LETTING DATE
July 21, 2026

BRIDGE REPLACEMENT
BRF-069-4(128)--38-77

POLK COUNTY

IOWA DOT

REVISIONS

TOTAL
..
PROJECT IDENTIFICATION NUMBER
20-77-069-030
PROJECT NUMBER
BRF-069-4(128)--38-77
R.O.W. PROJECT NUMBER
56478

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
POLK COUNTY
BRIDGE REPLACEMENT

US 69 bridge
over Des Moines River
1.4 mi S of I-235 in Des Moines

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

SEE SHEET A.2 FOR LOCATION MAP

INDEX OF SHEETS

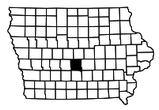
INDEX OF SEALS

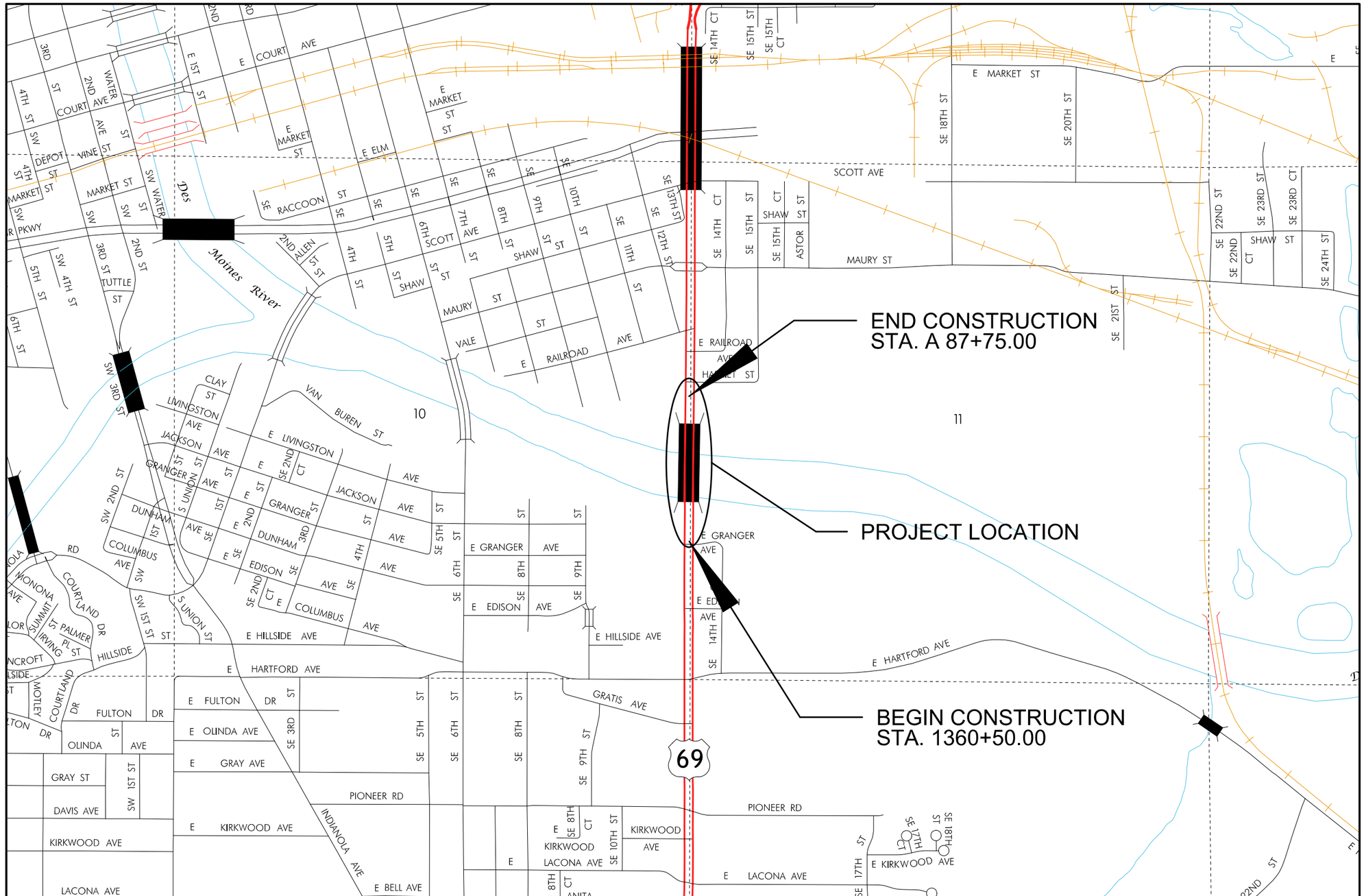
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	X	Primary Signature Block	X
X	X	X	X

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: June 26, 2024

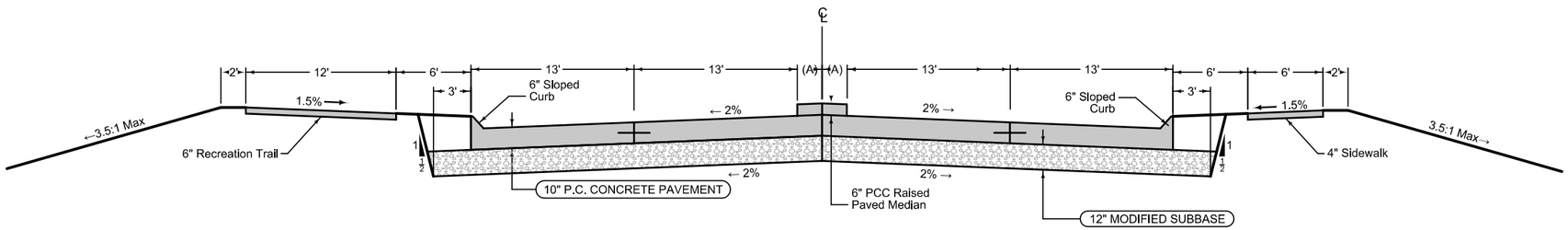




FILE NO. 32507	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER A.2

12:01:03 PM 6/26/2024 ADS1 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7706903020\Design\CADD_Files\Sheet Files\77069128_A_SHT.dgn

TYPICAL SECTION - US 69 (SE 14TH STREET)



BEGIN STATION	END STATION	Ⓐ Feet
1360+50	1361+00	8.0
1361+00	1363+34	8.0 - 2.0
1363+34	1364+24.89	2.0
1372+34.21	A 87+75	2.0

US 69 (SE 14TH STREET)

FILE NO. 32507	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER B.1	

10:17:01 AM 6/26/2024 jlp3 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7706903020\Design\CADD_Files\Sheet Files\77069128_B_SHT.dgn

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
- C Cistern
- LP L.P. Gas Tank (No Footing)
- UST 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

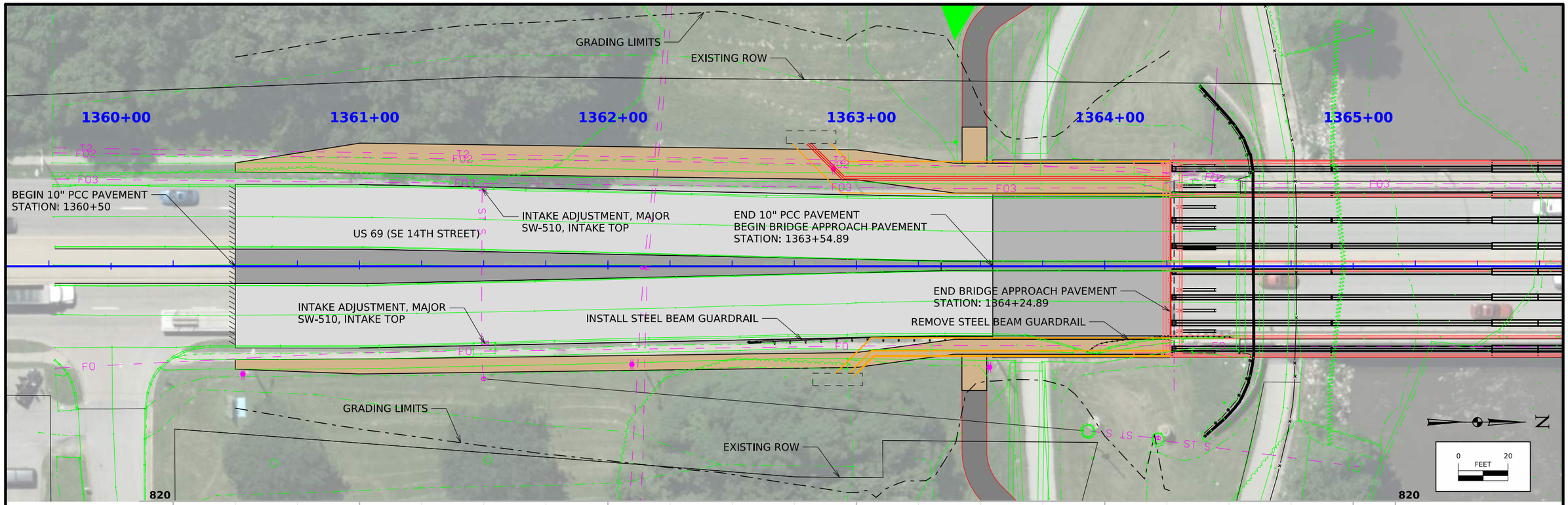
RIGHT-OF-WAY LEGEND

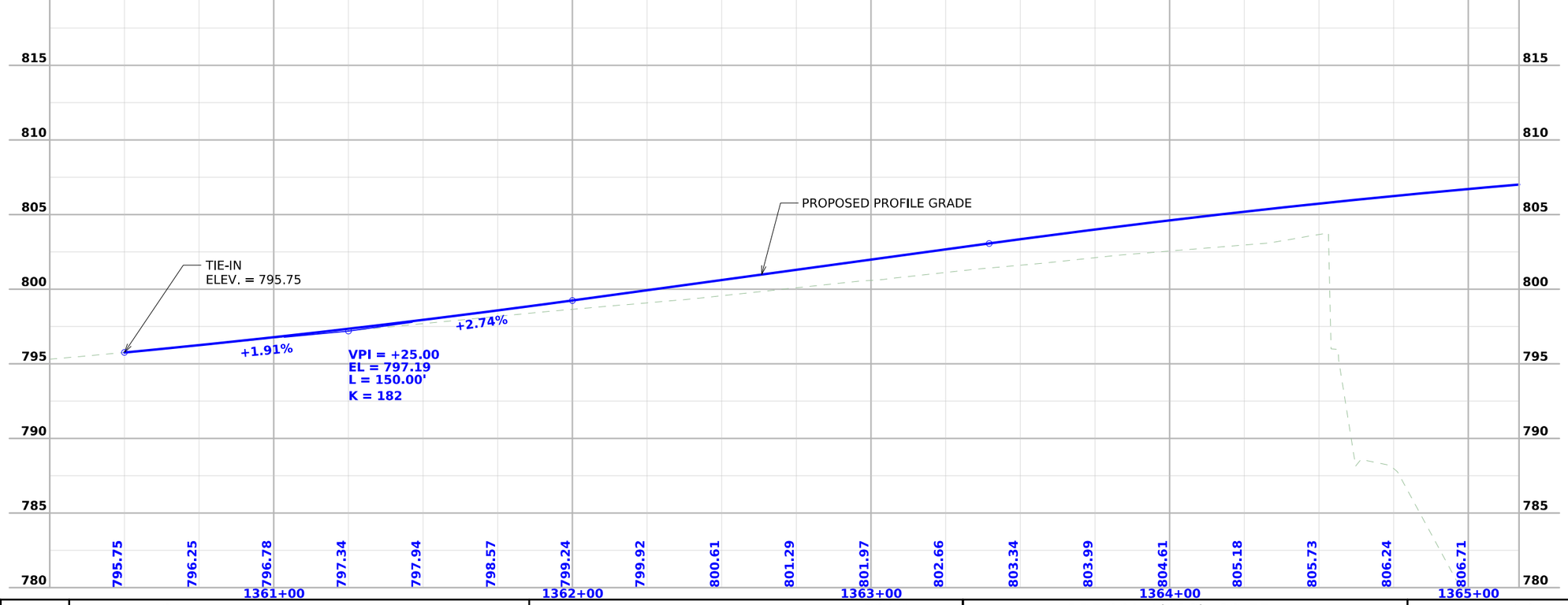
- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- C/A Access Control
- Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

FILE NO. 32507	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER D.1





FILE NO. 32507	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER D.2

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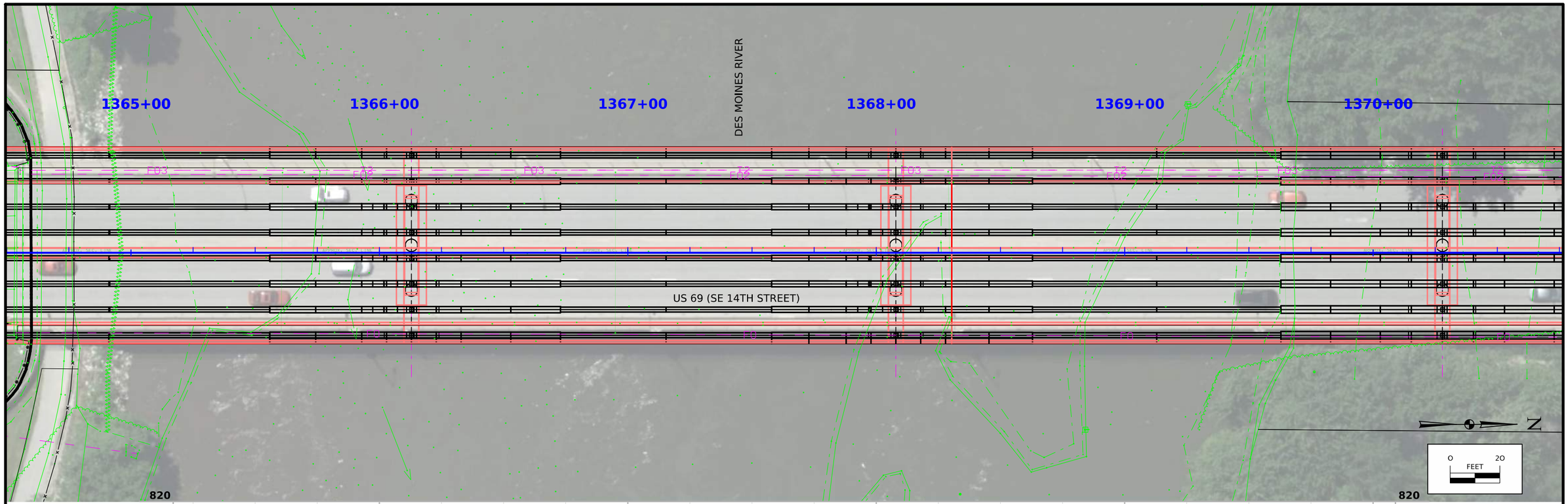

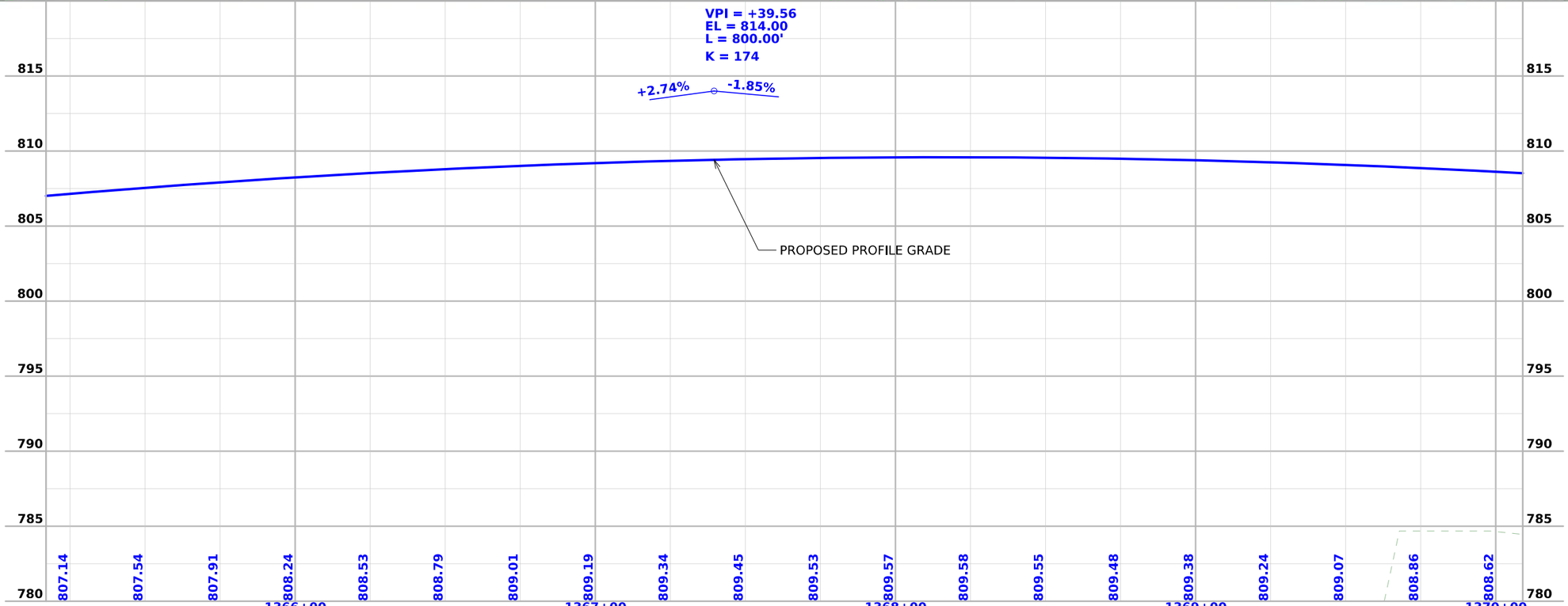

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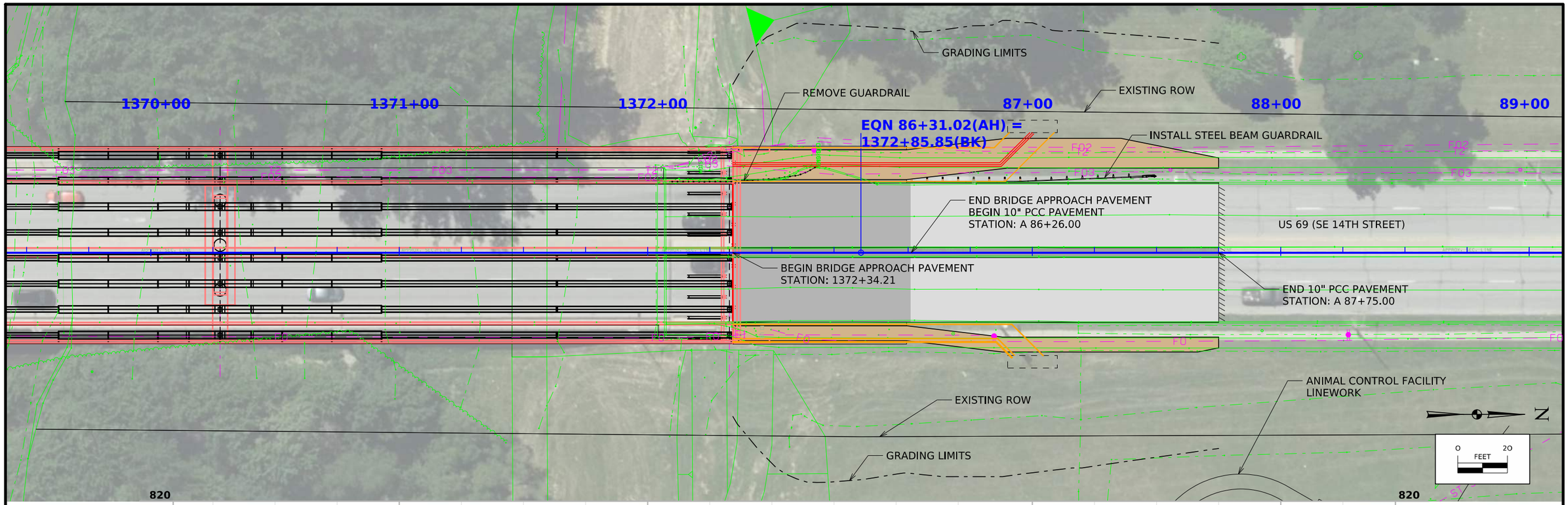

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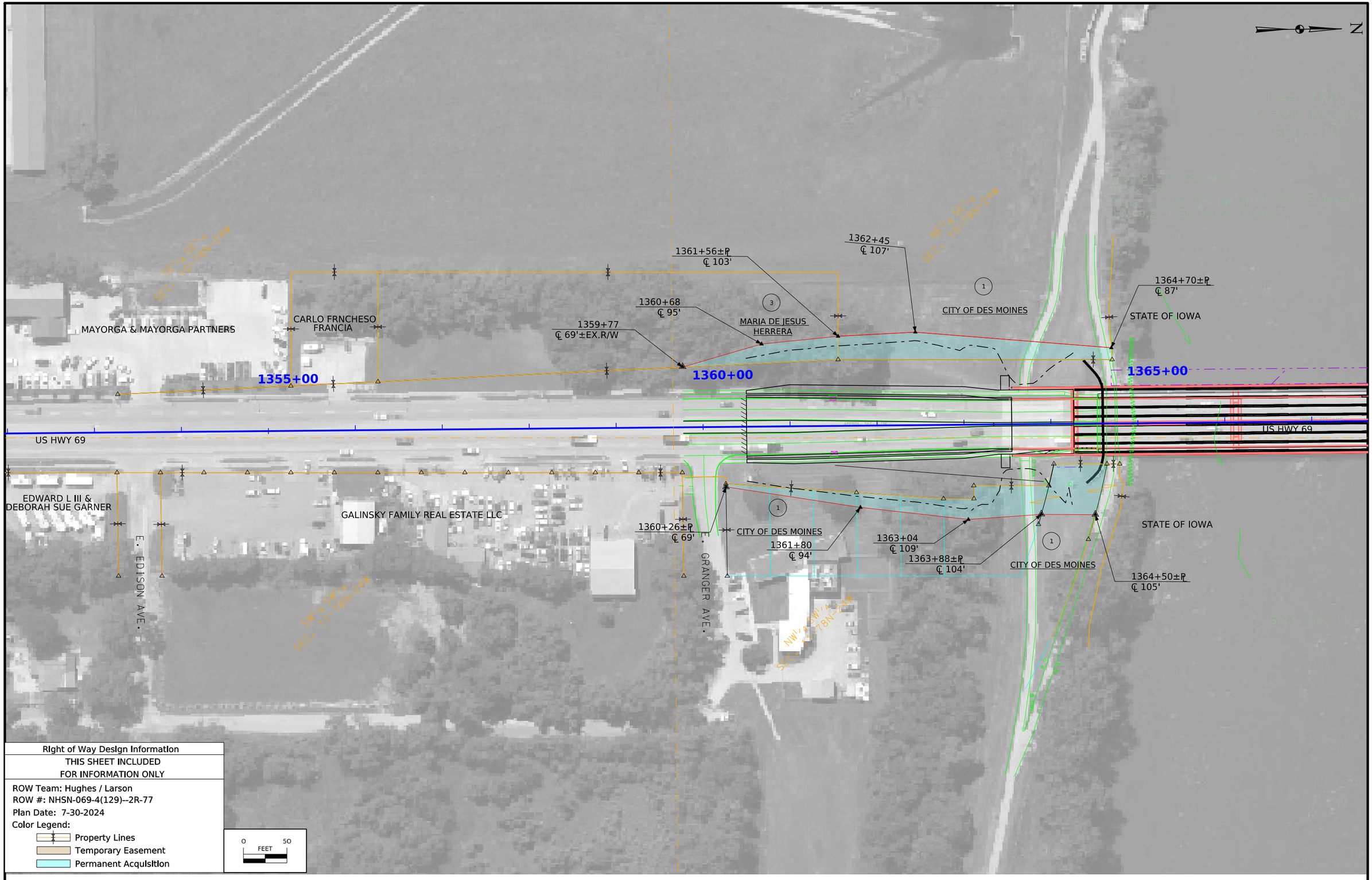
NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

FILE NO.	ENGLISH	DESIGN TEAM	IOWA DOT * OFFICE OF ROW	COUNTY	PROJECT NUMBER	SHEET NUMBER	



Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY
ROW Team: Hughes / Larson
ROW #: NHSN-069-4(129)--2R-77
Plan Date: 7-30-2024
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

0 50 FEET

FILE NO.	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER H.1	

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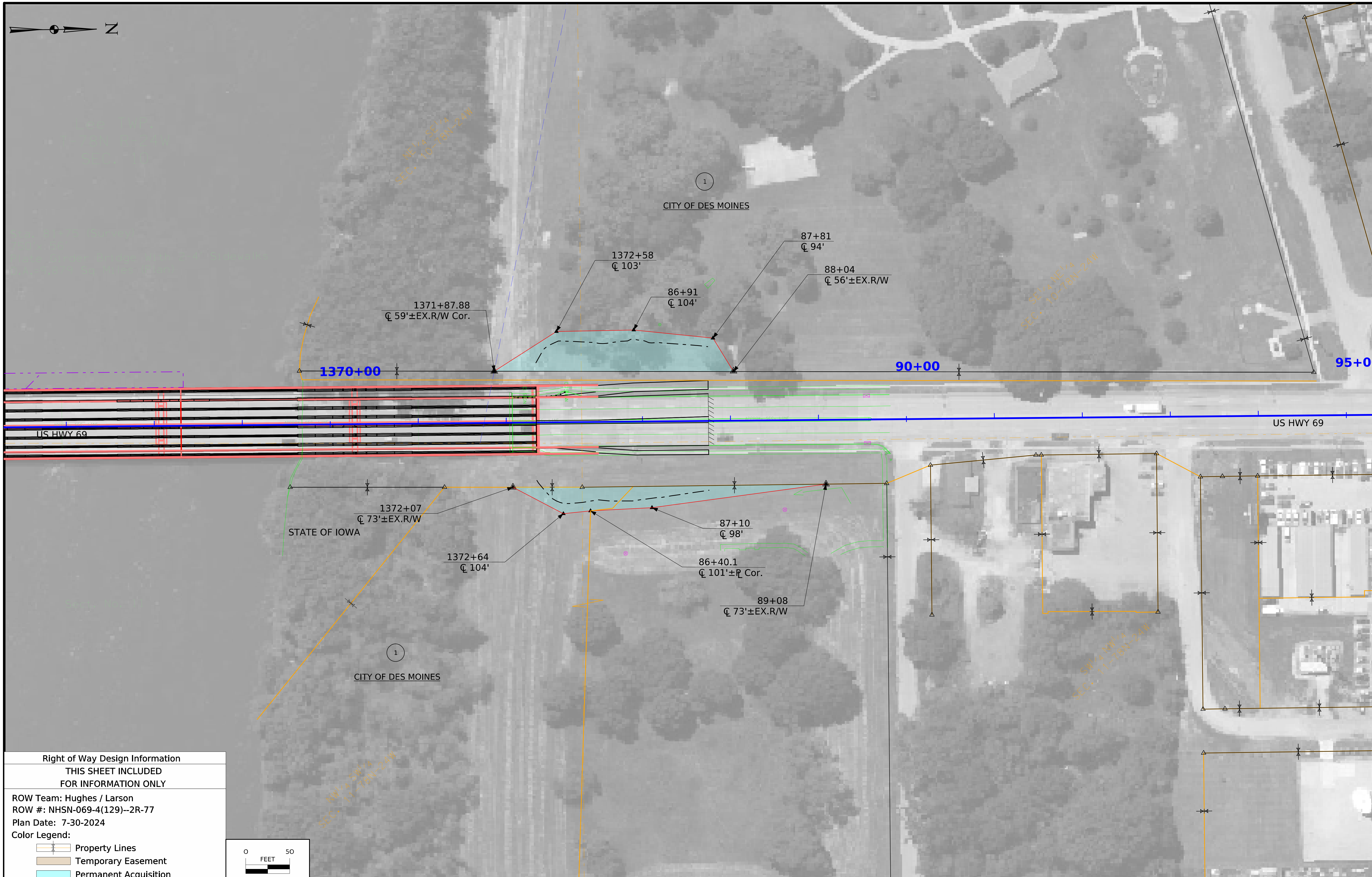

N
CITY OF DES MOINES
1372+58
℄ 103'
87+81
℄ 94'
88+04
℄ 56'±EX.R/W
86+91
℄ 104'
1371+87.88
℄ 59'±EX.R/W Cor.
1370+00
90+00
95+00
US HWY 69
US HWY 69
1372+07
℄ 73'±EX.R/W
87+10
℄ 98'
STATE OF IOWA
1372+64
℄ 104'
86+40.1
℄ 101'±℄ Cor.
89+08
℄ 73'±EX.R/W
CITY OF DES MOINES
Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY
ROW Team: Hughes / Larson
ROW #: NHSN-069-4(129)--2R-77
Plan Date: 7-30-2024
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition
0
50
FEET

FILE NO.	ENGLISH	DESIGN TEAM FOTH		POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER H.2

7:32:29 AM 7/30/2024 CHUGHES pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\7706903020\ROW\ROW_77069129.dgn

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic will be maintained via staged construction with traffic reduced to two lanes of head-to-head traffic. A section of the raised median on both sides of the bridge will be removed to allow traffic to be transitioned over for staging. The raised median will be replaced once construction is completed. Refer to Standard Road Plan TC-423 for additional information.

An off-site detour will be utilized to reduce traffic congestion. The detour would follow IA 5 east at the junction of US 69 and IA 5, then north on US 65 to IA 163, and finally west to the junction of US 69. See J.2 for proposed detour route.

Pedestrian traffic will also be detoured during construction. The detour will follow the Des Moines River trail west of the US 69 bridge to the SE 6th St. bridge, then north across the SE 6th St. bridge to Maury St, and finally east on Maury St. to US 69.

108-26A
08-01-08

STAGING NOTES

Stage 1

Traffic Control:
Shift traffic, reduce US 69 to two lanes of head-to-head traffic on the NB lanes of the existing bridge per TC-423.

Construction:
Remove west side of existing bridge and construct proposed SB lanes.

Stage 2

Traffic Control:
Shift head-to-head traffic to the newly constructed SB lanes of bridge per TC-423.

Construction:
Remove east side of existing bridge and construct proposed NB lanes, including barrier, sidewalk, fence, and handrail.

Stage 3

Traffic Control:
Shift traffic to outside lanes of newly constructed bridge.

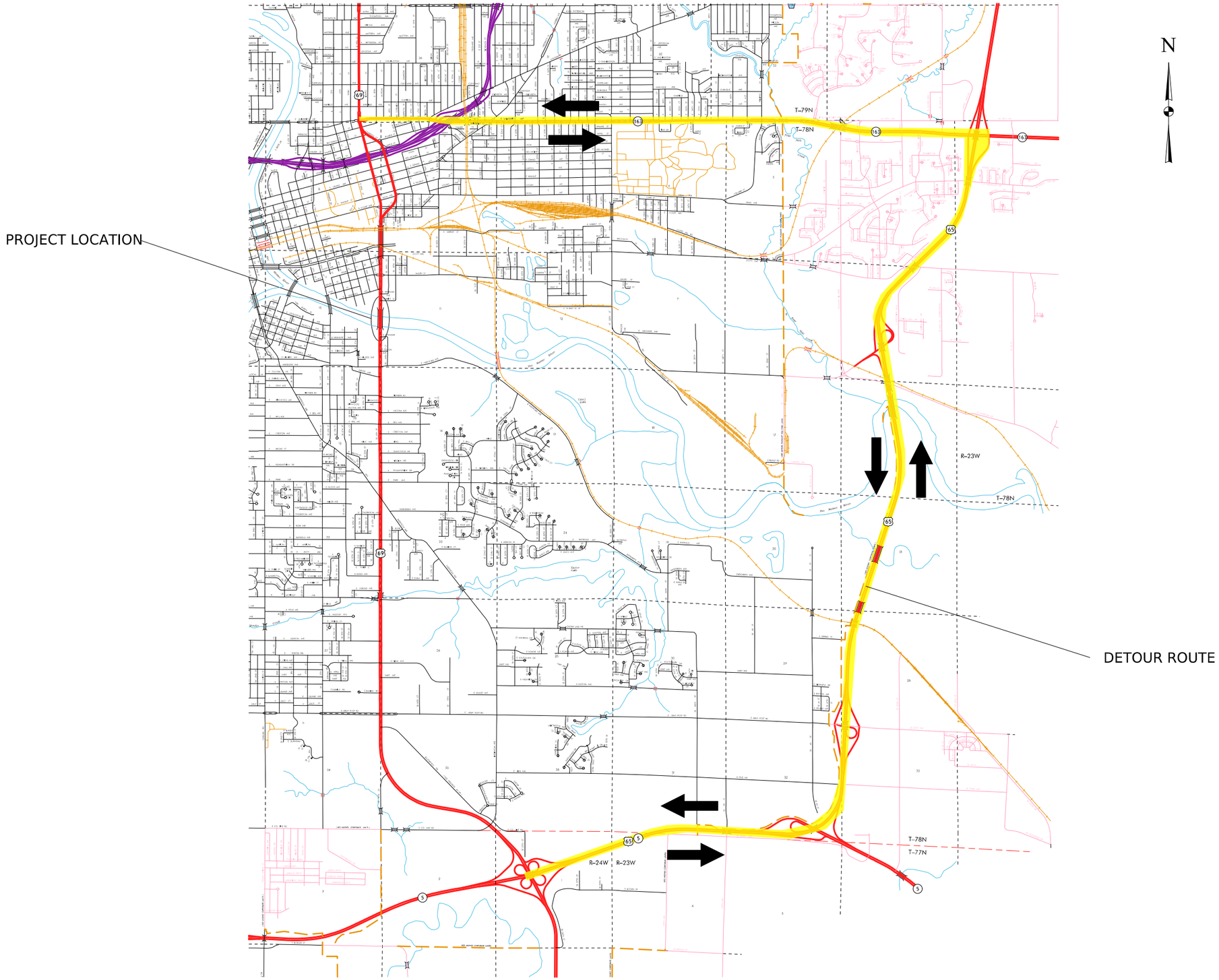
Construction:
Construct closure pour in center of bridge.

Stage 4

Traffic Control:
Open both lanes for NB traffic on newly constructed lanes. Shift SB traffic to the inside lane on newly constructed bridge.

Construction:
Construct barrier, recreation trail, fence, and handrail on west side.

See Sheet J.3 for proposed staging layout.



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UTILITY GENERAL NOTES

1. ALL QUANTITIES SHOWN IN THE PLANS AND SPECIFICATIONS ARE FOR INFORMATIONAL AND ESTIMATING PURPOSES ONLY. THE CONTRACTOR'S BID SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND FUNCTIONAL JOINT UTILITY TRENCH INSTALLATION, IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS.

2. PROVIDE TRAFFIC CONTROL DEVICES AS REQUIRED TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

3. THE PLAN LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES, INCLUDING CITY OWNED UTILITIES, PRIOR TO ANY EXCAVATION ON THE PROJECT. ALL UTILITIES SHALL BE LOCATED AND MARKED PRIOR TO CONSTRUCTION.

4. THE LOCATIONS OF ALL HANDHOLES, AND CONDUIT ARE TO BE COORDINATED WITH THE ENGINEER AND ARE SUBJECT TO ADJUSTMENT IN THE FIELD BY THE ENGINEER.

5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ANY CONFLICTS WITH THE EXISTING UTILITIES AT SITES IN THE FIELD PRIOR TO CONSTRUCTION AT THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE ENGINEER UPON DETERMINATION OF ANY UTILITY CONFLICT.

6. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL LANDSCAPE IRRIGATION SYSTEMS DAMAGED DUE TO CONSTRUCTION ACTIVITIES. THE IRRIGATION SYSTEM REPAIRS SHALL BE INCIDENTAL TO THE PROJECT.

7. AREAS DISTURBED BY CONSTRUCTION SHALL BE REGRADED TO THE ORIGINAL OR PROPOSED ELEVATION AND MULCHED AT THE CONTRACTOR'S EXPENSE. AREAS DISTURBED BY CONSTRUCTION IN THE AREA OF THE PROPOSED ROADWAY SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO A CONDITION THAT IS COORDINATED WITH THE PRIME CONTRACTOR.

8. CONTRACTOR MAY SUBSTITUTE HDPE CONDUIT FOR PVC ON LONG, STRAIGHT, CONTINUOUS CONDUIT RUNS UNDER EXISTING PAVEMENT TO BE INSTALLED WITH DIRECTIONAL BORING EQUIPMENT, LOCATIONS TO BE APPROVED BY ENGINEER. REFER TO DETAILED SPECIFICATIONS FOR DESCRIPTIONS OF HDPE CONDUIT. SPECIFIED CONDUIT COLORS SHALL BE USED. TRENCH BORE SHALL BE CONSIDERED INCIDENTAL TO INSTALLATION OF CONDUIT.

9. THE CONTRACTOR SHALL TRENCH THE CONDUIT. PAVEMENT SHALL NOT BE DISTURBED BY CONSTRUCTION. TRENCH BORE SHALL BE CONSIDERED INCIDENTAL TO INSTALLATION OF CONDUIT.

10. UNDERGOUND CONDUIT SHALL BE PLACED AT 42" MINIMUM COVER OF PROPOSED SURFACE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

11. THE MINIMUM COVER UNDER EXISTING OR PROPOSED PAVEMENT SHALL BE 48" OR SUCH GREATER DEPTH AS MAY BE REQUIRED TO CLEAR THE PAVEMENT STRUCTURE.

12. THE MINIMUM BEND RADIUS OF THE CONDUIT SYSTEM SHALL BE THE LARGER OF THE MANUFACTURER'S RECOMMENDATIONS OR NEC REQUIREMENTS. ALL BENDS SHALL BE COMPOSED OF FIBERGLASS.

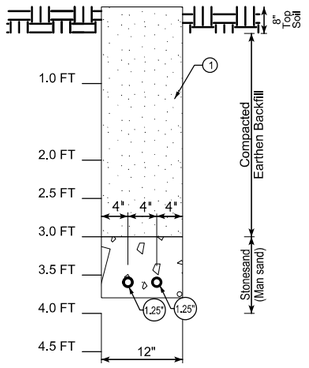
13. CONTRACTOR TO PROVIDE AS-BUILT FIELD LOCATES FOR BOTH VERTICAL AND HORIZONTAL PLACEMENT OF THE PROJECT.

14. CONTRACTOR TO INSTALL BELL END FITTINGS ON THE ENDS OF CONDUIT IN HANDHOLES AS PER SPECIFICATIONS.

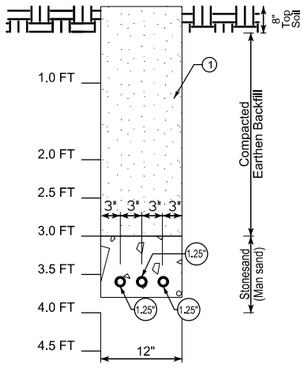
15. HANDHOLES SHALL BE PLACED DIRECTLY ADJACENT TO THE TRENCH TO ALLOW CONDUIT TO BE SWEPT INTO HANDHOLE FROM THE BOTTOM.

16. PULL ROPE WILL BE INSTALLED IN ALL CONDUITS.

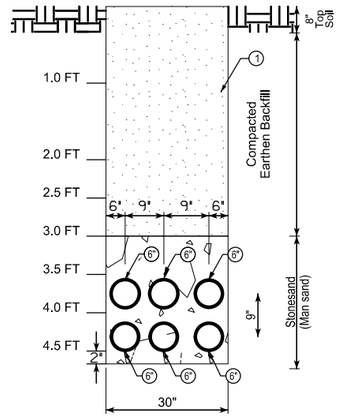
17. SCHEDULE 40 PVC WILL BE ALLOWED FOR THE 4" CONDUIT. THERE WILL BE NO COLOR REQUIREMENT FOR THE 4" CONDUIT.



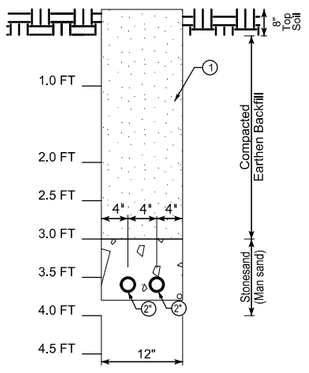
2 x 1.25" TRENCH TYPICAL SECTION



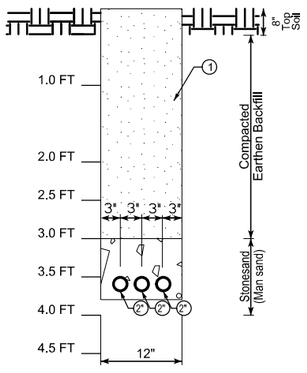
3 x 1.25" TRENCH TYPICAL SECTION



6 x 6"
TRENCH TYPICAL SECTION

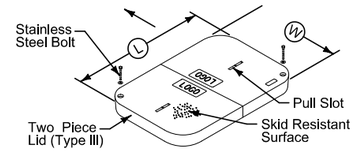


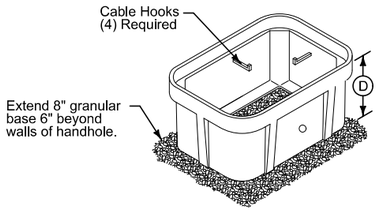
2 x 2" TRENCH TYPICAL SECTION



3 x 2" TRENCH TYPICAL SECTION

NOTE:
1. ENSURE BACKFILL MATERIAL IS FREE OF CINDERS, CONCRETE, OR OTHER RUBBLE.
2. BACKFILL MATERIAL SHALL BE COMPACTED.





HANDHOLE DIMENSIONS TABLE (NOMINAL)			
TYPE	L	W	D
III	36"	24"	30"
IV	48"	30"	36"

PRECAST COMPOSITE HANDHOLE

1361+00
1362+00
1363+00
1364+00
1365+00
1366+00

PROPOSED 3 X 1.25" COMMUNICATION PATHWAY (BY LUMEN)

HANDHOLE BANK LOCATION (BY OTHERS)

PROPOSED 6 X 6" ELECTRICAL PATHWAY (BY MIDAMERICAN)

US 69 (SE 14TH STREET)

PROPOSED 2 X 1.25" COMMUNICATION PATHWAY (BY LUMEN)

PROPOSED 2 X 2" COMMUNICATION PATHWAY (AUREON & ICN)

PROPOSED 2 X 2" COMMUNICATION PATHWAY (FUTURE)

HANDHOLE BANK LOCATION (BY OTHERS)

PROPOSED 3 X 2" COMMUNICATION PATHWAY (VERIZON, LIGHT POLES, & FUTURE)

PROPOSED ELECTRIC

PROPOSED COMMUNICATIONS

REFER TO V- AND W-SHEETS FOR LOCATIONS OF CONDUITS WITHIN BRIDGE BARRIER RAIL AND PAVEMENT

0 2O FEET

N

1371+00
1372+00
87+00
88+00
89+00
90+0

PROPOSED 6 X 6" ELECTRICAL PATHWAY (MIDAMERICAN)

PROPOSED 3 X 1.25" COMMUNICATION PATHWAY (LUMEN)

HANDHOLE BANK LOCATION (BY OTHERS)

EQN 86+31.02(AH) = 1372+85.85(BK)

PROPOSED 2 X 1.25" COMMUNICATION PATHWAY (LUMEN)

US 69 (SE 14TH STREET)

PROPOSED 2 X 2" COMMUNICATION PATHWAY (FUTURE)

PROPOSED 2 X 2" COMMUNICATION PATHWAY (AUREON & ICN)

PROPOSED 3 X 2" COMMUNICATION PATHWAY (VERIZON, LIGHT POLES, & FUTURE)

HANDHOLE BANK LOCATION (BY OTHERS)

PROPOSED ELECTRIC

PROPOSED COMMUNICATIONS

REFER TO V- AND W-SHEETS FOR LOCATIONS OF CONDUITS WITHIN BRIDGE BARRIER RAIL AND PAVEMENT

0 2O FEET

N

FILE NO. 32507	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER P.2

2:41:28 PM 7/1/2024 ADS1 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7706903020\Design\CADD_Files\Sheet Files\77069128_P2_SHT.dgn

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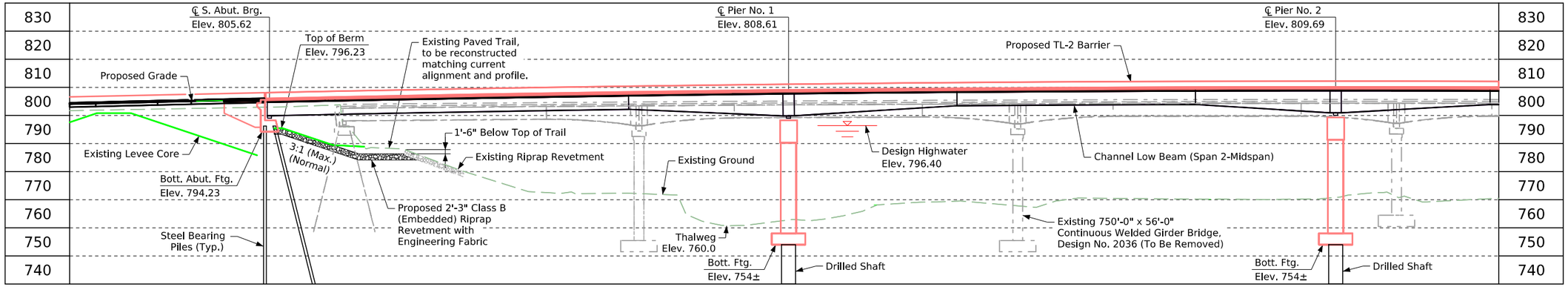
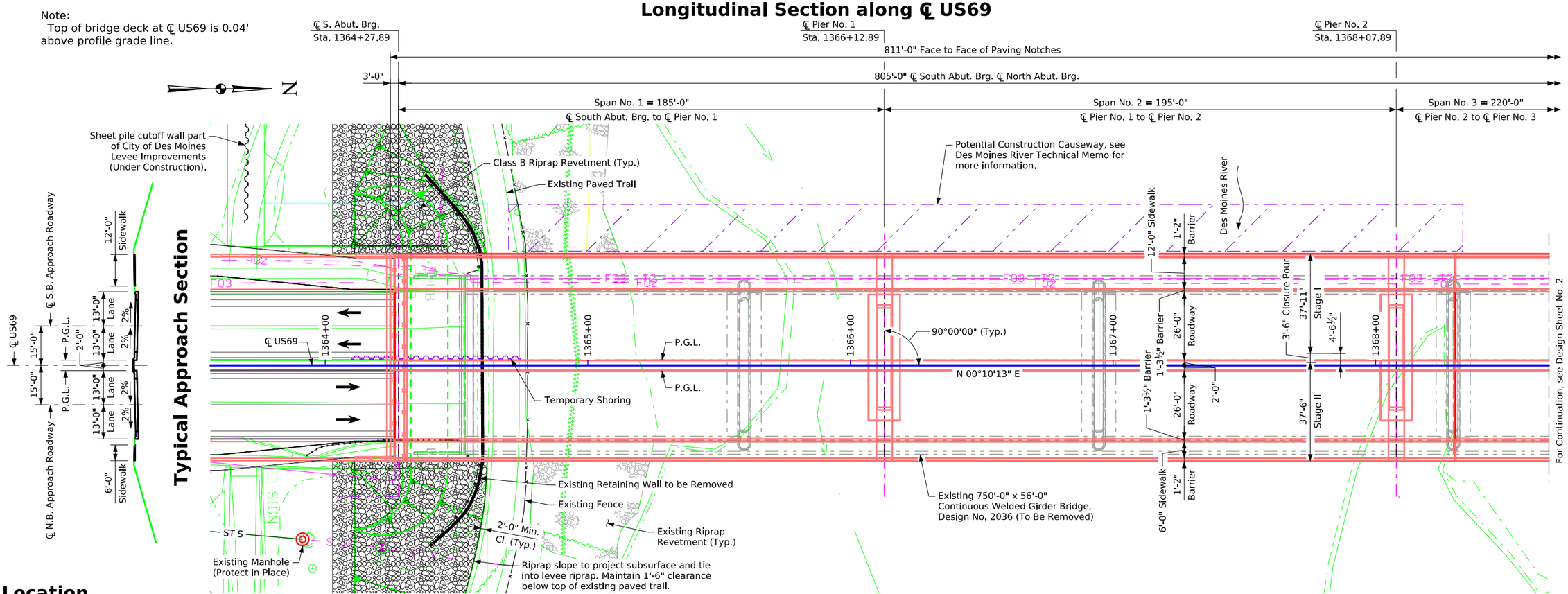


Longitudinal Section along ℄ US69

Note:
Top of bridge deck at ℄ US69 is 0.04' above profile grade line.

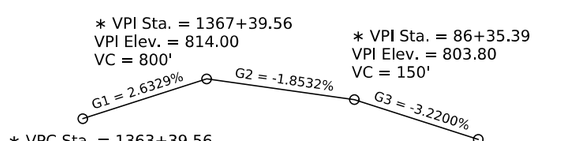


Location

US69 over Des Moines River
In the City of Des Moines
T-78N R-24W
Section 10 & 11
Lee Township
Polk County
FHWA No. 040501
Bridge Maint. No. 7784.2S069
Asset ID No. 040501
Latitude 41.574720°
Longitude -93.596860°

US 69 Proposed Profile Grade

∗ Roadway Station Equation
Sta. 86+31.02 (AH) = Sta. 1372+85.85 (BK)



Situation Plan

Notes:
This design is for the replacement of the existing 750'-0" x 56'-0" CWG Bridge Design No. 2036, FHWA No. 040500, Bridge Maintenence No. 7784.2S069.
All units are in feet unless noted otherwise.
All plan dimensions shown are measured in a horizontal plane unless noted otherwise.
For Notes to Designers, Utilities Notes and Traffic Estimate, see Design Sheet No. 2.
For Hydraulic Data, see Design Sheet No. 4.
For Staging, see Design Sheet No. 5.

Preliminary
Not For Construction

0 20
Scale In Feet

Design For 0° Skew

805'-0" X 78'-11" Continuous Welded Girder Bridge

185'-0" & 205'-0" End Spans 195'-0" & 220'-0" Interior Spans

Situation Plan (1 of 2)

STA. 1368+30.39 (℄ US69) Turn-in Date: June 2024

Polk County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. XXX Design Sheet No. 1 of 5 FHWA No. 040501

FILE NO. 32507	ENGLISH	DESIGN TEAM HDR	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER V.1

1:49:53 PM 4/30/2024 ESORENS pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7706903020\Bridge\BRPrelim\SHT_77069128_HDR_DSN#_040501_Z08.dgn

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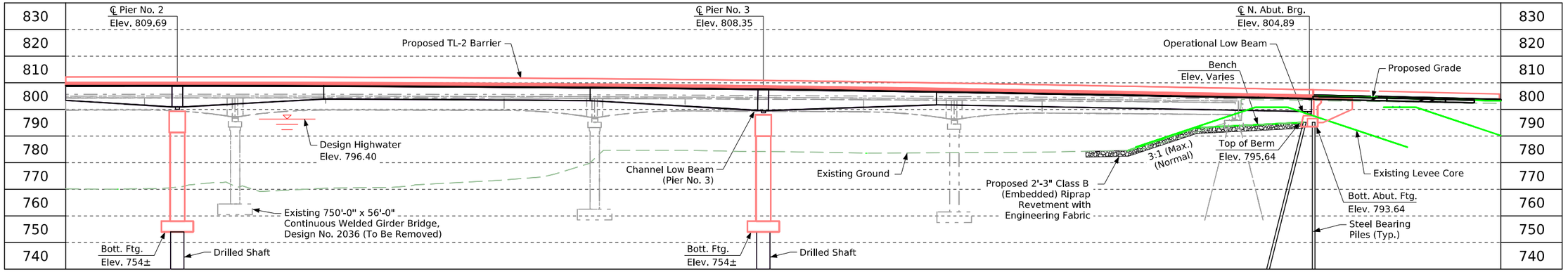
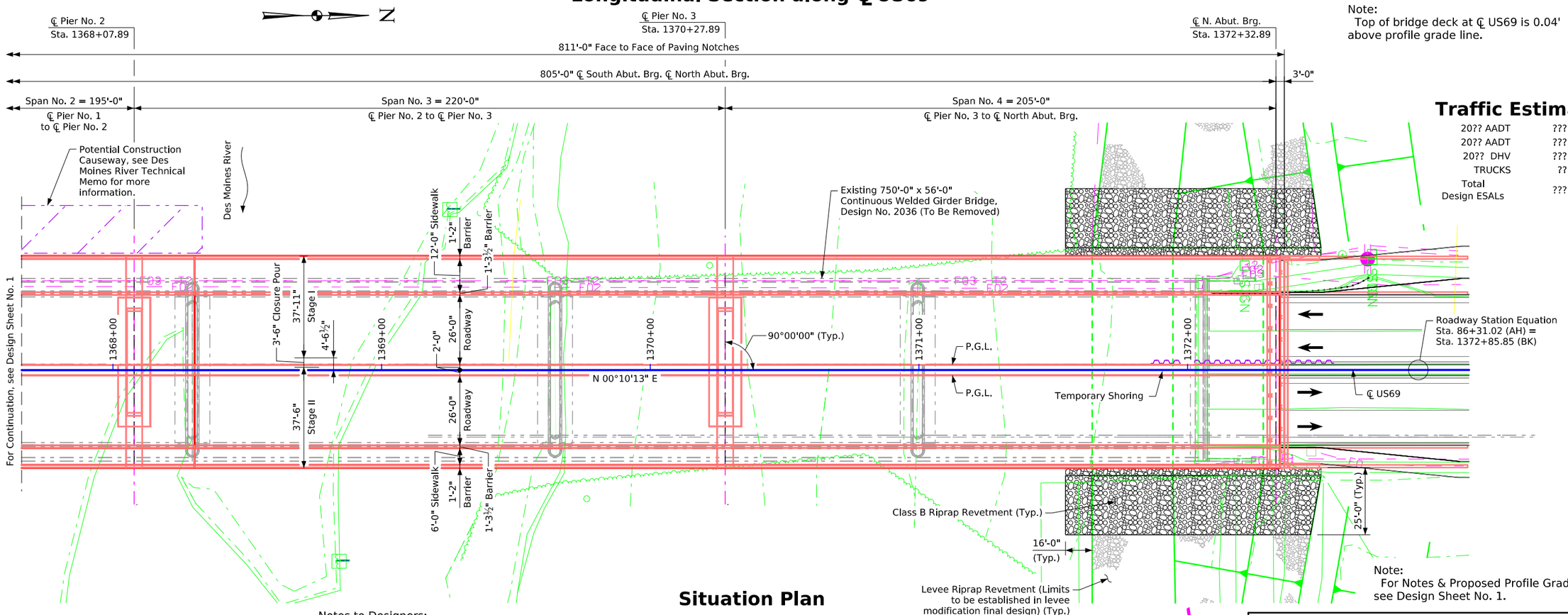


Longitudinal Section along ℄ US69



Note:
Top of bridge deck at ℄ US69 is 0.04' above profile grade line.

Note:
For Notes & Proposed Profile Grade, see Design Sheet No. 1.

Traffic Estimate

20?? AADT	??? V.P.D.
20?? AADT	??? V.P.D.
20?? DHV	??? V.P.H.
TRUCKS	?? %
Total Design ESALs	???

Utilities Note:

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

General Utility Symbols:

FO - Fiber Optic Line
FO2 - Fiber Optic Line
FO3 - Fiber Optic Line
E1 - Electric Line
T2 - Telephone Line
ST S - Storm Sewer

Notes to Designers:
Superstructure to be welded steel plate girders. Substructure to be stub abutment and T-type piers with a max. 40'-0" x 5'-6" column.
Hydraulic data based on an assumed pier column width.
All barriers shall be TL-2.
Foundation type to be determined based on final geotechnical recommendation, drilled shaft assumed. Existing pier footings are founded on bedrock.
Superstructure to be designed to resist stream pressure @ Q_{500} flow.

Situation Plan

Bridge aesthetics to be incorporated in final design in coordination with the Iowa DOT Aesthetics Coordinator.
Habitat deterrant details to be included at abutments in final design.
Requirements for a paddling route are applicable and signage, plan notes, and bid items shall be included in the road plans.
Slope protection and revetment shall grouted or similar, to be determined in final design.

Preliminary
Not For Construction

0 20
Scale In Feet

Design For 0° Skew

805'-0" X 78'-11" Continuous Welded Girder Bridge

185'-0" & 205'-0" End Spans 195'-0" & 220'-0" Interior Spans

Situation Plan (2 of 5)

STA. 1368+30.39 (℄ US69) Turn-in Date: June 2024

Polk County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. XXX Design Sheet No. 2 of 5 FHWA No. 040501

FILE NO. 32507	ENGLISH	DESIGN TEAM HDR	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER V.2

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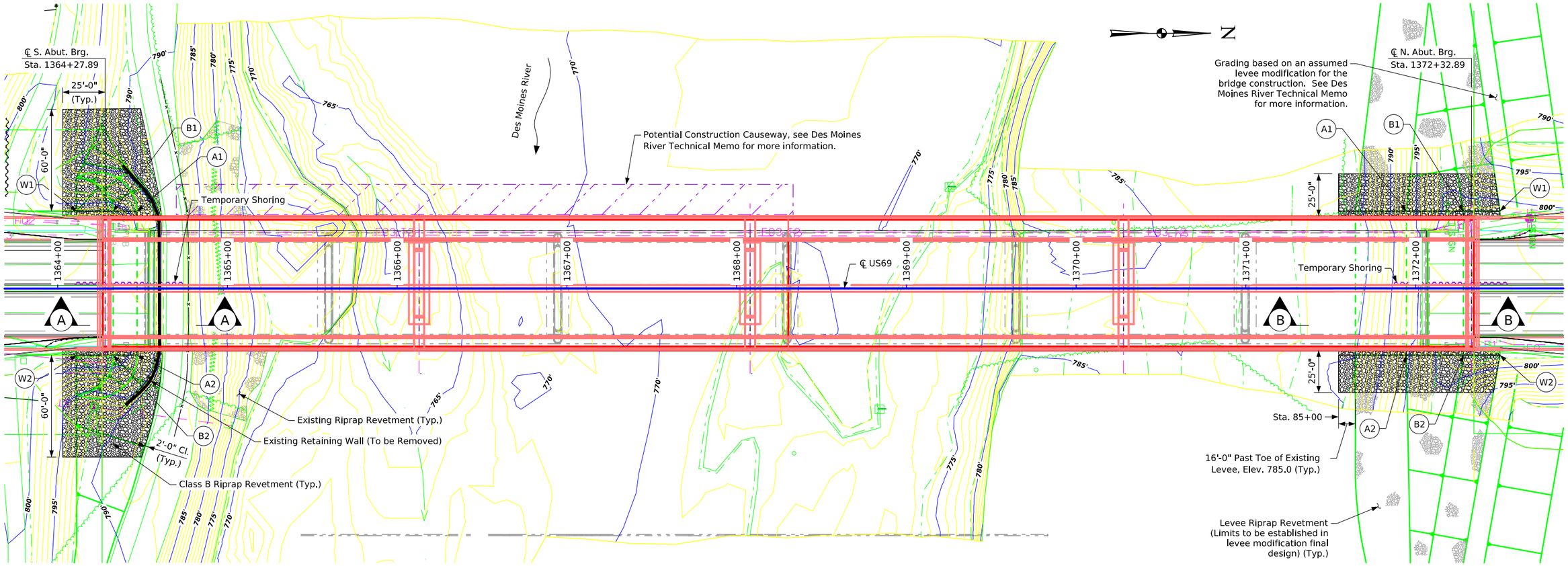
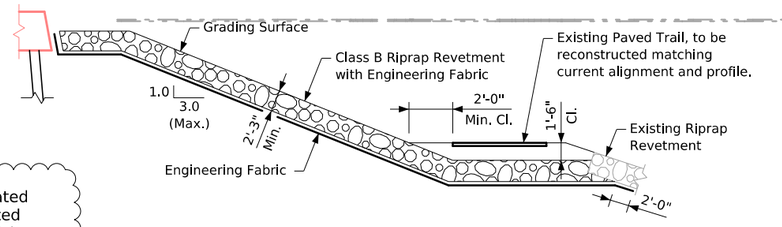
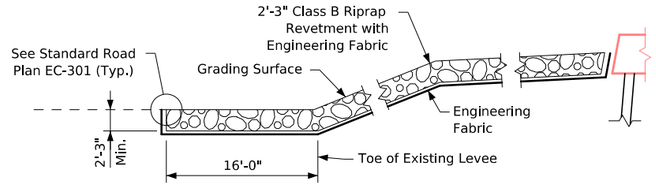


Site Plan



Section A-A



Section B-B

Berm Slope Location Table and Estimated Berm Armoring Quantities to be updated with the grading model following finalizing hydraulics model and establishment of the preferred alternative.

Estimated Berm Armoring Quantities

Location	Revetment CL. B (Ton)	Erosion Stone (Ton)	Engineering Fabric (SY)	CL. 10 Channel Excavation (CY)
Berm Lining - South Abut.	XX	XX	XX	XX
Berm Lining - North Abut.	XX	XX	XX	XX
Totals	XX	XX	XX	XX

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.

Berm Slope Location Table

Points	South Abutment			North Abutment		
	Station	Offset	Elev.	Station	Offset	Elev.
A1						
A2						
B1						
B2						
W1						
W2						

Berm slope elevations reflect the grading surface.

Preliminary
Not For Construction

0 30
Scale In Feet

Notes:
For Notes, see Design Sheet No. 1.
For Notes to Designers, see Design Sheet No. 2

Design For 0° Skew

805'-0" X 78'-11" Continuous Welded Girder Bridge

185'-0" & 205'-0" End Spans 195'-0" & 220'-0" Interior Spans

Situation Plan - Site

STA. 1368+30.39 (℄ US69)

Turn-in Date: June 2024

Polk County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. XXX Design Sheet No. 3 of 5 FHWA No. 040501

FILE NO. 32507	ENGLISH	DESIGN TEAM HDR	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER V.3

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Des Moines River Hydraulic Data

RIDB: DesMoinesR_190.21
Drainage Area = 9,879 Sq. Mi.
Stream Slope (HGL) = 1.4 Ft./Mi.
Avg. Low Water Stage = 773.9
Operational Low Beam = 798.29
Channel Low Beam (Pier No. 3) = 798.65
Channel Low Beam (Span No. 2 - Midspan) = 802.49
Thalweg Elev. = 760.0

Q_2 = 26,300 cfs (For Coffer Dam. See Hydraulic Report)
Stage = 785.1

Q_{50} = 83,300 cfs
Stage = 794.2
Operational Freeboard = 4.1 Ft.
Avg. Bridge Velocity = 6.4 fps

Q_{100} = 107,500 cfs (Design Event)
Stage = 796.4
Operational Freeboard = 1.9 Ft.
Backwater = 0.1 Ft.
Avg. Bridge Velocity = 7.4 fps

Q_{200} = 122,100 cfs
Stage = 797.9
Calculated Design Scour = 746.7

Q_{500} = 142,000 cfs
Stage = 799.8
Channel Freeboard (Pier No. 3) = -1.2 Ft.
Channel Freeboard (Span No. 2 - Midspan) = 2.7 Ft.
Avg. Bridge Velocity = 8.5 fps
Calculated Check Scour = 746.5

Extreme HW Stage = 796.7
Date = 6/13/2008

Site is located within
Polk County Iowa FIS Dated February 1, 2019
F.I.S. Datum 0.0 Ft. Above/Below Project Datum.
F.I.S. Base Flood = 107,500 cfs used for no-rise information.

Hydraulic Data to be updated following finalizing the hyraulics model and establishment of the preferred alternative.

Hydraulic Design

LICENSED PROFESSIONAL ENGINEER
Brice E. Stafne
22589
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 Date
Brice E. Stafne
Printed or Typed Name

My license renewal date is December 31, 2024

Pages or sheets covered by this seal: H&H Data & Scour Protection Details on V.3 & V.4

Preliminary
Not For Construction

Design For 0° Skew

805'-0" X 78'-11" Continuous Welded Girder Bridge

185'-0" & 205'-0" End Spans 195'-0" & 220'-0" Interior Spans

Situation Plan - Misc. (1 of 2)

STA. 1368+30.39 (℄ US69) Turn-in Date: June 2024

Polk County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. XXX Design Sheet No. 4 of 5 FHWA No. 040501

FILE NO. 32507	ENGLISH	DESIGN TEAM HDR	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER V.4

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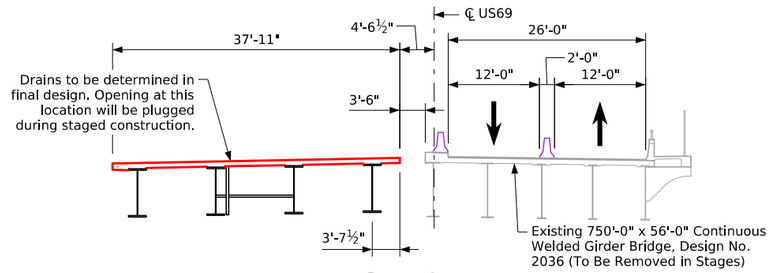
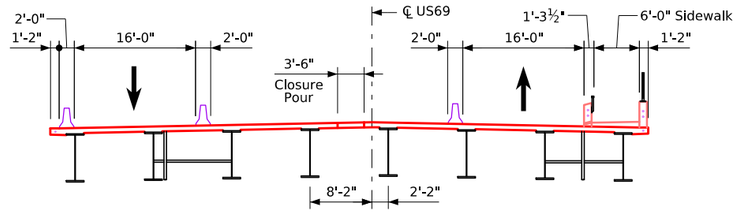


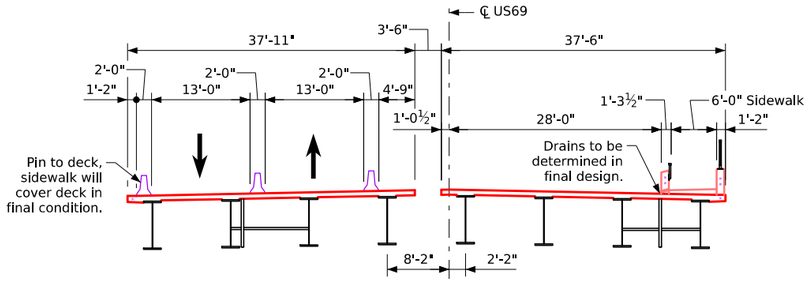
Stage 1

Remove West side of existing bridge and construct proposed Southbound half.



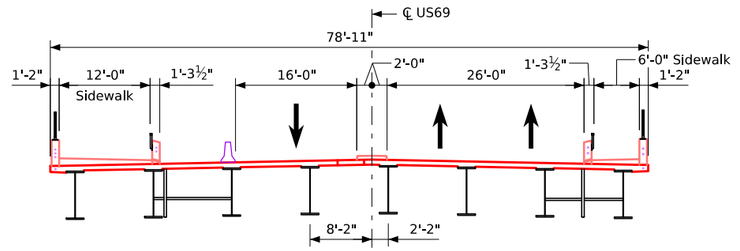
Stage 3

Construct closure pour.



Stage 2

Remove east side of existing bridge and construct proposed Northbound half.



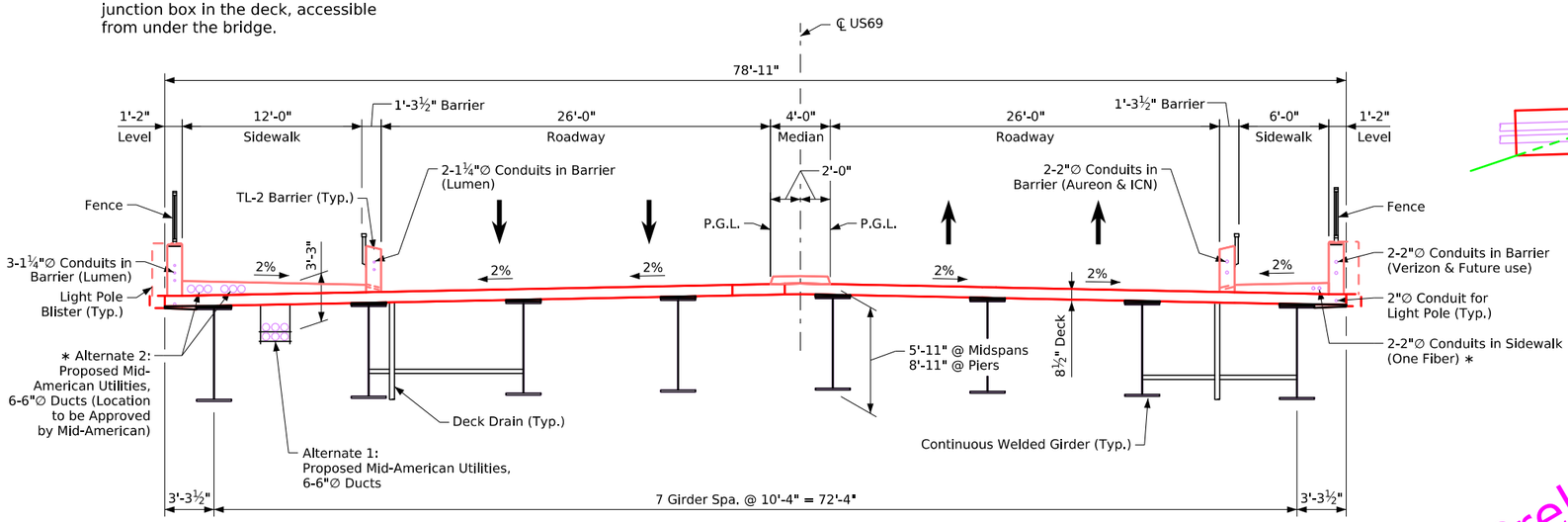
Stage 4

Construct median, barrier, sidewalk, fence and handrail on West side.

Construction Staging

(Looking Ahead Station)

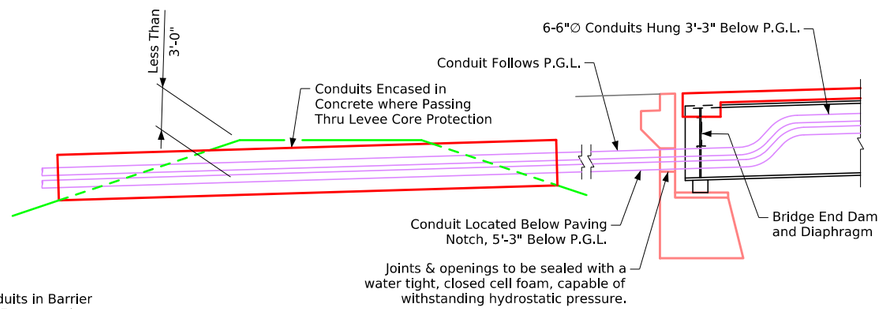
∗ Utilities in sidewalk to utilize a junction box in the deck, accessible from under the bridge.



Final Condition Typical Bridge Cross Section

(Looking Ahead Station)

(Utilities in barriers, deck, and sidwalks to continue in shown location to within 5' of end of approach section prior to being routed to roadway pullboxes.)



Abutment Section Showing Conduits

Preliminary
Not For Construction

Design For 0° Skew

805'-0" X 78'-11" Continuous Welded Girder Bridge

185'-0" & 205'-0" End Spans 195'-0" & 220'-0" Interior Spans

Situation Plan - Misc. (2 of 2)

STA. 1368+30.39 (℄ US69) Turn-in Date: June 2024

Polk County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. XXX Design Sheet No. 5 of 5 FHWA No. 040501

FILE NO. 32507	ENGLISH	DESIGN TEAM HDR	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER V.5

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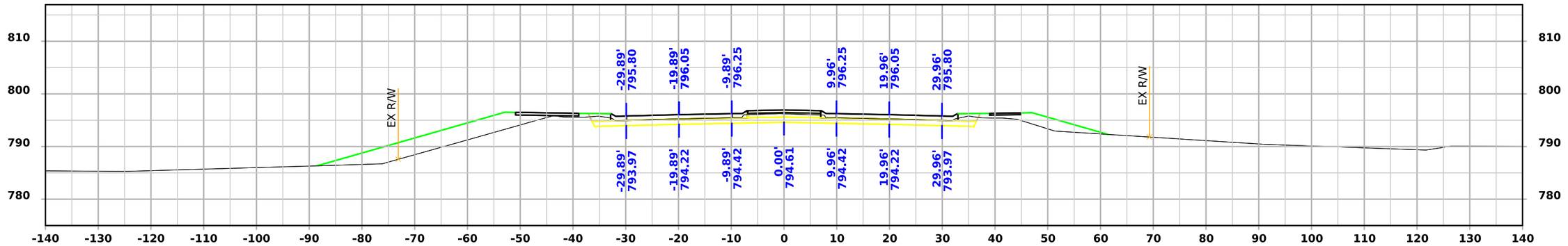

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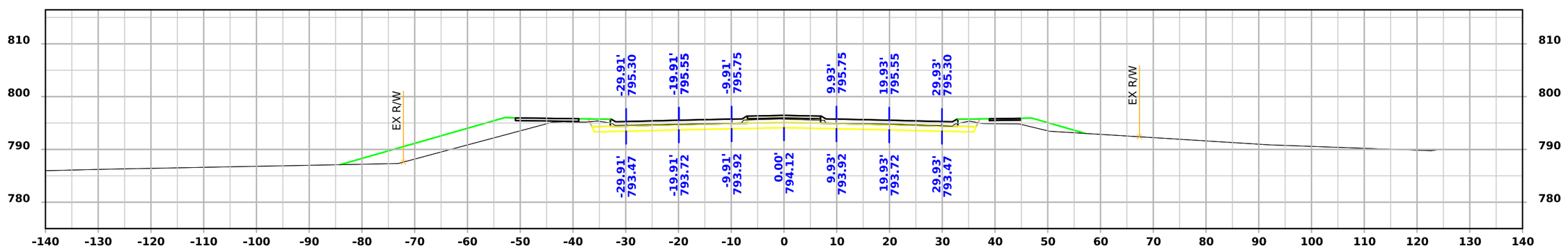

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FILE NO. 32507	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER W.1

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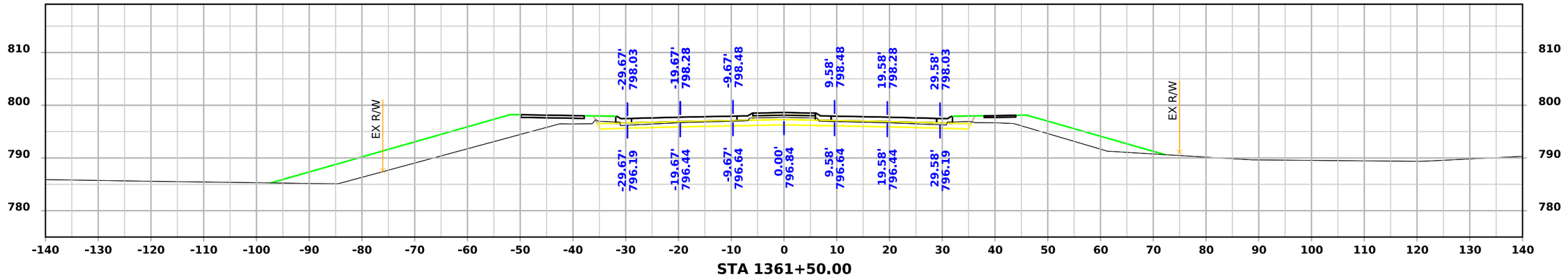

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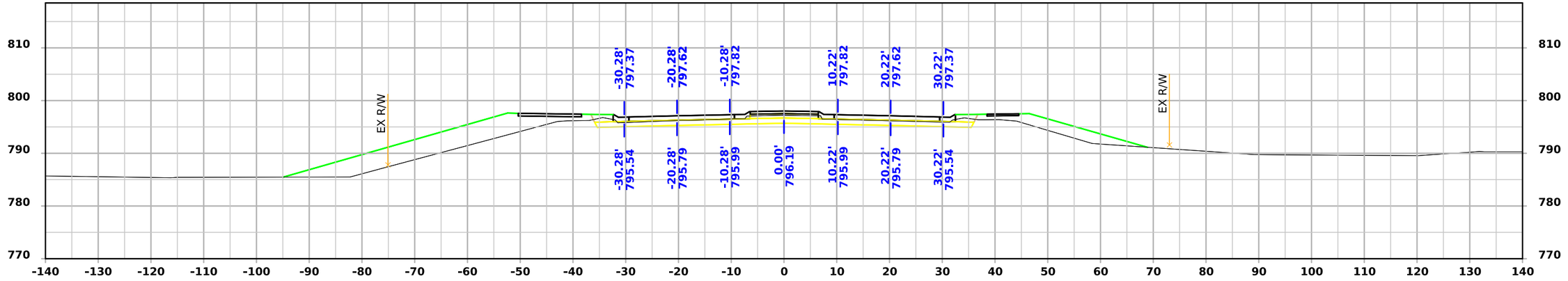

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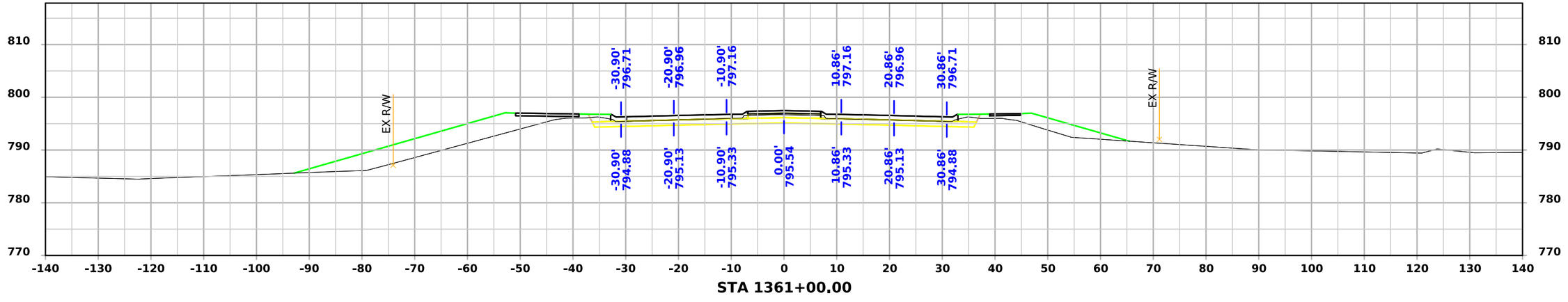

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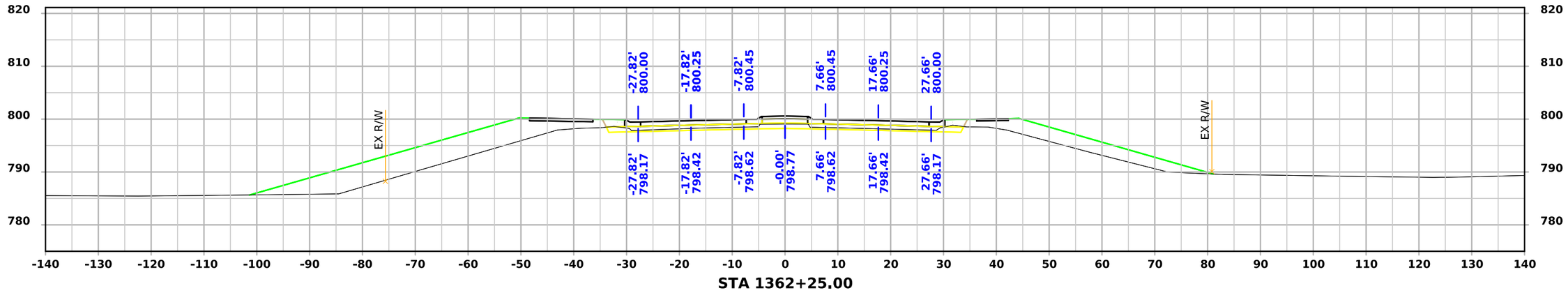

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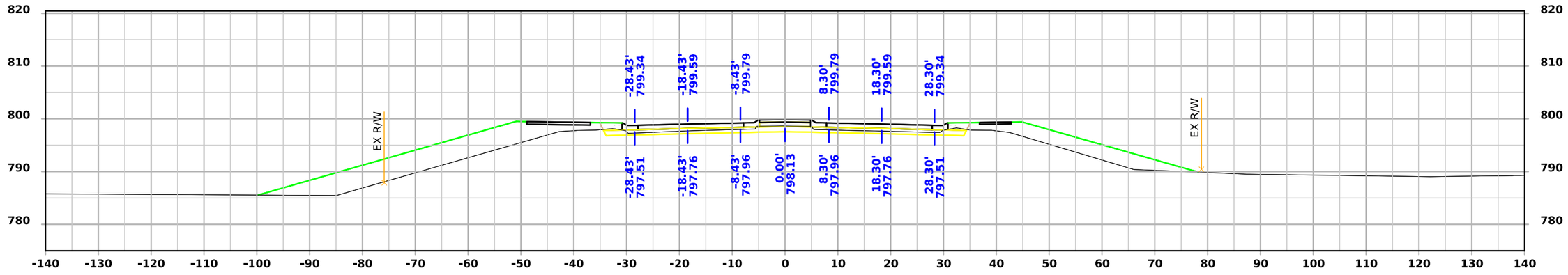

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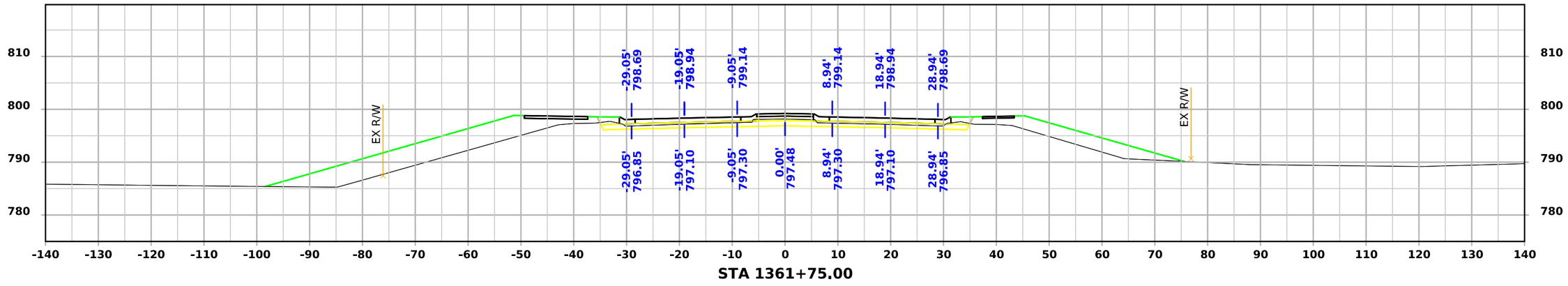

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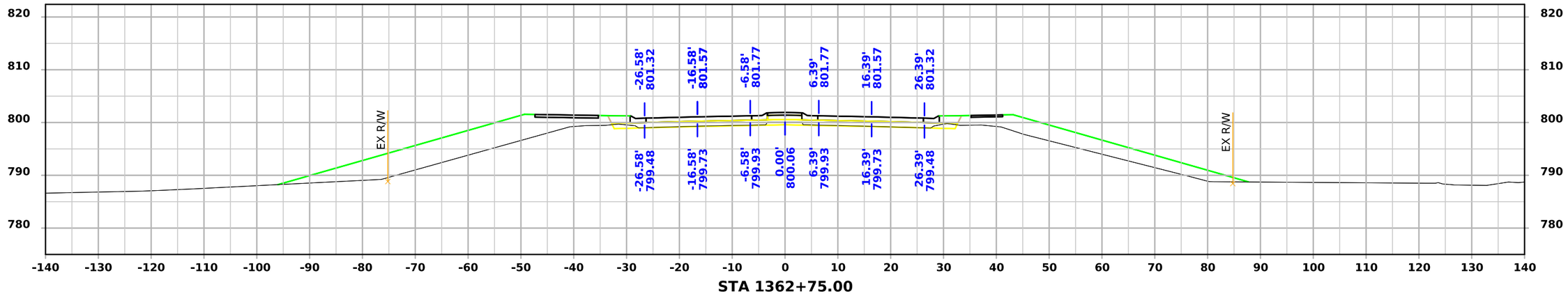

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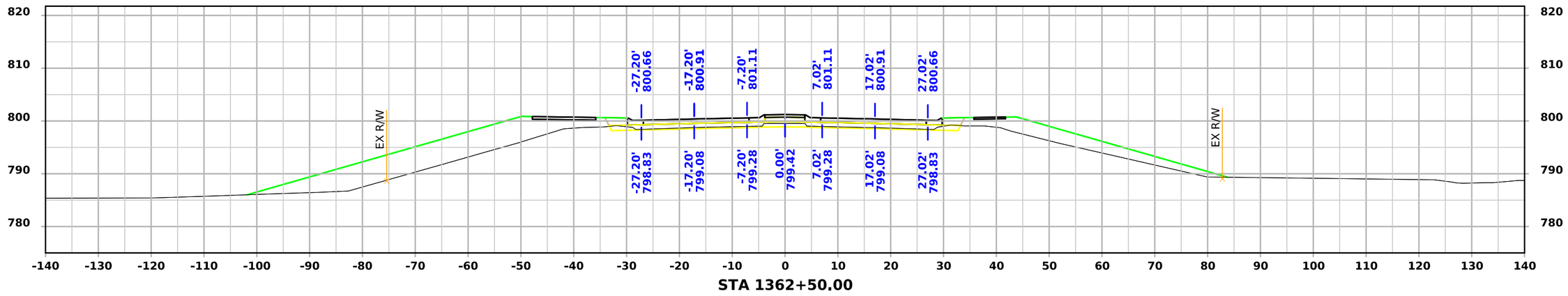

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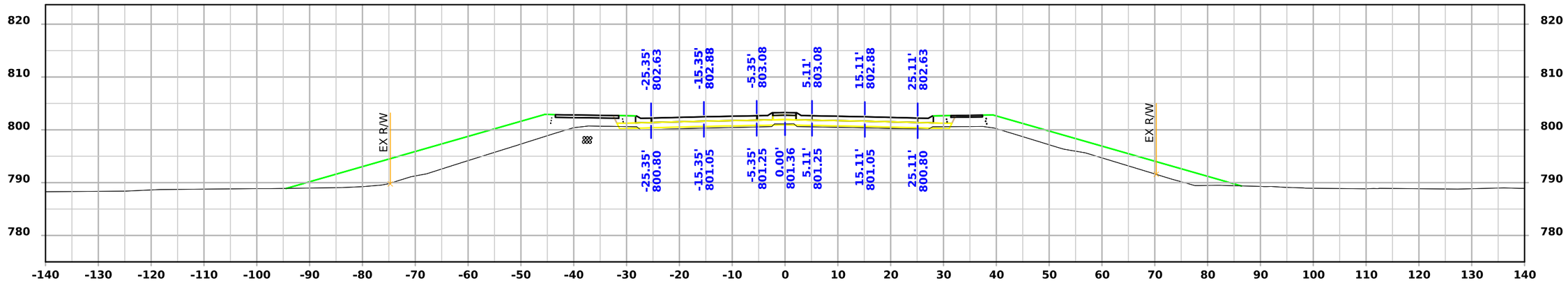

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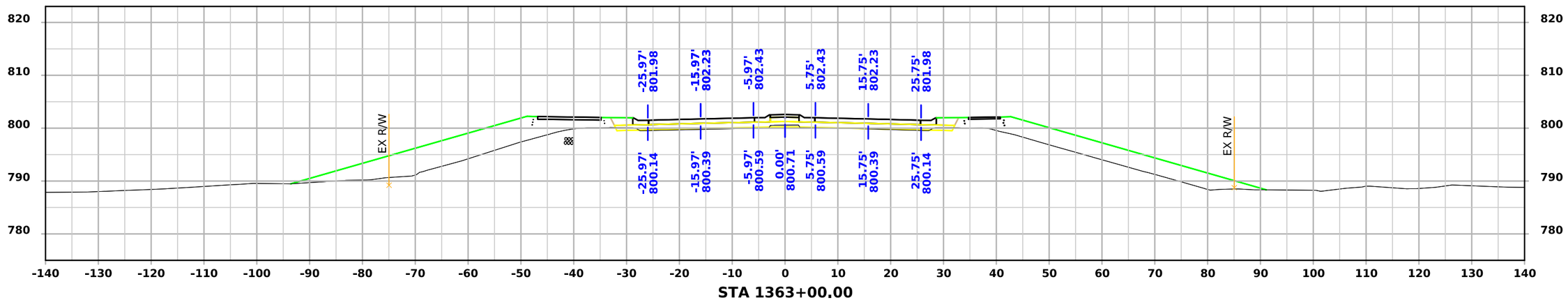

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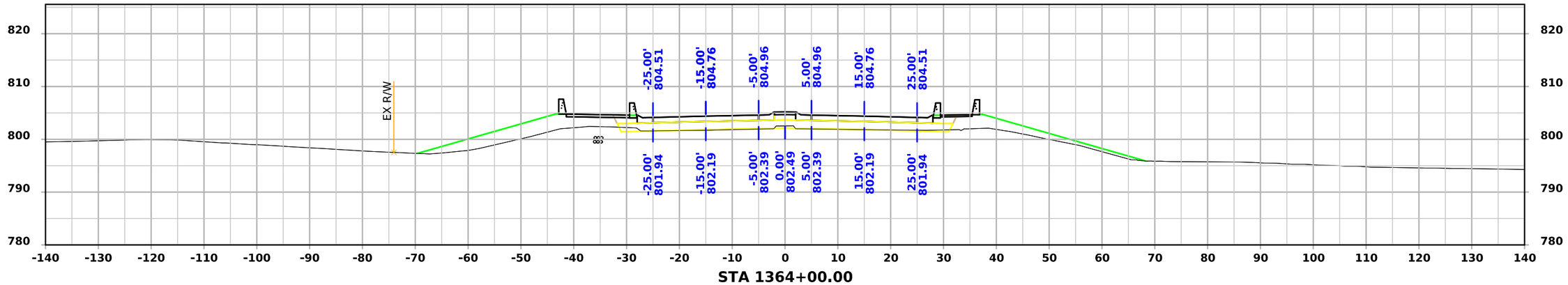

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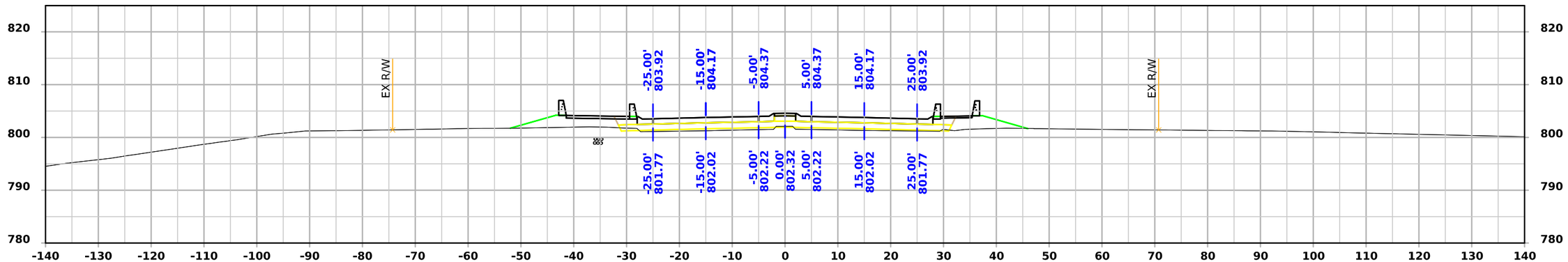

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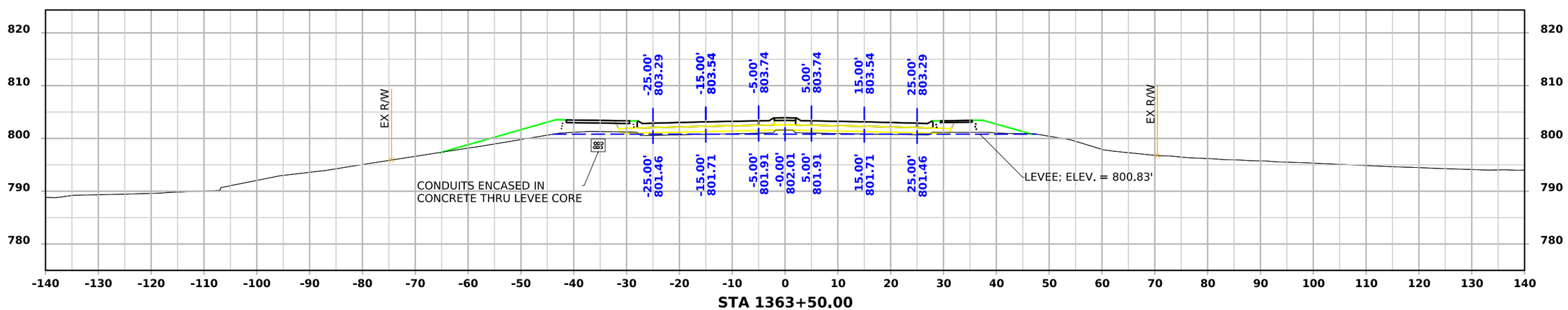

STA 1363+50.00

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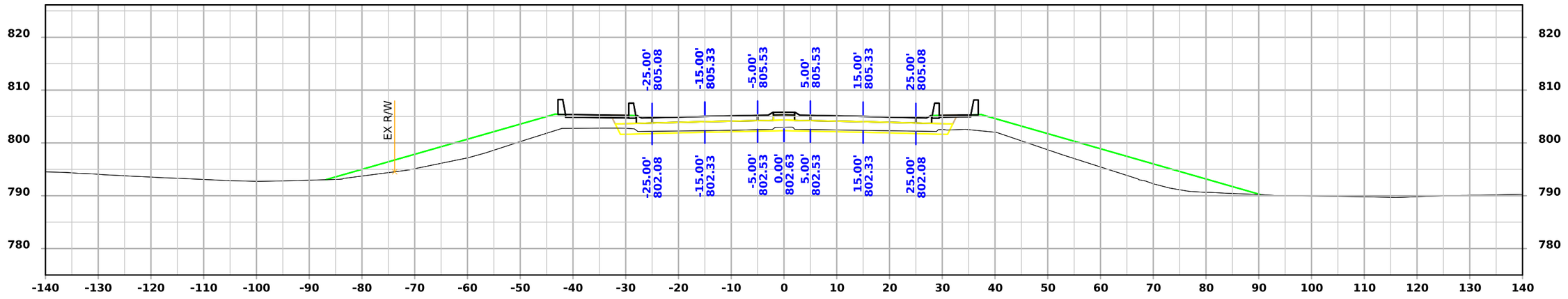
ML - US 69



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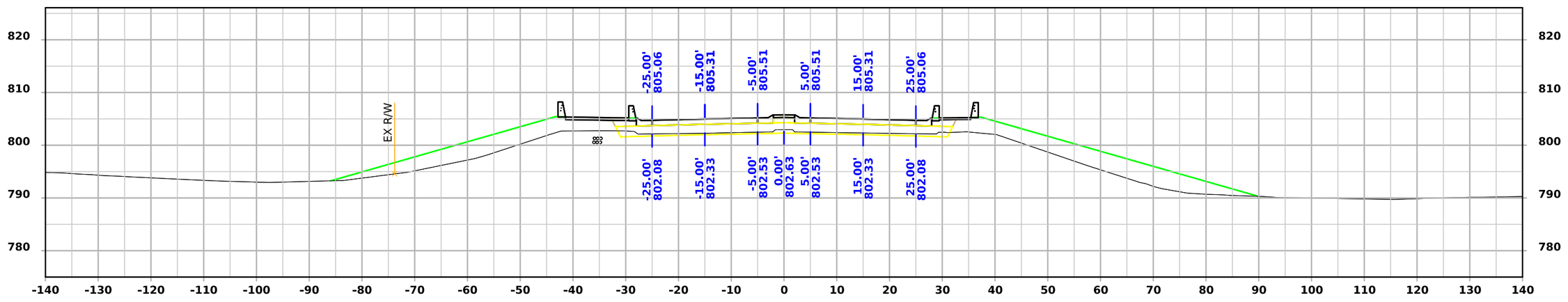

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FILE NO. 32507	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER W.7

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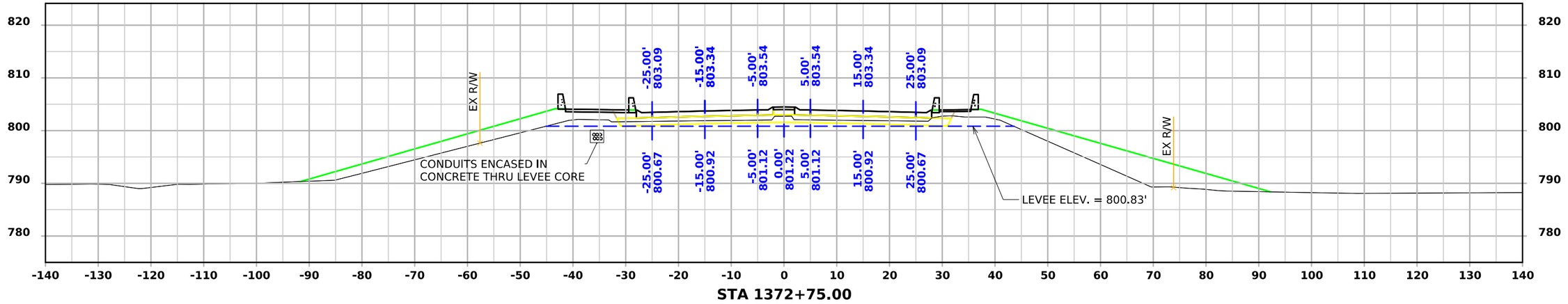
ML - US 69



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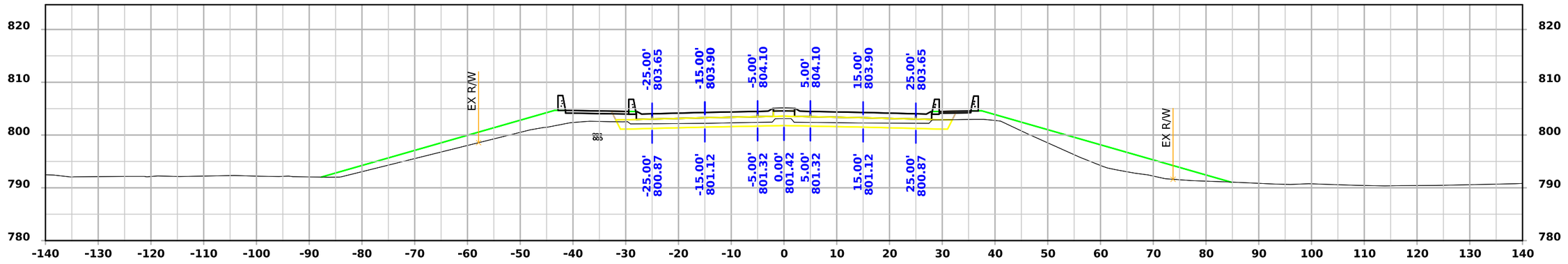

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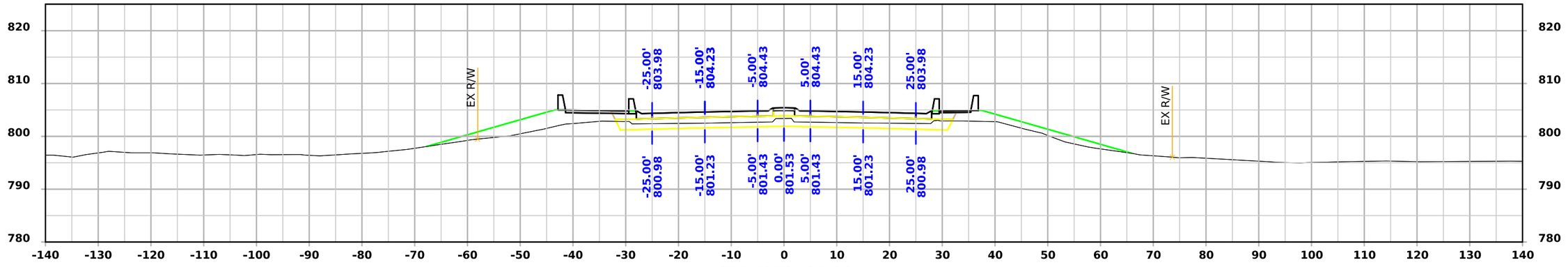

STA 1372+34.29

FILE NO. 32507	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER W.8

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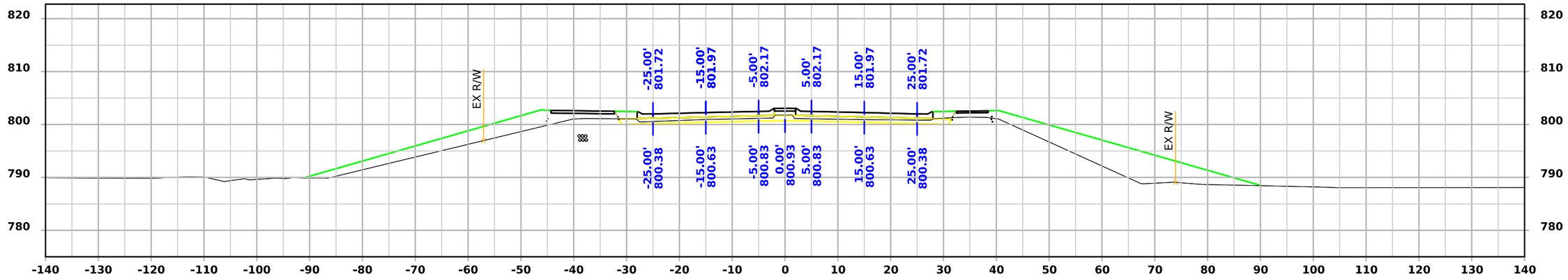
ML - US 69



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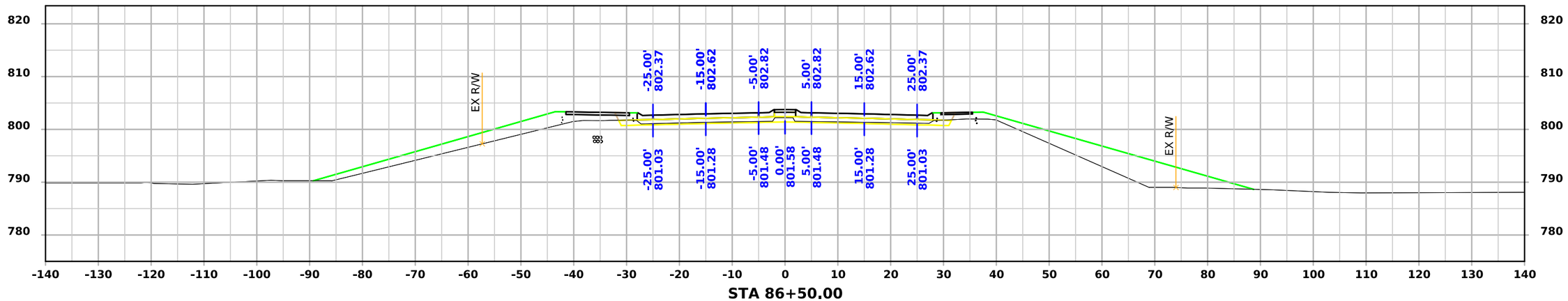
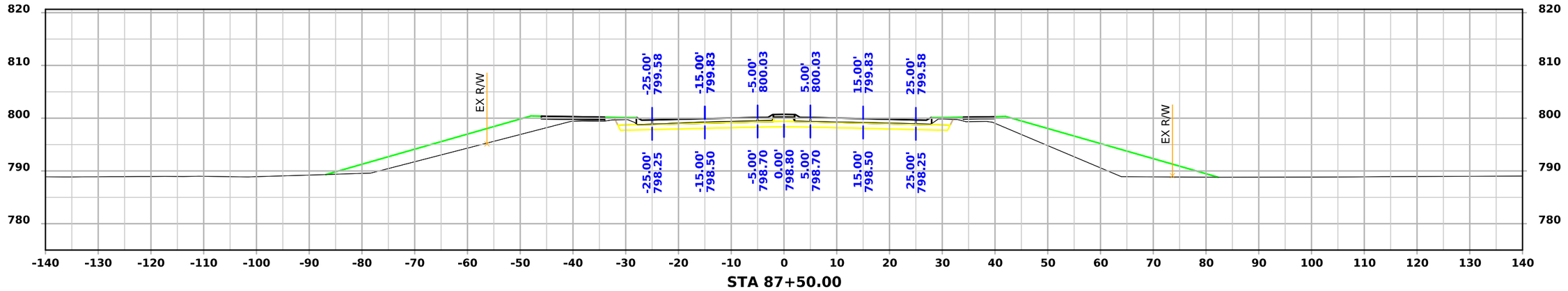


STA 86+50.00

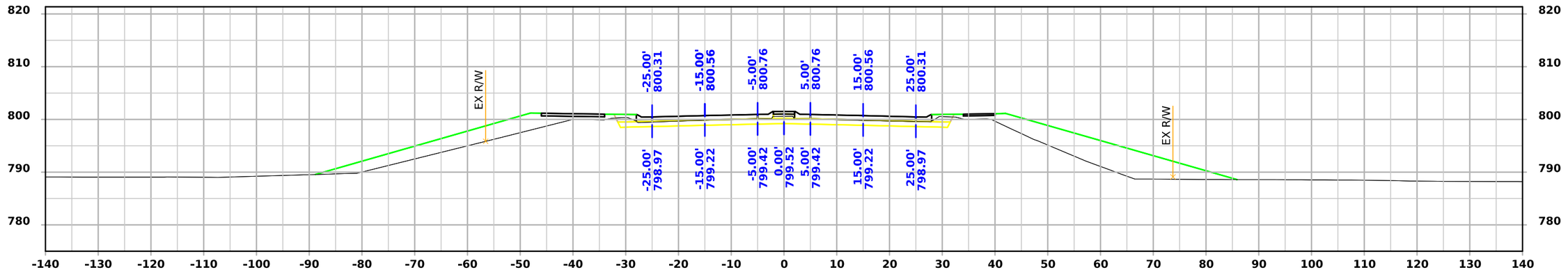
FILE NO. 32507	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER W.9

10:49:15 AM 6/26/2024 jlp3 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7706903020\Design\CADD_Files\Sheet Files\77069128_W1_SHT.dgn

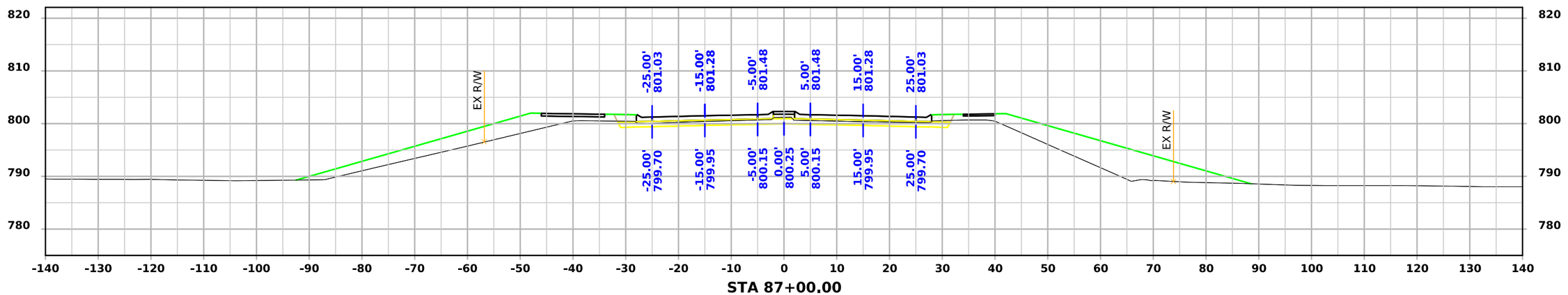
ML - US 69



STA 87+50.00



STA 87+25.00

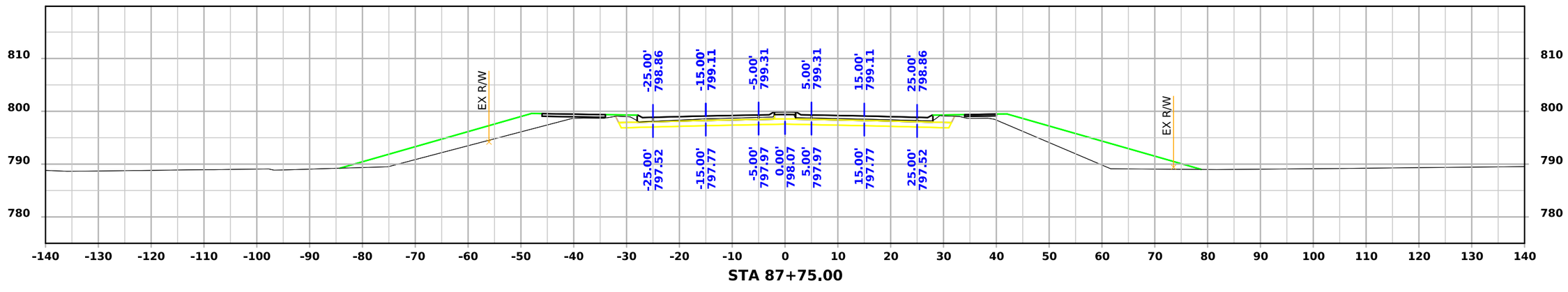


STA 87+00.00

FILE NO. 32507	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER W.10

10:49:24 AM 6/26/2024 jlp3 pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7706903020\Design\CADD_Files\Sheet Files\77069128_W1_SHT.dgn

ML - US 69



FILE NO. 32507	ENGLISH	DESIGN TEAM FOTH	POLK COUNTY	PROJECT NUMBER BRF-069-4(128)--38-77	SHEET NUMBER W.11

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