

BRIDGE REPLACEMENT-PPCB
BRF-018-2(116)--38-71

O'BRIEN CO.

LETTING DATE
12-17-2019

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 3	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 3	U.S. 18 Plan & Profile
F Sheets	Detour or Temporary Pavement Sheets
* F.1	US Highway 59/Silver Ave Return Strengthening
* F.2	County Road M12/Vine Ave Return Strengthening
G Sheets	Survey Sheets
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J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
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* J.3	Detour Map
V Sheets	Bridge and Culvert Situation Plans
* V.1	Situation Plan - Sta. 953+87.50
* V.2	Site Plan - Sta. 953+87.50
W Sheets	Mainline Cross Sections
W.1 - 7	Mainline Cross Sections
	* Color Plan Sheets



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM O'BRIEN COUNTY BRIDGE REPLACEMENT-PPCB

Waterman Creek 1.3 mi W of Co Rd M12

SCALES: As Noted

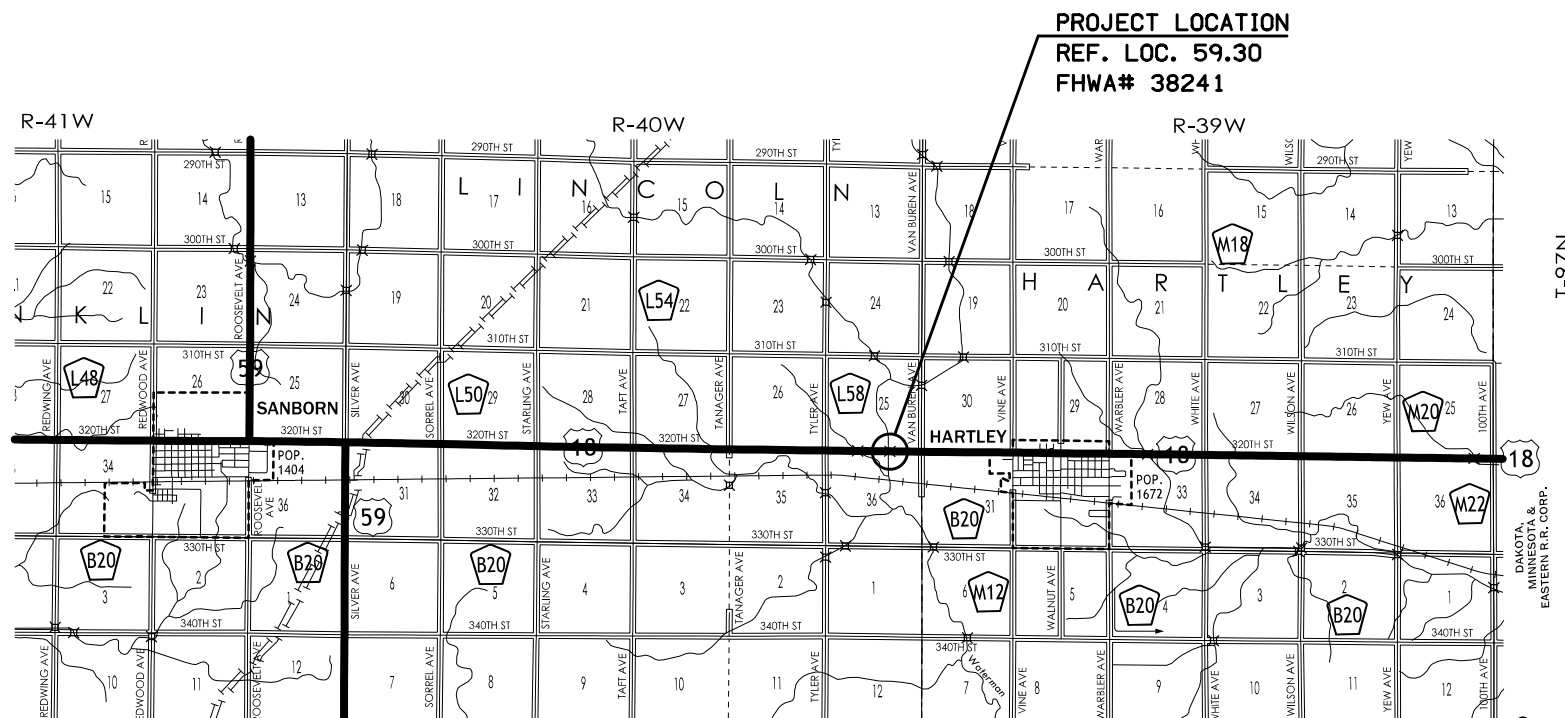
Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

TOTAL	24
PROJECT IDENTIFICATION NUMBER	15-71-018-010
PROJECT NUMBER	BRF-018-2(116)--38-71
R.O.W. PROJECT NUMBER	NHSN-018-2(117)--2R-71



DESIGN DATA RURAL

2016 AADT	3850	V.P.D.
2036 AADT	4450	V.P.D.
20 DHV		V.P.H.
TRUCKS	16 %	
Total Design ESALs		

PRELIMINARY PLANS

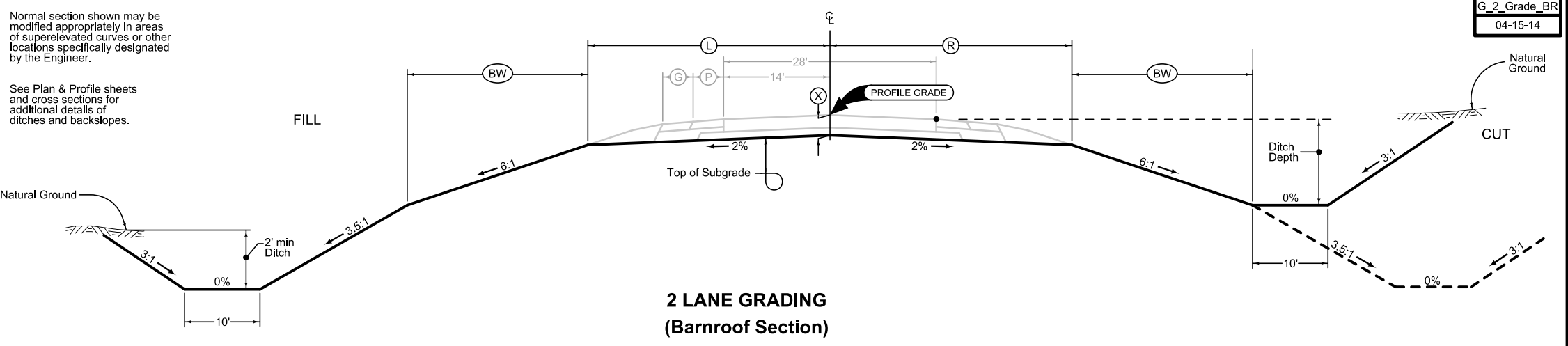
Subject to change by final design.

D5 PLAN - Date: 12-15-2017

LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches	(BW) Feet
US 18	950+00 957+75	32.85	32.85	21.0	

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.



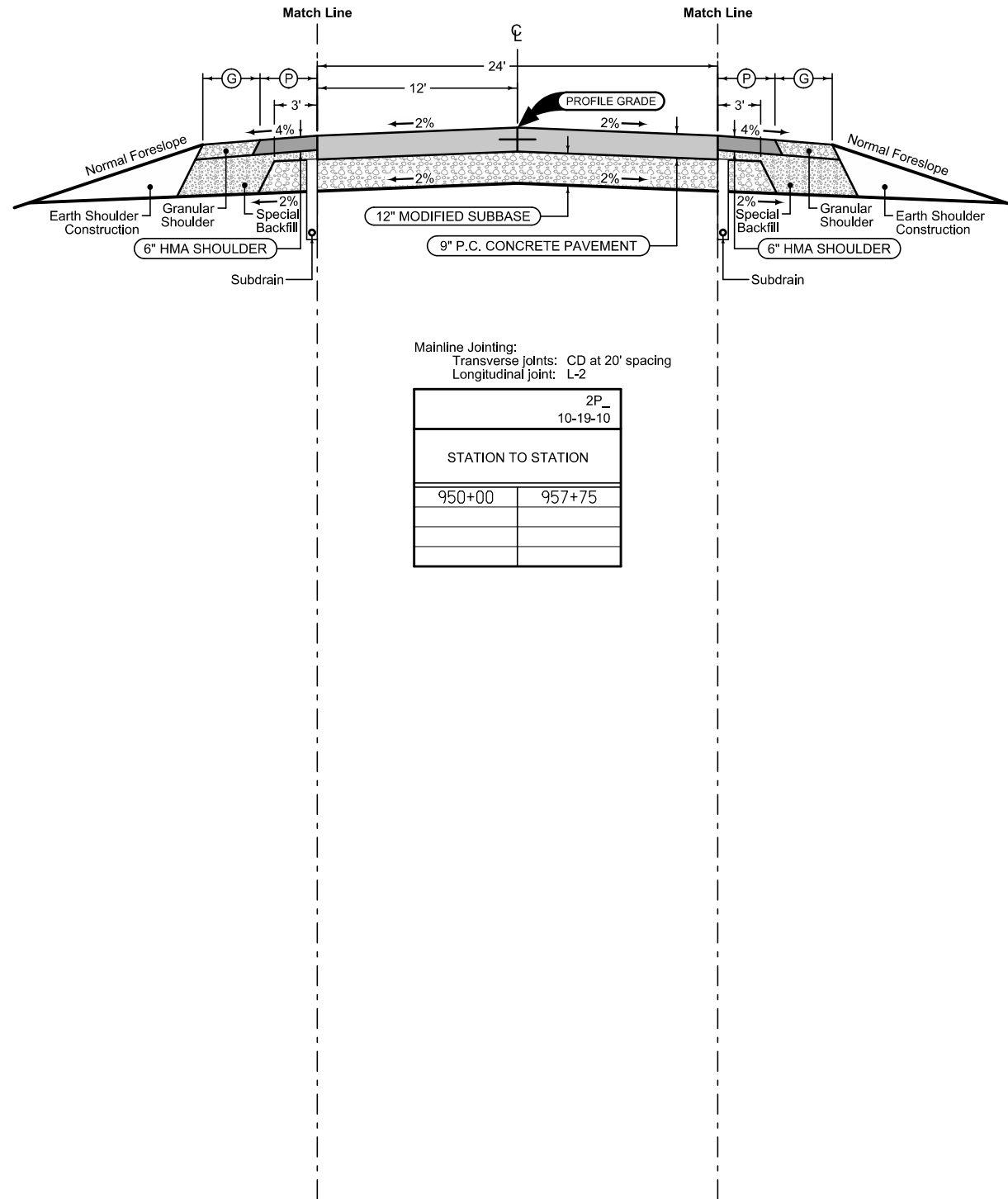
**2 LANE GRADING
(Barnroof Section)**

G_2_Grade_BR
04-15-14

Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

STATION TO STATION		2_C_ 10-15-13	
		(P) Feet	(G) Feet
950+00	957+75	4	6



Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: L-2

STATION TO STATION		2P_ 10-19-10	
		(P) Feet	(G) Feet
950+00	957+75		

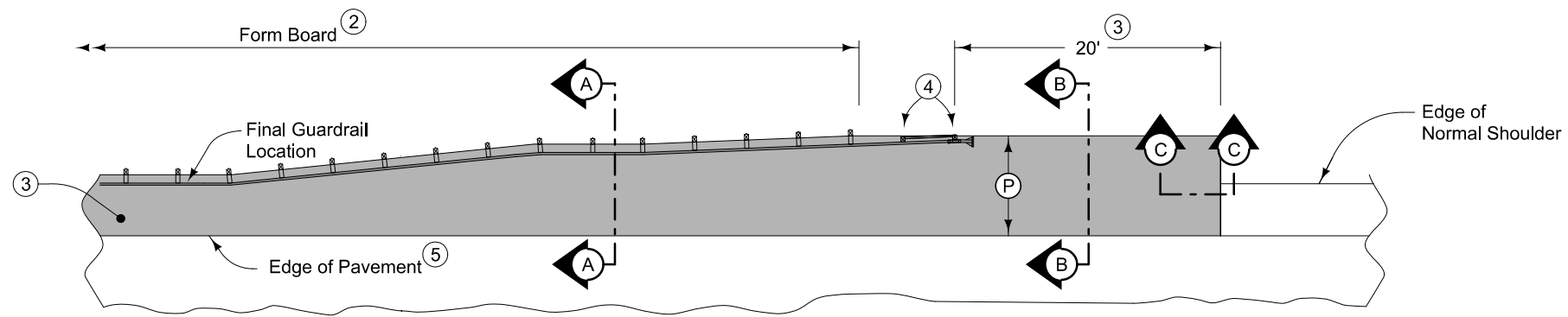
Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

STATION TO STATION		2_C_ 10-15-13	
		(P) Feet	(G) Feet
950+00	957+75	4	6

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

US 18



PLAN VIEW

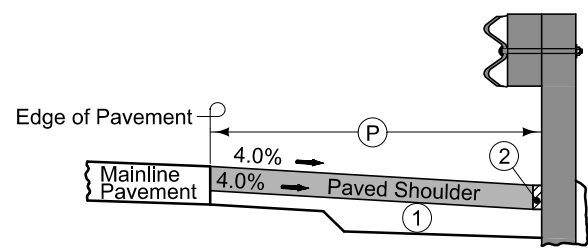
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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.

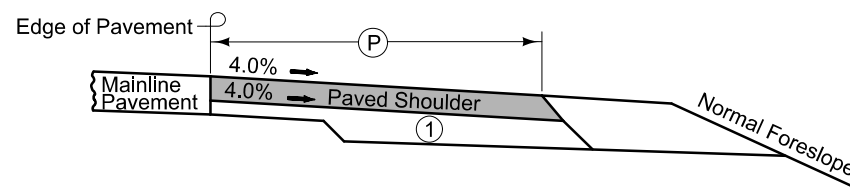
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

- ① For subgrade treatment, refer to other details in the plan.
- ② 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. Refer to note 4 for final 2 posts.
- ③ Continue paved shoulder to existing paved shoulder or 20 feet beyond the center of the first post.
- ④ Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ⑤ 'KT-1 joint for PCC shoulder.
'B' joint for HMA shoulder.

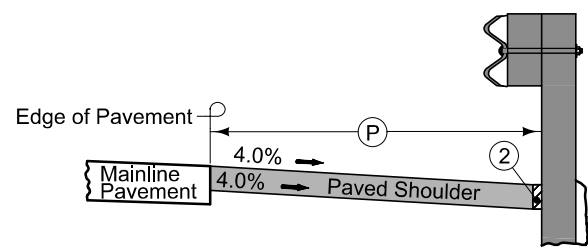


Section A-A

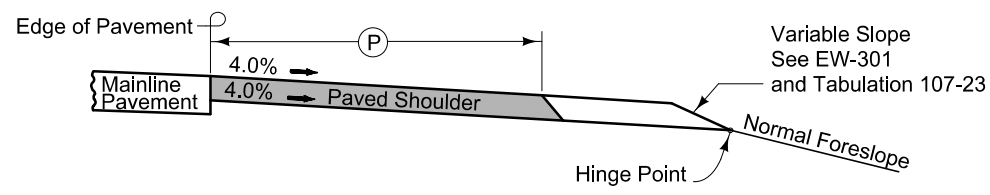


Section B-B

NEW CONSTRUCTION

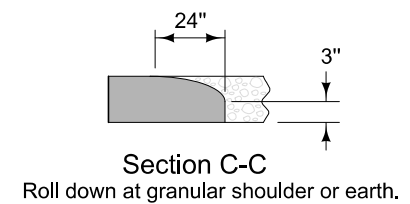


Section A-A



Section B-B

EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL

SURVEY SYMBOLS

- GDL Guard Rail Steel
- SI Sign
- OUT Tile Outlet
- TIL Tile Line
- DU Centerline Draw or Stream (Up)
- D Centerline Draw or Stream (Down)
- BNK Stream Bank
- TPD Telephone Pedestal

UTILITY LEGEND

- T1 - TL1D Telephone Line Windstream - Quality D
- F0 - FO1D Fiber Optic Windstream - Quality D
- W - WL1D Water Line Osceola Rural Water - Quality D
- PPA Power Pole NW REC

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
- High Tension 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
 - Access Control
 - Property Line

**PLAN AND PROFILE
LEGEND AND SYMBOL
INFORMATION SHEET**

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

Lincoln TWP
T-97N R-40W
SEC. 25



STA. 949+60.00
BEGIN PROJECT

STA. 958+05.00
END PROJECT

950

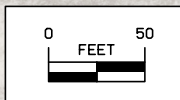
955

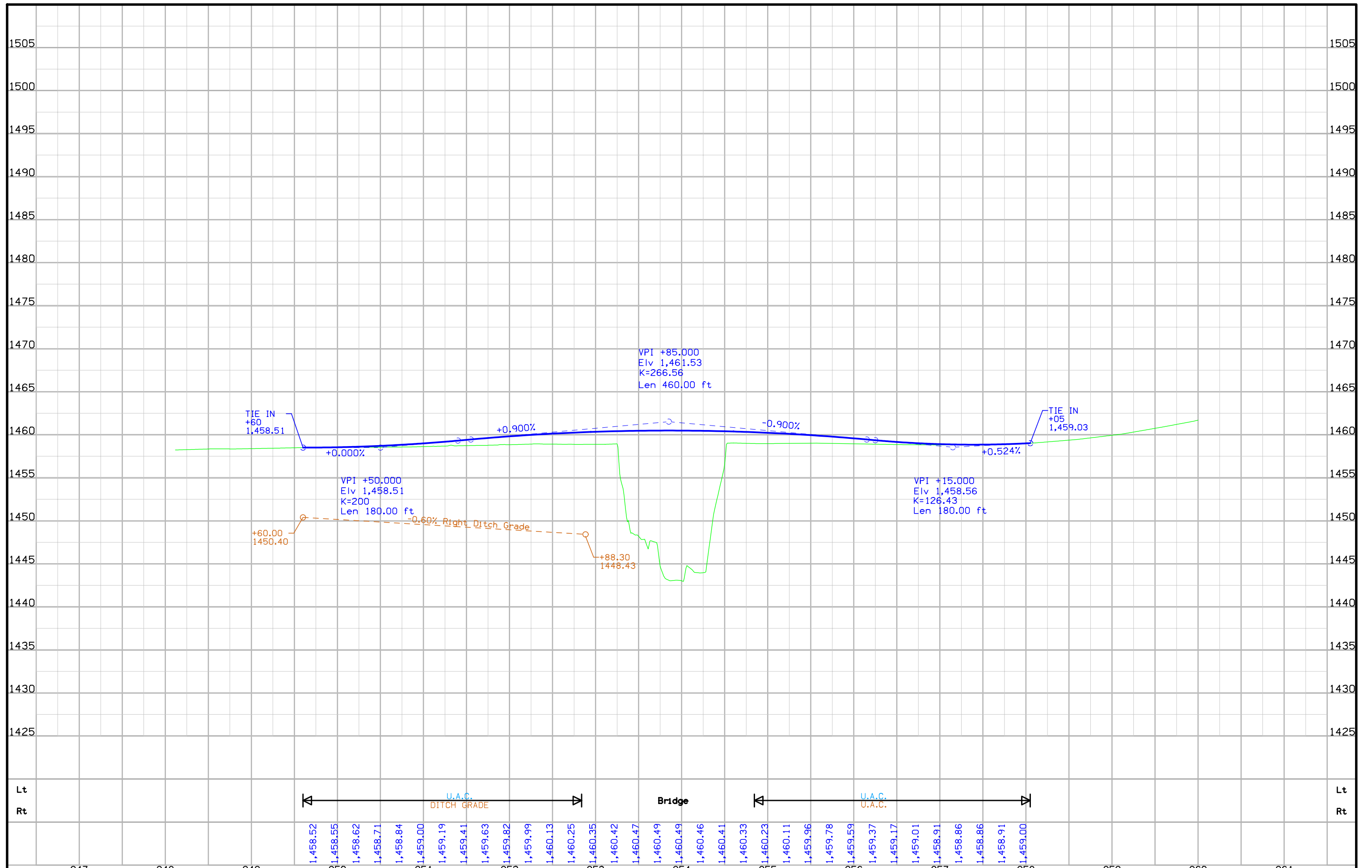
960



Sta. 953+89.0
125' x 28' Conc Slab Bridge
D.A. = 31 Sq. Mi. (Per Plan FN 789) F
(Remove)
Sta. 953+89.0
Build 201'-4" x 44'
Pretensioned Prestressed
Concrete Beam Bridge

Lincoln TWP
T-97N R-40W
SEC. 36





FILE NO.	ENGLISH	DESIGN TEAM	Flattery/Carlson	O'BRIEN COUNTY	PROJECT NUMBER	BRF-018-2(116)--38-71	SHEET NUMBER	D.3
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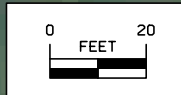


SILVER AVE

STRENGTHEN SHOULDER



360TH STREET



US Highway 59
Return Strengthening

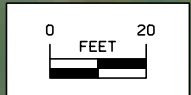
STRENGTHEN
SHOULDER



VINE AVE



360TH STREET



County Road M12
Return Strengthening

Party Personnel

Jeffrey Duncan- Party Chief

Date(s) of Survey

Begin Date 09/15/2016
End Date 01/20/2017

General Information

Measurement units for this survey are US survey feet. This survey is for proposed Bridge reconstruction along US Highway 18 near Hartley. Project datum and control information is provided by Design Survey Office. This project is a Partial DTM with Photo control.

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12A). GRS80 Ellipsoidal Height was computed at project Pts. 1, Hartley Ref, Y 17 by doing concurrent 4 hour static observations. The project control is relative to nearby Iowa RTN Base Stations.

This survey observed 1 County GPS control and 1 NGS Control Monument with published NAVD88 heights to compare to local ground control:

NGS 2nd. order class 0 mark designated Y 17 has a published Elev. Of 1377.71
Survey Elev. = 1377.843

Horizontal Control

The project coordinate system for this survey is Iowa RCS Zone 1 (U.S. Survey Feet). This survey control is relative to laRTN reference stations. laRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by conducting 3 concurrent 4 hour static observations at project Pts. 1, Hartley Ref, Y 17.

Name	Northing (USft)	Grid Easting (USft)	Elevation (USft)
1	9594665.183	11433375.668	1486.088
Hartley Ref	9594762.25	11436868.094	1473.514
Y 17	9587890.512	11463063.161	1377.843
500	9594656.146	11430012.003	1459.531

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. FN 789. Survey stationing was equated to the plan PI and NW COR SEC 31 at Sta 971+10.3 and run back without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

POT Sta. 945+00 As-built Plans Project No. FN 789
Survey POT Sta. 945+00.69

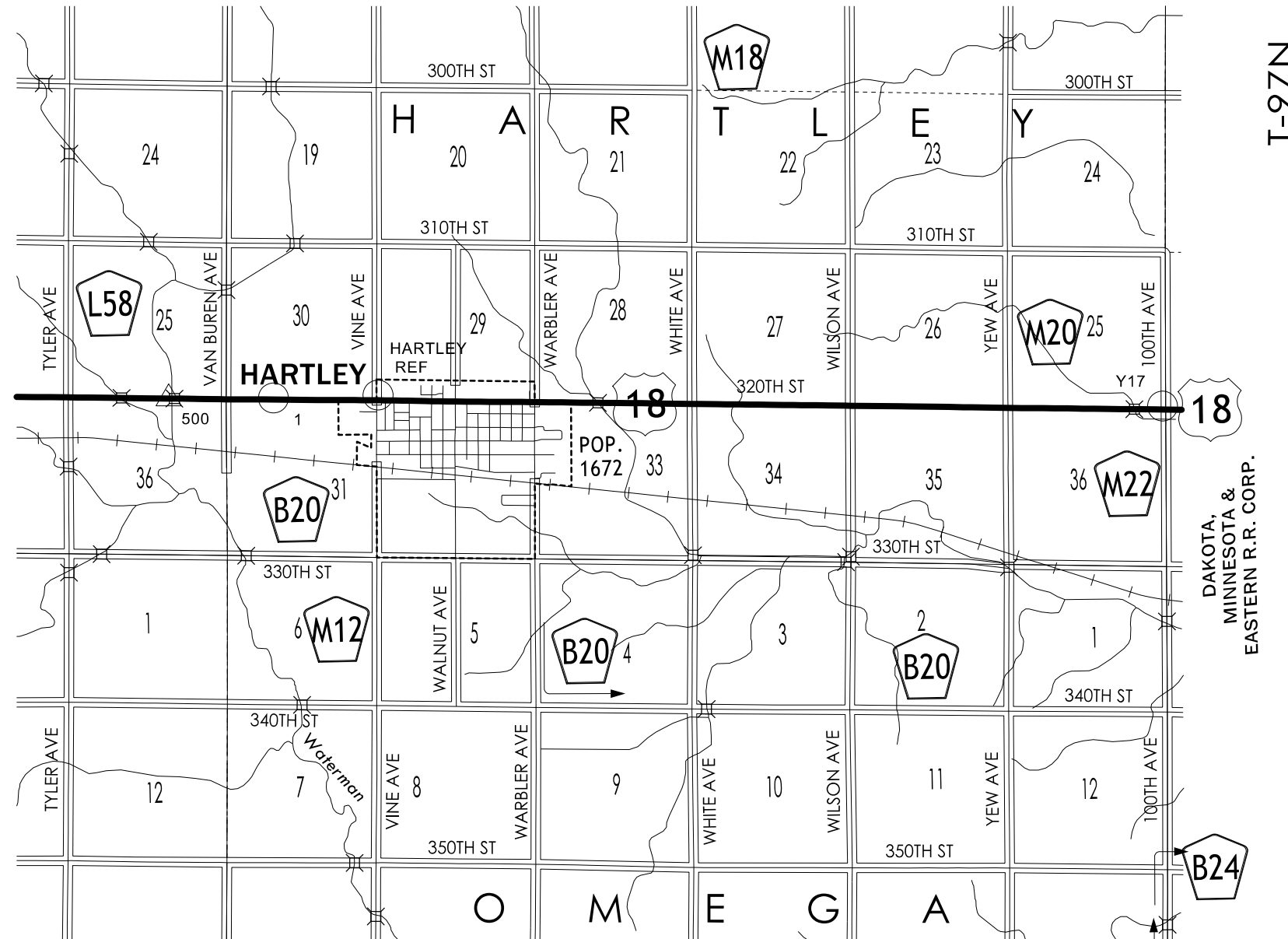
PI and NW COR SEC 31 Sta 971+10.3 Project No. FN 789
Survey POT Sta. 971+10.3

Survey Information

O'Brien County
BRFIMX-018-2(116)255—38-71
Waterman Creek 1.3 mi W
Of Co Rd M12
PIN 15-71-018-010
Sap-0886

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 2013.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 1

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 2013.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 1

Point Name	Northing	Easting	Elevation	Feature Definition
1	9594665.180	11433375.670	1486.09	CP 60ft North of CL US 18, 0.75ft North of ROW Sign
HARTLEY REF	9594762.260	11436868.090	1473.51	CP 100ft South of Ent to School, 50ft E of Co Rd M12, 12ft West of Back of Curb
Y17	9594395.847	11463063.161	1377.84	CP 120ft West of ROW Fence Corner, 45ft SW of SW Rail, 1.3ft NE of ROW Fence
500	9594656.146	11430012.003	1459.531	BM FD IHC Button on NW Wing of HDWL

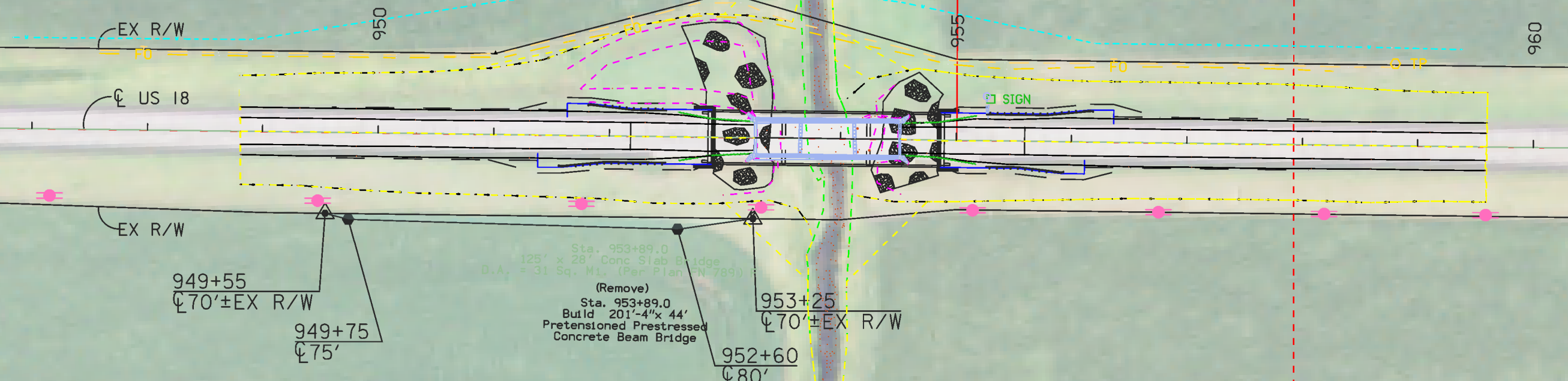
O'Brien	ROW: NHSN-018-2(117)--2R-71			PIN	15-71-018-010																
	Waterman Creek 1.3 mi W of Co Rd M12																				
		STATE				COUNTY				CITY				TEMP EASE		BORROW					
PARCEL NO.	OWNER NAME	FEE	EASE	FEE	EASE	FEE	EASE	EXCESS			FEE	T.E.	MITIGATION	OTHER	HOUSE	BUILDING(S)	A/C ONLY	TOTAL ACQ.			
1	Eliot Farms, LLC - Fee		0.06 AC																		
1 Parcel	"TOTALS	0 AC	0.06 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC							
		0 SF		0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF							

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

Lincoln TWP
T-97N R-40W
SEC. 25

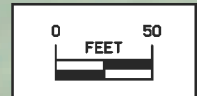
BRENT AND KIMBERLY RIECK

BAR K CATTLE, LLC



①
ELIOT FARMS, LLC

Lincoln TWP
T-97N R-40W
SEC. 36












Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: ATINKEN /JLARSON	
ROW #: NHSN-018-2(117)--2R-71	
Plan Date: 4/9/18	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

**CROSS SECTION VIEW COLOR LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS**

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

**CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS**





















	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

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

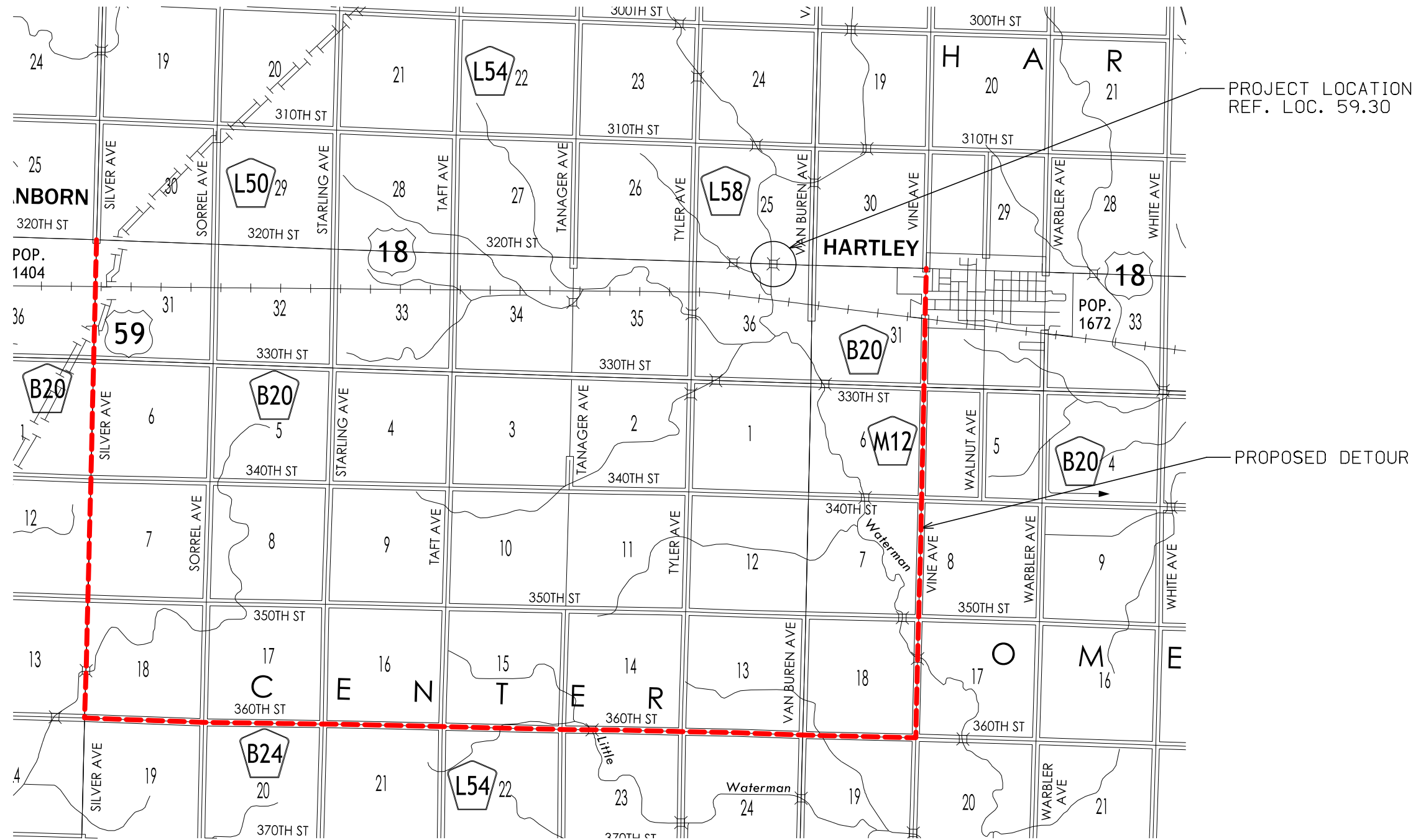
	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification

NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

**TRAFFIC CONTROL
AND
STAGING
LEGEND AND SYMBOL
INFORMATION SHEET**

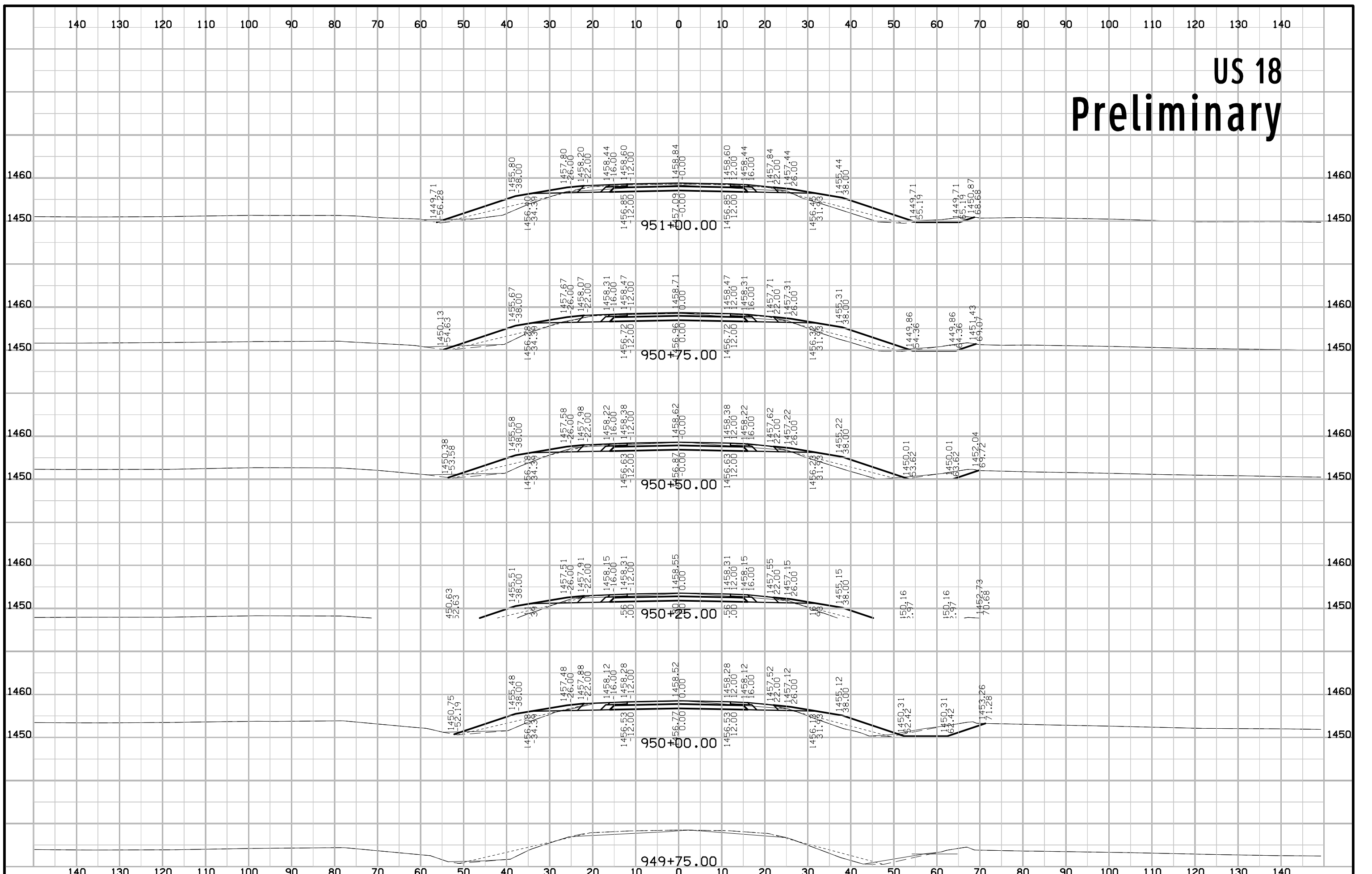
(COVERS SHEET SERIES J)

DETOUR ROUTE MAP

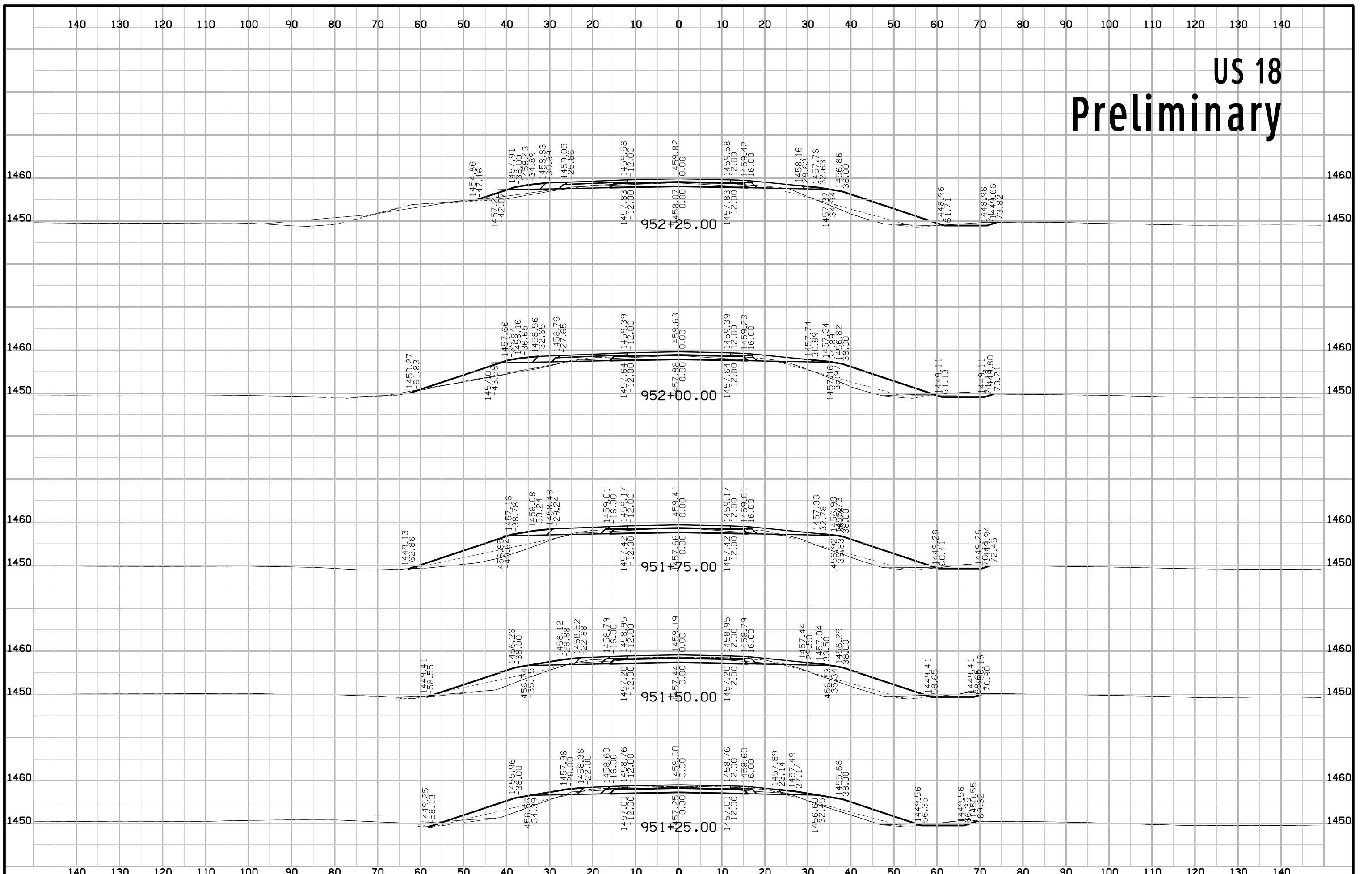


DETOUR ROUTE -----

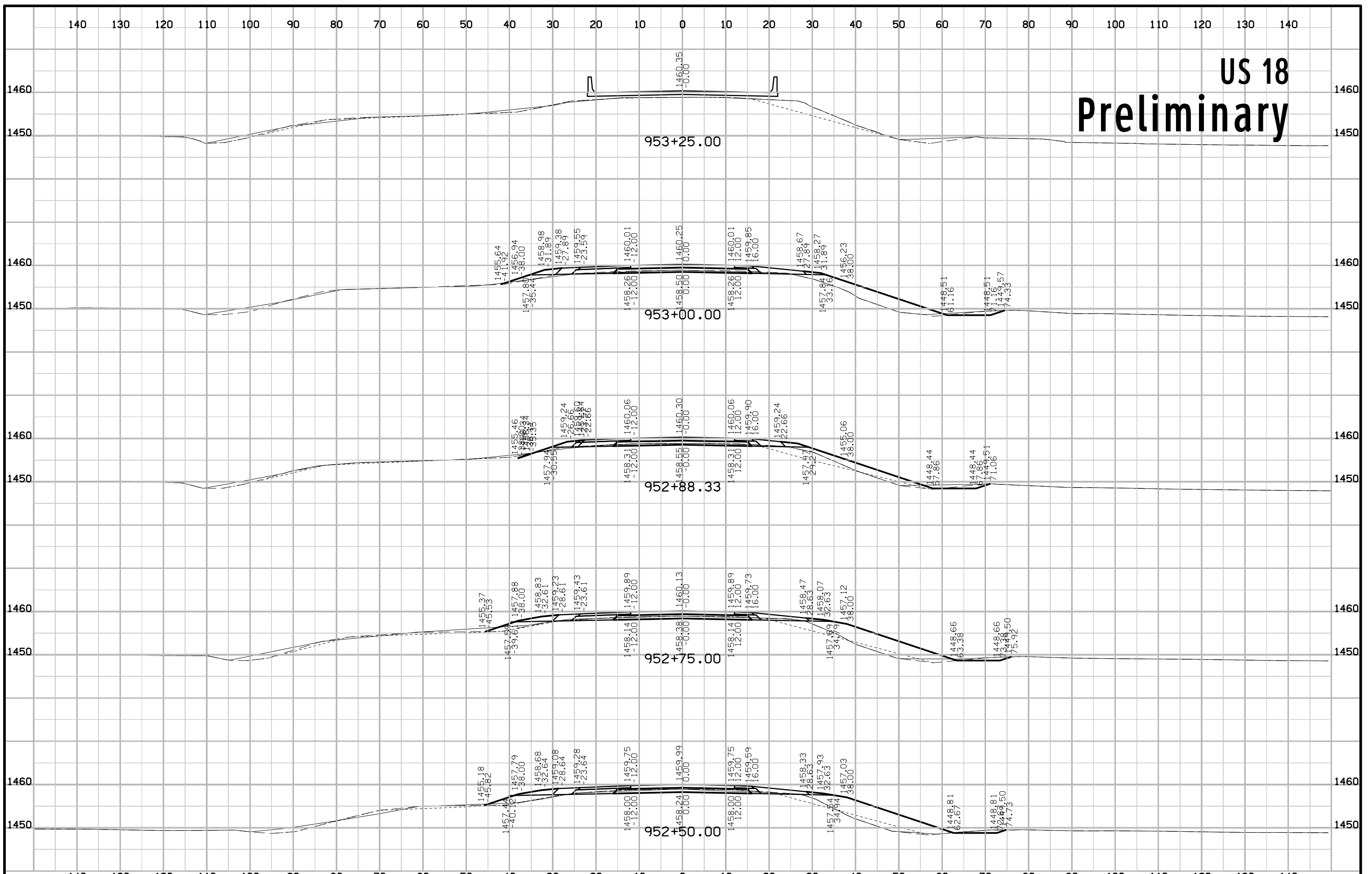
US 18 Preliminary

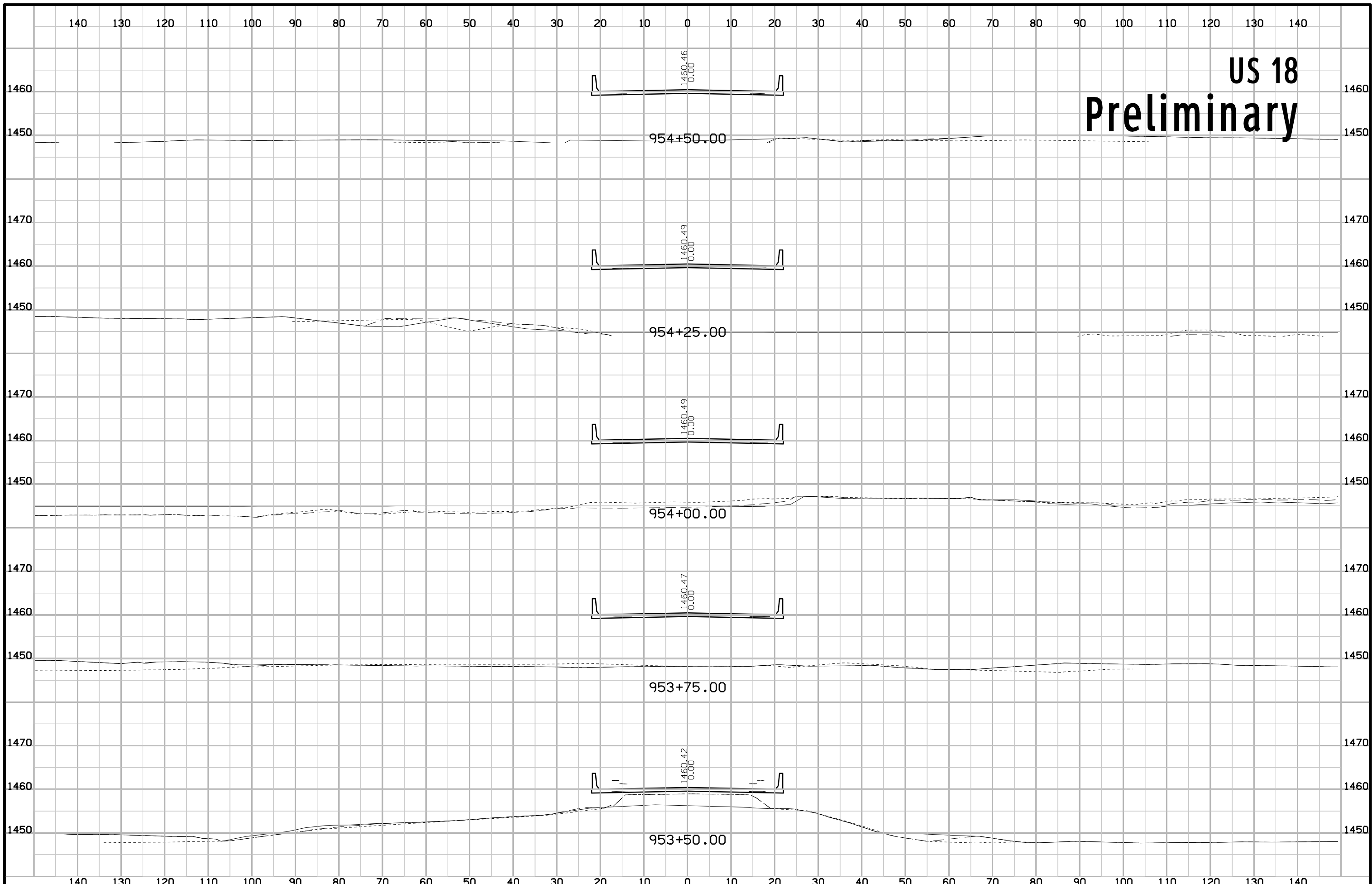


US 18 Preliminary



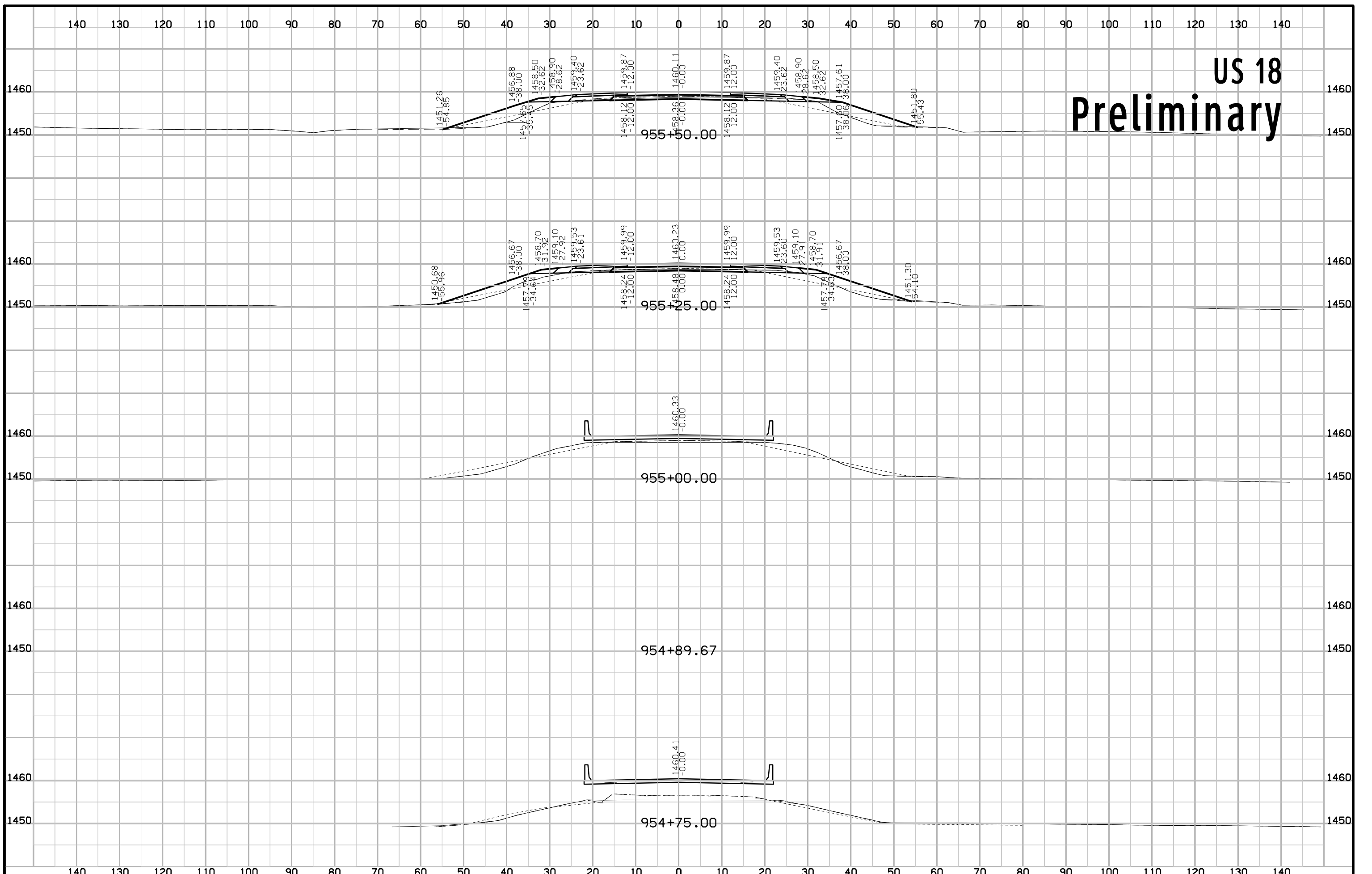
US 18 Preliminary



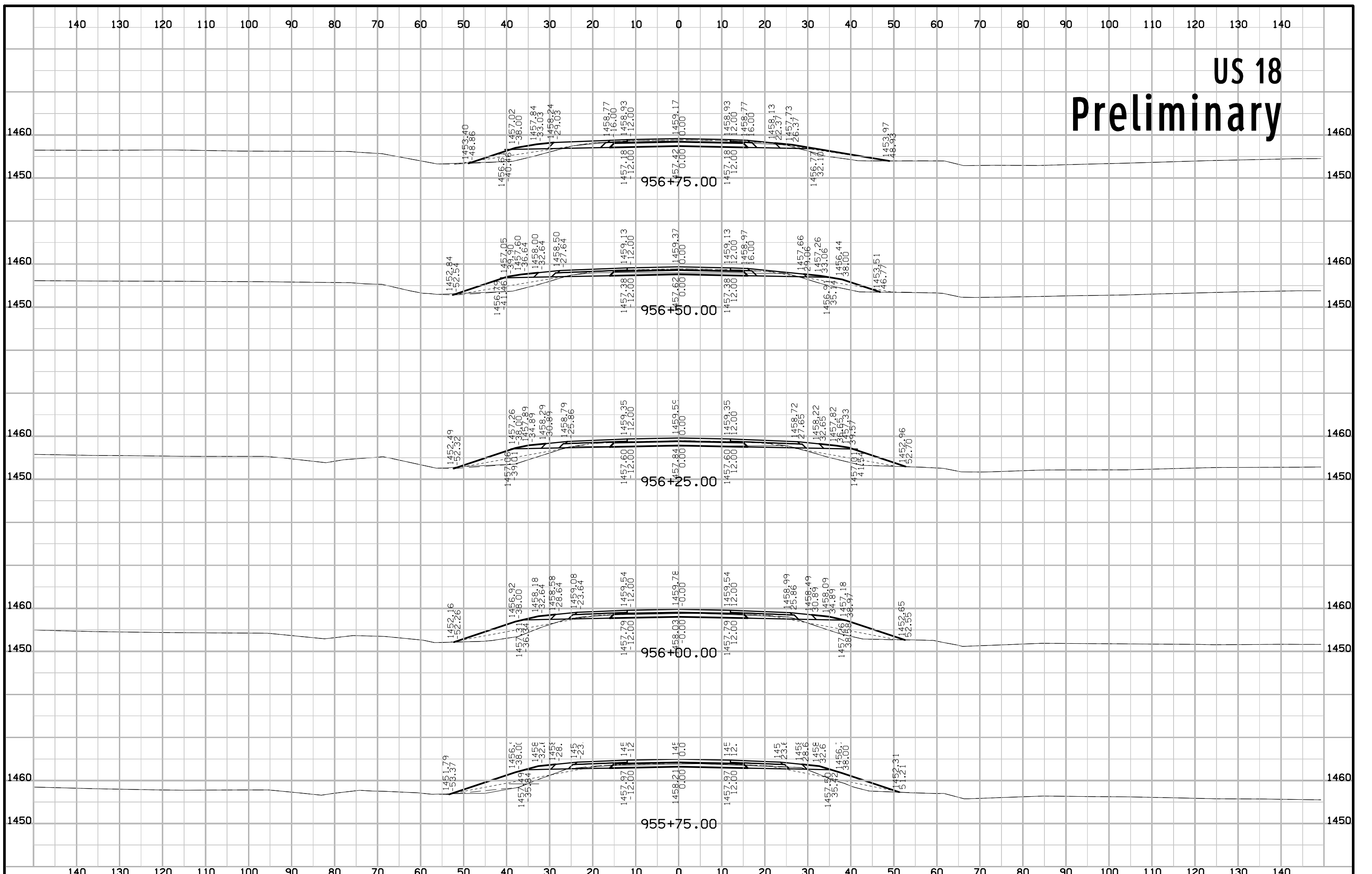


US 18 Preliminary

US 18 Preliminary



US 18 Preliminary



US 18 Preliminary

