

PCC PAVEMENT - GRADE AND NEW
HSIPX-150-2(18)--3L-06

BENTON GO.

LETTING DATE
12-21-2021



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

BENTON COUNTY

PCC PAVEMENT - GRADE AND NEW

IA 150, CURVE WEST OF URBANA
AT THE INTERSECTION OF 55TH STREET AND 31ST AVENUE

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REFER TO SHEET A.2 FOR
PROJECT LOCATION MAP

REVISIONS

TOTAL
75

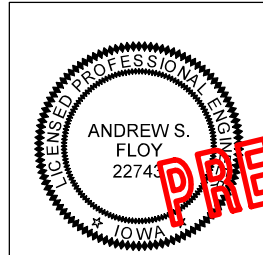
PROJECT IDENTIFICATION NUMBER	16-06-150-030
PROJECT NUMBER	HSIPX-150-2(18)--3L-06
R.O.W. PROJECT NUMBER	NHSN-150-2(22)--2R-06

INDEX OF SHEETS

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B Sheets	Typical Cross Sections and Details
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* D.2 - 4	IA 150 EB/WB
* D.5 - 7	IA 150 NB/SB
* D.8	IA 150 RAB
E Sheets	Side Road Plan and Profile Sheets
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G Sheets	Survey Sheets
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G.2	Control Point Vicinity Map
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W Sheets	Mainline Cross Sections
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W.10 - 17	IA 150 NB/SB Mainline Cross Sections
W.18 - 19	Roundabout Cross Sections
X Sheets	Side Road Cross Sections
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X.5 - 7	31ST Avenue NB/SB Side Road Cross Sections
X.8 - 9	IA 150 Curve Side Road Cross Sections
	* Color Plan Sheets

DESIGN DATA URBAN			
2018	AADT	3100	V.P.D.
2038	AADT	3900	V.P.D.
20	DHV		V.P.H.
	TRUCKS	8	%
	Total		
	Design ESALs		

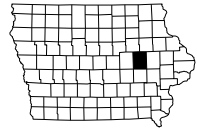
INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	ANDREW S. FLOY	Primary Signature Block

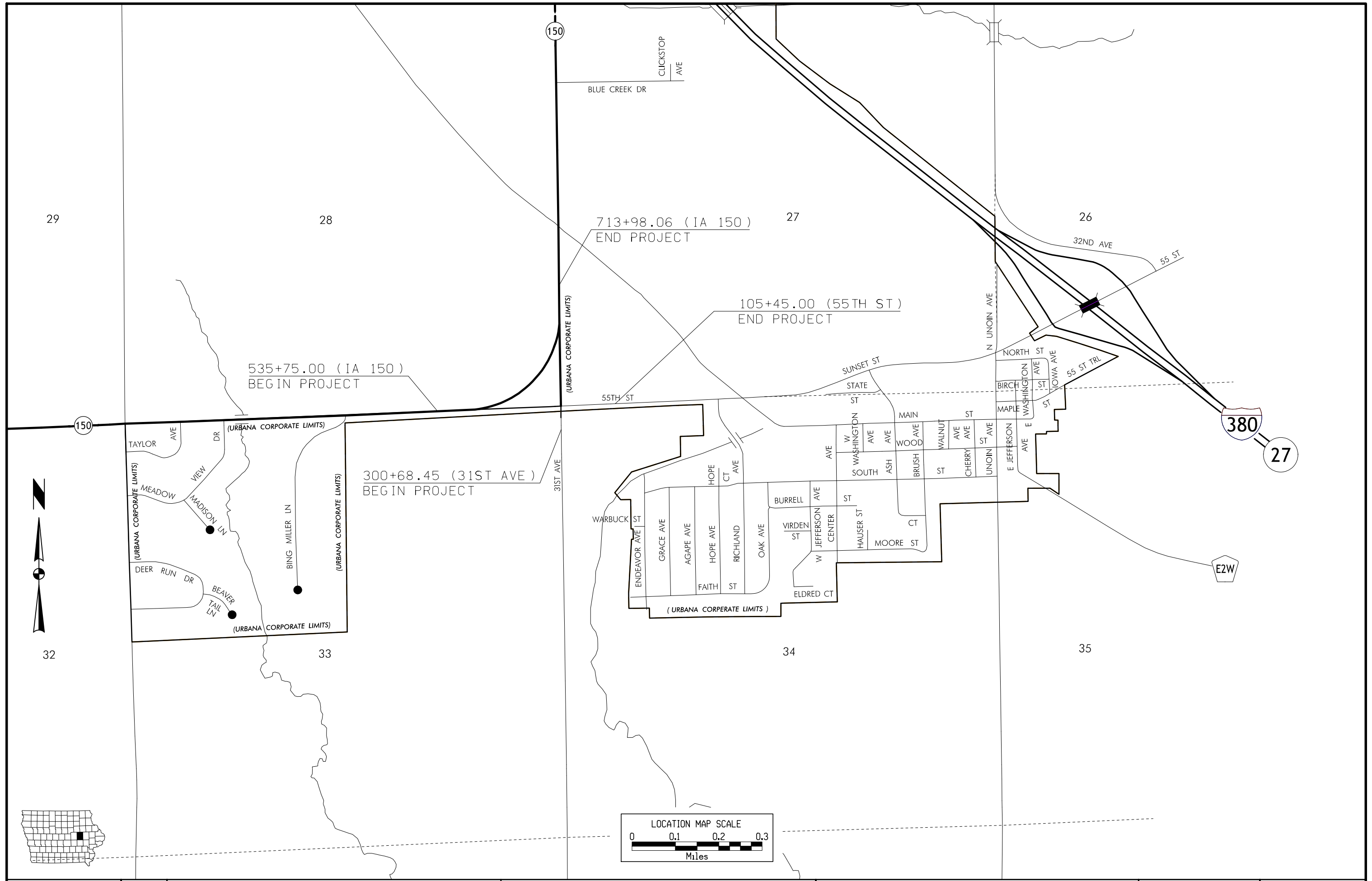


I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

ANDREW S. FLOY
22743
DATE: DECEMBER 31, 2022.
This seal covers the following sheets or sheets covered by this seal:

PRELIMINARY PLANS

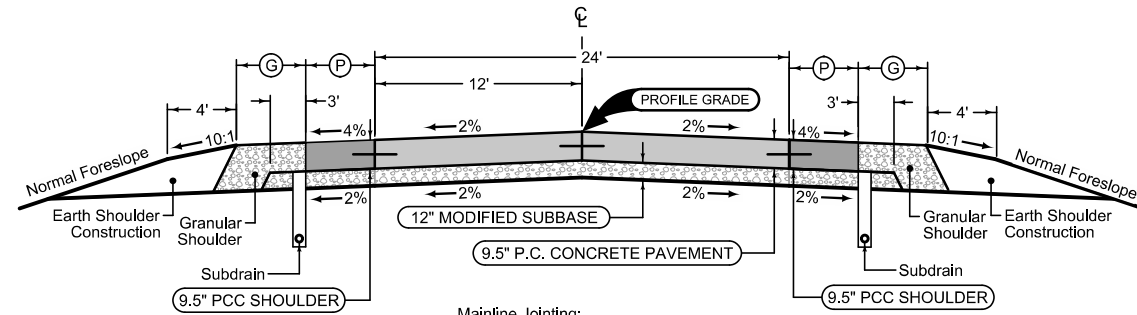




Full Depth PCC Combination Shoulder

Shoulder Jointing:
Longitudinal joint: L-2

STATION TO STATION		2_C_FullPCC_MODIFIED	
		(P) Feet	(G) Feet
535+75.00	542+55.53	6	4
642+55.53	644+07.69	6	4
644+07.69	645+37.69	3.5	4
804+37.65	804+71.07	3.5	4
804+71.07	806+61.04	6	4
706+05.01	713+98.06	6	4
203+06.94	203+48.49	3.5	4
203+48.49	204+47.20	6	4
104+15.78	105+45.00	6	4



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

STATION TO STATION	
535+75.00	545+37.40
704+39.96	713+98.06
102+72.09	105+45.00

Full Depth PCC Combination Shoulder

Shoulder Jointing:
Longitudinal joint: L-2

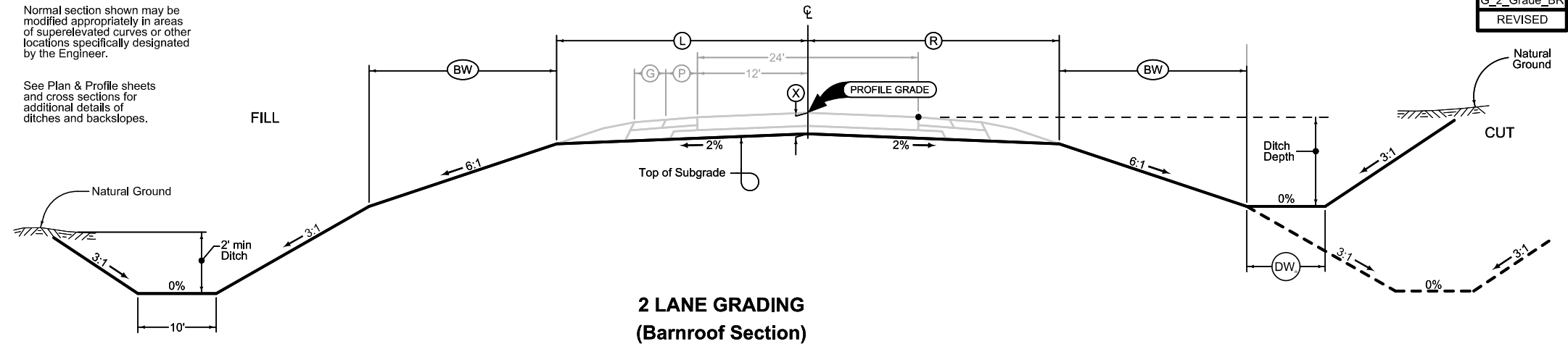
STATION TO STATION		2_C_FullPCC_MODIFIED	
		(P) Feet	(G) Feet
535+75.00	544+82.40	6	4
544+82.40	545+37.40	3.5	4
704+38.78	706+05.01	3.5	4
706+05.01	713+98.06	6	4
102+72.09	103+44.81	3.5	4
103+44.81	105+45.00	6	4

**IA 150
55TH STREET**

ROAD IDENTIFICATION	LOCATION		DIMENSIONS				
	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet	(DW) Feet
IA 150 EB	535+75.00	545+37.40	35	35	22	18.6	10
IA 150 WB	642+55.53	645+37.69	35	35	22	18.6	10
IA 150 NB	704+38.78	713+98.06	35	35	22	18.6	10
IA 150 SB	804+37.65	806+61.04	35	35	22	18.6	10
55TH STREET WB	202+84.00	204+47.20	35	35	22	18.6	10
55TH STREET EB	102+72.09	103+00.00	35	35	22	18.6	5
55TH STREET EB	103+00.00	105+45.00	35	35	22	18.6	10

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

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



**2 LANE GRADING
(Barnroof Section)**

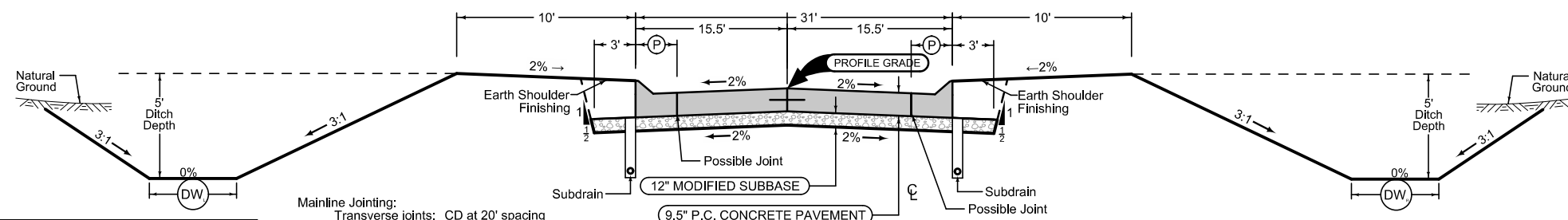
**IA 150
55TH STREET**

Curbed Shoulder

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

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

STATION TO STATION		(P) Feet	Curb Type See PV-102
300+68.45	302+44.72	2.5	6" Sloped
402+44.72	403+07.88	2.5	6" Sloped



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

STATION TO STATION		(DW) Feet
300+68.45	301+75.00	5
301+75.00	302+44.72	10
402+44.72	404+23.88	10

STATION TO STATION	
300+68.45	303+07.96

STATION TO STATION		(DW) Feet
300+68.45	304+20.56	5

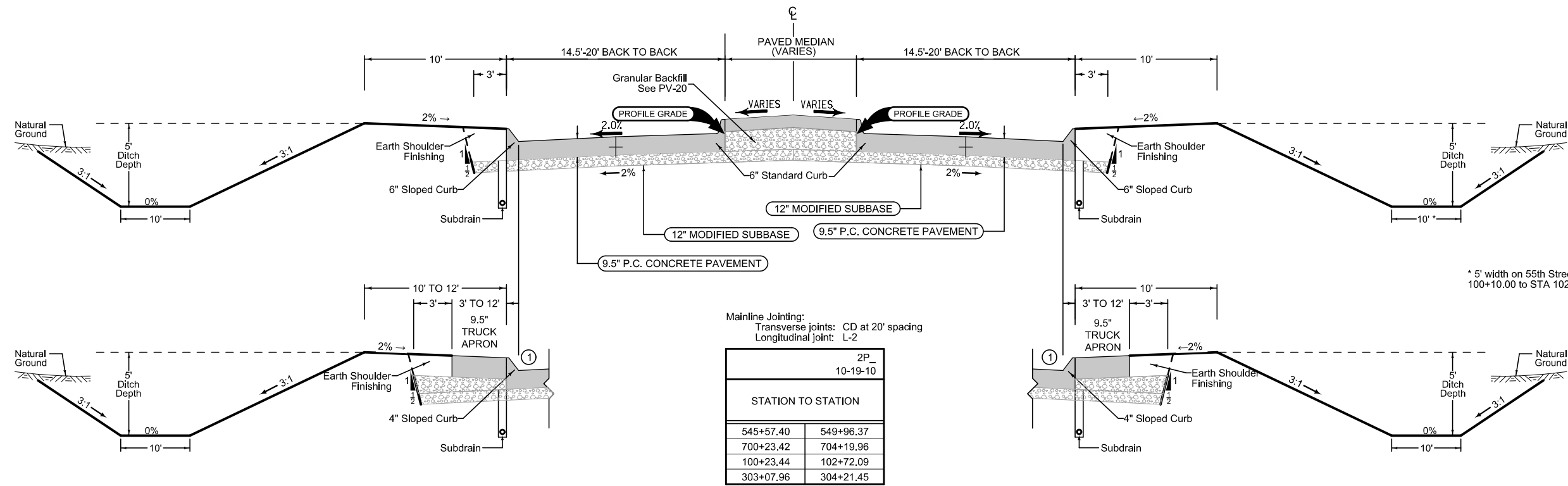
Curbed Shoulder

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

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

STATION TO STATION		(P) Feet	Curb Type See PV-102
300+68.45	303+07.96	2.5	6" Sloped

31ST AVENUE



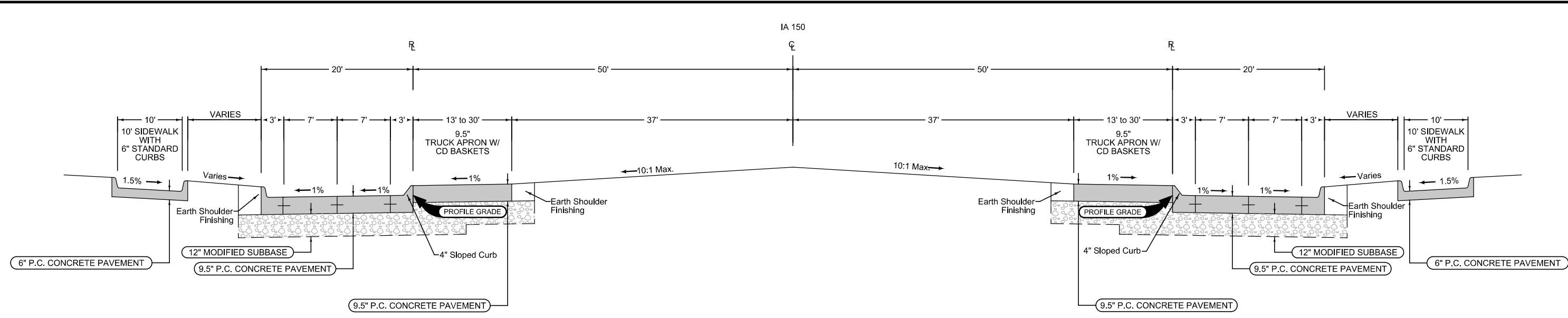
Mainline Jointing:
 Transverse joints: CD at 20' spacing
 Longitudinal joint: L-2

2P_	
10-19-10	
STATION TO STATION	
545+57.40	549+96.37
700+23.42	704+19.96
100+23.44	102+72.09
303+07.96	304+21.45

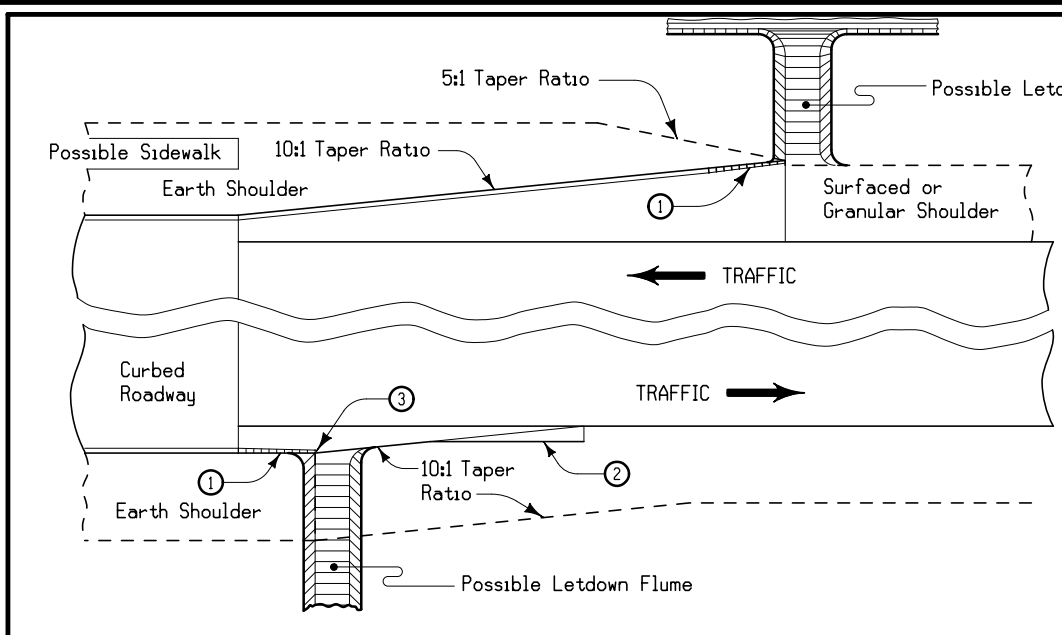
* 5' width on 55th Street from STA 100+10.00 to STA 102+79.09

**IA 150
 55TH STREET
 31ST AVENUE**

① Refer to PV-102 for curb transition detail.



IA 150 ROUNDABOUT



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

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

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)

Begin Construction
ML IA 150 EB Sta. 535+75.00

TERNUS FAMILY FARMS LLC

Curve Data
 $\Delta = 1^\circ 43' 57.30''$ (LT)
 $T = 166.33$
 $M = 332.63$
 $E = 11,000.00$
 $L = 126$

Grading Limits

540

535

PT Sta 531+11.61

PC Sta 535+75.00

PT Sta 539+07.63

PT Sta 543+67.12

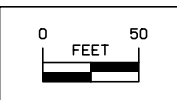
PT Sta 547+78.62

IA 150 WB
IA 150 EB

(REMOVE)
Sta. 537+63.83, 48' RT
18" X 24 FT CMP
D.A. =

STA 537+60.51, 77.21' RT
INSTALL 18" X 122'
CMP W/ APRONS

DESIGN HOMES INC

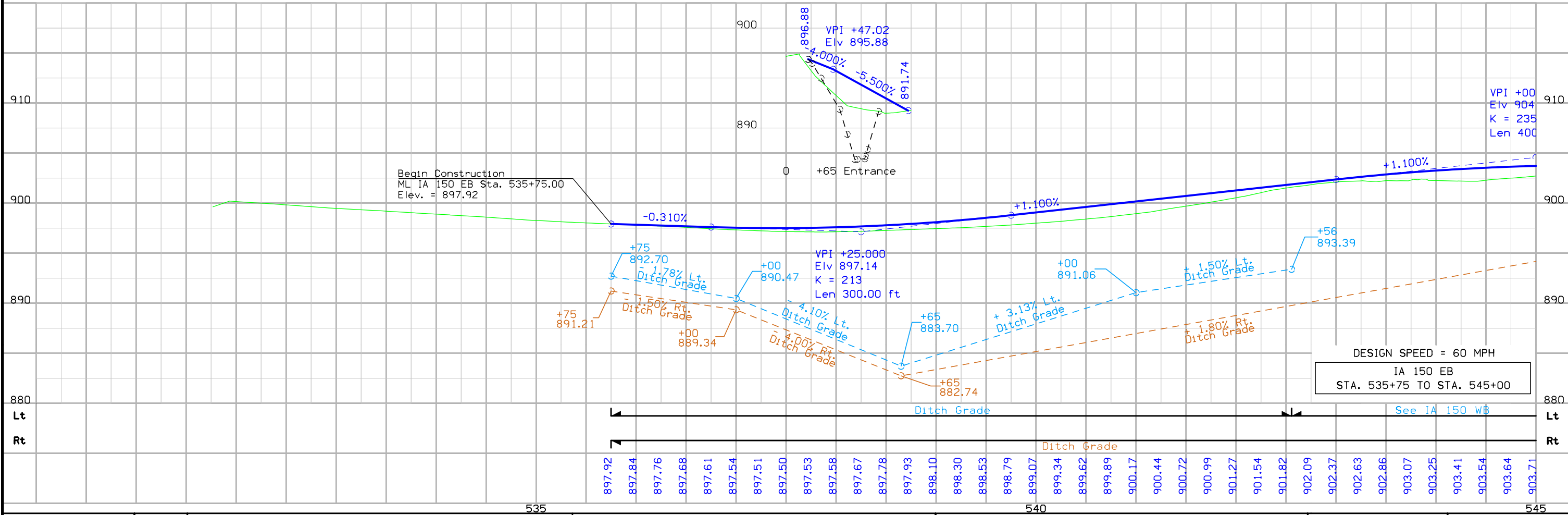


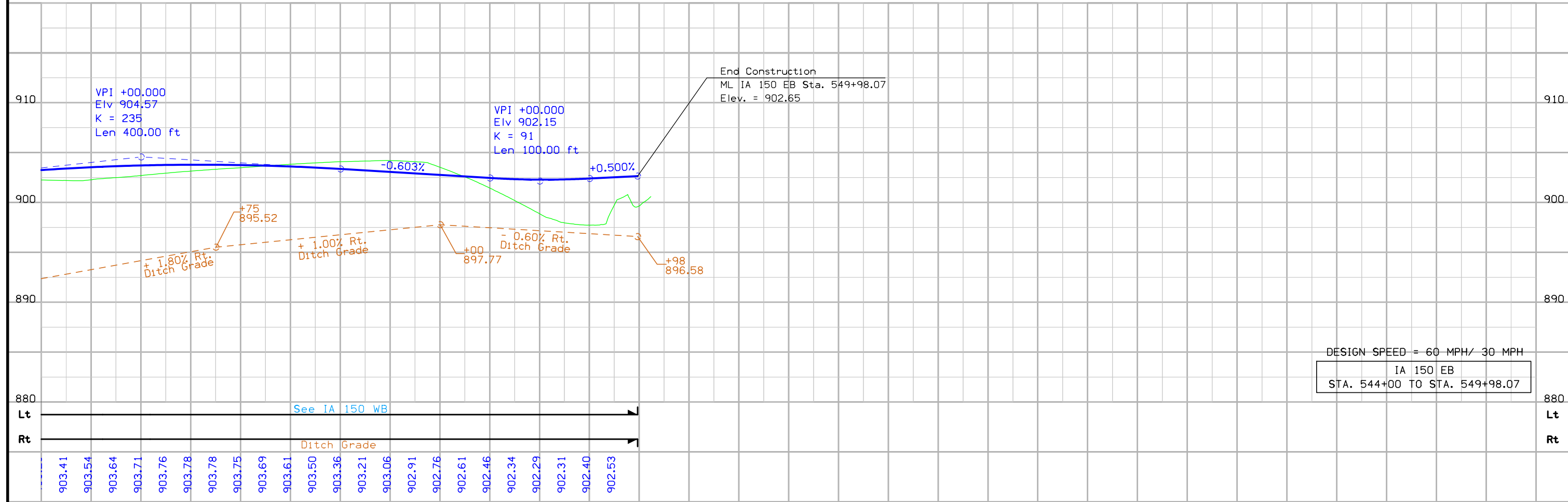
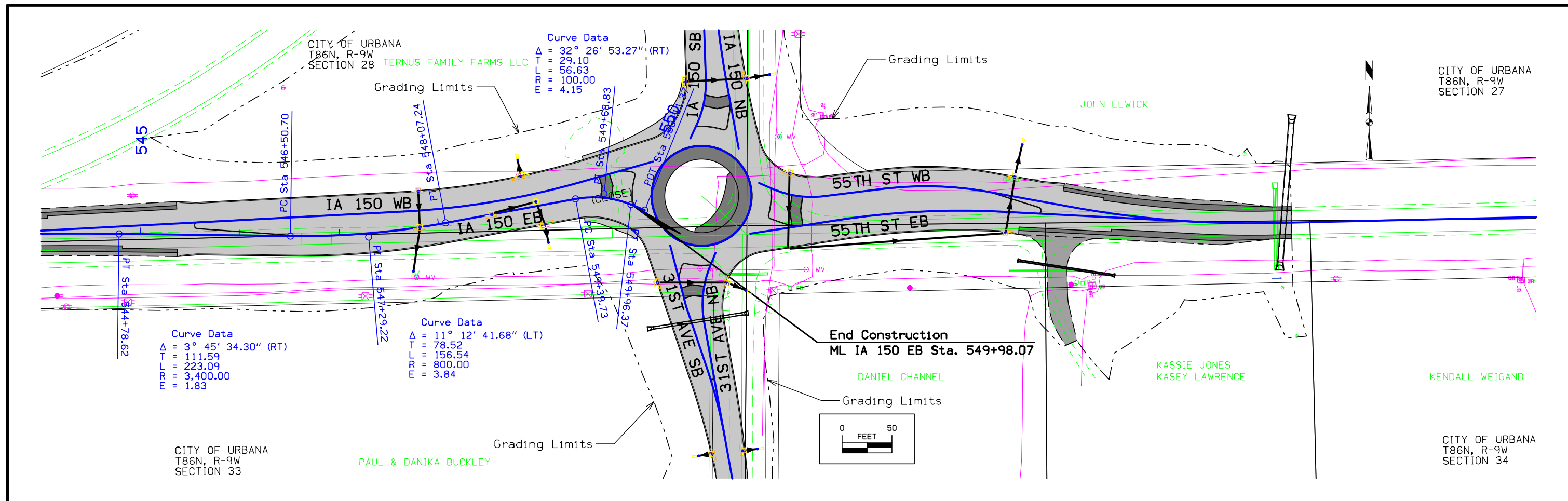
+64.97 Prop.
Type 'C' Ent

(REMOVE)
Sta. 538+44.94
3 FT X 3 FT X 63 FT RCB
D.A. = 50 A-R
STA 538+65.00
INSTALL 48" X 132' RCP
SKEW 0°
LT. 883.70
RT. 882.74

PAUL & DANIKA BUCKLEY

Grading Limits





CITY OF URBANA
T86N, R-9W
SECTION 28

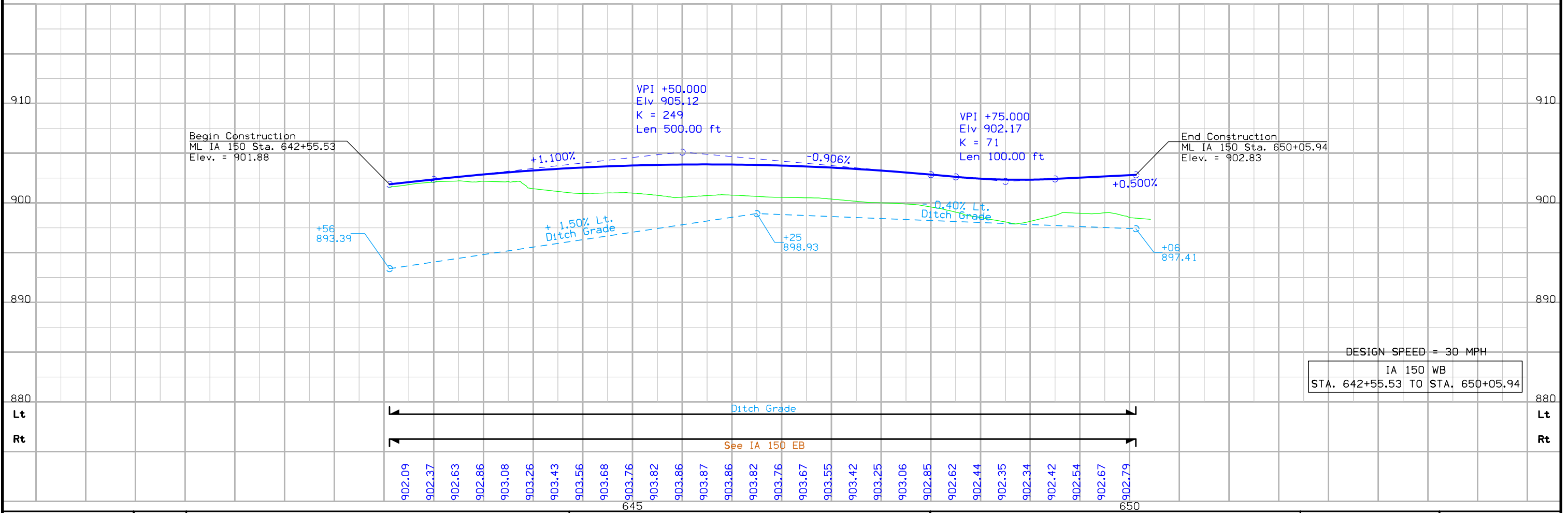
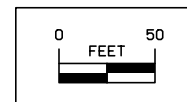
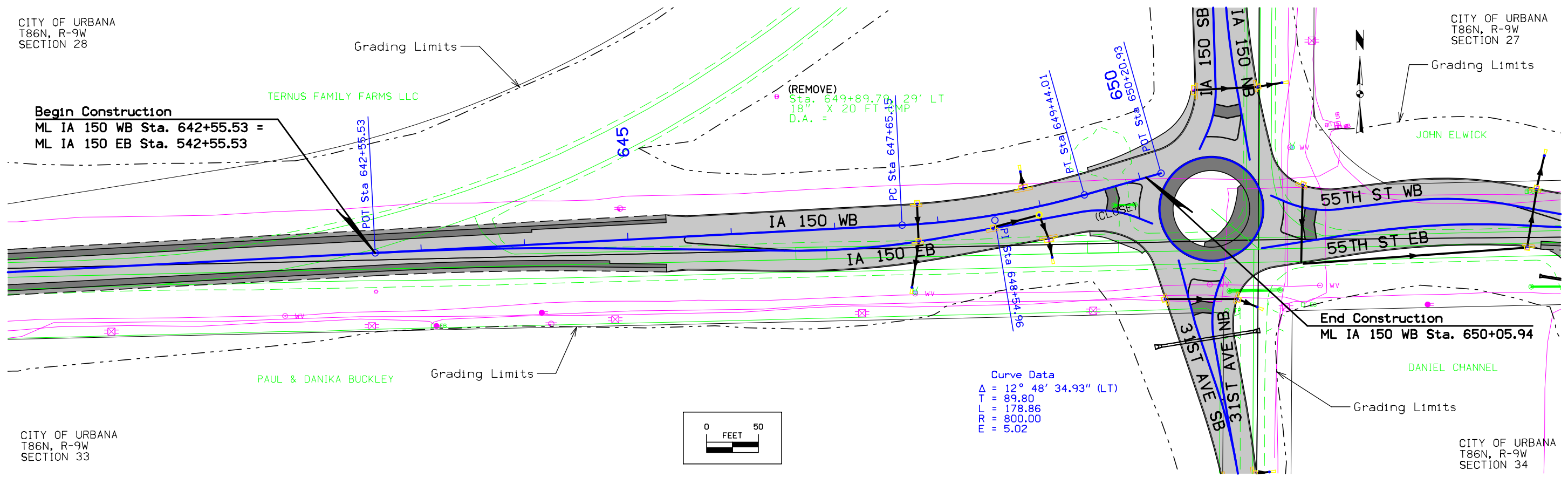
CITY OF URBANA
T86N, R-9W
SECTION 27

Begin Construction
ML IA 150 WB Sta. 642+55.53 =
ML IA 150 EB Sta. 542+55.53

End Construction
ML IA 150 WB Sta. 650+05.94

CITY OF URBANA
T86N, R-9W
SECTION 33

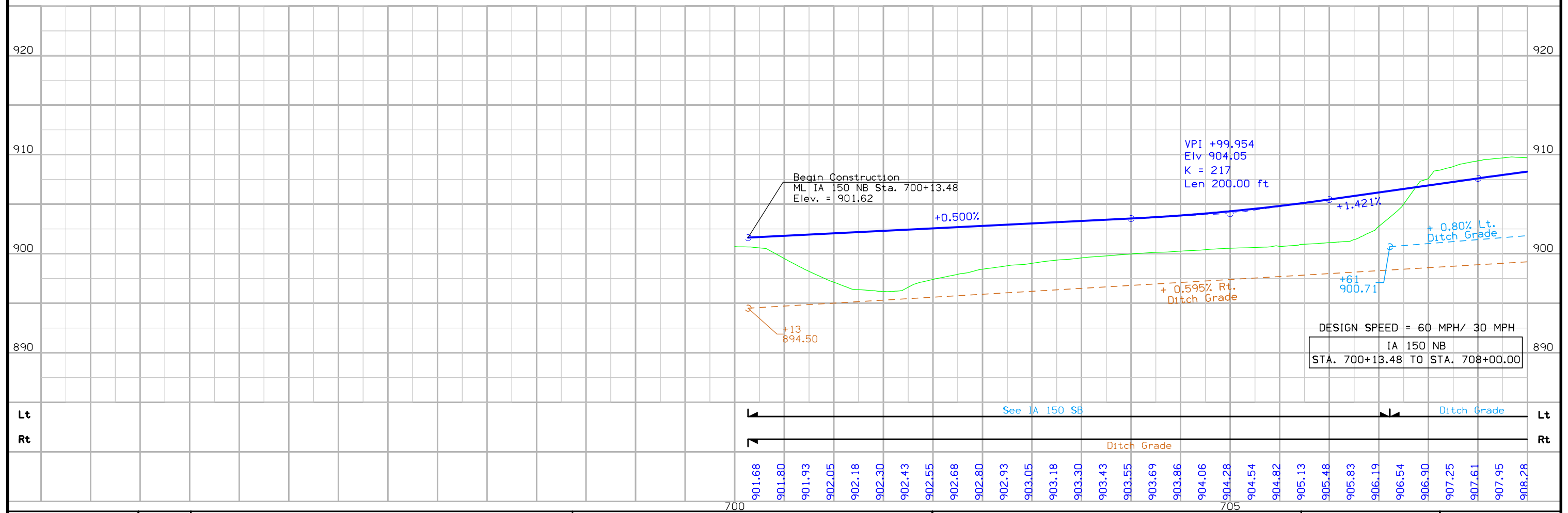
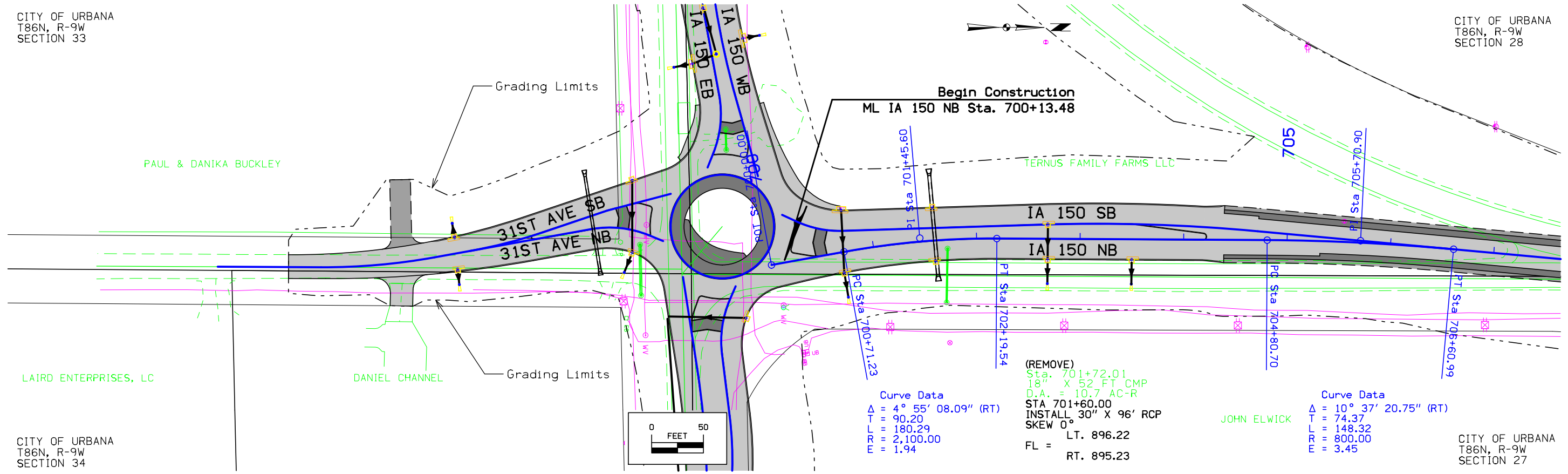
CITY OF URBANA
T86N, R-9W
SECTION 34

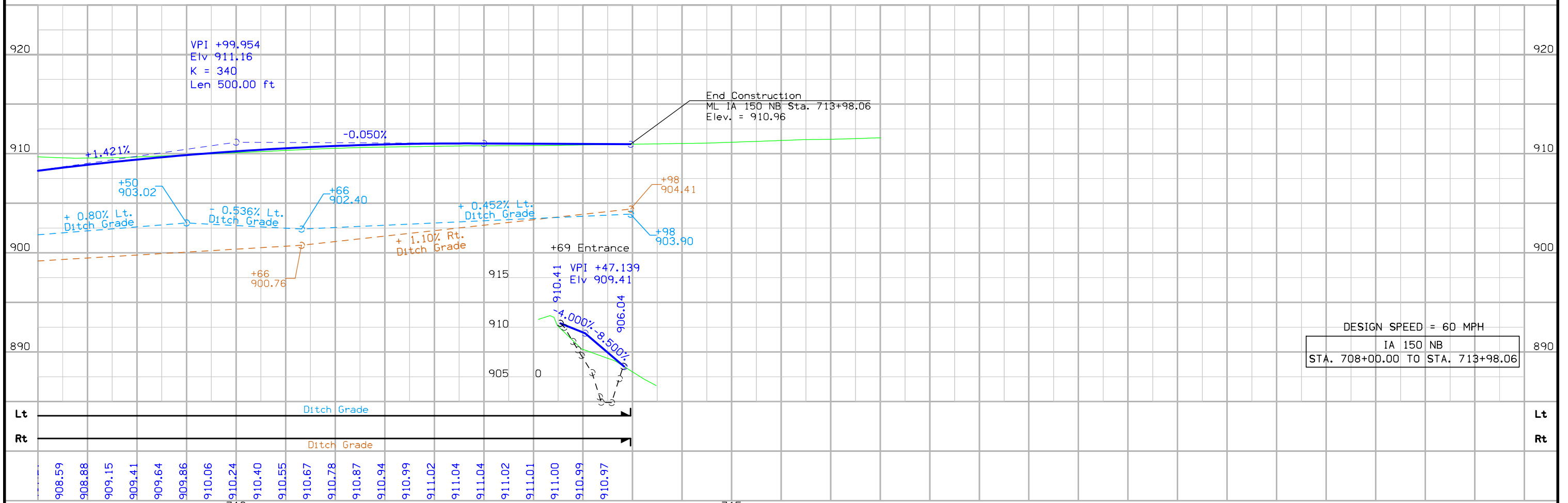
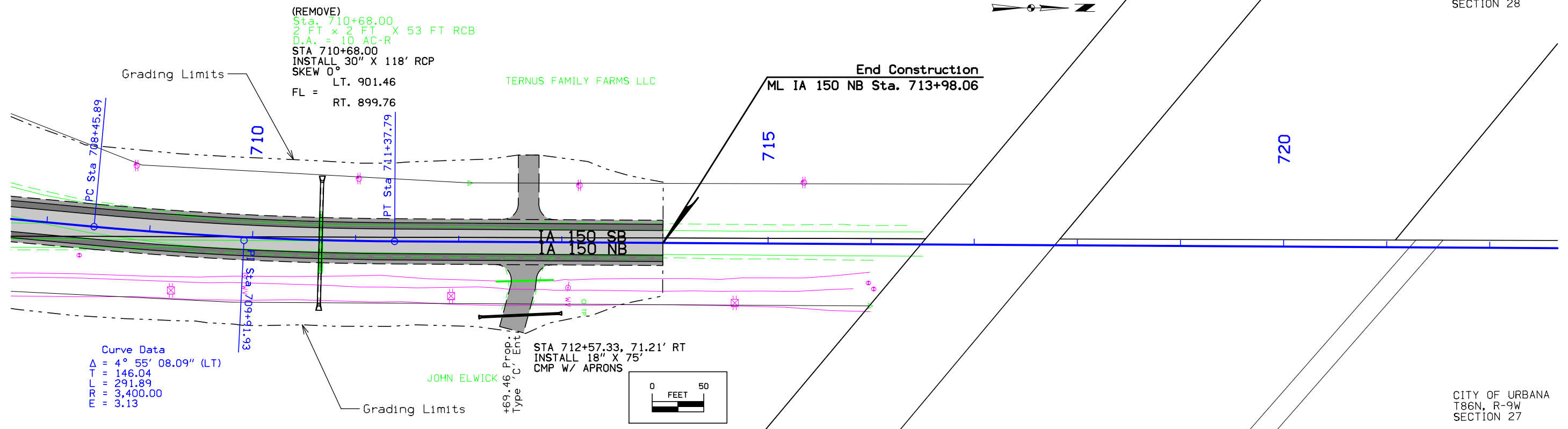


DESIGN SPEED = 30 MPH
 IA 150 WB
 STA. 642+55.53 TO STA. 650+05.94

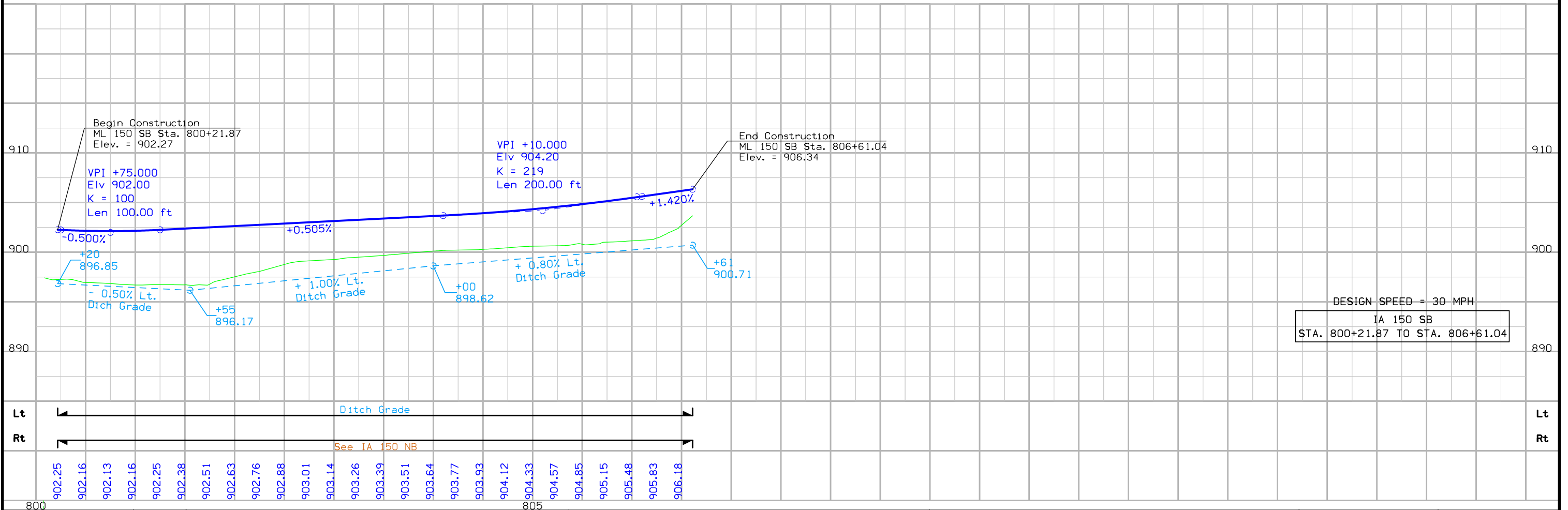
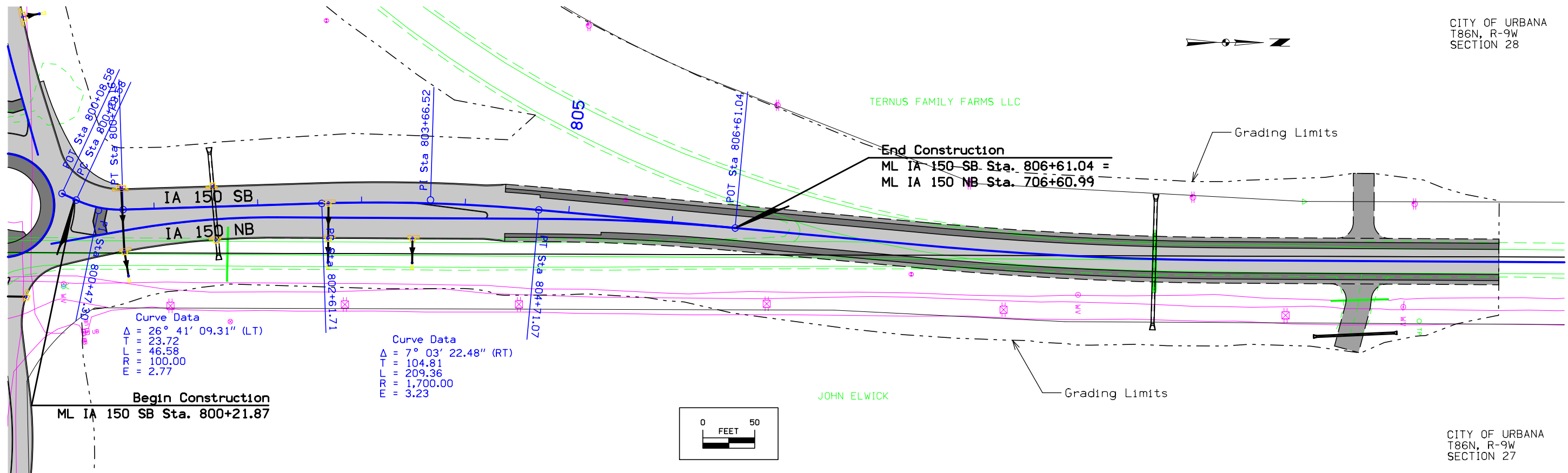
CITY OF URBANA
T86N, R-9W
SECTION 33

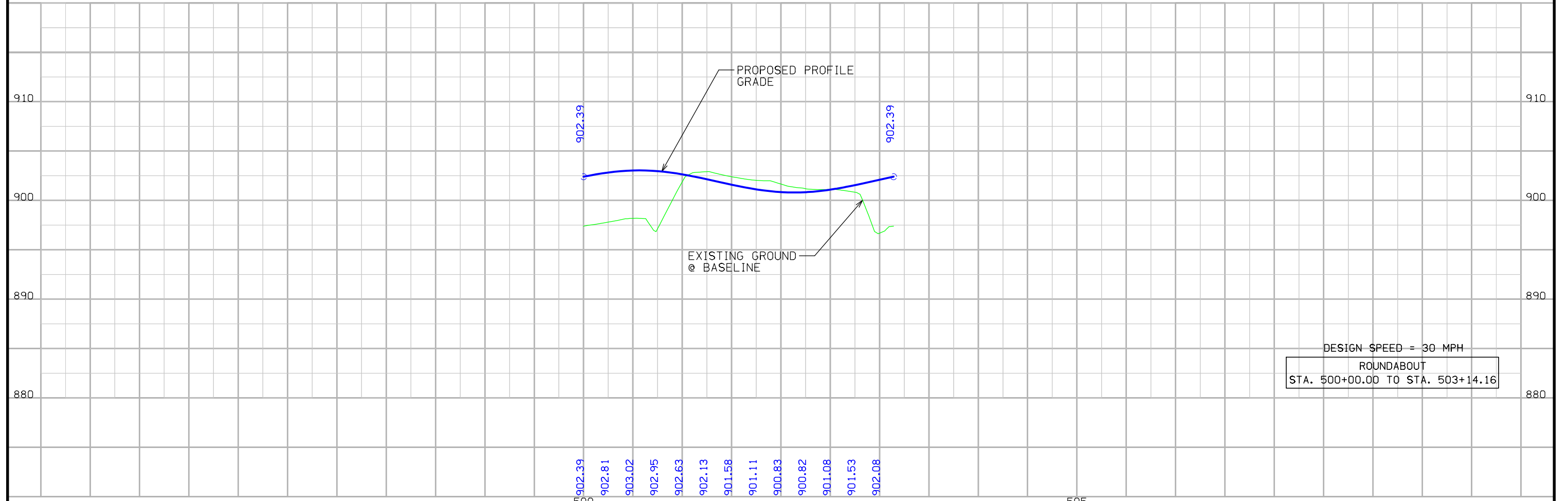
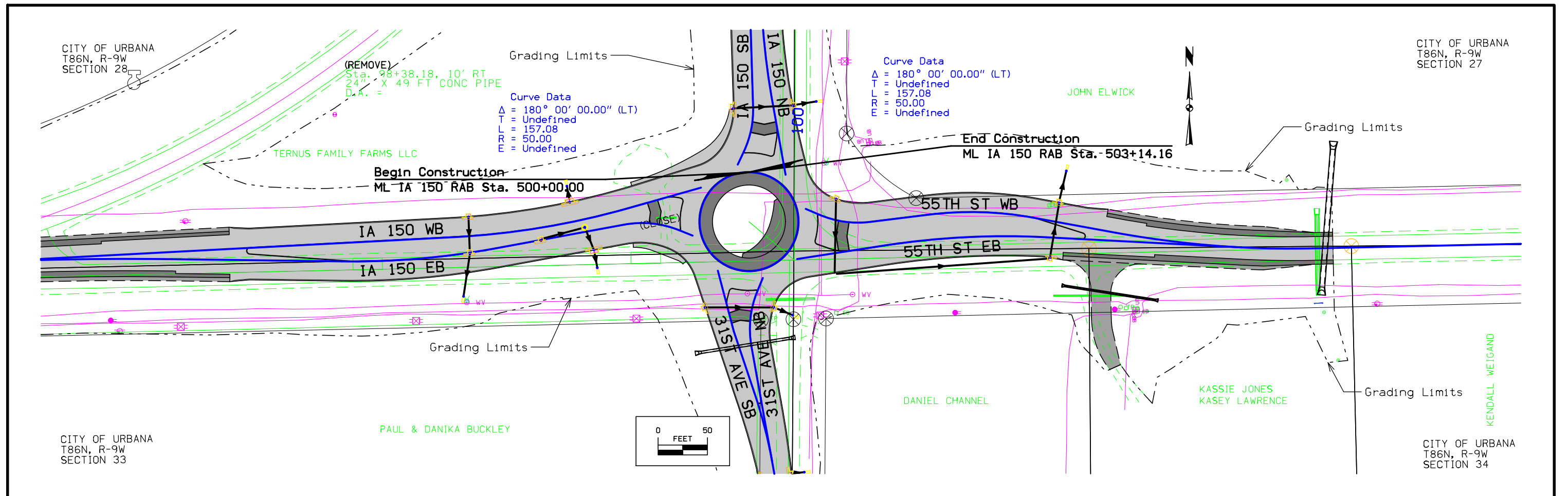
CITY OF URBANA
T86N, R-9W
SECTION 28





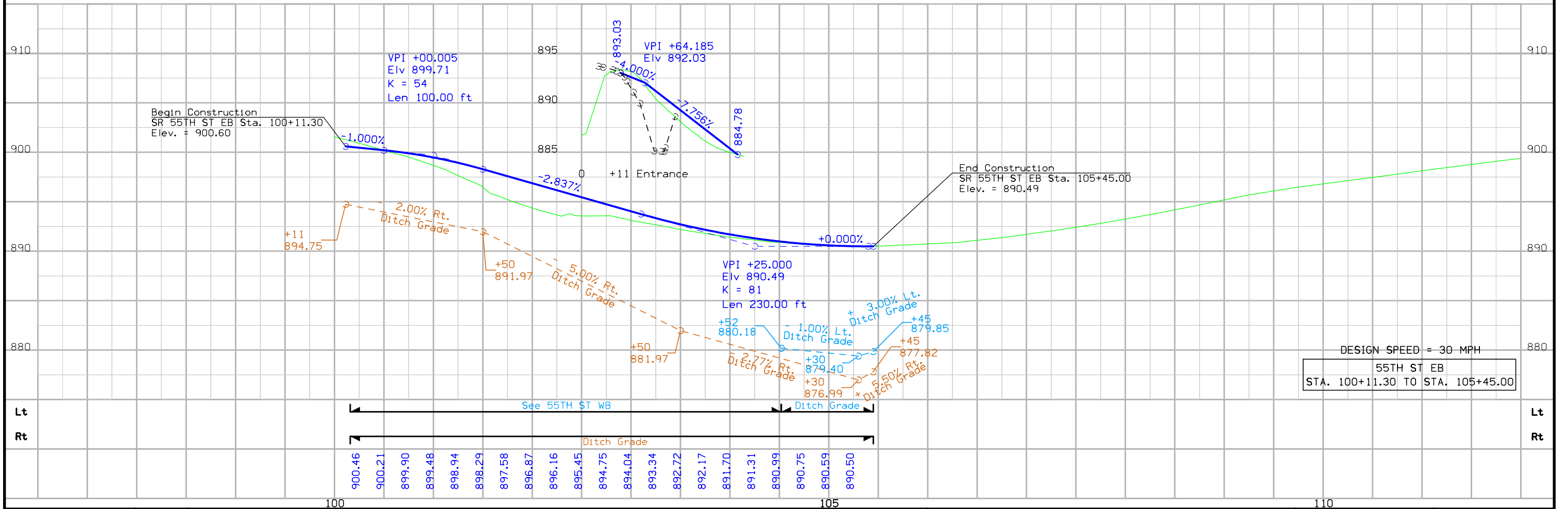
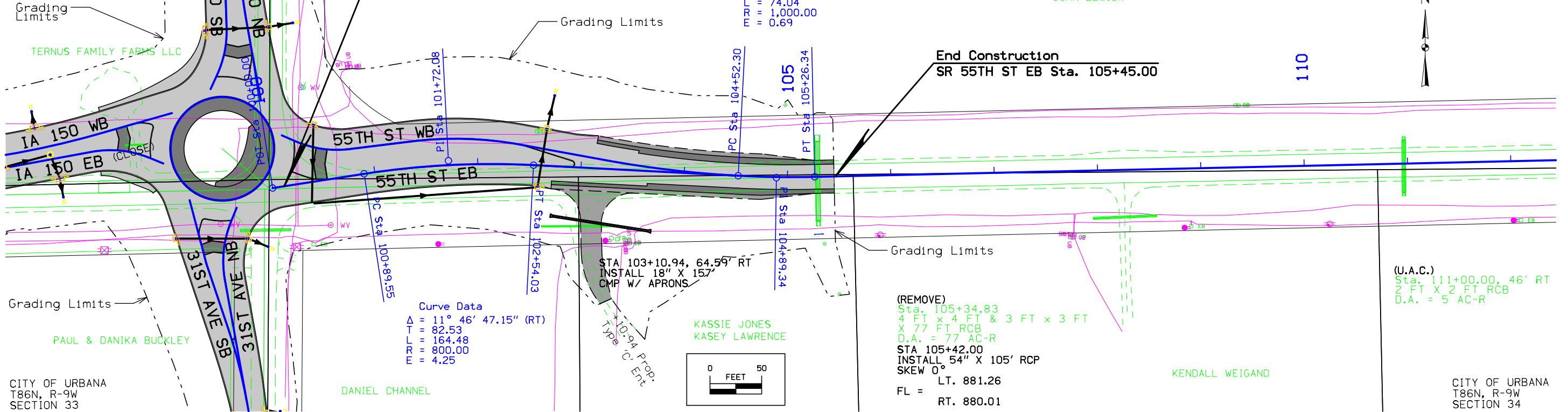
DESIGN SPEED = 60 MPH
IA 150 NB
STA. 708+00.00 TO STA. 713+98.06





CITY OF URBANA
T86N, R-9W
SECTION 28

CITY OF URBANA
T86N, R-9W
SECTION 27



CITY OF URBANA
T86N, R-9W
SECTION 28

CITY OF URBANA
T86N, R-9W
SECTION 27

Grading Limits

Curve Data
Δ = 30° 17' 56.47" (LT)
T = 27.07
L = 52.88
E = 100.00
F = 3.60

Curve Data
Δ = 17° 21' 08.68" (RT)
T = 53.41
L = 106.00
E = 350.00
F = 4.05

Curve Data
Δ = 7° 21' 34.35" (LT)
T = 64.31
L = 128.45
E = 1,000.00
F = 2.07

JOHN ELWICK



TERNUS FAMILY FARMS LLC

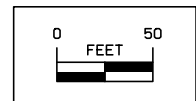
Grading Limits

PAUL & DANIKA BUCKLEY

CITY OF URBANA
T86N, R-9W
SECTION 33

Begin Construction
SR 55TH ST WB Sta. 200+13.08

DANIEL CHANNEL

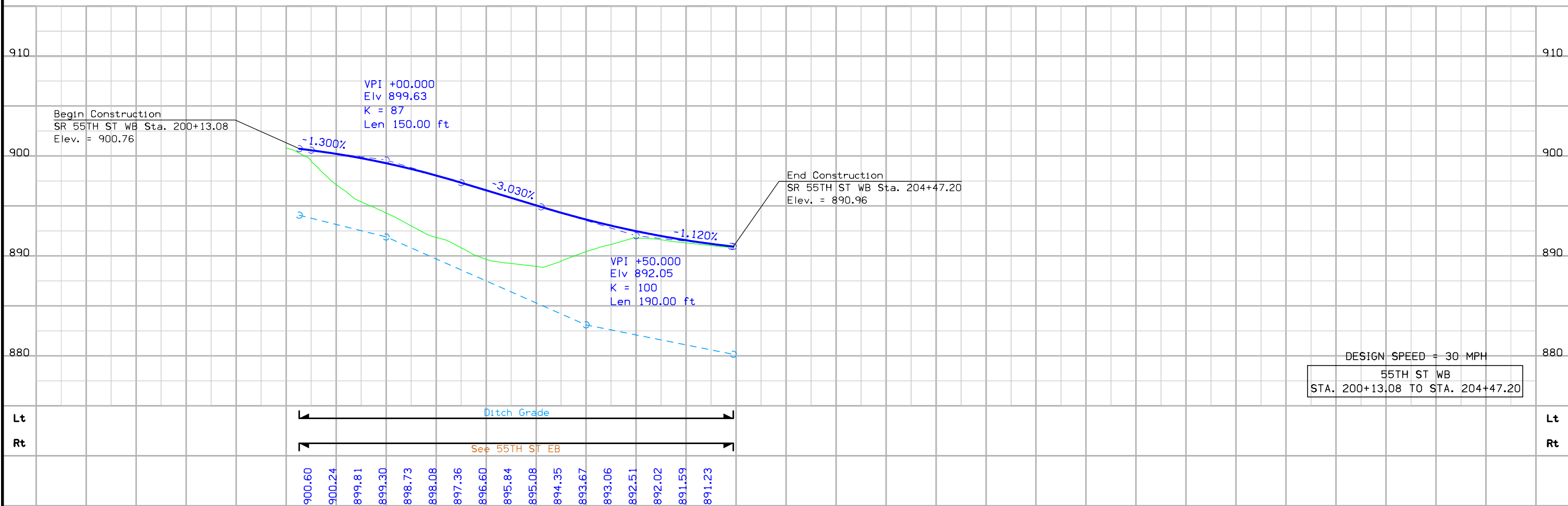


KASSIE JONES
KASEY LAWRENCE

KENDALL WEIGAND

CITY OF URBANA
T86N, R-9W
SECTION 34

End Construction
SR 55TH ST WB Sta. 204+47.20 =
SR 55TH ST EB Sta. 104+52.30



FILE NO.	ENGLISH	DESIGN TEAM	FOTH	BENTON COUNTY	PROJECT NUMBER	HSIPX-150-2(18)--3L-06	SHEET NUMBER	E.2
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CITY OF URBANA
T86N, R-9W
SECTION 33

CITY OF URBANA
T86N, R-9W
SECTION 28

CITY OF URBANA
T86N, R-9W
SECTION 34

CITY OF URBANA
T86N, R-9W
SECTION 27

PAUL & DANIKA BUCKLEY

LAIRD ENTERPRISES, LC

DANIEL CHANNEL

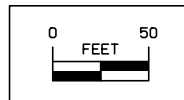
JOHN ELWICK

TERNUS FAMILY FARMS LLC

(REMOVE)
Sta. 304+15.69
24" x 49 FT RCP
D.A. = 1.0 AC-R
INSTALL 24" X 90' RCP
SKEW 0°
LT. 895.89
FL = RT. 895.38

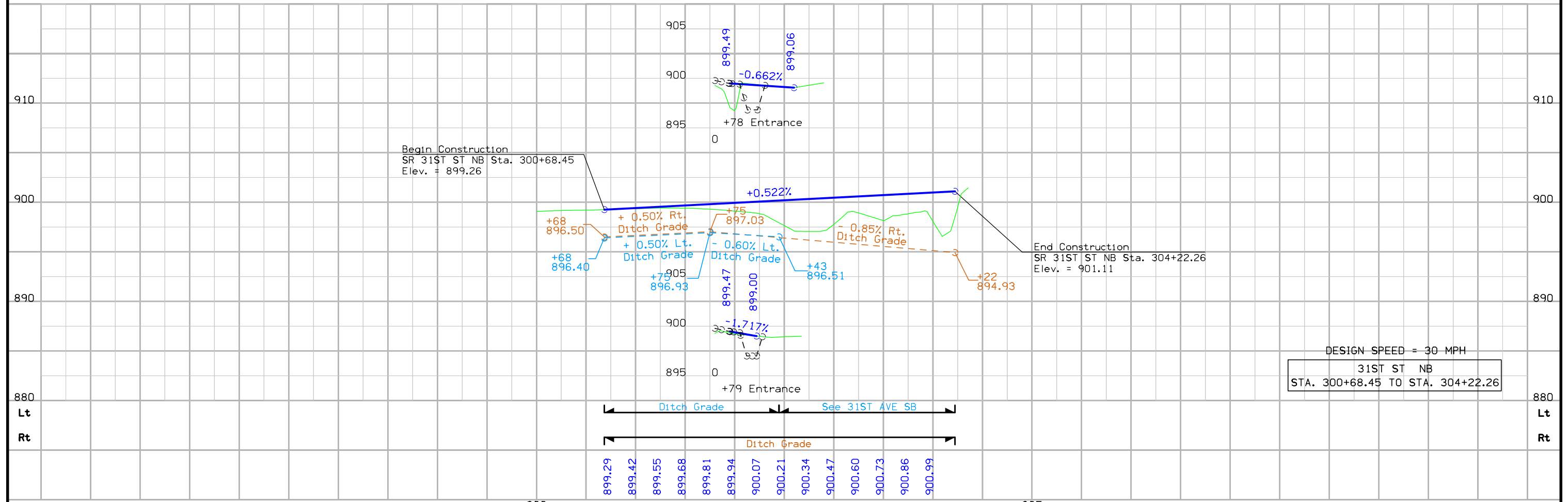
Curve Data
Δ = 32° 26' 53.27" (RT)
T = 29.10
L = 56.63
R = 100.00
E = 4.15

Curve Data
Δ = 10° 30' 51.80" (LT)
T = 55.21
L = 110.11
R = 600.00
E = 2.53



Begin Construction
SR 31ST AVE NB Sta. 300+68.45

End Construction
SR 31ST AVE NB Sta. 304+22.26



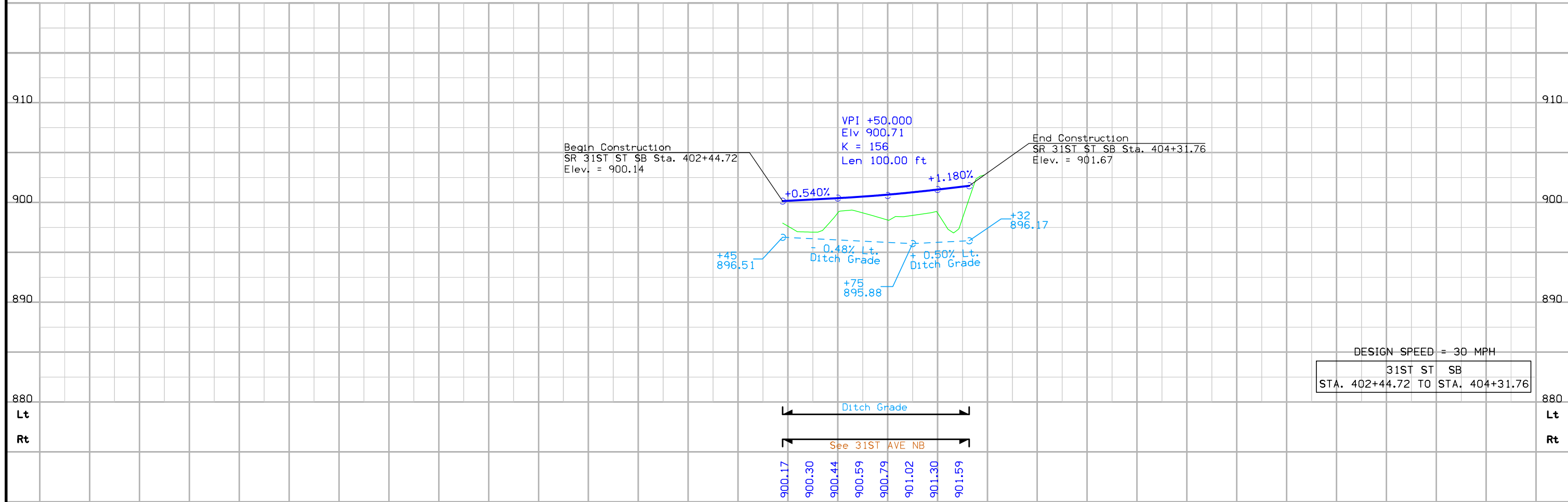
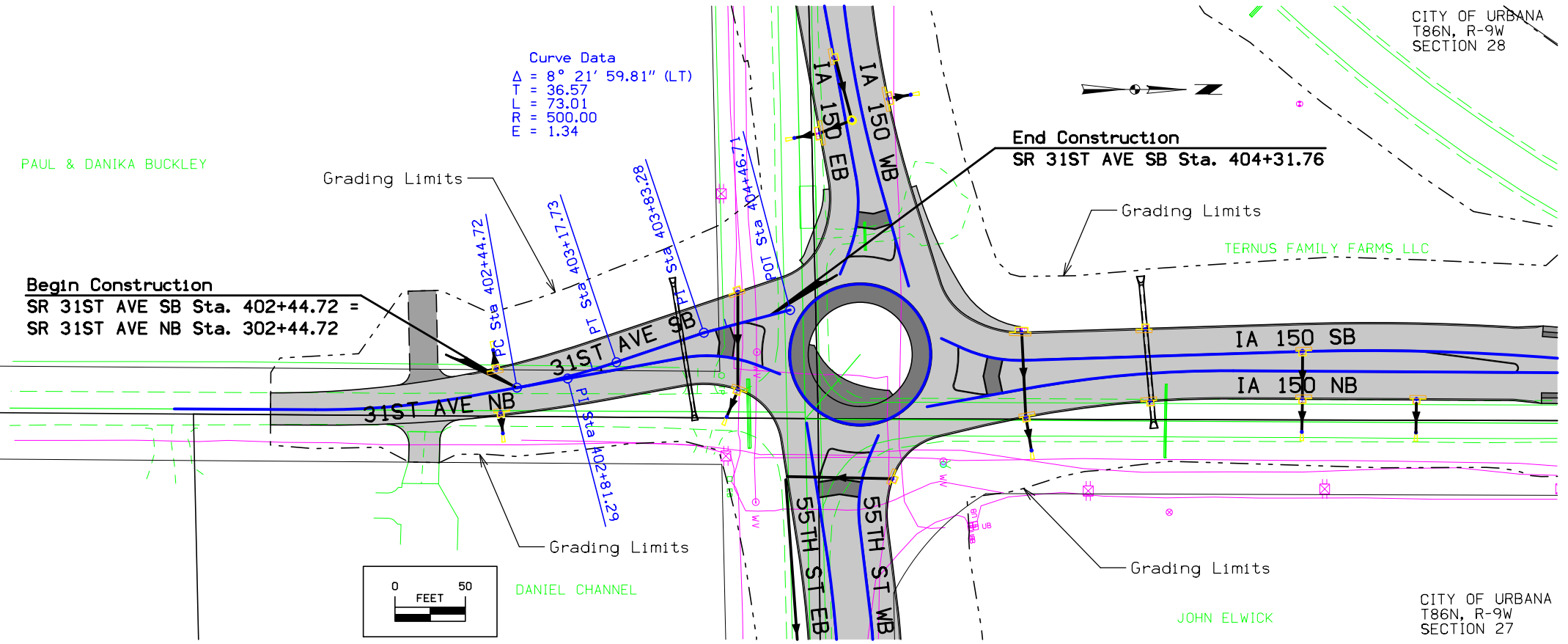
DESIGN SPEED = 30 MPH
31ST ST NB
STA. 300+68.45 TO STA. 304+22.26

CITY OF URBANA
T86N, R-9W
SECTION 33

CITY OF URBANA
T86N, R-9W
SECTION 28

CITY OF URBANA
T86N, R-9W
SECTION 34

CITY OF URBANA
T86N, R-9W
SECTION 27



108-23A
08-01-08

TRAFFIC CONTROL PLAN

During Stage 1 of construction, IA 150 shall remain open to thru traffic but access to 55th Street and 31st Avenue shall be closed. Detour signage will be installed to route traffic to the interchange at IA 150 and I-380. Access to the property at the southeast corner of 55th Street and 31st Avenue will be maintained via 31st Avenue to the south. The property directly east of the intersection will have a temporary drive constructed and have access to the east along 55th Street.

In Stage 2, IA 150 shall be closed to thru traffic for the remainder of the project. Traffic will be detoured north on County Road V71 for approximately 6.4 miles, then east on County Road D48 for 5.1 miles to the intersection with IA 150. Out of distance travel for IA 150 traffic is approximately 0.5 miles. Refer to sheet J.2 for additional details. Access to the property at the southeast corner of 55th Street and 31st Avenue shall be maintained via 31st Avenue to the south. The property directly east of the intersection shall be directed onto new pavement and utilize the roundabout to go south on 31st Avenue.

Construction shall be staged to minimize local traffic disruption. Construction of the roundabout and approaches shall occur first in the project to allow use of the IA 150 curve for local traffic. The IA 150 curve will then be closed to all traffic while the connections to IA 150 are constructed.

Contractor shall maintain access to residences located on south side of 55th Street at all times for the duration of the project.

The DOT will install and maintain all detour signage. Contractor shall install and maintain all road closures. Coordinate traffic control with District 6 office.

Coordinate water valve and hydrant adjustments at least 2 weeks in advance with the City of Urbana.

108-26A
08-01-08

STAGING NOTES

It is not the intent to confine the Contractor's activities to the areas of suggested stages alone. It is understood that some of the various steps may occur simultaneously. The Contractor may conduct several operations concurrently, provided that traffic is maintained and that these operations do not conflict with the staging indicated herein.

It is recognized that as the various activities related to the construction progress, certain situations may arise which will preclude adhering to the original construction sequence or which would readily lend themselves to more efficient staging operations. Should the Contractor desire to deviate from the original plan, a written alternative plan shall be submitted to the Project Engineer, for approval a minimum of one (1) week prior to the proposed changes.

Coordinate with all public and private projects in the area at all times.

STAGE 1

Set up detour for access to 55th Street and 31st Avenue. Close 55th Street and 31st Avenue to all traffic. Maintain access to residents at all times. Construct portions of IA 150, 55th Street and 31st Avenue as shown, including roundabout.

STAGE 2

See sheet J.2 for details. Set up detour for IA 150 traffic. Close IA 150 to thru traffic. Maintain access to residents at all times. Construct remaining portions of IA 150, 55th Street and 31st Avenue as shown. Remove existing IA 150 roadbed.

108-25
10-21-14

511 TRAVEL RESTRICTIONS

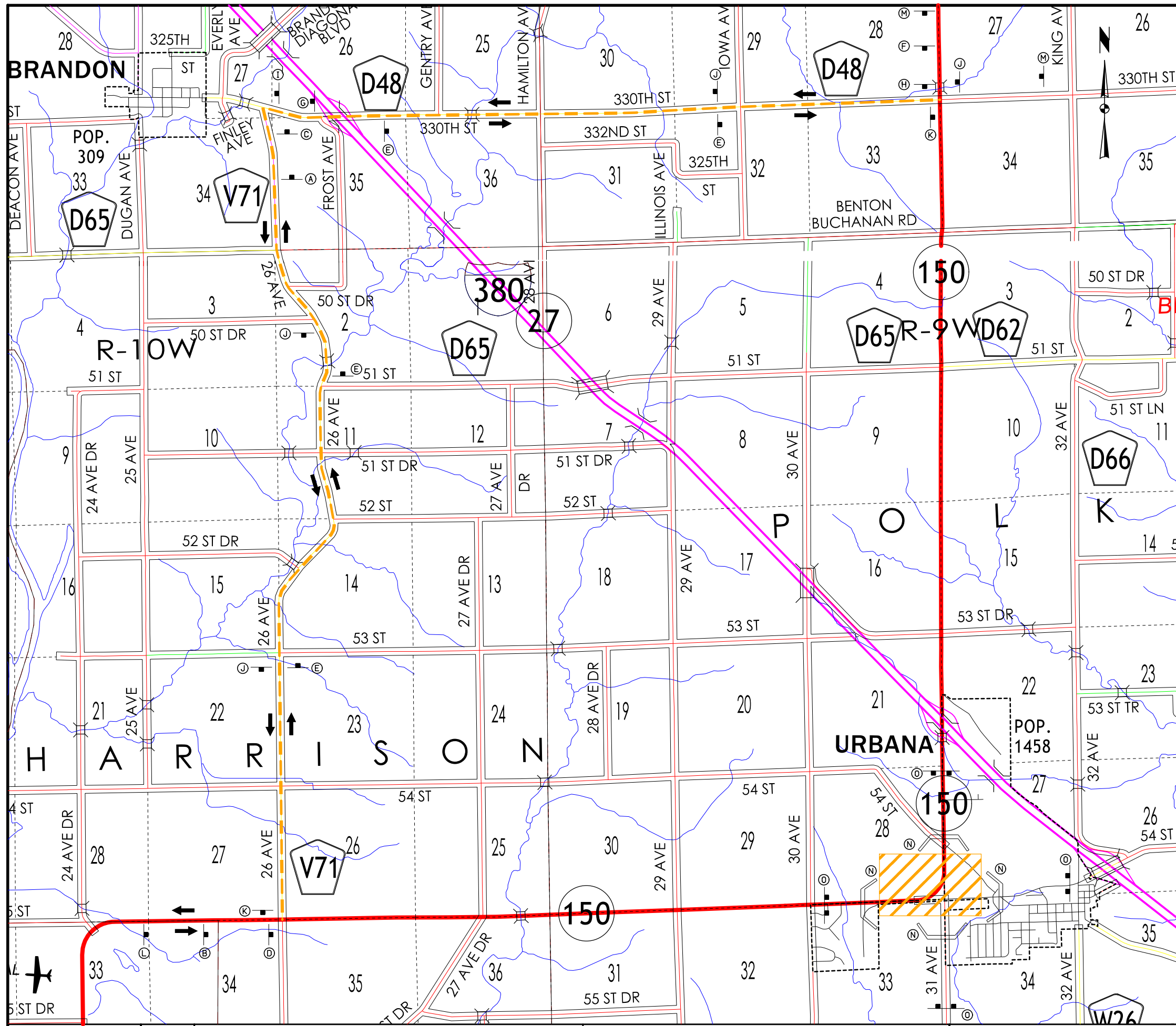
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
No Travel Restrictions Expected												

111-01
04-17-12

COORDINATED OPERATIONS

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

Project	Type of Work
NHSX-150-2(26)--3H-06	HMA Resurfacing
HSIPX-150-2(27)--3L-06	HMA Paved Shoulder - New
MPIN-380-6(716)0-0N-52	PCC Patching



PROPOSED DETOUR

NOTE: DETOUR SIGNING WILL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR. COORDINATE TRAFFIC CONTROL ITEMS WITH THE DISTRICT 6 OFFICE.

TRAFFIC CONTROL LEGEND










- TRAFFIC SIGN
- TYPE III BARRICADE
- DETOUR ROUTE
- WORK AREA
- SAFETY FENCE

<p>A</p> <p>M4-9 30" x 24"</p>	<p>B</p> <p>M4-9 30" x 24"</p>	<p>C</p> <p>M4-9 30" x 24"</p>	<p>D</p> <p>M4-9 30" x 24"</p>
<p>E</p> <p>M4-9 30" x 24"</p>	<p>F</p> <p>M4-9 30" x 24"</p>	<p>G</p> <p>M4-9 30" x 24"</p>	<p>H</p> <p>M4-9 30" x 24"</p>
<p>I</p> <p>M4-9 30" x 24"</p>	<p>J</p> <p>M4-9 30" x 24"</p>	<p>K</p> <p>M4-8a 24" x 18"</p>	
<p>L</p> <p>NORTH 1A-150 CLOSED FOLLOW DETOUR</p>		<p>M</p> <p>SOUTH 1A-150 CLOSED FOLLOW DETOUR</p>	
<p>N</p> <p>SAFETY CLOSURE W/ ORANGE SAFETY FENCE</p>		<p>O</p> <p>SAFETY CLOSURE W/ TYPE 3 BARRICADES</p>	
		<p>P</p> <p>ROAD CLOSED TO THRU TRAFFIC</p> <p>R11-4 60" x 30"</p>	

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

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

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



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

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	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
✕	Drum	○→	Traffic Signal
■	Temporary Lane Separator	⌋	Flagger
◆	Tubular Marker	⊙	Temporary Floodlighting
♦	Channelizer Marker	⊥	Traffic Sign
△	Concrete Barrier Marker	⊥	Type III Barricade
◁	Delineator	☀	Type A Warning Light
▬	Temporary Barrier Rail	←	Direction of Traffic
	Pavement Removal		Safety Closure

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

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

(COVERS SHEET SERIES J)



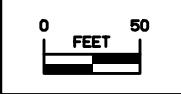
**ROAD
CLOSED**

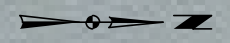
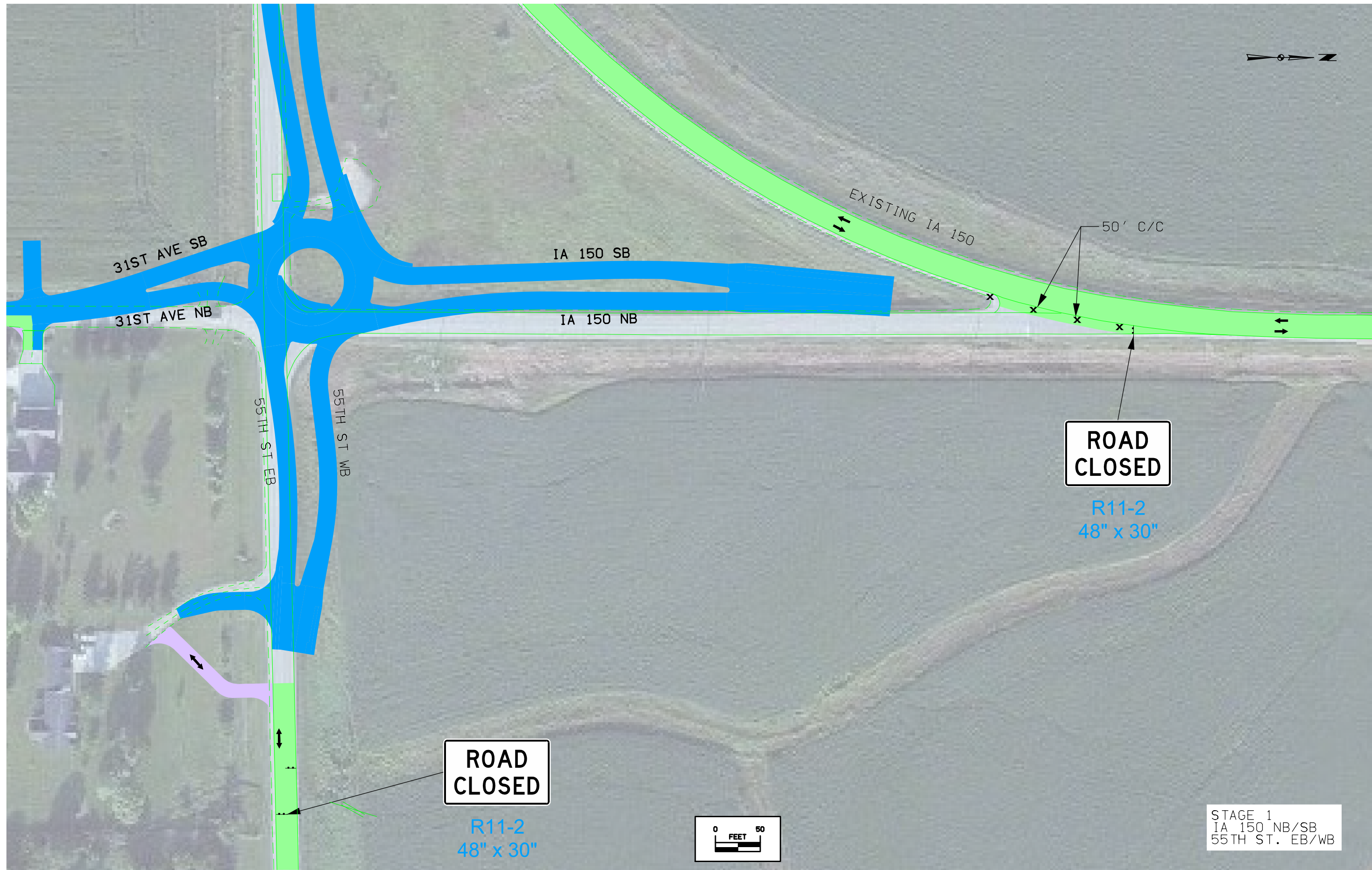
R11-2
48" x 30"

**ROAD
CLOSED**

R11-2
48" x 30"

STAGE 1
IA 150 EB/WB
31ST AVE NB/SB





**ROAD
CLOSED**

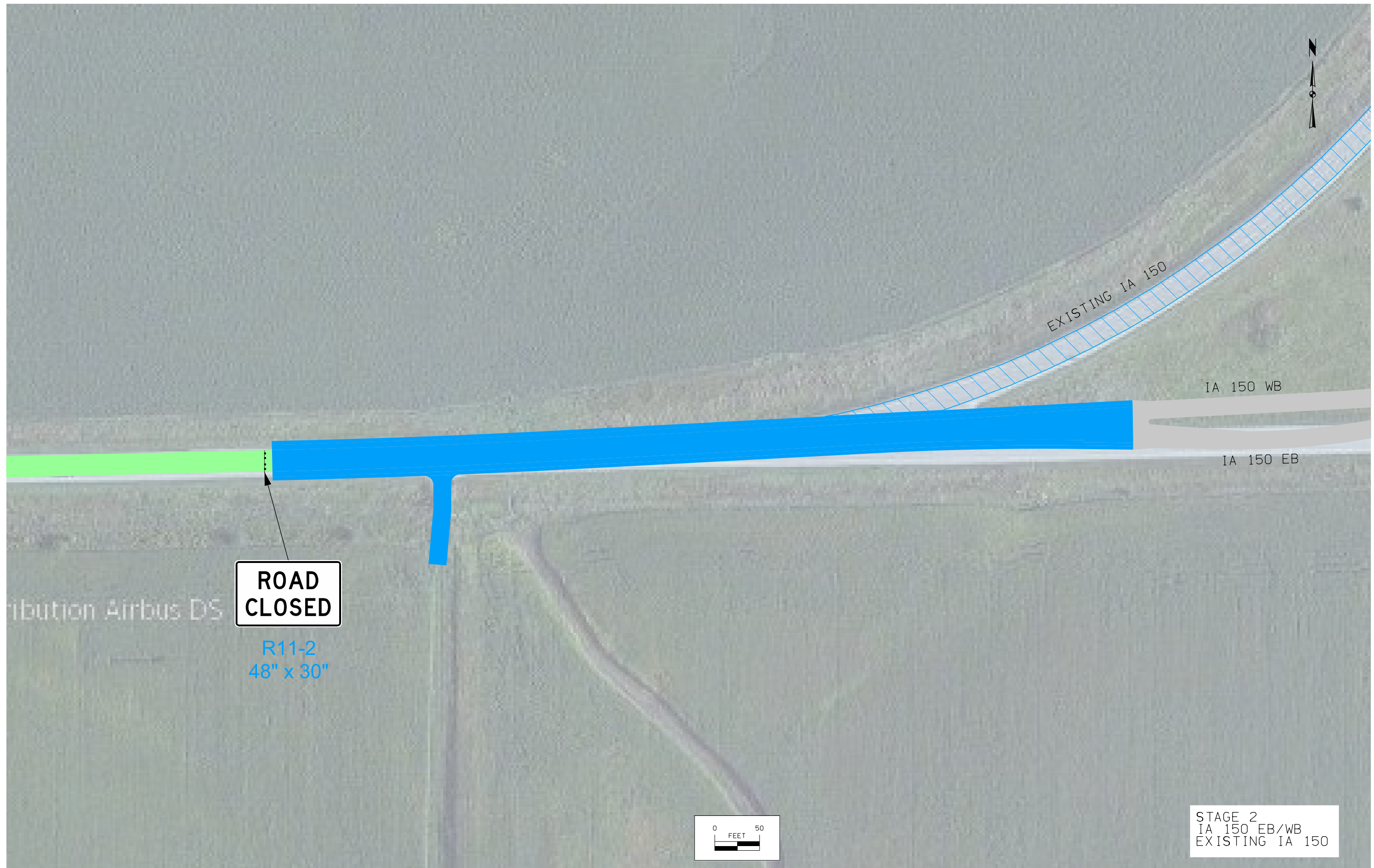
R11-2
48" x 30"

**ROAD
CLOSED**

R11-2
48" x 30"



STAGE 1
IA 150 NB/SB
55TH ST. EB/WB



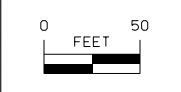
**ROAD
CLOSED**

R11-2
48" x 30"

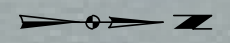
EXISTING IA 150

IA 150 WB

IA 150 EB



STAGE 2
IA 150 EB/WB
EXISTING IA 150



EXISTING IA 150

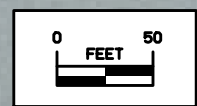
IA 150 SB

IA 150 NB

**ROAD
CLOSED**

R11-2
48" x 30"

STAGE 2
IA 150 NB/SB
EXISTING IA 150

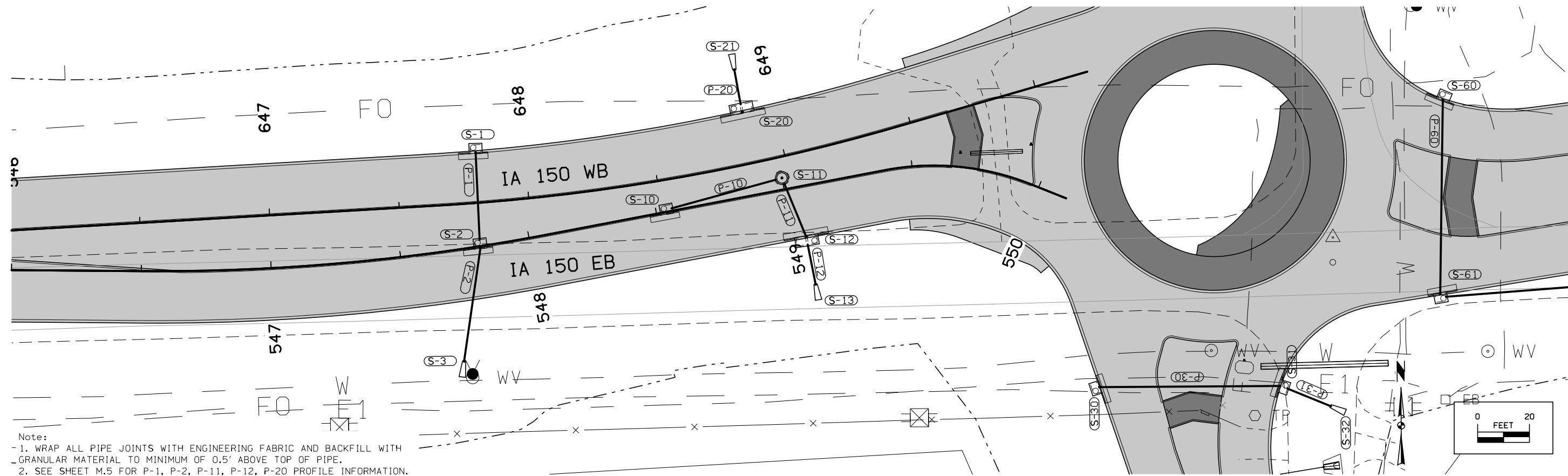




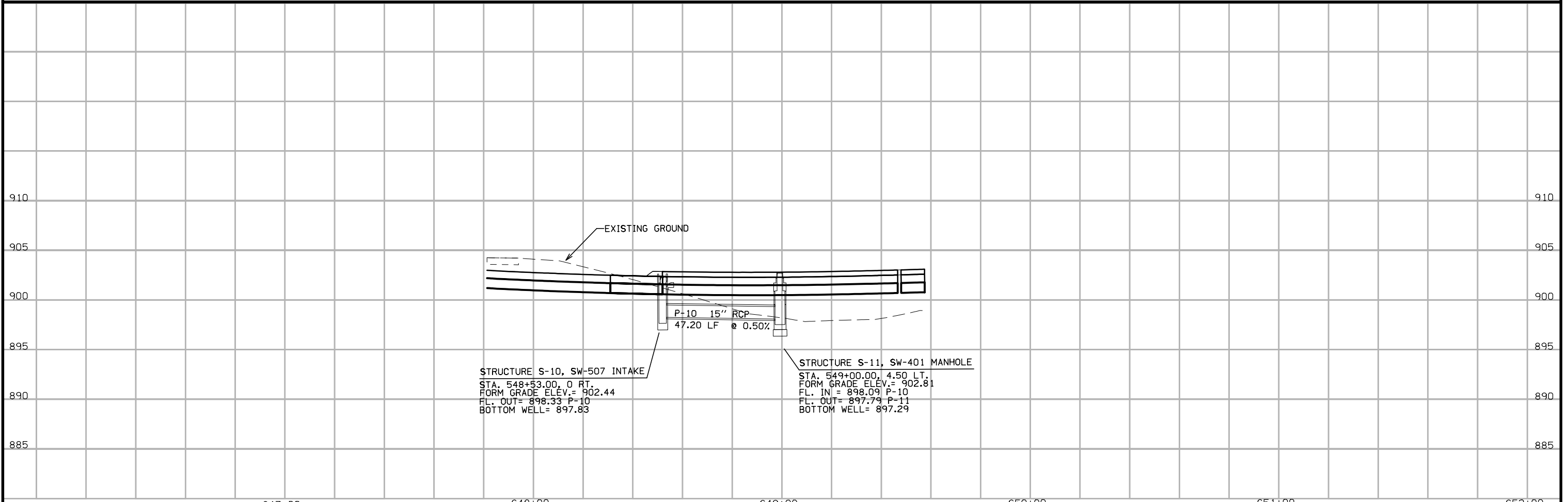
① Diameter or equivalent diameter
* Bid Item
** For SW-545

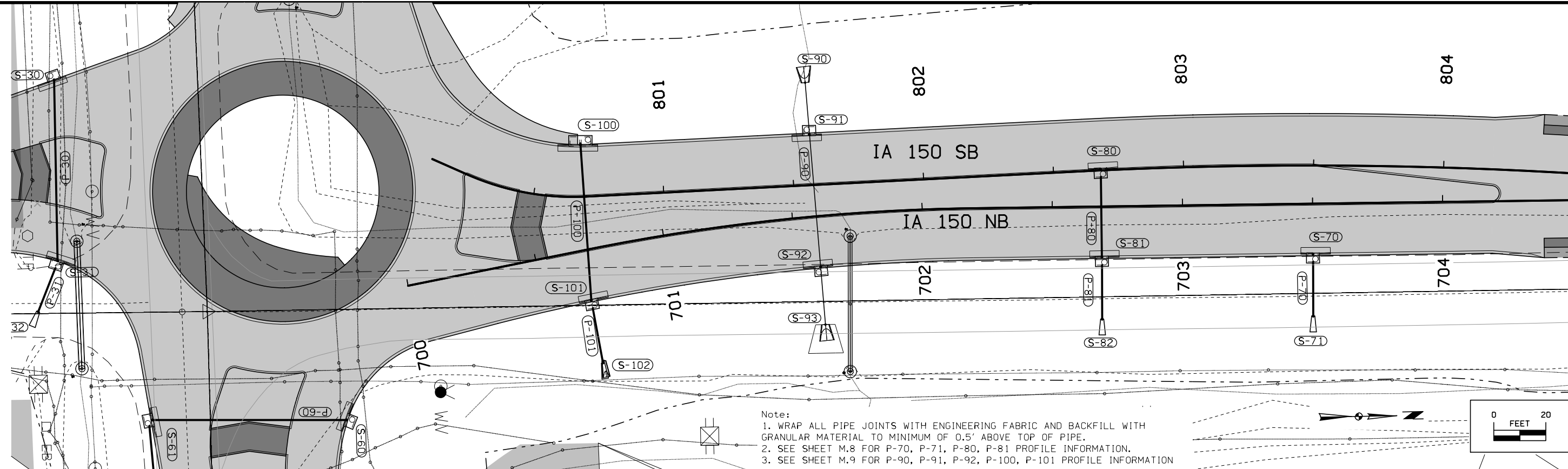
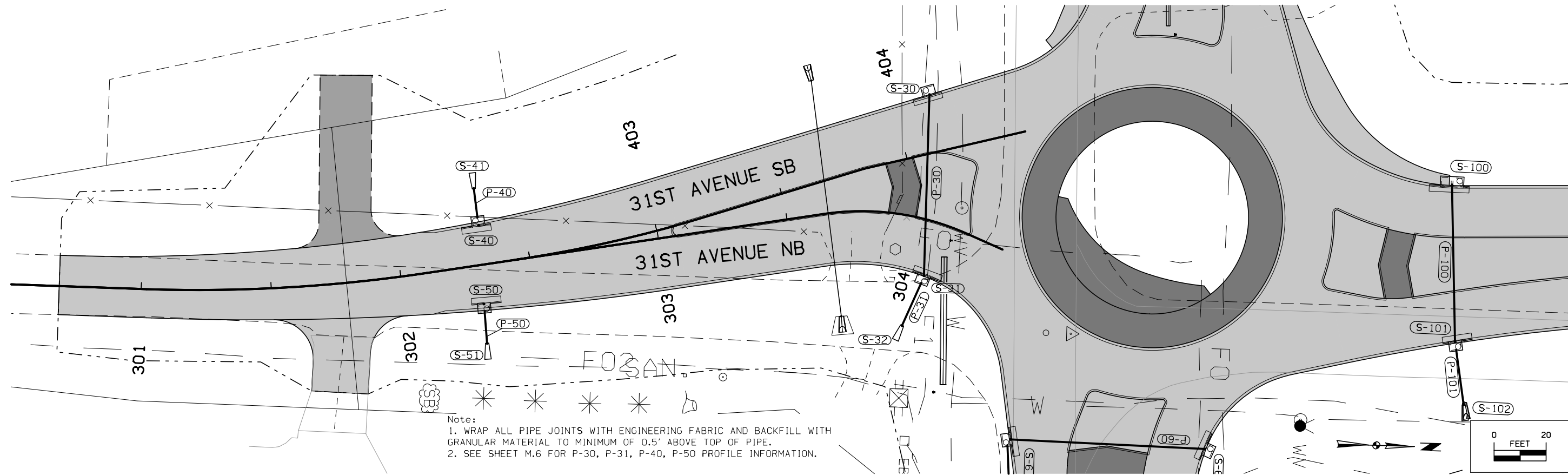
STORM SEWER

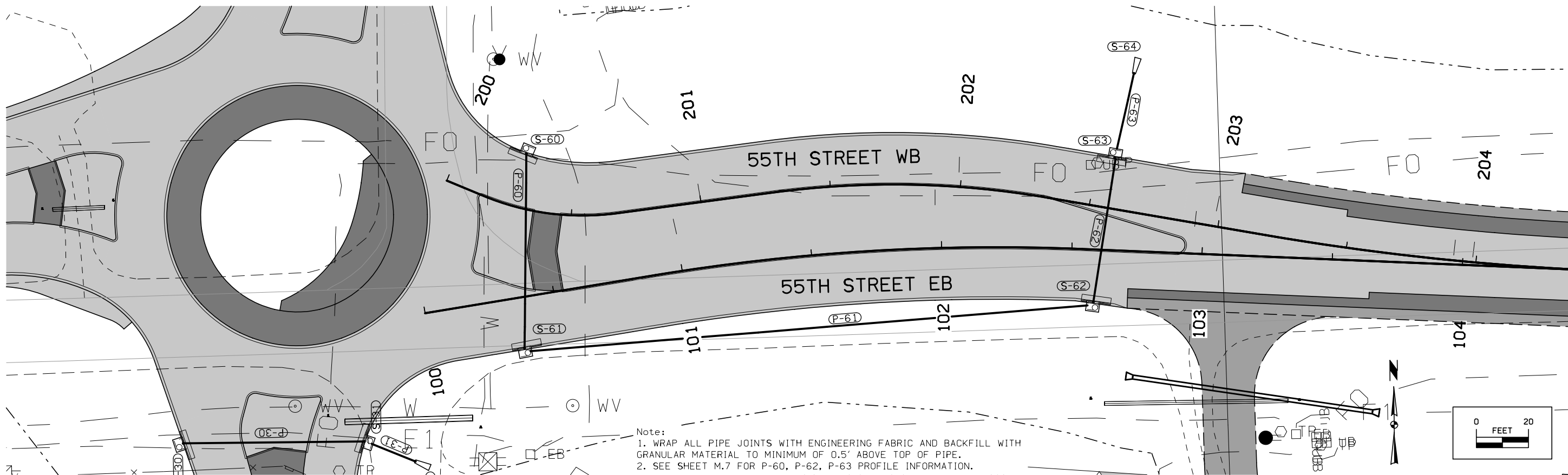
INTAKES AND UTILITY ACCESSES							PIPES													
							Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 2 ft length is added to each side of the Design Length to account for estimated length to center of structures.													
No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade	Bottom Well	Extension Length**	Notes	Line Number	Intake/Utility Access No.		Class 'D'	Pipe Size	Bid* Length	Design Length	Slope %	Connected Pipe Joint (DR-121)	Flow Lines			Pipe Profile Sheet No.	Notes
			Elev.	Elev.	FT			From	To		IN					FT	FT	Type		
S-1	647+80.00, -20	SW-507	902.62	897.87			P-1	S-1	S-2	V	15	41	36.8	1		898.37	898		M.5	
S-2	547+80.00, 0	SW-507	902.88	897.2			P-2	S-2	S-3	V	15	47	44.5	0.5		897.7	897.48		M.5	
S-3	547+68.50, 42.90	DR-201(15")	(N/A)	(N/A)		FL. OUT = 897.48 (END OF APRON)														
S-10	548+53.00, 0	SW-507	902.44	897.83			P-10	S-10	S-11	V	15	52	47.2	0.5		898.33	898.09		M.2	
S-11	549+00.00, -4.5	SW-401(48")	902.81	897.29			P-11	S-11	S-12	V	15	30	25.0	1		897.79	897.54		M.5	
S-12	549+05.00, 20	SW-509	901.89	896.74			P-12	S-12	S-13	V	15	21	18.2	0.5		897.24	897.14		M.5	
S-13	549+05.00, 38.15	DR-201(15")	(N/A)	(N/A)		FL. OUT = 897.14 (END OF APRON)														
S-20	648+87.50, -20.5	SW-509	901.92	897.55			P-20	S-20	S-21	V	15	19	16.1	1		898.05	897.89		M.5	
S-21	648+88.00, -36.59	DR-201(15")	(N/A)	(N/A)		FL. OUT = 897.89 (END OF APRON)														
S-30	404+13.00, -22.5	SW-507	901.02	896.27			P-30	S-30	S-31	V	15	75	70.5	1		896.77	896.07		M.6	
S-31	304+11.00, 21.5	SW-507	900.62	894.98			P-31	S-31	S-32	V	15	23	20.5	2		895.48	895.07		M.6	
S-32	304+06.00, 41.75	DR-201(15")	(N/A)	(N/A)		FL. OUT = 895.07 (END OF APRON)														
S-40	302+31.00, -15.5	SW-507	899.78	896.17			P-40	S-40	S-41	V	15	16	13.8	0.5		896.67	896.61		M.6	
S-41	302+32.00, -29.25	DR-201(15")	(N/A)	(N/A)		FL. OUT = 896.61 (END OF APRON)														
S-50	302+31.00, 15.5	SW-507	899.75	896.12			P-50	S-50	S-51	V	15	17	14.9	0.5		896.62	896.54		M.6	
S-51	302+29.00, 30.25	DR-201(15")	(N/A)	(N/A)		FL. OUT = 896.54 (END OF APRON)														
S-60	200+25.50, -21.32	SW-507	900.17	895.42			P-60	S-60	S-61	V	15	80	75.9	2		895.92	894.4		M.7	
S-61	100+36.50, 20	SW-507	899.95	893.6			P-61	S-61	S-62	V	15	223	218.7	2		894.1	889.76		M.5	
S-62	102+60.00, 20.85	SW-507	894.76	888.96			P-62	S-62	S-63	V	15	62	57.2	2		889.46	888.31		M.7	
S-63	202+55.50, -20	SW-507	894.52	885.43			P-63	S-63	S-64	V	15	35	32.6	3		885.93	884.96		M.7	
S-64	202+58.50, -52.45	DR-201(15")	(N/A)	(N/A)		FL. OUT = 884.96 (END OF APRON)														
S-70	703+51.00, 20	SW-507	902.91	896.33			P-70	S-70	S-71	V	15	26	23.2	1		896.83	896.5		M.8	
S-71	703+49.50, 43.18	DR-201(15")	(N/A)	(N/A)		FL. OUT = 896.50 (END OF APRON)														
S-80	802+69.00, 0	SW-507	902.98	898.73			P-80	S-80	S-81	V	15	38	33.9	1		898.73	898.39		M.8	
S-81	702+70.00, 20	SW-507	902.5	895.77			P-81	S-81	S-82	V	15	26	23.3	1		896.27	896.04		M.8	
S-82	702+68.50, 43.25	DR-201(15")	(N/A)	(N/A)		FL. OUT = 896.04 (END OF APRON)														
S-90	801+56.50, -39.42	DR-201(30")	(N/A)	(N/A)		FL. IN = 896.21 (END OF APRON)	P-90	S-90	S-91	III	30	22	19.4	0.9		896.21	896.03		M.9	
S-91	801+56.00, -20	SW-507	902.01	(N/A)			P-91	S-91	S-92	III	30	57	52.1	0.9		896.03	895.58		M.9	
S-92	701+58.50, 20	SW-507	901.95	(N/A)			P-92	S-92	S-93	III	30	24	21.8	0.9		895.58	895.4		M.9	
S-93	701+59.00, 41.75	DR-201(30")	(N/A)	(N/A)		FL. OUT = 895.40 (END OF APRON)														
S-100	800+68.50, -20.5	SW-509	901.73	896.98			P-100	S-100	S-101	V	15	65	60.9	2		897.48	896.26		M.9	
S-101	700+69.00, 20	SW-507	901.5	895.22			P-101	S-101	S-102	V	15	27	24.0	4		895.72	894.84		M.9	
S-102	700+67.50, 44	DR-201(15")	(N/A)	(N/A)		FL. OUT = 894.84 (END OF APRON)														
		Total:								Total:										
		DR-201(15")	10							III	30	103								
		DR-201(30")	2							V	15	923								
		SW-401(48")	1																	
		SW-507	17																	
		SW-509	3																	



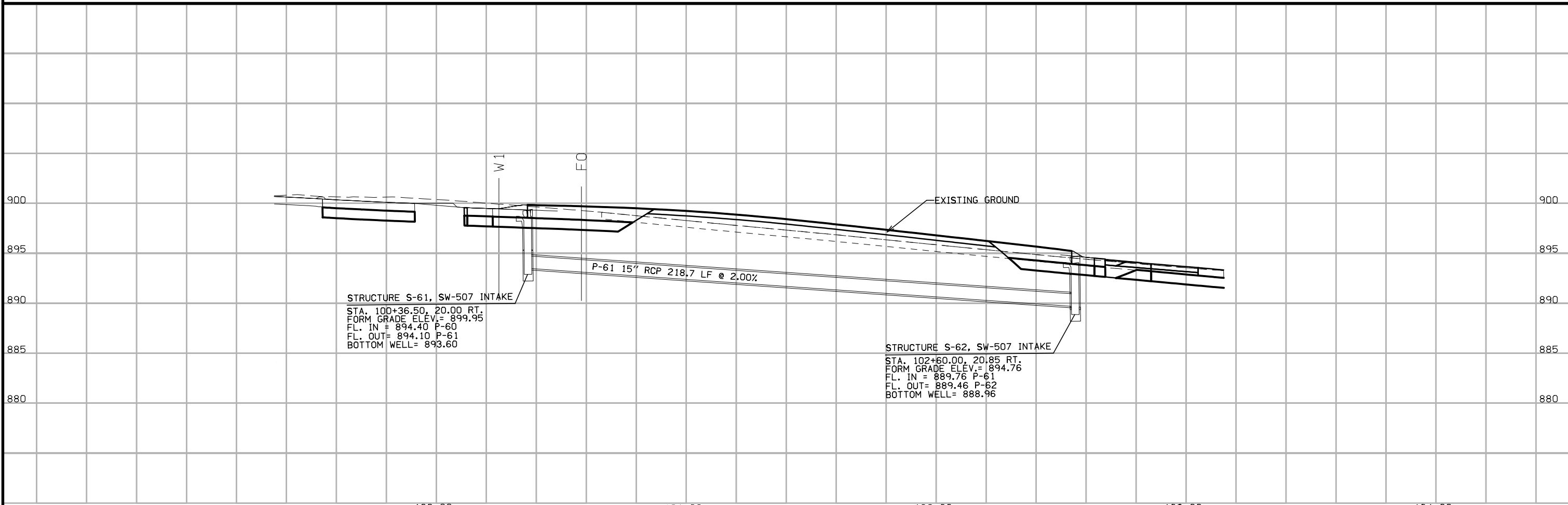
Note:
 - 1. WRAP ALL PIPE JOINTS WITH ENGINEERING FABRIC AND BACKFILL WITH GRANULAR MATERIAL TO MINIMUM OF 0.5' ABOVE TOP OF PIPE.
 - 2. SEE SHEET M.5 FOR P-1, P-2, P-11, P-12, P-20 PROFILE INFORMATION.

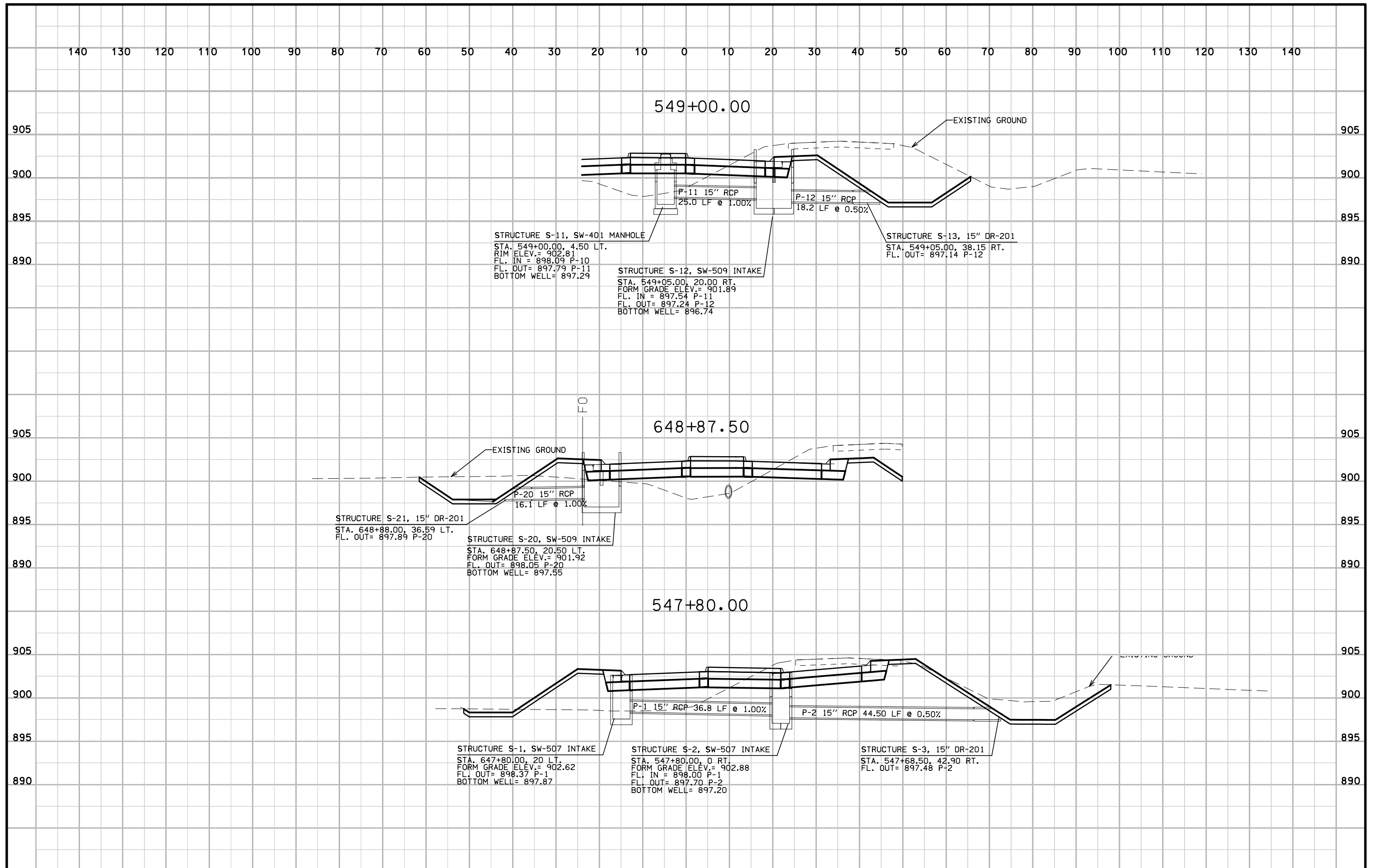


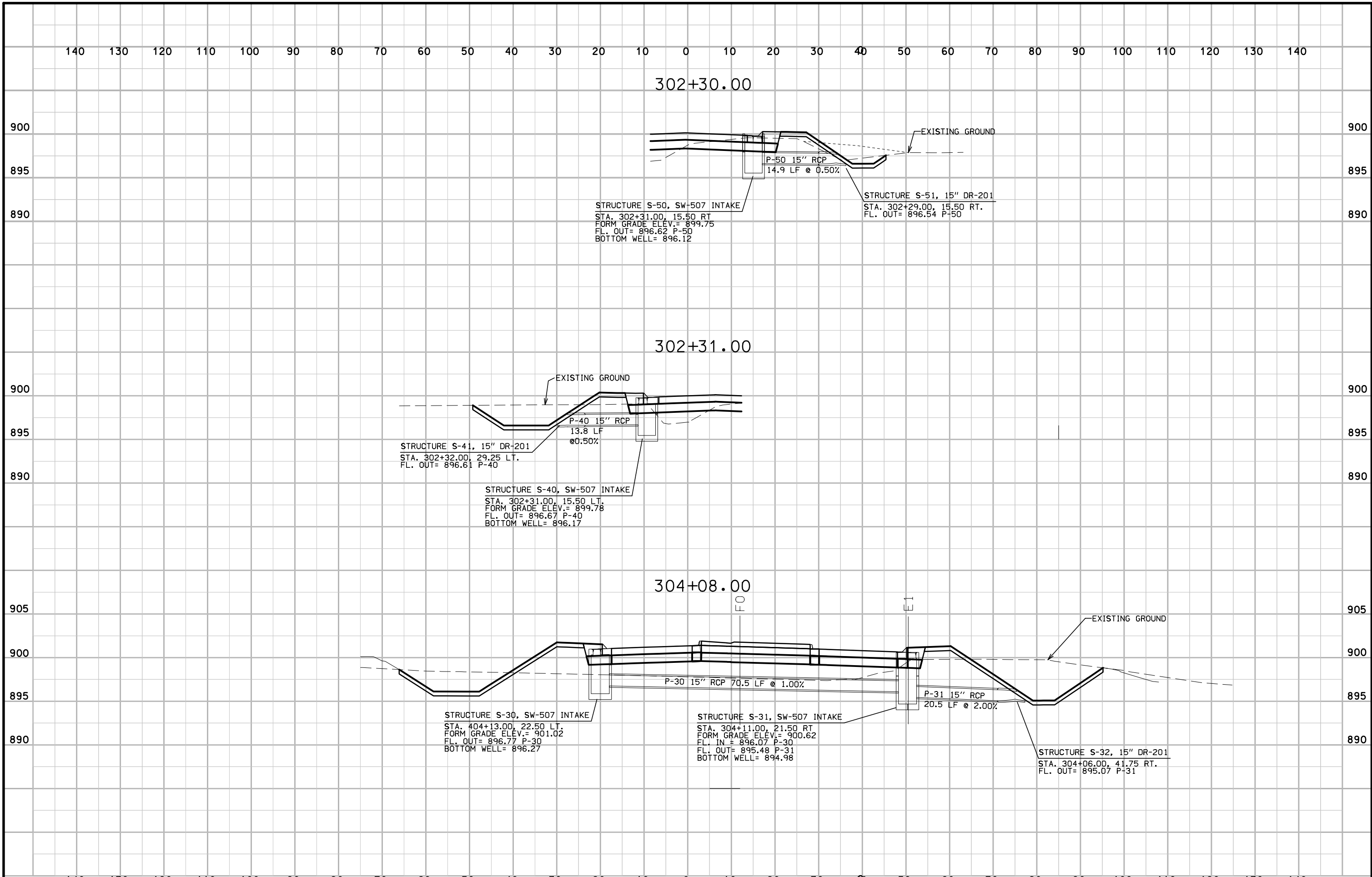


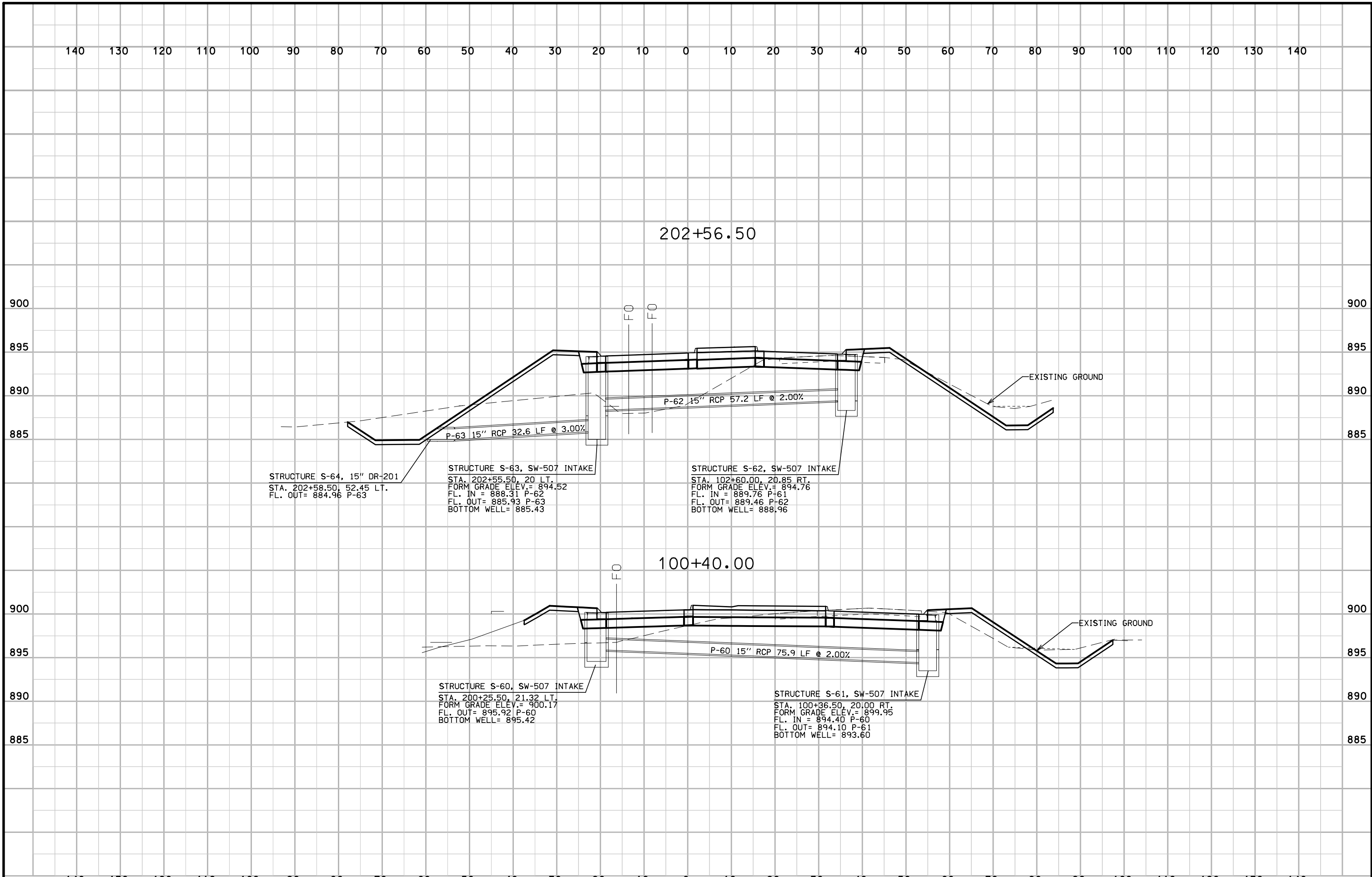


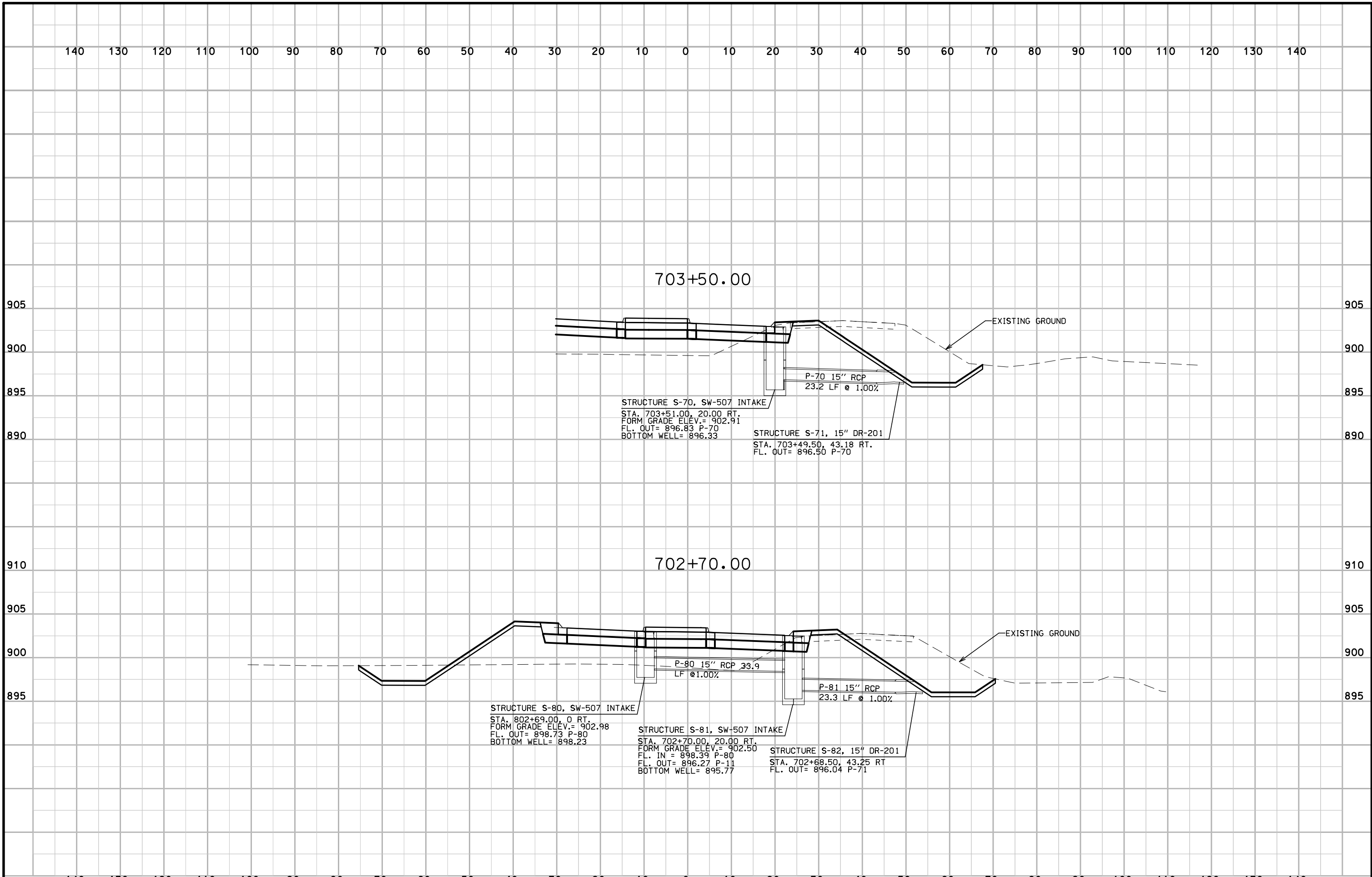
Note:
 1. WRAP ALL PIPE JOINTS WITH ENGINEERING FABRIC AND BACKFILL WITH GRANULAR MATERIAL TO MINIMUM OF 0.5' ABOVE TOP OF PIPE.
 2. SEE SHEET M.7 FOR P-60, P-62, P-63 PROFILE INFORMATION.





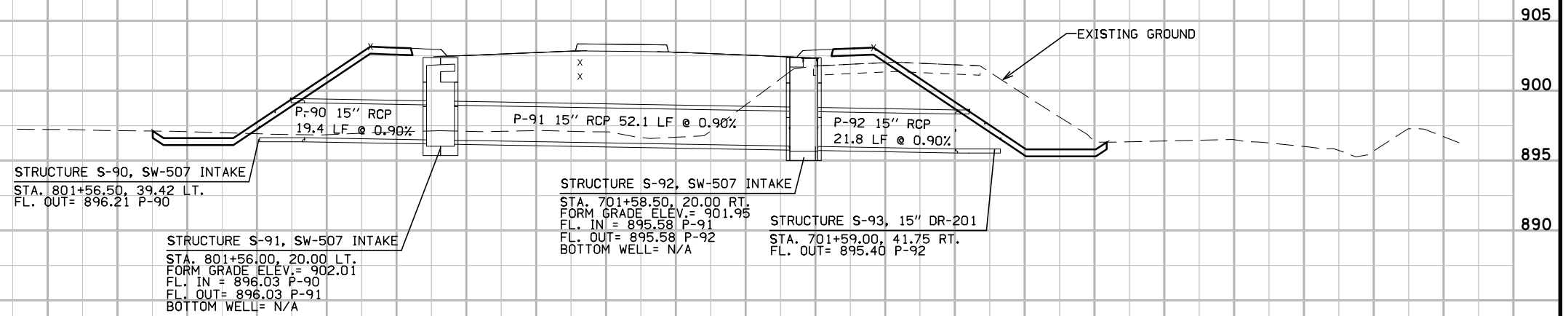






140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

702+70.00



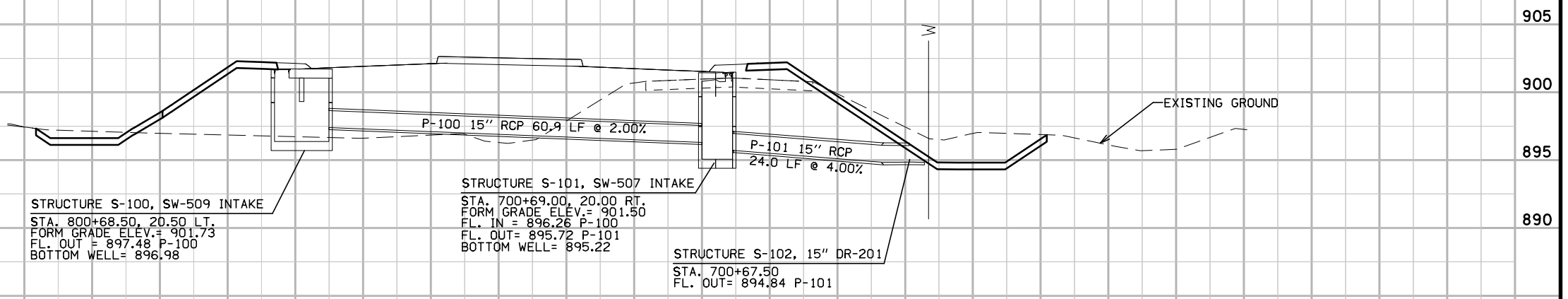
STRUCTURE S-90, SW-507 INTAKE
STA. 801+56.50, 39.42 LT.
FL. OUT= 896.21 P-90

STRUCTURE S-91, SW-507 INTAKE
STA. 801+56.00, 20.00 LT.
FORM GRADE ELEV.= 902.01
FL. IN = 896.03 P-90
FL. OUT= 896.03 P-91
BOTTOM WELL= N/A

STRUCTURE S-92, SW-507 INTAKE
STA. 701+58.50, 20.00 RT.
FORM GRADE ELEV.= 901.95
FL. IN = 895.58 P-91
FL. OUT= 895.58 P-92
BOTTOM WELL= N/A

STRUCTURE S-93, 15" DR-201
STA. 701+59.00, 41.75 RT.
FL. OUT= 895.40 P-92

700+68.00



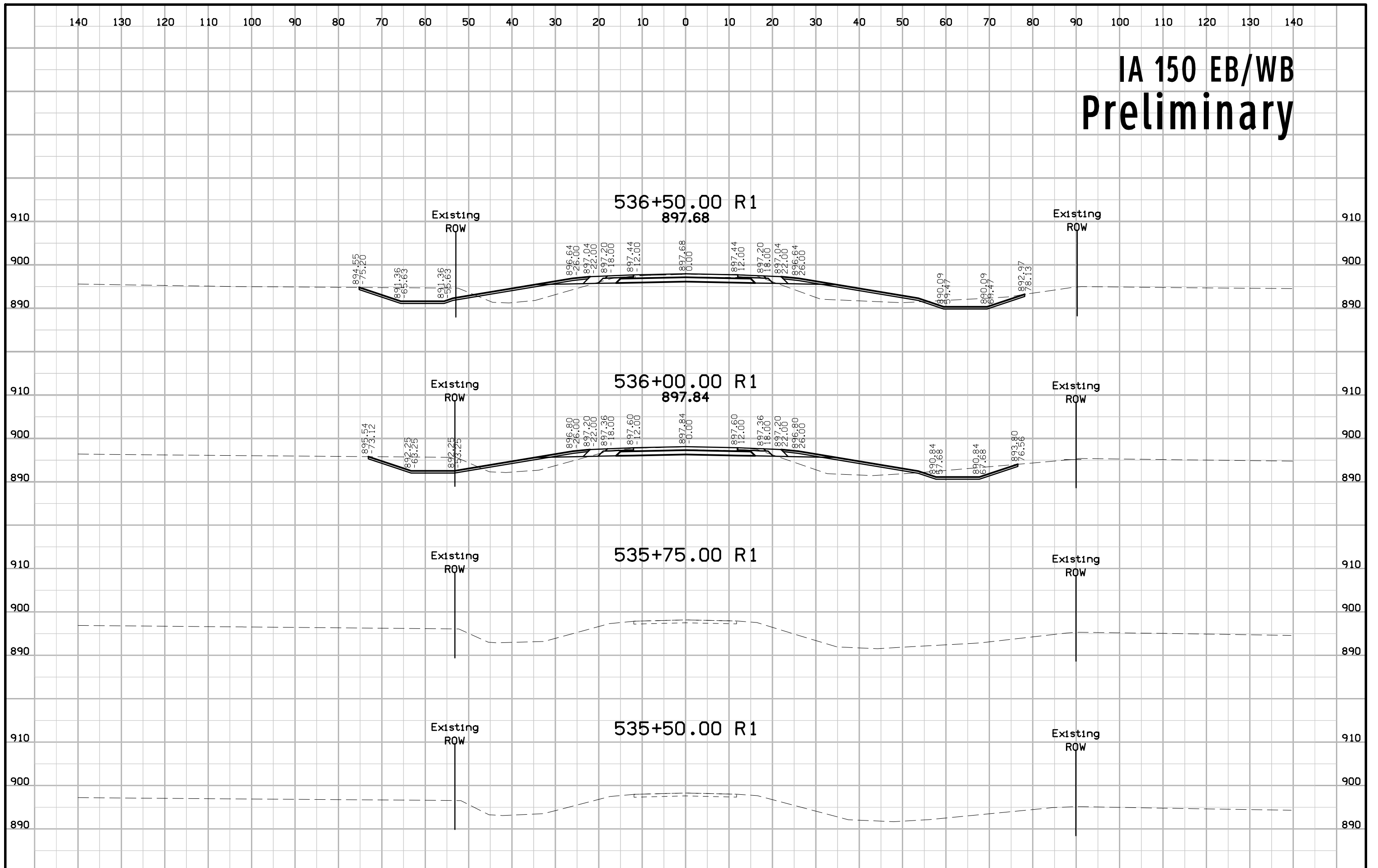
STRUCTURE S-100, SW-509 INTAKE
STA. 800+68.50, 20.50 LT.
FORM GRADE ELEV.= 901.73
FL. OUT = 897.48 P-100
BOTTOM WELL= 896.98

STRUCTURE S-101, SW-507 INTAKE
STA. 700+69.00, 20.00 RT.
FORM GRADE ELEV.= 901.50
FL. IN = 896.26 P-100
FL. OUT= 895.72 P-101
BOTTOM WELL= 895.22

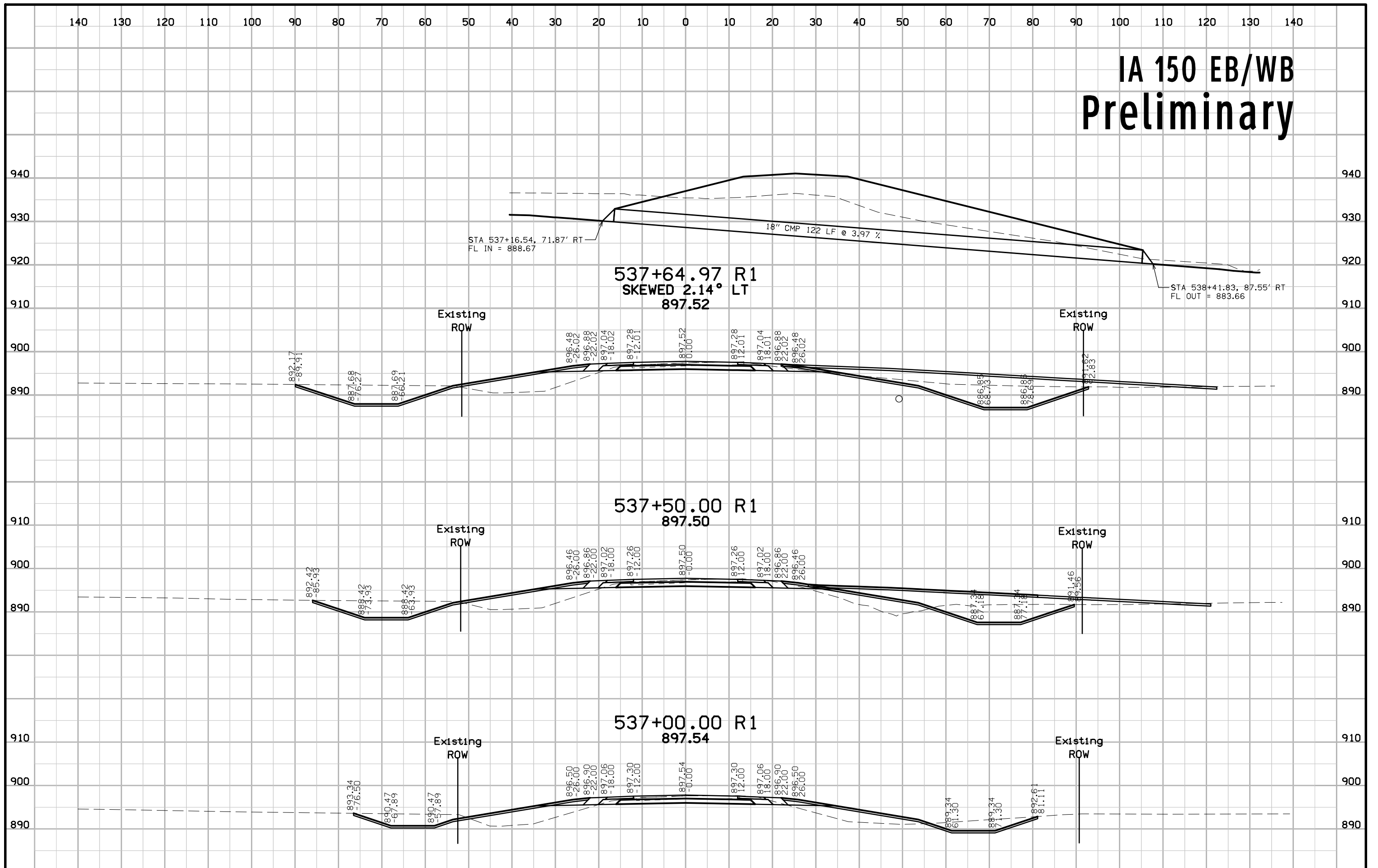
STRUCTURE S-102, 15" DR-201
STA. 700+67.50
FL. OUT= 894.84 P-101

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

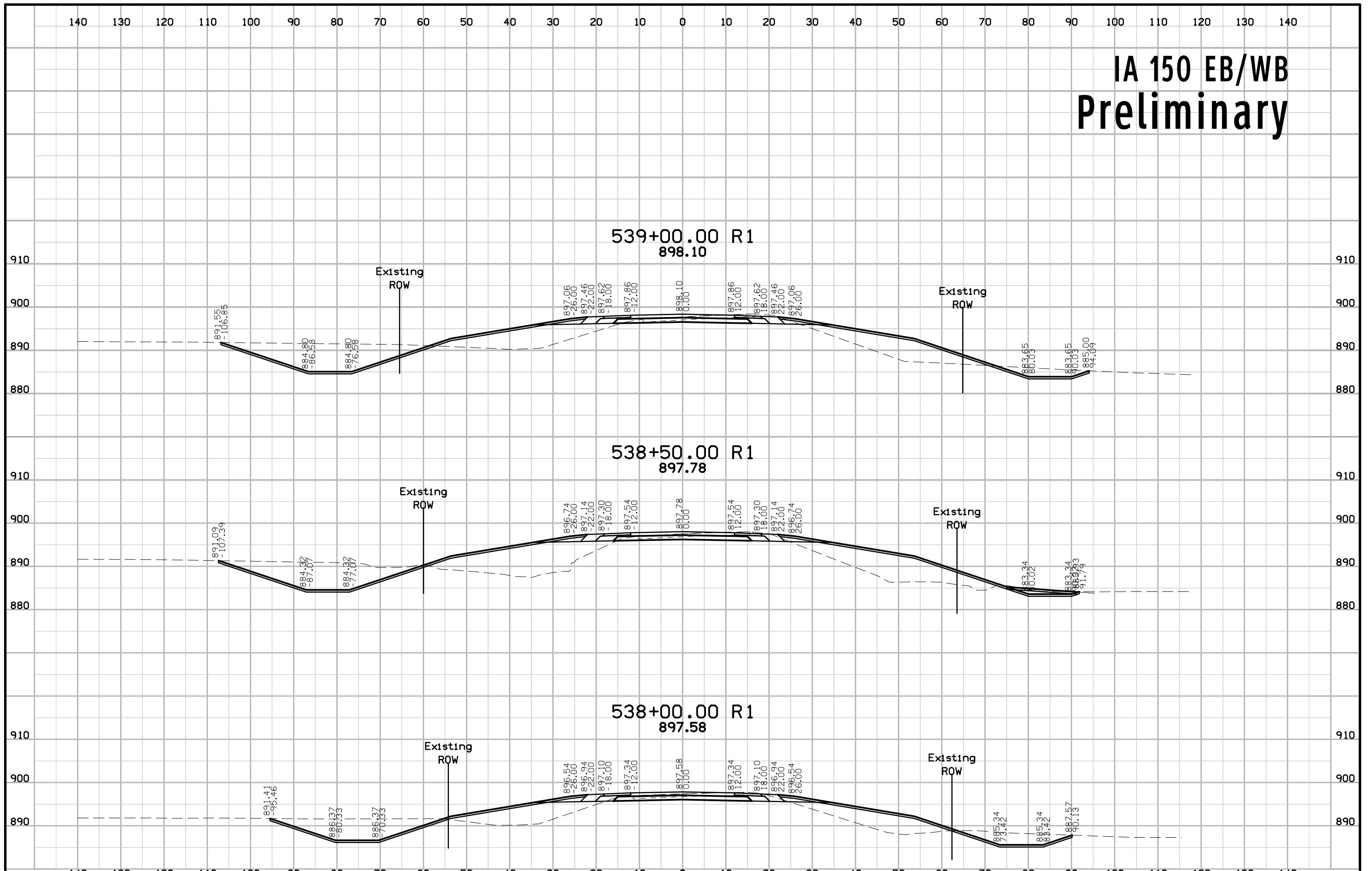
IA 150 EB/WB Preliminary



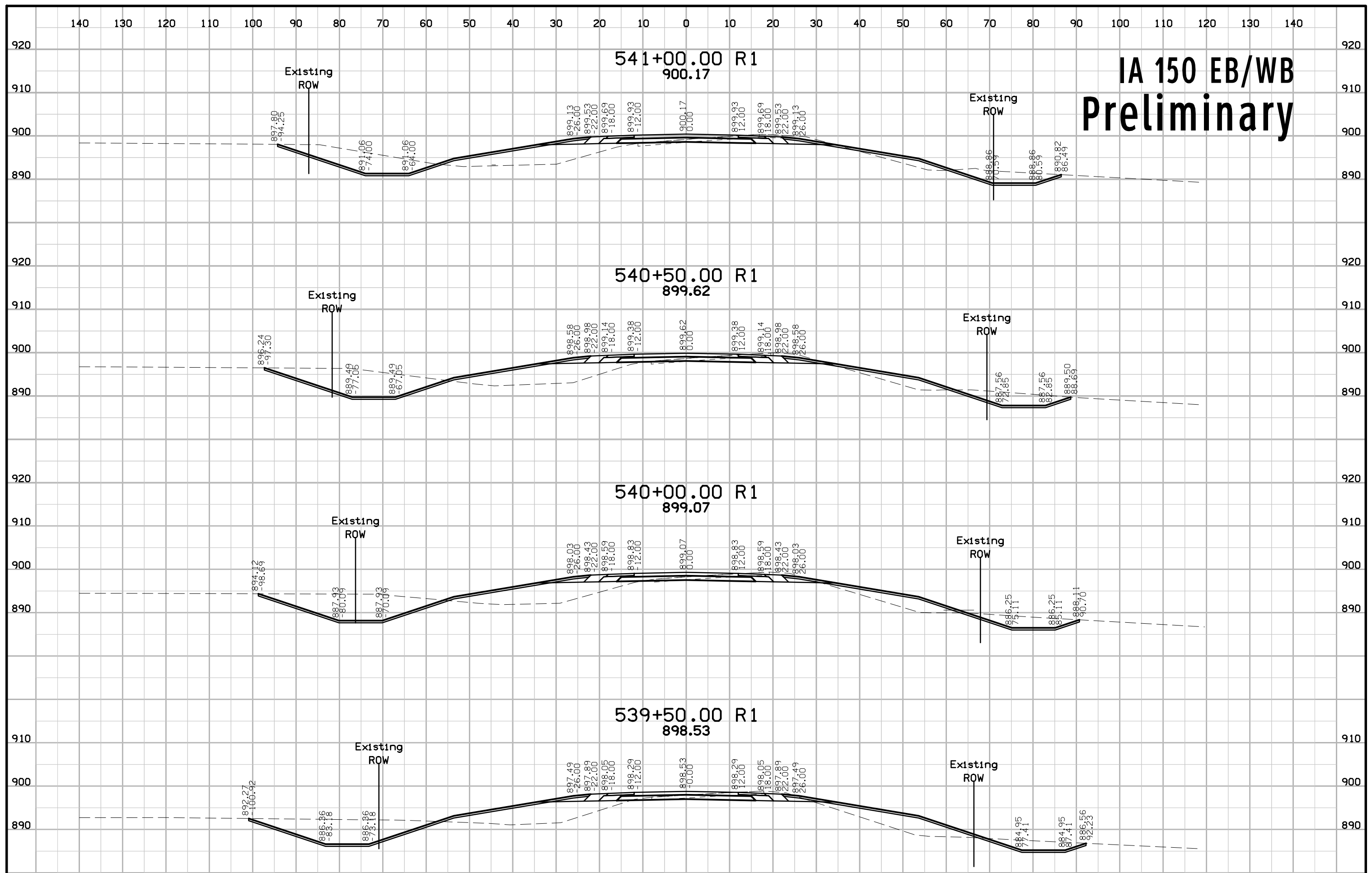
IA 150 EB/WB Preliminary



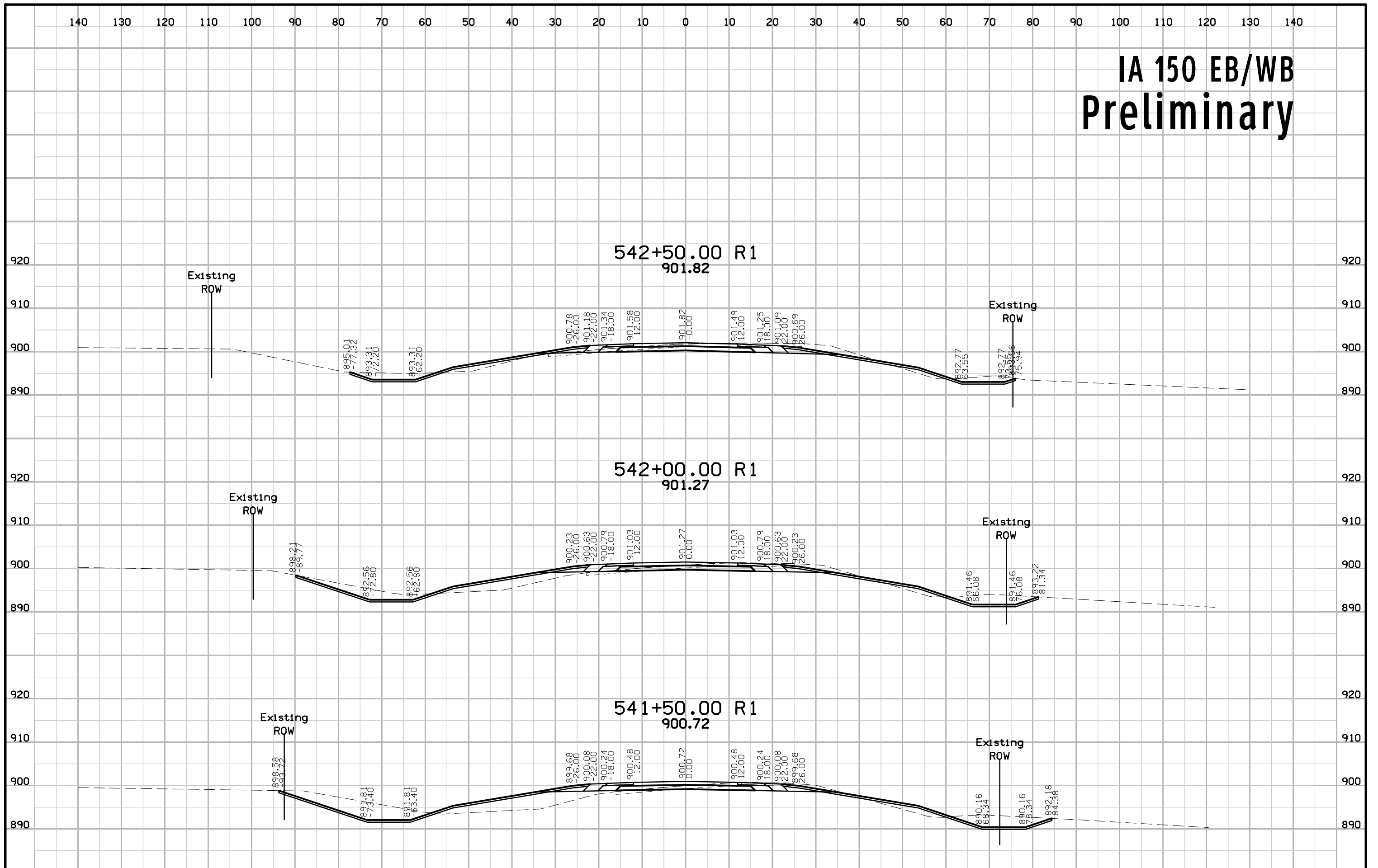
IA 150 EB/WB Preliminary



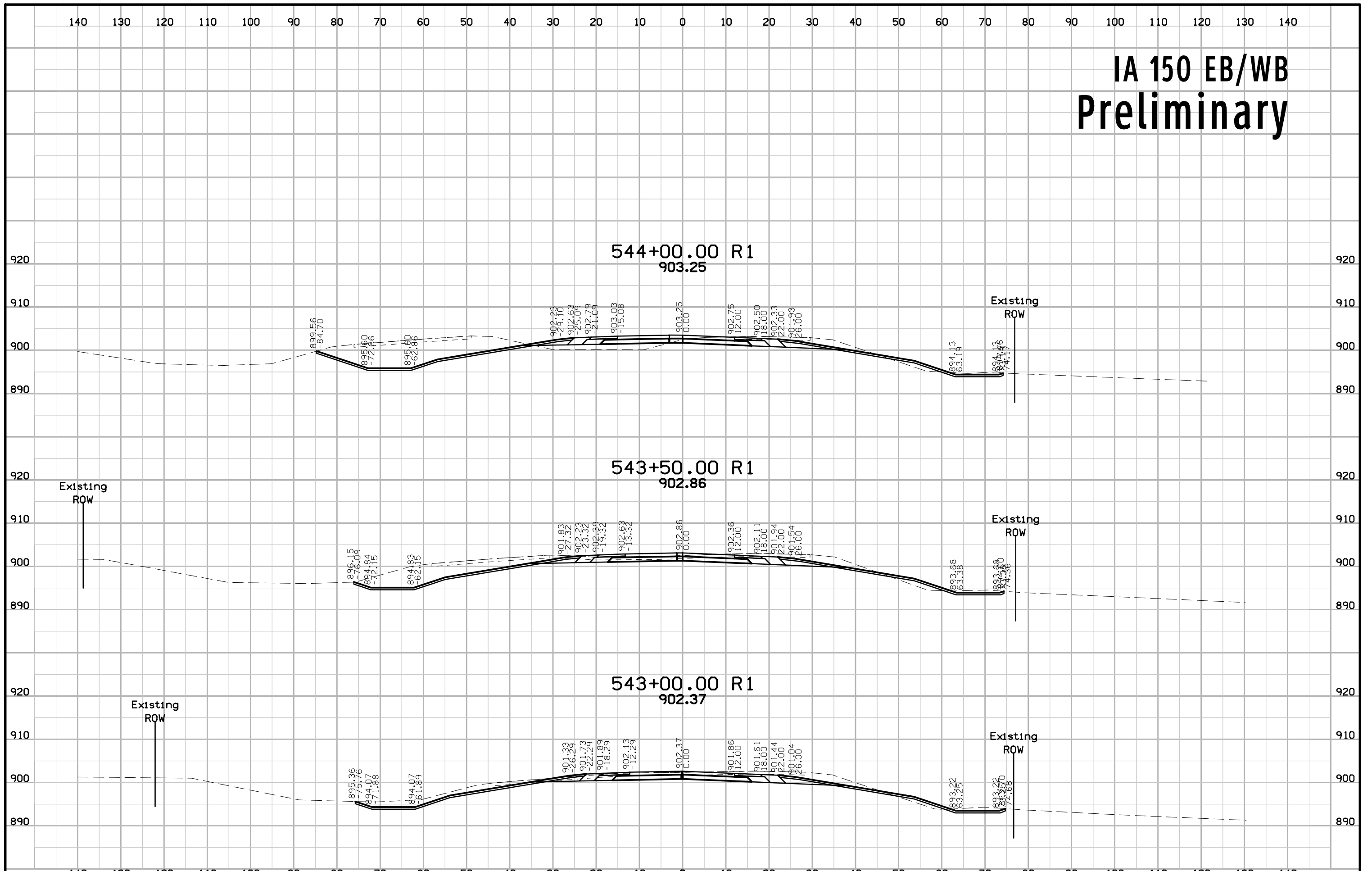
IA 150 EB/WB Preliminary



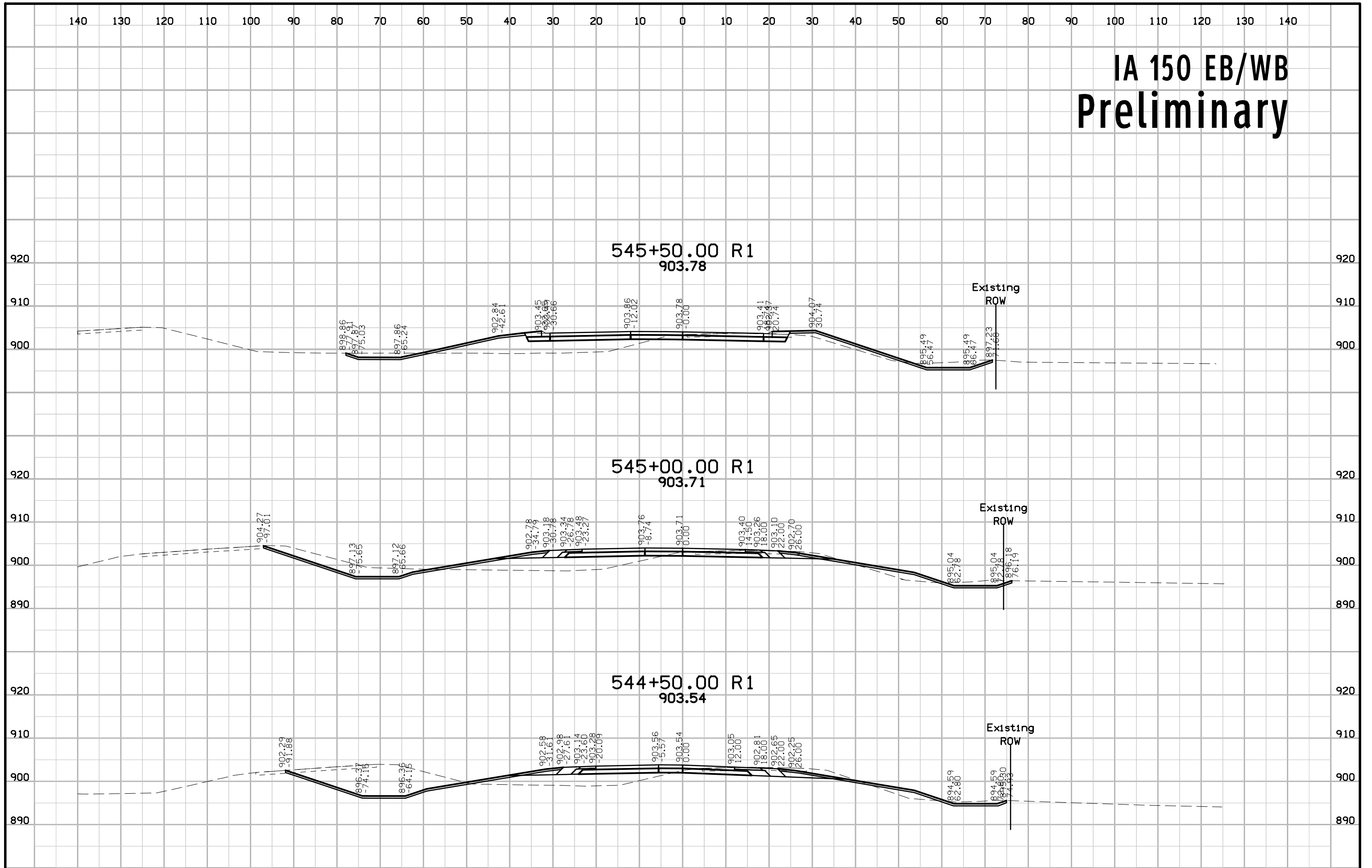
IA 150 EB/WB Preliminary



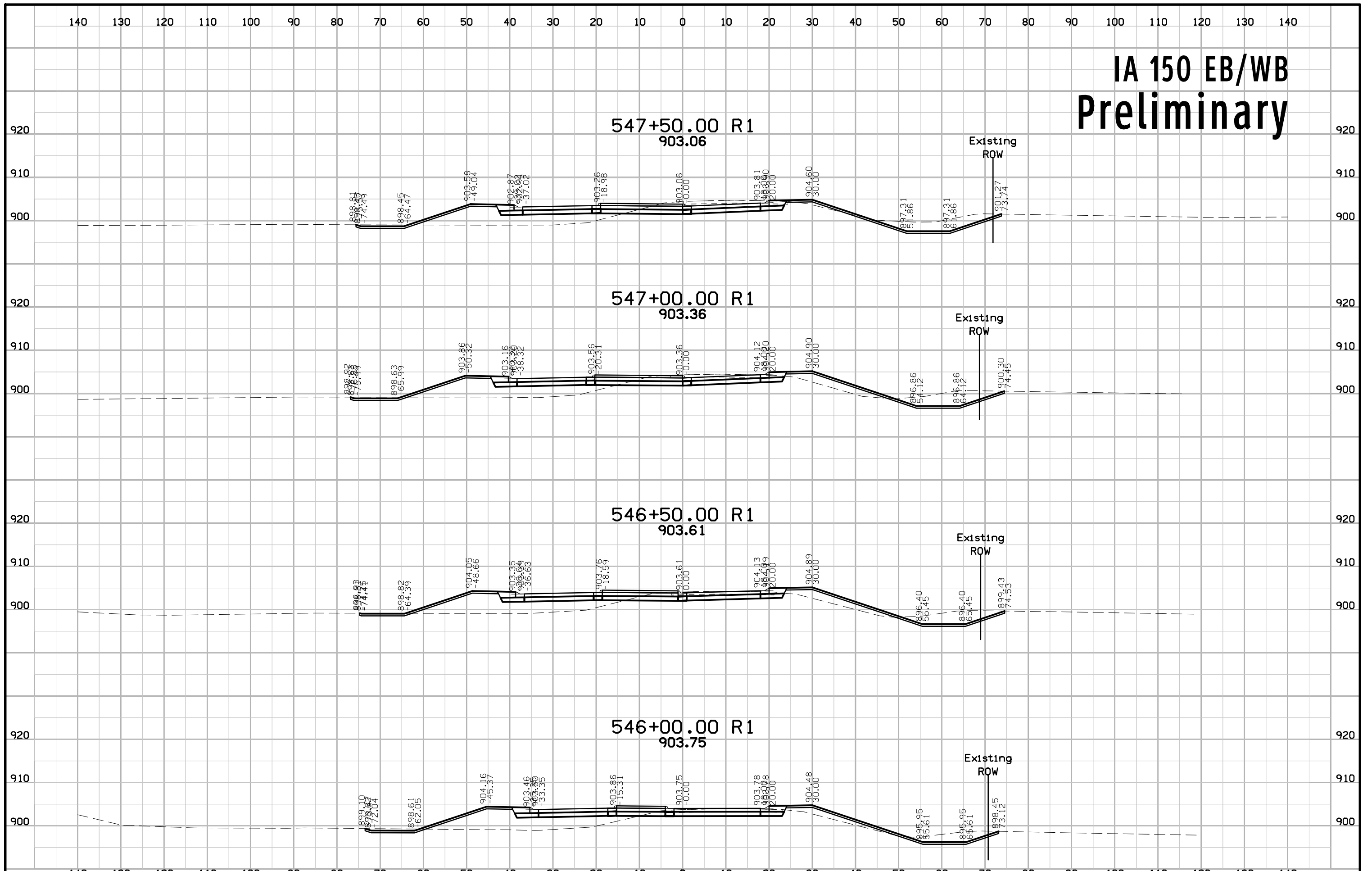
IA 150 EB/WB Preliminary



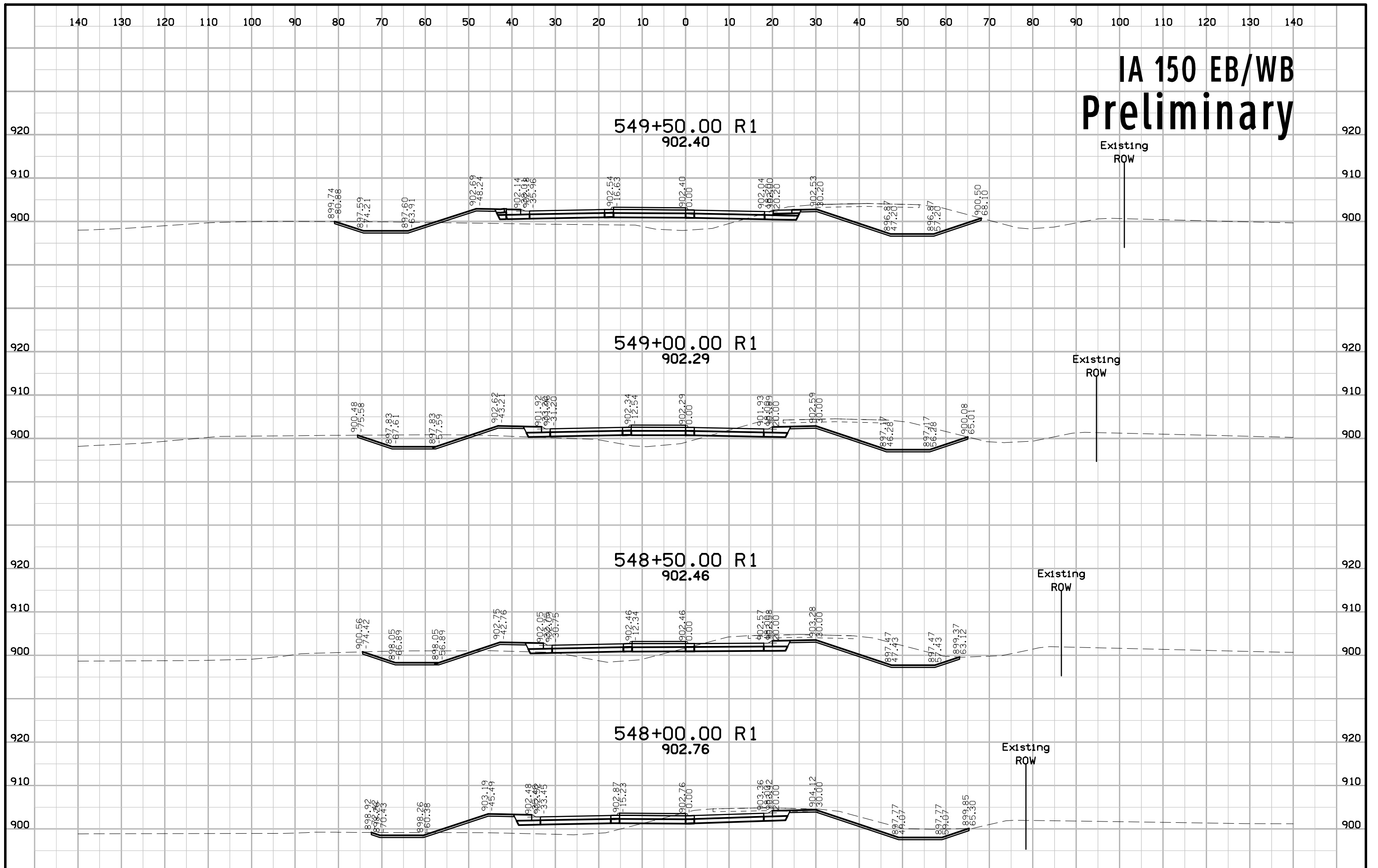
IA 150 EB/WB Preliminary



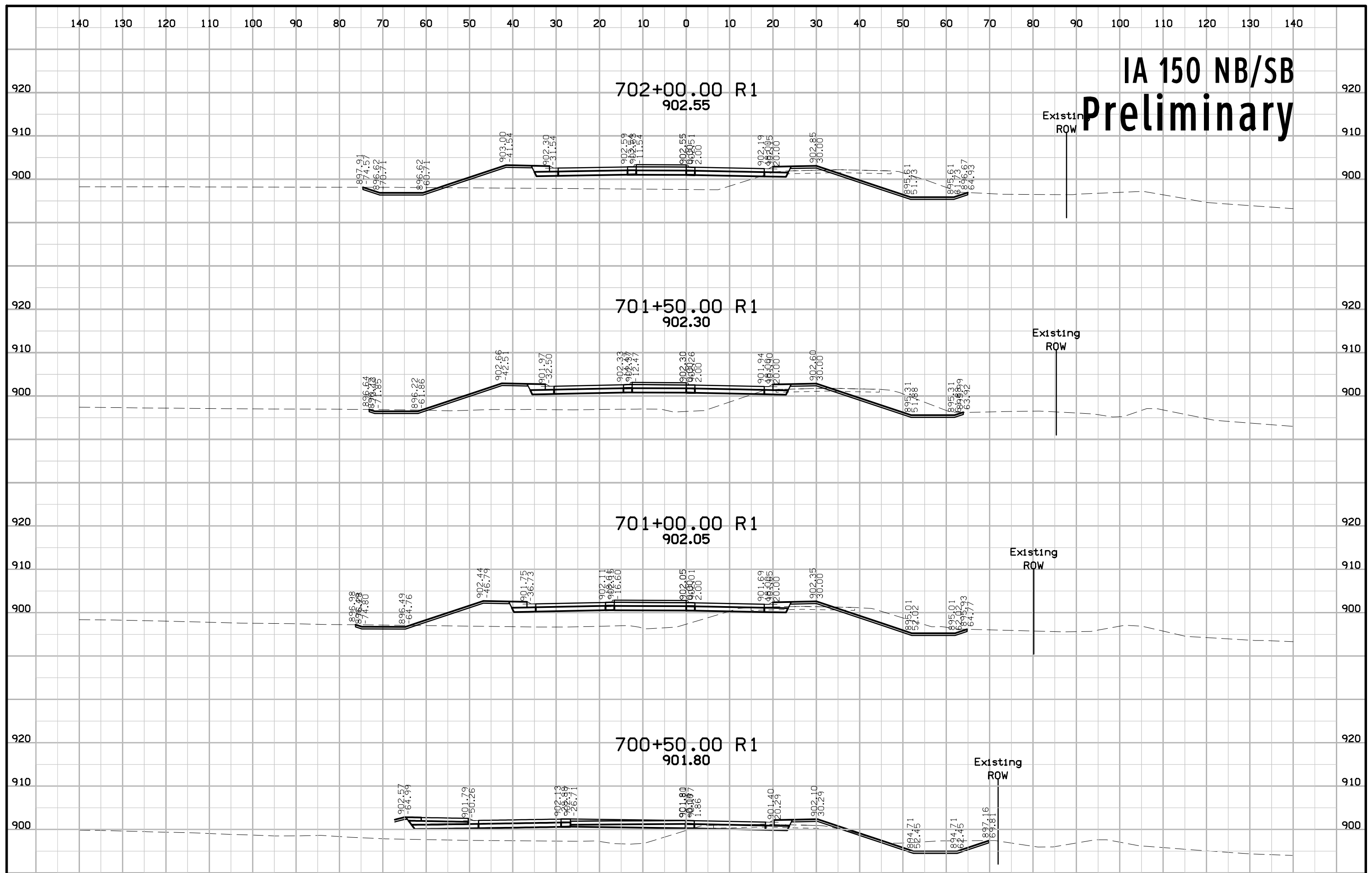
IA 150 EB/WB Preliminary



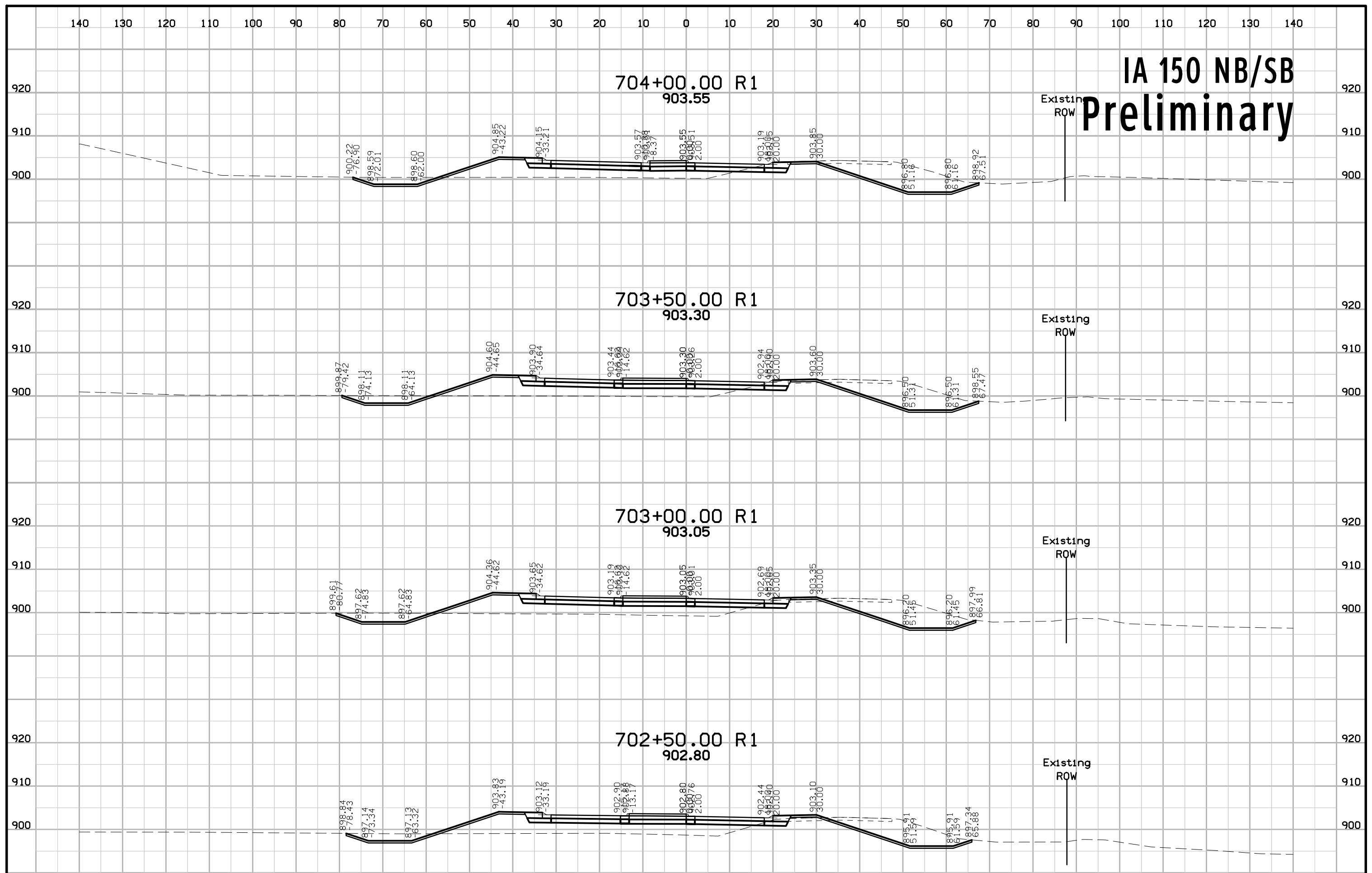
IA 150 EB/WB Preliminary



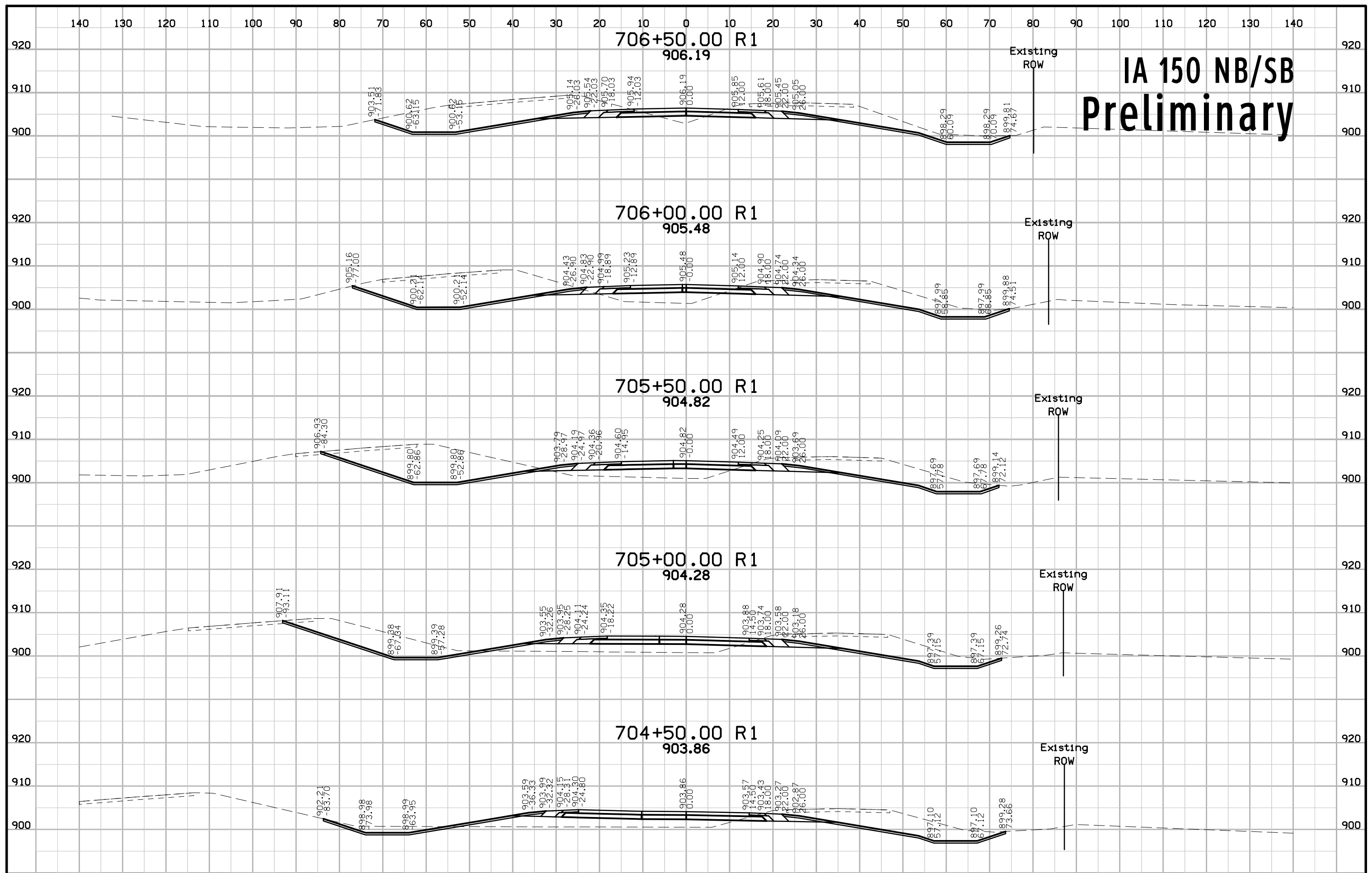
IA 150 NB/SB Preliminary



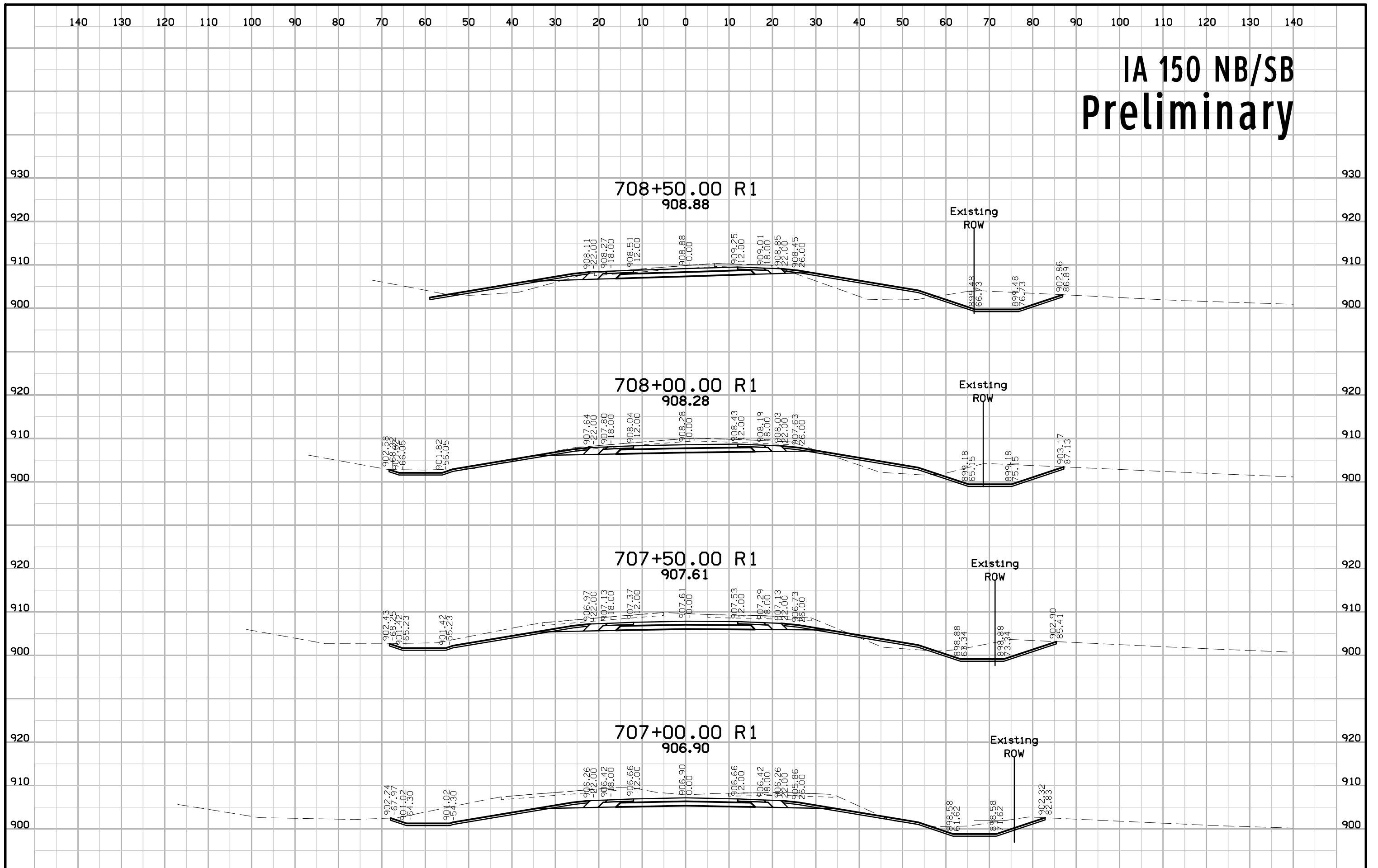
IA 150 NB/SB Preliminary



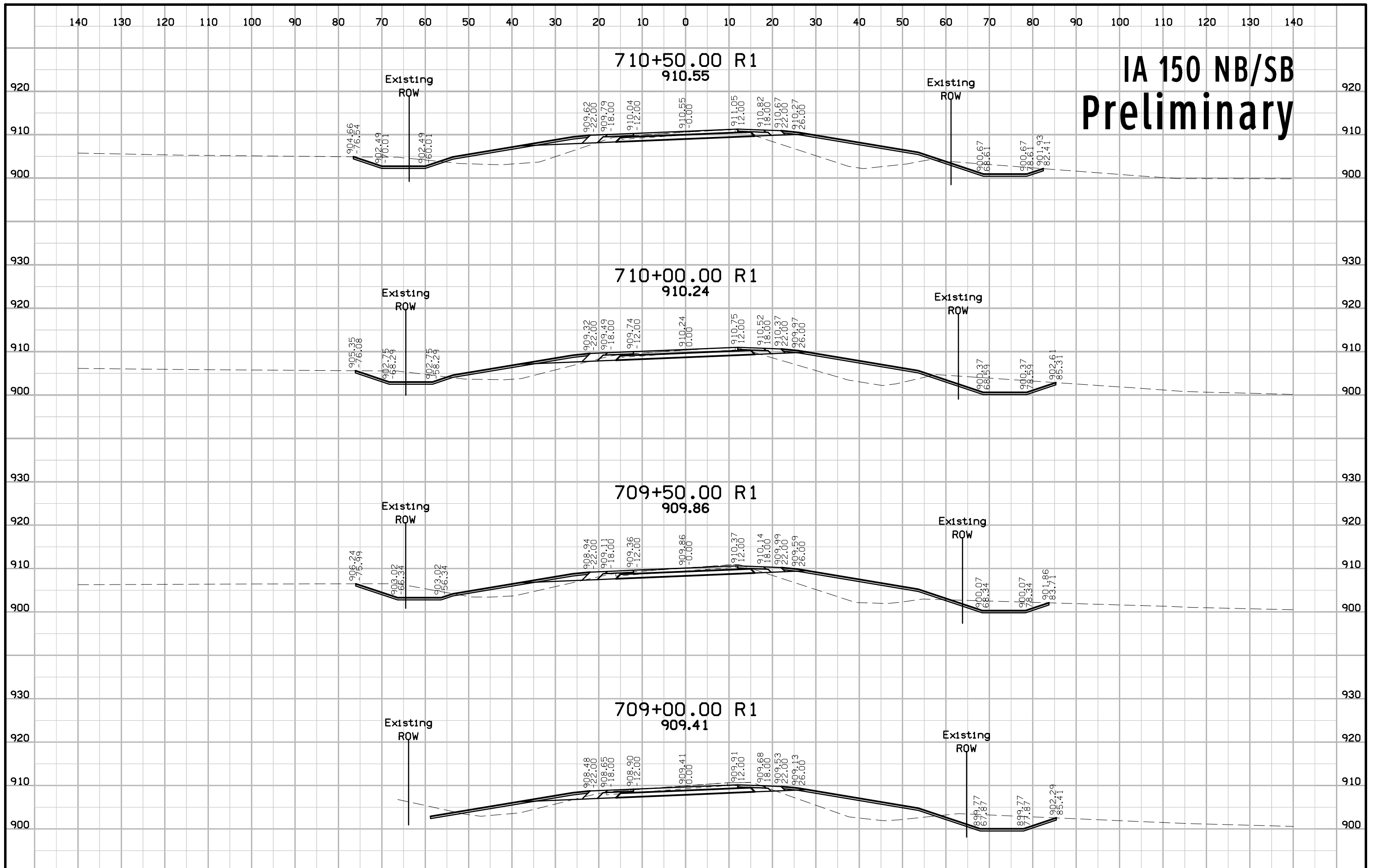
IA 150 NB/SB Preliminary



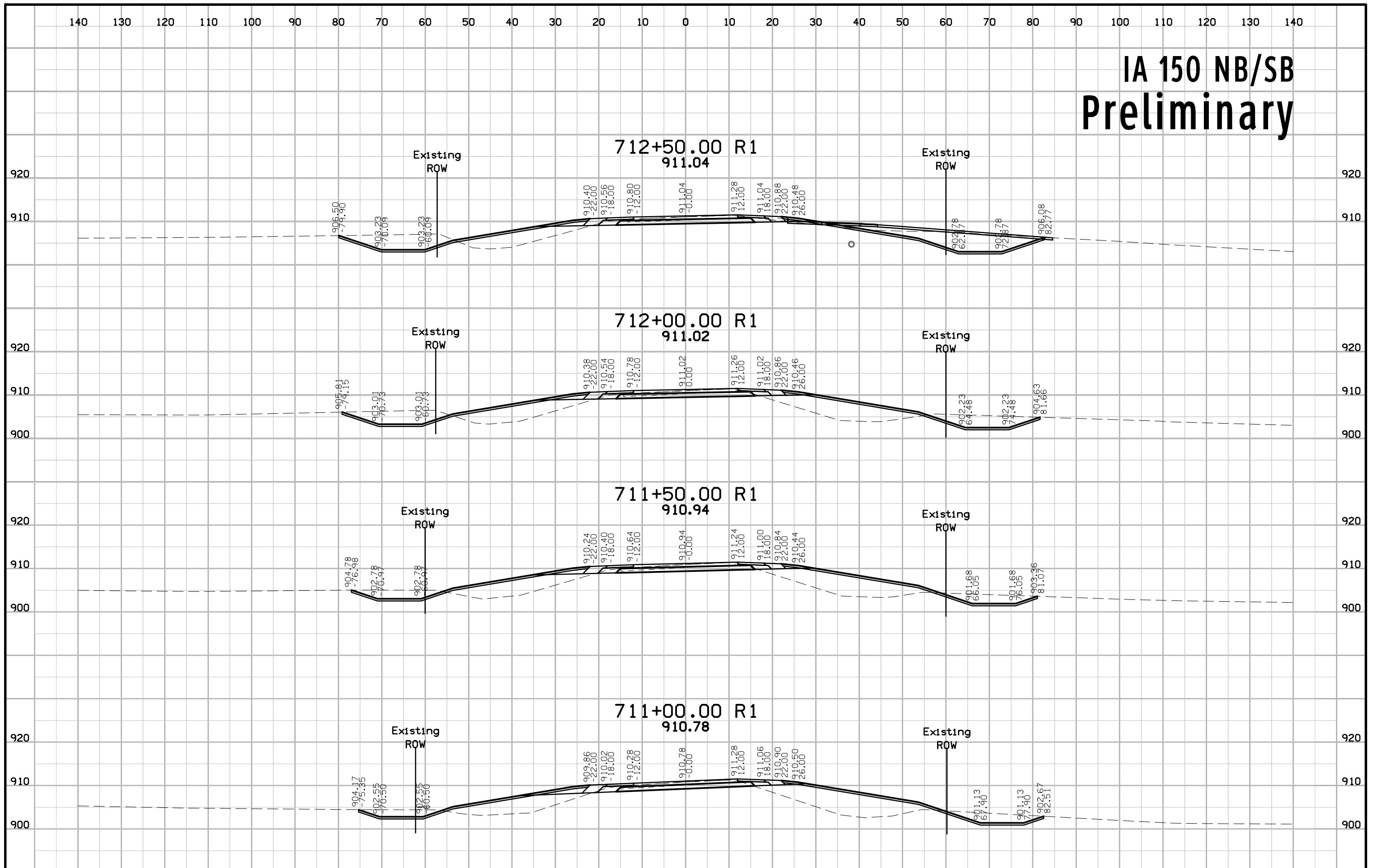
IA 150 NB/SB Preliminary



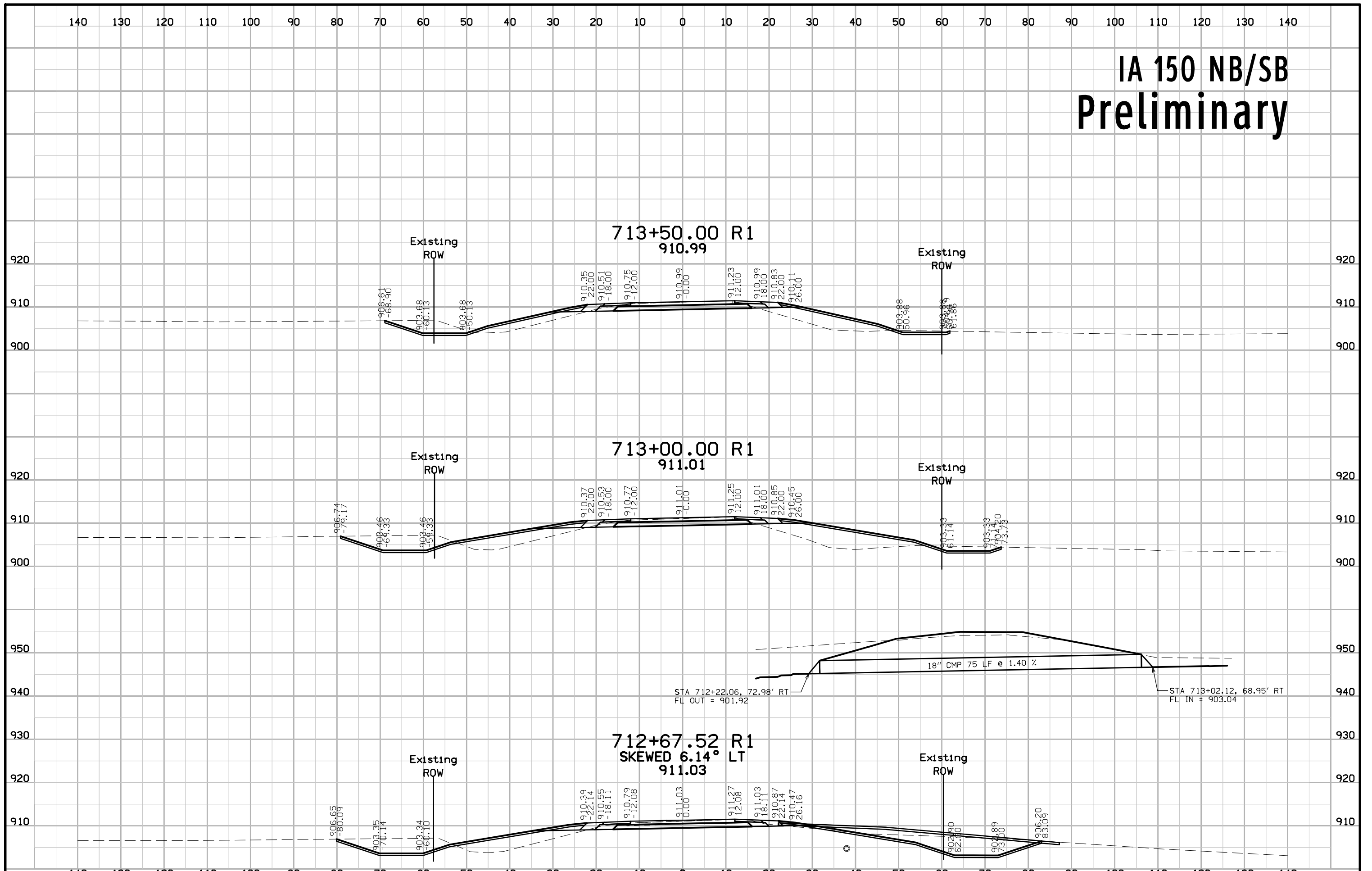
IA 150 NB/SB Preliminary



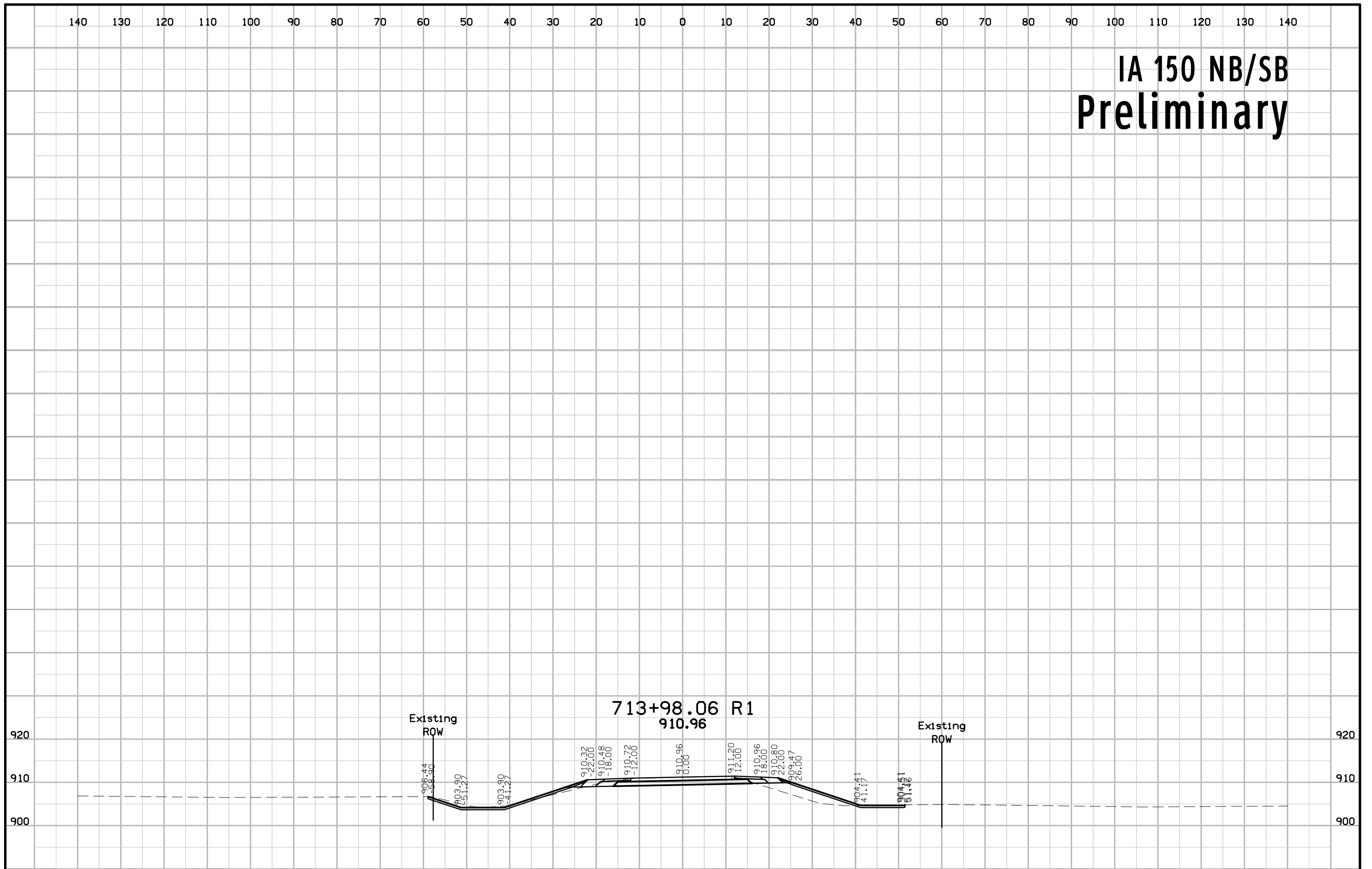
IA 150 NB/SB Preliminary



IA 150 NB/SB Preliminary

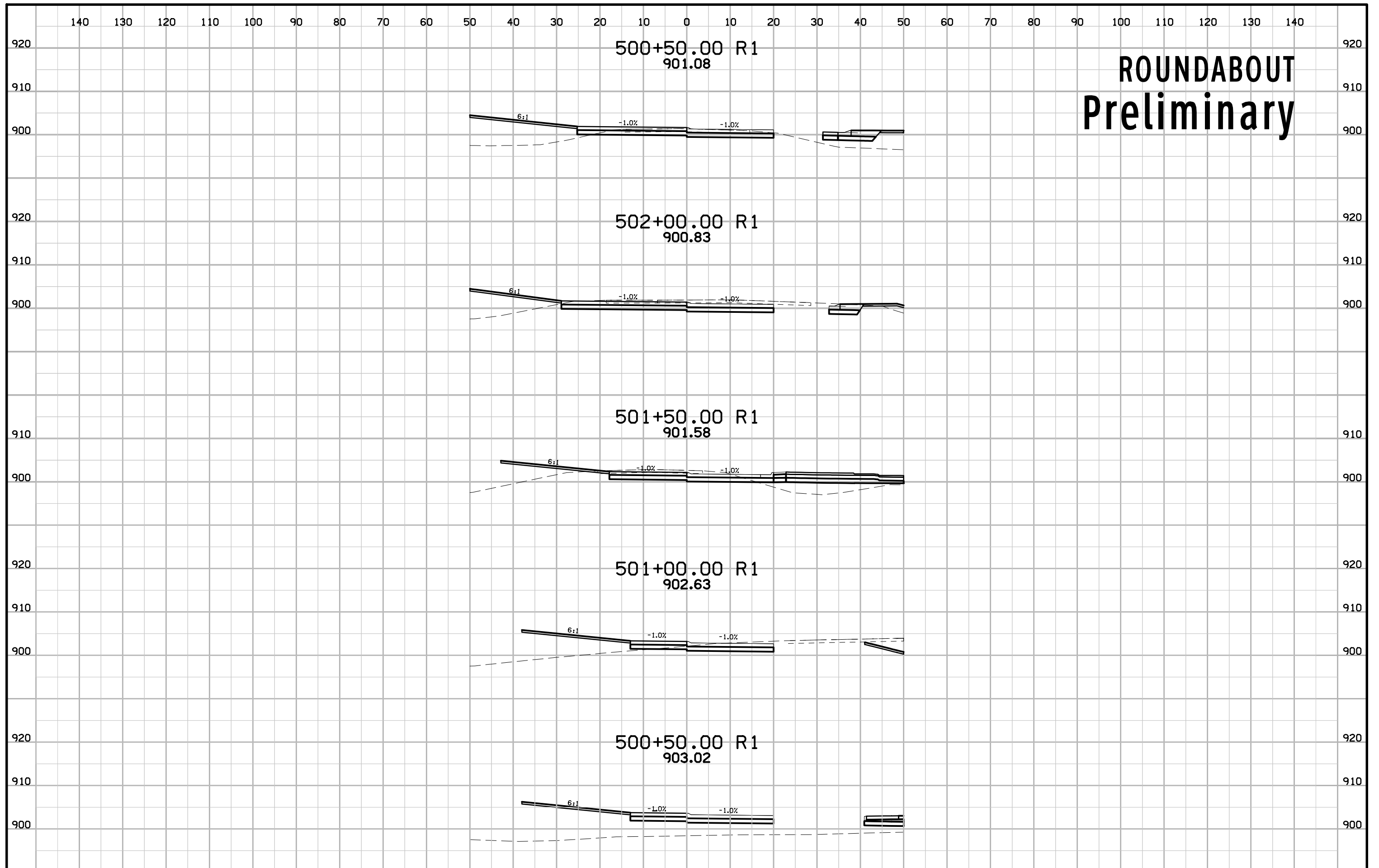


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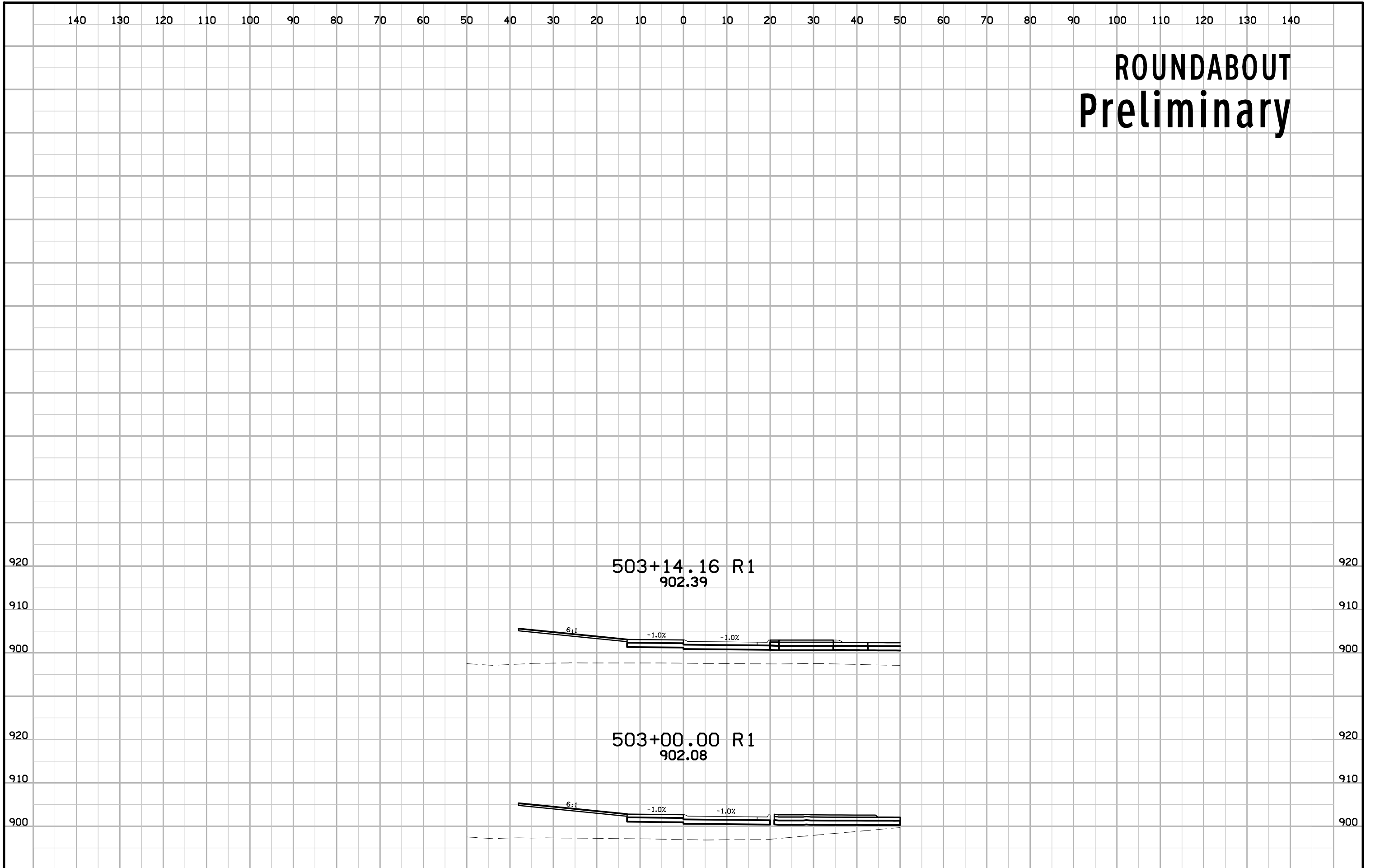


FILE NO.	ENGLISH	DESIGN TEAM	FOTH	BENTON COUNTY	PROJECT NUMBER	HSIPX-150-2(18)--3L-06	SHEET NUMBER	W.17
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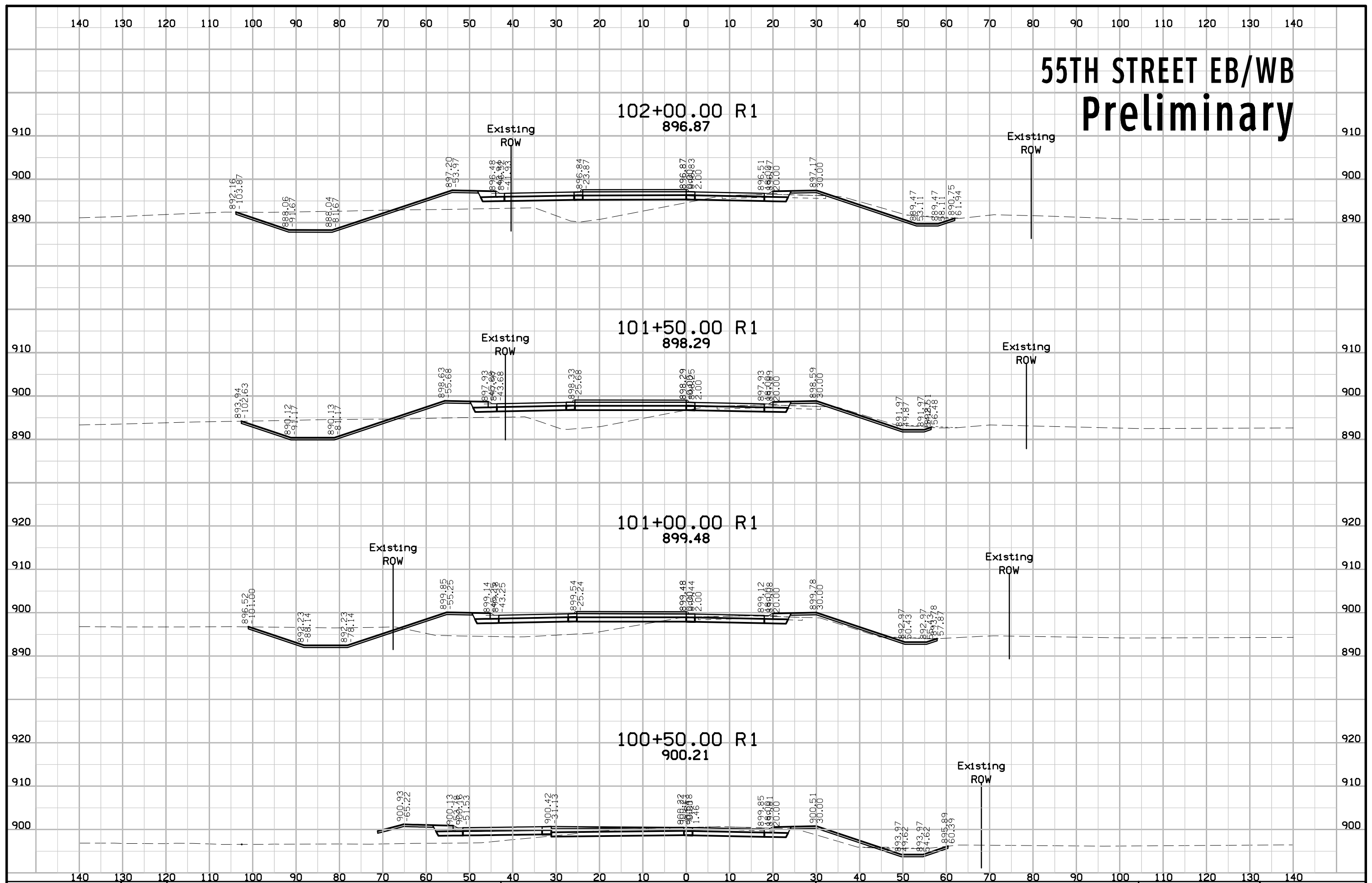
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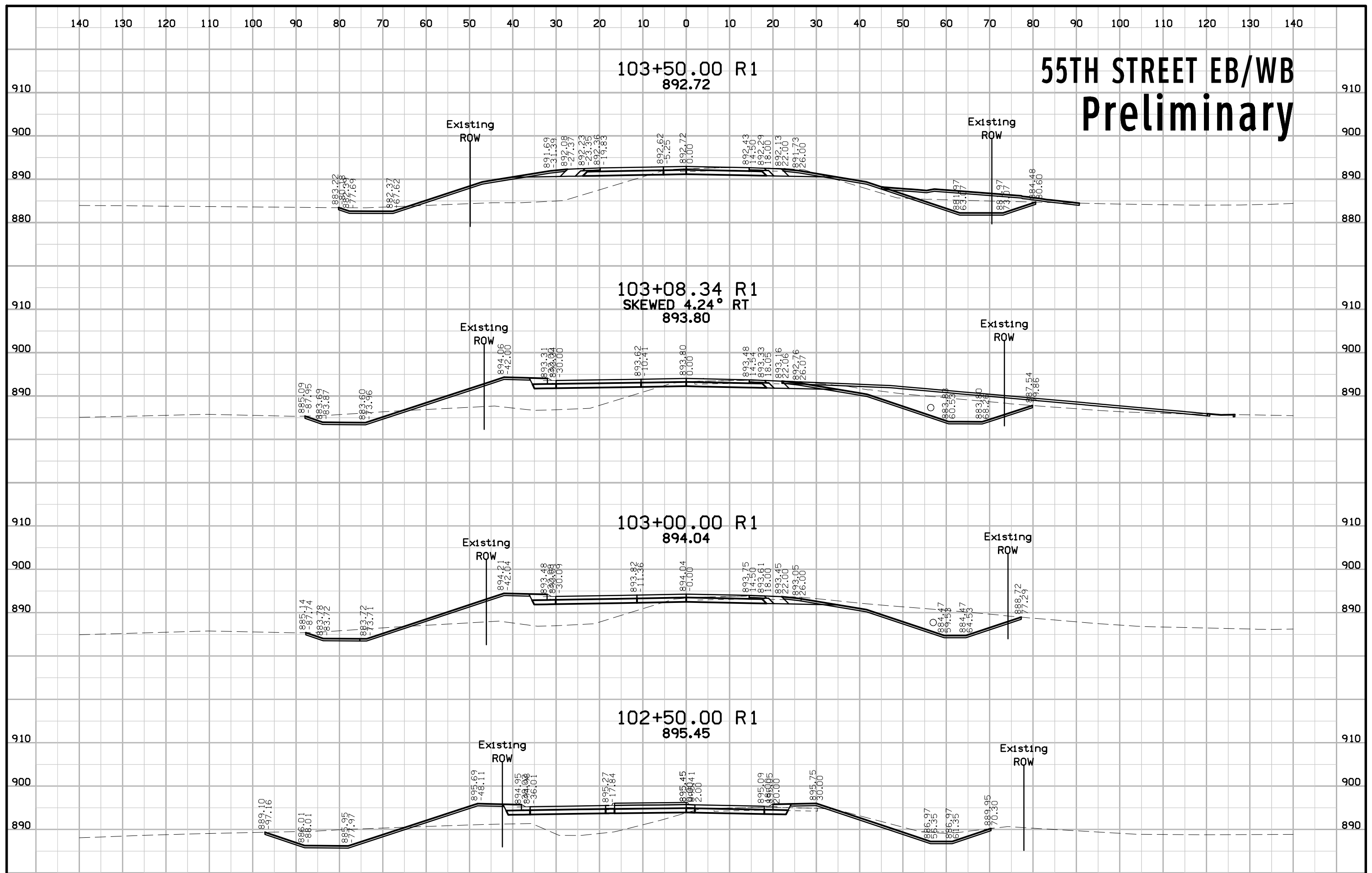
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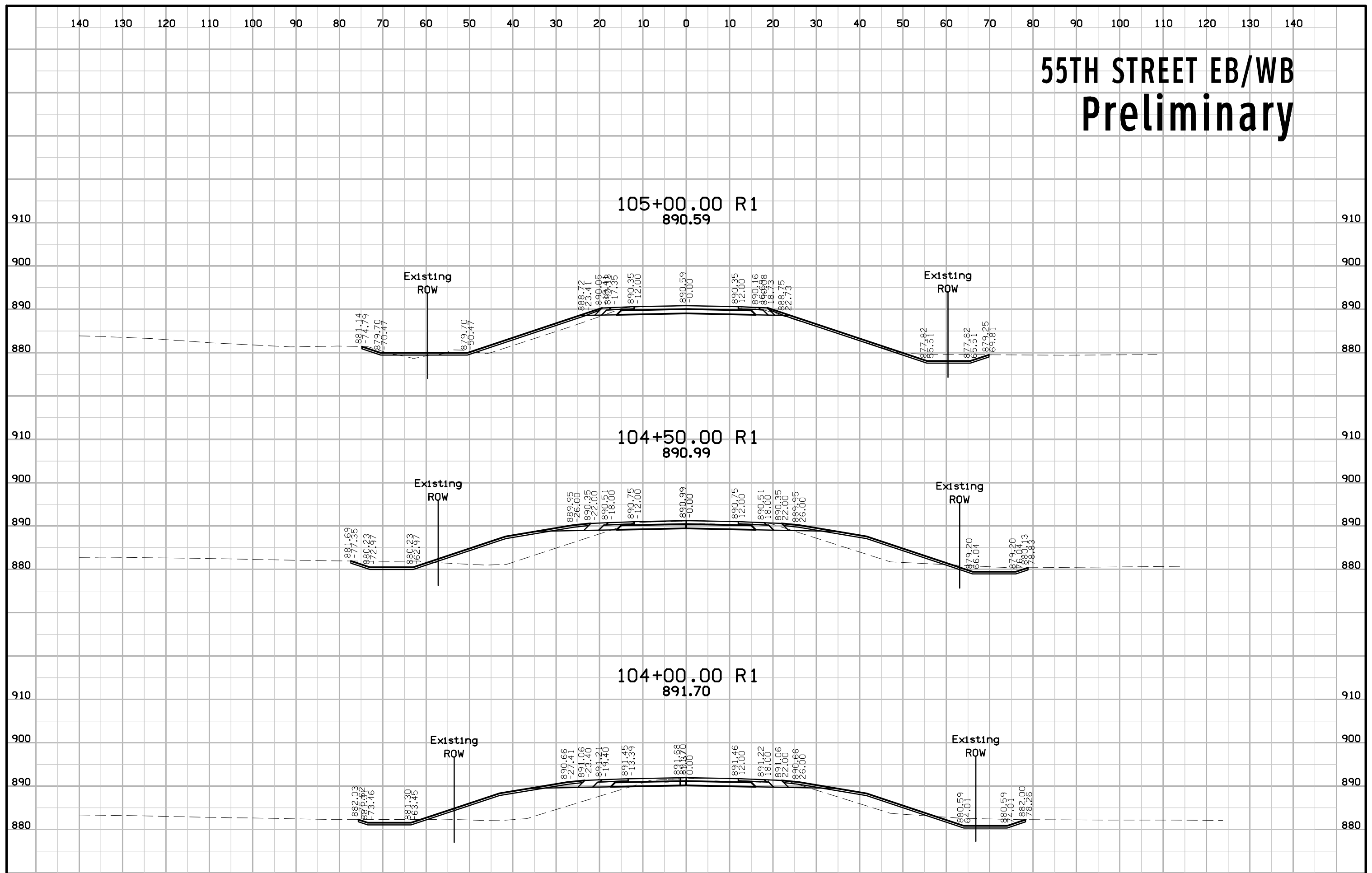
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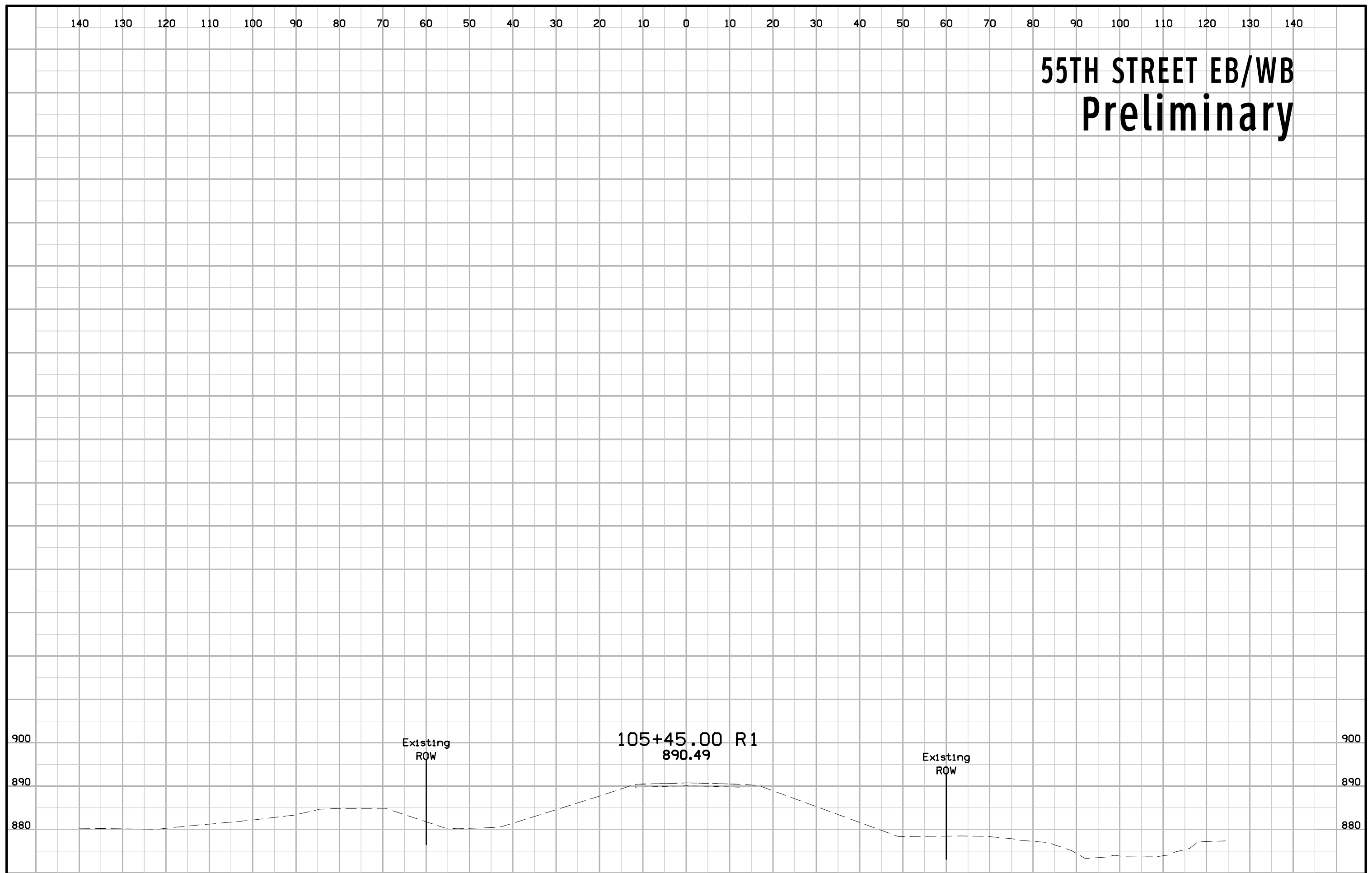
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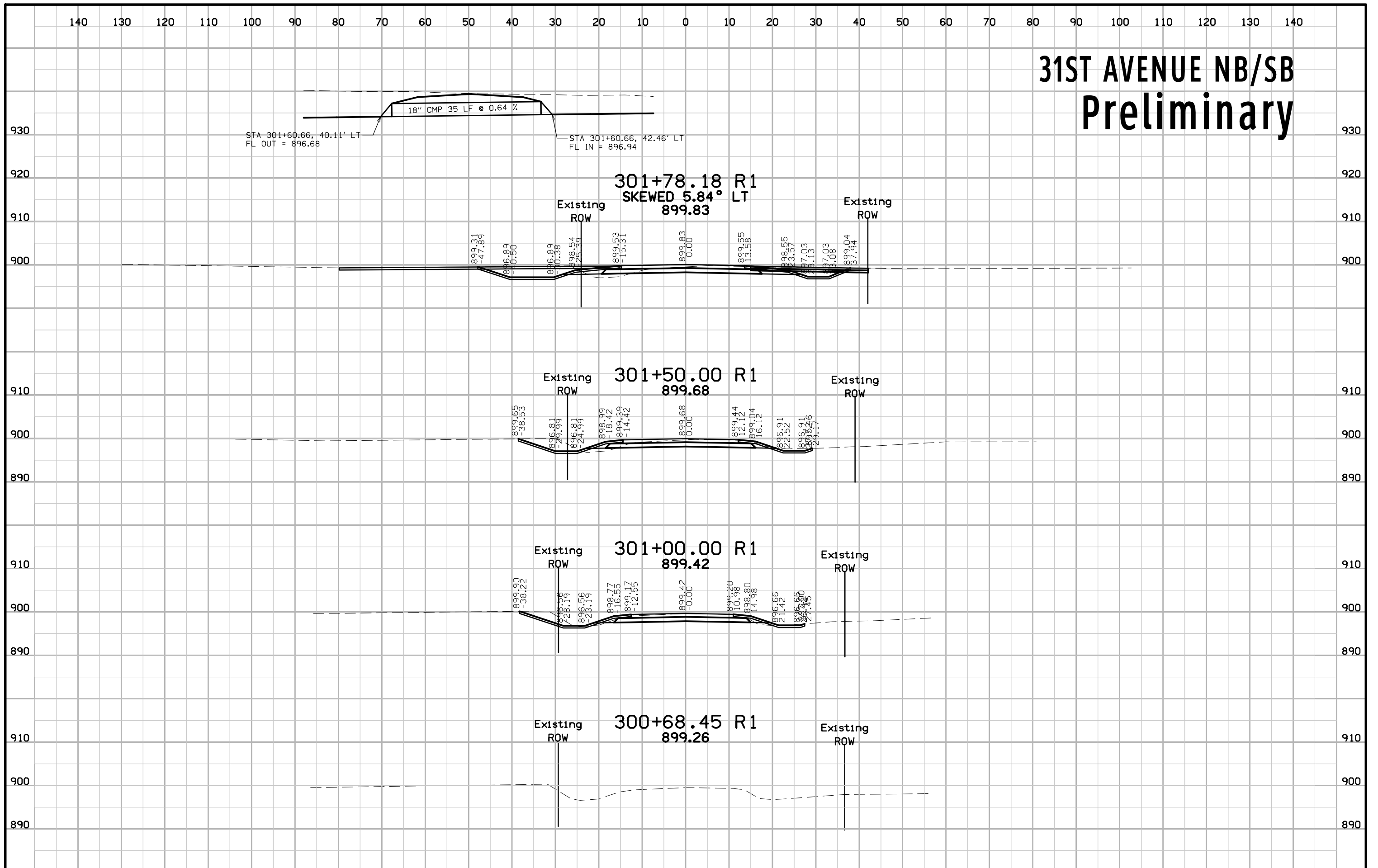
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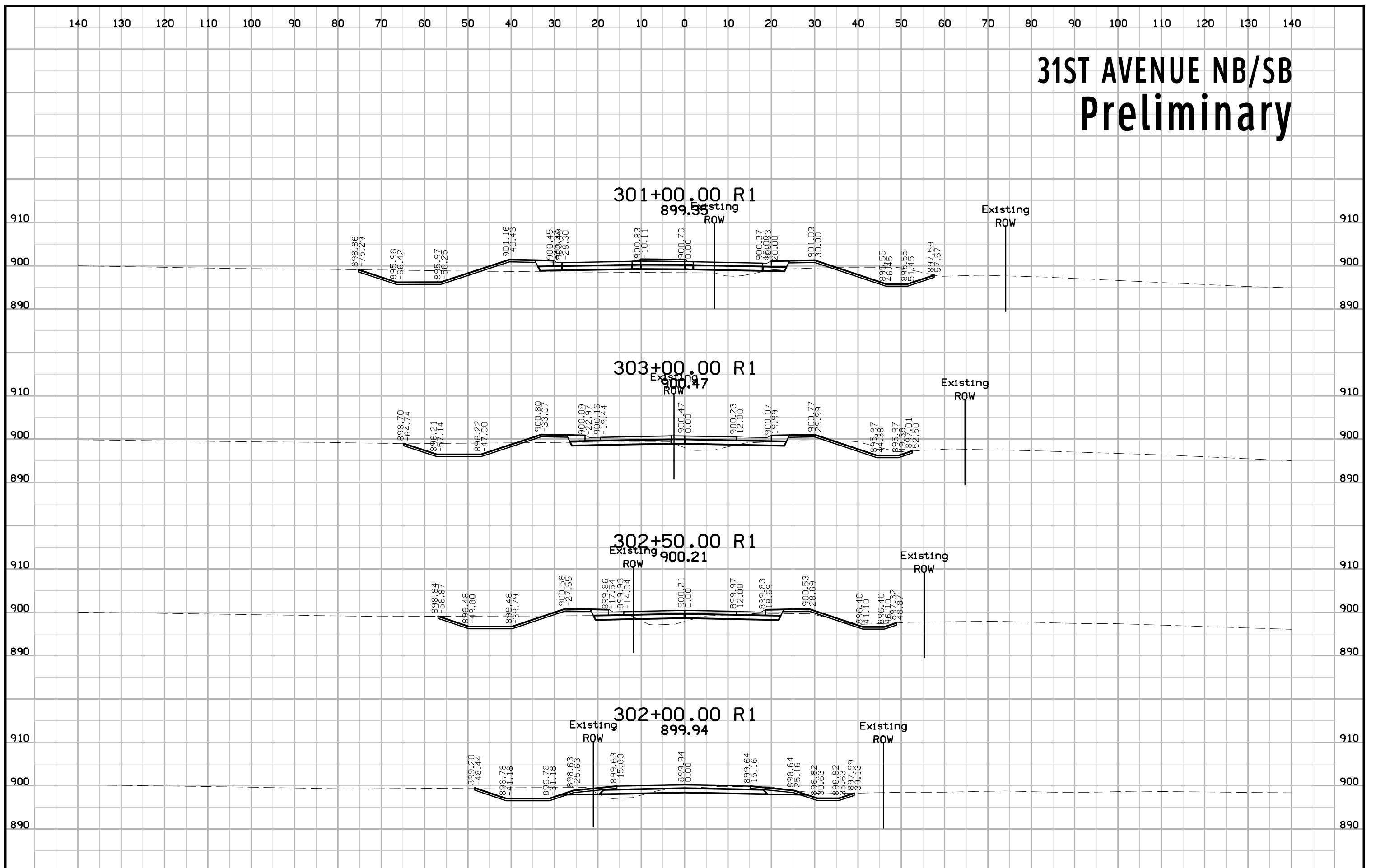
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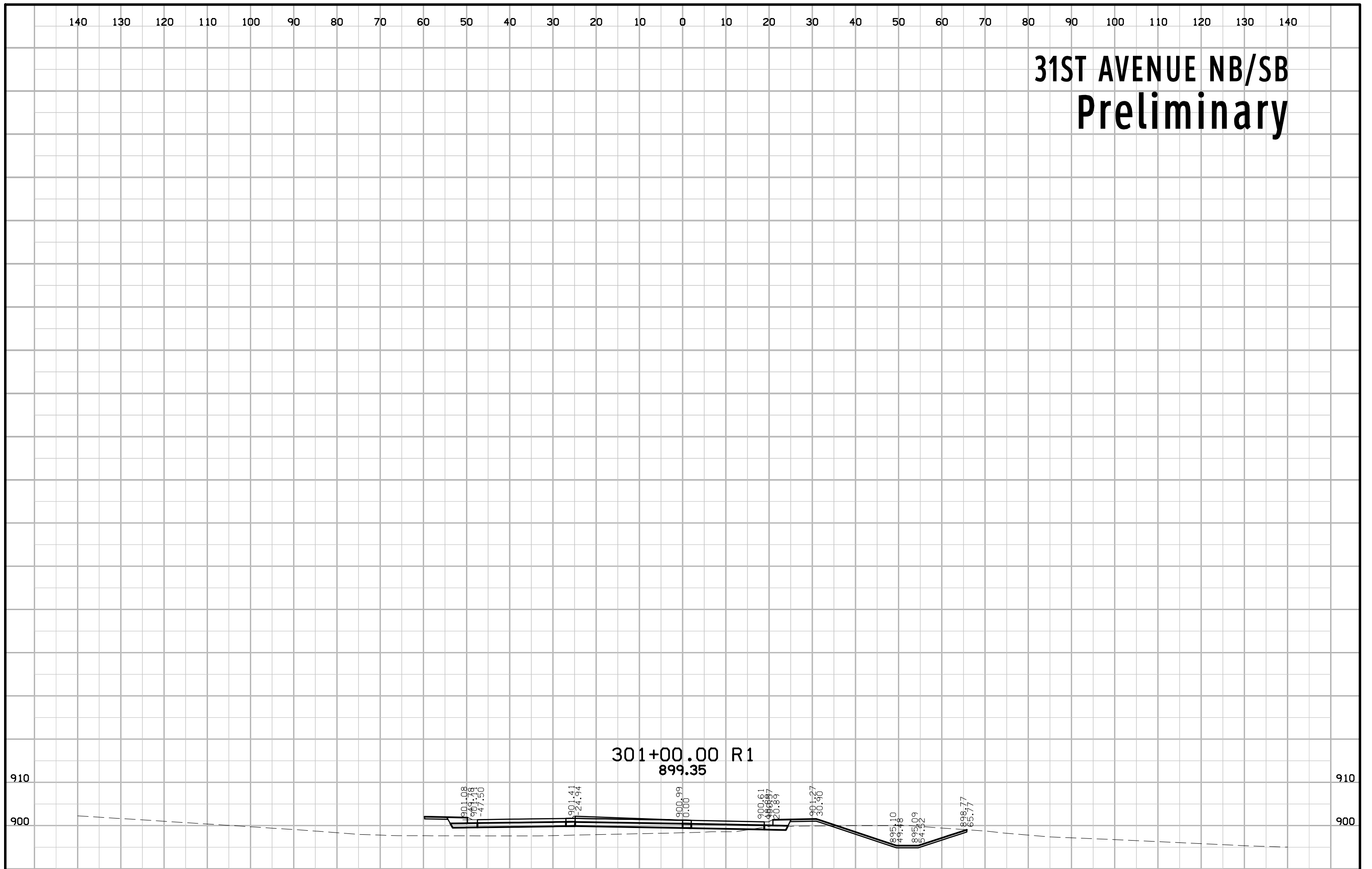
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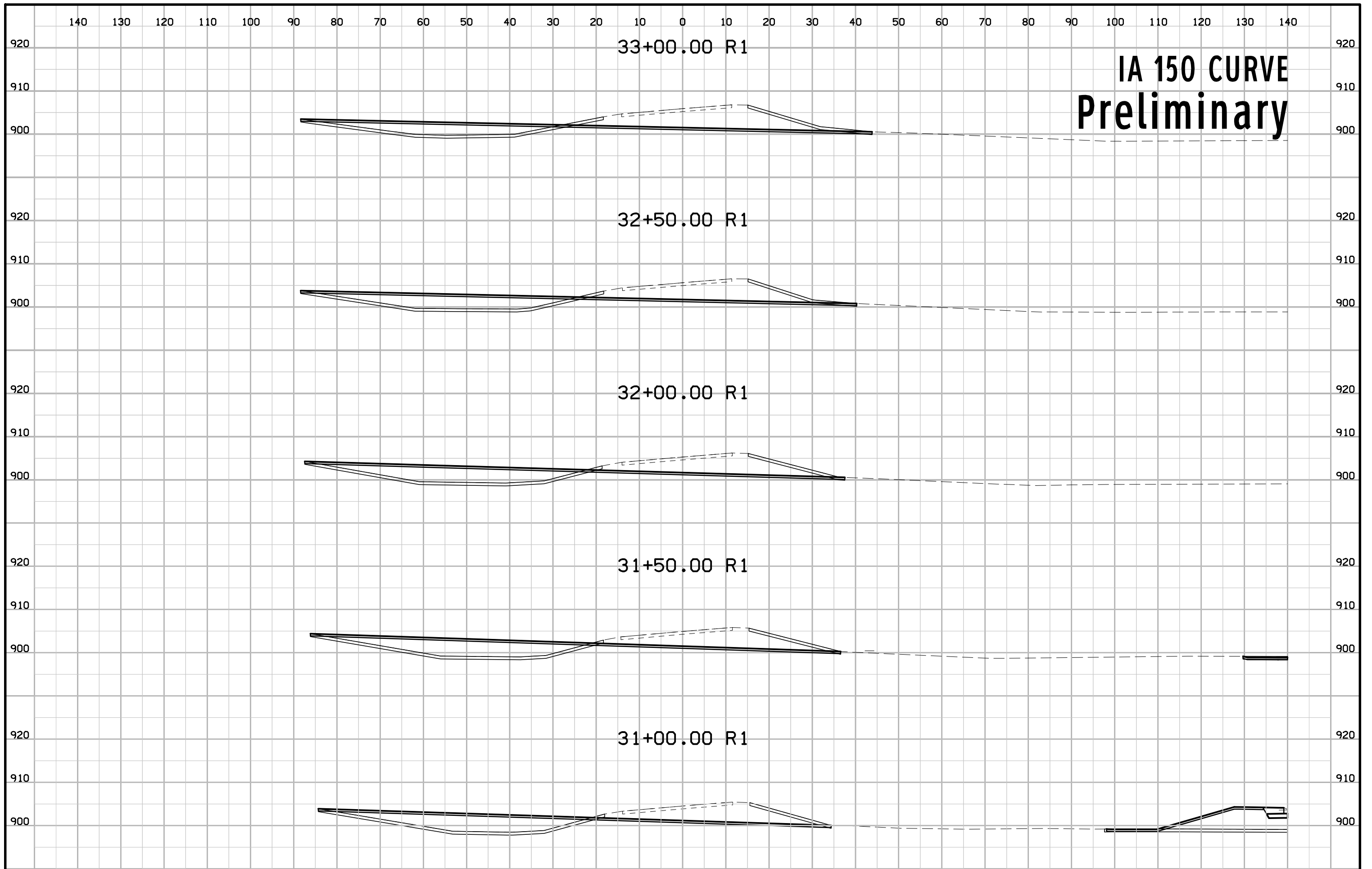


31ST AVENUE NB/SB Preliminary



31ST AVENUE NB/SB Preliminary





IA 150 CURVE Preliminary

