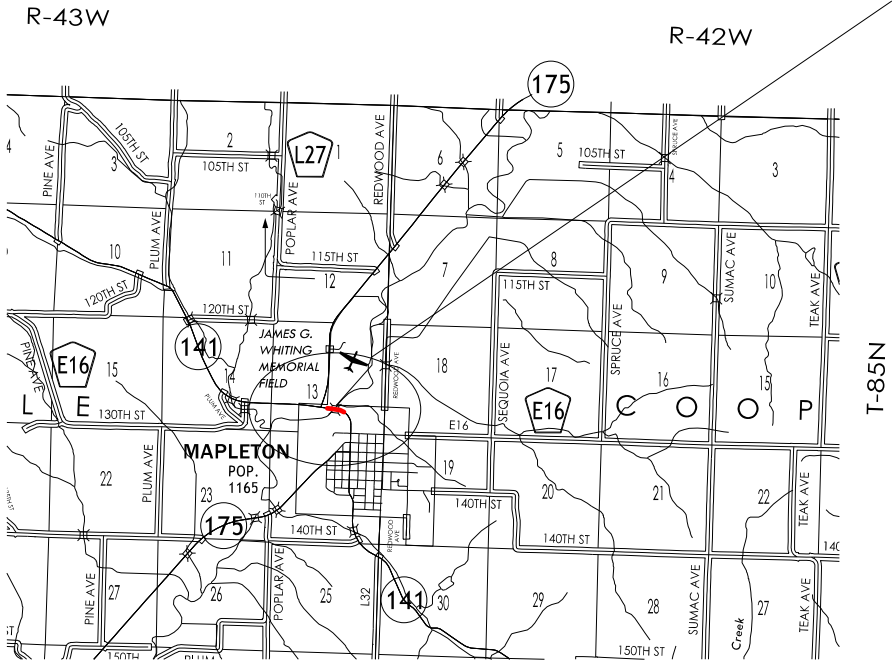
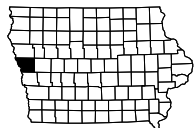




DESIGN DATA RURAL			
2028	AADT	3300	V.P.D.
2048	AADT	3500	V.P.D.
20	-	DHV	- V.P.H.
TRUCKS		11	%
Total			
Design ESALs		-	

INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	X	Primary Signature Block	X
X	X	X	X

P9 PLAN - Date: 1/7/26
D4 PLAN - Date: 6/22/27

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 8/29/25



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
MONONA COUNTY
Bridge Replacement - PPCB
Maple River 0.1 mi E of W Jct IA 175 in Mapleton

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

TOTAL
..
PROJECT IDENTIFICATION NUMBER
23-67-141-010
PROJECT NUMBER
BRF-141-2(067)--38-67
R.O.W. PROJECT NUMBER
-
-
-

Full Depth PCC Shoulder at Guardrail

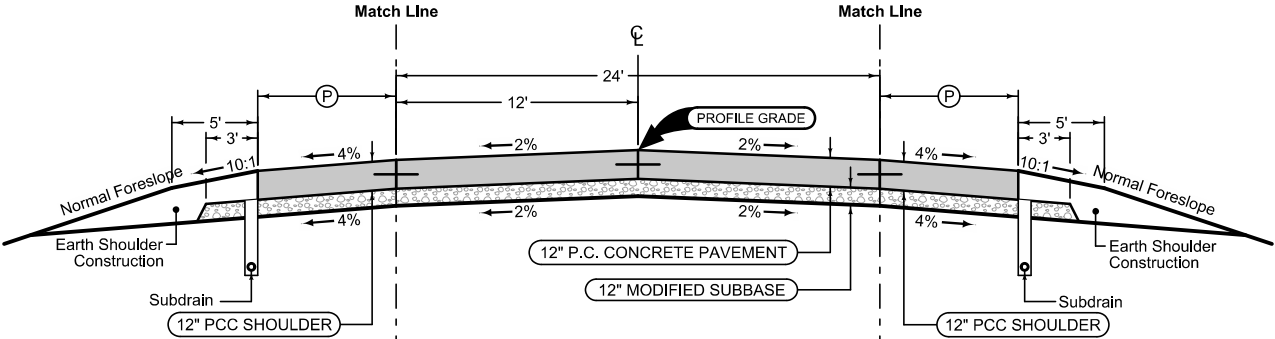
Shoulder Jointing:
Longitudinal joint: BT-2 or L-2
Transverse joints: C at 17' spacing

2_P_FullPCC_MODIFIED		
STATION TO STATION		(P) Feet
325+28.66	325+67.00	Varies
330+73.00	331+42.30	Varies

Full Depth PCC Shoulder

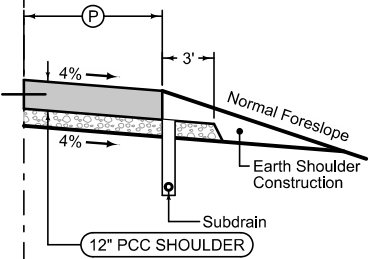
Shoulder Jointing:
Longitudinal joint: BT-2 or L-2
Transverse joints: C at 17' spacing

2_P_FullPCC_MODIFIED		
STATION TO STATION		(P) Feet
324+92.55	325+28.66	13.5



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

2P_04-21-20	
STATION TO STATION	
324+92.55	331+42.30



Full Depth PCC Shoulder at Guardrail

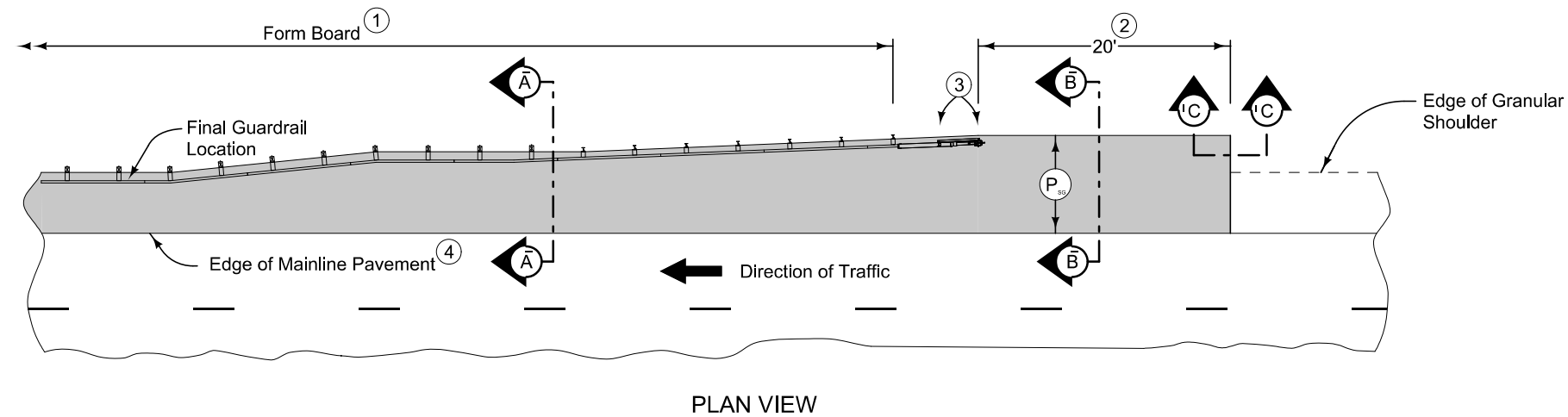
Shoulder Jointing:
Longitudinal joint: BT-2 or L-2
Transverse joints: C at 17' spacing

2_P_FullPCC_MODIFIED		
STATION TO STATION		(P) Feet
324+92.55	325+67.00	Varies
330+73.00	331+14.00	Varies

Full Depth PCC Shoulder

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

2_P_FullPCC_MODIFIED		
STATION TO STATION		(P) Feet
331+14.00	331+42.30	10



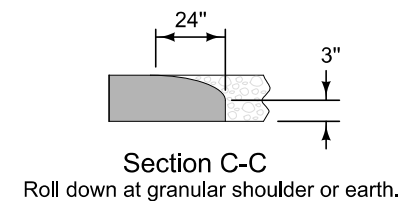
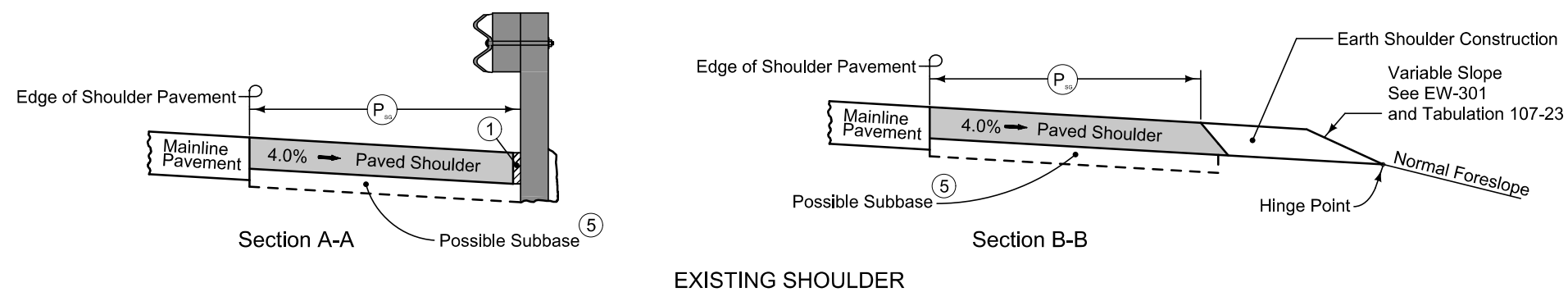
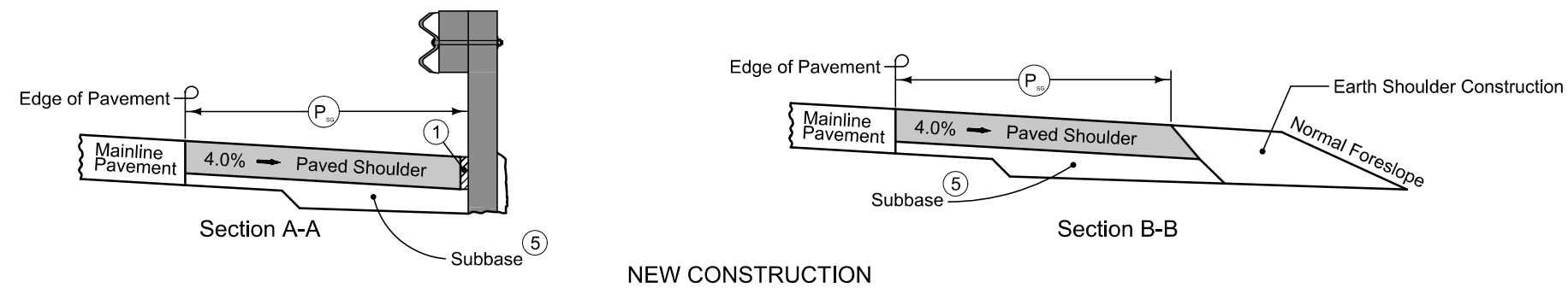
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P 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 and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'BT' joint (per PV-101) for PCC shoulder.
'B' joint (per PV-101) for HMA shoulder.
- ⑤ Refer to other details in the plan.



PAVED SHOULDER AT GUARDRAIL
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

SURVEY SYMBOLS

	AST, Above Ground Storage Tank		PR, Electric Riser Pole
	BB, Billboard		PRO, Profile Shot
	BBB, Bottom of Bridge Beam		PT, Curve Point
	BCL, Bridge Centerline		REF, Reference Tie Point
	BD, Bridge Deck		RET, Retaining Walls
	BIN, Grain Bin		RIP, Rip-Rap
	BL, Topo Breakline		ROC, Rock Outcropping
	BLD, Building or Foundation		ROW, Right of Way Mark
	BLS, Bridge Low Steel		RR, Centerline of Railroad Tracks
	BM, Bench Mark		RRB, Railroad Signal Box
	BNK, Stream Bank		RRF, Railroad Frog
	BRG, Bridge		RRR, Railroad Rail
	C, Centerline BL of Road -ML or SR		RRS, Railroad Signal
	CAV, Cave		RRW, Railroad Switch
	CEL, Cell Phone Tower		RT, Radio Tower
	CIS, Cistern		S, Soil Sampling Site -Wetlands
	CON, Concrete or A/C Slab		SBR, Size of Bridge
	CP, Control Point		SC, Spiral Point
	CRP, Corporation Line		SCR, Section Corner
	CS, Curve Point		SEP, Septic Tank
	CU, Back of Curb		SF, Silt Fence -Wetlands
	CUL, Culvert		SG, Staff Gauge -Wetlands
	D, Centerline Draw or Stream -Down		SH, Paved Shoulder
	DAB, Drainage Area Boundary		SHR, Shrub
	DIK, Centerline of Dike or Dam		SI, Sign
	DTM, Photogrammetry Elv Control Check		SL, Speed Limit Sign
	DU, Centerline Draw or Stream -Up		SLN, Section Line
	EB, Electrical Box		SLM, Silo
	EG, Edge of Gravel Road		SNK, Sink Hole
	ENP, Edge Paved Entrance and Park Lot		SNP, Unpaved Shoulder
	ENT, Centerline BL of Entrance		SP, Stream Profile
	ENU, Edge Unpaved Entrance and Parking		STP, Stump
	EP, Edge of Paved Roads -ML or SR		SWK, Sidewalk
	EW, Edge of Water		SWP, Swamp or Marsh
	FCL, Chain Link and Security Fence		TA, Tower Anchor
	FENO, FENO Monument		TBO, Telephone Booth
	FHD, Fire Hydrants		TCB, Traffic Signal Box
	FLG, Flag Poles		TDC, Tree Deciduous
	FP, Filler Pipe		TDL, Traffic Detection Loop
	FW, Wire Fence		TER, Terrace
	FWD, Wood Fence		TEV, Evergreen Tree
	GDC, Guard Rail Cable		TFR, Tree Fruit
	GDL, Guard Rail Steel		TGP, Telegraph Pole
	GP, Guard Post -Less Than 4 Posts		TIL, Tile Line
	GR, Ground Shot		TLNL, Tree Line Left
	GRV, Grave		TLNR, Tree Line Right
	GU, Gutter In Front of Curb		TOP, Top of Bridge Pier
	GV, Gas Valve		TPA, Telephone Pole Co. 1
	HDG, Hedge Row		TPB, Telephone Pole Co. 2
	HS, Hydric Soil -Wetlands		TPC, Telephone Pole Co. 3
	HT, Electrical Highline Tower		TR, Telephone Riser Pole
	IN, Storm Sewer Intake		TRL, Trail
	INB, Storm Sewer Beehive Intake		TS, Spiral Point
	LC, Lot Corner		TSB, Telephone Switch Box
	LIN, Miscellaneous Line		TSG, Traffic Signal
	LP, L.P. Tank		TSL, Traffic Signal and Luminaire
	LUM, Luminaire		TV, Satellite TV Dish
	MH, Utility Access -Manhole		TVP, TV Pedestal
	MIS, Miscellaneous		TW, Top of Water
	MM, Mile Marker Post		UB, Utility Box
	OUT, Tile Outlet		UE, Utility Elevation
	PC, Curve Point		UPH, Utility Pot Hole - Quality A
	PCP, Photo Control Point		UST, Underground Tank
	PCT, Photo Control Target		UV, Underground Utility Vault
	PI, Tangent Point		VS, Channel Cross Section
	PIP, Pipe Culvert		WC, Wild Card -Misc. Field Shot
	PL, Location of Photo -Wetlands		WEL, Well
	PLG, Location of General Photo		WHD, Water Hydrant
	POC, Curve Point		WHU, RV Water Hook Up
	POST, Spiral Point		WM, Wind Mill
			WND, Wind Turbine
			WV, Water Valve

UTILITY LEGEND

 F04 FO4D, Unkown - Quality D

 EL1D, Mapleton Municipal Electric - Quality D

 E1

Karla Uhl
City Clerk
MAPLETON
(Sanitary Sewer & Water)
513 Main Street
Mapleton, IA 51034
(712) 881-1351
kuhl@longlines.com

 F01D, Mapleton, City of - Quality D

 F0

Tom Connors
Construction/Design Manager
Long Lines Ltd.
(Fiber Distribution & Telephone)
PO BOX 128
Jefferson, SD 57038
(712) 333-1352
Cell: (712) 333-1352
tom.connors@longlines.biz

 F02D, Midamerican Fiber - Quality D

 F02

Matthew Towey
Program Manager,
Energy Infrastructure and Telecom
MidAmerican Energy Company
(Fiber Transmission & Distribution)
4124 NW Urbandale Drive
Urbandale, IA 50322
(515) 281-2540
Cell: (515) 322-2010
Matthew.Towey@midamerican.com
CC: Brian.Recker@midamerican.com

 F03D, Centurylink - Quality D

 F03

Nathan Gessner
Network Implementation Program Manager
Lumen Centurylink
(Fiber Distribution & Telephone)
426 Lake Ave
Storm Lake, IA 50588
(712) 203-3774
Nathan.Gessner@Lumen.com

 F05D, ICN - Quality D

 F05

David Augspurger
Sr Telecom Specialist, OSP Lead
Iowa Communications Network
(Fiber Transmission & Distribution)
400 East 14th Street
Des Moines, IA 50319
(515) 725-4604
Cell: (515) 229-2013
david.augspurger@icn.state.ia.us
CC: icn-outsideplantstaff-dg@iowa.gov

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.	Transparency	
Pink, Dark	(13)		Temporary Pavement Shading	50%
Yellow	(4)		Proposed Pavement Shading	50%
Orange	(6)		Proposed Granular Shading	50%
Orange	(70)		Proposed Shoulder Granular Shading	50%
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading	50%
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading	50%
Brown, Light	(236)		Grading Shading	50%
Orange, Light	(134)		Proposed Granular Entrance Shading	50%
Yellow	(220)		Proposed Paved Entrance Shading	50%
Tan	(8)		Proposed Sidewalk Shading	50%
Blue, Light	(230)		Proposed Sidewalk Landing Shading	50%
Pink	(11)		Proposed Sidewalk Ramp Shading	50%
Red	(3)		Proposed Structure Shading	50%
Red	(3)		Delineates Restricted Areas	0%

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(10)		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

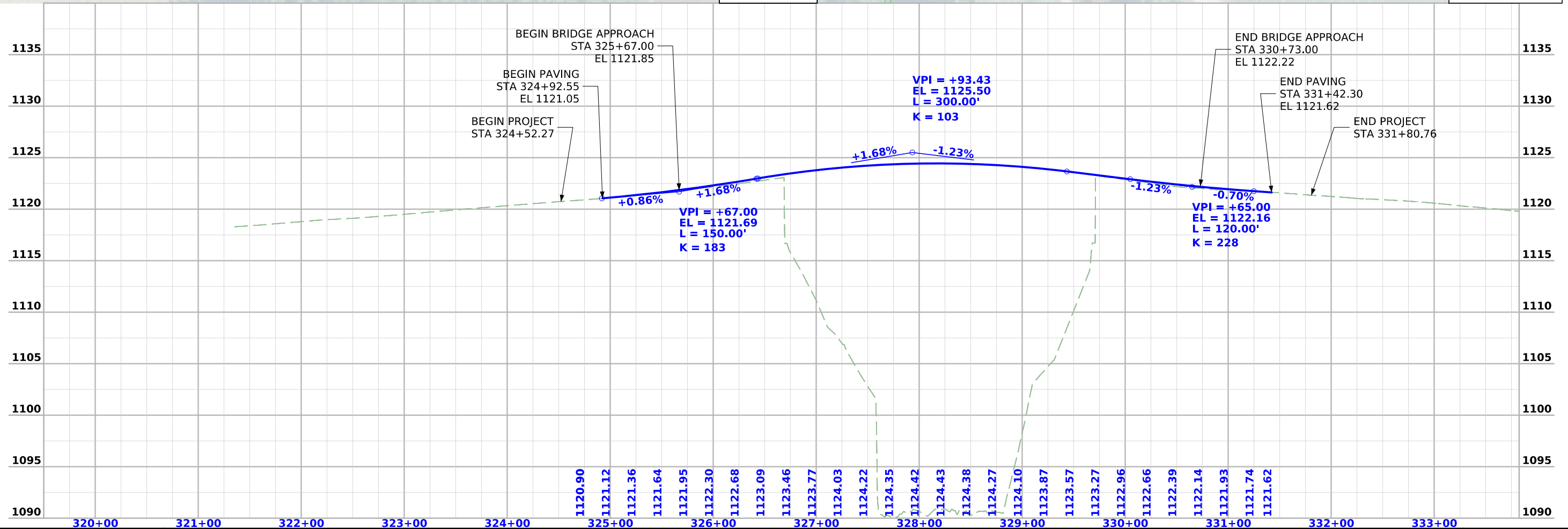
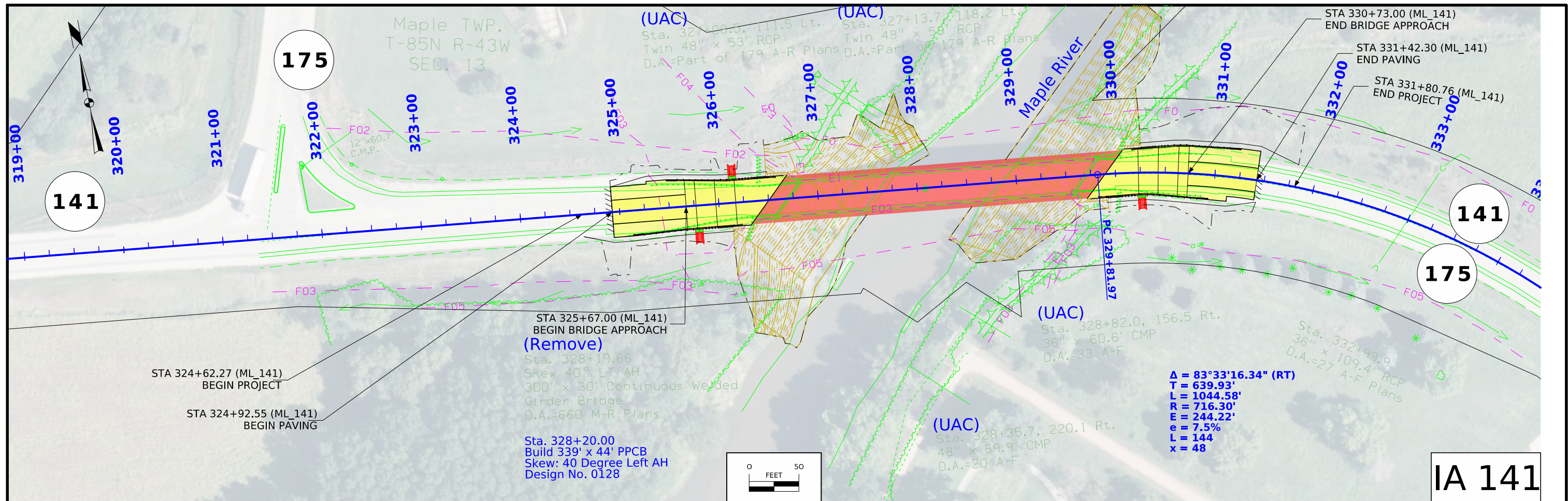
Reference Point	
	Station
	Survey Line
	Section Corner
	Ground Line Intercept
	Saw Cut
	Guardrail
	Trench Drain
	HighTension Cable Guardrail
	Sheet Pile
	Pavement Removal
	Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE
LEGEND AND SYMBOL
INFORMATION SHEET

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



Survey Information

SURVEY INDEX

County: Monona
PIN: 23-67-141-010
Project Number: BRF-141-2(067)--38-67
Location: Maple River 0.1 mi E of W Jct IA 175 in Mapleton
Type of Work: Bridge-Unspecified
Project Directory: 6714101023

Survey Personnel

Clayton Henningsen – Survey Party Chief
Jason Arn – Survey Party Chief

Date(s) of Survey

Begin Date 07/23/2024
End Date 09/03/2024

General Information

This survey is for IA Hwy 141 bridge over Maple River at location 0.1 mi E of W junction IA Hwy 175 Interchange. This survey request was for the IA Hwy 141 corridor only. This project is a Full Field DTM survey.

Utility Information

For logging data and other utility details see Utility Survey and Ownership Report in the Utility folder of the PrelimSurvey project directory.

Project Control

Coordinates were determined for primary project control points by conducting concurrent six-hour static observations. Post processing is constrained to nearby Iowa Real Time Network reference stations. For additional details of the control survey, contact the Preliminary Survey department.

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 06
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u3

Alignment Information

The horizontal alignment for IA Hwy 141 this survey is a retrace of PCC Paving Plans No. F-175-1(1)—20-67. Survey stationing was equated to the plan PI at Sta. 313+00.0 and carried back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PI Sta. 313+00.0 PCC Paving Plans No. F-175-1(1)—20-67
Survey PI Sta. 313+00.0

PI Sta. 336+22.9 PCC Paving Plans No. F-175-1(1)—20-67
Survey PI Sta. 336+21.9

CONTROL POINT VICINITY MAP

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



HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment) - Iowa RCS Zone 06 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u3

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

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING
HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)
Ia. Regional Coordinate System Zone 06 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u3

<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Feature Definition-Description</u>
671410247	7299311.74	16483720.49	1113.47	CP FD X IN THE CONC COLLAR OF A MANHOLE LID 40 FT WEST OF CL IA HWY 141/175 AND APPROX. 50 FT EAST OF SE CORNER PARKING LOT
671750295	7300921.48	16482647.37	1115.19	CP SET FENO MONUMENT IN EAST EDGE OLD IA HWY 175 GRADE APPROX 135 FT FROM CL CURRENT IA HWY 175 ALONG CL OF A GRAVEL ENT
MAPPORT	7303152.06	16483815.74	1114.50	CP FOUND NGS DISK AS DESCRIBED IN GOOD CONDITION
T91 RESET	7296699.41	16481743.99	1106.46	CP FOUND NGS DISK AS DESCRIBED IN GOOD CONDITION

12:33:35 PM

6/23/2025

jryan3

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\6714101023\Design\CADD_Files\Sheet_Files\SHT_67141067_G01.dgn

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

ACCESS CONTROL PREVIOUSLY ACQUIRED.

TOWN OF MAPLETON

MORNINGSIDE COLLEGE

MVAO SCHOOL FOUNDATION INC

STA: 330+52.57
OFF: 153.00' LT

STA: 330+33.00
OFF: 74.75' LT

STA: 331+17.00
OFF: 89.00' LT

STA: 331+78.00
OFF: 74.78' LT

STA: 330+78.00
OFF: 74.76' LT

STA: 331+80.76 (ML 141)
END PROJECT

STA: 324+62.27 (ML 141)
BEGIN PROJECT

STA: 326+17.00
OFF: 100.51' RT
STA: 326+22.00
OFF: 133.00' RT

STA: 326+92.60
OFF: 171.00' RT

(Remove)
Sta. 328+19.68
Skew: 45° RT AH
300' x 30' Continuous Wier
Grider Bridge
D.A. 660 M-P Plans

Sta. 328+20.00
Build 339' x 44' pPCB
Skew: 40 Degree Left AH
Design No. 0128

CITY OF MAPLETON

OAK TREE PROPERTIES LLC

DG MIDWEST PROPERTIES LLC

STALHEIM FAMILY TRUST

Right of Way Design Information

THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: Hughes / Cuva
ROW #: STPN-141-2(068)-2J-67
Plan Date: 9-4-2025

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition
- Permanent Acquisition County
- Permanent Acquisition City



FILE NO.

ENGLISH

DESIGN TEAM MILLER / DEWOLF / RYAN

MONONA COUNTY

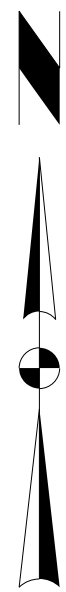
PROJECT NUMBER BRF-141-2(067)--38-67

SHEET NUMBER H.1

108_23A
8/15/22

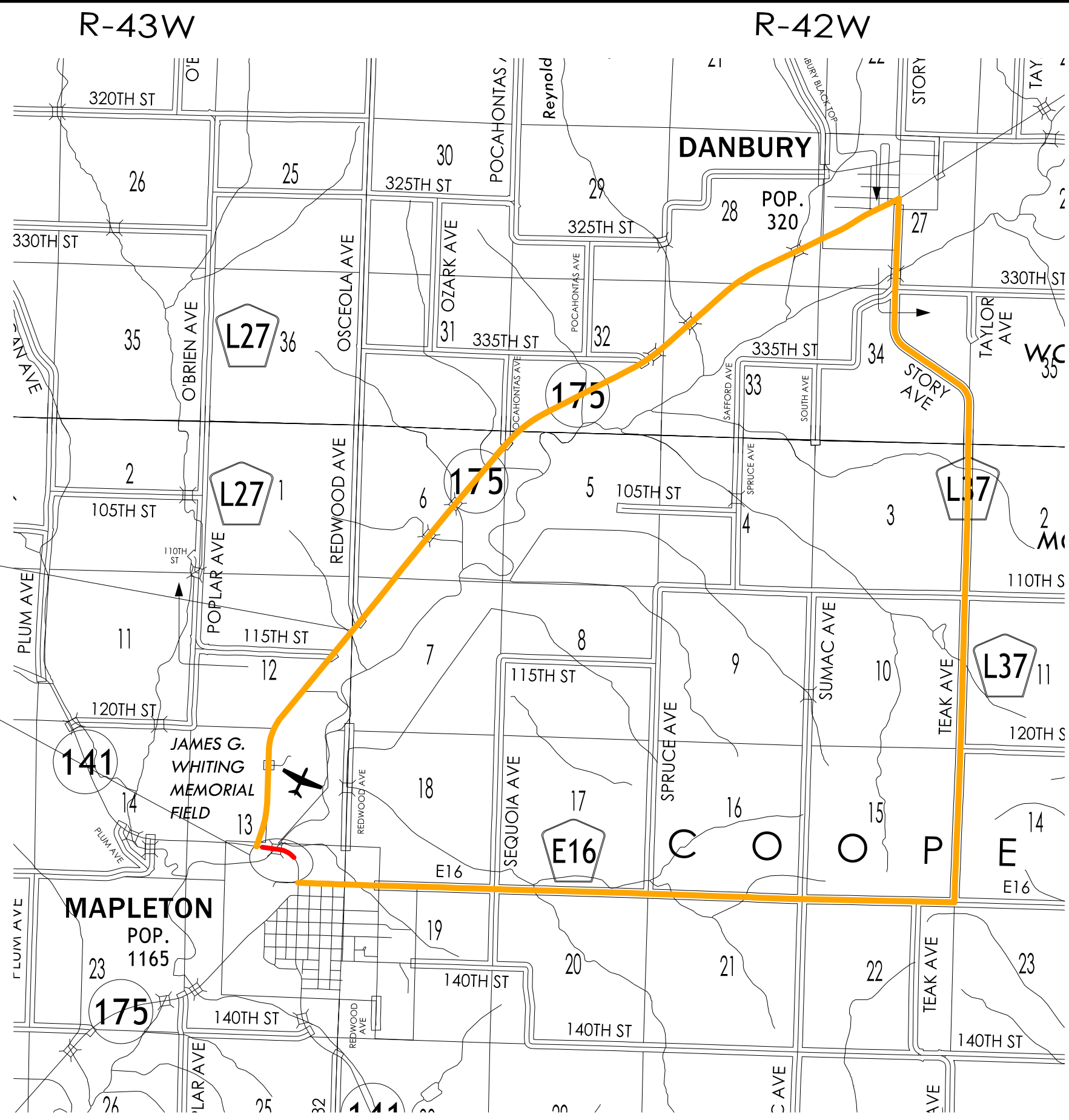
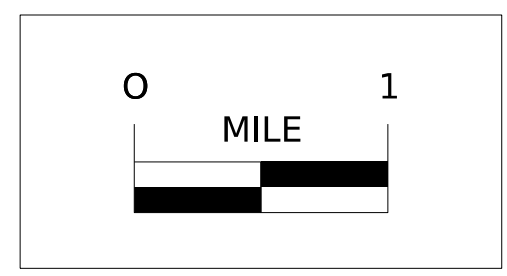
TRAFFIC CONTROL PLAN

Traffic on IA 141 and IA 175 will be maintained by an offsite detour.



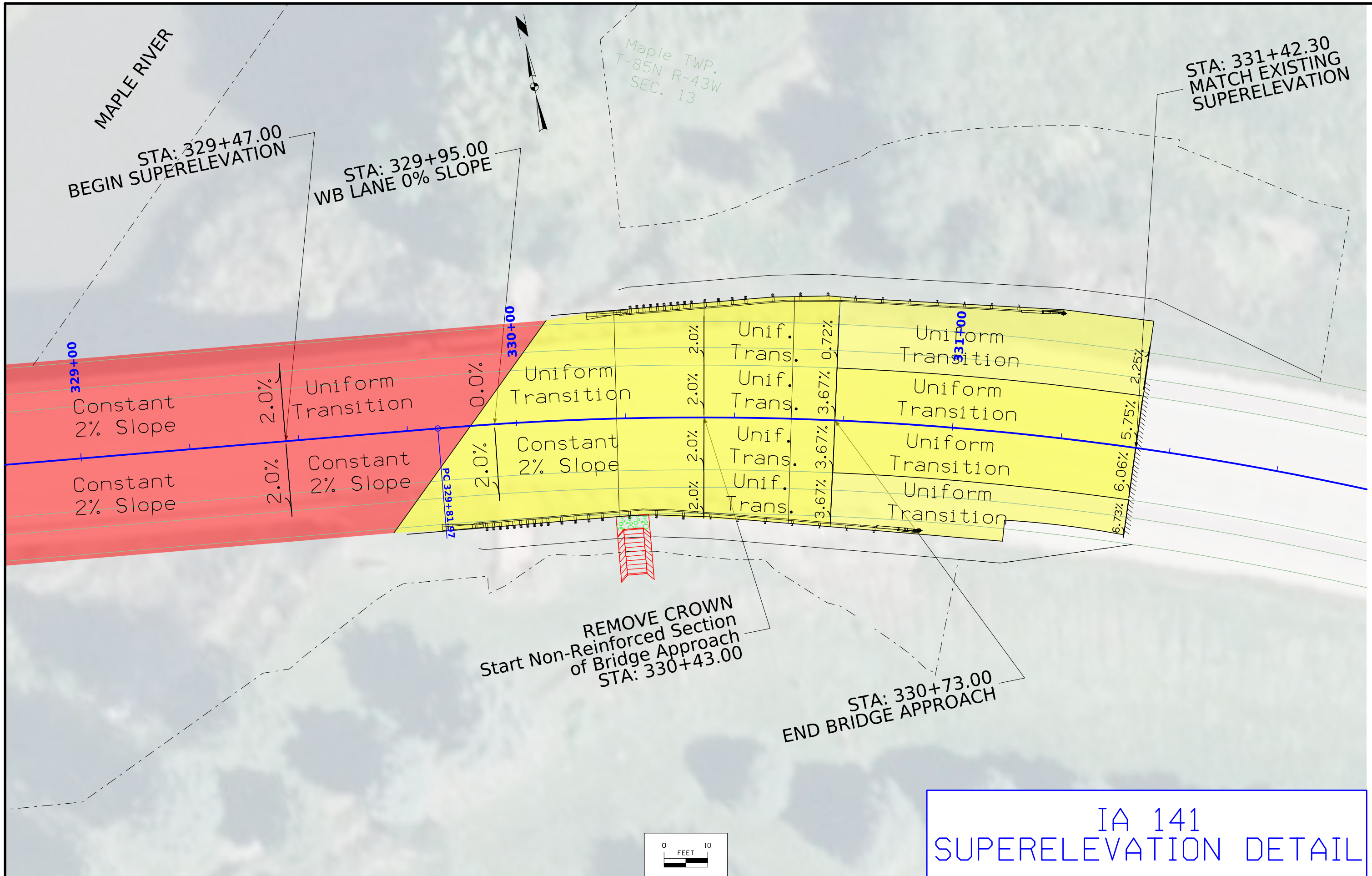
DETOUR
FULL OUT OF
DISTANCE TRAVEL
14.9 MILES

PROJECT LOCATION
FHWA # 36750
IA 141 REF LOC 24.5



Woodbury
County
T-86N

Monona County
T-85N



Notes:

1. Top of bridge deck at centerline roadway is 0.03' below the profile grade to account for parabolic crown for bridge deck areas that are in normal crown, but not within the superelevation transition. See [LRFD BDM 1.7.1].
2. 2' thick layer of Class E revetment stone on the berm slopes is embedded and underlain with engineering fabric.
3. On the bridge berm under the bridge and to a distance 3' from the bridge deck on each side, place 9 inch thick layer of erosion stone underlain with engineering fabric from top of Class E revetment elevation to front face of abutment.



RIDB: MapleR_17.70
Drainage Area = 644 Sq. Mi.
Stream Slope (HGL) = 3.2 ft./Mi.
Avg. Low Water Stage = 1091.9
Operational Low Beam = 1116.2
Channel Low Beam = 1117.4

Q₂₅ = 19,400 cfs
Stage = 1110.0

Q₅₀ = 22,800 cfs
Stage = 1111.3
Operational Freeboard = 4.9 ft.
Avg. Bridge Velocity = 6.8 fps

Q₁₀₀ = 26,000 cfs (Design Event)
 Stage = 1112.2
 Operational Freeboard = 4.0 ft.
 Backwater = 0.5 ft.
 Avg. Bridge Velocity = 7.3 fps

Q₂₀₀ = 30,500 cfs
Stage = 1113.5
Calculated Design Scour = 1074.6

Q₅₀₀ = 33,700 cfs
Stage = 1114.4
Channel Freeboard = 3.0 ft.
Avg. Bridge Velocity = 8.3 fps
Calculated Check Scour = 1074.5

Roadway Overtop Elev. 1111.5
Sta. 307+25

Location

IA 141 over Maple River
In City of Mapleton
T-85N R-43W
Section 13
Maple Township
Monona County
FHWA No. 36751
Bridge Maint. No. 6724.75141
Latitude 42.171464°
Longitude -95.796152°

Preliminary

Design For 40 Degree (L.A.)

339'-0" x 44'-0" Pretensioned,
Prestressed Concrete Beam Bridge

91'-0" End Spans 157'-0" Interior Span

Situation Plan

STA. 328+20.00 (IA 141) Turn-in Date: July 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0128 Design Sheet No. 1 of 3 FHWA No. 36751

Design Sheet No. 1 of 3

TITWA NO. 30751



1. This design is for the replacement of the existing 300' x 30' Continuous Welded Girder Bridge (Monona Design 366, FHWA No. 36750, Maintenance No. 6724.75141)
2. Work under this design shall include removal of west abutment and pier remnants (design no. 426 Monona) to elevations shown.



Traffic Estimate

2028 AADT	3300 V.P.D.
2048 AADT	3500 V.P.D.
20?? DHV	??? V.P.H.
TRUCKS	11 %
Total	
Design ESALs	???

Proposed Profile Grade IA 141

g1=+0.8600% g2=+1.6817% g3=-1.2300% g4=-0.7039%

VPI Sta. = 325+67.000	VPI Sta. = 327+93.430	VPI Sta. = 330+65.000
VPI Elev. = 1121.692	VPI Elev. = 1125.500	VPI Elev. = 1122.160
VC = 150'	VC = 300'	VC = 120'

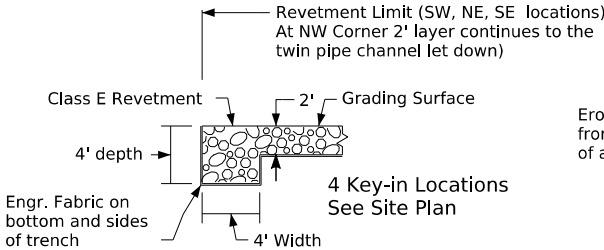
Situation Plan

FILE NO. 32709	ENGLISH	DESIGN TEAM AAA\BBB\CCC	Monona COUNTY	PROJECT NUMBER BRF-141-2(067)--38-67	SHEET NUMBER V.1
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Control Point: 671750295 Northing 7300921.48, Easting 16482647.37, Elev. 1115.19, CP Set Feno monument in east edge old IA Hwy 175 grade approx. 135 ft from CL current IA Hwy 175 along CL of a Gravel Ent

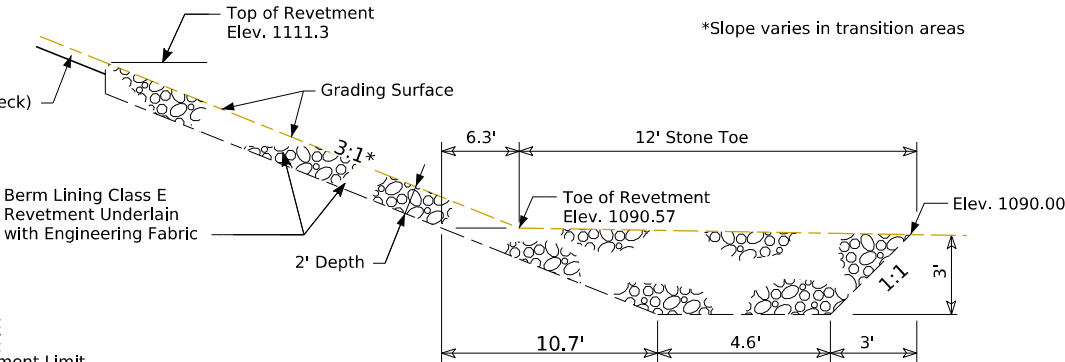
Berm Slope Location Table						
Points	West Abutment			East Abutment		
	Station	Offset	Elev.	Station	Offset	Elev.
A1	327+72.67	26.58' Lt.	1090.57	329+10.18	26.58' Lt.	1090.57
A2	327+28.06	26.58' Rt.	1090.57	328+65.57	26.58' Rt.	1090.57
A3	326+80.33	83.46' Rt.	1090.57	329+58.64	84.33' Lt.	1090.57
B1	326+78.84	26.58' Lt.	1114.53	330+05.07	26.97' Lt.	1115.02
B2	326+34.23	26.58' Rt.	1114.53	329+61.32	26.58' Rt.	1115.02
W1	326+49.46	26.58' Lt.	1122.49	330+25.78	27.97' Lt.	1122.80
W2	326+12.54	26.58' Rt.	1121.89	329+90.87	26.53' Rt.	1122.48

Berm slope elevations reflect the grading surface.

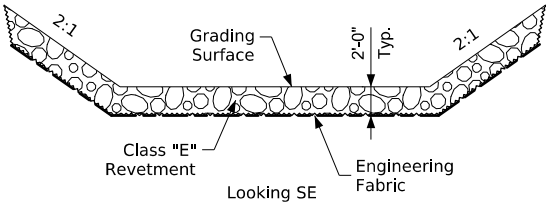


Typical Section Thru Key-in Trench

Erosion Stone Slope Protection from top of revetment to front face of abutment (extends 3' beyond bridge deck)



Section Thru Embedded Revetment Berm



Typical Channel Protection for outlet of Twin 48" RCP's

Estimated Berm Armoring Quantities

Location	Revetment Class E (Ton)	Erosion Stone (Ton)	Engineering Fabric (SY)	CL. 10 Channel Excavation (CY)
Berm Lining - West Abutment	1703.8	41.7	1923.7	1162.0
Stone Toe - West Abutment	431.8	0.0	374.1	287.9
Berm Lining - East Abutment	1966.7	45.5	2176.8	1339.6
Stone Toe - East Abutment	538.0	0.0	466.2	358.6
Totals	4640.3	87.2	4940.8	3148.1

Excavation quantity calculated from grading surface. Excavation quantity is for embedded revetment core out only, and does not include excavation to the grading surface. Excavation quantity to the grading surface is determined by Road Design and included in the Road Plans.

Hydraulic Design

LICENSED PROFESSIONAL ENGINEER

Patricia Schwarz

13170

IOWA

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

Signature

Patricia G. Schwarz

Date

7-9-25

Printed or Typed Name

Patricia G. Schwarz

My license renewal date is December 31,

2026

Pages or sheets covered by this seal:

Situation Plan, Situation Plan - Site, Situation Plan - Misc.

Preliminary

Utilities Note:

Utilities shown on this sheet are for information only. See Road Design sheets for utility information.

General Utility Symbols:

E - Electric Line

G - Gas Line

SAN. - Sanitary Sewer

T - Telephone Line

W - Water Line

FO - Fiber Optic Line

GHP - Gas High Pressure

ST S - Storm Sewer

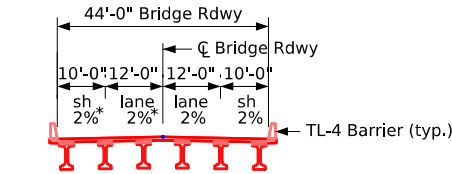
TV - TV

Power Poles

Site Plan

FILE NO. 32709	ENGLISH	DESIGN TEAM AAA\BBB\CCC	Monona COUNTY	PROJECT NUMBER BRF-141-2(067)--38-67	SHEET NUMBER V.2
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Control Point: 671750295 Northing 7300921.48, Easting 16482647.37, Elev. 1115.19, CP Set Feno monument in east edge old IA Hwy 175 grade approx. 135 ft from CL current IA Hwy 175 along CL of a Gravel Ent



* Left shoulder and lane cross slopes vary in areas of superelevation transition

Typical Bridge Section

Curve Data

PI Sta. 336+21.903
Δ = 83°33'16.34" (RT)
D = 7.999
T = 639.935
L = 1044.582
E = 244.222'
R = 716.300
PC Sta. 329+81.968
PT Sta. 340+26.549

Project Superelevation Data:
On and near the bridge-

329+46.75	begin superelevation transition
329+94.75	adverse crown removed (0% slope Left of C)
330+42.75	crown removed

- TSL Designer Notes (To be removed by the final design engineer):
1. The bridge layout is proposed to be straight along the extended tangent, even though the east end of the bridge is slightly into the horizontal curve.
 2. BTE Beams are proposed. BSB approval for 40 °skew greater than 30° has been received. All of the substructure elements are parallel to each other. To achieve a parallel east abutment, the skew to the roadway alignment is set to 39.4001 degrees in the OBM model.
 3. Integral abutments and T-Piers are proposed. T-Piers were modeled hydraulically with up to 5' width.
 4. There appear to be utilities hanging from the existing bridge, and there may potentially be need for accommodation on the proposed bridge. Coordinate with District 3.
 5. Twin 48-inch diamater pipes with flap gates and flume are located north of the bridge (west of river). (UAC)
 6. A 36-inch CMP with flap gate is located south of bridge (east of river). (UAC)
 7. The site is near to an airplane runway. There may be restrictions or requirements. Refer to correspondence dated Oct. 2024 from Tim McClung, Aviation Director, Modal Transportation Bureau, stored in the project directory BRPrelim Correspondence subfolder for more information.
 8. TL-4 barrier rail proposed.
 9. The superelevation transition was coordinated with Road Design to provide improve surface water drainage for areas with deck slope gradient below 2% on the bridge. Deck drainage shall be evaluated during final design, and if there are any recommendation relative to curbs or drains at the end of the bridge they should be provided to the Road Designers.
 10. Aesthetics are not anticipated.
 11. District preliminary recommendation is for a utility conduit within each barrier rail.
 12. Non-standard wing extensions (+4') are proposed on all 4 corners of the bridge.
 13. An Iowa DNR Flood Plain Permit is required. Preliminary Design will submit the application and place the permit in the PW Regulatory_Permits subdirectory folder upon receipt.
 14. Generative Component abutments were modeled, however, they need editing and refinement.
 15. Density used for berm armoring quantity calculations, and for the final design bid item reference notes:
 - 1.5T/CY was utilized for Class E Revetment
 - 1.6T/CY was utilized for Erosion Stone
 16. Superelevation Transition information was coordinated at the time of B01 with Road Design. The Curve Data shown on the TSL from the D sheet does not match the superelevation used or match and PV-301. The final designer may want to check with the Design Bureau on the appropriate curve data to show on the TSL. A table of desired superelevation on the bridge is provided on the TSL. A modified method was used to improve deck drainage on the bridge. The 3D bridge model deck template does not include the parabolic crown in the normal crown sections.

Preliminary

Design For 40 Degree (L.A.)

339'-0" x 44'-0" Pretensioned,
Prestressed Concrete Beam Bridge

91'-0" End Spans157'-0" Interior Span

Situation Plan-Misc.

STA. 328+20.00 (IA 141)Turn-in Date: July 2025

Monona County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0128Design Sheet No. 3 of 3FHWA No. 36751

CROSS SECTION VIEW COLOR LEGEND			
Design Color No.	Feature	Design Color No.	Feature
Aggregate		Grading	
(64)	Choke Stone	(8)	Behind Curb Cut
(42)	Engineering Fabric	(6)	Granular
(8)	Flooded Backfill	(13)	Granular Back Fill
(92)	Macadam Stone	(48)	Rock Undercut
(20)	Modified	(8)	Shoulder Earth Fill
(12)	Plowing Shaping	(2)	Side Slopes
(14)	Porous Backfill	(226)	Side Slopes Dressing
(8)	Revetment Class A	Substrata	
(6)	Revetment Class B	(128)	Boulder
(62)	Revetment Class C	(209)	Boulder Removed
(188)	Revetment Class D	(48)	Broken Weathered
(28)	Revetment Class E	(210)	Broken Weathered Removed
(12)	Shoulder Special Backfill	(3)	Core Out
(12)	Special Backfill	(115)	Core Out Remove Only
(20)	Subbase	(195)	Core Out Remove and Replace
(20)	Subbase Lower	(203)	Existing Pavement
(20)	Subbase Upper	(184)	Existing Pavement Remove Only
(118)	Subgrade Treatment	(200)	Existing Pavement Remove and Replace
Asphalt		(6)	Loam
(207)	HMA Base Course	(211)	Loam Removed
(207)	HMA Interim Course	(80)	Rock
(207)	HMA Surface Course	(212)	Rock Removed
Bridge		(4)	Select Sand
(0)	Bridge	(214)	Select Sand Removed
Concrete		(3)	Shale
(0)	Barrier Concrete	(215)	Shale Removed
(0)	Barrier Concrete Footing	(10)	Topsoil
(0)	Curb Gutter	(2)	Topsoil Remove Only
(48)	Flowable Mortar	(4)	Topsoil Remove and Replace
(0)	Median Concrete	Unsuitable / Waste	
(0)	PCC Pavement	(3)	Unsuitable Type A
(0)	Sidewalk	(216)	Unsuitable Type A Removed
Existing		(13)	Unsuitable Type B
(0)	Existing Pavement	(217)	Unsuitable Type B Removed
Shoulder		(11)	Unsuitable Type C
(209)	Shoulder HMA	(218)	Unsuitable Type C Removed
(0)	Shoulder PCC	(3)	Waste
(6)	Shoulder Granular	(219)	Waste Removed
Structural			
(112)	Noise Wall		
(112)	Noise Wall Footing		
(112)	Retaining Wall Back		
(112)	Retaining Wall Back Excavate		
(112)	Retaining Wall Face		
(112)	Retaining Wall Front Excavate		
(112)	Retaining Wall Front Footing		
(112)	Retaining Wall MSE Gutter		
(112)	Retaining Wall Reinforced Earth		

NOTES:

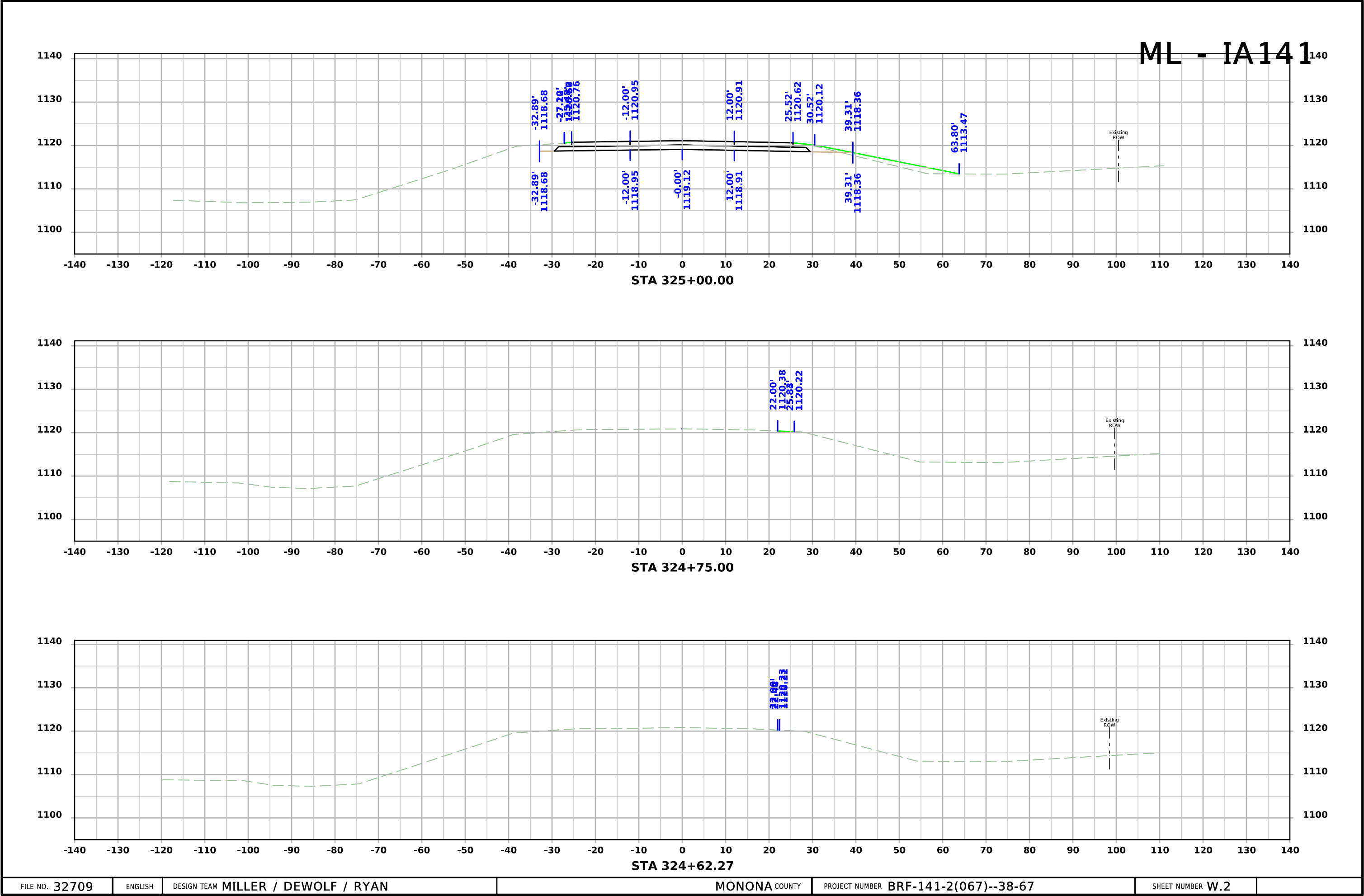
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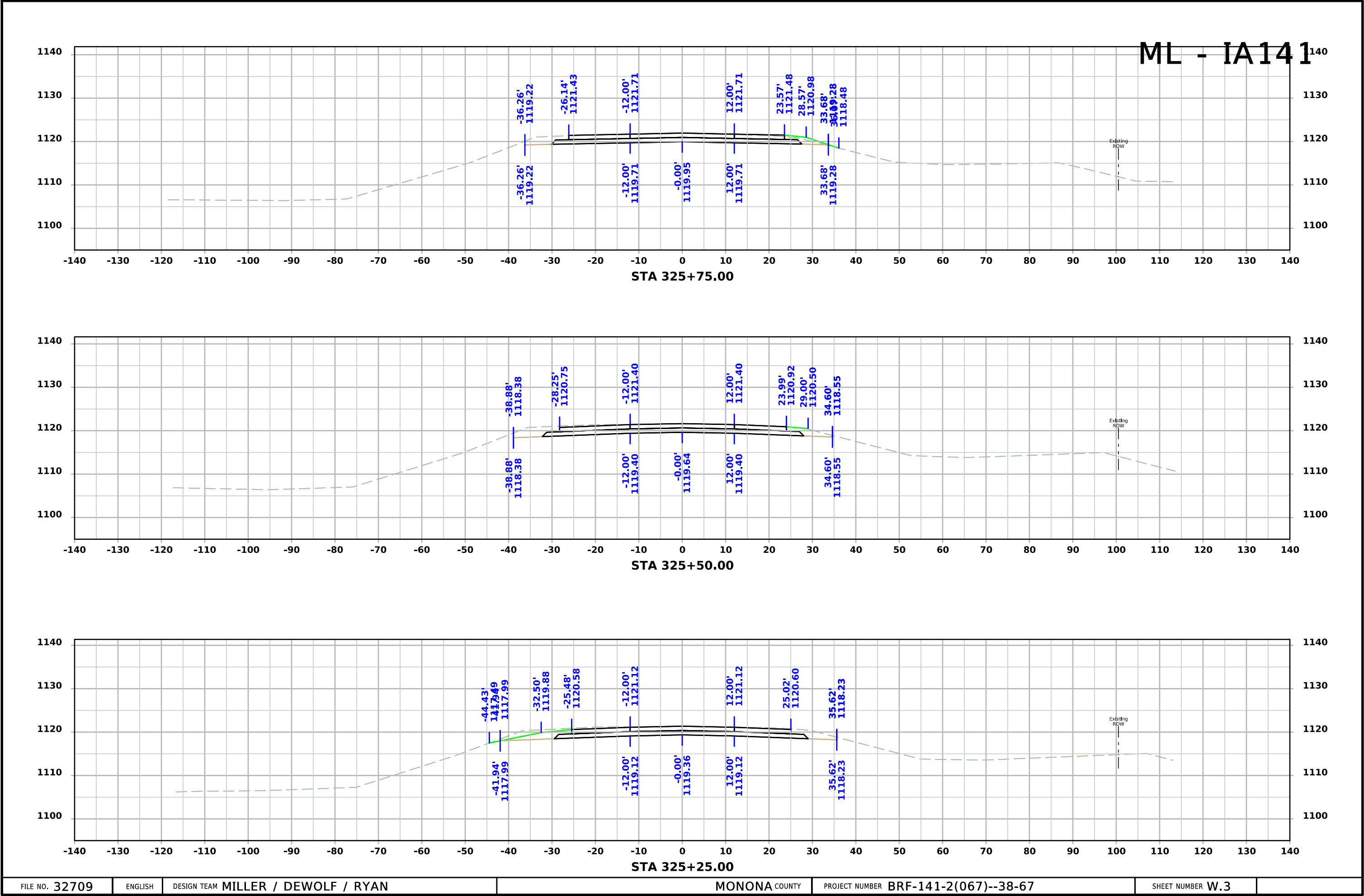
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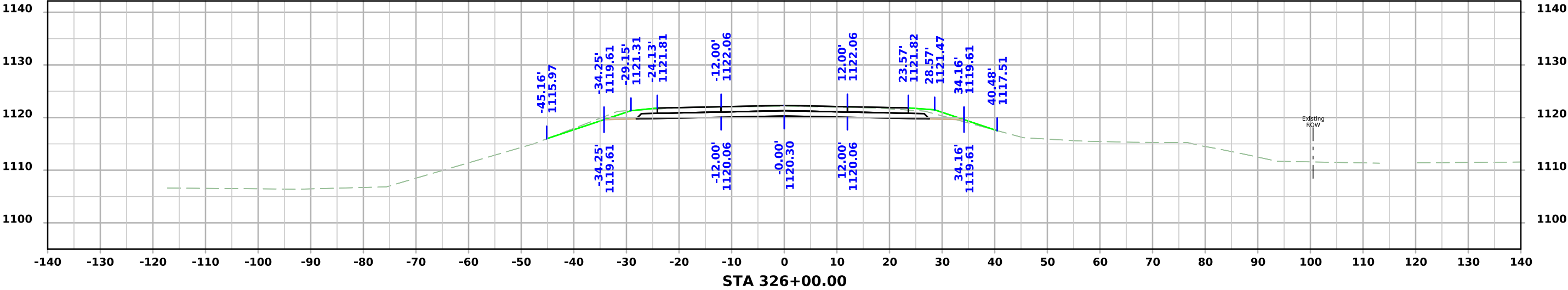
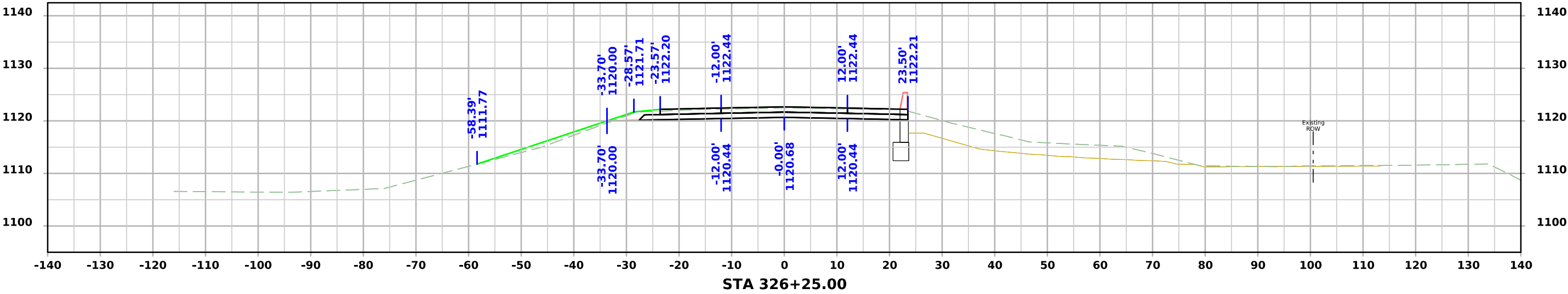
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LEGEND AND INFORMATION SHEET

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

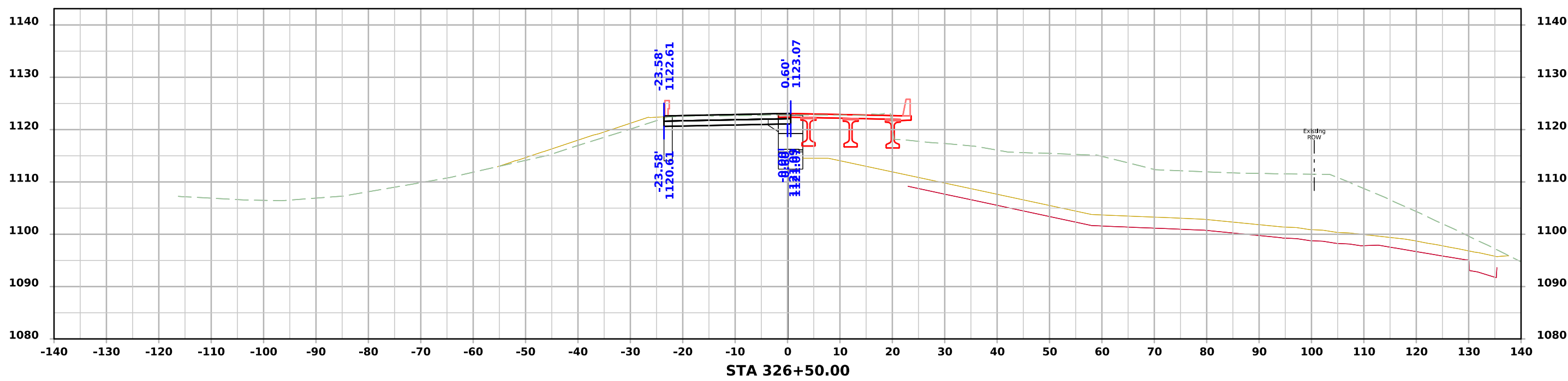
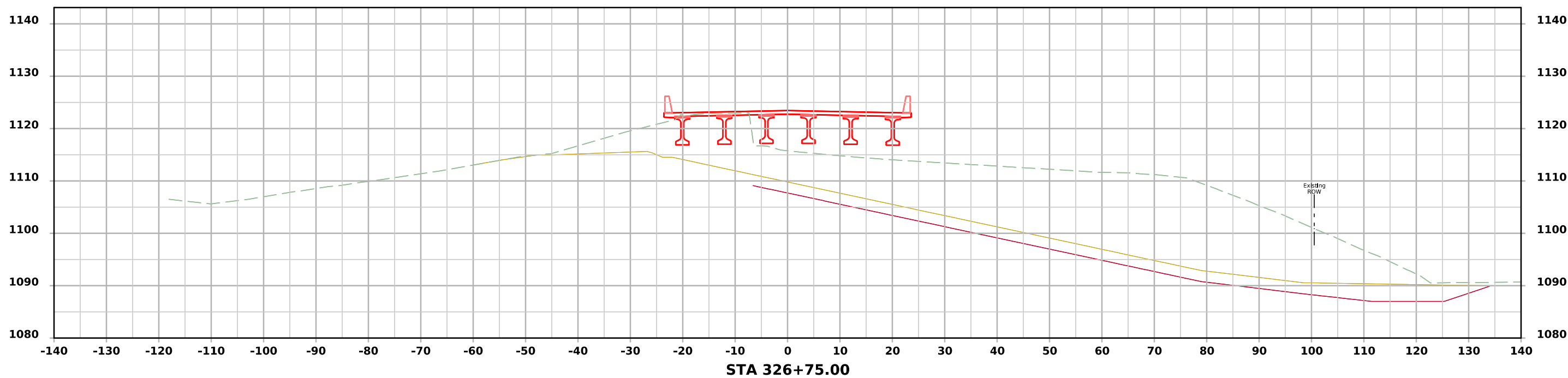




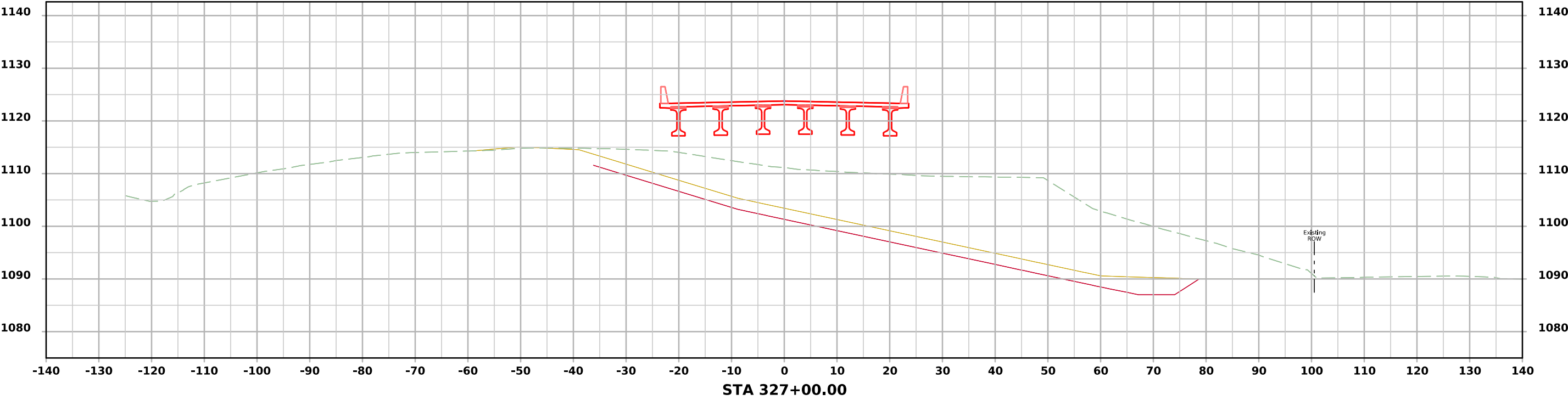
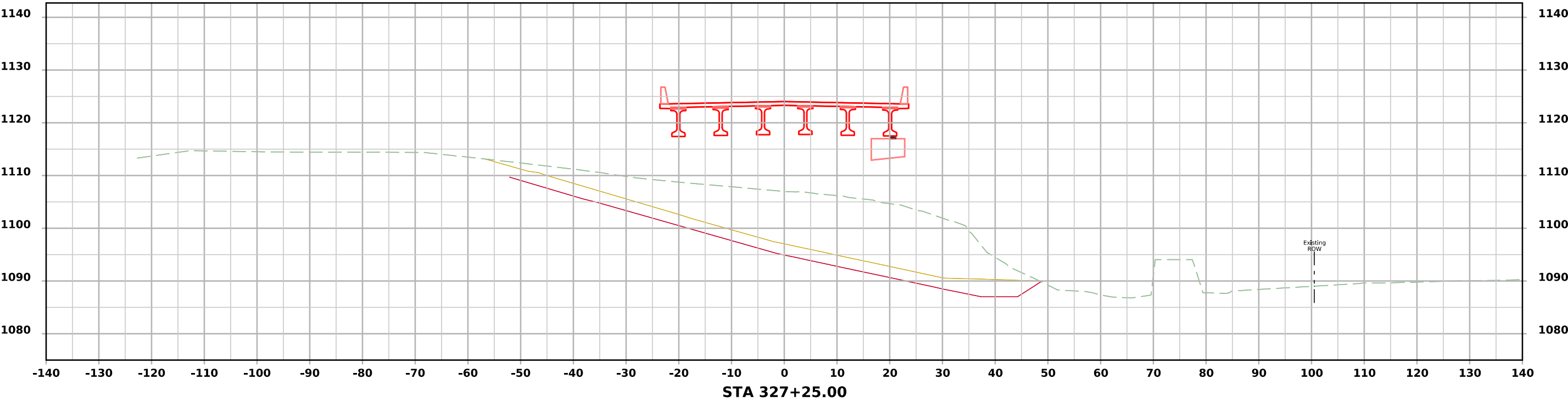
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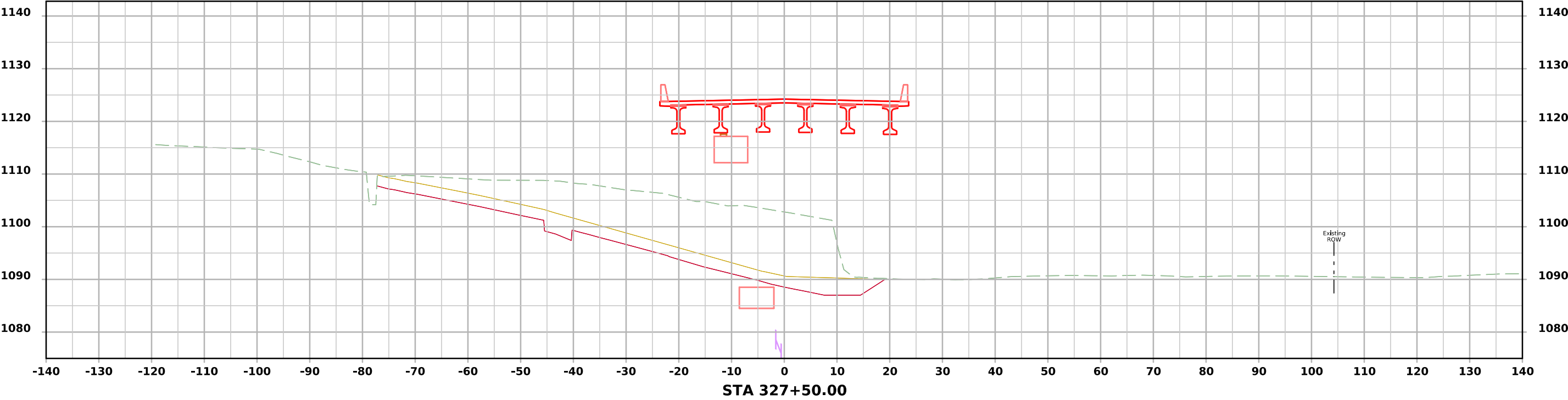
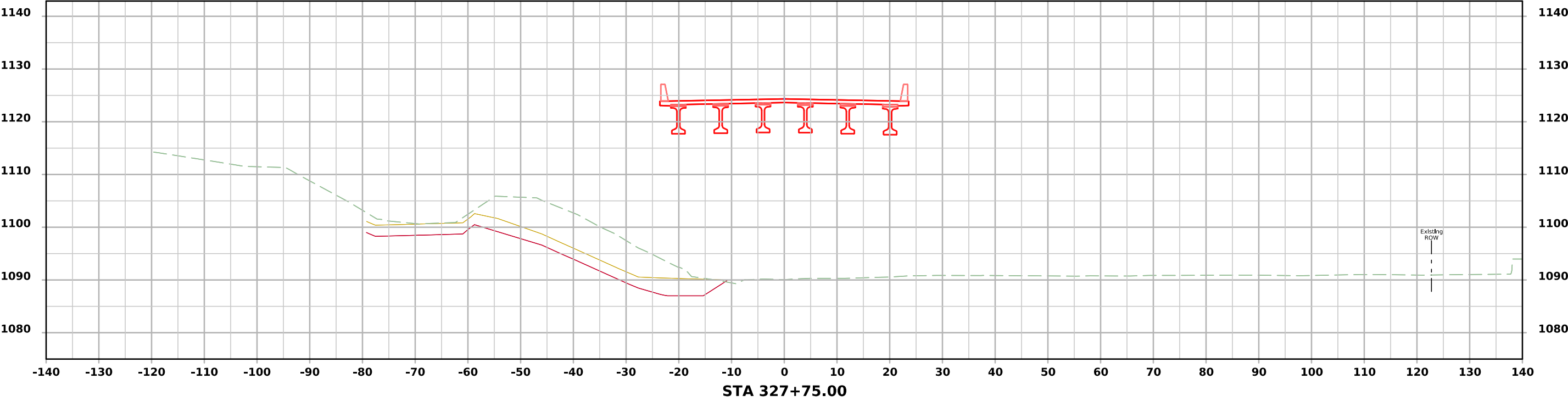
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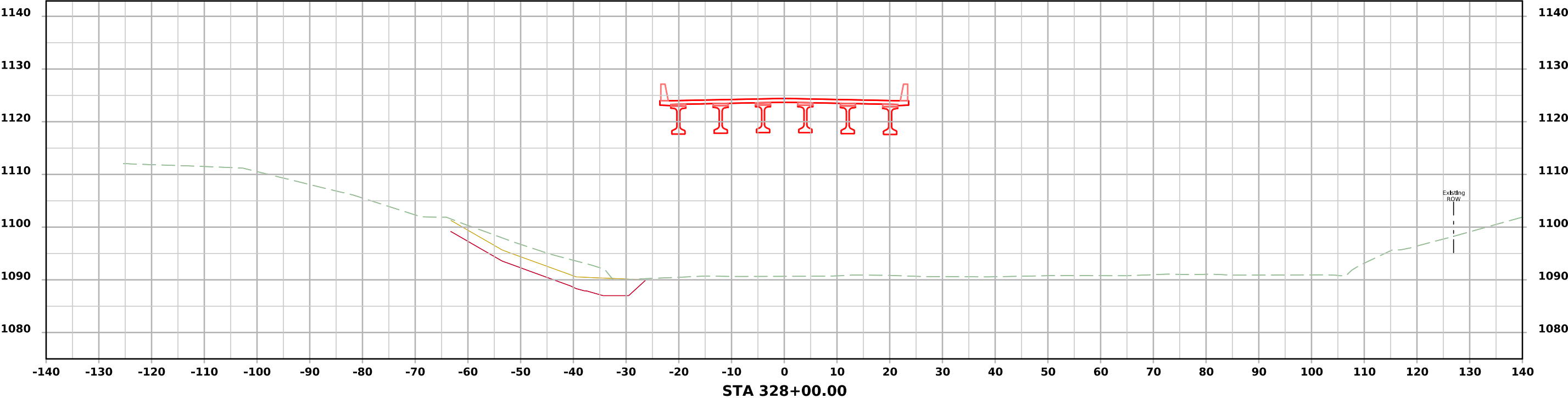
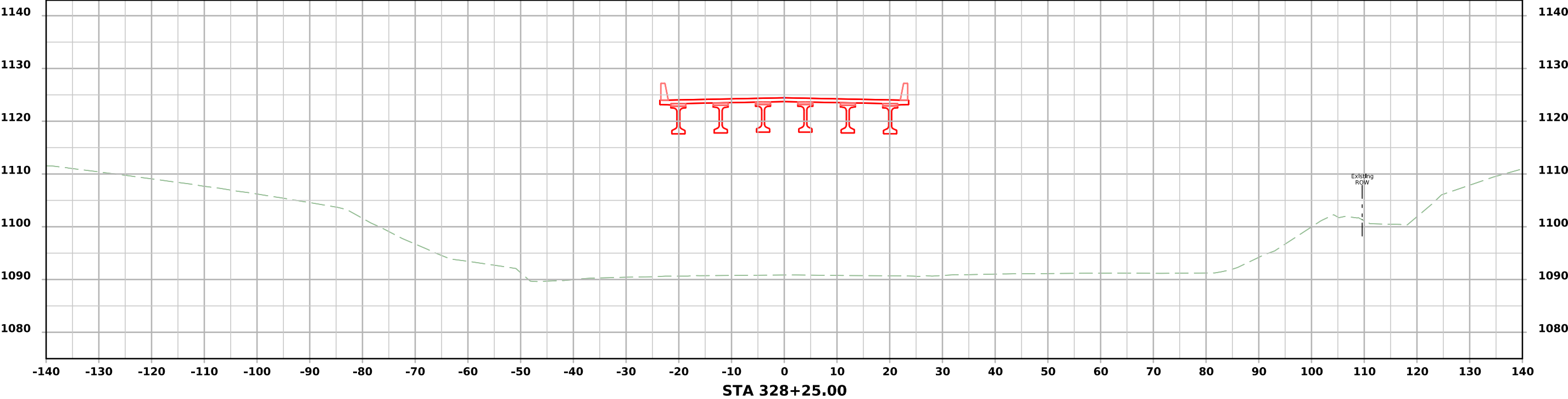
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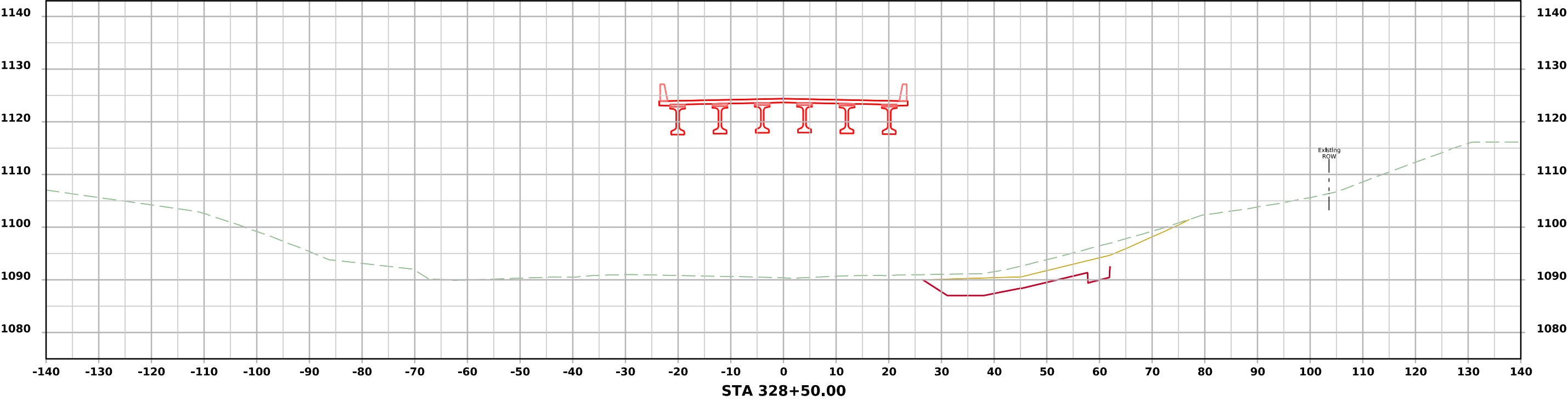
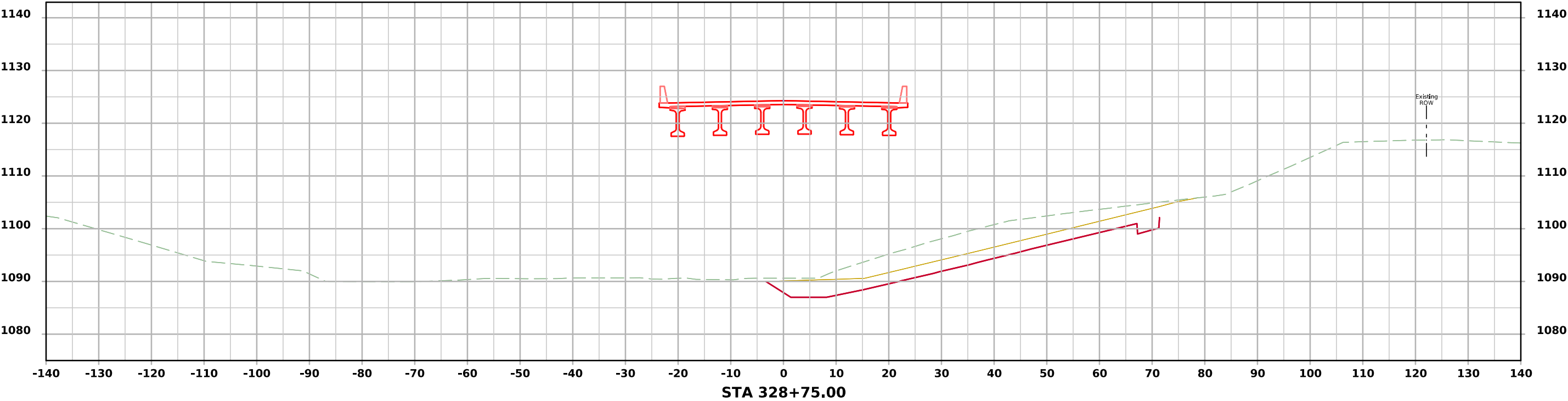
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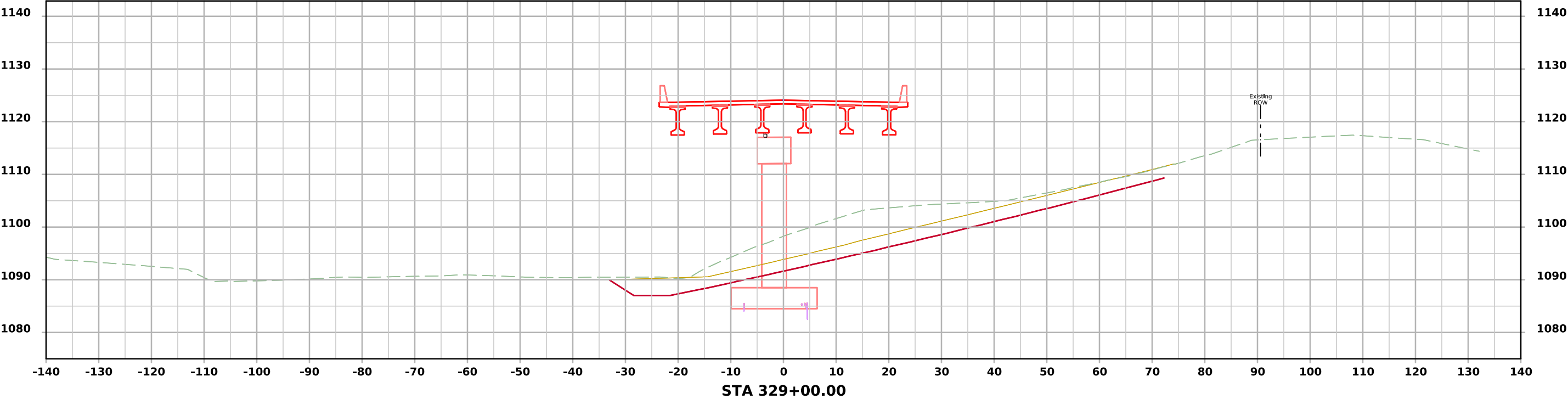
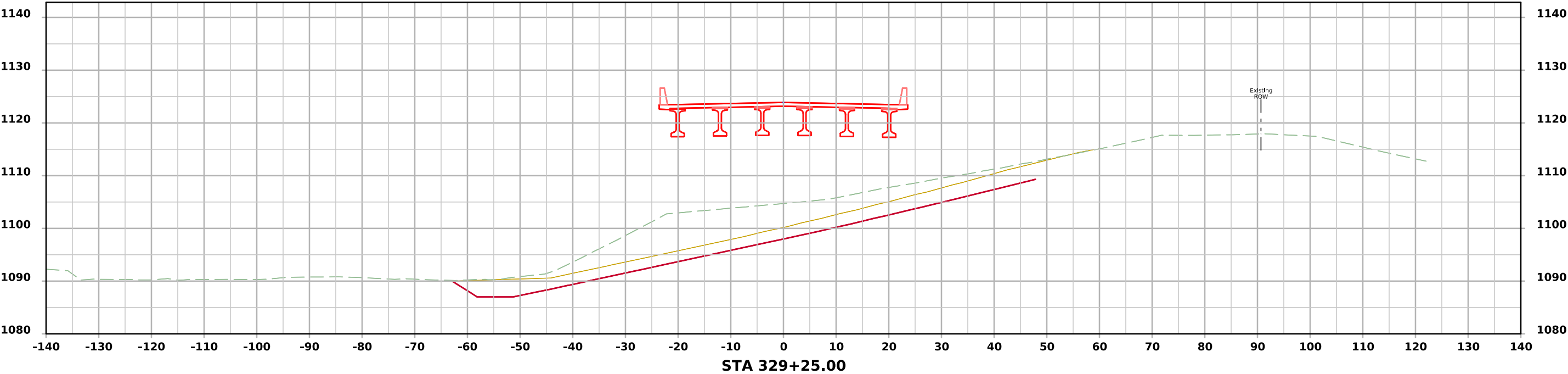
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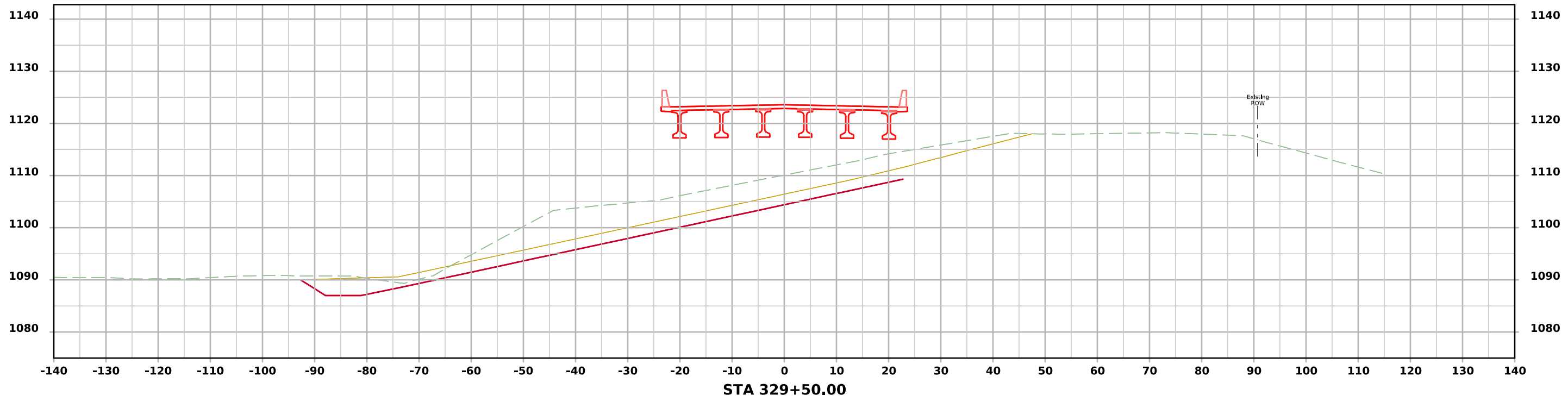
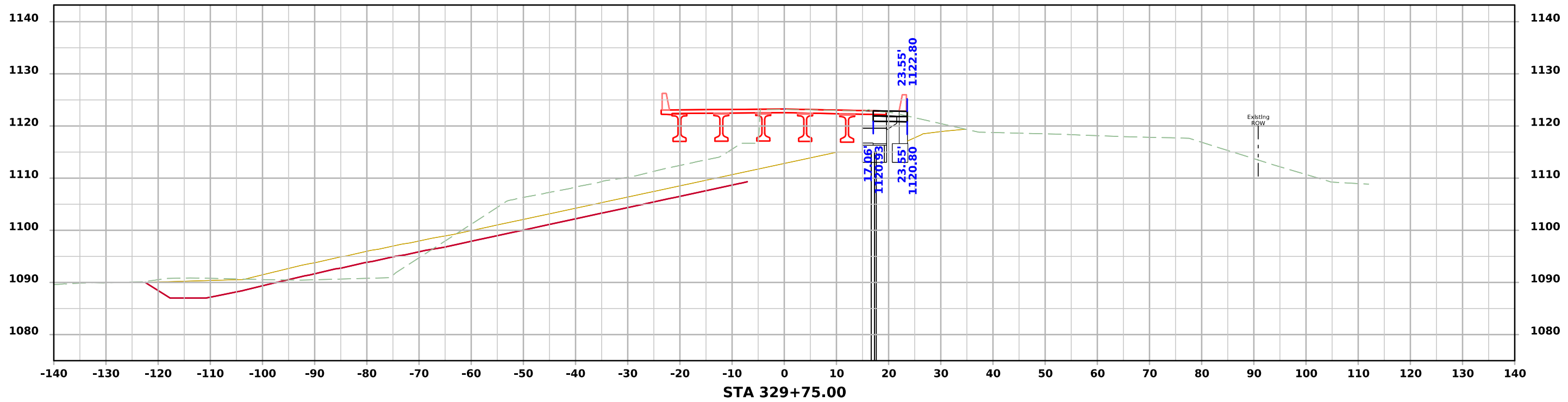
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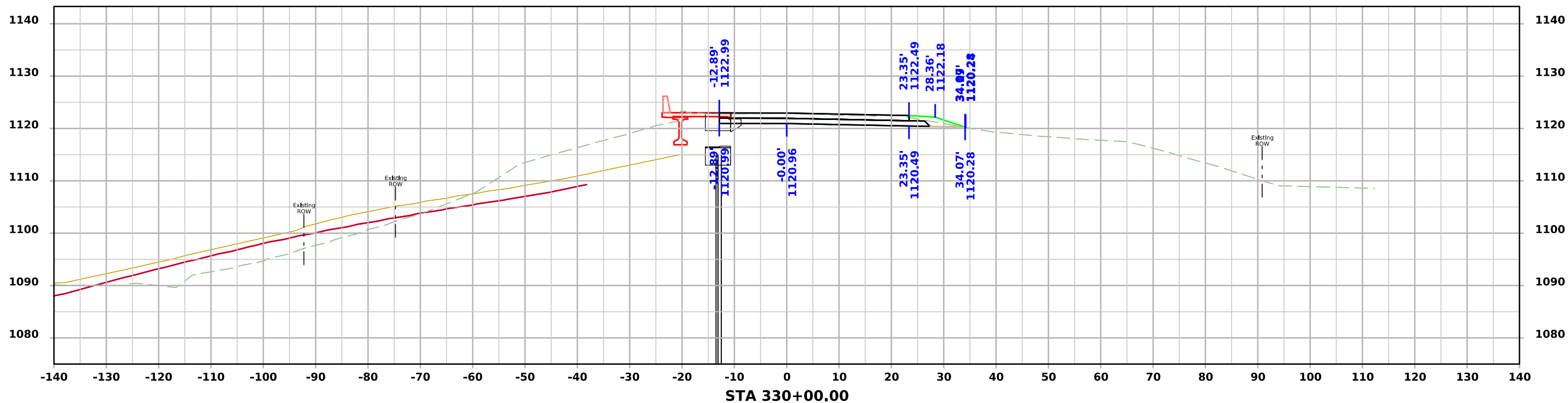
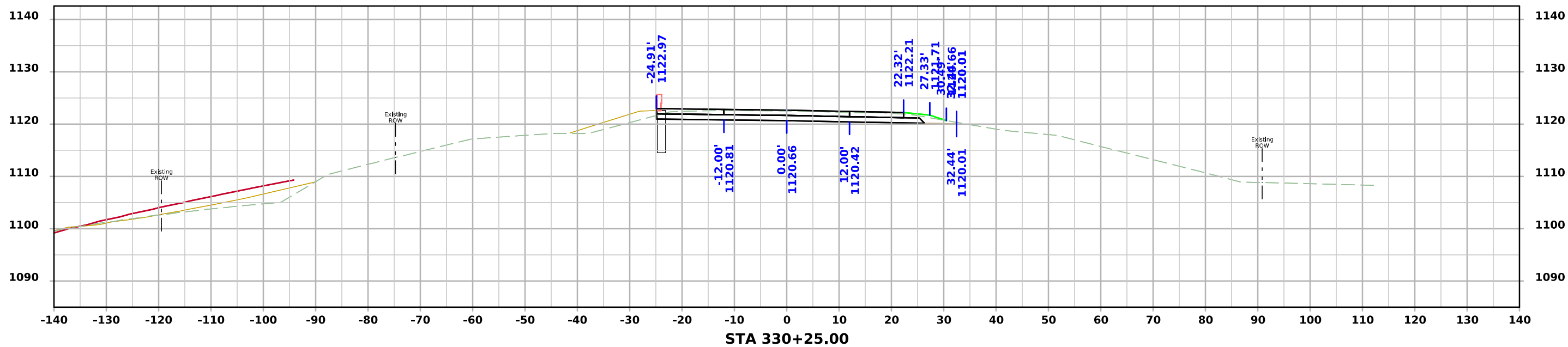
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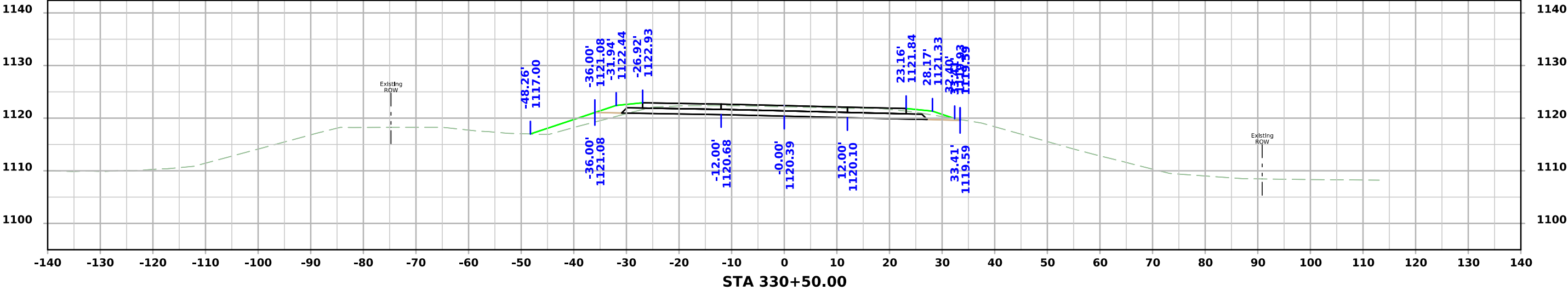
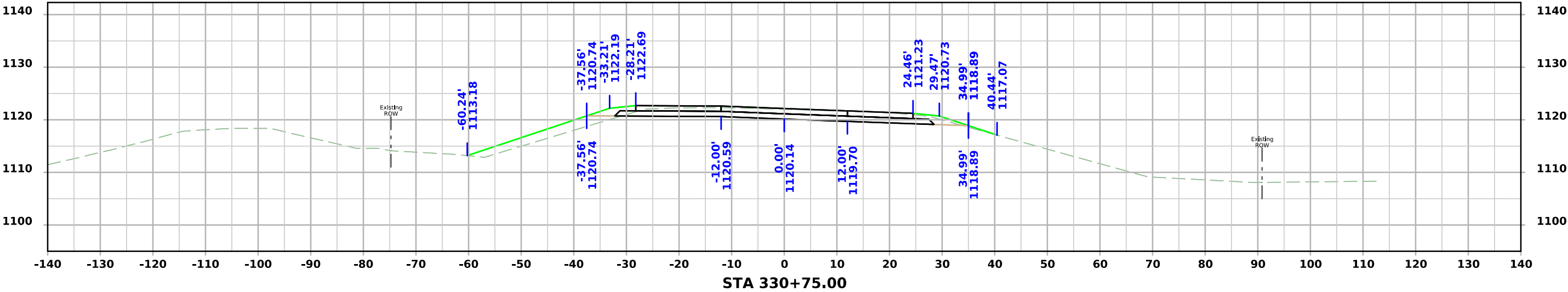
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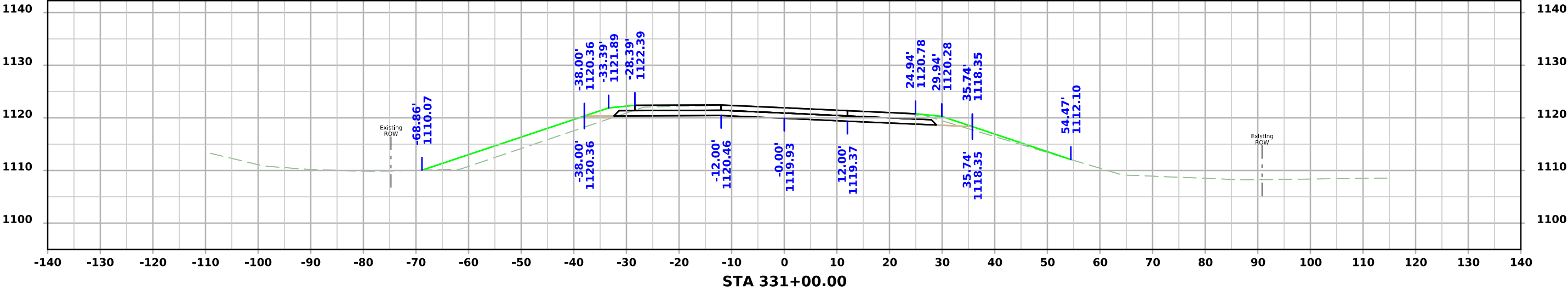
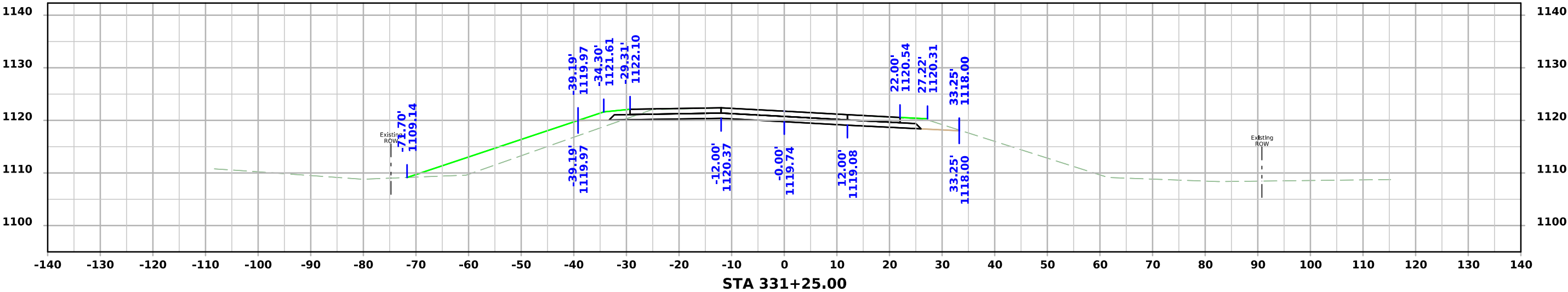
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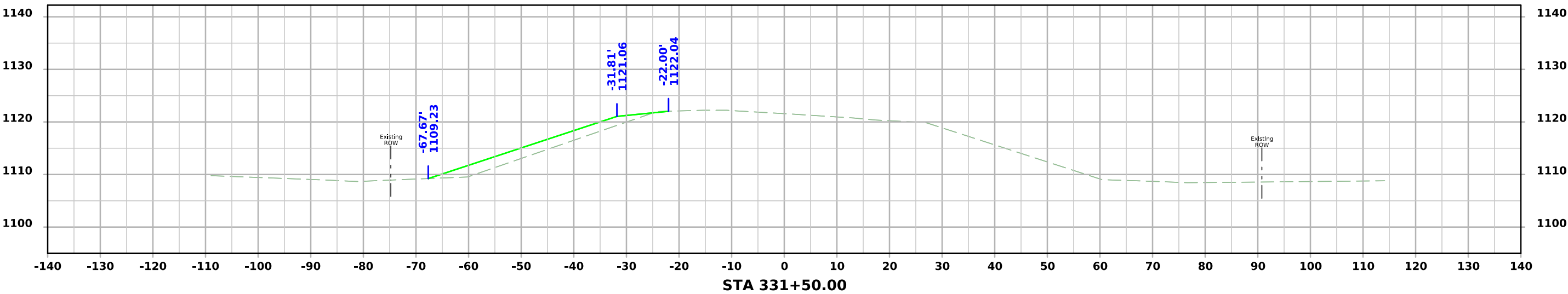
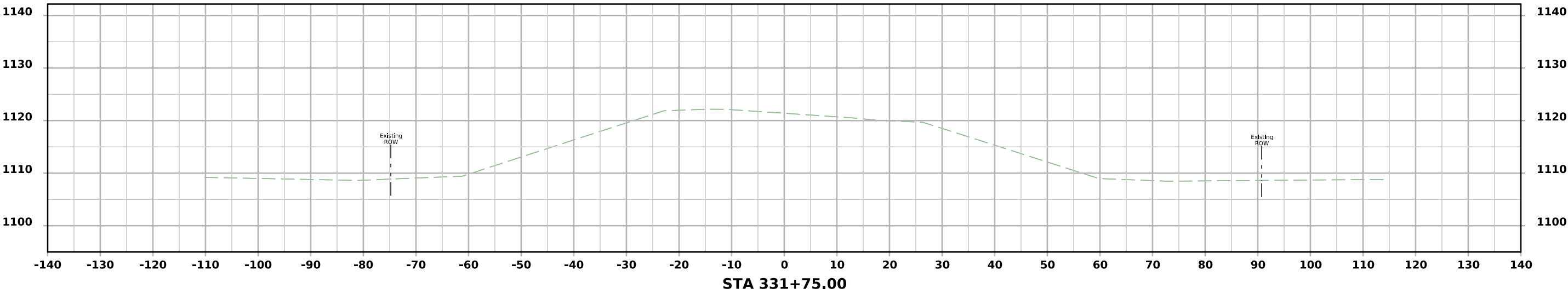
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