

BRIDGE REPLACEMENT
BRF-014-8(23)--38-34

LETTING DATE
10-17-2023

FLOYD CO.



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
FLOYD COUNTY
BRIDGE REPLACEMENT

IA 14 - Flood Creek 3.6 mi S of Co Rd B45

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

22

PROJECT IDENTIFICATION NUMBER

19-34-014-010

PROJECT NUMBER

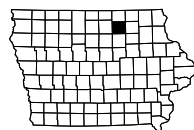
BRF-014-8(23)--38-34

R.O.W. PROJECT NUMBER

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
* A.1	Title Sheet
* A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 3	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1	Project Description
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	IA 14
G Sheets	Survey Sheets
G.1 - 3	Reference Ties and Bench Marks
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	Staging Notes Stage
V Sheets	Bridge and Culvert Situation Plans
* V.1 - 2	Bridge and Culvert Situation Plans
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 8	Mainline Cross Sections
	* Color Plan Sheets

<----- H Sheets

For Project Location Map
Refer to Sheet No. A.02



DESIGN DATA RURAL			
2024	AADT	1,300	V.P.D.
2044	AADT	1,400	V.P.D.
2044	DHV	140	V.P.H.
	TRUCKS	17	%
	Total Design ESALs	--	

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Michael J. Janecek	Primary Signature Block
V.1	Phillip M. Harpole	Hydraulic Design

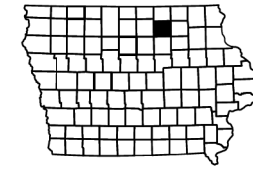
D4 PLAN - June 20, 2023

PRELIMINARY PLANS

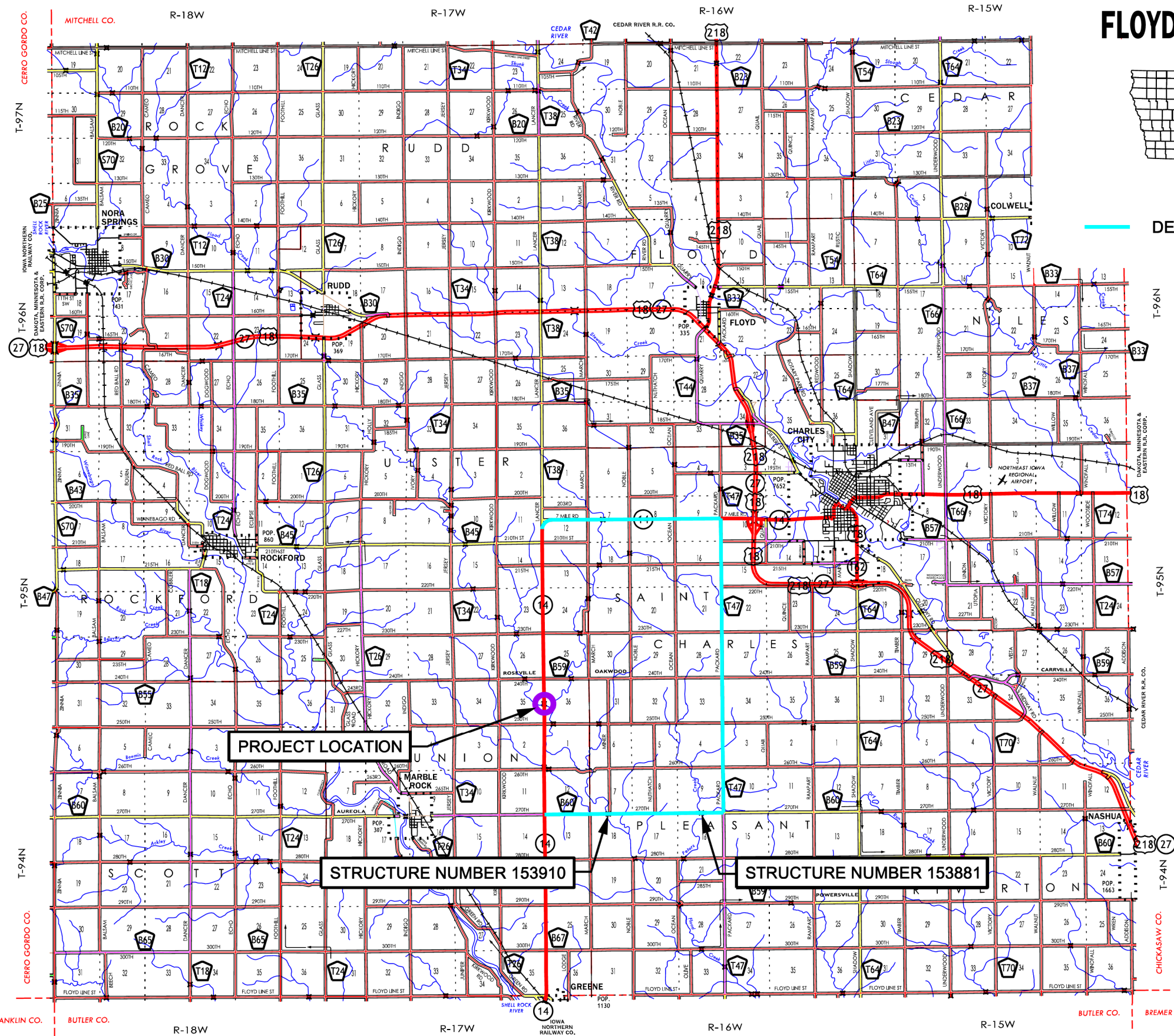
Subject to change by final design.

D5 PLAN - September 17, 2021

FLOYD COUNTY



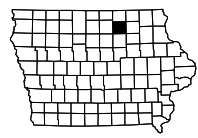
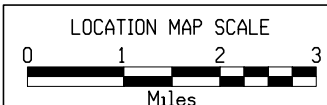
DETOUR ROUTE



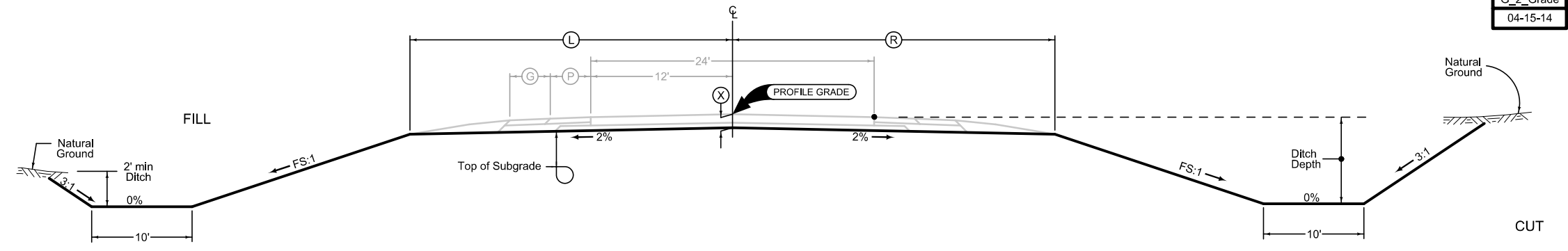
PROJECT LOCATION

STRUCTURE NUMBER 153910

STRUCTURE NUMBER 153881



LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches	FS
IA 14	487+49.53 490+62.58	33.60	33.60	24	3



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

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

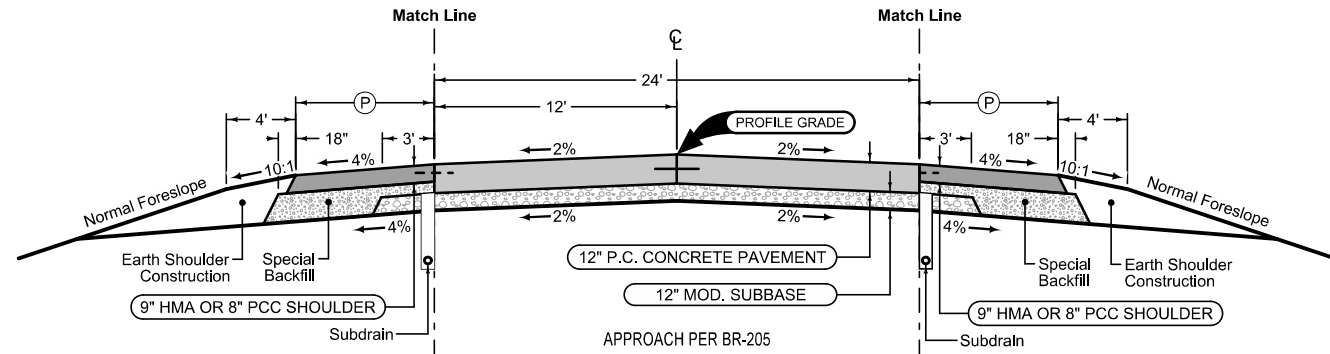
2 LANE GRADING

Paved Shoulder at Guardrail

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_04-21-20		(P)
STATION TO STATION		Feet
487+49.50	487+59.50	VARIES
490+52.50	490+62.50	VARIES

APPROACHES PER BR-205



APPROACH PER BR-205
 Mainline Jointing:
 Transverse joints: CD at 17' spacing
 Longitudinal joint: L-2

2P_04-21-20	
STATION TO STATION	
487+49.50	487+59.50
490+52.50	490+62.50

487+49.50

Paved Shoulder at Guardrail

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_04-21-20		(P)
STATION TO STATION		Feet
487+49.50	487+59.50	VARIES
490+52.50	490+62.50	VARIES

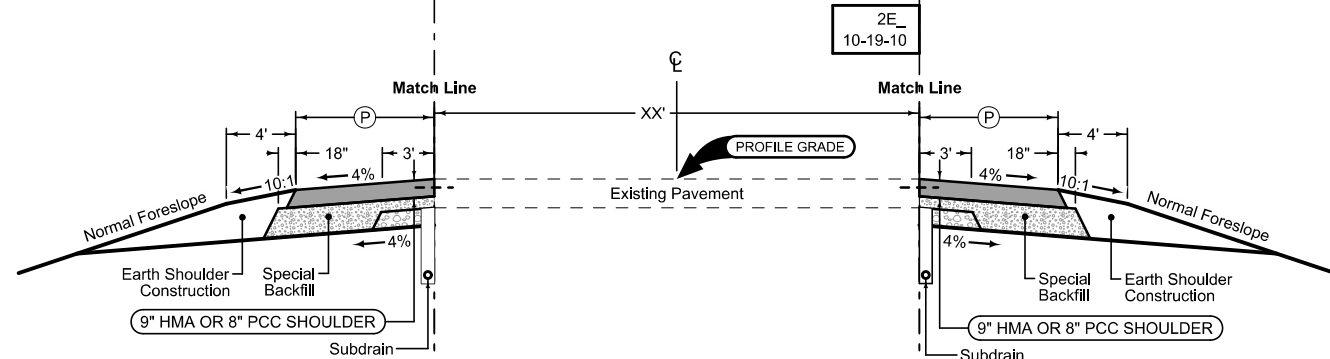
APPROACHES PER BR-205

Paved Shoulder at Guardrail

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_04-21-20		(P)
STATION TO STATION		Feet
487+15.48	487+49.50	VARIES
490+62.50	491+21.75	VARIES

REMOVED PAVED SHOULDER BEYOND PAVED SHOULDER FOR GUARDRAIL TO BE INFILLED WITH GRANULAR SHOULDER MATERIAL



2E_10-19-10

Paved Shoulder at Guardrail

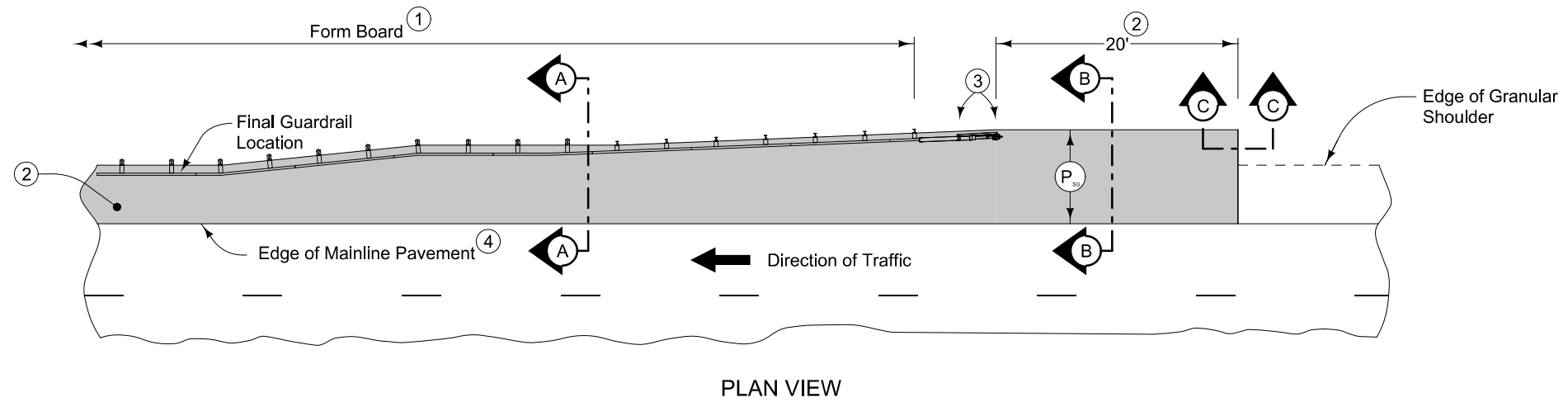
PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_04-21-20		(P)
STATION TO STATION		Feet
486+90.32	487+49.50	VARIES
490+62.50	491+96.74	VARIES

REMOVED PAVED SHOULDER BEYOND PAVED SHOULDER FOR GUARDRAIL TO BE INFILLED WITH GRANULAR SHOULDER MATERIAL

See Tab 100-24 or 100-25 for pavement quantities.
 See Tab 112-9 for shoulder quantities.

IA 14



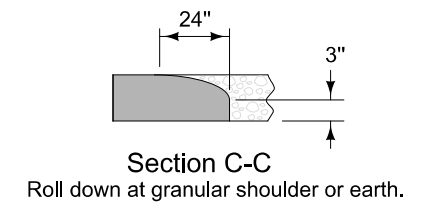
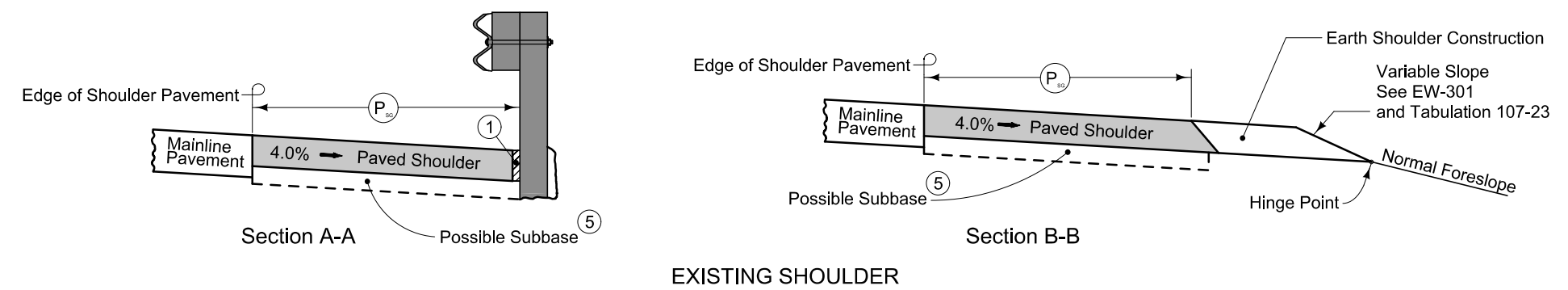
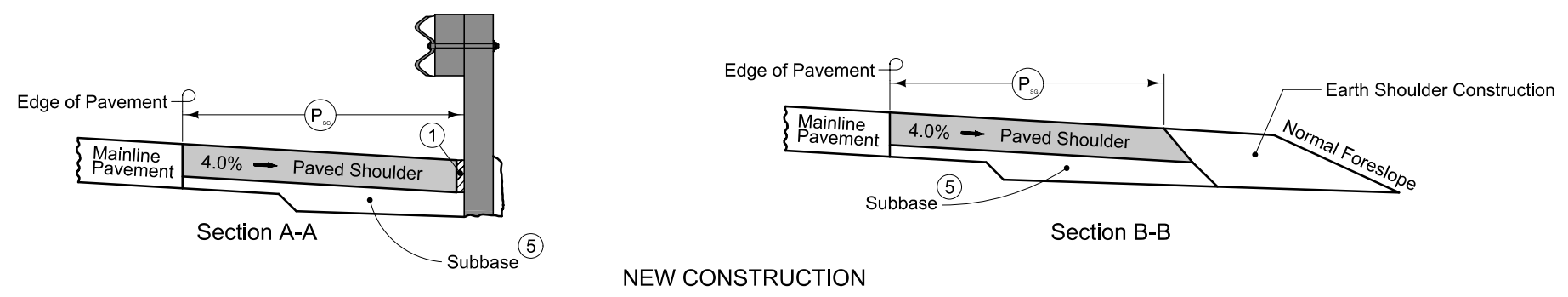
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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 'KT-1 joint for PCC shoulder. 'B' joint for HMA shoulder.
- ⑤ Refer to other details in the plan.



PAVED SHOULDER AT GUARDRAIL (GRANULAR SHOULDER ADJACENT TO MAINLINE)

100-1D
10-18-05

PROJECT DESCRIPTION

This project involves the replacement of the IA 14 bridge over Flood Creek, 3.6 miles south of Co. Rd. B45 using an off site detour.

100-0A
10-28-97

**ESTIMATED ROADWAY QUANTITIES
(1 DIVISION PROJECT)**

Item No.	Item Code	Item	Unit	Total	As Built Qty.

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-200	04-16-19	Steel Beam Guardrail Components
BA-201	04-18-17	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-205	04-19-16	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	10-18-16	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BR-203	10-19-21	Double Reinforced 12" Approach
DR-303	10-17-17	Subdrains (Longitudinal)
DR-306	10-16-18	Precast Concrete Headwall for Subdrain Outlets
DR-402	10-15-19	Rock Flume for Bridge End Drain
EW-102	10-20-15	Allowable Placement of Unsuitable Soil in Embankments
EW-202	04-19-16	Bridge Berm Grading without Recoverable Slope (Non-Barnroof Section)
EW-301	10-20-15	Guardrail Grading
EW-501	10-20-15	Rural Entrances
PM-110	04-21-20	Line Types
PV-101	04-21-20	Joints
SI-172	04-19-16	Delineators
SI-173	04-19-16	Object Markers
SI-211	10-18-16	Object Marker and Delineator Placement with Guardrail
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-252	04-21-20	Routes Closed to Traffic

SURVEY SYMBOLS

- FENO Feno Monument
- CP Control Point
- ▲ PI Tangent Point
- △ SCR Section Corner
- POT Tangent Point
- △ BM Bench Mark
- GR Ground Shot
- WC Wild Card (Misc. Field Shot)
- F0 FO1D Fiber Optic Co. 1 - Quality D
- PPA Power Pole Co. 1
- T1 TL1D Telephone Line Co. 1 - Quality D
- TP TPD Telephone Pedestal
- PPB Power Pole Co. 2
- - - - - BL Topo Breakline
- - - - - SNP Unpaved Shoulder
- - - - - SH Paved Shoulder
- - - - - EP Edge of Paved Roads (ML or SR)
- - - - - C Centerline BL of Road (ML or SR)
- - - - - LIN Miscellaneous Line
- BD Bridge Deck
- BCL Bridge Centerline
- SBR Size of Bridge
- - - - - BRG Bridge
- - - - - CON Concrete or A/C Slab
- - - - - CU Back of Curb
- - - - - GU Gutter In Front of Curb
- - - - - ENT Centerline BL of Entrance
- - - - - ENU Edge Unpaved Entrance & Parking
- - - - - ENP Edge Paved Entrance & Park Lot
- - - - - GDL Guard Rail Steel
- DU Centerline Draw or Stream (Up)
- OUT Tile Outlet
- PRO Profile Shot
- - - - - PIP Pipe Culvert
- ↓ PLG Location of General Photo
- - - - - FW Wire Fence
- - - - - BNK Stream Bank
- ▲ RIP Rip-Rap
- - - - - D Centerline Draw or Stream (Down)

UTILITY LEGEND

SURVEYED UTILITY OWNER SYMBOLS

Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.

Remark Abbreviations

QLA Quality Level A Highest guideline quality level
 QLD Quality Level D Lowest guideline quality level

- F0 Omnitel Communications - Quality D
- Power Pole Alliant Energy
- T1 Windstream Communications - Quality D

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING	Design Color No.	
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

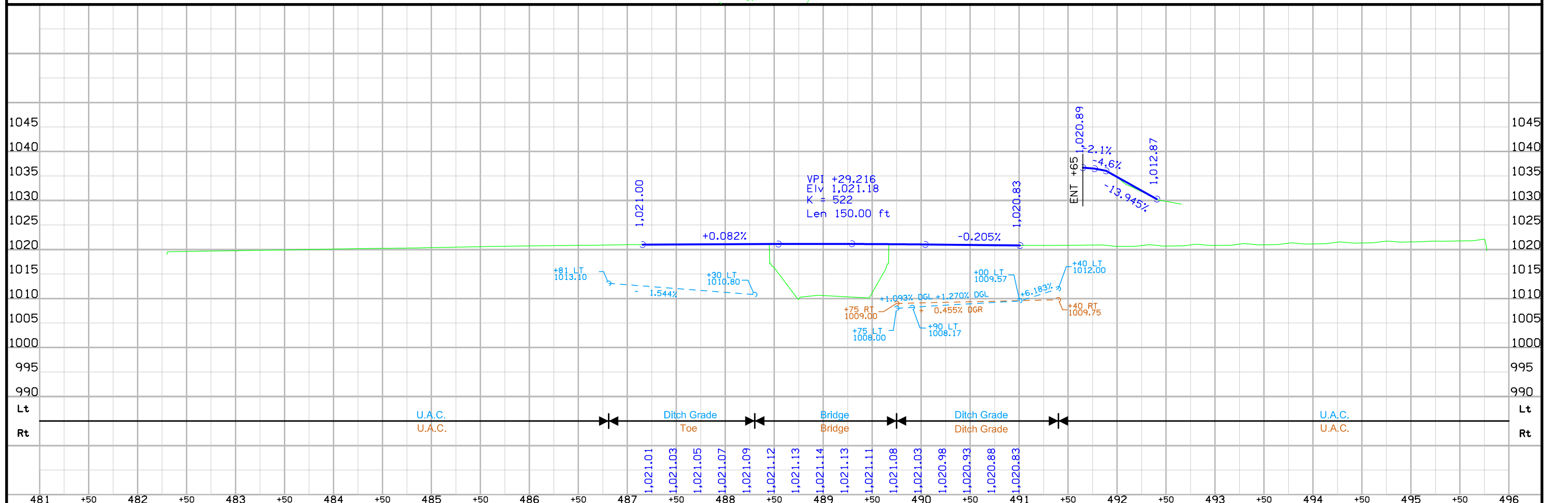
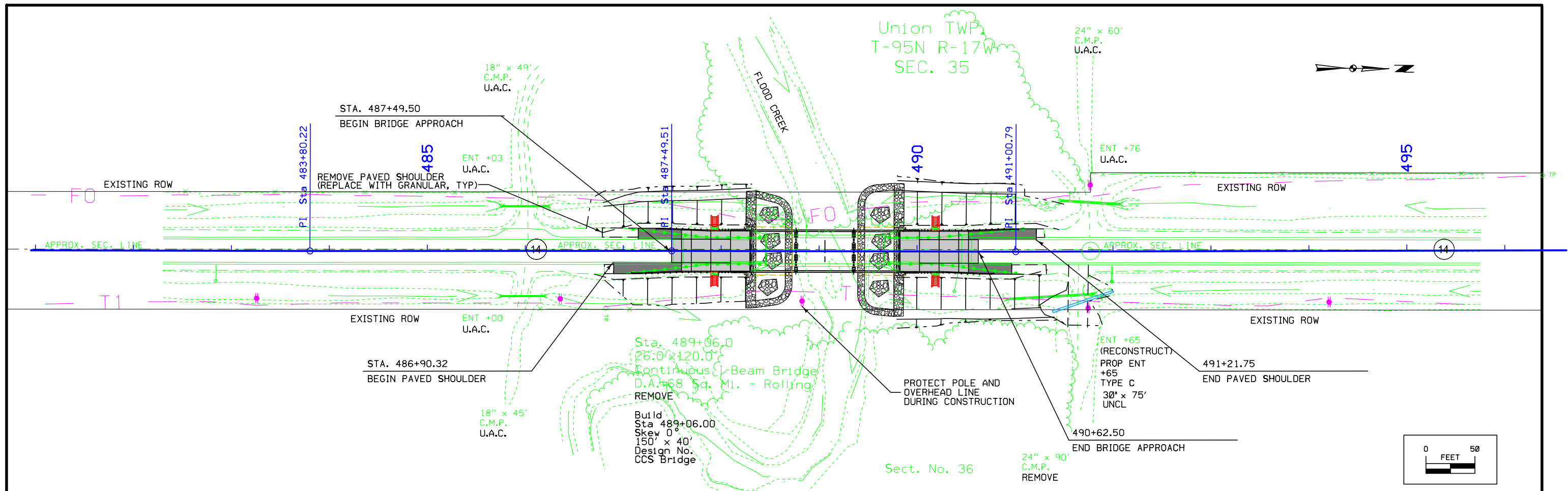
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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



Survey Information

Floyd County
BRFN-014-8(23)--39-34
Flood Creek 3.6 mi S of Co Rd B45
Bridge-Unspecified
PIN 19-34-014-010
Sap-957.0

General Information

Measurement units for this survey are US survey feet. This survey is for proposed reconstruction of Hwy. 14 bridge over Flood Creek. Project datum and control information is provided by Design Survey Office. This survey request was for the Iowa Hwy. 14 corridor only. This project is a Full Field concept survey.

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12b). GRS80 Ellipsoidal Height was computed at project Pts. 141764, 141767, 141772, 340330, 340338 & ROSE by conducting two concurrent 6-hour static observations. Additional benchmarks were placed throughout the project using a GNSS Base-Rover setup relative to Pt. 141767 and Pts. 141764 & 141772. Two observations with a minimum of 4-hours between were collected and used in a weighted average.

This survey observed 2 local area county Control Monuments with published NAVD88 heights to compare to local ground control:

Floyd County GPS Control mark 340330 has a published Elev. of 1053.34
Survey Elev. = 1053.33

Floyd County GPS Control mark 340338 has a published Elev. of 1042.87
Survey Elev. = 1042.86

This survey observed 3 As-Built plan benchmarks to compare to local ground control:

BM 34A Project FA-271E (1) Paving Plan Elev. 1023.66
BM 500 this Survey Elev. = 1016.47

BM 35A Project FA-271E (1) Paving Plan Elev. 1023.35
BM 501 this Survey Elev. = 1016.15

BM 36A Project FA-271E (1) Paving Plan Elev. 1022.42
BM 502 this Survey Elev. = 1015.25

The average vertical difference between these three marks is -7.19' to be applied to as-built plan elevations.

This survey established an additional local benchmark:

BM 503 Survey Elev. = 1021.41

Horizontal Control

The project coordinate system for this survey is Iowa RCS Zone 2 (U.S. Survey Feet). This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined at project Pts. 141764, 141767, 141772, 340330, 340338 & ROSE by conducting 2 concurrent 6-hour static observations. Additional control points were placed throughout the project using a GNSS Base-Rover setup relative to Pt. 141767 and Pts. 141764 & 141772. Two observations with a minimum of 4-hours between were collected and used in a weighted average.

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans Project No. FA-271E (1). Survey stationing was equated to the FA-271E (1) bridge plan POT at Sta. 489+06.0 and run back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PI Sta. 465+24.6 As-built Plans Project No. FA-271E (1)
Survey PI Sta. 465+24.58

POT Sta. 491+77.4 As-built Plans Project No. FA-271E (1)
Survey POT Sta. 491+77.15

POT Sta. 518+37.6 As-built Plans Project No. FA-271E (1)
Survey POT Sta. 518+38.39

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) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 2

Coordinate listing from next sheet will be used with 1aRTN for monument
recovery. No other reference ties are given.

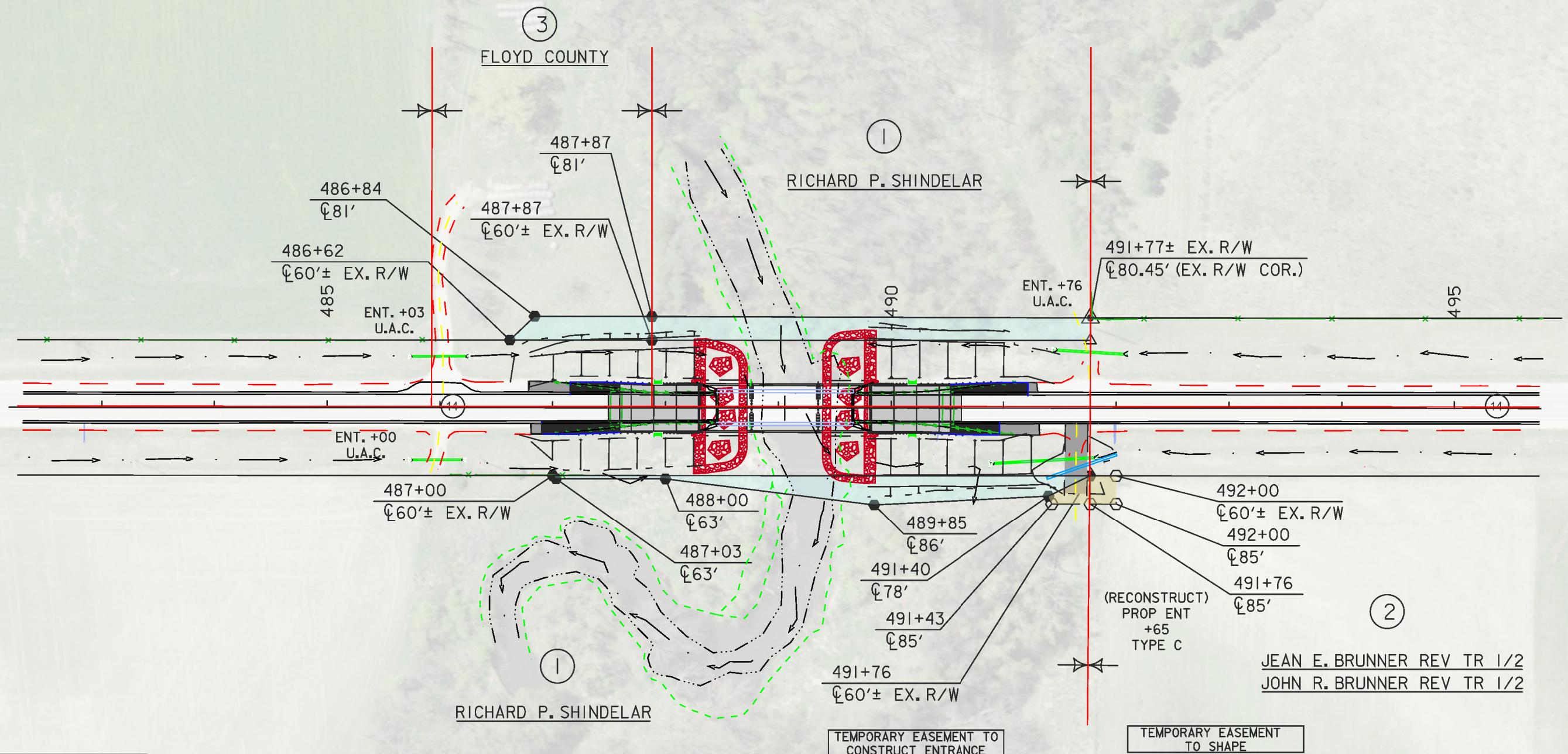
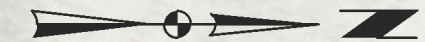
HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 2

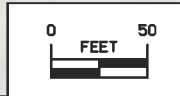
Point Name	Northing	Easting	Elevation	Feature Code-Description
141764	9737210.869	12483906.630	1014.516	CP - FD ROW RAIL DRILL HOLE IN BALL_SW QUAD OF INTSC IOWA 14 AND 250TH ST_60 FT W OF CTR IOWA 14_54 FT S OF CTR 250TH ST
141767	9738881.626	12483904.908	1015.431	FENO - SET FENO MON 0.3 MI N OF INTSC IOWA 14 AND 250TH ST_51 FT W OF CTR IOWA 14_9 FT E OF ROW FNC
141772	9741234.605	12483886.664	1020.960	FENO - SET FENO MON 0.25 MI S OF INTSC IOWA 14 AND 240TH ST_54 FT W OF CTR IOWA 14_12 FT SE OF ROW FNC
340330	9737243.314	12473439.545	1053.328	CP - FD FLOYD CO GPS CONTROL PT 2000-330 32FT WEST OF CTR JERSEY AVE AND 27FT NORTH OF CTR 250TH ST_FLOYD CO GPS CONTROL 2019 ADJUSTMENT POINT ID 340330
340338	9737116.458	12491469.014	1042.855	CP - FD FLOYD CO GPS CONTROL PT 2000-338 25FT EAST OF CTR MINER AVE AND 115FT SOUTH OF CTR 250TH ST_FLOYD CO GPS CONTROL 2019 ADJUSTMENT POINT ID 340338
ROSE	9741195.926	12468172.376	1086.308	CP - FD NGS FIRST ORDER TRIANGULATION STATION ROSE 0.25MI SOUTH OF 240TH ST AND 33FT EAST OF CTR INDIGO AVE



Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: LARSON/HINRICHSEN
 ROW #: STPN-014-8(24)--2J-34
 Plan Date:
 Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition



108-23A
08-01-08

TRAFFIC CONTROL PLAN

- 1) While bridge and approaches are being removed and replaced, traffic on IA 14 shall be maintained via an off-site detour.
- 2) Signage and devices shall be furnished, installed, maintained, and removed by District 2. See sheet A.1 for proposed detour.

108-25
10-21-14

511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 14	Both	Floyd	No Restrictions Anticipated	None - Detour								

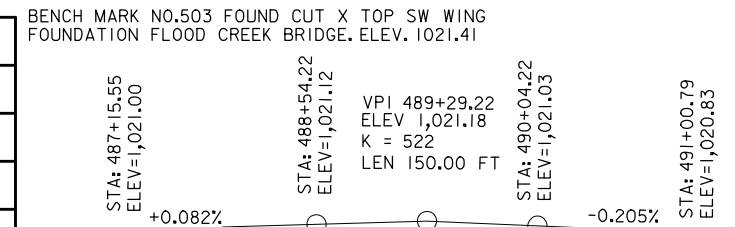
111-01
04-17-12

COORDINATED OPERATIONS

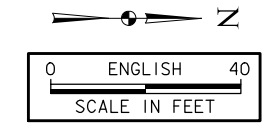
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
None Provided	

1030	PROPOSED GRADE	CL S. ABUT. CR BRG. ELEV.=1021.07	CL PIER 1 ELEV.=1021.10	CL PIER 2 ELEV.=1021.09	CL N. ABUT. CR BRG. ELEV.=1021.04	1030
1020	EXISTING GRADE	TOP BERM ELEV.=1016.99	DESIGN H.W. ELEV.=1020.24	OPERATIONAL LOW BEAM	TOP BERM ELEV.=1016.96	1020
1010		BOTT. FTG. ELEV.=1014.99	REGULATORY LOW BEAM		BOTT. FTG. ELEV.=1014.96	1010
1000		PREBORE HOLES, 1'-4 DIA. BOTTOM ELEV.=1004.99	2.5:1 NORMAL	2.5:1 NORMAL	PREBORE HOLES, 1'-4 DIA. BOTTOM ELEV.=1004.96	1000
990			PILE BENT PIER (TYP)		CLASS E REVETMENT (2' THICK MIN.) UNDERLAIN WITH ENGINEERING FABRIC	990
980	TOP OF BRIDGE DECK CROWN 0.03 BELOW PROFILE GRADE	BOTTOM OF PIER ENCASEMENT ELEV.=1002.00	STREAMBED ELEV.=1005.0		PRELIMINARY DESIGN SCOUR ELEV.= 1001.2 VERIFY ELEVATIONS WHEN SOIL BORINGS ARE COMPLETE	980



LONGITUDINAL SECTION ALONG CL APPROACH ROADWAY



PROPOSED PROFILE
GRADE IA 14

UTILITIES LEGEND:

- - FO - - OMNITEL COMMUNICATIONS - QUALITY D
 - - TI - - WINDSTREAM COMMUNICATIONS - QUALITY D
 - POWER POLE ALLIANT ENERGY
- UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

HYDRAULIC DATA

DRAINAGE AREA = 68.5 SQ. MI.
STREAM SLOPE = 4.94 FT./MI.
AVG. LOW WATER STAGE = 1011.0

Q₅₀ = 7670 CFS
STAGE = 1020.24 FT.
REGULATORY LOW BEAM = 1018.71
BACKWATER = 1.12 FT.
AVG. BRIDGE VELOCITY = 5.0 FPS

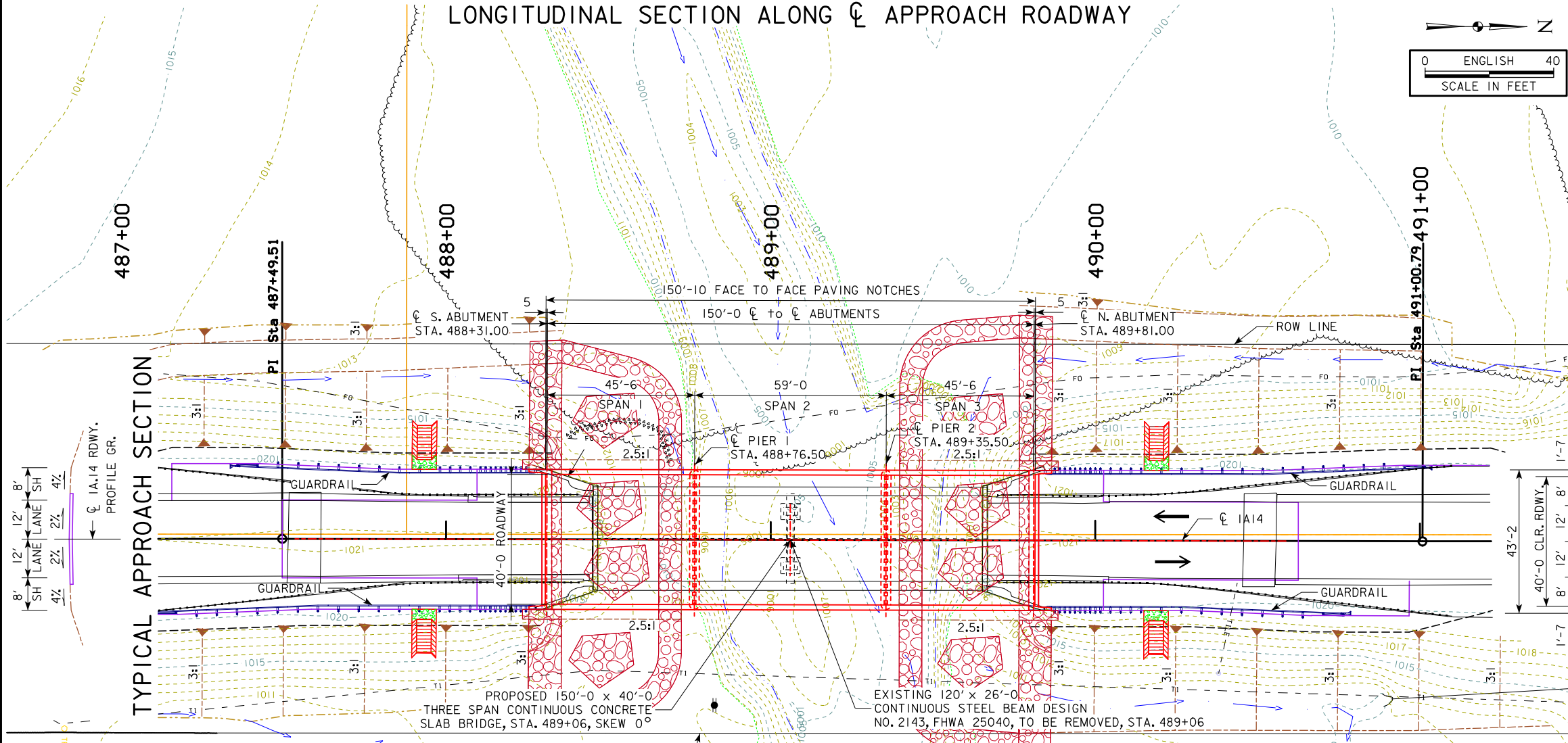
Q₁₀₀ = 8870 CFS
STAGE = 1020.79 FT.
OPERATIONAL LOW BEAM = 1018.64
BACKWATER = 0.81 FT.
AVG. BRIDGE VELOCITY = 4.56 FPS

Q₂₀₀ = 11240 CFS
STAGE = 1021.94 FT.
CALCULATED DESIGN SCOUR = 1001.2

Q₅₀₀ = 11920 CFS
STAGE = 1022.00 FT.
CALCULATED CHECK SCOUR = 1000.5
ROADWAY OVERTOP = 1017.68

TYPICAL BRIDGE SECTION

TYPICAL APPROACH SECTION



LOCATION TRAFFIC ESTIMATE

IA14 OVER FLOOD CREEK	2024 AADT	1300	V.P.D.
T-95N R-17W	2044 AADT	1400	V.P.D.
SECTION 35-36	2044 DHV	140	V.P.H.
UNION TOWNSHIP	TRUCKS	17	%
FLOYD COUNTY			
FHWA NO. 025041			
BRIDGE MAINT. NO. 3476.9S014			
LATITUDE 43.001083			
LONGITUDE -92.809970			

PRELIMINARY

- PLAN NOTES:
- TOP OF BRIDGE DECK CROWN 0.03' BELOW PROFILE GRADE.
 - CLASS E REVETMENT STONE IS EMBEDDED.
 - THE BRIDGE WILL BE DESIGNED TO WITHSTAND THE APPLICABLE EFFECTS OF ICE AND THE HORIZONTAL STREAM LOADS AND UPLIFT FORCES ASSOCIATED WITH THE Q₁₀₀.
- GENERAL NOTES:
- THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING 120'-0" X 26'-0" CONTINUOUS STEEL BEAM BRIDGE, DESIGN NO. 2143, FHWA NO. 25040, MAINT. NO. 3476.9S014.
- DESIGN NOTES:
- TL-4 BRIDGE RAILING PROPOSED.
 - J40-06 CONTINUOUS CONCRETE SLAB.
 - FULLY ENCASED PILE BENT PIERS.
 - DUE TO CLOSE PROXIMITY OF HARD LIMESTONE (AS INDICATED FROM RECORD DRAWINGS FOR THE EXISTING STRUCTURE) PIER TYPE TO BE EVALUATED DURING FINAL DESIGN.

SITUATION PLAN

HYDRAULIC DESIGN

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.

Philip M. Harpole 9-3-2021
Signature Date
PHILIP M. HARPOLE
Printed or Typed Name
My license renewal date is December 31, 2021

Pages or sheets covered by this seal: V.1

DESIGN FOR 0° SKEW

150'-0" X 40'-0" CONTINUOUS CONCRETE SLAB BRIDGE

45'-6" END SPANS 59'-0" INTERIOR SPAN

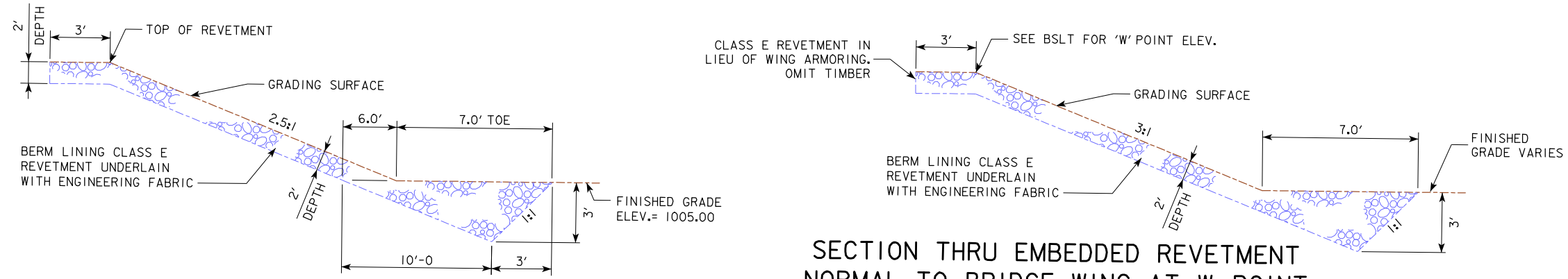
SITUATION PLAN

STATION 489+06 (IA14) AUGUST, 2021

FLOYD COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. 1 OF 2 FILE NO. 32084 DESIGN NO. 224



SECTION THRU EMBEDDED REVETMENT BERM

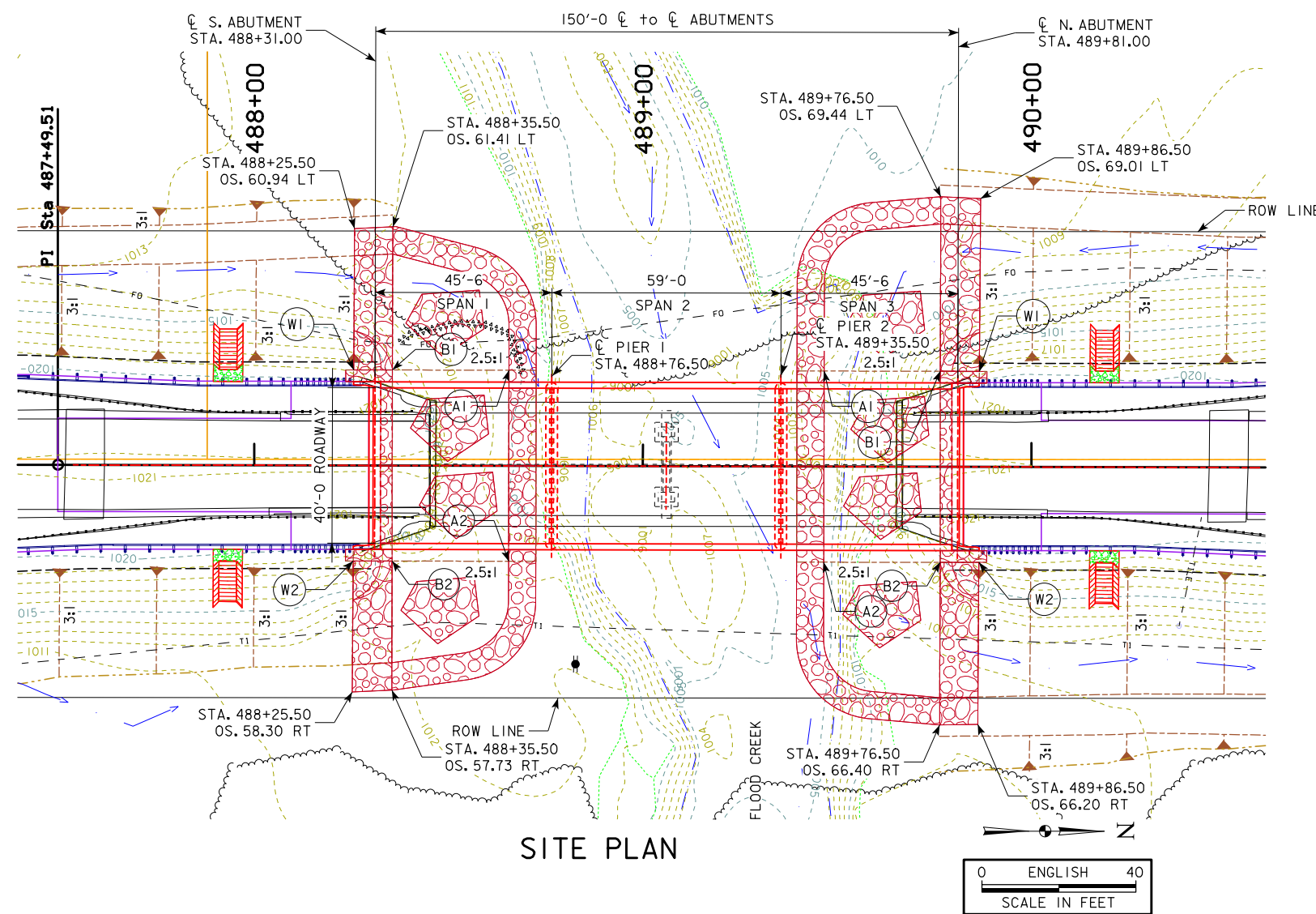
SECTION THRU EMBEDDED REVETMENT NORMAL TO BRIDGE WING AT W POINT

BERM SLOPE LOCATION TABLE						
POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	488+65.48	24.58' LT	1005.00	489+46.60	24.58' LT	1005.00
A2	488+65.48	24.58' RT	1005.00	489+46.60	24.58' RT	1005.00
B1	488+35.50	24.58' LT	1016.99	489+76.50	24.58' LT	1016.96
B2	488+35.50	24.58' RT	1016.99	489+76.50	24.58' RT	1016.96
W1	488+25.50	24.58' LT	1020.55	489+86.50	24.58' LT	1020.52
W2	488+25.50	24.58' RT	1020.55	489+86.50	24.58' RT	1020.52

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

ESTIMATED BERM ARMORING QUANTITIES			
LOCATION	REVETMENT CL. E (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - SOUTH ABUTMENT	643.6	627.4	402.3
BERM LINING - NORTH ABUTMENT	757.3	735.2	473.3
TOTALS	1400.9	1362.6	875.6

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.



SITE PLAN

PRELIMINARY

DESIGN FOR 0° SKEW
**150'-0" X 40'-0" CONTINUOUS
 CONCRETE SLAB BRIDGE**
 45'-6" END SPANS 59'-0" INTERIOR SPAN
SITUATION PLAN - SITE
 STATION 489+06 (1A14) AUGUST, 2021
FLOYD COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 2 OF 2 FILE NO. 32084 DESIGN NO. 224

LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

- - - - - - Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- - - - - Additional Topsoil Removal
- Subgrade Treatment
- - - - - Granular Shoulder
- Pavement
- - - - - Existing Pipe\RCB
- Proposed Pipe\RCB
- Proposed Dike
- All Elements Associated with Proposed Entrances

LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)

- Topsoil (Class 10)
- Slope Dressing Only
- Class 10 Materials
- Select Loams And Clay-Loams
- Select Sand
- Unsuitable Type A Disposal
- Unsuitable Type B Disposal
- Unsuitable Type C Disposal
- Shale
- Waste
- Broken and Weathered Rock
- Solid Rock
- Boulders

Note: All layer lines and descriptions identify layers above the line.

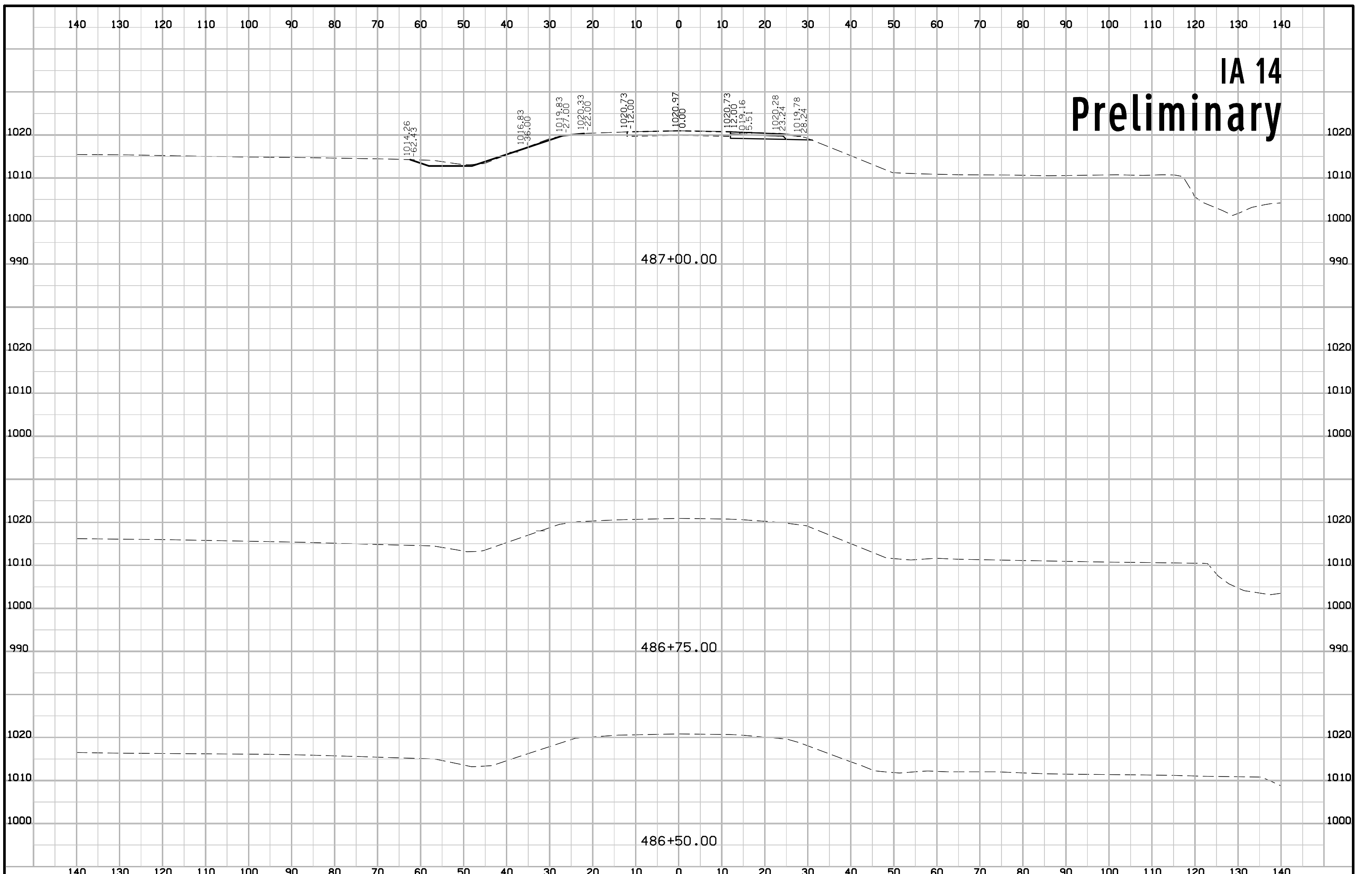
Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

SYMBOL LEGEND OF CROSS SECTION SHEETS

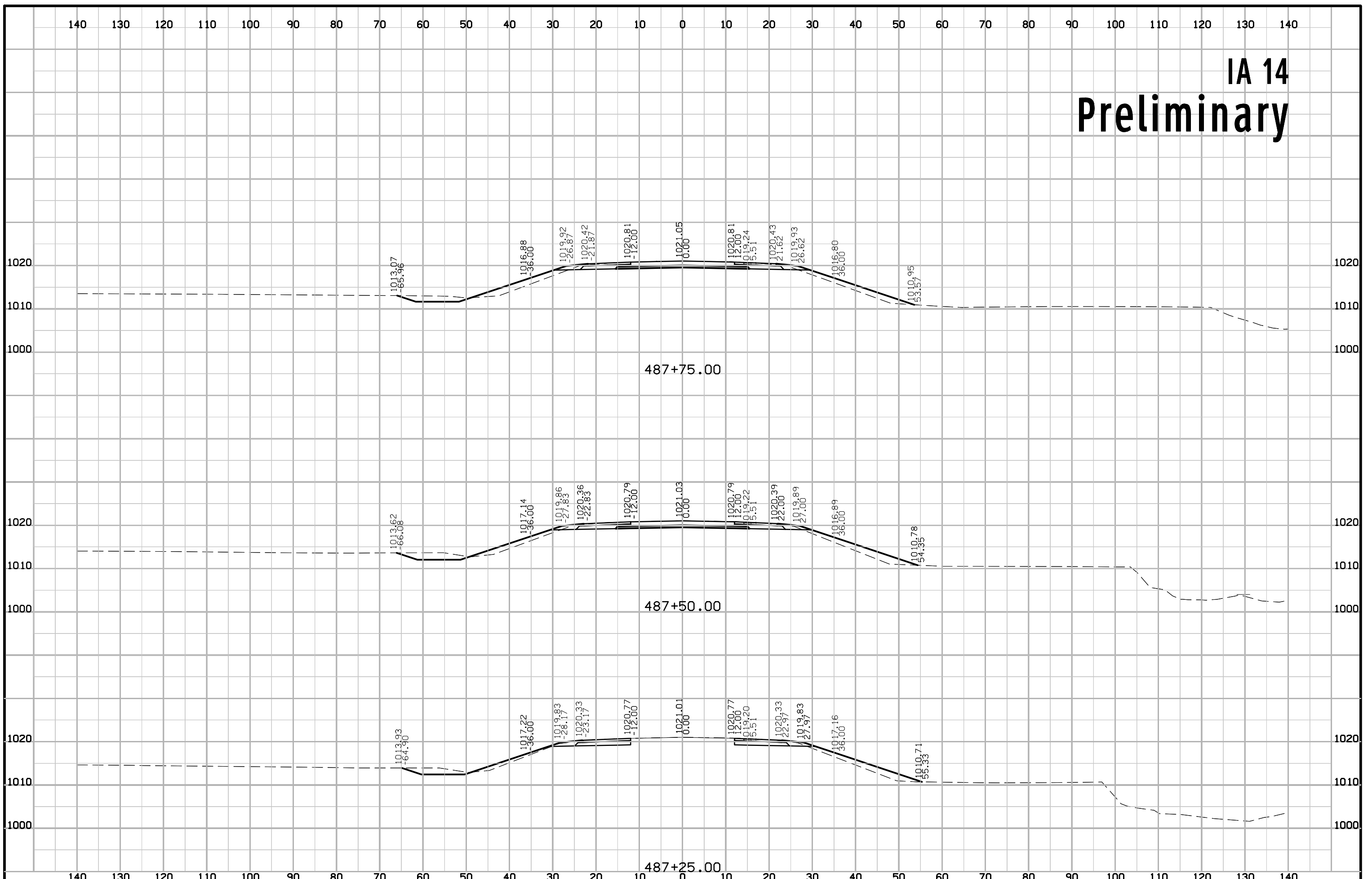
- Existing ROW
|
Existing Right-of-Way Limit
- Proposed ROW
|
Proposed Right-of-Way Limit
- Temporary ROW
|
Temporary Right-of-Way Limit

**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET
(COVERS SHEET SERIES W, X, Y, & Z)**

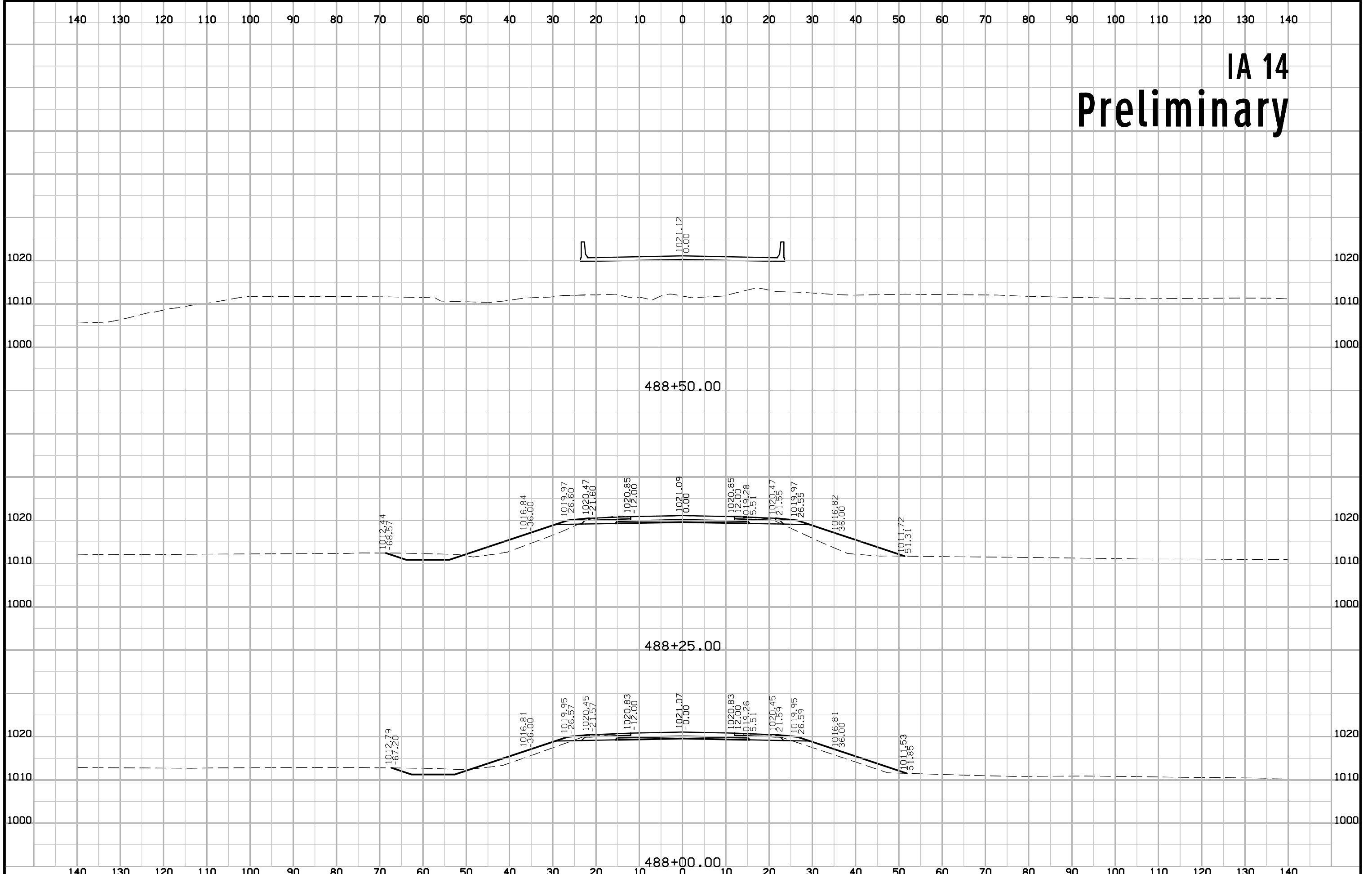
IA 14 Preliminary



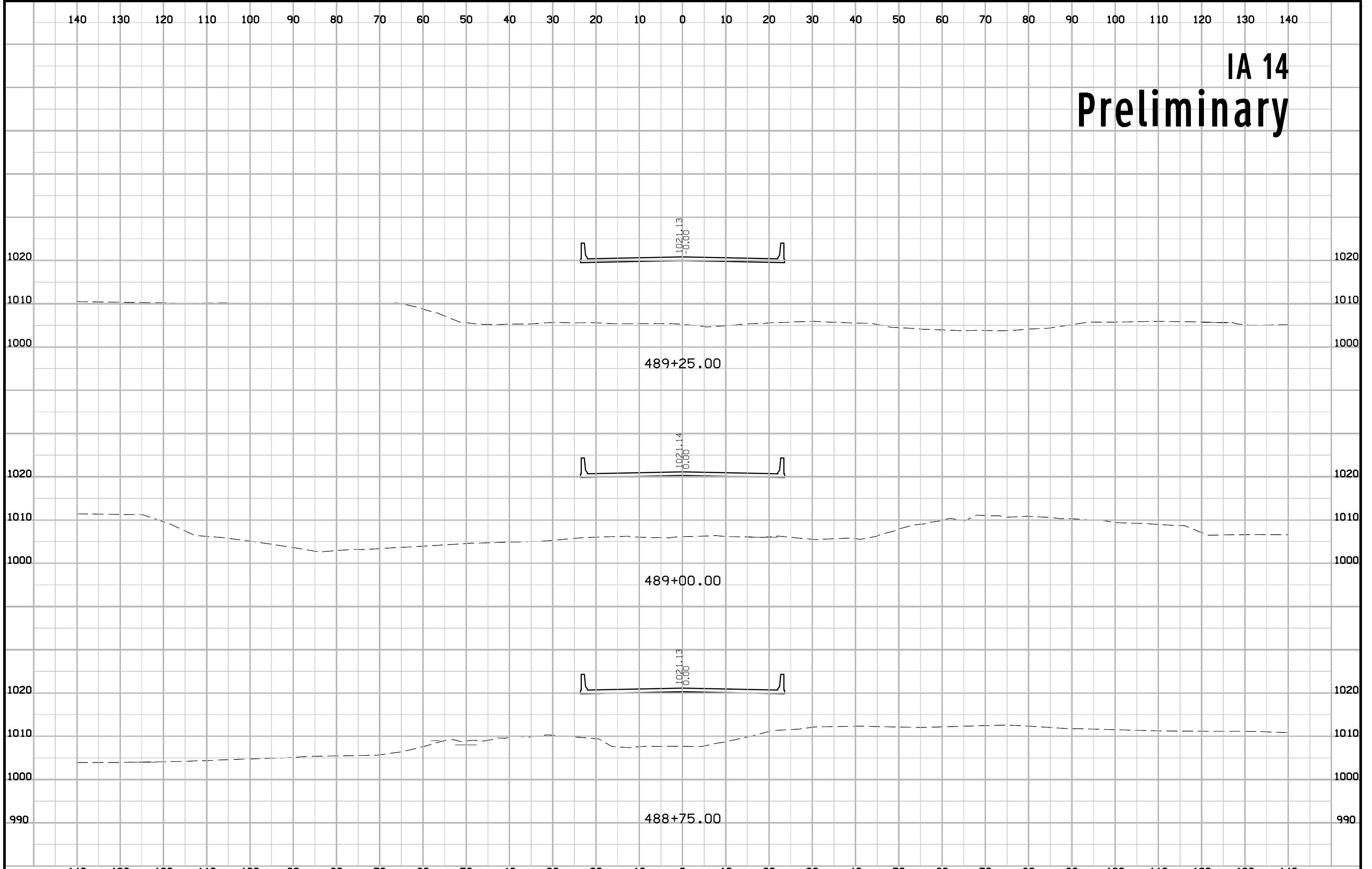
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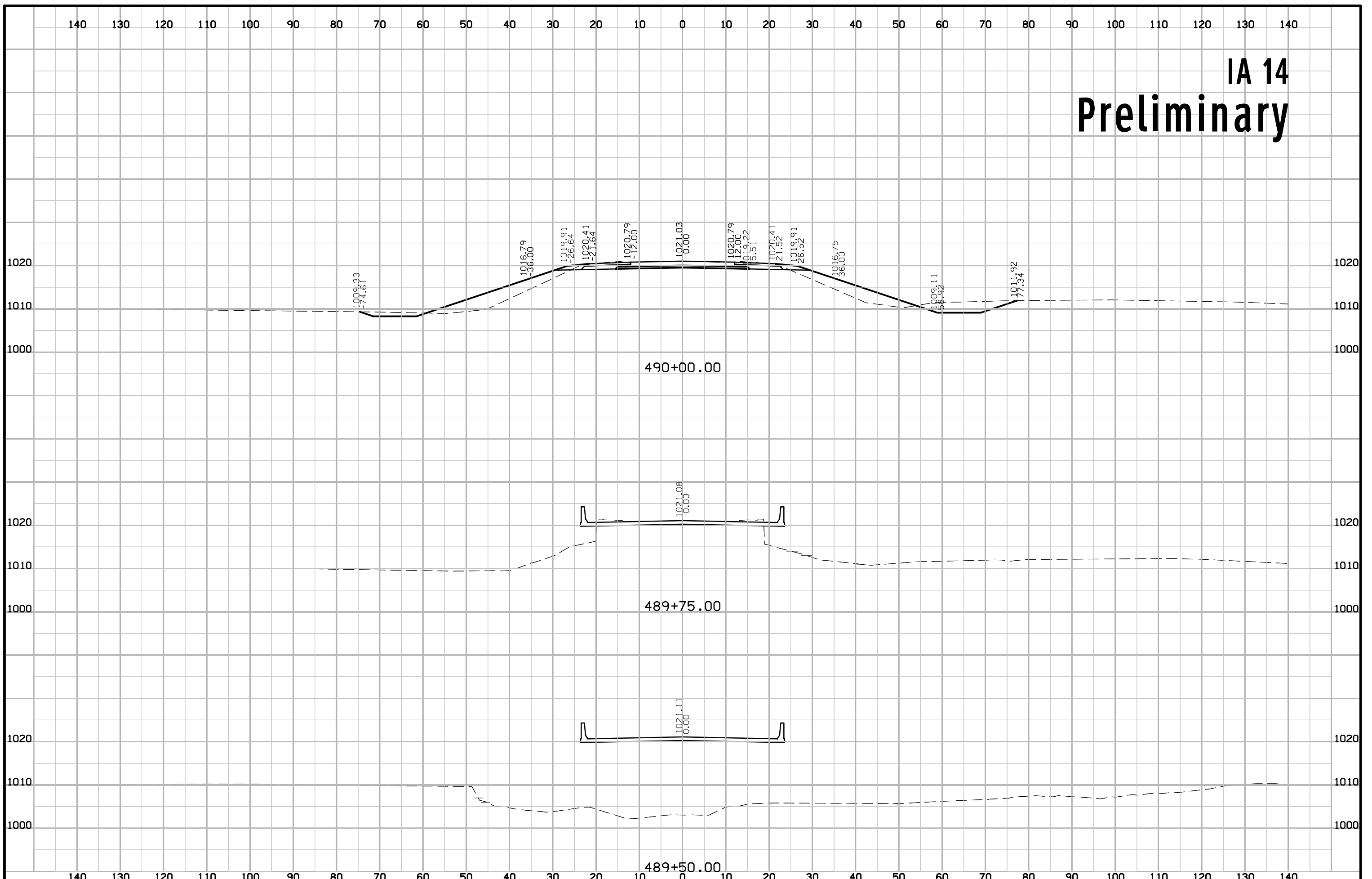
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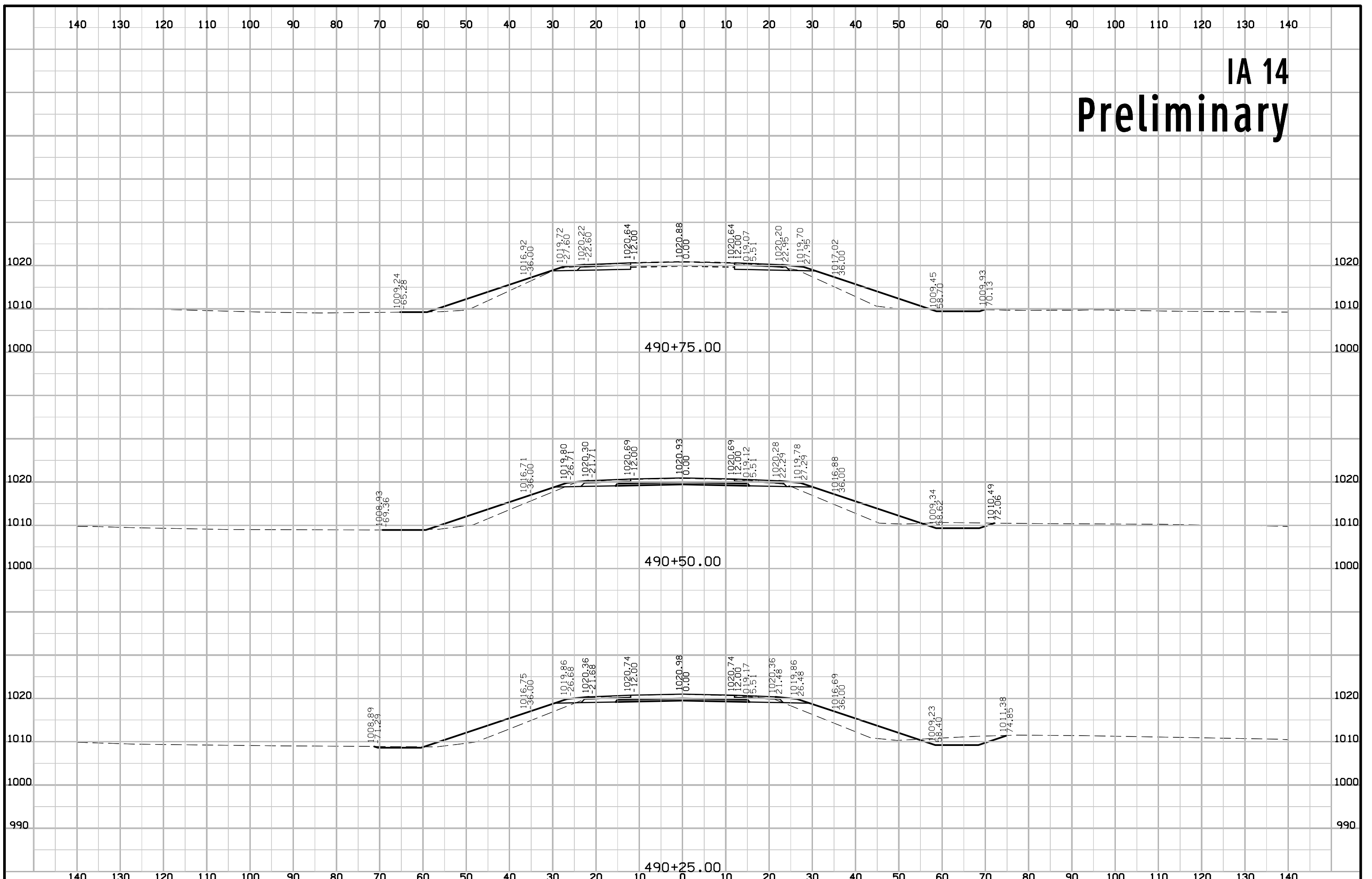
IA 14 Preliminary



IA 14 Preliminary



IA 14 Preliminary



IA 14 Preliminary

