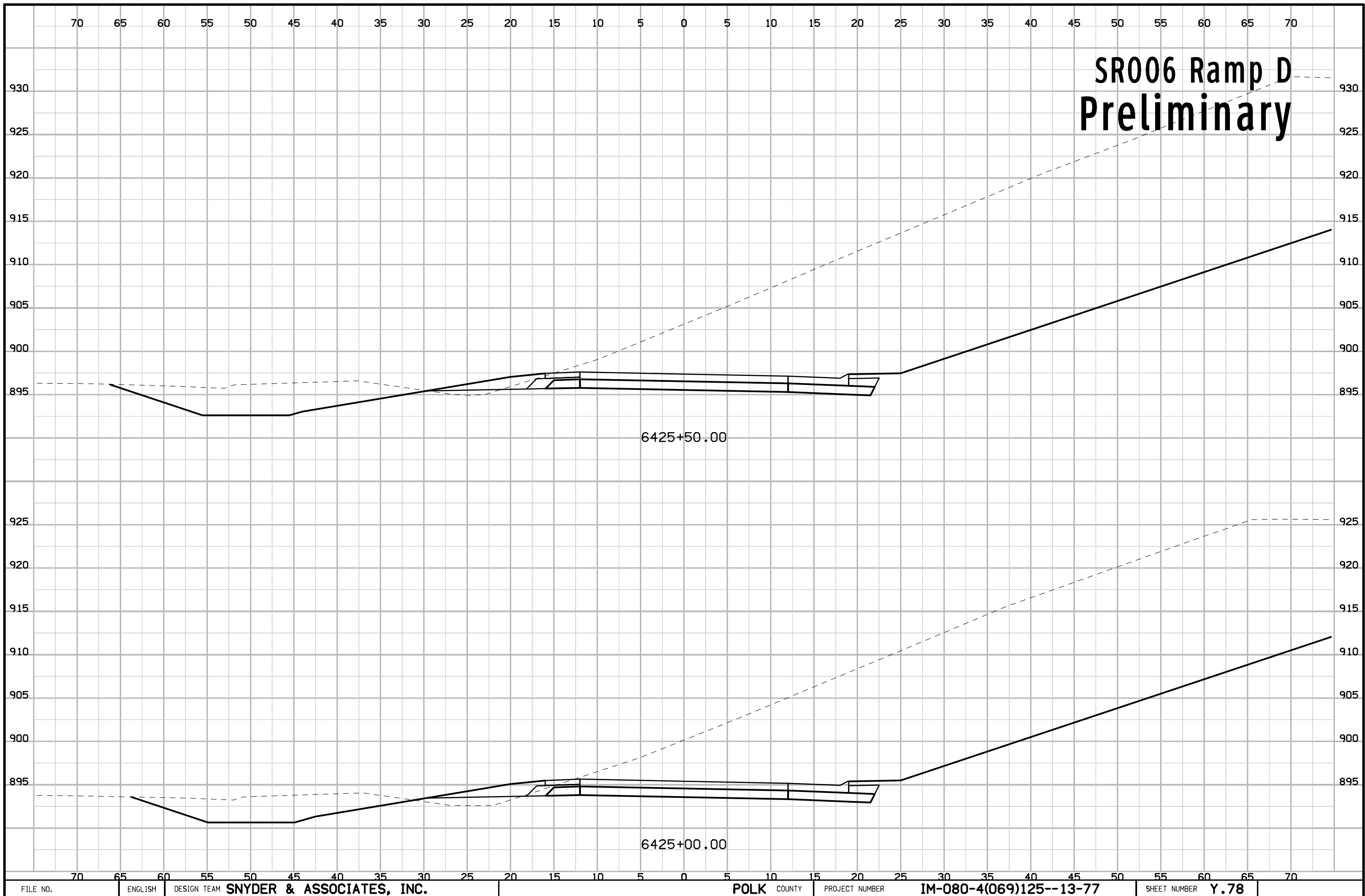
# SR006 Ramp D Preliminary



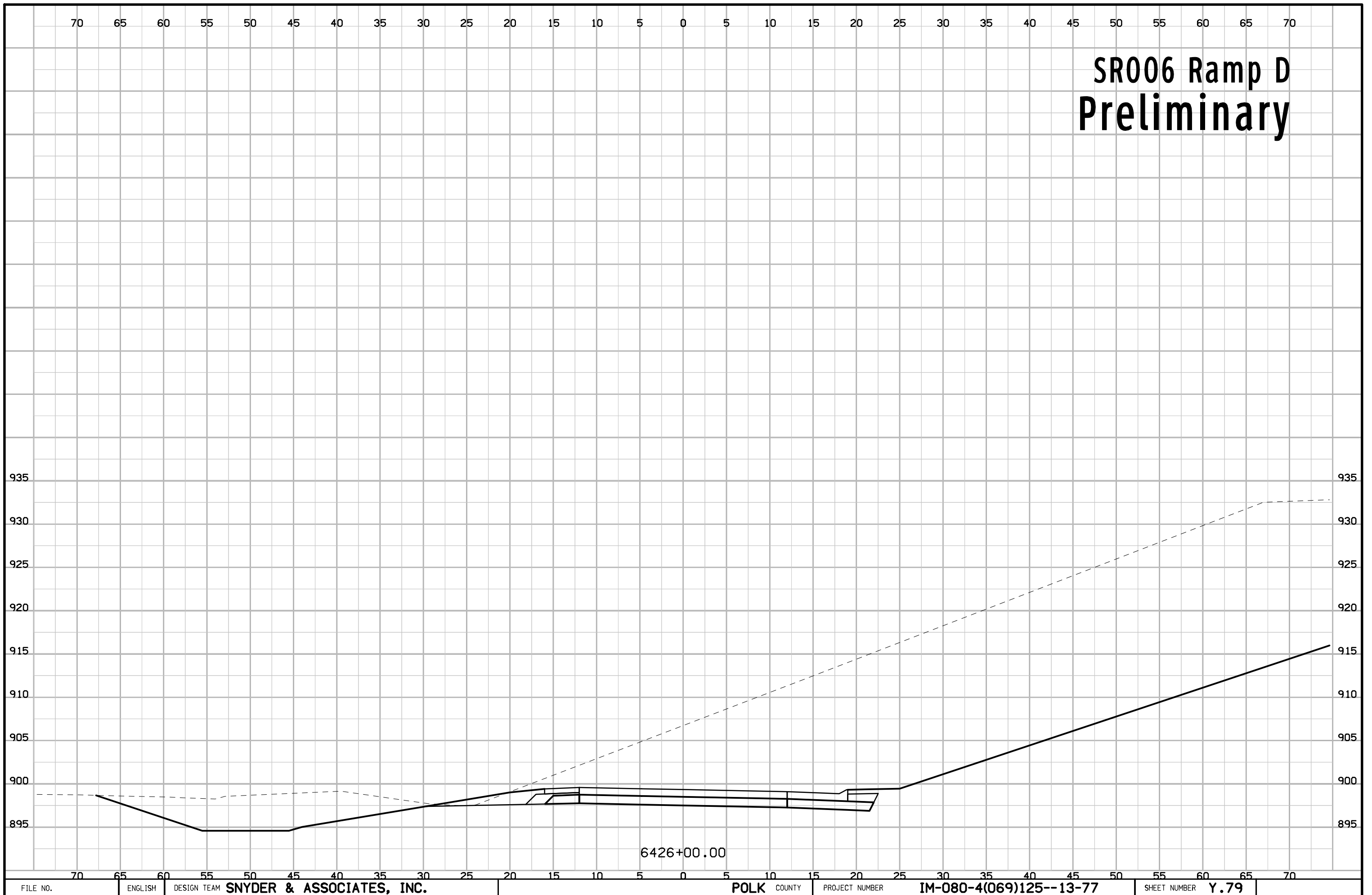
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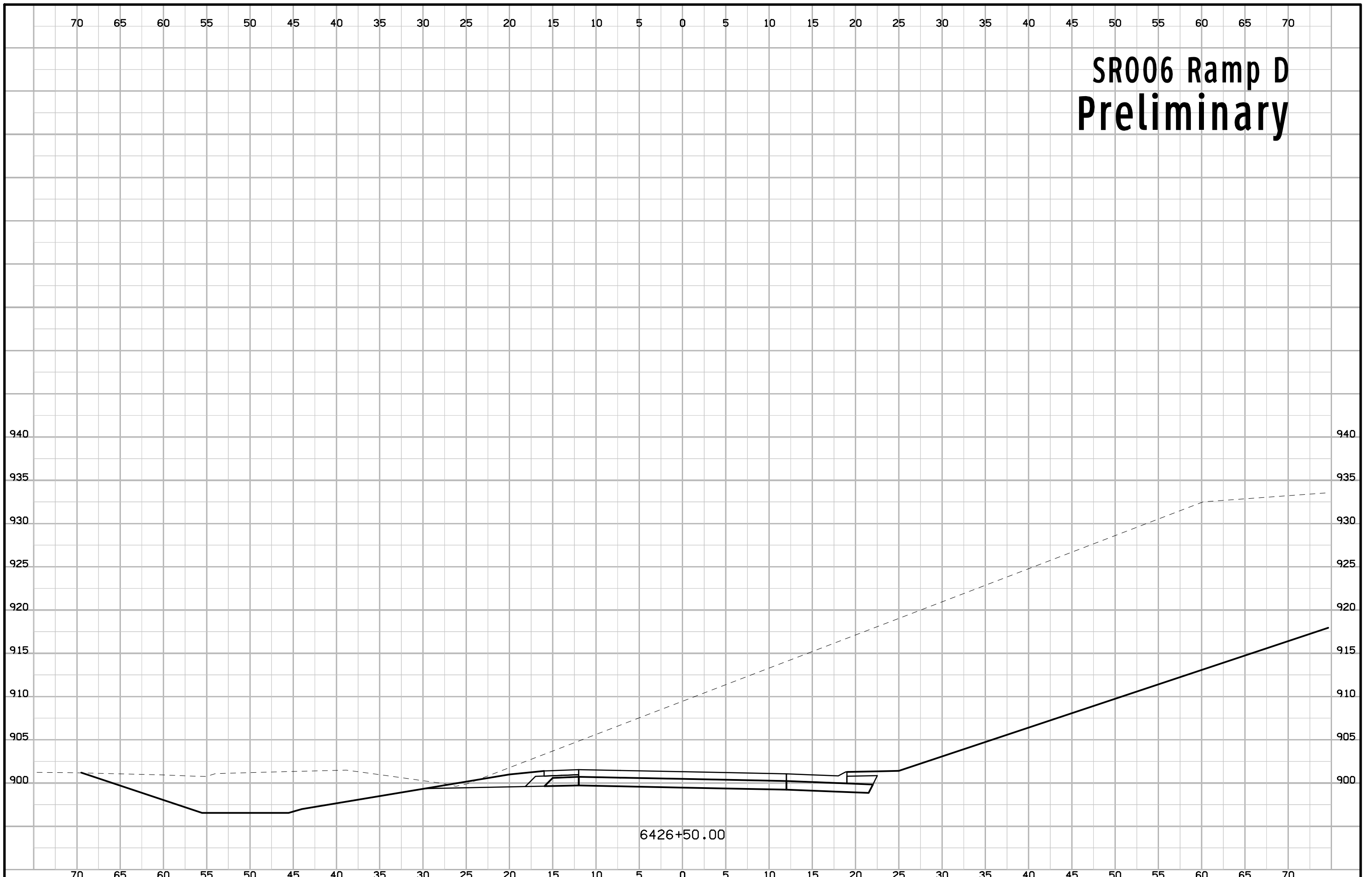




# SR006 Ramp D Preliminary

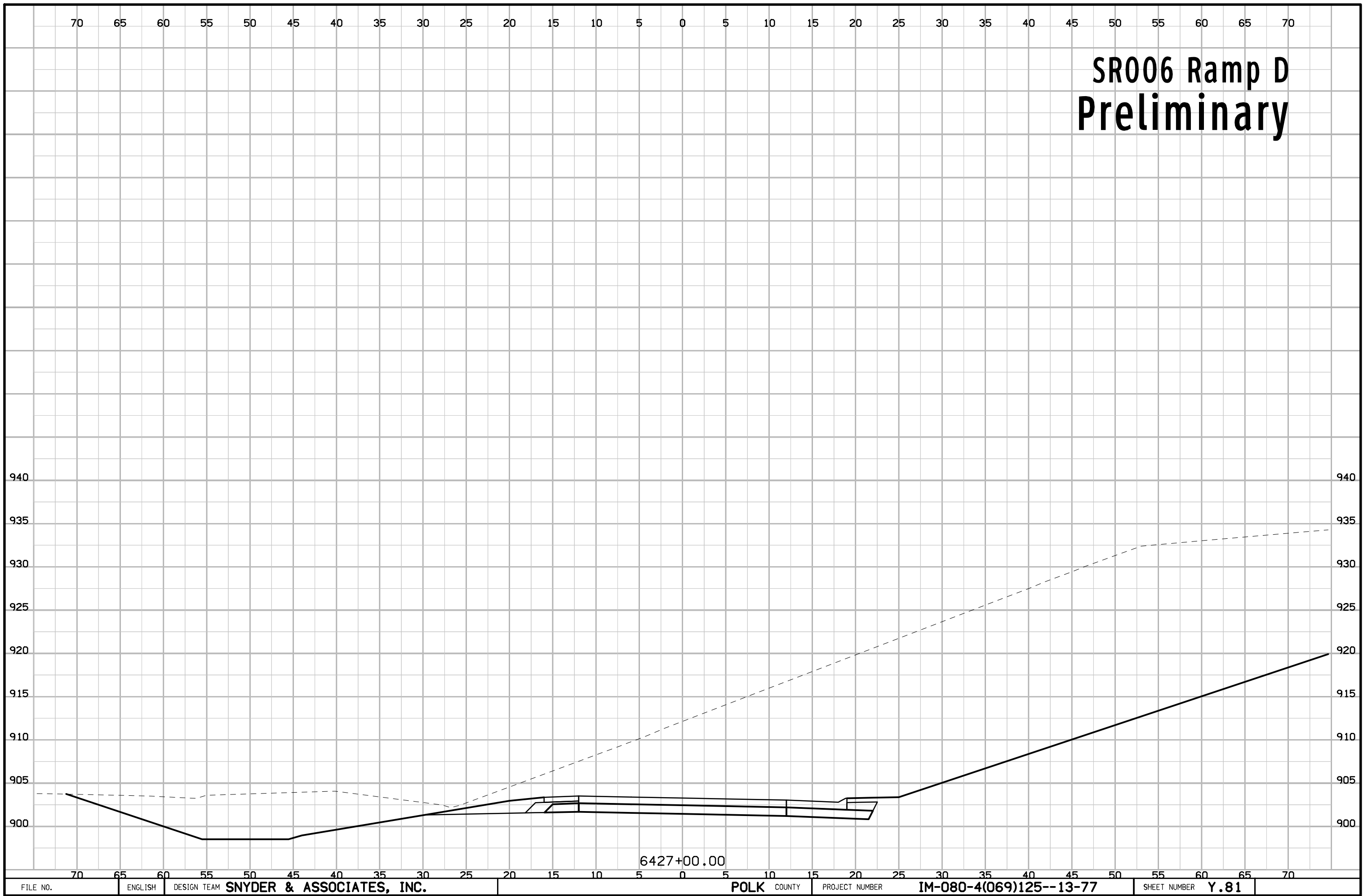


# SR006 Ramp D Preliminary

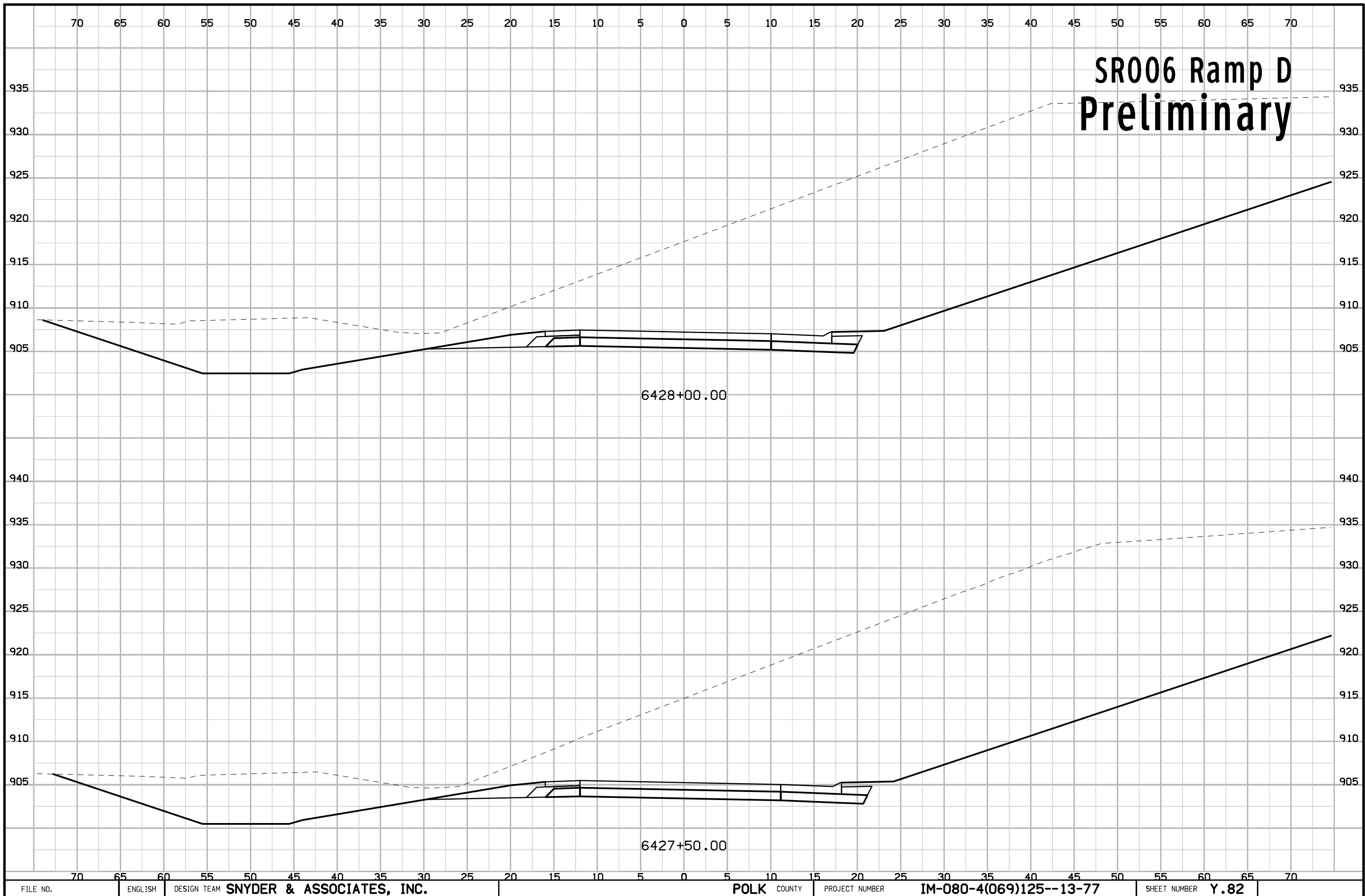


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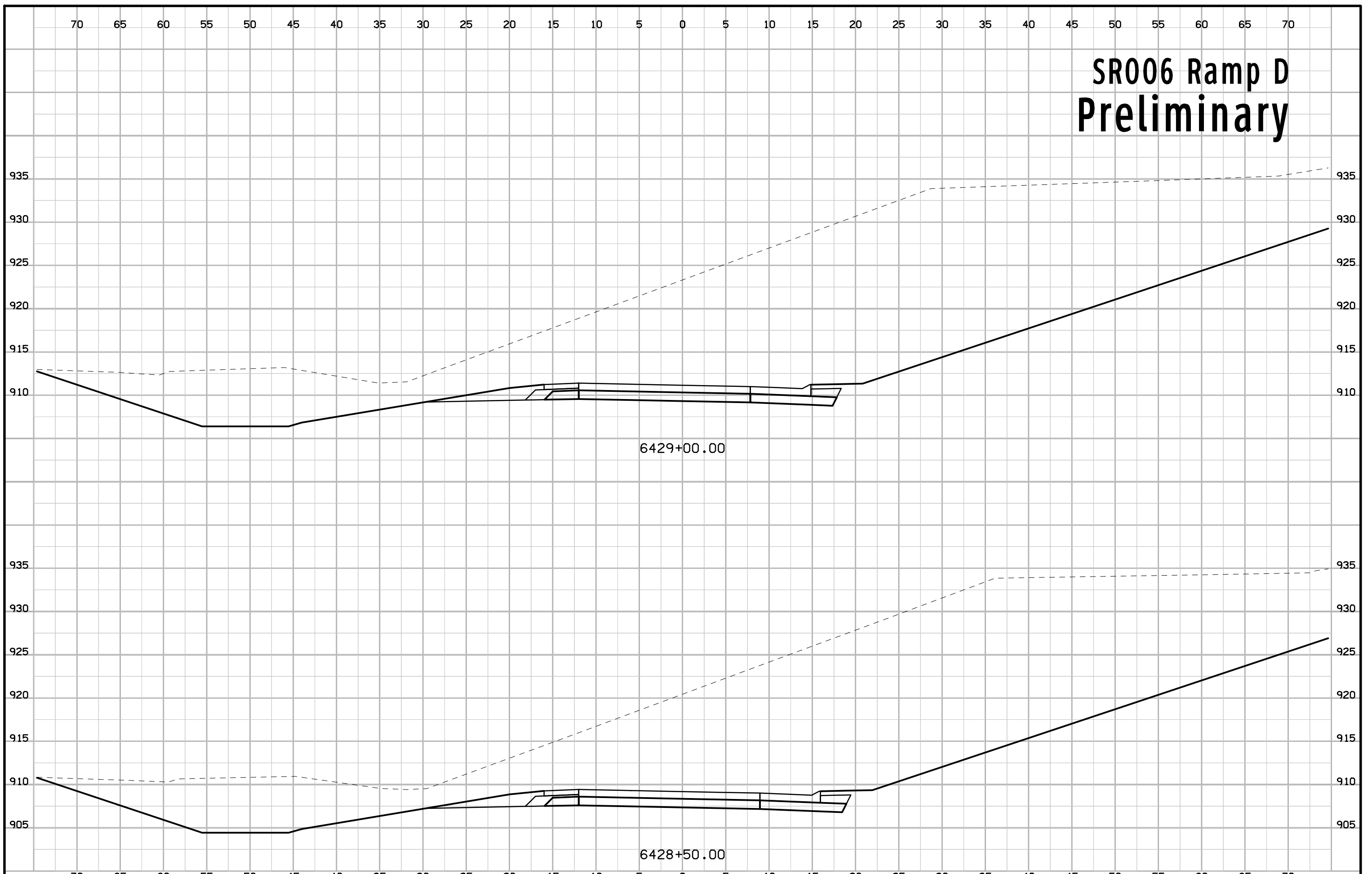
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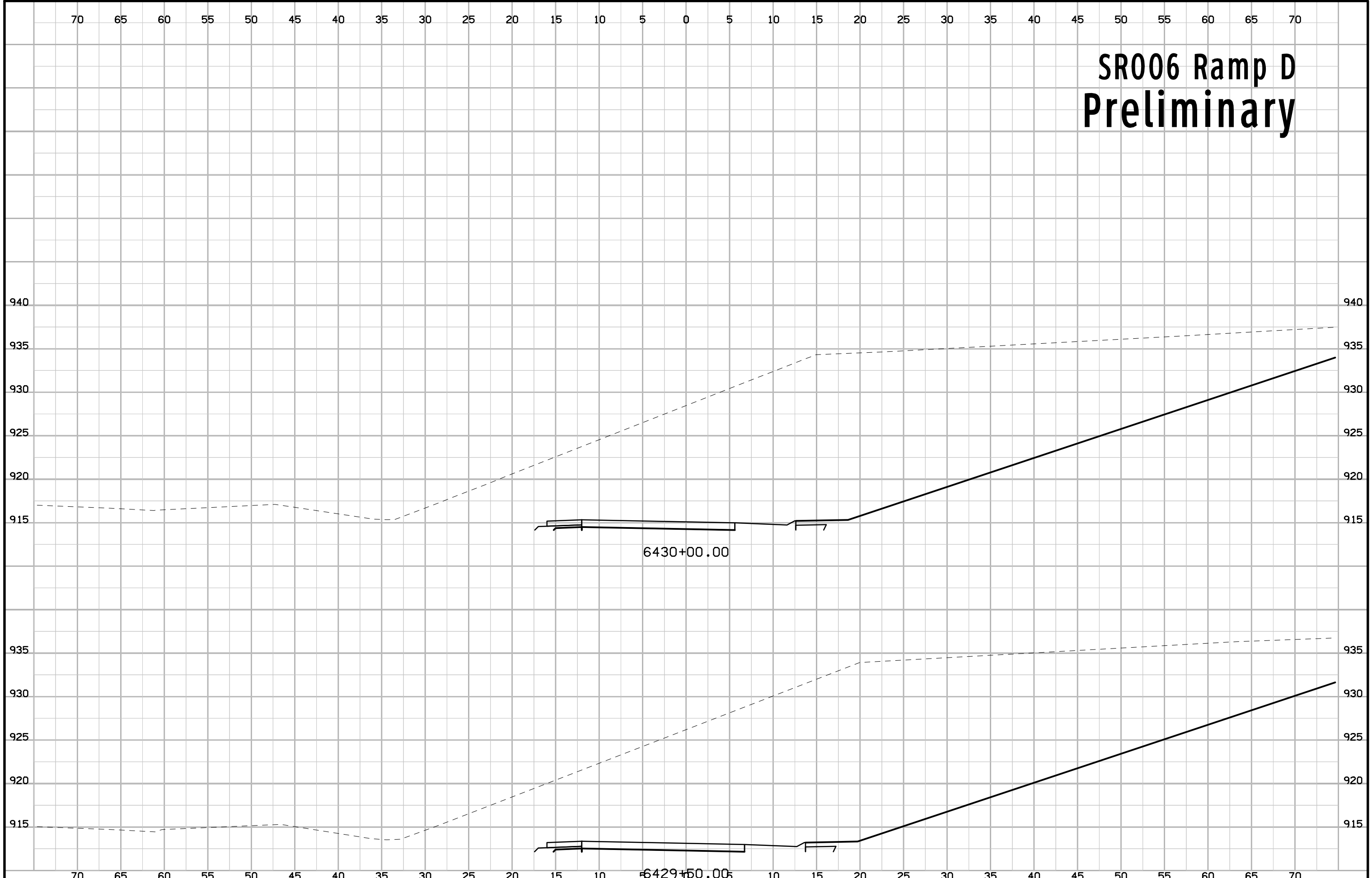
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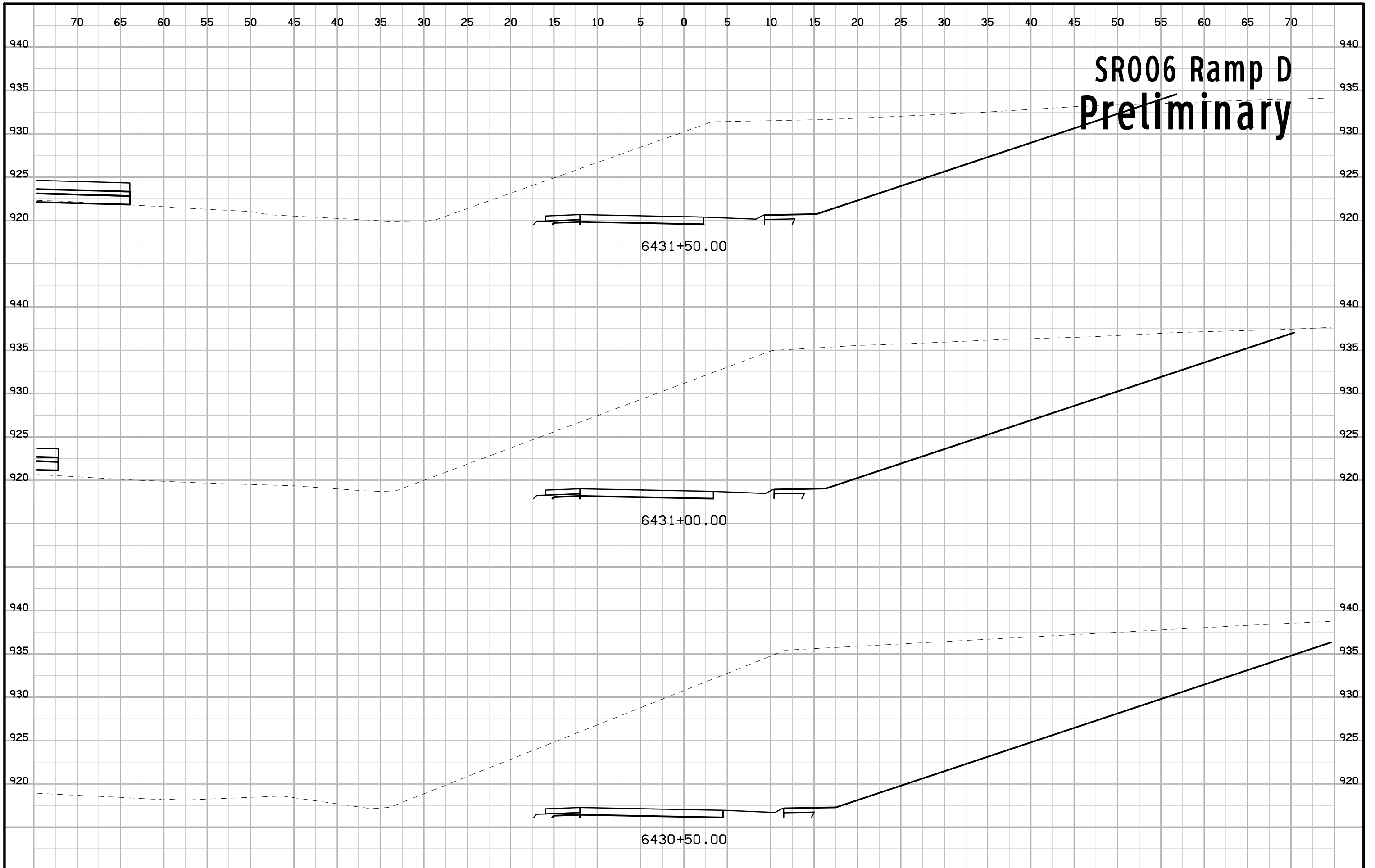
# SR006 Ramp D Preliminary



# SR006 Ramp D Preliminary

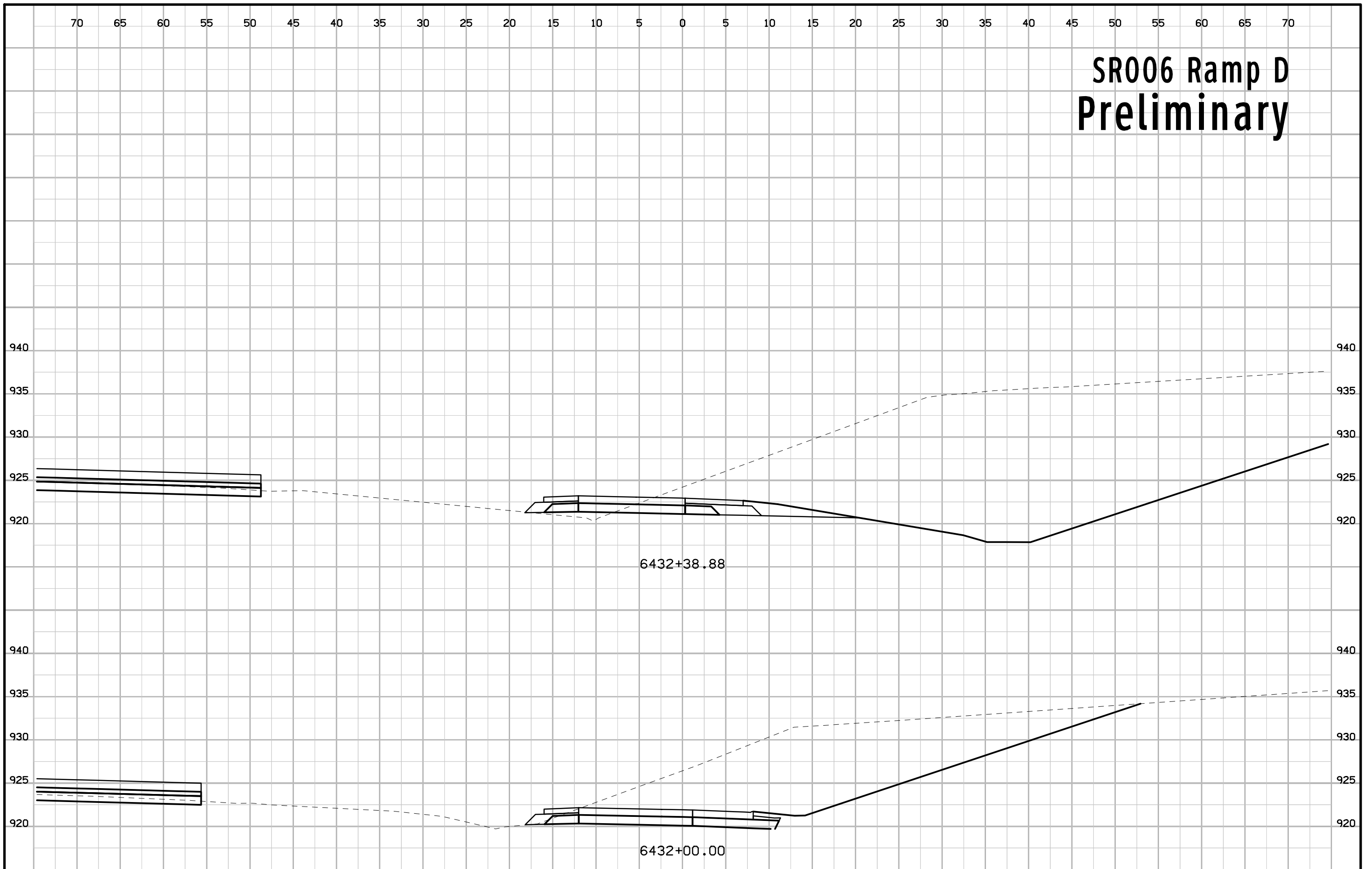


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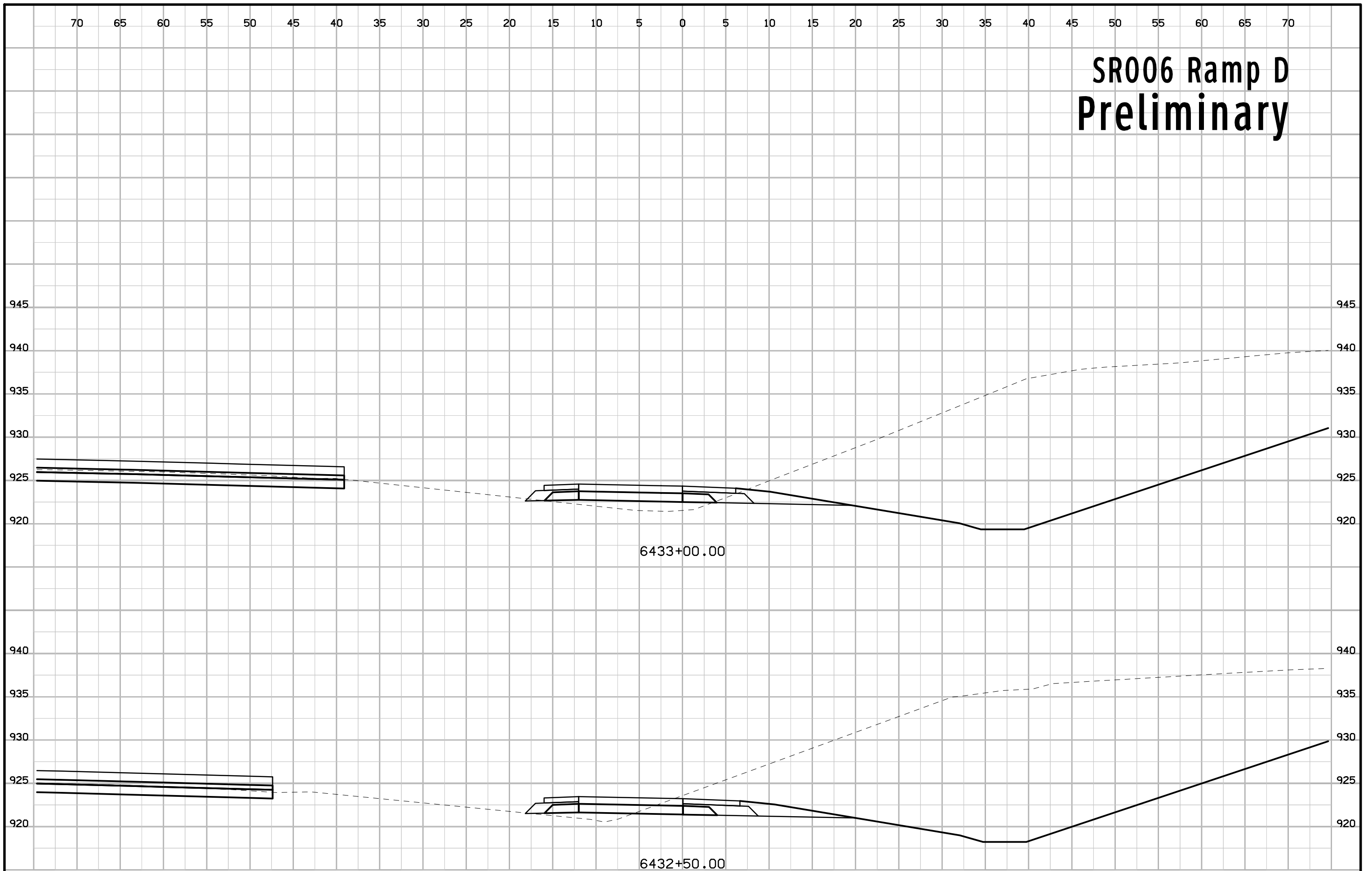




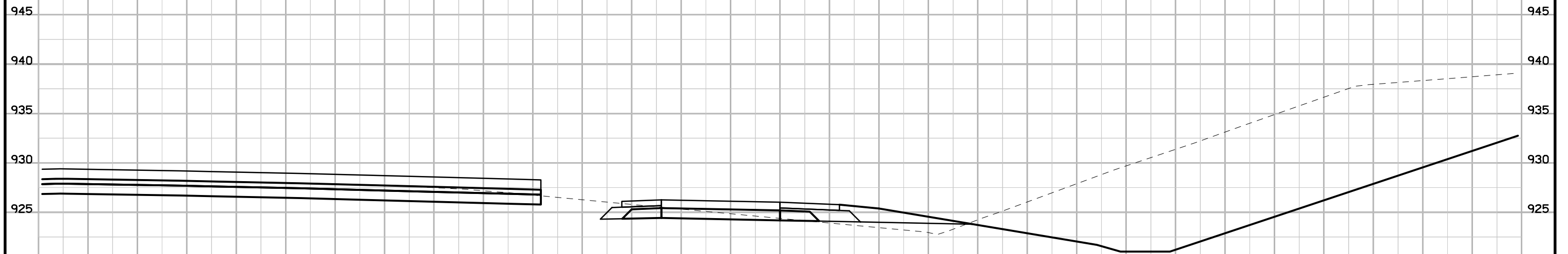
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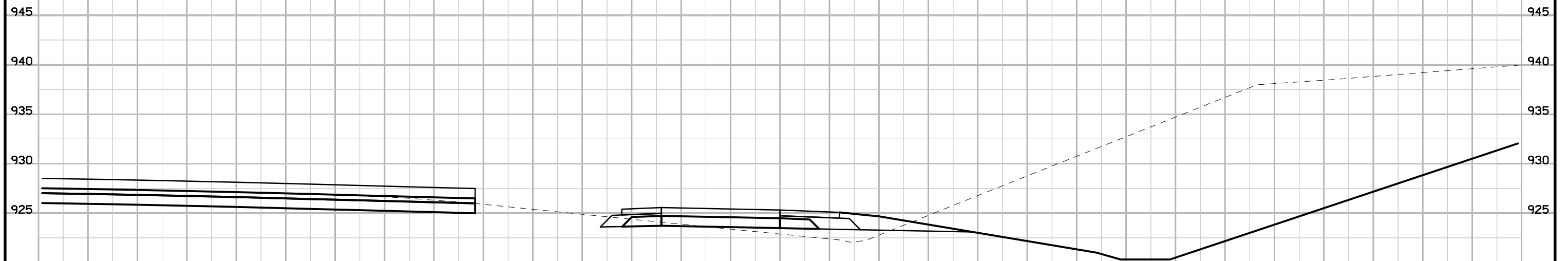
# SR006 Ramp D Preliminary



# SR006 Ramp D Preliminary

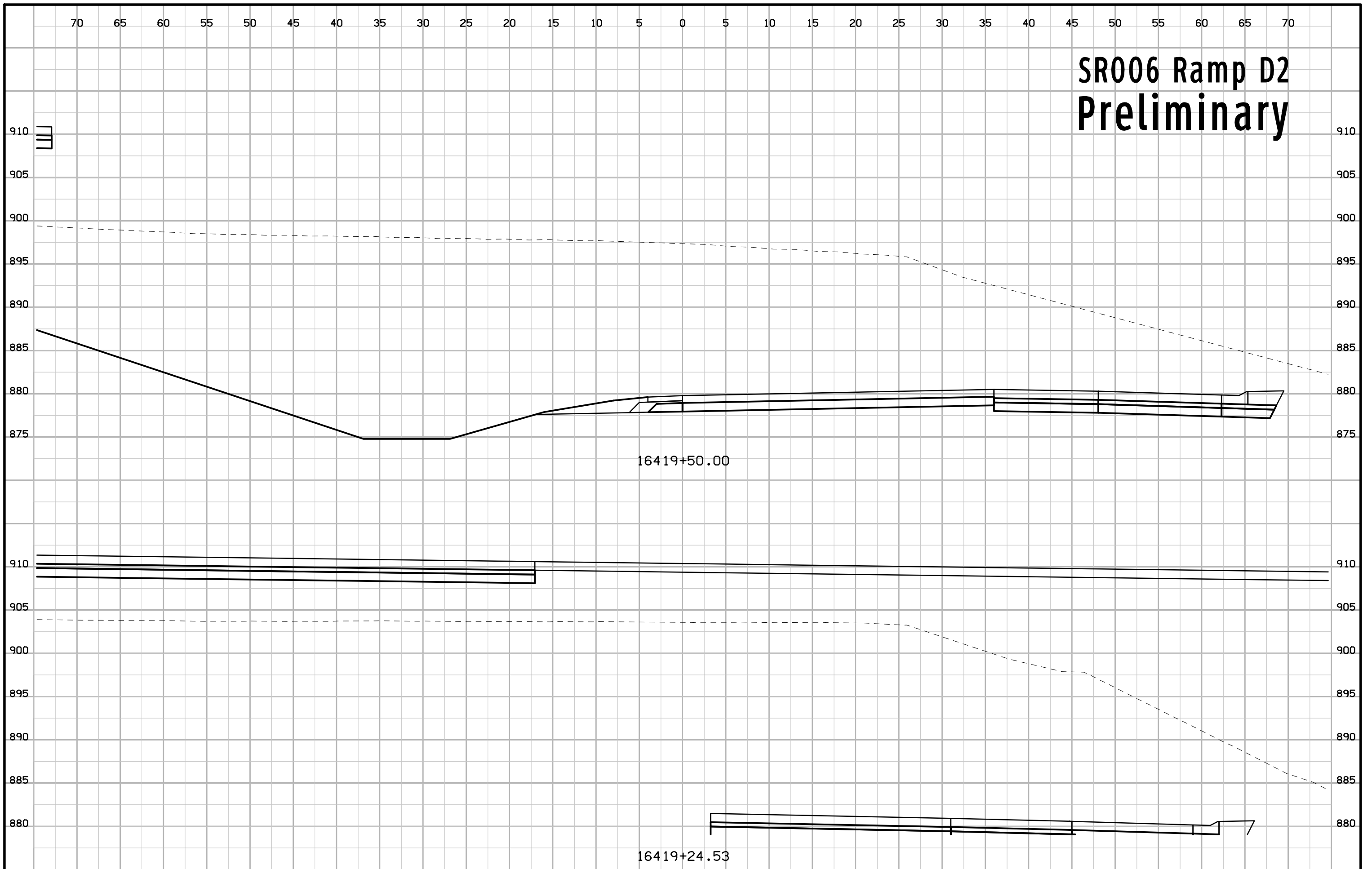


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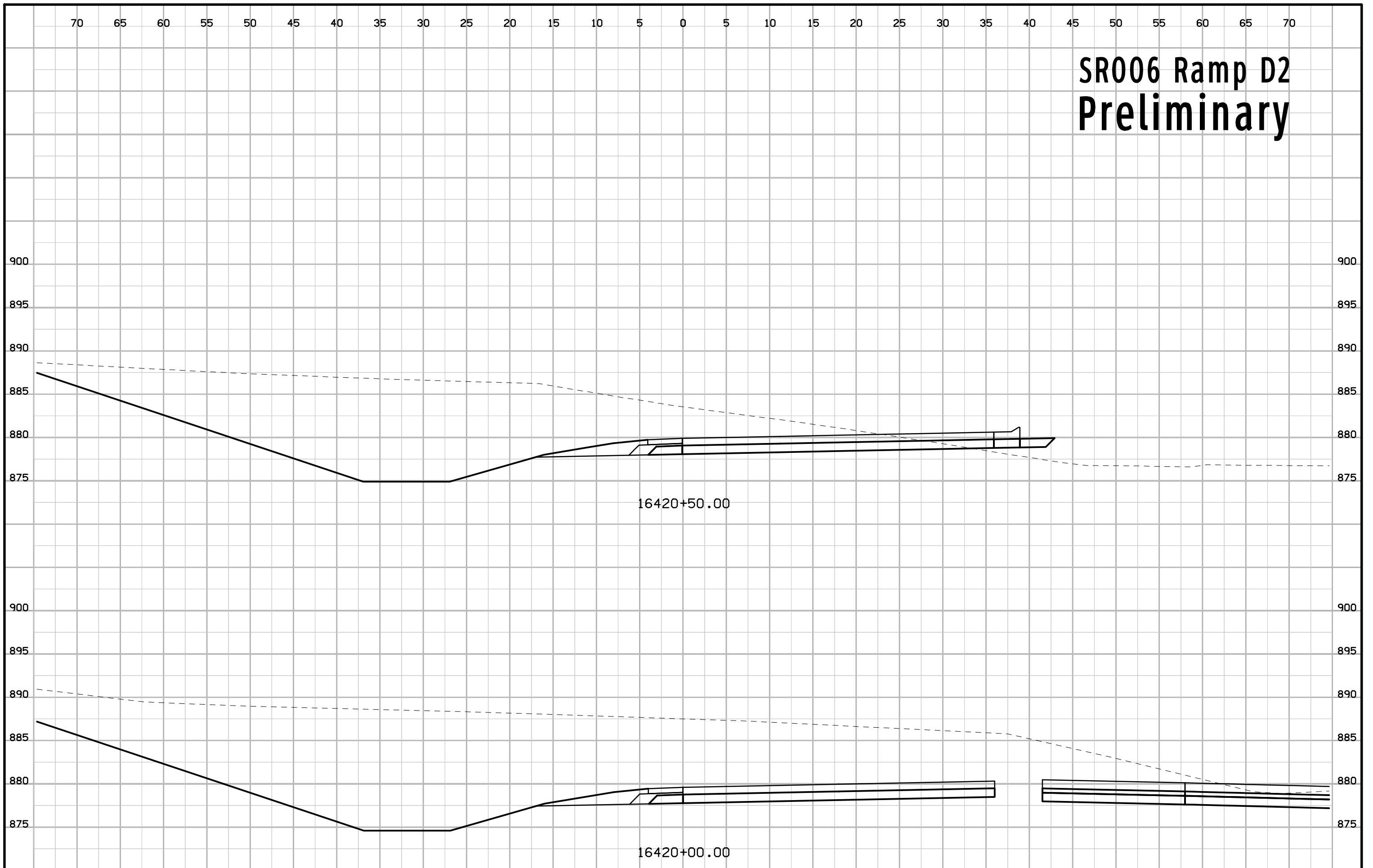


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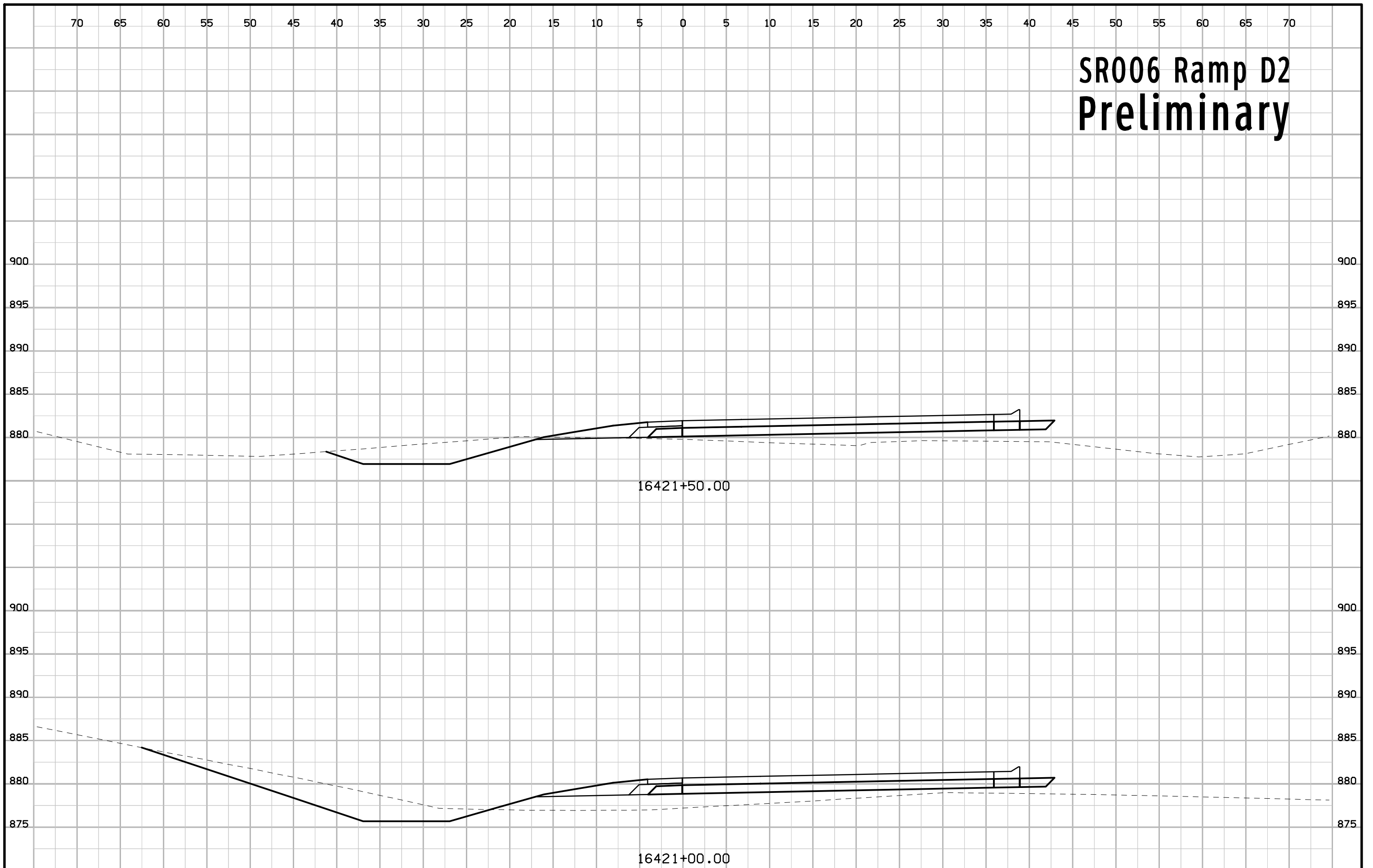
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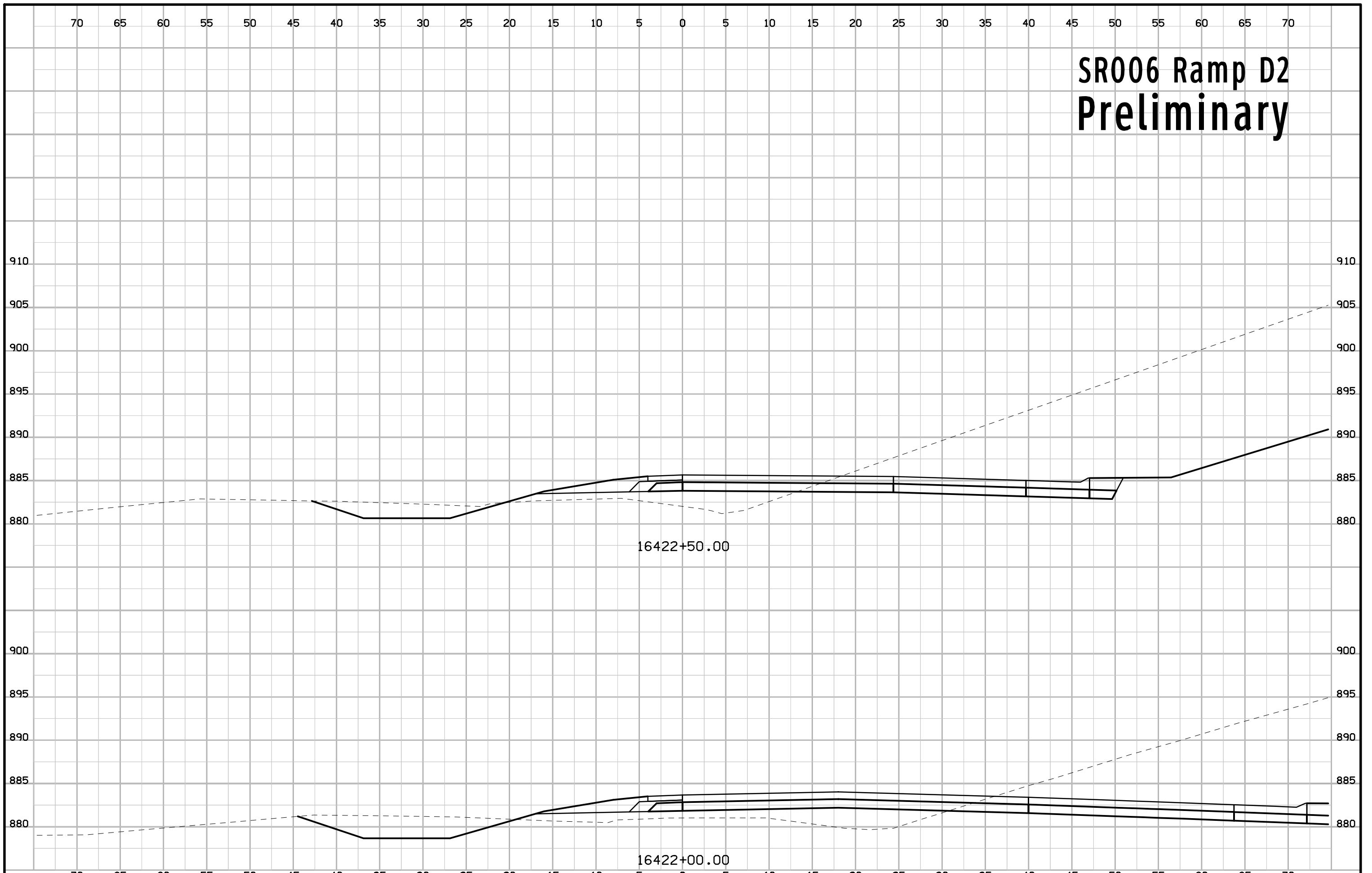
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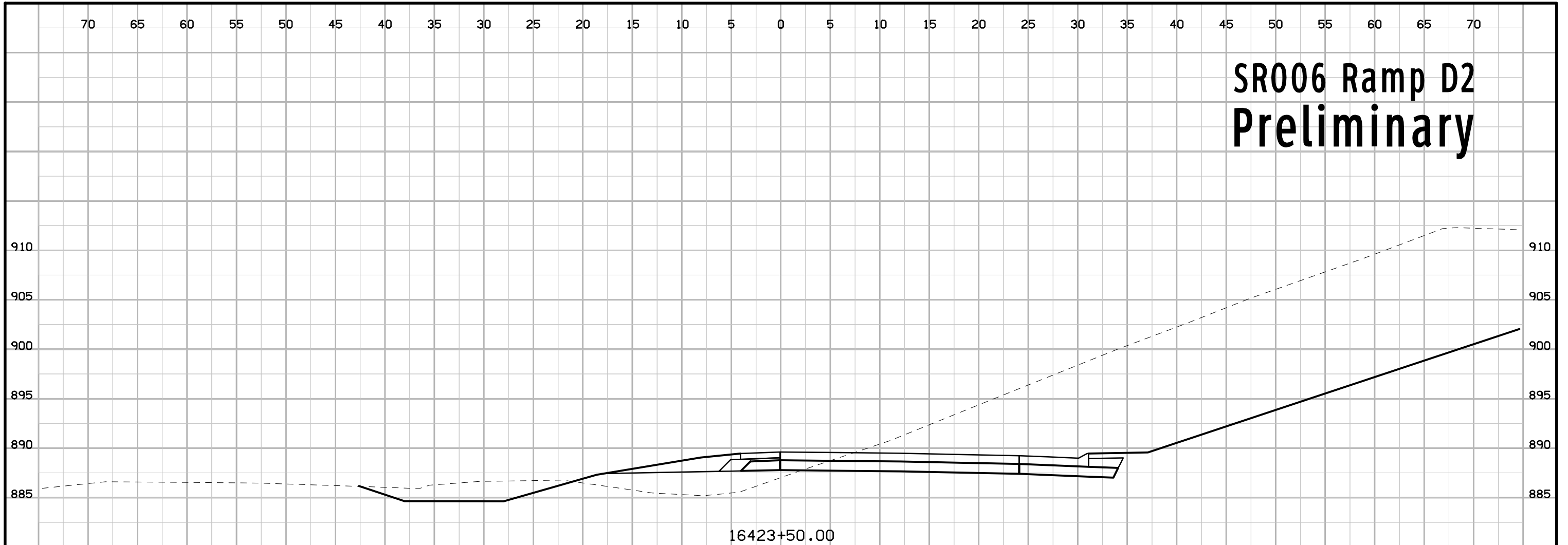
# SR006 Ramp D2 Preliminary



# SR006 Ramp D2 Preliminary

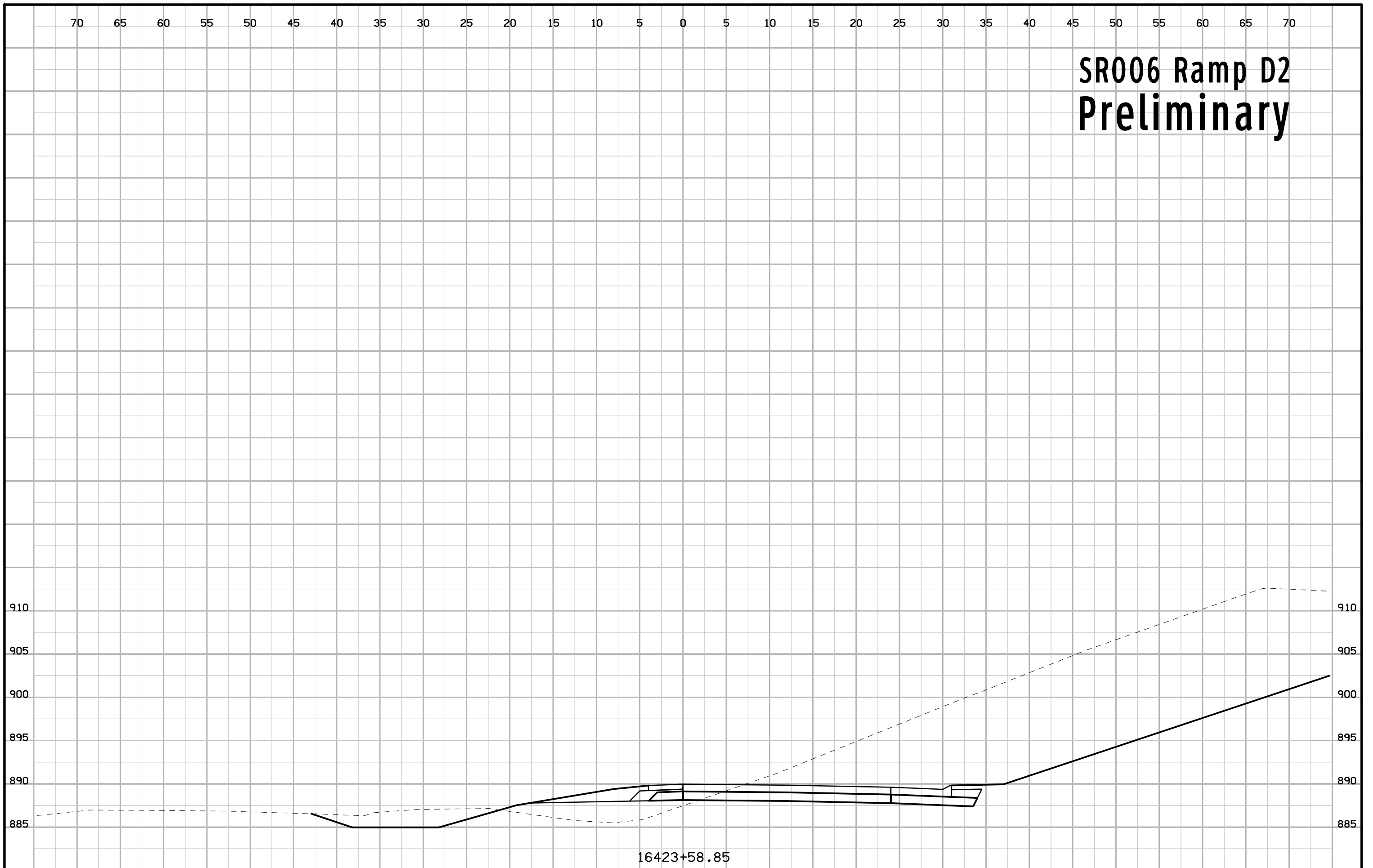


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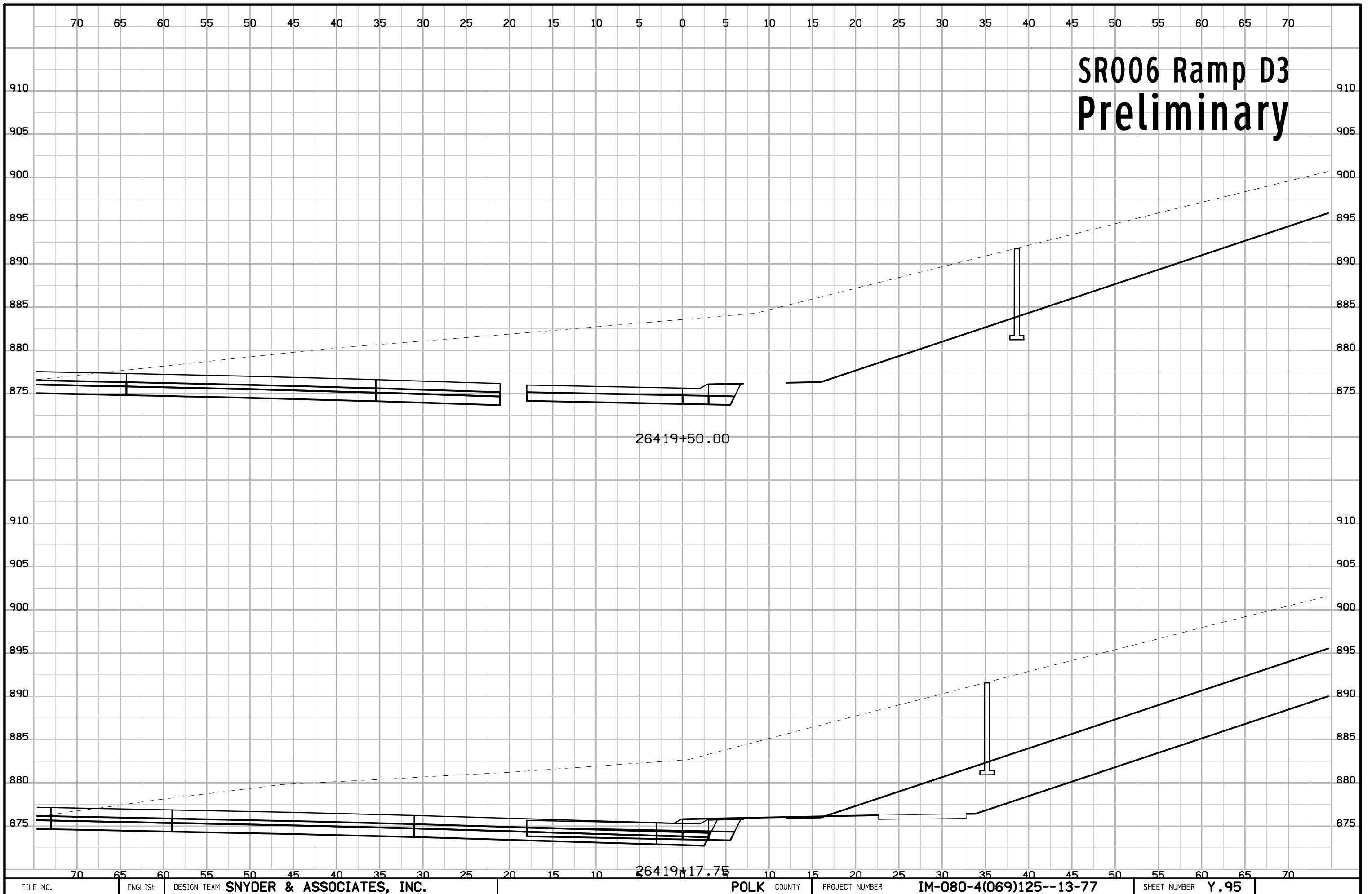


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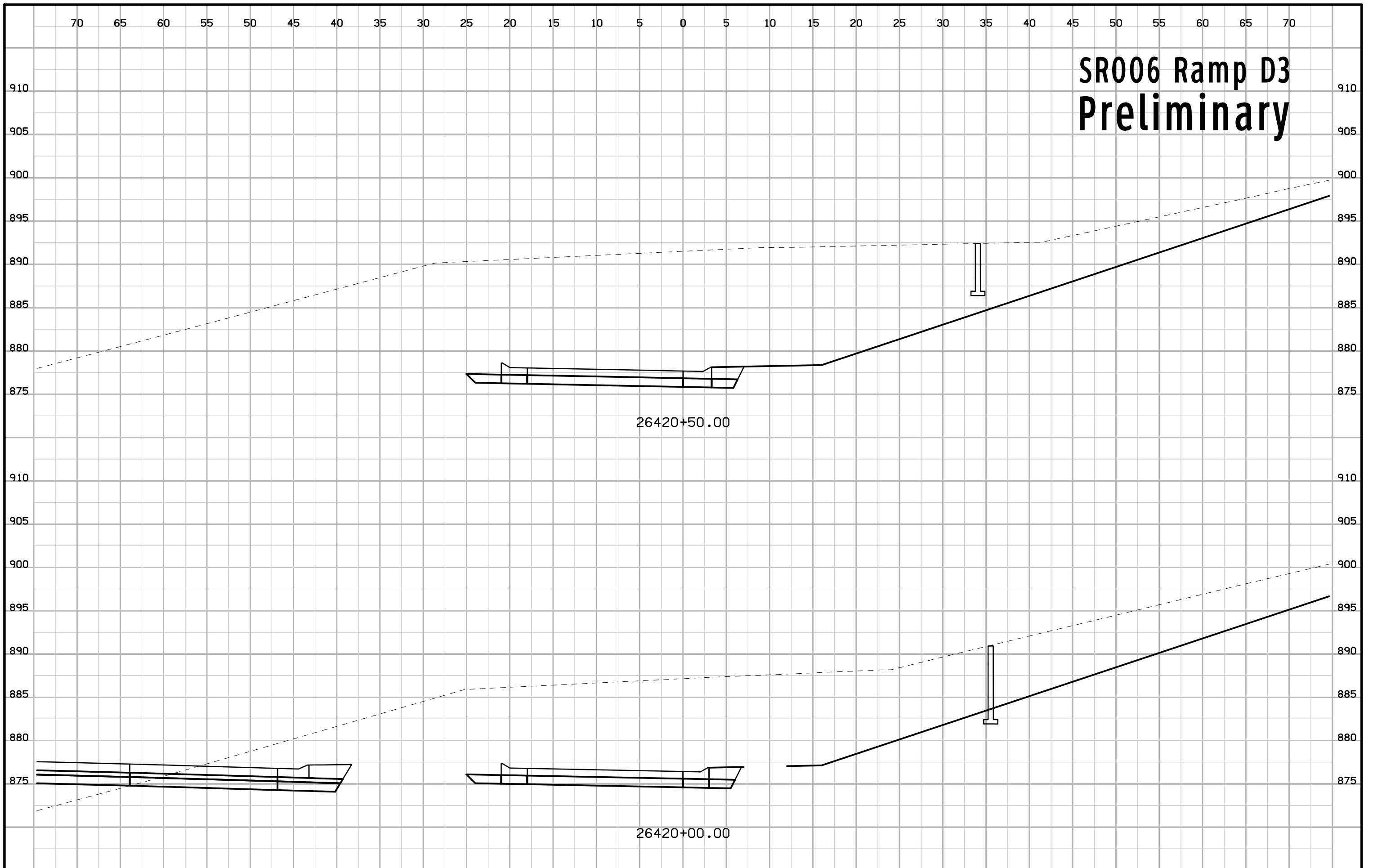


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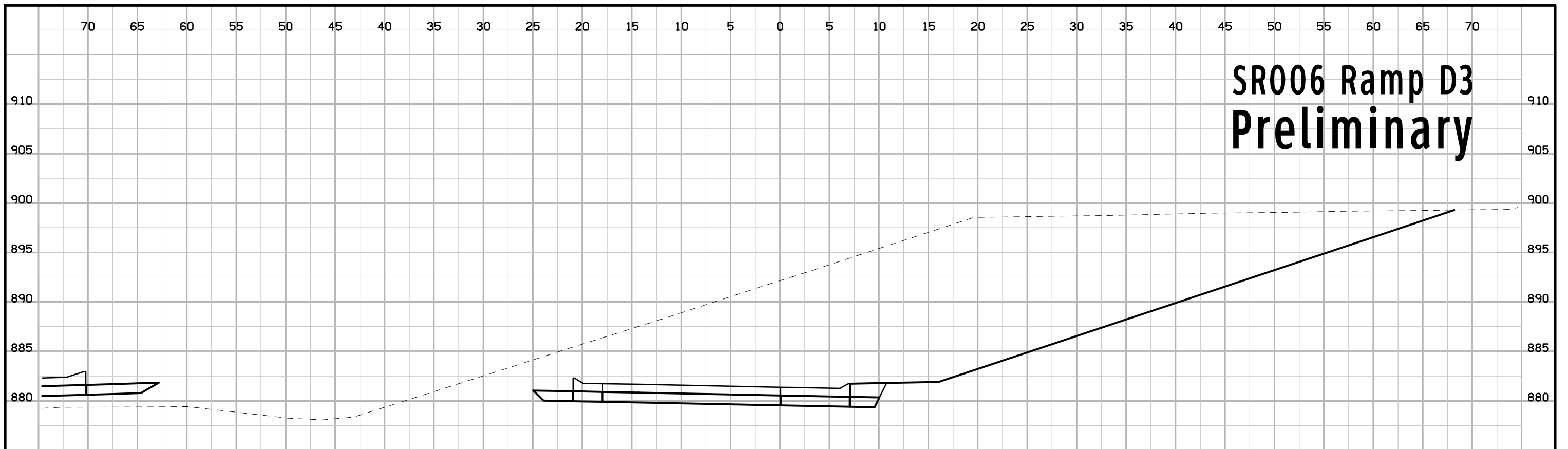
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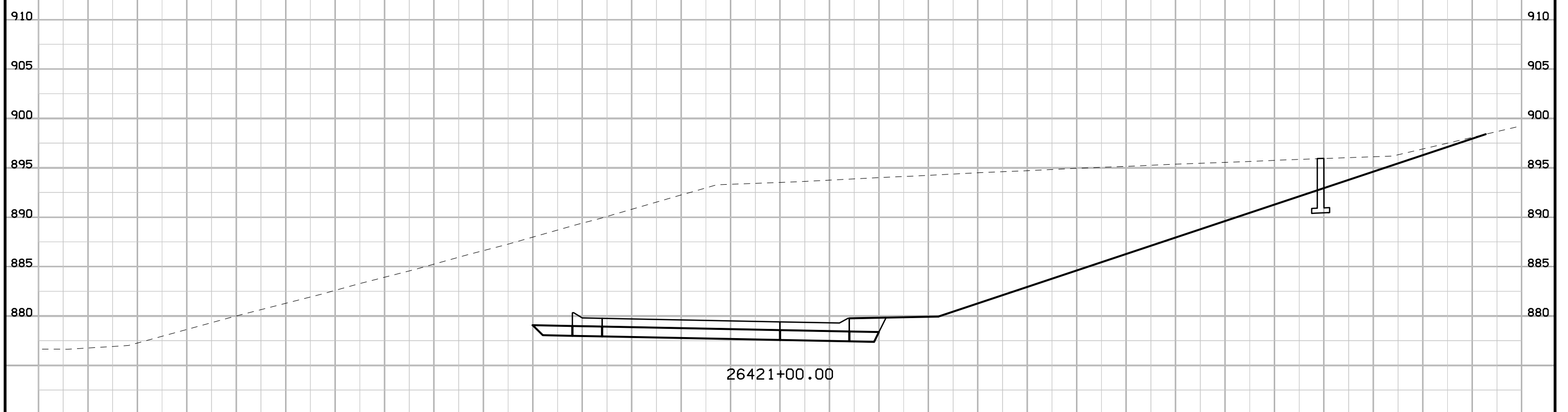
# SR006 Ramp D3 Preliminary



# SR006 Ramp D3 Preliminary

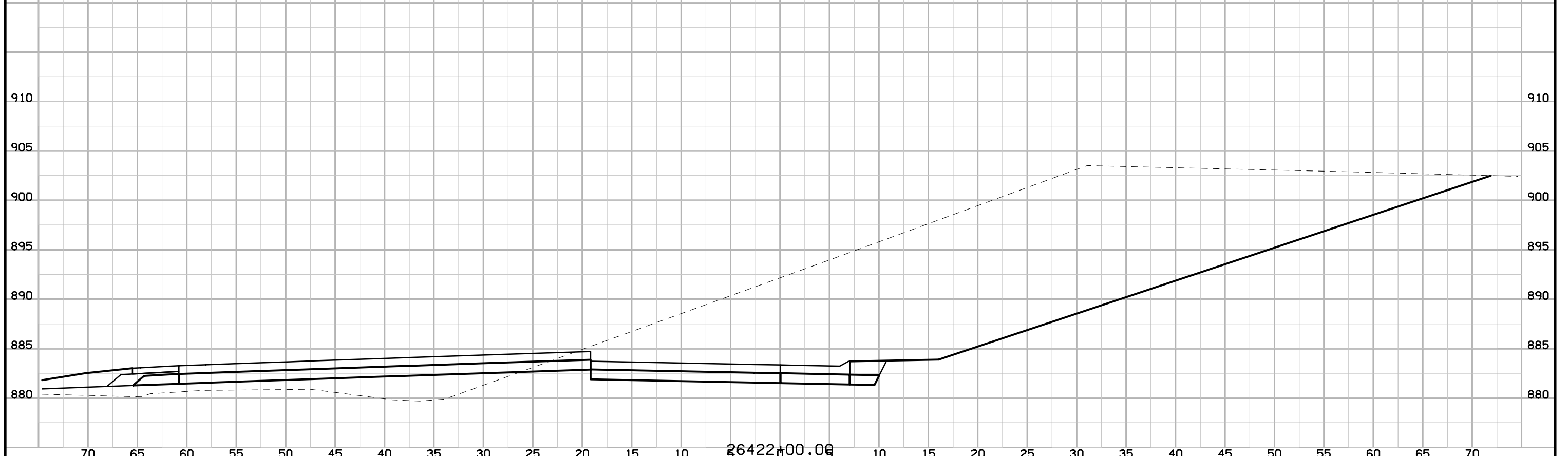
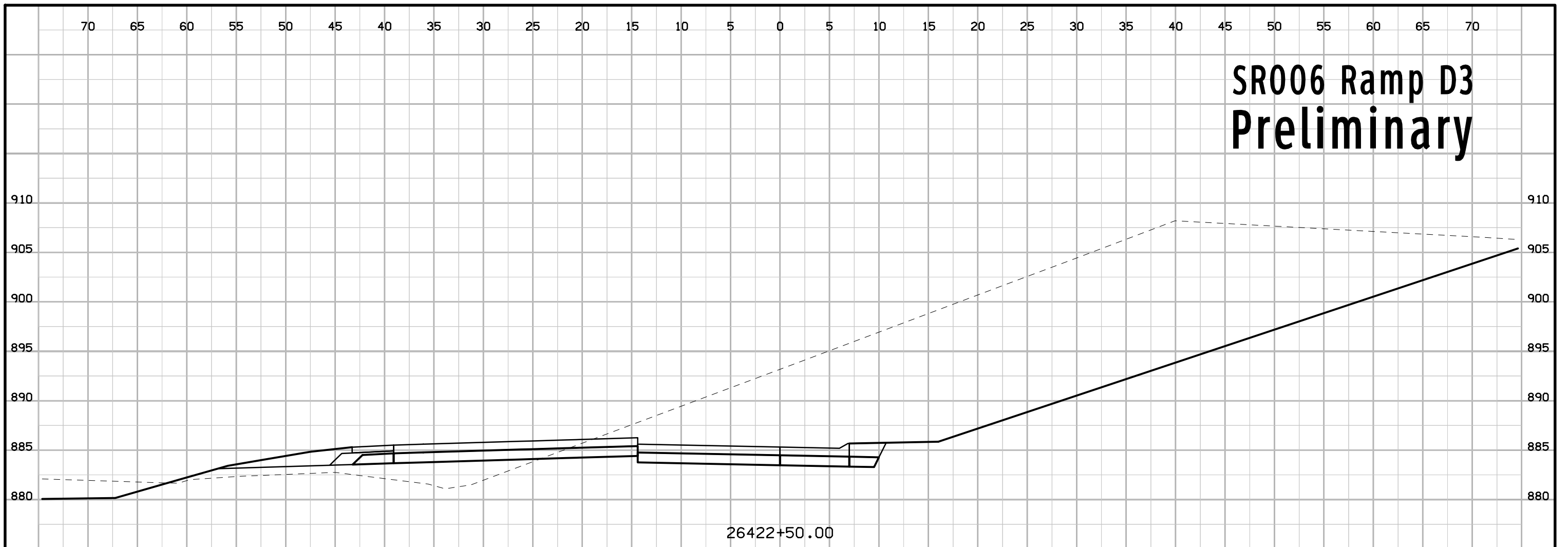


26421+50.00

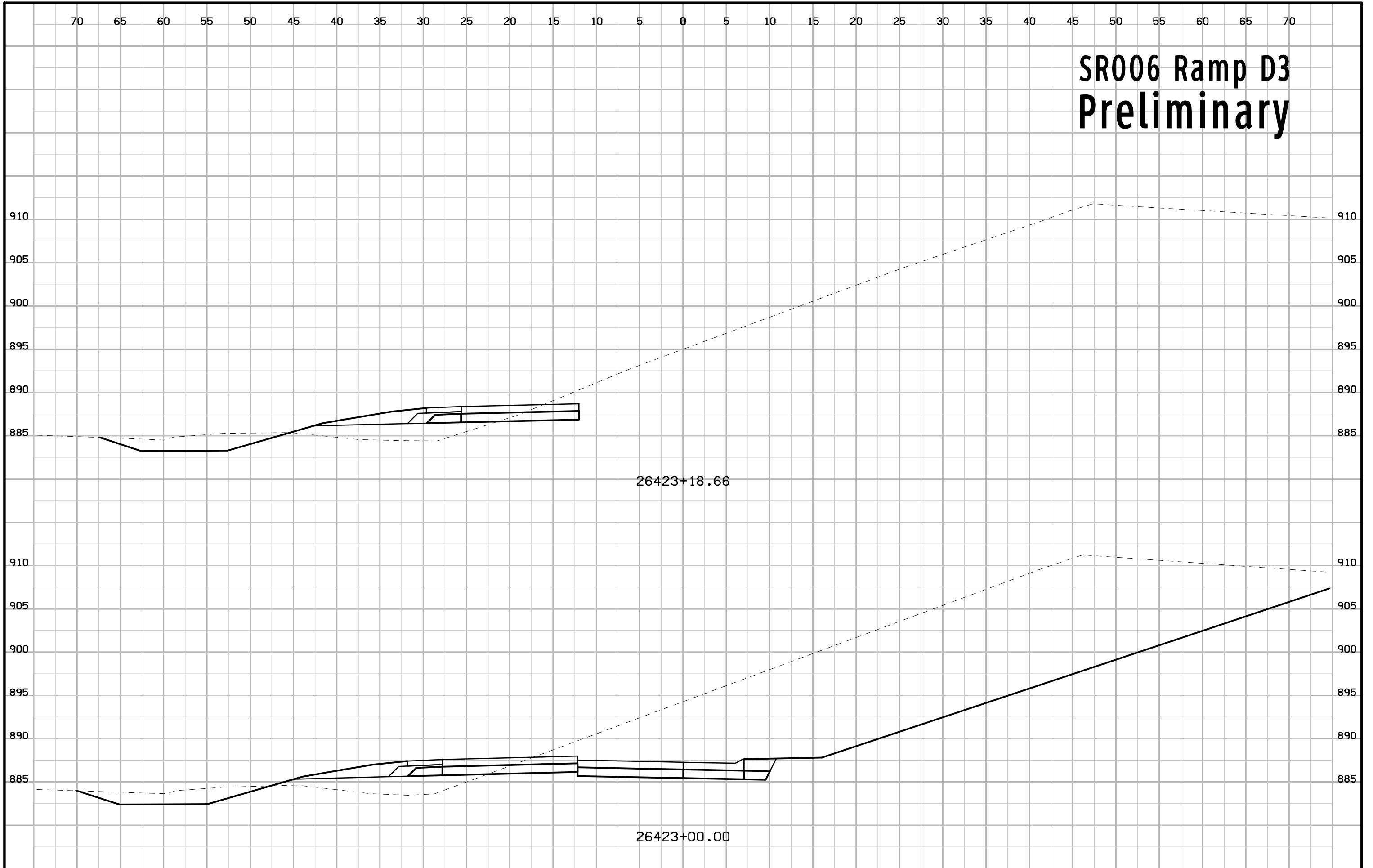


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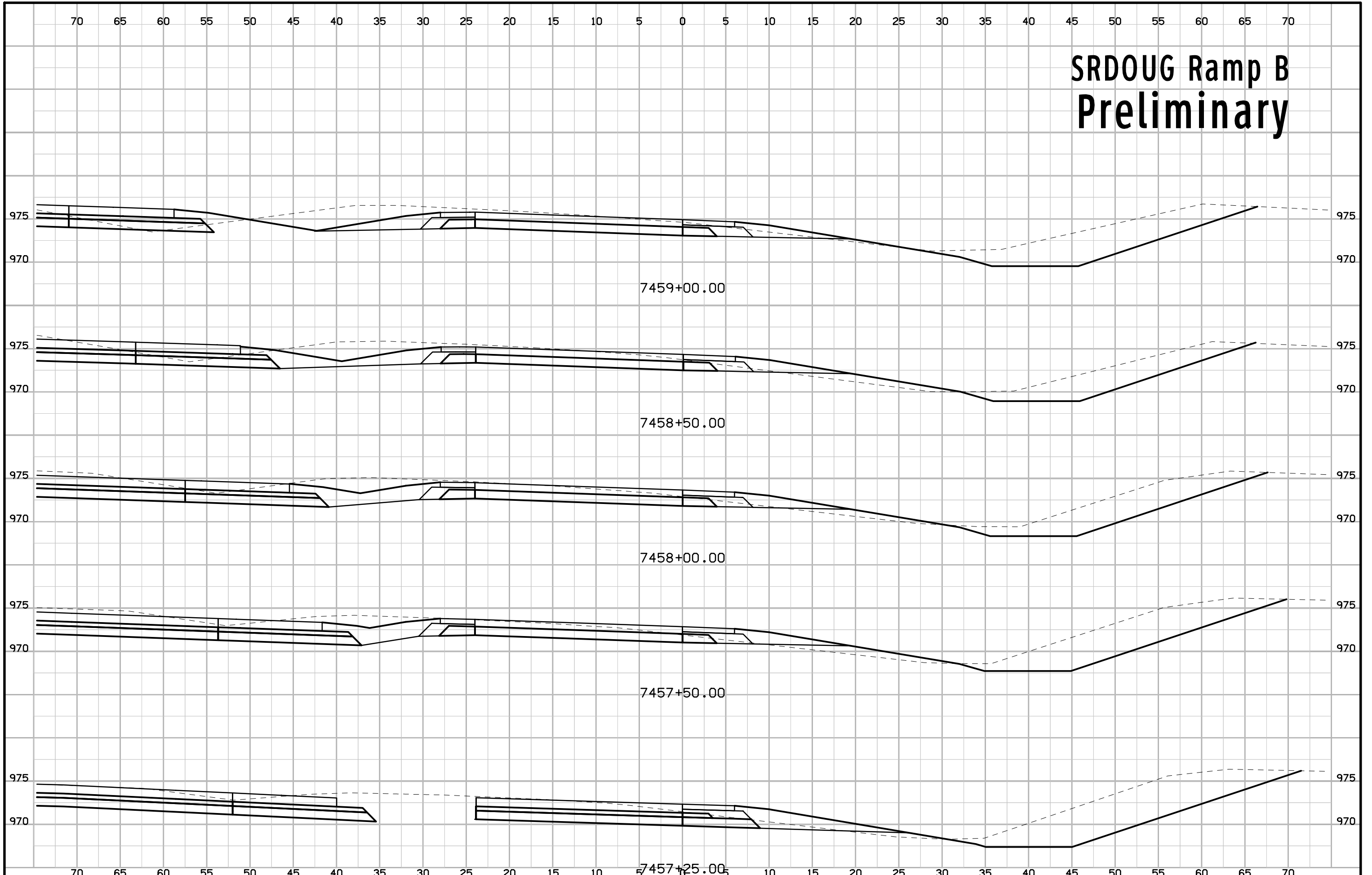
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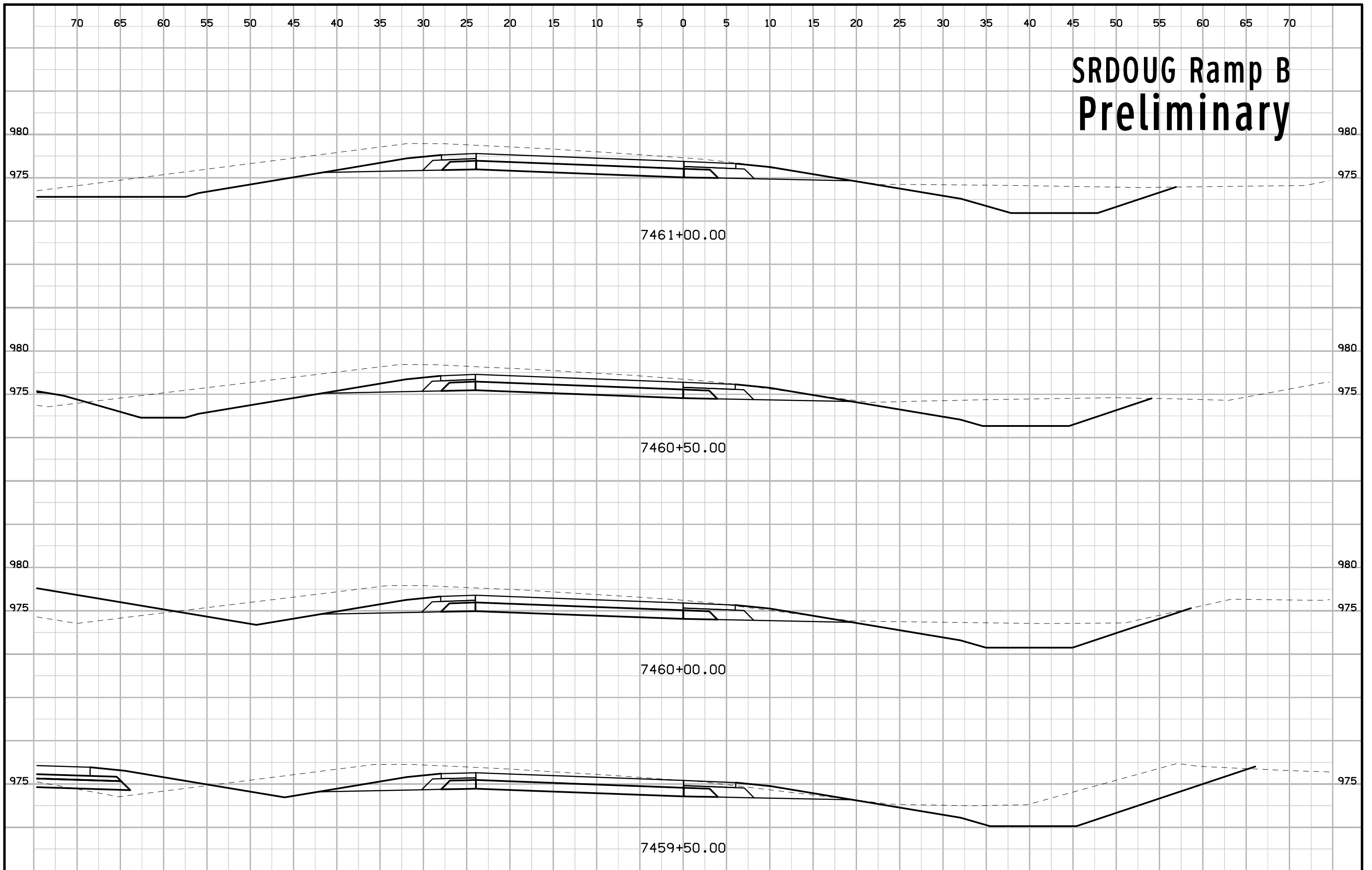
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26423+00.00

# SRDOUG Ramp B Preliminary

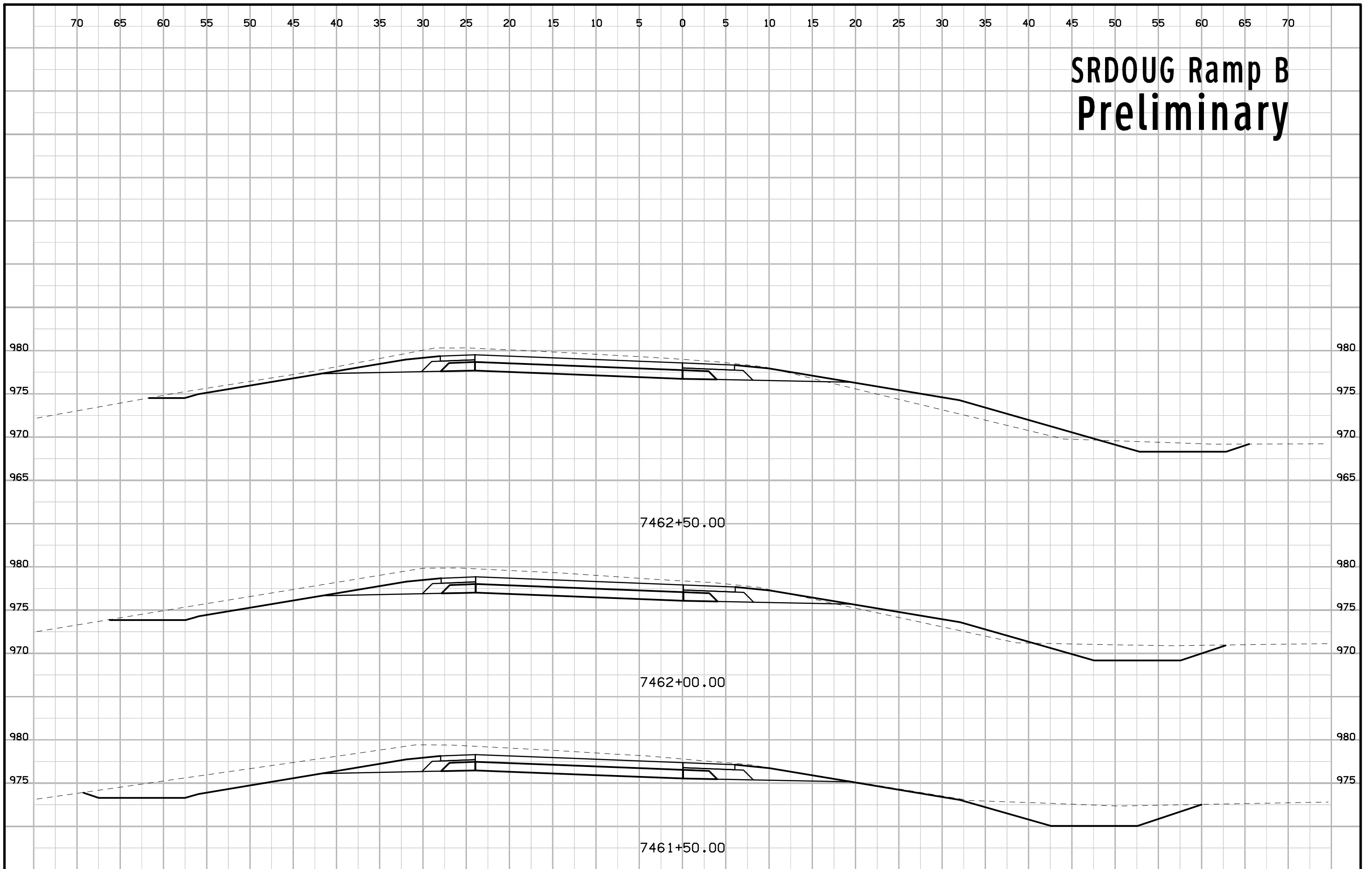


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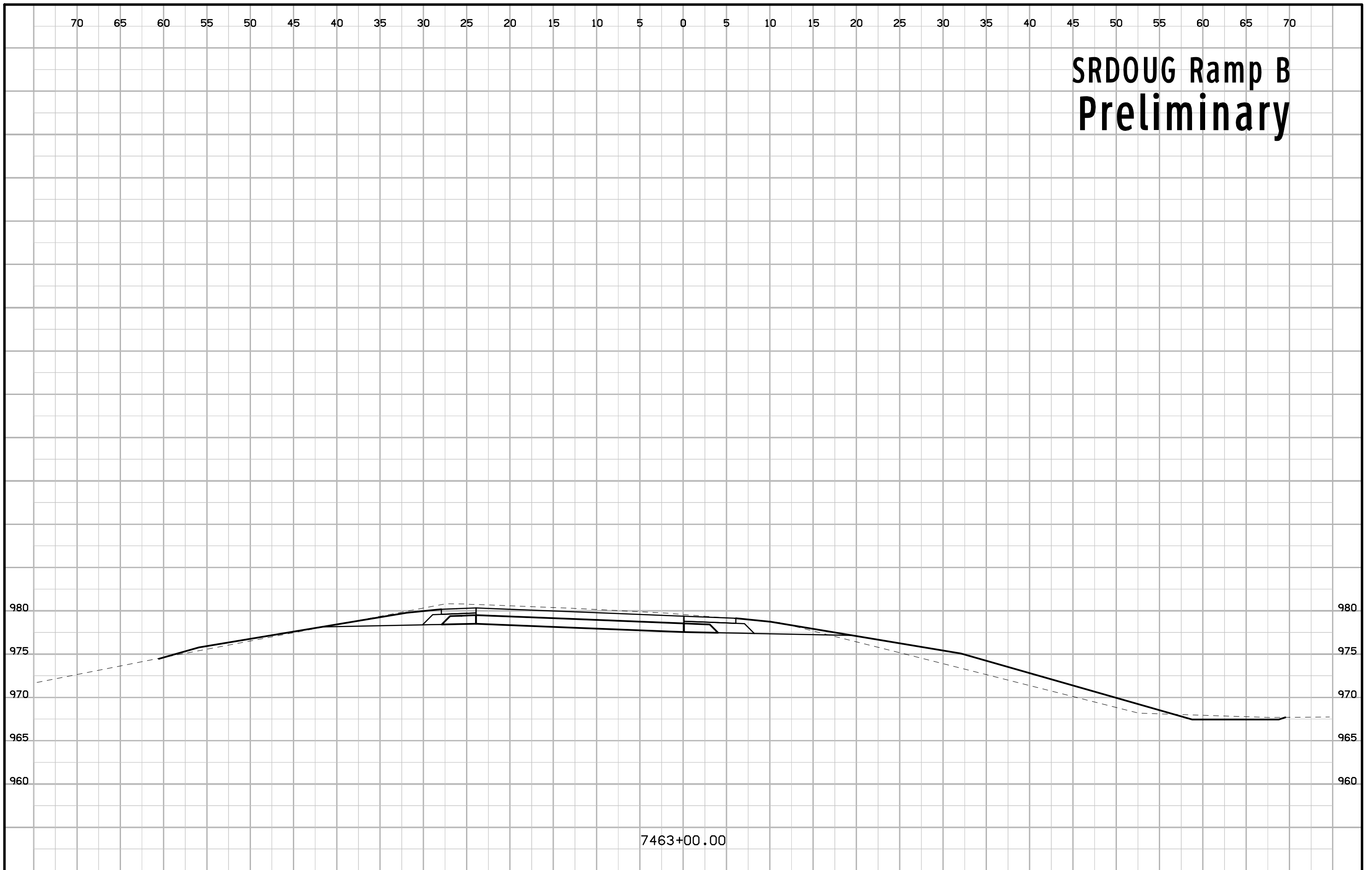




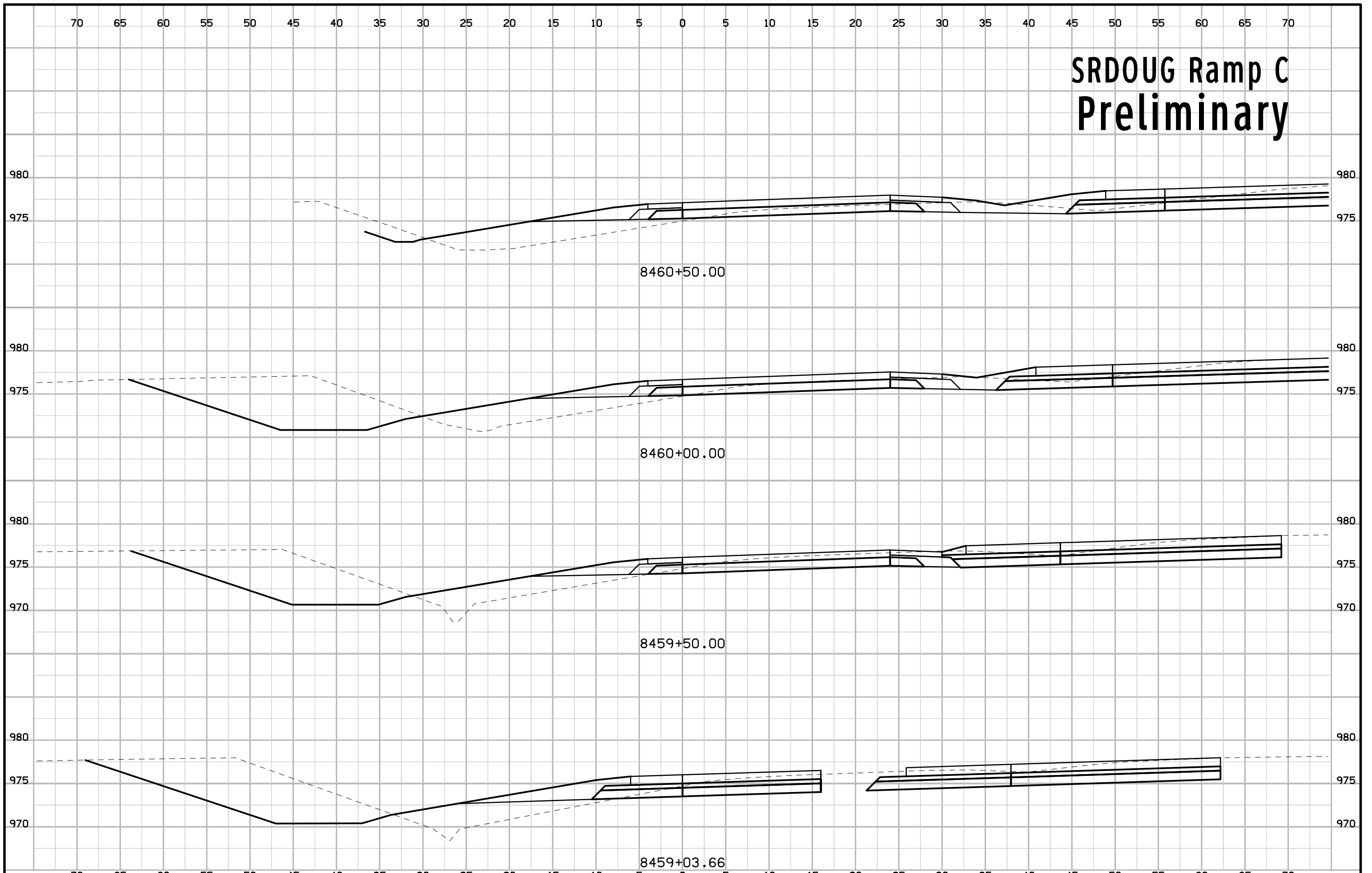
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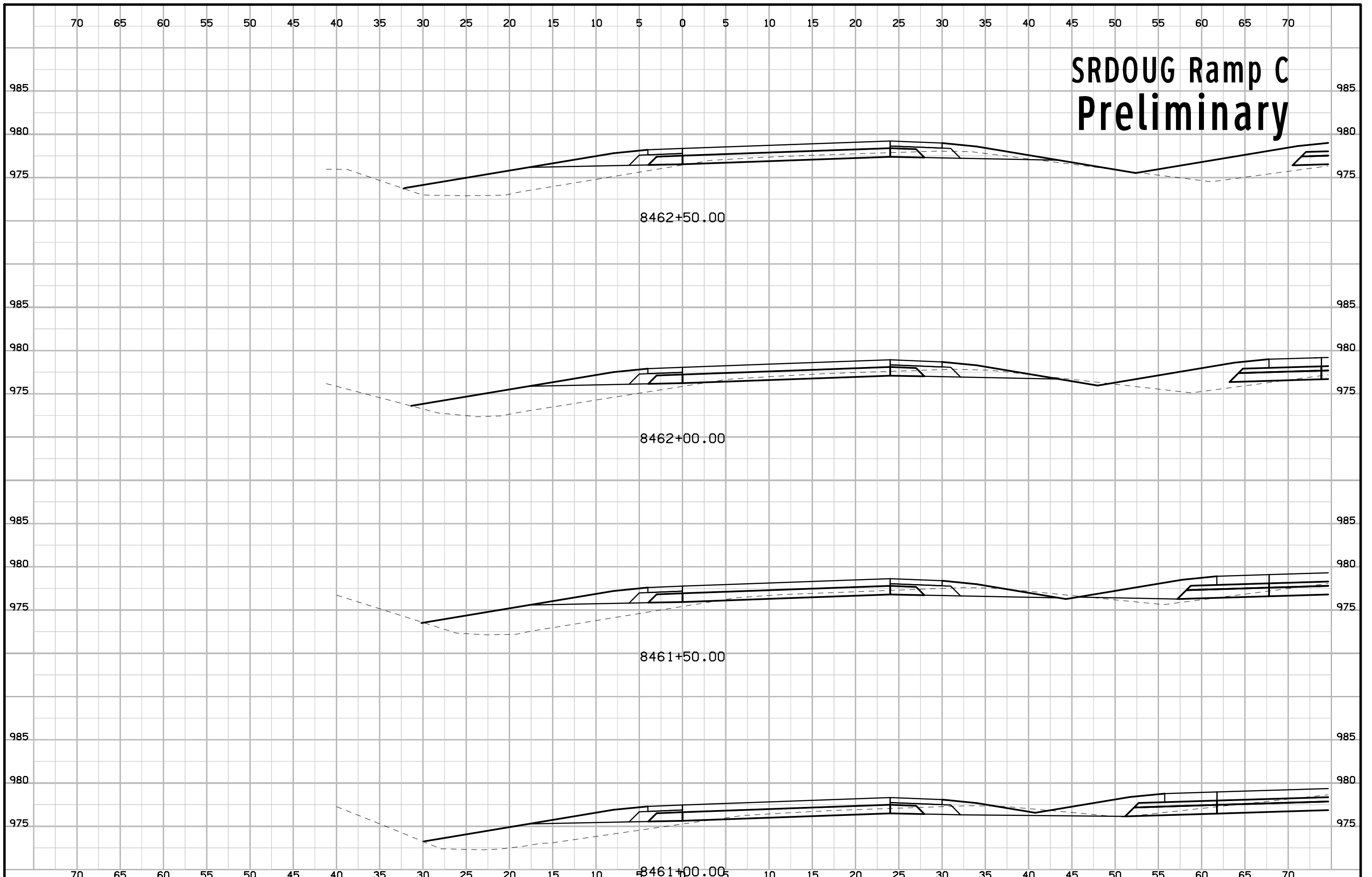
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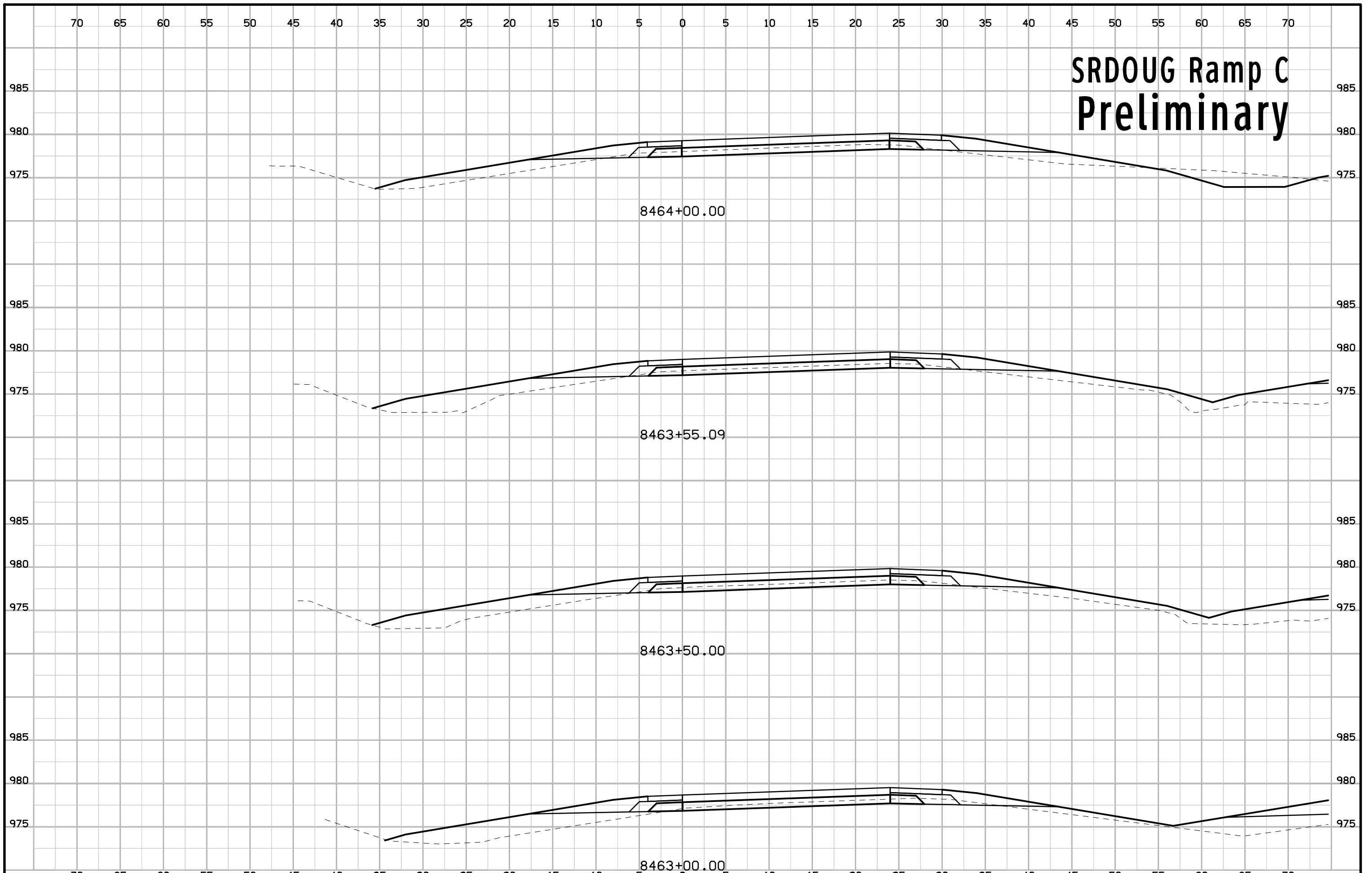
# SRDOUG Ramp C Preliminary



# SRDOUG Ramp C Preliminary



# SRDOUG Ramp C Preliminary

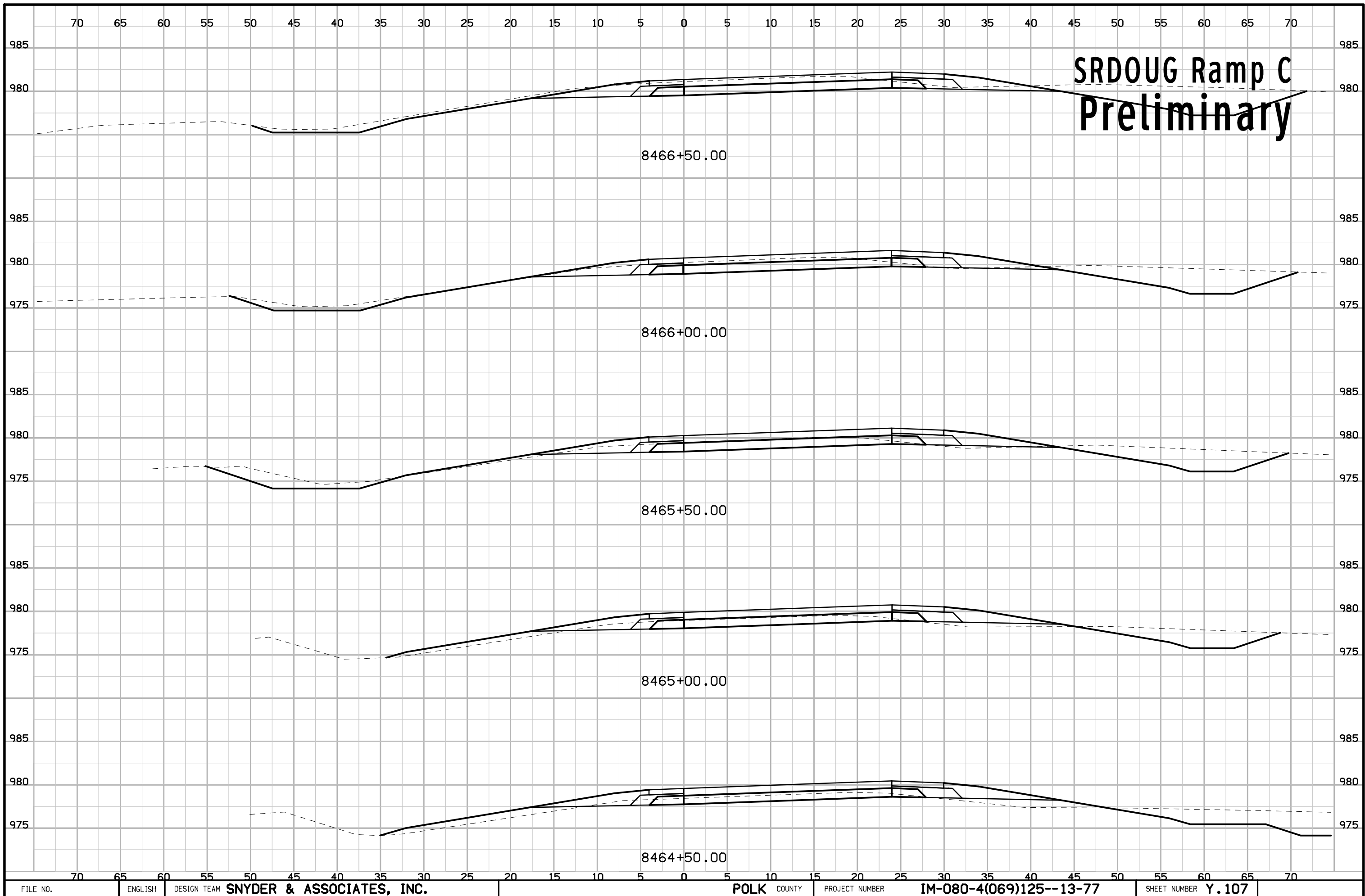


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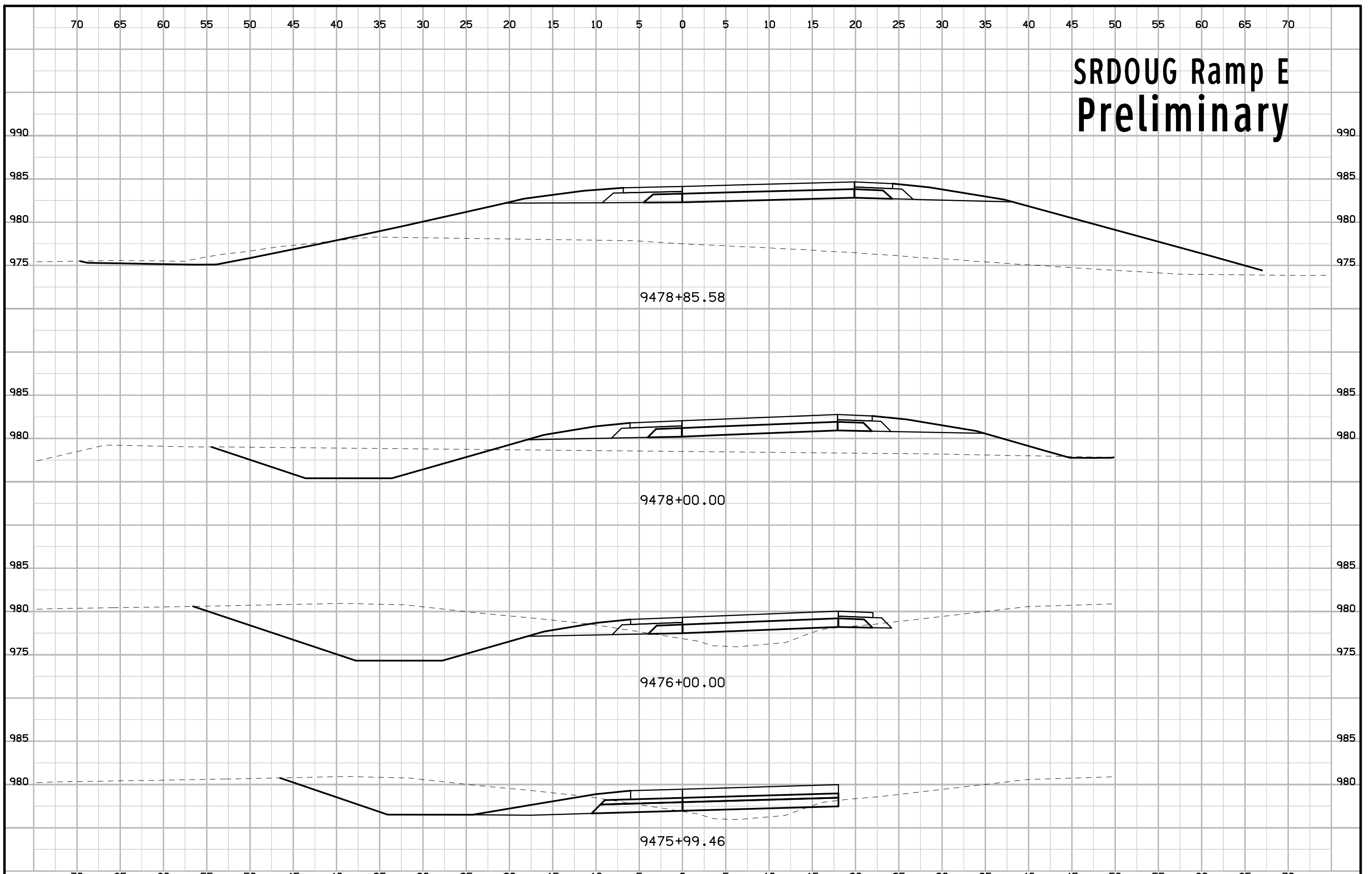
8463+55.09

8463+50.00

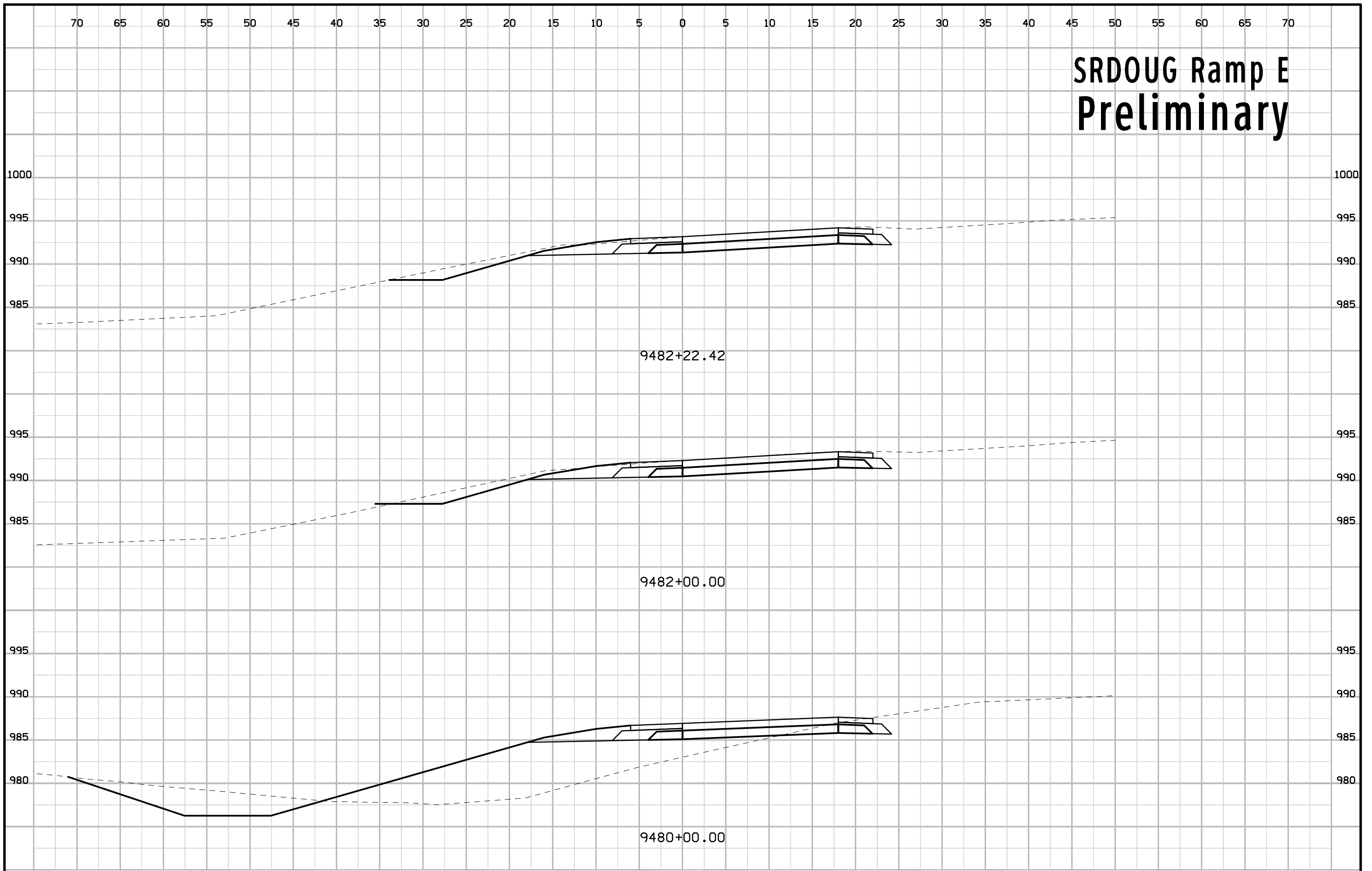
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# SRDOUG Ramp E Preliminary

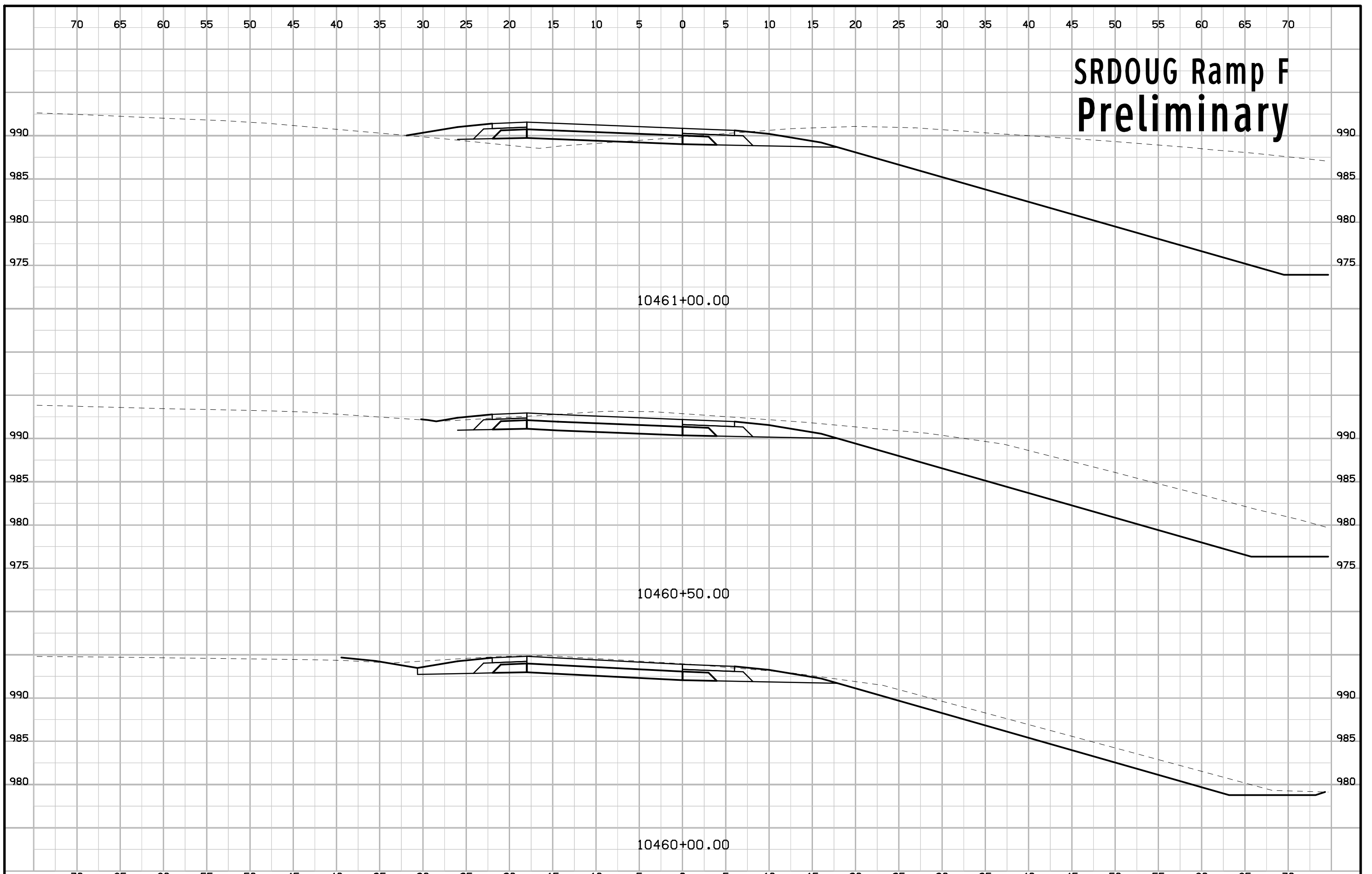


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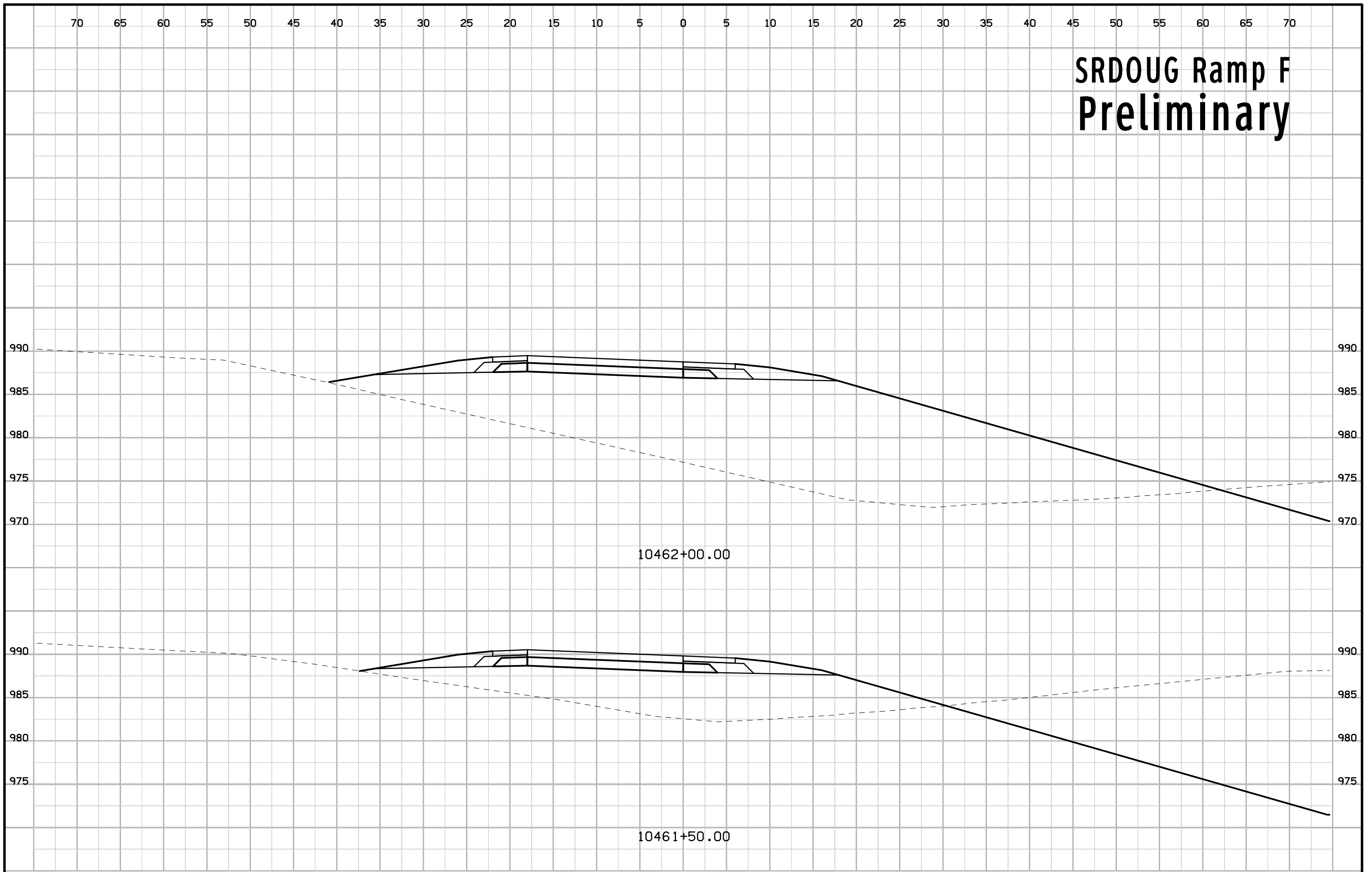




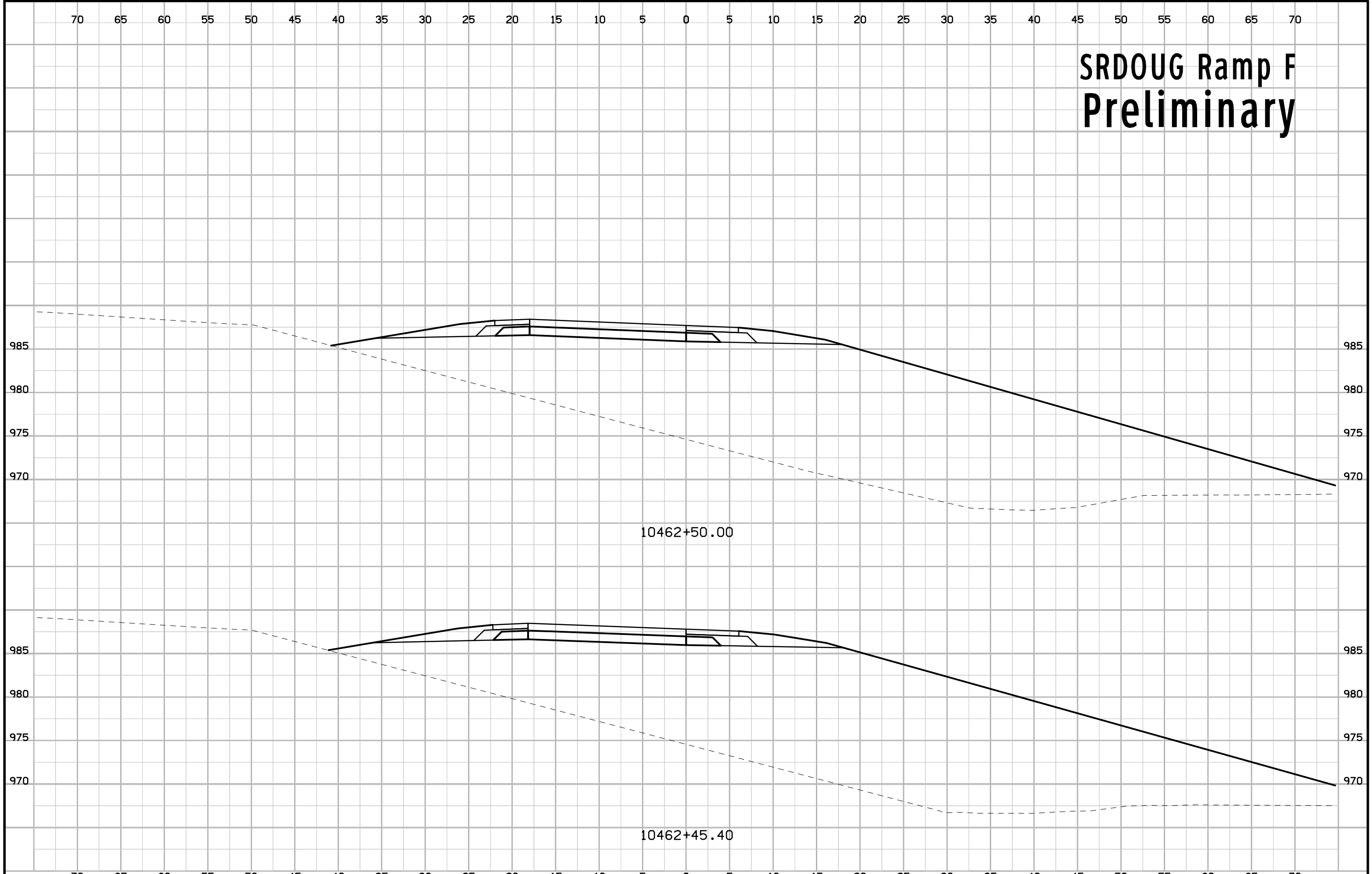
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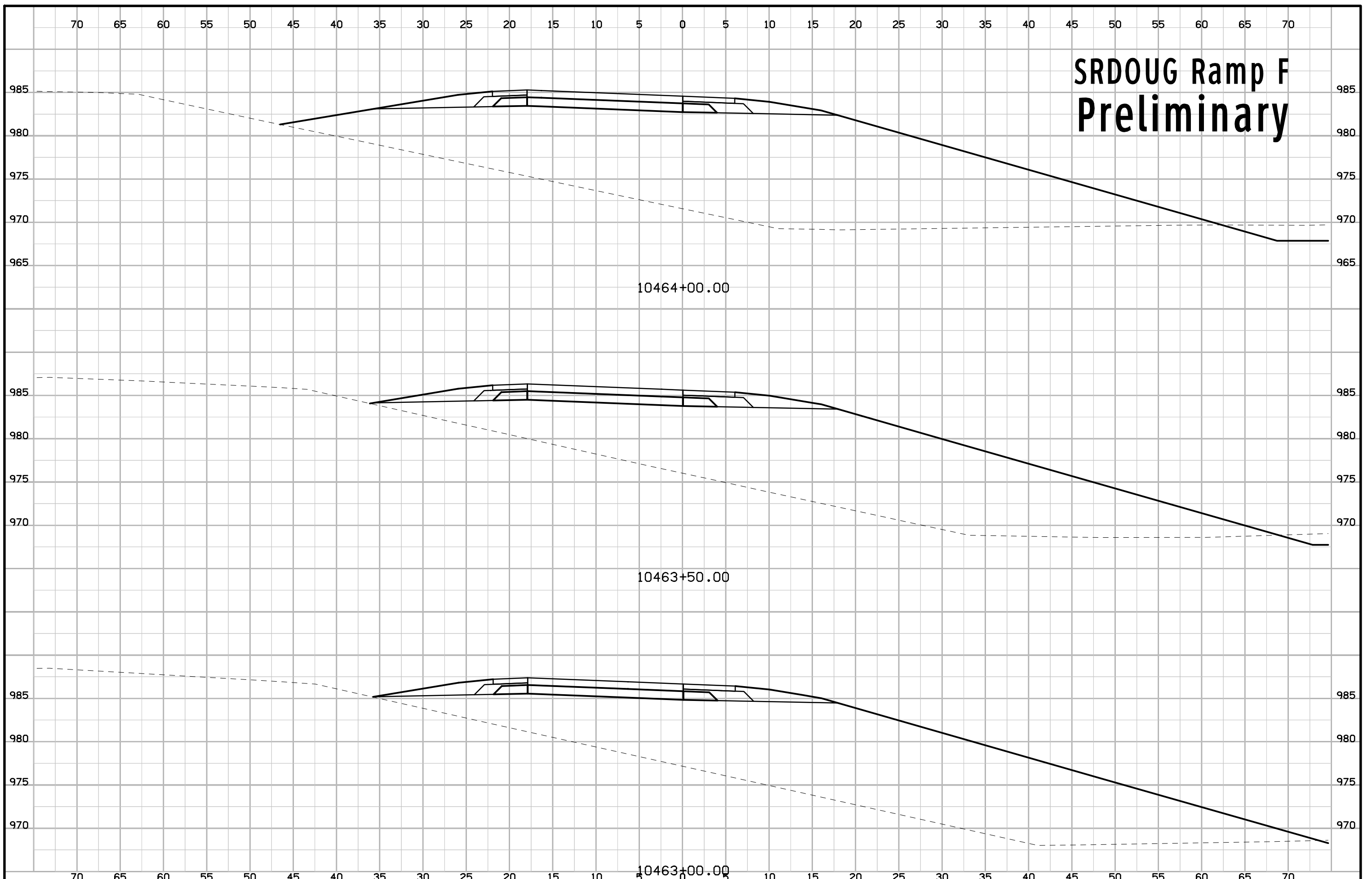
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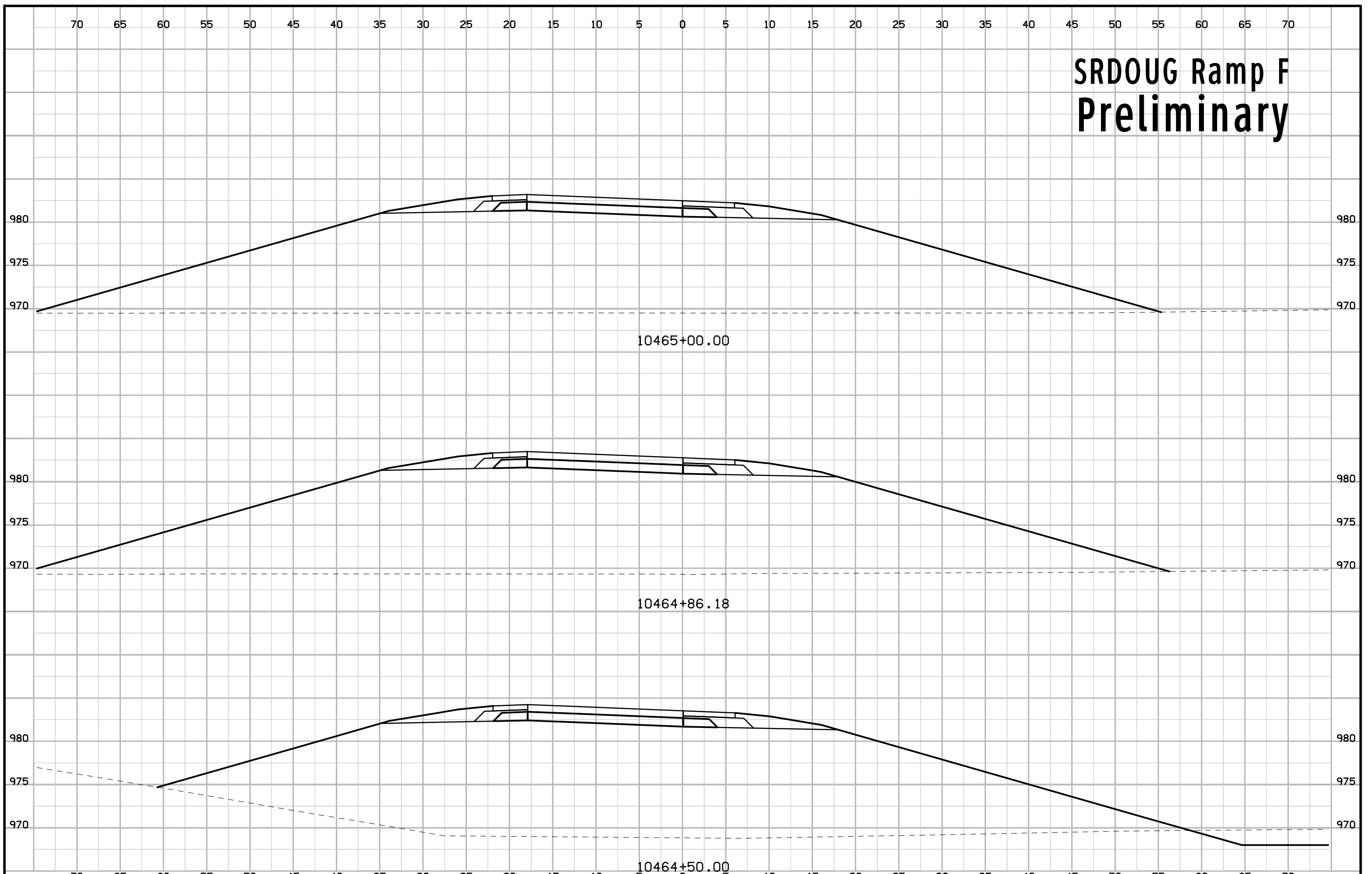
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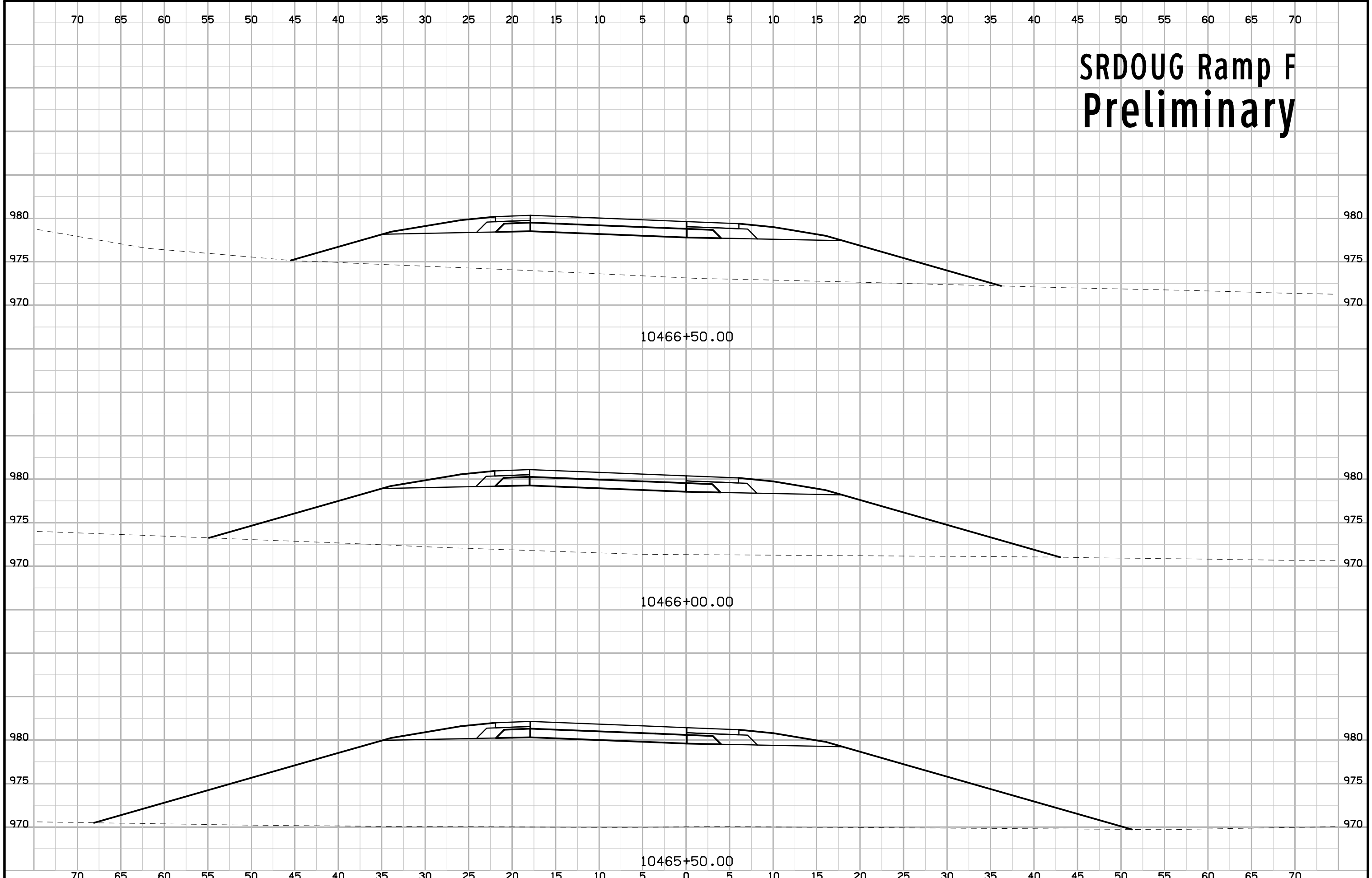
# SRDOUG Ramp F Preliminary



# SRDOUG Ramp F Preliminary



# SRDOUG Ramp F Preliminary



# SRDOUG Ramp F Preliminary

