POCAHONTAS Co. BRIDGE REPLACEMENT - OTHER BRF-003-3(67)--38-76

LETTING DATE TBD

INDEX OF SHEETS

H Sheets

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

POCAHONTAS COUNTY

BRIDGE REPLACEMENT - OTHER

ON IA 3 OVER BIG CEDAR CREEK
6.3 MILES WEST OF IA 4

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
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

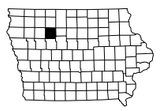
TOTAL 19

PROJECT IDENTIFICATION NUMBER
19-76-003-010
PROJECT NUMBER
BRF-003-3(67)--38-76
R.O.W. PROJECT NUMBER

MILEAGE SUMMARY

Div.	Location	Lin. Ft.	Miles
	IA Highway 3 Sta. 333+90.00 to Sta. 336+15.00	225.00	0.0426
	Total Length of Roadway	225.00	0.0426
	Total Length of Project	225.00	0.0426

For Project Location Map
Refer to Sheet No. A.2



EARTHWORK SUMMARY

Cut	500	CY
Fill +30%	1280	CY
Borrow	600	CY

DESIGN DATA RURAL

2024 AADT	1,600	V.P.D.
2044 AADT	1,800	V.P.D.
20-- DHV	--	V.P.H.
TRUCKS	36	%
Total Design ESALs	--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	X	Primary Signature Block
V.1	DALLAS R. SCHECHINGER	Hydraulic Design

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER XXX 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.

D5 PLAN – Date: 10-15-21

Signature Date XX-XX-XXXX

Printed or Typed Name

My license renewal date is December 31, 20XX

Pages or sheets covered by this seal: X
X

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER \ JEO CONSULTING GROUP	POCAHONTAS COUNTY	PROJECT NUMBER BRF-003-3(67)--38-76	SHEET NUMBER A.1

11:15:19 AM 10/14/2021 tsheets pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7600301019\Design\SHT_76003067_A01.dgn

R-34W R-33W R-32W

T-92N

T-91N

STA. 333+90.00
BEGIN CONSTRUCTION
BEGIN HMA OVERLAY

FHWA No. 40080

STA. 336+15.00
END CONSTRUCTION
END HMA OVERLAY

POP. 1789

POCAHONTAS

POCAHONTAS MUNICIPAL AIRPORT

WESTVIEW

ALLEMAN

SHERMAN

CENTER

GRANT

LIN

Big Cedar Cr.

490TH ST
500TH ST
510TH ST
530TH ST
540TH ST
550TH ST
560TH ST

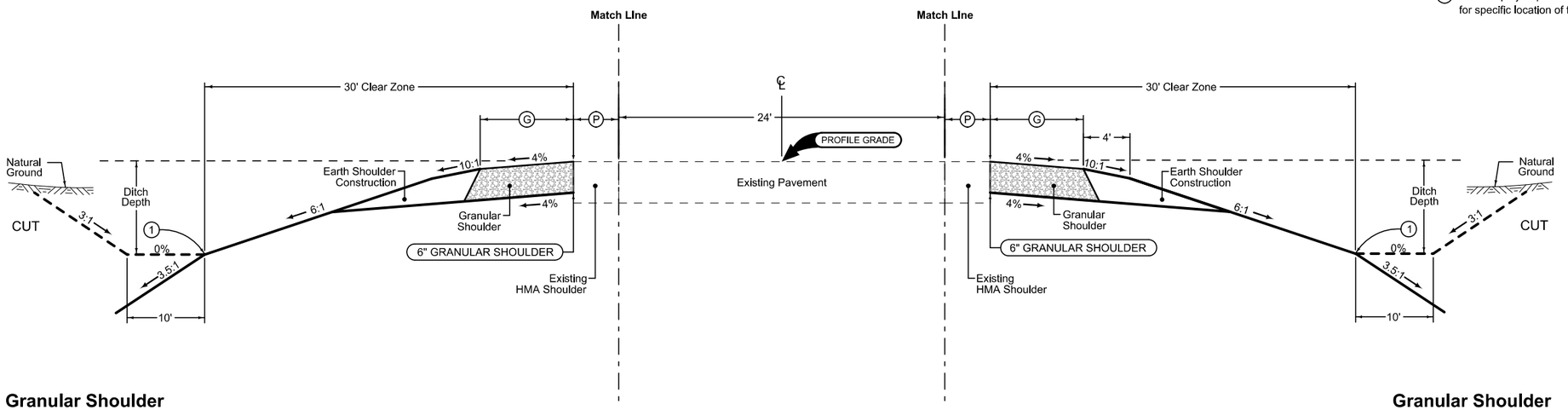
140TH AVE
150TH AVE
160TH AVE
170TH AVE
175TH AVE
180TH AVE
190TH AVE
200TH AVE
210TH AVE
225TH AVE
230TH AVE
240TH AVE

N33
N41
C29
C37
C49

NOT TO SCALE

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER \ JEO CONSULTING GROUP	POCAHONTAS COUNTY	PROJECT NUMBER BRF-003-3(67)--38-76	SHEET NUMBER A.2

11:15:20 AM 10/14/2021 tsheets pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7600301019\Design\SHT_76003067_A01.dgn



(1) Refer to project plan and cross sections for specific location of foreslope change.

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.

Granular Shoulder

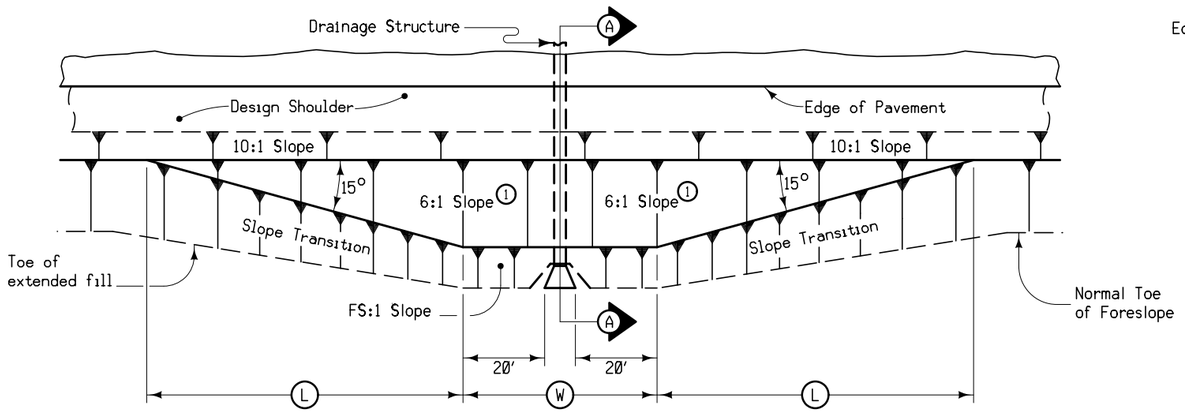
MODIFIED			
STATION TO STATION		(P) Feet	(G) Feet
333+90.00	336+15.00	2.0	6.0

Granular Shoulder

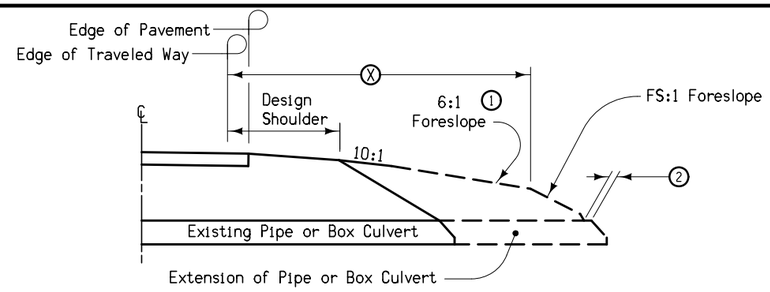
MODIFIED			
STATION TO STATION		(P) Feet	(G) Feet
333+90.00	336+15.00	2.0	6.0

Refer to Tab. 102-16 and Standard Road Plan PR-202 for HMA Runouts.
Refer to Tab. 100-24 for Pavement Quantities
Refer to Tab. 112-9 for Shoulder Quantities

TYPICAL CROSS SECTION
IOWA HIGHWAY 3



PLAN VIEW



SECTION A-A

STRUCTURE LOCATION		(W)	(L)	(X)	(FS)
STATION	SIDE	Feet	Feet	Feet	
335+03.00	RT	71.3	59.7	30	3.5:1
335+03.00	LT	71.3	59.7	30	3.5:1

4311
04-18-17

Notes:

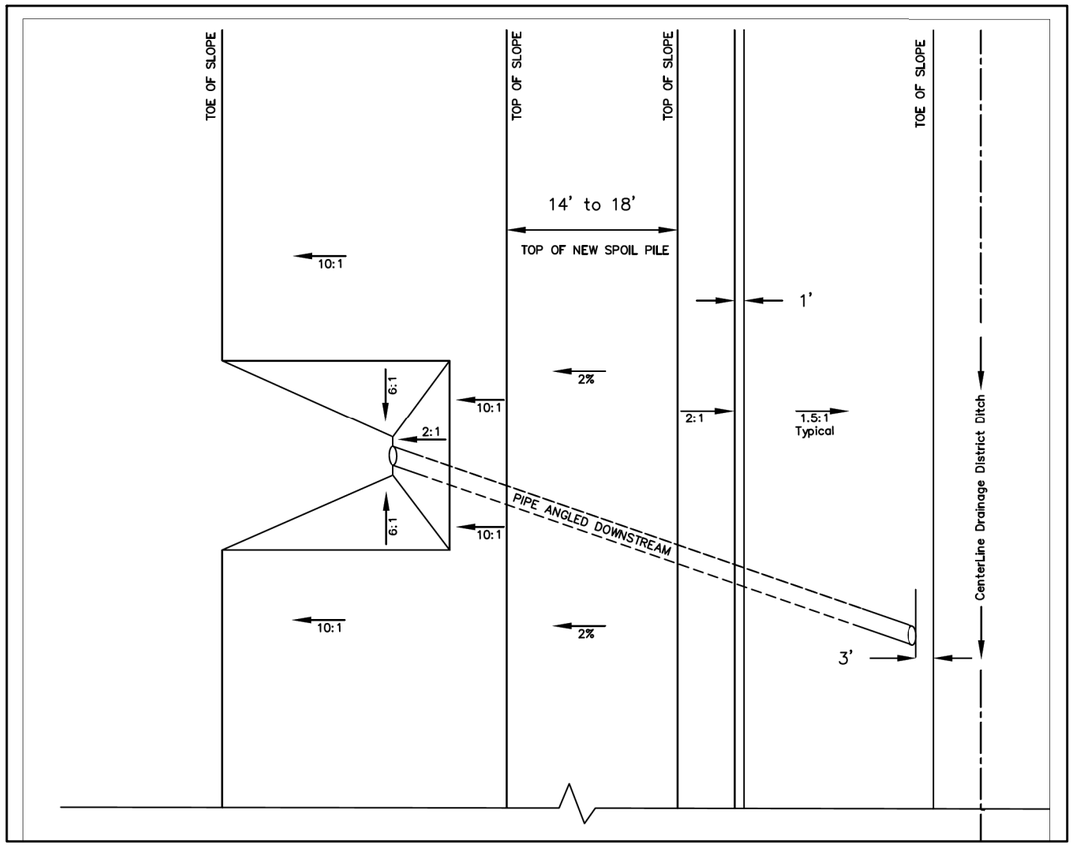
At locations where an extended or newly constructed drainage structure extends beyond the normal foreslope cover, flatten the foreslope as indicated so as to cover the structure. Minimum earth cover is 6".

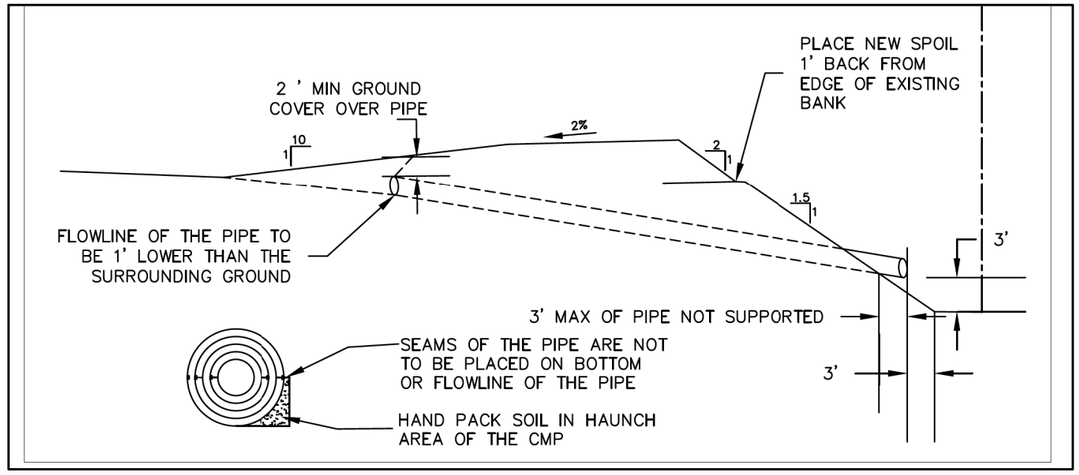
(1) Slope may be flatter than 6:1.

(2) 6" Minimum for pipe installations or to top of headwall on R.C.B.

(W) = Pipe or R.C.B. opening width plus 20 feet each side.

BARNROOF FORESLOPE AT DRAINAGE STRUCTURE

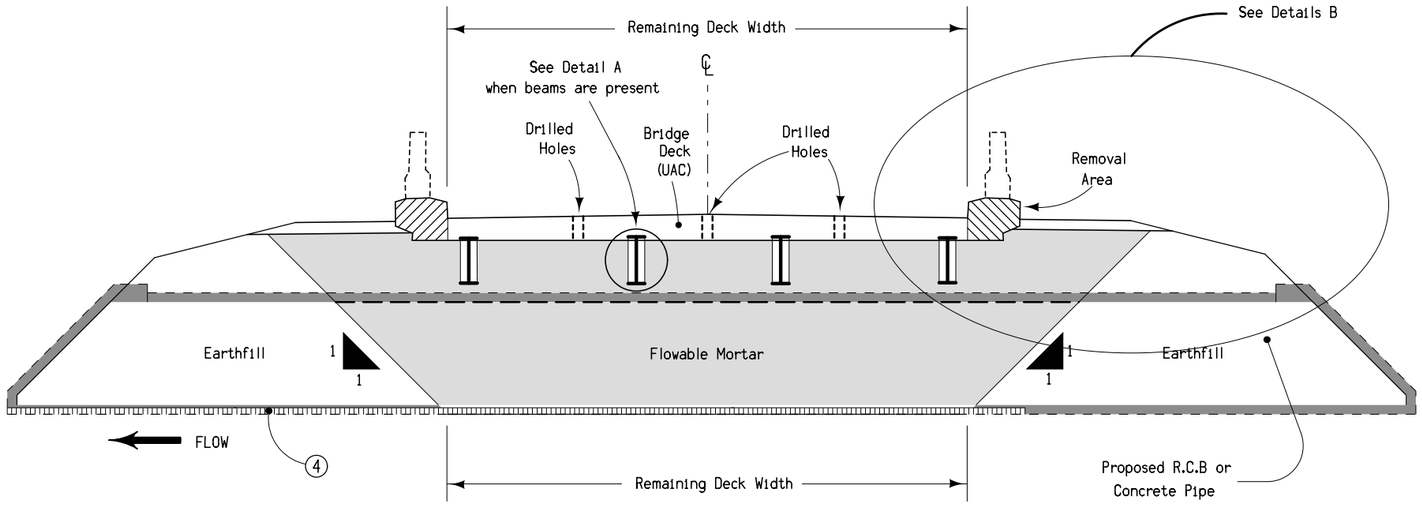




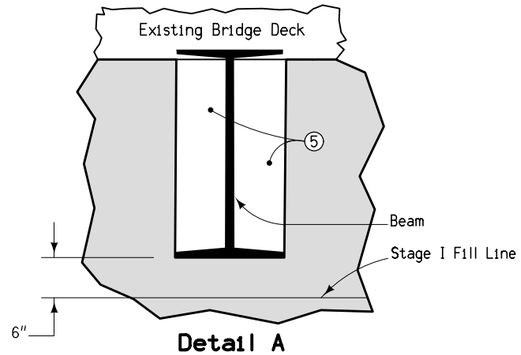
TYPICAL SURFACE DRAIN INSTALLATION

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER \ JEO CONSULTING GROUP	POCAHONTAS COUNTY	PROJECT NUMBER BRF-003-3(67)--38-76	SHEET NUMBER B.2

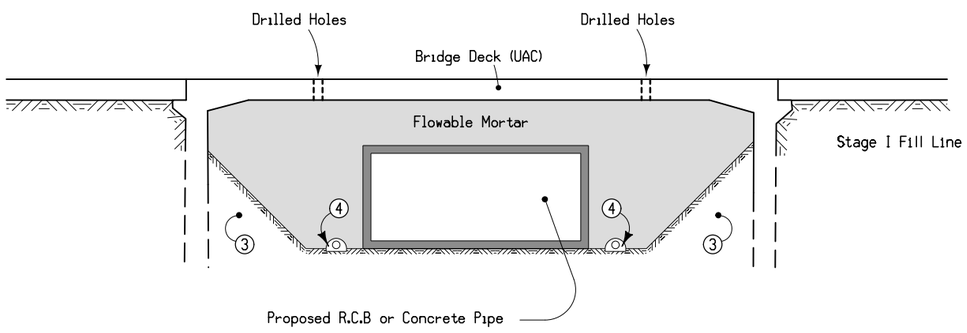
1:01:29 PM 10/14/2021 tsheets pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7600301019\Design\SHT_76003067_B01.dgn



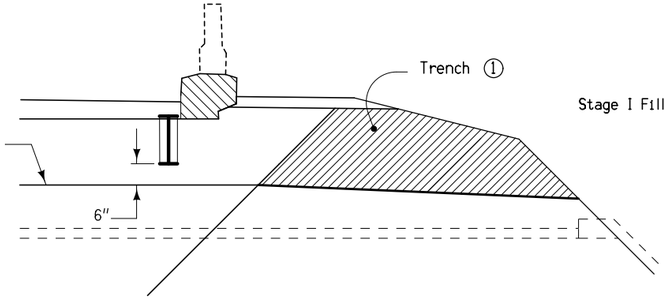
End View



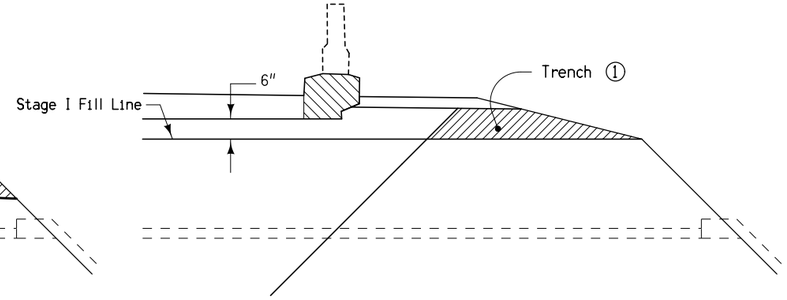
Detail A
Flange Filler Material Area
when beams are present



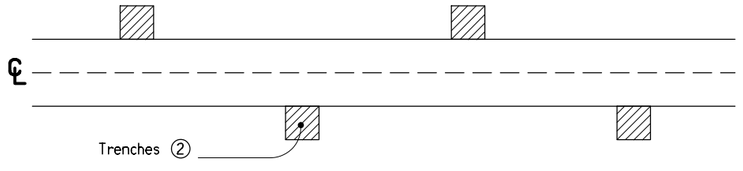
Section at Centerline



Detail B (Beam Bridge)



Detail B (Slab Bridge)



Trench Layout

① Cut trenches in the soil plug to provide drainage for the flowable mortar. Backfill the trenches with open graded crushed stone, gravel, or recycled PCC to allow water to drain. Backfill material is incidental to flowable mortar.

② Place trenches at 20′ spacing with a minimum of two trenches on each side of the roadway.

③ Existing embankment.

④ 4″ Subdrain with 4″ cover of porous backfill at flowline elevation of culvert.

⑤ Place Flange Filler Material to fill pocket area between flanges to prevent flowable mortar from building up. Flange Filler Material is incidental to flowable mortar.

FILL FOR CULVERT USED IN BRIDGE REPLACEMENTS WITH RESTRICTED HEIGHT

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.
* Not a bid item
(1) Diameter or equivalent diameter
(2) UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe
(3) Backfill according to DR-101

Drainage Area	Location	Type	Size (1)	Kind Of Pipe (2)	Length New Const.	Bedding Class	Design Cover (H)	Camber* (DR-102)	Apron No.		Apron Guard* (DR-213)	Elbow* (DR-141)	Diaphragm* (DR-501)	Tee Section* (DR-142)	"D" Section* (DR-141)	Reducer*	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121)	4" Perforated Subdrain*	Flow Line Elevations				Dimensions Lin. Ft.				Skew Ahead Degrees		Dike				Class 20	Flowable Mortar	Floodable* Backfill	Porous* Backfill	Flooded Backfill (3)	Remarks
																								Total		Extensions				Rt. / Lt.	Location Station	Top Elevation	Type						
ACRE			IN		LF		FT	FT	IN	OUT	No.	No.	No.	No.	No.	No.	Type	No.	Type	FT	Lt.	Rt.	Other	Other	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.				CY	CY	(A)	(B)	(A+B)	
																							INLET	OUTLET															
	NE Entrance	CMP	18	CMP	102	C	5.0	0.08	1	1													1250.12	1246.99										110.0					
	NW Entrance	CMP	15	CMP	110	C	6.0	0.17	1	1													1251.00	1246.99										135.0					
	SE Entrance	CMP	15	CMP	114	C	2.0	0.08	1	1													1250.00	1246.61										55.0					
	SW Entrance	CMP	18	CMP	113	C	2.0	0.08	1	1													1251.37	1247.95										55.0					

See Sheet B.2 for surface drain detail. All pipes must be 12 gauge riveted CMP, spiral pipe is not allowed.

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Earth Dam or Dike (Proposed)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Proposed Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Proposed Intake
- Existing Utility Access (Manhole)
- Proposed Utility Access (Manhole)
- Fire Hydrant
- WH Water Hydrant (Rural)
- C Cistern
- LP L.P. Gas Tank (No Footing)
- UST Underground Storage Tank
- Latrine
- Luminaire
- Traffic Signal
- Traffic Signal with Luminaire
- TP Telephone Pedestal
- TVP Television Pedestal
- Telephone Pole
- Telephone Pole (Second Company)
- Telephone Pole (Third Company)
- Telephone Pole (Fourth Company)
- Telephone Pole (Fifth Company)
- Power Pole
- Power Pole (Second Company)
- Power Pole (Third Company)
- Power Pole (Fourth Company)
- Power Pole (Fifth Company)
- Electrical Highline Tower (Metal or Concrete)
- Telephone Riser Pole
- Power Riser Pole
- Telegraph Pole
- Satellite TV Dish
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MM Mile Marker Post
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box

UTILITY LEGEND

—T1(C)— CenturyLink
Tom Sturmer
720-578-8090
Thomas.sturmer@centurylink.com

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 SCHRODER \ JEO CONSULTING GROUP	POCAHONTAS COUNTY	PROJECT NUMBER BRF-003-3(67)--38-76	SHEET NUMBER D.1

Temporary Easement
(140' Offset)

Proposed R.O.W.
(120' Offset)

Cut off paved shoulders and
add granular shoulder to
match typical roadway section.
(Typ. for all corners)

Existing R.O.W.
(Assumed 60' Offset)

Sta. 333+90.00
Begin Construction

Sta. 336+15.00
End Construction

332 333 334 335 336 337 338

+07.00 Prop. Type "C" Ent.

+92.00 Prop. Type "C" Ent.

+08.00 Prop. Type "C" Ent.

+05.00 Prop. Type "C" Ent.

℄ Roadway &
Profile Grade Line

IA Highway 3

SIGN

TILE

STA 335+03.00
INSTALL TWIN 14'x13'x84'
REINFORCED CONCRETE
BOX CULVERT

(REMOVE BARRIER RAIL)
STA 335+02.38
D.A. = 50.1 SQ. MI.
40'x30' STEEL GIRDER
BRIDGE

Proposed R.O.W.
(120' Offset)

Temporary Easement
(140' Offset)

Big Cedar Creek

NOTE:
Re-build levees to existing elevations
and slopes. Replace existing pipes through
driveways and levees.

0 20
FEET

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER \ JEO CONSULTING GROUP	POCAHONTAS COUNTY	PROJECT NUMBER BRF-003-3(67)--38-76	SHEET NUMBER D.2

11:15:38 AM 10/14/2021 tsheets pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\7600301019\Design\SHT_76003067_D2.dgn

Survey Information

POCAHONTAS COUNTY
BRFN-003-3(67)--39-76
BIG CEDAR CREEK 6.3 MI W OF IA 14
PIN 19-76-003-010
SAP-08331

Survey Personnel

Field personnel:
Dirk Janssen Survey Field Chief
Brandon Mount - Surveyor
William Riordan - Surveyor

Office personnel:
Jeremy Cswercko

Date(s) of Survey

Begin Date July 6, 2020
End Date July 8, 2020

General Information

Measurement units for this survey are US survey feet. This project involves a bridge over Big Cedar Creek 6.3 mi W of IA 14.. This is a full field survey.
The survey request was made for the purpose of bridge replacement

Vertical Control

Vertical datum for this survey was established with NAVD88 (Computed using Geoid 12B). Referencing the Iowa RTN, surveyors checked into NGS monuments with Trimble TSC3 collector using 15 second static observations. NGS PID DP4482 has a published elevation of 1258.67 ft. Survey observation of point was 1258.63. Surveyors accepted this vertical difference as tolerable for establishing control on site. NGS PID NL0924 has an approximate elevation of 1221 ft. Survey observation of point was 1221.17. This point was primarily used to confirm horizontal control but accepted vertical proximity. Benchmark was established on site using repeated 15 second observations. Elevations were transferred to additional control points and benchmark using level loop.

Horizontal Control

Horizontal control was established on 4 monuments for this project using the Iowa RTN with horizontal datum NAD83(2011) epoch 2010.00. Iowa Regional Coordinate System Zone 4 was used. Surveyors checked on NGS PID NL0924 for horizontal accuracy and were within .03' of North and East as noted on datasheet. Monuments set are considered stable and expected to hold horizontally and vertically reasonably well.

Survey Alignment Information

The horizontal alignment for this survey was provided by District 3 of the Iowa Department of Transportation.

Utility Information

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

One-call Design Information request:
Ticket # 552003310 submitted 05/04/20 at 10:01am
Ticket # 552003311 submitted 05/04/20 at 10:01am

One-call Design Information converted to Locate request:
Ticket # 552003310 submitted 05/09/20 at 3:16 pm
Ticket # 552003311 submitted 05/08/20 at 2:54 pm

Iowa One-Call Does not allow joint meets for survey related requests.

The following Companies were listed:

Company (Quality)	Symbol	Remark
Century Link	-T1(C)-	Clear Not Affected

Companies responses to One-Call requests:

5/09/20 received an email from cl irth comm@irth.com stating the described dig area of your locate request has been checked and is clear for CenturyLink local Network.

As of 5/9/20 15:16 CDT, participating facility owners have responded to Ticket Checks as follows:

District Code	Status
CenturyLink	Clear

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.
150TH AVE

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00
VERT. DATUM: NAVD88
Ia. Regional Coordinate System Zone 4

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 4

Point Name	Northing	Easting	Elevation	Feature Definition	Description
100	8672616.169	14507773.23	1257.806	CP	SET ½"x 30"REBAR W/OPC STAMPED JEO CONTROL +/- 28.3' S OF CL HWY 3, +/- 514.1' W OF W END BRIDGE DECK
101	8672658.209	14508831.07	1252.518	CP	SET ½"x 30"REBAR W/OPC STAMPED JEO CONTROL +/- 496' E OF E END BRIDGE DECK, +/- 15' N OF CL HWY 20
500	8672668.088	14508143.41	1253.742	BM	SET ½"x 48"REABR W/OPC STAMPED JEO CONTROL, +/- 147.5' W OF W END BRIDGE DECK, +/- 29.4' N OF CL HWY 3
501	8672602.951	14508626.71	1252.253	BM	SET ½"x 48"REBAR W/OPC STAMPED JEO CONTROL +/- 298.9' E OF E END BRIDGE DECK, +/- 28.4' S OF CL HWY 30

ALIGNMENT COORDINATES

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)
Point 1	IA 3	324+23.90	8672652.05	14507230.21															
Point 2	IA 3	361+98.22	8672596.56	14511004.13															

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

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

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE AND WORKING ROOM

ID

DD 41

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE AND WORKING ROOM

334+47
℄124′

335+51
℄131′

334+47
℄60′± EX. R/W

335+60
℄60′± EX. R/W

333+86
℄60′± EX. R/W

336+13
℄60′± EX. R/W

Existing R.O.W.
(Assumed 60′ Offset)

Sta. 333+90.00
Begin Construction

+07.00 PROP. TYPE "C" ENT.

+02.00 PROP. TYPE "C" ENT.

Sta. 336+15.00
End Construction

332 333 334 335 336 337 338

IA Highway 3

℄ Roadway & Profile Grade Line

+08.00 PROP. TYPE "C" ENT.

+05.00 PROP. TYPE "C" ENT.

Existing R.O.W.
(Assumed 60′ Offset)

333+85
℄60′± EX. R/W

336+26
℄60′ ± EX. R/W

335+57
℄60′± EX. R/W

334+52
℄60′± EX. R/W

334+58
℄122′

335+46
℄124′

Big Cedar Creek

0 20 FEET

1

RACHEL E. WHITFIELD
IRREVOCABLE TRUST

2

WT & RW SPAHR FAMILY
LIMITED PARTNERSHIP

ID

DD 41

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE AND WORKING ROOM

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE AND WORKING ROOM

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: LARSON/HINRICHSEN
ROW #: NHSN-003-3(68)--2R-76
Plan Date: 1/14/2022
Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER \ JEO CONSULTING GROUP	POCAHONTAS COUNTY	PROJECT NUMBER BRF-003-3(67)--38-76	SHEET NUMBER H.1

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108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic control on this project shall be in accordance with the standard road plans shown in Tabulation 105-4 and the specific layouts show in the plans. For additional complementary information, refer to Part 6 fo the Manual of Uniform Trafic Control Devices (MUTCD) and the current standard specifications and suplemental specifications.

The Contractor shall coordinate traffic control with projects listed in Tabulations 111-01 and other projects in the area.

The Contractor shall notify the Resident Construction Engineer and Pocahontas County two (2) weeks prior to temporary road closures and changes in traffic patterns during construction.

The Contractor shall be responsible for furnishing, installing, maintaining, and removing the signage for the temporary detours.

The Contractor shall remove existing signs and posts withing the project limits, as required for construction. The Contractor shall provide Iowa DOT and Pocahontas County two (2) weeks advance notice prior to removal of existing signs.

The Contractor shall maintain clean pavement in and out of the work area at all times.

All signs to be in place longer than three days must be mounted.

The Contractor will be responsible for securing a safe storage area for equipment and materials to be used on the project.

108-26A
08-01-08

STAGING NOTES

General Notes:
1. Access to properties shall be maintained at all times.
2. The Contractor shall coordinate traffic control with project listed in Tabulation 111-01 and other projects in the area.

Stage 1 - Traffic Control
- Install temporary traffic control as required for construction
- Traffic control shall be in accordance with Standard Road Plan TC-1 and TC-202, as needed.

Stage 1 - Construction
- Install temporary erosion control.
- Install new box culvert under bridge.
- Remove guardrail from bridge.

Stage 2 - Traffic Control
- Install temporary traffic control as required for construction.
- Traffic control shall be in accordance with Standard Road Plan TC-216.

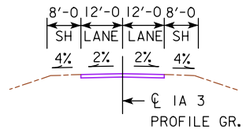
Stage 2 - Construction
- Cut and remove edge of bridge deck and barrier rail.
- Cut existing HMA shoulders to match roadway typical. Remove excess HMA and replace with granular shoulders to match roadway typical.
- Place flowable mortar.

Stage 3 - Traffic Control
- Install temporary traffic control as required for construction.
- Traffic control shall be in accordance with Standard Road Plan TC-1 and TC-202, as needed.

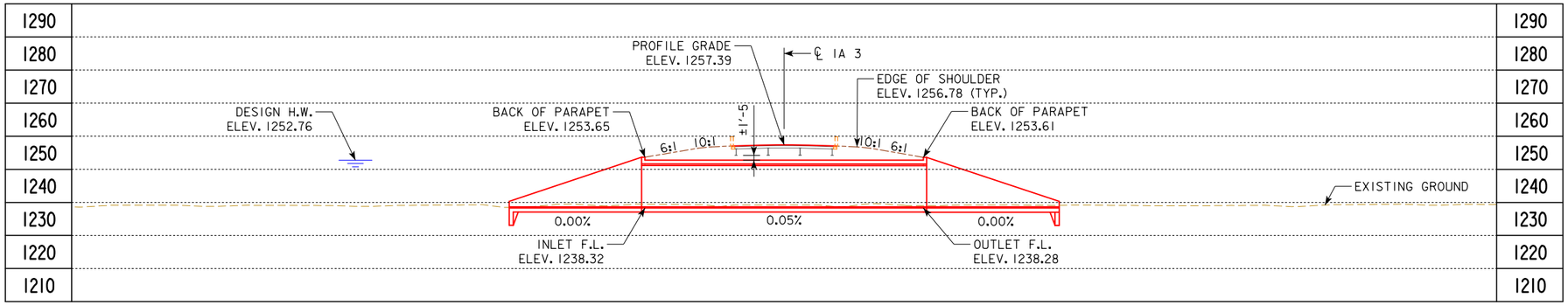
Stage 3 - Construction
- Complete final grading.
- Install final erosion control.

Stage 4 - Traffic Control
- Remove remaining traffic control.

BENCH MARK NO. 501: SET REBAR STAMPED JEO CONTROL ±298.9' E. OF E. END BRIDGE DECK, ±28.4' S. OF ℄ HWY 30, ELEV. 1253.74



TYPICAL APPROACH SECTION



PRELIM PLAN NOTES:
THIS STRUCTURE WILL REQUIRE A NON-STANDARD DESIGN.

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.

Dallas R. Schechinger 20298 LICENSED PROFESSIONAL ENGINEER IOWA

Signature 10-15-21 Date

Dallas R. Schechinger
Printed or Typed Name

My license renewal date is December 31, 2022

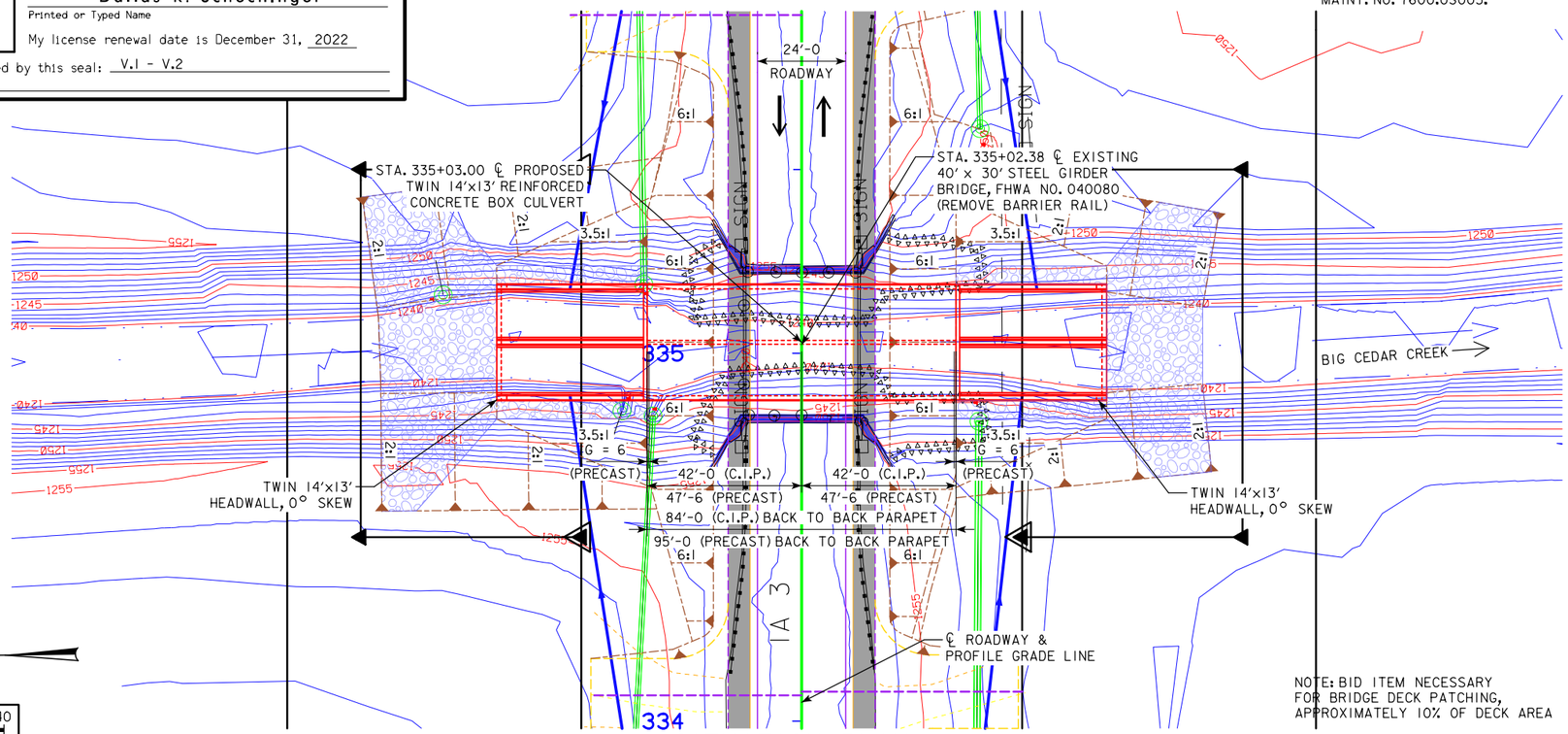
Pages or sheets covered by this seal: V.1 - V.2

LONGITUDINAL SECTION ALONG ℄ CULVERT

ANTICIPATED SETTLEMENT = ?.?"

NOTE: FLOW LINE OF CULVERT HAS BEEN SET 1.3' BELOW D.D. 41 DESIGN FLOWLINE AND 0.3' BELOW EXISTING STREAMBED.

NOTE:
THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING 40'x30' STEEL GIRDER BRIDGE, POCAHONTAS DESIGN NO. 147, FHWA NO. 040080, MAINT. NO. 7600.0S003.



SITUATION PLAN

N

0 ENGLISH 40
SCALE IN FEET

NOTE: BID ITEM NECESSARY FOR BRIDGE DECK PATCHING, APPROXIMATELY 10% OF DECK AREA

PROFILE GRADE

IA 3 (U.A.C.)

EXISTING STRUCTURE

40'x30' STEEL GIRDER BRIDGE
(REMOVE BARRIER RAIL)

UTILITIES LEGEND:

TI - TELEPHONE

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

HYDRAULIC DATA

DRAINAGE AREA = 50.1 SQ. MI.
Q_{50} = 2,380 CFS
HW ELEV. = 1252.76
STREAM SLOPE = 2.64 FT./MI.

LOCATION

IA 3
BIG CEDAR CREEK (D.D. 41)
T-91N R-34W
SECTION 1
DOVER TOWNSHIP
POCAHONTAS COUNTY
FHWA NO. 040081
BRIDGE MAINT. NO. 7600.0S003
LATITUDE 42.732621°
LONGITUDE -94.802409°

TRAFFIC ESTIMATE

2024 AADT	1,600	V.P.D.
2044 AADT	1,800	V.P.D.
2044 DHV	-	V.P.H.
TRUCKS	36	%
TOTAL DESIGN ESALs	-	

DESIGN FOR 0° SKEW

TWIN 14'x13'x84' REINFORCED CONCRETE BOX CULVERT

SITUATION PLAN

STA. 335+03.00 (IA3) SEPTEMBER 2021

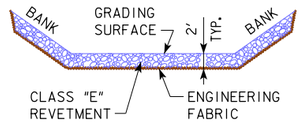
POCAHONTAS COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. 1 OF 2 FILE NO. 32089 DESIGN NO. 124

DESIGN TEAM	SCHRODER \ JEO CONSULTING GROUP, INC.	POCAHONTAS COUNTY	PROJECT NUMBER BRF-003-3(67)--38-76	SHEET NUMBER V.1

BENCH MARK NO. 501: SET REBAR STAMPED JEO CONTROL ±298.9′ E. OF E. END BRIDGE DECK, ±28.4′ S. OF ℄ HWY 30, ELEV. 1253.74



TYPICAL CHANNEL PROTECTION

ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS

LOCATION	REVETMENT CL. "E" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	335	310	210
OUTLET	260	245	165
TOTALS	595	555	375

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE. QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.

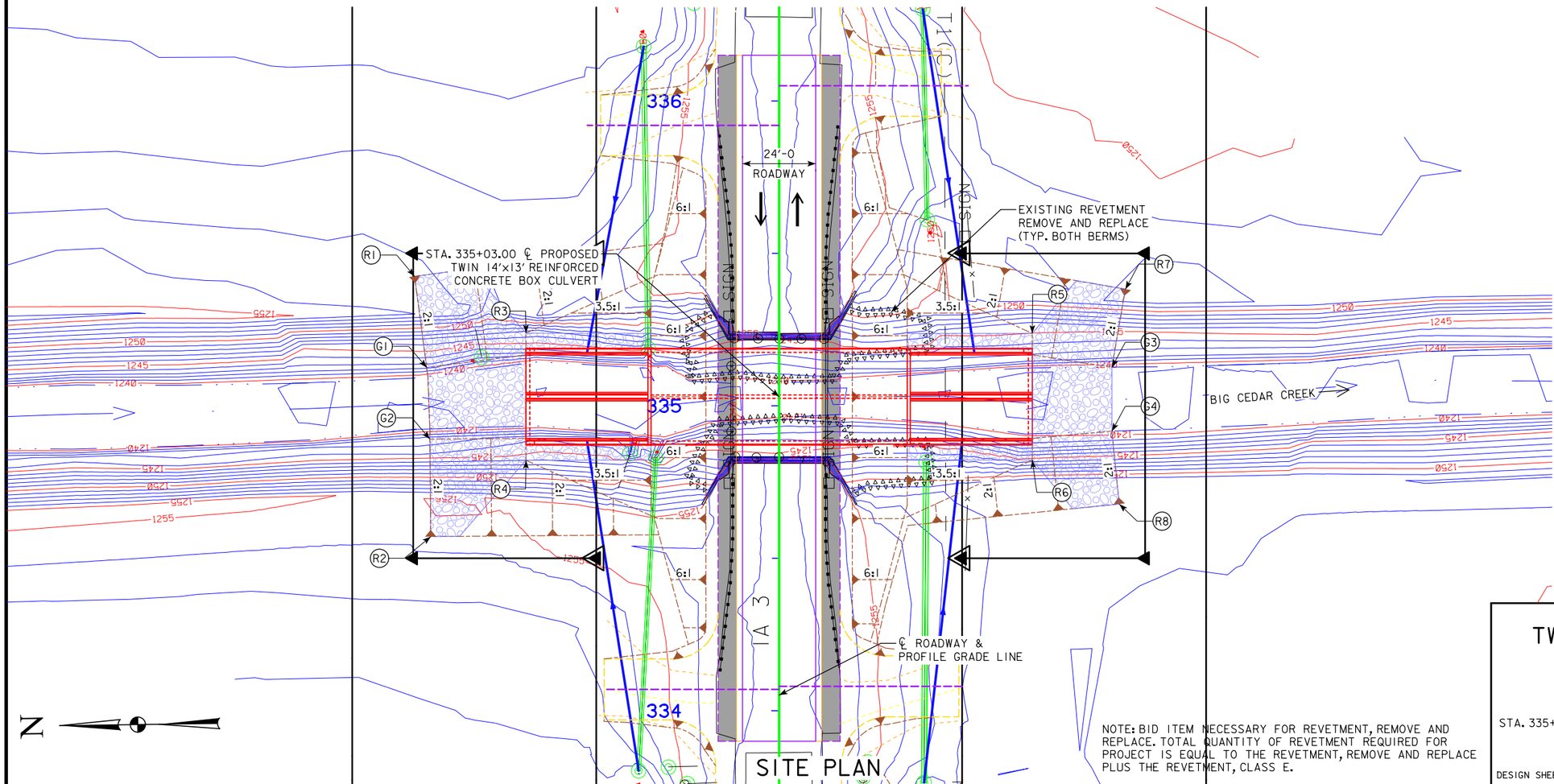
ESTIMATED 160 CY OF REVETMENT AVAILABLE ON-SITE TO BE REMOVED AND REPLACED. THE TOTAL REVETMENT QUANTITY IN THE TABLE REFLECTS THE ESTIMATED REVETMENT, REMOVE AND REPLACE QUANTITY PLUS THE REVETMENT, CLASS E QUANTITY.

REVETMENT LAYOUT:

- (R1) STA. 335+42.27, 119.5′ LT.
- (R2) STA. 334+57.10, 114.3′ LT.
- (R3) STA. 335+23.88, 83.0′ LT.
- (R4) STA. 334+82.13, 83.0′ LT.
- (R5) STA. 335+23.75, 83.0′ RT.
- (R6) STA. 334+82.25, 83.0′ RT.
- (R7) STA. 335+38.27, 113.6′ RT.
- (R8) STA. 334+67.81, 111.6′ RT.

GRADING CONTROL:

- (G1) STA. 335+12.54, 115.6′ LT., STREAMBED, ELEV. 1,242.1
- (G2) STA. 334+89.06, 114.5′ LT., STREAMBED, ELEV. 1,242.3
- (G3) STA. 335+12.65, 109.1′ RT., STREAMBED, ELEV. 1,239.1
- (G4) STA. 334+91.69, 109.1′ RT., STREAMBED, ELEV. 1,239.3



NOTE: BID ITEM NECESSARY FOR REVETMENT, REMOVE AND REPLACE. TOTAL QUANTITY OF REVETMENT REQUIRED FOR PROJECT IS EQUAL TO THE REVETMENT, REMOVE AND REPLACE PLUS THE REVETMENT, CLASS E.

DESIGN FOR 0° SKEW

TWIN 14′x13′x84′ REINFORCED CONCRETE BOX CULVERT

SITUATION PLAN - SITE

STA. 335+03.00 (1A3) SEPTEMBER 2021

POCAHONTAS COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

DESIGN SHEET NO. 2 OF 2 FILE NO. 32089 DESIGN NO. 124

DESIGN TEAM SCHRODER \ JEO CONSULTING GROUP, INC. | POCAHONTAS COUNTY | PROJECT NUMBER BRF-003-3(67)--38-76 | 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

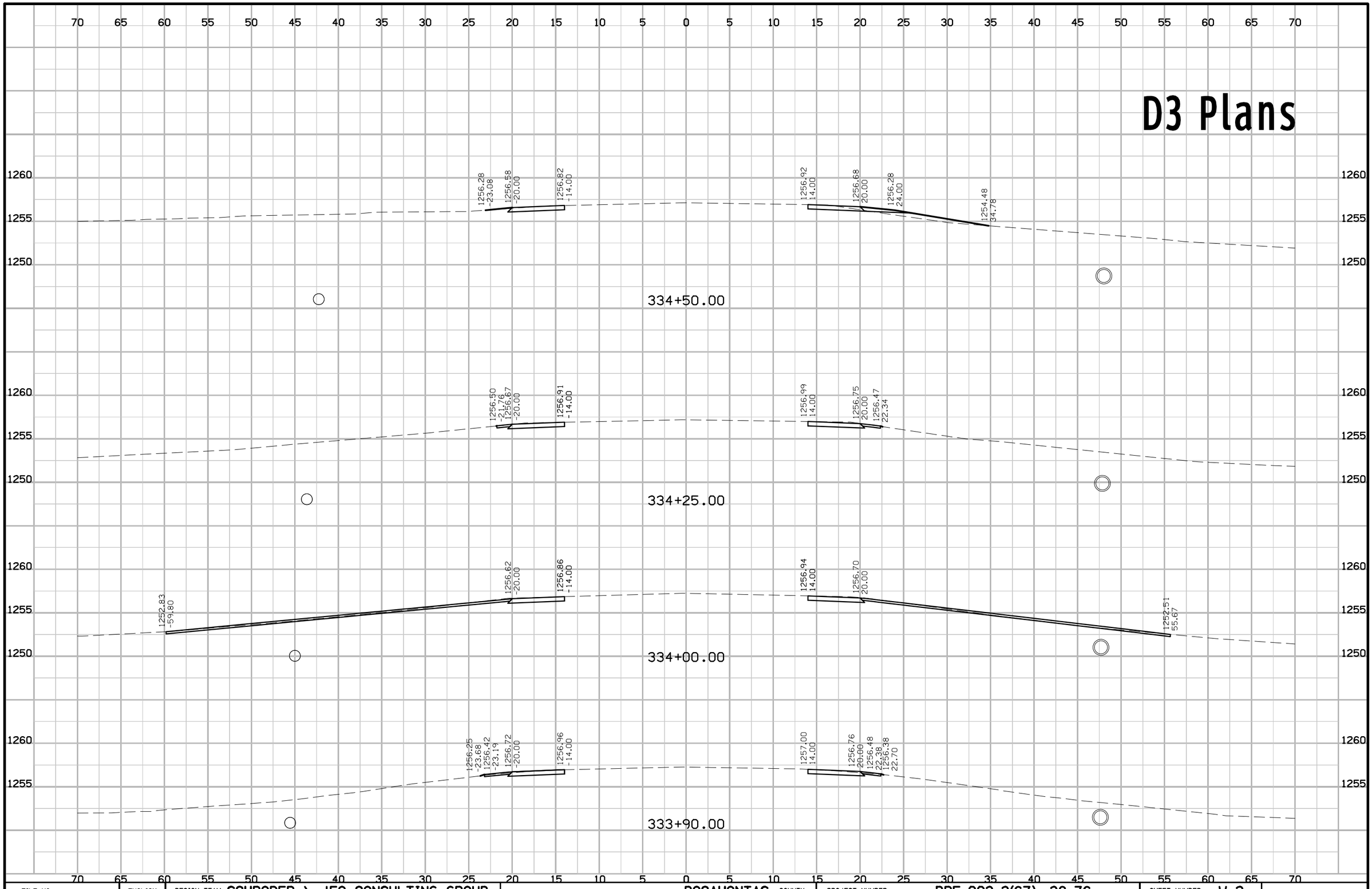
Temporary ROW — Temporary Right-of-Way Limit

CROSS SECTION LEGEND AND SYMBOL INFORMATION SHEET

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

FILE NO.	ENGLISH	DESIGN TEAM **SCHRODER \ JEO CONSULTING GROUP**	**POCAHONTAS** COUNTY	PROJECT NUMBER **BRF-003-3(67)--38-76**	SHEET NUMBER **W.1**

D3 Plans



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER \ JEO CONSULTING GROUP	POCAHONTAS COUNTY	PROJECT NUMBER BRF-003-3(67)--38-76	SHEET NUMBER W.2

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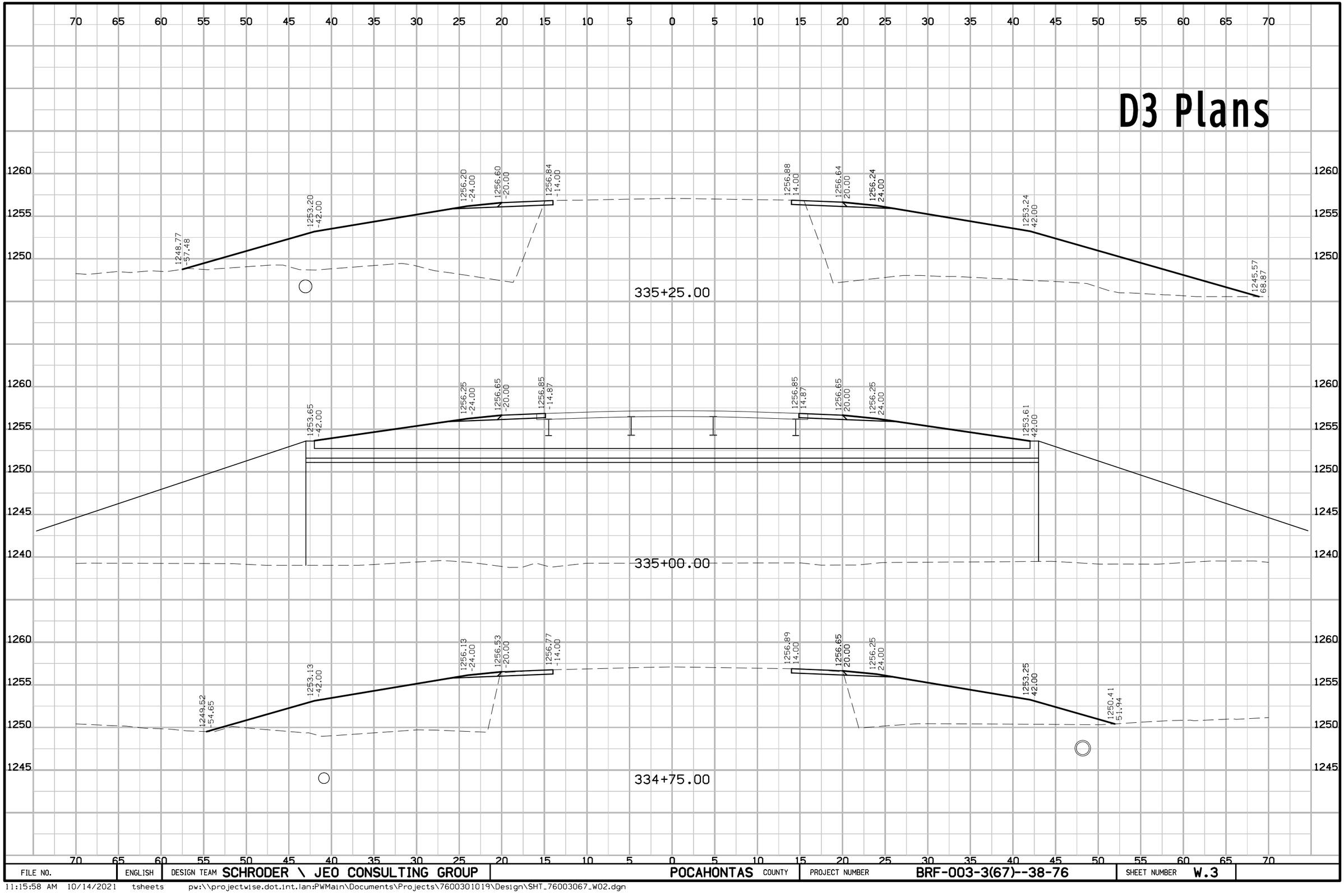
D3 Plans



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER \ JEO CONSULTING GROUP	POCAHONTAS COUNTY	PROJECT NUMBER BRF-003-3(67)--38-76	SHEET NUMBER W.3

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D3 Plans

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

1255
1250

336+15.00

1260
1255
1250

125.72
-57.67
1256.63
-20.00
1256.87
-14.00
1256.79
14.00
1256.55
20.00
1253.25
43.90

336+00.00

1260
1255
1250

1256.01
-24.94
1256.16
-24.00
1256.56
-20.00
1256.80
-14.00
1256.75
14.00
1256.51
20.00
1256.10
24.10

335+75.00

1260
1255
1250

1256.29
-23.98
1256.60
-20.00
1256.84
-14.00
1256.81
14.00
1256.57
20.00
1256.17
24.00
1253.68
38.95
1250.04
51.68

335+50.00

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER \ JEO CONSULTING GROUP	POCAHONTAS COUNTY	PROJECT NUMBER BRF-003-3(67)--38-76	SHEET NUMBER W.4

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