BRIDGE REPLACEMENT
BRF-001-1(34)--38-89

LETTING DATE
10-18-2022

VAN BUREN 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 - 3	Typical Cross Sections and Details
C Sheets	**Quantities and General Information**
C.1	Project Description
C.1	Estimated Project Quantities
C.1	Estimate Reference Information
C.1	Standard Road Plans
D Sheets	**Mainline Plan and Profile Sheets**
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	IA 1
G Sheets	**Survey Sheets**
G.1 - 3	Reference Ties and Bench Marks
G.4	Horizontal Control Tab. & Super for all Alignments
J Sheets	**Traffic Control and Staging Sheets**
J.1	Traffic Control Plan
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 - 6	Mainline Cross Sections
	* Color Plan Sheets

IOWA DOT

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

VAN BUREN COUNTY

BRIDGE REPLACEMENT

IA 1 Over Little Creek, 1.2 Mi N of S Jct IA 16

SCALES: As Noted

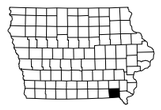
Refer to the Proposal Form for list of applicable specifications.

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

REVISIONS

	TOTAL
	21
PROJECT IDENTIFICATION NUMBER	
18-89-001-020	
PROJECT NUMBER	
BRF-001-1(34)--38-89	
R.O.W. PROJECT NUMBER	
STPN-001-1(35)--2J-89	

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



DESIGN DATA RURAL		
2022 AADT	2,500	V.P.D.
2042 AADT	2,800	V.P.D.
2042 DHV	290	V.P.H.
TRUCKS	9	%
Total Design ESALs	--	

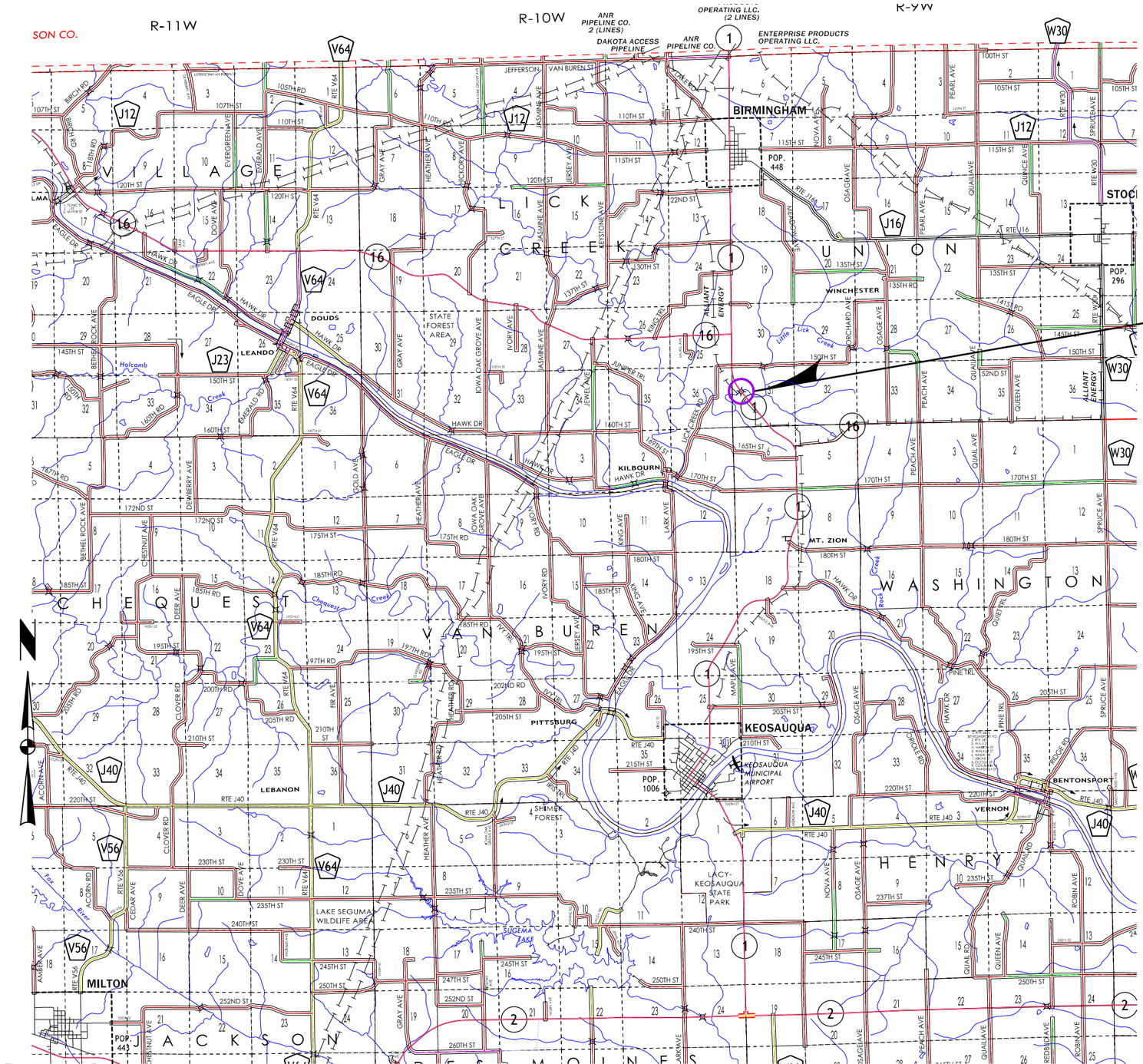
INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Michael J. Janechek	Primary Signature Block
V.1	Phillip M. Harpole	Hydraulic Design

D5 PLAN – Oct. 16, 2020
D4 PLAN – June 21, 2022

PRELIMINARY PLANS

Subject to change by final design.

D3 PLAN – July 15, 2020



PROJECT LOCATION

IA 1 BRIDGE REPLACEMENT
STA.: 502+73.00
FHWA NO.: 50201
MAINT. NO.: 8911.6S001
MP: 11.6

LOCATION MAP SCALE
0 1 2 3
Miles

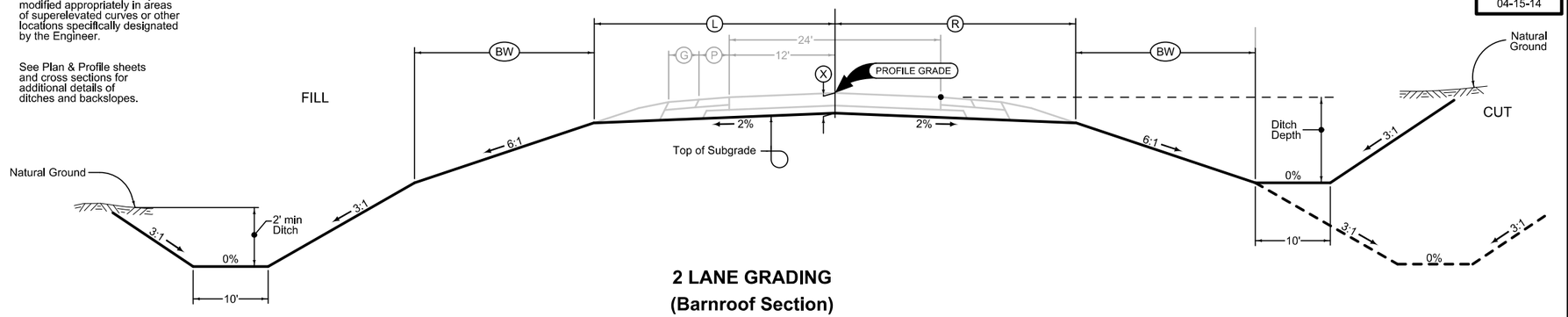
FILE NO. 31700	ENGLISH	DESIGN TEAM Iowa DOT \ Shive-Hattery	VAN BUREN COUNTY	PROJECT NUMBER BRF-001-1(34)--38-89	SHEET NUMBER A.2

10:14:58 PM 7/15/2020 mjanechek pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8900102018\Design\SHT_89001034_A01.dgn

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet
IA 1	501+15.00	504+23.21	29.13	29.13	EX	12.87

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
(Barnroof Section)

G_2_Grade_BR
04-15-14

FILE NO. 31700	ENGLISH	DESIGN TEAM Iowa DOT \ Shive-Hattery	VAN BUREN COUNTY	PROJECT NUMBER BRF-001-1(34)--38-89	SHEET NUMBER B.1

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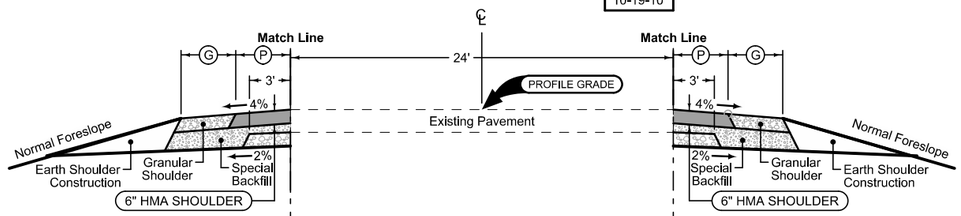
Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

2_C_
10-15-13

STATION TO STATION		(P) Feet	(G) Feet
501+15.00	504+23.21	4	4

2E_
10-19-10



Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

2_C_
10-15-13

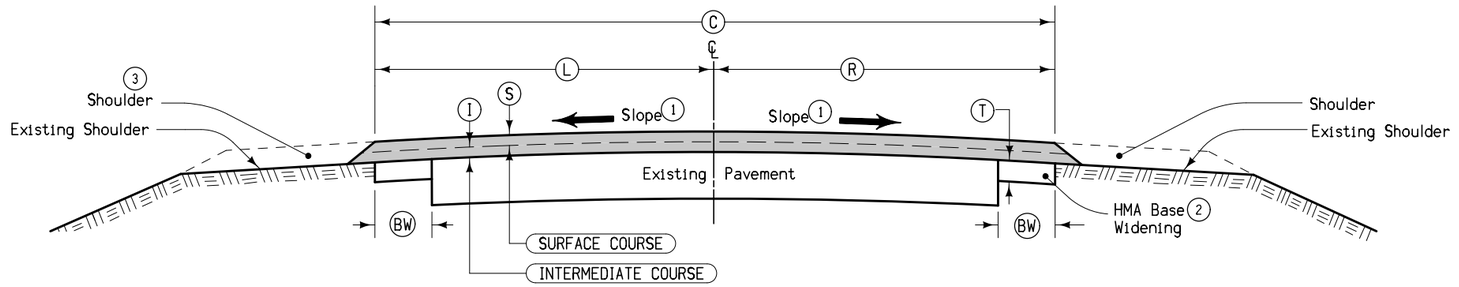
STATION TO STATION		(P) Feet	(G) Feet
501+15.00	504+23.21	4	4

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

See Tab 112-9 for shoulder quantities.

IA 1

2617
10-15-13



1. Match finished slope to existing pavement, except that the maximum allowable slope is 3.0%, minimum allowable slope is 2.0%. Section may be modified as directed by the Engineer through areas of special shaping.

   Refer to tabulation listing of superelevated curves and Standard Road Plans for additional requirements through superelevated curves.

2. Base Widening quantities are not included with Resurfacing quantities, see Standard Road Plan PV-203.

3. Refer to shoulder typicals.

Location			S	I	C	L	R	T	BW	Remarks
Road Identification	Station To Station		Inches	Inches	Feet	Feet	Feet	Inches	Feet	
IA 1	501+15.00	504+23.21	1.5	1.5	24	12	12	0	0	

TYPICAL CROSS SECTION
HMA RESURFACING WITH BASE WIDENING

100-1D
10-18-05

PROJECT DESCRIPTION

This project involves the replacement of the IA 1 bridge over Little Creek 1.2 miles North of S Jct of IA 16 with a precast 3-sided structure using the flowable mortar method.

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
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
PM-110	10-16-18	Line Types
PM-420	04-19-11	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
PR-103	04-21-20	Full Depth PCC Patch With Dowels
PR-201	10-21-14	Runouts For Resurfacing
PV-101	10-16-18	Joints
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

SURVEY SYMBOLS

- BM Bench Mark
- PCP Photo Control Point
- FENO FENO Monument
- BNK Stream Bank
- GR Ground Shot
- BL Topo Breakline
- D Centerline Draw or Stream (Down)
- ENU Edge Unpaved Entrance & Parking
- ENT Centerline BL of Entrance
- SNP Unpaved Shoulder
- SH Paved Shoulder
- EP Edge of Paved Roads (ML or SR)
- C Centerline BL of Road (ML or SR)
- GDL Guard Rail Steel
- PIP Pipe Culvert
- SOP Size of Pipe or Culvert
- PLG Location of General Photo
- EW Edge of Water
- CON Concrete or A/C Slab
- TW Top of Water
- REF Reference Tie Point
- OUT Tile Outlet
- DU Centerline Draw or Stream (Up)
- GU Gutter In Front of Curb
- CU Back of Curb
- BRG Bridge
- BD Bridge Deck
- BCL Bridge Centerline
- LIN Miscellaneous Line
- T1 TL1D Telephone Line Co. 1 - Quality D
- TP TPD Telephone Pedestal
- PPA Power Pole Co. 1
- TILE TIL Tile Line
- G GL1D Gas Line Co. 1 - Quality D
- FO FO1D Fiber Optic Co. 1 - Quality D
- TOP Top of Bridge Pier
- BLS Bridge Low Steel
- PRO Profile Shot
- DTM Photogrammetry Elv Control Check
- POT Tangent Point
- POC Curve Point
- SBR Size of Bridge
- TS Spiral Point

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

- T1 TL1D - Van Buren Telephone Company - Quality D
- G GL1D - Alliant Energy - Quality D
- FO FO1D - Iowa Communications Network - Quality D
- PPA - Alliant Energy

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. 31700	ENGLISH	DESIGN TEAM Iowa DOT \ Shive-Hattery	VAN BUREN COUNTY	PROJECT NUMBER BRF-001-1(34)--38-89	SHEET NUMBER D.1

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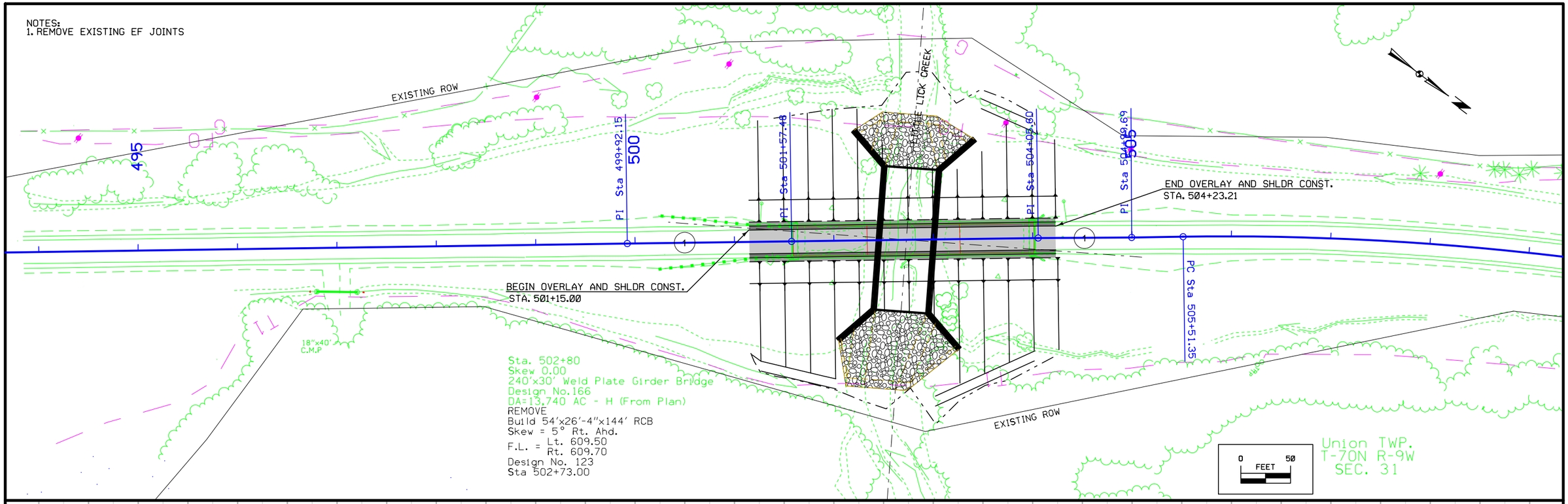
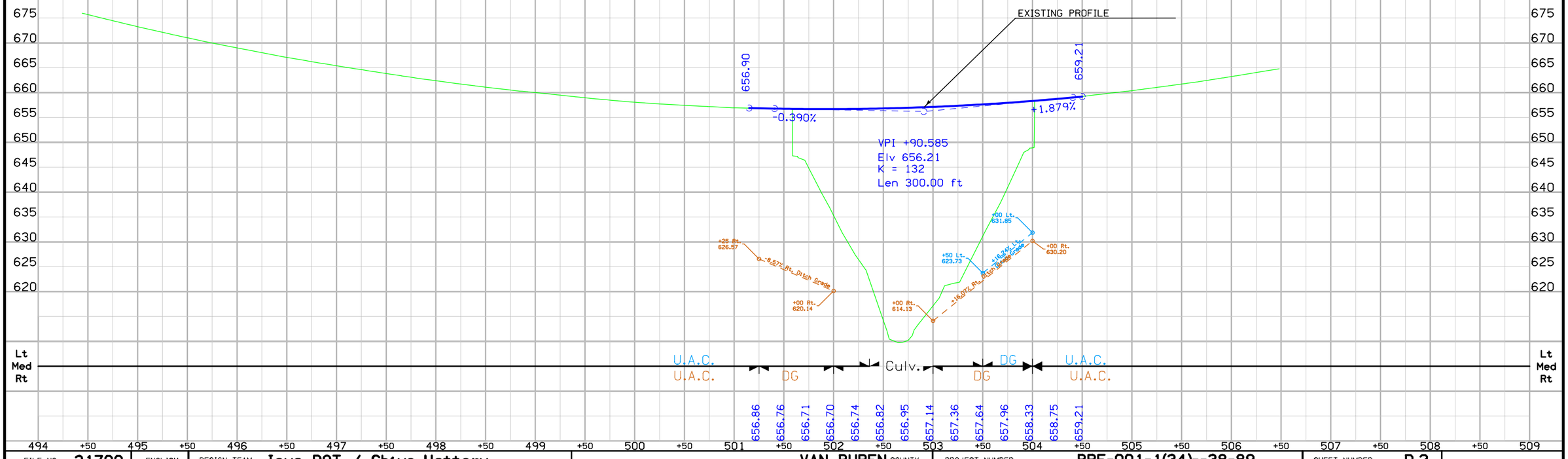
NOTES:
1. REMOVE EXISTING EF JOINTS





FILE NO. 31700	ENGLISH	DESIGN TEAM Iowa DOT / Shive-Hattery	VAN BUREN COUNTY	PROJECT NUMBER BRF-001-1(34)--38-89	SHEET NUMBER D.2

Survey Information

County: Van Buren
SAP 930.1
PIN: 18-89-001-020
Project Number: BRF-001-1(34)--38-89
Location: Little Lick Creek 1.2 mi N of S Jct IA 16
Type of Work: Bridge-Unspecified
Project Directory: 8900102018

Party Personnel

Nels Sutherland- Party Chief
Myron Fox- Assistant Survey Party Chief

Date(s) of Survey

Begin Date	02/12/2019
End Date	06/11/2019

General Information

Measurement units for this survey are US survey feet. This survey is for proposed bridge reconstruction and reconstruction of Hwy1 over Lick Creek. Project datum and control information is provided by Design Survey Office. This project is a Partial DTM with Photo control. This survey request was for the Hwy1 corridor only.

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12B). Benchmarks were placed throughout the project using post processed static observations relative to IaRTN Base Network. A minimum of 6hrs of data was simultaneously collected on each of the primary control points.

Horizontal Control

The project coordinate system for this survey is IaRCS Zone 13 (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.

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. F-1-1(2)—20-89(Grading). Survey stationing was equated to the plan center of bridge at Sta. 502+80 ran back and ahead without equation throughout the survey. This is a “best fit” alignment.

Survey stationing relates to as built plan stationing as follows:

Survey POB Sta 483+52.10

TS Sta 504+30.31 Project No. F-1-1(2)—20-89
Survey TS Sta 504+30.30

SC Sta 506+80.31 Project No. F-1-1(2)—20-89
Survey SC Sta 506+80.30

CS Sta 523+36.14 Project No. F-1-1(2)—20-89
Survey CS Sta 523+35.96

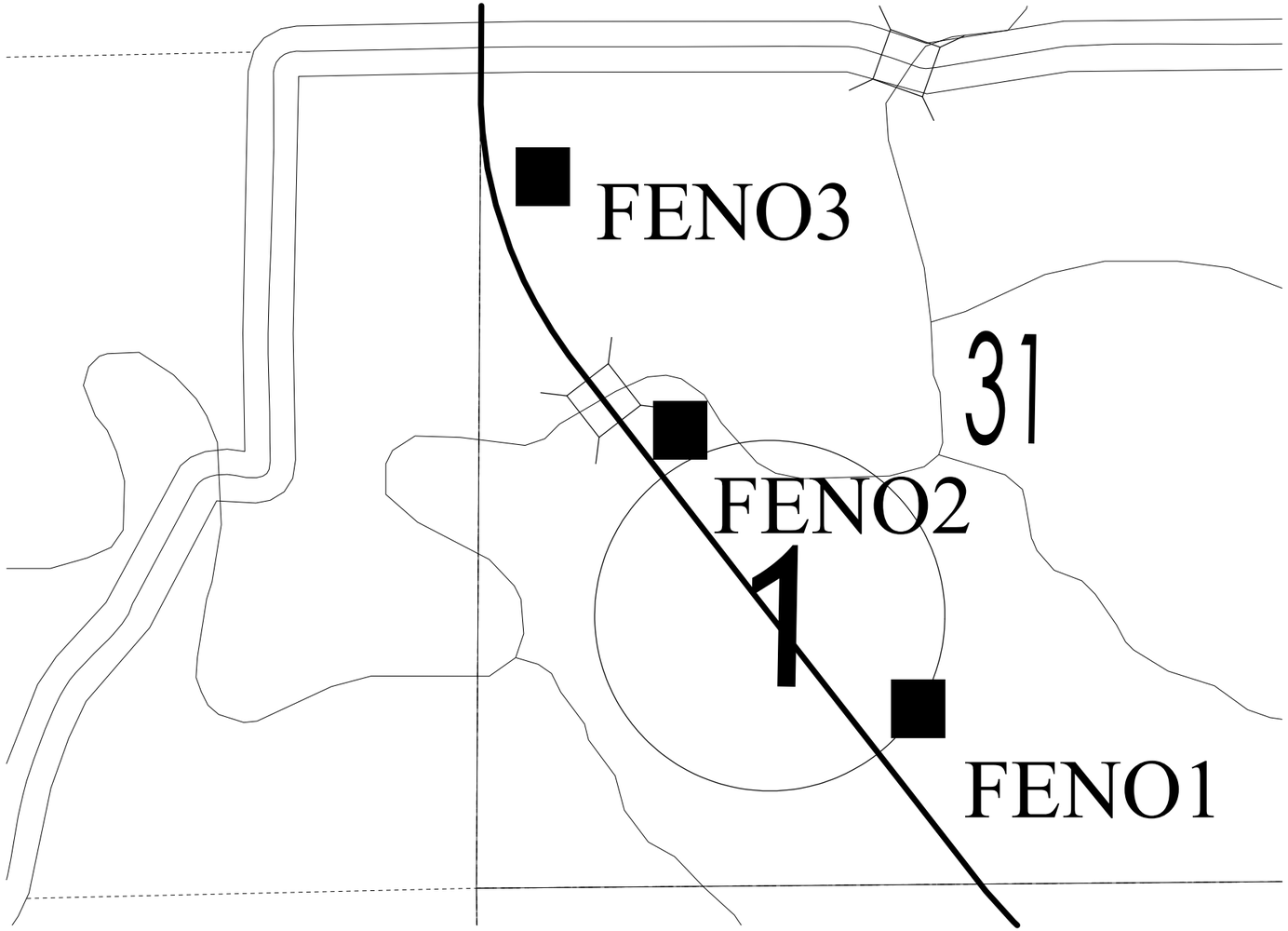
ST Sta 525+86.14 Project No. F-1-1(2)—20-89
Survey ST Sta 525+85.96

Survey POE Sta 535+94.53

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

Ia. Regional Coordinate System Zone 13

Coordinate listing from next sheet will be used with IaRTN 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 13

Point Name	North	East	Height	Code Description
FENO2	6608220.004	23491872.53	655.708	FENO2|FENO MON 4IN BELOW SURFACE FROM INTERSECTION 150TH ST AND HWY1 S 0.48 MILES 4FT EAST OF EP AND 23FT S OF END OF BRG
FENO1	6606779.664	23493053.87	726.905	FENO1|FENO MON 4IN BELOW SURFACE FROM INTERSECTION OF 150TH ST AND HWY1 S 0.83 MILES AND 61FT EAST OF EP
FENO3	6609498.728	23491196.92	704.594	FENO3|FENO MON 4IN BELOW SURFACE FROM INTERSECTION OF 150TH ST AND HWY1 S 1160FT AND 55FT EAST OF EP

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)
ML0011	POT	483+52.18	6,606,800.0870	23,492,951.9350															
ML0013	POT	499+92.15	6,608,094.5360	23,491,945.0030															
ML0015	POT	501+57.48	6,608,225.1410	23,491,843.6360															
ML0017	POT	504+05.60	6,608,421.0896	23,491,691.4185															
ML0019	POT	504+99.69	6,608,495.8500	23,491,634.2970															
	CC		6,610,269.9162	23,493,826.9571															
	PC	505+51.35	6,608,536.6036	23,491,602.5409															
ML001_11	PI	515+30.19	23,491,000.8975	23,491,000.8975	38° 17′ 04″ RT			978.839′	1,884.293′		2,820.000′								
	PT	524+35.65	6,610,287.5322	23,491,007.0121															
ML00113	POT	526+82.15	6,610,534.0340	23,491,008.5520															

108-26A
08-01-08

STAGING NOTES

Stage 1:
Construct precast 3-sided structure below existing bridge.

Stage 2:
Backfill structure using flowable mortar method. Reduce traffic to one-lane for removal of barrier rails.

Stage 3:
Reopen roadway to normal traffic.

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1) Maintain normal traffic pattern while structure is constructed below existing bridge.

2) Reduce traffic to one lane while barrier rail is being removed from existing bridge structure.

3) Reopen traffic to normal pattern to complete remaining grading outside of shoulders.

108-25
10-21-14

511 TRAVEL RESTRICTIONS

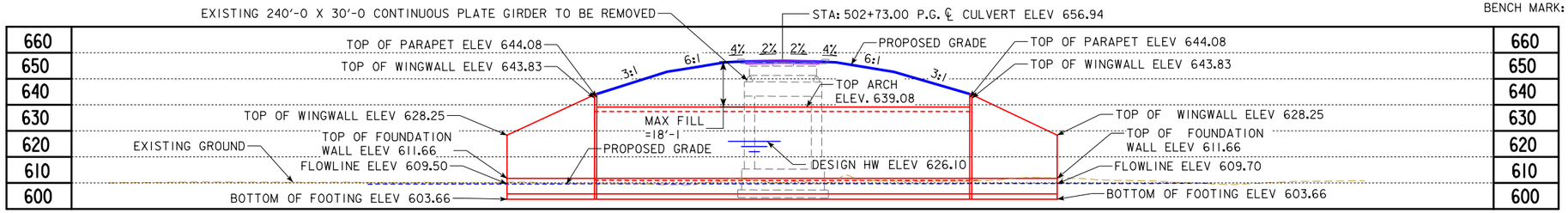
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			No Travel Restrictions Expected									

111-01
04-17-12

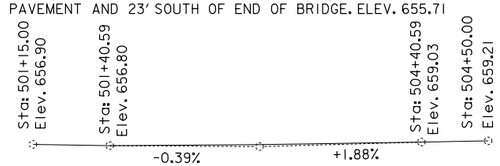
COORDINATED OPERATIONS

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	



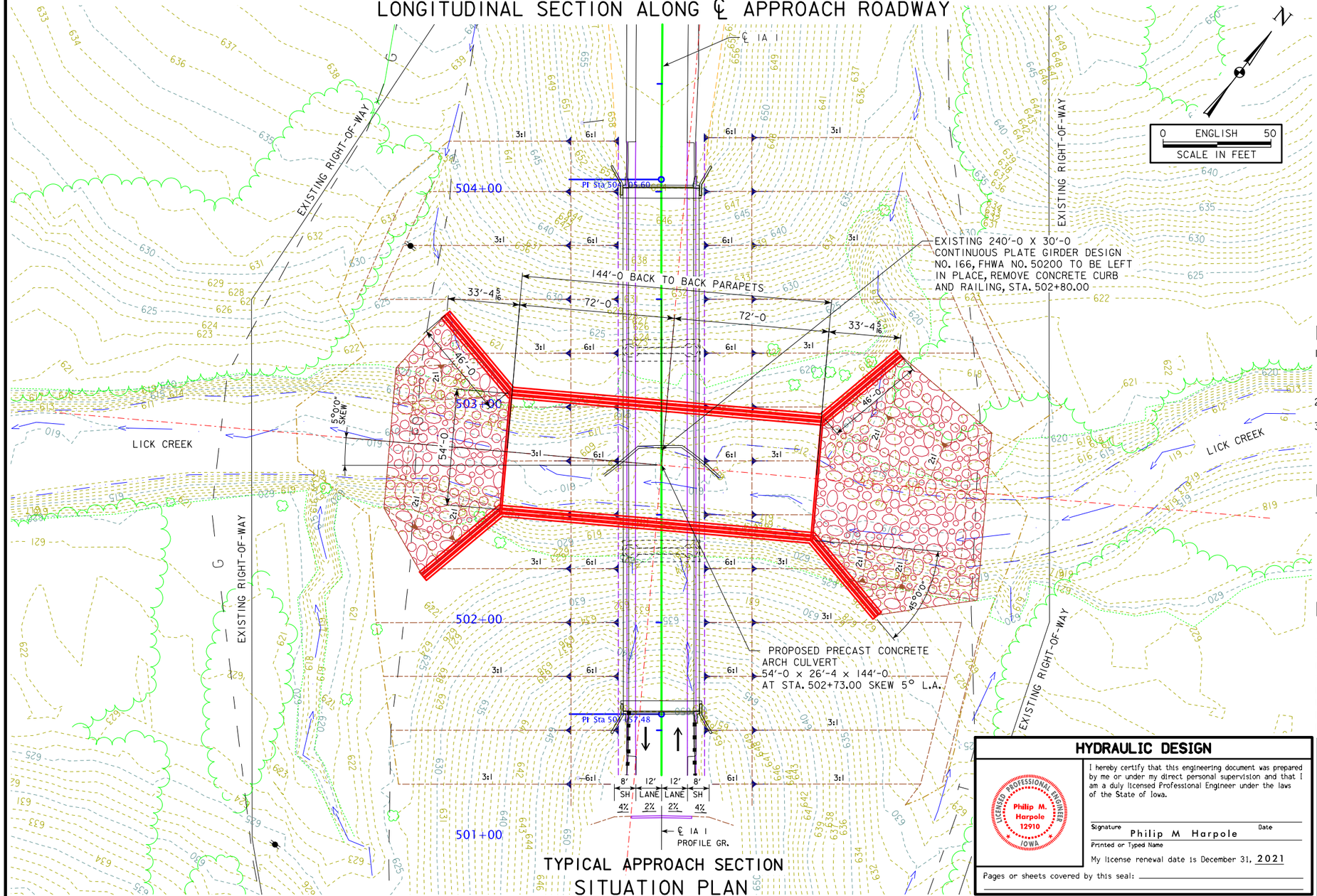
BENCH MARK: FEN02, FENO MONUMENT 4" BELOW SURFACE, 4' EAST OF EDGE OF PAVEMENT AND 23' SOUTH OF END OF BRIDGE. ELEV. 655.71



PROPOSED PROFILE GRADE IA I

VPI =502+90.59
Elv =656.21
K = 132
L =300.00'

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



TYPICAL APPROACH SECTION SITUATION PLAN

HYDRAULIC DATA

DRAINAGE AREA = 21.9 SQ. MI.
STREAM SLOPE = 11.8FT./MI.
AVG. LOW WATER STAGE = 611.5

Q_{50} = 6,330 CFS
STAGE = 626.10 FT.
BACKWATER = 0.80 FT.
AVG. BRIDGE VELOCITY = 9.20 FPS

Q_{100} = 7,670 CFS
STAGE = 627.10 FT.
BACKWATER = 1.10 FT.
AVG. BRIDGE VELOCITY = 10.40 FPS

Q_{200} = 9,000 CFS
STAGE = 628.00
CALCULATED DESIGN SCOUR = 605.50

Q_{500} = 10,720 CFS
STAGE = 629.10 FT
CALCULATED CHECK SCOUR = 605.10

THE SCOUR ELEVATIONS ARE PRELIMINARY AND WILL BE VERIFIED WHEN SOIL BORINGS ARE COMPLETE.

NOTES:

1. FOOTINGS ASSUMED LEVEL AND TO EXTEND AT LEAST 6" INTO ROCK. LOWEST BOTTOM OF PIER FOOTING ELEVATION USED FOR BOTTOM FOOTING ELEVATION OF ARCH. COORDINATE BOTTOM OF FOOTING ELEVATION AFTER SOIL BORINGS ARE COMPLETED.
2. REVIEW USING REVETMENT UNDER THE ARCH AFTER SOIL BORINGS ARE COMPLETED.
3. COORDINATE UTILITIES WITH FOUNDATIONS.

UTILITIES LEGEND:

— FO — — FIBER OPTIC
— T — — TELEPHONE
— G — — GAS

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

LOCATION

IA 1 OVER LICK CREEK
T-70N R-9W
SECTION 31
UNION TOWNSHIP
VAN BUREN COUNTY
FHWA NO. 50201
BRIDGE MAINT. NO. 8911.6S001
LATITUDE 40.821795°
LONGITUDE -91.946407°

TRAFFIC ESTIMATE

2022 AADT	2500	V.P.D.
2042 AADT	2800	V.P.D.
2042 DHV	290	V.P.H.
TRUCKS	9	%
TOTAL DESIGN ESALs	-	

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.

Signature Philip M Harpole Date
Printed or Typed Name

My license renewal date is December 31, 2021

Pages or sheets covered by this seal:

DESIGN FOR 5° SKEW L.A.

54'-0 X 26'-4 X 144'-0, PRECAST CONCRETE ARCH CULVERT SITUATION PLAN

STATION 502+73.00 (IA 1) JULY, 2020

VAN BUREN COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. 31700 DESIGN NO. 123

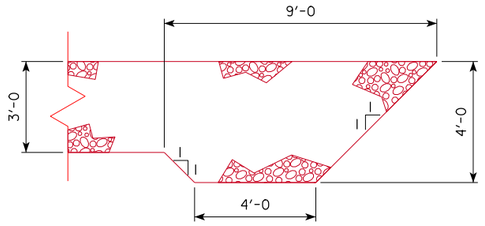
DESIGN TEAM SHIVE-HATTERY INC. | VAN BUREN COUNTY | PROJECT NUMBER BRF-001-1(34)--38-89 | SHEET NUMBER V.1

7/16/2020 10:58:40 AM jwinter pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\8900102018\BRPrelim\Shive Hattery\STR_89001034_shive_Z13.dgn TSL_89_0123s001 11x17_pdf.pltcfg

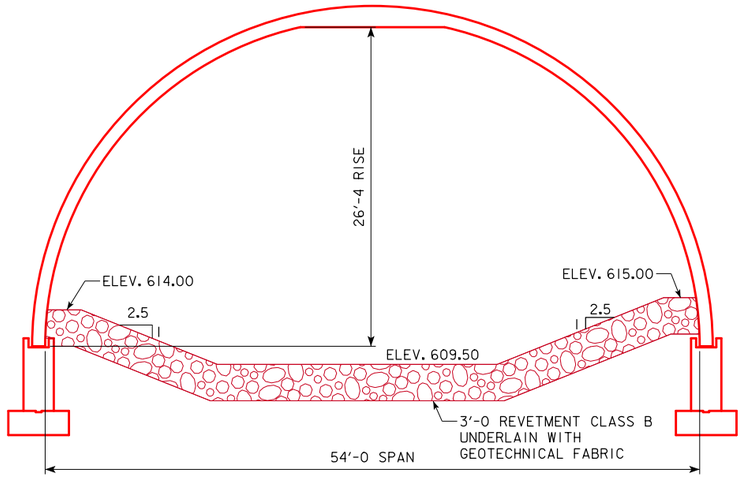
ESTIMATED CHANNEL ARMORING QUANTITIES

LOCATION	REVETMENT CL. B (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
CHANNEL LINING - EAST APRON	1048.9	--	684.2	655.6
CHANNEL LINING - WEST APRON	643.2	--	430.7	402.0
CHANNEL LINING - ARCH	1382.4	--	984.0	640.0
STONE TOE - EAST APRON	269.7	--	202.3	168.6
STONE TOE - WEST APRON	198.8	--	149.1	124.3
TOTALS	3543.3	--	2450.3	1990.5

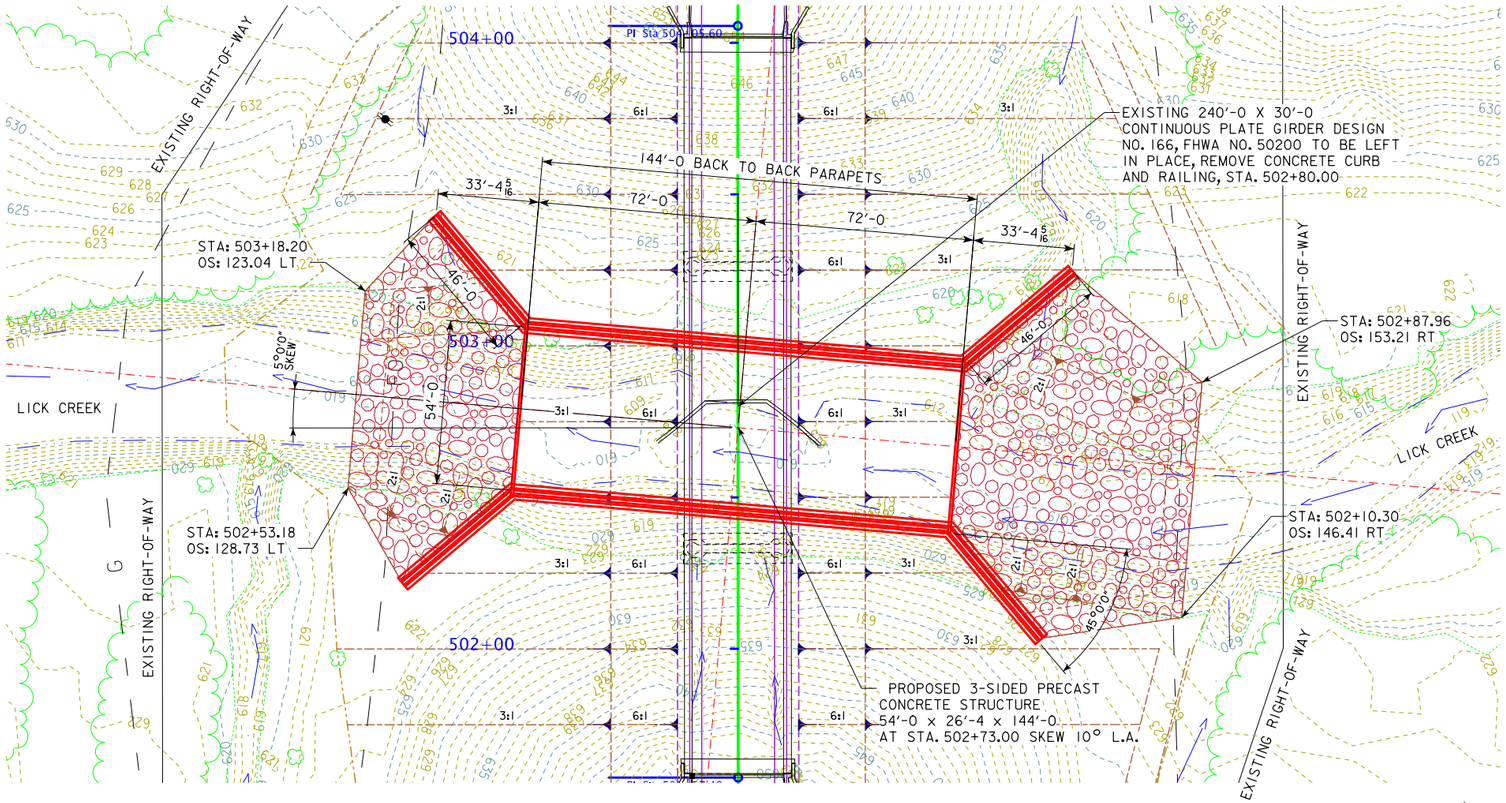
EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.



SECTION THROUGH TOE



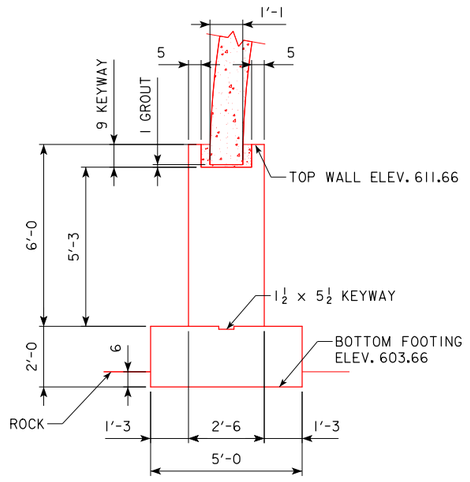
SECTION A-A



SITE PLAN

0 ENGLISH 50
SCALE IN FEET

N



FOOTING DETAIL B-B

DESIGN FOR 5° SKEW L.A.

54'-0 X 26'-4 X 144'-0, PRECAST CONCRETE ARCH CULVERT

SITUATION PLAN - SITE

STATION 502+73.00 (IA 1) JULY, 2020

VAN BUREN COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 31700 DESIGN NO. 123

DESIGN TEAM SHIVE-HATTERY INC. | VAN BUREN COUNTY | PROJECT NUMBER BRF-001-1(34)--38-89 | SHEET NUMBER V.2

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

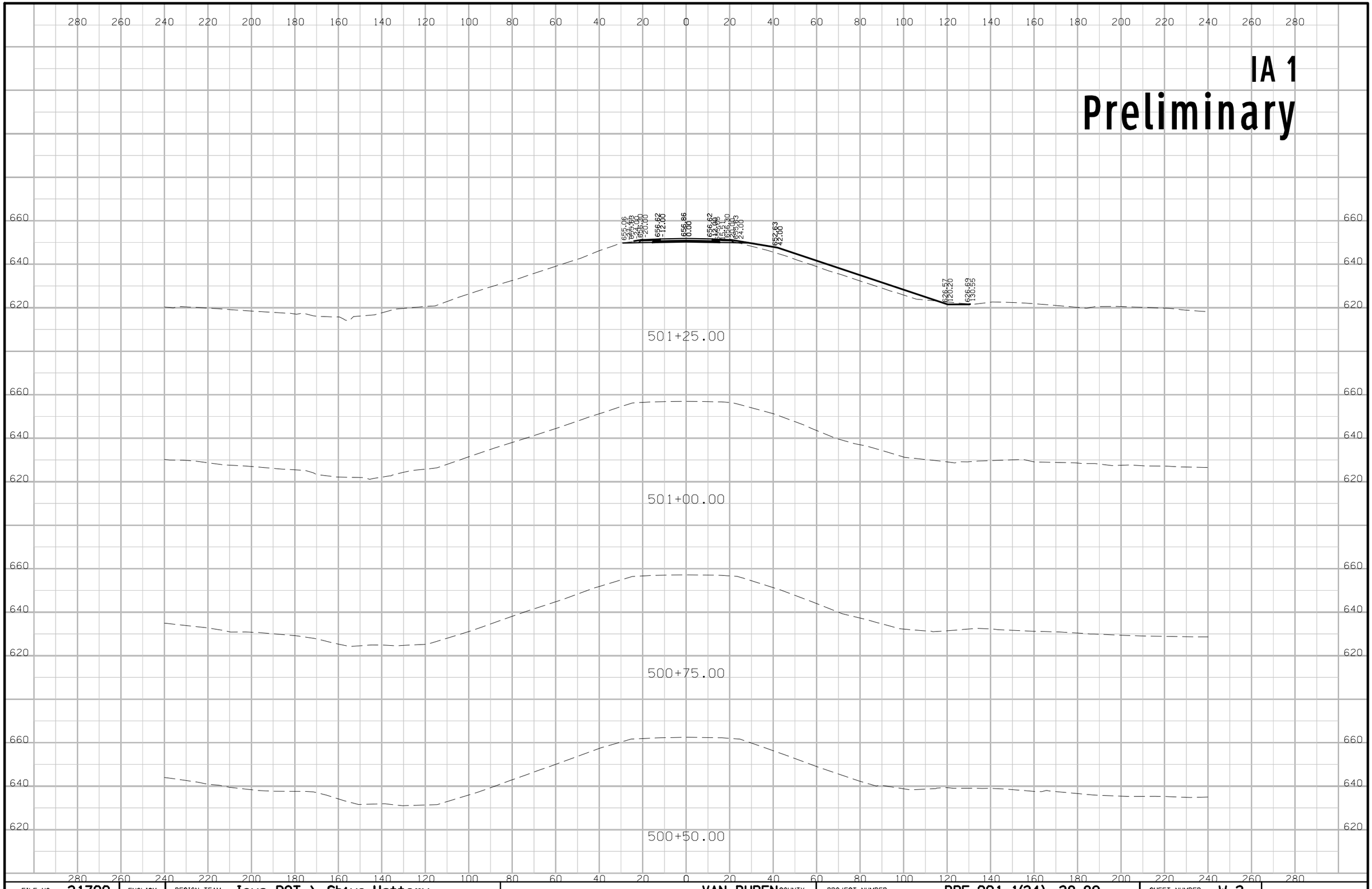
Temporary ROW — Temporary Right-of-Way Limit

CROSS SECTION LEGEND AND SYMBOL INFORMATION SHEET

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

IA 1

Preliminary



FILE NO. 31700	ENGLISH	DESIGN TEAM Iowa DOT \ Shive-Hattery	VAN BUREN COUNTY	PROJECT NUMBER BRF-001-1(34)--38-89	SHEET NUMBER W.2

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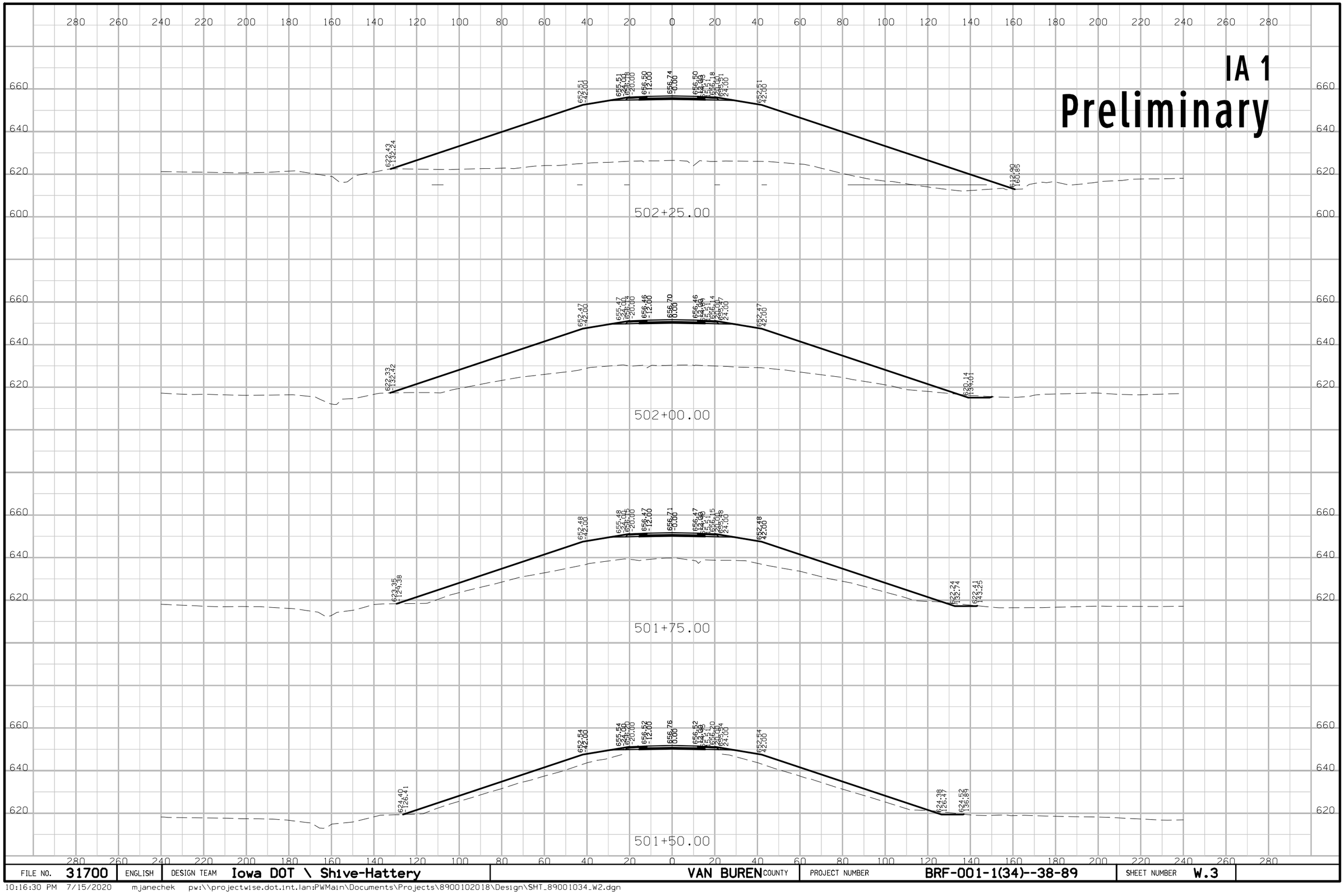
IA 1
Preliminary



FILE NO. 31700	ENGLISH	DESIGN TEAM Iowa DOT \ Shive-Hattery	VAN BUREN COUNTY	PROJECT NUMBER BRF-001-1(34)--38-89	SHEET NUMBER W.3

IA 1
Preliminary

503+25.00

503+00.00

502+75.00

502+50.00

FILE NO. 31700	ENGLISH	DESIGN TEAM Iowa DOT \ Shive-Hattery	VAN BUREN COUNTY	PROJECT NUMBER BRF-001-1(34)--38-89	SHEET NUMBER W.4

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IA 1

Preliminary

504+50.00

504+25.00

504+00.00

503+75.00

503+50.00

FILE NO. 31700	ENGLISH	DESIGN TEAM Iowa DOT \ Shive-Hattery	VAN BUREN COUNTY	PROJECT NUMBER BRF-001-1(34)--38-89	SHEET NUMBER W.5

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IA 1
Preliminary

280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280

660
640
620

504+75.00

FILE NO. 31700	ENGLISH	DESIGN TEAM Iowa DOT \ Shive-Hattery	VAN BUREN COUNTY	PROJECT NUMBER BRF-001-1(34)--38-89	SHEET NUMBER W.6

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