LETTING DATE
December 19, 2028

BRIDGE REPLACEMENT
BRF-006-1(135)--38-78

POTTAWATTAMIE COUNTY

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
POTTAWATTAMIE COUNTY
BRIDGE REPLACEMENT

US 6
Over Silver Creek
1.0 mi E of Co Rd L66

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

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www.iowaonecall.com
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REVISIONS

TOTAL	..
PROJECT IDENTIFICATION NUMBER	
24-78-006-030	
PROJECT NUMBER	
BRF-006-1(135)--38-78	
R.O.W. PROJECT NUMBER	

Index of Sheets

* Color Plan Sheets

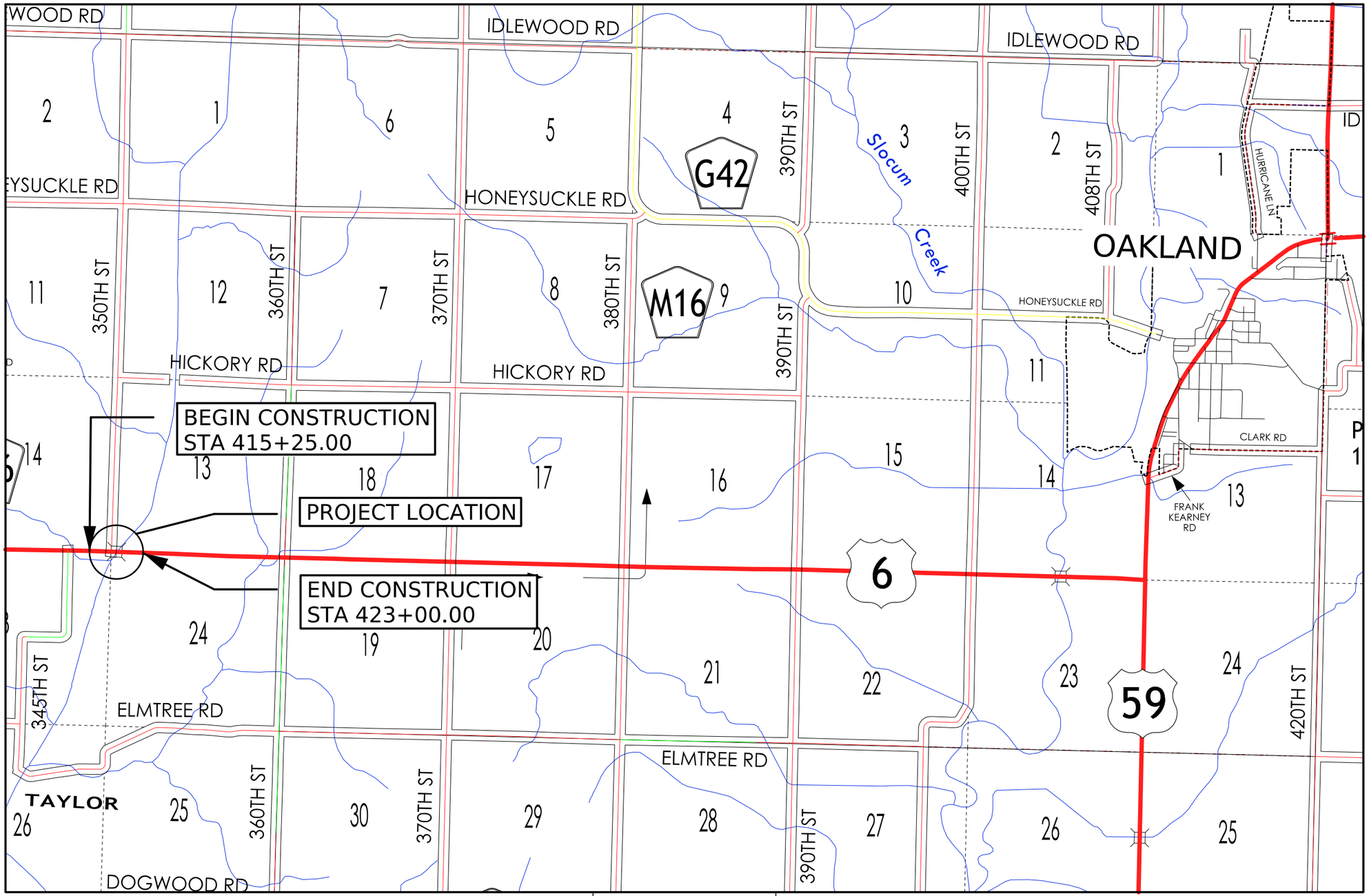
INDEX OF SEALS

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

PRELIMINARY PLANS

Subject to change by final design.

D2 PLAN - Date: September 17, 2025



FILE NO.	ENGLISH	DESIGN TEAM **FOTH**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER **BRF-006-1(135)--38-78**	SHEET NUMBER **A.2**

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FIELD REVIEW NOTES:

FIELD REVIEW NOTES:

IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE:	District 4	**DATE:**	June 10, 2025
ATTENTION:	Scott Schram	**PROJECT:**	Pottawattamie County BRF-006-1(135)--38-78
FROM:	J. Scott Ingersoll/Foth IE		Project Code: 24-78-006-030
BUREAU:	Design		
SUBJECT:	Project Concept Statement; (Final, D0)		

This project involves the replacement of the US 6 bridge (Maint No. 7821.7S006) over Silver Creek located 1.0 mile east of County Road L66.

A concept review was held on May 9, 2025. Those present included Wes Mayberry from the District 4 Office; Jim Ellis, Christian Kennel, Tom Lovan and Patricia Schwarz from the Bridges and Structures Bureau; Claire Asberry and Nicole Cuva from the Location and Environment Bureau; Luka Arroyo from the Project Management Bureau and Andy Floy, Scott Ingersoll, Dave Overman, Adam Schott, and Tim Sheets from Foth IE.

The two alternatives considered were:

1. Replacement with 269’ x 44’ three span pretensioned prestressed concrete beam bridge utilizing offsite detour **(Estimated cost $3,920,500)**
2. Replacement with 269’ x 46’ three span pretensioned prestressed concrete beam bridge utilizing offsite detour **(Estimated cost $4,004,000)**

Alternative 1 is the preferred alternative. Additional right of way/right of entry will be required. Traffic will be maintained by offsite detour.

A Draft Concept Statement was sent out for review and comment with concerns to be resolved by Monday, June 9, 2025. Comments received during the review period have been considered and resolved.

JSI:ADS
Attach.
cc:

K. D. Nicholson	C. Brakke	J. S. Nelson
M. Nop	J. Ellis	S. Majors
M. A. Swenson	D. Stokes	B. Hofer
W. A. Sorenson	E. C. Wright	K. Brink
C. C. Poole	J. W. Laaser-Webb	S. Anderson
D. E. Sprengeler	N. Cuva	J. Bartholomew
M. Dell	R. Harris	N. Pohlen
B. Bradley	B. Smith	D. Ta
M. Van Dyke	D. Heeren	G. Cagle
D. Blue	S. Cook	B. Hucker
B. Worrel	L. Narigon	A. Buss
W. Mayberry	D. Dorsett	N. Epperson
D. Redmond	O. Lechnowsky	J. Kohl
J. Woodcock	C. Duncan	C. Asberry
D. Newell	C. Schwienebart	A. Swisher
J. Hauber	S. Sersland	M. E. Khoda
K. Olson	A. A. Welch	J. Harris
G. Karssen	B. E. Azeltine	Z. Abrams
M. Todsen	B. Dolan	T. Lovan

FINAL PROJECT CONCEPT STATEMENT

US 6 over Silver Creek

Pottawattamie County
BRF-006-1(135)--38-78
Project Code: 24-78-006-030
Maint. No. 7821.7S006
FHWA No. 43270

Highway Division
Design Bureau

Prepared by Foth Infrastructure and Environment
for the Iowa Department of Transportation

June 10, 2025

I. STUDY AREA

A. Project Description

This project involves the replacement of the US 6 bridge over Silver Creek located 1.0 mile east of County Road L66.

The two alternatives considered were:

1. Replace current structure with a 269' x 44' pretensioned prestessed concrete beam (PPCB) bridge utilizing an offsite detour. The cost estimate for this alternative is **$3,920,500.**
2. Replace current structure with a 269' x 46' pretensioned prestessed concrete beam (PPCB) bridge utilizing an offsite detour. The cost estimate for this alternative is **$4,004,000.**

Alternative 1 is the preferred alternative because the overall project cost is slightly less, there is less bridge deck area to maintain over the life of the bridge, and a standard guardrail is used in place of a permanent crash cushion at the NW bridge corner.

B. Need for Project

This is a 240' x 30' continuous prestressed steel I-beam bridge that was built in 1961. It was overlaid in 1985 and has now reached the end of its service life. The deck has large hollow areas with a few PC patches on the surface and numerous cracks on the underside. The deck has been previously injected with epoxy. The bridge end joints are

in poor condition and leaking resulting in corrosion on the ends of the girders and abutment bearings. Due to the condition of the bridge, a replacement is recommended.

Figure 1: With route n-f, 2024

Figure 2: Right profile n-f, 2024

Figure 3: Against route f-n, 2024

Figure 4: Waterway opening looking upstream, 2024

C. Present Facility

The existing structure is a 240' x 30' prestressed steel I-beam bridge constructed in 1961. US 6 in the project area is 28' wide PCC pavement with 2' wide earthen shoulders and 3:1 foreslopes. See below for pavement history from the Mile Post Book:

M.P. 13.24 to M.P. 27.42

Original Pavement:	7" PCC
Year Constructed:	1930
Coarse Aggregate Source:	Oreapolis #8, Gravel
Project:	FA-310C

Resurfaced (Type A Asphalt):	1952 with 1.5" of surface course over 1.5" of base course
Coarse Aggregate Source:	Alden, C.LST.
Project:	P-1017
Resurfaced (Type A Asphalt):	1966 with 1" of surface course
Coarse Aggregate Source:	Crescent, C.LST.
Project:	FN-6-1(2)--14-78
Resurfaced (Type B Asphalt):	1975 with 1.5" of surface course
Coarse Aggregate Source:	Macendonia, C.LST.
Project:	FN-6-1(34)--21-78
Resurfaced (Recycled Asphalt):	1998 with 2" of surface course over 4" of base course
Coarse Aggregate Source:	Crescent, C.LST.
Project:	STPN-6-1(87)--2J-78
Milled/Resurfaced:	2012, milled 2" and resurfaced with 2" of surface course
Project:	HSIPX-006-1(123)--3L-78

D. Traffic Estimates

The 2029 construction year and 2049 design year average daily traffic estimates are 3,000 ADT with 14.9% trucks and 3,660 ADT with 14.9% trucks, respectively.

E. Sufficiency Ratings

US 6 is classified as a "Primary" route and is a maintenance service level "C" roadway. The Bridge Condition Index for the bridge is 64.9 and the Bridge Condition Rating is "Fair".

F. Access Control

Access rights will not be acquired for this project.

G. Crash History

During the five-year study period from January 1, 2019 through December 31, 2023,

there were 3 crashes, including 1 possible/unknown injury crash and 2 property damage only crashes. The Potential for Crash Reduction (PCR) value for this segment of US 6 (KABCO) is -0.070 crash/mile/year and negligible for severe crashes (KAB). The PCR value for the intersection of US 6 and 350th Street (KABCO) is 0.016 and negligible for severe crashes (KAB).

H. Intersection Sight Distance – 350th Street

The intersection of US 6 and 350th Street is located at the west end of the existing bridge. 350th Street is a local, unpaved granular roadway with an AADT of 50 vehicles/day. Concerns with intersection sight distance at this location were made aware during a field visit to the project site. For vehicles traveling SB on 350th Street and stopped at US 6, the bridge rail obstructs the sight line for vehicles waiting to turn at the intersection. In order to mitigate the intersection sight distance concern, the current concept provides two (2) alternatives that alleviate the issue.

II. PROJECT CONCEPT

A. Feasible Alternatives

Alternative #1 - Replace with new 44' wide PPCB bridge & Shift 350th Street

The existing 240' x 30' continuous prestressed steel I-beam bridge will be replaced with a 269' x 44' PPCB bridge utilizing an offsite detour.

The typical roadway cross section adjacent to the bridge will consist of a 24' wide roadway with 6' paved and 4' granular shoulders. Foreslope grading beyond the shoulders will be comprised of 10:1 for 4' then 6:1 slopes to the clear zone and 3.5:1 slopes to the ditch grade with 3:1 backslopes.

This bridge will be constructed on the existing horizontal alignment. New bridge approaches will be constructed. Additional reconstruction of roadway pavement is necessary beyond the bridge approaches in order to achieve minimum preferred grade and K-values for a 60-mph design speed on the vertical alignment. The existing guardrail will be replaced with new guardrail and the shoulders will be paved beyond the ends of the bridge approaches. Class 10 will be necessary to flatten the existing foreslopes and to construct the new guardrail blisters. Class E revetment will be placed under the bridge for slope protection. New bridge end drains will be constructed on both ends of the bridge.

To mitigate intersection sight distance concerns, 350th Street is shifted approximately 100' west to flatten the sight triangle and free the sight line of any obstructions from

the bridge barrier rail. Standard guardrail layout is installed on the NW corner of the bridge. Reverse curves are implemented to return 350th Street back to its original alignment.

Apply erosion control and rural seeding and fertilizing to all disturbed areas.

Right of way acquisition will be required for this project.

Bridge Items	Estimated Costs
New Bridge	$ 1,928,000
Bridge Removal	176,000
Cofferdam	100,000
Revetment	104,000
Mobilization - 10%	231,000
M & C -20%	508,000
Bridge Costs	**$ 3,047,000**
Roadway Items	
Bridge Approaches	$ 216,500
Removal of Pavement	32,500
PCC Pavement	77,000
Granular Shoulder	2,800
Granular Surfacing on Road, Class A Crushed Stone	10,000
Excavation, Class 10, Roadway & Borrow	30,500
Embankment-In-Place, Contractor Furnished	46,000
Removal of Steel Beam Guardrail	2,600
Steel Beam Guardrail	29,000
Paved Shoulders for Guardrail	50,000
Roadway Culvert, CMP, 42 IN.	8,400
Bridge End Drains	15,000
Removal and Reinstallation of Fence, Field	6,800
Clearing and Grubbing	10,000
Seeding and Fertilizing	3,800
Erosion Control	6,000
Right of Way	75,000
Wetland Mitigation	50,000
Traffic Control - 5%	33,600
Mobilization - 5%	33,600
M & C - 20%	134,400
Roadway costs	**$ 873,500**
Project Total	**$3,920,500**

Alternative #2 - Replace with new 46' wide PPCB bridge & Permanent Crash Cushion

The existing 240' x 30' continuous prestressed steel I-beam bridge will be replaced with a 269' x 46' PPCB bridge utilizing an offsite detour. A 12' bridge shoulder will be used for the westbound lane to push the north barrier rail outside of the sight distance triangle for traffic entering US 6 from 350th Street. The typical 10' bridge shoulder will be used for the eastbound lane.

The typical roadway cross section adjacent to the bridge will consist of a 24' wide roadway with 6' paved and 4' granular shoulders. Foreslope grading beyond the shoulders will be comprised of 10:1 for 4' then 6:1 slopes to the clear zone and 3.5:1 slopes to the ditch grade with 3:1 backslopes.

This bridge will be constructed on the existing horizontal alignment. New bridge approaches will be constructed. Additional reconstruction of roadway pavement is necessary beyond the bridge approaches in order to achieve minimum preferred grade and K-values for a 60-mph design speed on the vertical alignment. The existing guardrail will be replaced with new guardrail and the shoulders will be paved beyond the ends of the bridge approaches. Class 10 will be necessary to flatten the existing foreslopes and to construct the new guardrail blisters. Class E revetment will be placed under the bridge for slope protection. New bridge end drains will be constructed on both ends of the bridge.

To mitigate intersection sight distance concerns, 350th Street is shifted approximately 35' west and a permanent crash cushion is installed on the NW corner bridge rail end. The combination of the sideroad shift and widened bridge is sufficient to free the intersection sight line of any obstructions from the bridge barrier rail. Reverse curves are implemented to return 350th Street back to its original alignment.

Apply erosion control and rural seeding and fertilizing to all disturbed areas.

Right of way acquisition will be required for this project.

Bridge Items	Estimated Costs
New Bridge	$ 2,009,000
Bridge Removal	176,000
Cofferdam	100,000
Revetment	104,000
Mobilization - 10%	239,000
M & C -20%	526,000
Bridge Costs	**$ 3,154,000**
Roadway Items	
Bridge Approaches	$ 218,000

Removal of Pavement	32,500
PCC Pavement	77,000
Granular Shoulder	3,000
Granular Surfacing on Road, Class A Crushed Stone	5,300
Excavation, Class 10, Roadway & Borrow	15,000
Embankment-In-Place, Contractor Furnished	34,000
Removal of Steel Beam Guardrail	2,600
Steel Beam Guardrail	22,600
Permanent Crash Cushion	35,000
Paved Shoulders for Guardrail	50,000
Roadway Culvert, CMP, 42 IN.	8,400
Bridge End Drains	15,000
Removal and Reinstallation of Fence, Field	6,800
Clearing and Grubbing	10,000
Seeding and Fertilizing	2,600
Erosion Control	6,000
Right of Way	60,000
Wetland Mitigation	50,000
Traffic Control - 5%	32,700
Mobilization - 5%	32,700
M & C - 20%	130,800
Roadway costs	**$ 850,000**
Project Total	**$4,004,000**

B. Detour Analysis

US 6 will be closed and an offsite detour will be utilized. It is anticipated the detour will be in place for 180 days. The detour would follow County Road L55 south to US 92, then east on US 92 to the junction of US 59, then finally north back to junction with US 6. Out-of-distance travel is 8.0 miles. The total distance user cost is anticipated to be $1,051,000. The cost for county road maintenance will be $15,149 as calculated by the Gas Tax Method. The cost for city road maintenance will be $2,164 as calculated by the Gas Tax Method. Detour signing costs will be $11,000.

C. Recommendations

It is recommended that the present structure be replaced as described in Alternative No. 1.

D. Construction Sequence

It is anticipated that all work on this project will be awarded to one prime contractor. The Bridges and Structures Bureau will coordinate the plan preparation with assistance from the Design Bureau.

E. ADA Accommodations

There are no bike paths or sidewalks adjacent to US 6; therefore, no ADA accommodations are planned in conjunction with this project.

F. Special Considerations

This will not be a traffic critical project.

The ABC Rating Score of 45 is less than the first stage filter threshold of 50, therefore this bridge will not be considered further as a candidate for ABC construction.

The existing bridge is eligible for the National Historic Register due to the unique prestressed steel I-beam design. Historic documentation will be required to mitigate removal of the existing bridge.

No bike path or sidewalk will be required as part of this project.

Right of Way appears to be required for this project.

Waterway is not on a state water trail or paddling route.

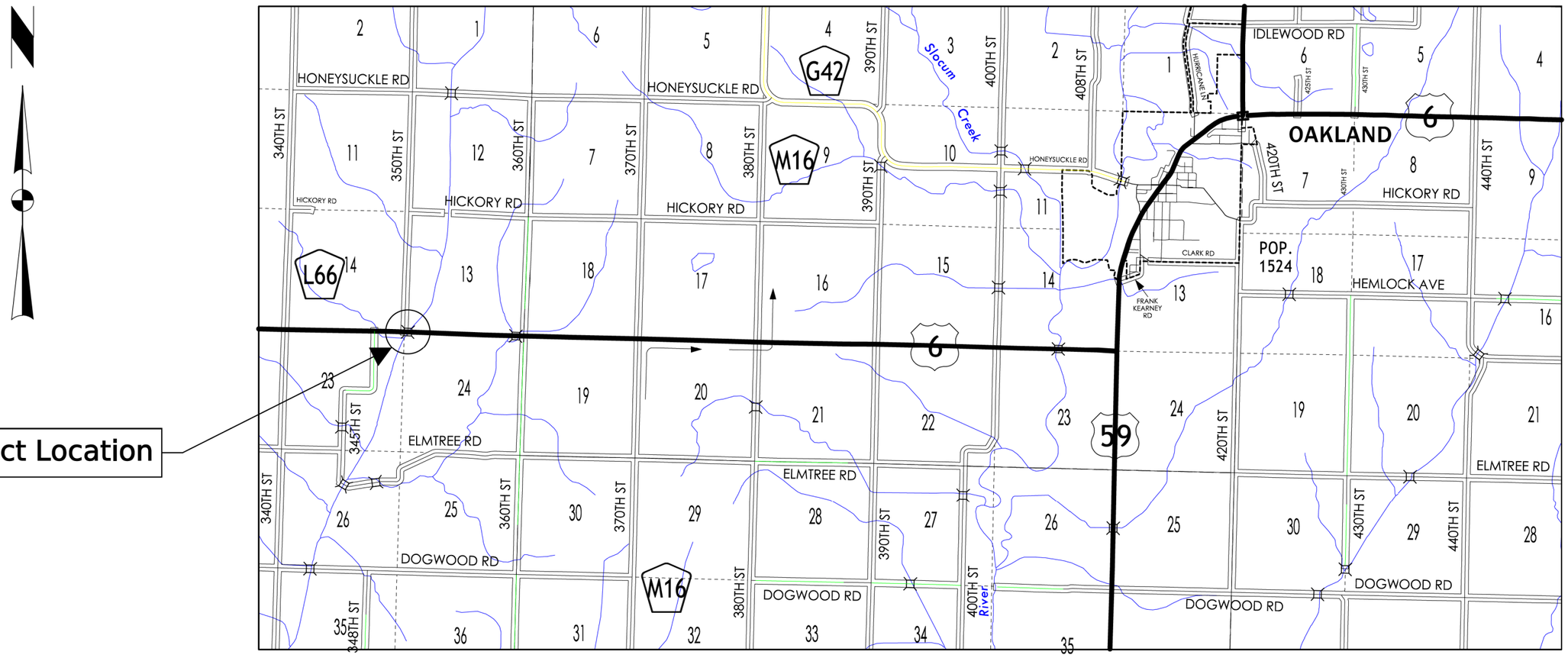
The Location and Environment Bureau has reviewed this project and based on preliminary desktop observations, has determined that a Section 404 Permit will be required. It is expected the permit will be automatically authorized under Nationwide Permit 3 with no mitigation required.

G. Program Status

Site data has been developed by the Design Bureau. This project is listed in the 2025-2029 Iowa Transportation Improvement Program, with $10,000 programmed for right of way in FY 2029, and $3,900,000 for replacement in FY 2029. Costs for this project may be eligible for bridge replacement funds. A schedule of events will be developed following approval of the Project Concept.

JSI:ADS

POTTAWATTAMIE COUNTY



U.S. 6 Over Silver Creek
1 mi E of Co Rd L66
BRF-006-1(135)--38-78
PIN: 24-78-006-030

FILE NO.	ENGLISH	DESIGN TEAM **FOTH**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER **BRF-006-1(135)--38-78**	SHEET NUMBER **A.9**

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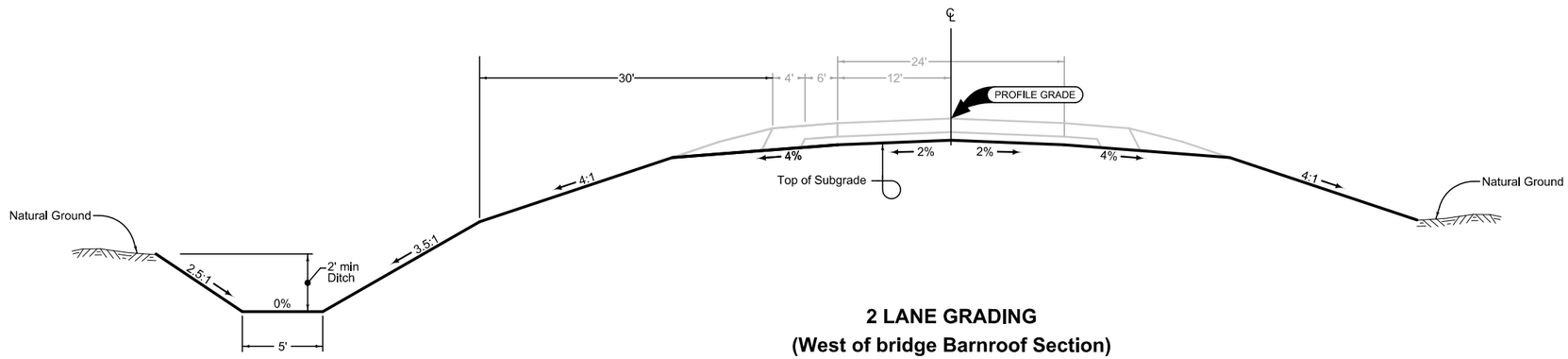
Pottawattamie County
U.S. 6 Over Silver Creek
1 mi E of Co Rd L66
BRF-006-1(135)--38-78
PIN: 24-78-006-030

STA 419+42.50
FHWA 43271
Maint. No.: 7821.7S006

FILE NO.	ENGLISH	DESIGN TEAM **FOTH**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER **BRF-006-1(135)--38-78**	SHEET NUMBER **A.10**

G_2_Grade_BR
MODIFIED



2 LANE GRADING
(West of bridge Barnroof Section)

G_2_Grade_BR
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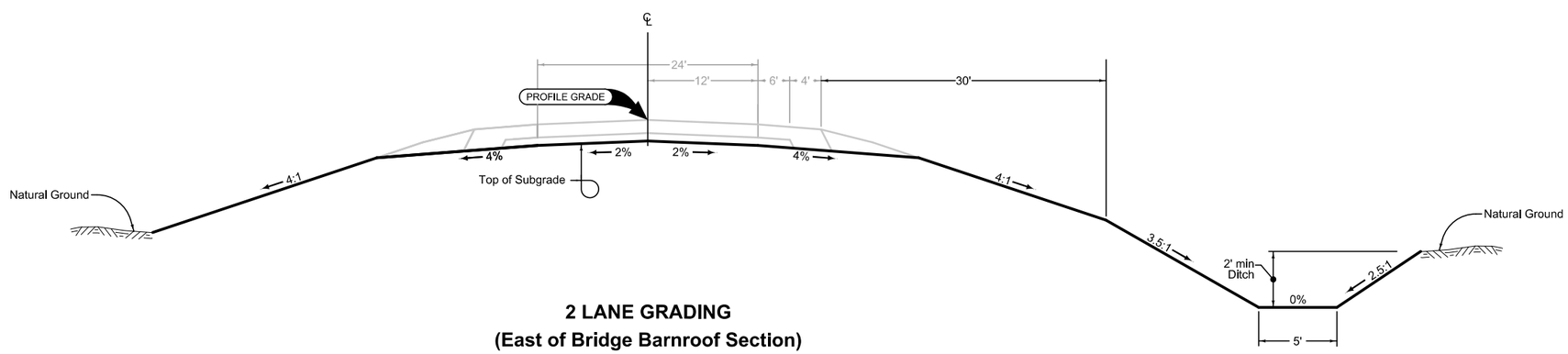
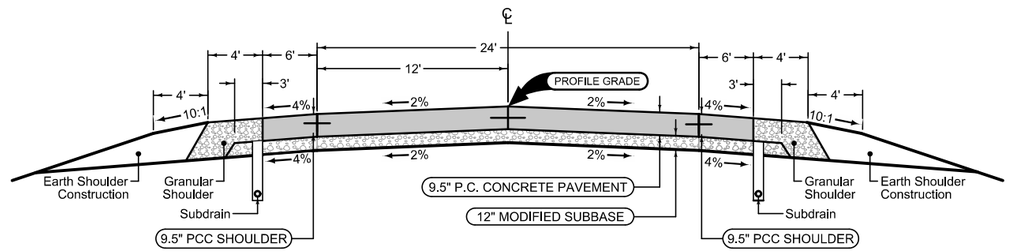


2 LANE GRADING
(East of Bridge Barnroof Section)

FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER B.1



PAVEMENT TYPICAL

G_2_GradeGran
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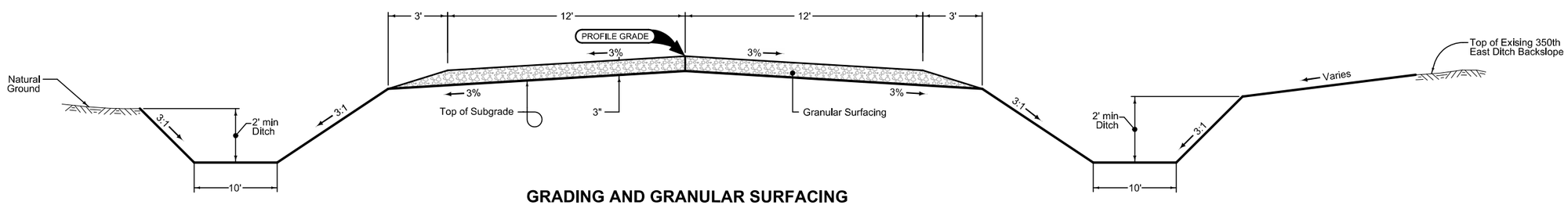


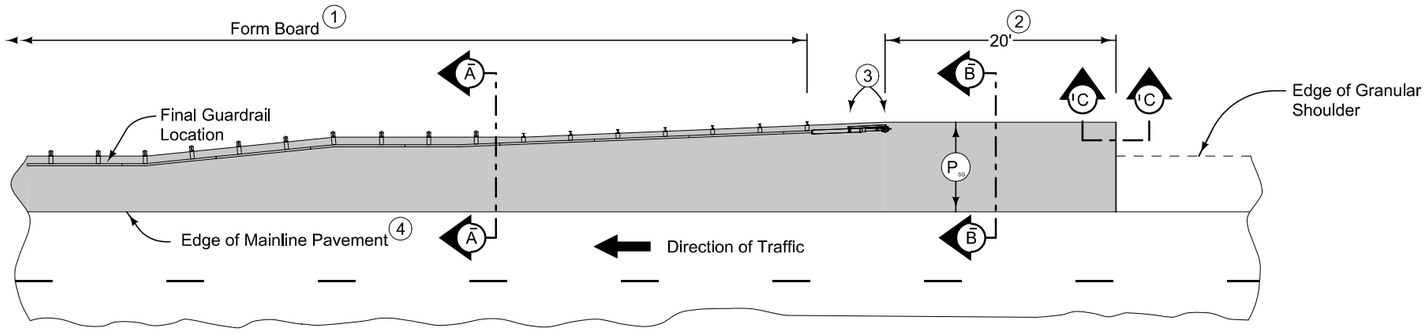
GRADING AND GRANULAR SURFACING
(Proposed 350th Section)

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

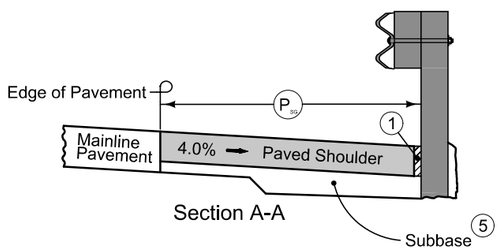
See plan & profile sheets and cross sections for additional details of ditches and backslopes.

FILE NO.	ENGLISH	DESIGN TEAM **FOTH**	**POTTAWATTAMIE** COUNTY	PROJECT NUMBER **BRF-006-1(135)--38-78**	SHEET NUMBER **B.2**

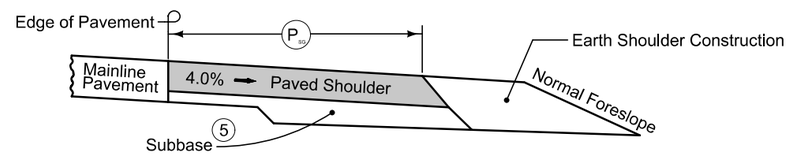
7156
10-21-25



PLAN VIEW

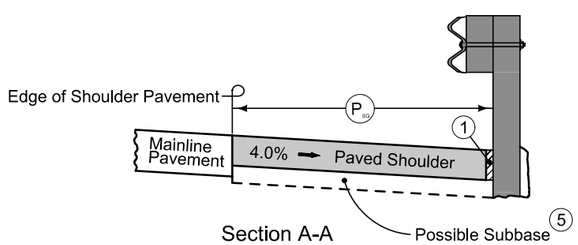


Section A-A

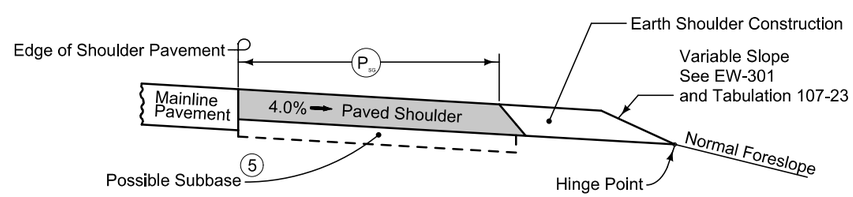


Section B-B

NEW CONSTRUCTION



Section A-A



Section B-B

EXISTING SHOULDER

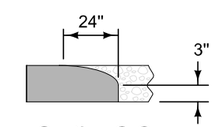
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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.



Section C-C
Roll down at granular shoulder or earth.

PAVED SHOULDER AT GUARDRAIL
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Existing Utility Access (Manhole)
- Fire Hydrant
- WH Water Hydrant (Rural)
- Septic Tank
- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Satellite TV Dish
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MM Mile Marker Post
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box

UTILITY LEGEND

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.**	
Lavender	(9)	Temporary Pavement Shading
Yellow	(4)	Proposed Pavement Shading
Orange	(6)	Proposed Granular Shading
Orange	(70)	Proposed Shoulder Granular Shading
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Orange, Light	(134)	Proposed Granular Entrance Shading
Yellow	(220)	Proposed Paved Entrance Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Green, Light	(225)	Existing Pavement Shading
Red	(3)	Proposed Structure Shading
Red	(3)	Delineates Restricted Areas

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

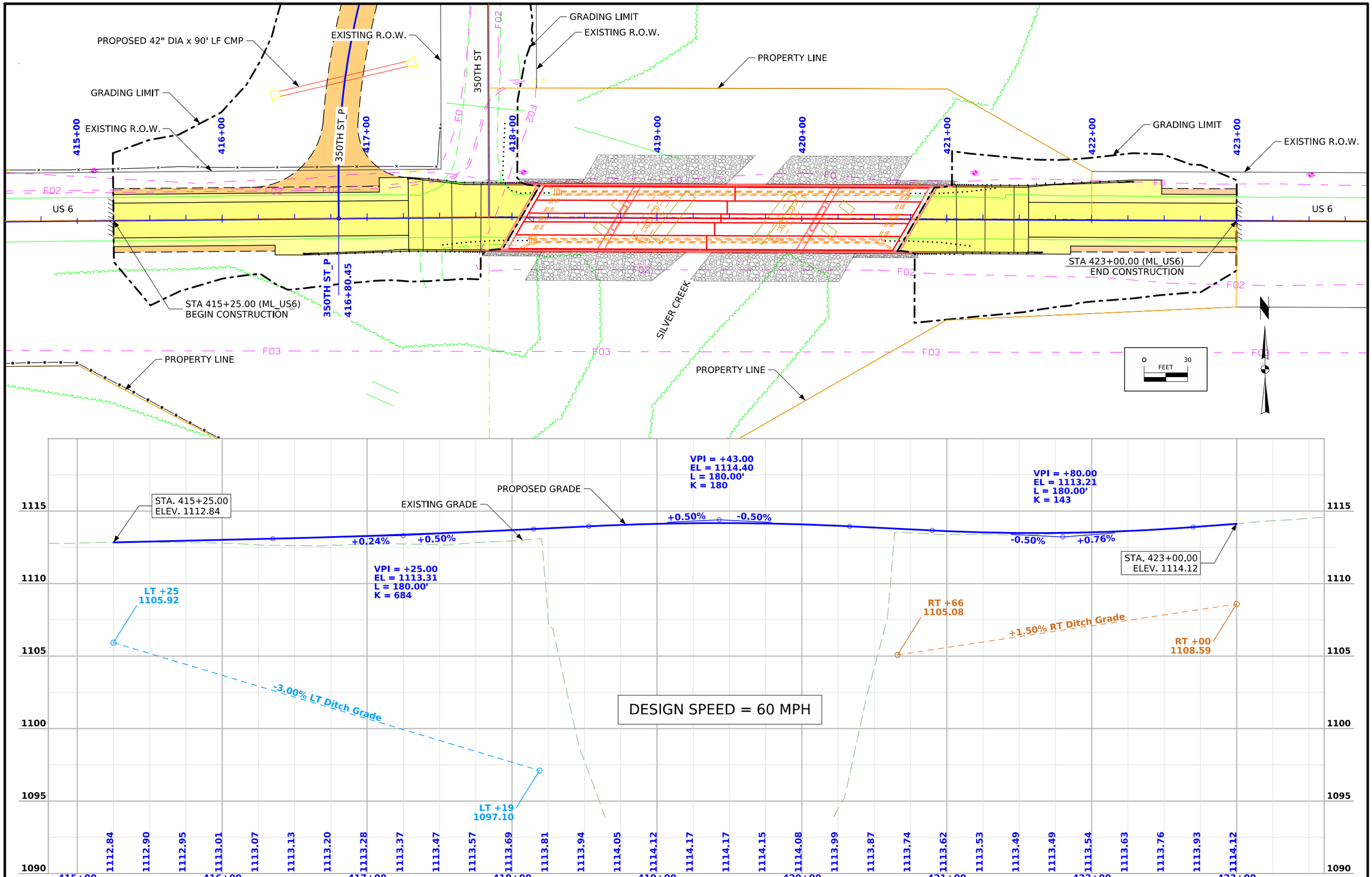
- Reference Point / Station — Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E)



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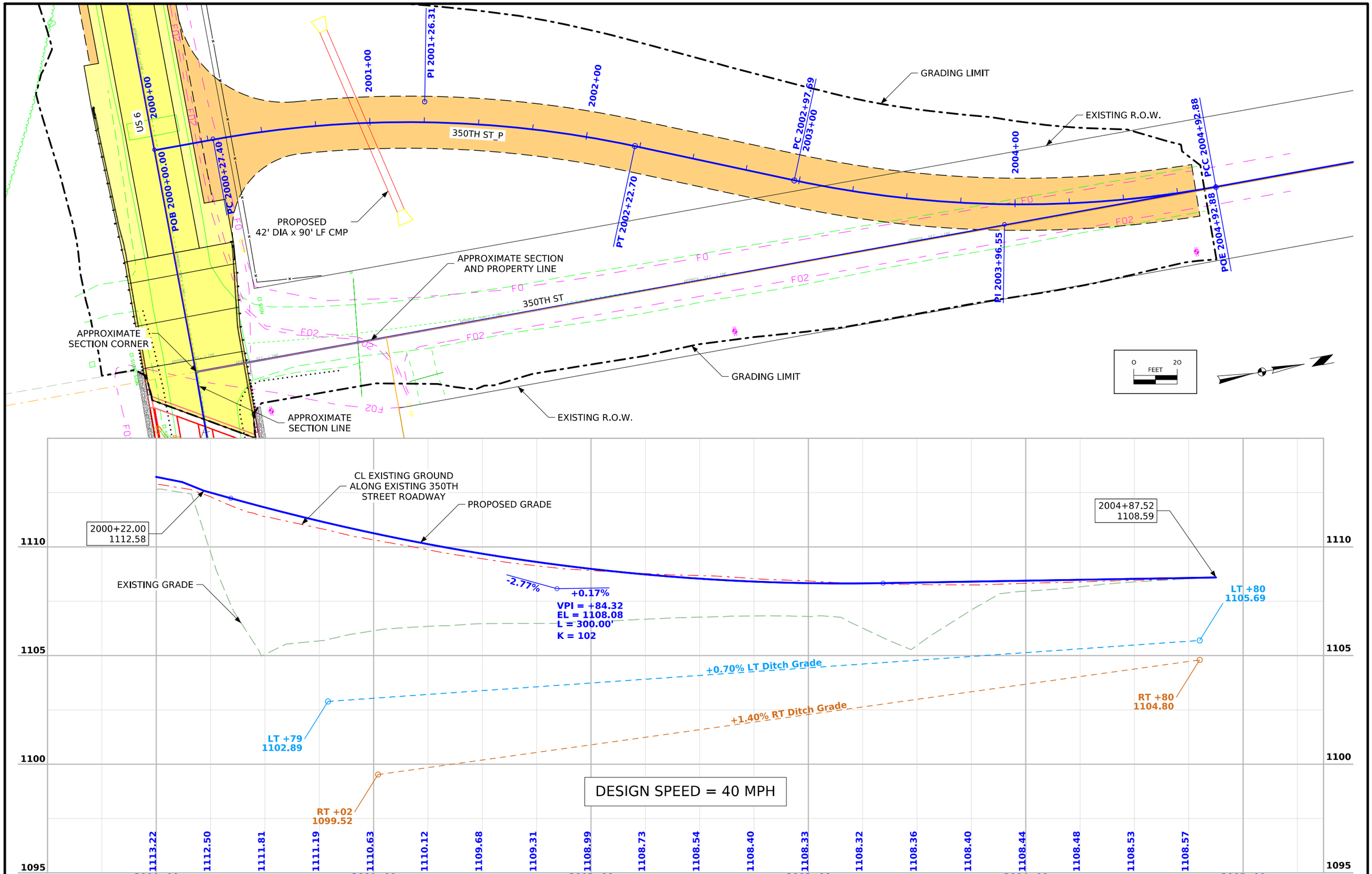

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108_25
3/28/24

511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			NO TRAVEL RESTRICTION EXPECTED				None					

108_23A
8/15/22

TRAFFIC CONTROL PLAN

Construction activity in this area will disrupt traffic on US 6 between Co. Rd. L55 and US 59.
US 6 will remain closed for the duration of the project, with traffic maintained via a designated detour route. Road Closures shall be in accordance with Standard Road Plan TC-252.
Close 350th St. to thru traffic for the duration of the project.
Coordinate closure of 350th St. with Pottawattamie County Engineer.
Information regarding the detour route is provided on Sheet J.2.

Traffic control on this project shall be in accordance with the Standard Road Plans. For additional complementary information, refer to Part 6 of the Manual on Uniform Traffic Control Devices and the current Standard Specifications.

Contractor shall install and maintain all road closures and detour signs. Coordinate closures with Engineer.

There are no existing pedestrian facilities within this project area.

108_26A
8/15/22

STAGING NOTES

Contractor shall be responsible to maintain detour route.

Contractor shall maintain access to properties at all times.

Stage 1
Close US 6 and 350th St. to traffic. Coordinate road closures with Engineer.
Remove existing bridge and roadway pavement.

Stage 2
Complete construction of pretensioned prestressed concrete beam bridge and roadway reconstruction.
Coordinate the opening of US 6 and 350th St. with Engineer.

108_13A
3/27/25

SAFETY CLOSURES

Refer to Section 2528 of the Standard Specifications

Station	Road Closure Qty.	Hazard Closure Qty.	Remarks
413+75.00	1		US 6
415+25.00		1	US 6
423+00.00		1	US 6
424+50.00	1		US 6
2004+90.00		1	350TH ST
2006+40.00	1		350TH ST

FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER J.2

3:30:28 PM 9/16/2025 nxr1 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7800603024\Design\CADD_Files\Sheet_Files\SHT_78006135_J.dgn

Control Point 302: 6978724.90 N, 16559267.90 E, FENO set 65 feet SW of bridge on south side of US 6, Elev. 1108.73.

Hydraulic Data

RIDB: SilverC_Pottawattamie
Drainage Area = 90.8 Sq. Mi.
Stream Slope (HGL) = 5.33 ft./Mi.
Avg. Low Water Stage = 1074.33

Operational Low Beam = 1107.88

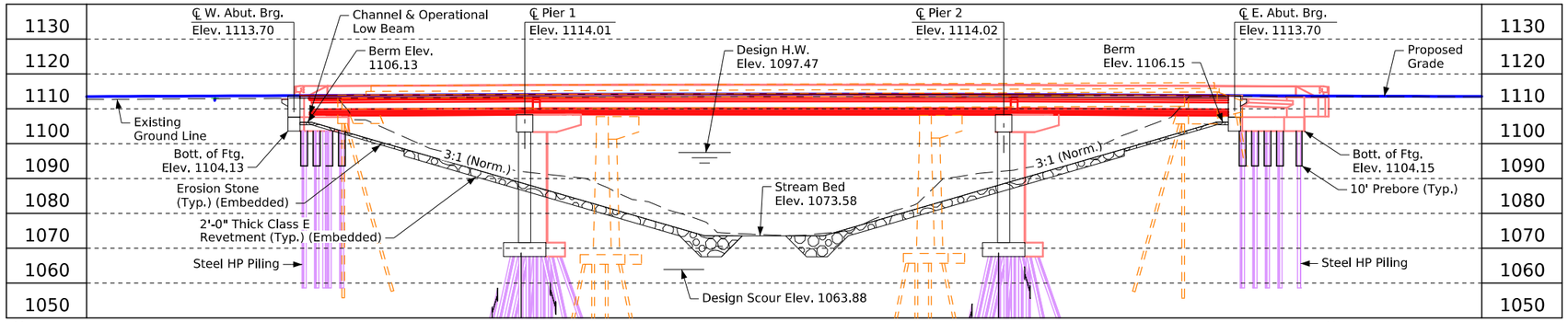
Q_{50} = 11,130 cfs
Stage = 1097.47
Operational Freeboard = 10.41 ft.
Avg. Bridge Velocity = 5.27 fps

Q_{100} = 13,420 cfs
Stage = 1099.66
Operational Freeboard = 8.22 ft.
Backwater = 0.15 ft.
Avg. Bridge Velocity = 5.49 fps

Q_{200} = 15,300 cfs
Stage = 1101.29
Calculated Design Scour = 1063.88

Q_{500} = 18,030 cfs
Stage = 1103.53
Channel Freeboard = 4.35 ft.
Avg. Bridge Velocity = 5.88 fps
Calculated Check Scour = 1063.88

Extreme HW Stage = Unknown
Date = Unknown



VPI Sta. = 419+43.00
VPI Elev. = 1114.40
VC = 180'

+0.24% +0.50% -0.50% +0.76%

VPI Sta. = 421+80.00
VPI Elev. = 1113.21
VC = 180'

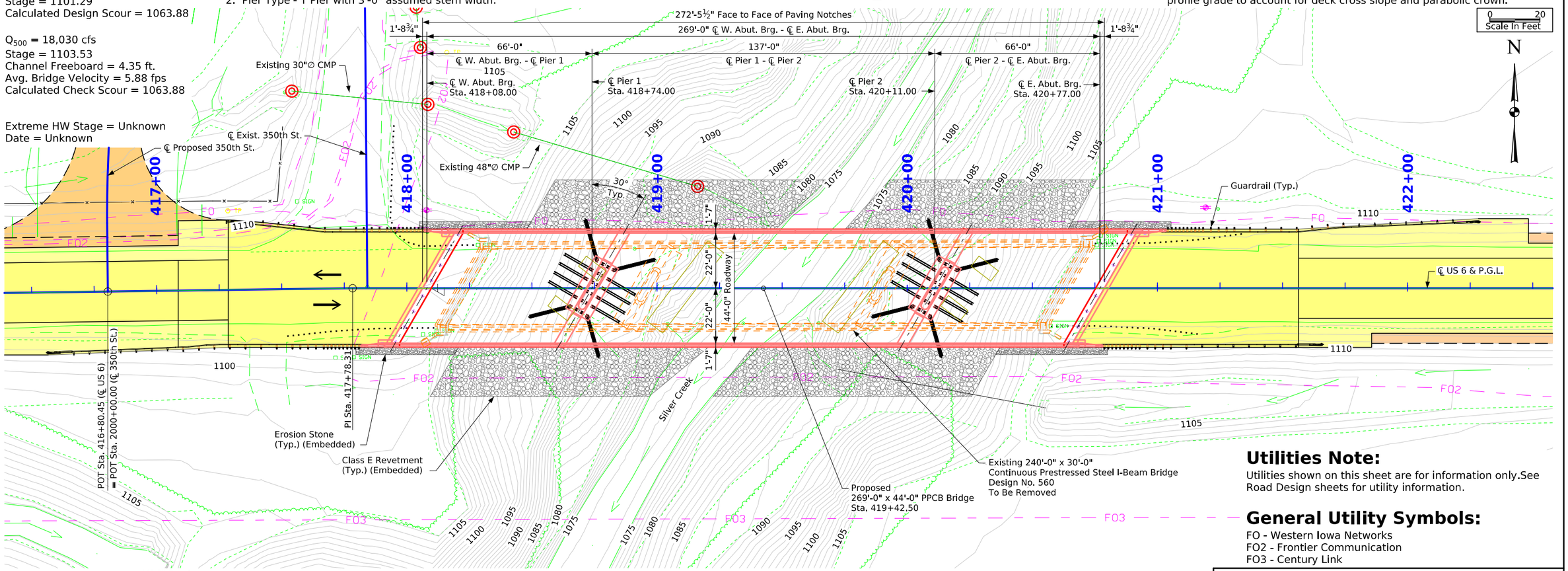
VPI Sta. = 417+25.00
VPI Elev. = 1113.31
VC = 180'

Proposed Profile Grade US 6

Note:
1. TSS TL-4 bridge railing proposed.
2. Pier Type - T Pier with 3'-0" assumed stem width.

BRG TSL Longitudinal Section Along ℄ Approach Roadway

Note:
Top of bridge deck at centerline roadway is 0.03' below the profile grade to account for deck cross slope and parabolic crown.

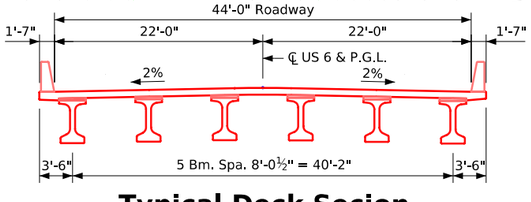


Utilities Note:

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

General Utility Symbols:

FO - Western Iowa Networks
FO2 - Frontier Communication
FO3 - Century Link



Typical Deck Secion

Traffic Estimate

2029 AADT	3000 V.P.D.
2049 AADT	3660 V.P.D.
20xx DHV	xxx V.P.H.
TRUCKS	15 %
Total Design ESALs	???

Situation Plan

Note:
This design is for the replacement of the existing 240' x 30' Continuous Prestressed Steel I-Beam Bridge, Pottawattamie Design No. 560, FHWA No. 43270, Maint. No. 7821.7S006.

Location

US 6 over Silver Creek
T-75N R-41W
Section 13 & 24
Washington Township
Pottawattamie County
FHWA No. 43271
Bridge Maint. No. 7821.7S006
Latitude 41.289372°
Longitude -95.517515°

Design For 30 Degree Skew LA

269'-0" x 44'-0" Pretensioned Prestressed Concrete Beam Bridge

66'-0" End Spans — 137'-0" Interior Span

Situation Plan

STA. 419+42.50 (℄ US 6) — Turn-in Date: Apr 2025

Pottawattamie County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. xxx — Design Sheet No. 1 of 1 — FHWA No. 43271

FILE NO. 98765	ENGLISH	DESIGN TEAM FOTH	Pottawattamie COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER V.1

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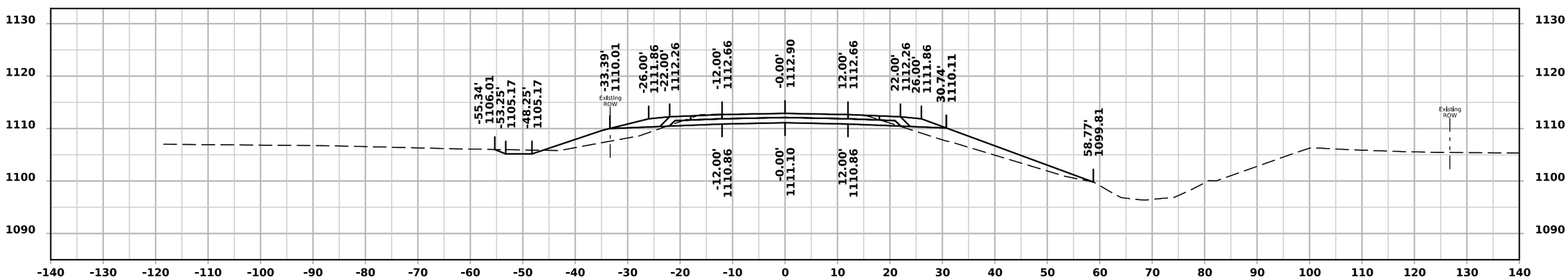
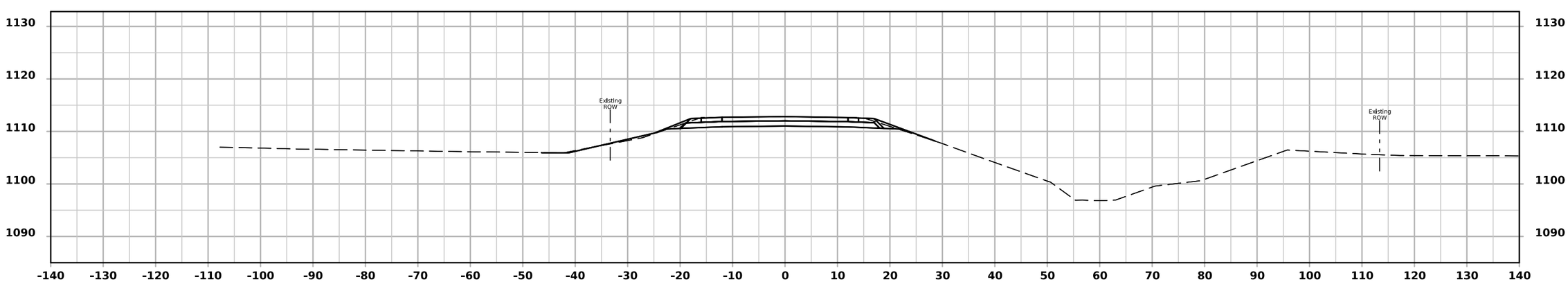
ML - US 6



STA 415+50.00



STA 415+25.00
(Match Existing Elevations)

FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER W.1

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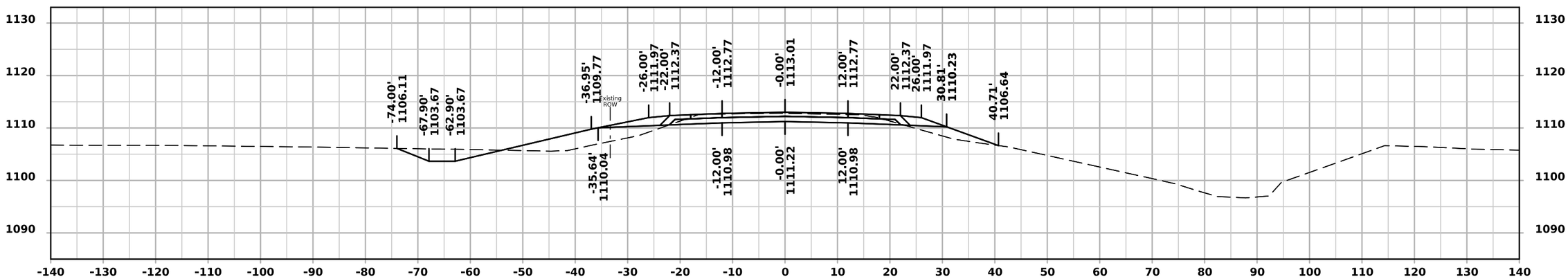
ML - US 6



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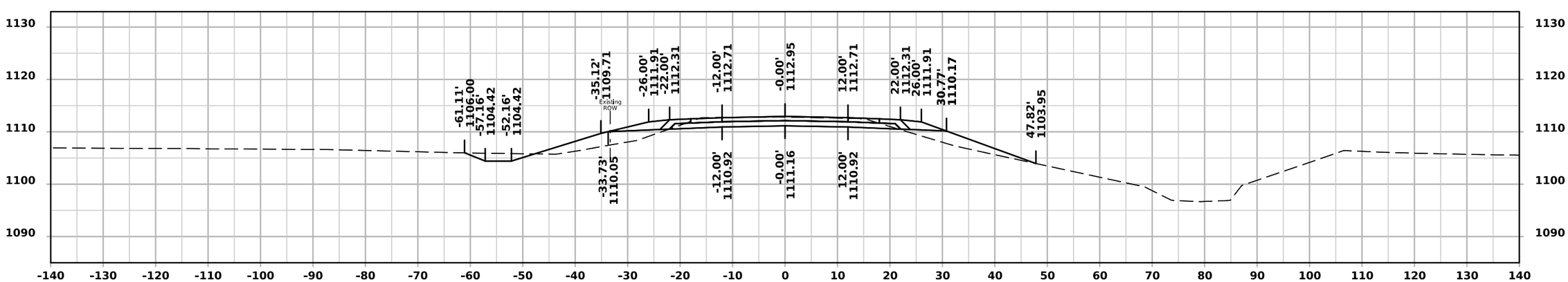

STA 415+75.00

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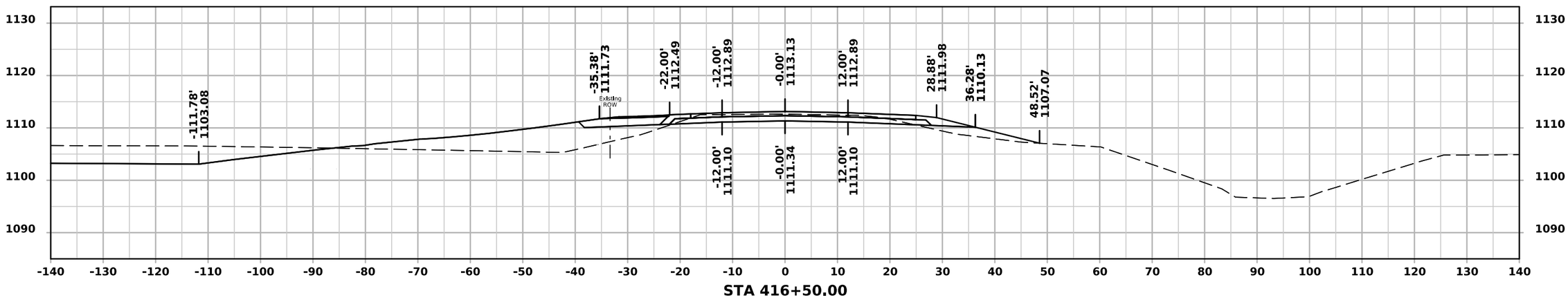
ML - US 6



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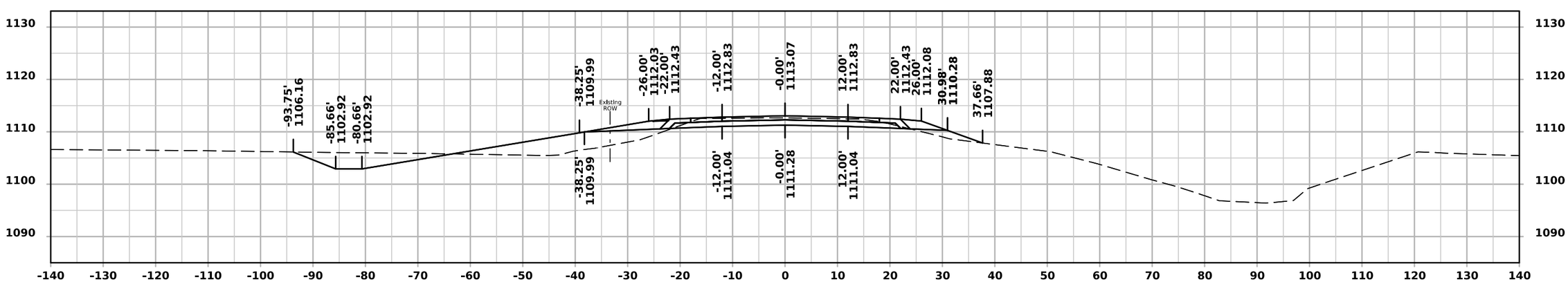

STA 416+25.00

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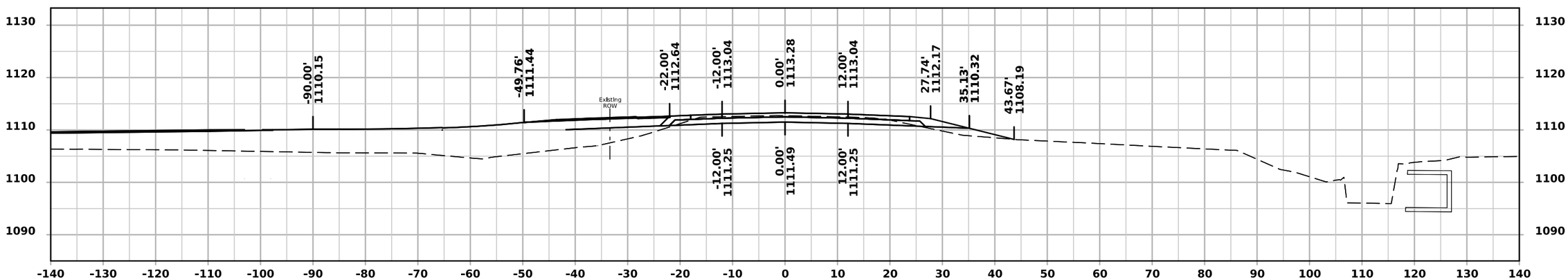
ML - US 6



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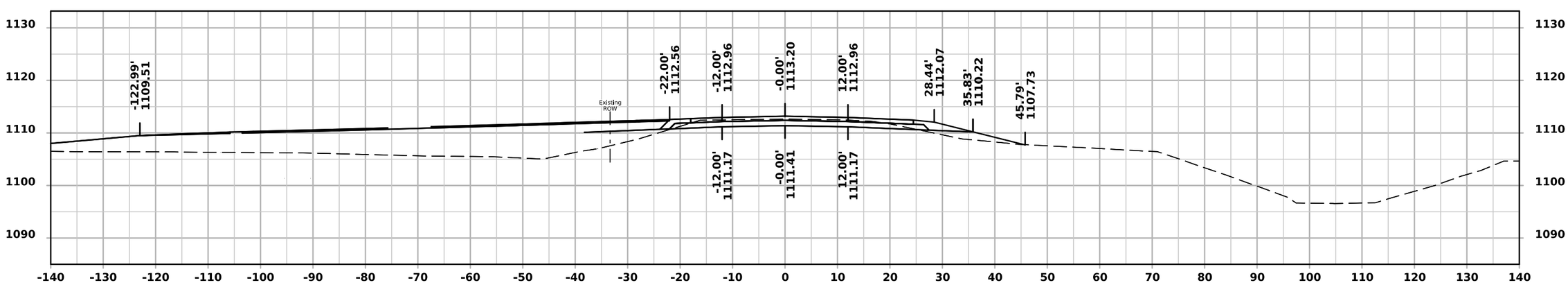

STA 416+75.00

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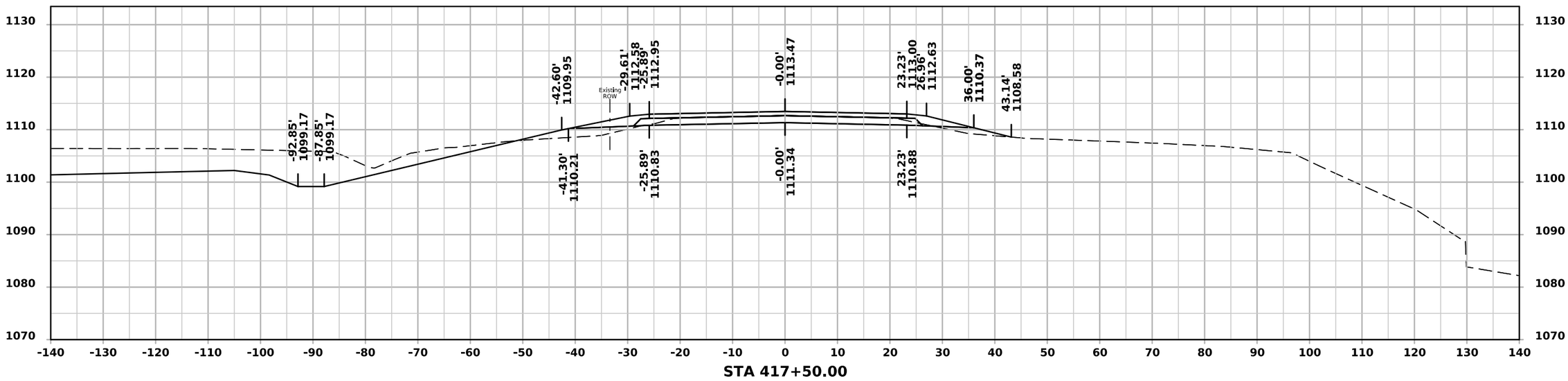
ML - US 6



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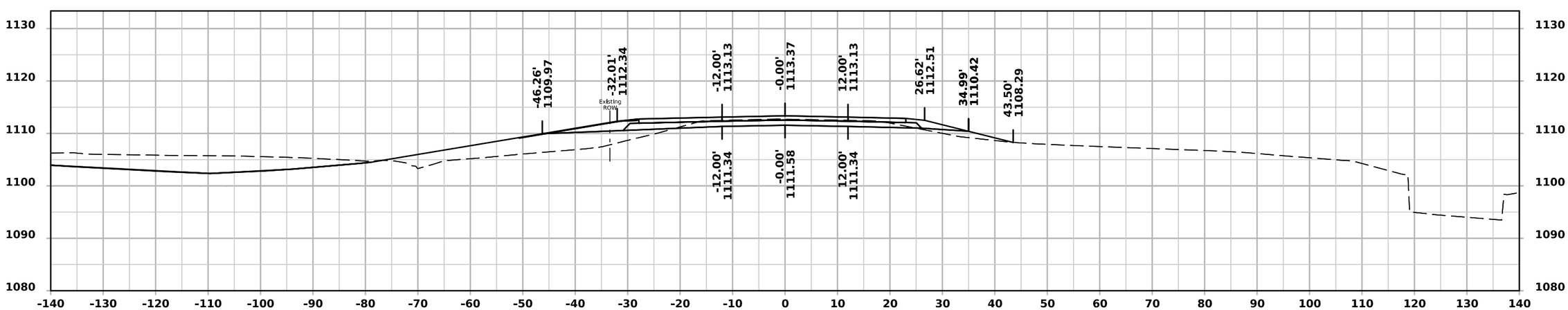

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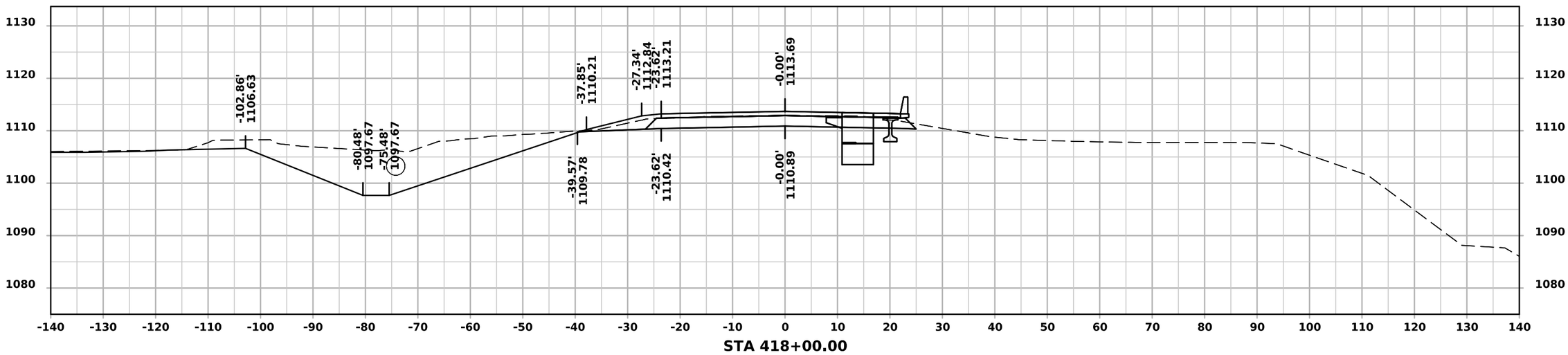
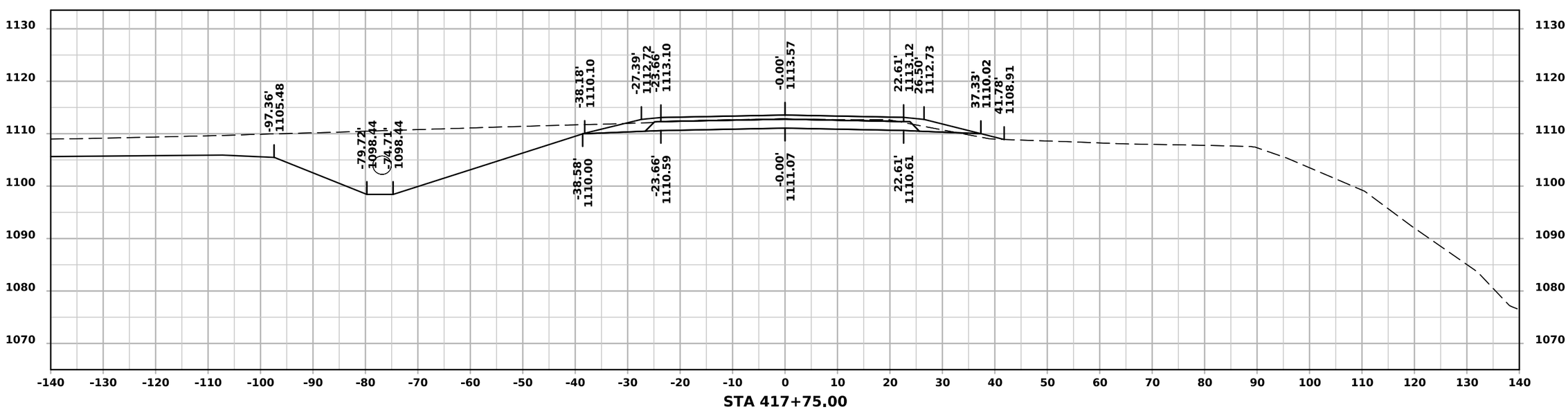
ML - US 6





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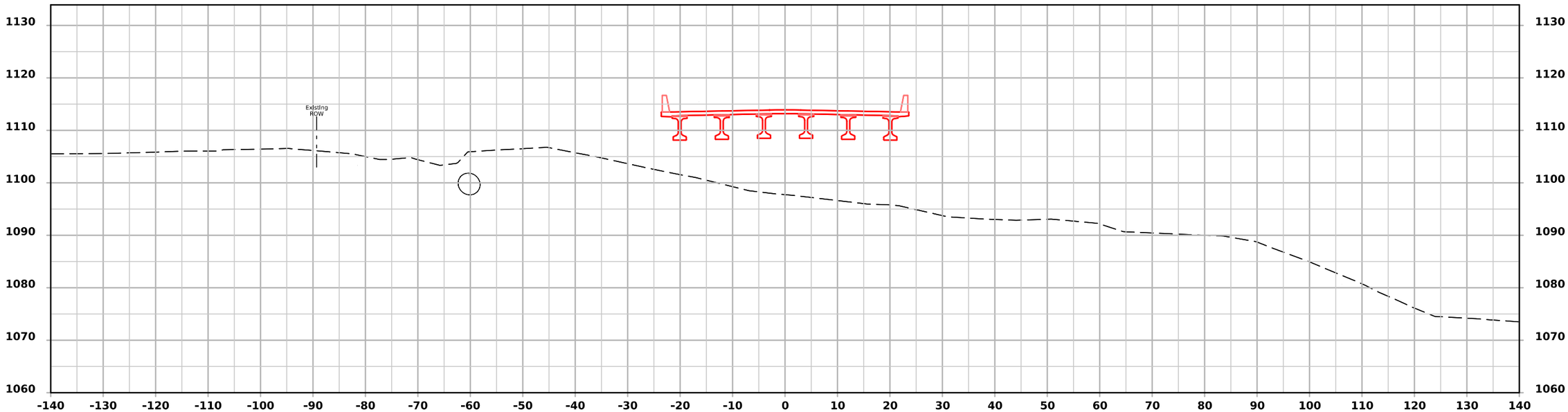
ML - US 6



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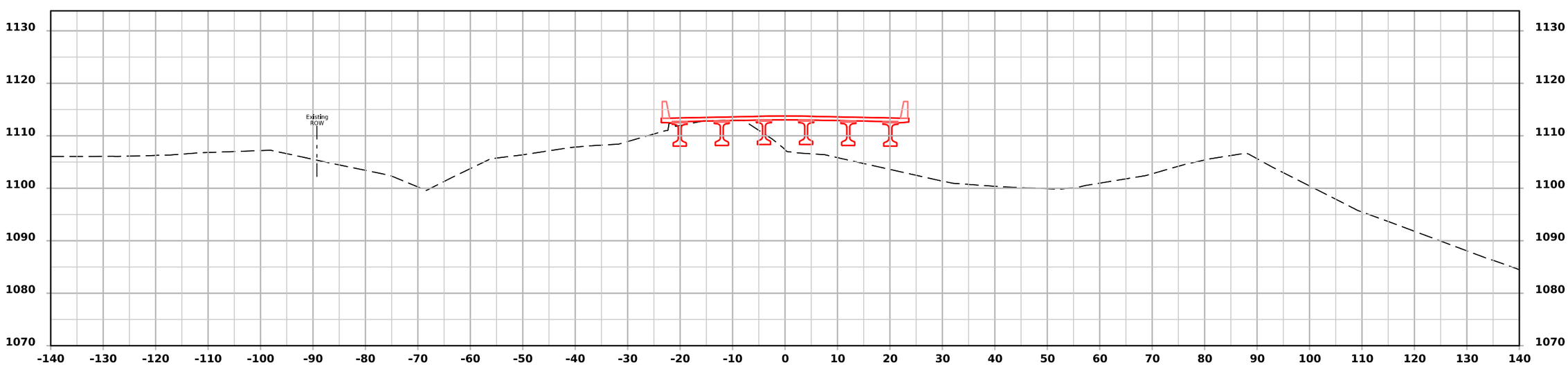

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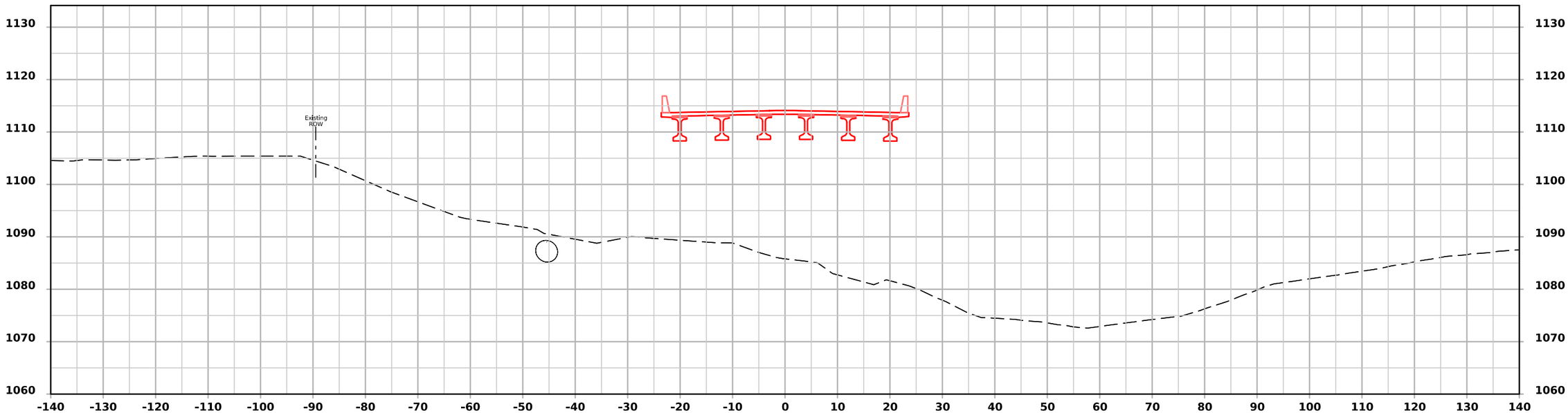

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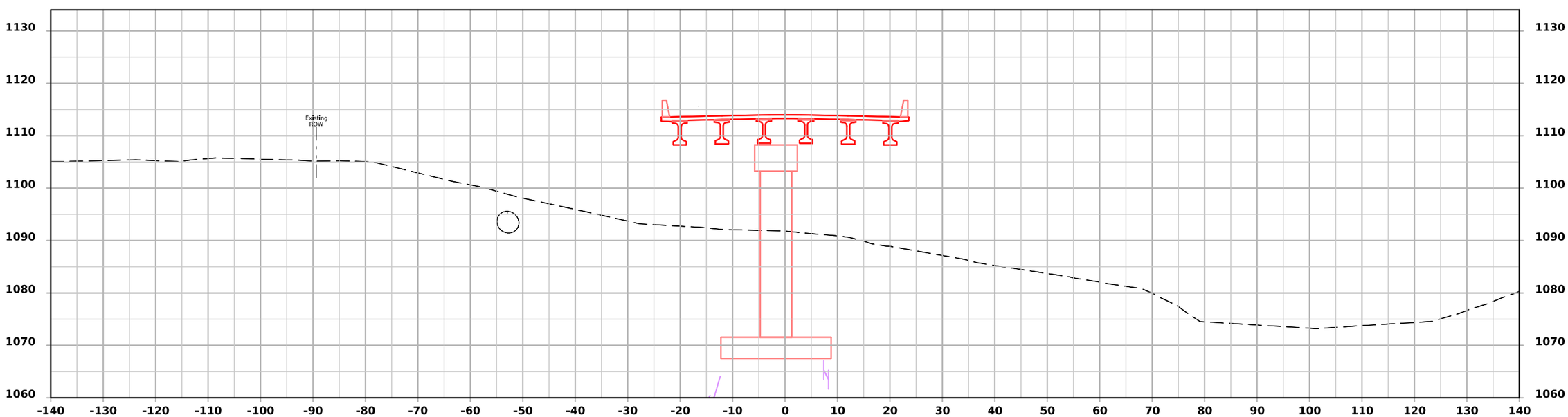

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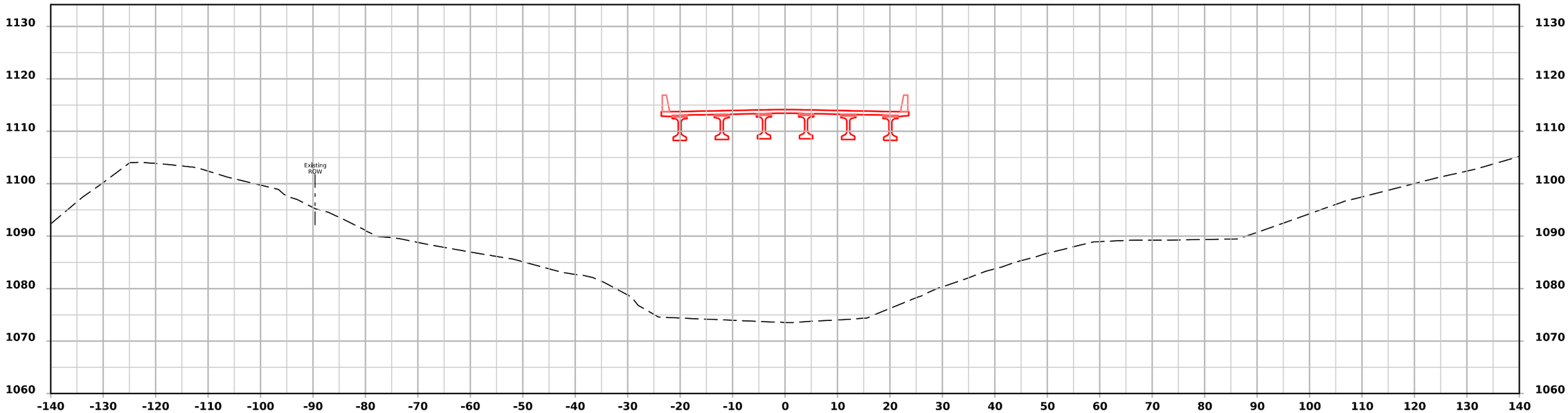
ML - US 6



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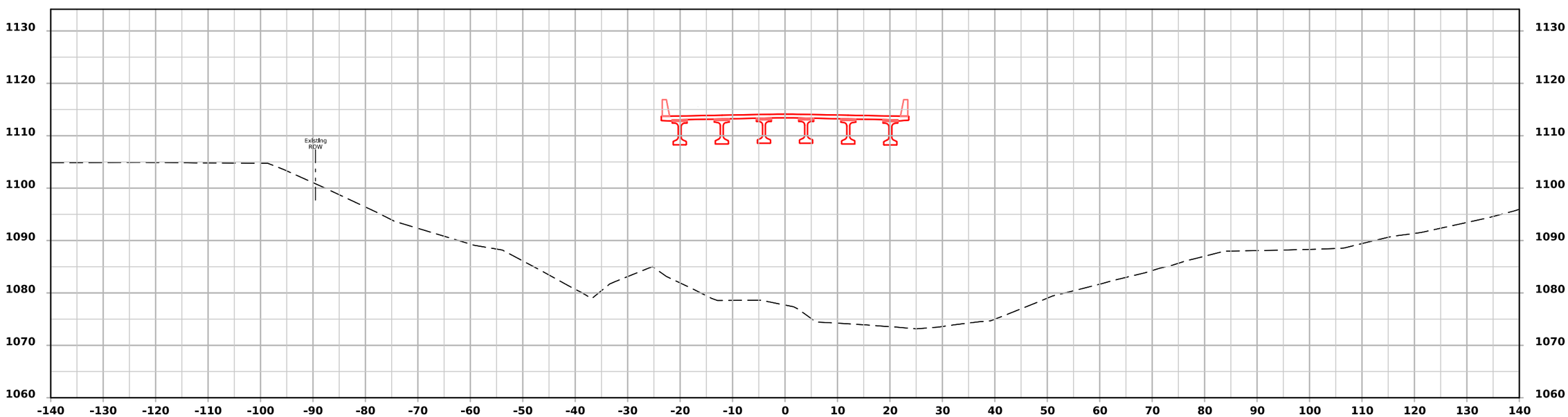

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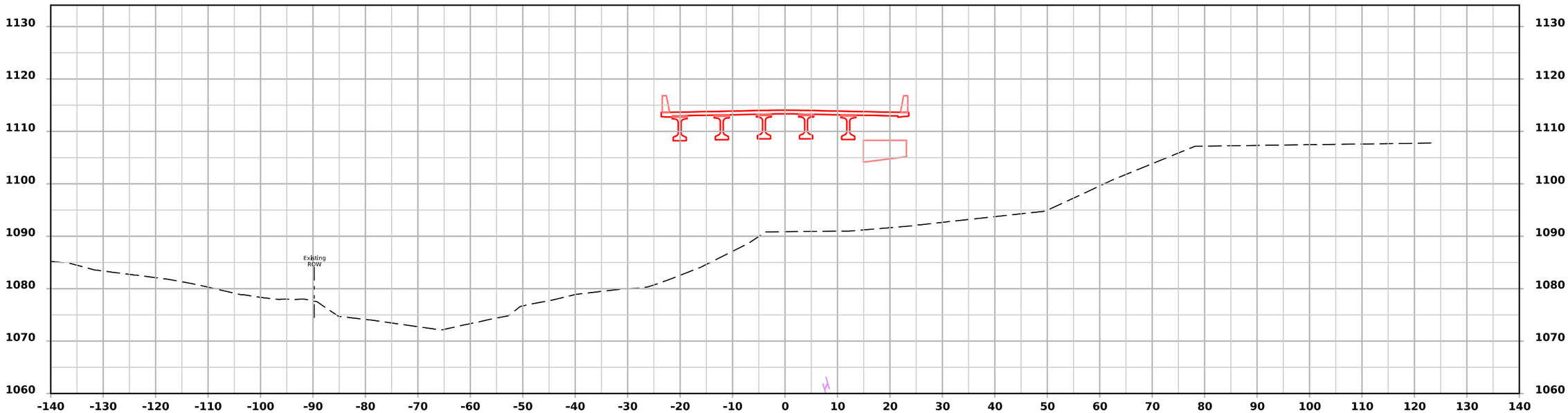
ML - US 6



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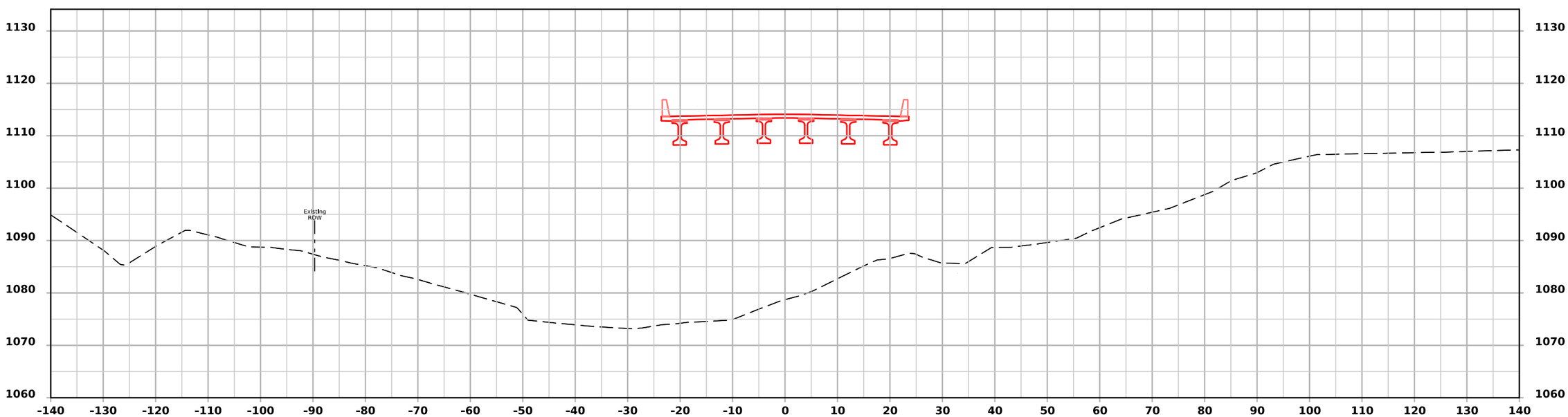

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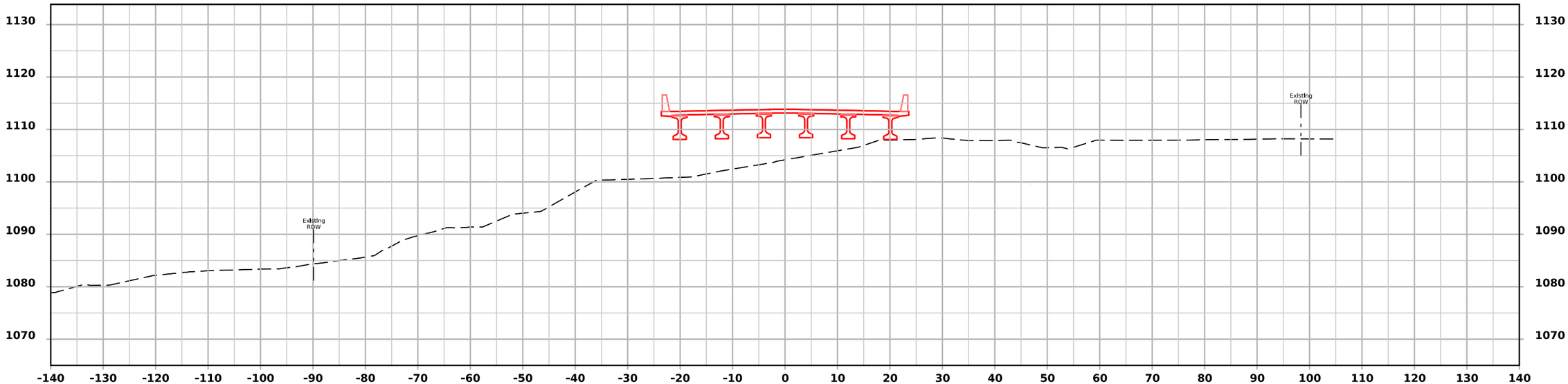
ML - US 6



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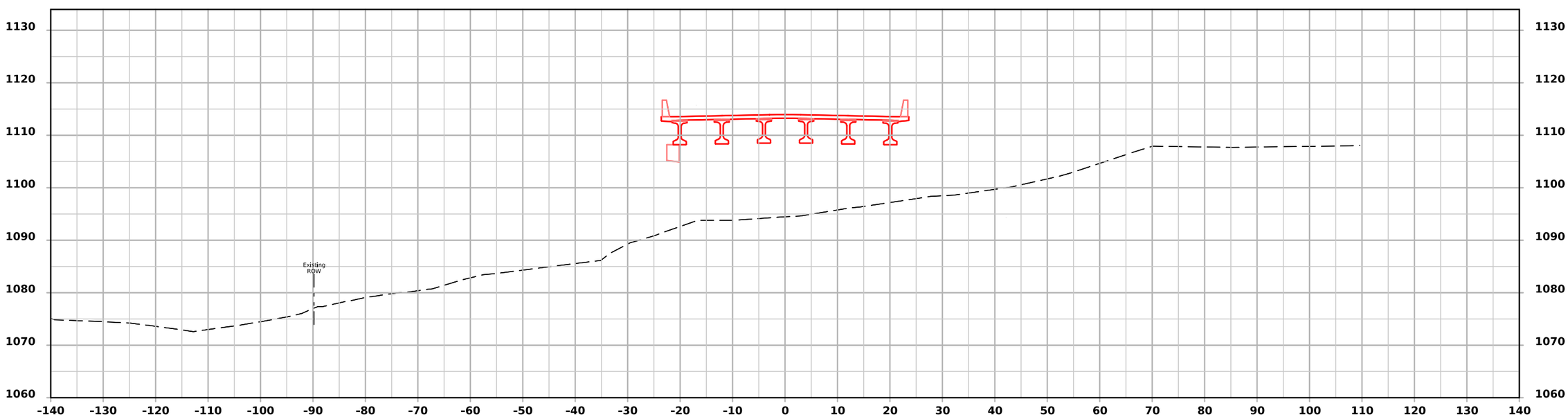

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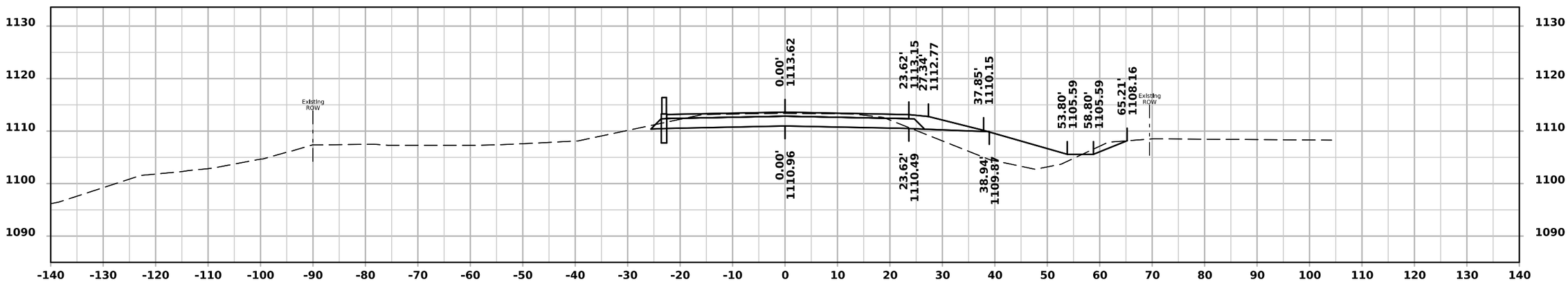
ML - US 6



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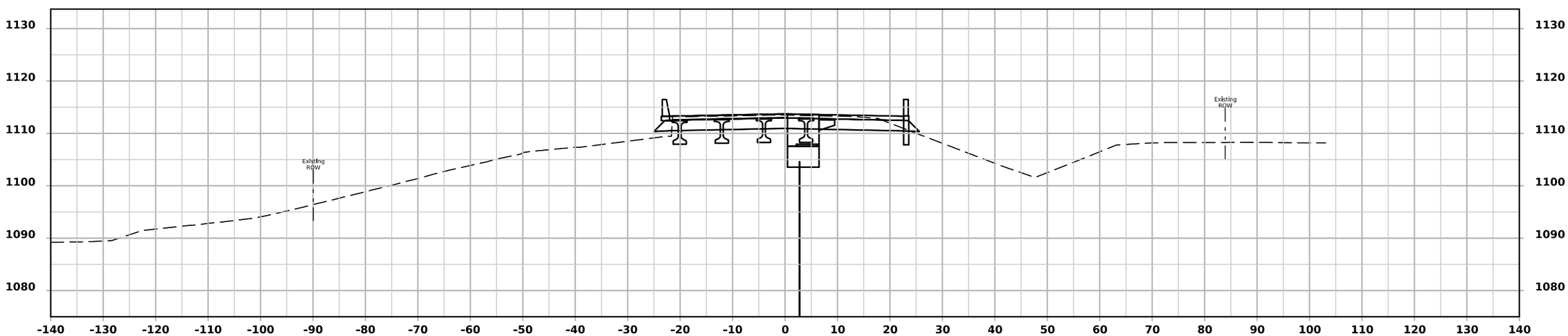

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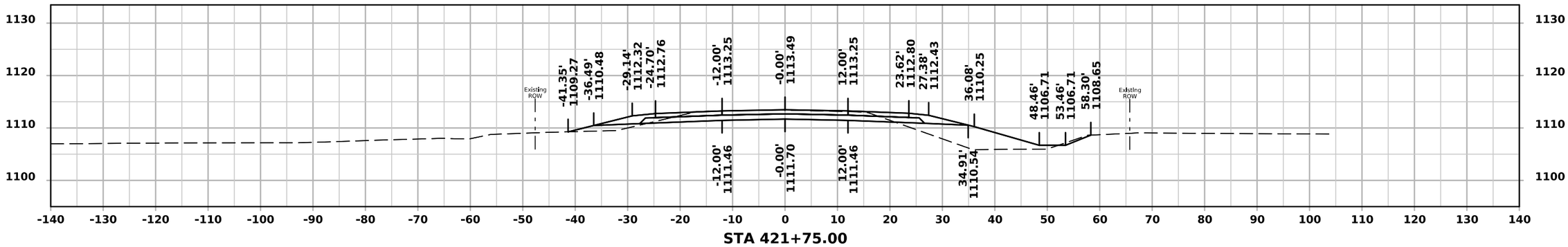
ML - US 6



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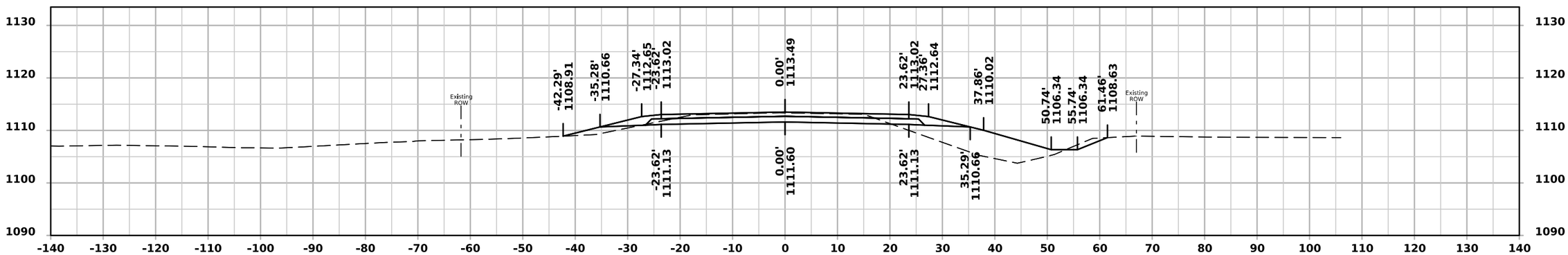

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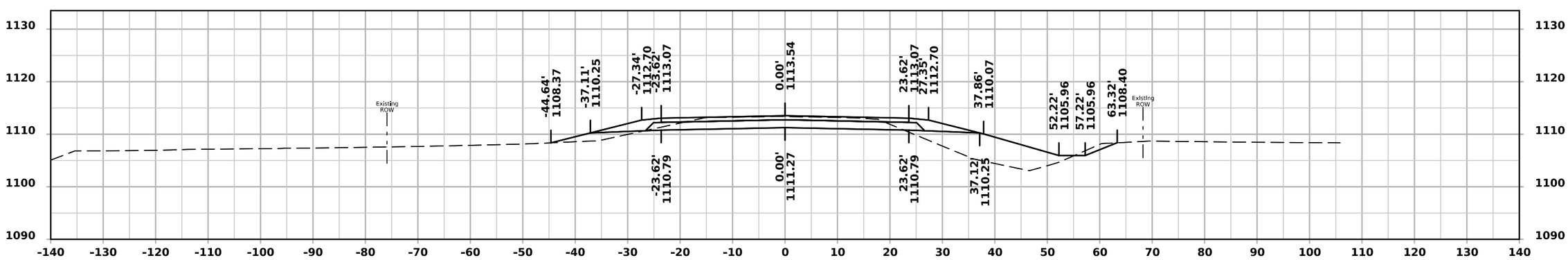

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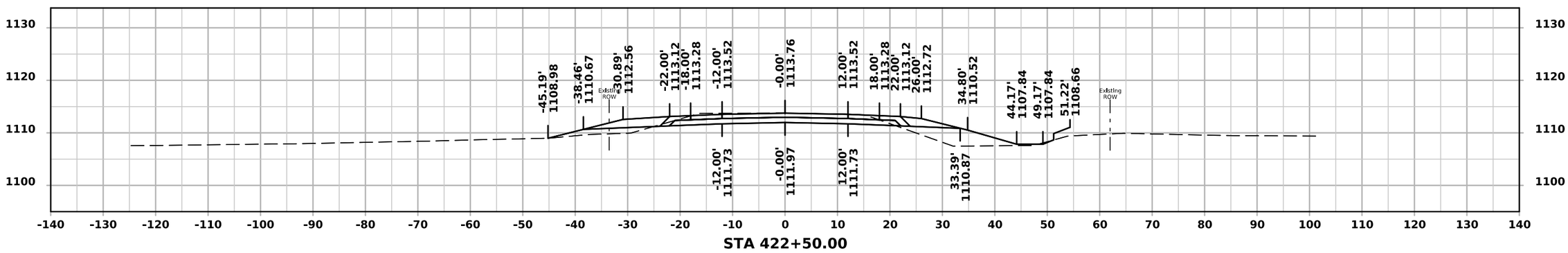
ML - US 6



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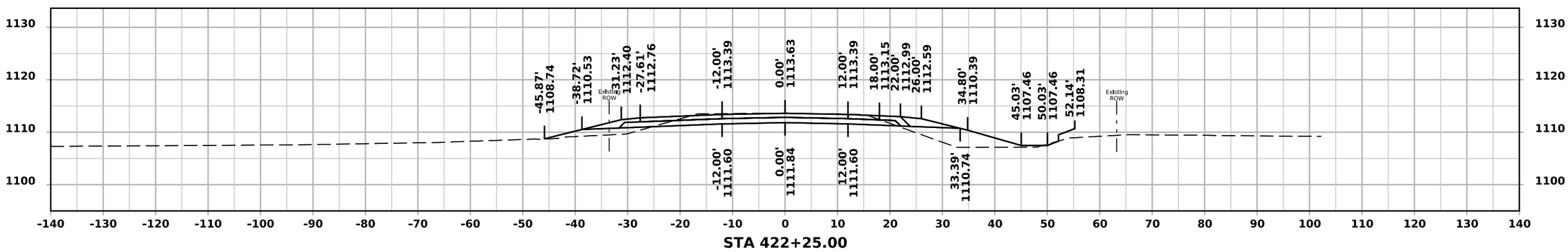

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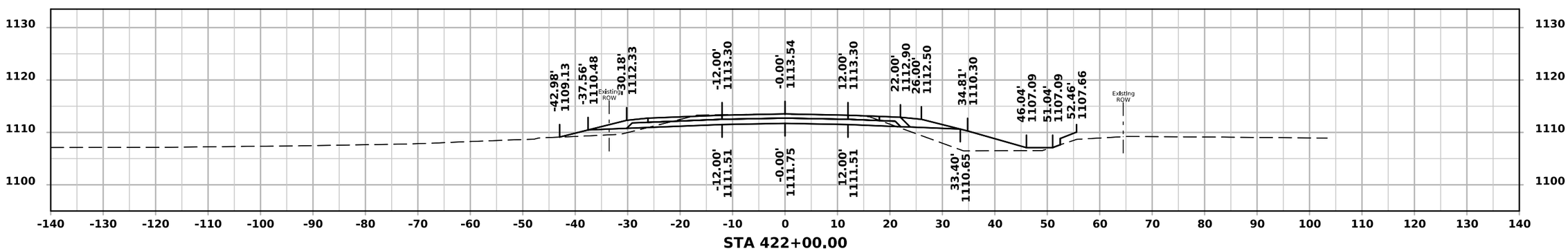

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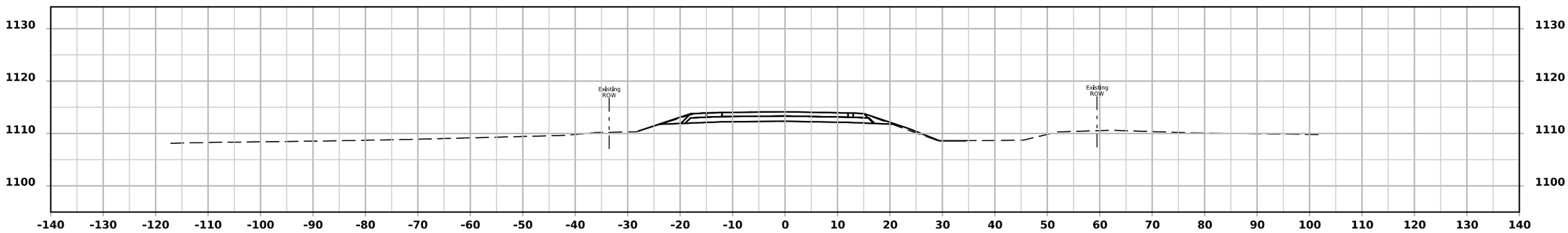
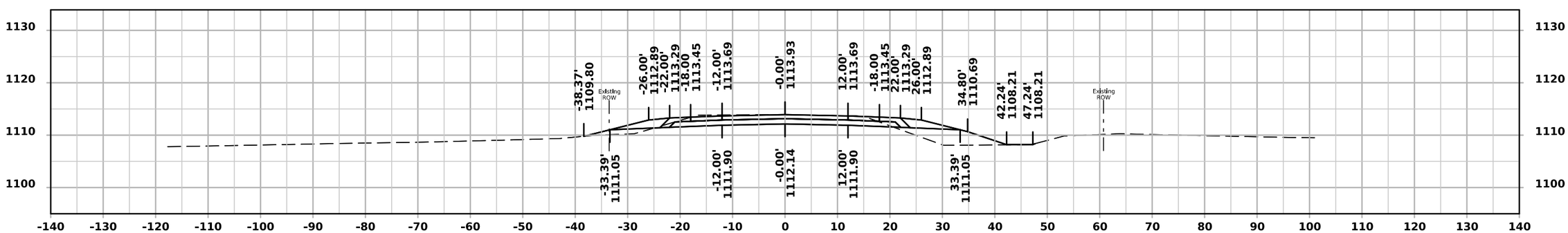
FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER W.14

ML - US 6



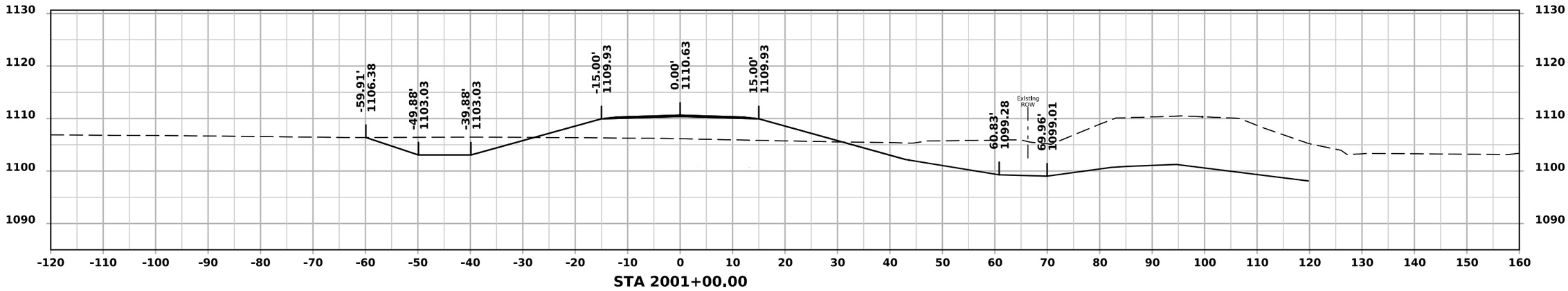
STA 423+00.00
(Match Existing Elevations)



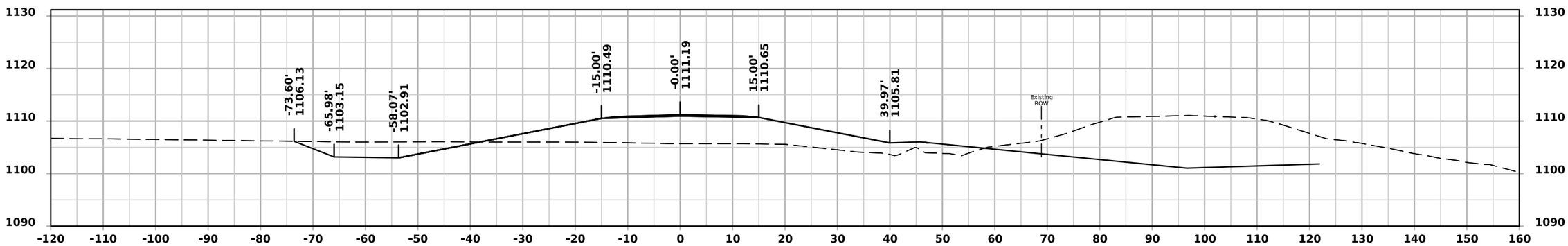
STA 422+75.00

FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER W.15

SR - 350TH ST



STA 2001+00.00



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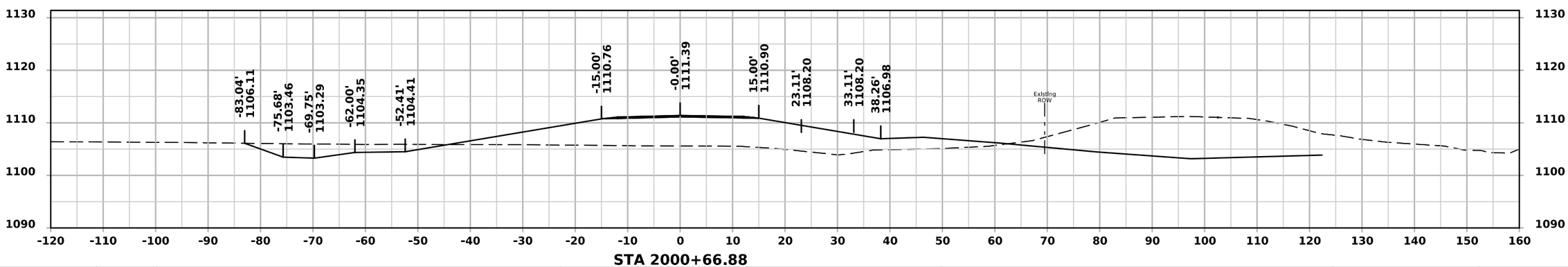
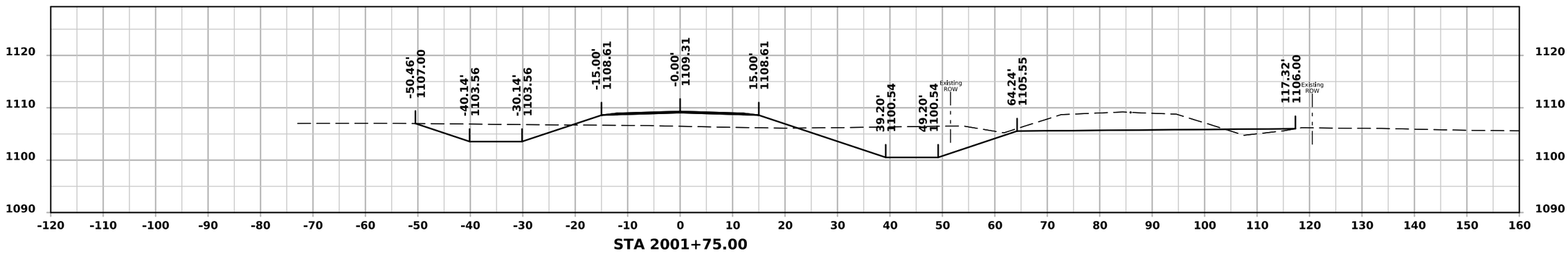


STA 2000+66.88

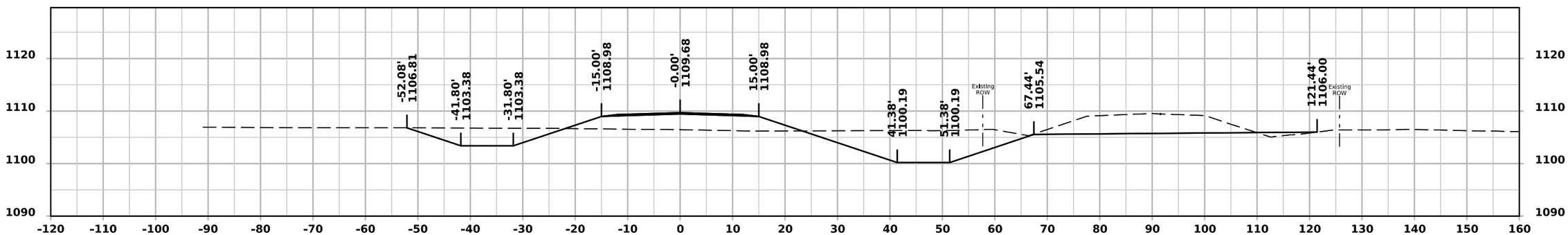
FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER X.1

1:15:20 PM 9/17/2025 nxr1 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7800603024\Design\CADD_Files\Cross_Sections\SHT_78006135_X.dgn

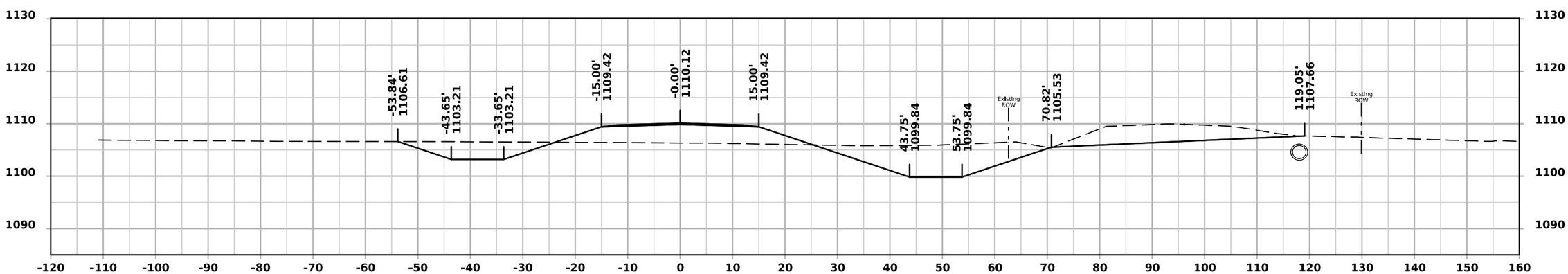
SR - 350TH ST



STA 2001+75.00



STA 2001+50.00

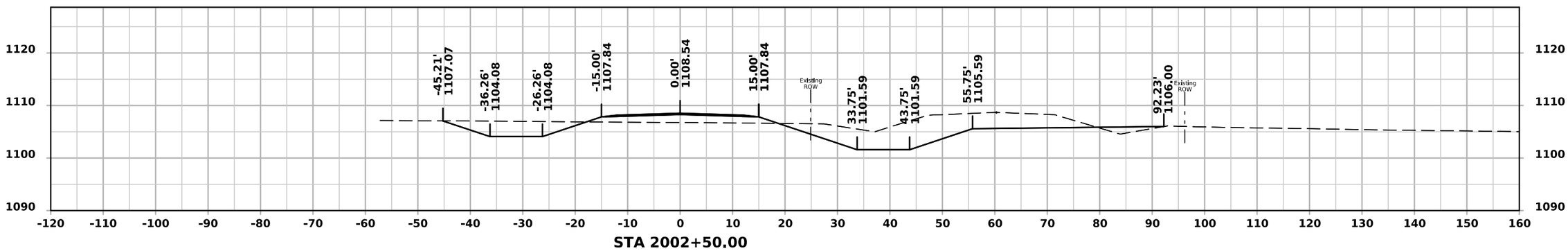


STA 2001+25.00

FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER X.2

1:15:20 PM 9/17/2025 nxr1 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7800603024\Design\CADD_Files\Cross_Sections\SHT_78006135_X.dgn

SR - 350TH ST



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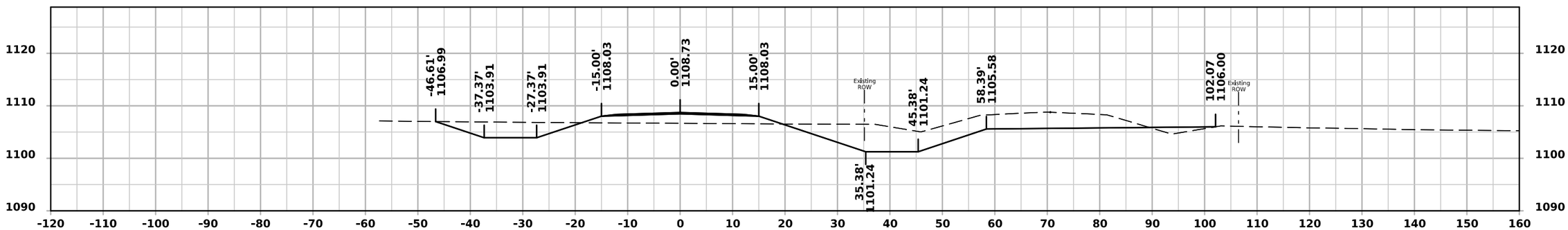
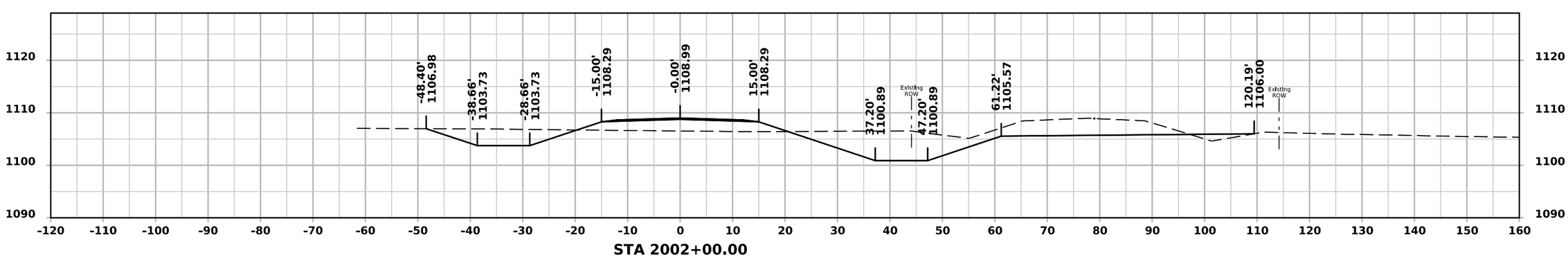


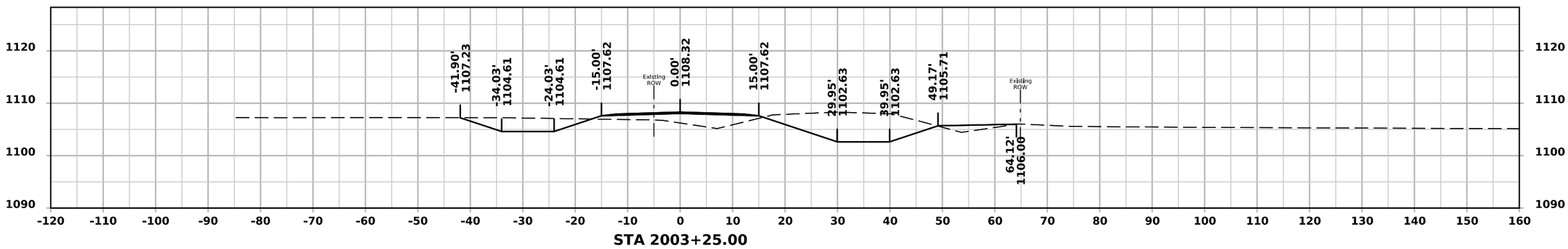
STA 2002+25.00



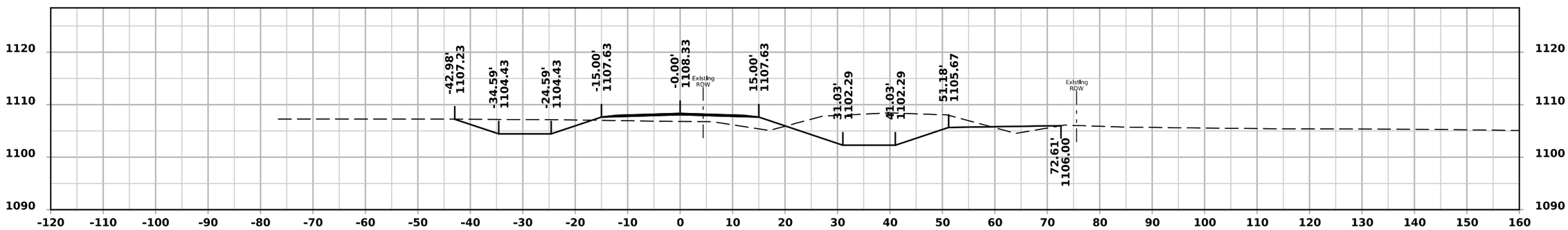
STA 2002+00.00

FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER X.3

SR - 350TH ST



STA 2003+25.00



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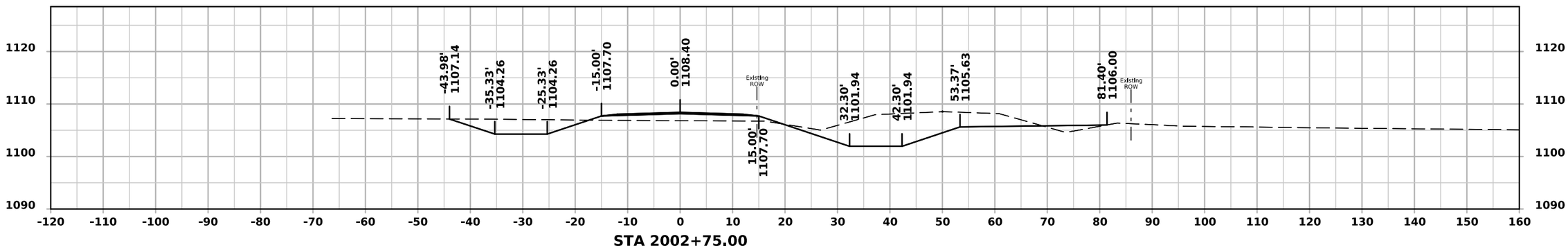
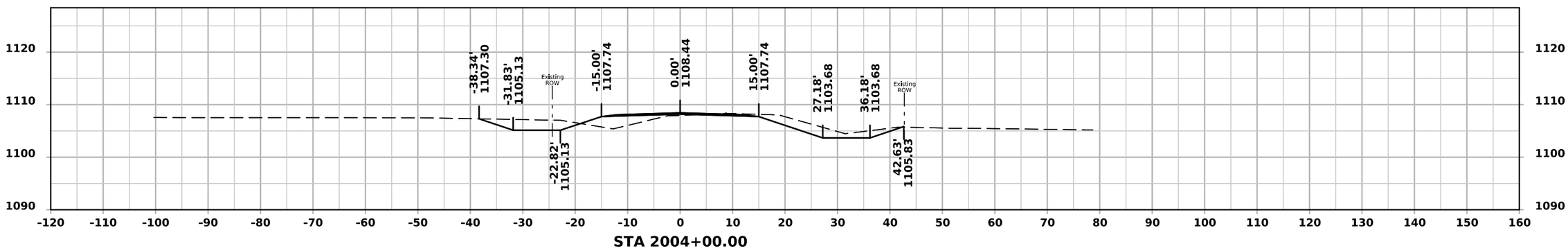


STA 2002+75.00

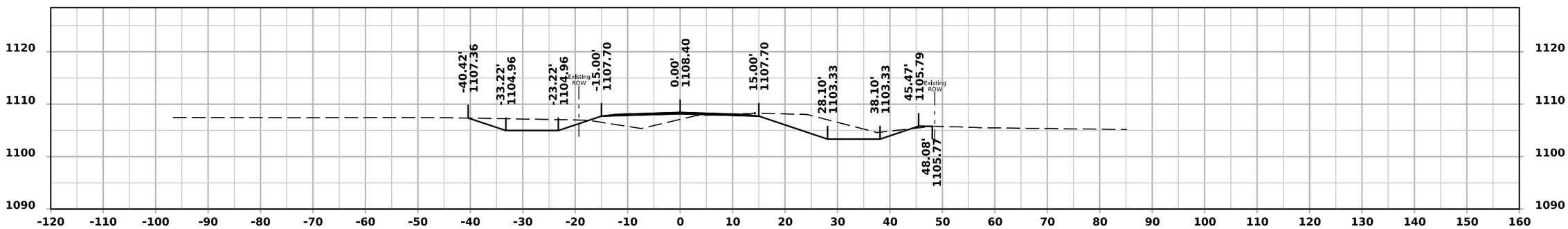
FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER X.4

1:15:22 PM 9/17/2025 nxr1 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7800603024\Design\CADD_Files\Cross_Sections\SHT_78006135_X.dgn

SR - 350TH ST



STA 2004+00.00



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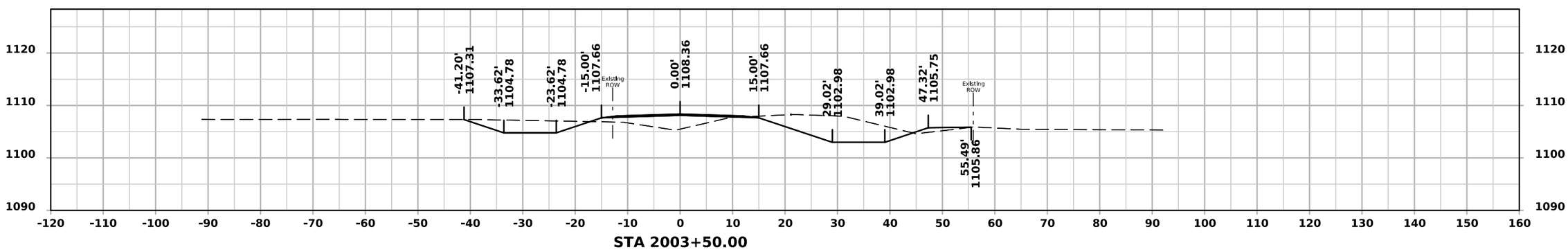
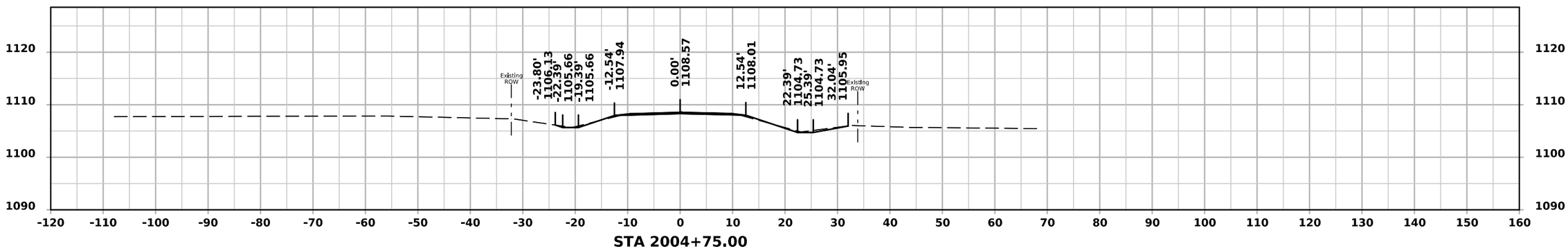


STA 2003+50.00

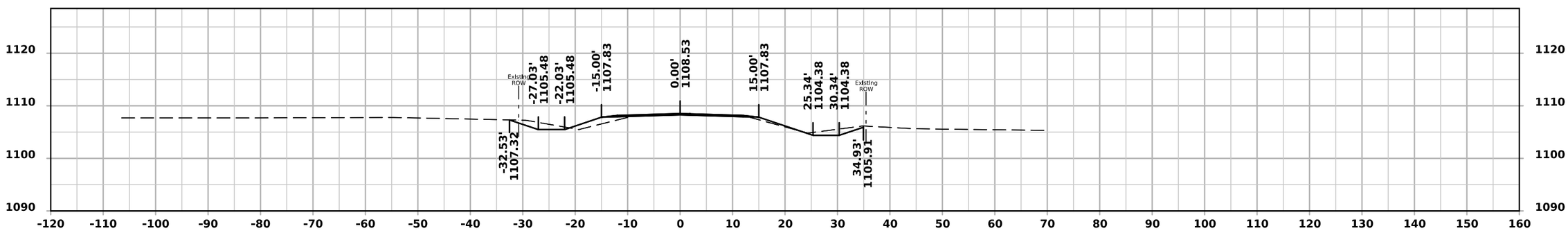
FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER X.5

1:15:22 PM 9/17/2025 nxr1 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7800603024\Design\CADD_Files\Cross_Sections\SHT_78006135_X.dgn

SR - 350TH ST



STA 2004+75.00



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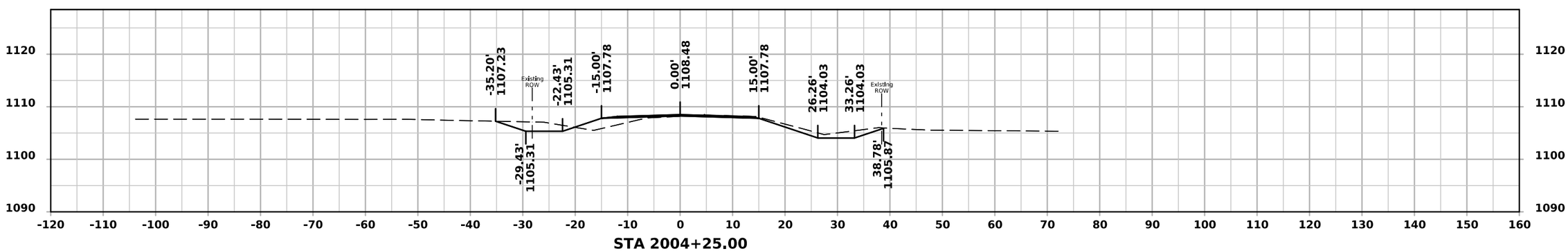
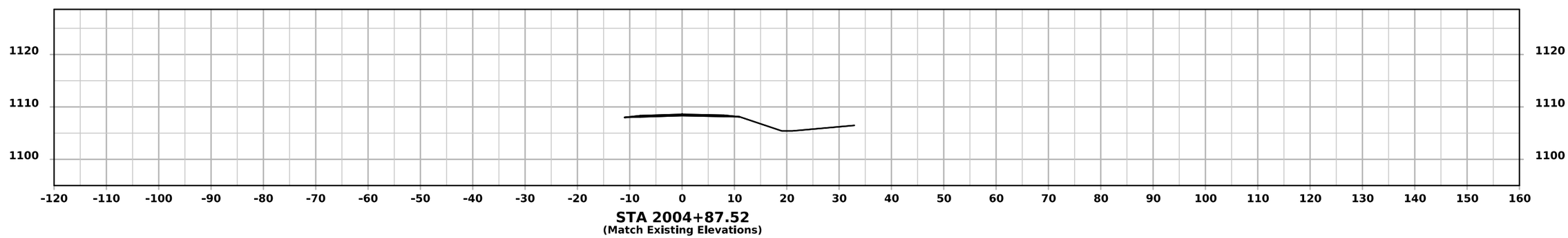


STA 2004+25.00

FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER X.6

SR - 350TH ST



STA 2004+87.52
(Match Existing Elevations)

FILE NO.	ENGLISH	DESIGN TEAM FOTH	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRF-006-1(135)--38-78	SHEET NUMBER X.7