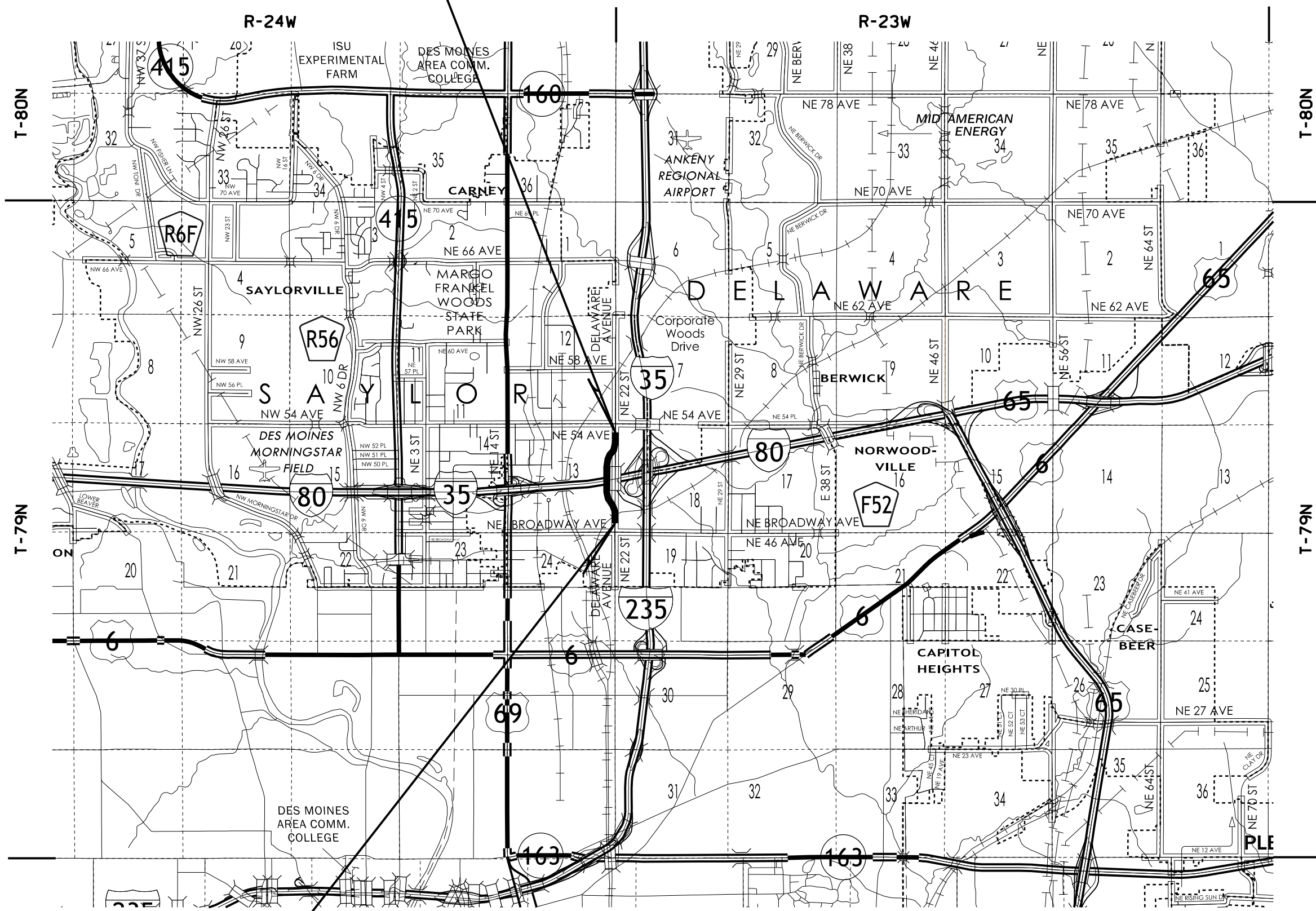
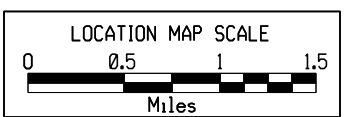
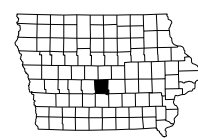


Sta. 2067+85.00
End Project

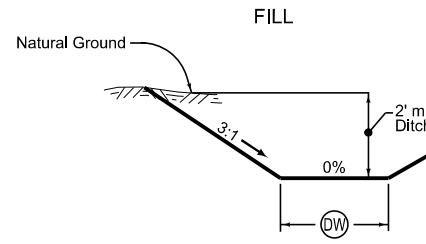


Sta. 2022+00.00
Begin Project



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.



Subgrade Cross-Slope

2_C_ MODIFIED			
Direction of Travel	BEGIN STATION	END STATION	(A) %
SB	2022+00.00	2027+50.00	4.0
SB	2027+50.00	2028+25.00	4.0 - 2.0
SB	2028+25.00	2031+80.00	2.0

BEGIN STATION	END STATION	(DW) Feet
2022+00.00	2026+50.00	5.0
2026+50.00	2026+75.00	5.0 - 10.0
2026+75.00	2027+50.00	10.0
2027+50.00	2027+75.00	10.0 - 5.0
2027+75.00	2031+80.00	5.0

3 LANE GRADING
WIDEN LEFT AND RIGHT

LOCATION		DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches
NE 22ND STREET \ DELAWARE AVENUE	2022+00.00 - 2022+50.00	34.8 - 41.8	35.1 - 41.8	17
NE 22ND STREET \ DELAWARE AVENUE	2022+50.00 - 2023+00.00	41.8 - 42.4	41.8	17
NE 22ND STREET \ DELAWARE AVENUE	2023+00.00 - 2024+00.00	42.4	41.8 - 42.4	17
NE 22ND STREET \ DELAWARE AVENUE	2024+00.00 - 2025+00.00	42.4	42.4	17
NE 22ND STREET \ DELAWARE AVENUE	2025+00.00 - 2025+50.00	42.4 - 42.1	42.4 - 42.8	17
NE 22ND STREET \ DELAWARE AVENUE	2025+50.00 - 2026+25.00	42.1	42.8	17
NE 22ND STREET \ DELAWARE AVENUE	2026+25.00 - 2026+50.00	42.1 - 42.4	42.8 - 43.0	17
NE 22ND STREET \ DELAWARE AVENUE	2026+50.00 - 2027+25.00	42.4 - 43.7	43.0 - 43.7	17
NE 22ND STREET \ DELAWARE AVENUE	2027+25.00 - 2027+50.00	43.7	43.7	17
NE 22ND STREET \ DELAWARE AVENUE	2027+50.00 - 2028+25.00	43.7 - 38.3	43.7 - 38.3	17
NE 22ND STREET \ DELAWARE AVENUE	2028+25.00 - 2031+80.00	38.3	38.3	17

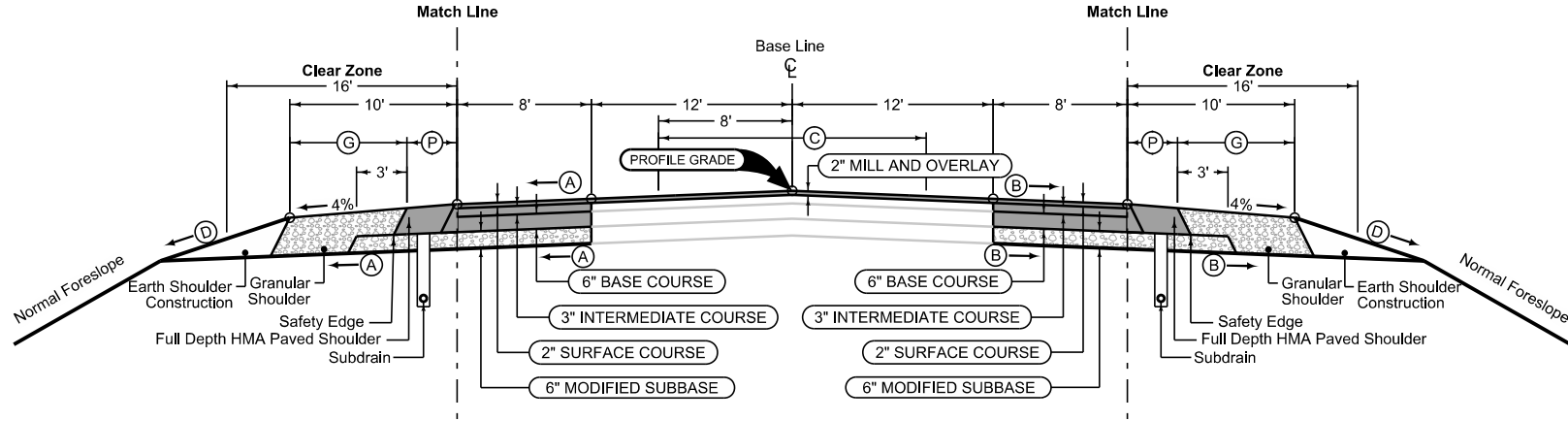
BEGIN STATION	END STATION	(DW) Feet
2022+00.00	2026+75.00	5.0
2026+75.00	2027+00.00	5.0 - 10.0
2027+00.00	2027+50.00	10.0
2027+50.00	2028+00.00	10.0 - 5.0
2028+00.00	2031+80.00	5.0

Subgrade Cross-Slope

2_C_ MODIFIED			
Direction of Travel	BEGIN STATION	END STATION	(B) %
NB	2022+00.00	2027+50.00	4.0
NB	2027+50.00	2028+25.00	4.0 - 2.0
NB	2028+25.00	2031+80.00	2.0

Combination Shoulder

2_C_ MODIFIED				
Direction of Travel	BEGIN STATION	END STATION	(P) Feet	(G) Feet
SB	2022+00.00	2031+80.00	3.0	7.0



Combination Shoulder

2_C_ MODIFIED				
Direction of Travel	BEGIN STATION	END STATION	(P) Feet	(G) Feet
NB	2022+00.00	2031+80.00	3.0	7.0

3 LANE PAVING
WIDEN LEFT AND RIGHT

2H_TWLTL_ MODIFIED		
STATION TO STATION	(C) Feet	
2022+00.00 - 2031+80.00	16	

Earth Shoulder Slope

2_C_ MODIFIED			
Direction of Travel	BEGIN STATION	END STATION	(D) %
SB	2022+00.00	2022+50.00	3:1 - 6:1
SB	2022+50.00	2031+80.00	6:1

Pavement Cross-Slope

2_C_ MODIFIED			
Direction of Travel	BEGIN STATION	END STATION	(A) %
SB	2022+00.00	2023+00.00	4.0 - 2.0
SB	2023+00.00	2025+00.00	2.0
SB	2025+00.00	2025+50.00	2.0 - 2.5
SB	2025+50.00	2026+25.00	2.5
SB	2026+25.00	2026+50.00	2.5 - 2.0
SB	2026+50.00	2027+25.00	2.0 - 0.0
SB	2027+25.00	2027+50.00	0.0
SB	2027+50.00	2028+25.00	0.0 - 2.0
SB	2028+25.00	2031+80.00	2.0

Pavement Cross-Slope

2_C_ MODIFIED			
Direction of Travel	BEGIN STATION	END STATION	(B) %
NB	2022+00.00	2023+00.00	3.0
NB	2023+00.00	2024+00.00	3.0 - 2.0
NB	2024+00.00	2025+00.00	2.0
NB	2025+00.00	2025+50.00	2.0 - 1.5
NB	2025+50.00	2026+25.00	1.5
NB	2026+25.00	2027+25.00	1.5 - 0.0
NB	2027+25.00	2027+50.00	0.0
NB	2027+50.00	2028+25.00	0.0 - 2.0
NB	2028+25.00	2031+80.00	2.0

Earth Shoulder Slope

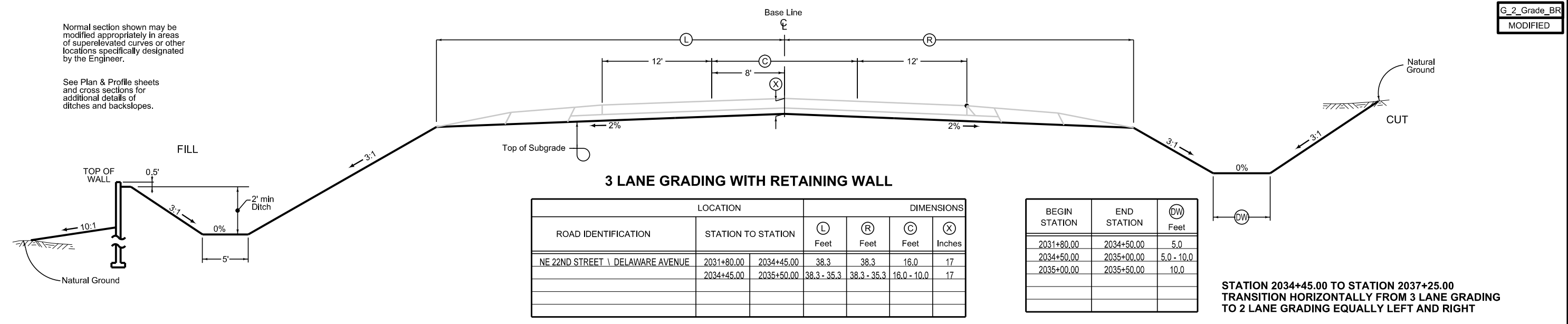
2_C_ MODIFIED			
Direction of Travel	BEGIN STATION	END STATION	(D) %
NB	2022+00.00	2022+50.00	3:1 - 6:1
NB	2022+50.00	2031+80.00	6:1

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

NE 22ND STREET \ DELAWARE AVENUE

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

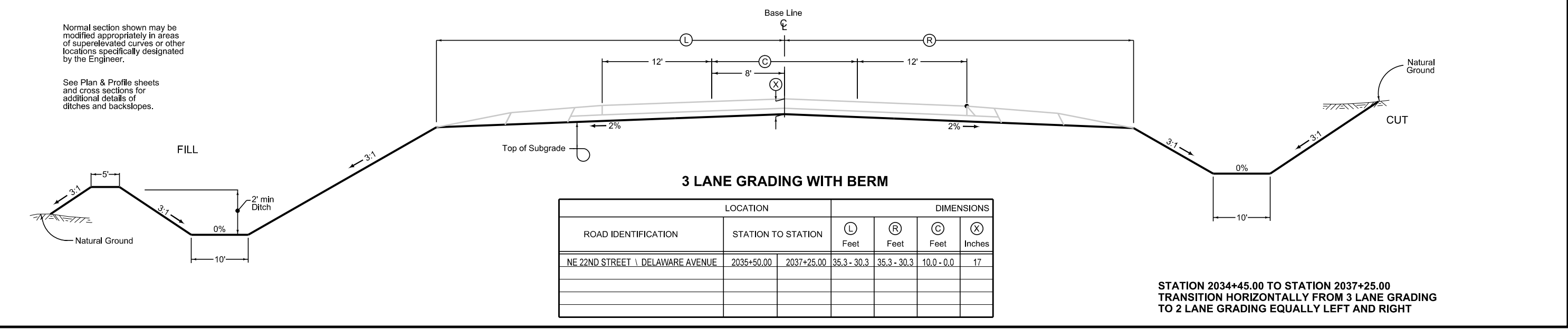
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.



STATION 2034+45.00 TO STATION 2037+25.00
TRANSITION HORIZONTALLY FROM 3 LANE GRADING TO 2 LANE GRADING EQUALLY LEFT AND RIGHT

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

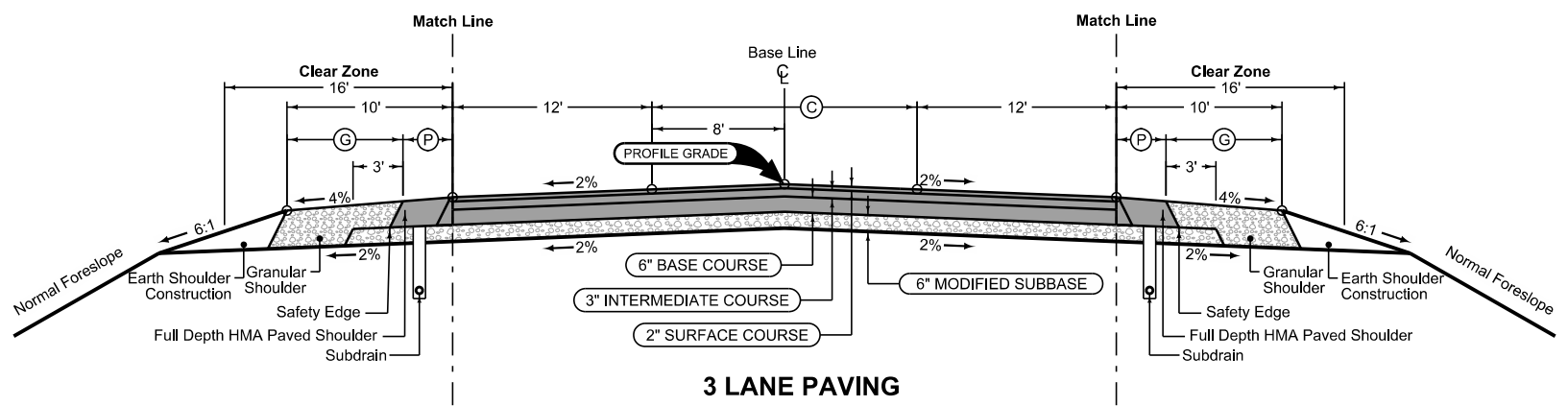
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.



STATION 2034+45.00 TO STATION 2037+25.00
TRANSITION HORIZONTALLY FROM 3 LANE GRADING TO 2 LANE GRADING EQUALLY LEFT AND RIGHT

Combination Shoulder

2_C_ MODIFIED					
Direction of Travel	BEGIN STATION	END STATION	(P) Feet	(G) Feet	
SB	2031+80.00	2037+25.00	3.0	7.0	



3 LANE PAVING

2H_TWLTL_ MODIFIED		
STATION TO STATION	(C) Feet	
2031+80.00 - 2034+45.00	16.0	
2034+45.00 - 2037+25.00	16.0 - 0.0	

Combination Shoulder

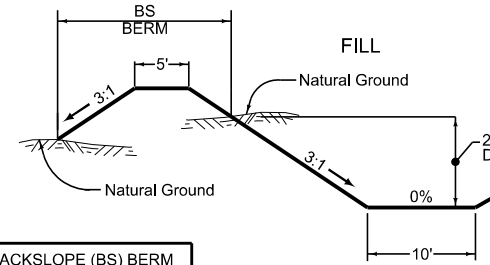
2_C_ MODIFIED					
Direction of Travel	BEGIN STATION	END STATION	(P) Feet	(G) Feet	
NB	2031+80.00	2037+25.00	3.0	7.0	

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

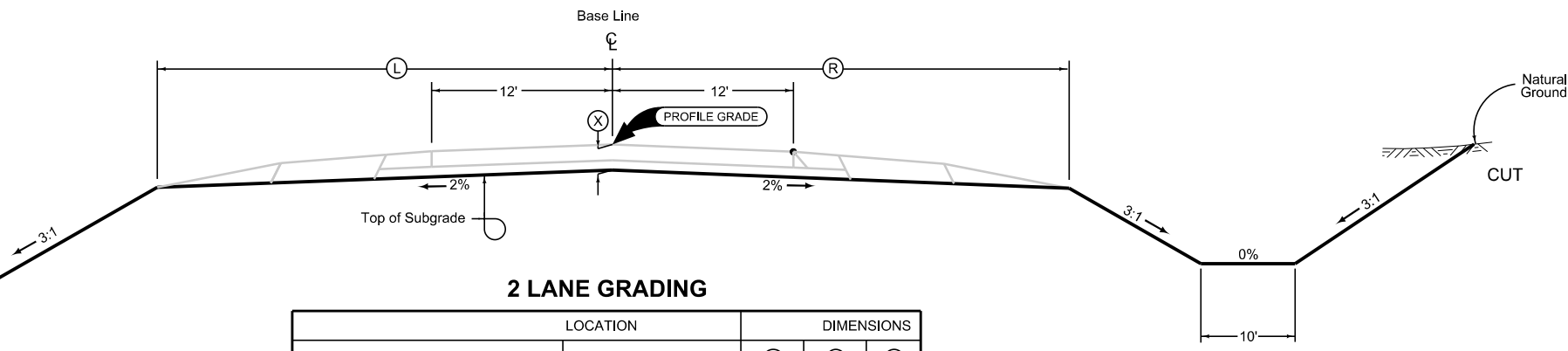
NE 22ND STREET \ DELAWARE AVENUE

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.



BACKSLOPE (BS) BERM
STATION TO STATION
2037+25.00 TO 2037+45.00
2038+60.00 TO 2038+80.00

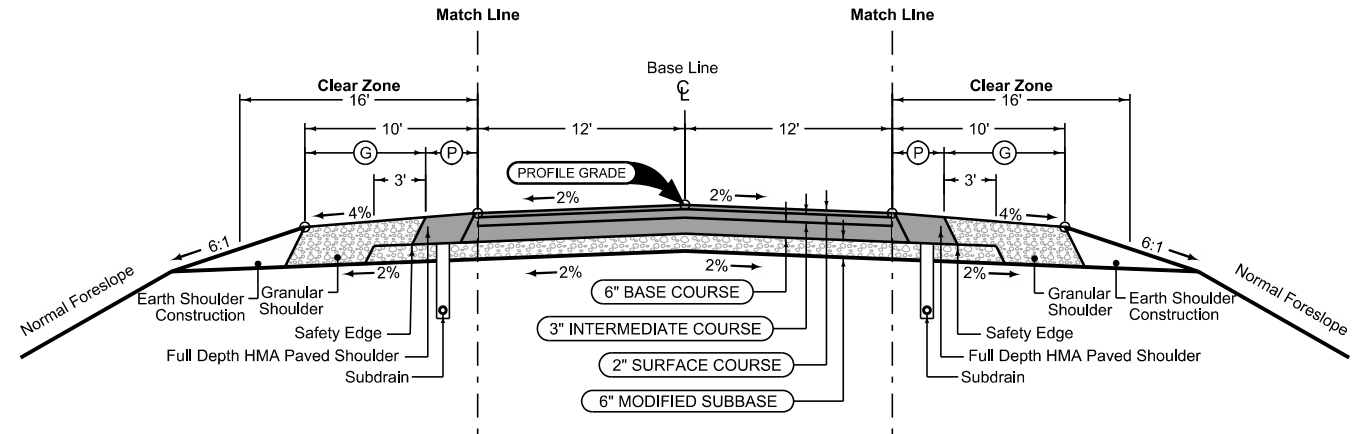


2 LANE GRADING

ROAD IDENTIFICATION	STATION TO STATION	DIMENSIONS		
		L Feet	R Feet	X Inches
NE 22ND STREET \ DELAWARE AVENUE	2037+25.00 2038+02.00	30.3	30.3	17
NE 22ND STREET \ DELAWARE AVENUE	2046+99.00 2047+71.19	30.3	30.3	17

Combination Shoulder

Direction of Travel	BEGIN STATION	END STATION	2_C_ MODIFIED	
			(P) Feet	(G) Feet
SB	2037+25.00	2037+32.00	3.0	7.0
SB	2047+69.00	2047+71.19	3.0	7.0



2 LANE PAVING

2H_ MODIFIED	
STATION TO STATION	
2037+25.00	2038+02.00
2046+99.00	2047+71.19

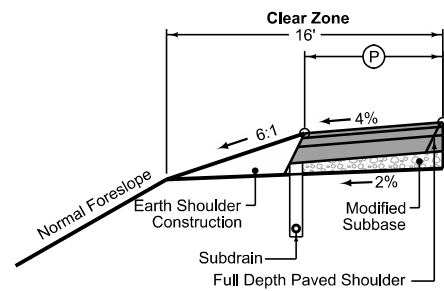
STATION 2037+32.00 TO STATION 2038+02.00 AND STATION 2046+99.00 TO STATION 2047+69.00, CONSTRUCT P.C.C. APPROACH PAVEMENT.

Combination Shoulder

Direction of Travel	BEGIN STATION	END STATION	2_C_ MODIFIED	
			(P) Feet	(G) Feet
NB	2037+25.00	2037+32.00	3.0	7.0
NB	2047+69.00	2047+71.19	3.0	7.0

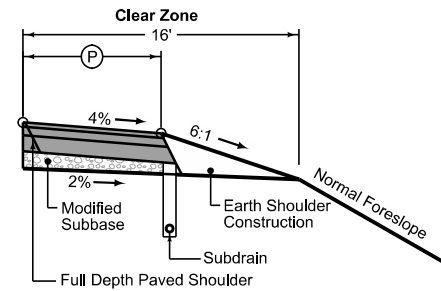
Paved Shoulder at Guardrail

Direction of Travel	BEGIN STATION	END STATION	4_P_Guard_ MODIFIED
			(P) Feet
SB	2037+32.00	2038+02.00	10.0
SB	2046+99.00	2047+69.00	10.0



Paved Shoulder at Guardrail

Direction of Travel	BEGIN STATION	END STATION	4_P_Guard_ MODIFIED
			(P) Feet
SB	2037+32.00	2038+02.00	10.0
SB	2046+99.00	2047+69.00	10.0

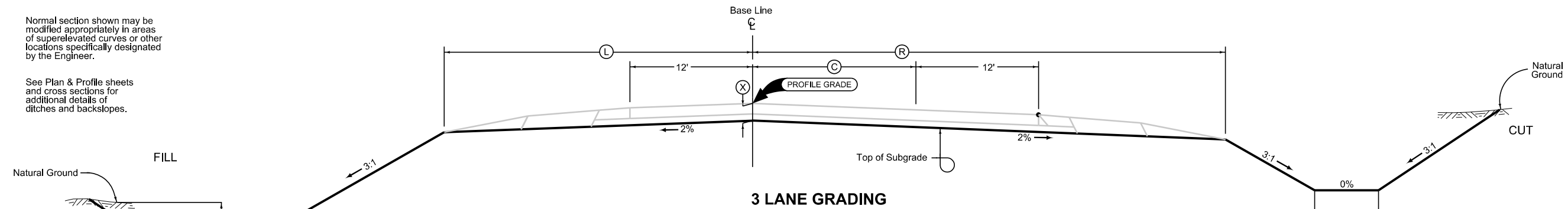


See Tab 100-25 for pavement quantities.
See Tab 112-9 for curbed shoulder quantities.

NE 22ND STREET \ DELAWARE AVENUE

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

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



3 LANE GRADING

BEGIN STATION	END STATION	(DW) Feet
2047+71.19	2054+75.00	10.0
2054+75.00	2056+00.00	NO DITCH
2056+00.00	2059+00.00	5.0

ROAD IDENTIFICATION	STATION TO STATION	DIMENSIONS			
		(L) Feet	(R) Feet	(C) Feet	(X) Inches
NE 22ND STREET \ DELAWARE AVENUE	2047+71.19 - 2051+20.77	30.3	30.3 - 45.8	0.00 - 15.48	17
NE 22ND STREET \ DELAWARE AVENUE	2051+20.77 - 2051+44.39	30.3	45.8 - 46.3	15.48 - 16.00	17
NE 22ND STREET \ DELAWARE AVENUE	2051+44.39 - 2059+00.00	30.3	46.3	16.00	17

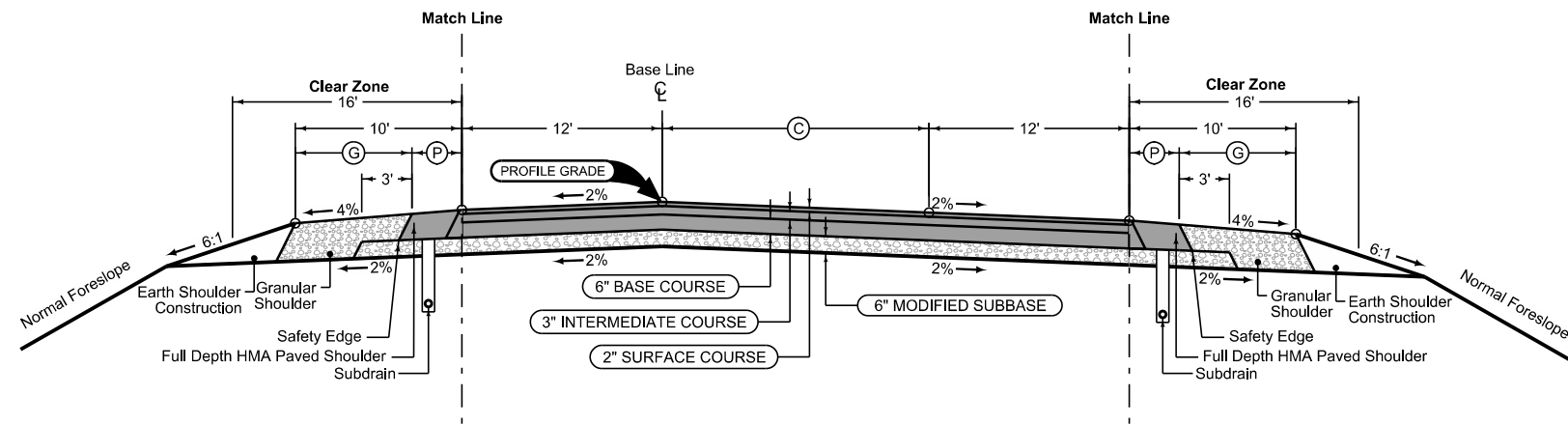
BEGIN STATION	END STATION	(DW) Feet
2047+71.19	2056+75.00	10.0
2056+75.00	2059+00.00	5.0

STATION 2047+71.19 TO STATION 2051+20.77
TRANSITION HORIZONTALLY FROM 2 LANE GRADING TO 3 LANE GRADING RIGHT SIDE ONLY

Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

Direction of Travel	BEGIN STATION	END STATION	2_C_ MODIFIED	
			(P) Feet	(G) Feet
SB	2047+71.19	2059+00.00	3.0	7.0



3 LANE PAVING

STATION TO STATION		(C) Feet
2047+71.19	2051+20.77	0.00 - 15.48
2051+20.77	2051+44.39	15.48 - 16.00
2051+44.39	2059+00.00	16.00

Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

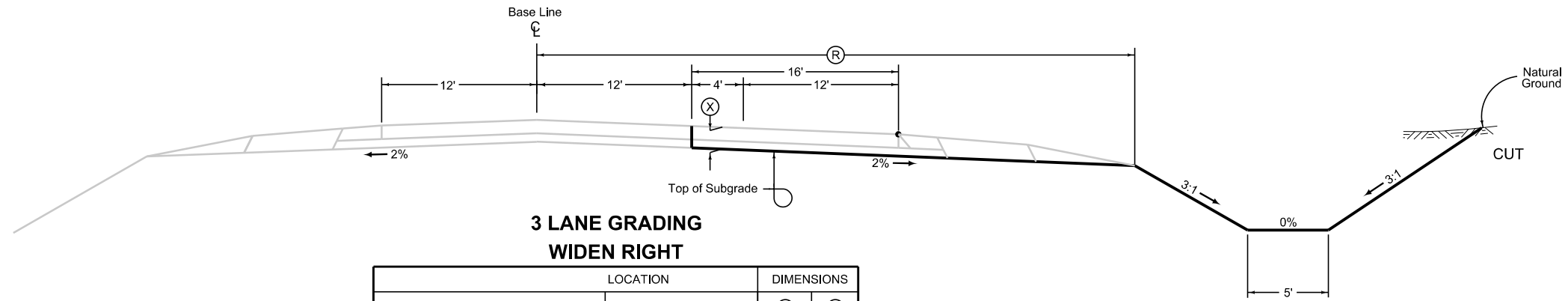
Direction of Travel	BEGIN STATION	END STATION	2_C_ MODIFIED	
			(P) Feet	(G) Feet
NB	2047+71.19	2059+00.00	3.0	7.0

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

NE 22ND STREET \ DELAWARE AVENUE

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

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

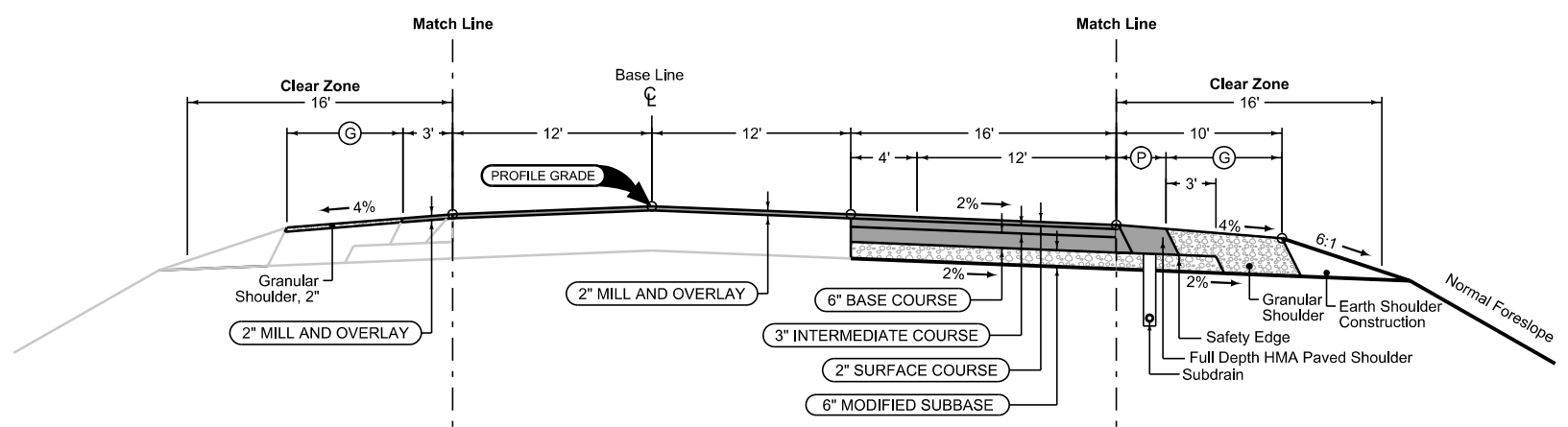


**3 LANE GRADING
WIDEN RIGHT**

ROAD IDENTIFICATION	LOCATION		DIMENSIONS	
	STATION TO STATION		(R) Feet	(X) Inches
NE 22ND STREET \ DELAWARE AVENUE	2059+00.00	2067+85.00	46.3	17

Combination Shoulder

Direction of Travel	2_C_ MODIFIED		
	BEGIN STATION	END STATION	(G) Feet
SB	2059+00.00	2060+78.00	4.0
SB	2062+00.88	2067+85.00	7.0



**3 LANE PAVING
WIDEN RIGHT**

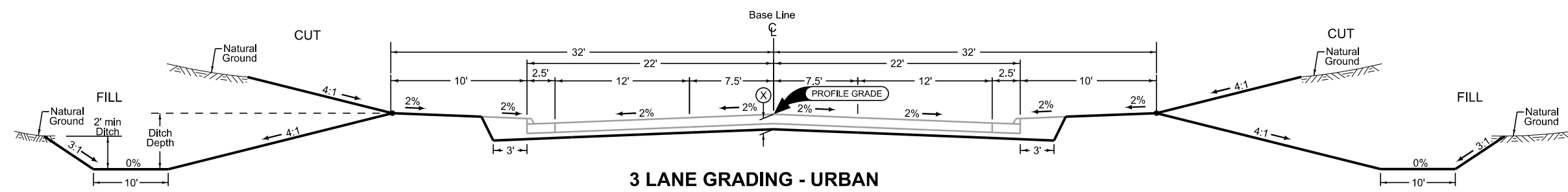
2H_TWLTL_ MODIFIED	
STATION TO STATION	
2059+00.00	2067+85.00

Combination Shoulder

Direction of Travel	2_C_ MODIFIED			
	BEGIN STATION	END STATION	(P) Feet	(G) Feet
NB	2059+00.00	2067+85.00	3.0	7.0

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

NE 22ND STREET \ DELAWARE AVENUE



3 LANE GRADING - URBAN

LOCATION		DIMENSIONS
ROAD IDENTIFICATION	STATION TO STATION	(X) Inches
NE 51ST PLACE	5053+86.61 5055+28.00	17

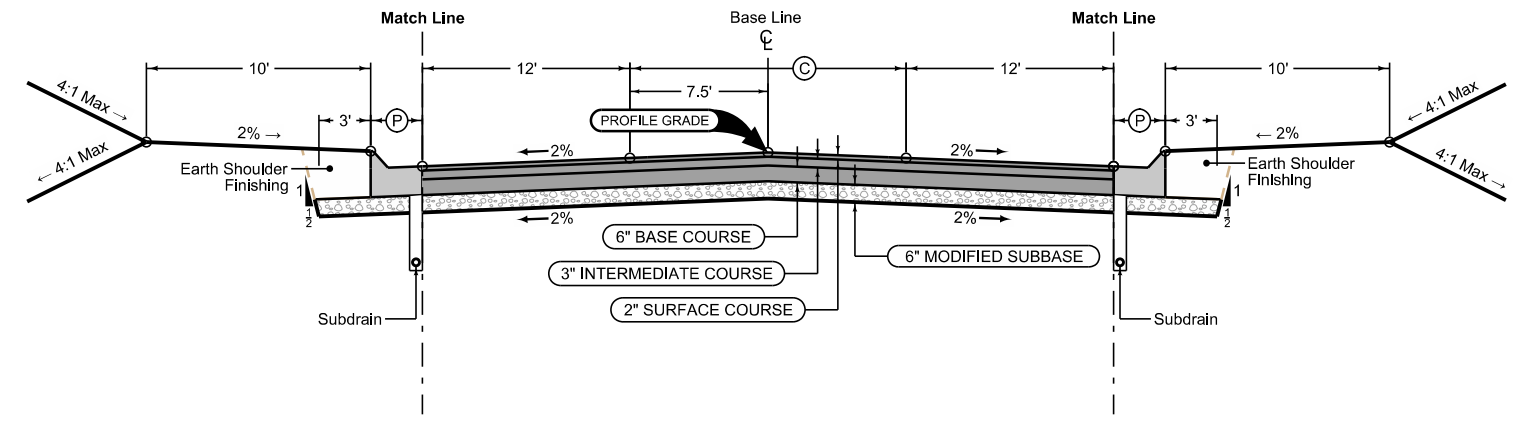
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

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

Curbed Shoulder

Shoulder Jointing:
Transverse:C at 20' spacing

2_Curb_04-19-11			
STATION TO STATION	(P) Feet	Curb Type See PV-102	
5053+86.61 5055+28.00	2.5'	6" STANDARD	



3 LANE PAVING - URBAN

2H_TWLTL_04-19-11 MODIFIED		
STATION TO STATION	(C) Feet	
5053+86.61 5055+28.00	15	

Curbed Shoulder

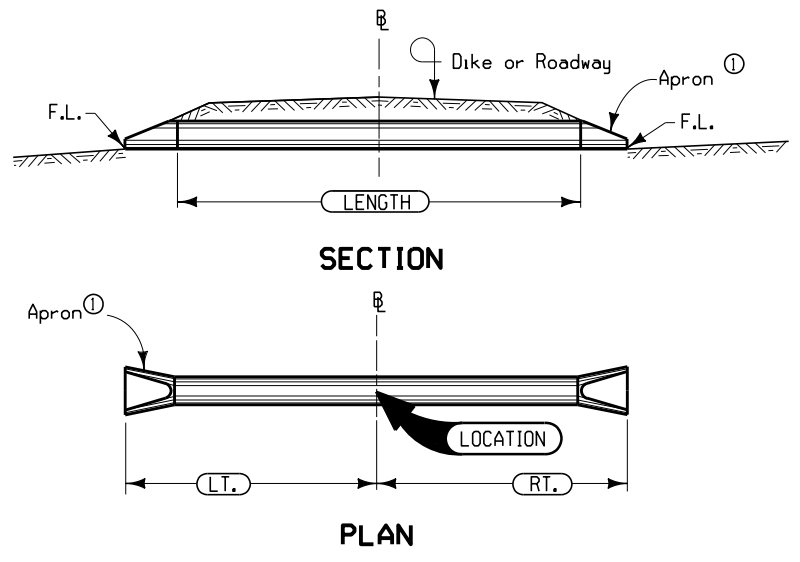
Shoulder Jointing:
Transverse:C at 20' spacing

2_Curb_04-19-11			
STATION TO STATION	(P) Feet	Curb Type See PV-102	
5053+86.61 5055+28.00	2.5'	6" STANDARD	

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

NE 51ST PLACE

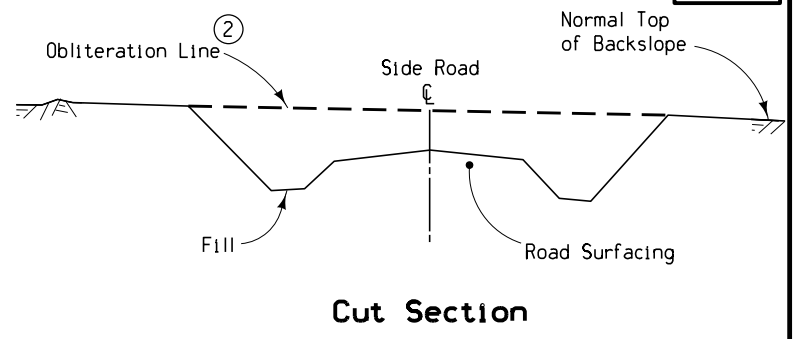
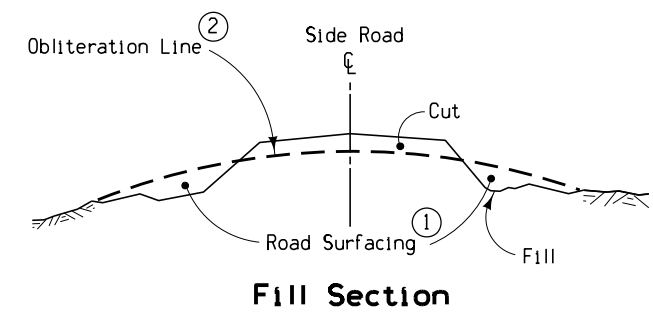
1101
04-30-02



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

PIPE CULVERT

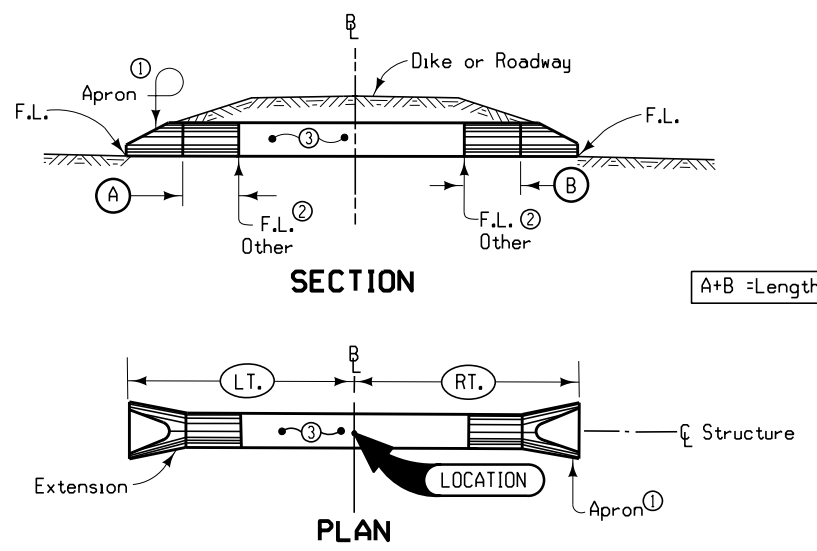
4302
04-03-01



① Existing road surfacing (granular material) shall be placed as shown unless otherwise directed by the Engineer or provided for in the detail project plans.
 ② When specified, the upper 1' to be suitable for vegetation (grass or crops).
 Note:
 The work of obliterating or reshaping old roadbeds shall be done at the direction of the Engineer.

TYPICAL DETAILS FOR OBLITERATION EXISTING ROADBED

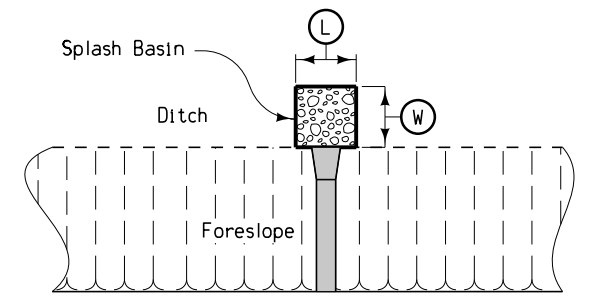
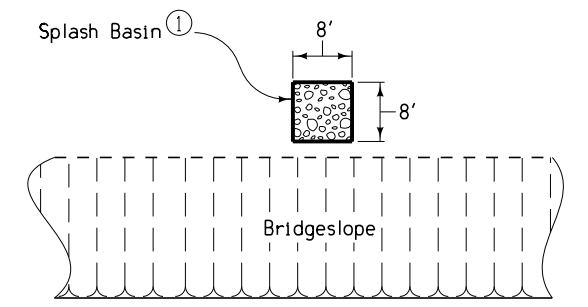
1301
10-03-00



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

PIPE EXTENSION

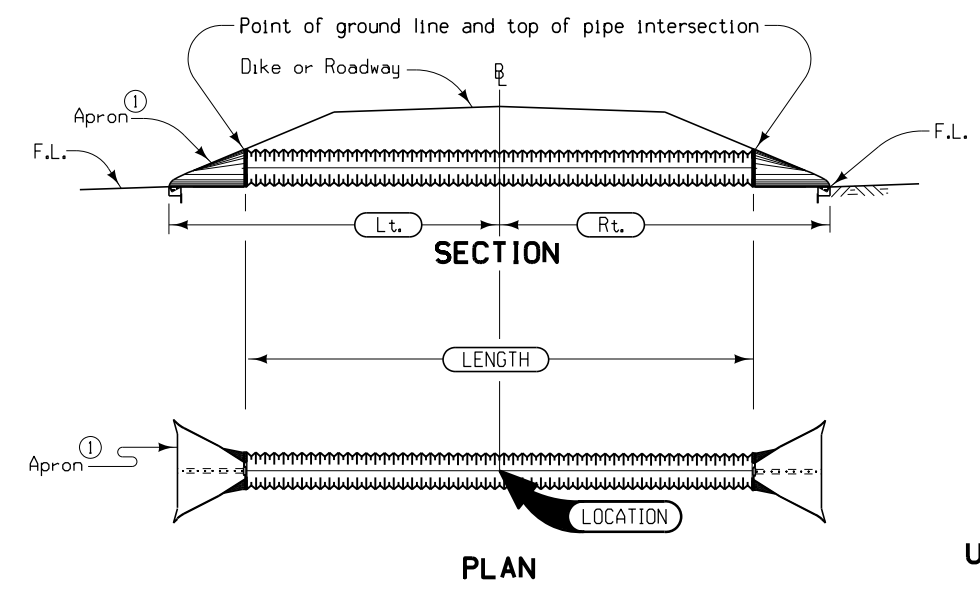
4404
04-20-10



Splash Basin Under Bridge Drain Plan View

Splash Basin at Culvert Outlet Plan View

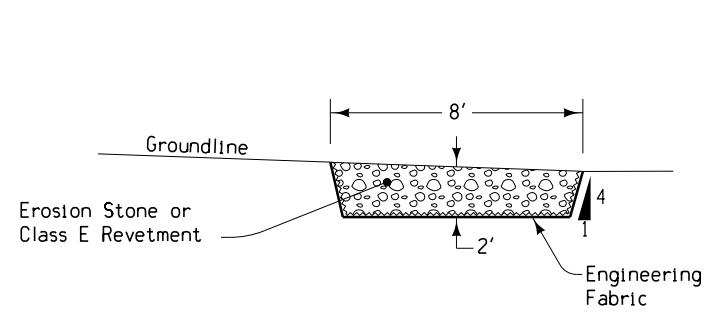
1601
04-21-09



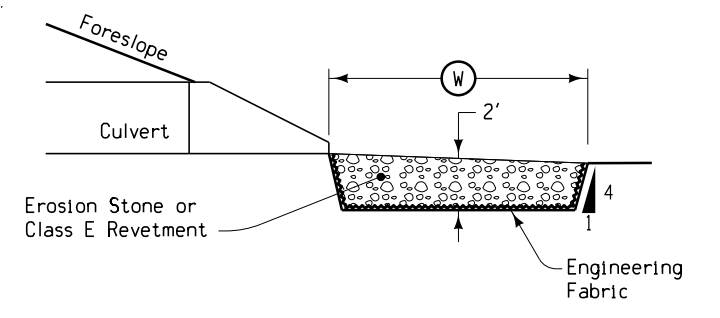
Notes:
 B shall be C of roadway, dike, survey, or other; as detailed on plans.
 Skew angle is the angle which one end of the pipe is ahead (by stationing) of a line perpendicular to the B (example skew Rt. ahead 30 degrees).
 Refer to tabular listings and other plans for additional information.
 ① See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

Special Note:
 Pipe Lengths are calculated based on length of Concrete Pipe.

UNCLASSIFIED PIPE CULVERT



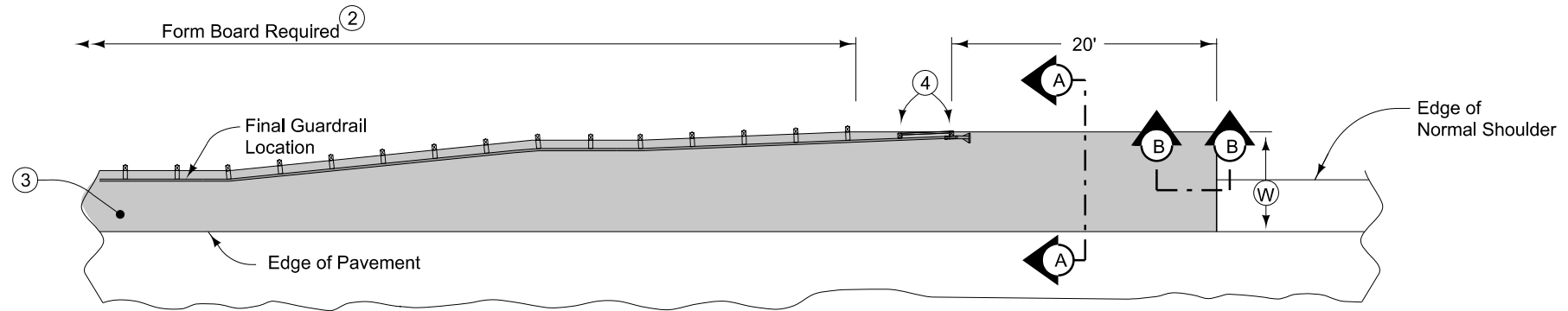
Splash Basin Under Bridge Drain Typical Section



Splash Basin at Culvert Outlet Typical Section

① Center splash basin directly under bridge drain.
 Refer to Tabulation 100-23 for additional information.

ROCK SPLASH BASIN



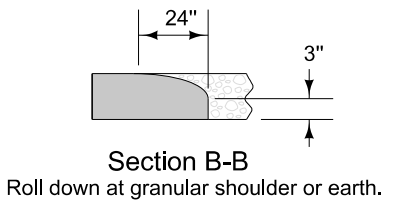
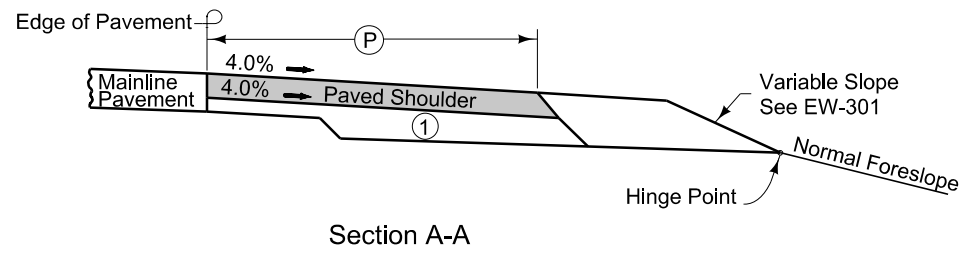
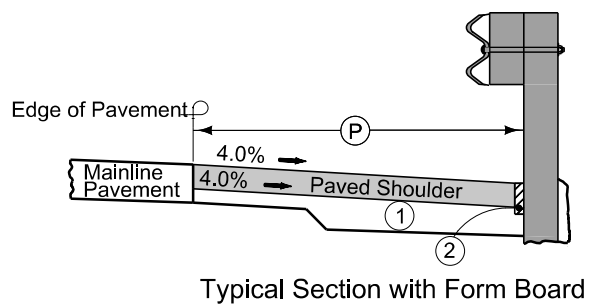
6" HMA Paved Shoulder at guardrail. 7" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse joints in shoulder at mid-panel of the mainline pavement. Place longitudinal joint at W/2 from edge of mainline pavement when W is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

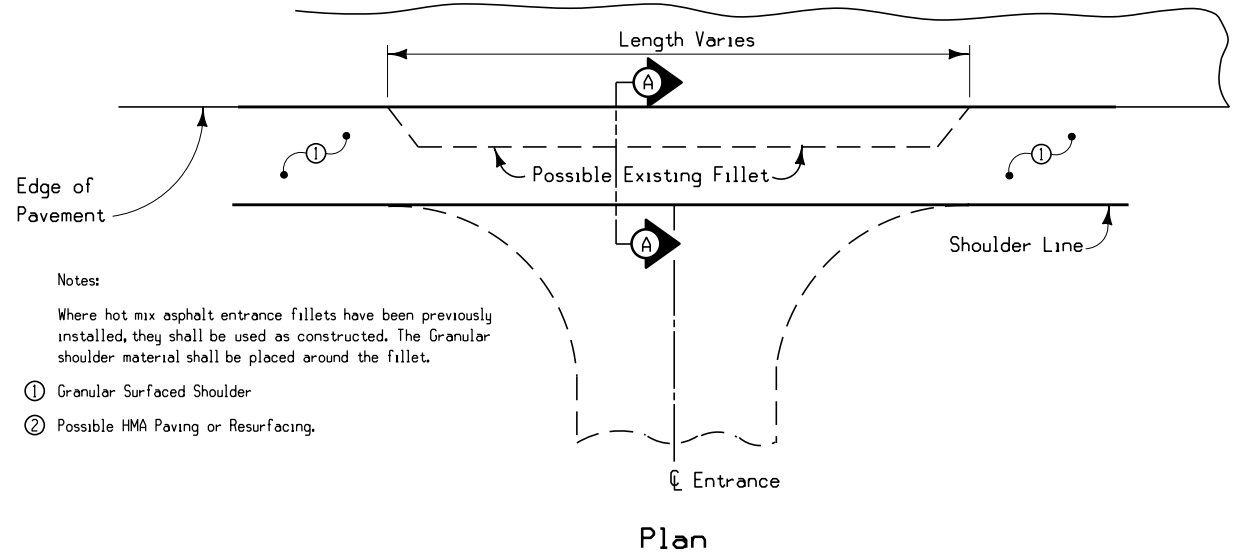
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal & reinstallation of guardrail will be allowed with no additional payment.

Refer to Shoulder tabulation (112-9) for quantities.

- ① 6" subgrade treatment.
- ② When guardrail posts are installed prior to construction of paved shoulder, nail 1" x 6" untreated form boards along the face of guardrail posts for the length shown. This board is to prevent shoulder material from contacting the sides of the posts and altering the function of the guardrail. Form board not required for final 2 posts.
- ③ Continue paved shoulder to existing paved shoulder or 20' beyond the end of guardrail.
- ④ Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement.

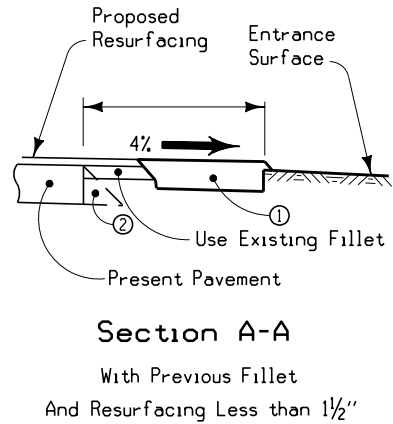
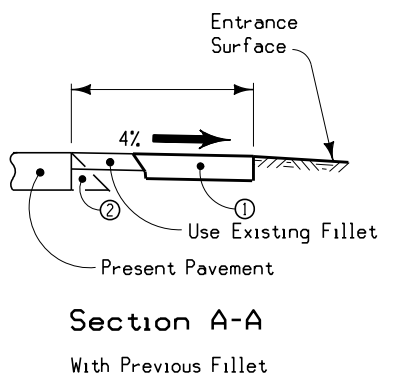
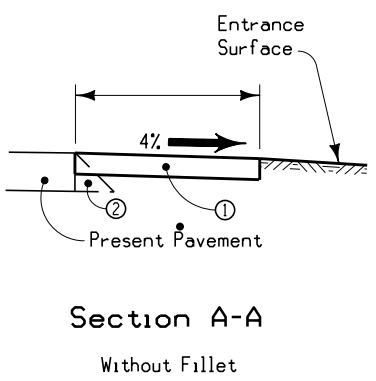


PAVED SHOULDER AT GUARDRAIL



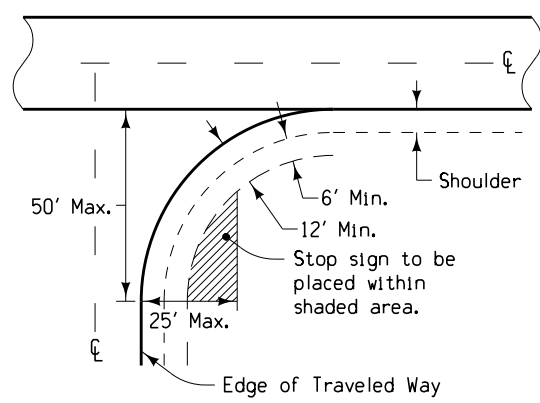
Notes:
Where hot mix asphalt entrance fillets have been previously installed, they shall be used as constructed. The Granular shoulder material shall be placed around the fillet.

- ① Granular Surfaced Shoulder
- ② Possible HMA Paving or Resurfacing.

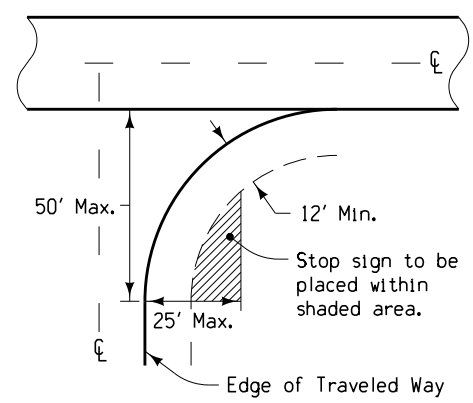


GRANULAR SHOULDER CONSTRUCTION THRU ENTRANCES

9503
07-15-97



CASE 'A'
WITH SHOULDER



CASE 'B'
WITHOUT SHOULDER

NOTES:

Stop signs should be confined to the shaded areas, but as close to the approach roadway as possible to provide the motorist with the best visual impact.

If possible, stop signs should be placed at the point where vehicles are to stop or as near as practical.

In rural areas, the lateral clearance should not be closer than 6' from the edge of a usable shoulder, or if none, 12' from edge of the traveled way.

In urban areas, stop signs should be placed a minimum of 6' from the near edge of the intersected street or a minimum of 4' in advance of the near edge of a marked crosswalk. Lateral clearance may be reduced to a minimum of 2' from the face of a curb.

Where the approach roadway consists of two lanes of traffic, a second stop sign should be placed where it is visible to traffic in the inner lane.

At channelized intersections, the additional stop sign may be placed on a channelized island or median.

STOP SIGN PLACEMENT

SURVEY SYMBOLS

○ LUM Luminaire	UV Underground Utility Vault
□ SIGN SI Sign	-- E1 -- ELA Underground Electric Line Co. 1
■ ROW Right of Way Rail	-- E2 -- ELB Underground Electric Line Co. 2
⚡ PPA Power Pole Co. 1	-- E3 -- ELC Underground Electric Line Co. 3
⚡ PRA Power Riser Co. 1	-- W -- WLA Underground Water Line Co. 1
✱ TEV Evergreen Tree	-- T1 -- TLA Underground Telephone Line Co. 1
🌳 SHR Shrub	-- T2 -- TLB Underground Telephone Line Co. 2
🌳 TDC Tree Deciduous	-- T3 -- TLC Underground Telephone Line Co. 3
Ⓛ LP L.P. Tank	-- F0 -- FOA Underground Fiber Optic Co. 1
○ OUT Tile Outlet	-- F02 -- FOB Underground Fiber Optic Co. 2
✱ TSG Traffic Signal	-- F03 -- FOB Underground Fiber Optic Co. 3
☒ IN Storm Sewer Intake	-- G -- GLA Underground Gas Line Co. 1
⊗ INB Storm Sewer Intake Beehive	-- S.S. -- STA Storm Sewer Co. 1
⊕ MH Utility Access (Manhole)	-- S.S.2 -- STB Storm Sewer Co. 2
BB BB Billboard	
○ MIS Miscellaneous	
○ MM MM Mile Marker Post	
○ X Lot Corner	
□ SIGN SL Speed Limit Sign	
○ TP TPD Telephone Pedestal	
■ GP GP Guard Post	
□ EB EB Electrical Box	
○ WV WV Water Valve	
🔥 FHYD Fire Hydrant	
○ GV GV Gas Valve	
□ UB UB Utility Box	
○ TVP TVP TV Pedestal	
Ⓢ ST Septic Tank	
TLN Tree Line	
TIL Tile Line	
FCL Chain Link and Security Fence	
FW Wire Fence	
FWD Wood Fence	
DU Centerline Draw or Stream (Up)	
D Centerline Draw or Stream (Down)	
DIK Centerline of Dike or Dam	
EW Edge of Water	
BNK Stream Bank	
GDL Guard Rail Steel	
RIP Rip-Rap	
RR Centerline of Railroad Tracks	

UTILITY LEGEND

-- E1 --	MidAmerican Energy
-- E2 --	Polk County Transportation
-- E3 --	Iowa DOT Transportation and Lighting
-- W --	Des Moines Waterworks
-- T1 --	CenturyLink
-- T2 --	CenturyLink
-- T3 --	CenturyLink
-- F0 --	ICN (Windstream)
-- F02 --	Paetec (Windstream)
-- F03 --	Paetec (Windstream)
-- G --	MidAmerican Energy
-- S.S. --	Private
-- S.S.2 --	Polk County

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	Description
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING	Design Color No.	Description
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Cyan	(71)	Proposed Pavement Milling and Overlay 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.	Description
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

Symbol	Description
○	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

Symbol	Description
▲	Proposed Right-of-Way
△	Existing Right of Way
▲△	Existing and Proposed Right-of-Way
△▲	Easement and Existing Right-of-Way
○	Easement (Temporary)
⊗	Easement
C/A	Access Control
→ ←	Property Line

Symbol	Description
---	Proposed Borrow Elements
---	Aquisition Outline
---	Conceptual Outline

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET (COVERS SHEET SERIES D & E)

SAYLOR TWP.  
T-79N R-24W  
SEC. 13

DELAWARE TWP.  
T-79N R-23W  
SEC. 18

JEFFREY L. PETTIECORD

REMOVE GUARDRAIL

OBLITERATE

FUTURE INTERSTATE 35 SOUTHBOUND  
TO INTERSTATE 80 WESTBOUND

FUTURE INTERSTATE 80 WESTBOUND

Sta. 2013+05.61 Interstate 80  
Sta. 2043+68.23  
NE 22nd Street

REMOVE GUARDRAIL AND CONCRETE BARRIER

2010

2045

PT Sta 2013+05.61

2015

2020

90°22'21.69"

Sta. 52+40.8  
320.0' x 28.0'  
Conc Beam Bridge  
(REMOVE)

Sta. 2017+67.18  
54" X 45" Conc Pipe  
w/ 54" Conc Pipe Extension  
D.A. = 89 Ac - R-H  
(U.A.C.)

INTERSTATE 80 WESTBOUND

INTERSTATE 80 EASTBOUND

FUTURE INTERSTATE 80 EASTBOUND

Sta. 2014+34.88, 115.40 Rt  
48" X 39" Conc Pipe  
D.A. = 15 Ac - R-H  
(U.A.C.)

DAVID ZELENKA

REMOVE GUARDRAIL AND CONCRETE BARRIER

REMOVE GUARDRAIL

2040

NE 22ND STREET  
DELAWARE AVENUE

FUTURE INTERSTATE 80 EASTBOUND  
TO INTERSTATE 35 NORTHBOUND

FUTURE INTERSTATE 80 EASTBOUND  
TO INTERSTATE 235 SOUTHBOUND

MIDAMERICAN  
ENERGY CO.

Building

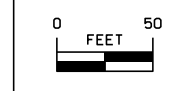
GOODWILL INDUSTRIES  
DES MOINES INC

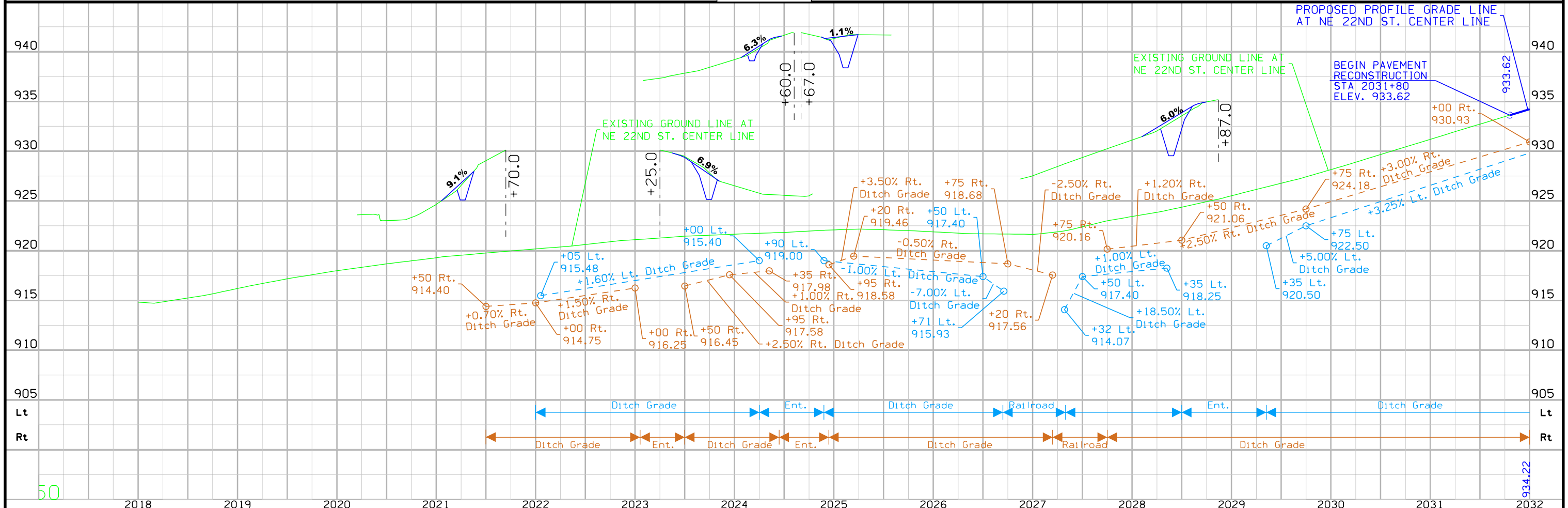
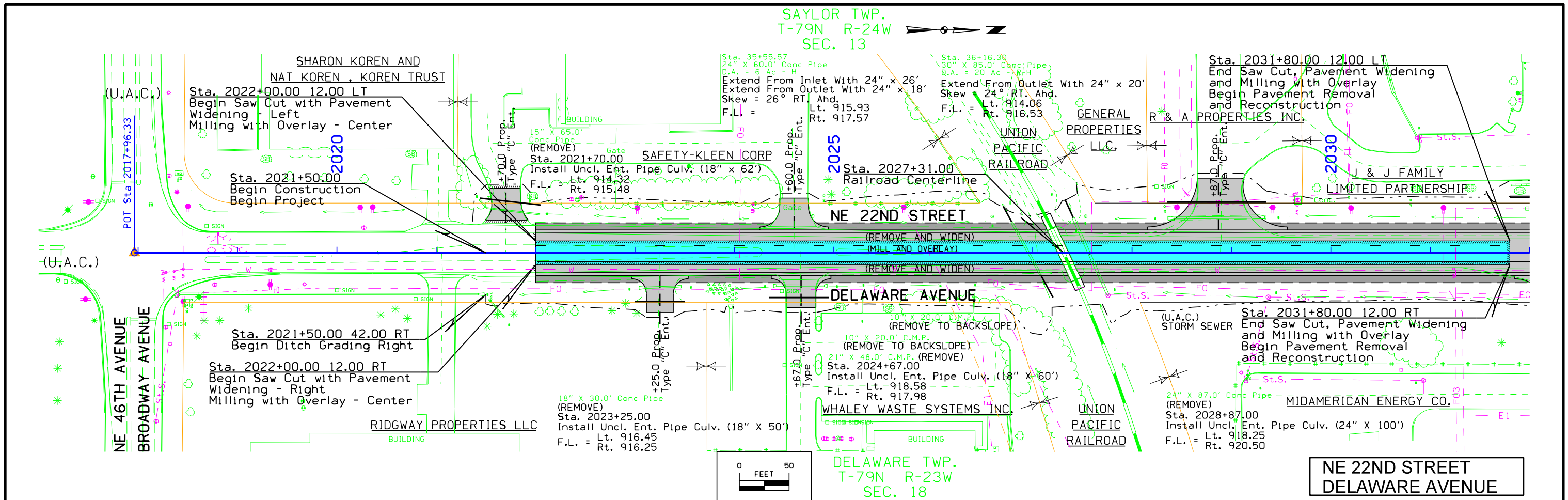
SAYLOR TWP.  
T-79N R-24W  
SEC. 13

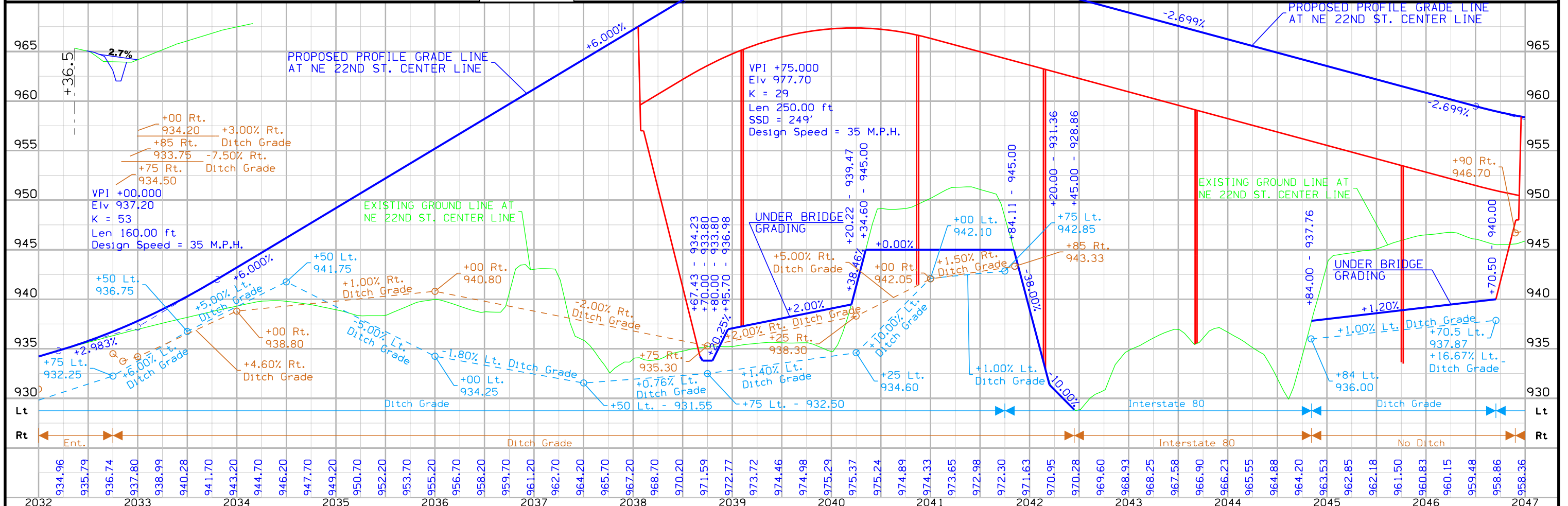
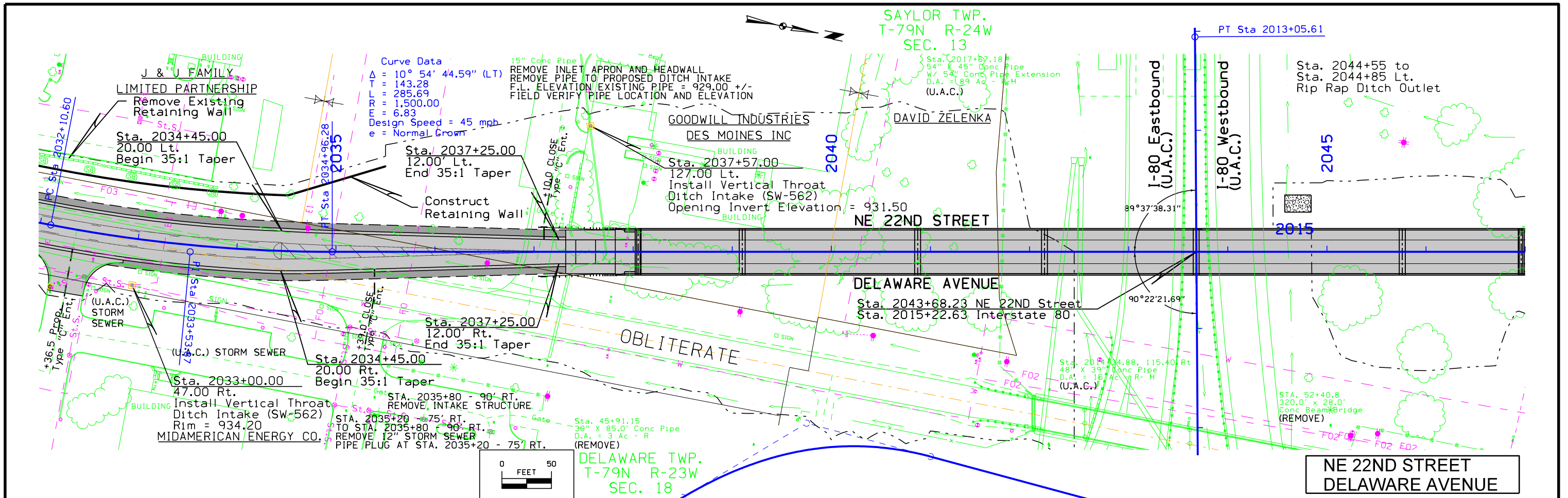
DELAWARE TWP.  
T-79N R-23W  
SEC. 18

This Sheet  
For Information Only

INTERSTATE 80











SAYLOR TWP.  
T-79N R-24W  
SEC. 13

SAYLOR TWP.  
T-79N R-24W  
SEC. 12

Sta. 2067+85.00  
End Saw Cut with  
Pavement Widening - Right  
and Milling with Overlay  
Center and Left

Sta. 2067+85.00  
End Construction  
End Project

Sta. 2066+93.00  
Install SW-512 Bee Hive Intake  
F.L. = Rim 965.30  
I.E. 963.81

18" X 271' C.M.P.  
(REMOVE TO BEE HIVE INTAKE)  
Sta. 2065+92.00  
Install Uncl. Ent Pipe Culv. (18" x 163')  
F.L. = Lt. 963.81  
Rt. 963.50

RLR INVESTMENTS LLC  
24" X 113' C.M.P.  
(REMOVE)  
Sta. 2063+22.00  
Install Uncl. Ent. Pipe Culv. (24" X 115')  
Lt. 962.73  
Rt. 962.17

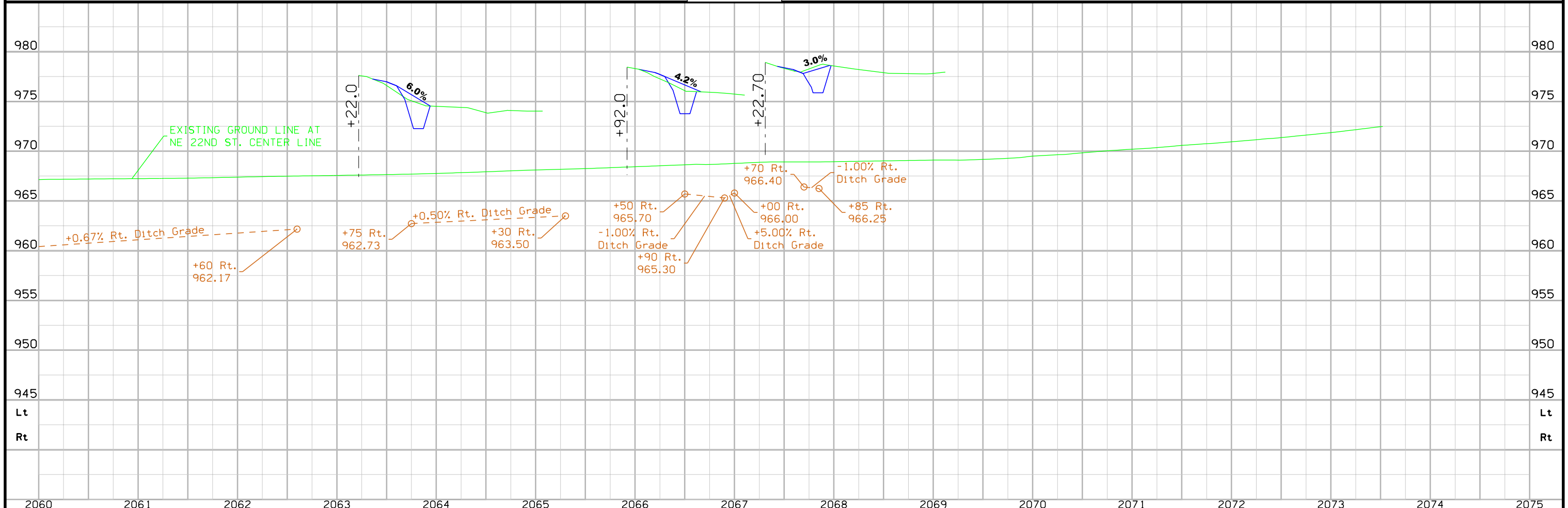
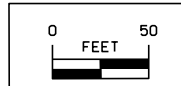
IOWA TERMINAL  
PROPERTIES LLC

ROADWAY  
EXPRESS, INC.

RASMUSSEN LAND  
COMPANY LLC

DELAWARE TWP.  
T-79N R-23W  
SEC. 7

NE 22ND STREET  
DELAWARE AVENUE



SAYLOR TWP.  
T-79N R-24W  
SEC. 13

DELAWARE TWP.  
T-79N R-23W  
SEC. 18

RASMUSSEN LAND  
COMPANY LLC

Curve Data  
 $\Delta = 19^\circ 22' 18.38''$  (RT)  
 $T = 42.67$   
 $L = 84.53$   
 $R = 250.00$   
 $E = 3.62$   
 Design Speed = 25 mph  
 $e = \text{Normal Crown}$

Sta. 64+44.51, 407.39 Lt.  
 $54'' \times 200.0'$  C.M.P.  
 D.A. = 28 Ac - R  
 (U.A.C.)

Sta. 63+97.81, 34.65 Lt.  
 $18'' \times 92.0'$  C.M.P.  
 D.A. = 2 Ac - F  
 (REMOVE)  
 Sta. 5054+92.00  
 Install RCP (24" X 118')  
 F.L. = Lt. 958.95  
 Rt. 958.59

Sta. 5053+50.00  
 Begin Ditch Grading  
 Left and Right

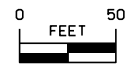
LEDERMAN BROS.  
PROPERTY MANAGEMENT  
 Sta. 5053+86.61  
 Begin Pavement  
 Removal and Pavement  
 Reconstruction  
 NE 51st Place

RLR  
INVESTMENTS LLC

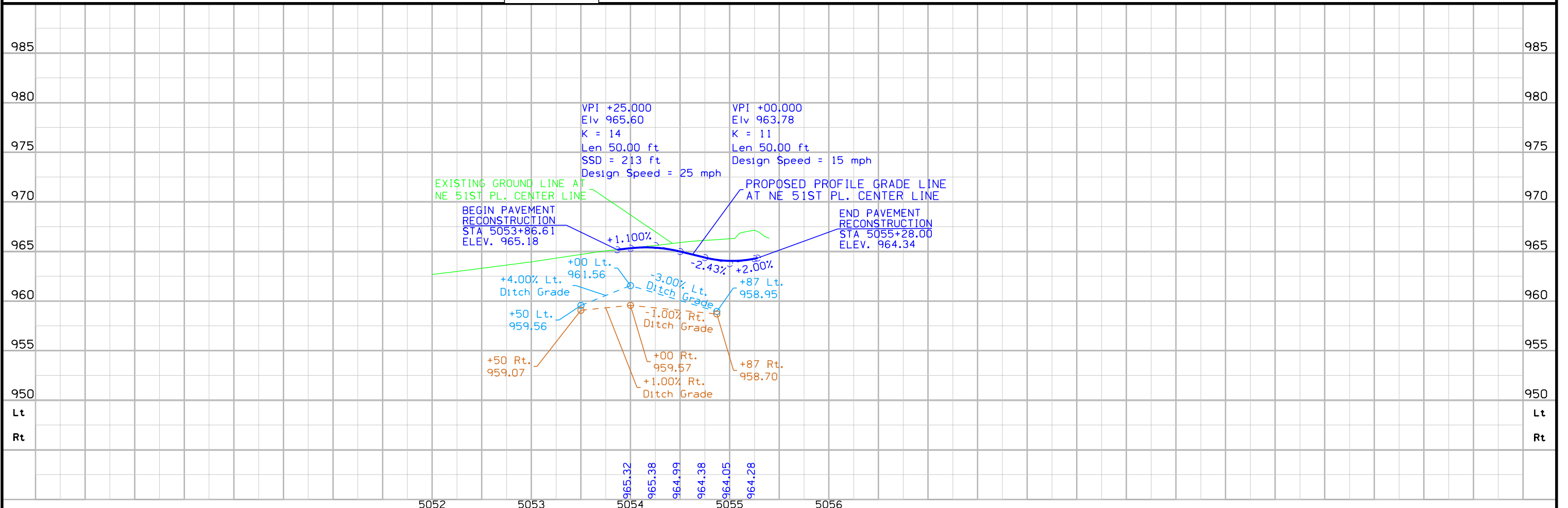
Sta. 2055+40.00 NE 22nd Street  
 Sta. 5055+40.00 NE 51st Place

Sta. 5055+28.00  
 End Pavement  
 Removal and Pavement  
 Reconstruction  
 NE 51st Place

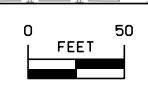
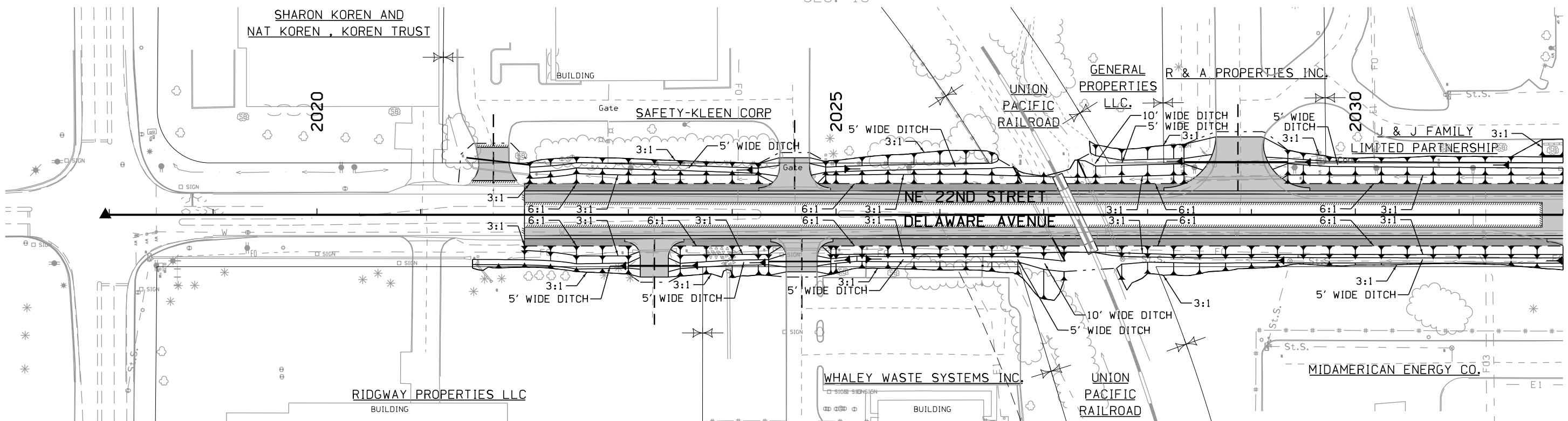
JEFFREY L.  
PETTIECORD



NE 51ST PLACE



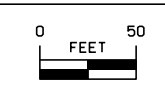
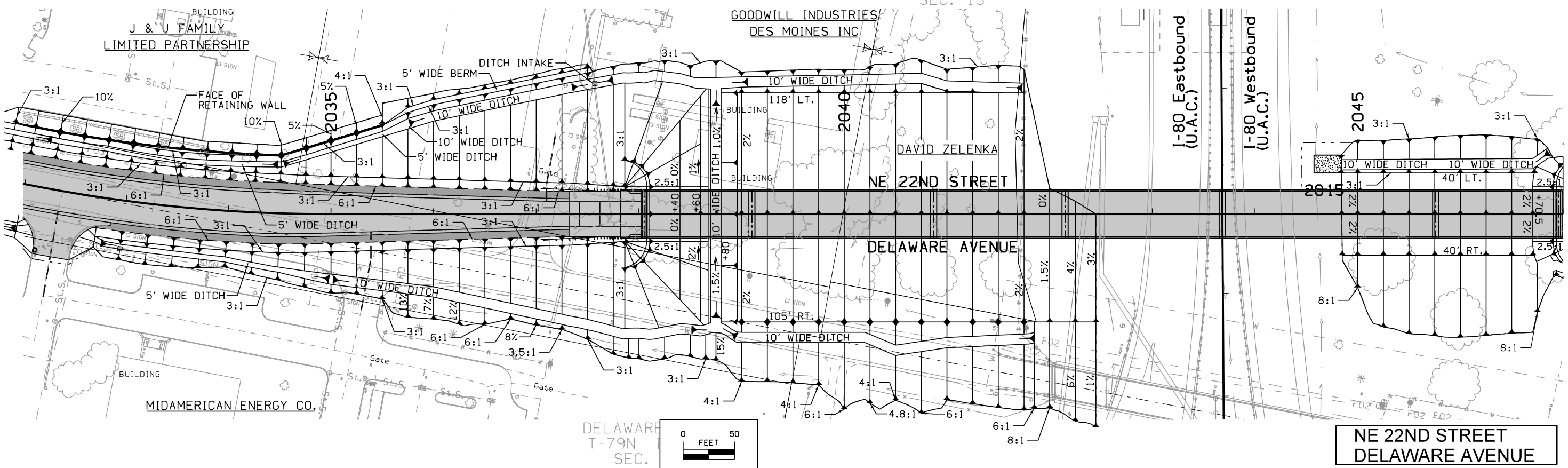
SAYLOR TWP.  
T-79N R-24W  
SEC. 13



DELaware TWP.  
T-79N R-23W  
SEC. 18

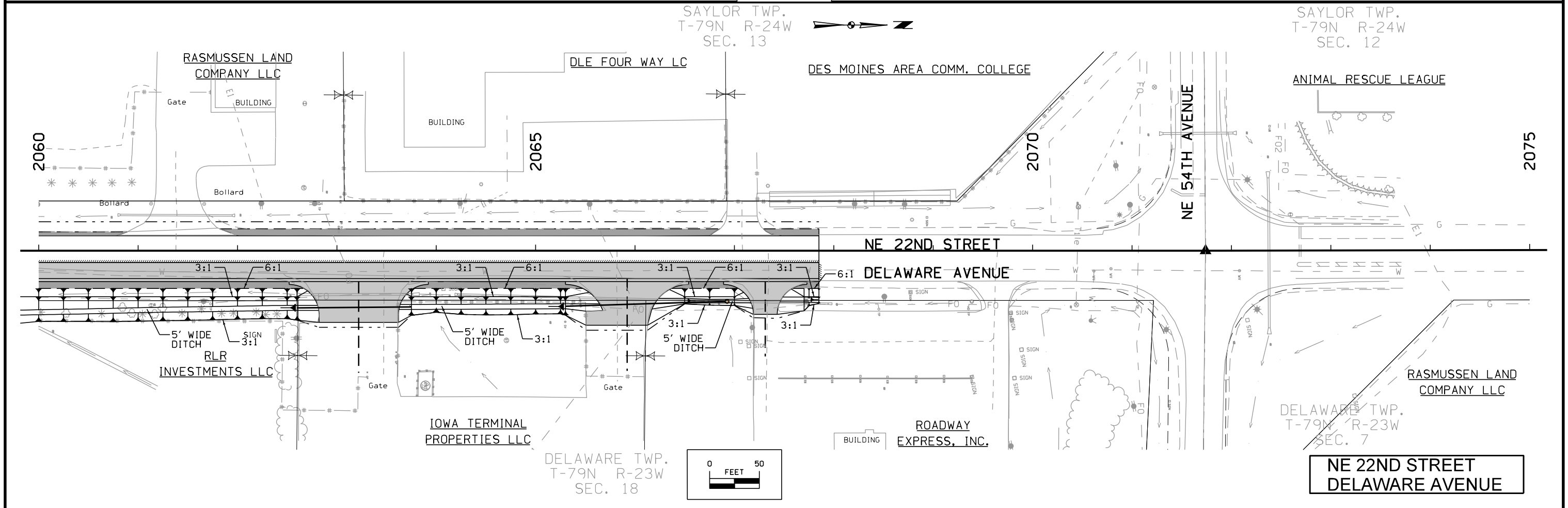
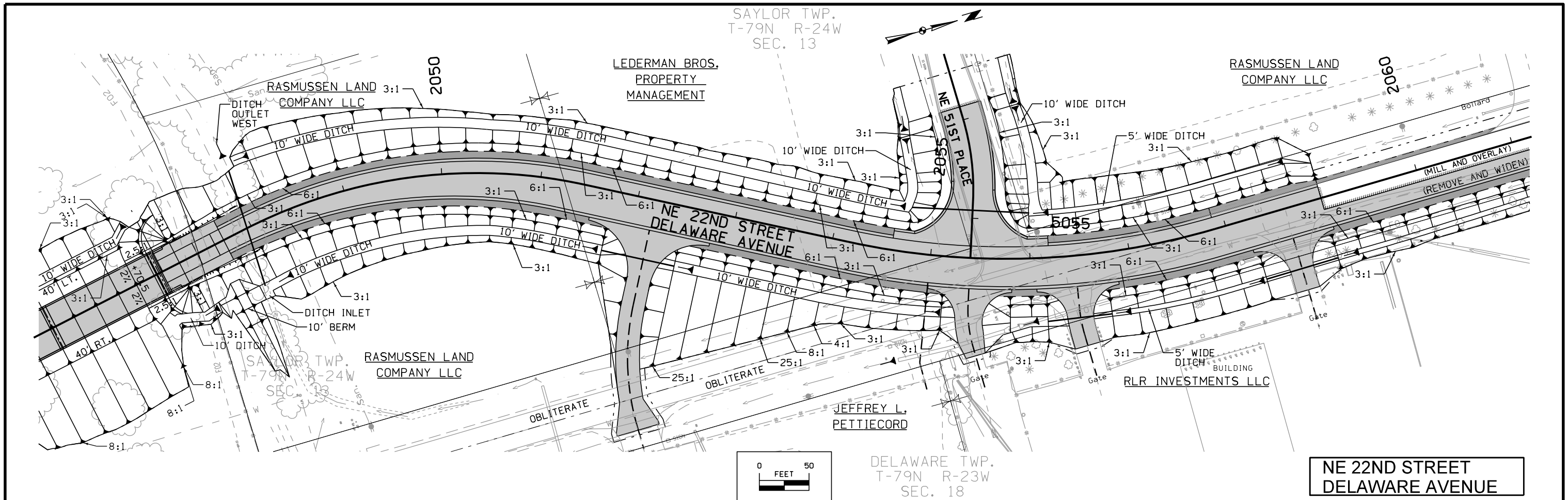
NE 22ND STREET  
DELAWARE AVENUE

SAYLOR TWP.  
T-79N R-24W  
SEC. 13



DELaware TWP.  
T-79N  
SEC.

NE 22ND STREET  
DELAWARE AVENUE



## Survey Information

### General Information

Measurement units for this survey are US survey feet. This survey is for proposed bridge improvements at intersection NE 22nd. Ave at I-35.

### Vertical Control

This survey is relative to NAVD 88 vertical datum. A three wire level was run thru this project from the 2000/2001 survey Project # IM-35-3(146)86--13-77. A three wire level loop was run originating @ BM 722. A three wire level loop was then was run east along NE 54th Ave, then returned back to BM # 722. Additional three level loops were also run. Additional benchmarks were placed throughout this project using a GNSS Base-Rover setup at Pt. 24. A minimum of three observations were collected with 1 hour or greater time span between each observation. The local error of these observations relative was less than 0.04 ft. at 95% confidence level.

Vertical Equations to the Project Datum Bench Marks and Other Benches along this Survey are as Follows:

BM # 800 this survey Elev. = 984.04 (NAVD 88 English).  
= BM # 800 2000/2001 Survey Proj. # IM-35-3(146)86--13-77  
Elev. = 984.04

### Horizontal Control

A 2000-2001 GPS network for Project IM-35-3(146)86—13-77 was used. Datum is NAD83 (1996) Iowa State Plane South Zone (US Survey Feet.). The project coordinates are scaled about control Pt. G030- 609616.47N, 1618959.90E, 945.43EL.  
1/Combined Scale Factor of project= 1.000062537

### Alignment Information

#### Mainline Alignment (I-80)

The I 80 alignment was computed from a 1994 metric I 80 survey alignment. Metric alignment points were scaled and translated to this survey coordinate system. No rotation was required. Sta 2000+00.00 was assigned to the PC of the metric I 80 curve west of the Delaware Ave. Bridge. Stationing was run ahead without station equation to the end of the alignment at the mixmaster interchange central intersection point.

This Mainline survey relates to the mainline plan stationing as follows:

PC Sta. 2000+00.00 this survey (English)  
=PC Sta. 322+54.03m Project # IM-35-3(73)—13-77 (Metric)

PI Sta. 2006+53.61 this survey (English)  
=PI Sta. 324+53.264m Project # IM-35-3(73)—13-77 (Metric)

#### Ne 22ND Ave Alignment

The NE 22ND Ave alignment for this survey is a retrace of Polk County Plans Project # L-1511—73-77. Stationing was obtained at PI Sta. 26+56.0, and carried ahead to PI Sta. 106+20.7. The following PI points were used to create this CL alignment.

Note: L-1511—73-77 Plan alignment /survey alignment does not split the existing bridge floor on 22nd over I 80/35 by approximately 1 foot. This is not a concern because the concept is for relocation of 22nd.

PI 26+56.0 Polk County Plans Project # L-1511—73-77 (Fd. Nail)  
PI 53+11.5 Polk County Plans Project # L-1511—73-77 (Fd. X Bridge Floor)  
PI Sta 79+52.5 Polk County Plans Project # L-1511—73-77 (Fd. Hinge Nail)  
PI Sta 106+20.7 Polk County Plans Project # L-1511—73-77 (Fd. Hinge Nail)

This NE 54th Ave survey relates to the mainline plan stationing as follows:

PI Sta. 26+56.0 this survey  
=PI Sta. 26+56.0 Project # Polk County Plans Project # L-1511—73-77

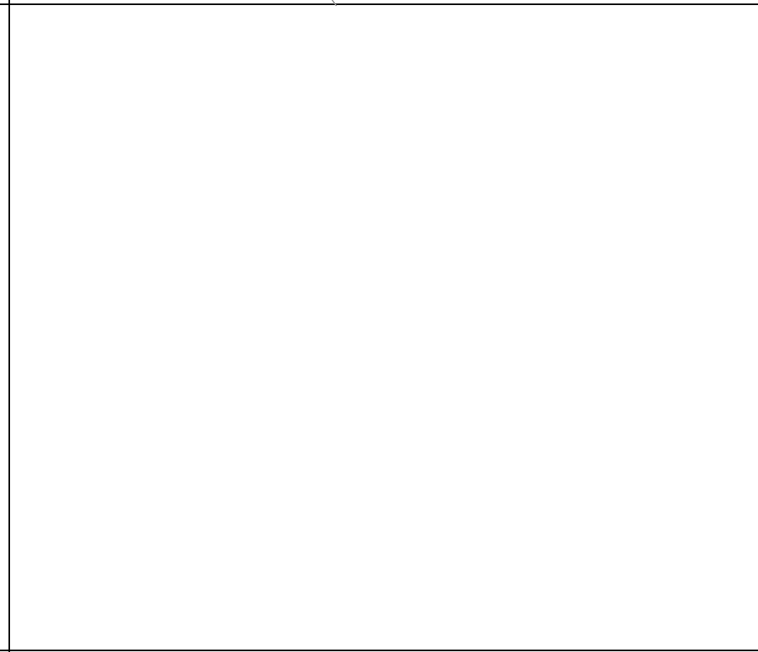
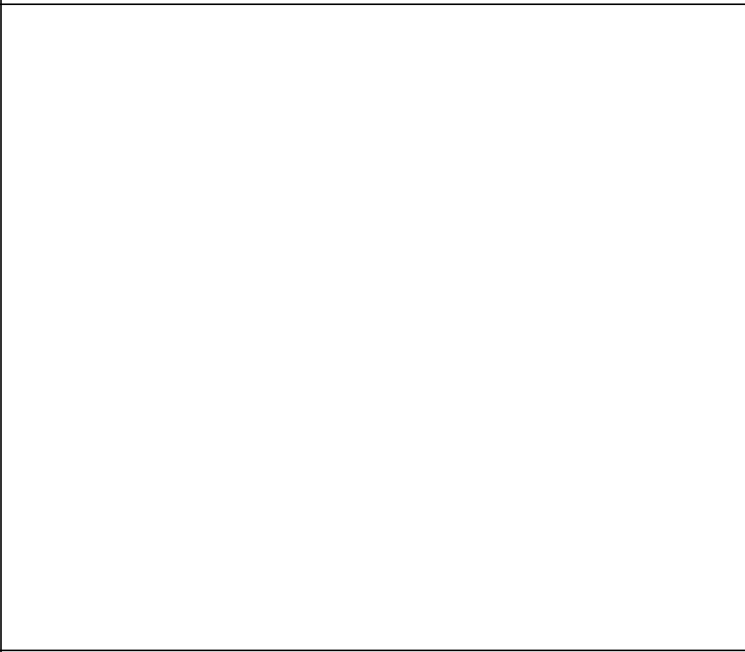
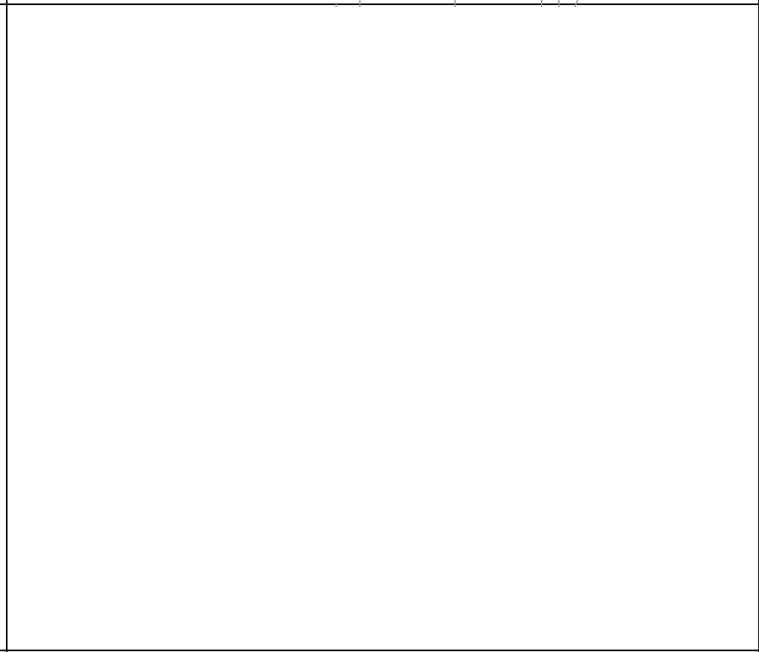
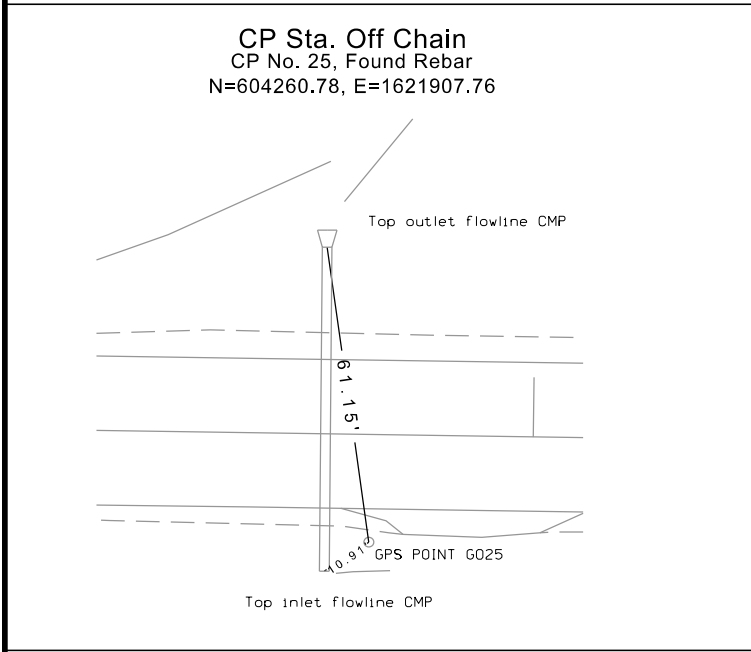
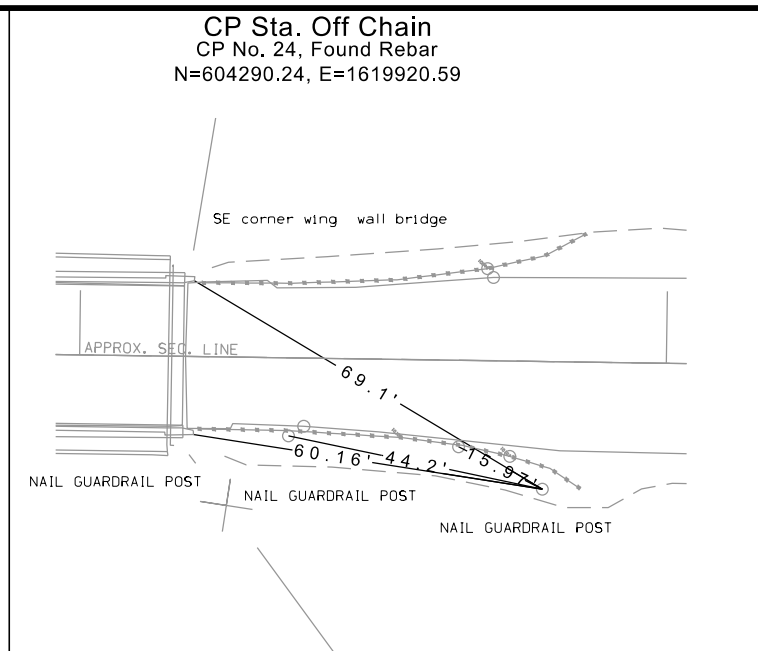
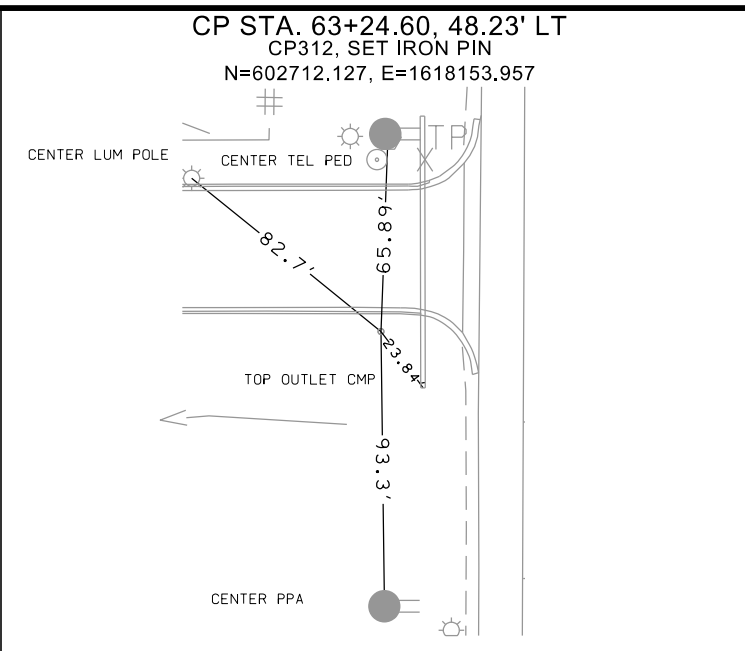
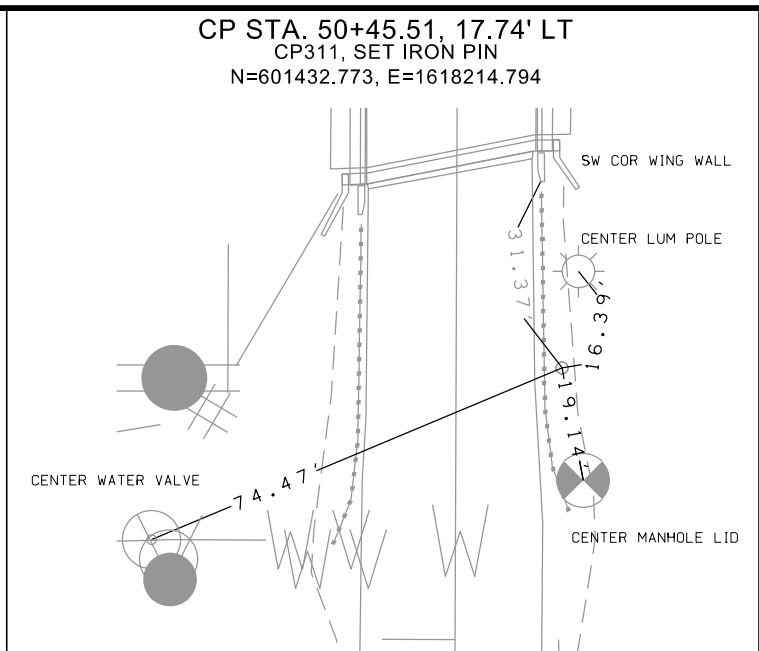
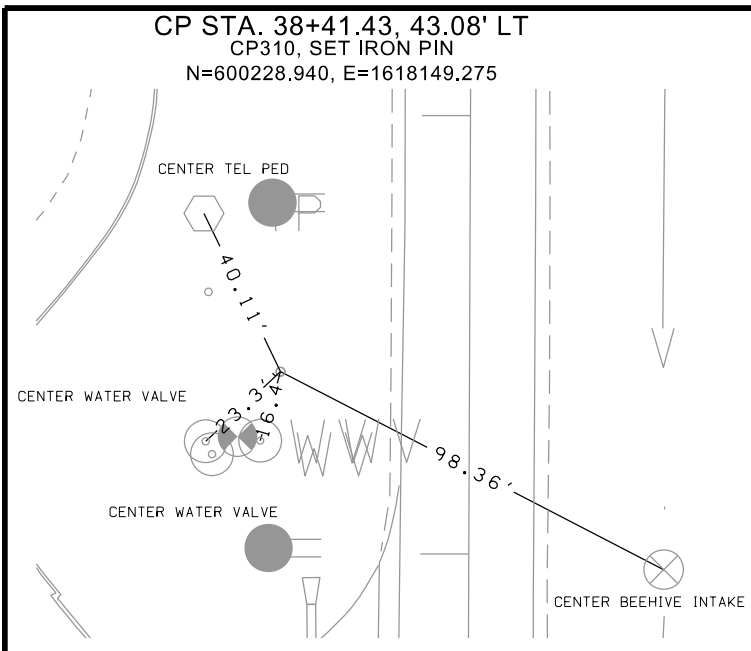
PI Sta. 53+09.09 this survey  
=PI Sta. 53+11.5 Project # Polk County Plans Project # L-1511—73-77

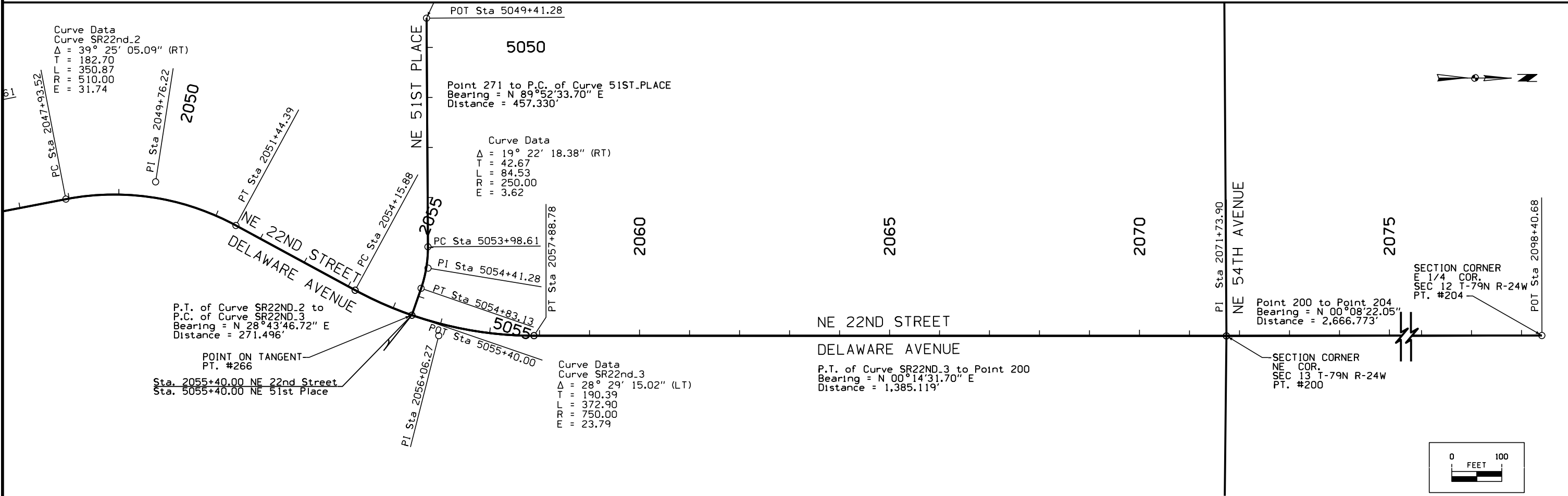
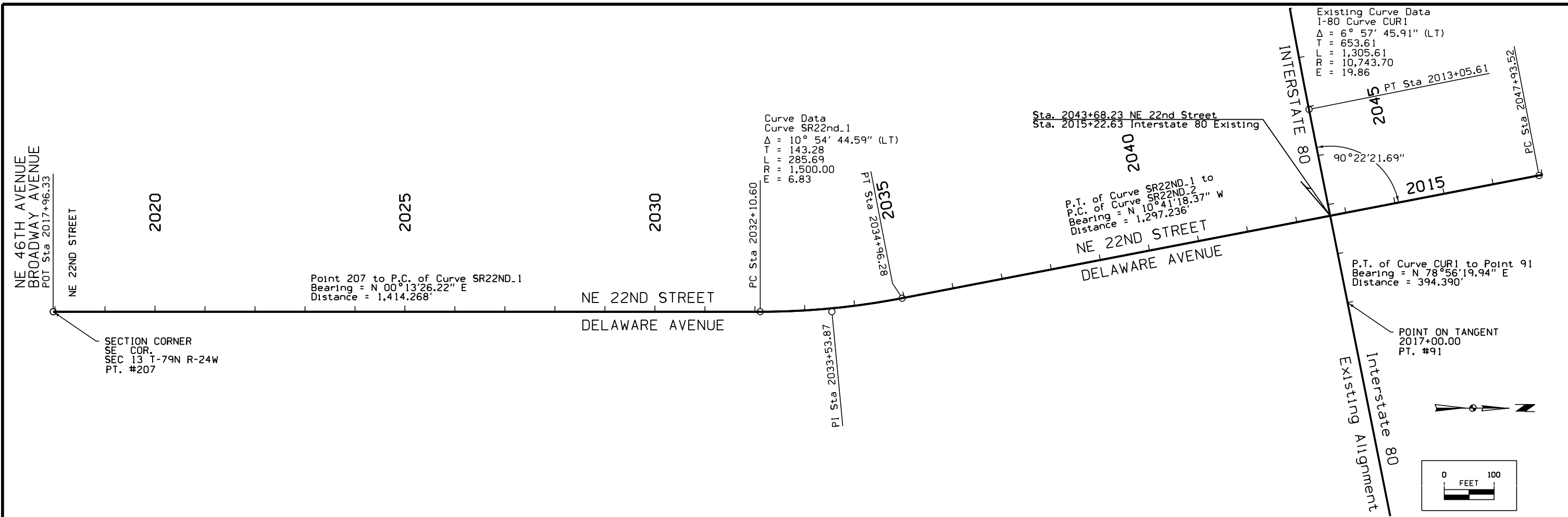
PI Sta. 79+49.35 this survey  
=PI Sta. 79+52.3 Project # Polk County Plans Project # L-1511—73-77

PI Sta. 106+16.12 this survey  
=PI Sta. 106+20.7 Polk County Plans Project # L-1511—73-77

## VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
501	599084.989	1618110.063	915.001	26+97.34	-77.817	BM	FD X SE COR CONC BASE TRAFFIC SIGNAL BOX
705	601462.593	1618181.286	959.989	50+75.20	-15.888	BM	FD TRIANGLE SW WING BRG OVER I-80
500	604247.666	1618127.606	966.467	78+60.02	-81.263	BM	CUT X CONC PAD
800	604300.036	1619859.158	984.036	79+19.70	1650.052	BM	BM FD IHC BM SE WING BRIDGE





**ALIGNMENT COORDINATES**

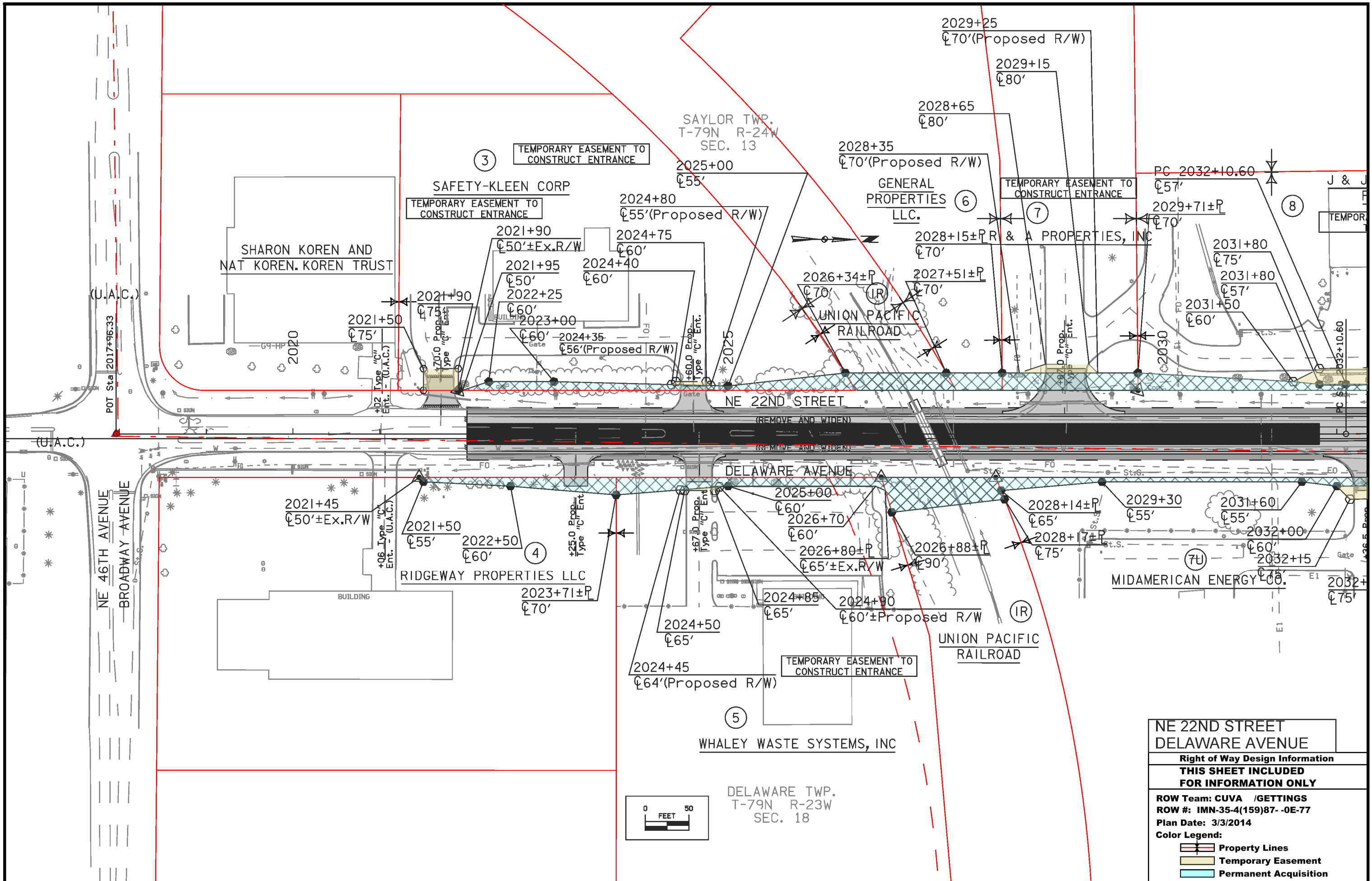
101-16  
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
Interstate 80 CUR CUR1 91		2017+00.00	601,632.52	1,618,179.60				2000+00.00	601,384.74	1,616,499.13	2006+53.61	601,431.45	1,617,151.06	2013+05.61	601,556.85	1,617,792.53			
NE 22ND STREET 207		2017+96.33	599,043.35	1,618,187.72															
CUR SR22ND_1							2032+10.60	600,457.61	1,618,193.25	2033+53.87	600,600.88	1,618,193.81	2034+96.28	600,741.67	1,618,167.23				
CUR SR22ND_2							2047+93.52	602,016.40	1,617,926.64	2049+76.22	602,195.93	1,617,892.75	2051+44.39	602,356.14	1,617,980.57				
CUR SR22ND_3							2054+15.88	602,594.21	1,618,111.07	2056+06.27	602,761.16	1,618,202.59	2057+88.78	602,951.55	1,618,203.39				
200		2071+73.90	604,336.66	1,618,209.25															
204		2098+40.68	607,003.42	1,618,215.74															
NE 51ST PLACE 271		5049+41.28	602,739.21	1,617,567.50															
CUR SR51ST_PLACE 266		5055+40.00	602,707.48	1,618,161.48			5053+98.61	602,740.20	1,618,024.83	5054+41.28	602,740.29	1,618,067.50	5054+83.13	602,726.22	1,618,107.79				



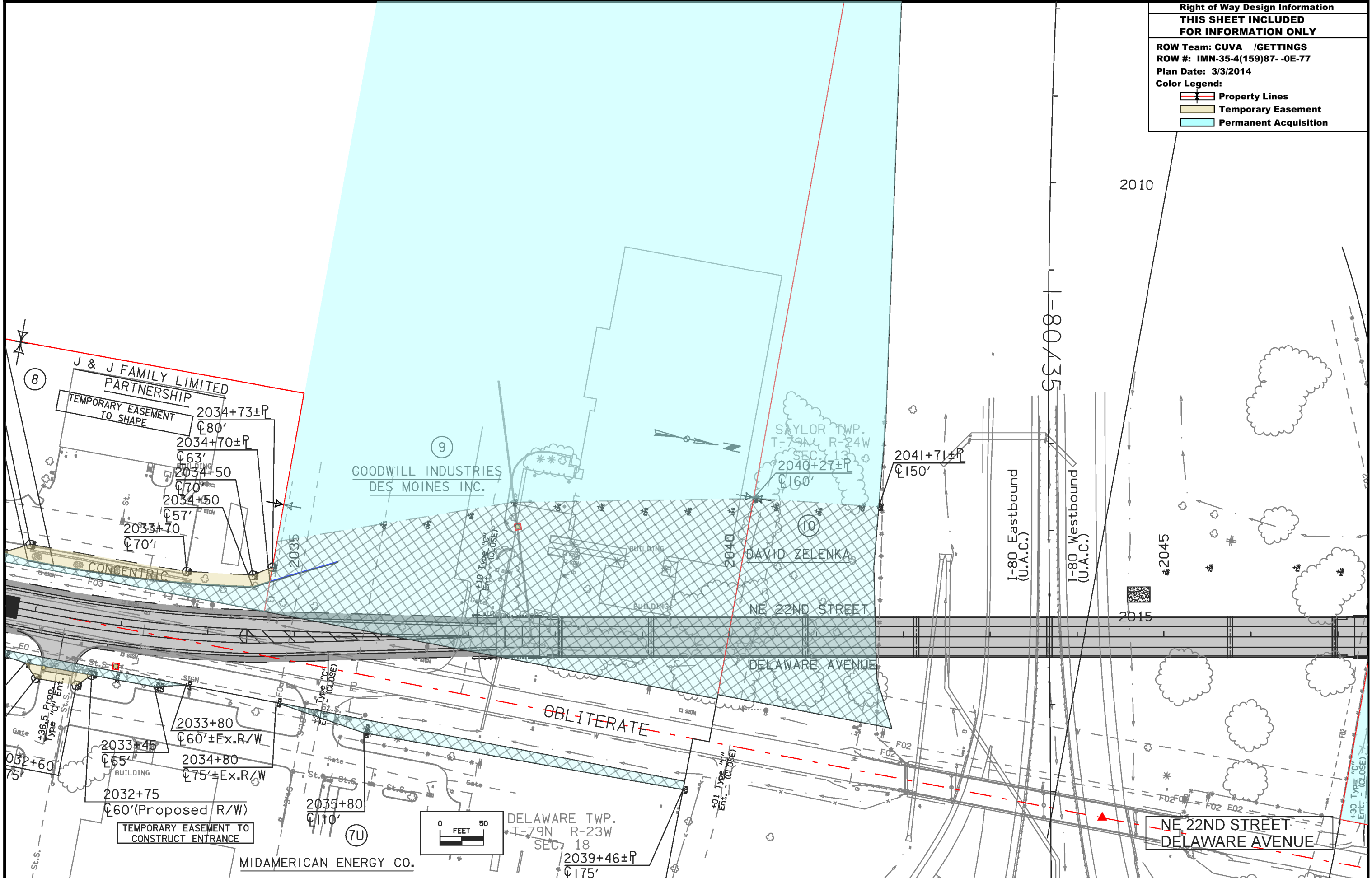


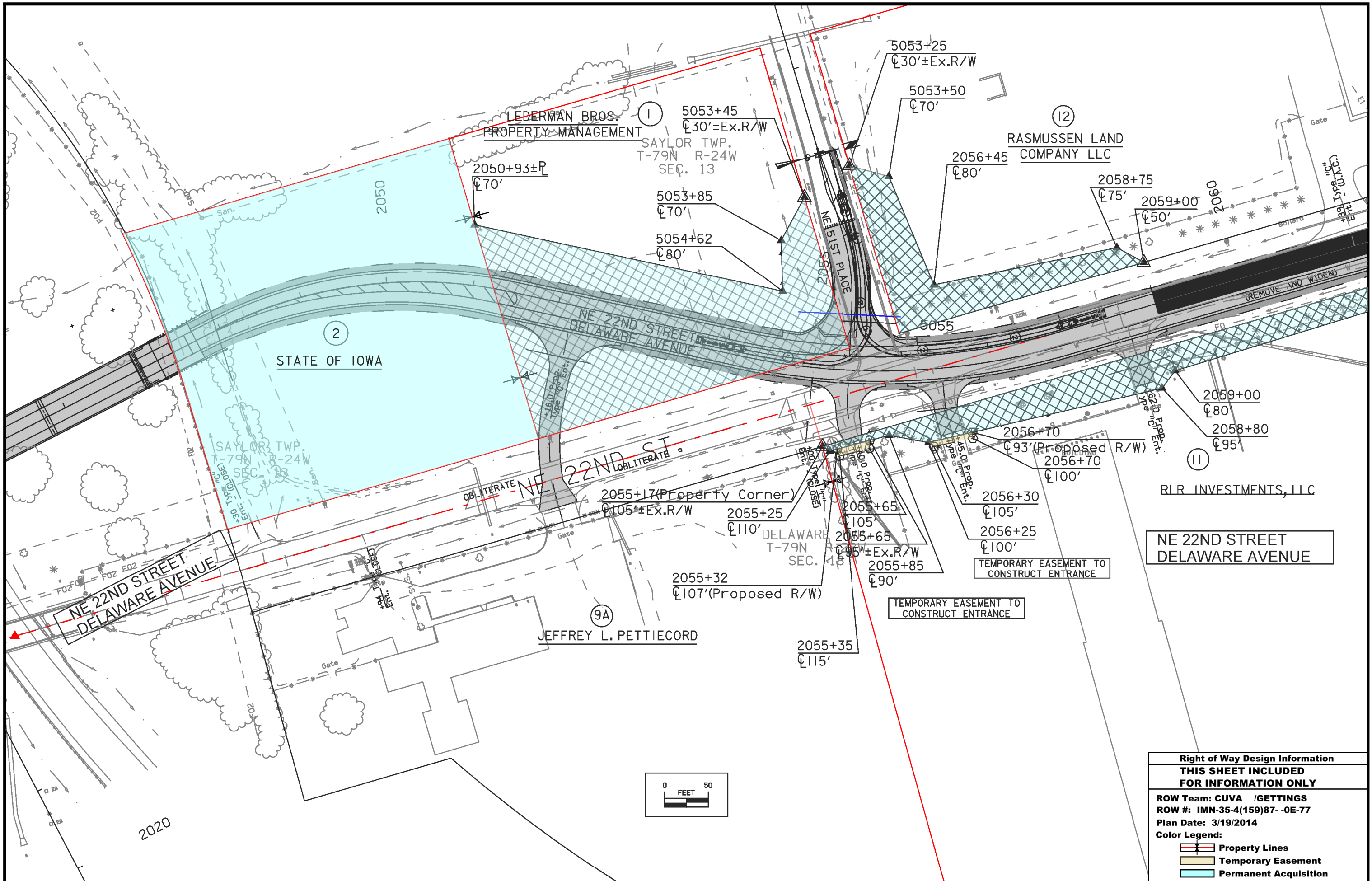




<b>NE 22ND STREET DELAWARE AVENUE</b>	
<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: CUVA /GETTINGS	
ROW #: IMN-35-4(159)87-0E-77	
Plan Date: 3/3/2014	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**  
 ROW Team: CUVA /GETTINGS  
 ROW #: IMN-35-4(159)87- -0E-77  
 Plan Date: 3/3/2014  
 Color Legend:  
 - Property Lines  
 - Temporary Easement  
 - Permanent Acquisition





<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: CUVA /GETTINGS	
ROW #: IMN-35-4(159)87-0E-77	
Plan Date: 3/19/2014	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

10r TWP.  
N R-24W  
EC. 12

SAYLOR TWP.  
T-79N R-24W  
SEC. 13

50

5702

DES MOINES AREA  
COMMUNITY COLLEGE

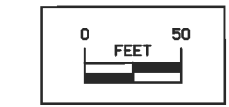
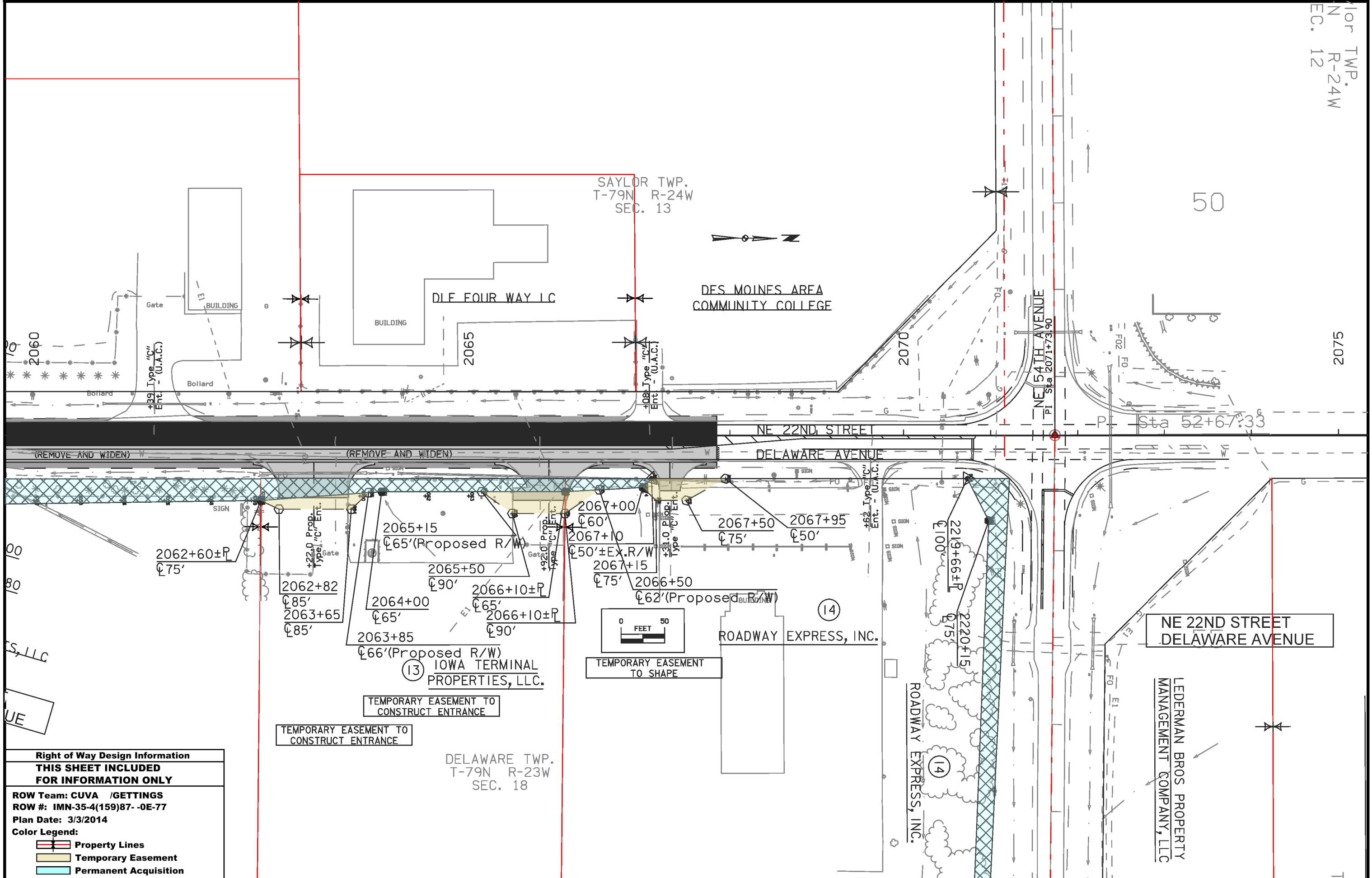
D/E FOUR WAY I.C.

NE 54TH AVENUE  
PI Sta 2071+73.90

Sta 52+67.33

NE 22ND STREET

DELAWARE AVENUE



TEMPORARY EASEMENT TO SHAPE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

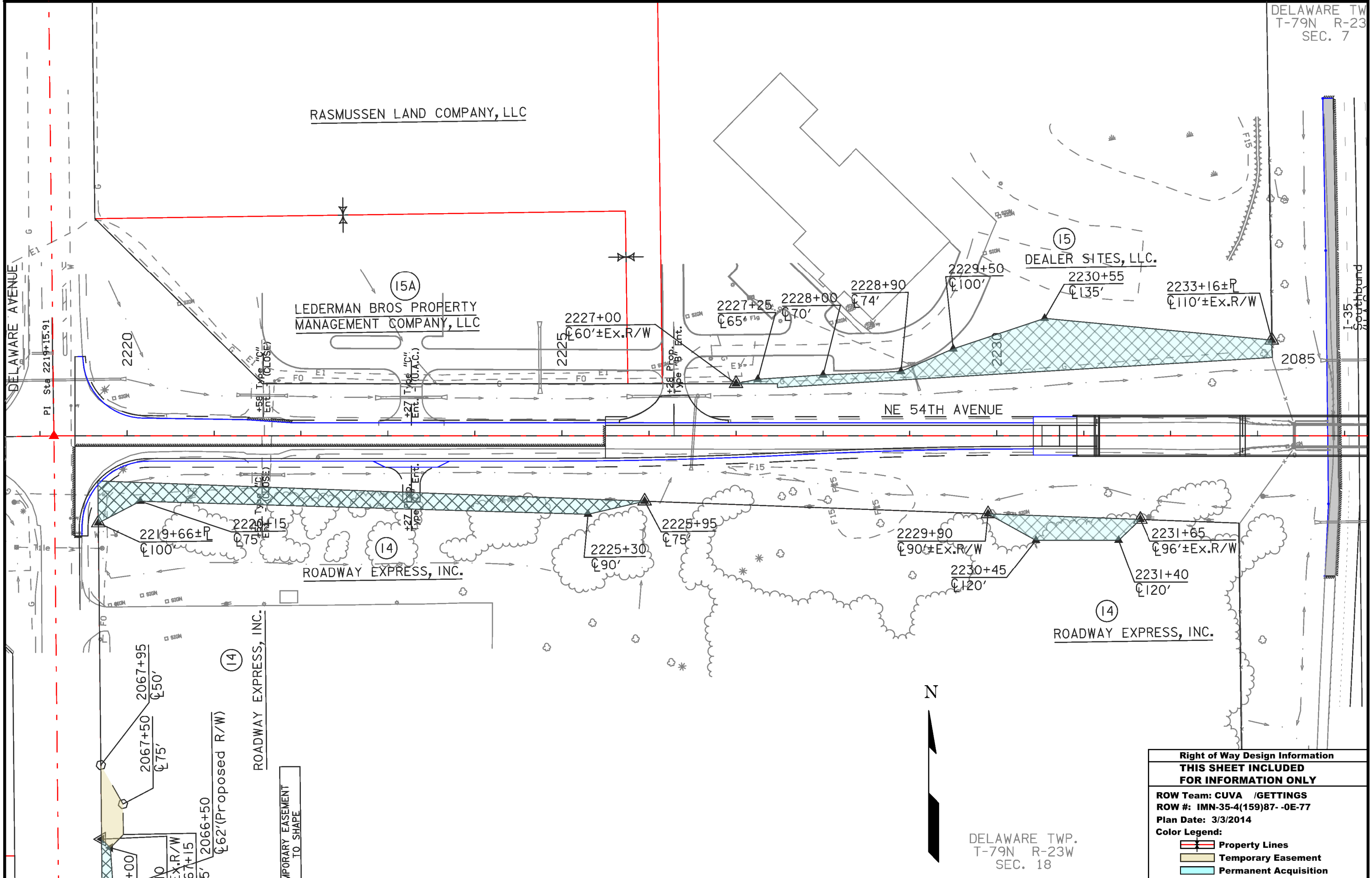
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

DELAWARE TWP.  
T-79N R-23W  
SEC. 18

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

ROW Team: CUVA /GETTINGS  
ROW #: IMN-35-4(159)87--0E-77  
Plan Date: 3/3/2014

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



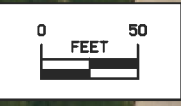
**Right of Way Design Information**  
**THIS SHEET INCLUDED FOR INFORMATION ONLY**

ROW Team: CUVA /GETTINGS  
 ROW #: IMN-35-4(159)87-0E-77  
 Plan Date: 3/3/2014

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition

DELAWARE TWP.  
T-79N R-23W  
SEC. 18






<b>NE 22ND STREET DELAWARE AVENUE</b>	
<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: CUVA /GETTINGS	
ROW #: IMN-35-4(159)87-0E-77	
Plan Date: 3/3/2014	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



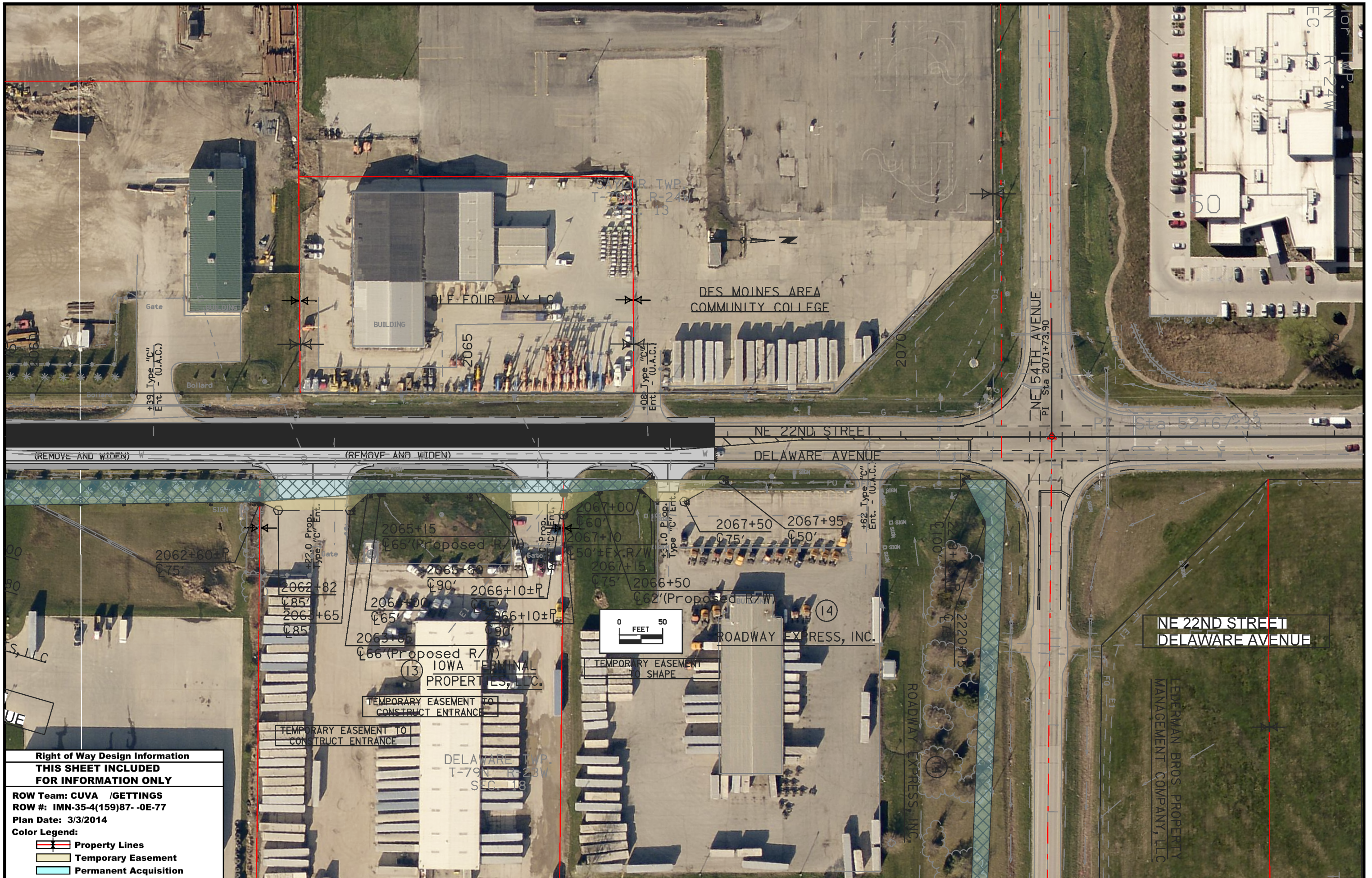
**Right of Way Design Information**  
**THIS SHEET INCLUDED**  
**FOR INFORMATION ONLY**

ROW Team: CUVA /GETTINGS  
ROW #: IMN-35-4(159)87- -0E-77  
Plan Date: 3/3/2014

Color Legend:  
 Property Lines  
 Temporary Easement  
 Permanent Acquisition







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

ROW Team: CUVA /GETTINGS  
 ROW #: IMN-35-4(159)87--0E-77  
 Plan Date: 3/3/2014

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition

DELAWARE TWP.  
T-79N R-23W  
SEC. 7



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

ROW Team: CUVA /GETTINGS  
 ROW #: IMN-35-4(159)87- -0E-77  
 Plan Date: 3/3/2014

**Color Legend:**

- Property Lines
- Temporary Easement
- Permanent Acquisition

DELAWARE TWP.  
T-79N R-23W  
SEC. 18

**STAGING NOTES**

STAGING NOTES

Stage 1:

Traffic:

- Maintain two-way traffic on I-80/35.
- Temporary night closures will be required on I-80/35 during NE 22nd Street bridge girder erection.
- Maintain two-way traffic on existing NE 22nd Street from Station 2022+00 to Station 2067+85.
- Maintain local access to businesses during construction.
- Maintain local access to NE 51st Place during construction.

Construction:

- Install temporary sheet pile between existing 22nd Street and proposed 22nd Street roadway embankment, south of proposed bridge.
- Construct the proposed NE 22nd Street bridge over I-80/35 and south bridge approach pavement.
- Construct NE 22nd Street from Station 2047+00 to Station 2055+00.
- Construct temporary pavement on north side of NE 51st Place.
- Stage construct the south half of NE 51st Place to maintain local access during construction.

Stage 2:

Traffic:

- Maintain two-way traffic on I-80/35.
- Close through traffic on existing NE 22nd Street from Station 2022+00 to Station 2067+85.
- Maintain local access to businesses during construction.
- Maintain local access to NE 51st Place during construction.
- Detour traffic to US 69/ NE 14th Street. See Sheet J.3 for detour route.
- "NB" Traffic will be detoured to US 69/ NE 14th Street via NE Broadway Avenue and NE 54th Avenue.
- "SB" traffic will be detoured to US 69/ NE 14th Street via NE 54th Avenue and NE Broadway Avenue.
- Maintain railroad traffic at UPRR crossing.

Construction:

- Remove the existing NE 22nd Street bridge over I-80/35 and appurtenances.
- Mill 2" of existing pavement on NE 22nd Street from Station 2022+00 to Station 2031+80.
- Widen and construct NE 22nd Street from Station 2022+00 to Station 2037+32.
- Construct 2" surface course on NE 22nd Street from Station 2022+00 to Station 2037+32.
- Stage construct NE 22nd St half at a time to maintain local and business access during construction.
- Stage construct UPRR crossing at NE 22nd Street.

Stage 3:

Traffic:

- Close through traffic on existing NE 22nd Street from Station 2022+00 to Station 2067+85.
- Maintain local access to businesses during construction.
- Maintain local access to NE 51st Place during construction.
- Detour traffic to US 69/ NE 14th Street. See Sheet J.3 for detour route.
- "NB" Traffic will be detoured to US 69/ NE 14th Street via NE Broadway Avenue and NE 54th Avenue.
- "SB" traffic will be detoured to US 69/ NE 14th Street via NE 54th Avenue and NE Broadway Avenue.

Construction:

- Construct temporary pavement on west side of NE 22nd Street from approximate Station 2055+40 to Station 2062+00.
- Construct temporary pavement on south side of NE 51st Place.
- Mill 2" of existing pavement on NE 22nd Street from Station 2059+00 to Station 2067+85.
- Stage construct NE 22nd Street, east of baseline, from Station 2055+00 to Station 2067+85 to maintain local access during construction.
- Stage construct the north half of NE 51st Place to maintain local access during construction.

Stage 4:

Traffic:

- Close through traffic on existing NE 22nd Street from Station 2022+00 to Station 2067+85.
- Maintain local access to businesses during construction.
- Maintain local access to NE 51st Place during construction.
- Detour traffic to US 69/ NE 14th Street. See Sheet J.3 for detour route.
- "NB" Traffic will be detoured to US 69/ NE 14th Street via NE Broadway Avenue and NE 54th Avenue.
- "SB" traffic will be detoured to US 69/ NE 14th Street via NE 54th Avenue and NE Broadway Avenue.










Construction:

- Remove temporary pavement on west side of NE 22nd Street from approximate Station 2055+40 to Station 2062+00.
- Stage construct NE 22nd Street, west of baseline, from Station 2055+40 to Station 2059+00 to maintain local access during construction.
- Construct 2" surface course on NE 22nd Street from Station 2059+00 to Station 2067+85.

**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

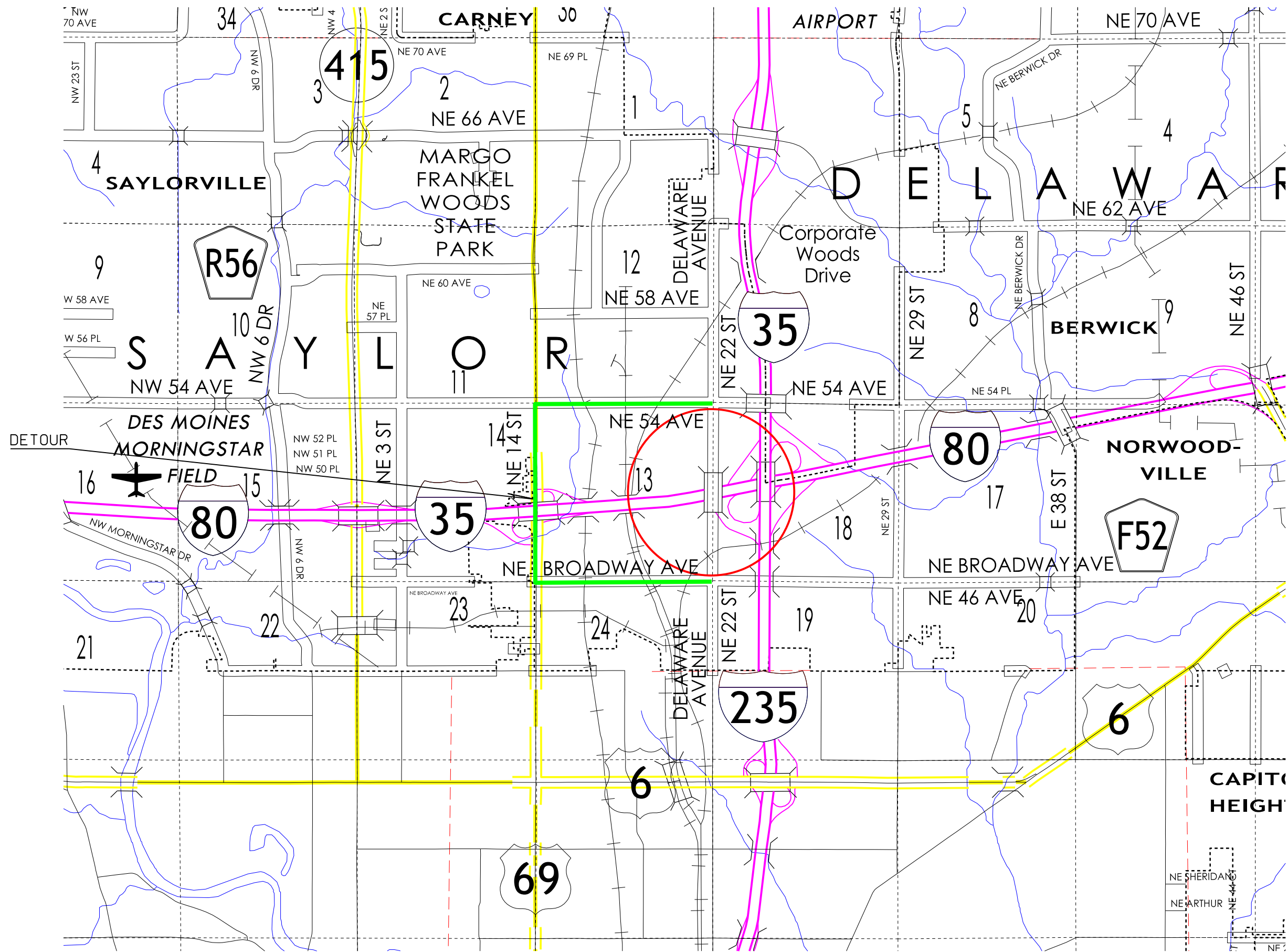
**PLAN VIEW PATTERN AND SYMBOL LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**

●	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)



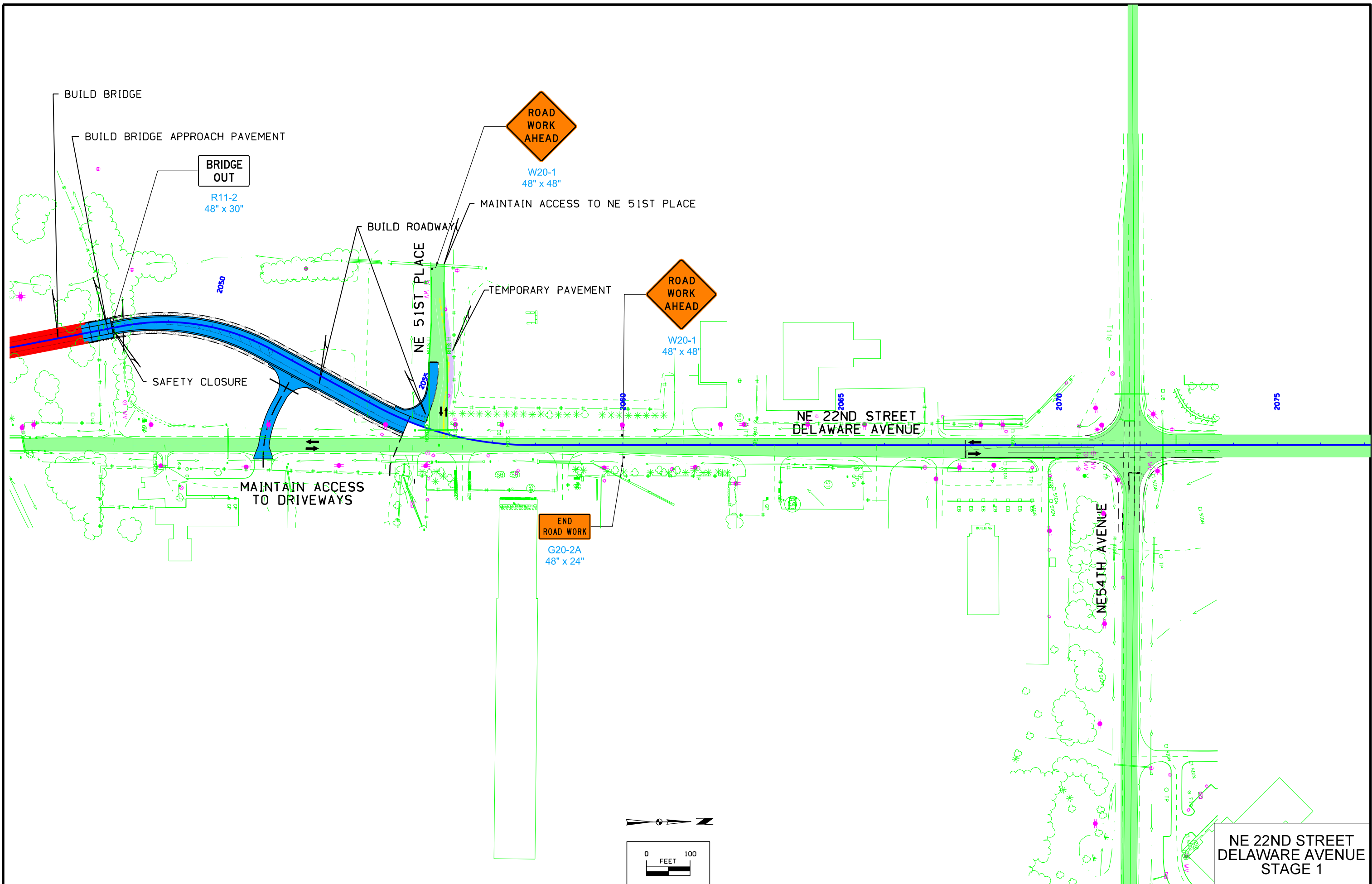
KEY

- PROJECT AREA
- DETOUR

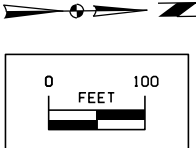
NE 22ND STREET  
DELAWARE AVENUE  
DETOUR MAP

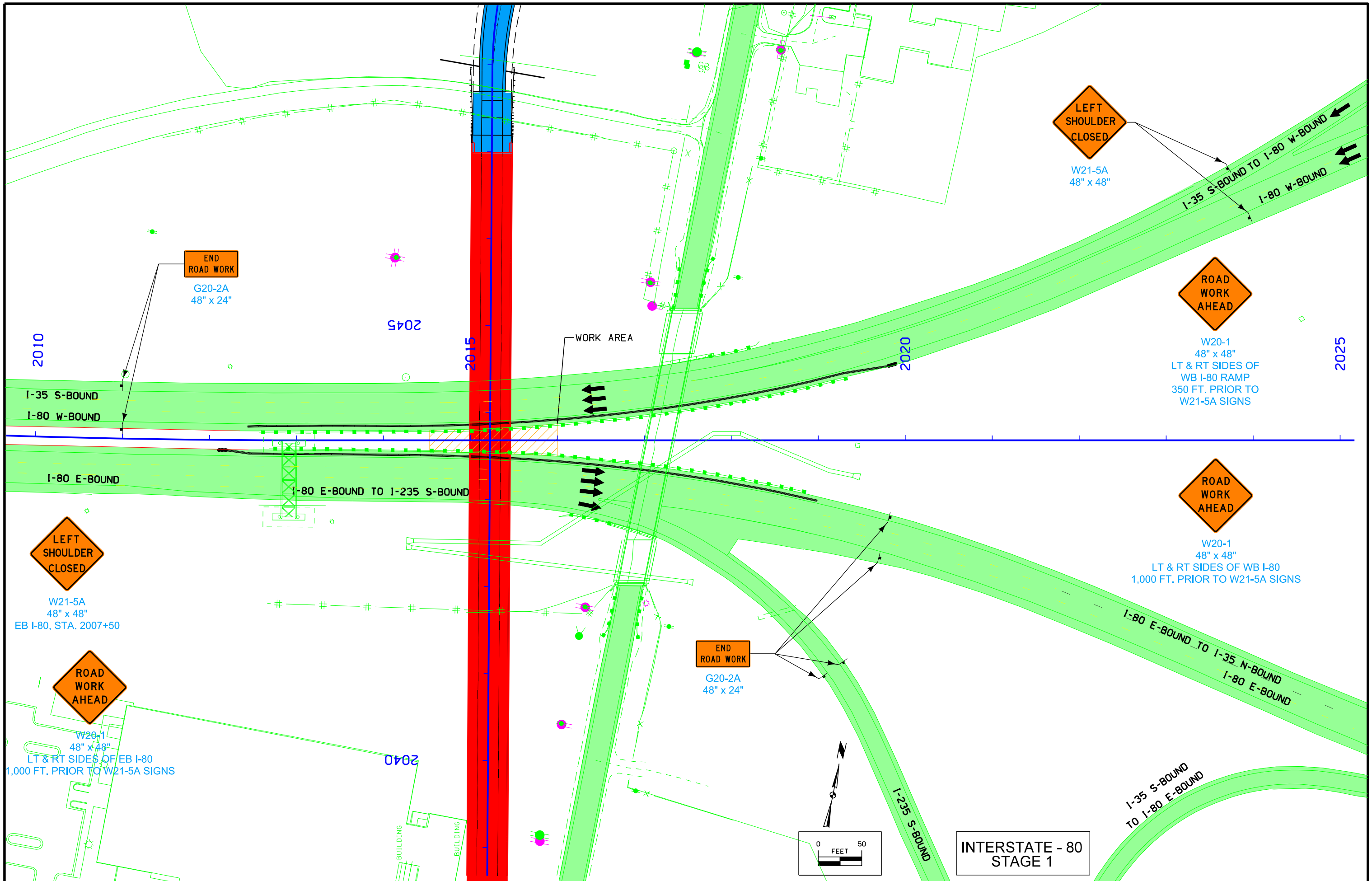






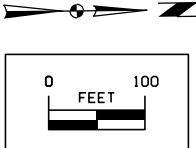
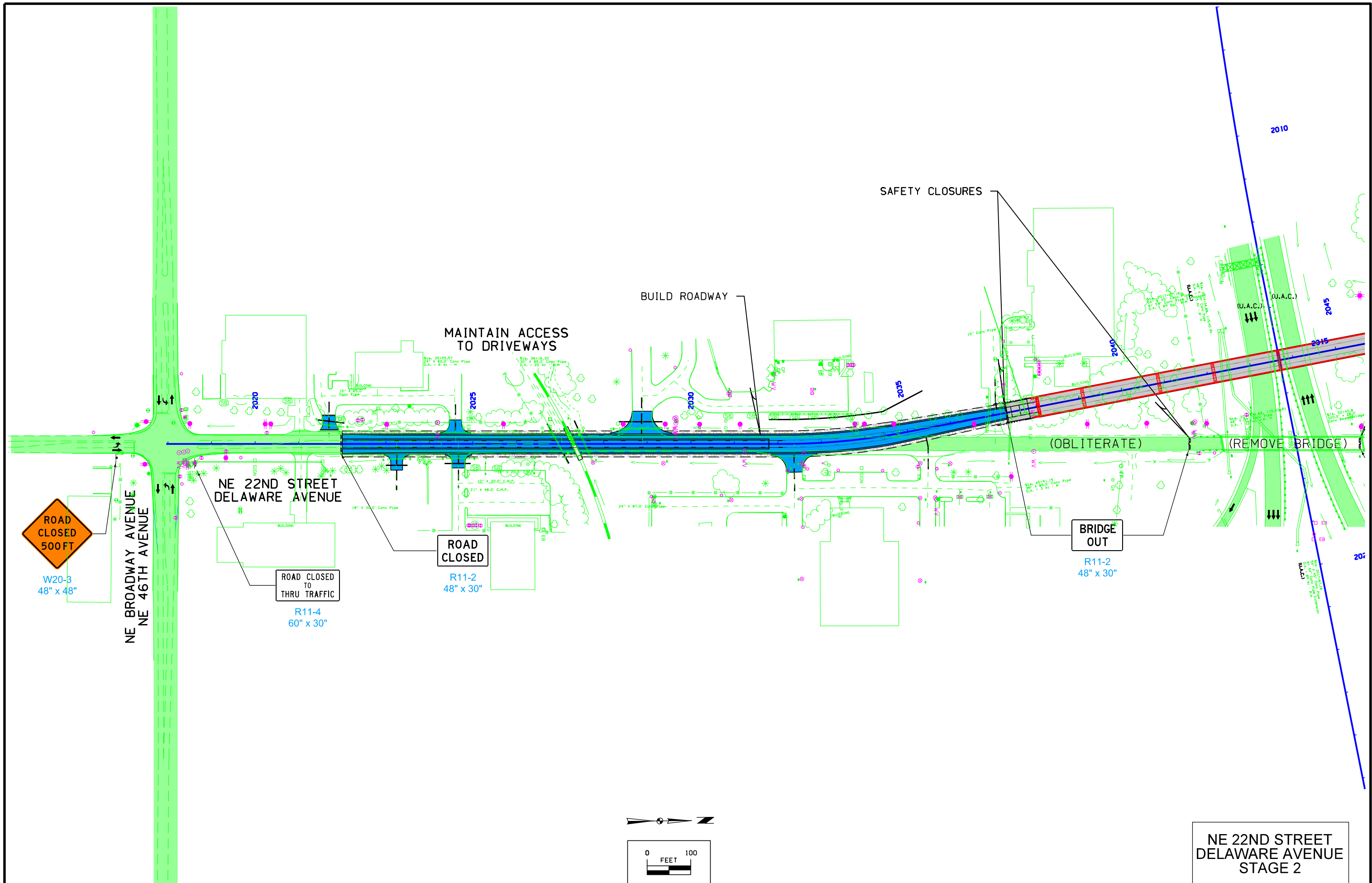
NE 22ND STREET  
DELAWARE AVENUE  
STAGE 1



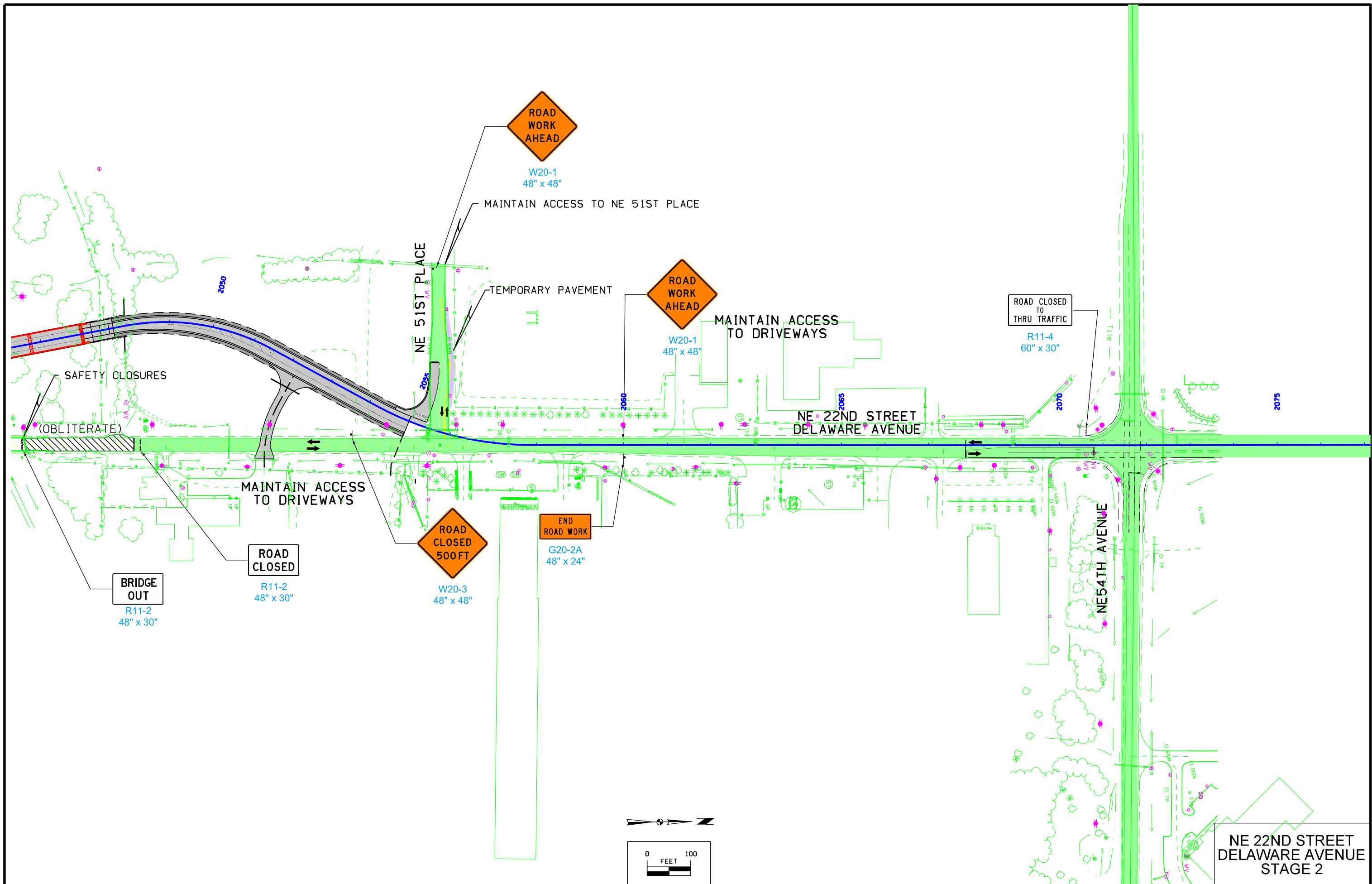


**INTERSTATE - 80  
STAGE 1**

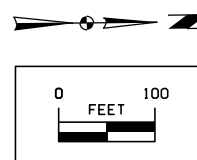


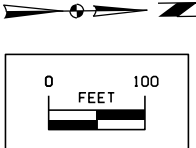
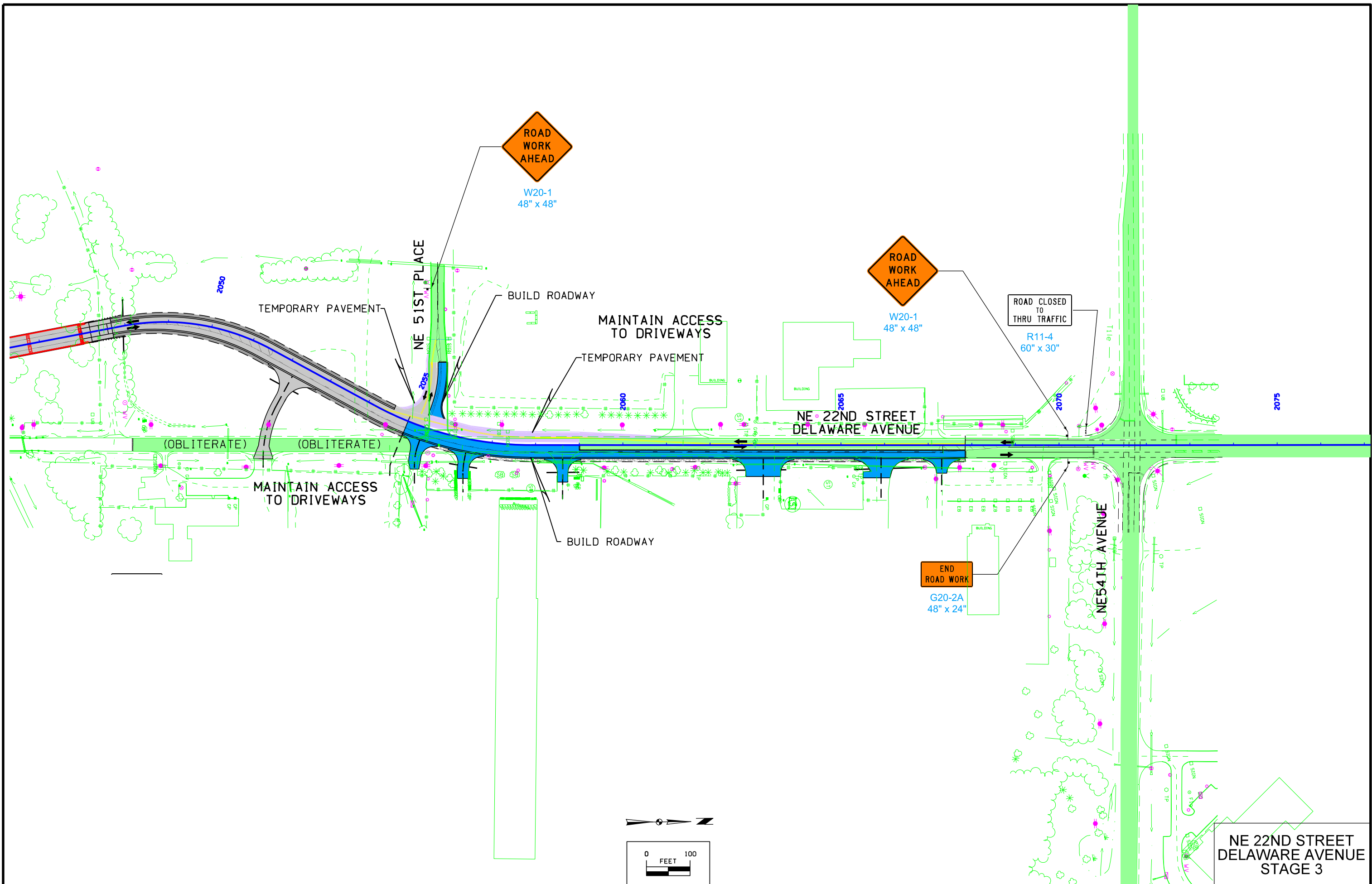


NE 22ND STREET  
DELAWARE AVENUE  
STAGE 2

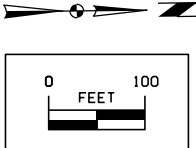
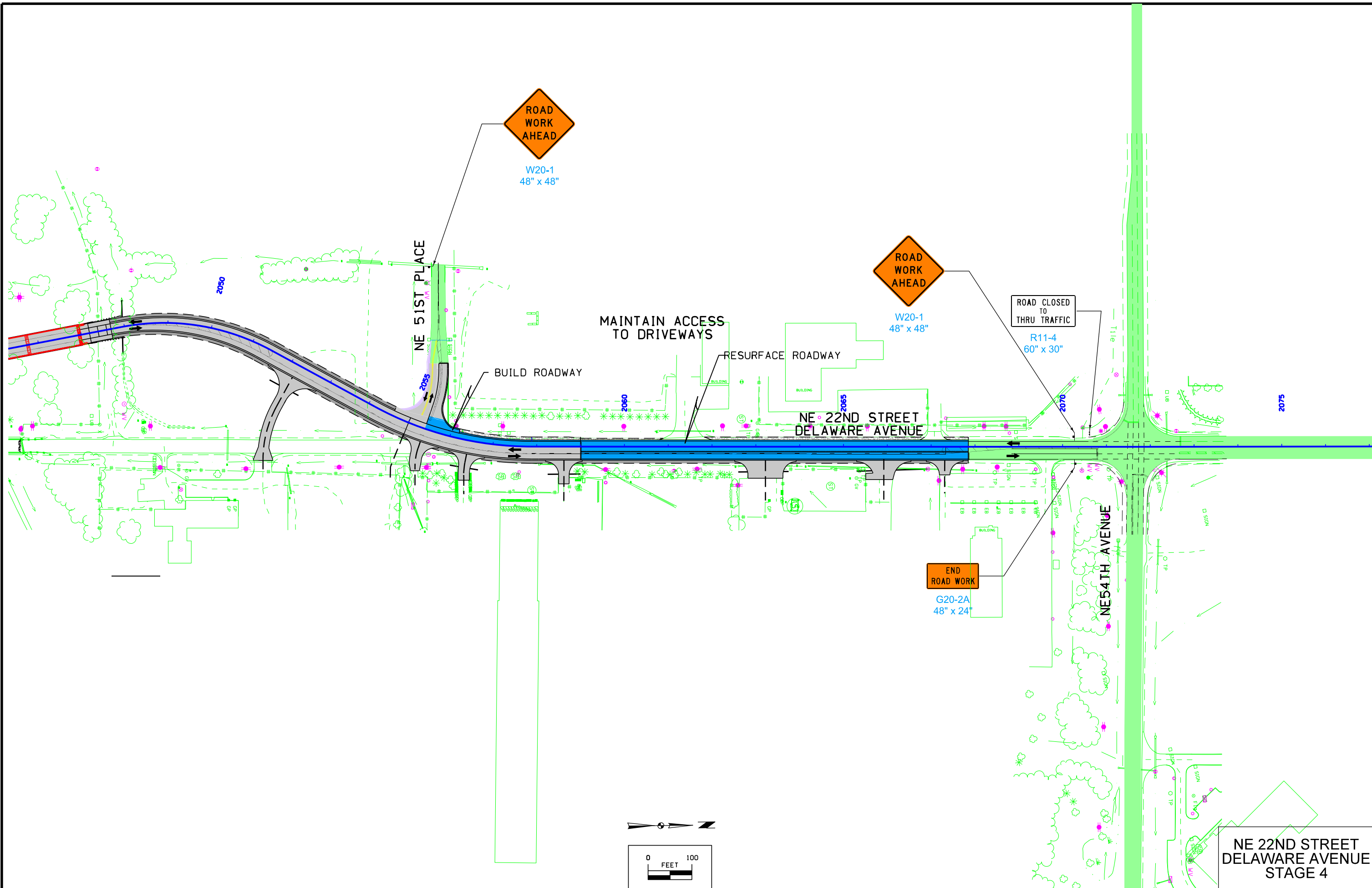


NE 22ND STREET  
DELAWARE AVENUE  
STAGE 2





NE 22ND STREET  
DELAWARE AVENUE  
STAGE 3



NE 22ND STREET  
DELAWARE AVENUE  
STAGE 4

CIRCULAR CURVE DATA						
						101-10C
						10-29-02
No.	$\Delta$	D	T	L	E	R
A-1	77° 04' 04.32" RT	114° 35' 29.61"	39.820'	67.254'	13.919'	50.000'
A-2	69° 16' 01.77" LT	114° 35' 29.61"	34.536'	60.447'	10.768'	50.000'

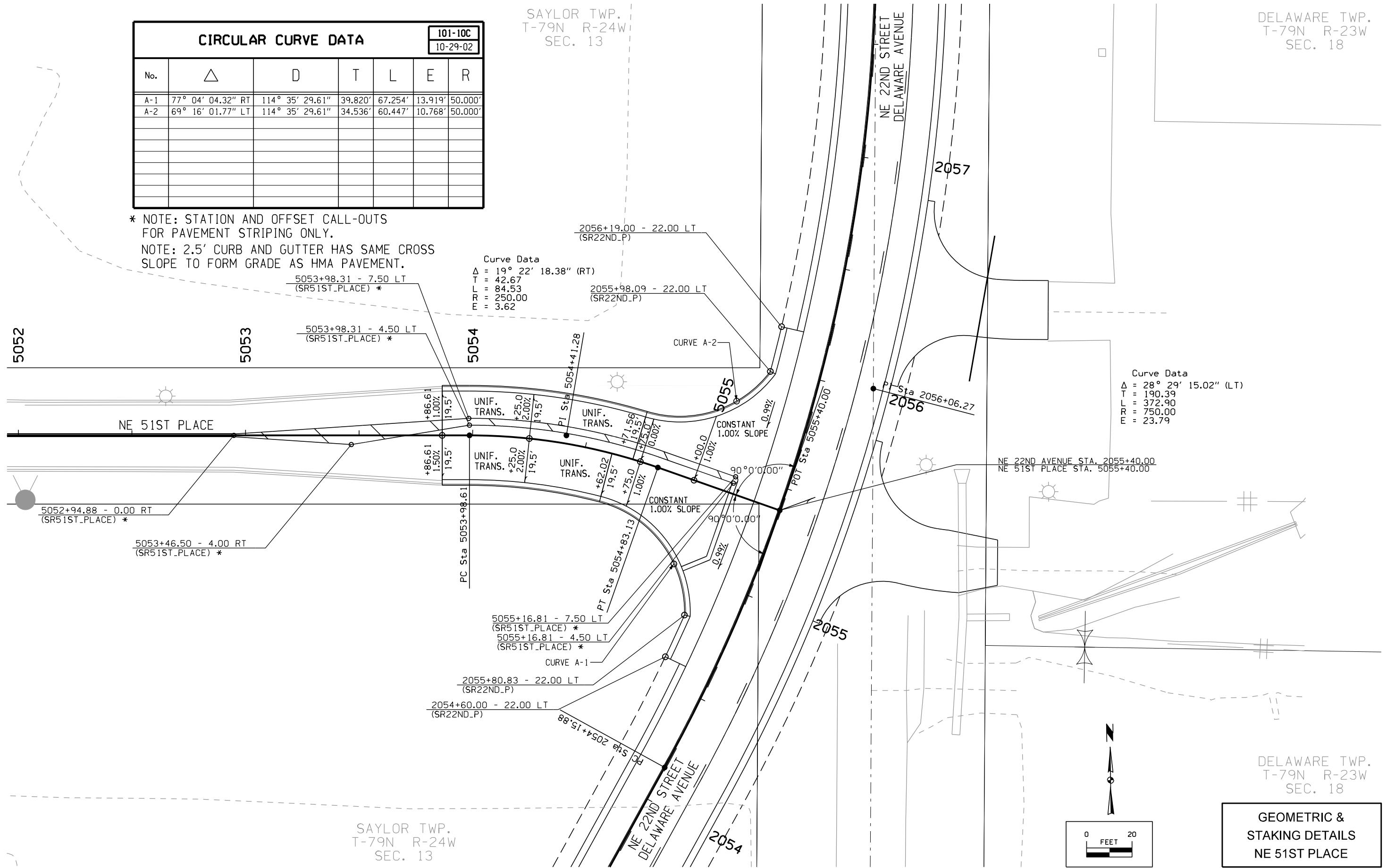
SAYLOR TWP.  
T-79N R-24W  
SEC. 13

DELAWARE TWP.  
T-79N R-23W  
SEC. 18

* NOTE: STATION AND OFFSET CALL-OUTS FOR PAVEMENT STRIPING ONLY.  
NOTE: 2.5' CURB AND GUTTER HAS SAME CROSS SLOPE TO FORM GRADE AS HMA PAVEMENT.

Curve Data  
 $\Delta = 19^\circ 22' 18.38''$  (RT)  
T = 42.67  
L = 84.53  
E = 250.00  
R = 3.62

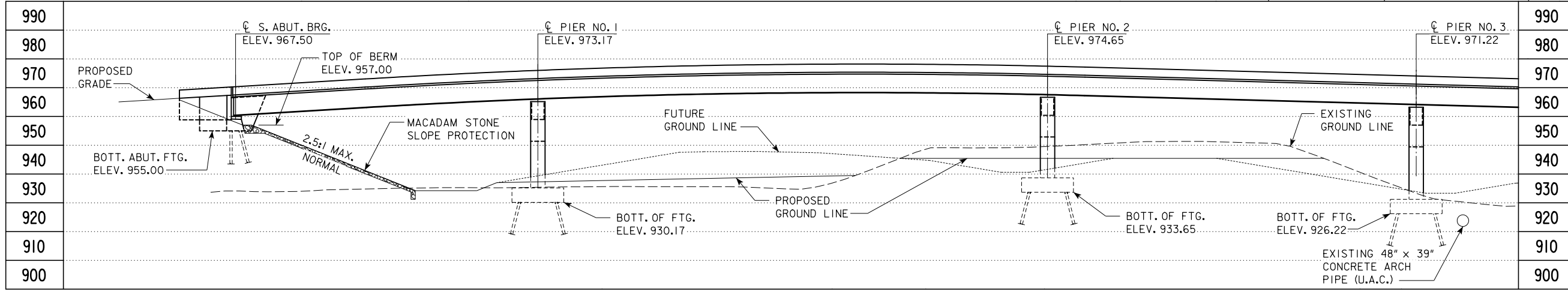
Curve Data  
 $\Delta = 28^\circ 29' 15.02''$  (LT)  
T = 190.39  
L = 372.90  
E = 750.00  
R = 23.79



SAYLOR TWP.  
T-79N R-24W  
SEC. 13

DELAWARE TWP.  
T-79N R-23W  
SEC. 18

GEOMETRIC &  
STAKING DETAILS  
NE 51ST PLACE



**LOCATION**

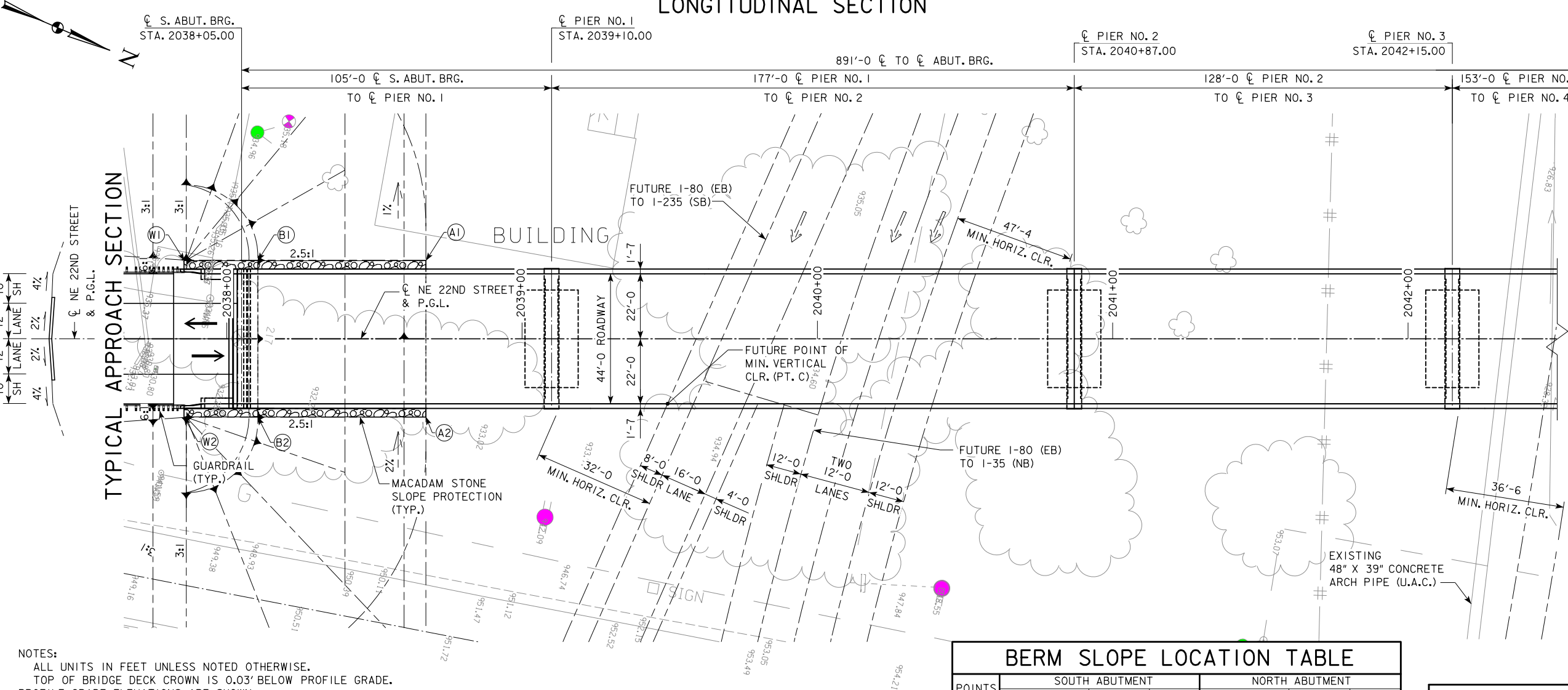
NE 22ND ST.  
OVER I-35  
T-79N R-24W  
SECTION 13  
SAYLOR TOWNSHIP  
POLK COUNTY  
FHWA NO. 041691  
BRIDGE MAINT. NO. 7737.50080  
LATITUDE 41.650853°  
LONGITUDE -93.581939°

**TRAFFIC ESTIMATE**

2018 AADT	5740	V.P.D.
2040 AADT	8880	V.P.D.
2040 DHV	1084	V.P.H.
TRUCKS	21	%
TOTAL DESIGN ESALs		

**UTILITIES LEGEND:**

- F02- EXISTING FIBER OPTIC - ICN (WINDSTREAM)
- G- EXISTING GAS LINE - MIDAMERICAN ENERGY



**FUTURE MINIMUM VERTICAL CLEARANCE (PT. C)**

OVERHEAD STATION = 2039+49.27, 22.00' RT.  
OVERHEAD ELEVATION = 974.00  
FUTURE UNDERPASS ELEVATION (FUTURE I-80 (EB) TO I-35 (NB)) = 948.99  
DEPTH OF SUPERSTRUCTURE (SLAB, HAUNCH & WPG) = 7.00'  
MINIMUM VERTICAL CLEARANCE = 18.01'

**BERM SLOPE LOCATION TABLE**

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	2038+67.43	26.58' LT.	933.96	2046+70.50	26.58' LT.	939.47
A2	2038+67.43	26.58' RT.	934.76	2046+70.50	26.58' RT.	940.53
B1	2038+10.50	26.58' LT.	957.00	2046+90.50	26.58' LT.	948.00
B2	2038+10.50	26.58' RT.	957.00	2046+90.50	26.58' RT.	948.00
W1	2037+85.50	26.58' LT.	965.74	2047+17.50	26.58' LT.	957.49
W2	2037+85.50	26.58' RT.	965.74	2047+17.50	26.58' RT.	957.49

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

**NOTES:**

- ALL UNITS IN FEET UNLESS NOTED OTHERWISE.
- TOP OF BRIDGE DECK CROWN IS 0.03' BELOW PROFILE GRADE.
- PROFILE GRADE ELEVATIONS ARE SHOWN
- TL-5 BRIDGE RAILING PROPOSED.
- NON-STANDARD ABUTMENT WING WALL.
- PIER TYPE I-235 AESTHETIC.
- AESTHETIC TREATMENTS TO BE ESTABLISHED BY IOWA DOT AESTHETICS BRIDGE SPECIALIST.
- ALL DIMENSIONS ARE IN THE HORIZONTAL PLANE UNLESS NOTED OTHERWISE.
- SEE DESIGN SHEET NO. 4 FOR VERTICAL PROFILE DATA.
- FUTURE ROADWAY PROFILES ARE LOCATED IN THE MAY, 2013 FINAL CONCEPTUAL DESIGN REPORT FOR THE NORTHEAST MIXMASTER SYSTEM INTERCHANGE AND ARE SUBJECT TO CHANGE.

**NOTE TO DESIGNERS:**

THE BRIDGE LENGTH AND SPAN ARRANGEMENT SHOWN ARE BASED ON THE MAY 2013 FINAL CONCEPT DESIGN REPORT FOR THE NORTHEAST MIXMASTER SYSTEM INTERCHANGE. PRIOR TO FINAL DESIGN VERIFY INFORMATION FROM THE MAY, 2013 FINAL CONCEPT DESIGN REPORT HAS NOT BEEN SUPERSEDED.

PRELIMINARY

DESIGN FOR 0° SKEW

**891'-0" X 44'-0" CONTINUOUS WELDED GIRDER BRIDGE**

105'-0", 177'-0", 128'-0", 153'-0", 208'-0", 120'-0" SPANS

**SITUATION PLAN**

STATION 2042+50.50 (CL NE 22ND ST.) FEBRUARY 2014

**POLK COUNTY**

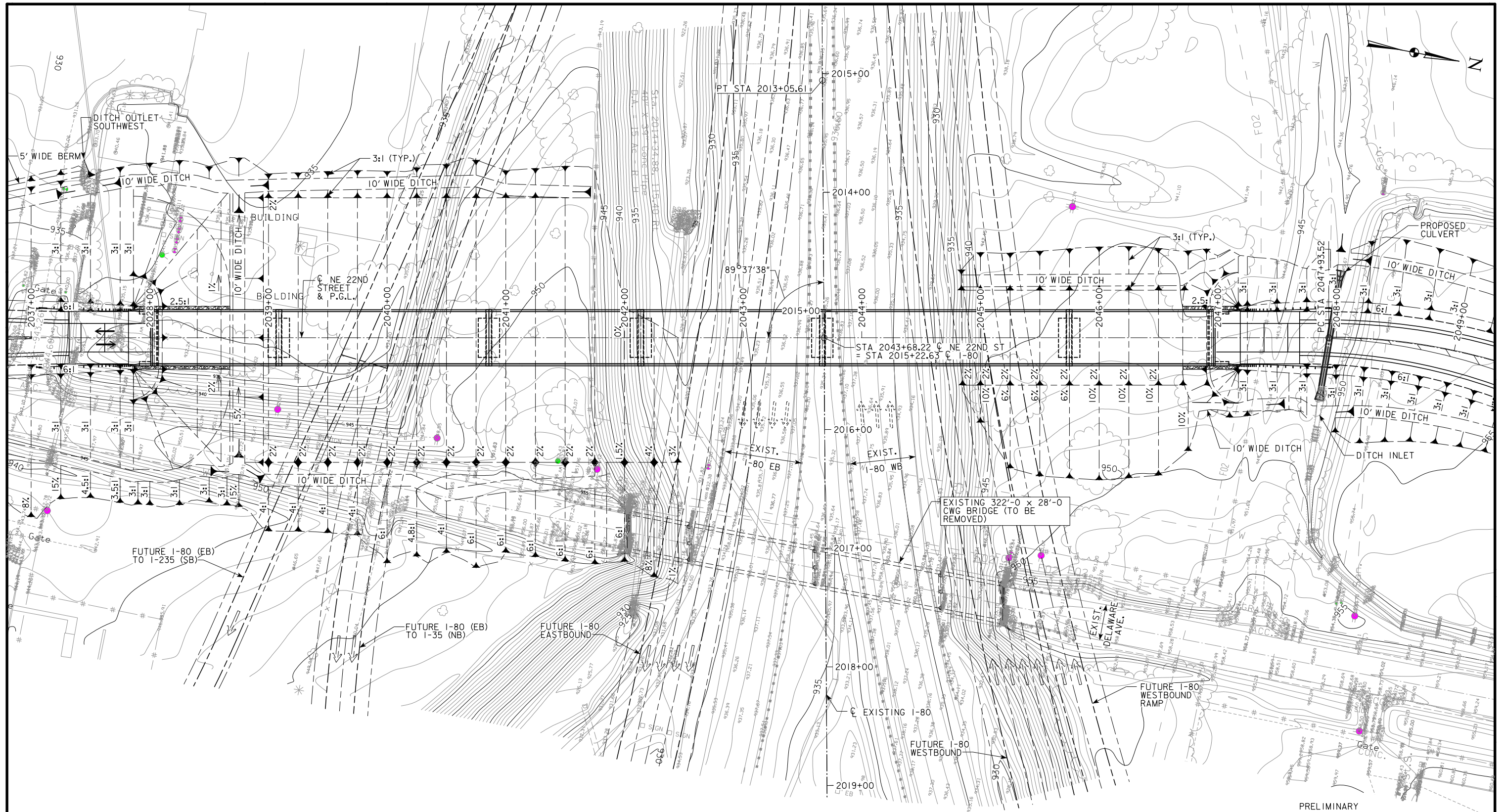
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 4 FILE NO. 30931 DESIGN NO. 117









SITE PLAN

PRELIMINARY

DESIGN FOR 0° SKEW

**891'-0" X 44'-0" CONTINUOUS WELDED GIRDER BRIDGE**

105'-0", 177'-0", 128'-0", 153'-0", 208'-0", 120'-0" SPANS

**SITUATION PLAN - SITE**

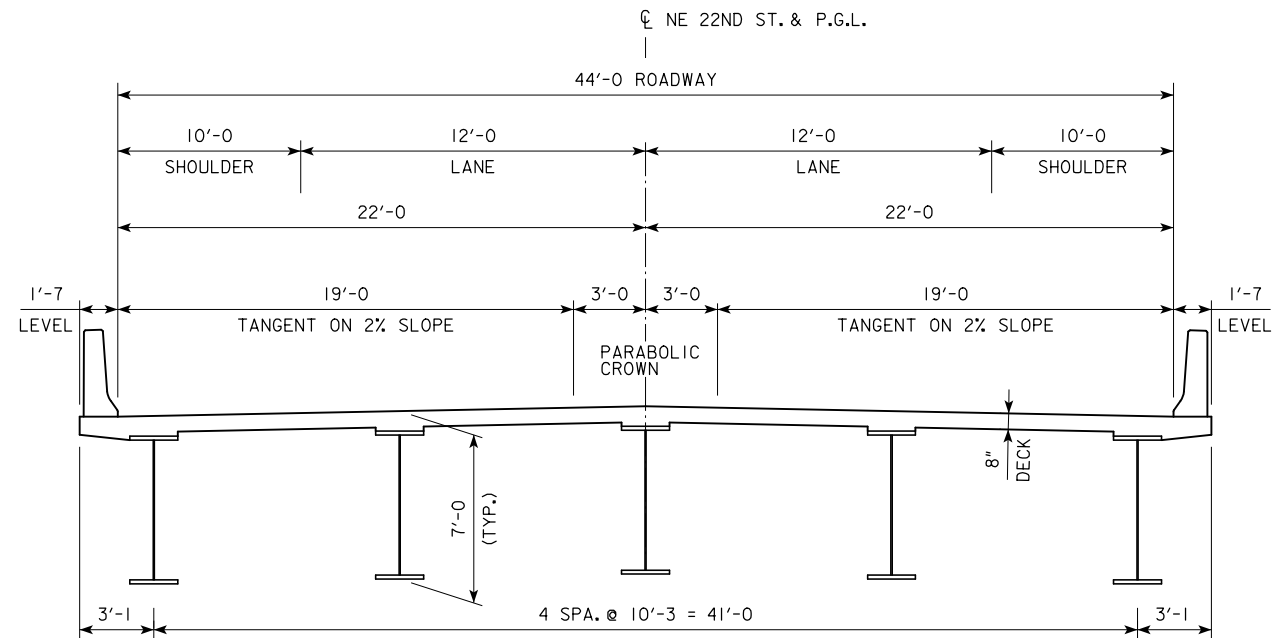
STATION 2042+50.50 (C NE 22ND ST.) FEBRUARY 2014

**POLK COUNTY**

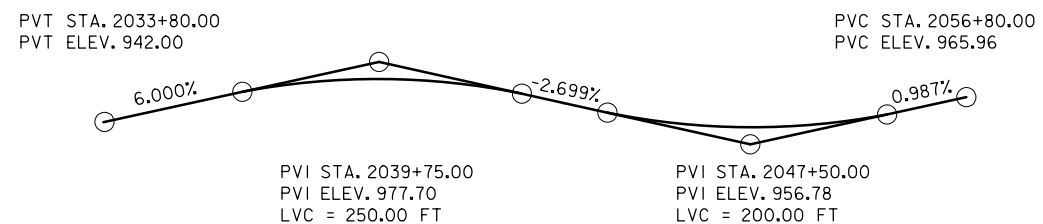
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 3 OF 4 FILE NO. 30931 DESIGN NO. 117



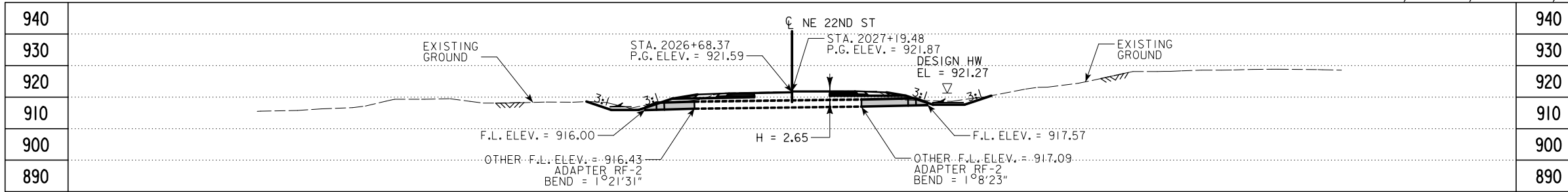


TYPICAL SECTION

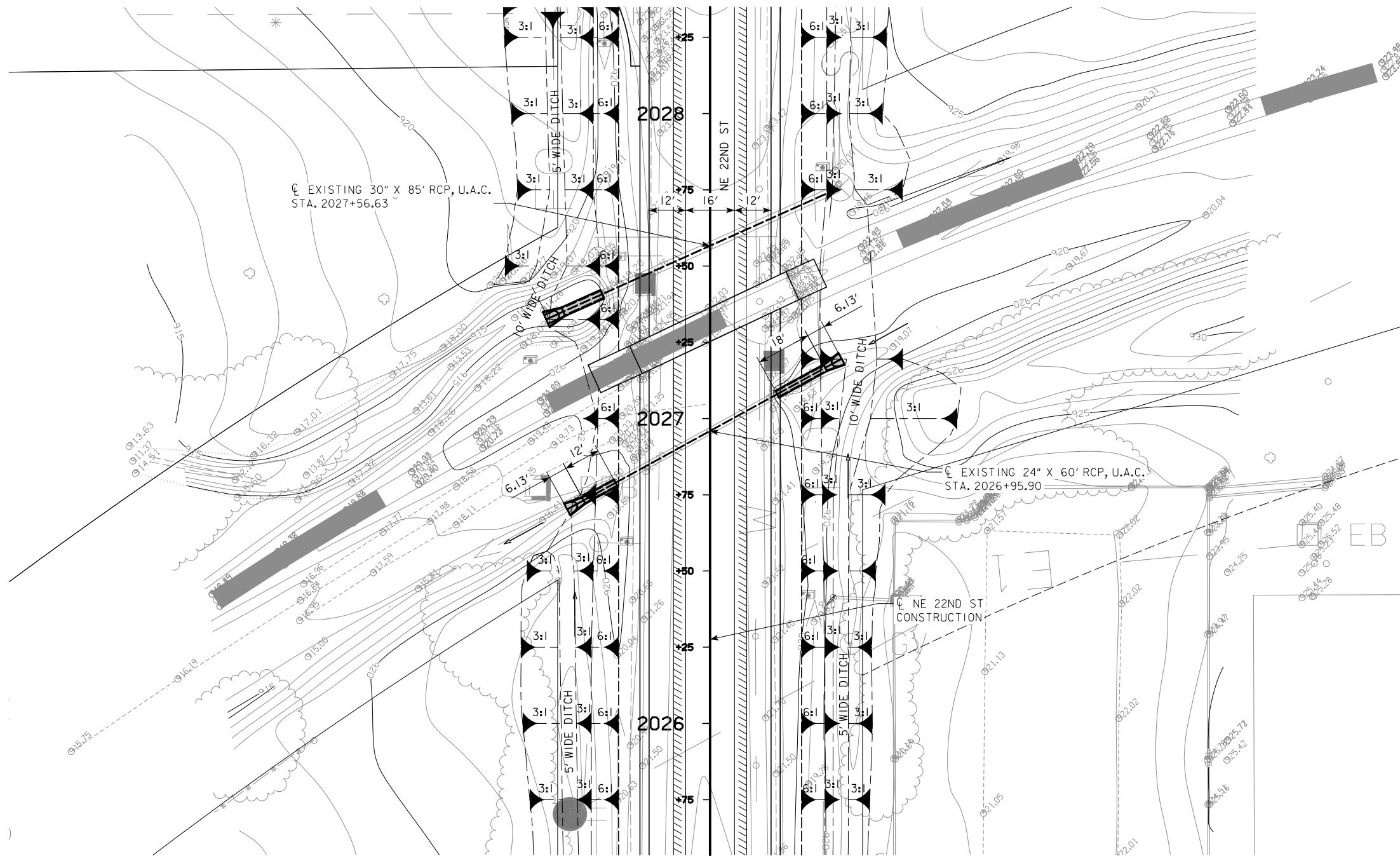


PROPOSED PROFILE  
GRADE ON NE 22ND ST

PRELIMINARY  
 DESIGN FOR 0° SKEW  
**891'-0 X 44'-0 CONTINUOUS  
 WELDED GIRDER BRIDGE**  
 105'-0, 177'-0, 128'-0, 153'-0, 208'-0, 120'-0 SPANS  
**SITUATION PLAN - MISC.**  
 STATION 2042+50.50 (C NE 22ND ST.) FEBRUARY 2014  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 4 OF 4 FILE NO. 30931 DESIGN NO. 117



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN



TRAFFIC ESTIMATE

2018 AADT	5740	V.P.D.
2040 AADT	8880	V.P.D.
2040 DHV	1084	V.P.H.
TRUCKS	21	%
TOTAL DESIGN ESALS	--	

LOCATION

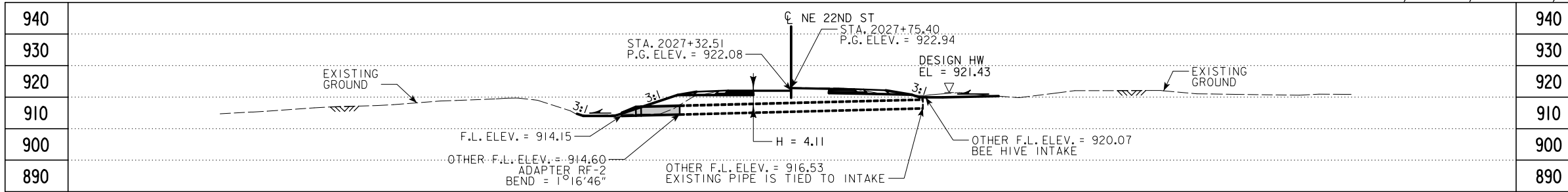
NE 22ND ST  
 T-79 N R-24 W & R-23 W  
 SECTION 13 & 18  
 SAYLOR & DELAWARE TOWNSHIPS  
 POLK COUNTY  
 LATITUDE 41.64662968  
 LONGITUDE 93.58131881

HYDRAULIC DATA

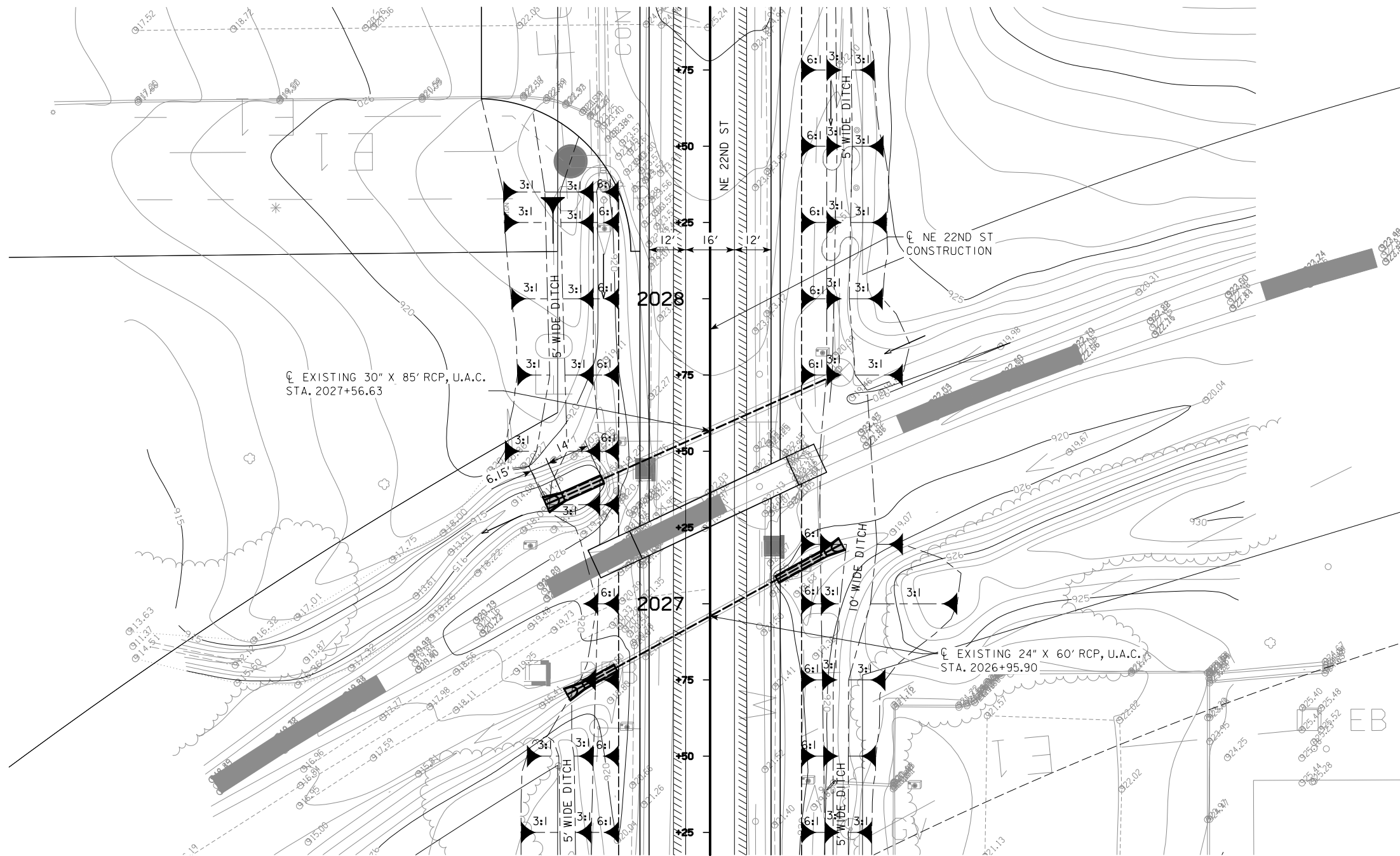
DRAINAGE AREA = 6.0 ACRES - HILLY  
 Q₅₀ = 24.4 CFS  
 HW ELEV. = 921.27

PRELIMINARY

DESIGN FOR 28.7° SKEW  
**24 in. x 12 ft. Ext. Left**  
**24 in. x 18 ft. Ext. Right**  
**REINFORCED CONCRETE PIPE**  
**PLAT PLAN**  
 STATION 2026+95.90 (☉ NE 22ND ST) JANUARY 2013  
**POLK COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN



TRAFFIC ESTIMATE

2018 AADT	5740	V.P.D.
2040 AADT	8880	V.P.D.
2040 DHV	1084	V.P.H.
TRUCKS	21	%
TOTAL DESIGN ESALS	--	

LOCATION

NE 22ND ST  
 T-79 N R-24 W & R-23 W  
 SECTION 13 & 18  
 SAYLOR & DELAWARE TOWNSHIPS  
 POLK COUNTY  
 LATITUDE 41.64679636  
 LONGITUDE 93.58131815

HYDRAULIC DATA

DRAINAGE AREA = 20 ACRES - ROLLING  
 $Q_{50} = 44.6$  CFS  
 HW ELEV. = 921.43

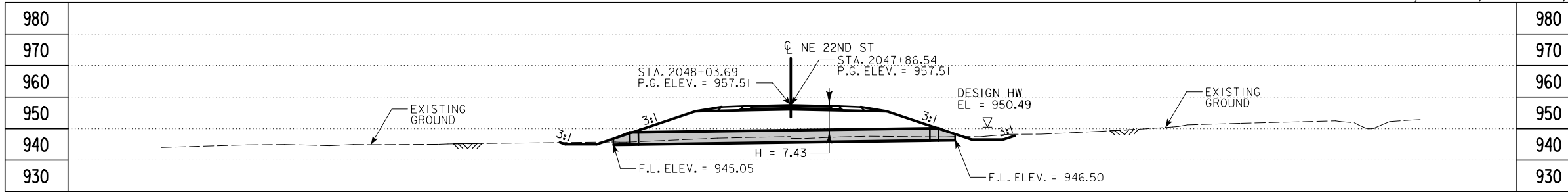
PRELIMINARY

DESIGN FOR 24.2° SKEW  
**30 in. x 14 ft. Ext. Left  
 REINFORCED CONCRETE PIPE  
 PLAT PLAN**

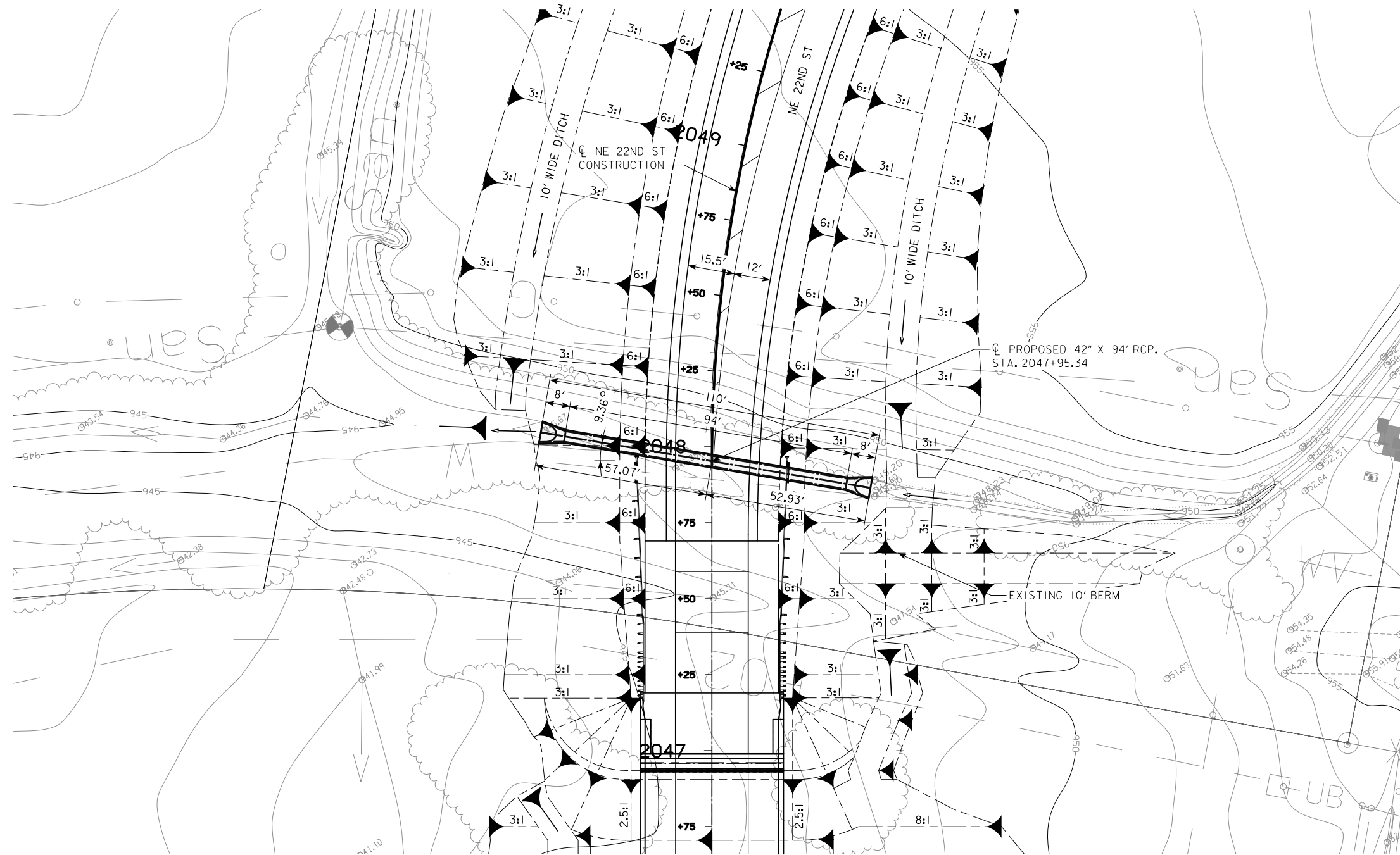
STATION 2027+56.63 (☉ NE 22ND ST) JANUARY 2014

**POLK COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN



**TRAFFIC ESTIMATE**

2018 AADT	5740	V.P.D.
2040 AADT	8880	V.P.D.
2040 DHV	1084	V.P.H.
TRUCKS	21	%
TOTAL DESIGN ESALS	--	

**LOCATION**

NE 22ND ST  
 T-79 N R-24 W & R-23 W  
 SECTION 13 & 18  
 SAYLOR & DELAWARE TOWNSHIPS  
 POLK COUNTY  
 LATITUDE 41.65232433  
 LONGITUDE 93.58229533

**HYDRAULIC DATA**

DRAINAGE AREA = 28.4 ACRES - ROLLING  
 $Q_{50} = 57.8$  CFS  
 HW ELEV. = 950.49

PRELIMINARY

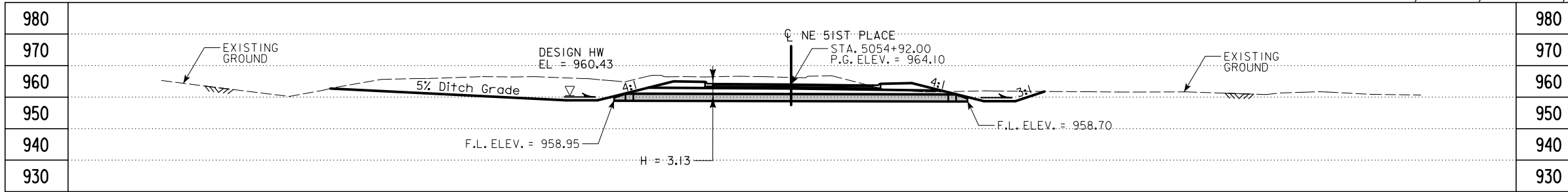
DESIGN FOR 9.36° LT AHEAD SKEW  
**42 in. x 94 ft.**  
**REINFORCED CONCRETE PIPE**

**PLAT PLAN**

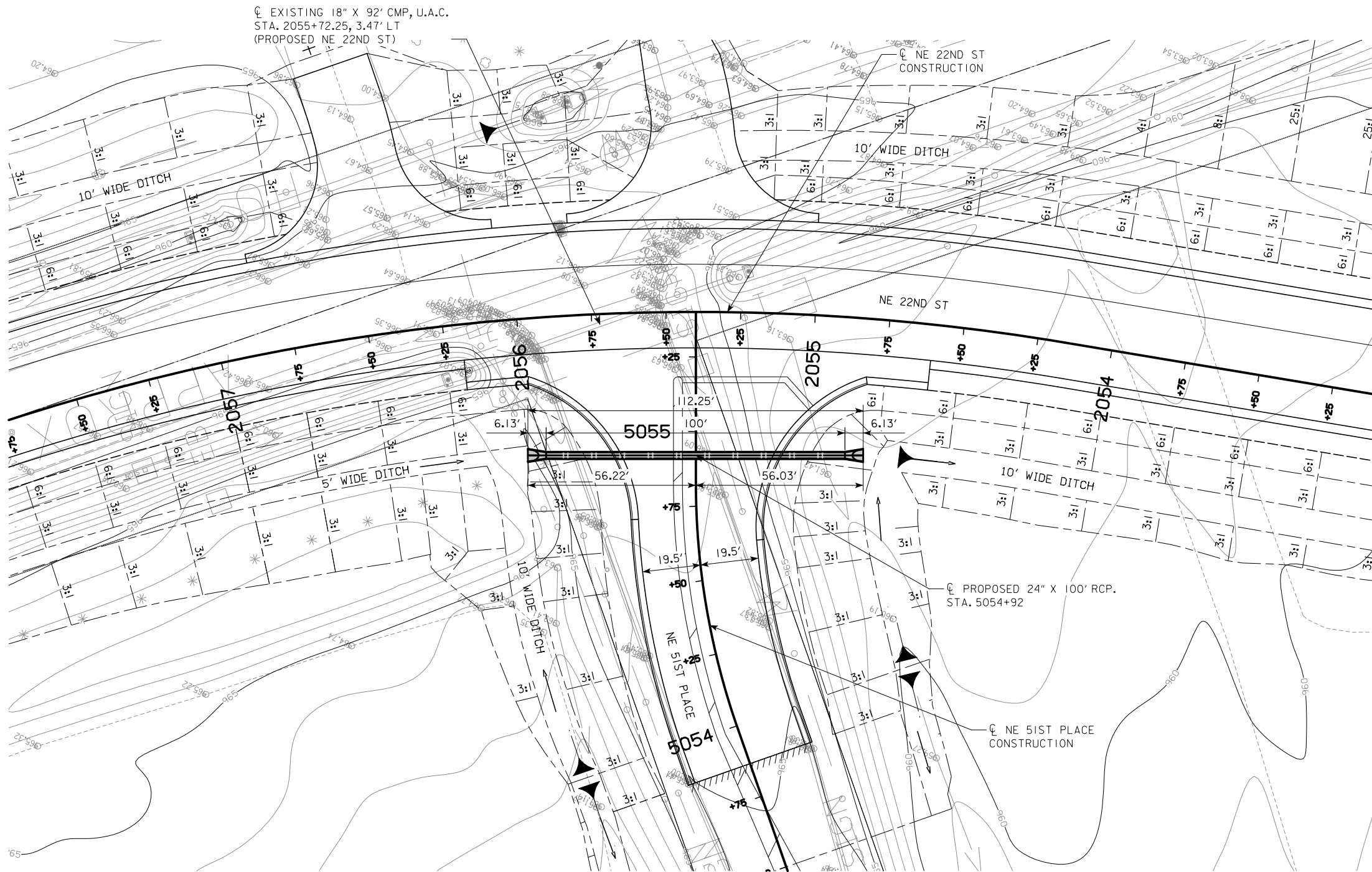
STATION 2047+95.34 (C NE 22ND ST) JANUARY 2013

**POLK COUNTY**

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO.



LONGITUDINAL SECTION ALONG CENTERLINE CULVERT



PLAT PLAN

TRAFFIC ESTIMATE

2018 AADT	--	V.P.D.
2040 AADT	--	V.P.D.
2040 DHV	--	V.P.H.
TRUCKS	--	%
TOTAL DESIGN ESALS	--	

LOCATION

NE 51ST PLACE  
 T-79 N R-24 W & R-23 W  
 SECTION 13 & 18  
 SAYLOR & DELAWARE TOWNSHIPS  
 POLK COUNTY  
 LATITUDE 41.65425989  
 LONGITUDE 93.58160304

HYDRAULIC DATA

DRAINAGE AREA = 1.7 ACRES - ROLLING  
 $Q_{50} = 7.2$  CFS  
 HW ELEV. = 960.43

PRELIMINARY

DESIGN FOR 0° SKEW  
**24 in. x 100 ft.**  
**REINFORCED CONCRETE PIPE**

PLAT PLAN

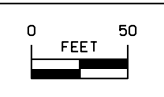
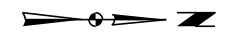
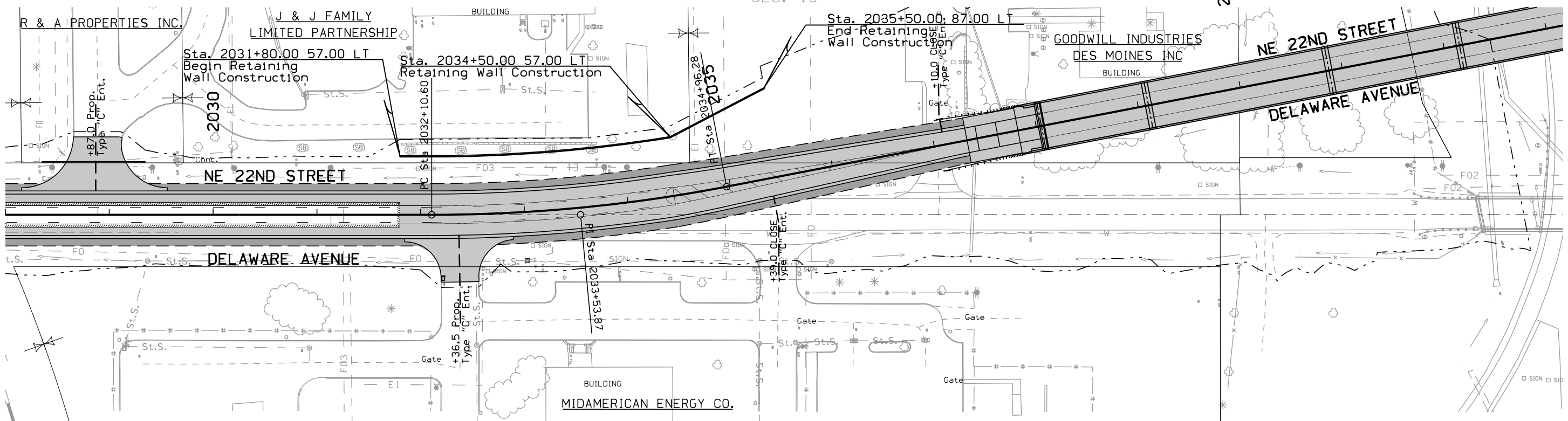
STATION 5054+92.00 (☉ NE 51ST PLACE) JANUARY 2013

POLK COUNTY

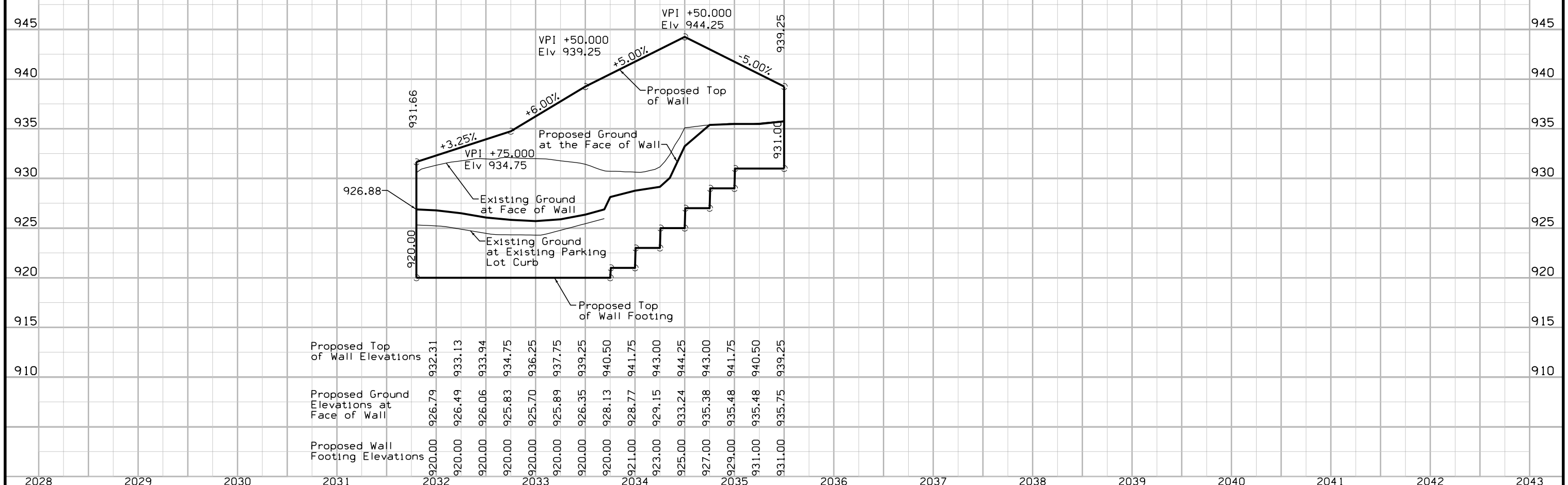
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
 DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO.

SAYLOR TWP.  
T-79N R-24W  
SEC. 13

DELAWARE TWP.  
T-79N R-23W  
SEC. 18

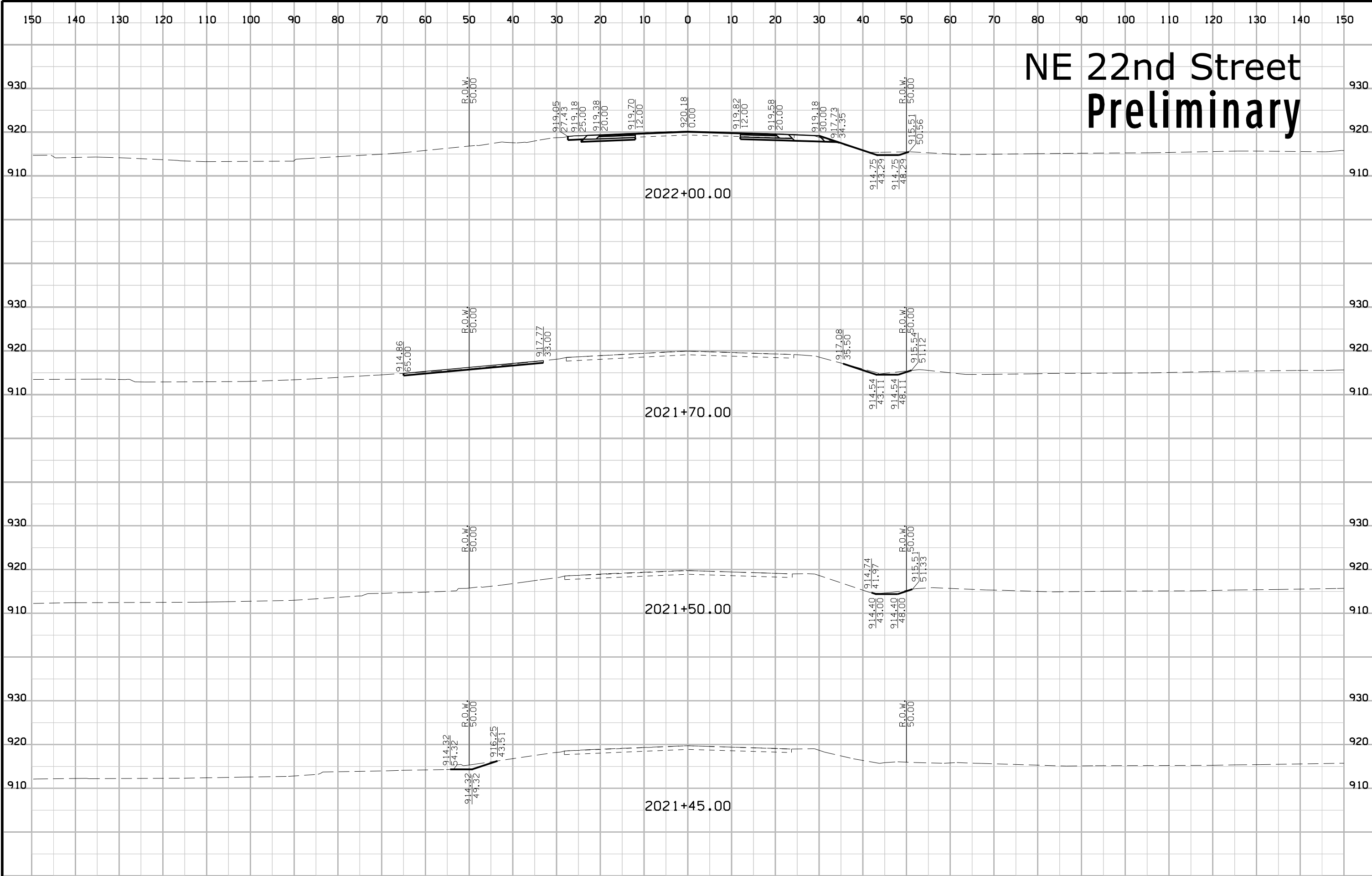


**RETAINING WALL**

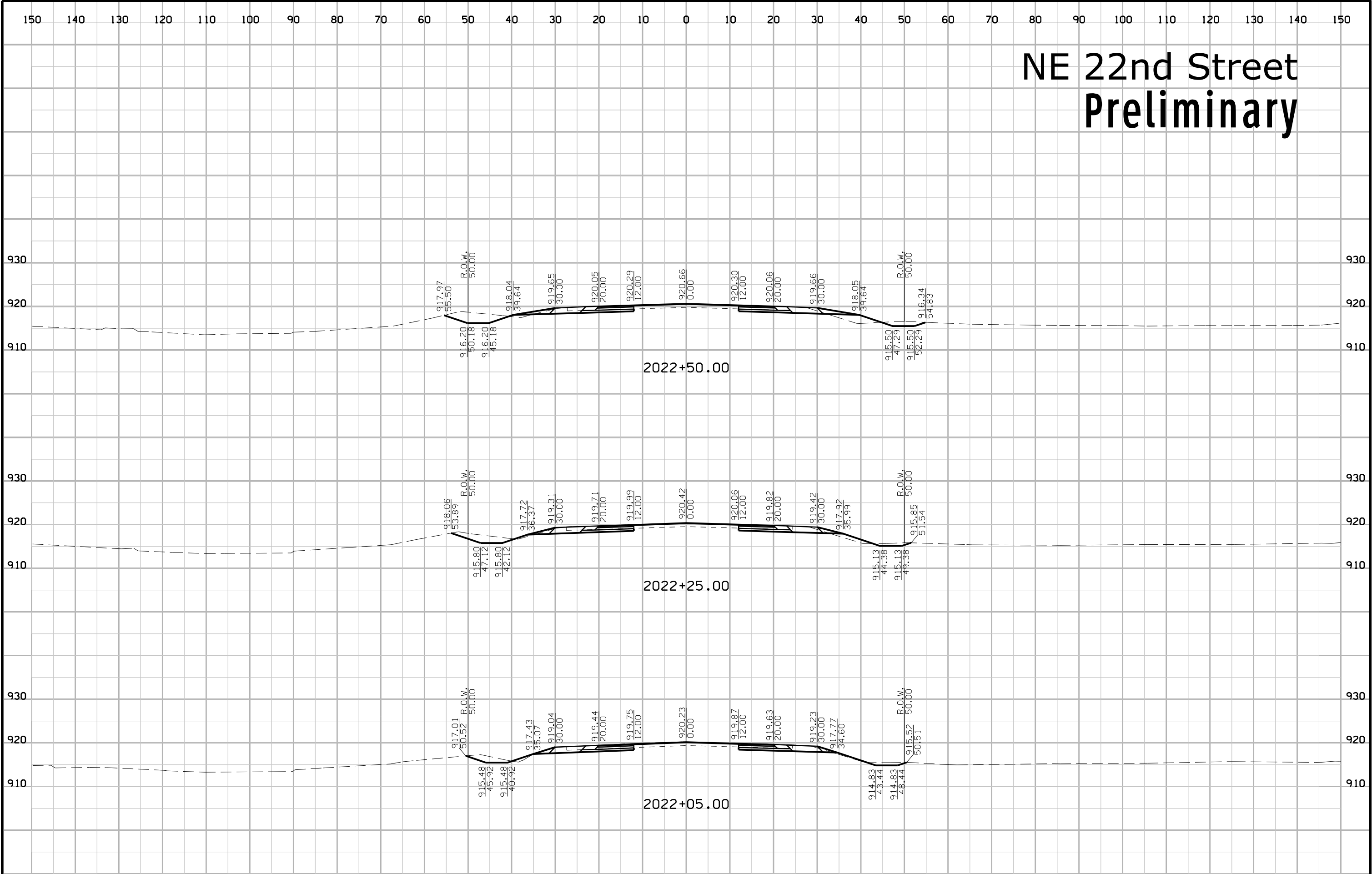




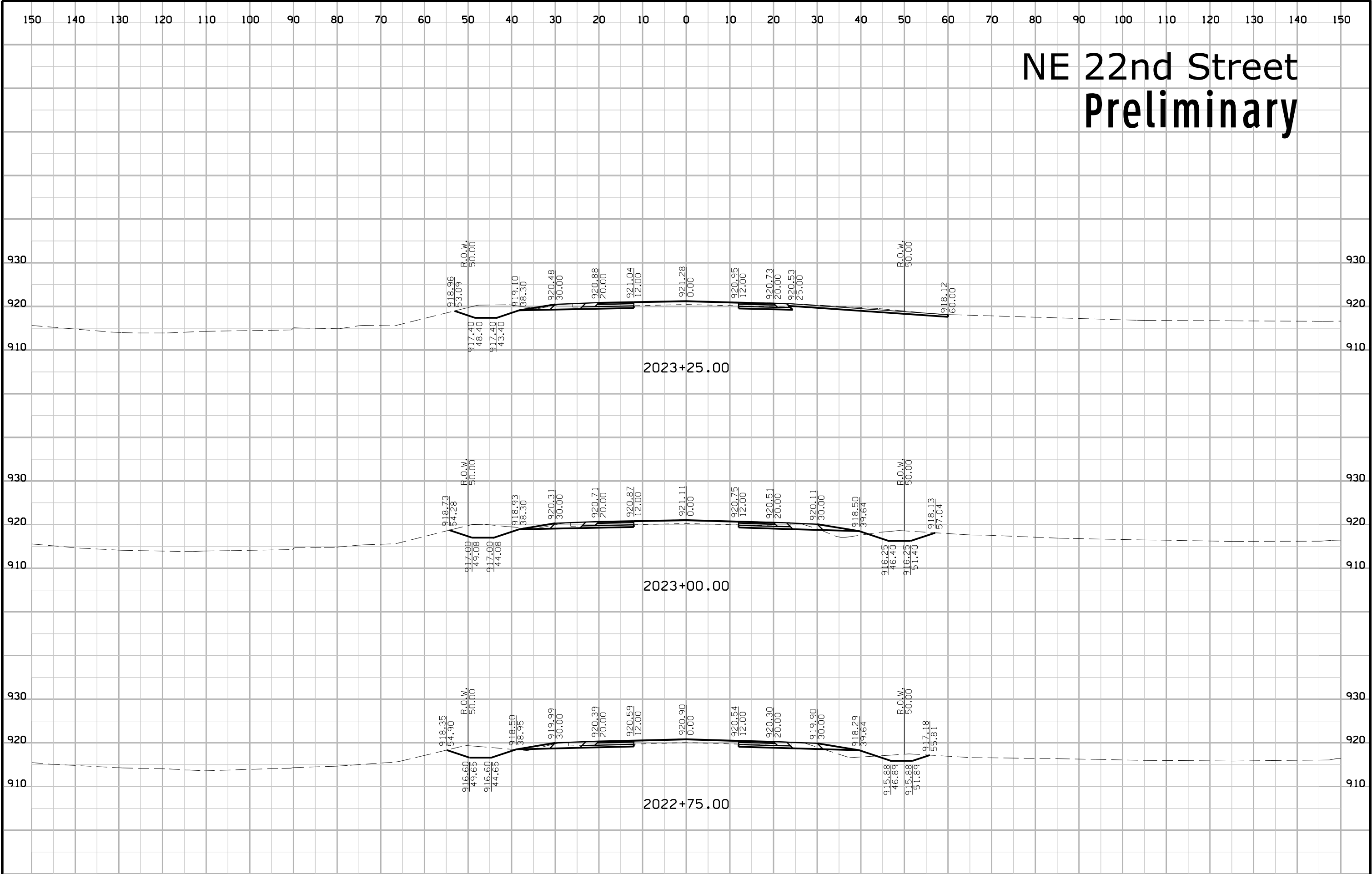
# NE 22nd Street Preliminary



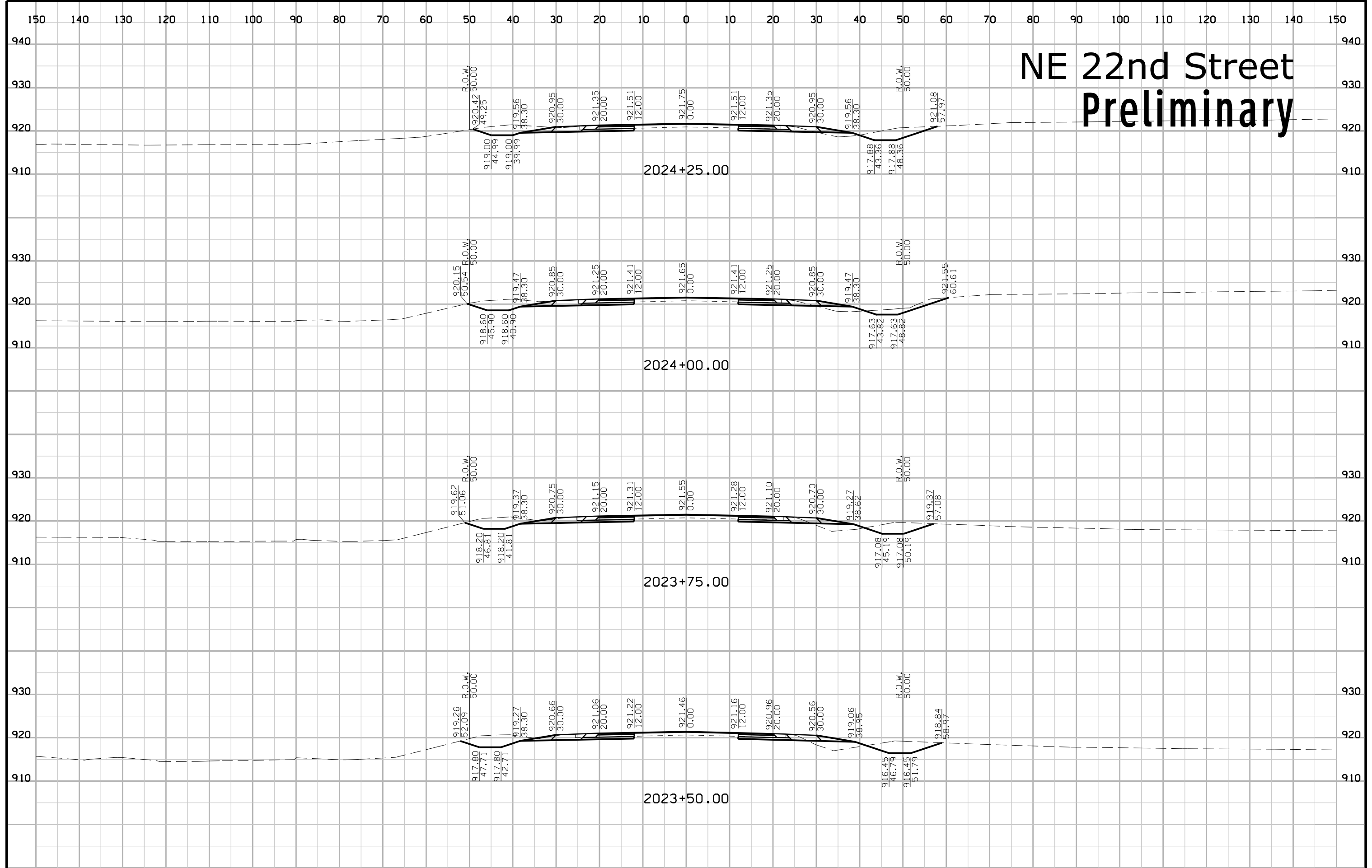
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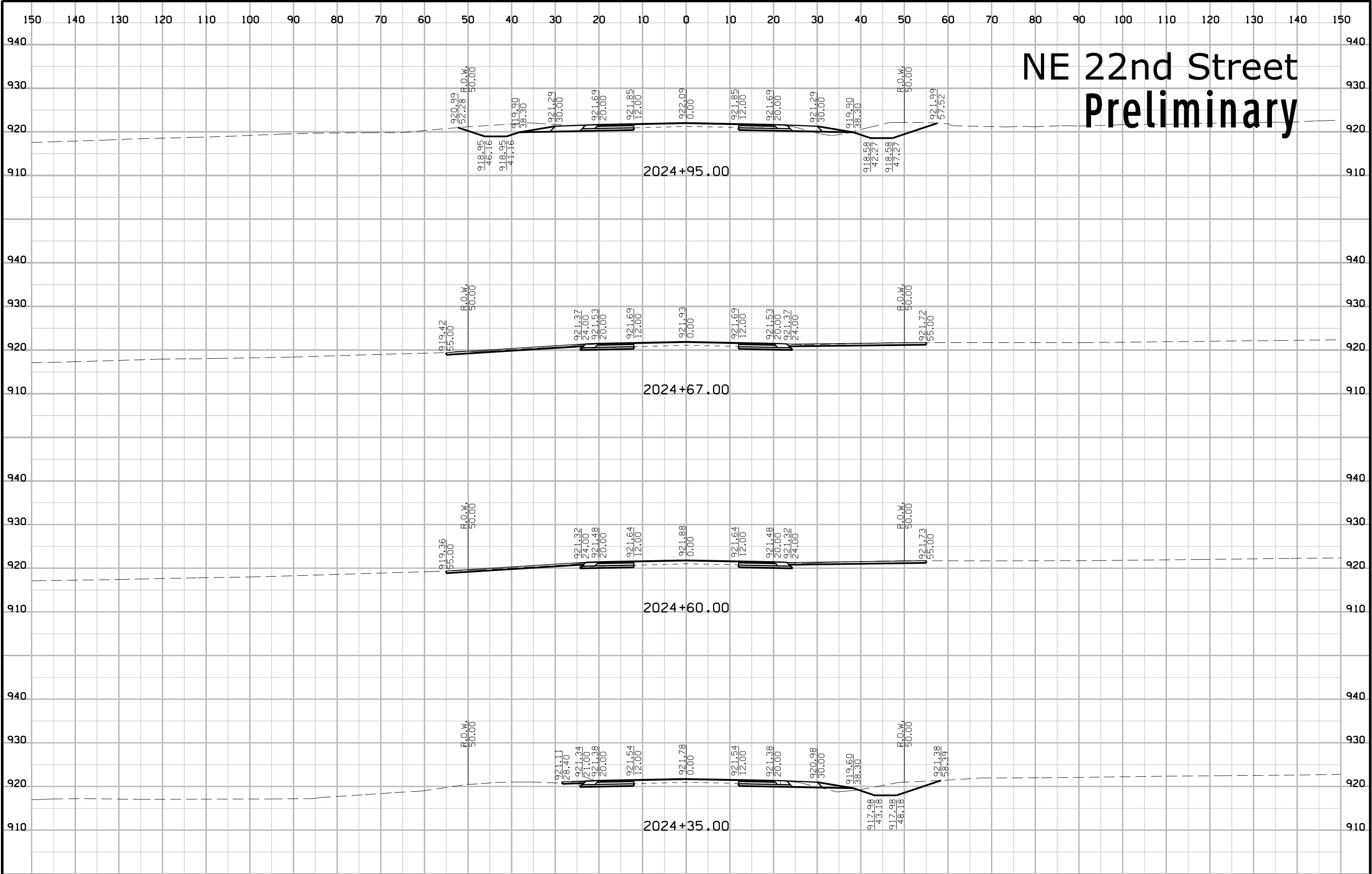
# NE 22nd Street Preliminary



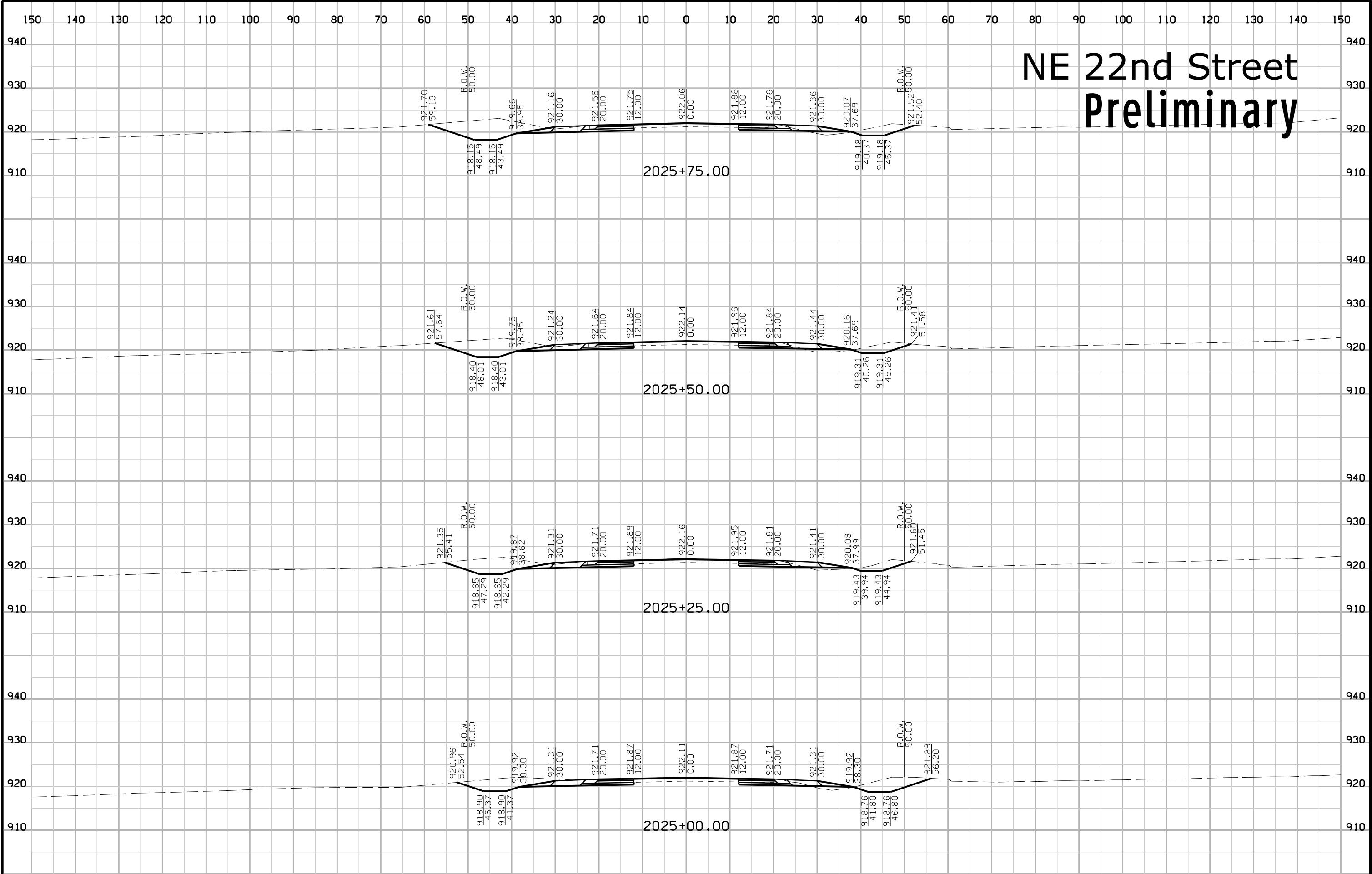
# NE 22nd Street Preliminary



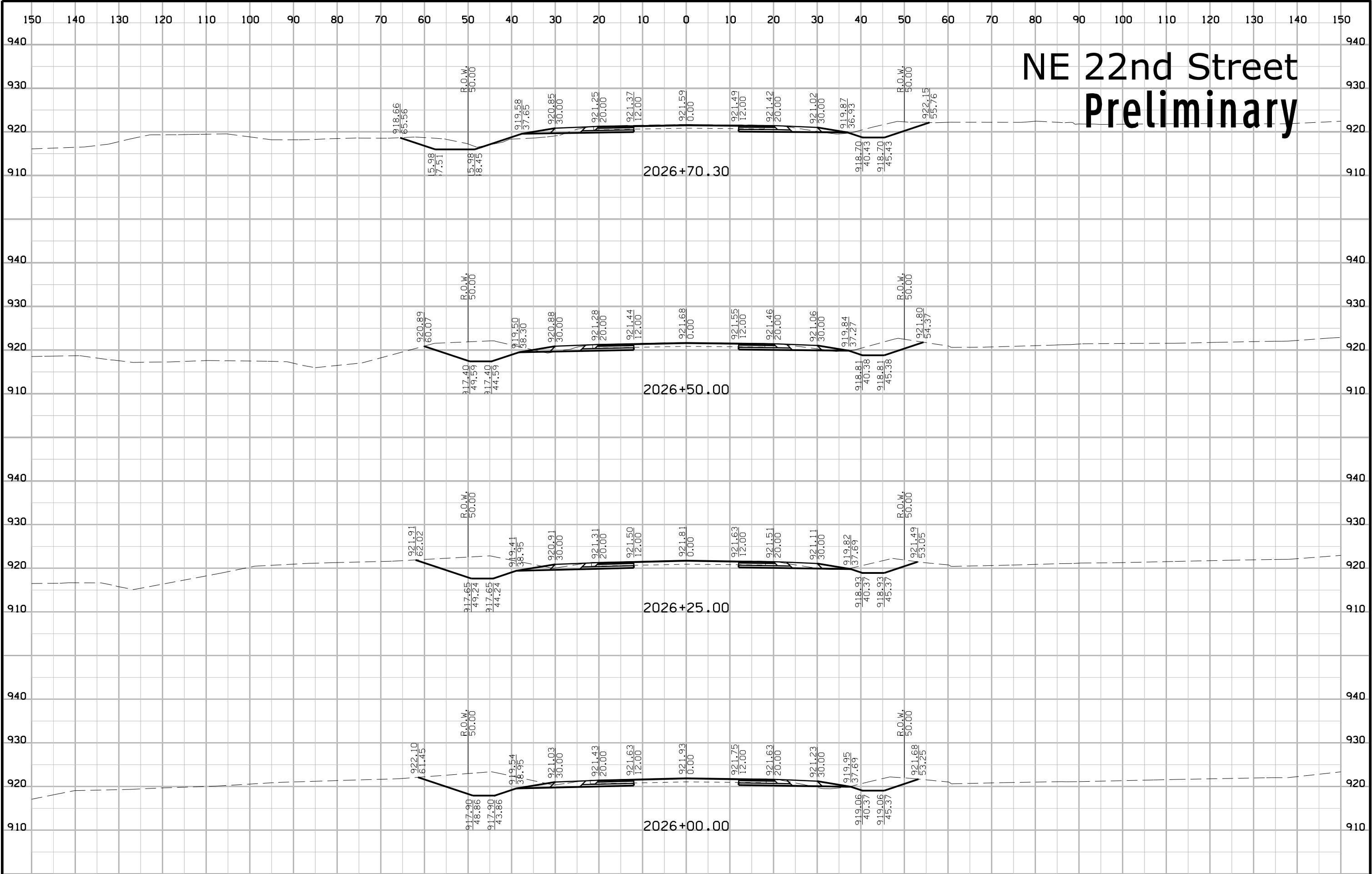
# NE 22nd Street Preliminary



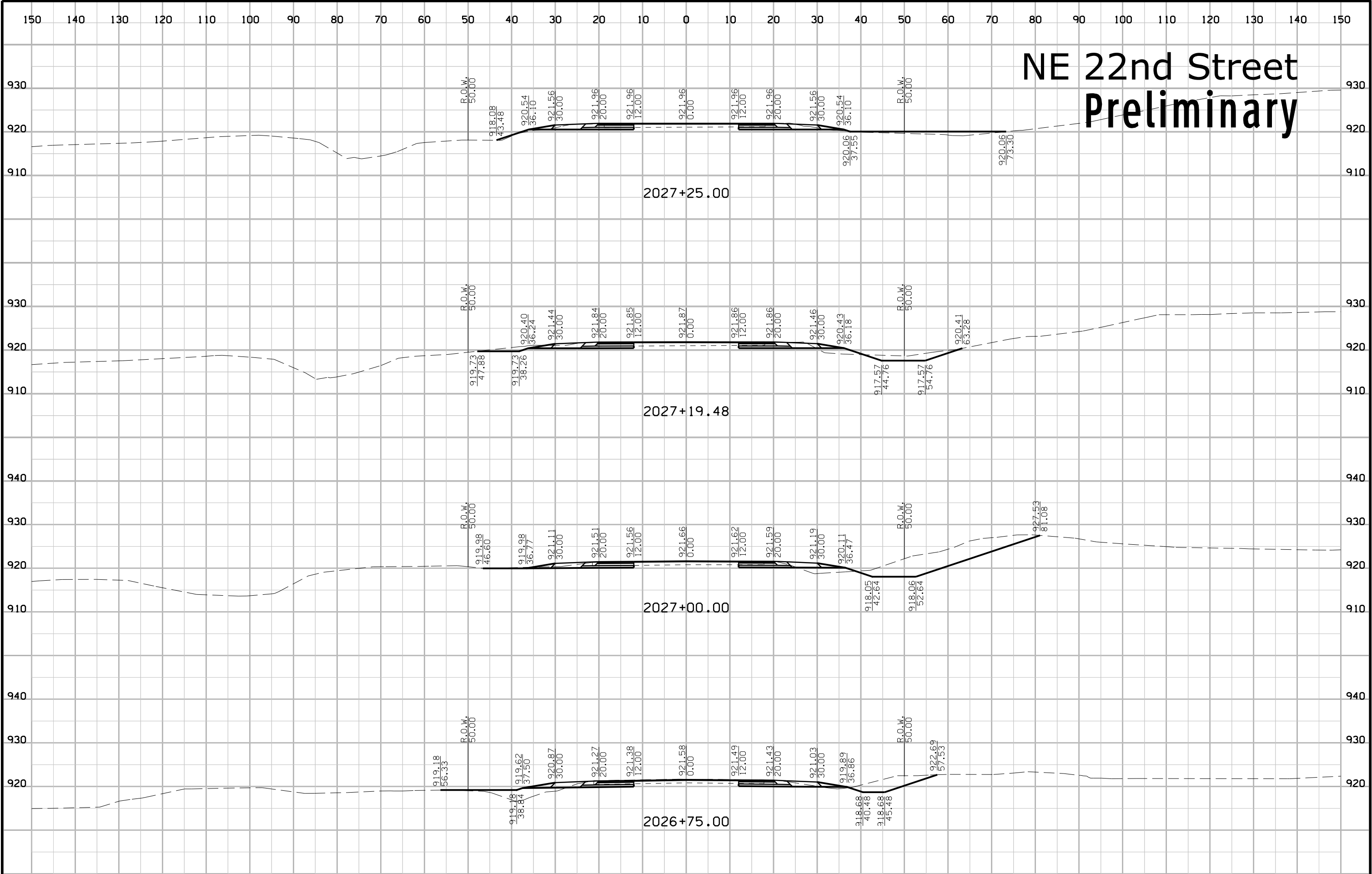
# NE 22nd Street Preliminary



# NE 22nd Street Preliminary

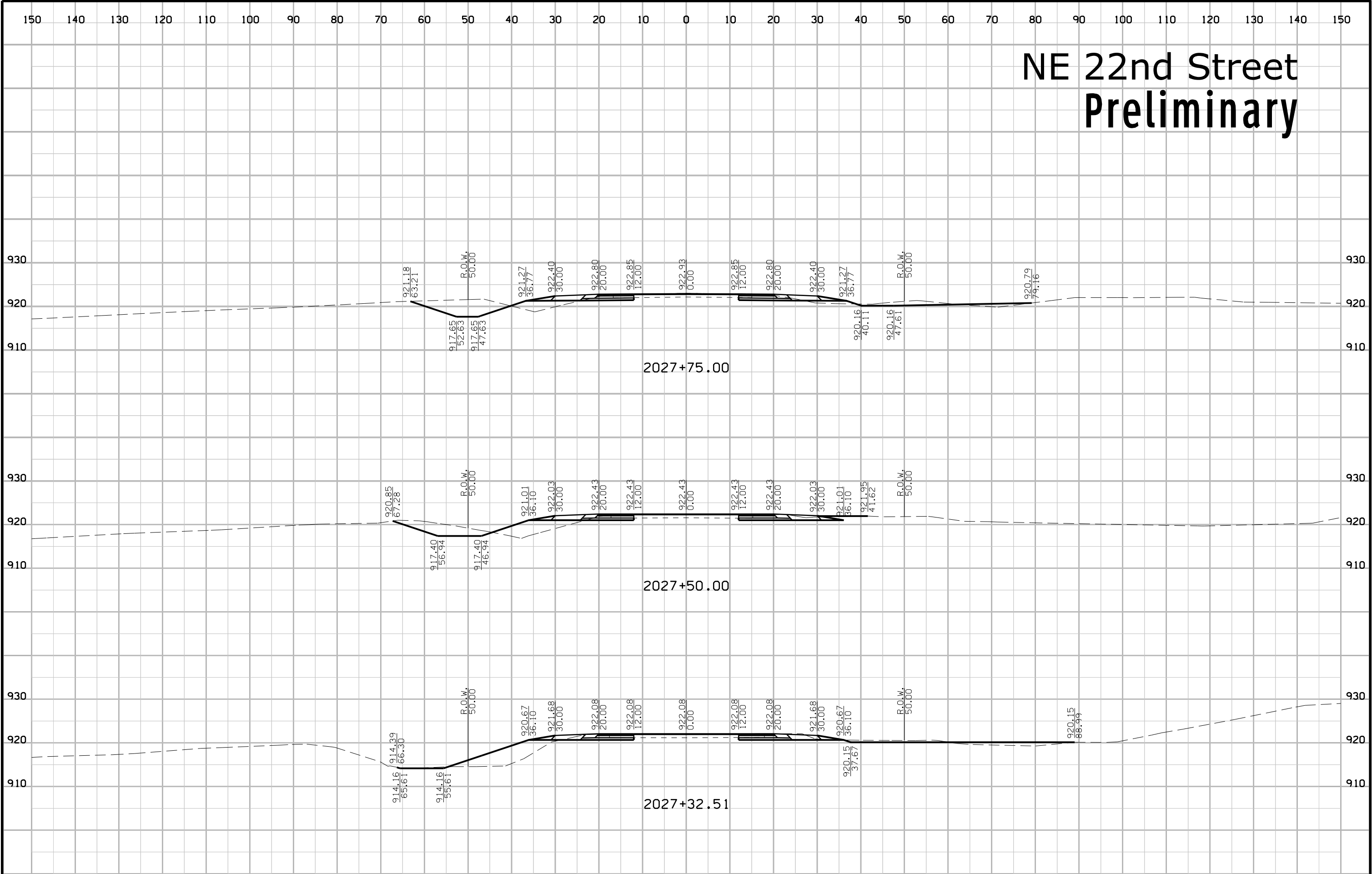


# NE 22nd Street Preliminary

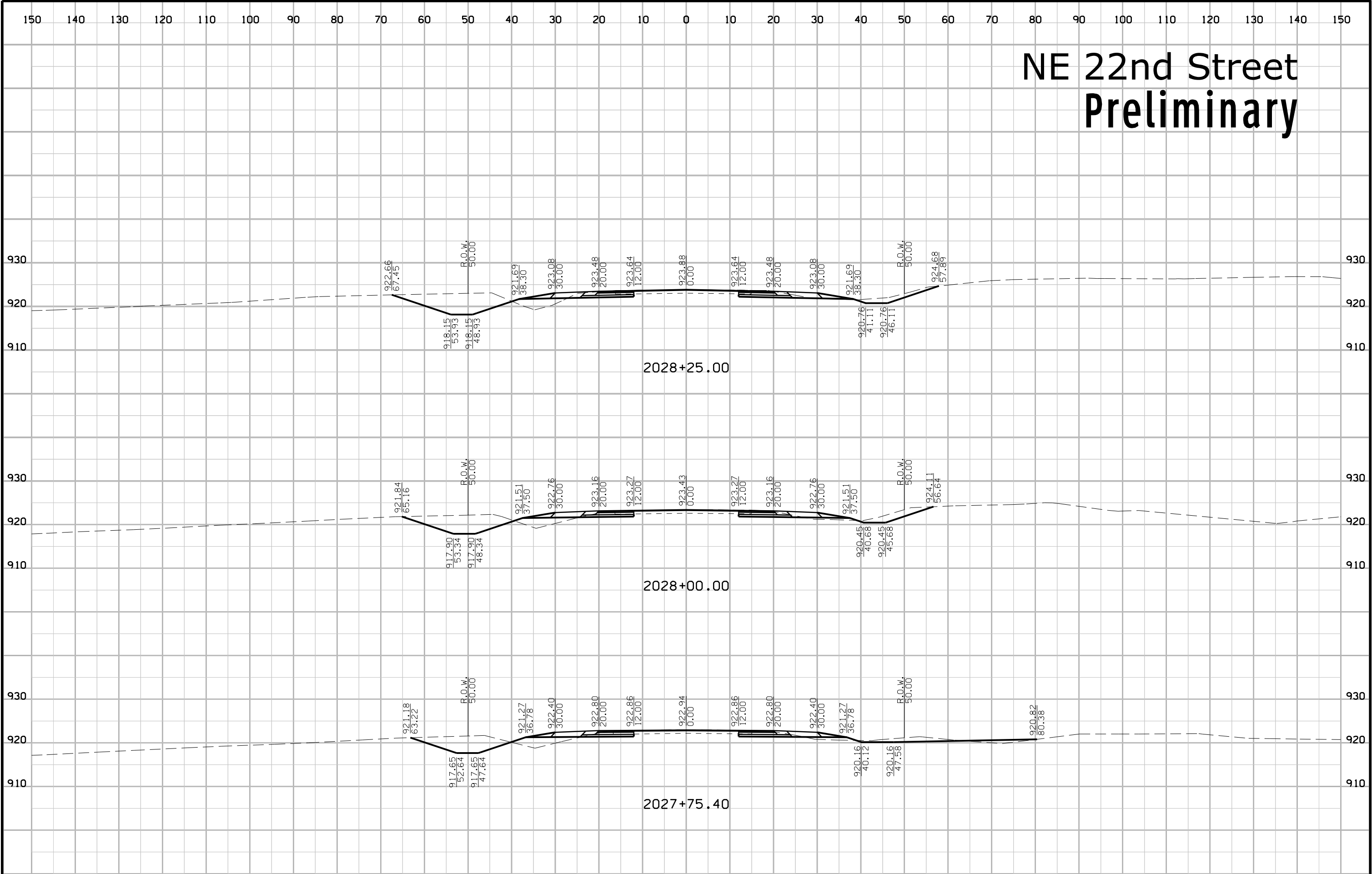




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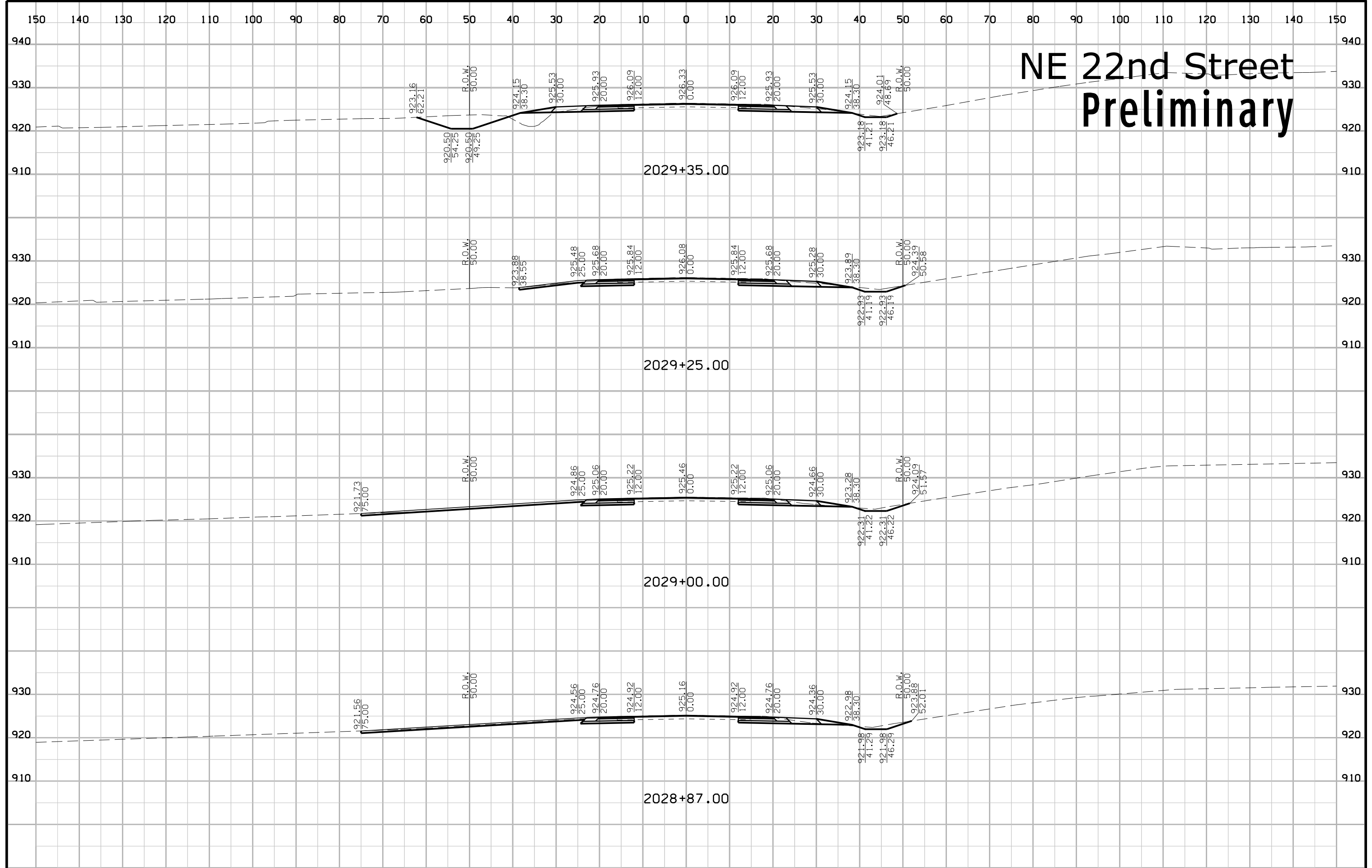


# NE 22nd Street Preliminary



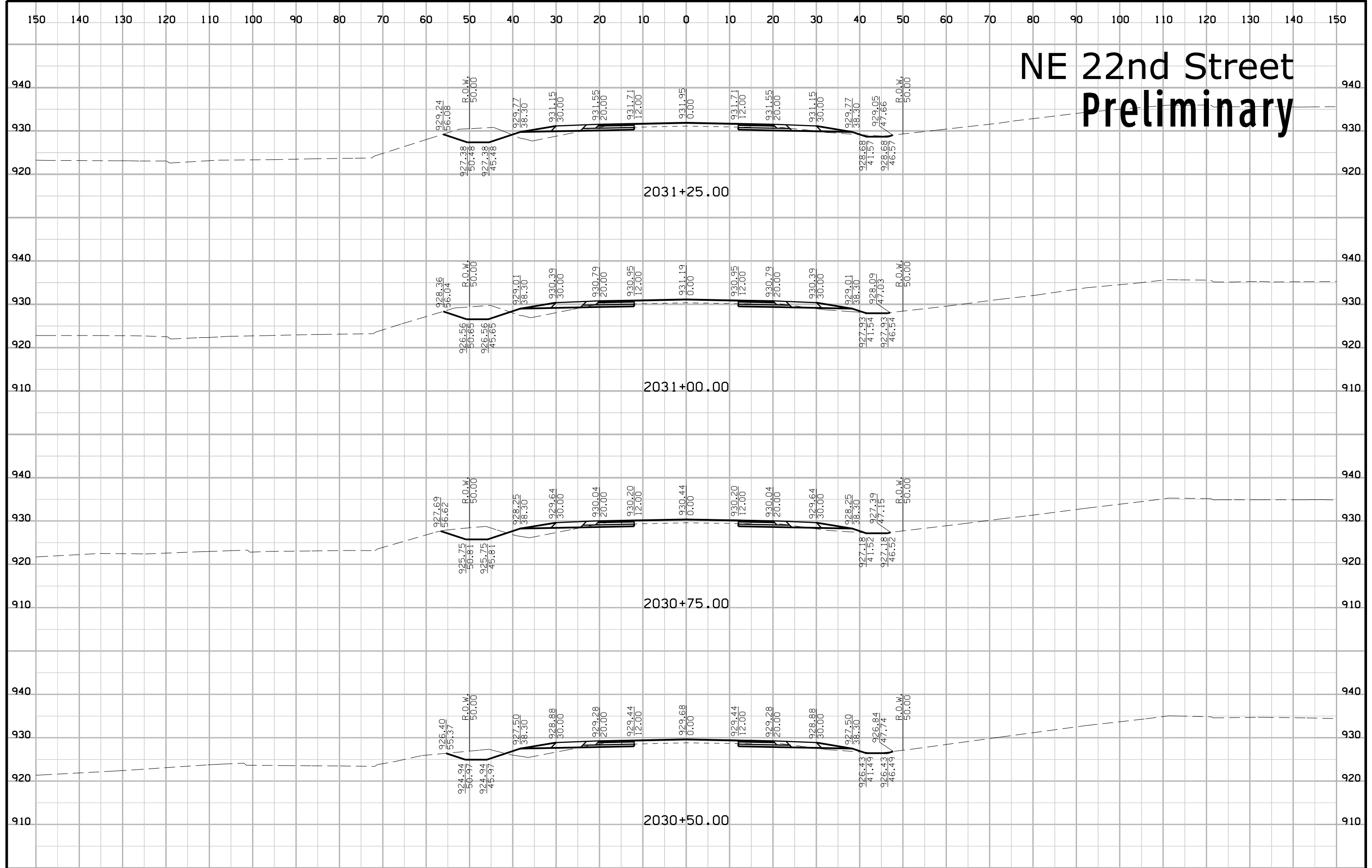


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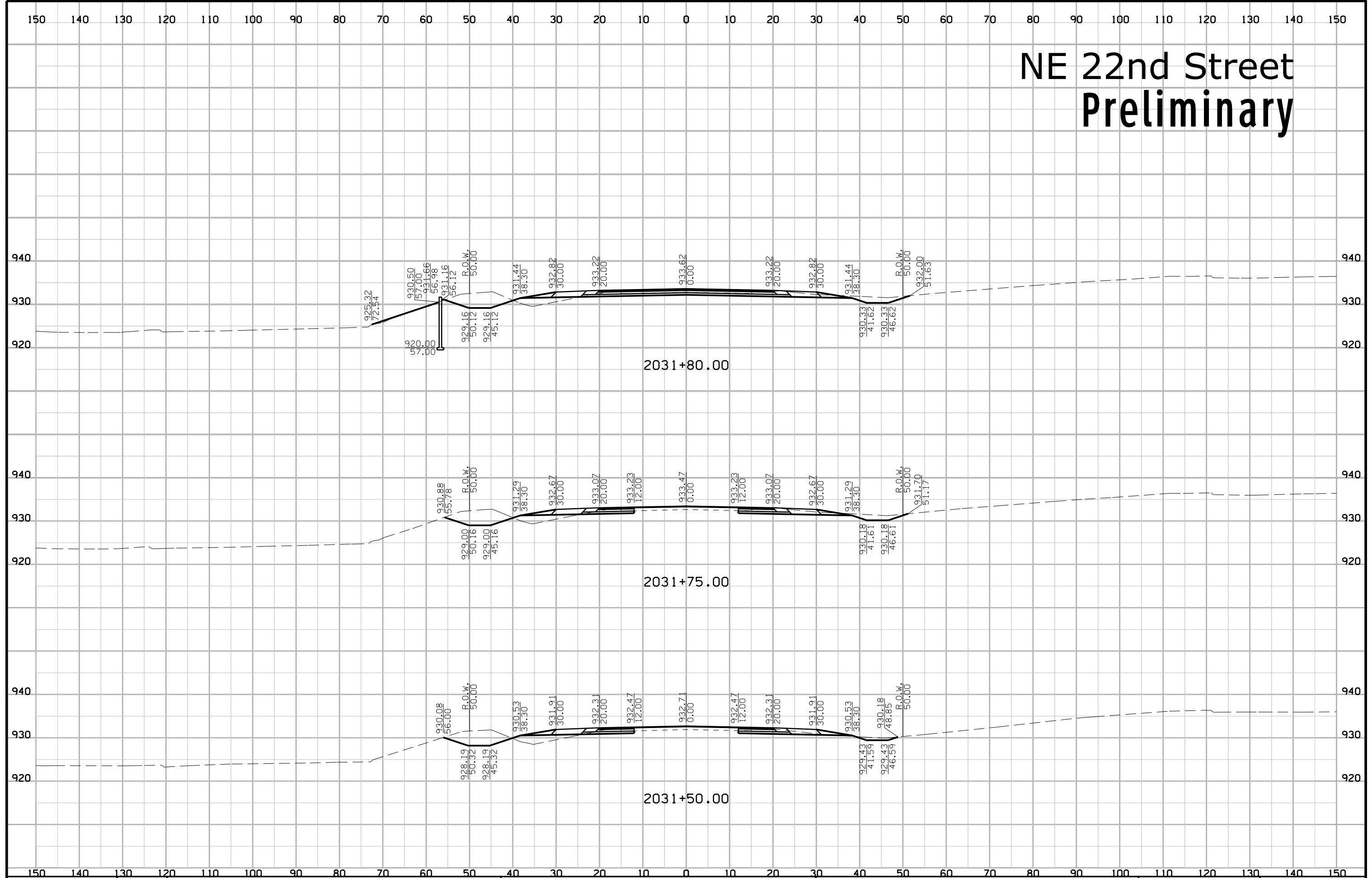




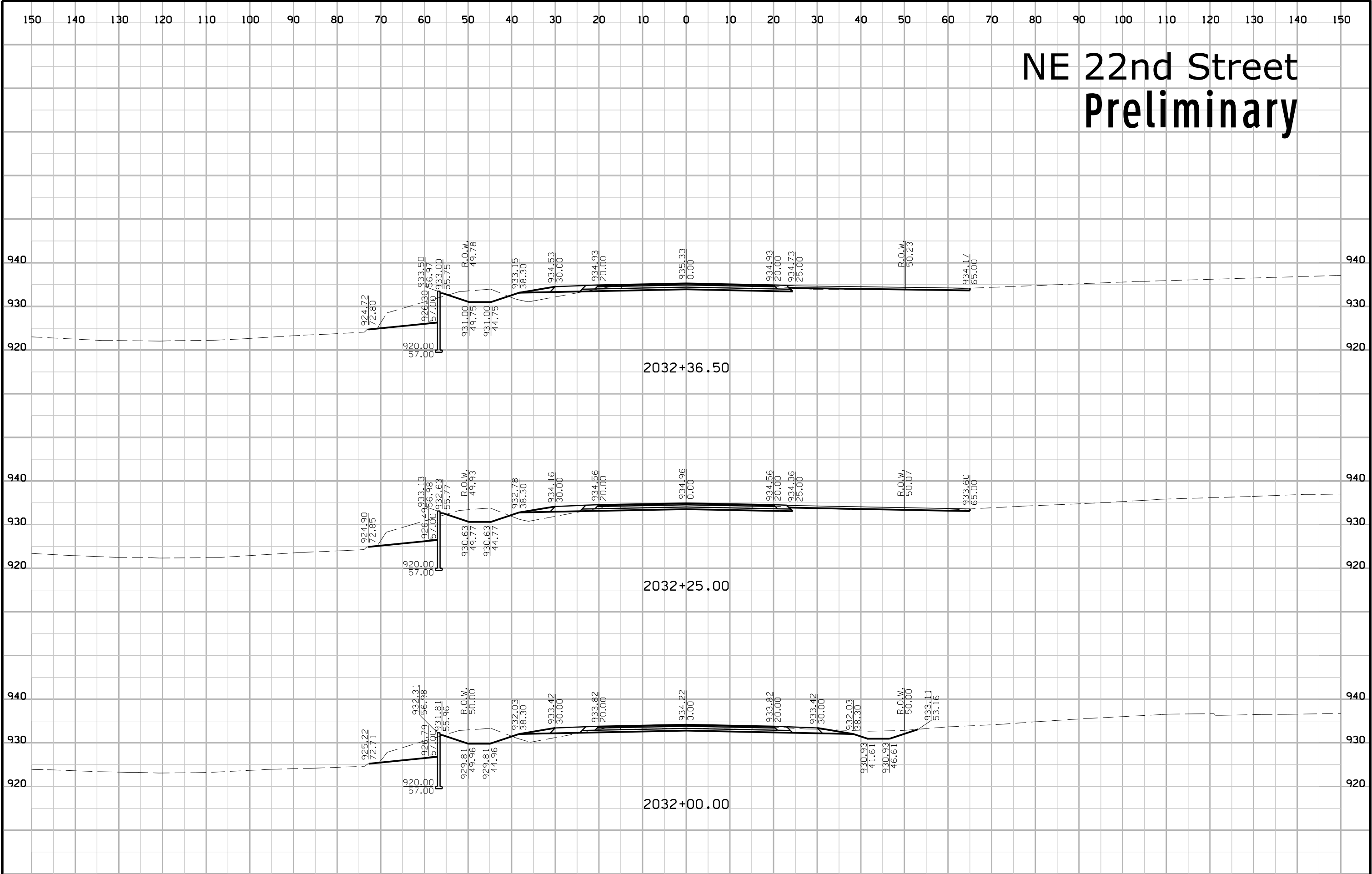
# NE 22nd Street Preliminary



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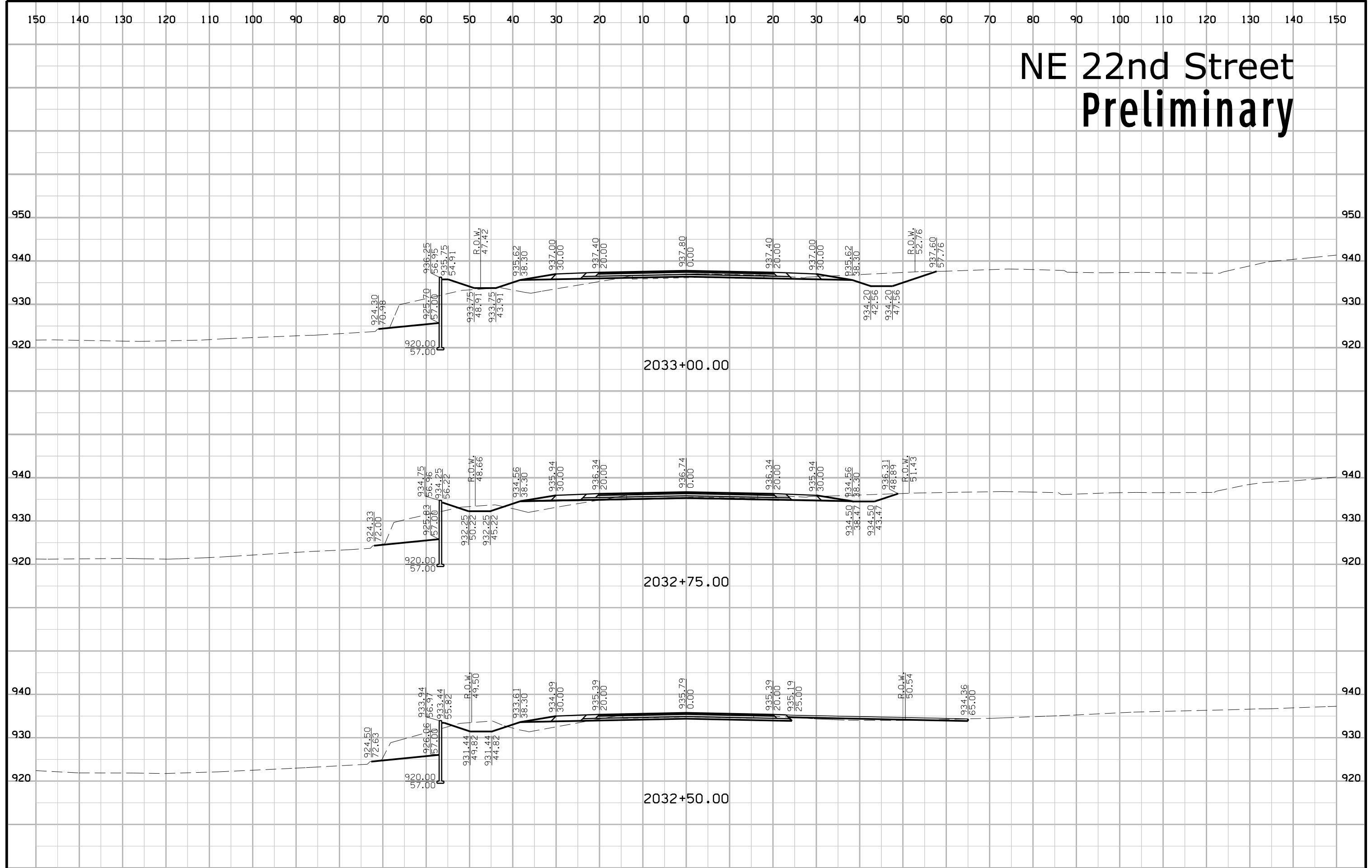


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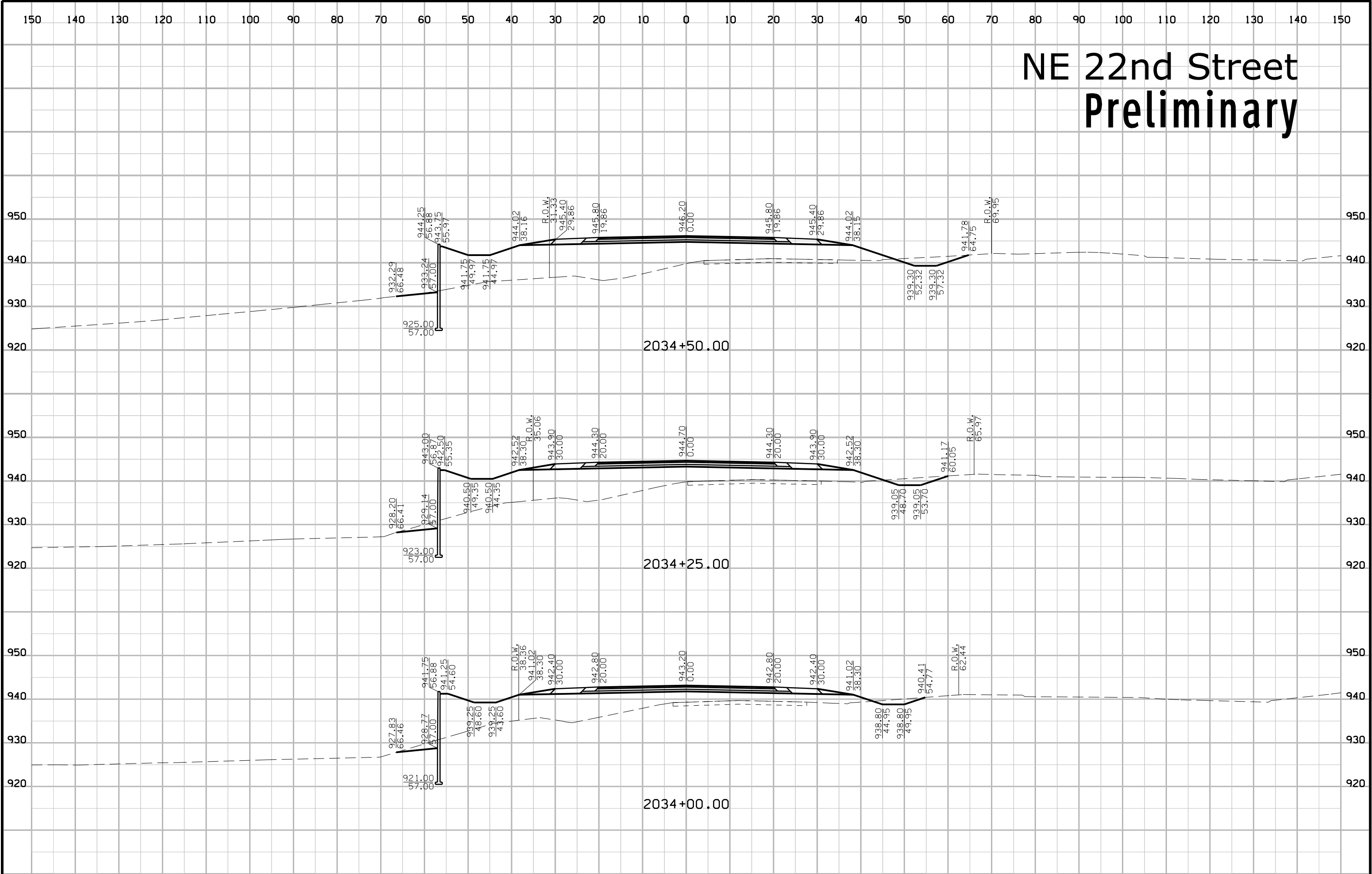


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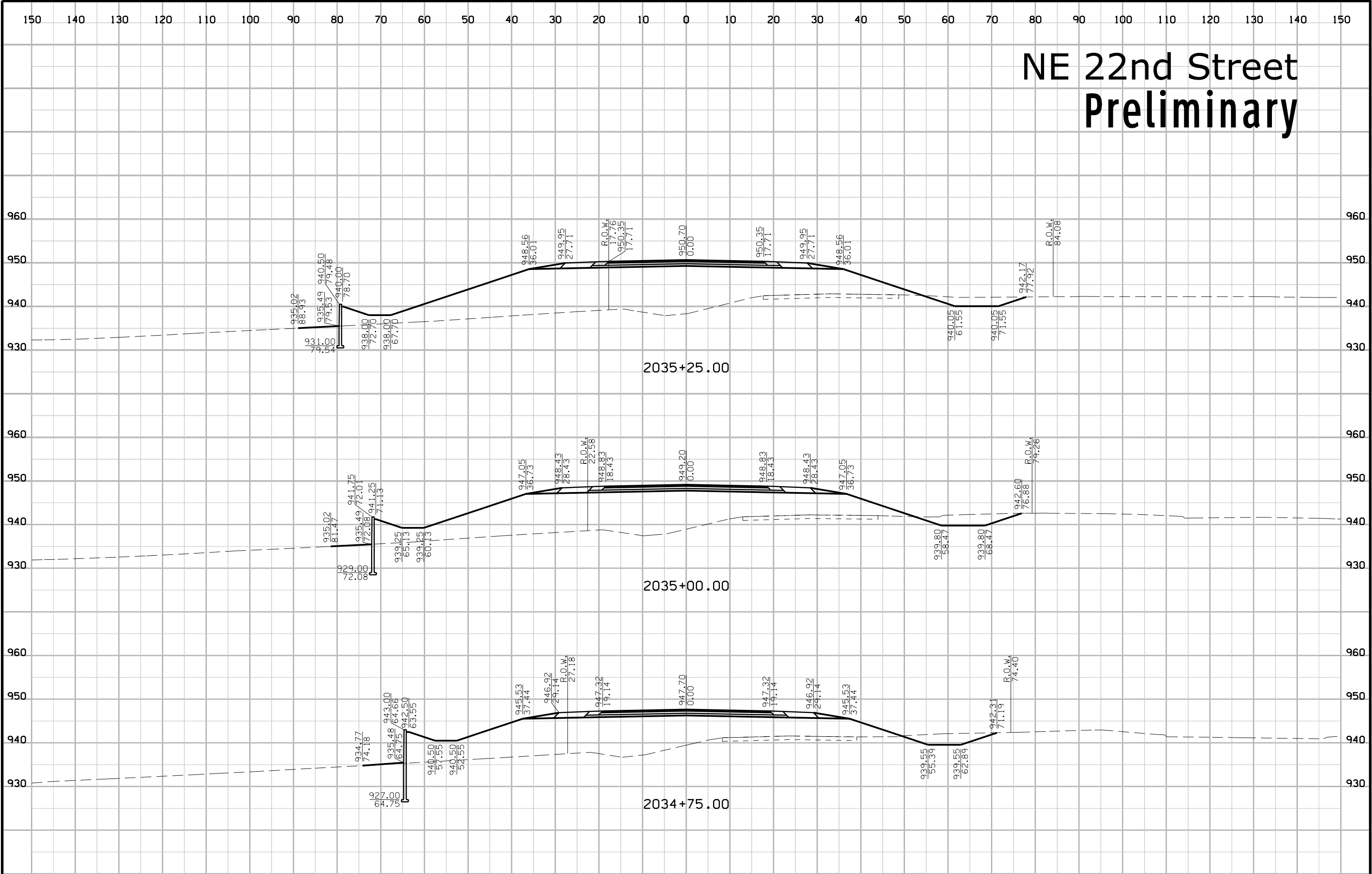




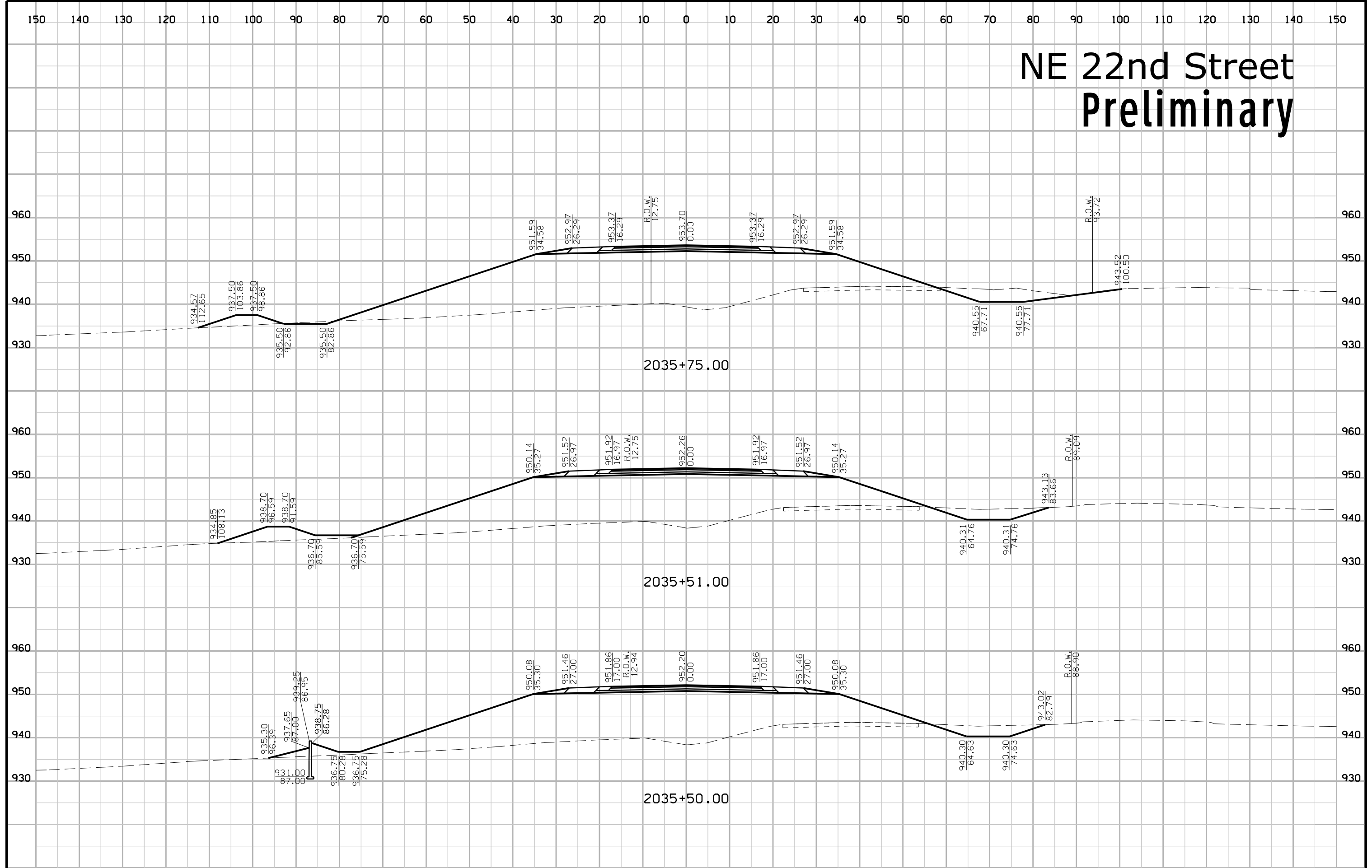
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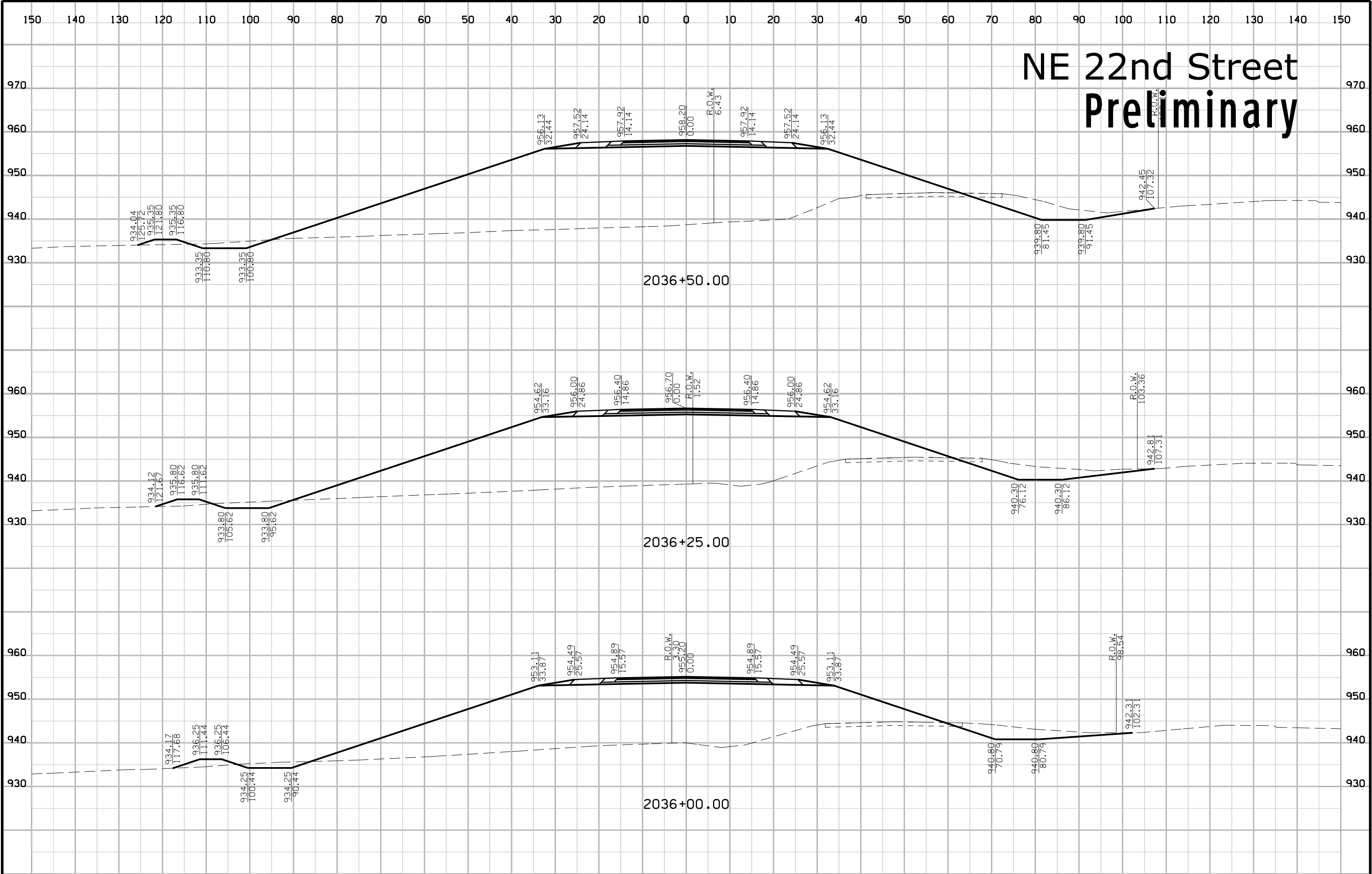
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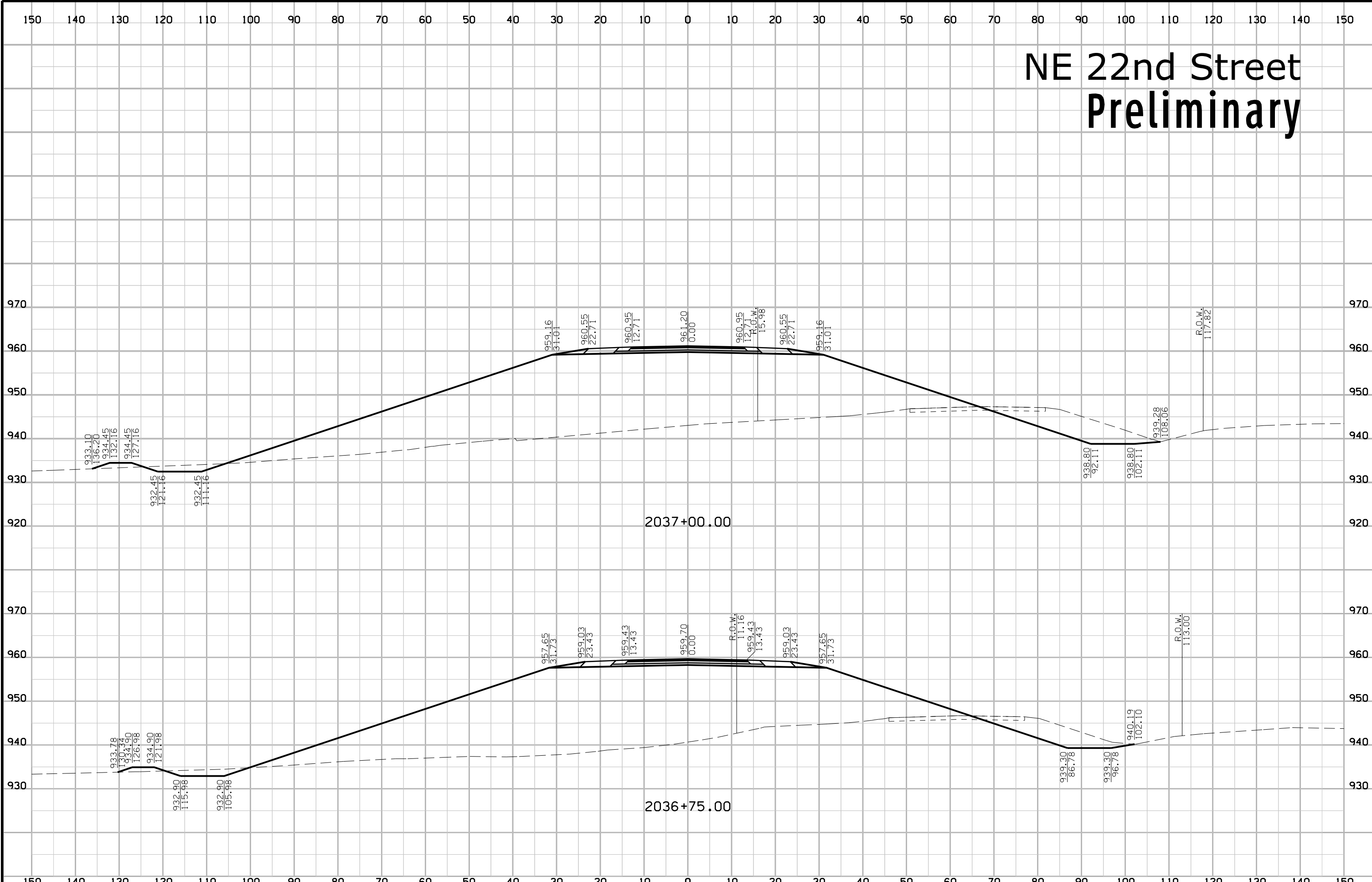
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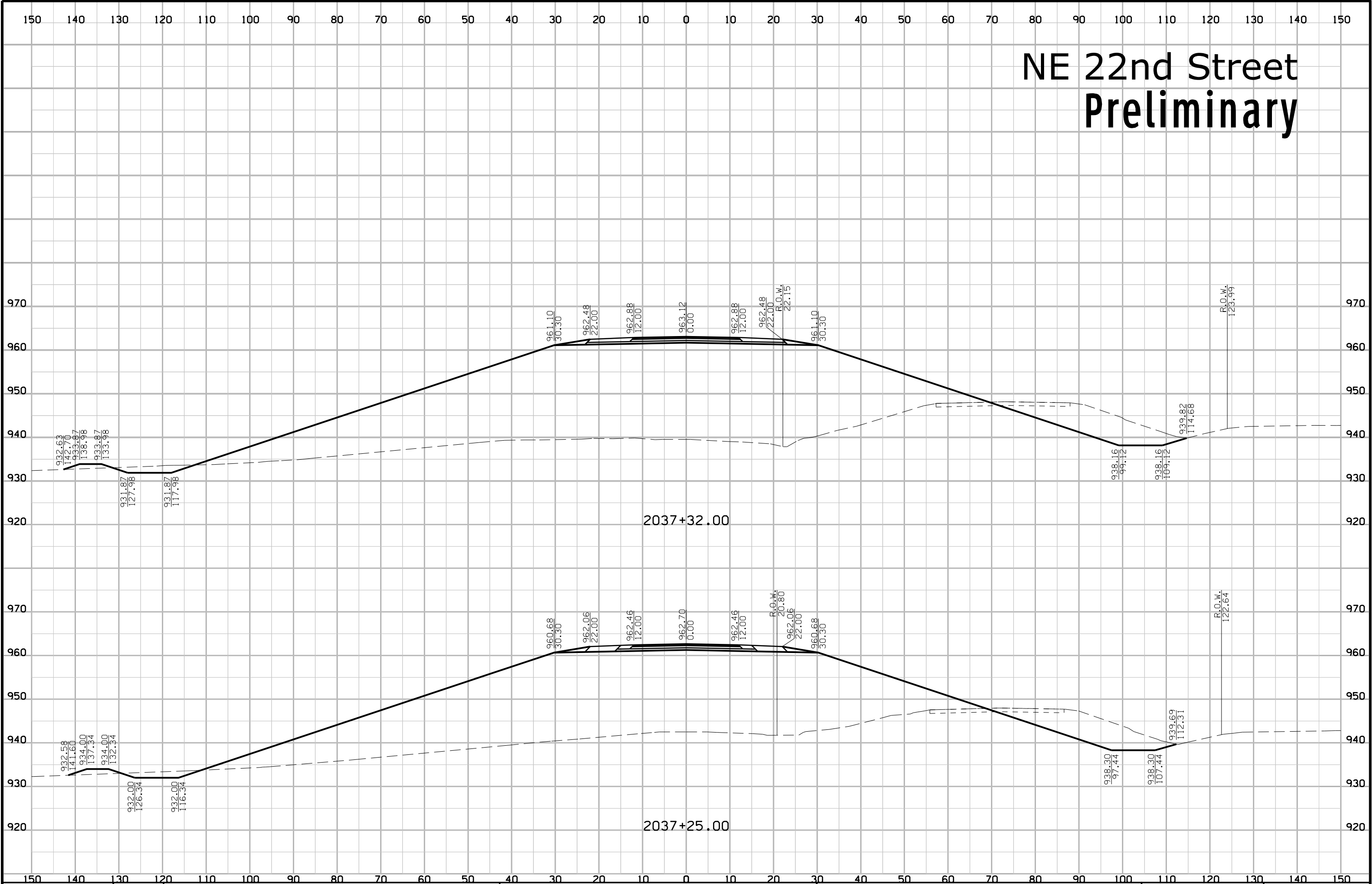
# NE 22nd Street Preliminary



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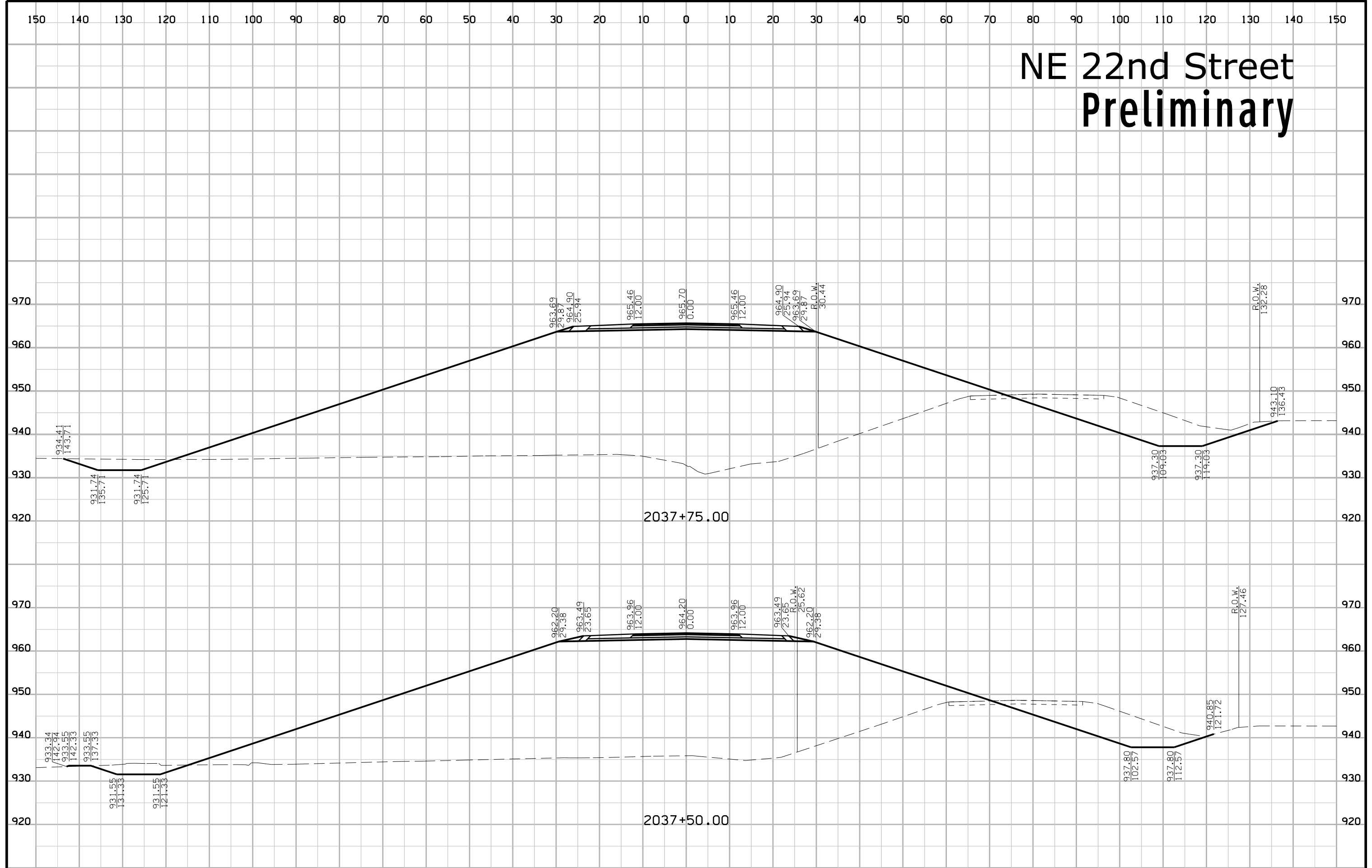


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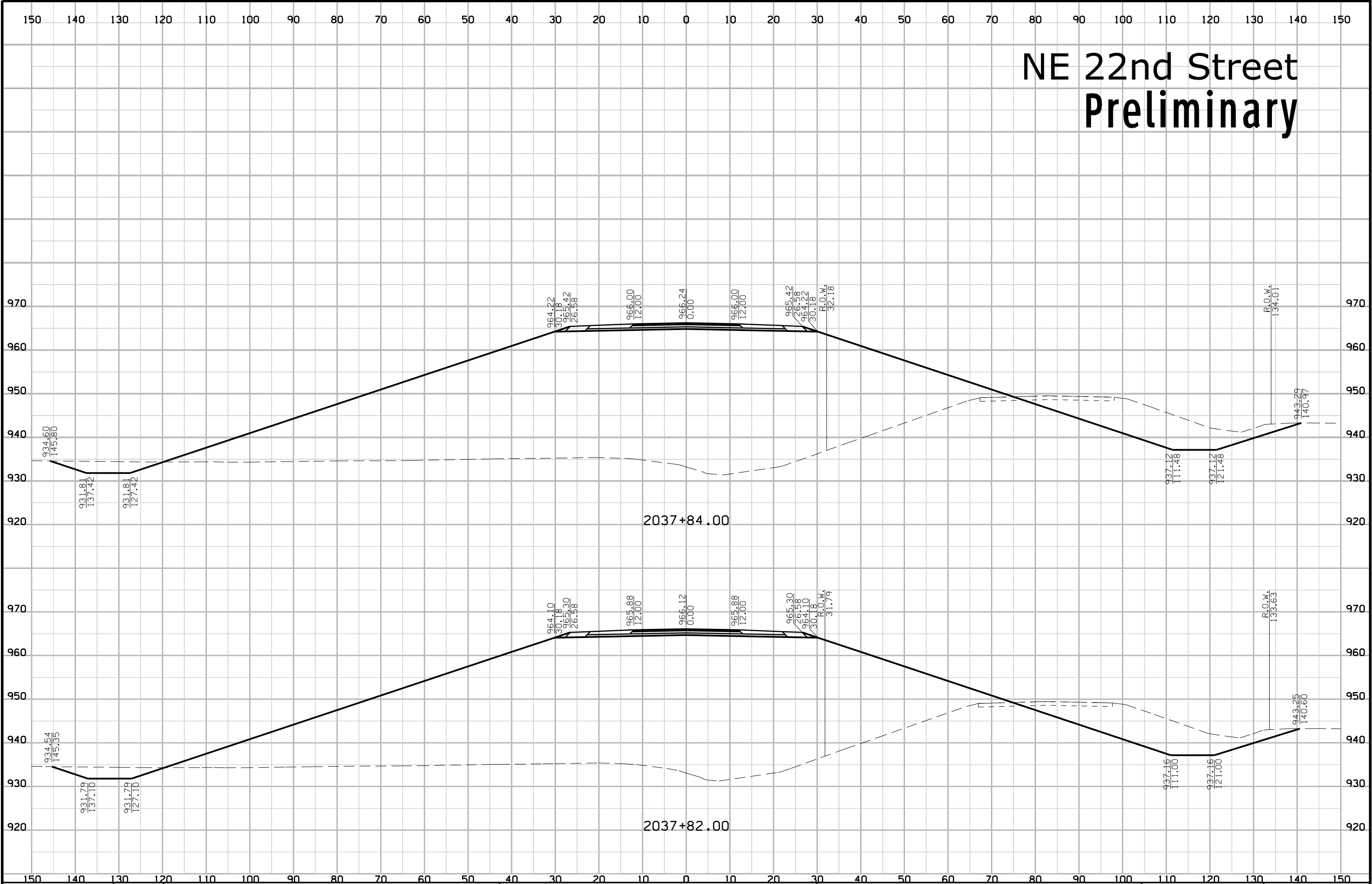




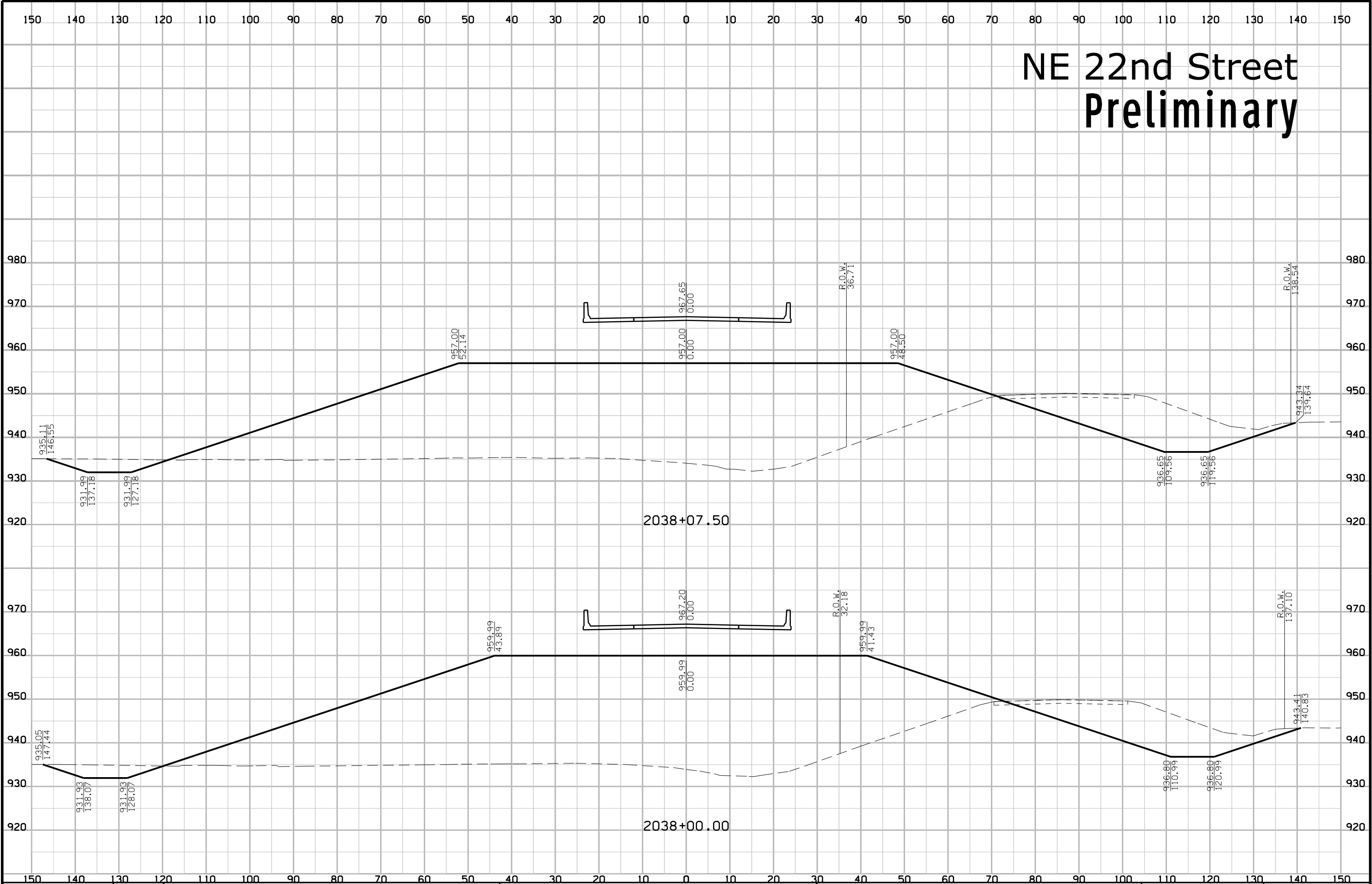
# NE 22nd Street Preliminary



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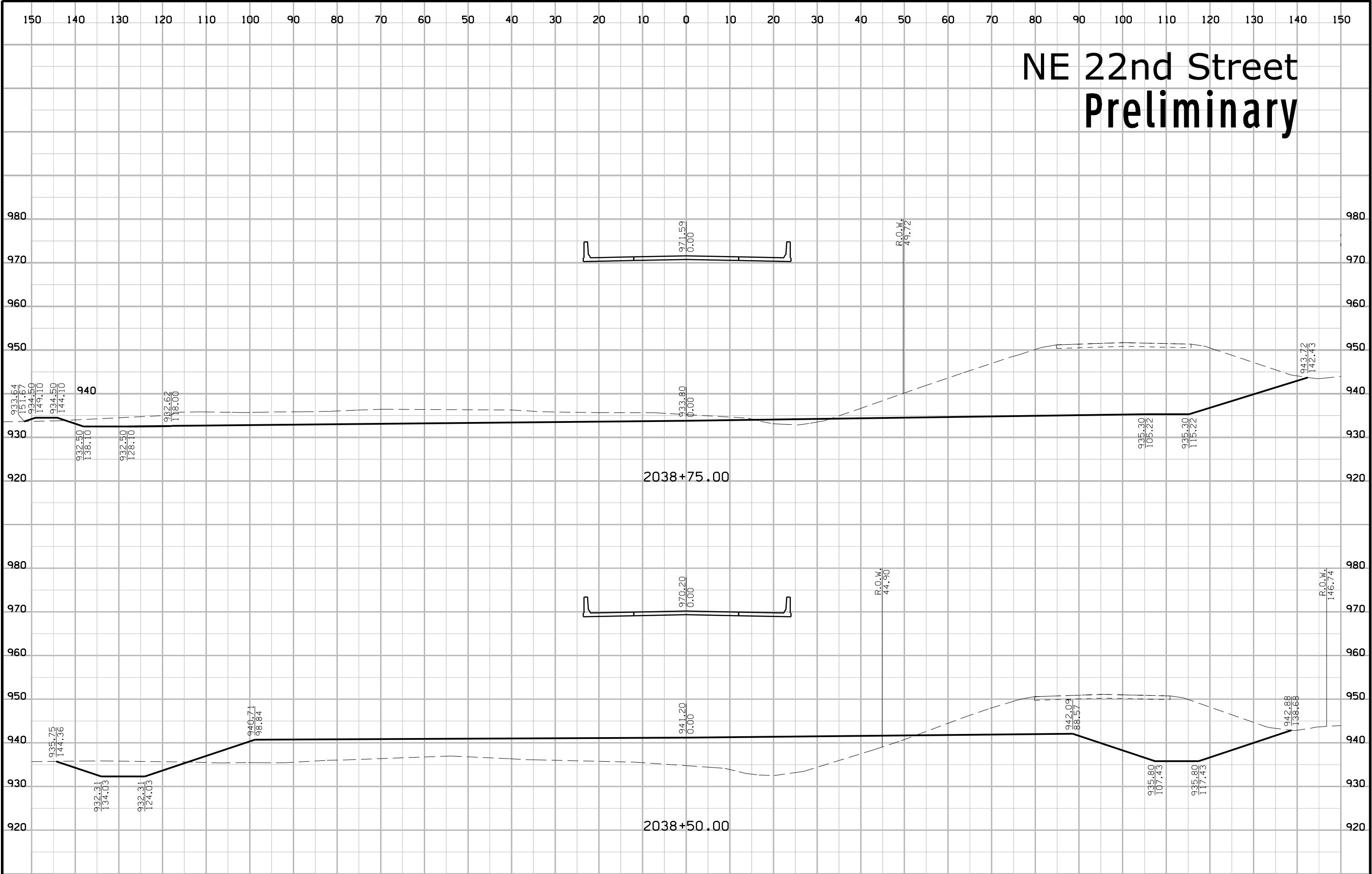


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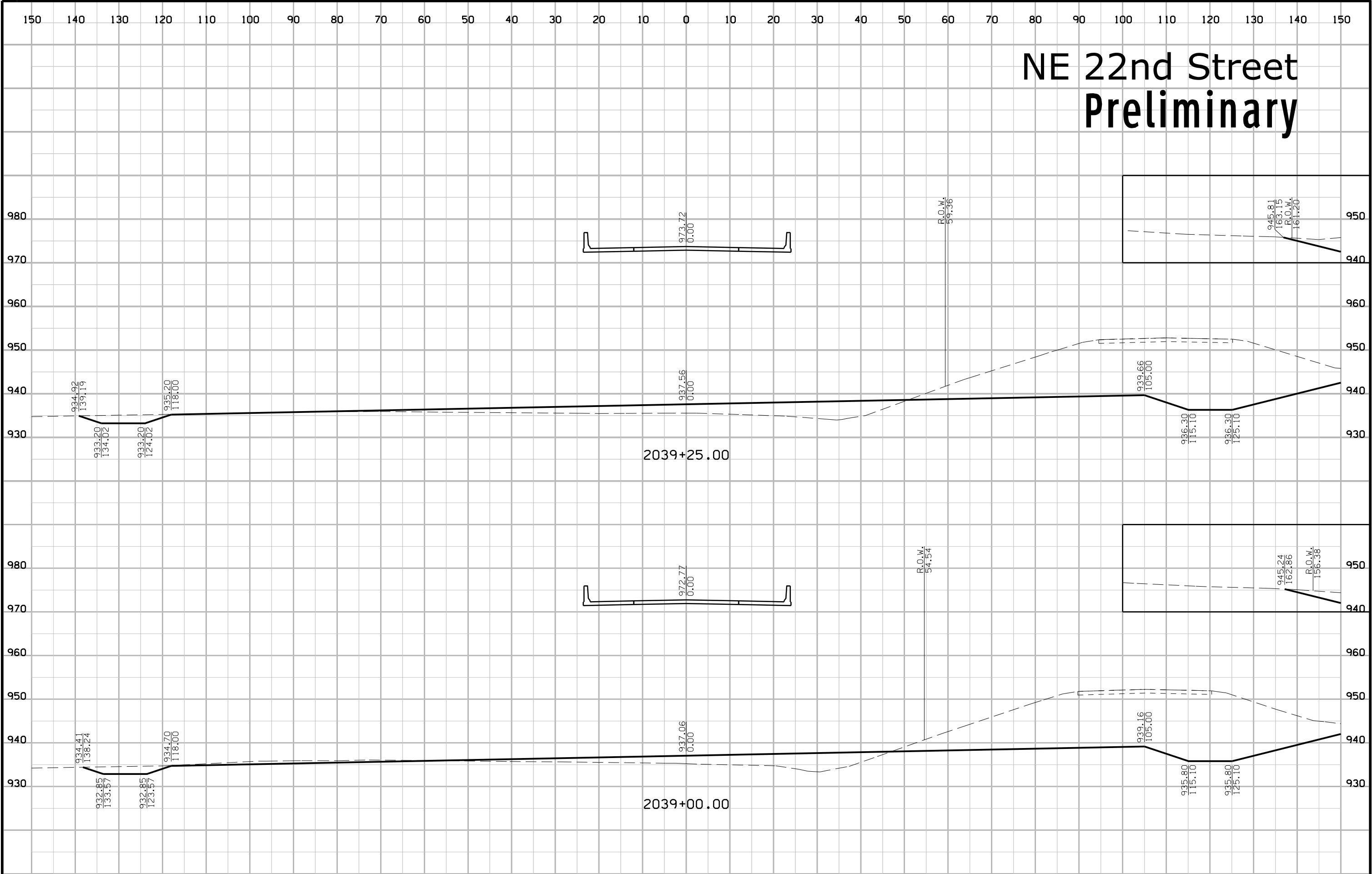




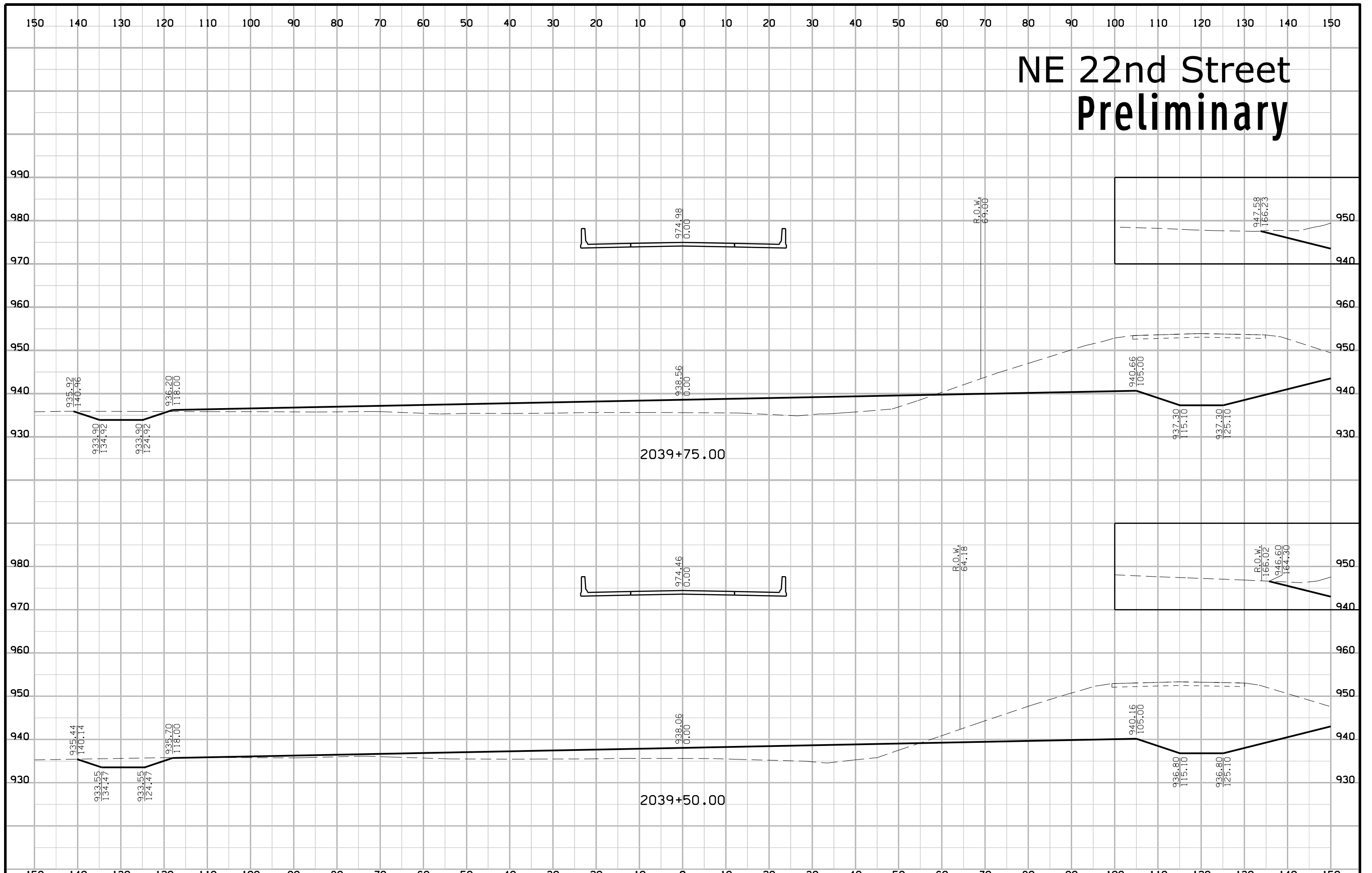
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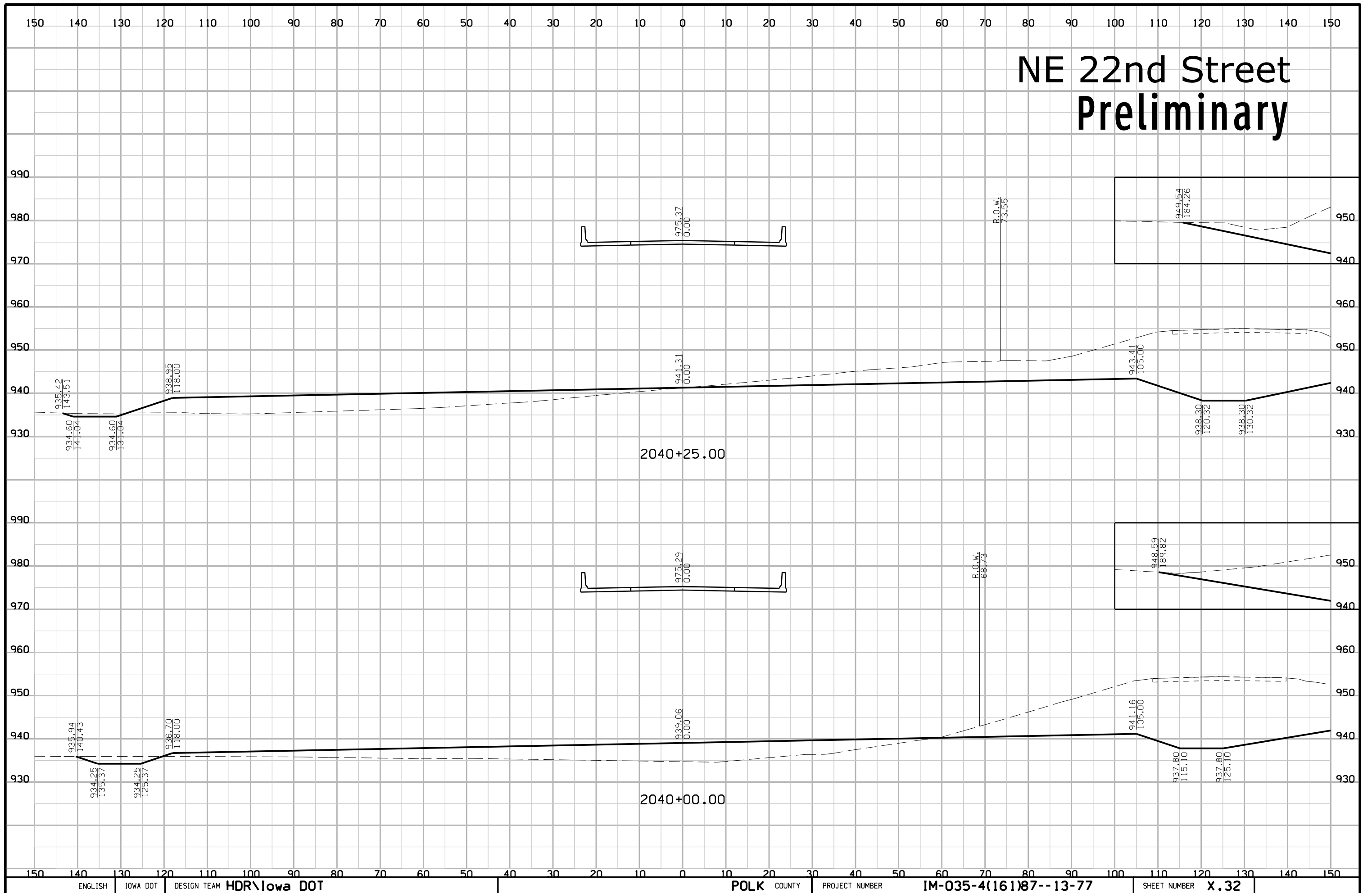
# NE 22nd Street Preliminary



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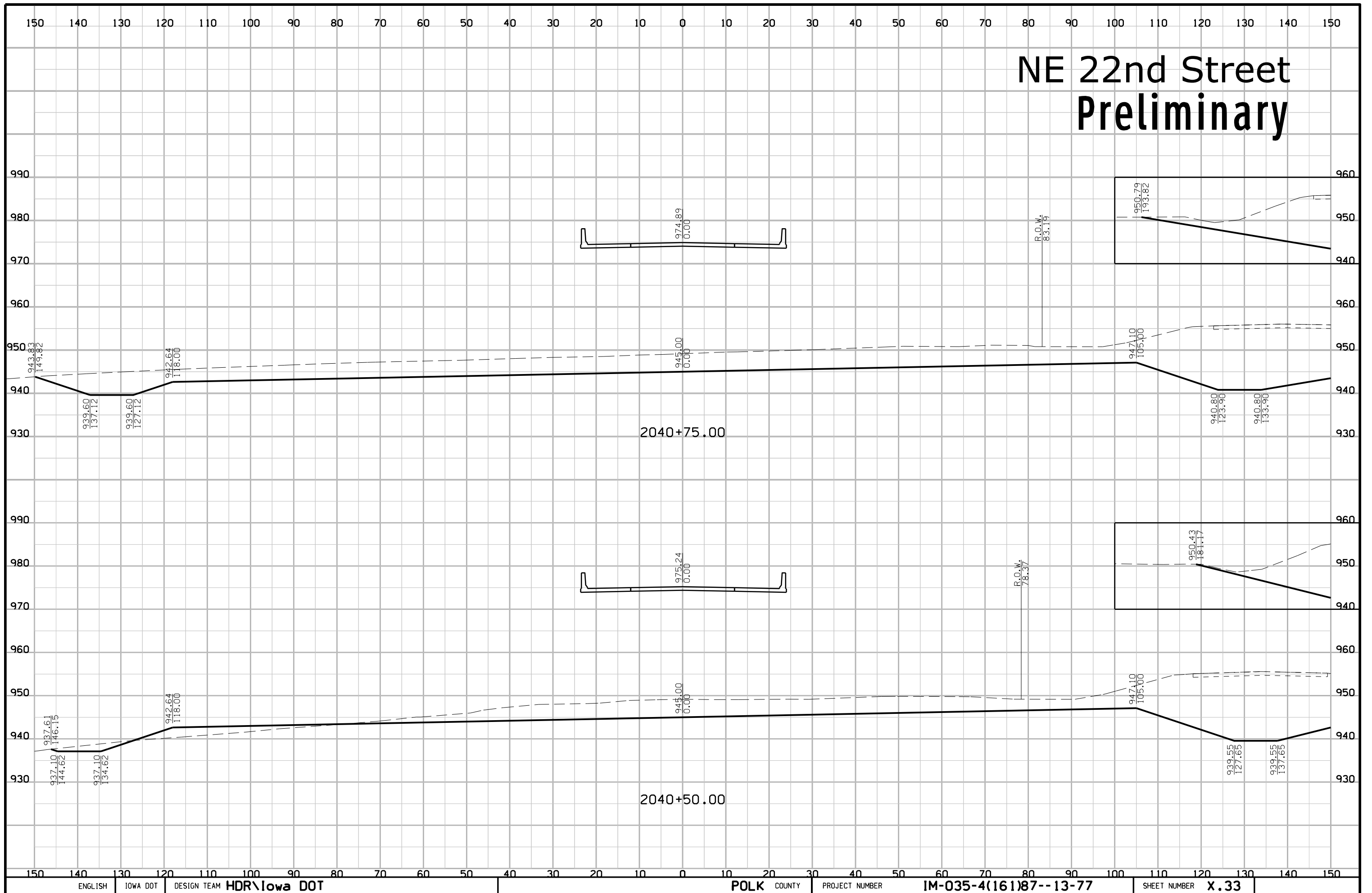


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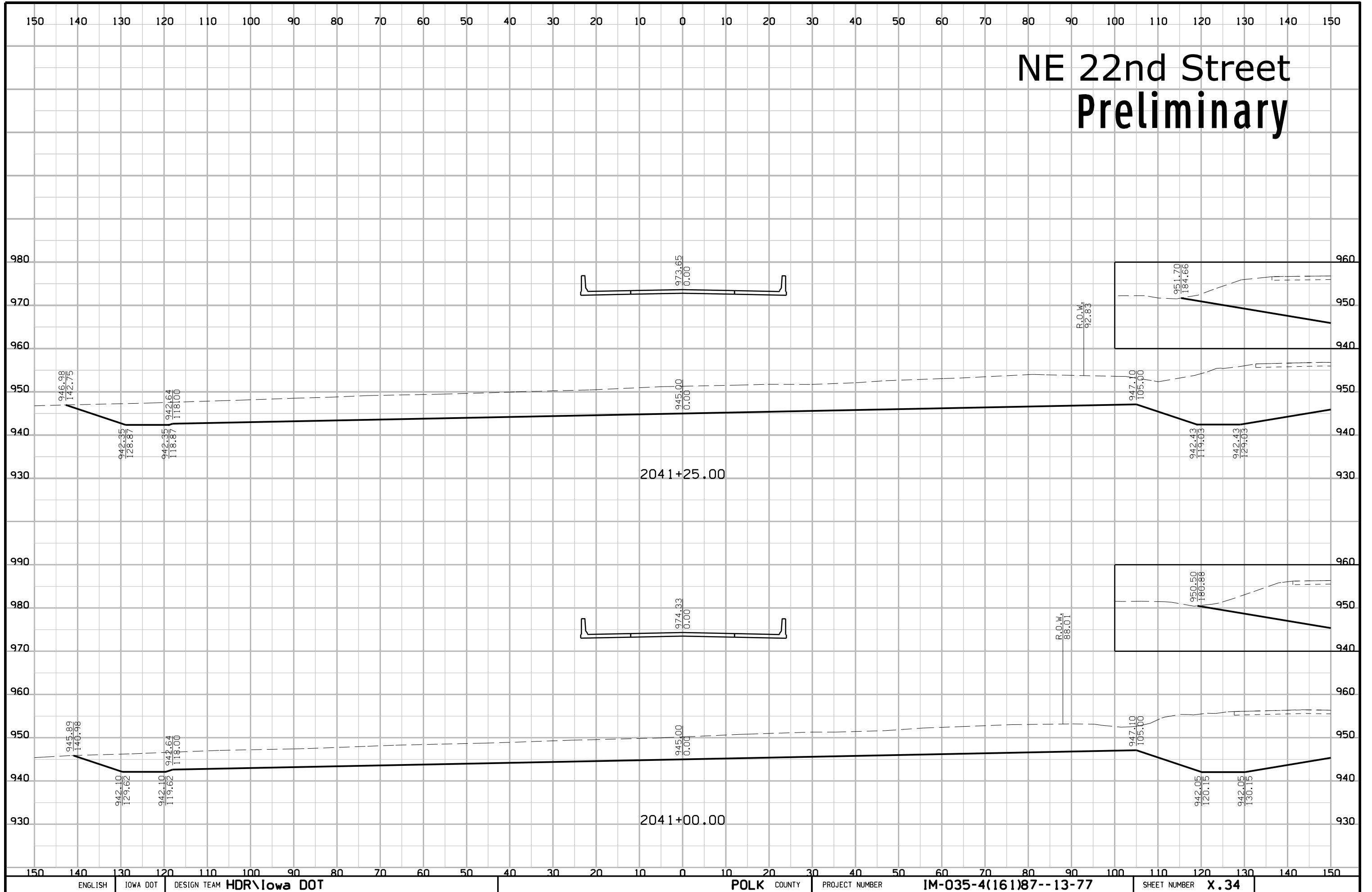




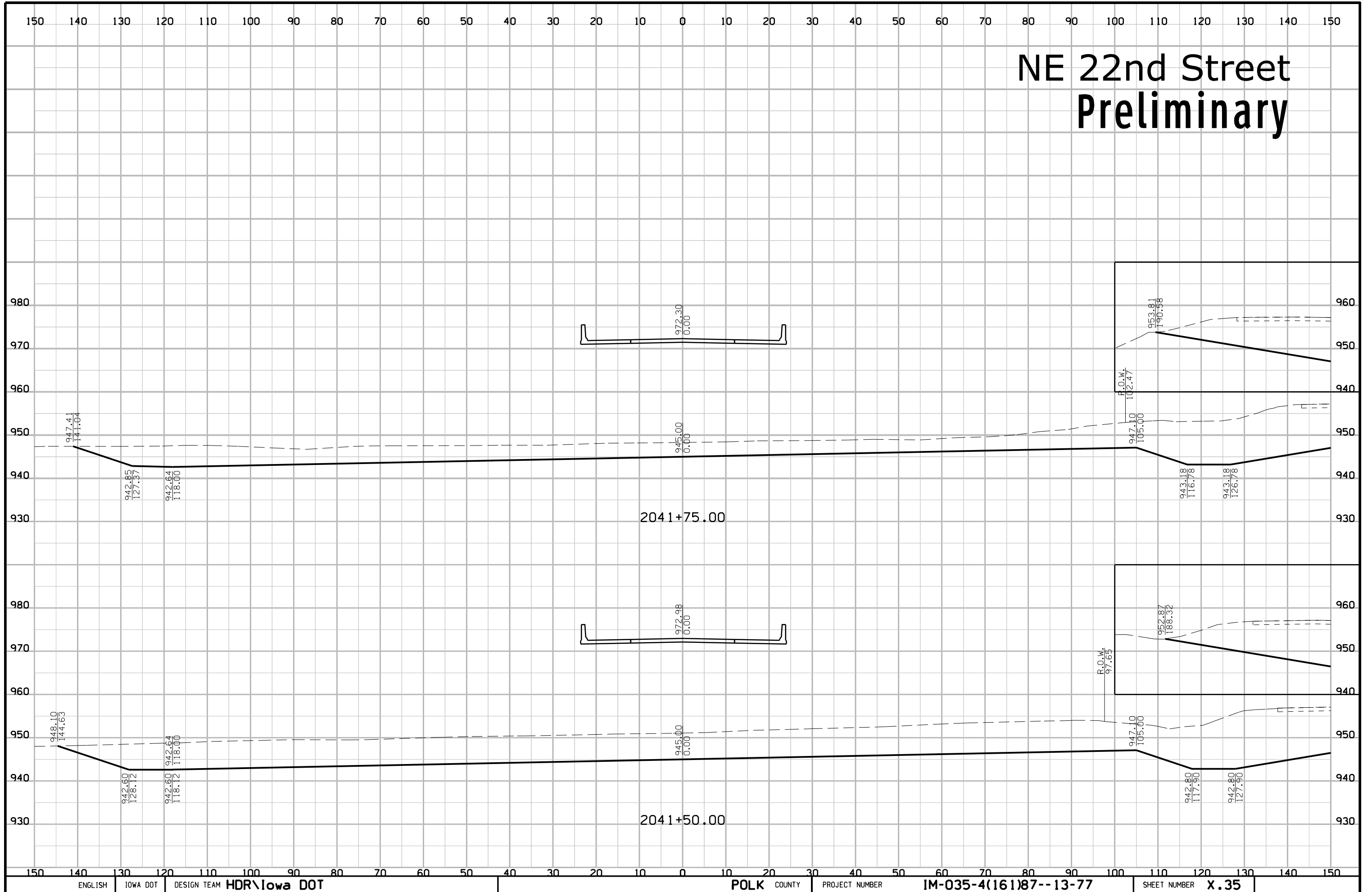
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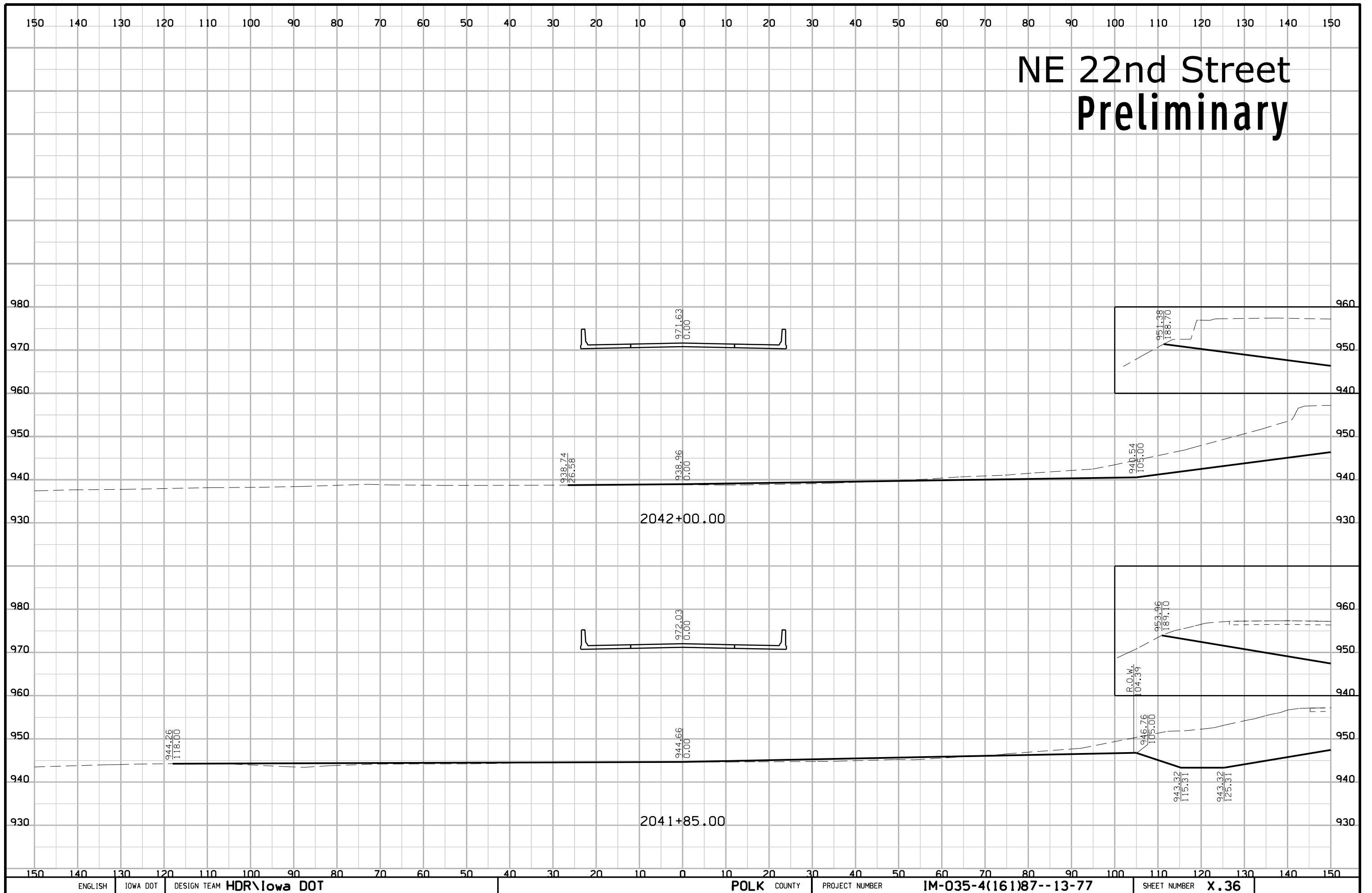
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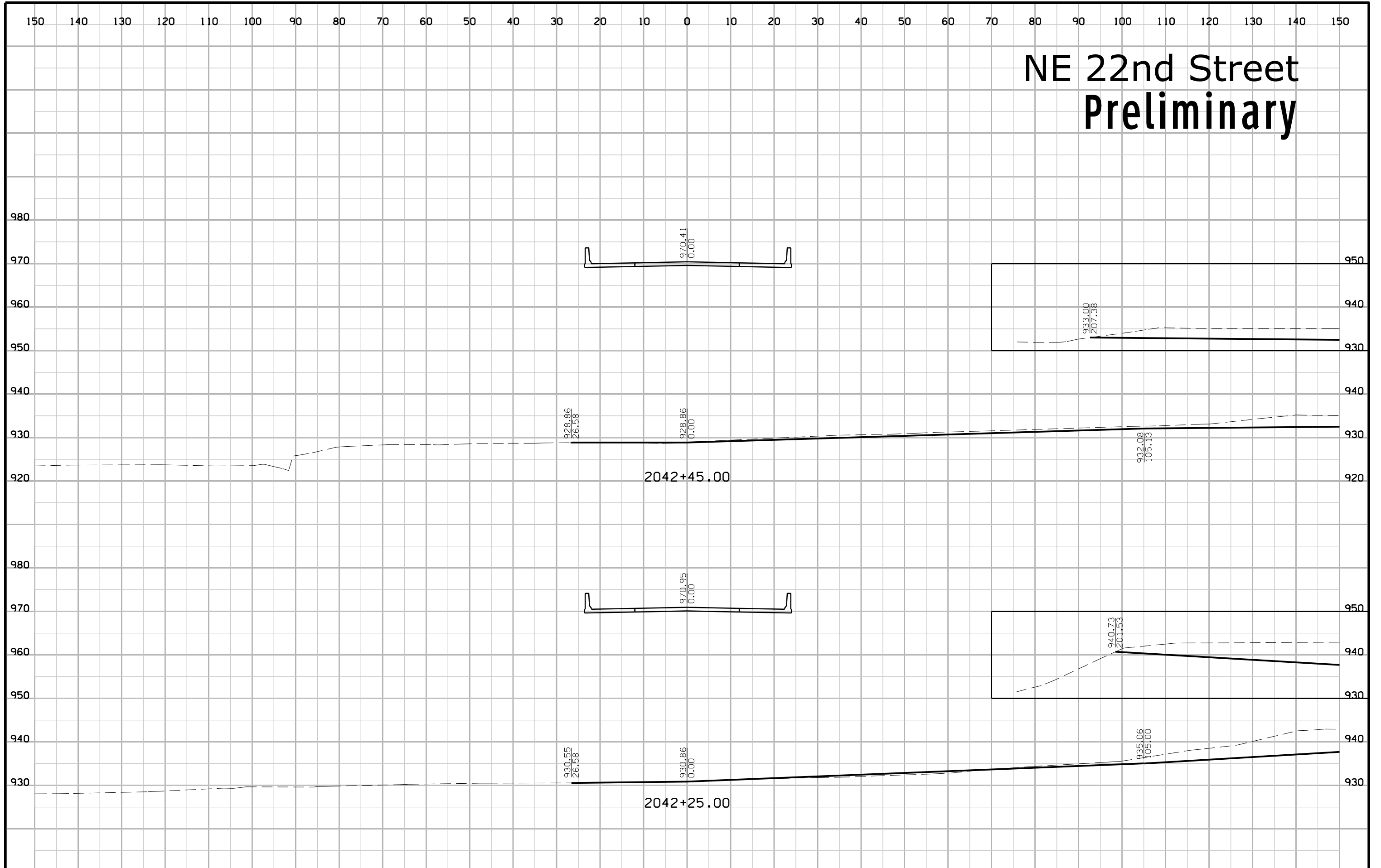
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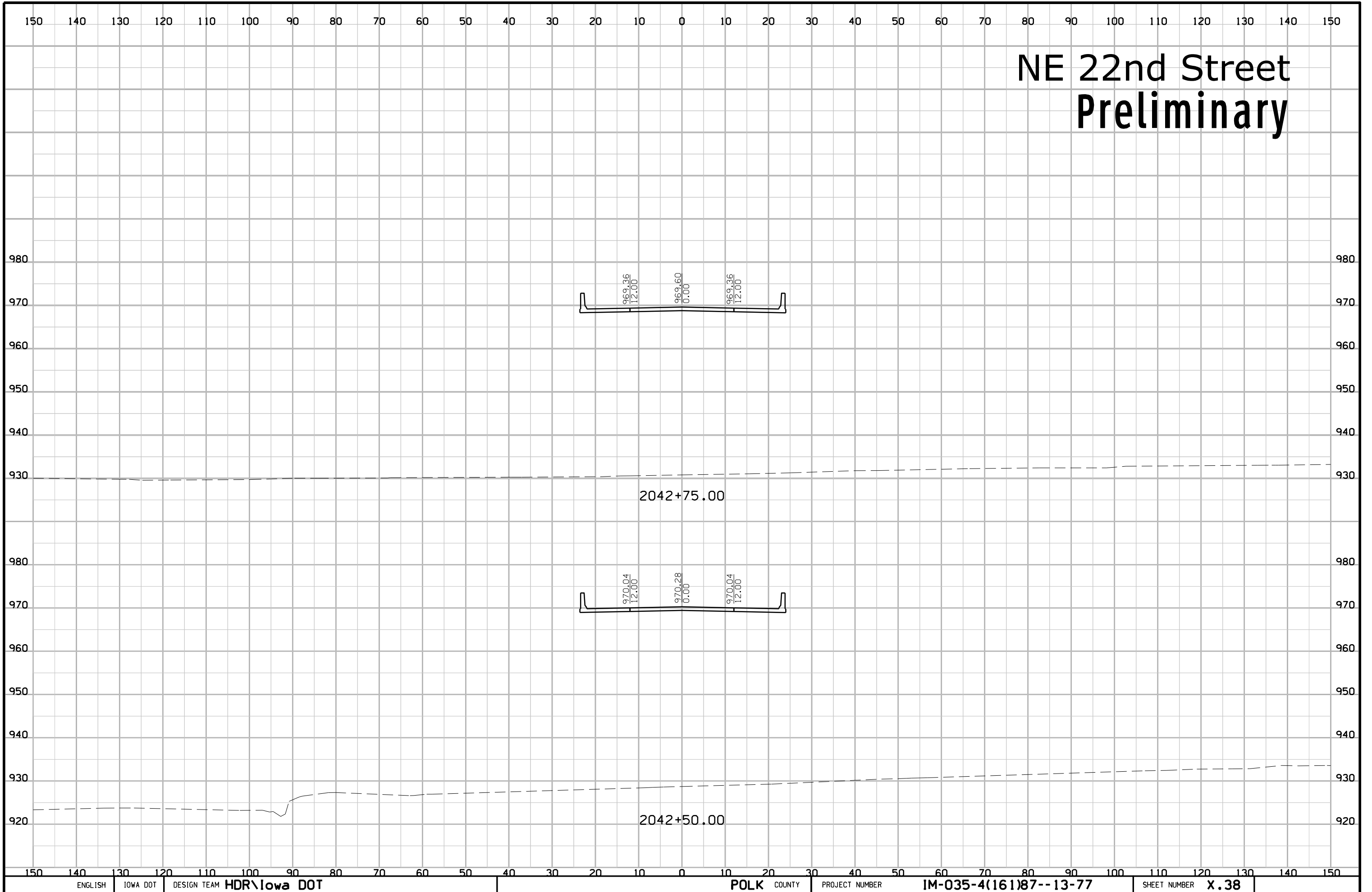
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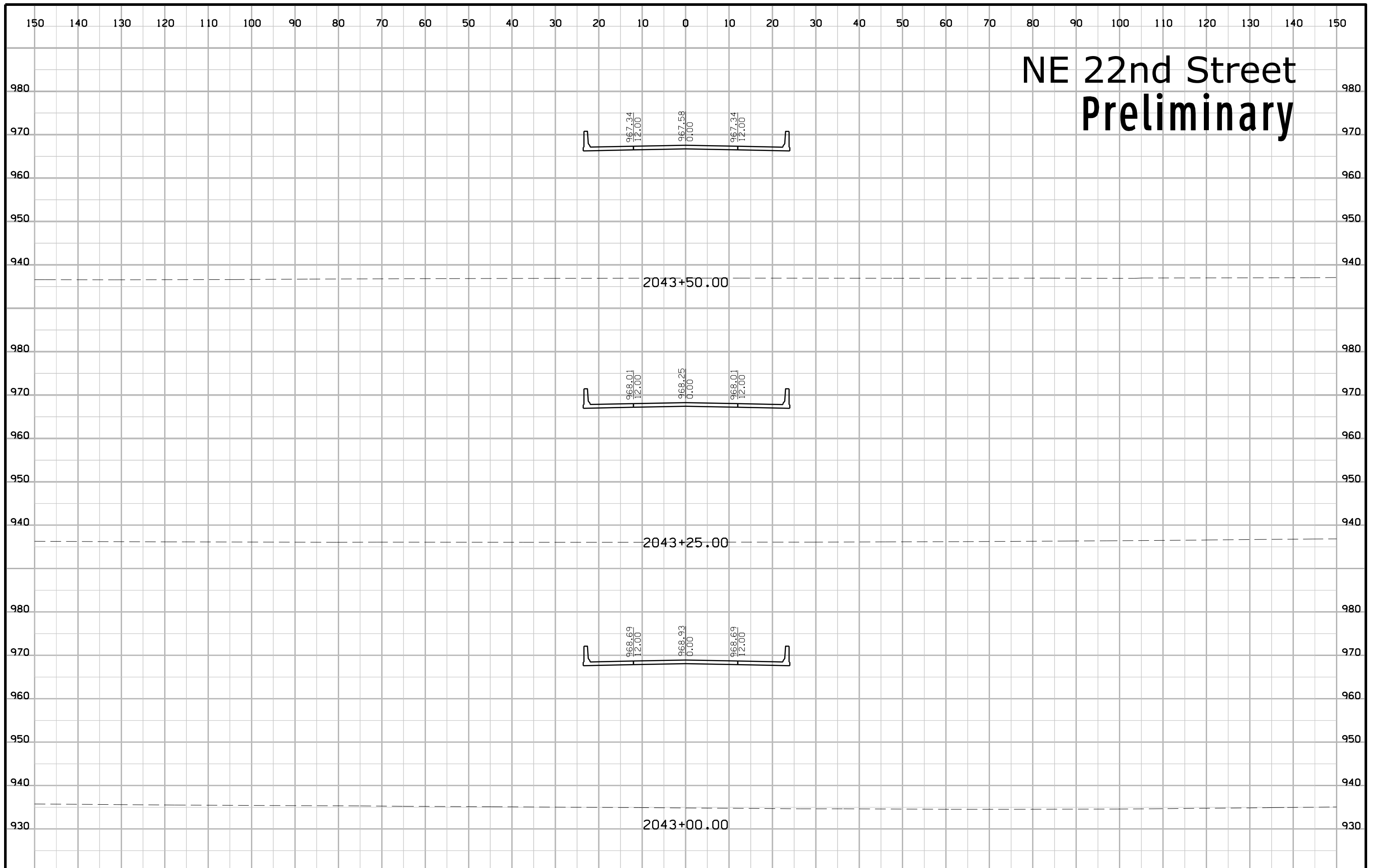
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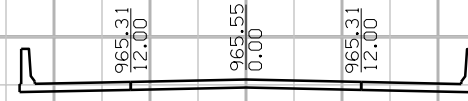
# NE 22nd Street Preliminary



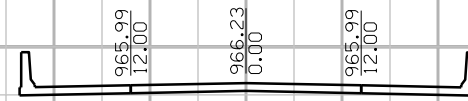
# NE 22nd Street Preliminary



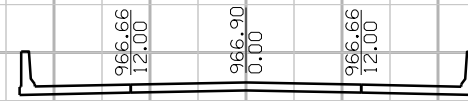
# NE 22nd Street Preliminary



2044+25.00



2044+00.00



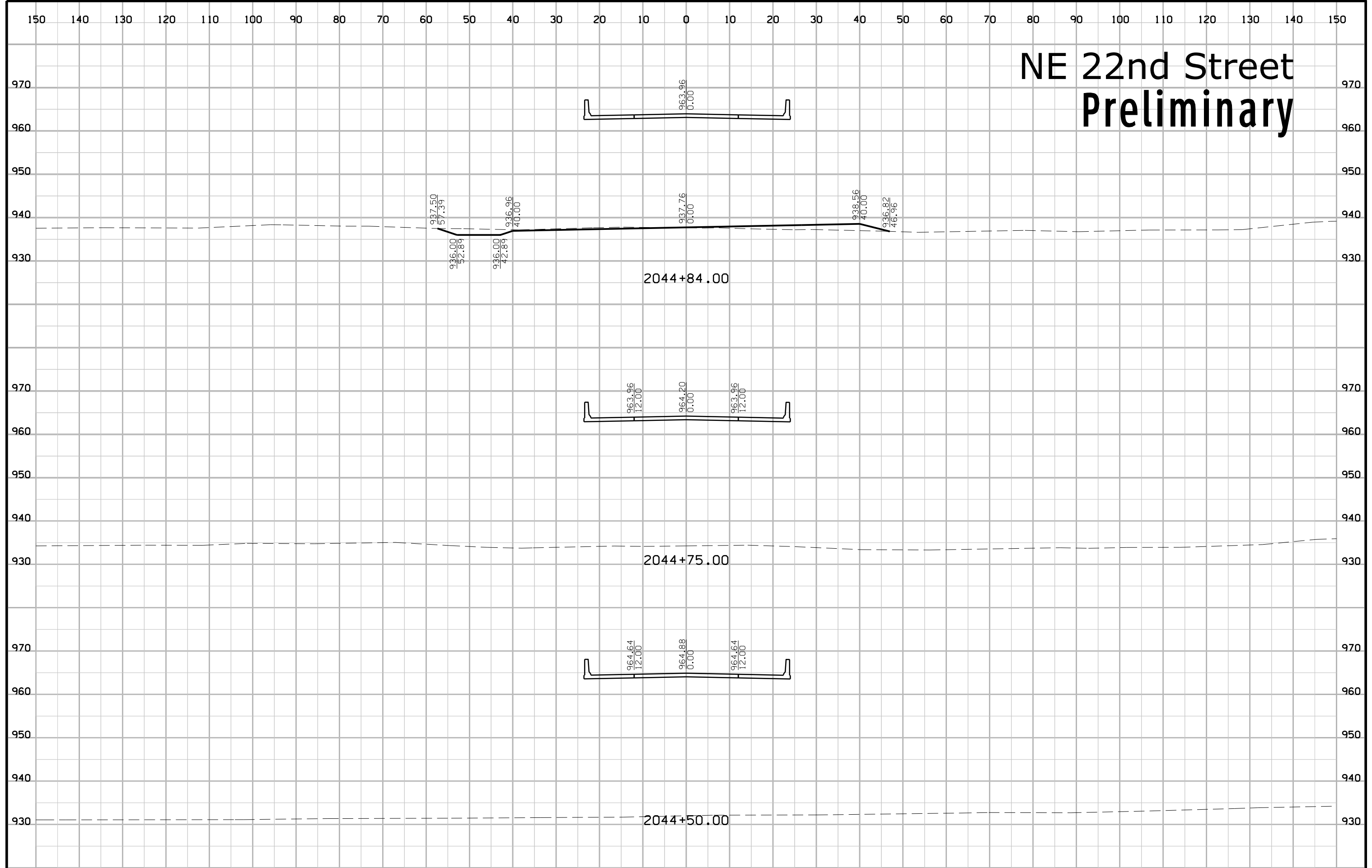
2043+75.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

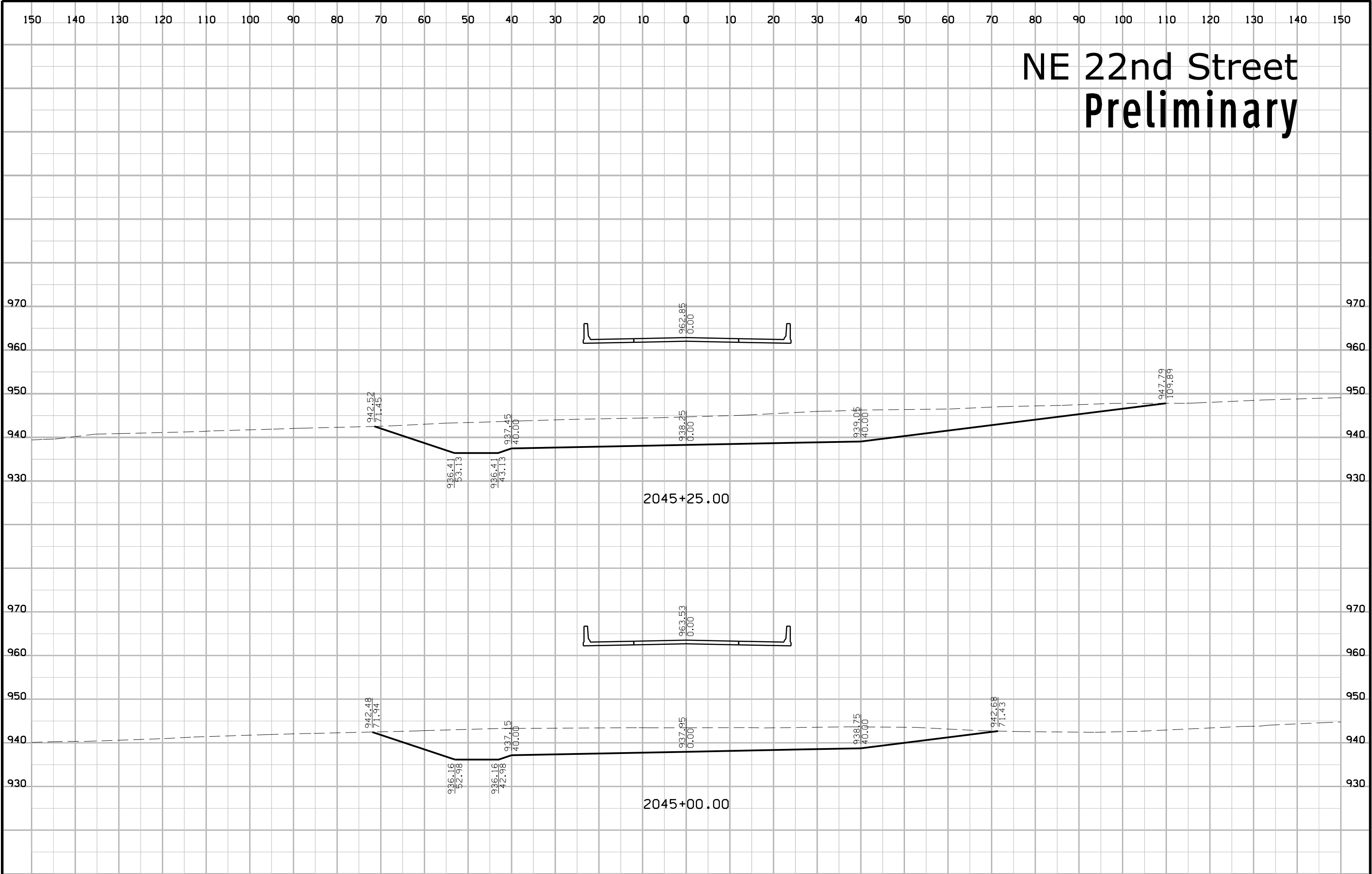
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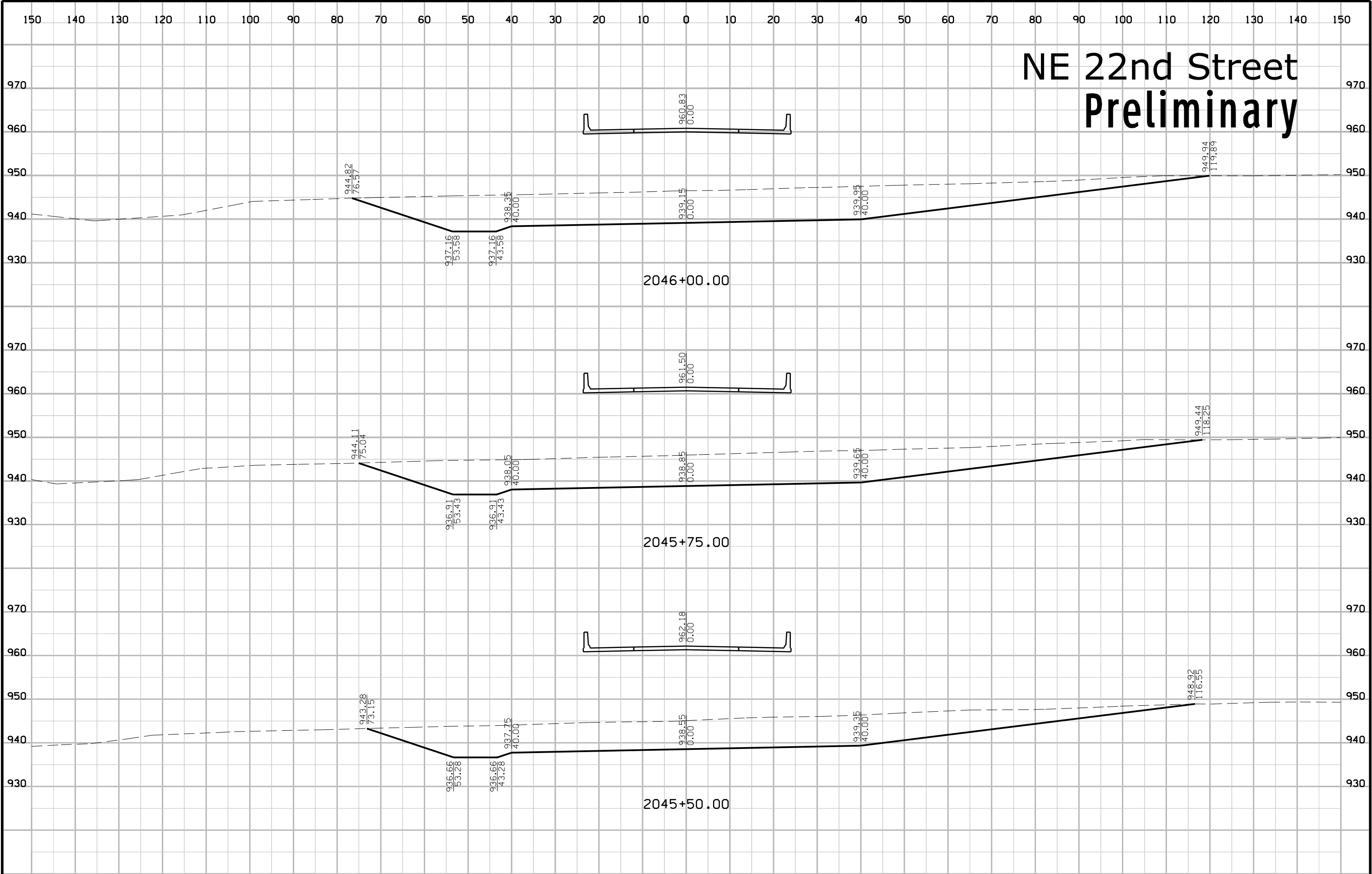
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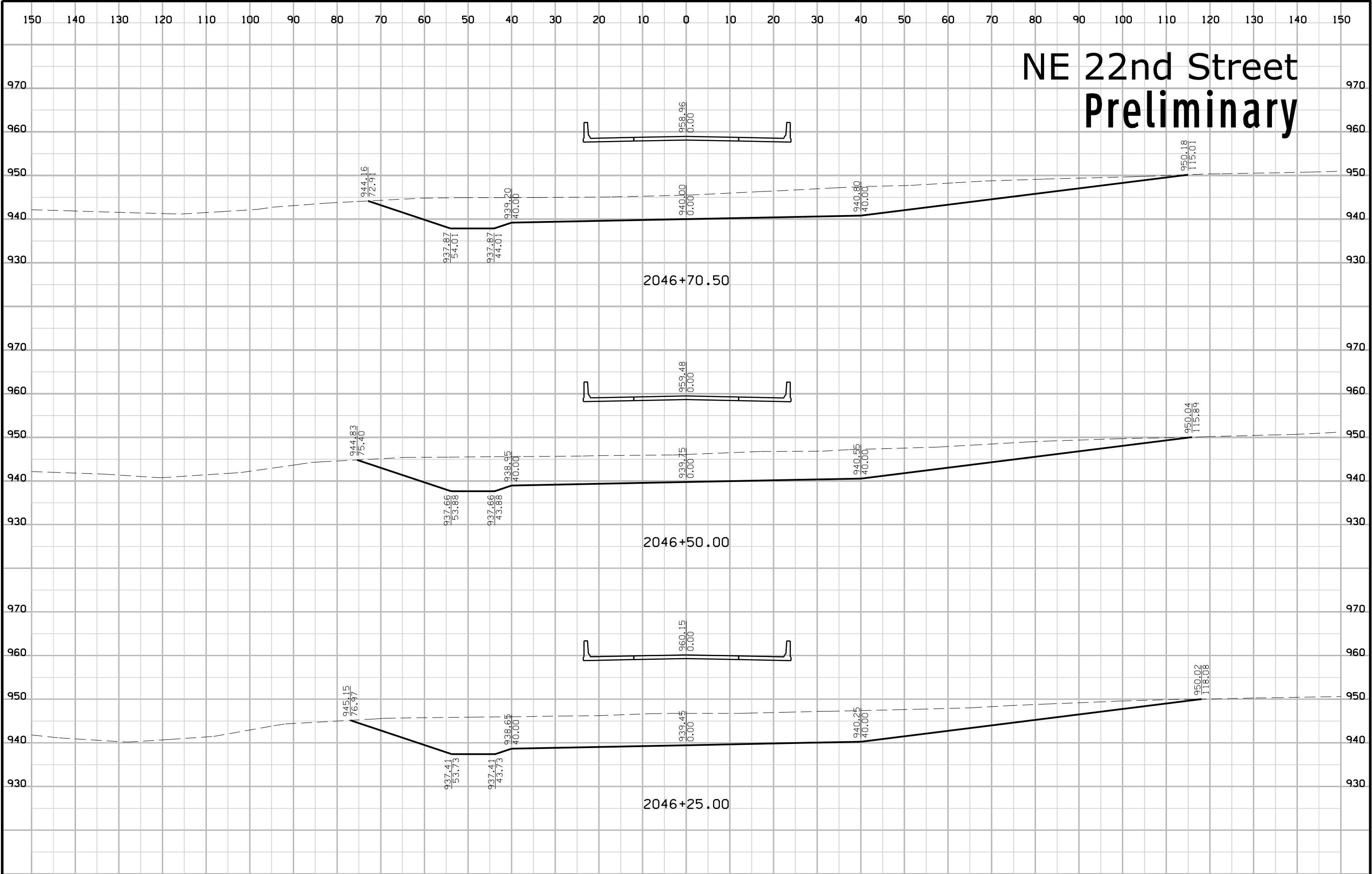
# NE 22nd Street Preliminary



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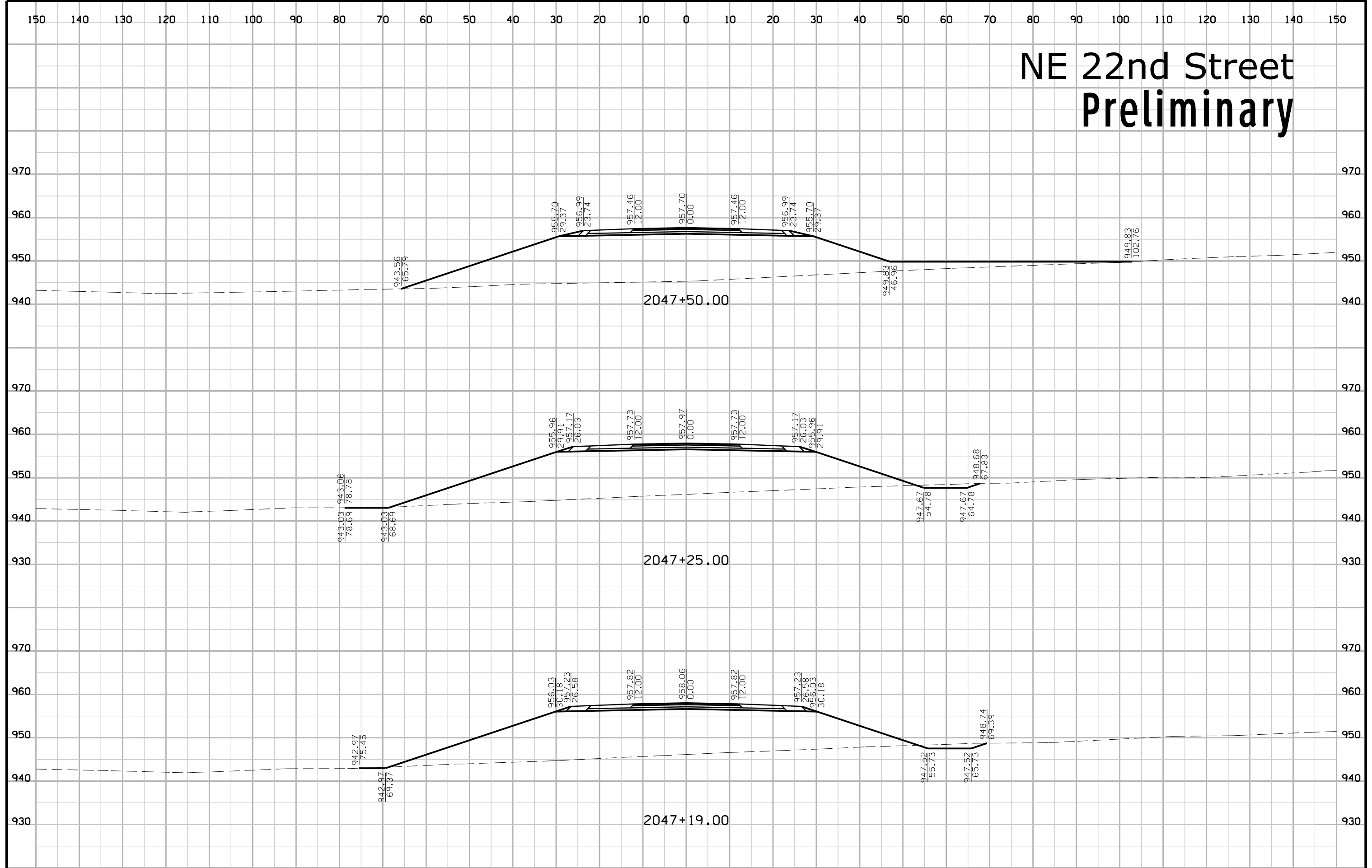


# NE 22nd Street Preliminary





# NE 22nd Street Preliminary

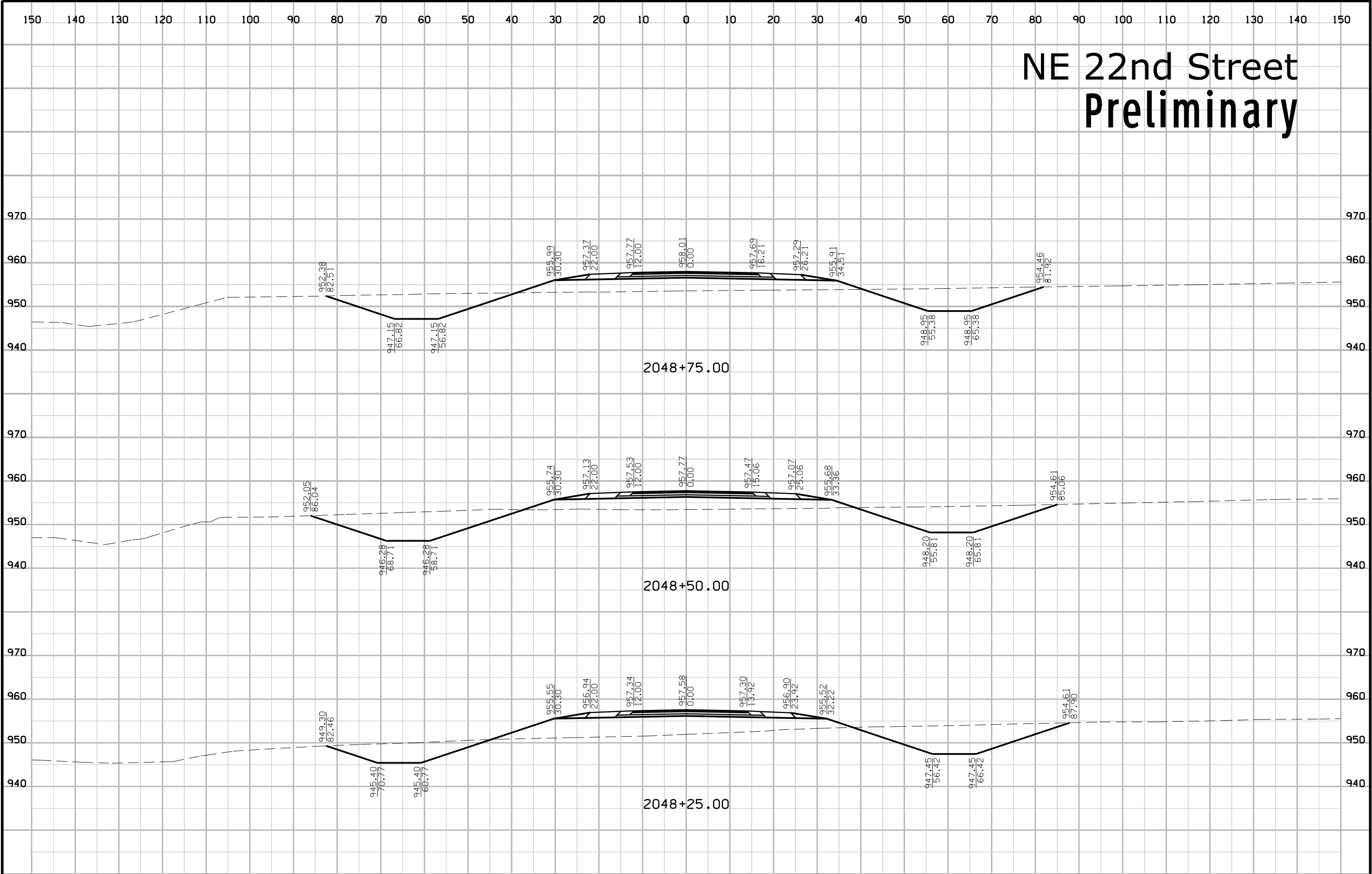




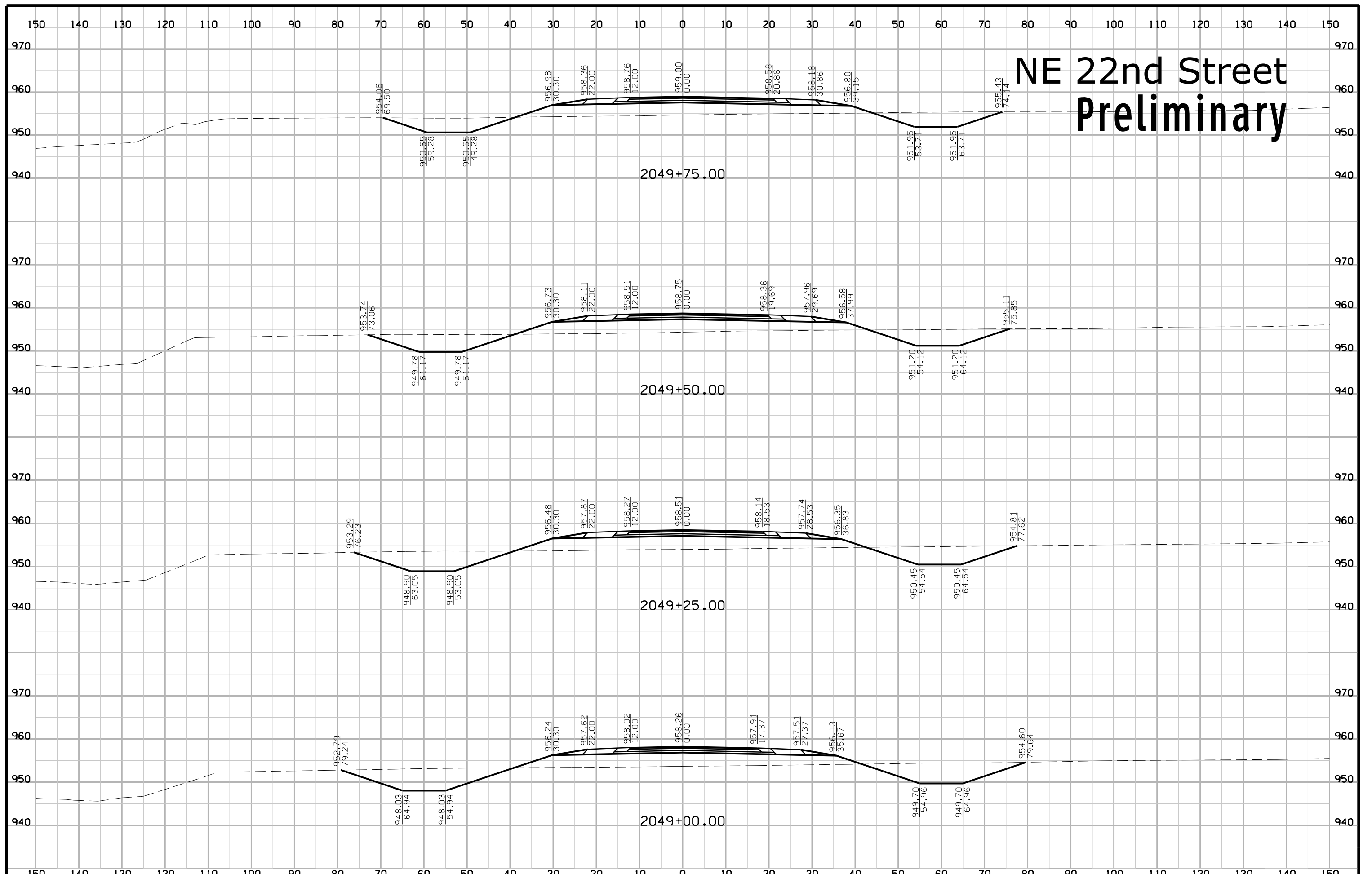




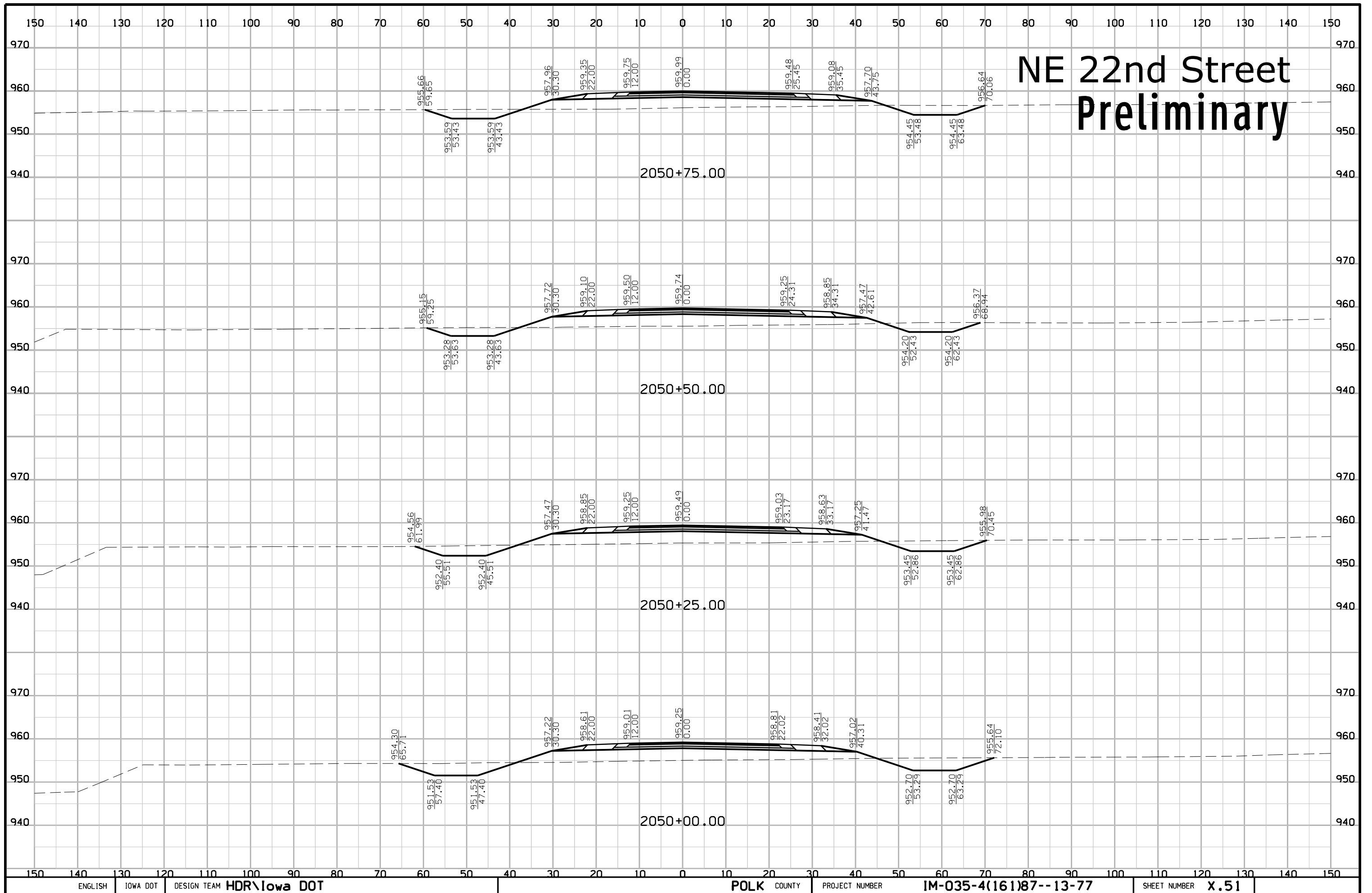
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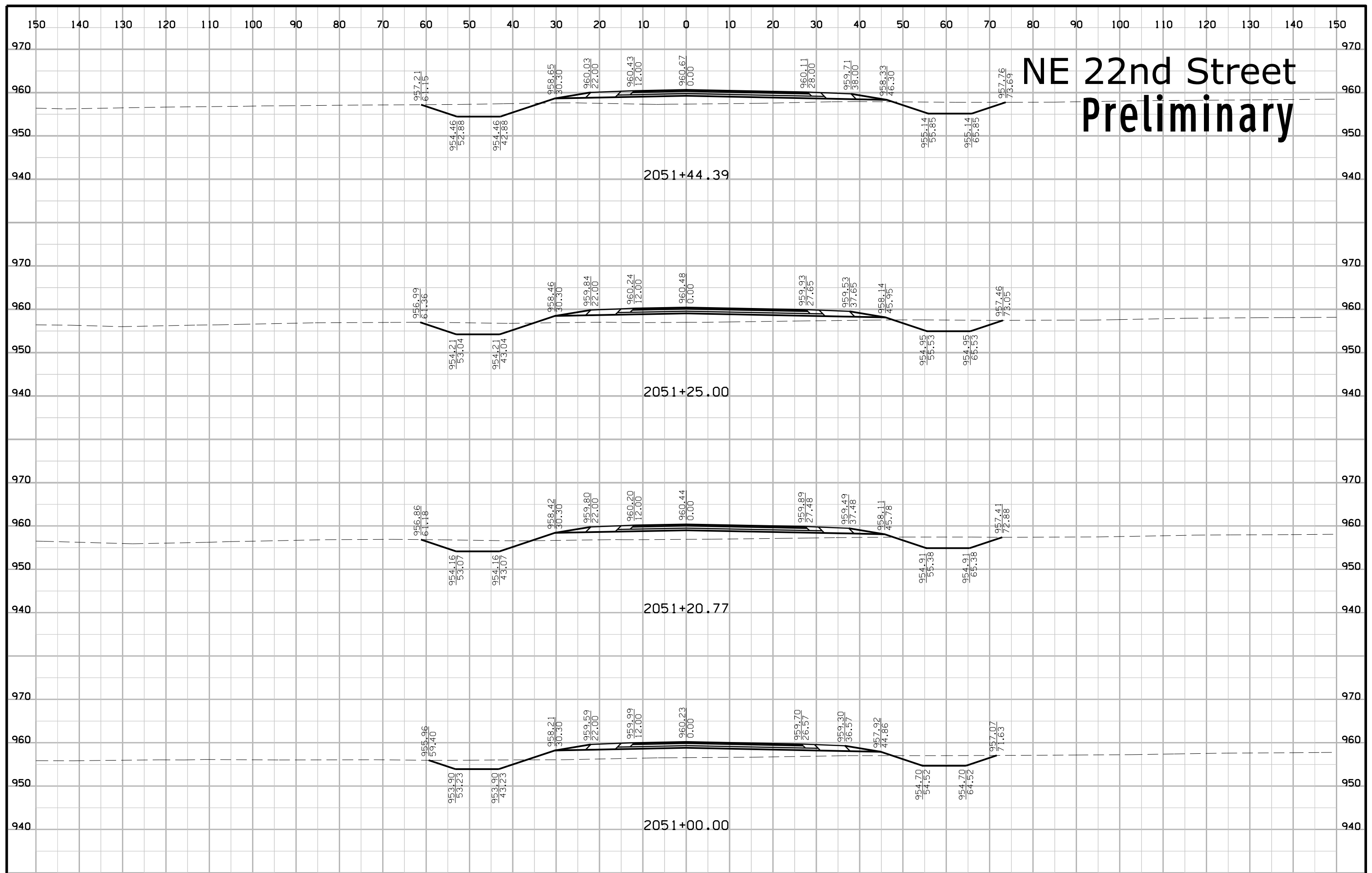
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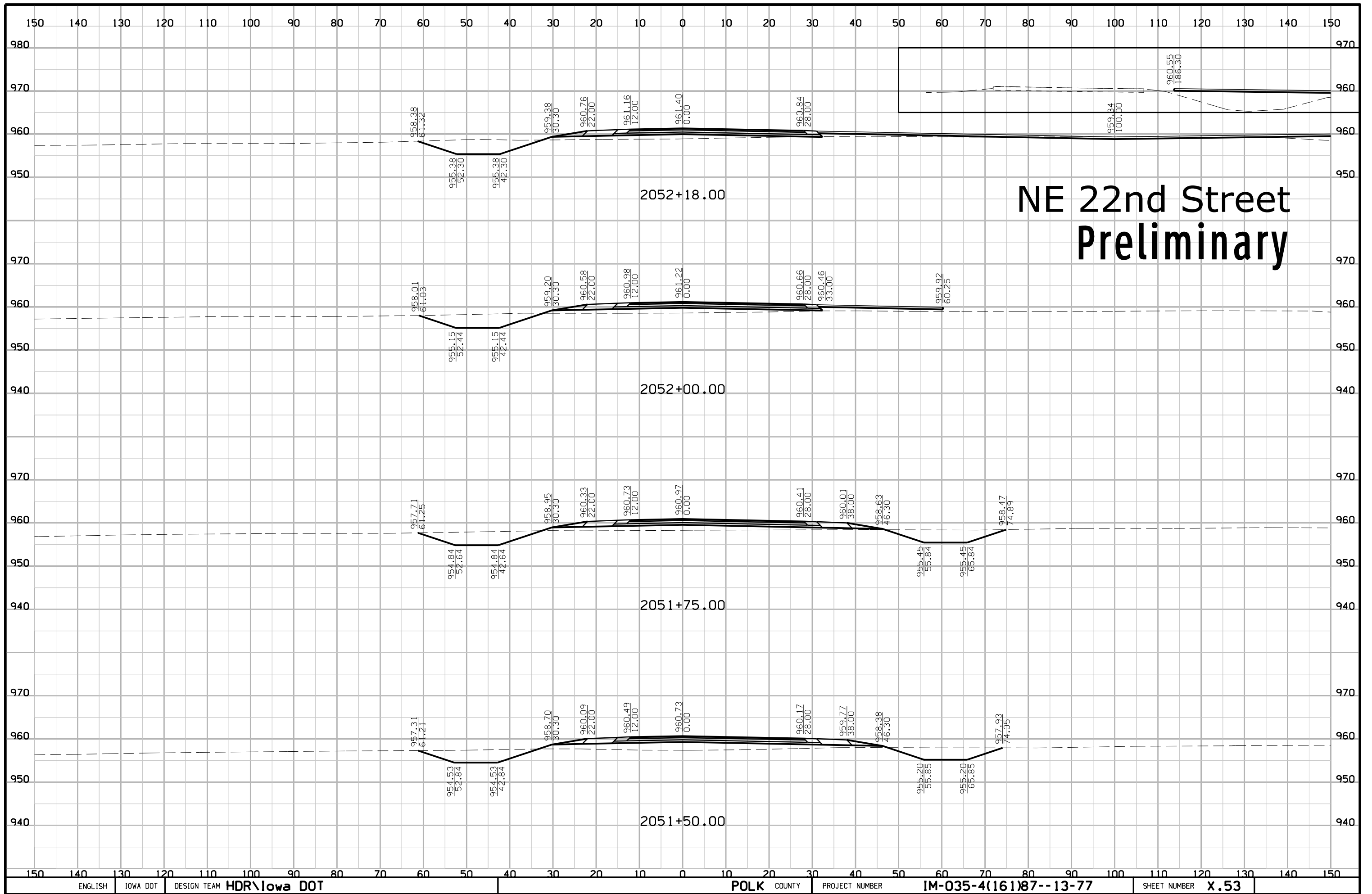


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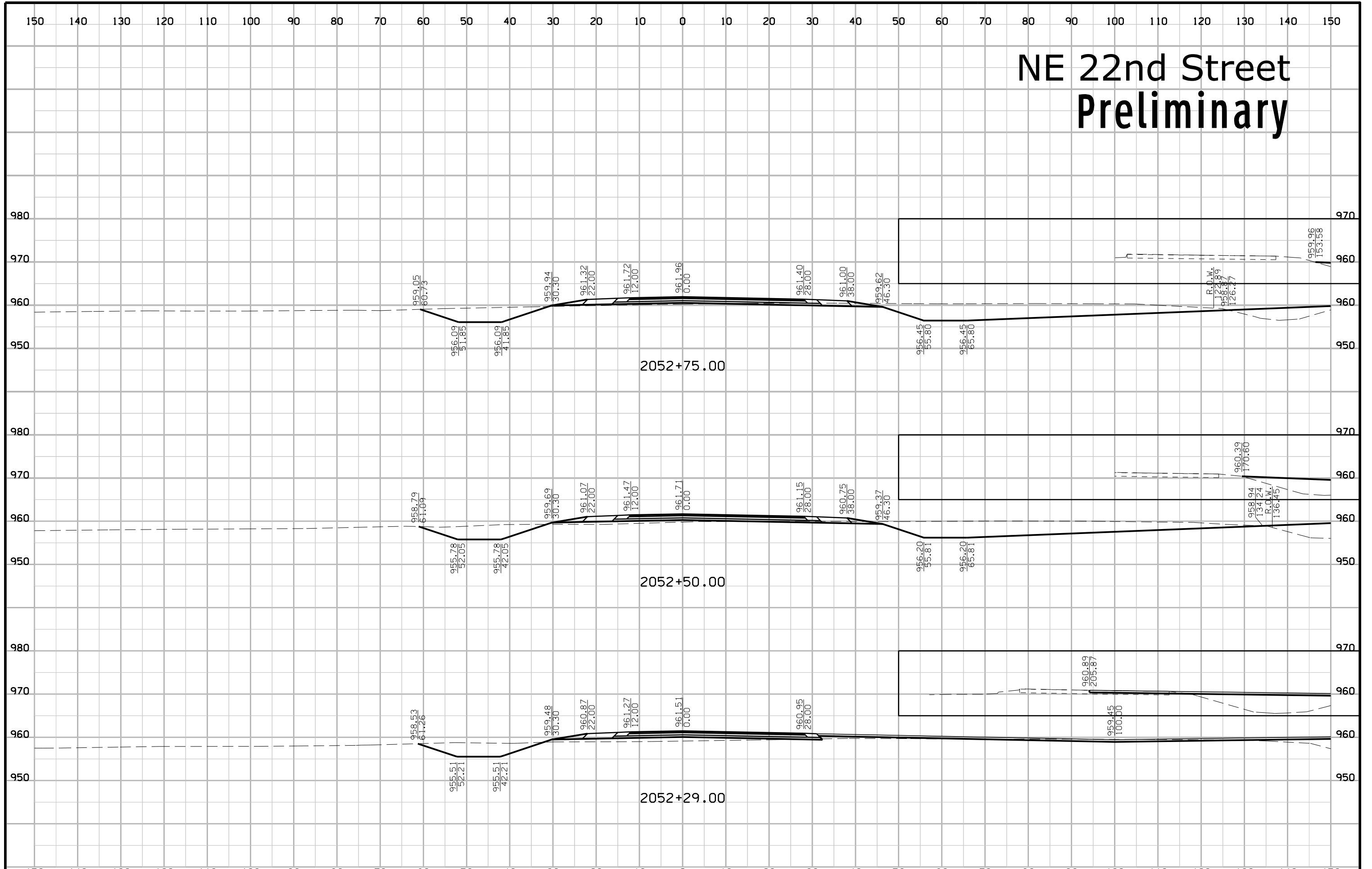


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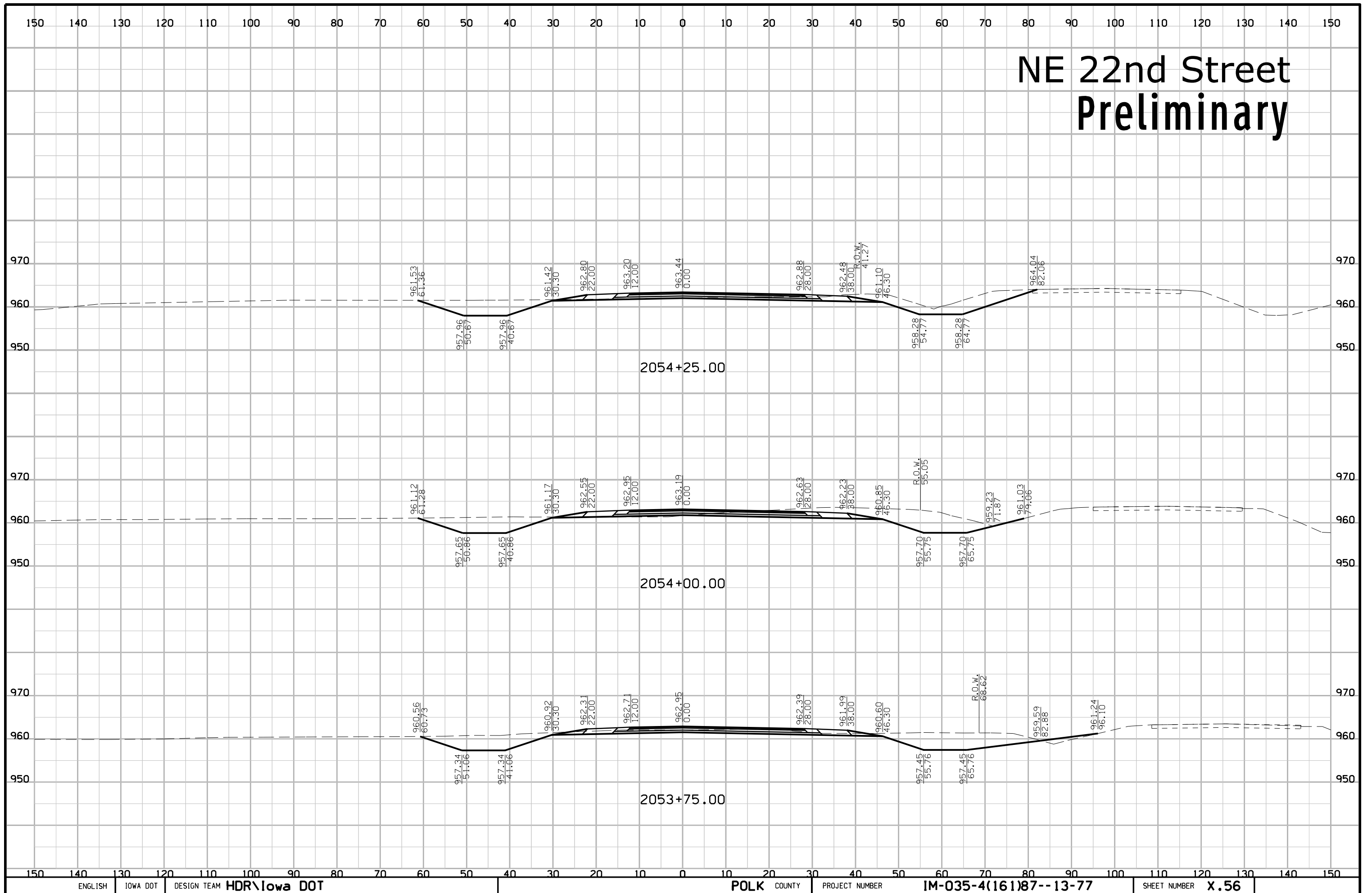


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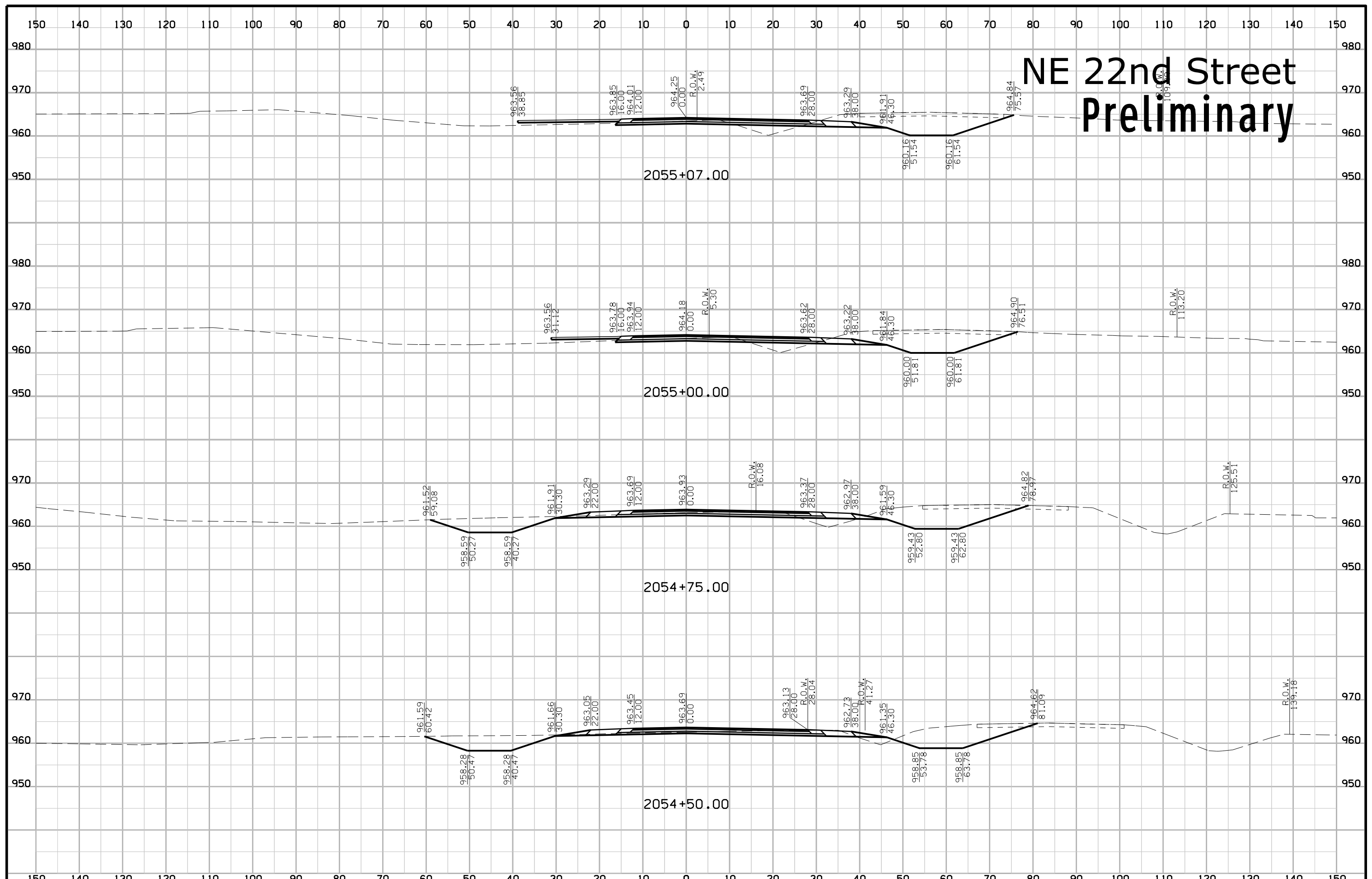


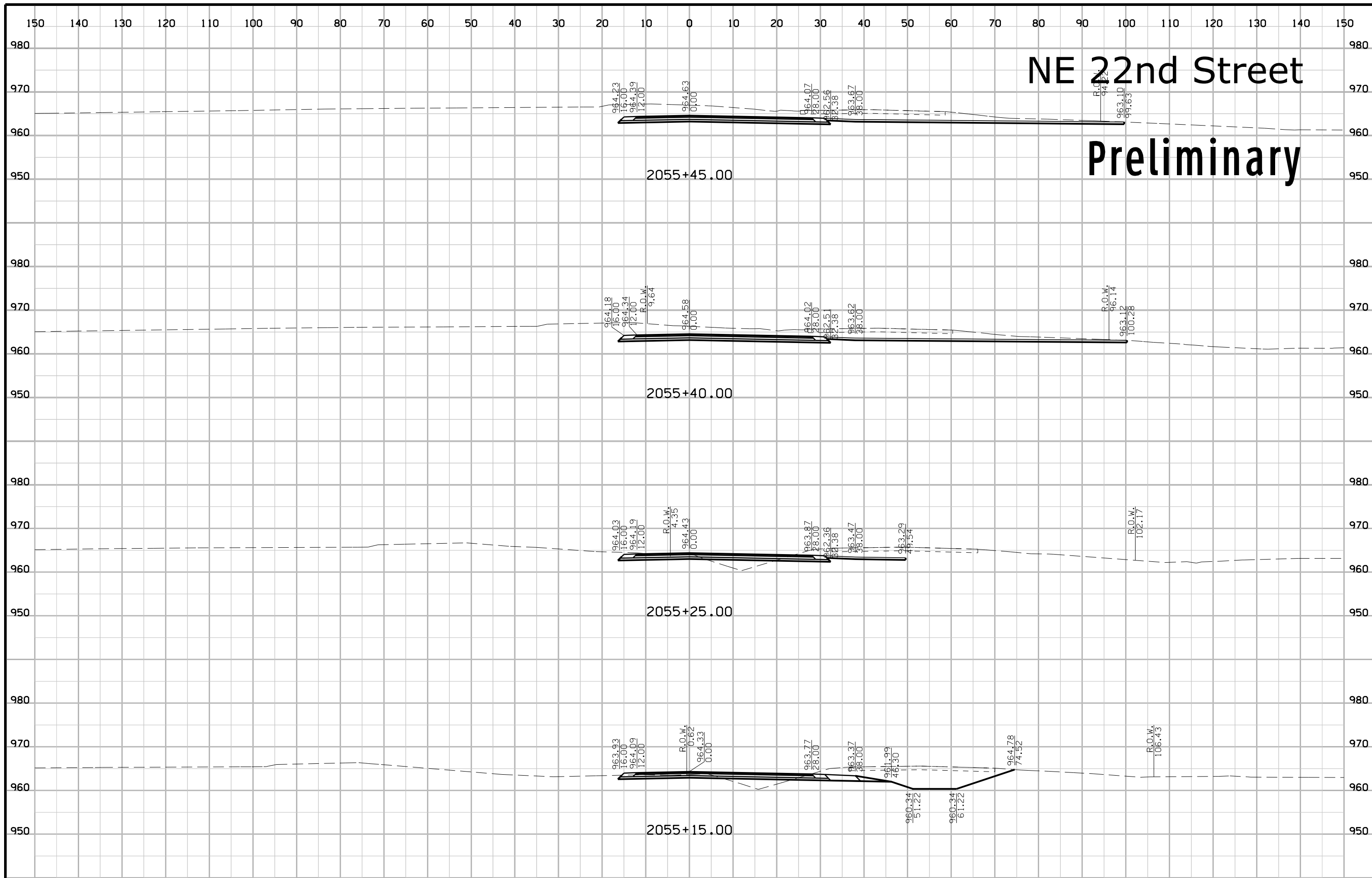
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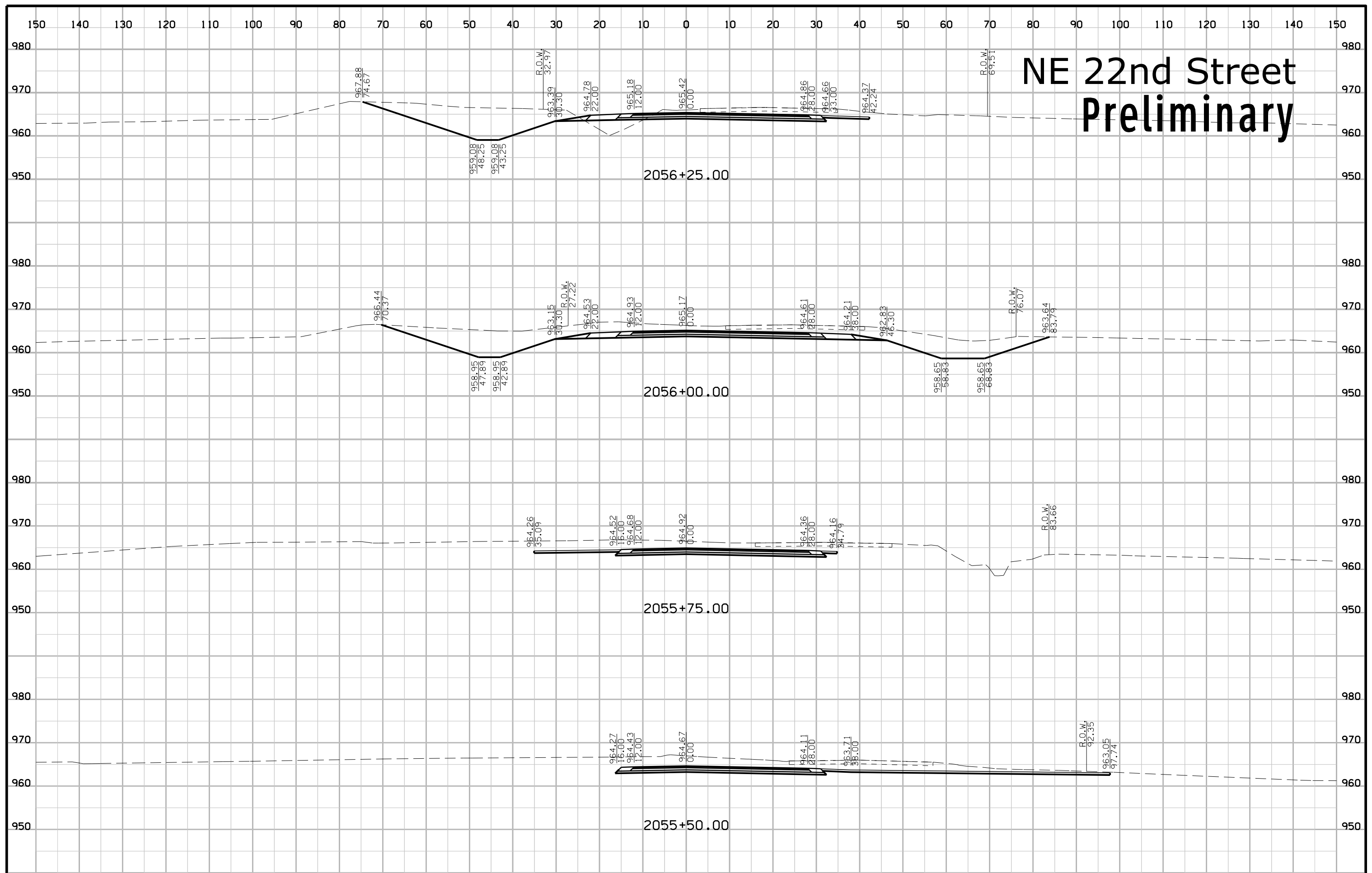


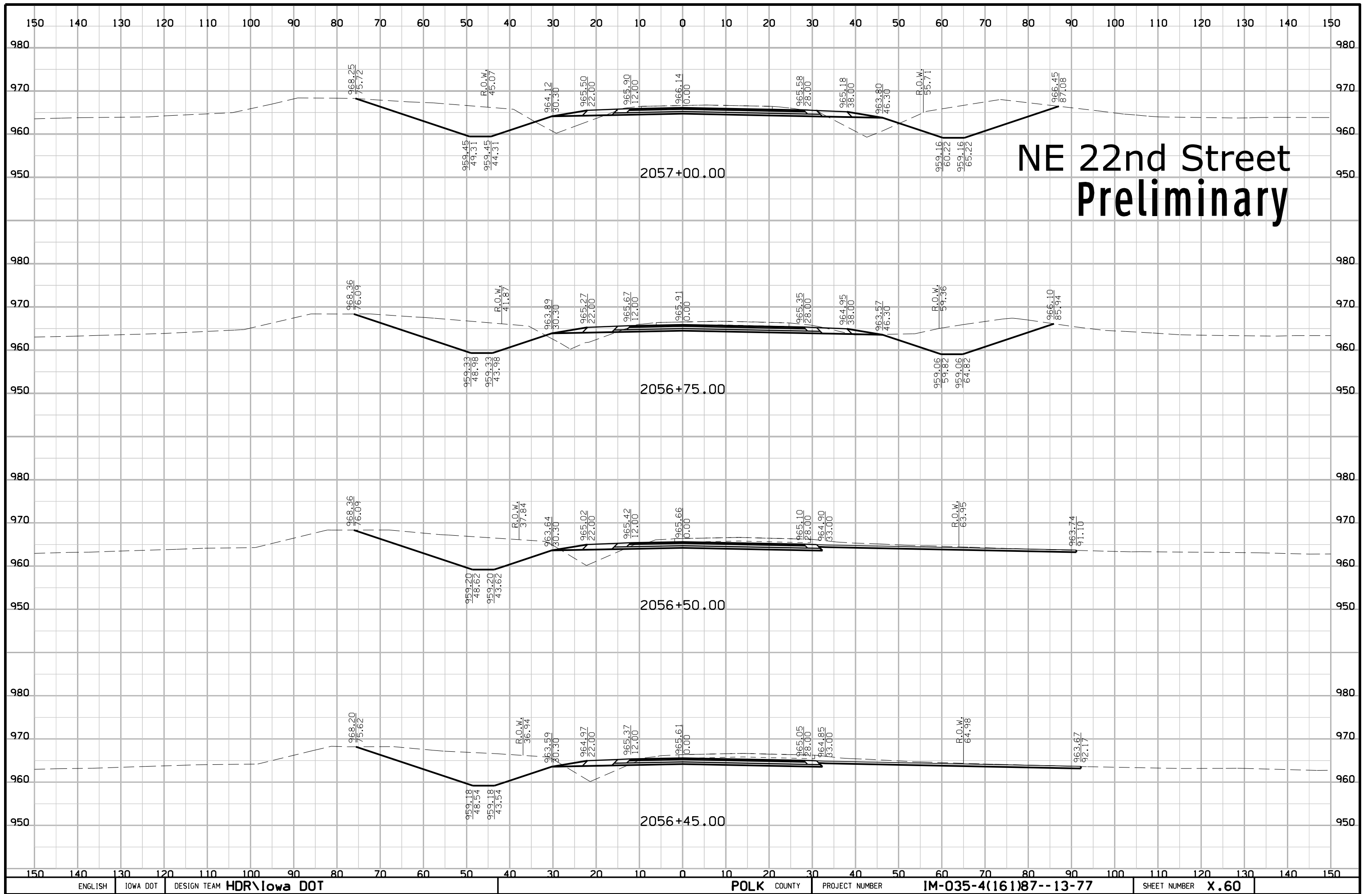
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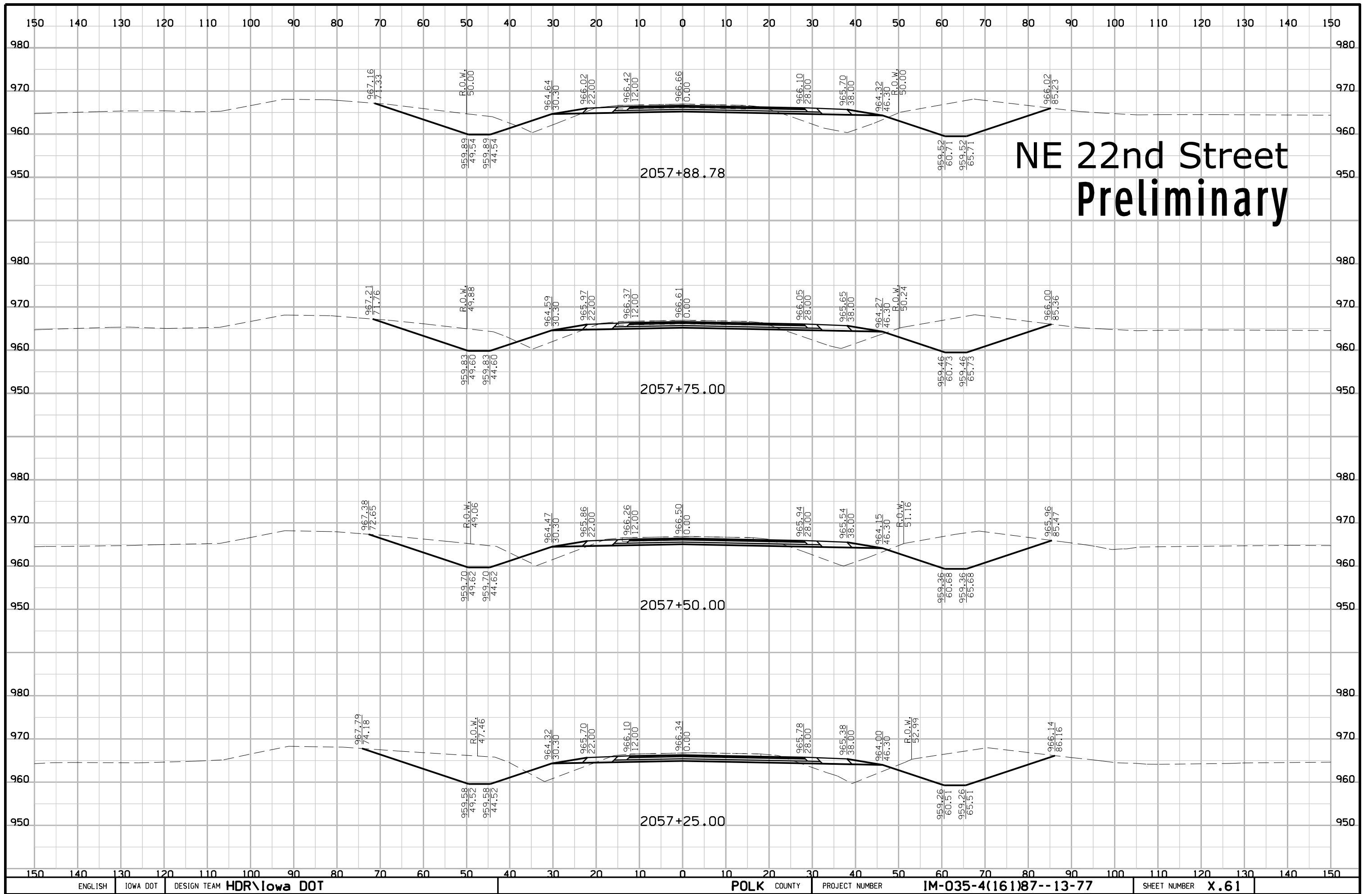




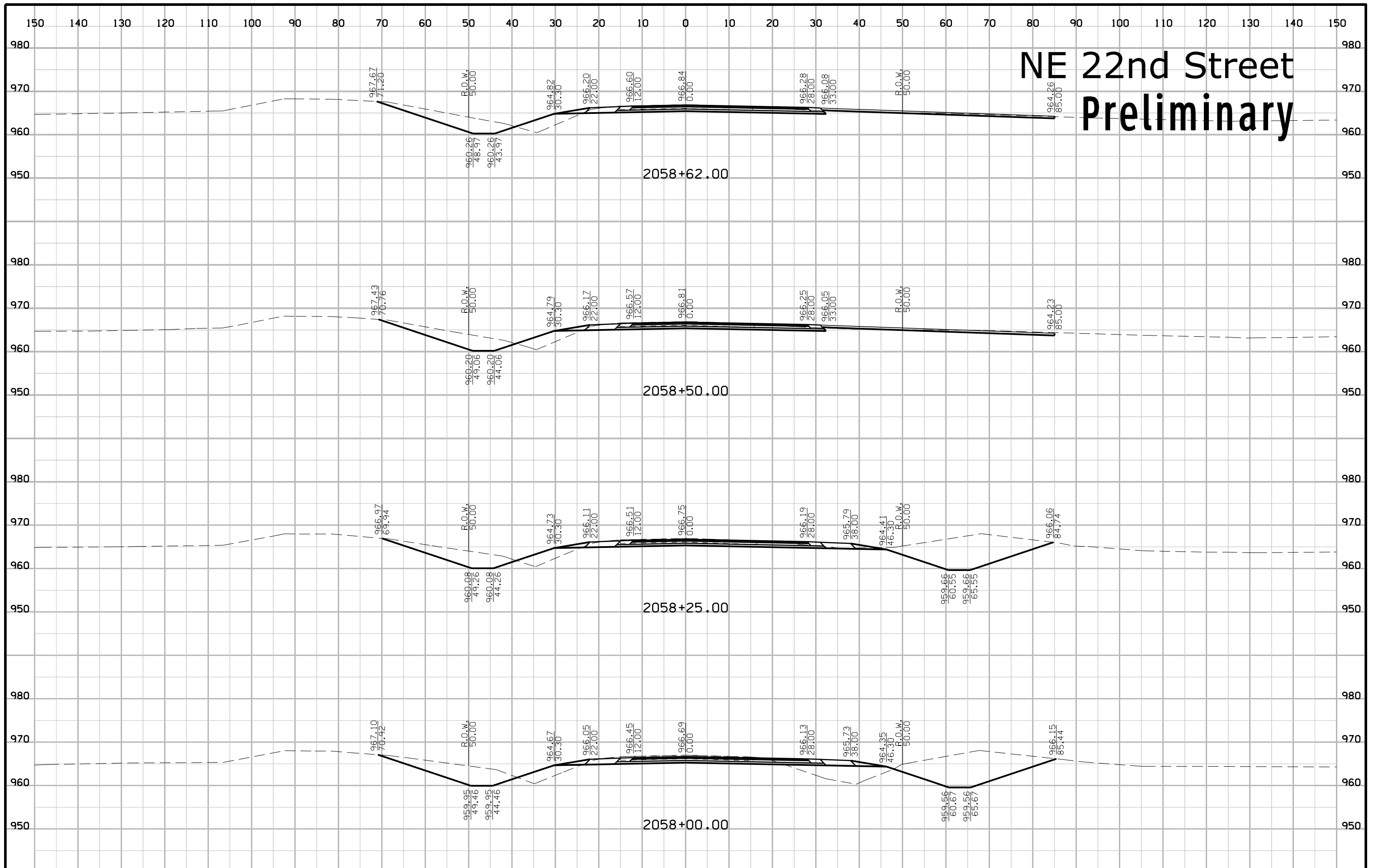
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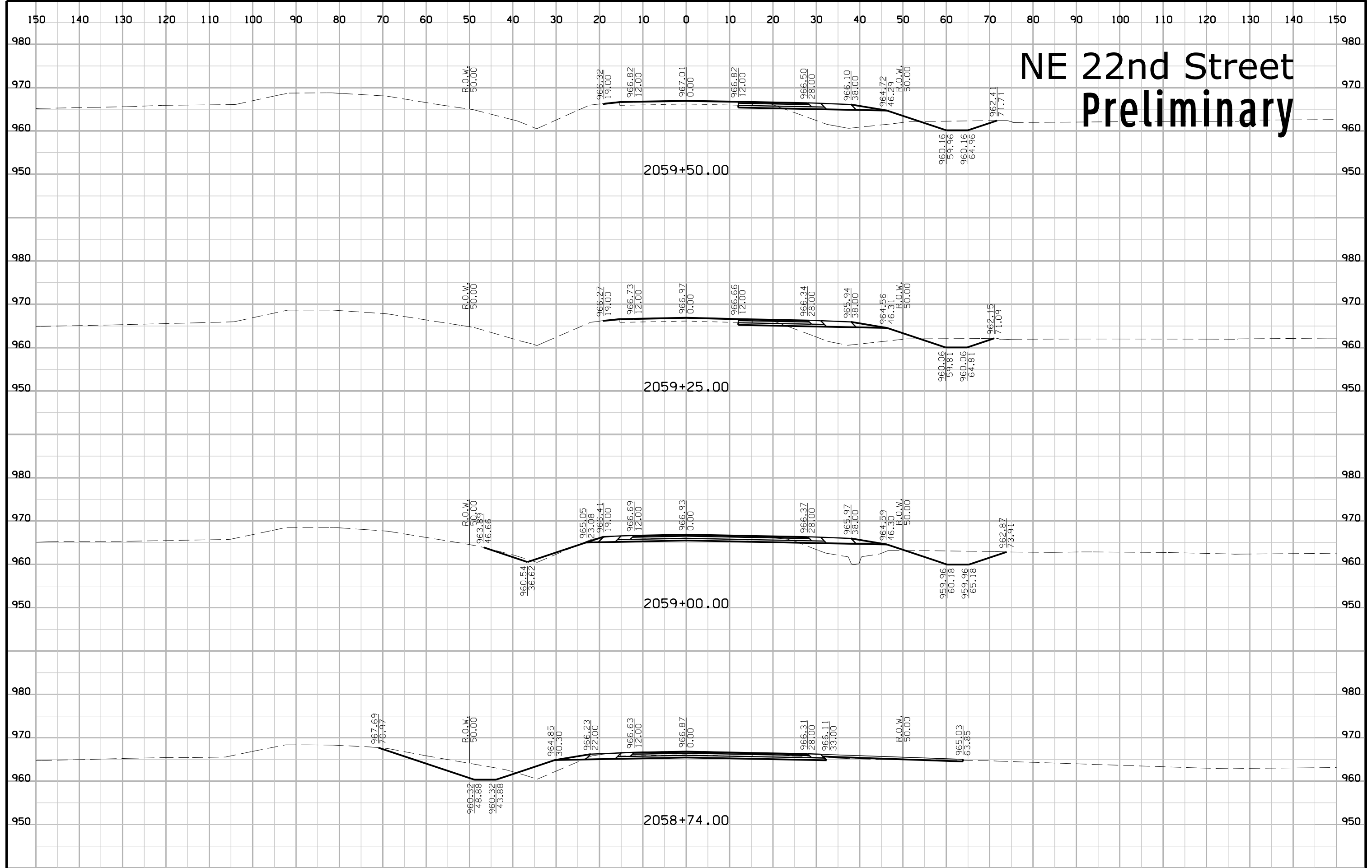




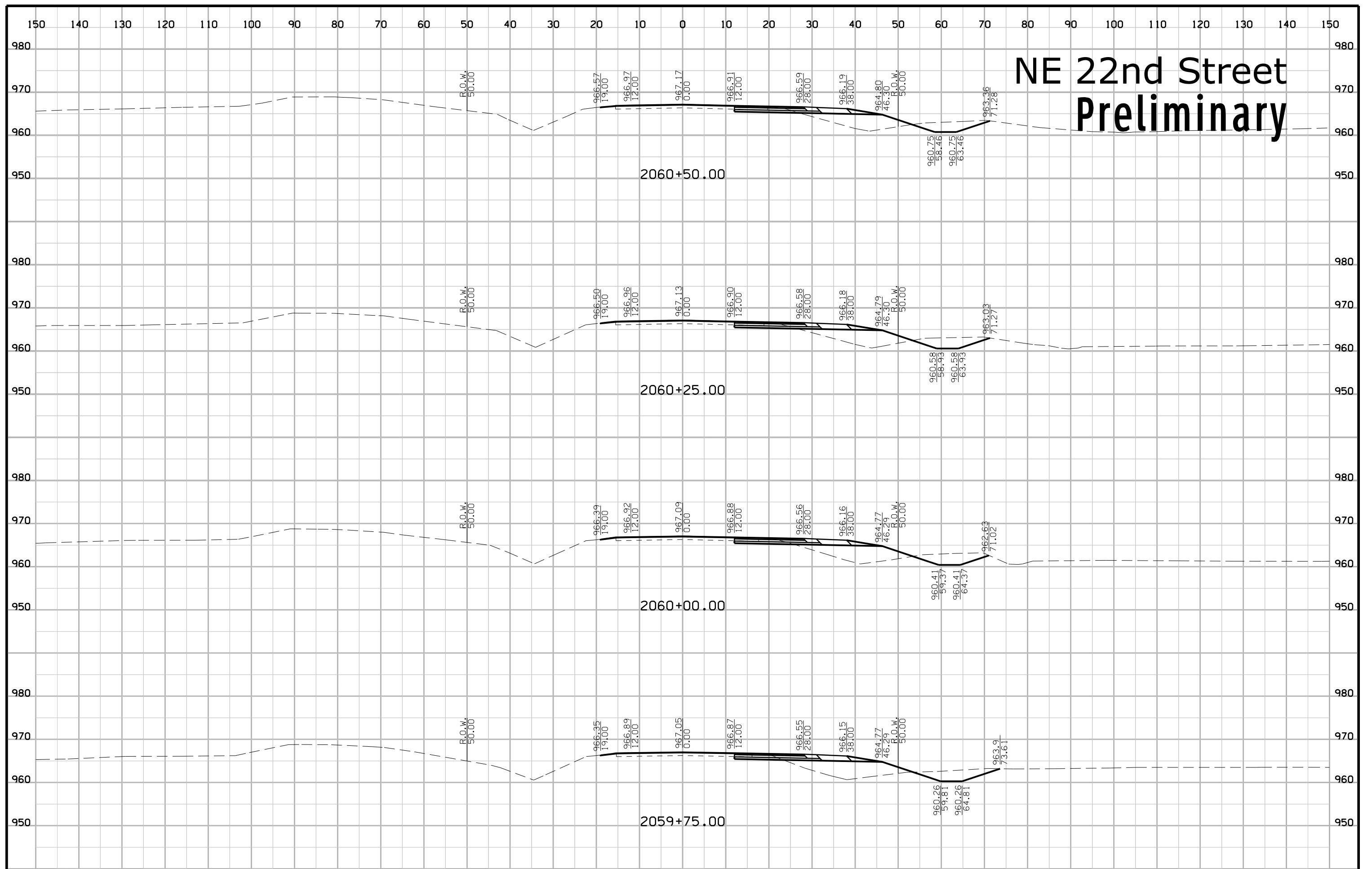
# NE 22nd Street Preliminary



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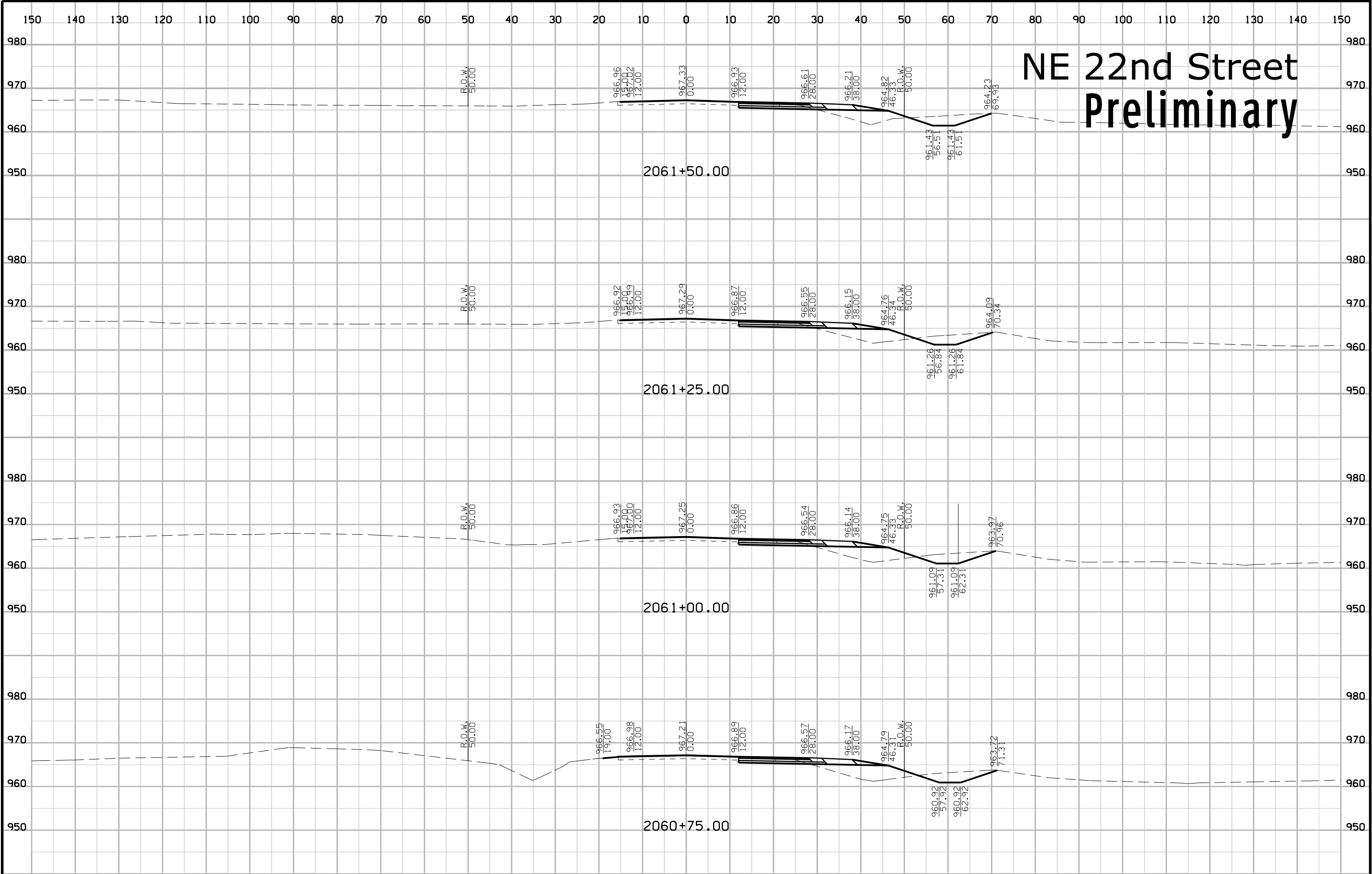


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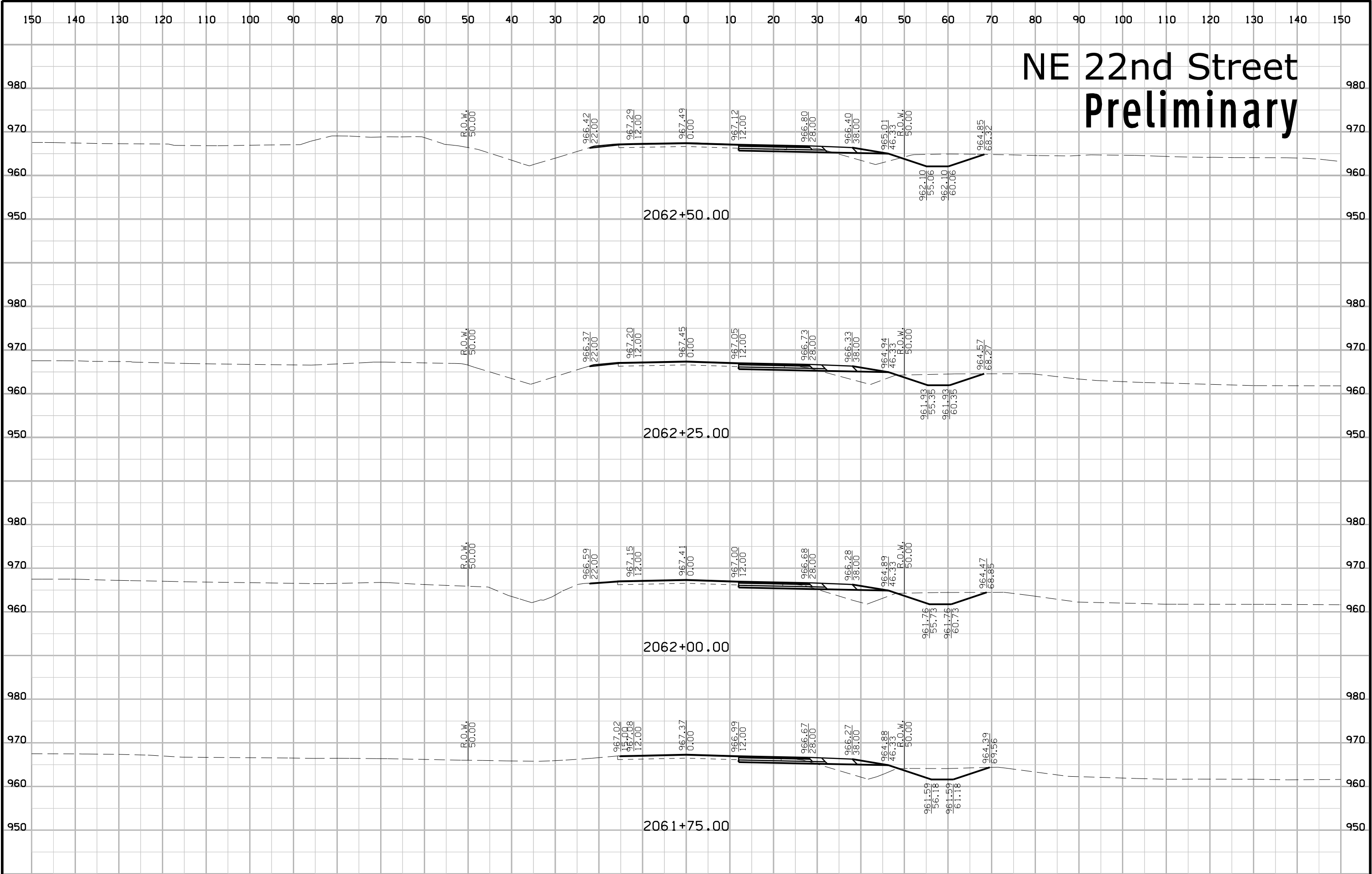




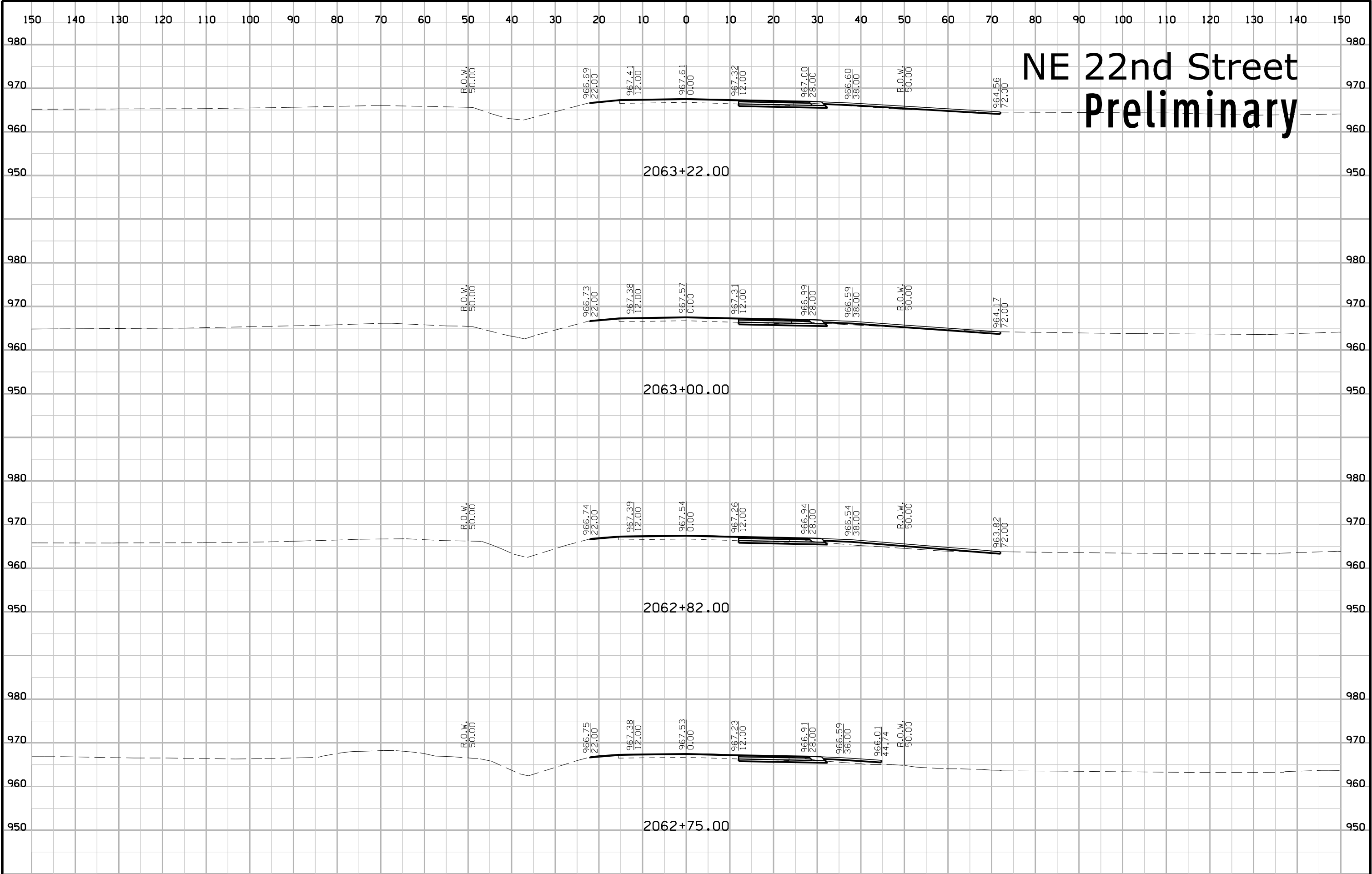
# NE 22nd Street Preliminary



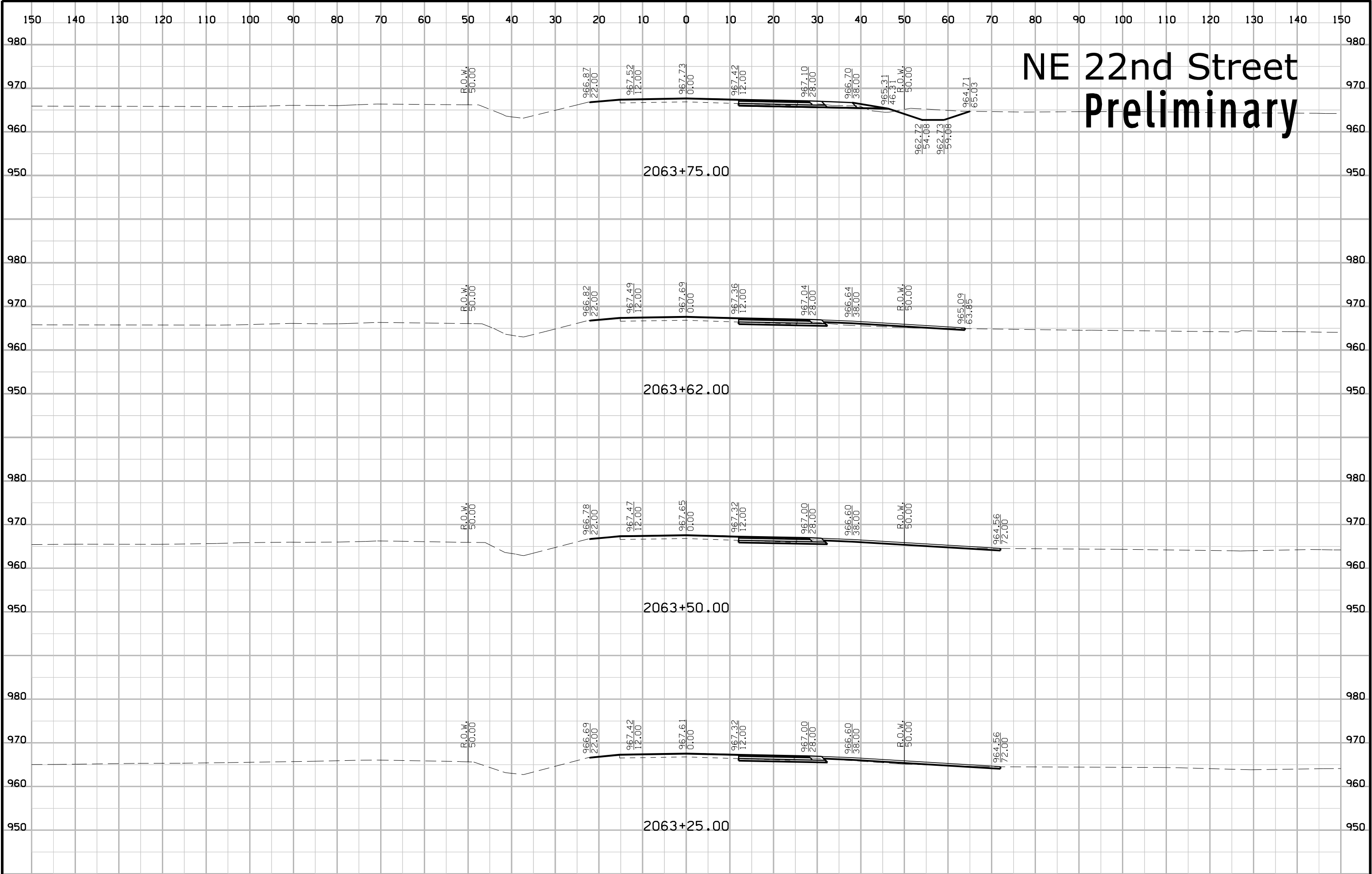
# NE 22nd Street Preliminary



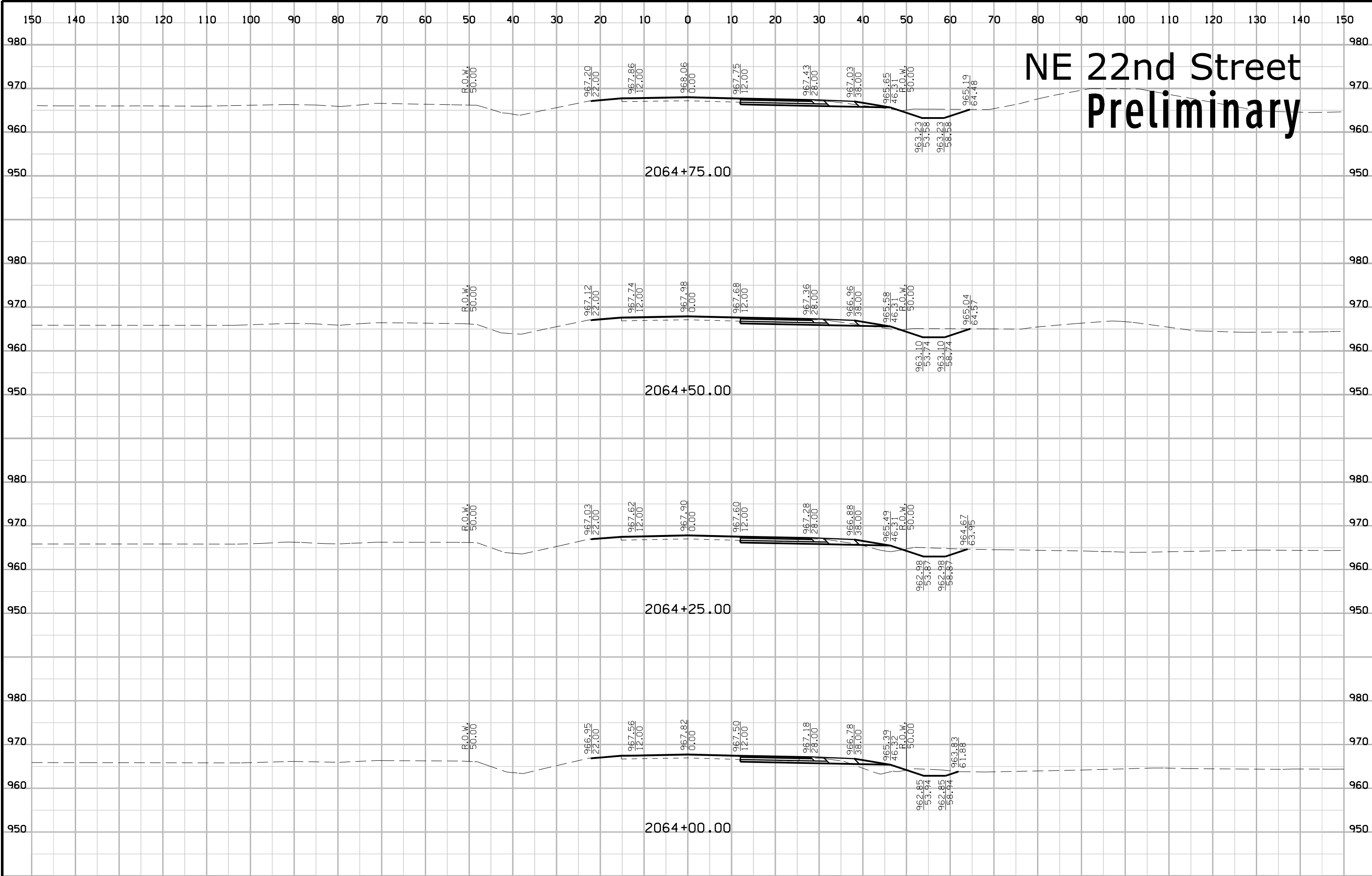
# NE 22nd Street Preliminary



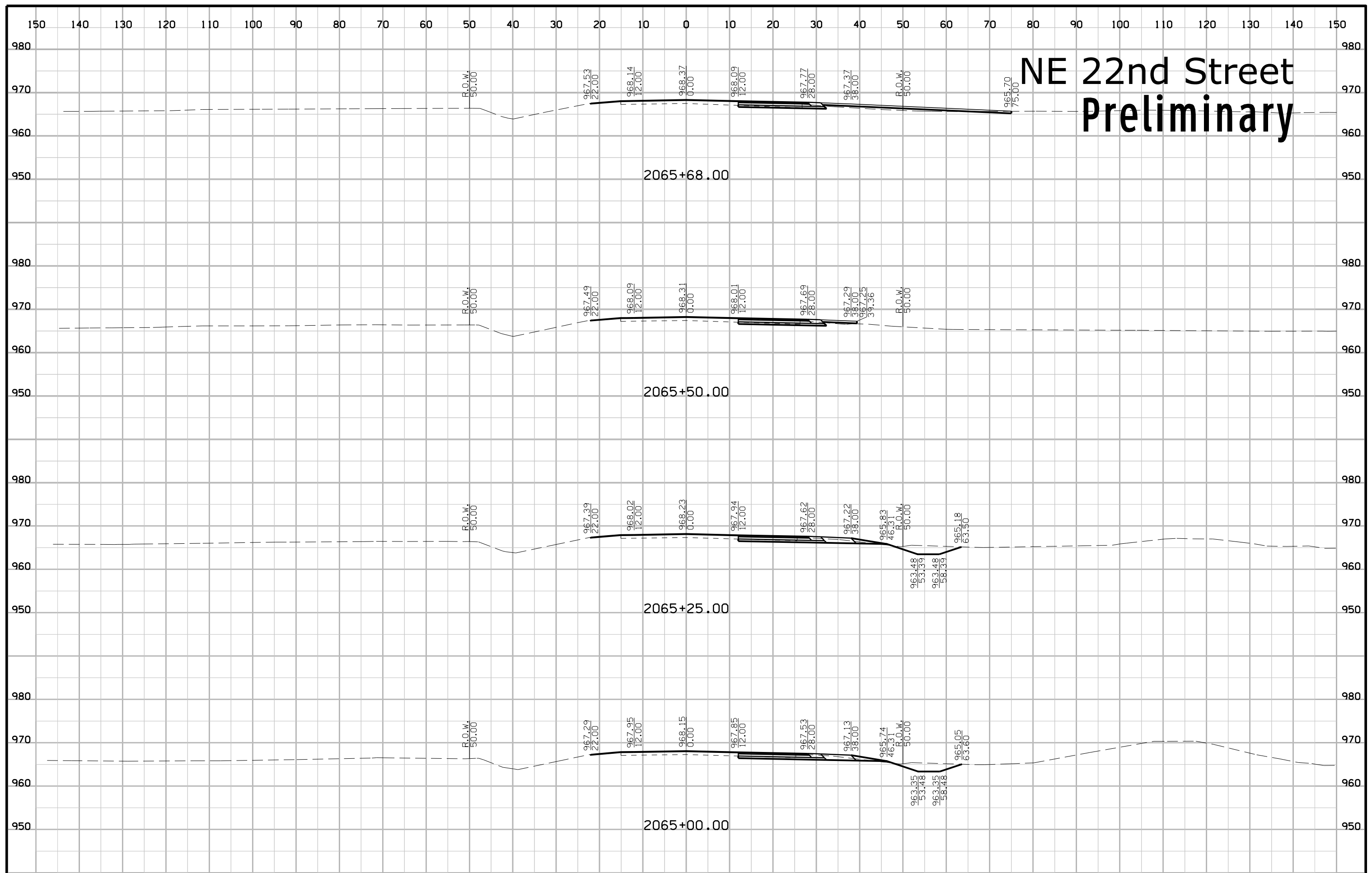
# NE 22nd Street Preliminary



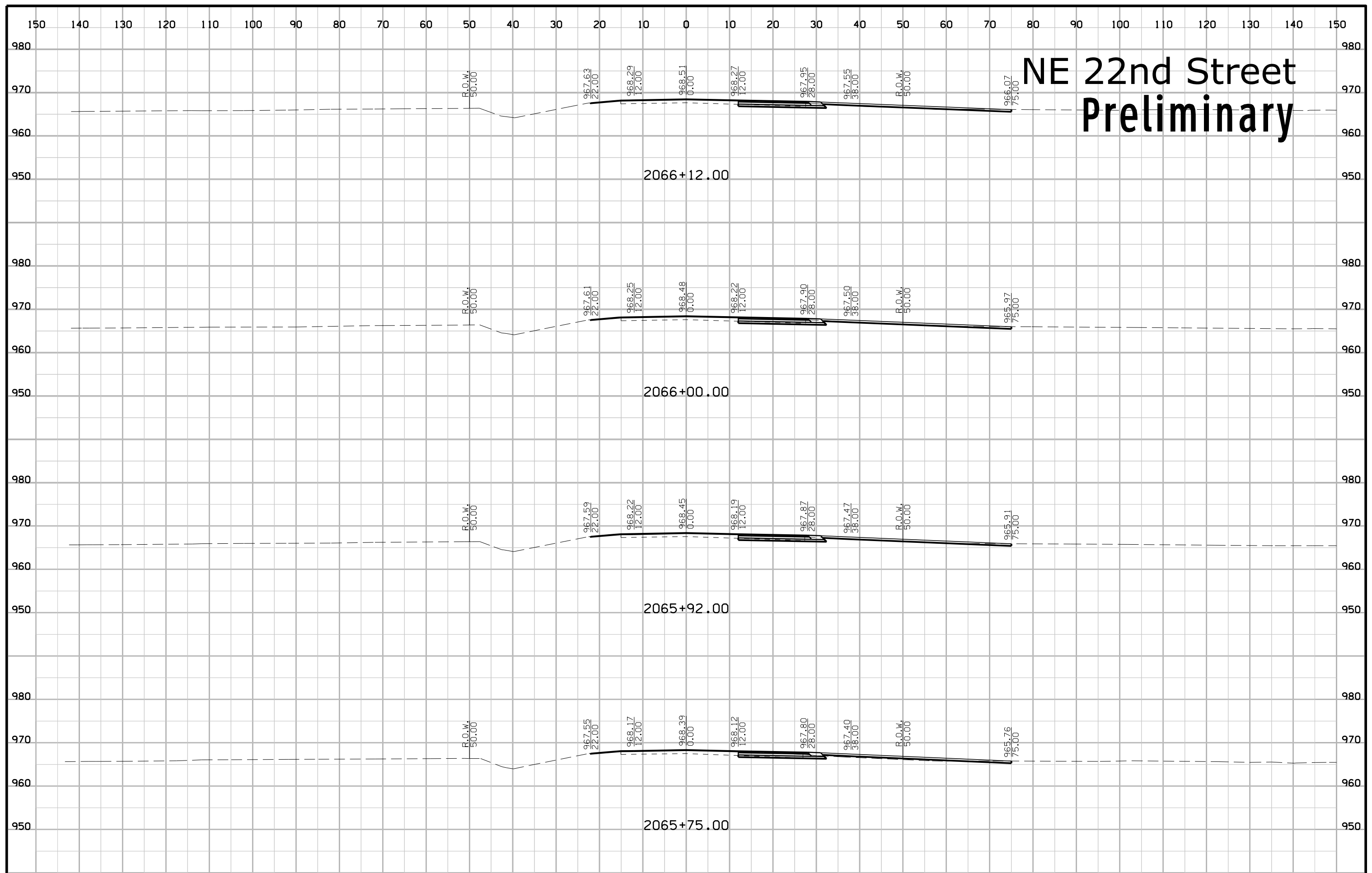
# NE 22nd Street Preliminary



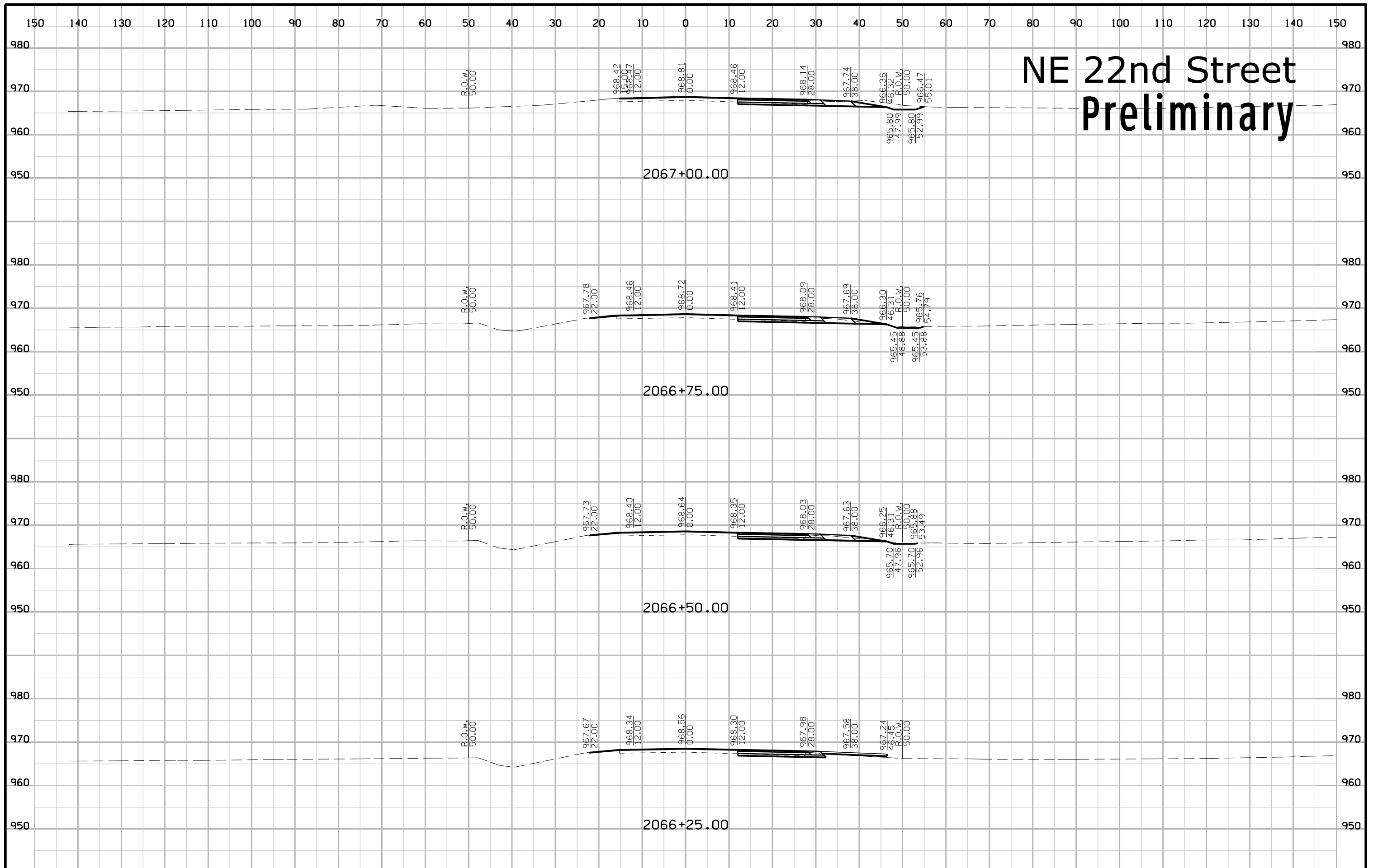
# NE 22nd Street Preliminary



# NE 22nd Street Preliminary

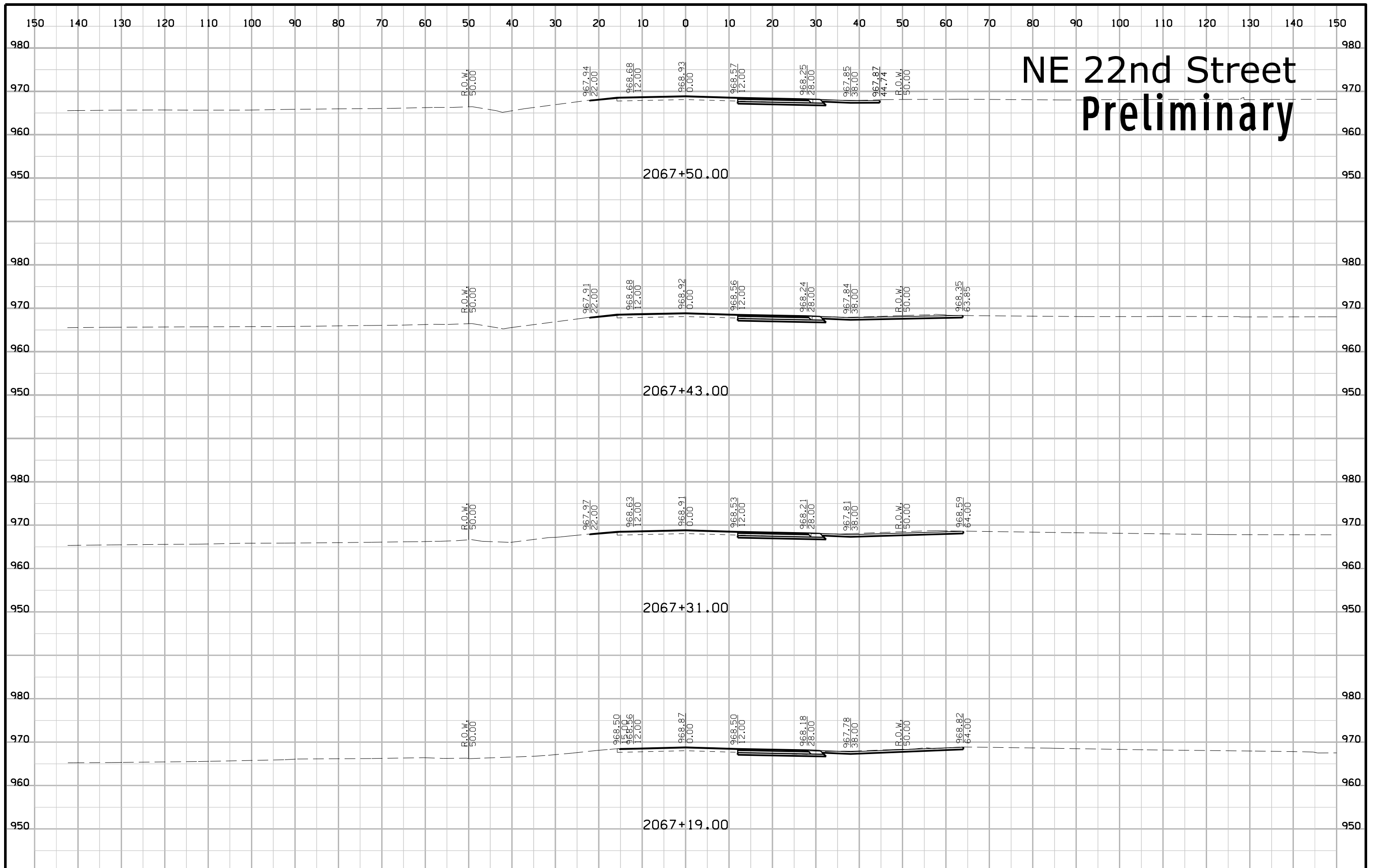


# NE 22nd Street Preliminary



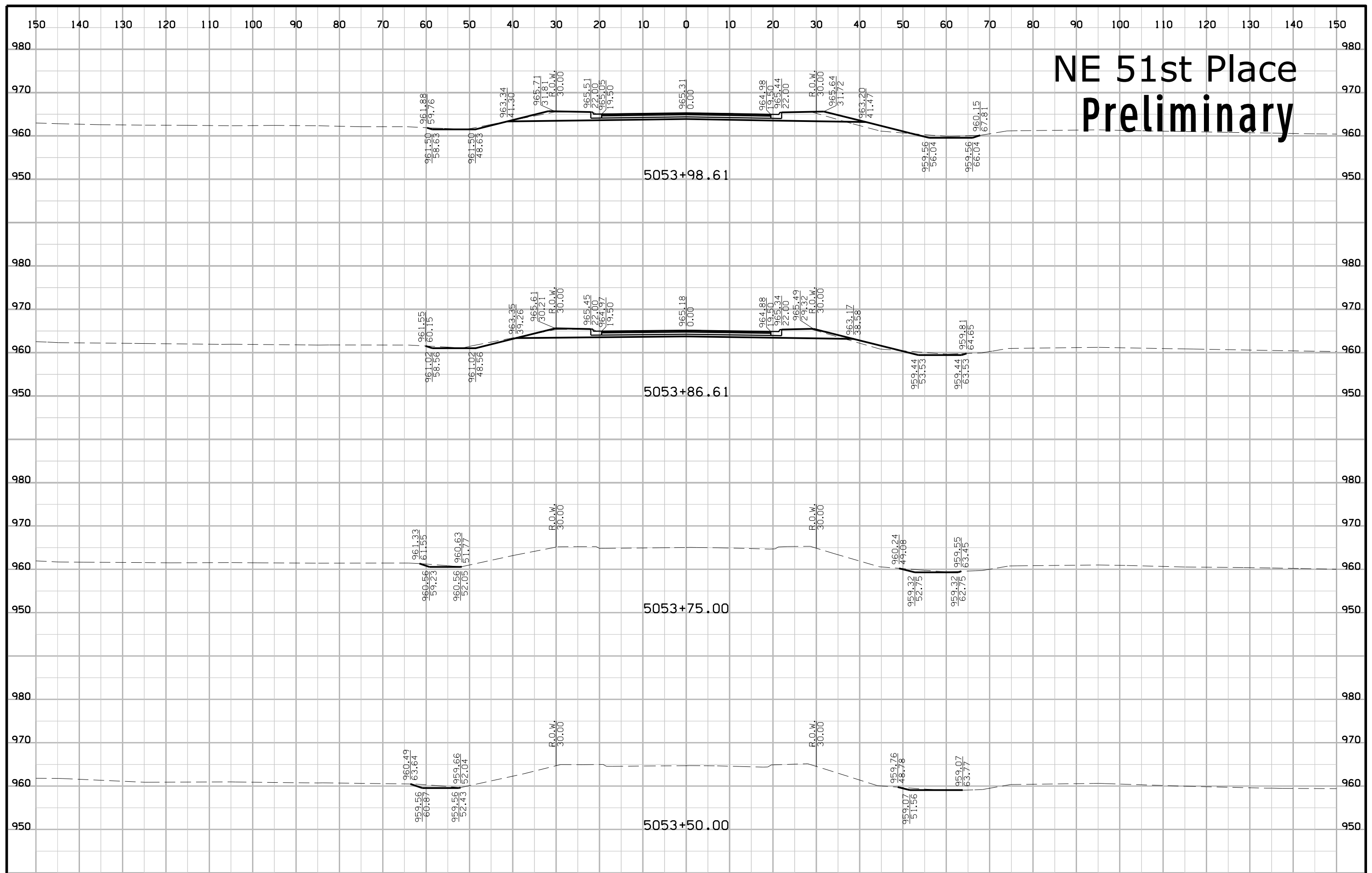


# NE 22nd Street Preliminary

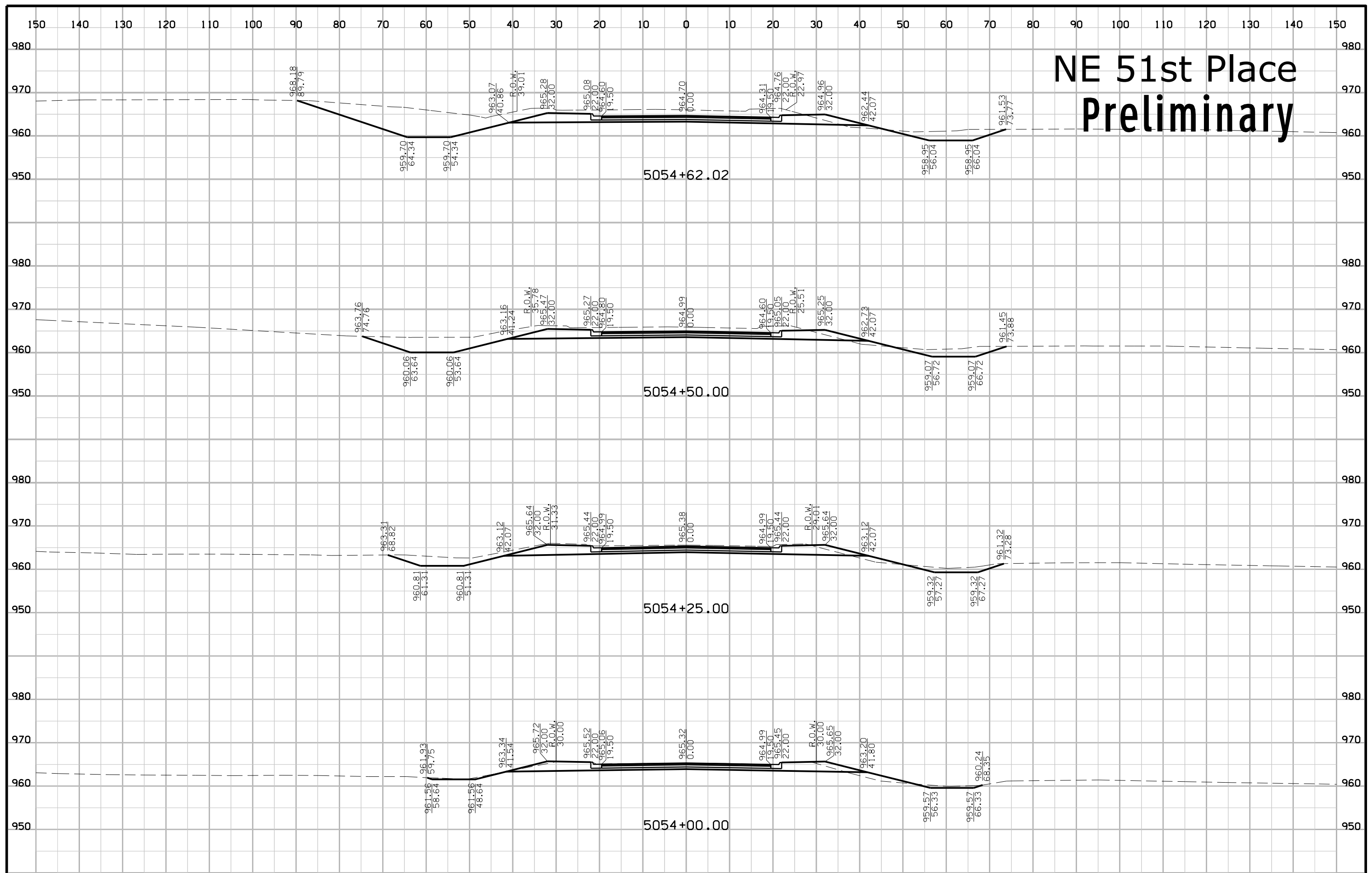




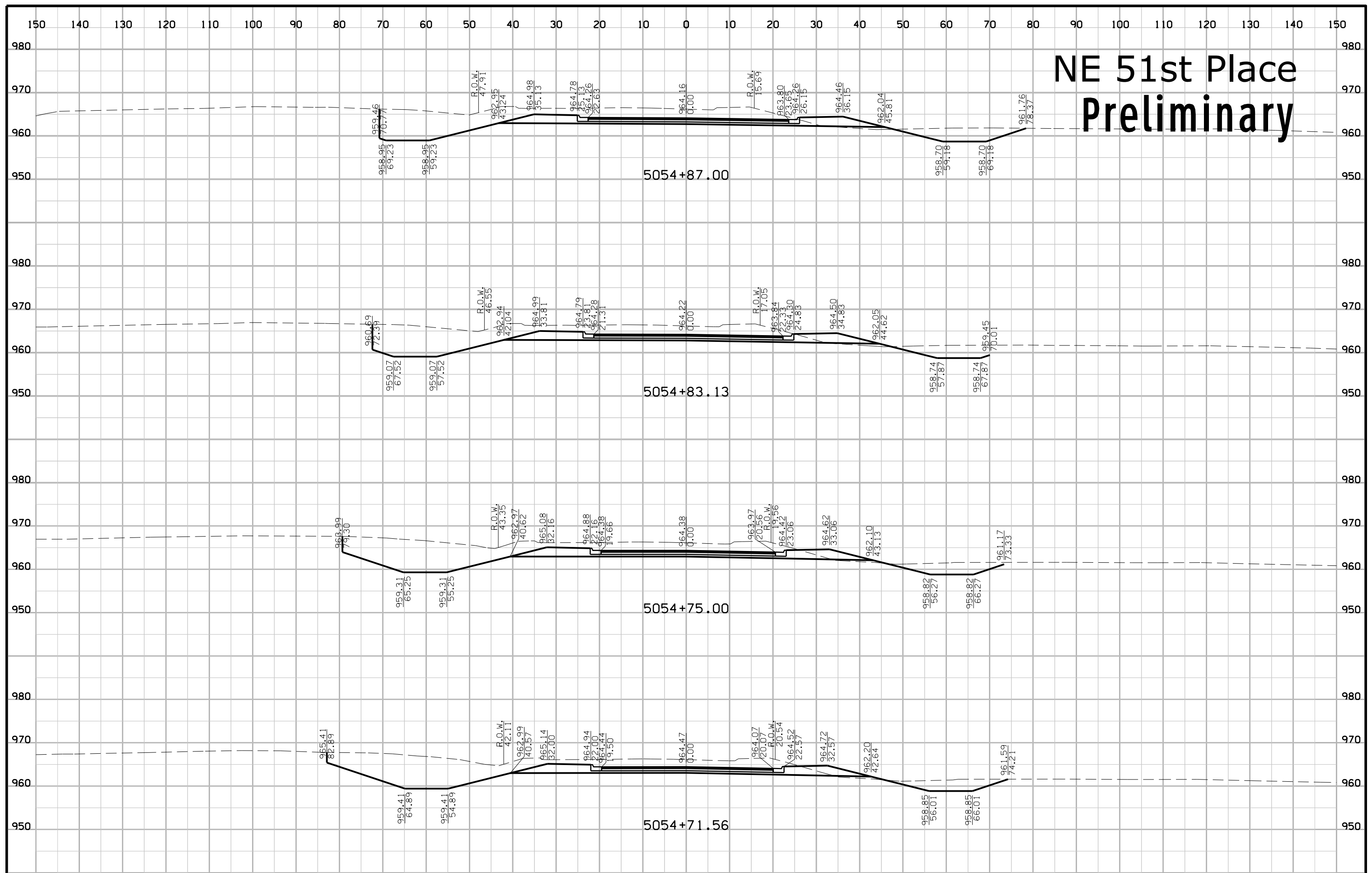
# NE 51st Place Preliminary



# NE 51st Place Preliminary



# NE 51st Place Preliminary



# NE 51st Place Preliminary

