LETTING DATE 12-21-2021

BRIDGE REPLACEMENT - CCS
BRFN-034-6(95)--39-59
LUCAS Co.

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 - 4	Typical Cross Sections and Details
C Sheets	**Quantities and General Information**
C.1	Project Description
C.1	Estimated Project Quantities
C.1	Standard Road Plans
D Sheets	**Mainline Plan and Profile Sheets**
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US 34
F Sheets	**Detour or Temporary Pavement Sheets**
* F.1	Detour Plan and Profile Sheets
G Sheets	**Survey Sheets**
G.1 - 2	Reference Ties and Bench Marks
G.3	Horizontal Control Tab. & Super for all Alignments
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 - 4	Bridge and Culvert Situation Plans
W Sheets	**Mainline Cross Sections**
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 7	Mainline Cross Sections
X Sheets	**Side Road Cross Sections**
X.1 - 8	Runaround Detour Cross Sections

IOWA DOT

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

LUCAS COUNTY

BRIDGE REPLACEMENT - CCS

US 34 bridge over stream 2.1 miles east of East Junction US 65

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

IOWA ONE CALL
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www.iowaonecall.com
Know what's below. Call before you dig.

REVISIONS

TOTAL
33
PROJECT IDENTIFICATION NUMBER
17-59-034-010
PROJECT NUMBER
BRFN-034-6(95)--39-59
R.O.W. PROJECT NUMBER
NHSN-034-6(96)--2R-59

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

DESIGN DATA RURAL		
2021 AADT	3,300	V.P.D.
2041 AADT	3,400	V.P.D.
2041 DHV	350	V.P.H.
TRUCKS	18	%
Total Design ESALs	--	

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Michael J. Janechek	Primary Signature Block

D4 PLAN – Date: Aug 24, 2021

PRELIMINARY PLANS

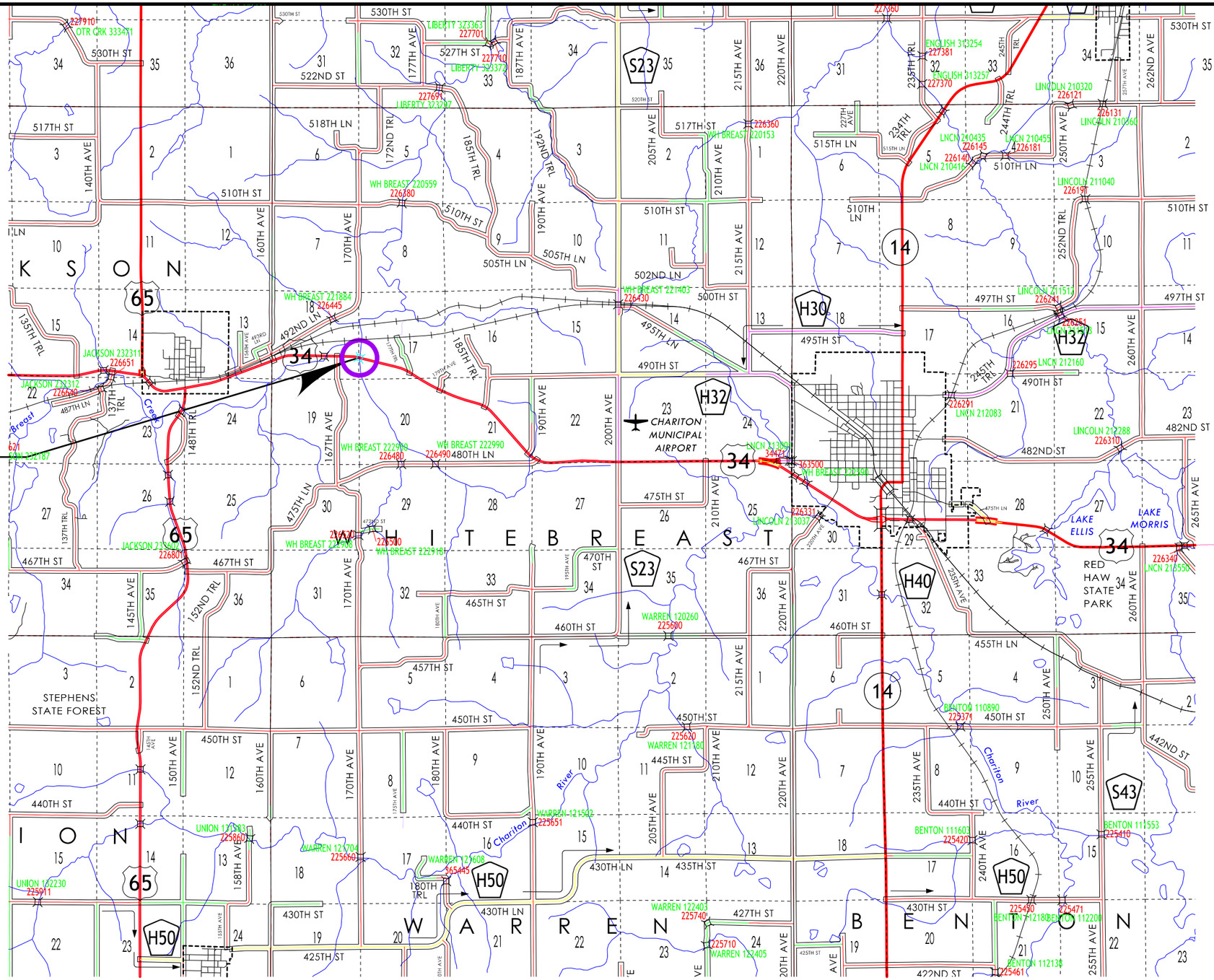
Subject to change by final design.

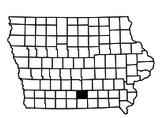
D5 PLAN – Date: Nov 22, 2019

FILE NO. 31695	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER A.1

11:15:51 AM 11/21/2019 mjanechek pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5903401017\Design\SHT_59034095_A1.sht

US 34 BRIDGE REPLACEMENT
STA.: 942+18.5
FHWA NO.(EXISTING): 34260
MAINT. NO. 5934.8S034
Mile Post: 134.8



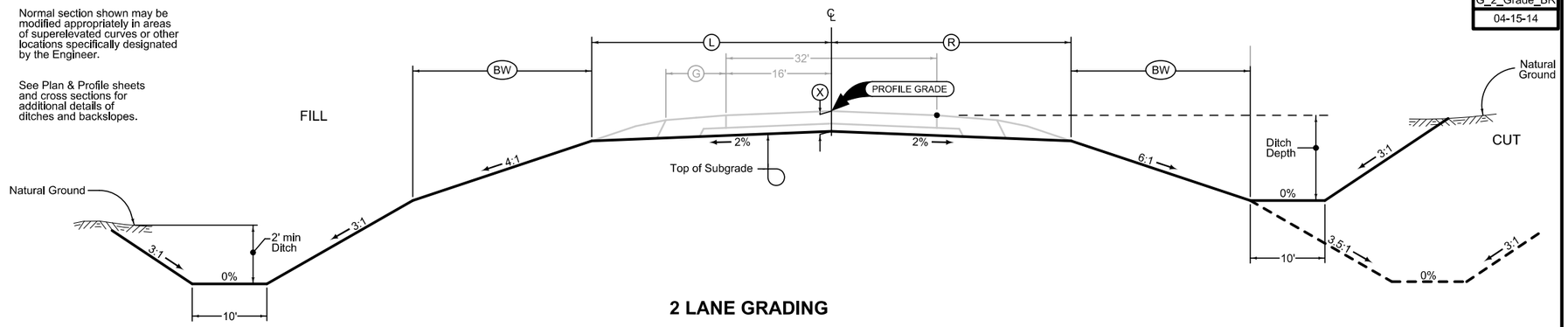


FILE NO. 31695	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER A.2

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet
IA 34	940+38.30	944+42.72	30.16	30.16	24	11.84

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.

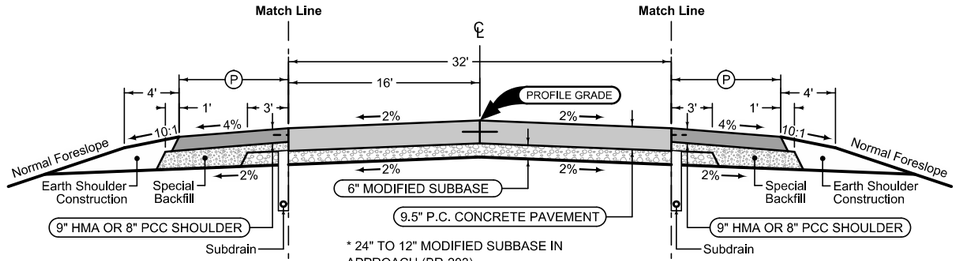


2 LANE GRADING

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_ 10-17-17		
STATION TO STATION		(P) Feet
940+45.65	941+47.00	VARIES
942+90.00	944+20.46	VARIES



* 24" TO 12" MODIFIED SUBBASE IN APPROACH (BR-203)

*12" P.C. CONCRETE PAVEMENT IN APPROACH (BR-203)

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

2P_ 10-19-10		
STATION TO STATION		
940+38.30	940+97.00	ROADWAY
940+97.00	941+67.00	APPROACH
942+70.00	943+40.00	APPROACH
943+40.00	944+42.72	ROADWAY

Paved Shoulder at Guardrail

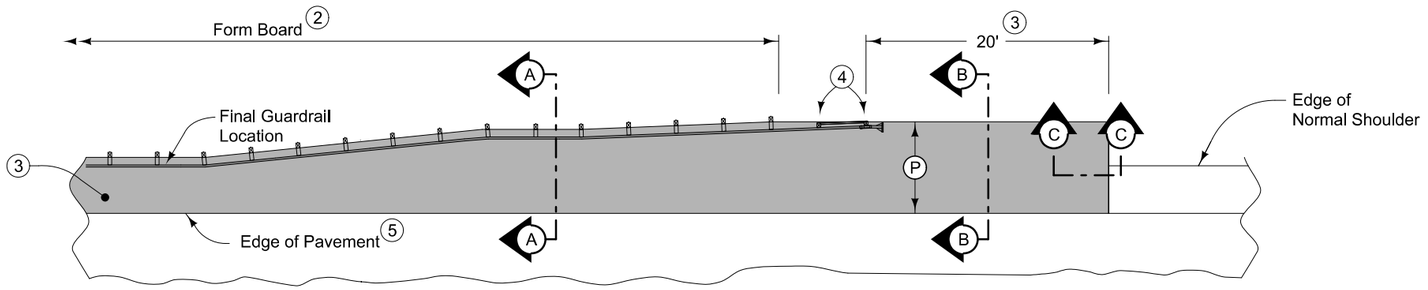
PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at mainline spacing
HMA Shoulder Jointing:
Longitudinal joint: B

2_P_Guard_ 10-17-17		
STATION TO STATION		(P) Feet
940+16.51	941+47.00	VARIES
942+90.00	944+42.72	VARIES

See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

US 34

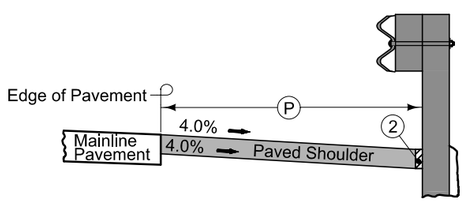


PLAN VIEW

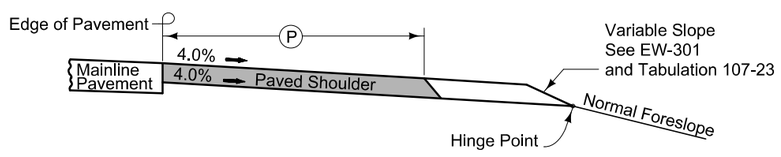
Section A-A

Section B-B

NEW CONSTRUCTION



Section A-A



Section B-B

EXISTING SHOULDER

DESIGNER INFO

7156
04-18-17

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.

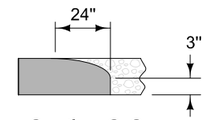
(1) For subgrade treatment, refer to other details in the plan.

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

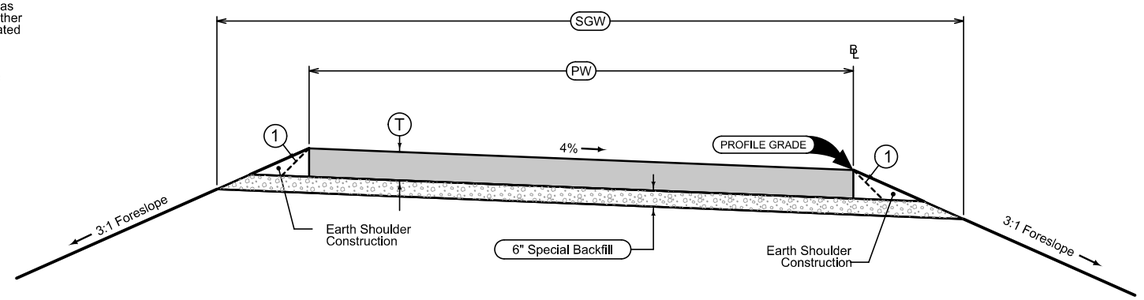
PAVED SHOULDER AT GUARDRAIL

LOCATION			DIMENSIONS						6" Special Backfill	Earth Shoulder Construction
			HMA			PCC				
ROAD IDENTIFICATION	STATION TO STATION		(PW) Feet	(T) Inches	(SGW) Feet	(PW) Feet	(T) Inches	(SGW) Feet	Tons/Station	Station
Detour	0+00	11+69.49	28	8.5		28	7.5			

Quantity calculations based on vertical pavement edges.

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

(1) Possible HMA 1:1 slope



DETOUR PAVING

D_Detour
10-21-14

DESIGNER INFO

100-1D
10-18-05

PROJECT DESCRIPTION

This project involves the replacement of the US 34 bridge over a stream, 2.1 miles east of the East Junction of US 65.

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	10-18-16	Steel Beam Guardrail Components
BA-201	04-18-17	Steel Beam Guardrail Barrier Transition Section
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 on Bridge End Post (MASH TL-3)
BR-203	10-17-17	Double Reinforced 12" Approach
DR-303	10-17-17	Subdrains (Longitudinal)
DR-305	04-17-18	Subdrain Outlets (standard Subdrain, Pressure Release and Special)
DR-402	04-17-18	Rock Flume for Bridge End Drain
EC-201	10-16-18	Silt Fence
EC-202	10-21-14	Floating Silt Curtain
EC-204	04-18-17	Perimeter and Slope Sediment Control Devices
EC-301	10-18-16	Rock Erosion Control (REC)
EW-101	10-17-17	Embankment and Rebuilding Embankments
EW-102	10-20-15	Allowable Placement of Unsuitable Soil in Embankments
EW-201	04-19-16	Bridge Berm Grading without Recoverable Slope (Barnroof Section)
EW-301	10-20-15	Guardrail Grading
PM-110	10-16-18	Line Types
PM-420	04-19-11	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
PV-101	10-16-18	Joints
SI-173	04-19-16	Object Markers
SI-211	10-18-16	Object Markers and Delineater Placement with Guardrail
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-252	04-19-16	Routes Closed to Traffic

SURVEY SYMBOLS

- VS Channel Cross Section
- SIGN SI Sign
- PPA Power Pole Co. 1
- MM Mile Marker Post
- EP Edge of Paved Roads (ML or SR)
- SH Paved Shoulder
- ENT Centerline BL of Entrance
- PLG Location of General Photo
- WV WV Water Valve
- SP Stream Profile
- TW Top of Water
- TR Telephone Riser Pole
- TDC Tree Deciduous
- TEV Evergeen Tree
- WH WHD Water Hydrant
- MH Utility Access (Manhole)
- LP L.P. Tank
- TP TPD Telephone Pedestal
- EHW Extreme High Water
- PR Electic Riser Pole
- COS Square Bridge Pier Column
- OUT Tile Outlet
- BCL Bridge Centerline
- BD Bridge Deck
- BL Topo Breakline
- BLD Building or Foundation
- BNK Stream Bank
- BRG Bridge
- CON Concrete or A/C Slab
- CU Back of Curb
- CUL Culvert
- D Centerline Draw or Stream (Down)
- DIK Centerline of Dike or Dam
- DU Centerline Draw or Stream (Up)
- EG Edge of Gravel Road
- ENP Edge Paved Entrance & Park Lot
- ENU Edge Unpaved Entrance & Parking
- EW Edge of Water
- FO FO1D Fiber Optic Co. 1 - Quality D
- FO2 FO2D Fiber Optic Co. 2 - Quality D
- FO3 FO3D Fiber Optic Co. 3 - Quality D
- FW Wire Fence
- GDL Guard Rail Steel
- GU Gutter In Front of Curb
- LIN Miscellaneous Line
- PIP Pipe Culvert
- RET Retaining Walls
- SNP Unpaved Shoulder
- SWK Sidewalk
- Tile TIL Tile Line
- T1 TL1D Telephone Line Co. 1 - Quality D
- T2 TL2D Telephone Line Co. 2 - Quality D
- TLNL Tree Line Left
- TLNR Tree Line Right
- W WL1D Water Line Co. 1 - Quality D

UTILITY LEGEND

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

PPA Alliant Energy
Heather Dee
319-786-8196
rerow@alliantenergy.com

FO — FO1D Chat Mobility - Quality D
Tom Weis
712-829-2800
TOM@I35-SWT.com

T1 — TL1D Windstream - Quality D
Joy Matthews
501-748-7654
WCI.OSP.permits@windstream.com

FO3 — FO3D ICN - Quality D
Mike Broderick
515-725-4610
mike.broderick@iowa.gov

W — WL1D Rathburn Regional Water - Quality D
Mike Stevens
641-647-2416
641-895-3655
mstevens@rrwa.net

W — WL1D Rathburn Regional Water - Quality D
Tyler Havard
641-647-2416
641-895-8542
thavard@rrwa.net

- FO2 FO2D Qwest - Quality D
- T2 TL2D Qwest - Quality D
- WV Water Valve
- TR Telephone Riser Pole
- MH Utility Access (Manhole)
- TP TPD Telephone Pedestal
- PR Electic Riser Pole

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)

FILE NO.	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER D.1

11:16:29 AM 11/21/2019 mjanechek pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5903401017\Design\SHT_59034095_LGD.sht

Curve Data
Δ = 12° 39' 26.90" (RT)
T = 127.10
L = 253.17
R = 1,146.00
E = 7.03

Begin Approach Paving
STA 940+97.00

Paved Shldr
STA 940+45.65

Begin Roadway Paving
STA 940+38.30

EXISTING ROW

PI Sta 939+12.17

PC Sta 937+85.06

STA 939+67.17

Paved Shldr
STA 940+16.51

Begin Project
STA 936+29.64

Bridge End Drain (DR-402)
Sta 941+29.74

PT Sta 940+38.23

BRIDGE SURVEY STA 939+49.60
AS BUILT PLAN BRF-F-65-2(3)--2P-59 STA 942+18.5)
50 X 30 CONC SLAB BRIDGE
DA=9000 AC.-M
REMOVE

Bridge End Drain
(DR-402)
Sta 941+21.47

End Roadway Paving
STA 944+42.72

STA 944+20.46

Sta. 942+18.50
Build 100' x 44' CCS
Concrete Bridge
Design 122

STA 943+91.35

End Approach Paving
STA 943+40.00

STA 944+94.36

End Project
STA 947+95.74

HWY 34

24" X 175'
C.M.P.
U.A.C.

ENT +35
U.A.C.

ENT +46
U.A.C.

24" X 24'
C.M.P.
U.A.C.

WHITEBREAST TWP.
T-72N R-22W
SEC. 17

House

EXISTING ROW

EXISTING ROW

935 940 945 950

0 FEET 50

HIGHWAY 34

905 900 895 890 885 880 875 870 865 860 855 850

Begin Approach Paving
Sta 940+38.30
Elev. 877.73

877.73

+0.630%

VPI +51.922
Elv 878.44
K = 196
Len 100.00 ft

+0.120%

+0.120%

VPI +89.976
Elv 878.73
K = 217
Len 100.00 ft

879.04

End Approach Paving
Sta 944+42.72
Elev. 879.04

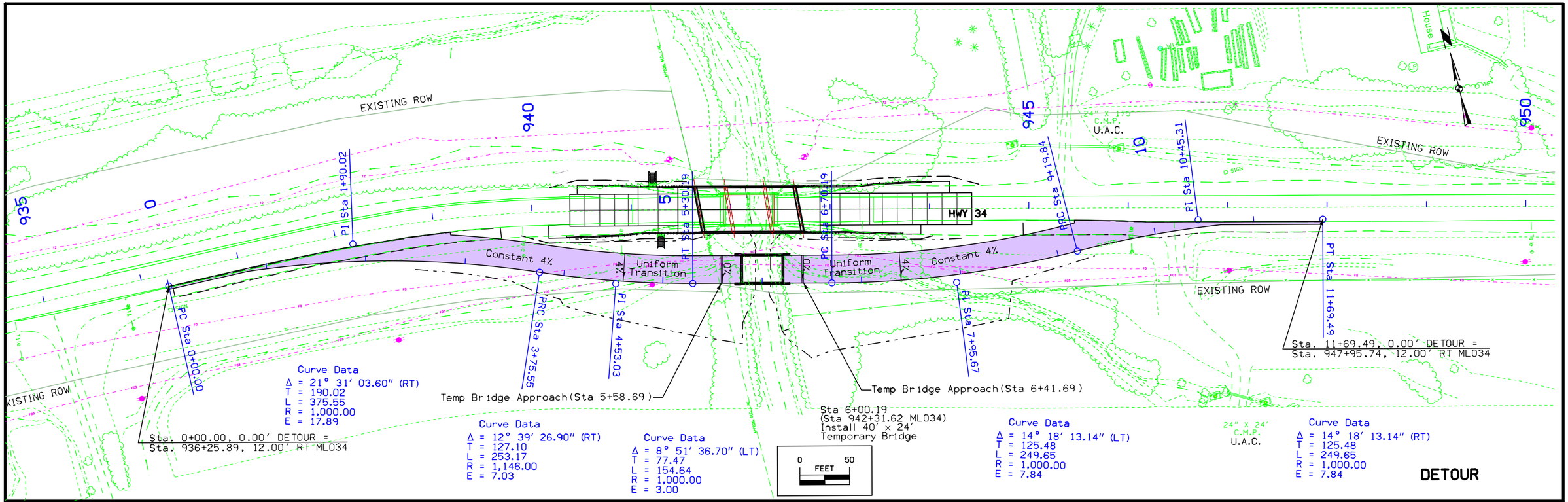
+0.581%

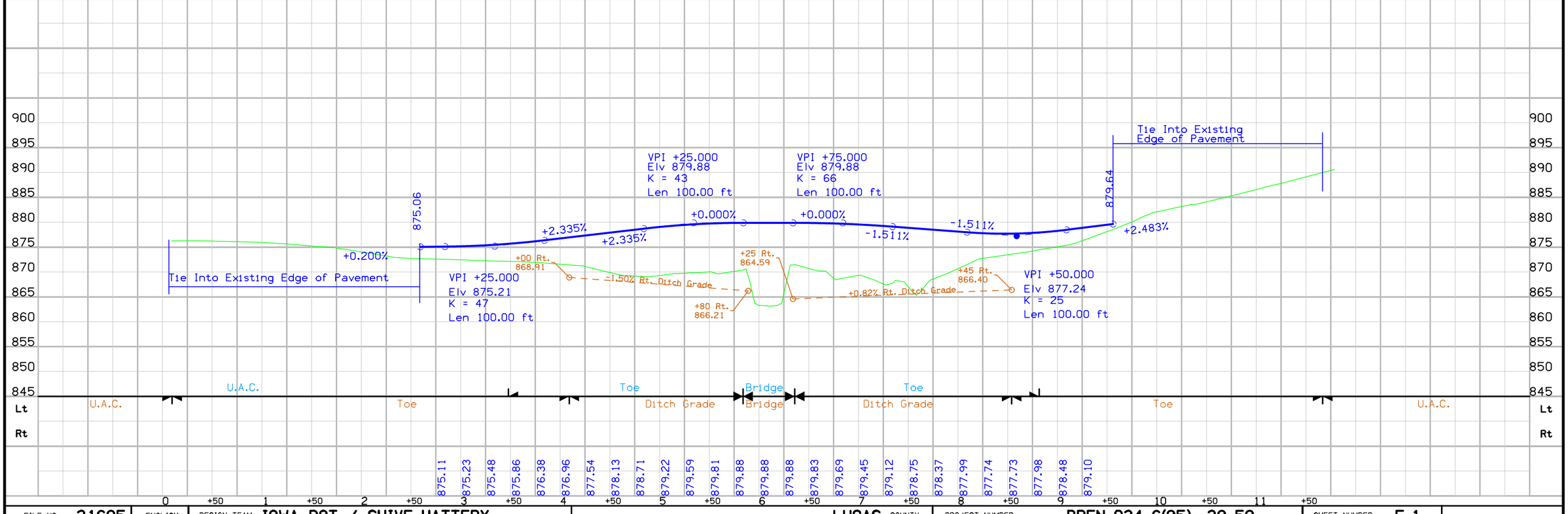
Lt U.A.C. U.A.C./Toe Bridge U.A.C./Toe U.A.C.
Rt U.A.C. U.A.C./Toe Bridge U.A.C./Toe U.A.C.

935 +50 936 +50 937 +50 938 +50 939 +50 940 +50 941 +50 942 +50 943 +50 944 +50 945 +50 946 +50 947 +50 948 +50 949 +50 950

FILE NO. 31695	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER D.2

11:16:49 AM 11/21/2019 mjanechek pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5903401017\Design\SHT_5903409502.dgn





FILE NO. 31695	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER F.1

11:17:10 AM 11/21/2019 mjanechek pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5903401017\Design\SHT_59034095F1.dgn

Survey Information

Lucas County
BRF-034-6(79)38-59
Over White Breast Creek 1.6 Miles E. Of US 65
PIN 13-59-034-010
Sap-0810

General Information

Measurement units for this survey are US survey feet. This survey is for a proposed replacement of the U.S. 34 Bridge (Maint. No 5934.4S034) over White Breast Creek, 1.6 miles east of U.S. 65. This project is a Full Field Survey with Photo control. Additional drainage study was performed in the area for bridge design.

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12A). GRS80 Ellipsoidal Height was computed at project Pt. 300, by doing 6 hour static observations. The project control is relative to IaRTN base stations. Additional benchmarks were placed throughout the project using a GNSS Base-Rover setup relative to Pt. 300 and Pt. 301. A minimum of three observations with appropriate time spans between were collected. The vertical standard deviation of these observations was less than 0.03 ft. at 95% confidence level (2 sigma).

This survey observed 2 As-Built plan bench marks to compare to local ground control:

BM 500 Project FN 63 W Elev. 742.53
Survey Elev. = 884.55

BM 501 Project FN 63 W Elev. 738.62
Survey Elev. = 880.58

Horizontal Control

The project coordinate system is modified Iowa State Plane South Zone (U.S. Survey Feet) scaled around Pt. 300 at 375991.869 N, 1657982.482 E, 874.109 EL. Horizontal datum is NAD83 (2011) for Epoch 2010.00. Coordinates were determined by doing 6 hour static observations. The project control is relative to IaRTN base stations. Additional control points were placed throughout the project using a GNSS Base-Rover setup relative to Pt. 300. A minimum of three observations with appropriate time spans between were averaged. The horizontal standard deviation of these observations was less than 0.03 ft. at 95% confidence level (2 sigma).

1/Combined Scale Factor of project= 1.000084174214

The 1/Combined Scale Factor, scaled about Pt. 300, may be used for GNSS stakeout and location to survey in the Project Coordinate system. A scale factor of 1 should be used with total station stakeout.

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. BRF-F-65-2(3)- -2P-59. Survey stationing was equated to the plan PI at STA 895+58.00 and run back and ahead without equation throughout the survey. It is a Design Office policy to run stationing continuously throughout the project even if the As Built Plans contain station equations. This survey passes through two plan station equations. As a result survey stationing will differ significantly as noted.

Survey stationing relates to as built plan stationing as follows:

POT Sta. 858+68.04 Project No. BRF-F-65-2(3)- -2P-59
=Survey POT Sta. 857+60.42
As built stationing = Survey stationing + 107.62 ft.

Equation Sta.882+05.84 Back= Sta.881+00 Ahead As-built Plans Project No. BRF-F-65-2(3)- -2P-59 = Survey Sta. 881+00 (survey contains no station equation)
As built stationing back =Survey stationing + 105.84 ft.
As built stationing ahead = Survey stationing

PI Sta. 895+58.00 As-built Plans Project No. BRF-F-65-2(3)- -2P-59
=Survey PI Sta. 895+58.00

Equation Sta.898+24.2 Back= Sta.900+94.0 Ahead As-built Plans Project No. BRF-F-65-2(3)- -2P-59 = Survey Sta. 898+24.2 (survey contains no station equation)
As built stationing Back = Survey stationing
As built stationing ahead =Survey stationing + 269.8 ft.

PI Sta 939+11.00 Project No. BRF-F-65-2(3)- -2P-59
Survey PI Sta. 936+43.00
As built stationing = Survey stationing + 268.0 ft.

High Water Information:

02/12/2014- Talked to Bill Homes, owner of the property to the South of the bridge over Whitebreast Creek and he stated that there has not been water in any flooding event. He recalls a couple of 100 year events getting as high as 1 foot over the pavement on the lower spots of Highway 34. He refers us to talk to Kevin Kent from Kevin Kent Construction.
Talk to Kevin Kent construction secretary Billy Joe and she told me Kevin was on vacation at the time. We will follow up in a week to ask about flooding in the area. According to Billy Joe, she mention the water getting as high as the outlets on the walls of their building, but she wasn't present at the time of the flooding because she is a newer employee of the company.
02/19/2014- Followed up on Kevin to get information on the high water. We spoke to Debbie(Kevin's wife) and she mention an incident on 1993 where the water went up to the outlets of their building (+/- 3 ft off floor elevation). She stated that it was after a recent construction of a bridge on Hwy 65 just west of their property. Surveyed elevation: 886.07 ft.
03/20/2014- Talked to the owner of the property to the North East of the bridge and pointed us to a location where the water got in the year of 1992. Surveyed elevation: 881.79 ft.

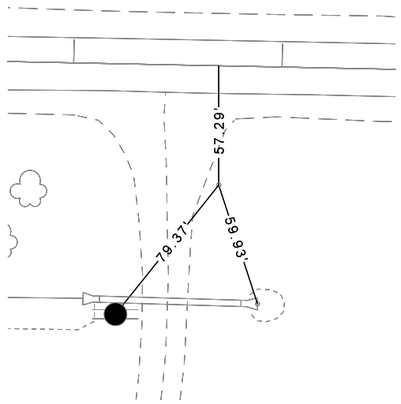
VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
502	372842.9790	1650999.5400	890.9180	Off Chain	Off Chain	BM502	BM 502 FOUND IDOT BUTTON NW WING POST BRIDGE OVER WHITE BREST CREEK HIGHWAY 65 S BM 502
504	373937.6490	1649854.0720	883.6630	Off Chain	Off Chain	BM504	BM 504 FOUND IDOT INLET HDWL 12.00 X 4.00 RCB BM 504
505	374314.7510	1649048.7380	922.0440	Off Chain	Off Chain	BM505	BM 505 FOUND IDOT BUTTON SW WING POST BRIDGE OVER RR BM 505
503	374914.3540	1654163.5370	883.1520	861+57.88	-41.0391	BM503	BM 503 FOUND IDOT BUTTON INLET HDWL 12.0 X 6.0 RCB BM 503
500	376003.9950	1659480.6970	884.5470	916+68.46	14.7671	BM500	BM 500 FOUND IDOT BUTTON SW HAND RAIL BRIDGE OVER WHITE BREAST CREEK BM 500
501	375896.0920	1661725.8350	880.5790	939+24.57	15.5664	BM501	BM 501 FOUND IDOT BUTTON SW HAND RAIL BRIDGE OVER SMALL NATURAL STREAM BM 501

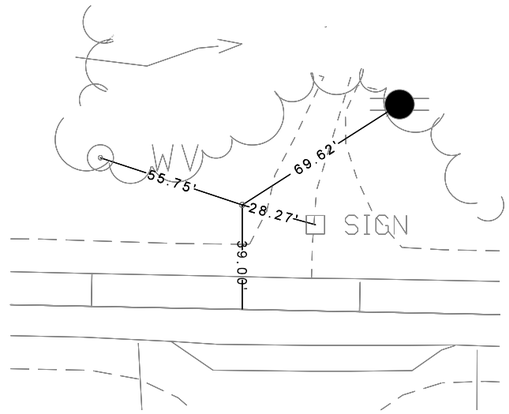
CP STA OFF CHAIN
CP 59001, Set Feno Type Monument
N=373961.67, E=1651086.24, ELEV. 880.54

MONUMENT MAY BE LOCATED BY
STAKING OUT COORDINATE

CP STA 901+70.80, 57 FT RT
CP 300, Set 5/8 RE-ROD
N=375991.87, E=1657982.48, ELEV. 874.11



CP STA 925+55.47, 39 FT LT
CP 301, Set 5/8 RE-ROD
N=376039.75, E=1660368.62, ELEV. 876.27



CP STA 959+22.10, 96 FT LT
CP 59003, Set Feno Type Monument
N=375527.71, E=1663692.30, ELEV. 970.70

MONUMENT MAY BE LOCATED BY
STAKING OUT STATION/OFFSET
OR BY COORDINATE

ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
ML034 (US 34)																			
ML0341		857+60.42	374,737.30	1,653,805.34															
ML034_3								892+85.85	375,966.78	1,657,109.43	895+58.00	376,061.69	1,657,364.49	898+23.69	376,056.17	1,657,636.58			
ML034_6								935+15.93	375,981.29	1,661,328.06	936+43.04	375,978.71	1,661,455.13	937+69.10	375,948.35	1,661,578.56			
ML0348		967+10.27	375,245.81	1,664,434.59															
DET1 (DETOUR)																			
DET1_1								0+00.00	375,972.52	1,661,168.68	1+90.02	375,968.67	1,661,358.65	3+75.55	375,895.40	1,661,533.98			
DET1_2								3+75.55	375,895.40	1,661,533.98	4+53.03	375,865.53	1,661,605.46	5+30.19	375,847.02	1,661,680.69			
DET1_5								6+70.19	375,813.58	1,661,816.64	7+95.67	375,783.61	1,661,938.48	9+19.84	375,784.67	1,662,063.95			
DET1_6								9+19.84	375,784.67	1,662,063.95	10+45.31	375,785.73	1,662,189.42	11+69.49	375,755.76	1,662,311.27			

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data													Remarks
			Spiral Data								Curve Data					
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E	
ML034_3							892+85.85	375,966.78	1,657,109.43	895+58.00	376,061.69	1,657,364.49	898+23.69	376,056.17	1,657,636.58	
ML034_6							935+15.93	375,981.29	1,661,328.06	936+43.04	375,978.71	1,661,455.13	937+69.10	375,948.35	1,661,578.56	
DET1_1							0+00.00	375,972.52	1,661,168.68	1+90.02	375,968.67	1,661,358.65	3+75.55	375,895.40	1,661,533.98	
DET1_2							3+75.55	375,895.40	1,661,533.98	4+53.03	375,865.53	1,661,605.46	5+30.19	375,847.02	1,661,680.69	
DET1_5							6+70.19	375,813.58	1,661,816.64	7+95.67	375,783.61	1,661,938.48	9+19.84	375,784.67	1,662,063.95	
DET1_6							9+19.84	375,784.67	1,662,063.95	10+45.31	375,785.73	1,662,189.42	11+69.49	375,755.76	1,662,311.27	

Lucas	ROW: NHSN-034-6(96)--2R-59				PIN 17-59-034-010																
	Stream 2.1 mi E of E Jct US 65																				
		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	Sherry L. Pettit - Fee Juile A. Sanderson (Deceased) - Fee Kirk L. Isaacson - Fee Brenda J. Erickson - Fee											0.01 AC									
2	HSH FARM LLC - Fee	.05 AC										0.58 AC									
2 Parcels	"TOTALS	0.05 AC	0 AC		0 AC	0 AC		0 AC	0 AC		0 AC	0.59 AC		0 AC	0 AC	0 AC					
		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.

ACCESS CONTROL PREVIOUSLY ACQUIRED.

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

WILLIAM M & LINDA K VAUGHN

WILLIAM M & LINDA K VAUGHN

GERTRUDE M TIPTON

KYLE LANTZ
&
EMILY MOTHERSHEAD

NE 1/4 SE 1/4 T-72N R-22W SEC. 18

NW 1/4 SW 1/4 T-72N R-22W SEC. 17

SE 1/4 SE 1/4 T-72N R-22W SEC. 18

SW 1/4 SW 1/4 T-72N R-22W SEC. 17

WHITEBREAST TWP. T-72N R-22W SEC. 17

935

940

945

F02

F03

(AS BUILT PLAN BRF-F-SBC-2(3)--2P-59 BRIDGE SURVEY STA 939+49.60 50' X 30' CONC SLAB BRIDGE DA=9000 AC.-H STA 942+18.51)

REMOVE

24" X 175' C.M.P.

24" X 24' C.M.P.

HWY 34

WOLF HOLLOW

ENT +35 U.A.C.

ENT +46 U.A.C.

Begin Project STA 936+29.64

End Project STA 947+95.74

941+78±℄ 70'

941+29 ℄ 130'±EX.R/W

941+96±℄ 143'

942+83 ℄ 161'

942+75 ℄ 83'

943+58 ℄ 65'±EX.R/W

944+87 ℄ 120'

946+29.61 ℄ 73'±EX.R/W COR.

Sta. 942+18.50 Build 100' x 44' CCS Concrete Bridge Design 122

1

SHERRY L PETTIT, BRENDA J ERICKSON,
KIRK L ISAACSON,
JUILE A SANDERSON (DECEASED)

TEMPORARY EASEMENT TO SHAPE, CONSTRUCT & REMOVE DETOUR

TEMPORARY EASEMENT TO SHAPE, CONSTRUCT & REMOVE DETOUR

2

HSH FARMS LLC

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-034-6(96)--2R-59
Plan Date: 2-19-2020
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM	IOWA DOT / SHIVE-HATTERY		LUCAS COUNTY	PROJECT NUMBER	BRFN-034-6(95)--39-59	SHEET NUMBER	H.1	

2:19:40 PM 2/19/2020 chughes pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\5903401017\ROW\59034096.sht

108-26A
08-01-08

STAGING NOTES

US 34 traffic shall be maintained at all times via an on-site detour.
Stage 1:
Construct runaround using shoulder closure per TC-202

Stage 2:
Close US 34.
Move traffic to runaround per TC-252
Replace bridge and approaches.

Stage 3:
Return traffic to US 34 new pavement.
Use TC-202 to remove runaround and place granular shoulders.

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1) Traffic on U.S. 34 shall be maintained at all times during construciton with a paved on-site 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
			No Travel Restrictions Expected									

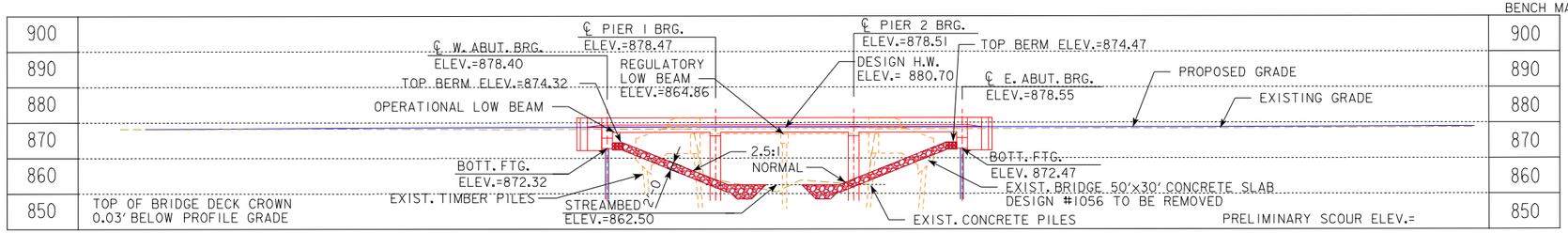
111-01
04-17-12

COORDINATED OPERATIONS

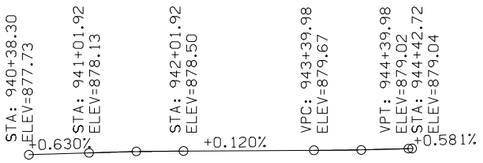
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
None Provided	

BENCH MARK NO. 59003: STA: 959+22.10, 96' LT, SET FENO TYPE MONUMENT, ELEV. 970.70



LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



VPI 941+51.92
Elv 878.44
K = 196
Len 100.00 ft

VPI 944+89.98
Elv 878.73
K = 217
Len 100.00 ft

PROPOSED PROFILE GRADE US 34

HYDRAULIC DATA

DRAINAGE AREA = 12.7 SQ. MI.
STREAM SLOPE = 15.7 FT./MI.
AVG. LOW WATER STAGE = 863.3

*NOTE: OVERFLOW FROM WHITE BREAST CREEK OCCURS AT < Q EVENTS

Q_{50} = 5,410 CFS
STAGE = 880.7
REGULATORY LOW BEAM = 876.62

Q_{100} = 6,690 CFS
STAGE = 881.3
OPERATIONAL LOW BEAM = 876.52

Q_{500} = 9,380 CFS

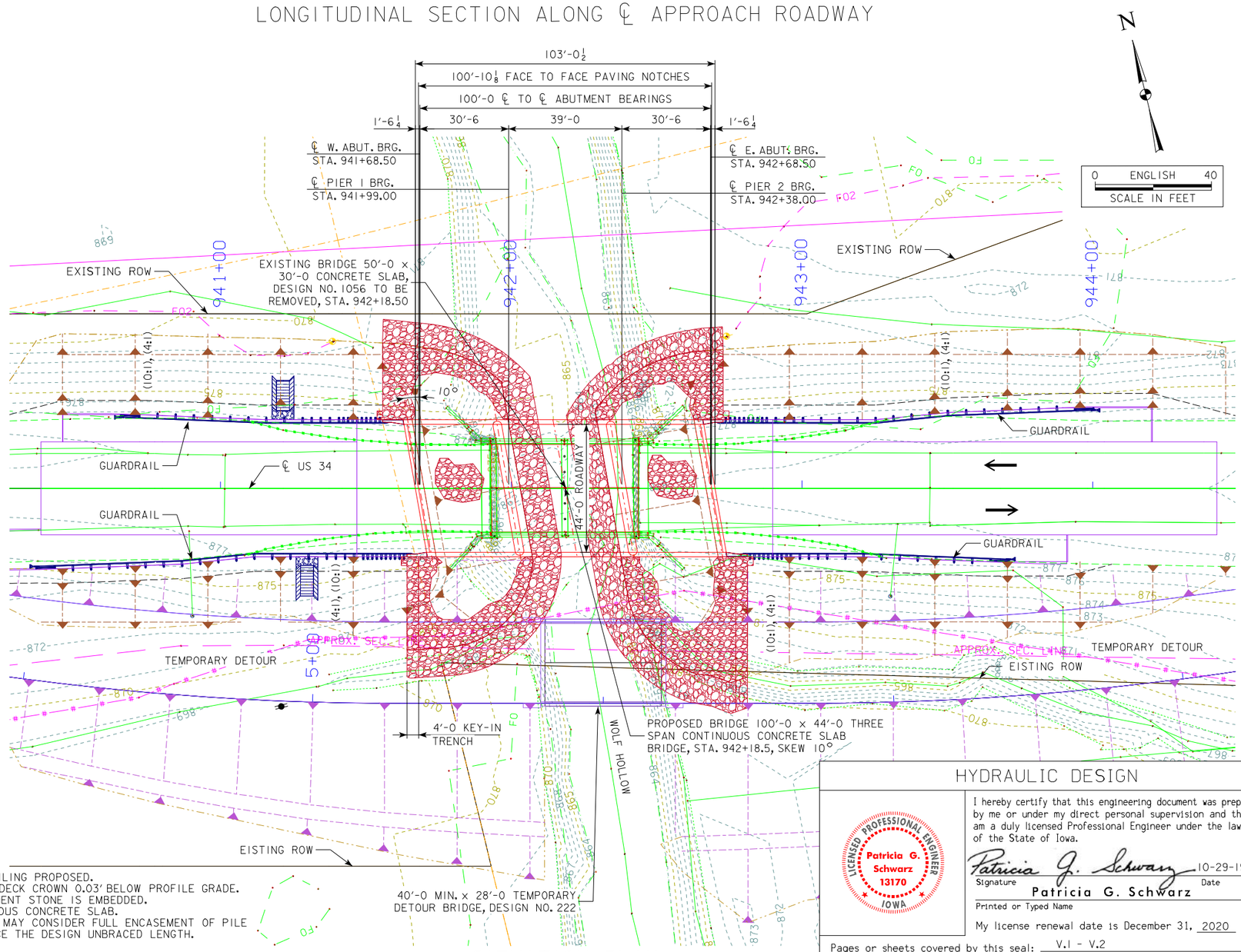
US 34 ROADWAY OVERTOP 876.4
STA. 935+10

OVERTOP AT Q25 = 4050 CFS
(WITH QI TAILWATER CONDITION)
STAGE = 873.8
AVG. BRIDGE VELCITY = 6.6 FPS
CALCULATED DESIGN AND CHECK SCOUR = 842.5
BASIN OVERTOP ELEV. = 875.3
(ENTRANCE-APPROX. STA. 935+10

UTILITIES LEGEND:

FO -FIBER
TI- TELEPHONE
FO3- FIBER OPTIC
FO2- FIBER OPTIC
TO2- TELEPHONE
WI- WATER LINE
POWER POLE

UTILITIES SHOWN ON THIS SHET ARE FOR INFORMATION ONLY. SEE ROA DESIGN SHEETS FOR FINAL UTILITY INFORMATION.



SITUATION PLAN

NOTES:
1. TL-4 BRIDGE RAILING PROPOSED.
2. TOP OF BRIDGE DECK CROWN 0.03' BELOW PROFILE GRADE.
3. CLASS E REVETMENT STONE IS EMBEDDED.
4. J44-06 CONTINUOUS CONCRETE SLAB.
5. FINAL DESIGNER MAY CONSIDER FULL ENCASEMENT OF PILE BENTS TO REDUCE THE DESIGN UNBRACED LENGTH.

LOCATION

US34 OVER WOLF HOLLOW
T-72N R-22W
SECTION 17 & 18
WHITEBREAST TOWNSHIP
LUCAS COUNTY
FHWA NO. 34261
BRIDGE MAINT. NO. 5934.8S034
LATITUDE 41.031744°
LONGITUDE -93.422639°

TRAFFIC ESTIMATE

2021 AADT	3300	V.P.D.
2041 AADT	3400	V.P.D.
2041 DHV	350	V.P.H.
TRUCKS	18	%

PRELIMINARY

HYDRAULIC DESIGN

LICENSED PROFESSIONAL ENGINEER
Patricia G. Schwarz
13170
IOWA

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

Patricia G. Schwarz 10-29-19
Signature Date

Patricia G. Schwarz
Printed or Typed Name

My license renewal date is December 31, 2020

Pages or sheets covered by this seal: V.1 - V.2

DESIGN FOR 10° SKEW (R.A.)

100'-0 X 44'-0 CONTINUOUS CONCRETE SLAB BRIDGE

30'-6, 30'-6 END SPANS 39'-0 INTERIOR SPAN

SITUATION PLAN

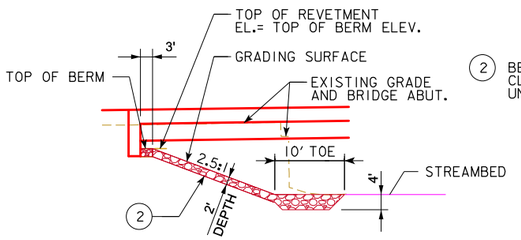
STA. 942+18.50 (U.S.34) OCTOBER 2019

LUCAS COUNTY

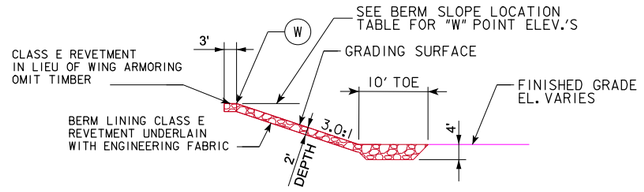
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 4 FILE NO. 31695 DESIGN NO. 122

DESIGN TEAM SHIVE-HATTERY | LUCAS COUNTY | PROJECT NUMBER BRFN-034-6(95)--39-59 | SHEET NUMBER V.1



SECTION THRU EMBEDDED REVETMENT NORMAL TO ABUTMENT



SECTION THRU EMBEDDED REVETMENT NORMAL TO BRIDGE WING AT W POINT

N

0 ENGLISH 40
SCALE IN FEET

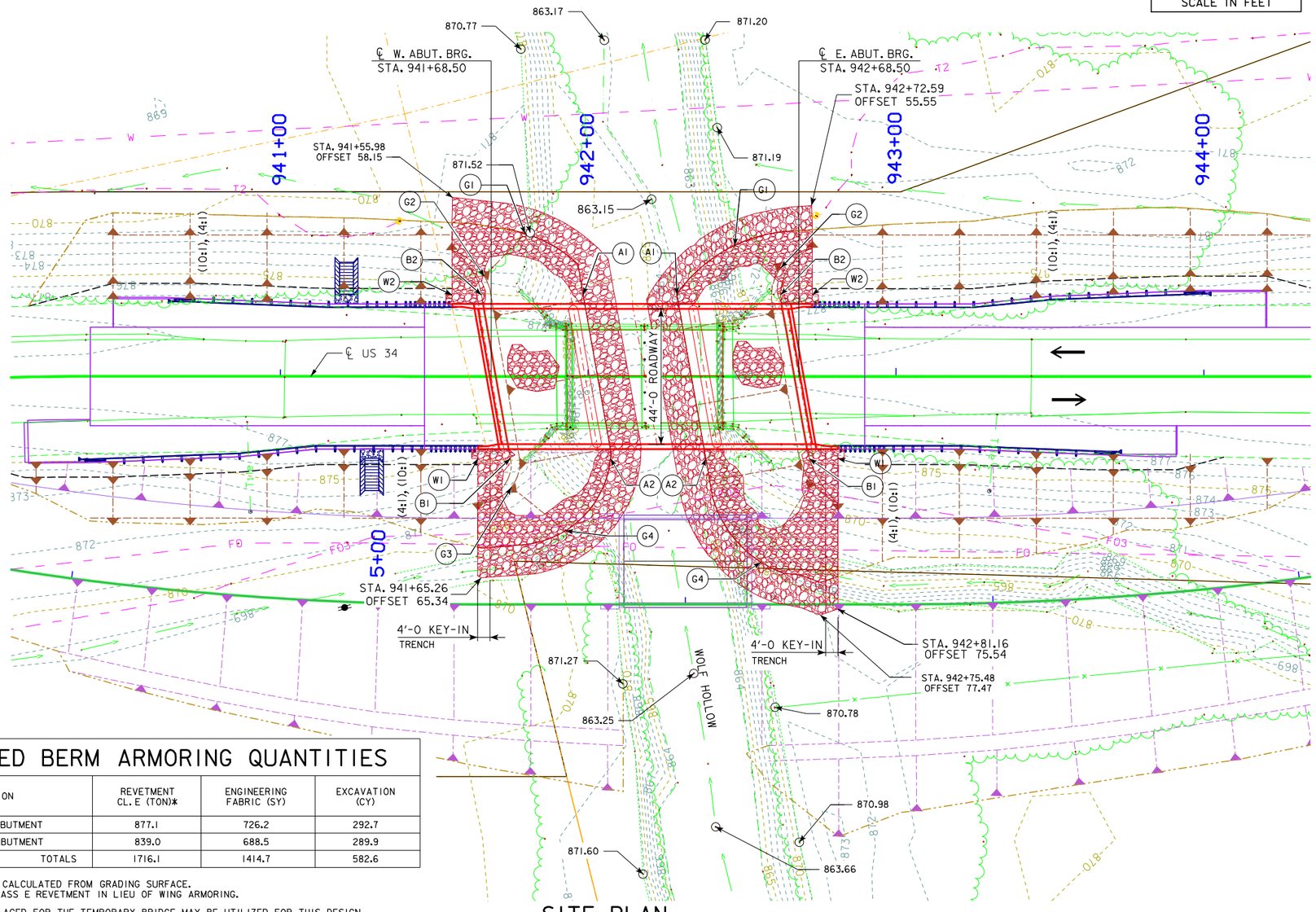
BERM SLOPE LOCATION TABLE

	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	941+98.39	26.58 LT	862.50	942+28.89	26.58 LT	862.28
A2	942+07.30	26.58 RT	862.50	942+38.23	26.58 RT	862.28
B1	941+74.71	26.58 RT	874.32	942+71.92	26.58 RT	874.47
B2	941+65.33	26.58 LT	874.32	942+62.54	26.58 LT	874.47
G1	941+79.60	46.45 LT	868.15	942+47.63	42.60 LT	872.91
G2	941+66.25	32.60 LT	872.93	942+62.59	35.36 LT	865.01
G3	941+75.07	35.96 RT	873.08	942+72.59	54.09 RT	873.39
G4	941+92.68	50.08 RT	862.16	942+56.13	60.27 RT	862.28
W1	941+64.14	26.58 RT	874.32	942+81.18	26.58 RT	874.47
W2	941+55.82	26.58 LT	874.32	942+72.86	26.58 LT	874.47

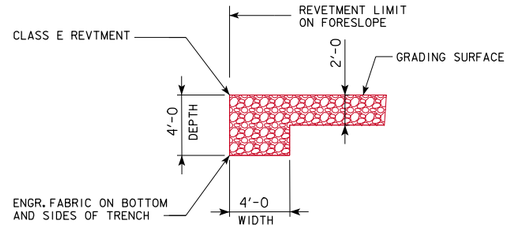
BERM SLOPE TABLE ELEVATIONS REFLECT GRADING SURFACE

GRADING CONTROL - SOUTH AND NORTH:
POINTS A1 AND A2 ARE BERM GRADING CONTROL LINE

NOTE: BANK GRADING CONTROL LINE LOCATED AT BASE OF 2.5:1 SLOPE



SITE PLAN



SECTION THRU KEY-IN TRENCH

ESTIMATED BERM ARMORING QUANTITIES

LOCATION	REVETMENT CL. E (TON)*	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - EAST ABUTMENT	877.1	726.2	292.7
BERM LINING - WEST ABUTMENT	839.0	688.5	289.9
TOTALS	1716.1	1414.7	582.6

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
QUANTITY INCLUDES CLASS E REVETMENT IN LIEU OF WING ARMORING.

*CLASS E REVETMENT PLACED FOR THE TEMPORARY BRIDGE MAY BE UTILIZED FOR THIS DESIGN.

PRELIMINARY

DESIGN FOR 10° SKEW (R.A.)

100'-0 X 44'-0 CONTINUOUS CONCRETE SLAB BRIDGE

30'-6, 30'-6 END SPANS 39'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STA. 942+18.50 (US 34) OCTOBER, 2019

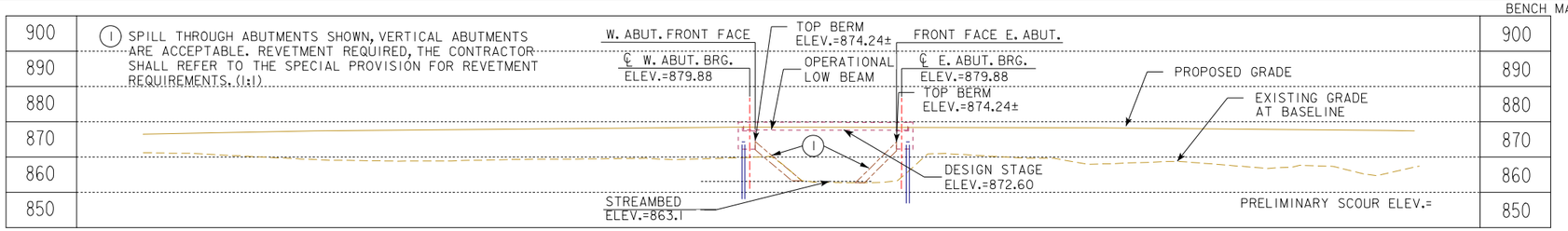
LUCAS COUNTY

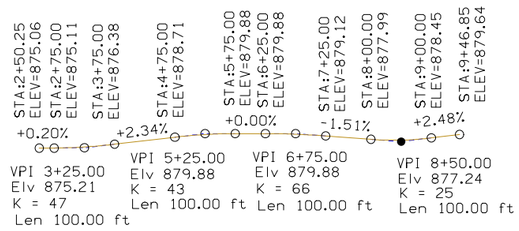
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 31695 DESIGN NO. 122

DESIGN TEAM SHIVE-HATTERY | LUCAS COUNTY | PROJECT NUMBER BRFN-034-6(95)--39-59 | SHEET NUMBER V.2

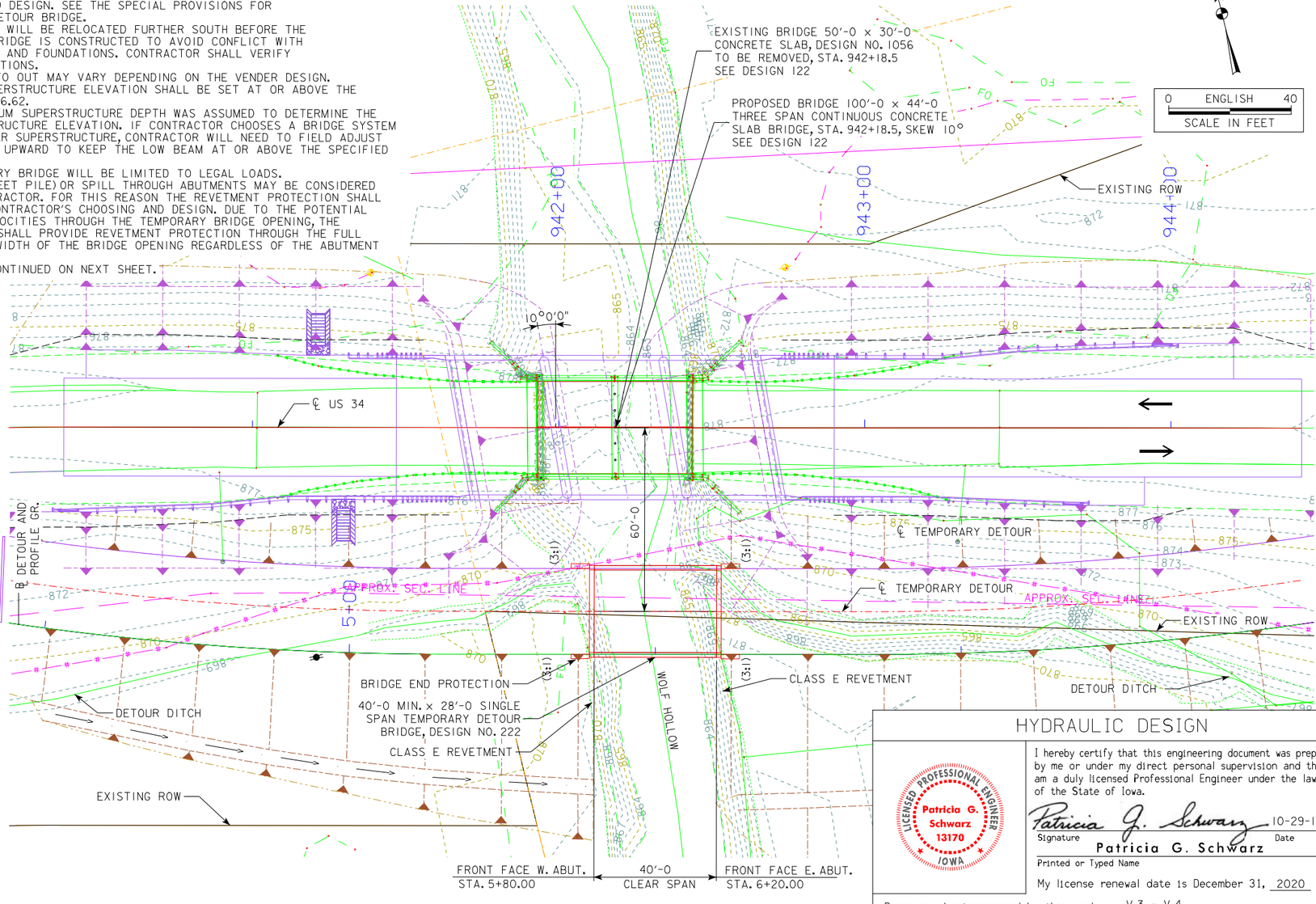
BENCH MARK NO. 59003: STA: 959+22.10, 96' LT, SET FENO TYPE MONUMENT, ELEV. 970.70





LONGITUDINAL SECTION ALONG ℄ TEMPORARY DETOUR

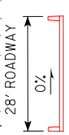
NOTES:
1. THE ENDS OF THE TEMPORARY BRIDGE SHALL BE PROTECTED. THE PROTECTION SYSTEM SHALL BE OF THE CONTRACTOR'S CHOOSING AND DESIGN. REFER TO THE SPECIAL PROVISIONS FOR TEMPORARY DETOUR BRIDGE PROTECTION REQUIREMENTS.
2. SUBSTRUCTURE ELEMENTS ARE SHOWN FOR ILLUSTRATION ONLY. THE SUBSTRUCTURE TYPE AND DESIGN SHALL BE OF THE CONTRACTORS CHOOSING AND DESIGN. SEE THE SPECIAL PROVISIONS FOR TEMPORARY DETOUR BRIDGE.
3. FIBER OPTICS WILL BE RELOCATED FURTHER SOUTH BEFORE THE TEMPORARY BRIDGE IS CONSTRUCTED TO AVOID CONFLICT WITH FIBER OPTICS AND FOUNDATIONS. CONTRACTOR SHALL VERIFY UTILITY LOCATIONS.
4. BRIDGE OUT TO OUT MAY VARY DEPENDING ON THE VENDER DESIGN.
5. THE LOW SUPERSTRUCTURE ELEVATION SHALL BE SET AT OR ABOVE THE ELEVATION 876.62.
6. A 37⅞" MAXIMUM SUPERSTRUCTURE DEPTH WAS ASSUMED TO DETERMINE THE LOW SUPERSTRUCTURE ELEVATION. IF CONTRACTOR CHOOSES A BRIDGE SYSTEM WITH A DEEPER SUPERSTRUCTURE, CONTRACTOR WILL NEED TO FIELD ADJUST THE ROADWAY UPWARD TO KEEP THE LOW BEAM AT OR ABOVE THE SPECIFIED ELEVATION.
7. THE TEMPORARY BRIDGE WILL BE LIMITED TO LEGAL LOADS.
8. VERITCAL (SHEET PILE) OR SPILL THROUGH ABUTMENTS MAY BE CONSIDERED BY THE CONTRACTOR. FOR THIS REASON THE REVETMENT PROTECTION SHALL BE OF THE CONTRACTOR'S CHOOSING AND DESIGN. DUE TO THE POTENTIAL FOR HIGH VELOCITIES THROUGH THE TEMPORARY BRIDGE OPENING, THE CONTRACTOR SHALL PROVIDE REVETMENT PROTECTION THROUGH THE FULL LENGTH AND WIDTH OF THE BRIDGE OPENING REGARDLESS OF THE ABUTMENT TYPE.
9. SEE NOTES CONTINUED ON NEXT SHEET.



SITUATION PLAN

TYPICAL APPROACH SECTION

TYPICAL BRIDGE SECTION



PROPOSED PROFILE GRADE TEMPORARY DETOUR

HYDRAULIC DATA

DRAINAGE AREA = 12.7 SQ. MI.
STREAM SLOPE = 15.7 FT./MI.
AVG. LOW WATER STAGE = 863.5

LOW SUPERSTRUCTURE = MINIMUM ELEV. 876.62

BASIN INCIPIENT OVERTOP AT Q6 = 2200 CFS
(WITH QI TAILWATER CONDITION)
STAGE = 872.6
AVG. BRIDGE VELOCITY = 9.0 FPS
POTENTIAL FOR SCOUR IS MITIGATED WITH REVETMENT AND MONITORING

BASIN OVERTOP ELEV. = 875.3
(ENTRANCE-APPROX. STA. 935+10)

US 34 ROADWAY OVERTOP = 876.4
STA. 935+10

UTILITIES LEGEND:

FO -FIBER
TI- TELEPHONE
FO3- FIBER OPTIC
FO2- FIBER OPTIC
TO2- TELEPHONE
WI- WATER LINE
POWER POLE

UTILITIES SHOWN ON THIS SHET ARE FOR INFORMATION ONLY. SEE ROA DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

LOCATION

US34 DETOUR OVER WOLF HOLLOW
T-72N R-22W
SECTION 17 & 18
WHITEBREAST TOWNSHIP
LUCAS COUNTY
LATITUDE 41.031581°
LONGITUDE -93.422664°

TRAFFIC ESTIMATE

2017	AADT	3300	V.P.D.
2037	AADT	3400	V.P.D.
2037	DHV	350	V.P.H.
TRUCKS		18	%

PRELIMINARY

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.

Patricia G. Schwarz — 10-29-19
Signature — Date
Patricia G. Schwarz
Printed or Typed Name

My license renewal date is December 31, 2020

Pages or sheets covered by this seal: V.3 - V.4

LICENSED PROFESSIONAL ENGINEER — Patricia G. Schwarz 13170 — IOWA

DESIGN FOR 0° SKEW
40'-0 MIN. X 28'-0
TEMPORARY ON-SITE DETOUR BRIDGE
40'-0 MIN. SINGLE SPAN

SITUATION PLAN
STA. 6+00.00 (US 34 DETOUR) — OCTOBER, 2019
LUCAS COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 2 FILE NO. 31695 DESIGN NO. 222

DESIGN TEAM SHIVE-HATTERY | LUCAS COUNTY | PROJECT NUMBER BRFN-034-6(95)--39-59 | SHEET NUMBER V.3

NOTES CONTINUED:

10. THE DETOUR BRIDGE IS SCOUR CRITICAL. WHEN THE DETOUR BRIDGE IS INSTALLED THE CONTRACTOR SHALL NOTIFY THE PRELIMINARY DESIGN OFFICE AT 515-239-1487 SO A FLOOD MANAGEMENT PLAN CAN BE DEVELOPED IN ADVANCE OF THE DETOUR BRIDGE BEING PLACED INTO SERVICE. UPON NOTIFICATION, THE DOT WILL ADD THIS SITE TO THE BRIDGE WATCH MANAGEMENT PLAN FOR MONITORING.

11. REINFORCED PCC BRIDGE APPROACH PAVEMENT IS REQUIRED FOR THE TEMPORARY BRIDGE. REFER TO THE ROAD SHEETS FOR THE APPROACH PAVEMENT DETAILS.

12. THE APPRACH PAVEMENT SHALL BE SUPPORTED AT THE TEMPORARY BRIDGE ABUTMENTS. REFER TO THE SPECIAL PROVISIONS FOR TEMPORARY DETOUR BRIDGE TO REVIEW THE SUBSTRUCTURE REQUIREMENTS.

13. THE BRIDGE FINAL DESIGNER SHALL CORDINATE WITH ROAD DESIGN REGARDING THE BRIDGE APPROACH PAVEMENT DETAILS, AND SHALL INCORPORATE APPROACH PAVEMENT SUPPORT REQUIREMENTS INTO THE S.P.

14. NOTES TO FINAL DESIGNER FOR INCORPORATION INTO THE SPECIAL PROVISIONS:

A. A MINIMUM 2' THICK CLASS E REVETMENT UNDERLAIN WITH ENGINEERING FABRIC SHALL BE REQUIRED. THE REVETMENT EXTENT SHALL INCLUDE THE BERMS, BANK, AND CHANNEL, AND WRAP AROUND TO PROTECT THE UPSTREAM AND DOWNSTREAM TRANSITION EDGES TO ELEVATION 875. CHANNEL AND BANK REVETMENT SHALL BE EMBEDDED.

B. THE FLOW AREA THROUGH THE BRIDGE BELOW ELEVATION 872.6 SHALL BE NO LESS THAN 248 SF. THIS MINIMUM FLOW AREA IS BASED ON AN EXTIMATED 40' CLEAR SPAN WITH 1:1 SLOPE AND SPILL THROUGH ABUTMENTS. THE ADEQUACY OF THE PROVIDED FLOW AREA SHALL BE VERIFIED BY FIELD MEASUREMENT AND APPROVED BY THE ENGINEER BEFORE THE TEMPORARY BRIDGE IS OPEN TO TRAFFIC.

C. VERTICAL ABUTMENTS MAY PROVIDE AN INCREASE IN FLOW AREA VERSES SPILL THROUGH ABUTMENTS. REVETMENT QUANTITIES MAY BE LESS FOR VERTICAL ABUTMENTS, BUT MUST PROVIDE ADEQUATE TOE PROTECTION.

D. THE CONTRACTOR'S REVETMENT DESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW IN ADVANCE OF INSTALLATION, IN ACCORDANCE WITH STANDARD SPECIFICATION 1105.03.

E. WORK ASSOCIATED WITH FUNISHING AND PLACING REVETMENT FOR THE TEMPORARY BRIDGE SHALL BE CONSIDERED INCIDENTAL TO THE TEMPORARY BRIDGE SUBSTRUCTURE PAY ITEM.

N

0 ENGLISH 40
SCALE IN FEET

941+00
942+00
943+00
944+00
5+00
℄ US 34
℄ DETOUR APPROACH RDWY
APPROX. SEC. LINE
60'-0
(3:1)
(10:1), (4:1)
BRIDGE END PROTECTION
40'-0 MIN. x 28'-0 SINGLE SPAN TEMPORARY DETOUR BRIDGE, DESIGN NO. 222
WOLF HOLLOW
DETOUR DITCH
DETOUR DITCH
FRONT FACE W. ABUT. STA. 5+80.00
40'-0 CLEAR SPAN
FRONT FACE E. ABUT. STA. 6+20.00

SITE PLAN

PRELIMINARY

DESIGN FOR 0° SKEW

40'-0 MIN. X 28'-0 TEMPORARY ON-SITE DETOUR BRIDGE

40'-0 MIN. SINGLE SPAN

SITUATION PLAN - SITE

STA. 6+00.00 (US 34 DETOUR) OCTOBER, 2019

LUCAS COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 31695 DESIGN NO. 222

DESIGN TEAM SHIVE-HATTERY | LUCAS COUNTY | PROJECT NUMBER BRFN-034-6(95)--39-59 | SHEET NUMBER V.4

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)

- TS — Topsoil (Class 10)
- SLOPE DRESSING — Slope Dressing Only
- CL 10 — Class 10 Materials
- SEL LO — Select Loams And Clay-Loams
- SEL SA — Select Sand
- UNS A — Unsuitable Type A Disposal
- UNS B — Unsuitable Type B Disposal
- UNS C — Unsuitable Type C Disposal
- SHALE — Shale
- WASTE — Waste
- B&W LS — Broken and Weathered Rock
- 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

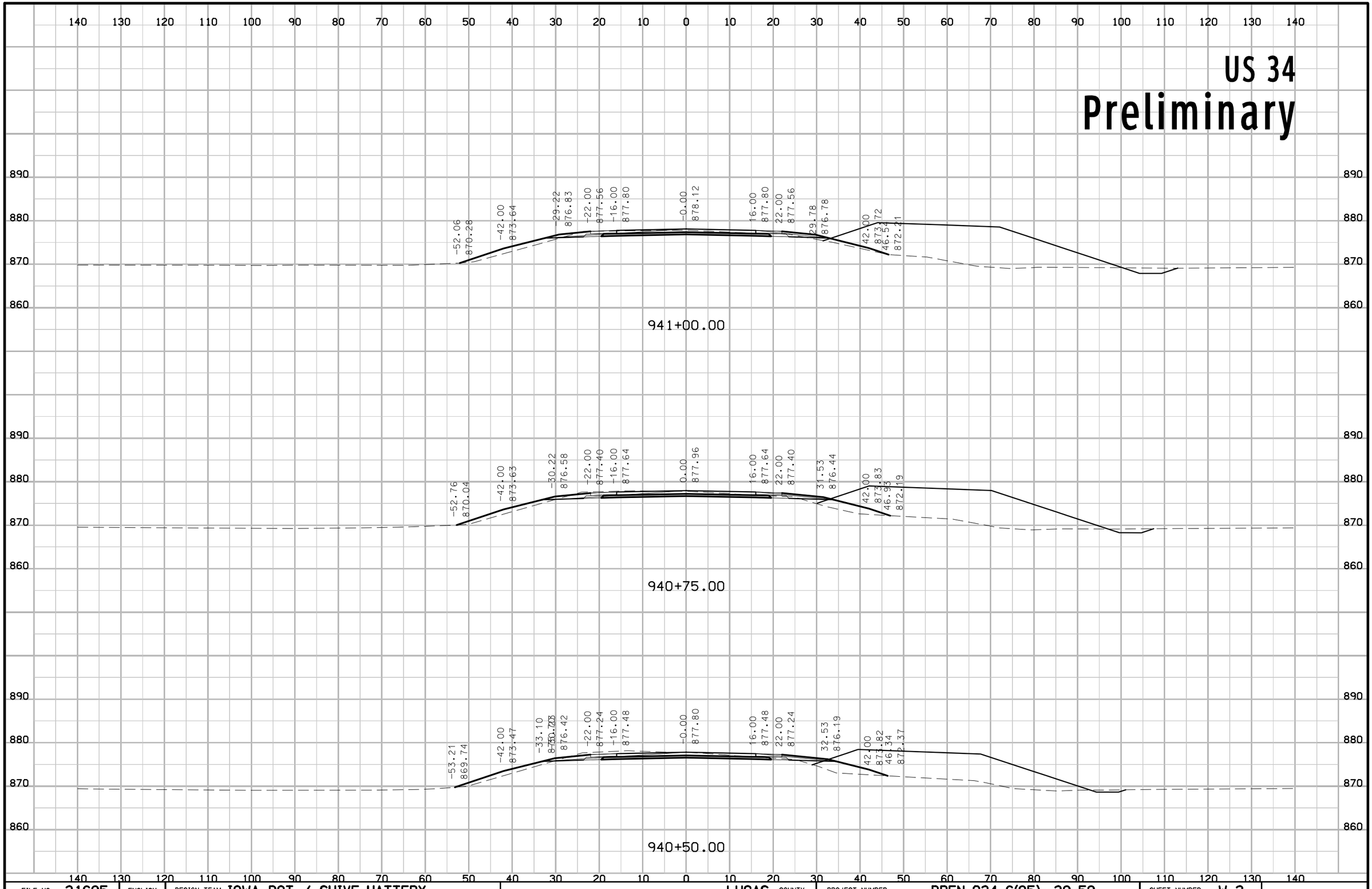
CROSS SECTION LEGEND AND SYMBOL INFORMATION SHEET

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

FILE NO.	ENGLISH	DESIGN TEAM **IOWA DOT / SHIVE-HATTERY**	**LUCAS** COUNTY	PROJECT NUMBER **BRFN-034-6(95)--39-59**	SHEET NUMBER **W.1**

11:17:43 AM 11/21/2019 mjanechek pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5903401017\Design\SHT_59034095_LGD.sht

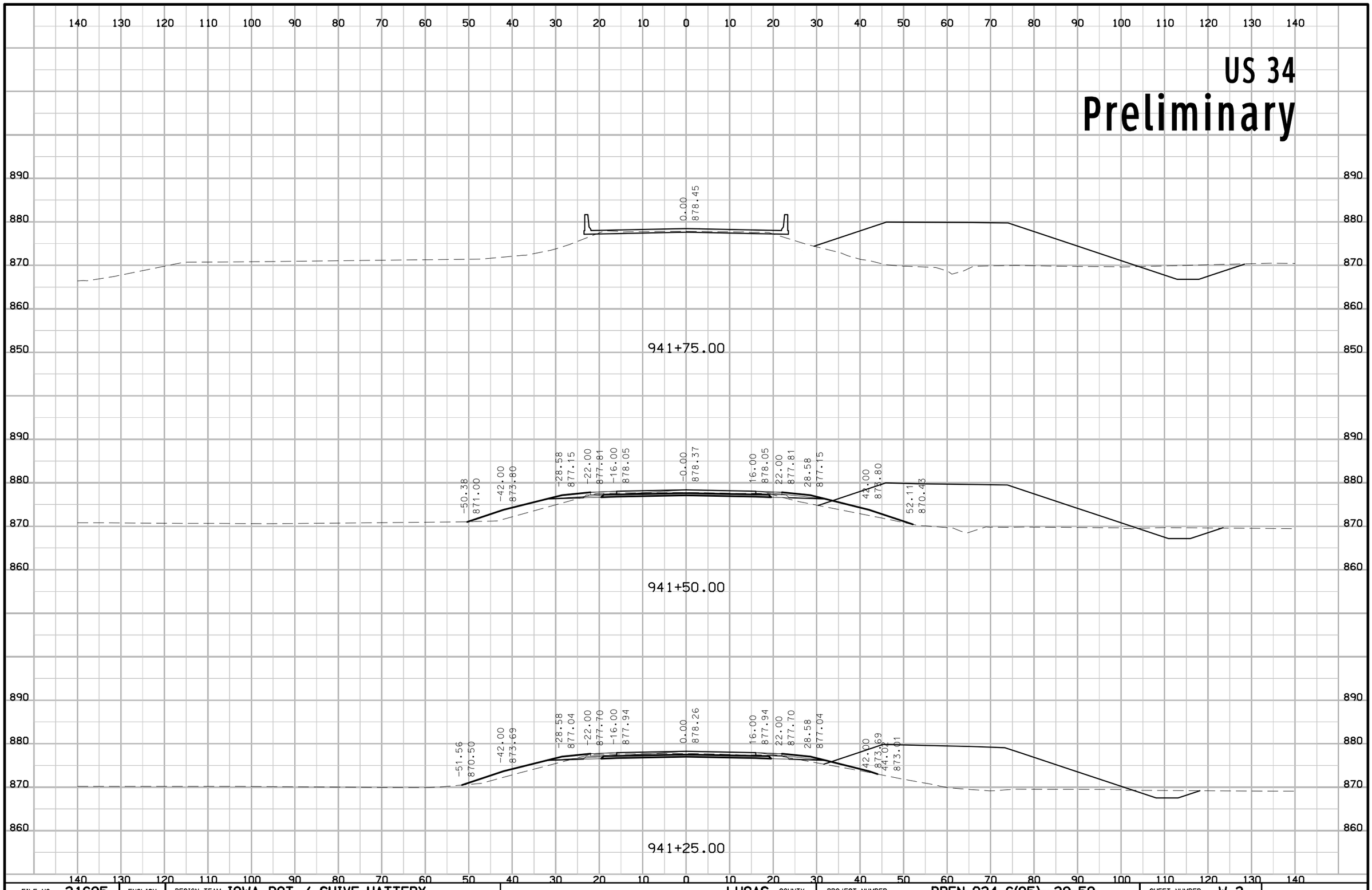
US 34
Preliminary



FILE NO. 31695	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER W.2

11:18:09 AM 11/21/2019 mjanechek pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5903401017\Design\SHT_59034095_W2.sht

US 34
Preliminary



FILE NO. 31695	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER W.3

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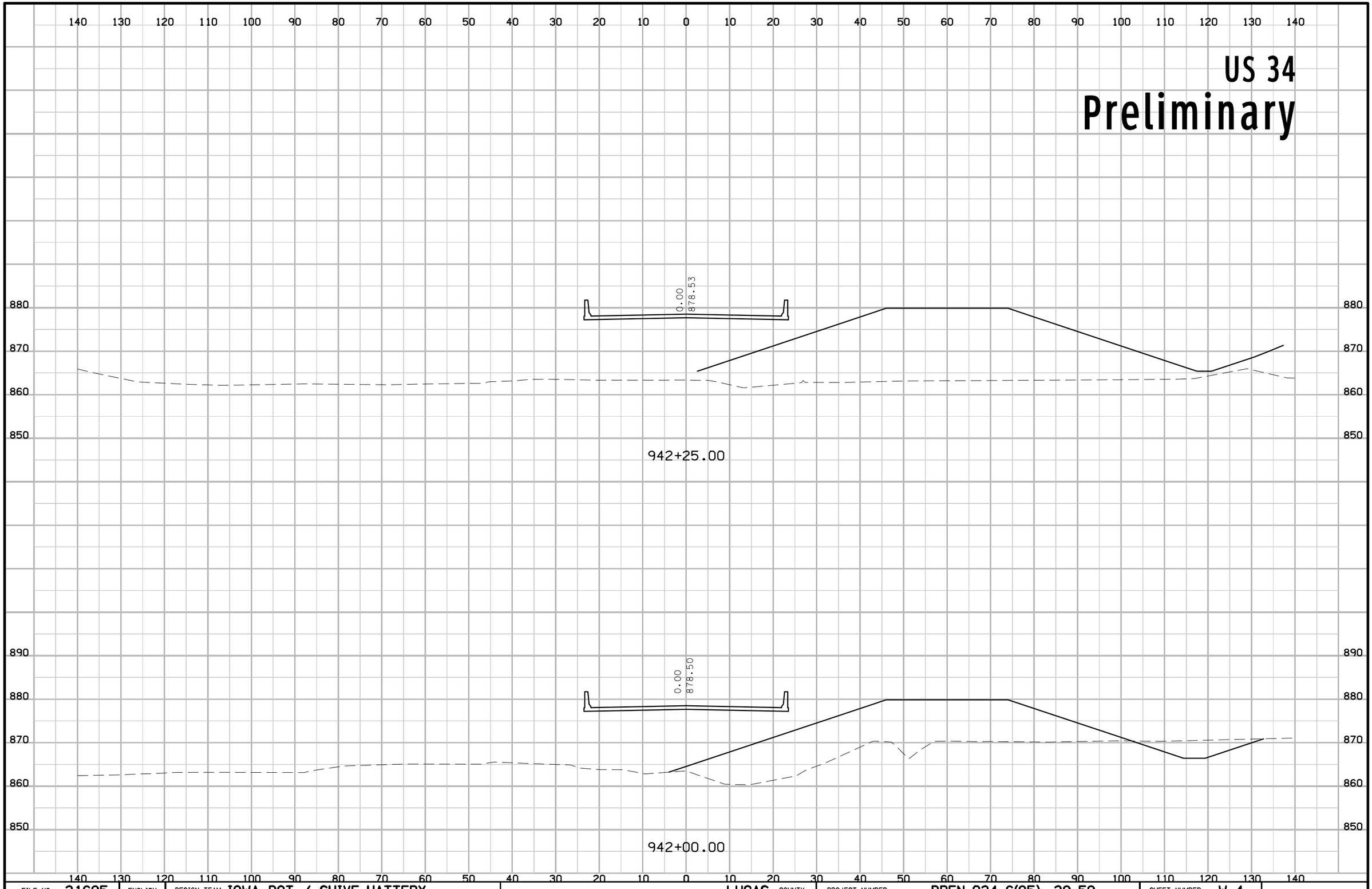
US 34
Preliminary



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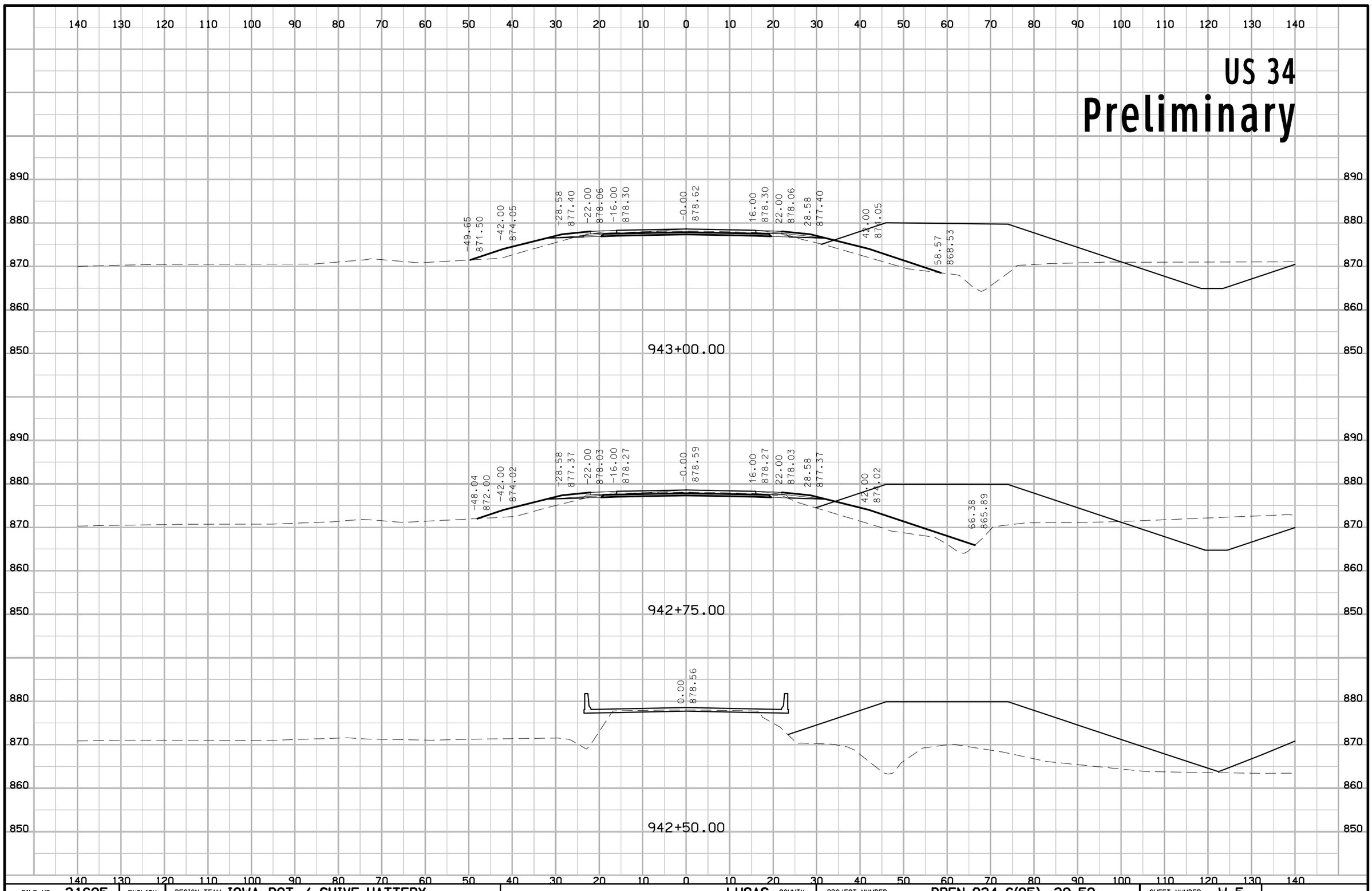
US 34
Preliminary



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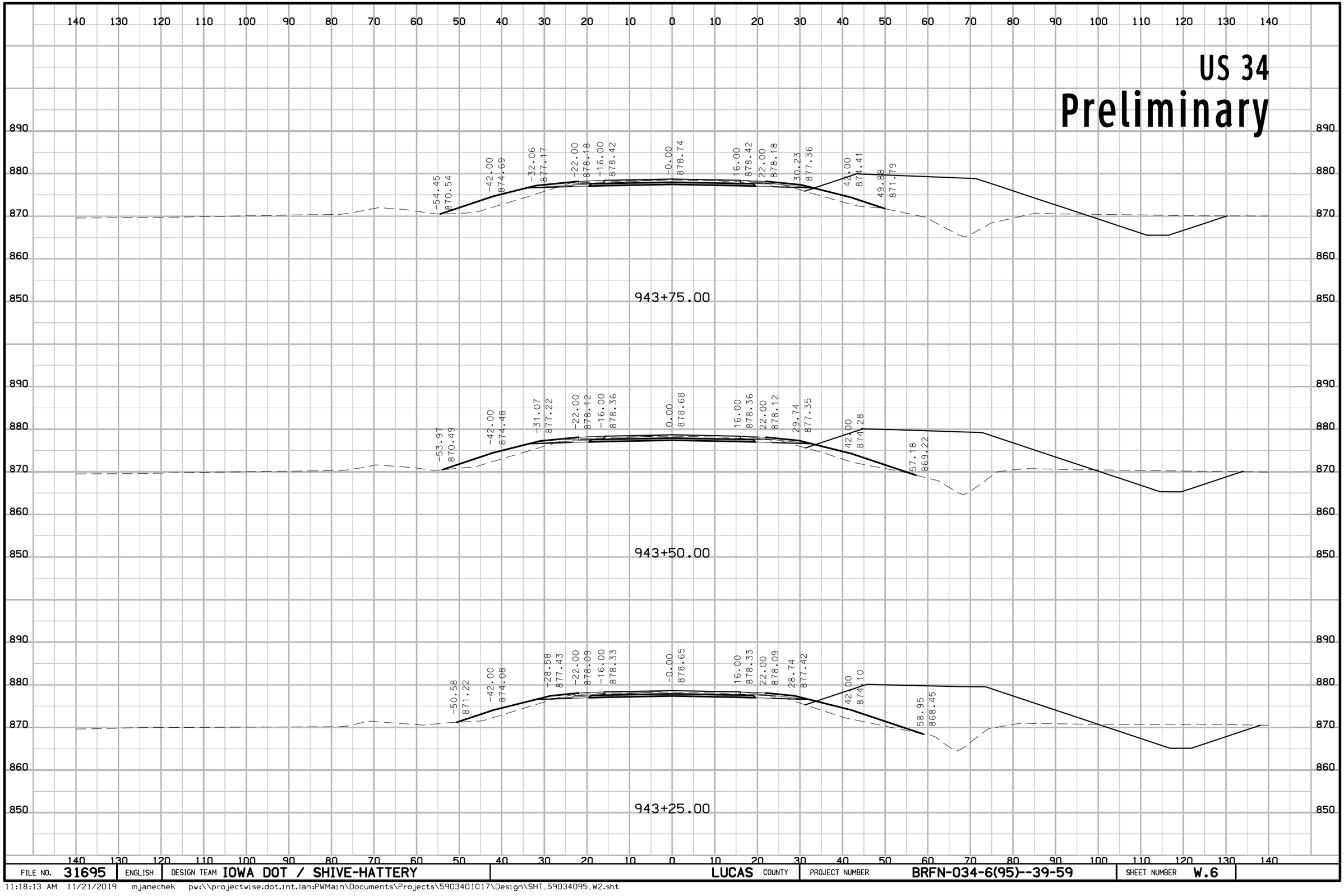
US 34
Preliminary



FILE NO. 31695	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER W.6

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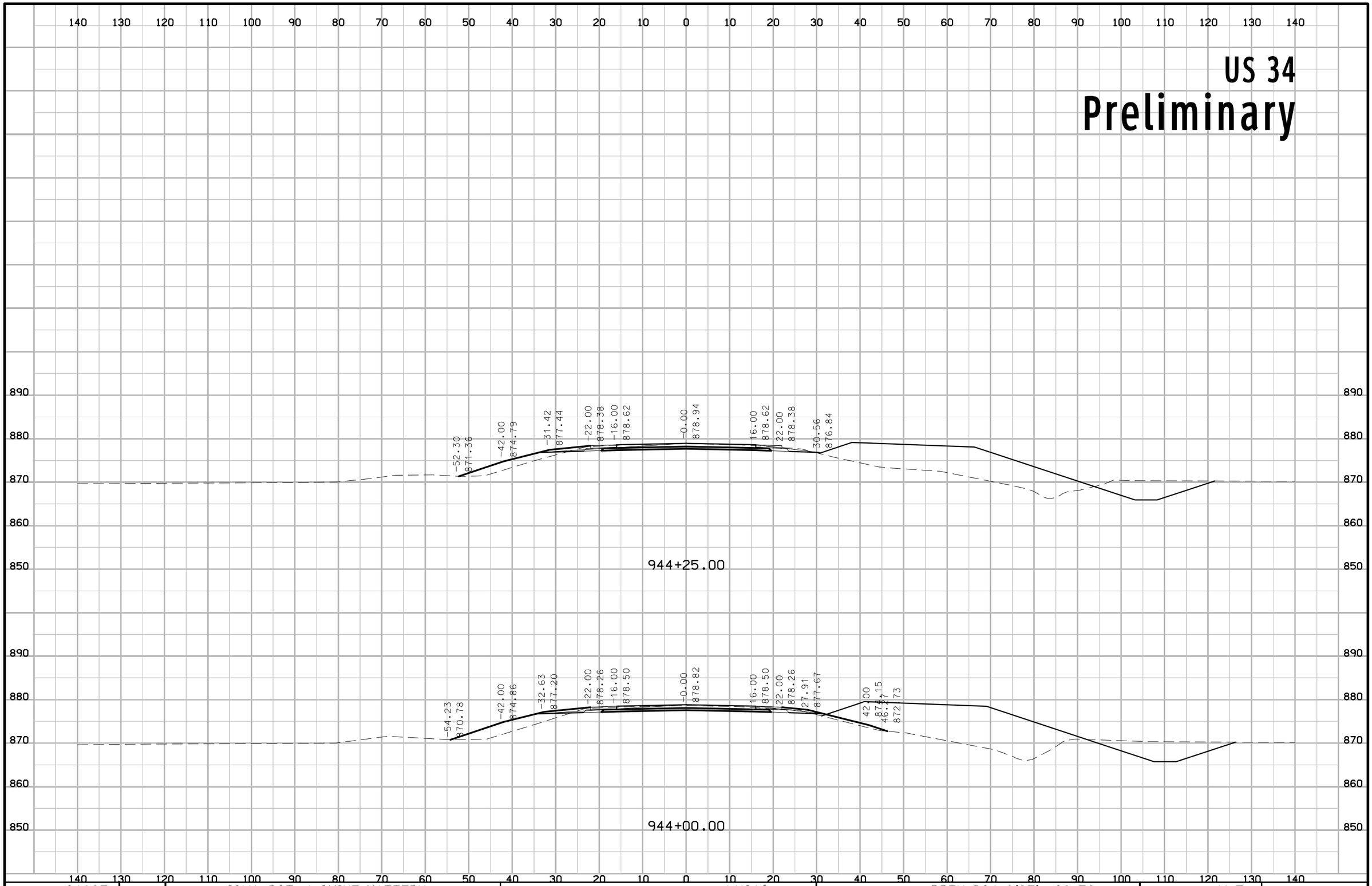
US 34
Preliminary



FILE NO. 31695	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER W.7

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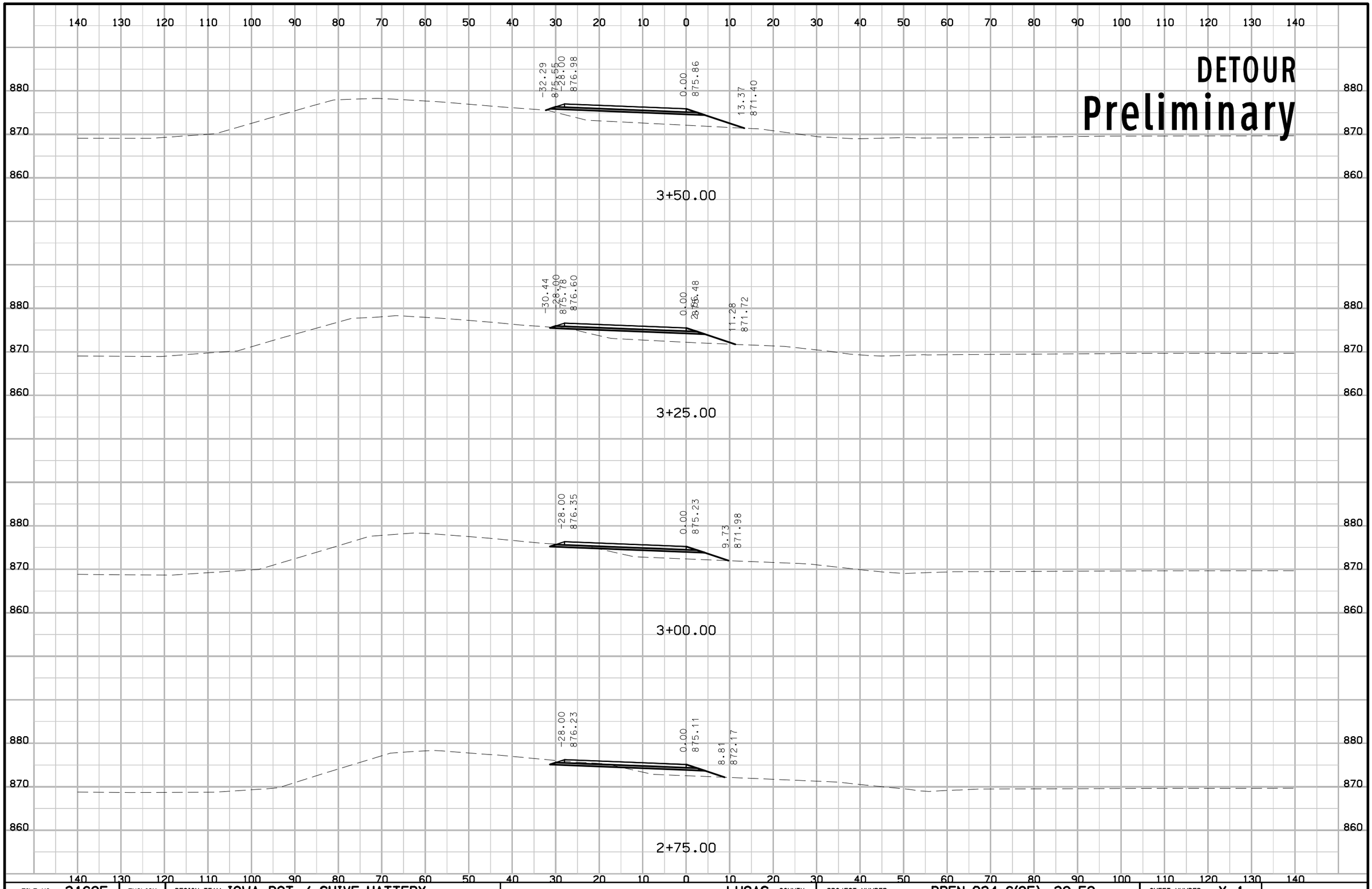
DETOUR
Preliminary



FILE NO. 31695	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER X.1

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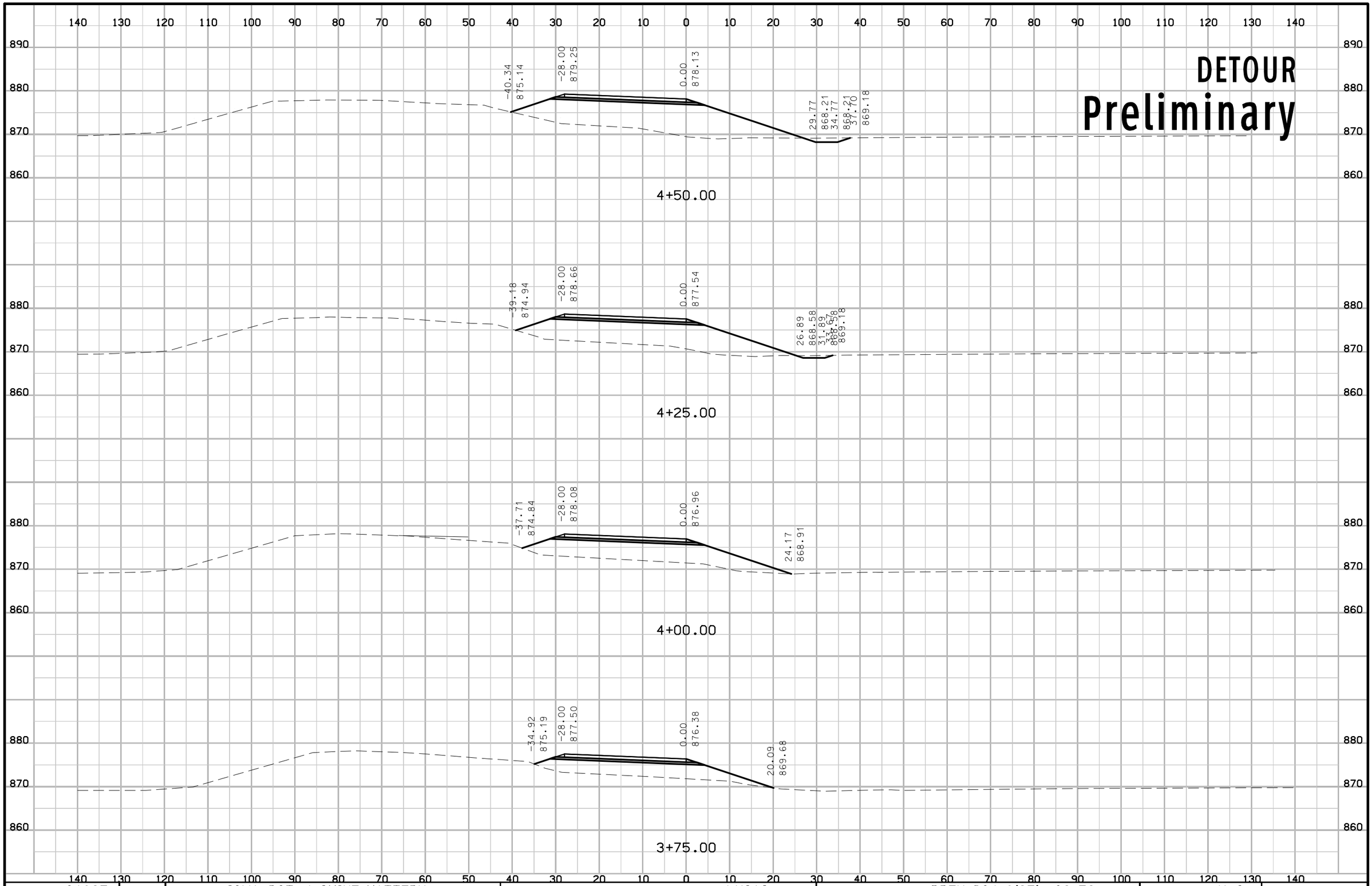
DETOUR
Preliminary



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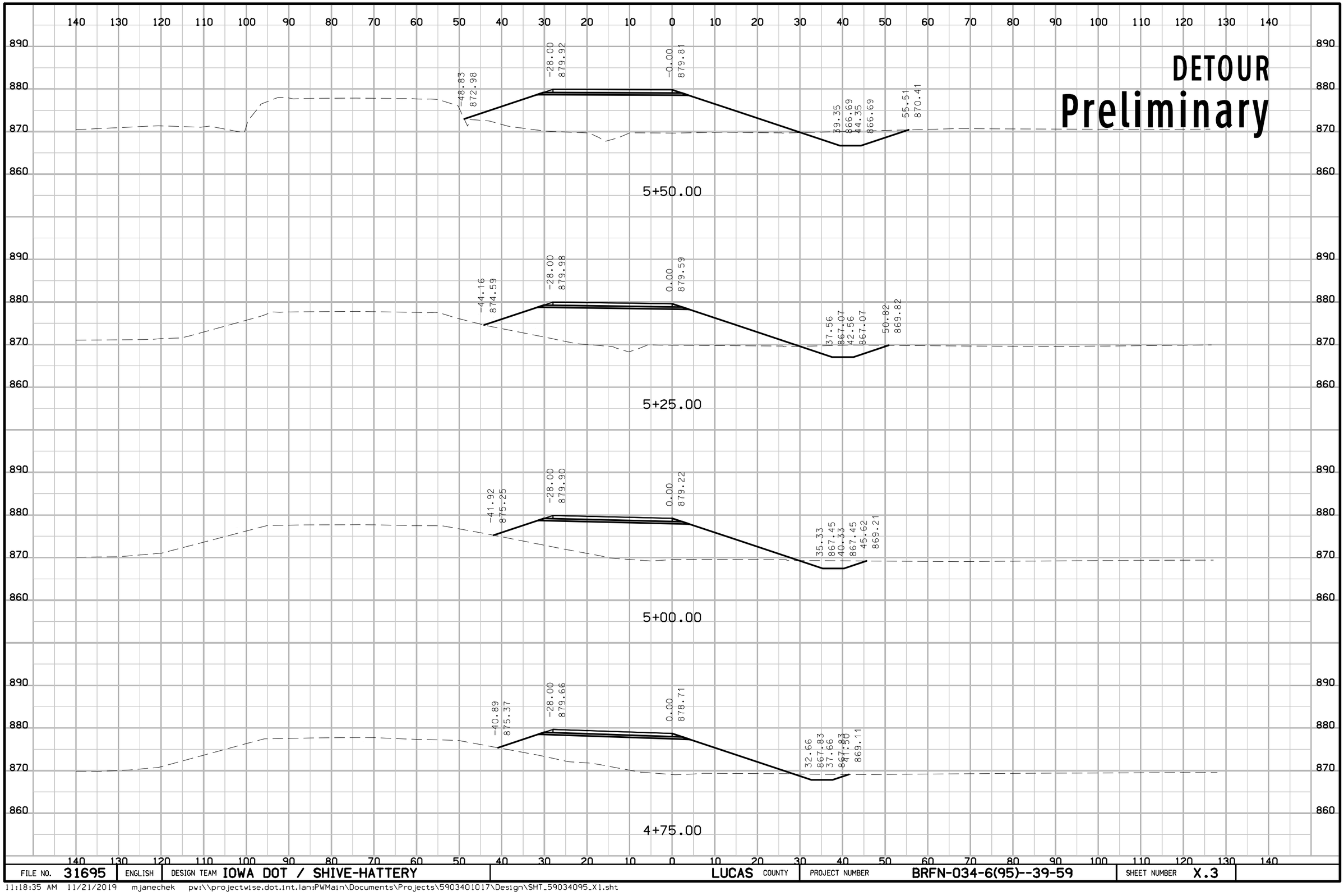
DETOUR

Preliminary



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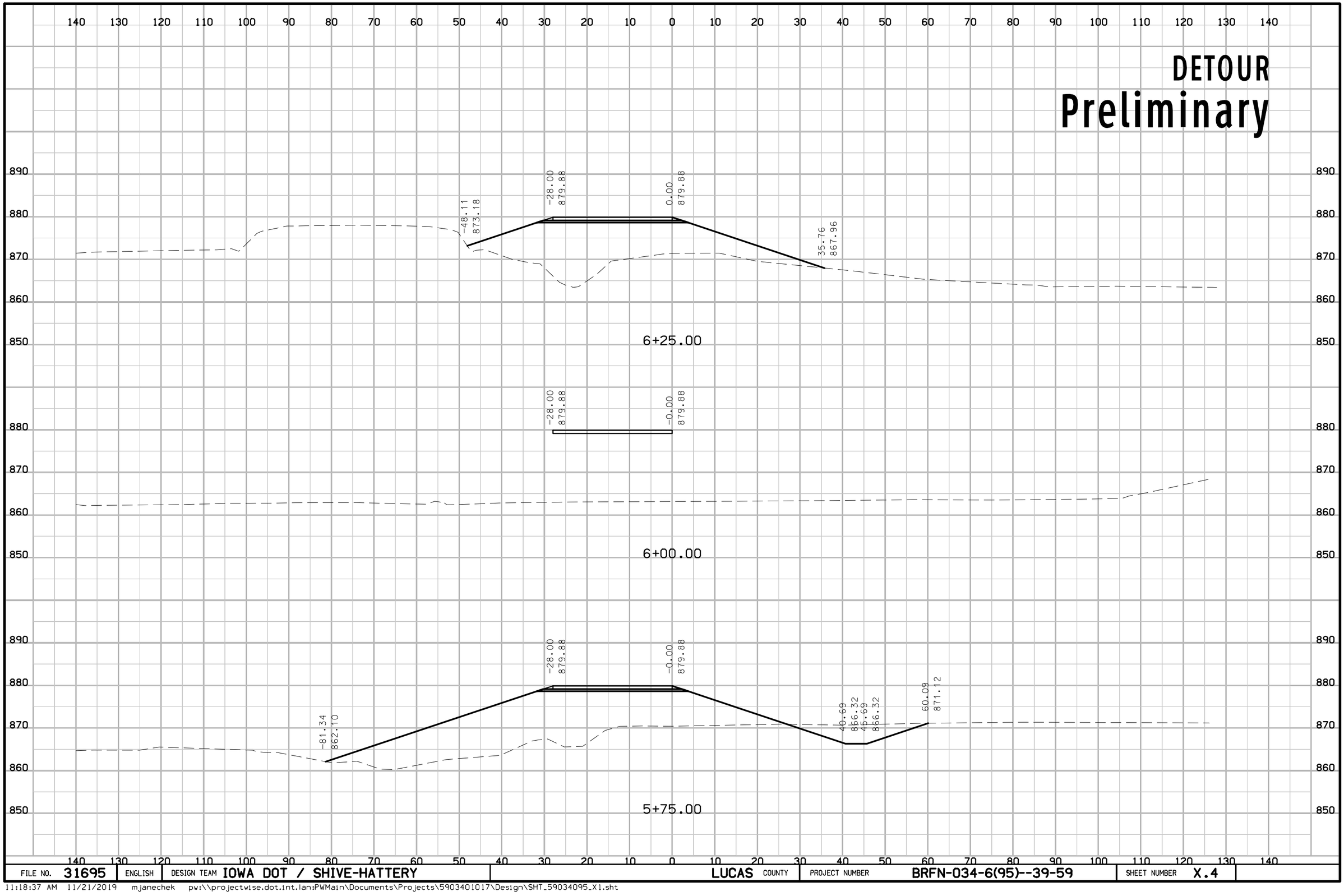
DETOUR
Preliminary



FILE NO. 31695	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER X.4

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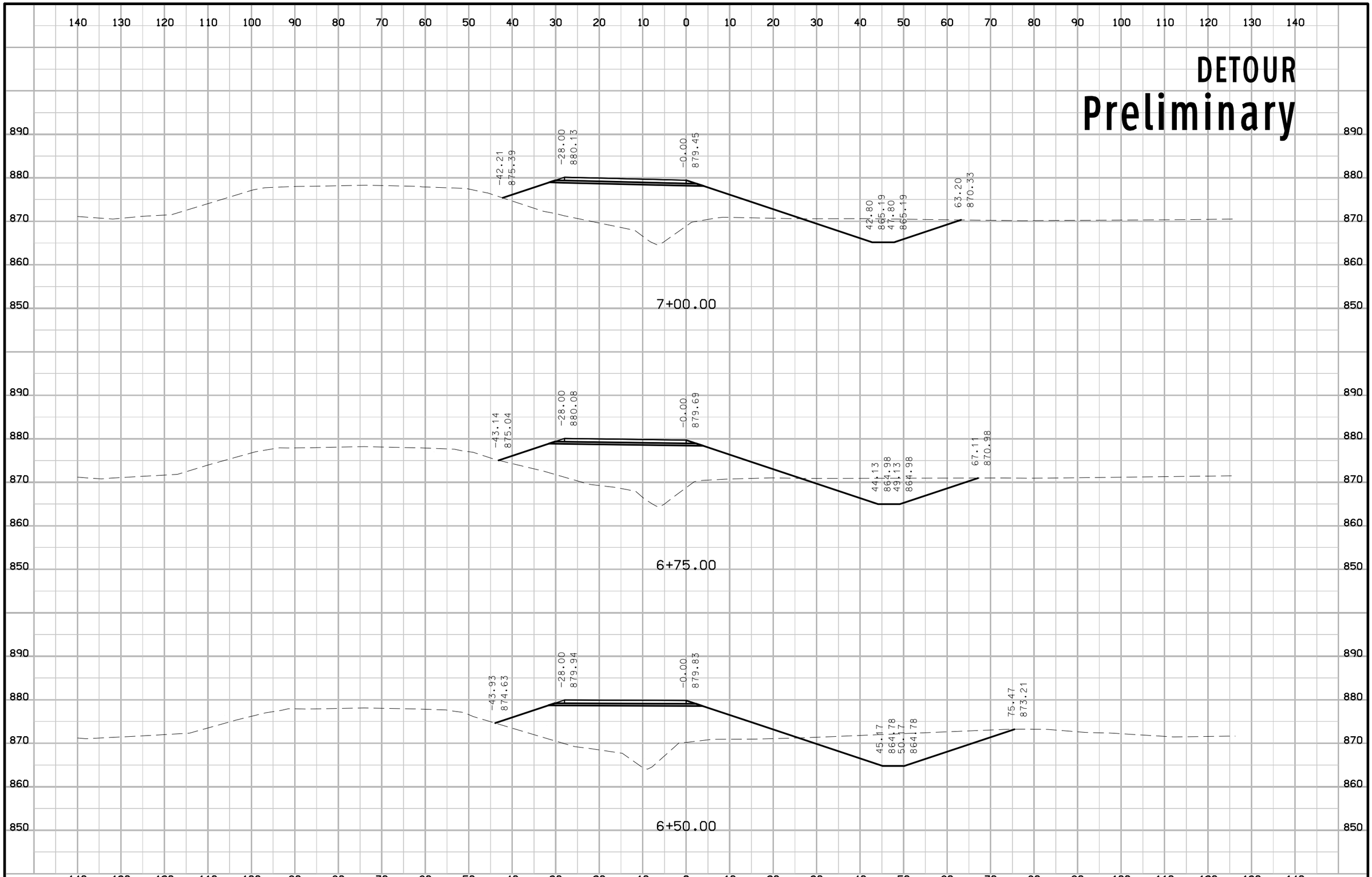
DETOUR

Preliminary



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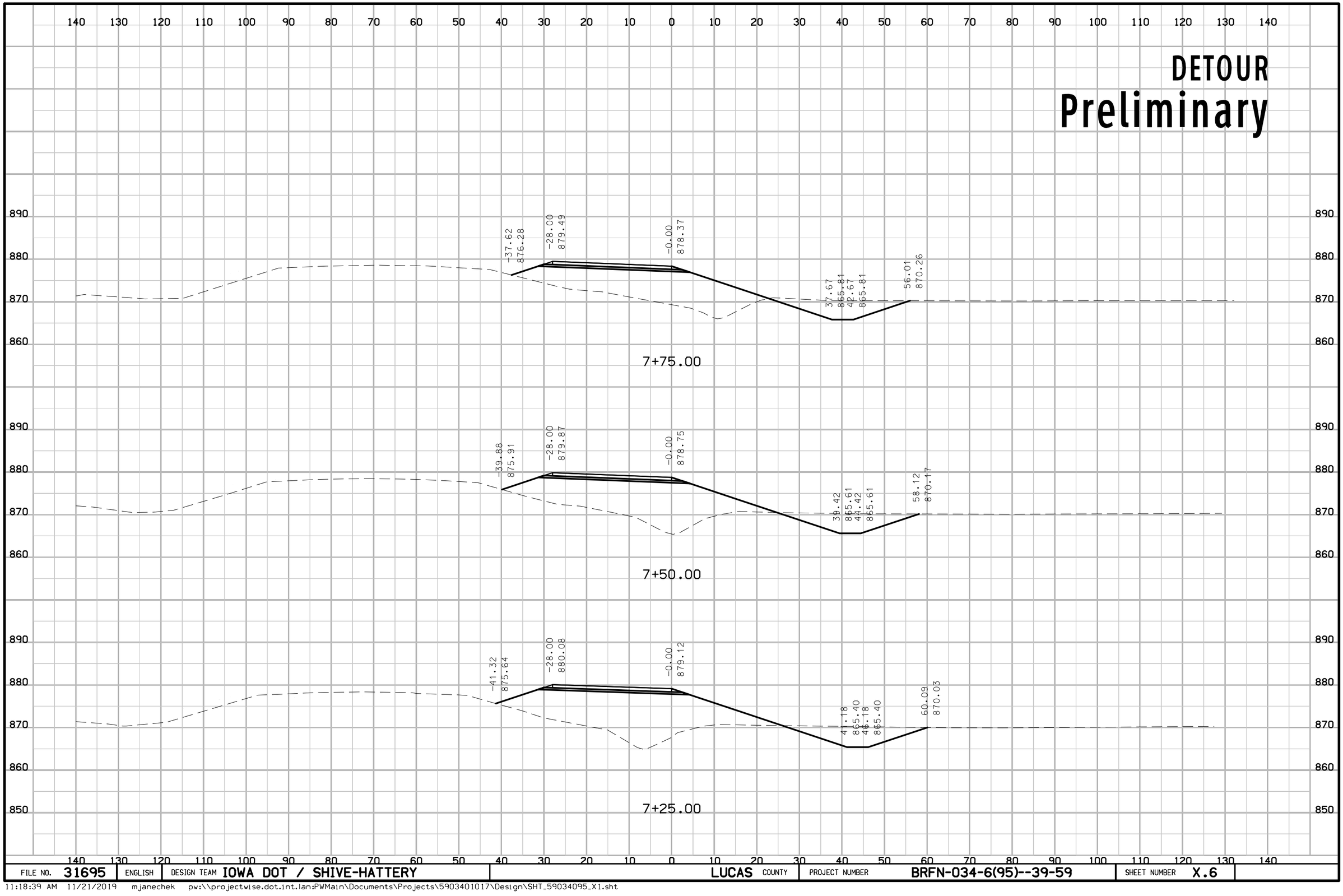
DETOUR

Preliminary



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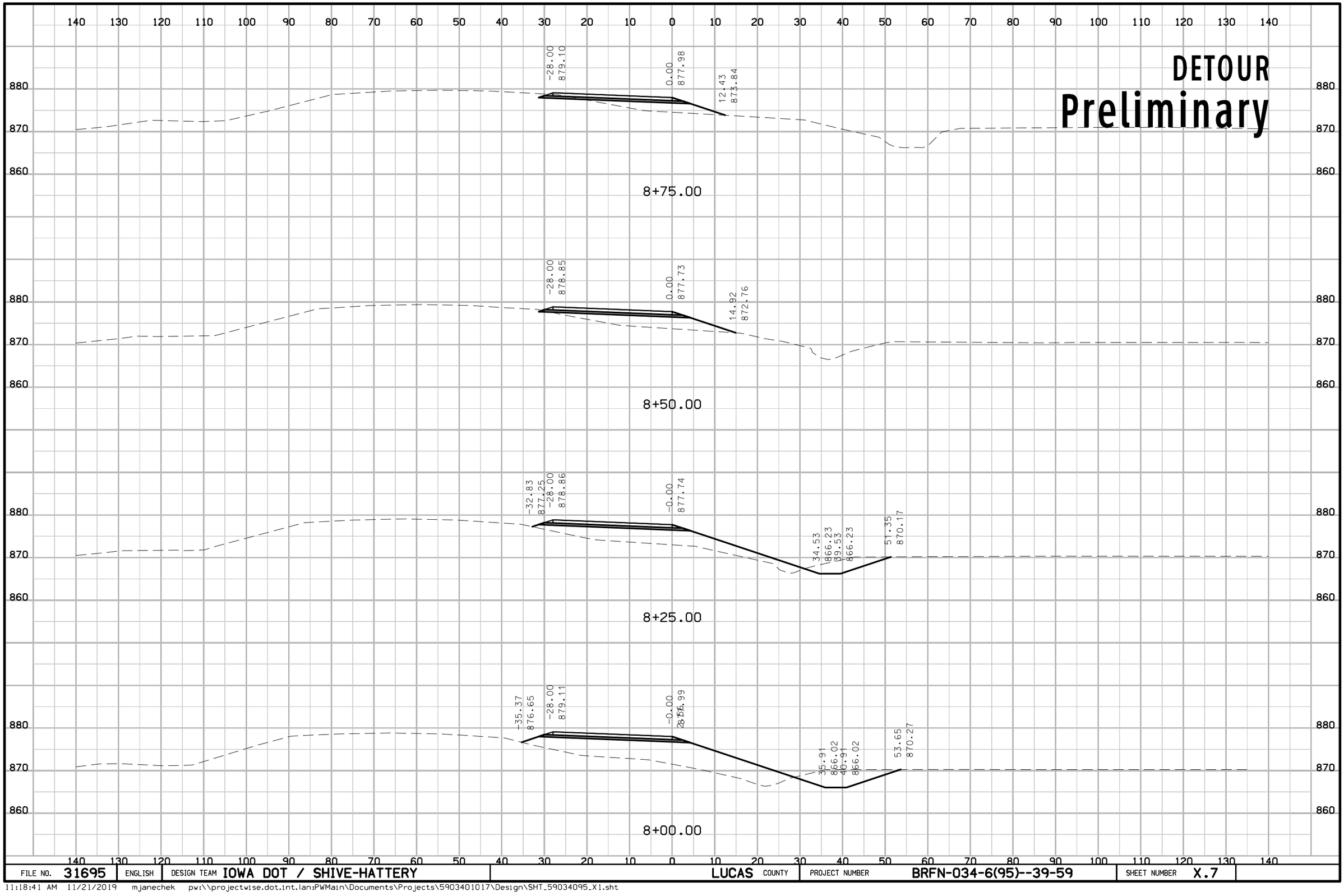
DETOUR

Preliminary



FILE NO. 31695	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	LUCAS COUNTY	PROJECT NUMBER BRFN-034-6(95)--39-59	SHEET NUMBER X.7

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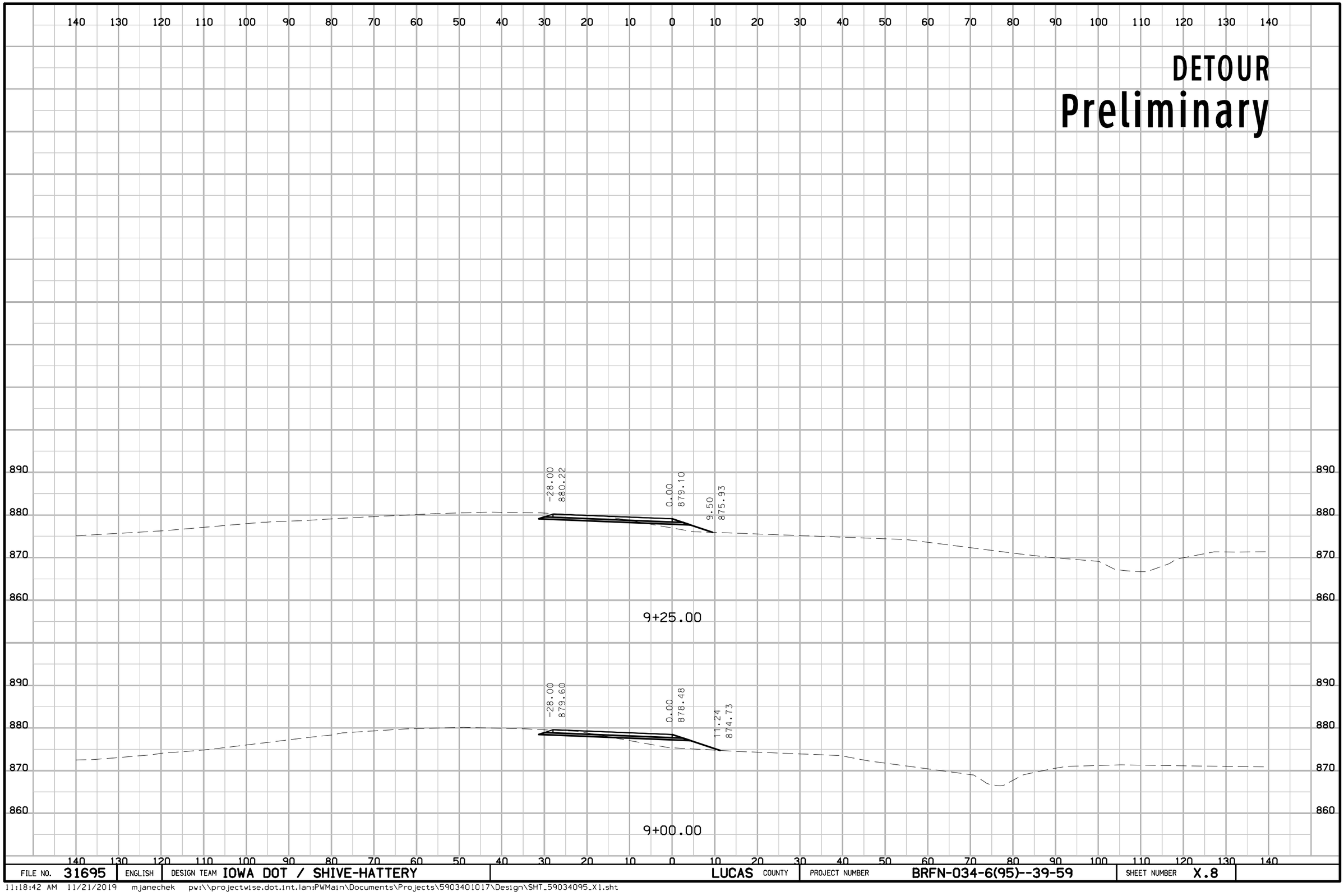
DETOUR

Preliminary



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