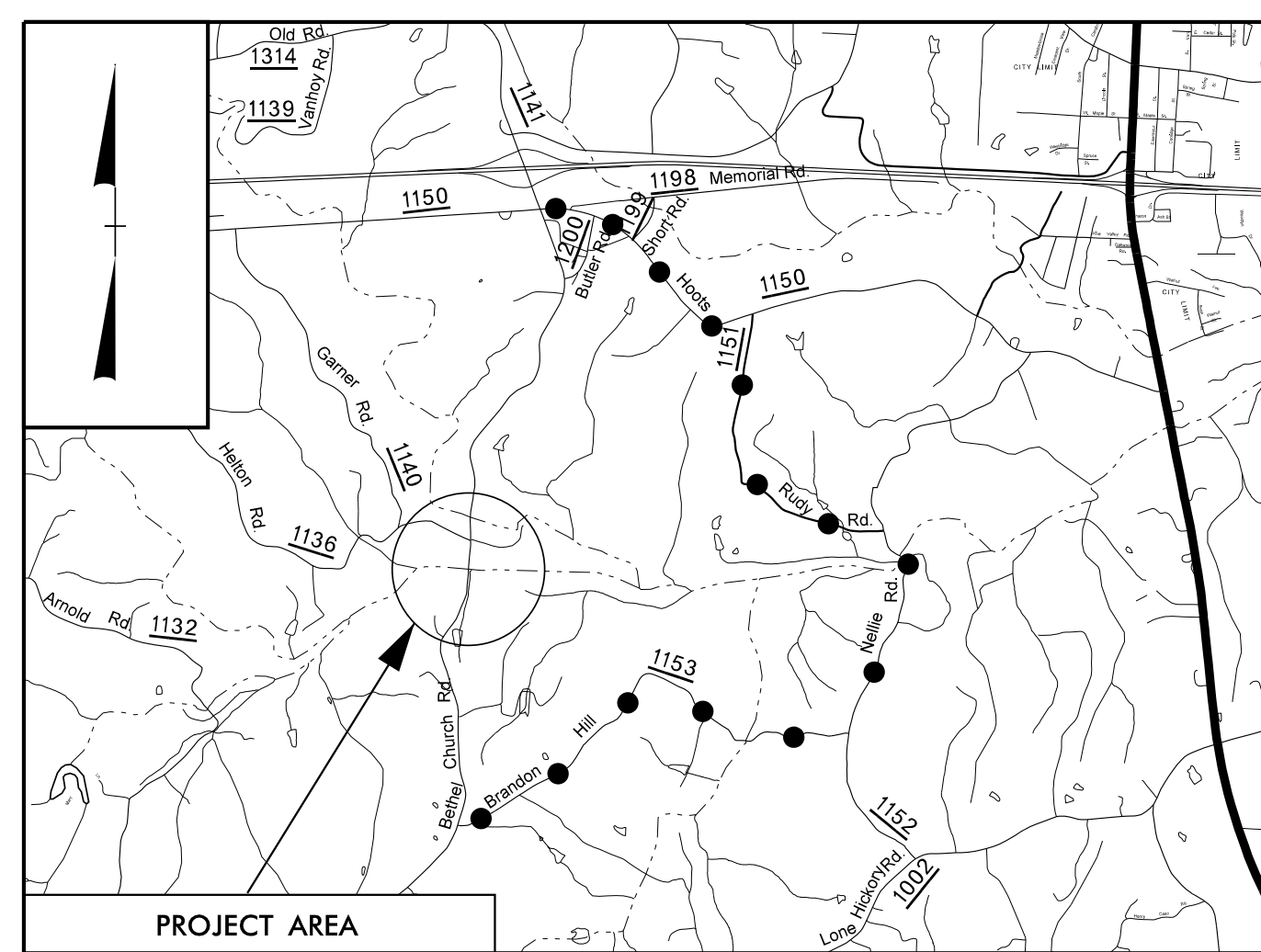


See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols



VICINITY MAP (N.T.S)



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

YADKIN COUNTY

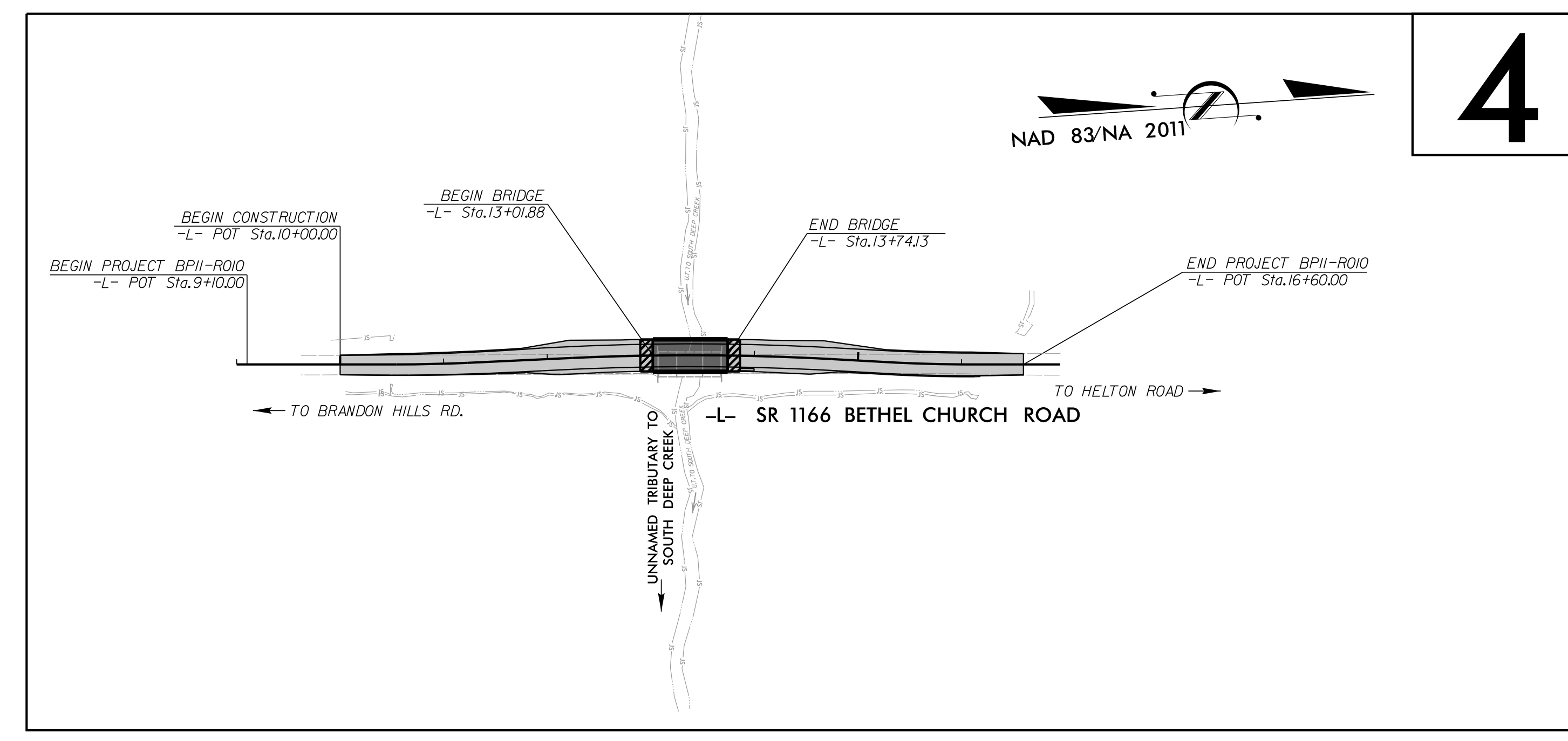
**LOCATION: BRIDGE NO. 980016 ON SR 1166 (BETHEL CHURCH ROAD)
OVER U.T. TO SOUTH DEEP CREEK**

TYPE OF WORK: GRADING, PAVING, DRAINAGE, & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP11-R010	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP11.R010.1	N/A	PE	
BP11.R010.2	N/A	RW & UTILITIES	
BP11.R010.3	N/A	CONST.	

PROJECT: BP11-R010

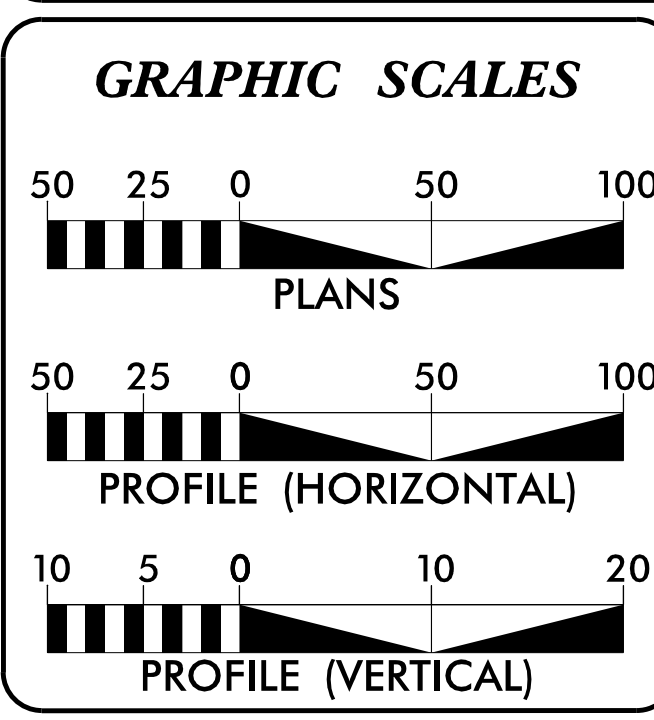
CONTRACT: DK00402



4

Design exception on this project for vertical curve design speed.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2024 =	463
ADT 2044 =	673
D =	50 %
T =	6 % *
V =	60 MPH
* TTST =	3% DUAL 3 %
FUNC CLASS =	
LOCAL	
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY PROJECT BP11-R010 =	0.128 MILES
LENGTH BRIDGE PROJECT BP11-R010 =	0.014 MILES
TOTAL LENGTH OF PROJECT BP11-R010 =	0.142 MILES

Prepared in the Office of:
JOHNSON, MIRMIRAN, AND THOMPSON INC.
4700 Falls of Neuse Road, Suite 100, Raleigh, NC 27609
License No: C-3097
FOR THE NORTH CAROLINA DIVISION OF HIGHWAYS
2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 29, 2023

LETTING DATE:
OCTOBER 17, 2024

MATT FOSTER, PE
PROJECT ENGINEER

JOSHUA ROEMER, PE
PROJECT DESIGN ENGINEER

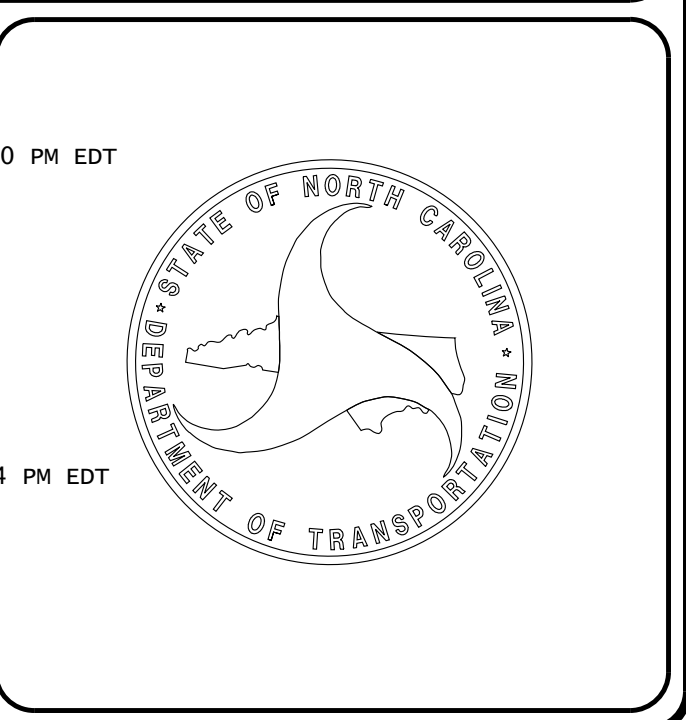
ROB N. WEISZ, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

DocuSigned by:
Bradley Kidner
SIGNATURE: AD0804E220C3415 P.E.

ROADWAY DESIGN ENGINEER

DocuSigned by:
Joshua R. Roemer
SIGNATURE: 2FAB201C95654C0 P.E.



8/17/99

INDEX OF SHEETS

ROADWAY STANDARD DRAWINGS

SHEET NUMBER

SHEET

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

1

TITLE SHEET

1A

INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS

1B

CONVENTIONAL SYMBOLS

2A-1 THRU 2A-2

PAVEMENT SCHEDULE AND TYPICAL SECTIONS

3B-1

SHOULDER BERM GUTTER, PAVEMENT REMOVAL, EARTHWORK AND GUARDRAIL SUMMARIES

3D-1

DRAINAGE SUMMARY SHEET

3G-1

GEOTECH SUMMARY SHEET

4

PLAN AND PROFILE SHEET

TMP-1 THRU TMP-6

TRANSPORTATION MANAGEMENT PLANS

PMP-1

PAVEMENT MARKING PLANS

EC-1 THRU EC-5

EROSION CONTROL PLANS

UO-1 THRU UO-4

UTILITIES BY OTHERS PLANS

X-1

CROSS-SECTION SUMMARY SHEET

X-2 THRU X-6

CROSS-SECTIONS

S-1 THRU S-27

STRUCTURE PLANS

STD. NO.

TITLE

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
225.04	METHOD OF OBTAINING SUPERELEVATION - TWO LANE PAVEMENT
240.01	GUIDE FOR BERM DITCH CONSTRUCTION
DIVISION 3 - PIPE CULVERTS	
300.01	METHOD OF PIPE INSTALLATION
DIVISION 4 - MAJOR STRUCTURES	
423.01	BRIDGE APPROACH FILLS - TYPE 1 APPROACH FILL FOR BRIDGE ABUTMENT
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	METHOD OF SHOULDER CONSTRUCTION - HIGH SIDE OF SUPERELEVATED CURVE-METHOD 1
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	PAVEMENT REPAIRS
DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS	
700.05	TYING PROPOSED PAVEMENT TO EXISTING PAVEMENT
DIVISION 8 - INCIDENTALS	
815.02	SUBSURFACE DRAIN
838.01	CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS - 15" THRU 48" PIPE 90 SKEW
838.11	BRICK ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS - 15" THRU 48" PIPE 90 SKEW
840.24	FRAMES AND NARROW SLOT SAG GRATES
840.35	TRAFFIC BEARING GRATED DROP INLET - FOR CAST IRON DOUBLE FRAME AND GRATES
840.71	CONCRETE AND BRICK PIPE PLUG
862.01	GUARDRAIL PLACEMENT
862.02	GUARDRAIL INSTALLATION
862.03	STRUCTURE ANCHOR UNITS
876.01	RIP RAP IN CHANNELS AND DITCHES
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS

GENERAL NOTES:

EFFECTIVE: 01-16-2024

REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

BERM DITCHES:

BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE ENERGY UNITED EMC.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

PROJECT REFERENCE NO. <i>BP11-RO10</i>	SHEET NO. <i>1A</i>
ROADWAY DESIGN ENGINEER	
DocuSigned by: <i>Joshua A. Roemer</i>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
<i>Johnson, Mirmiran, & Thompson Inc.</i> 4700 Falls of Neuse Rd, Suite 100, Raleigh, NC, 27609 License No: C-3097	

Note: Not to Scale

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin (EIP)	○
Computed Property Corner	×
Existing Concrete Monument (ECM)	◻
Parcel / Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	-o-o-o-
Proposed Chain Link Fence	-□-□-□-
Proposed Barbed Wire Fence	-◇-◇-◇-
Existing Wetland Boundary	-WLB-----
Proposed Wetland Boundary	-WLB-----
Existing Endangered Animal Boundary	-EAB-----
Existing Endangered Plant Boundary	-EPB-----
Existing Historic Property Boundary	-HPB-----
Known Contamination Area: Soil	-SC-S-SC-S-
Potential Contamination Area: Soil	-SC-S-SC-S-
Known Contamination Area: Water	-SC-W-SC-W-
Potential Contamination Area: Water	-SC-W-SC-W-
Contaminated Site: Known or Potential	☠ ?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○
Small Mine	⋈
Foundation	▭
Area Outline	▭
Cemetery	†
Building	▭
School	▭
Church	▭
Dam	▭

HYDROLOGY:

Stream or Body of Water	~~~~~
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	JS
Buffer Zone 1	BZ 1
Buffer Zone 2	BZ 2
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	⋈
Proposed Lateral, Tail, Head Ditch	▭
False Sump	▭

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	▭
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	●
Secondary Horiz and Vert Control Point	◆
Vertical Benchmark	⊠
Existing Right of Way Monument	△
Proposed Right of Way Monument (Rebar and Cap)	▲
Proposed Right of Way Monument (Concrete)	⊕
Existing Permanent Easement Monument	◇
Proposed Permanent Easement Monument (Rebar and Cap)	◆
Existing C/A Monument	△
Proposed C/A Monument (Rebar and Cap)	▲
Proposed C/A Monument (Concrete)	⊕
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Existing Control of Access Line	-----
Proposed Control of Access Line	-----
Proposed ROW and CA Line	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage/Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----
Single Tree	○
Single Shrub	○
Hedge	-----

VEGETATION:

Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	-----
Storm Sewer	-----

UTILITIES:

* SUE - Subsurface Utility Engineering LOS - Level of Service - A,B,C or D (Accuracy)	
POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	⊕
H-Frame Pole	●
U/G Power Line Test Hole (SUE - LOS A)*	⊕
U/G Power Line (SUE - LOS B)*	-----
U/G Power Line (SUE - LOS C)*	-----
U/G Power Line (SUE - LOS D)*	-----
TELEPHONE:	
Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	⊕
U/G Telephone Test Hole (SUE - LOS A)*	⊕
U/G Telephone Cable (SUE - LOS B)*	-----
U/G Telephone Cable (SUE - LOS C)*	-----
U/G Telephone Cable (SUE - LOS D)*	-----
U/G Telephone Conduit (SUE - LOS B)*	-----
U/G Telephone Conduit (SUE - LOS C)*	-----
U/G Telephone Conduit (SUE - LOS D)*	-----
U/G Fiber Optics Cable (SUE - LOS B)*	-----
U/G Fiber Optics Cable (SUE - LOS C)*	-----
U/G Fiber Optics Cable (SUE - LOS D)*	-----

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line Test Hole (SUE - LOS A)*	⊕
U/G Water Line (SUE - LOS B)*	-----
U/G Water Line (SUE - LOS C)*	-----
U/G Water Line (SUE - LOS D)*	-----
Above Ground Water Line	-----

TV:

TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	⊕
U/G TV Test Hole (SUE - LOS A)*	⊕
U/G TV Cable (SUE - LOS B)*	-----
U/G TV Cable (SUE - LOS C)*	-----
U/G TV Cable (SUE - LOS D)*	-----
U/G Fiber Optic Cable (SUE - LOS B)*	-----
U/G Fiber Optic Cable (SUE - LOS C)*	-----
U/G Fiber Optic Cable (SUE - LOS D)*	-----

GAS:

Gas Valve	◇
Gas Meter	◇
U/G Gas Line Test Hole (SUE - LOS A)*	⊕
U/G Gas Line (SUE - LOS B)*	-----
U/G Gas Line (SUE - LOS C)*	-----
U/G Gas Line (SUE - LOS D)*	-----
Above Ground Gas Line	-----

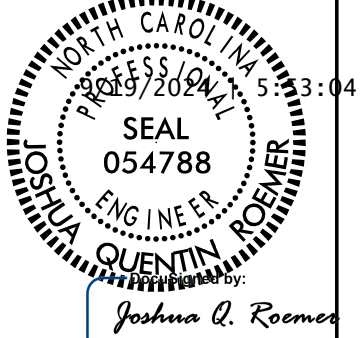
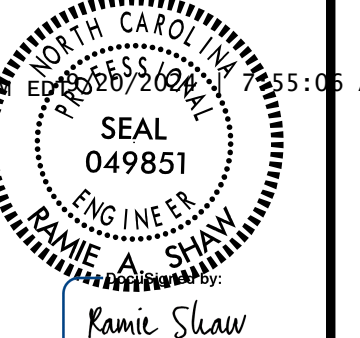

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
SS Force Main Line Test Hole (SUE - LOS A)*	⊕
SS Force Main Line (SUE - LOS B)*	-----
SS Force Main Line (SUE - LOS C)*	-----
SS Force Main Line (SUE - LOS D)*	-----

MISCELLANEOUS:

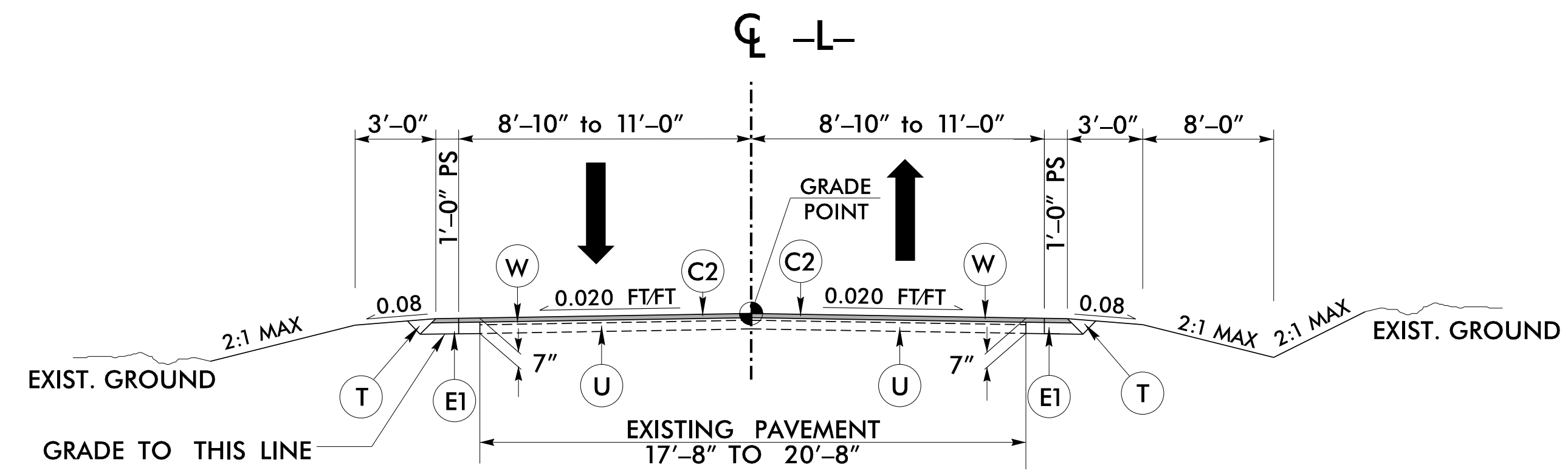
Utility Pole	●
Utility Pole with Base	⊕
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line (SUE - LOS B)*	-----
U/G Tank; Water, Gas, Oil	▭
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	▭
Geoenvironmental Boring	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

5/14/99

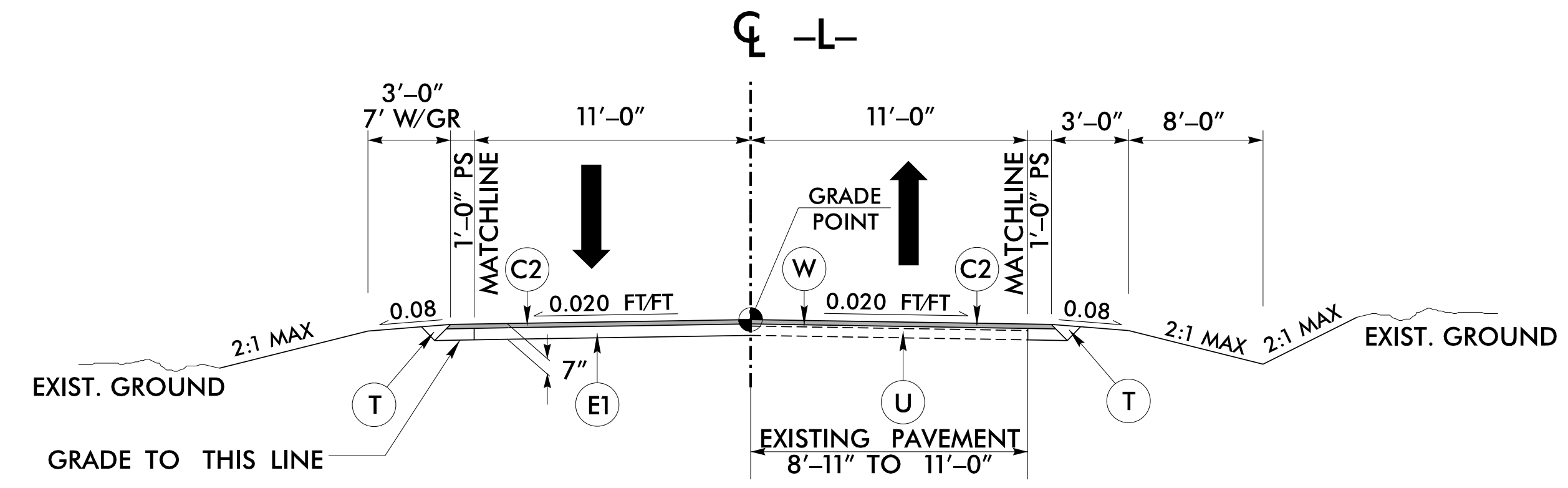
PROJECT REFERENCE NO. <i>BPII-ROIO</i>	SHEET NO. <i>2A-1</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 Johnson, Mirmiran, & Thompson Inc. 4700 Falls of Neuse Rd., Suite 100, Raleigh, NC, 27609 License No: G-3097	

FINAL PAVEMENT SCHEDULE		
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	R
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	T
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	U
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	V
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.	W

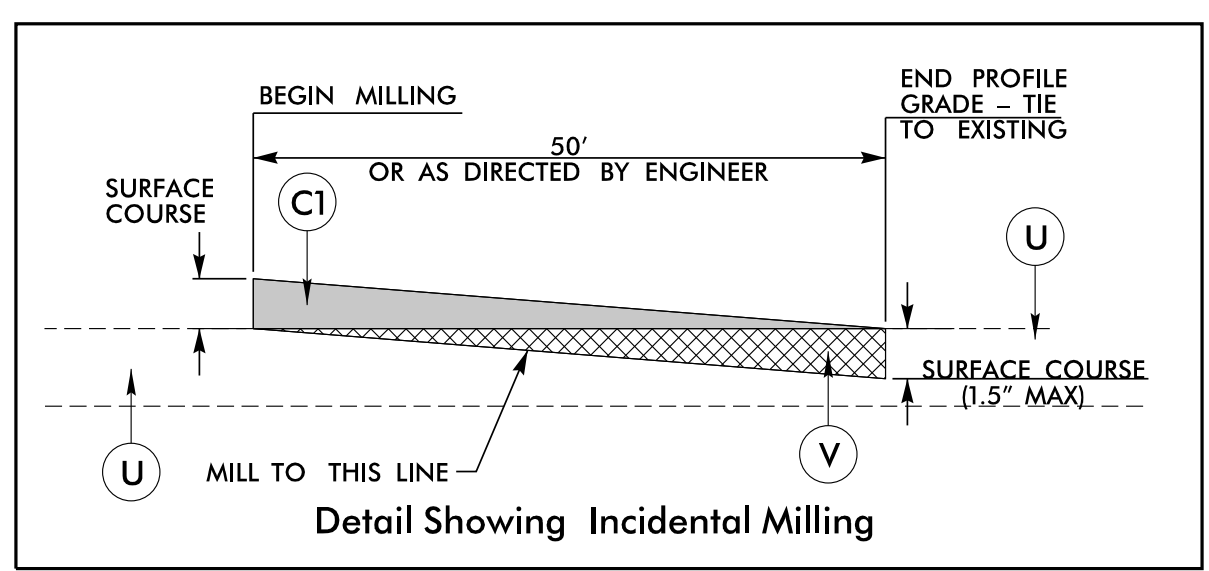
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



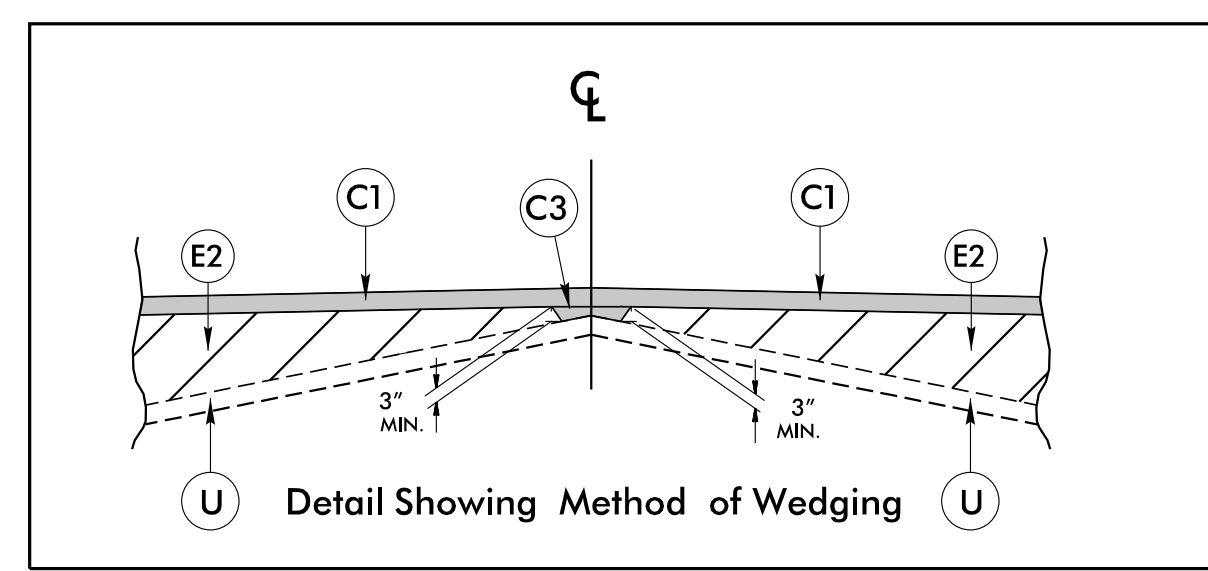
TYPICAL SECTION NO. 1
 -L- STA. 10+00.00 TO -L- STA. 11+95.00
 -L- STA. 16+10.00 TO -L- STA. 16+60.00



TYPICAL SECTION NO. 2
 -L- STA. 11+95.00 TO -L- STA. 12+50.00
 -L- STA. 15+00.00 TO -L- STA. 16+10.00

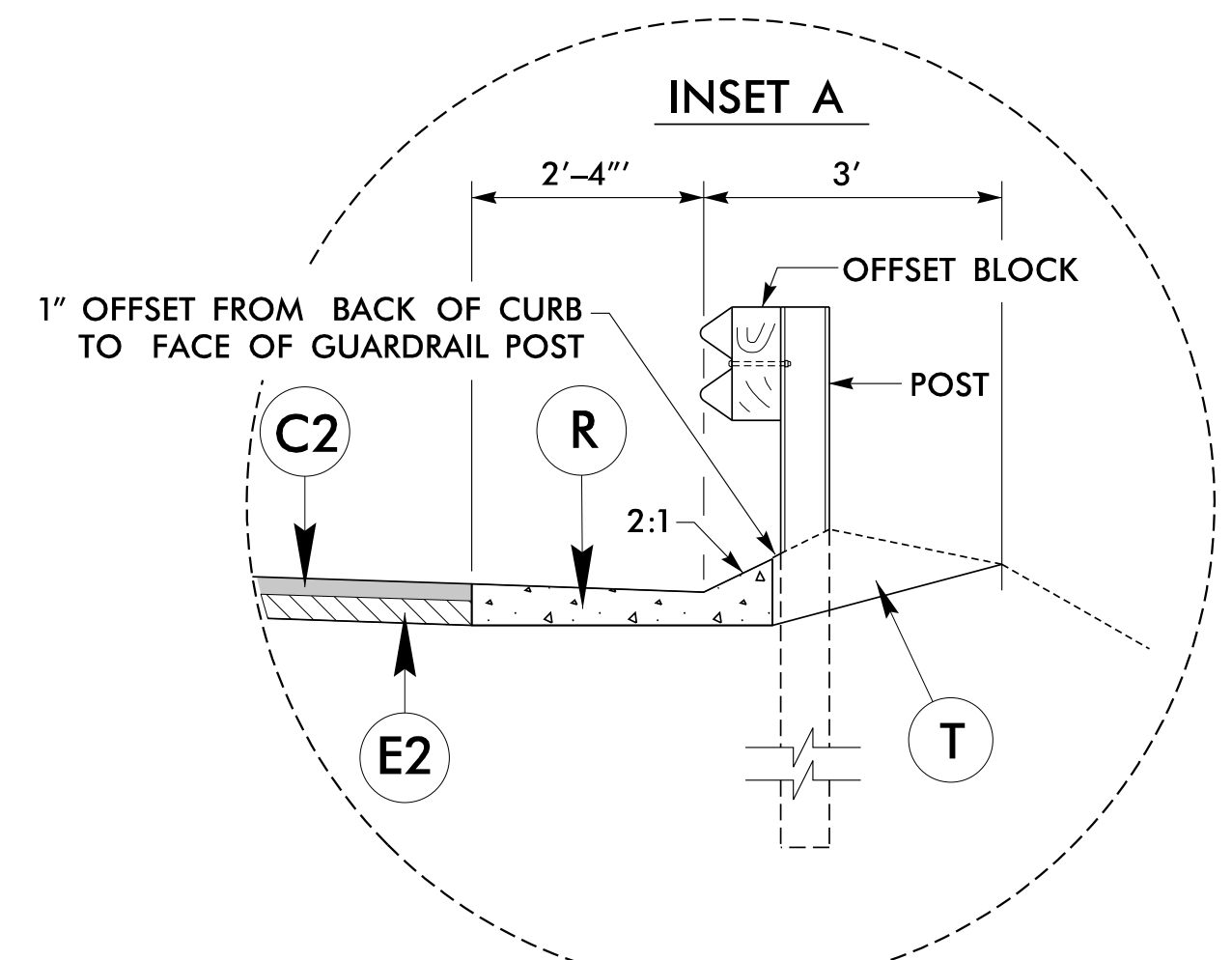


NOTE: PAVE TO FACE OF GUARDRAIL, SEE PLANS FOR LOCATIONS

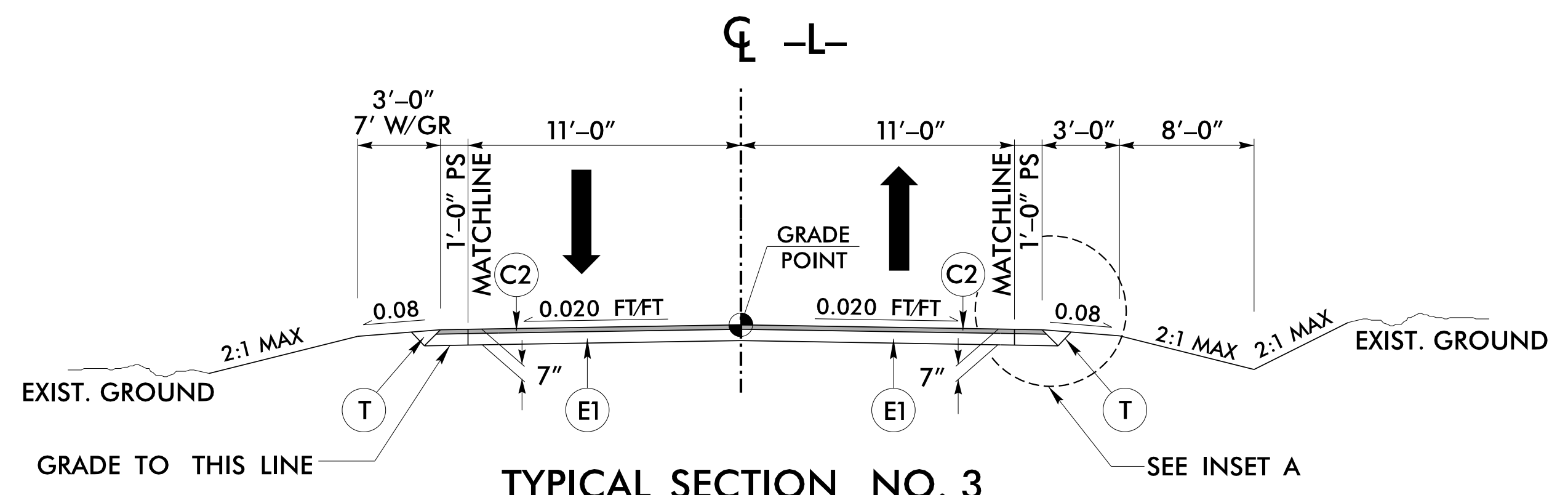


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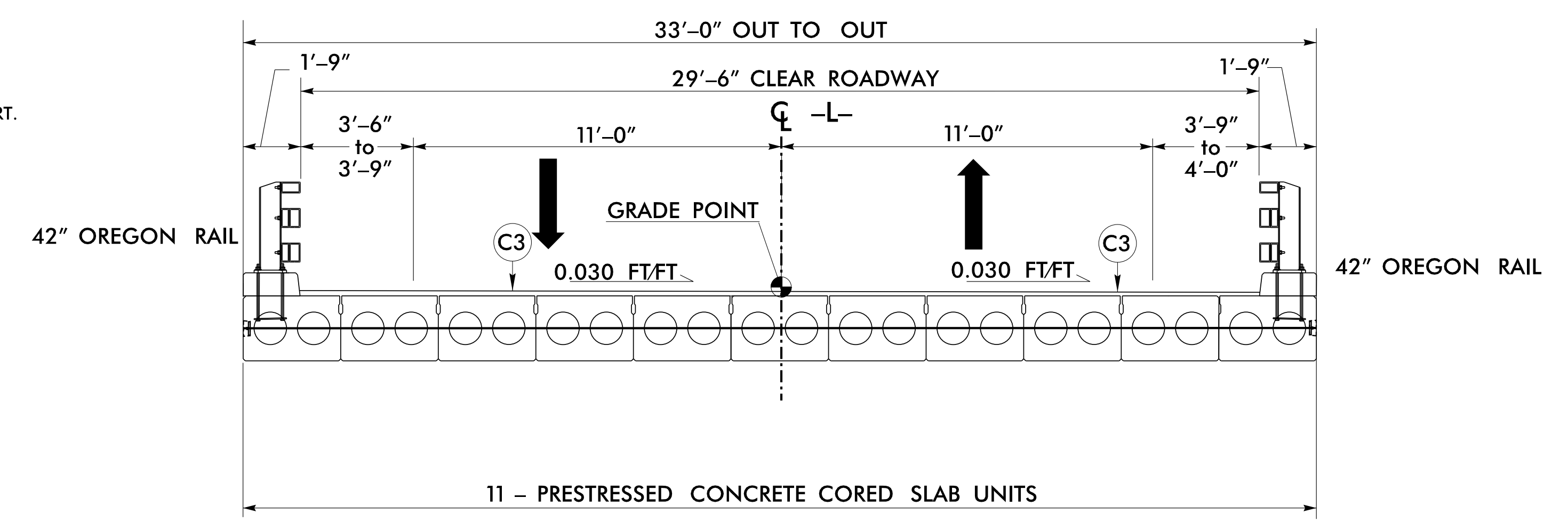
5/14/99



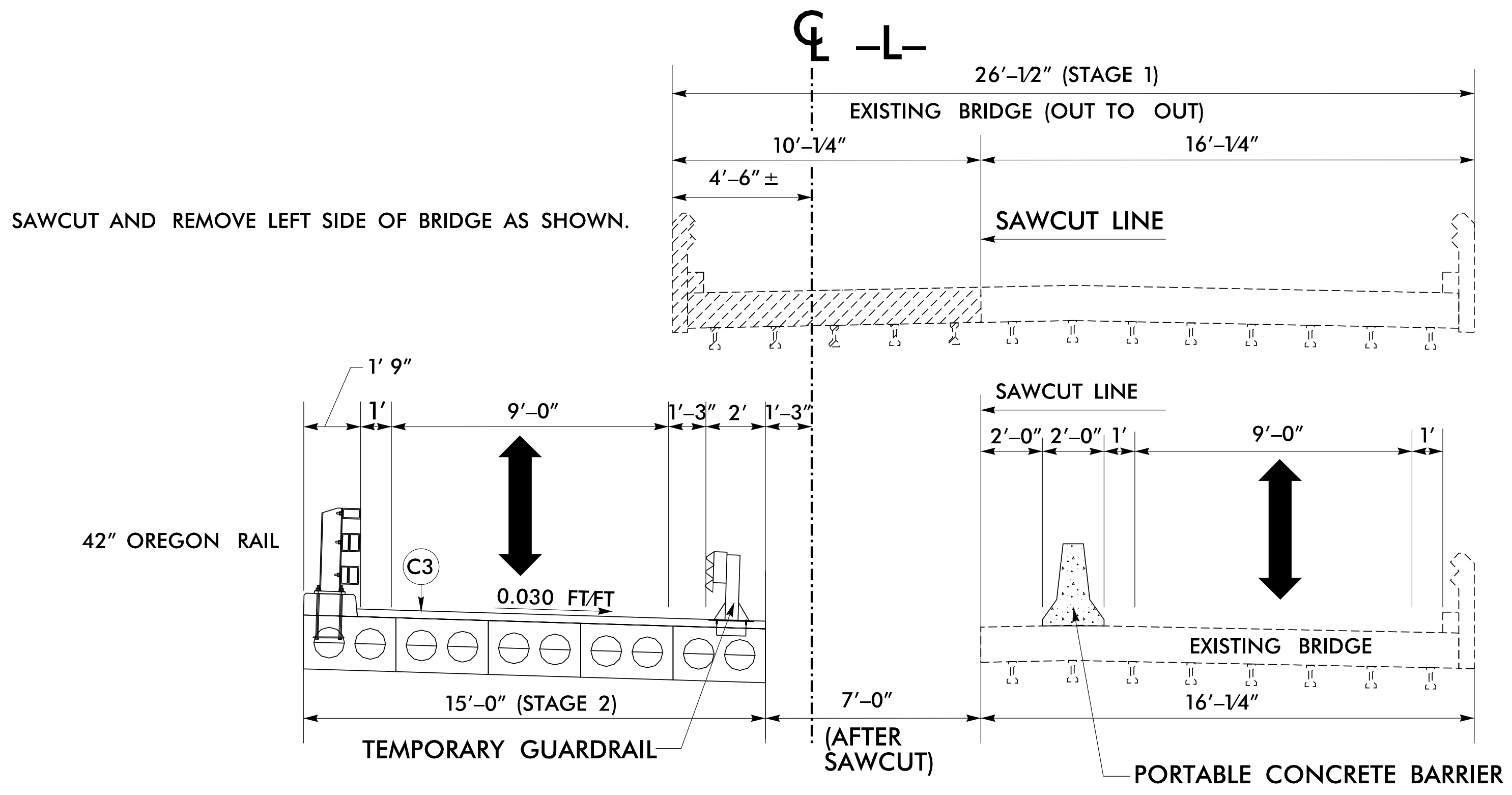
USE INSET A
FROM -L- STA. 13+74.13 (END BRIDGE) TO STA. 14+00.00 RT.



TYPICAL SECTION NO. 3
-L- STA. 12+50.00 TO -L- STA. 13+01.88 (BEGIN BRIDGE)
-L- STA. 13+74.13 (END BRIDGE) TO -L- STA. 15+00.00



TYPICAL SECTION NO. 4
-L- STA. 13+01.88 (BEGIN BRIDGE) TO
-L- STA. 13+74.13 (END BRIDGE)



STAGING

PROJECT REFERENCE NO. <i>BPII-ROIO</i>	SHEET NO. <i>2A-2</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <i>JOHNSON, MIRIRAN, & THOMPSON INC.</i> SEAL 054788 <i>Joshua Q. Roemer</i>	PAVEMENT DESIGN ENGINEER <i>JOHNSON, MIRIRAN, & THOMPSON INC.</i> SEAL 049851 <i>Ramie Shaw</i>
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
JMT Johnson, Miriran, & Thompson Inc. 4700 Falls of Neuse Rd, Suite 100, Raleigh, NC, 27609 License No: G-3097	

FINAL PAVEMENT SCHEDULE	
C1	1 1/2" S9.5B
C2	3" S9.5B
C3	VAR. S9.5B
E1	4" B25.0C
E2	VAR B25.0C
R	SBG
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

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SHOULDER BERM GUTTER SUMMARY

LINE	Station	Station	LENGTH IN LF
-L- RT	13+74.13 (BRIDGE)	14+00.00	26'
TOTAL:			26'
SAY:			26'

SUMMARY OF EARTHWORK

IN CUBIC YARDS					
Station	Station	Uncl. Excav.	Embank. 15%	Borrow	Waste
10+00.00	13+01.88 (BEGIN BRIDGE)	40	1274	1234	0
SUBTOTALS:		40	1274	1234	0
13+74.13 (END BRIDGE)	16+60.00	86	1242	1156	0
SUBTOTALS:		86	1242	1156	0
TOTALS:		126	2516	2390	0
WASTE IN LIEU OF BORROW					
PROJECT TOTAL:		126	2516	2390	0
EST. 5% REPLACE TOPSOIL ON BORROW PIT				120	
GRAND TOTAL:		126	2516	2510	0
SAY:		133	2515		

PAVEMENT REMOVAL SUMMARY IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-L-	10+00	13+06.95	RT	167.78			
-L-	11+95	16+10.00	LT	26.67			
-L-	13+68.17	15+29.72	RT	233.89			
-L-	13+68.17	16+00	LT	133.44			
TOTAL:				561.78			
SAY:				565			

EST. DRAINAGE DITCH EXCAVATION = 1680 CY
 EST. UNDERCUT EXCAVATION = 100 CY
 EST. SELECT GRANULAR MATERIAL, CLASS III = 100 CY
 EST. GEOTEXTILE FOR SOIL STABILIZATION = 300 SY
 EST. SHALLOW UNDERCUT = 100 CY
 EST. CLASS IV SUBGRADE STABILIZATION = 200 TON
 EST. GEOTEXTILE FOR SUBGRADE STABILIZATION = 100 SY

Note: Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for grading.

COMPUTED BY: Savanna Taylor, EI DATE: 8/26/2024
 CHECKED BY: Joshua Roemer, PE DATE: 8/26/2024

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

GUARDRAIL SUMMARY

G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

*N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS											
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III	B-77	GREU, TL-3	GREU, TL-2	CAT-1	AT-1	Type III SC	B-77 SC	G	NG															
-L-	12+08.13	13+01.88	RT	93.75'			13+01.88		4'	7'	50'		1'		1		1																						
-L-	12+20.63	13+01.88	LT	81.25'				13+01.88	4'	7'	50'		1'		1		1																						
-L-	13+74.13	14+55.38	RT	81.25'				13+74.13	4'	7'	50'		1'		1		1																						
-L-	13+74.13	14+67.88	LT	93.75'				13+74.13	4'	7'	50'		1'		1		1																						
-L-	12+75 +/-	14+00 +/-	LT	125.00'																																		Temporary guardrail See Sheets TMP-4 and TMP-5	
SUBTOTALS:				475.00'											4		4		2																				
ANCHOR DEDUCTIONS																																							
GREU TL-2: 2 @ 25'				-50'																																			
TYPE III: 4 @ 18.75'				-75'																																			
GREU TL-3: 4 @ 50'				-200'																																			
TOTALS:				150.00'											4		4		2																				
SAY:				150.00'										4		4		2																					
ADDITIONAL POSTS:				5																																			

8/17/99

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COMPUTED BY: Division 11 DATE: May 7, 2024

(2-3-23)

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	200
TOTAL LF:					200

*UD = Underdrain
 *BD = Blind Drain
 *SD = Subsurface Drain

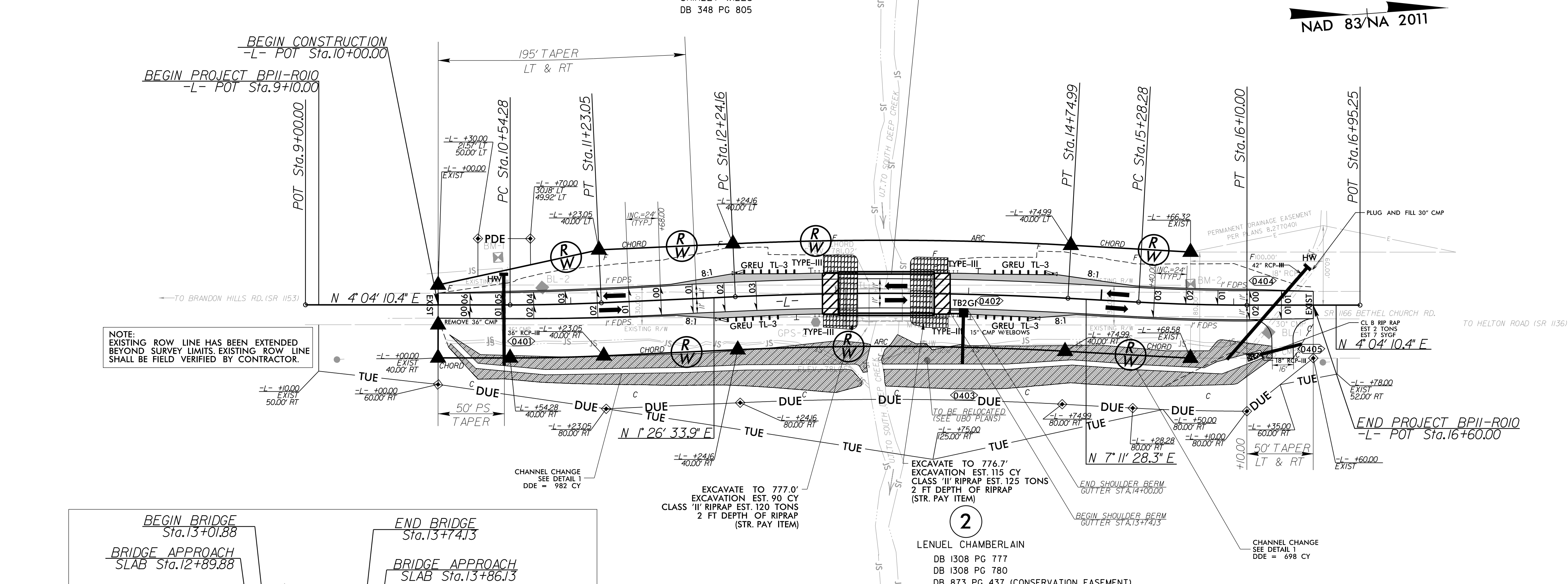
SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU/AST	Undercut Excavation CY	Select Granular Material, Class III CY	Geotextile for Soil Stabilization SY	Shallow Undercut CY	Class IV Subgrade Stabilization Ton	Geotextile for Subgrade Stabilization SY
CONTINGENCY			ASU	100	100	300	100	200	100
TOTAL CY/TONS/SY:			ASU	100	100	300	100	200	100

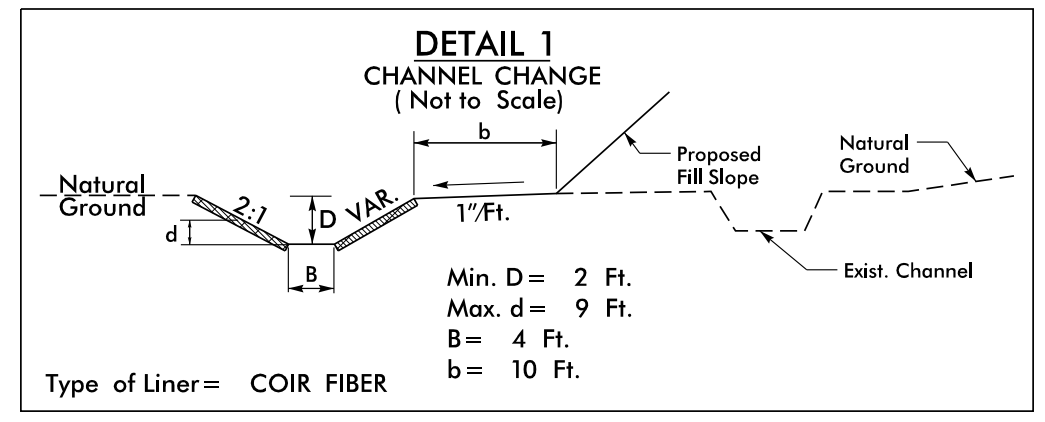
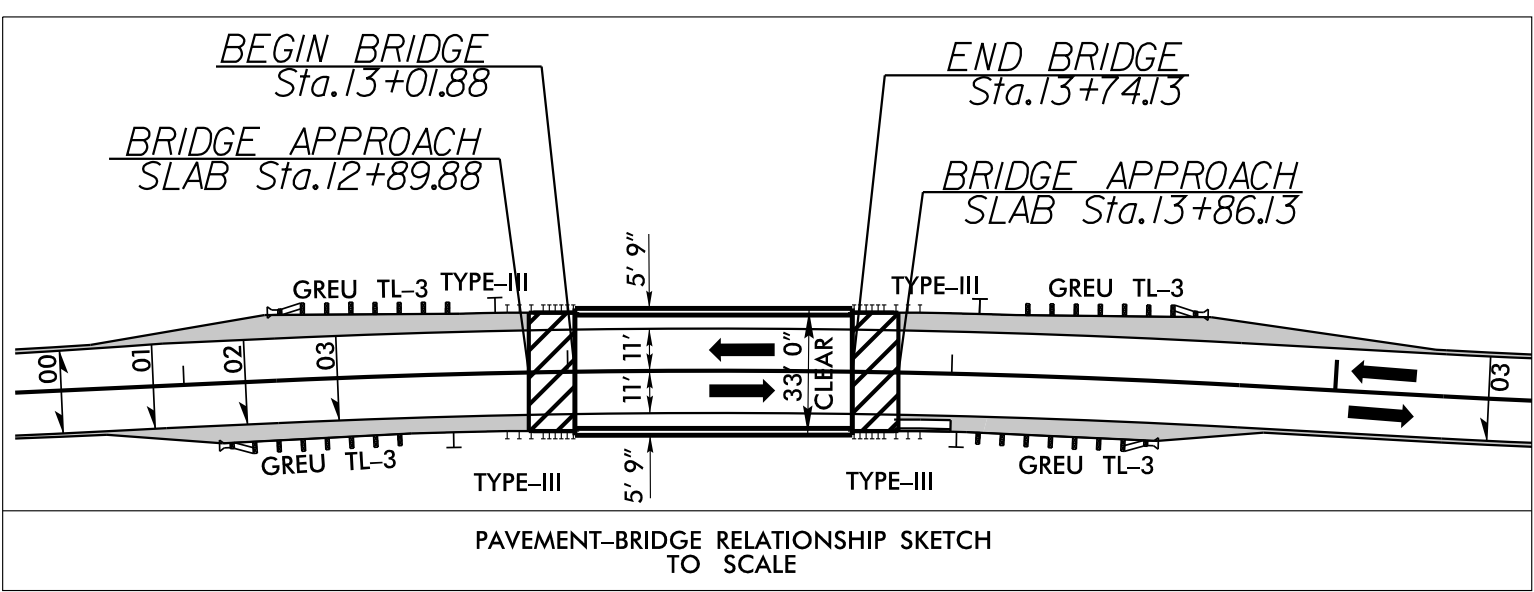
*ASU = Aggregate Subgrade
 *AST = Aggregate Stabilization
 **Total square

8/17/99

-L-		
PI Sta 10+88.67	PI Sta 13+49.68	PI Sta 15+69.15
$\Delta = 2' 37" 36.5" (LT)$	$\Delta = 5' 44" 54.4" (RT)$	$\Delta = 3' 07" 17.9" (LT)$
$D = 3' 49" 11.0"$	$D = 2' 17" 30.6"$	$D = 3' 49" 11.0"$
$L = 68.77'$	$L = 250.82'$	$L = 81.72'$
$T = 34.39'$	$T = 125.52'$	$T = 40.87'$
$R = 1,500.00'$	$R = 2,500.00'$	$R = 1,500.00'$
$S_e = 0.04 FT/FT$	$S_e = 0.04 FT/FT$	$S_e = 0.04 FT/FT$



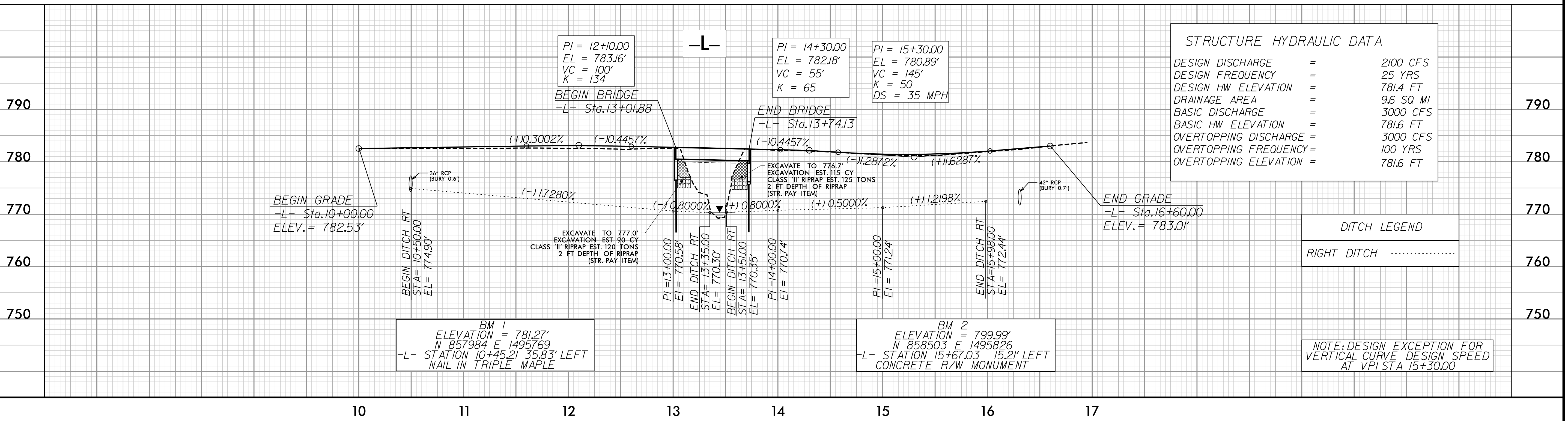
NOTE: EXISTING ROW LINE HAS BEEN EXTENDED BEYOND SURVEY LIMITS. EXISTING ROW LINE SHALL BE FIELD VERIFIED BY CONTRACTOR.



FROM -L- STA. 10+00 TO -L- STA. 13+35
FROM -L- STA. 13+51 TO -L- STA. 15+98

COIR FIBER

NOTE: ALL DRIVEWAY RADII ARE 15' UNLESS OTHERWISE NOTED



DESIGN DISCHARGE	=	2100 CFS
DESIGN FREQUENCY	=	25 YRS
DESIGN HW ELEVATION	=	781.4 FT
DRAINAGE AREA	=	9.6 SQ MI
BASIC DISCHARGE	=	3000 CFS
BASIC HW ELEVATION	=	781.6 FT
OVERTOPPING DISCHARGE	=	3000 CFS
OVERTOPPING FREQUENCY	=	100 YRS
OVERTOPPING ELEVATION	=	781.6 FT

RIGHT DITCH
-------------	-------

NOTE: DESIGN EXCEPTION FOR VERTICAL CURVE DESIGN SPEED AT VPI STA 15+30.00

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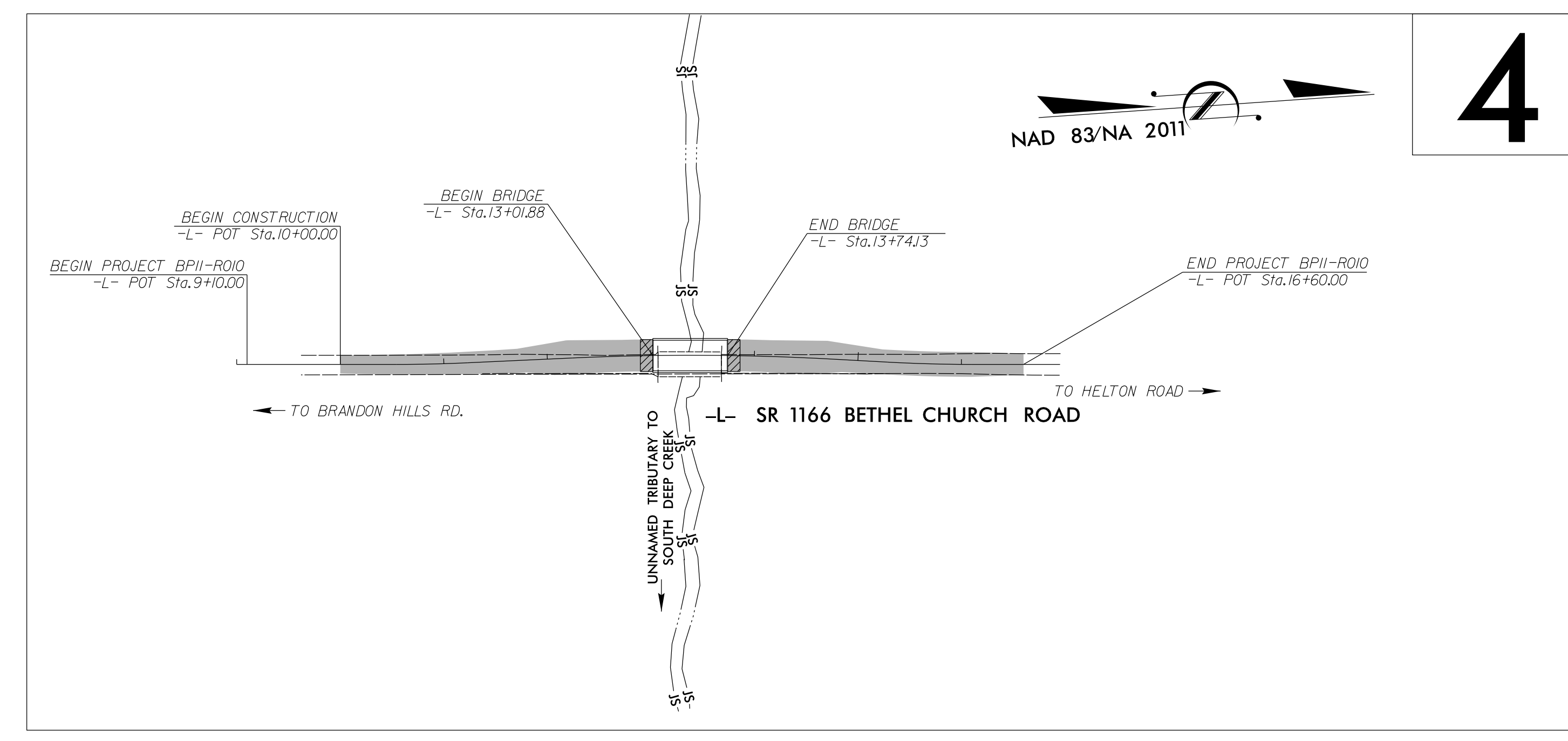
TIP PROJECT: BP11-R010

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP11-R010	RW01	04

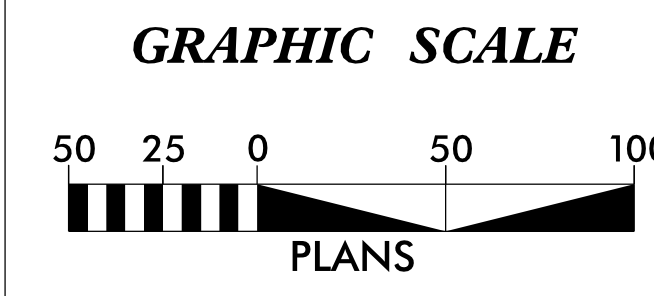
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

SURVEY CONTROL, EXISTING CENTERLINES,
 RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

YADKIN COUNTY



13-JUN-2024 15:03
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 cosborne AT OSBORNE-LL



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "CROPS" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 858,219.650(ft) EASTING: 1,495,835.650(ft) ELEVATION: 781.60(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99994891

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "CROPS" TO -L- STATION 10+00 IS S 06-41'38.0" W 284.93(ft)

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

ONE WEST FOURTH ST., SUITE 820
 WINSTON SALEM, N.C. 27101
 LICENSE NO.: F-0672
 www.stantec.com

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: 09/29/2023

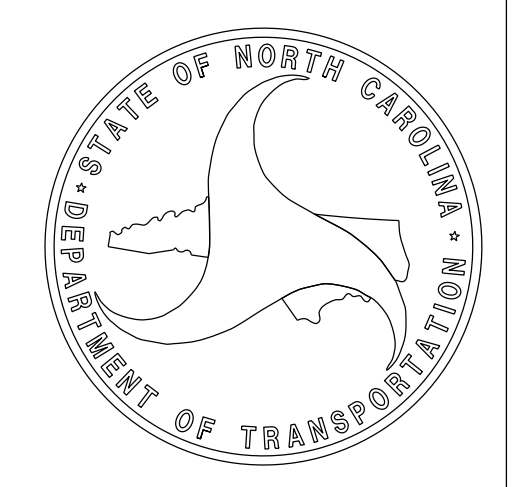
LETTING DATE: 08/22/2024

PROFESSIONAL LAND SURVEYOR

DocuSigned by:
 Clinton B. Osborne
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6/13/2024

SIGNATURE: _____ Date: _____



PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO. BP11-R010	SHEET NO. RW02D-1
Location and Surveys	
<p style="font-size: small; margin: 0;">ONE WEST FOURTH ST., SUITE 820 WINSTON SALEM, N.C. 27101 LICENSE NO.: F-0672 www.stantec.com Proj.# 234300157</p>	
<p style="font-size: x-small; margin: 0;">PROJECT SURVEYOR</p>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Clinton B. Osborne, PLS, certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

This 13th day of June, 2024.

DataSigned by:
Clinton B. Osborne

Professional Land Surveyor L-3834

TYPE	STATION	L	
		NORTH	EAST
POT	9+00.00	857836.9171	1495795.3407
PC	10+54.28	857990.8051	1495806.2894
PT	11+23.05	858059.4892	1495809.5959
PC	12+24.16	858160.5740	1495812.1419
PT	14+74.99	858410.5808	1495831.0145
PC	15+28.28	858463.4520	1495837.6854
PT	16+10.00	858544.7720	1495845.7025
POT	16+95.25	858629.8075	1495851.7525

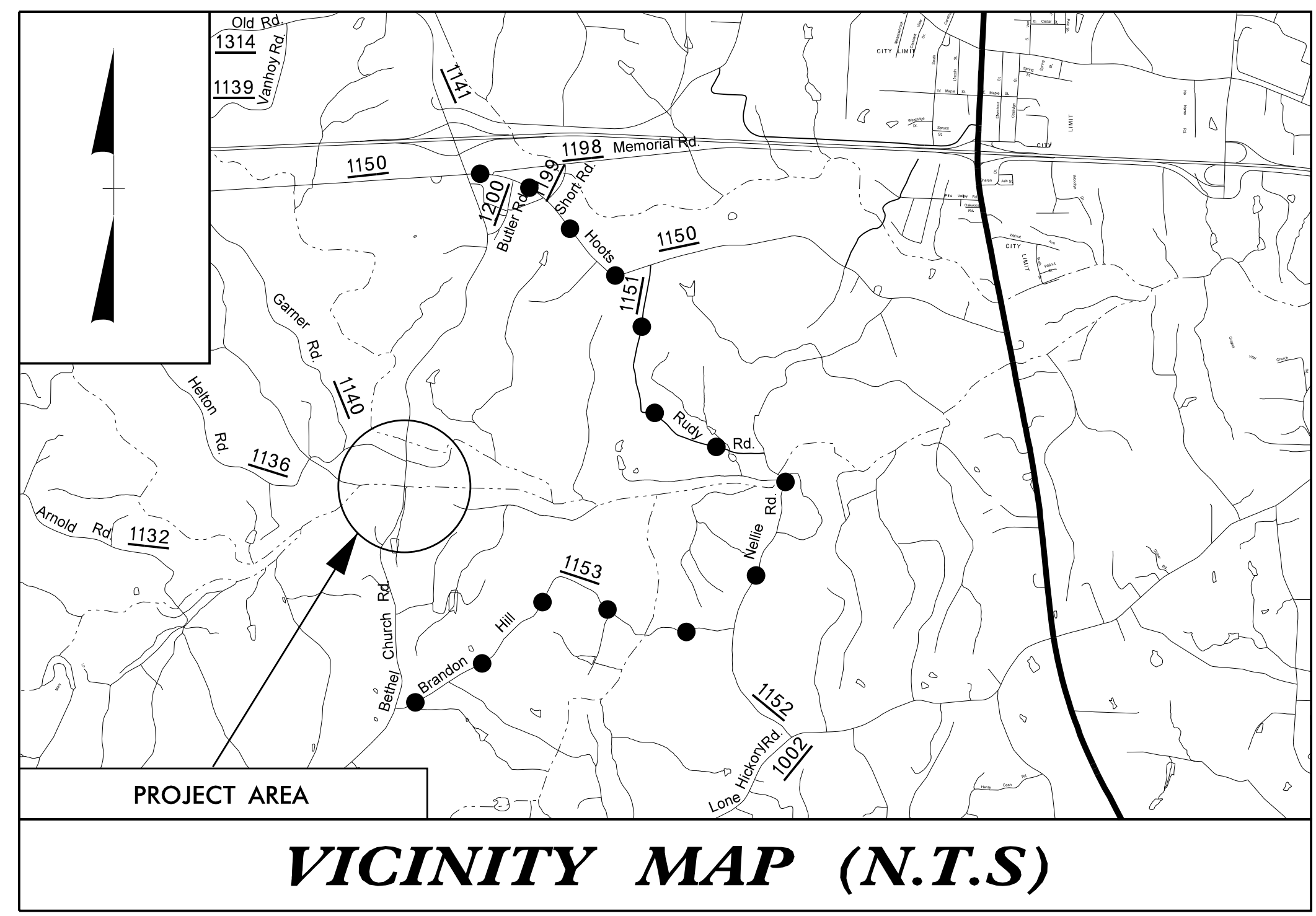
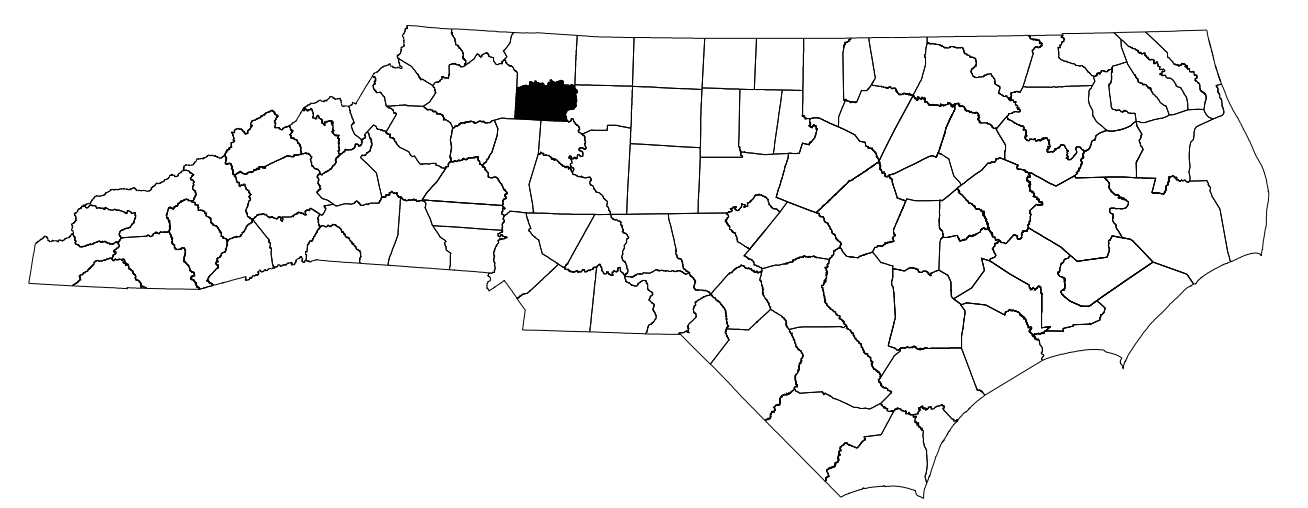
NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

YADKIN COUNTY
DIVISION II



**LOCATION: BRIDGE NO. 980016 ON SR 1166 (BETHEL CHURCH ROAD)
OVER U.T. TO SOUTH DEEP CREEK**

TYPE OF WORK: GRADING, DRAINAGE, PAVING, & STRUCTURE

INDEX OF SHEETS

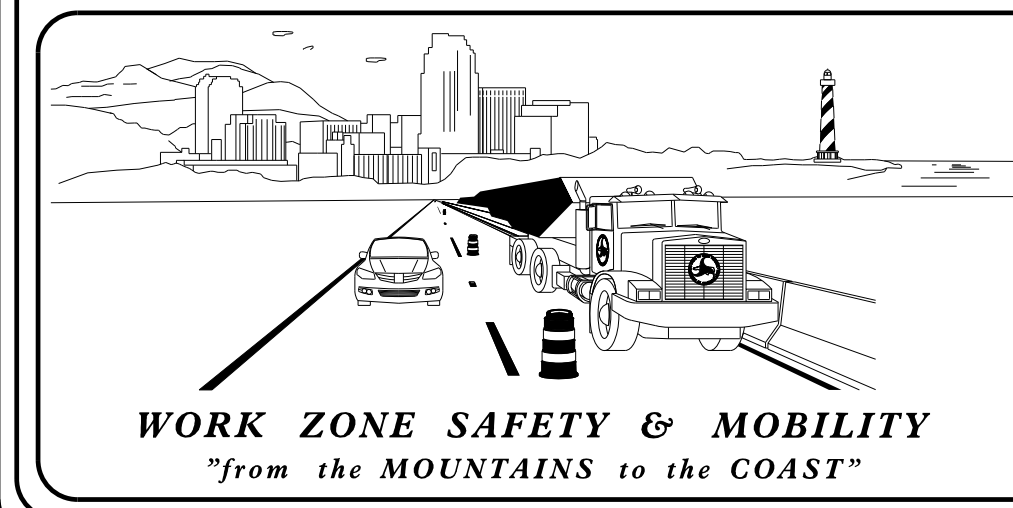
SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)
TMP-1C	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
TMP-2	TEMPORARY TRAFFIC CONTROL PHASING
TMP-3	SPECIAL SIGN DESIGN
TMP-3A	OFF-SITE DETOUR
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE II DETAIL
TMP-5	TEMPORARY TRAFFIC CONTROL PHASE III DETAIL
TMP-6	TEMPORARY TRAFFIC CONTROL PHASE IV DETAIL

SHEET NO.
TMP-1

BP11-R010

PROJECT:

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



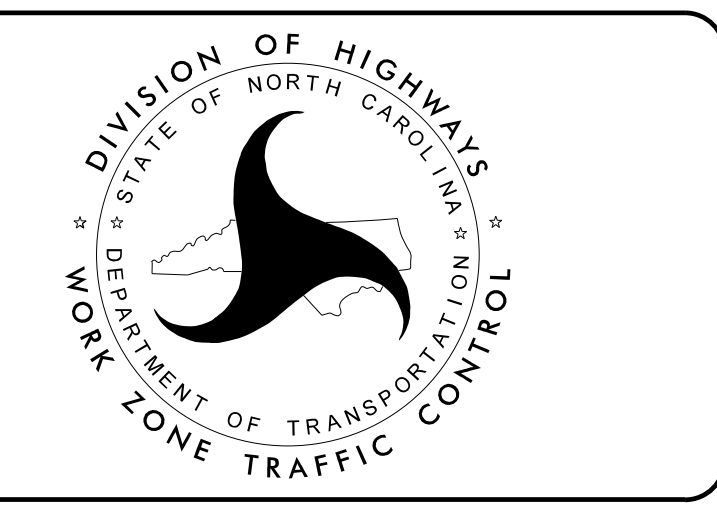
PLANS PREPARED BY:

CHARLES YOUNG, PE
PROJECT ENGINEER

JOSHUA ROEMER, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACTS:

ROB N. WEISZ, PE
DIVISION II BRIDGE PROGRAM MANAGER



PREPARED IN THE OFFICE OF

JMT Johnson, Mirmiran, & Thompson Inc.
4700 Falls of Neuse Rd, Suite 100,
Raleigh, NC, 27609
License No: C-3097

APPROVED: [Signature]

DATE: 9/19/2024 | 6:50:21 PM EDT

SEAL

9/19/2024 4:49:06 PM
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ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURE
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES - TYPE III
1150.01	FLAGGERS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)

- WORK AREA
- TEMPORARY PAVEMENT

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY
- PORTABLE

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

- P1 PAINT WHITE EDGELINE (4")
- P61 PAINT WHITE STOPBAR (24")

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APPROVED: _____ DATE: 9/19/2024 6:50:21 PM	Signed by: SEAL 046062 ENGINEER CHARLES J. YOUNG	
ROADWAY STANDARD DRAWINGS & LEGEND		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

MANAGEMENT STRATEGIES

DURING CONSTRUCTION OF PROPOSED STRUCTURE BRIDGE No. 980016 OVER U.T. TO SOUTH DEEP CREEK, SR 1166 (BETHEL CHURCH RD.) WILL BE OPEN TO THROUGH TRAFFIC. THROUGH TRAFFIC ON SR 1166 (BETHEL CHURCH RD.) WILL BE MAINTAINED USING STAGED CONSTRUCTION AND TEMPORARY SIGNALS.

ACCESS TO ALL RESIDENCES WITHIN THE PROJECT LIMITS MUST BE MAINTAINED AT ALL TIMES.

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:

- FULL ROADWAY CLOSURES
- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (SIGNALIZED)
- WEEKEND WORK
- OFF-SITE DETOURS / USE OF ALTERNATIVE ROUTES

WORK ZONE SAFETY & MOBILITY STRATEGIES:

- SPEED LIMIT REDUCTION
- TEMPORARY TRAFFIC SIGNALS

LOCAL NOTES

1. NOTIFY THE YADKIN COUNTY SCHOOLS TRANSPORTATION DIRECTOR OF THE BRIDGE REMOVAL THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.
2. NOTIFY THE YADKIN COUNTY EMERGENCY MEDICAL SERVICES DIRECTOR OF THE BRIDGE REMOVAL THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

GENERAL NOTES

- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

- E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

- F) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- G) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

- H) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 100 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

- I) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- J) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- K) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN THE ROAD CLOSURE IS NOT IN OPERATION. AND COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- L) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- M) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

- N) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

- O) PLACE TYPE III BARRICADES WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

- P) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

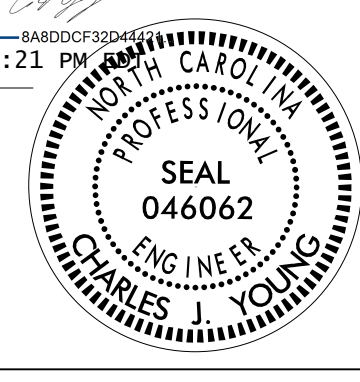

ROAD NAME	MARKING	MARKER
-L- SR 1166 (BETHEL CHURCH RD)	PAINT	NONE

- Q) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

- R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

- S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

PROJ. REFERENCE NO. BP11-R010	SHEET NO. TMP-1B
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<p>APPROVED: _____</p> <p>DATE: 9/19/2024 6:50:21 PM</p> <p style="text-align: center;">SEAL</p>			<h2>TRANSPORTATION OPERATIONS PLAN</h2>
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

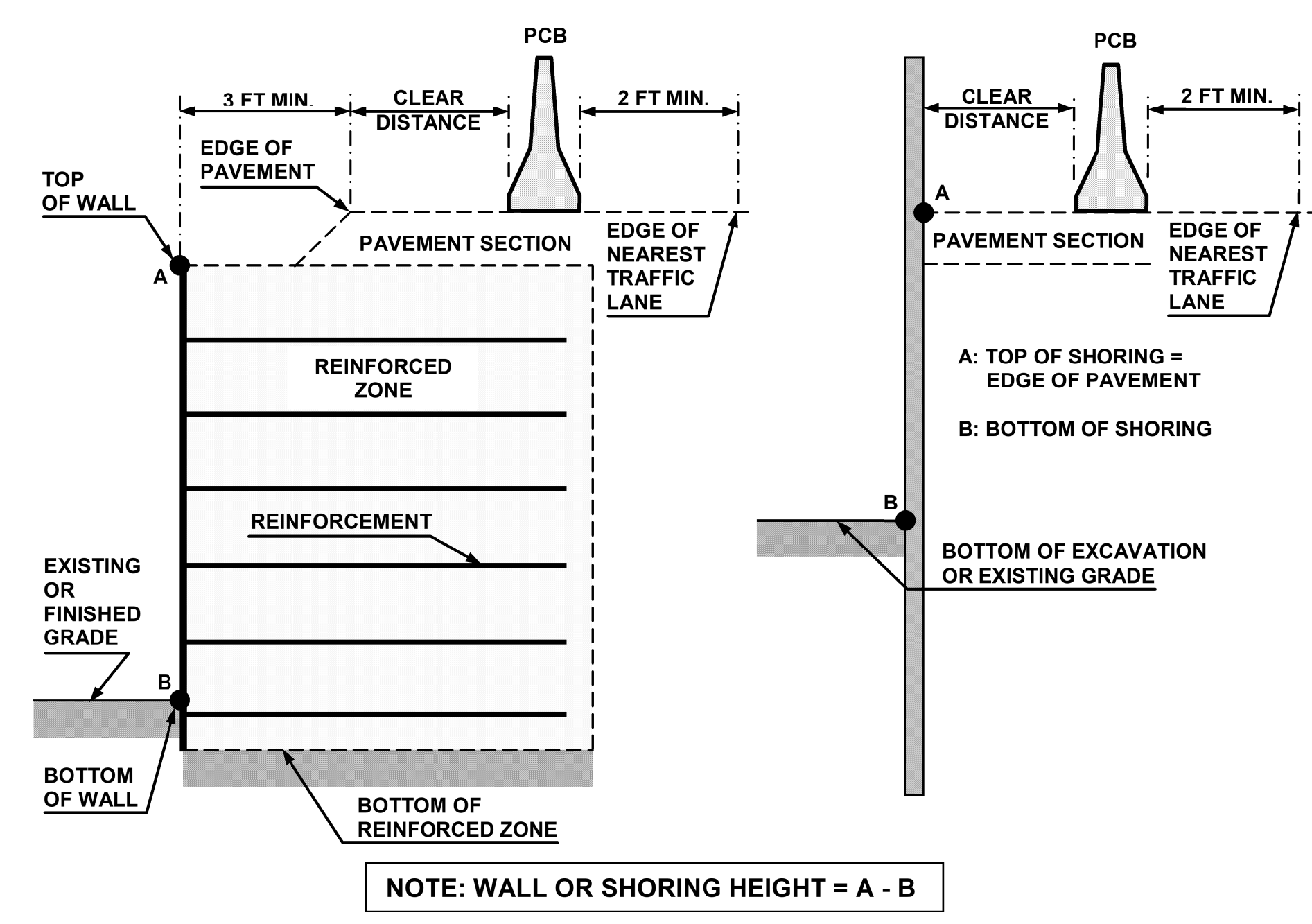


FIGURE A

NOTES

- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- PCB IS REQUIRED IF TEMPORARY SHORING IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT UNIT FOR APPLICABLE PAVEMENT DESIGN).
- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- PCB REQUIREMENTS FOR TEMPORARY WALLS APPLY TO TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS AND TEMPORARY SOIL NAIL WALLS.
- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS AND OR AS APPROVED BY THE ENGINEER.
- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THESE MINIMUM REQUIRED DISTANCES ARE NOT AVAILABLE, CONTACT THE ENGINEER.
- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES, RUNS OF BARRIER LESS THAN 200 FT IN LENGTH AND WET OR DRY PAVEMENT.

MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier Type	Pavement Type	Offset * ft	Design Speed, mph					
			<30	31-40	41-50	51-60	61-70	71-80
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40
		8-14	26	28	31	35	38	42
		14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
		38-44	31	34	41	43	45	48
		44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
	>56	32	36	42	45	47	51	
	Concrete	<8	17	18	21	22	25	26
		8-14	19	20	23	25	26	29
		14-20	22	22	24	26	28	31
		20-26	23	24	26	27	30	34
		26-32	24	25	27	28	32	35
		32-38	24	26	27	30	33	36
		38-44	25	26	28	30	34	37
		44-50	26	26	28	32	35	37
50-56		26	26	28	32	35	38	
>56	26	27	29	32	36	38		
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure Below

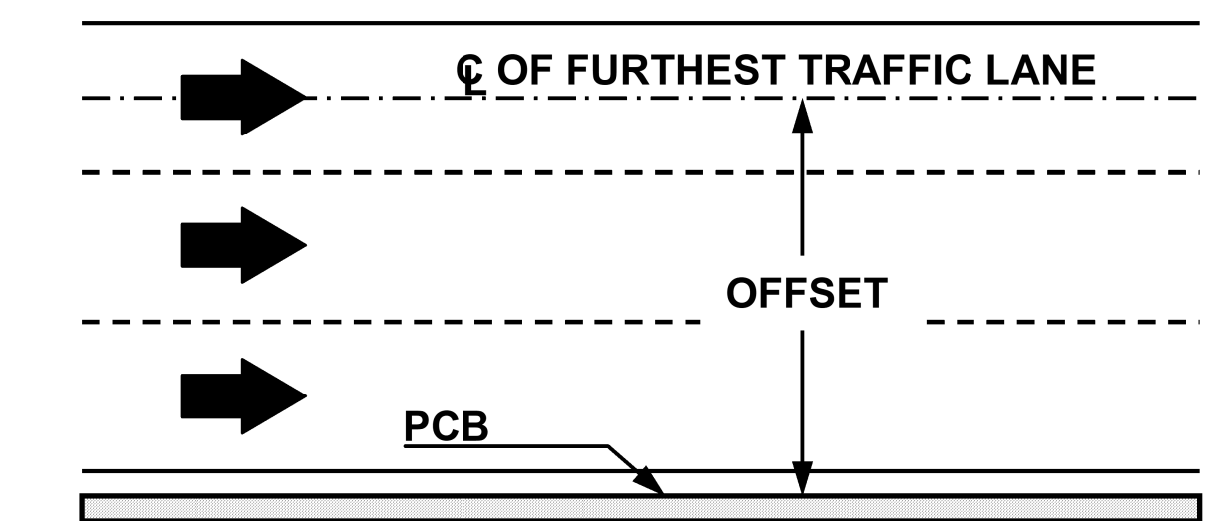


FIGURE B

APPROVED: DATE: 9/19/2024 6:50:22 PM SEAL			PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

9/19/2024 6:34:24 PM
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 User: jRoemer

PHASING

PHASE 1

STEP 1

USING ROADWAY STANDARD DRAWING (RSD) 1101.01 SHEET 3 OF 3 AND TMP-3A, INSTALL WORK ZONE ADVANCE WARNING SIGNS ALONG SR 1166 (BETHEL CHURCH RD.).

STEP 2

USING RSD 1101.03, SHEETS 1 OF 9, TMP-3A, AND FLAGGERS AS NECESSARY, INSTALL OFF-SITE DETOUR SIGNS FOR THE CLOSING OF -L- SR 1166 (BETHEL CHURCH RD.), AND PLACE TRAFFIC ON DETOUR ROUTE.

SEE INTERMEDIATE CONTRACT TIME #3

STEP 3

CONSTRUCT 42" REINFORCED CONCRETE PIPE 404. (SEE ROADWAY PLANS)

STEP 4

USING RSD 1101.02, SHEET 17 OF 19, TMP-4, AND FLAGGERS AS NECESSARY, INSTALL TEMPORARY LANE CLOSURE SIGNS AND DEVICES FOR THE SETUP OF PHASE 2.

STEP 5

USING TMP-4, PERFORM THIS WORK DURING CLOSURE.

- INSTALL TEMPORARY PAVEMENT -L- STA. 11+53 +/- TO -L- 13+07 +/- AND -L- STA. 13+69 +/- TO -L- STA. 15+14 +/-
- REMOVE EXISTING PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKINGS -L- STA. 9+00 +/- TO 15' BEYOND -L- STA. 16+95 +/-

PHASE 2

SEE SHEET TMP-4.

STEP 1

IN A SINGLE AND CONTINUOUS OPERATION COMPLETE THE FOLLOWING:

PERFORM THIS WORK DURING ROAD CLOSURE:

- REMOVE ALL OFF-SITE DETOUR SIGNS PLACED IN PHASE 1
- ACTIVATE PORTABLE TRAFFIC SIGNALS AND DIRECT TRAFFIC INTO A ONE-LANE TWO-WAY PATTERN IN THE EXISTING NB LANE OF SR 1166 (BETHEL CHURCH RD.).
- INSTALL PORTABLE CONCRETE BARRIER AND TEMPORARY CRASH CUSHIONS ALONG EXISTING BRIDGE -L- STA. 13+03 +/- TO -L- STA. 13+73 +/-
- INSTALL TEMPORARY SHORING -L- STA. 12+83 +/- TO -L- STA. 13+13 +/- AND -L- STA. 13+63 +/- TO -L- STA. 13+93 +/-
- SAW CUT AND REMOVE A PORTION OF EXISTING BRIDGE No. 16 LT (SEE STRUCTURE PLANS)

STEP 2

- INSTALL TEMPORARY PAVEMENT -L- STA. 9+85 +/- TO -L- STA. 10+76 +/-

AWAY FROM TRAFFIC, CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF ASPHALT PAVEMENT:

- -L- STA. 10+00 +/- TO -L- STA. 13+02 +/- LT (PROPOSED ROADWAY APPROACH)
- -L- STA. 13+02 +/- TO -L- STA. 13+74 +/- (PROPOSED BRIDGE No.16) (PER STAGE 1 OF THE STRUCTURE PLANS)
- -L- STA. 13+74 +/- TO -L- STA. 16+60 +/- LT (PROPOSED ROADWAY APPROACH)

STEP 3

- INSTALL TEMPORARY GUARDRAIL ALONG PROPOSED BRIDGE -L- STA. 12+75 +/- TO -L- STA. 14+00 +/-
- ROADWAY APPROACH WILL HAVE TO BE CONSTRUCTED PRIOR TO GUARDRAIL INSTALL ON BRIDGE - SEE STATION RANGE.

PHASE 3

STEP 1

IN A SINGLE AND CONTINUOUS OPERATION COMPLETE THE FOLLOWING:

USING RSD 1101.02 SHEET 17 OF 19, TMP-5, AND FLAGGERS AS NECESSARY, COMPLETE THE FOLLOWING:

- REMOVE EXISTING PAVEMENT MARKINGS FROM PHASE 2 AND PLACE TEMPORARY PAVEMENT MARKINGS -L- STA. 9+00 +/- TO 15' BEYOND -L- STA. 16+95 +/-
- ACTIVATE PORTABLE TRAFFIC SIGNALS AND DIRECT TRAFFIC INTO A ONE-LANE TWO-WAY PATTERN IN THE PROPOSED SB LANE OF SR 1166 (BETHEL CHURCH RD.).

STEP 2

- REMOVE PORTABLE CONCRETE BARRIER ALONG EXISTING BRIDGE -L- STA. 12+75 +/- TO -L- STA. 14+00 +/-

USING TMP-5 COMPLETE THE FOLLOWING AWAY FROM TRAFFIC:

- REMOVE THE REMAINDER OF EXISTING BRIDGE No. 16 (SEE STRUCTURE PLANS)
- REMOVE ALL TEMPORARY SHORING AND TEMPORARY PAVEMENT PLACED IN PHASE 2

STEP 3

USING TMP-5 CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF ASPHALT PAVEMENT AWAY FROM TRAFFIC:

- -L- STA. 10+00 +/- TO -L- STA. 13+02 +/- RT (PROPOSED ROADWAY APPROACH)
- -L- STA. 13+02 +/- TO -L- STA. 13+74 +/- (PROPOSED BRIDGE No.16) (PER STAGE 2 OF THE STRUCTURE PLANS)
- -L- STA. 13+74 +/- TO -L- STA. 16+60 +/- RT (PROPOSED ROADWAY APPROACH)

PHASE 4

STEP 1

USING TMP-5 AND WHILE AWAY FROM TRAFFIC, REMOVE REMAINING TEMPORARY GUARDRAIL.

STEP 2

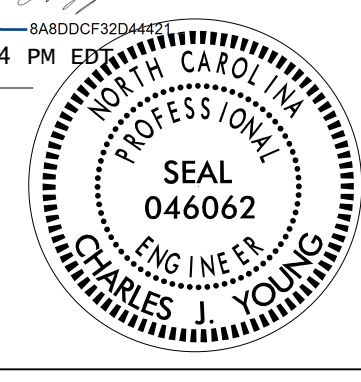

USING TEMPORARY LANE CLOSURES, AND FLAGGERS AS NECESSARY, DEACTIVATE PORTABLE TRAFFIC SIGNALS AND CONSTRUCT THE FINAL LAYER OF ASPHALT FROM:
- -L- STA. 10+00 +/- TO -L- STA. 16+60 +/-

STEP 3

CONSTRUCT THE FINAL PAVEMENT MARKINGS IN ACCORDANCE WITH THE FINAL PAVEMENT MARKING PLAN.

STEP 4

REMOVE ALL WORK ZONE TRAFFIC CONTROL DEVICES AND PLACE TRAFFIC INTO ITS FINAL PATTERN. (SEE SHEET TMP-6)

APPROVED: _____ DATE: 9/25/2024 2:32:04 PM EDT <div style="text-align: center;">  SEAL </div>		<h2 style="margin: 0;">TEMPORARY TRAFFIC CONTROL PHASING</h2>
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

<p>SIGN NUMBER: SP-1 BACKG COLOR: Fluorescent Orange</p> <p>TYPE: STATIONARY COPY COLOR: Black</p> <p>QUANTITY: 20</p> <p>SIGN WIDTH: 2'-6" HEIGHT: 2'-6"</p> <p>TOTAL AREA: 6.3 Sq.Ft.</p> <p>BORDER TYPE: INSET RECESS: 0.47" WIDTH: 0.63" RADII: 1.5"</p> <p>NO. Z BARS: MAT'L: 0.125" (3.2 mm) ALUMINUM LENGTH:</p>	<p>DESIGN BY: DAF CHECKED BY: JQR DATE: Feb 28, 2024</p> <p>PROJECT ID: BP11.R010 LOCATION: DIV: 11</p>	
<p>USE NOTES: 1,2</p> <p>1. Legend and border shall be direct applied black non-reflective sheeting.</p> <p>2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.</p>		
<p>BORDER R=1.5" TH=0.63" IN=0.47"</p> <p style="font-size: small;">Spacing Factor is 1 unless specified otherwise</p>		

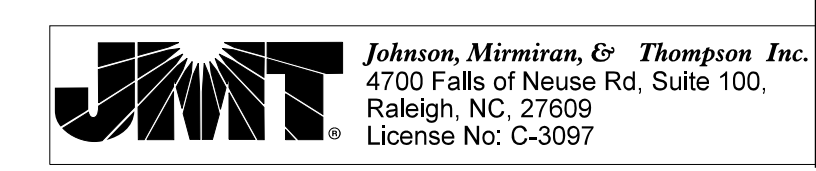
LETTER POSITIONS

Letter locations are panel edge to lower left corner

															Series/Size	
															Text Length	
B	E	T	H	E	L											D 2000
4.7	8.1	10.9	14	17.7	20.8											18.6
C	H	U	R	C	H											D 2000
4.7	8.3	12	15.7	19	22.6											20.6
R	O	A	D													D 2000
4.7	8	11.4	15.4													13.4

NORTH CAROLINA D.O.T. SIGN DETAIL

8/30/2024 11:45:34 AM
 User: WJones2

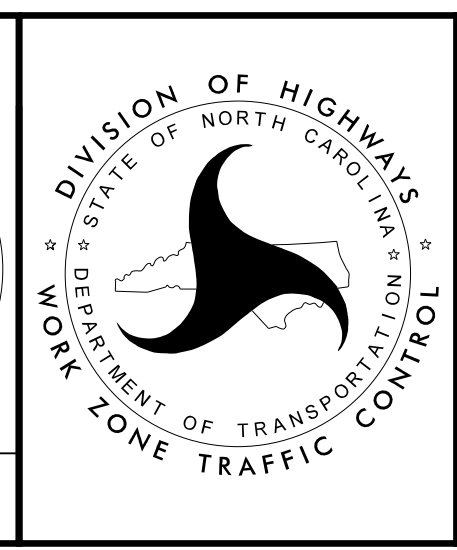


APPROVED: _____

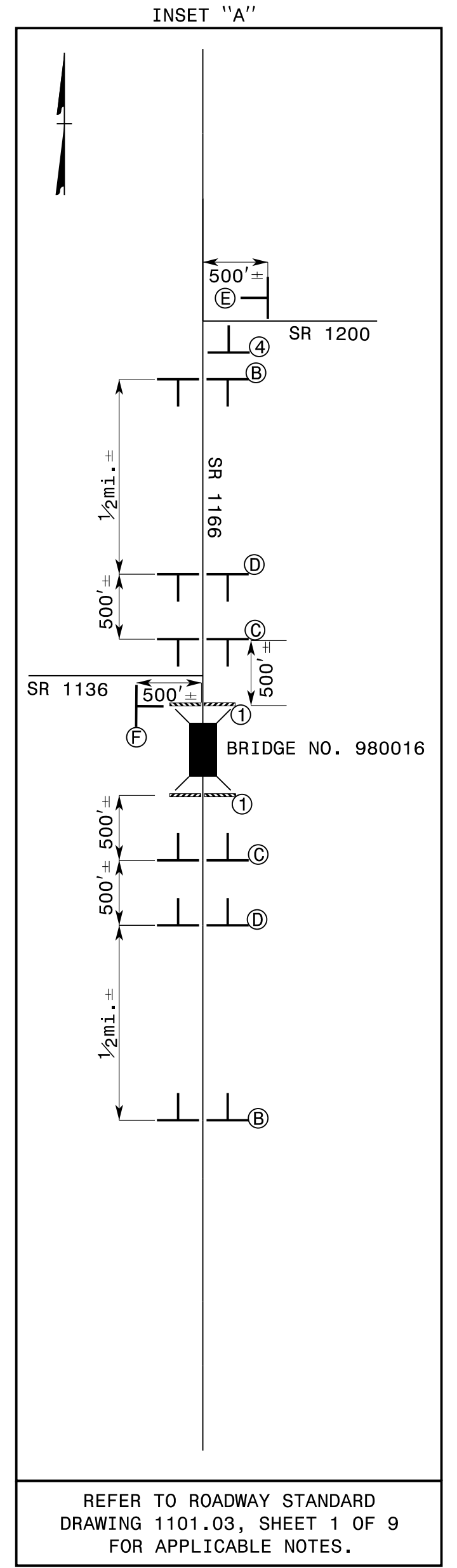
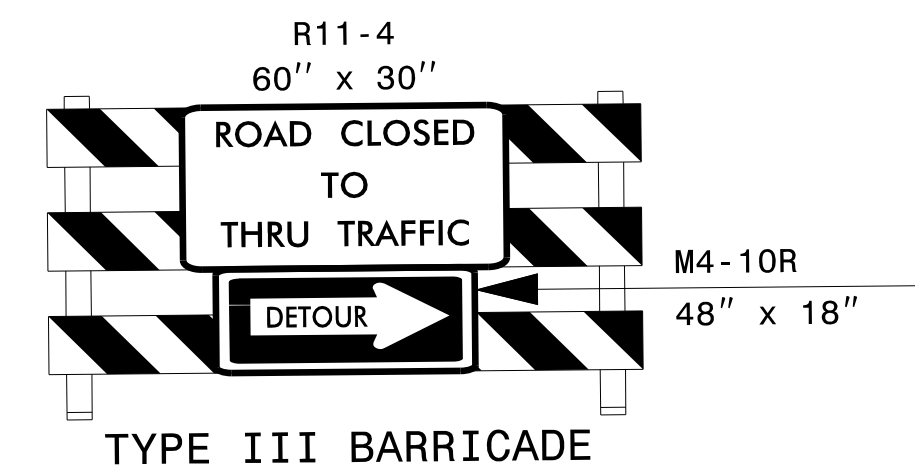
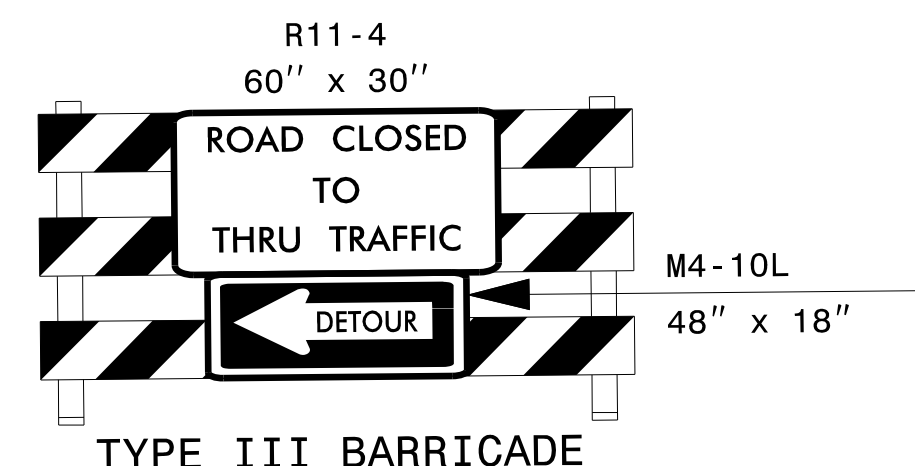
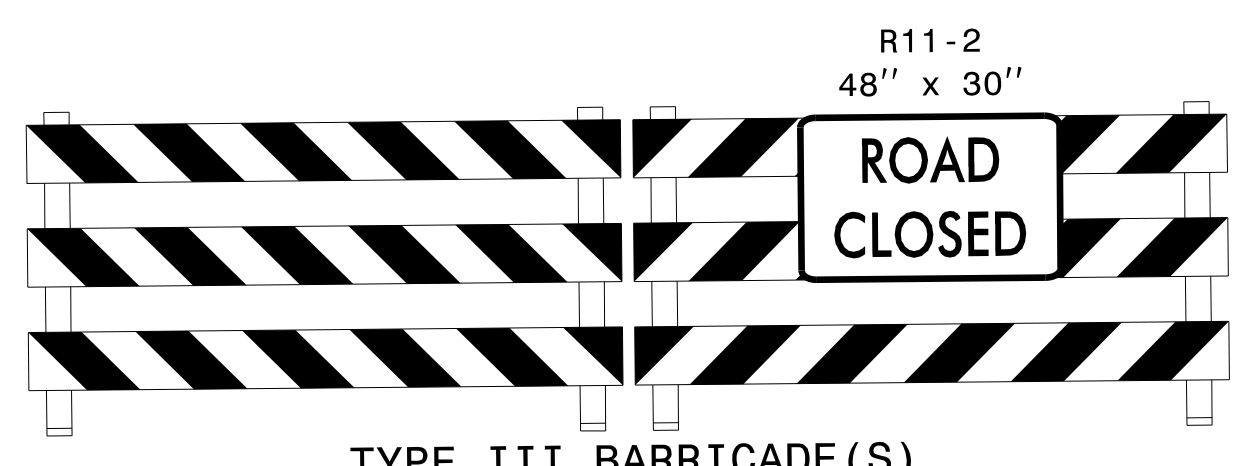
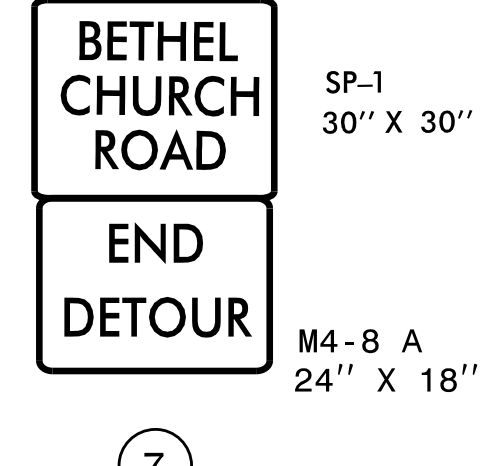
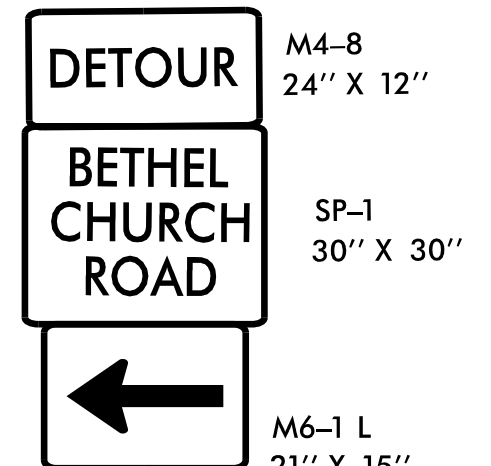
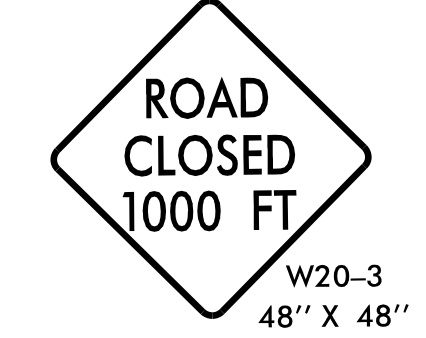
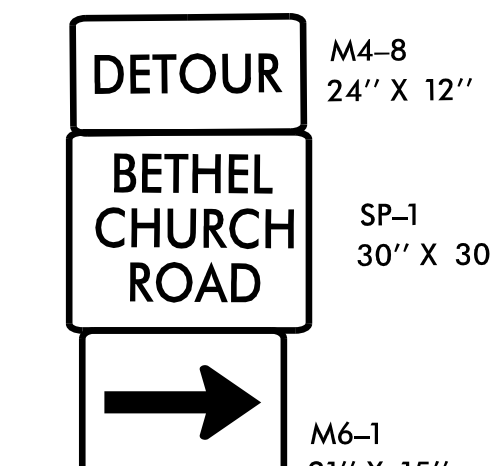
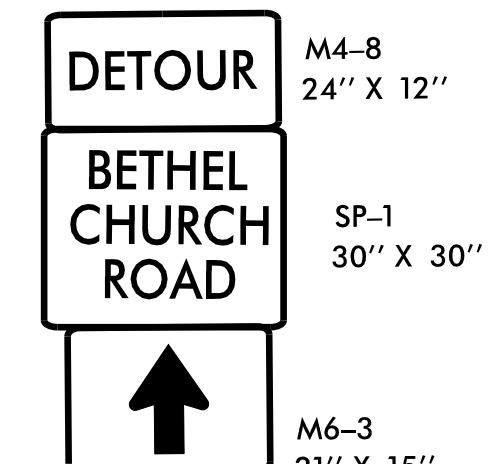
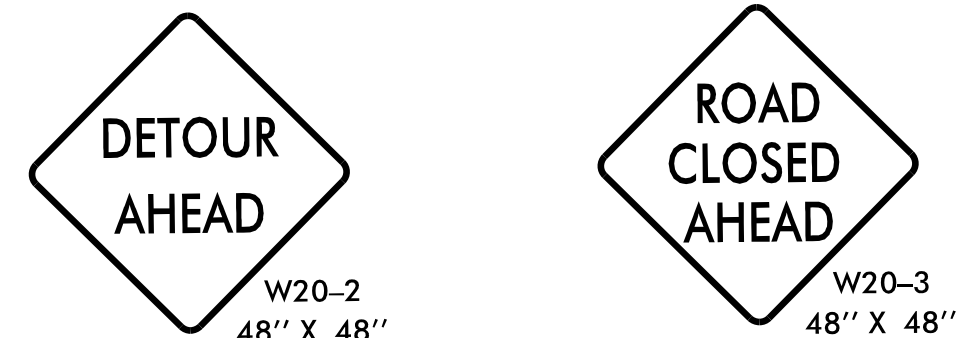
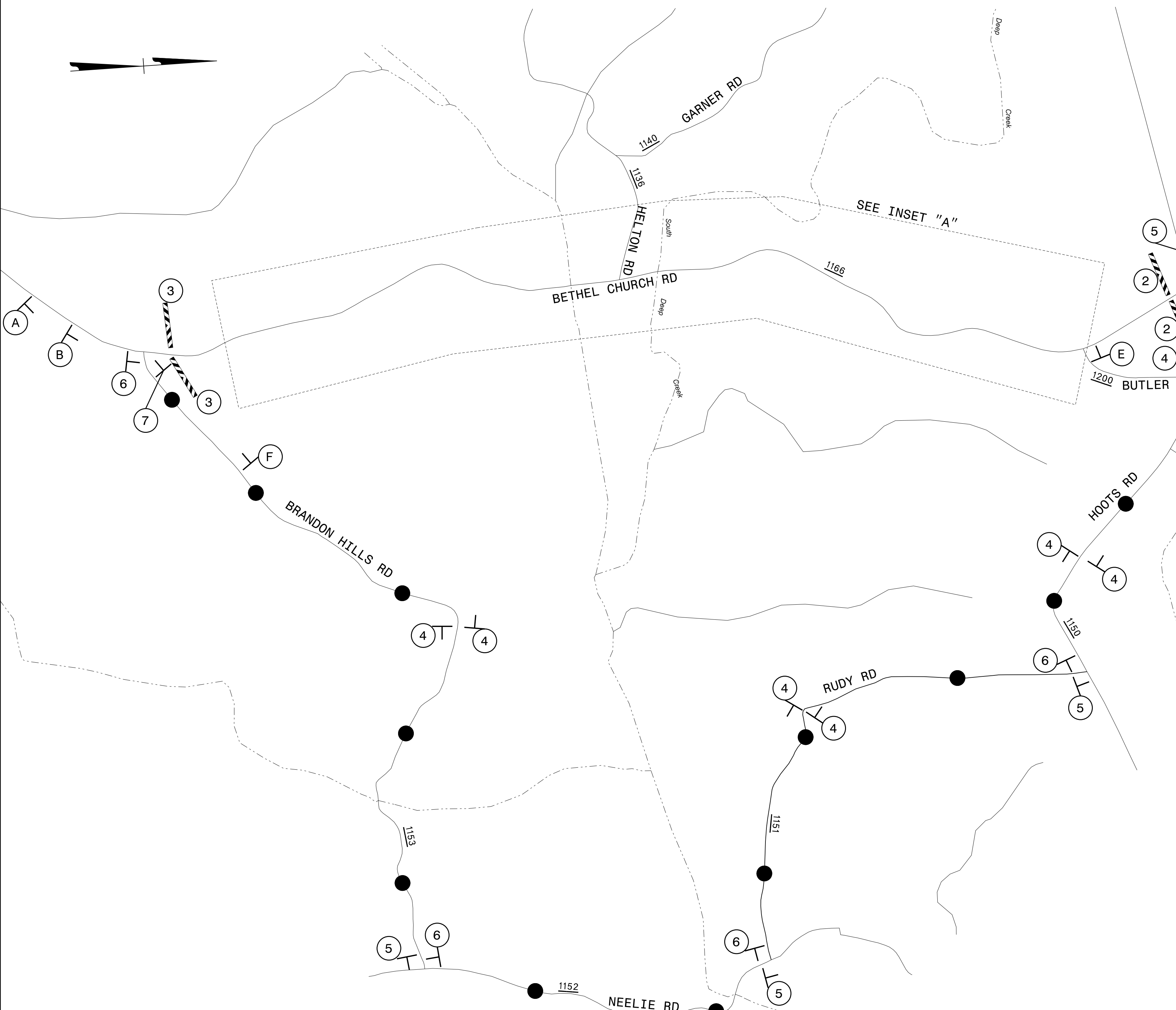
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SEAL

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



SPECIAL SIGN DESIGN

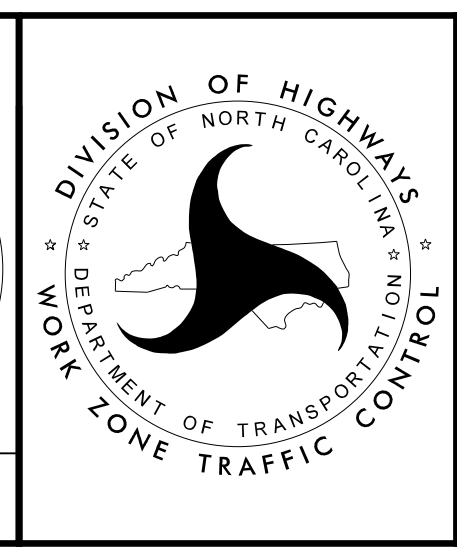


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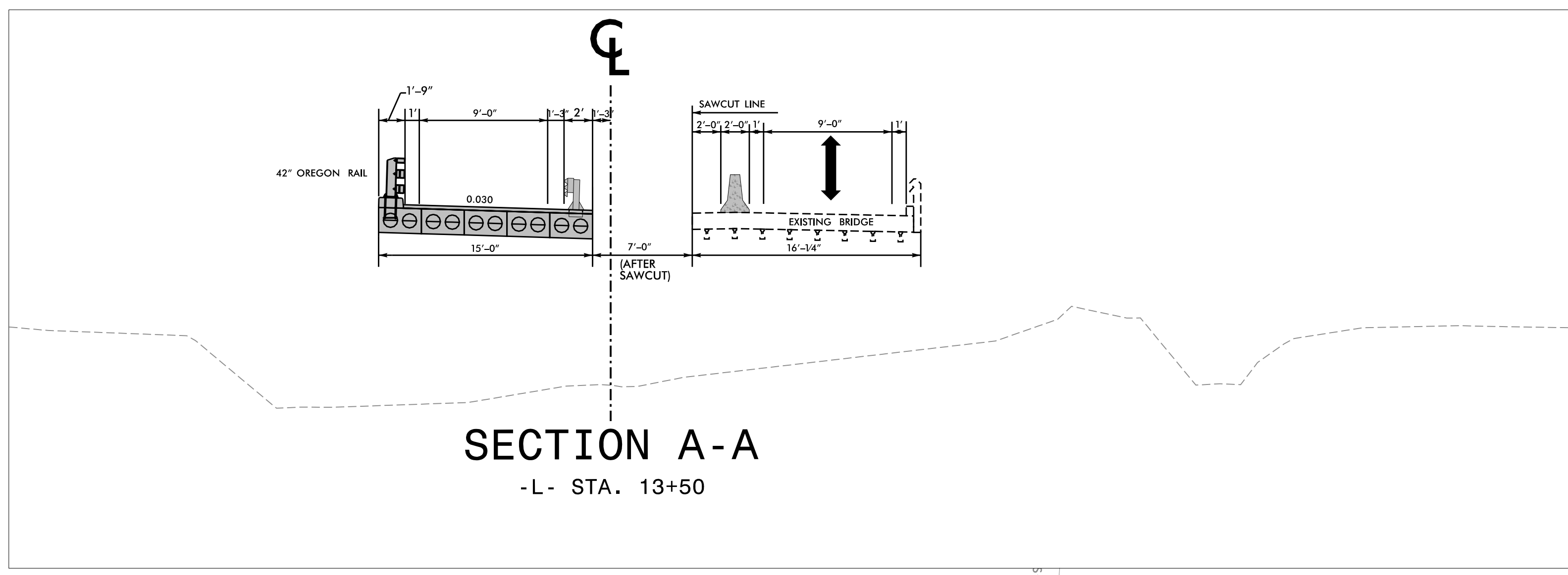
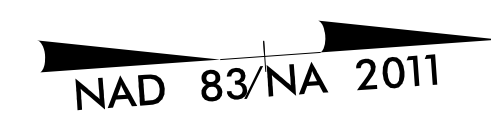
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JMT Johnson, Mirmiran, & Thompson Inc.
 4700 Falls of Neuse Rd, Suite 100,
 Raleigh, NC, 27609
 License No: C-3097

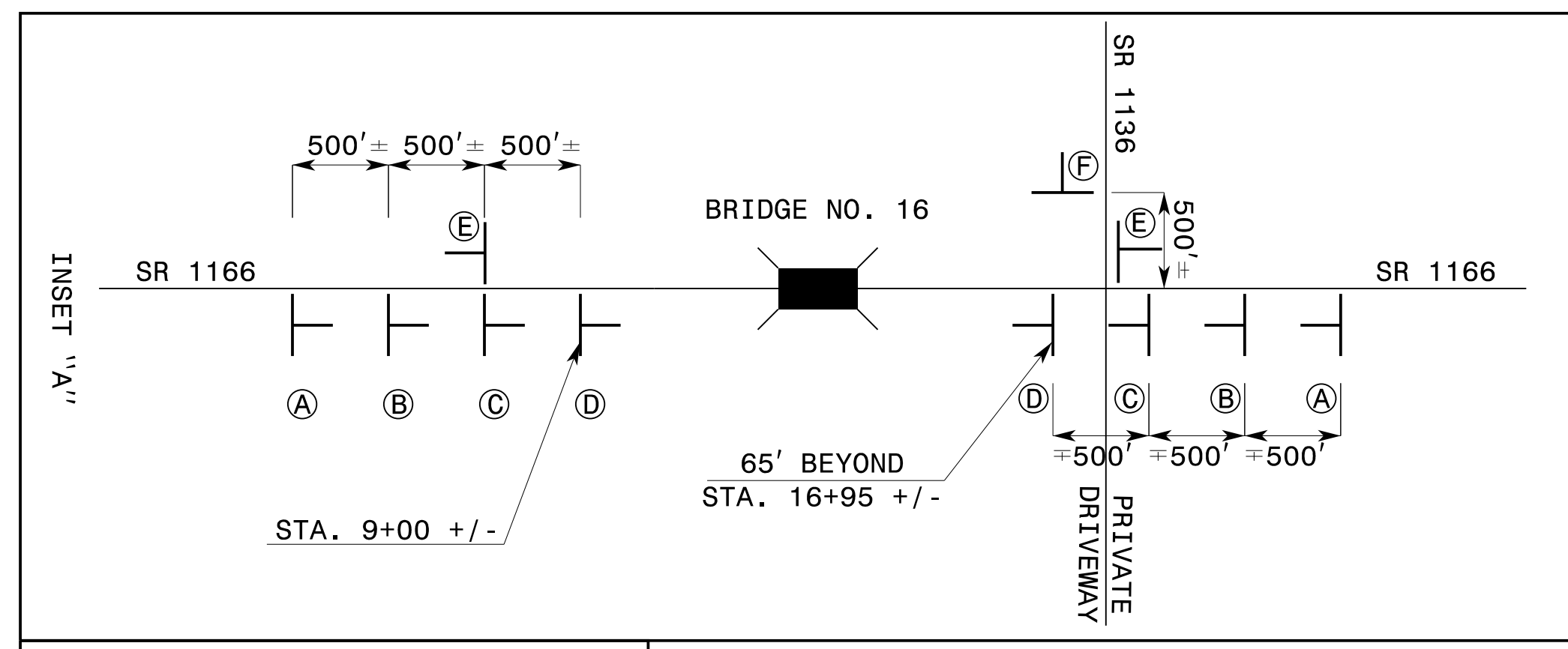
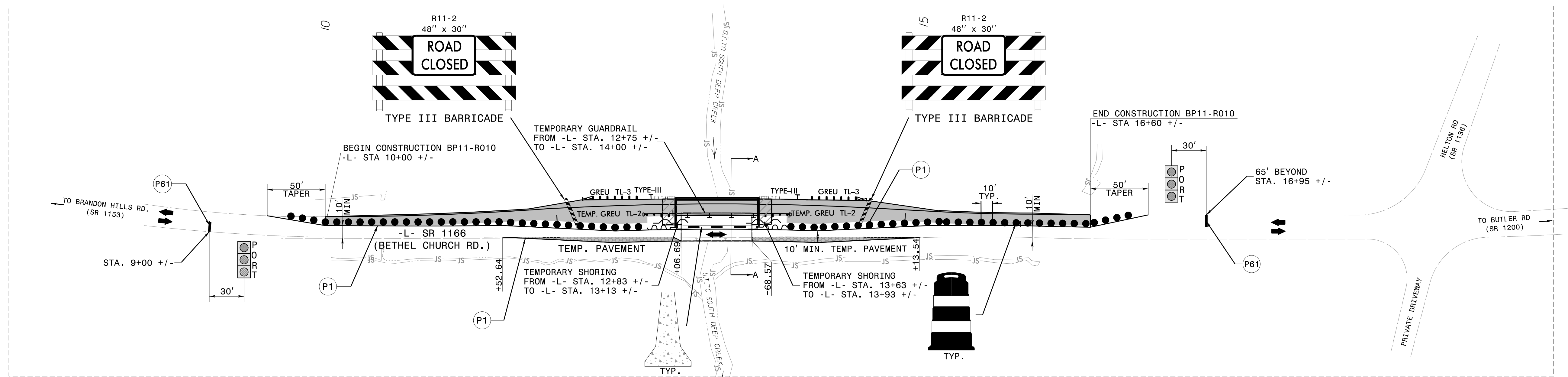
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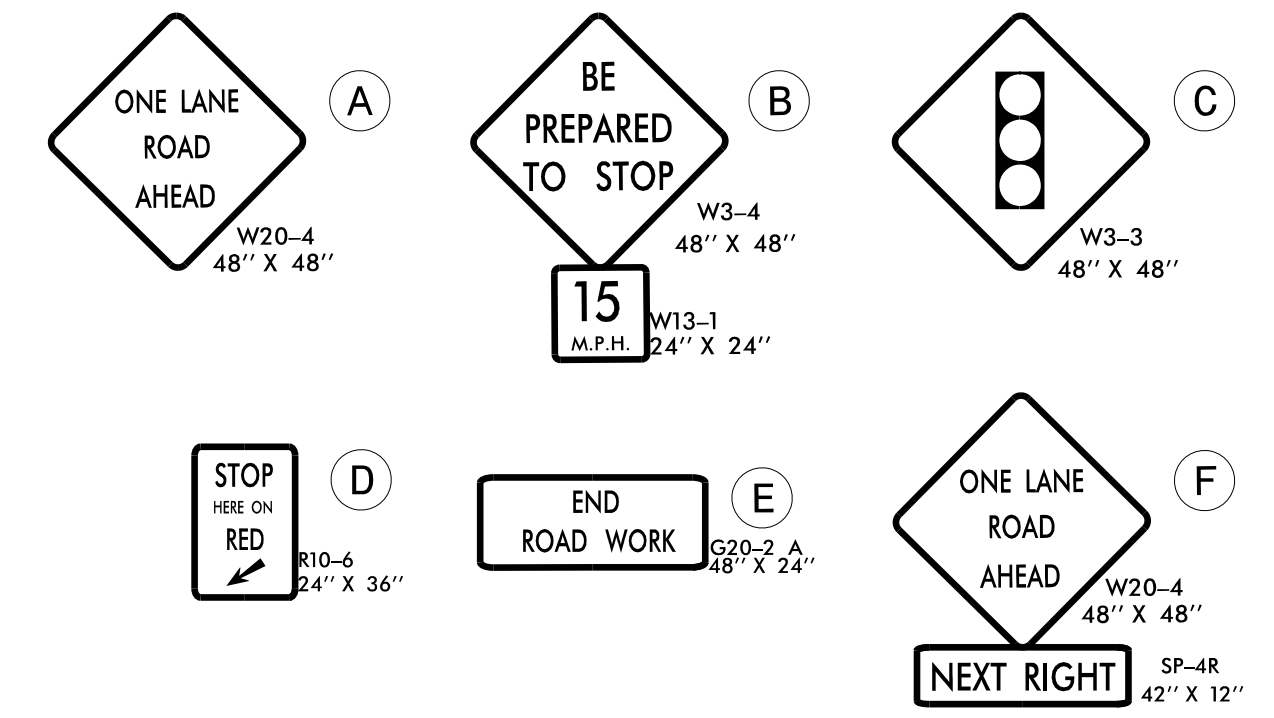
PHASE 1 OFF-SITE DETOUR



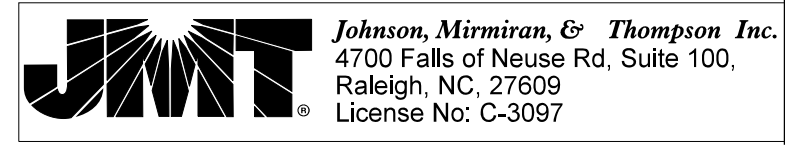
SEE INSET "A"



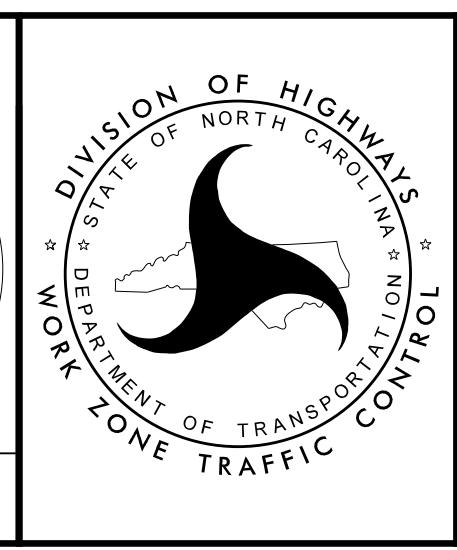
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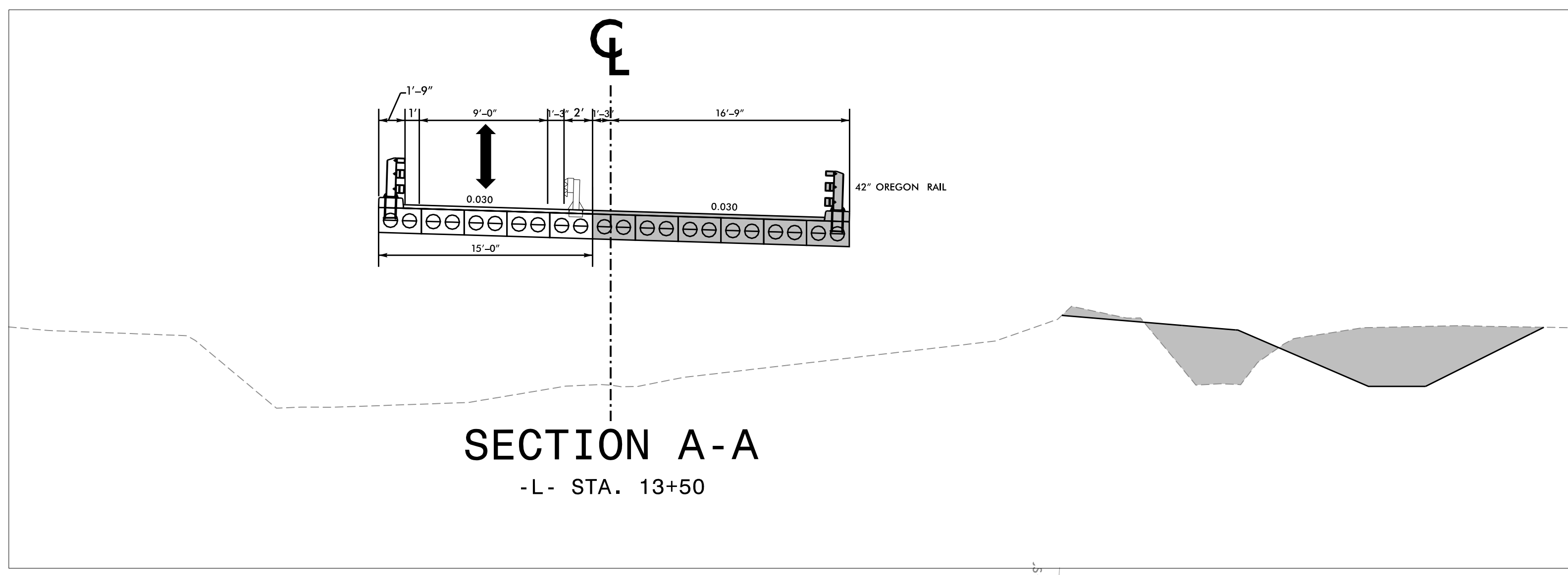
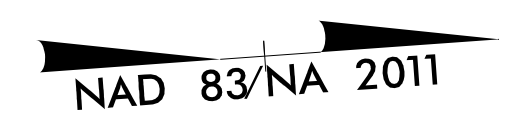


APPROVED: [Signature]
DATE: 9/19/2024 | 6:50:21 PM
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
CHARLES J. YOUNG
046062

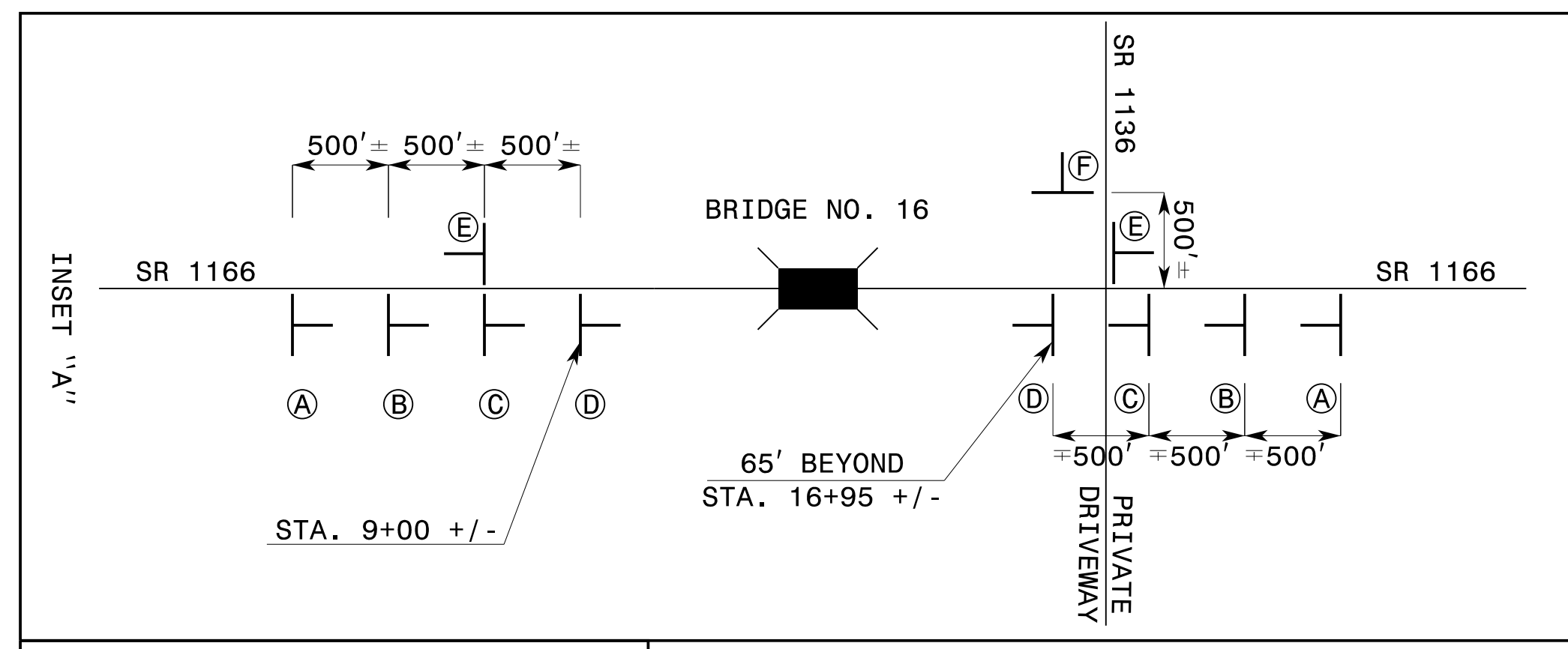
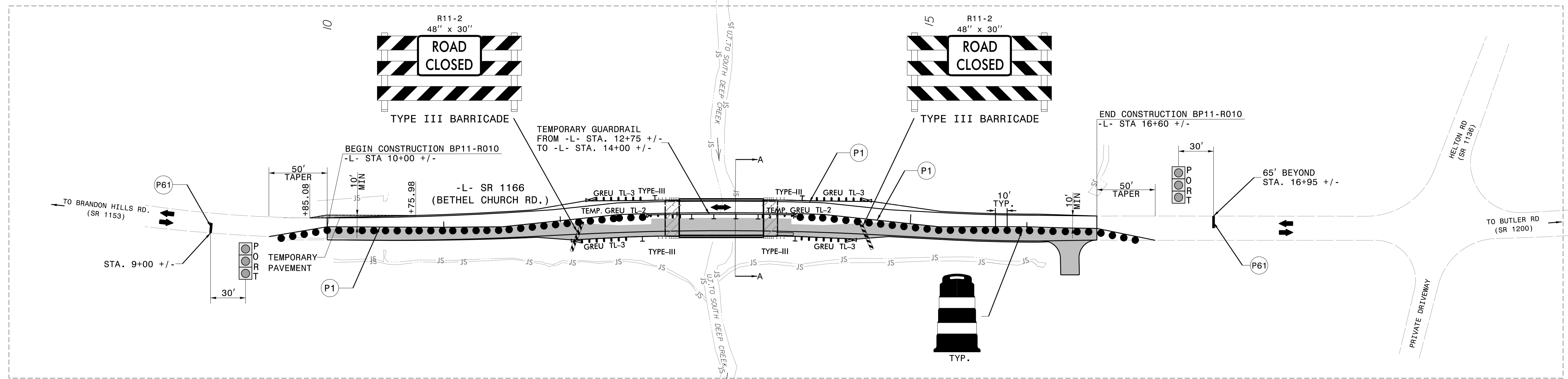


TEMPORARY TRAFFIC CONTROL PHASE 2 DETAIL

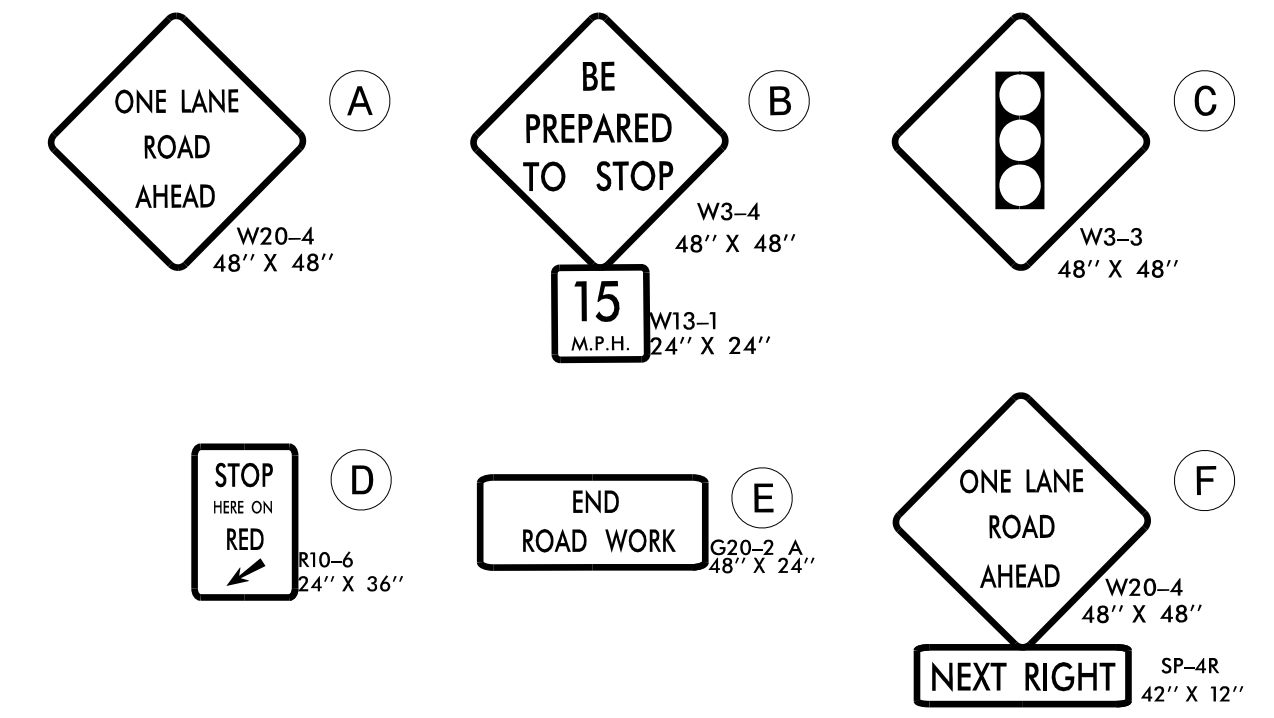
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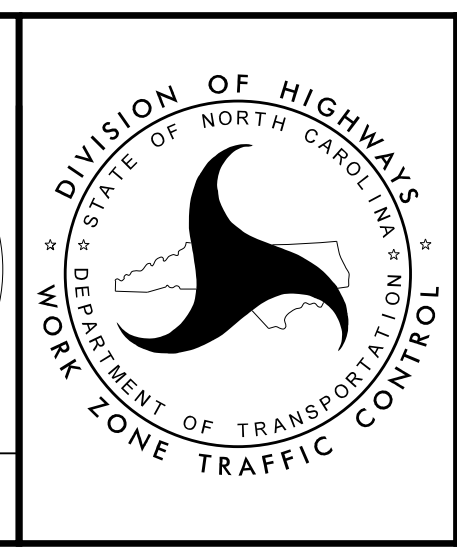
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DRAWING 1101.02, SHEET 17 OF 19
FOR APPLICABLE NOTES.



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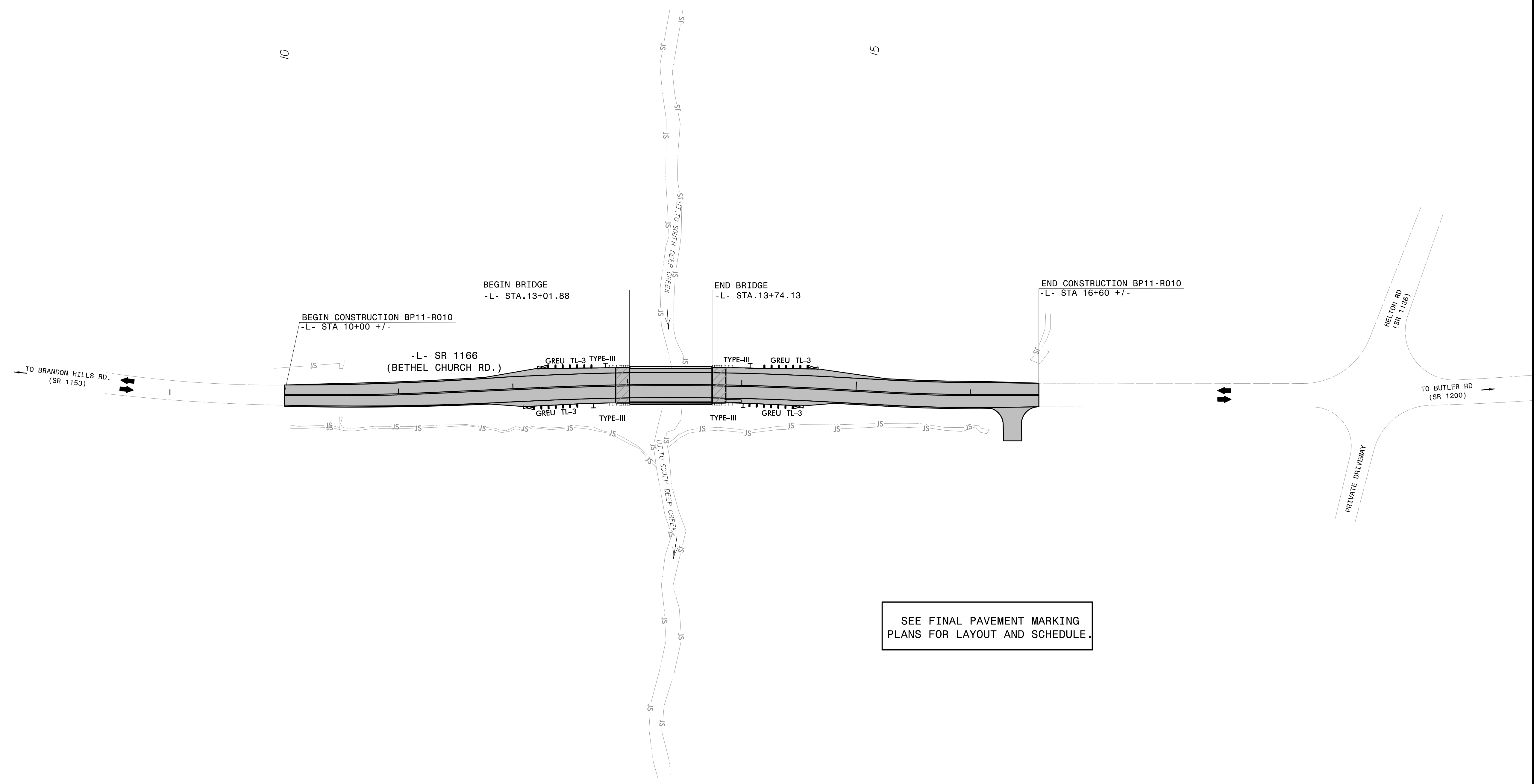
JMT Johnson, Mirmiran, & Thompson Inc.
4700 Falls of Neuse Rd, Suite 100,
Raleigh, NC, 27609
License No: C-3097

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DATE: 9/19/2024 | 6:50:21 PM
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TEMPORARY TRAFFIC CONTROL PHASE 3 DETAIL

NAD 83/NA 2011



SEE FINAL PAVEMENT MARKING PLANS FOR LAYOUT AND SCHEDULE.

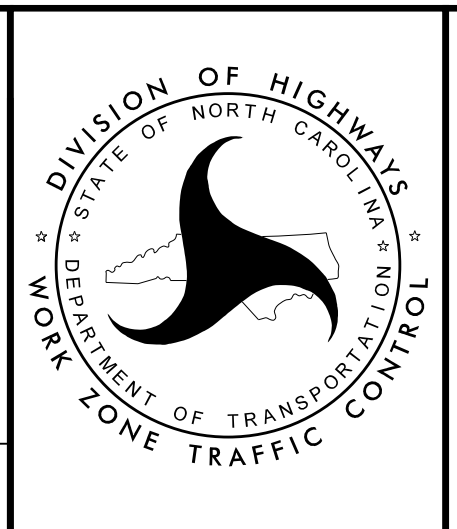
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User: jwones2

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License No: C-3097


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DATE: 9/19/2024 | 6:50:21 PM
SEAL

Professional Engineer Seal:
NORTH CAROLINA
SEAL 046062
ENGINEER
CHARLES J. YOUNG

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



TEMPORARY TRAFFIC CONTROL PHASE 4 DETAIL

PROJECT NO. BP11-R010	SHEET NO. PMP-1
APPROVED: <u>Joshua Q. Roemer</u> <small>2FAR02109568400</small>	
DATE: 9/19/2024 6:00:03 PM EDT	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
YADKIN COUNTY**

BP11-R010

CONTRACT: DK00402

INDEX

SHEET NO.	DESCRIPTION
PMP-1	INDEX, ROADWAY STANDARD DRAWINGS, PAVEMENT MARKING SCHEDULE, GENERAL NOTES, AND PAVEMENT MARKING DETAIL.

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

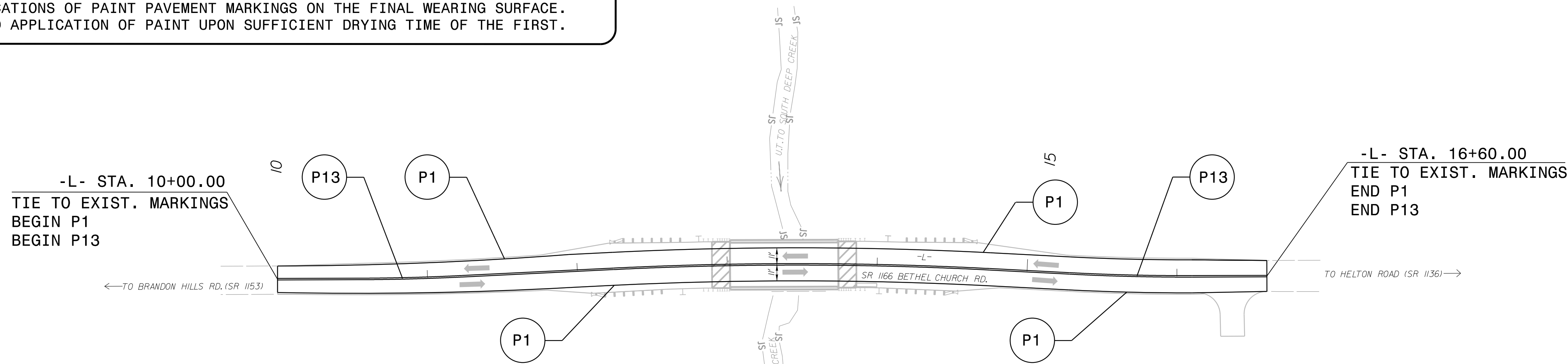
STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.01	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

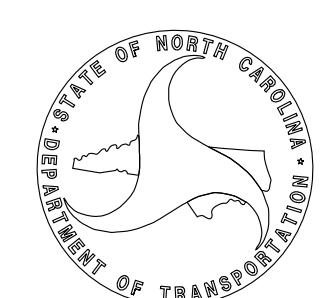
GENERAL NOTES


- THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.
- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:
- | ROAD NAME | MARKING | MARKER |
|------------------------|---------|--------|
| -L- BETHEL CHURCH ROAD | PAINT | NONE |
- B) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
 - C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
 - D) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

PAVEMENT MARKING SCHEDULE

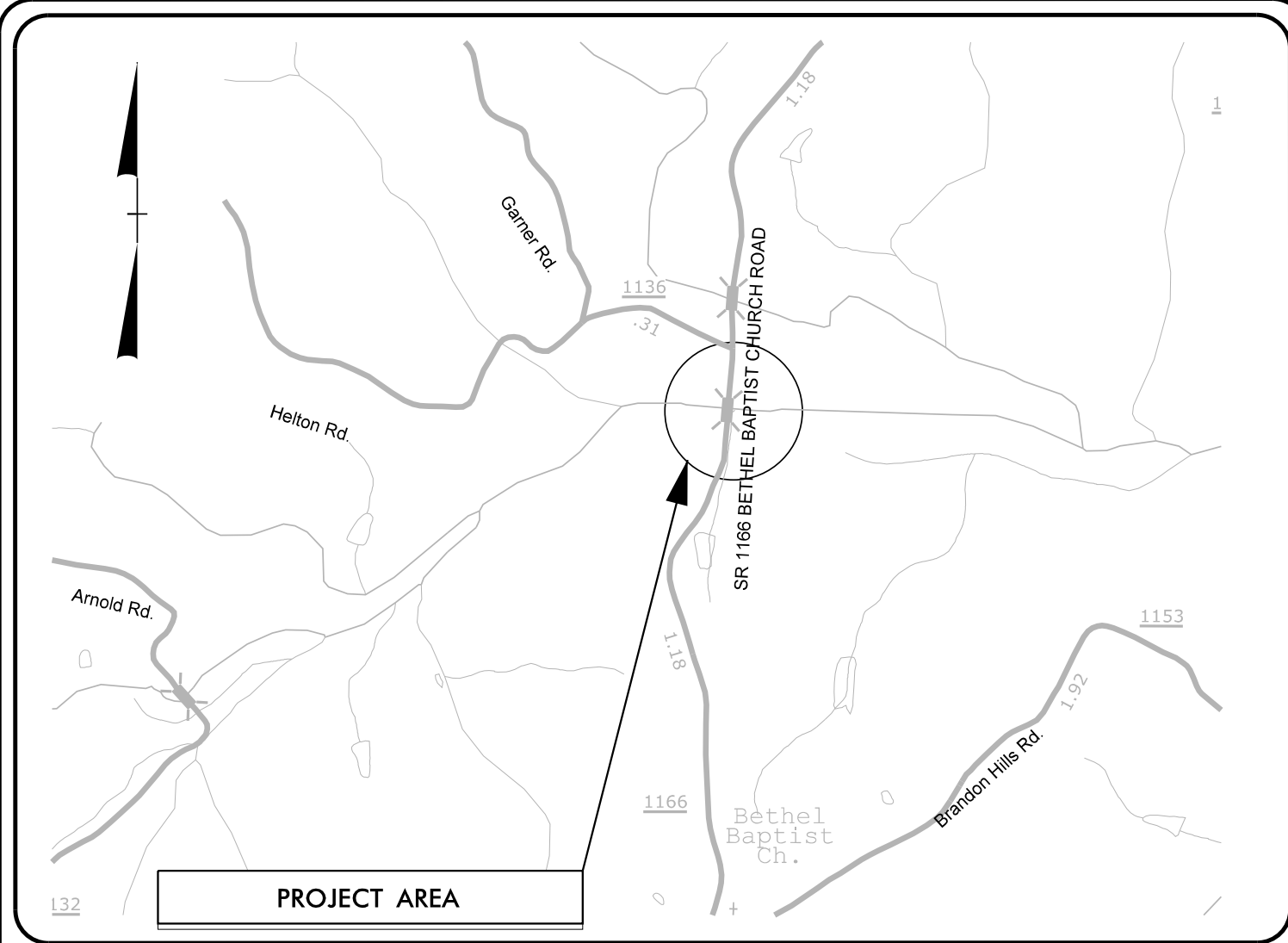
SYMBOL	DESCRIPTION
P1	WHITE EDGELINE (PAINT, 4")
P13	YELLOW DOUBLE CENTER (PAINT, 4")



PLAN SUBMITTED TO:	
<u>ROB N. WEISZ, PE</u>	
DIVISION 11 BRIDGE PROGRAM MANAGER	

PLAN PREPARED BY: JMT	 <small>Johnson, Mirreman, & Thompson, Inc. 4700 Falls of Neuse Rd., Suite 100, Raleigh, NC 27609 License No. C-3097</small>
<u>JOSHUA ROEMER, PE</u> PROJECT ENGINEER	
<u>DANE FREDDE</u> PROJECT DESIGN ENGINEER	

PROJECT: BP11.R010



VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

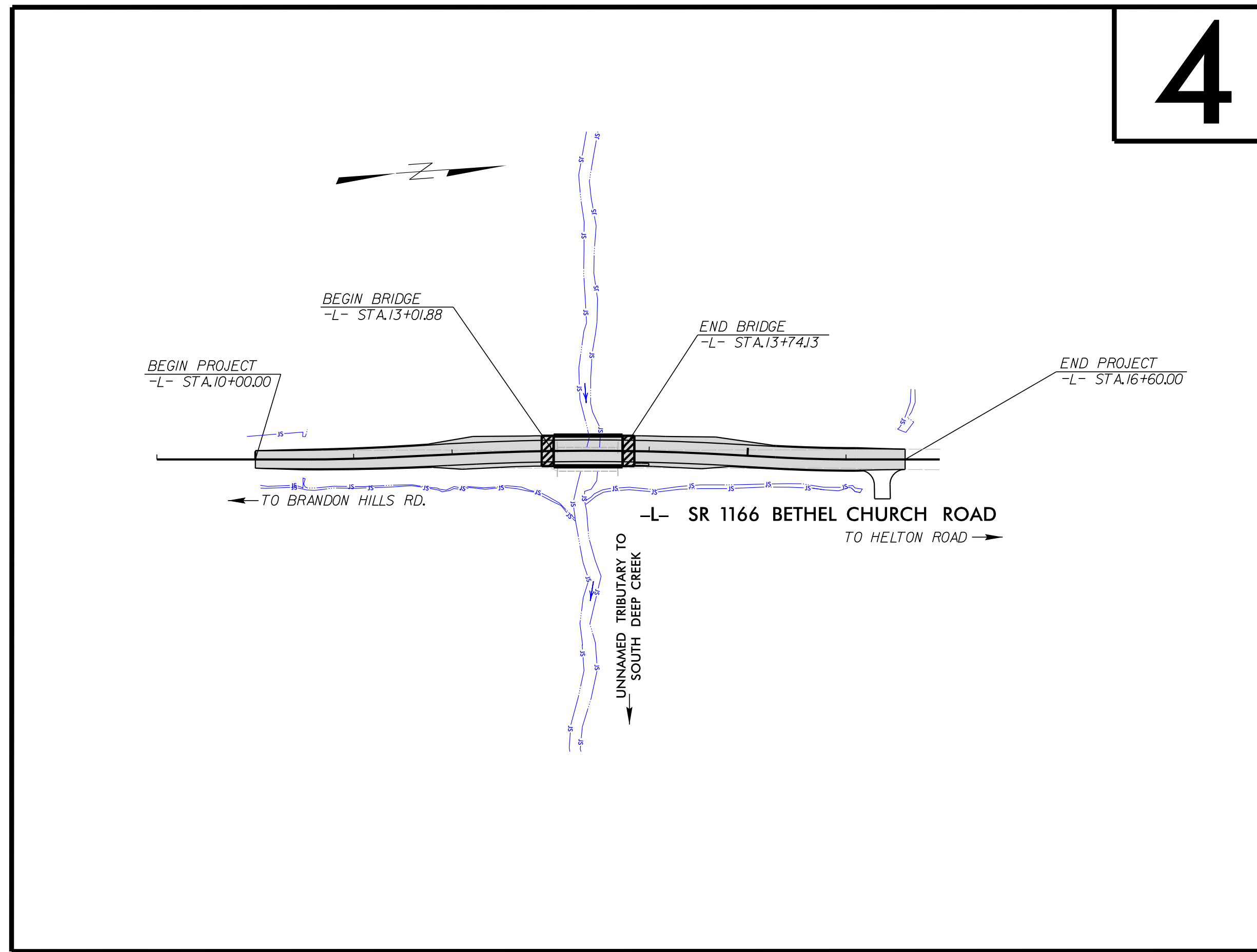
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

YADKIN COUNTY

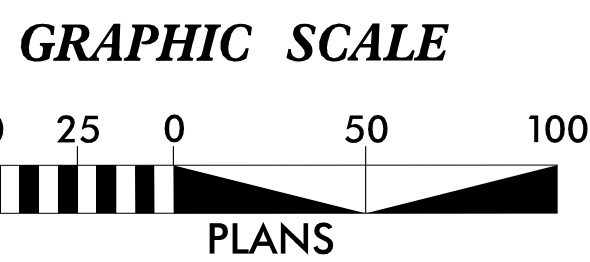
**LOCATION: BRIDGE NO. 980016 ON SR 1166 (BETHEL CHURCH ROAD)
OVER U.T. TO SOUTH DEEP CREEK**

TYPE OF WORK: GRADING, PAVING, DRAINAGE, & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP11.R010	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP11.R010.1		PE	
BP11.R010.2		RW & UTILITIES	
BP11.R010.3		CONST.	



THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.



*THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH
THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000
GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019
AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.*



Prepared in the Office of:
JOHNSON, MIRMIRAN & THOMPSON, INC.
4700 FALLS OF NEUSE ROAD, SUITE 100
RALEIGH, NC 27609

Designed by:
CARLY GOLDSBOROUGH 4243
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

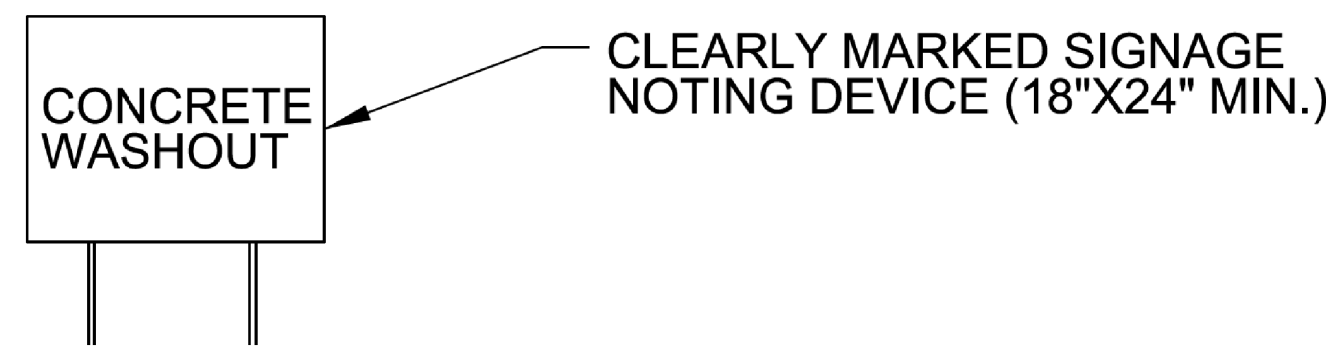
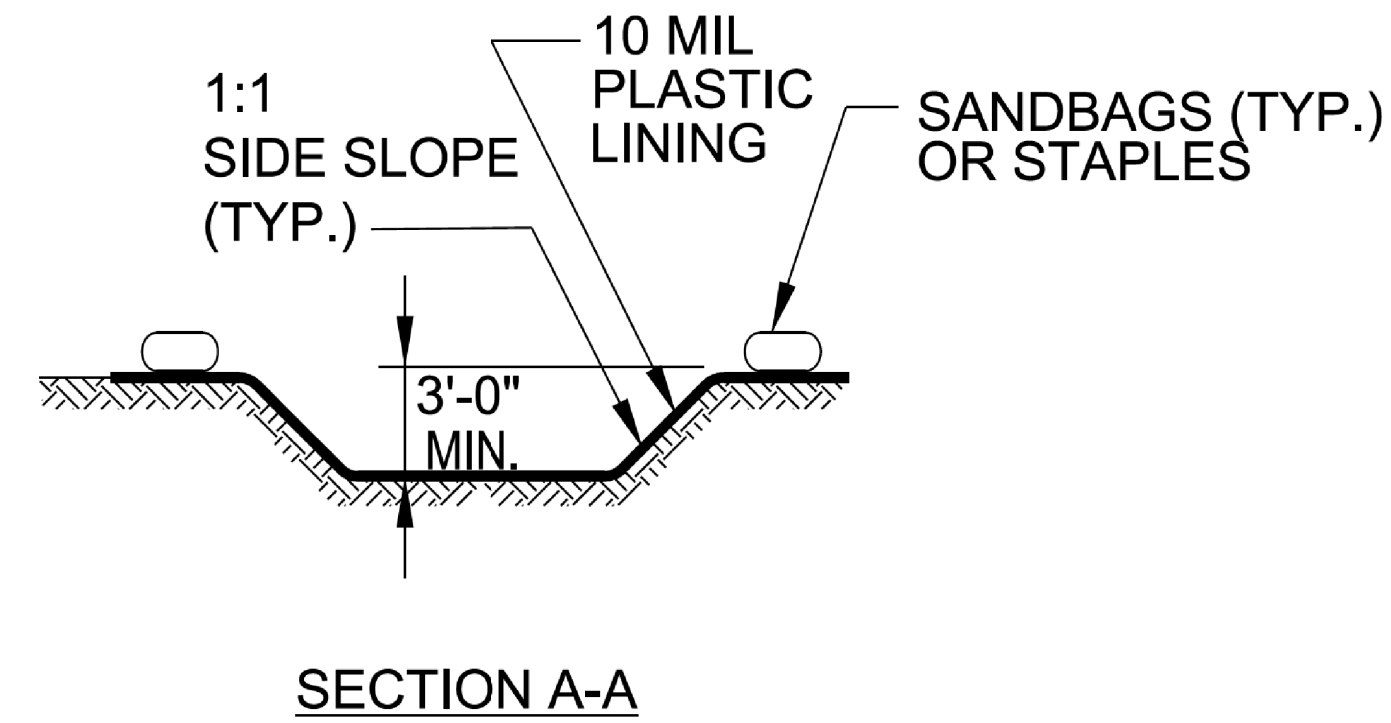
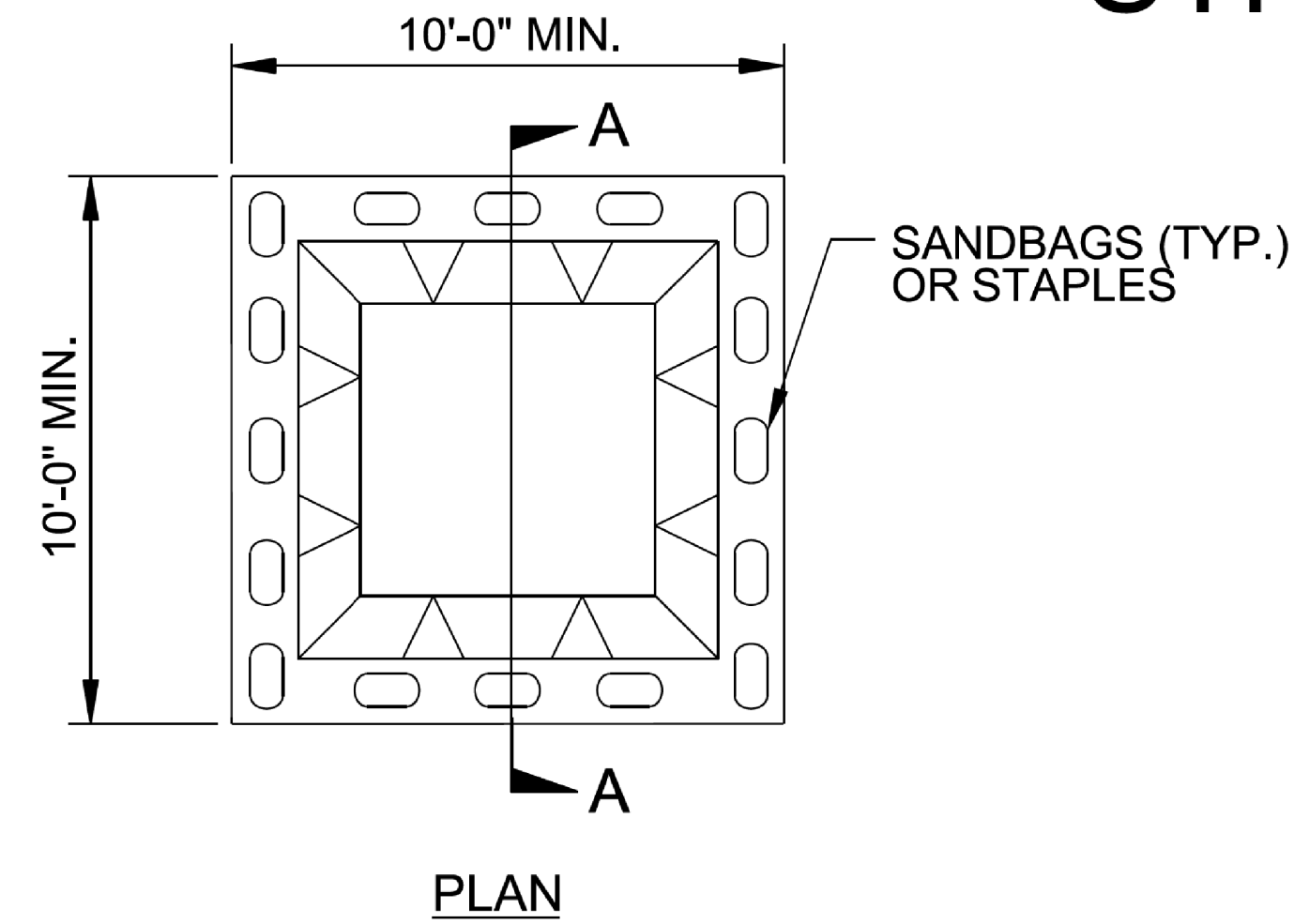
PROJECT REFERENCE NO.	SHEET NO.
BP11.R010	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION & SEDIMENT CONTROL LEGEND

	<u>Description</u>	<u>Symbol</u>		<u>Std. #</u> <u>Description</u>	<u>Symbol</u>	
1605.01	Temporary Silt Fence			1633.01	Temporary Rock Silt Check Type A	
1606.01	Special Sediment Control Fence			1633.02	Temporary Rock Silt Check Type B	
1622.01	Temporary Berms and Slope Drains			1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1630.02	Silt Basin Type B			1634.01	Temporary Rock Sediment Dam Type A	
1630.03	Temporary Silt Ditch			1634.02	Temporary Rock Sediment Dam Type B	
1630.04	Stilling Basin			1635.01	Rock Pipe Inlet Sediment Trap Type A	A
1630.05	Temporary Diversion			1635.02	Rock Pipe Inlet Sediment Trap Type B	B
1630.06	Special Stilling Basin			1636.01	Excelsior Wattle Check	
1630.07	Skimmer Basin			1636.01	Excelsior Wattle Check with Flocculant	
1630.08	Tiered Skimmer Basin			1636.01	Coir Fiber Wattle Check	
1630.09	Earthen Dam with Skimmer			1636.01	Coir Fiber Wattle Check with Flocculant	
	Infiltration Basin			1636.02	Silt Fence Excelsior Wattle Break	
	Rock Inlet Sediment Trap:				Silt Fence Coir Fiber Wattle Break	
1632.01	Type A	A		1636.03	Excelsior Wattle Barrier	
1632.02	Type B	B		1636.03	Coir Fiber Wattle Barrier	
1632.03	Type C	C				

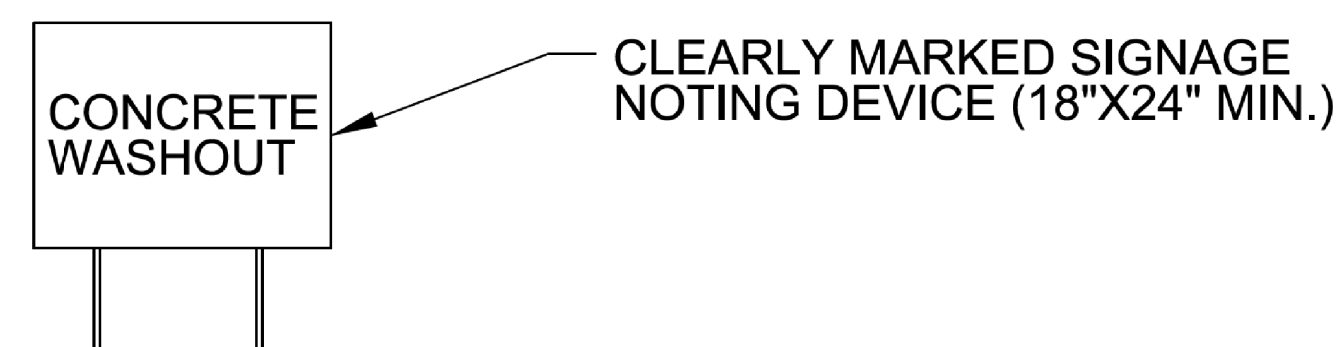
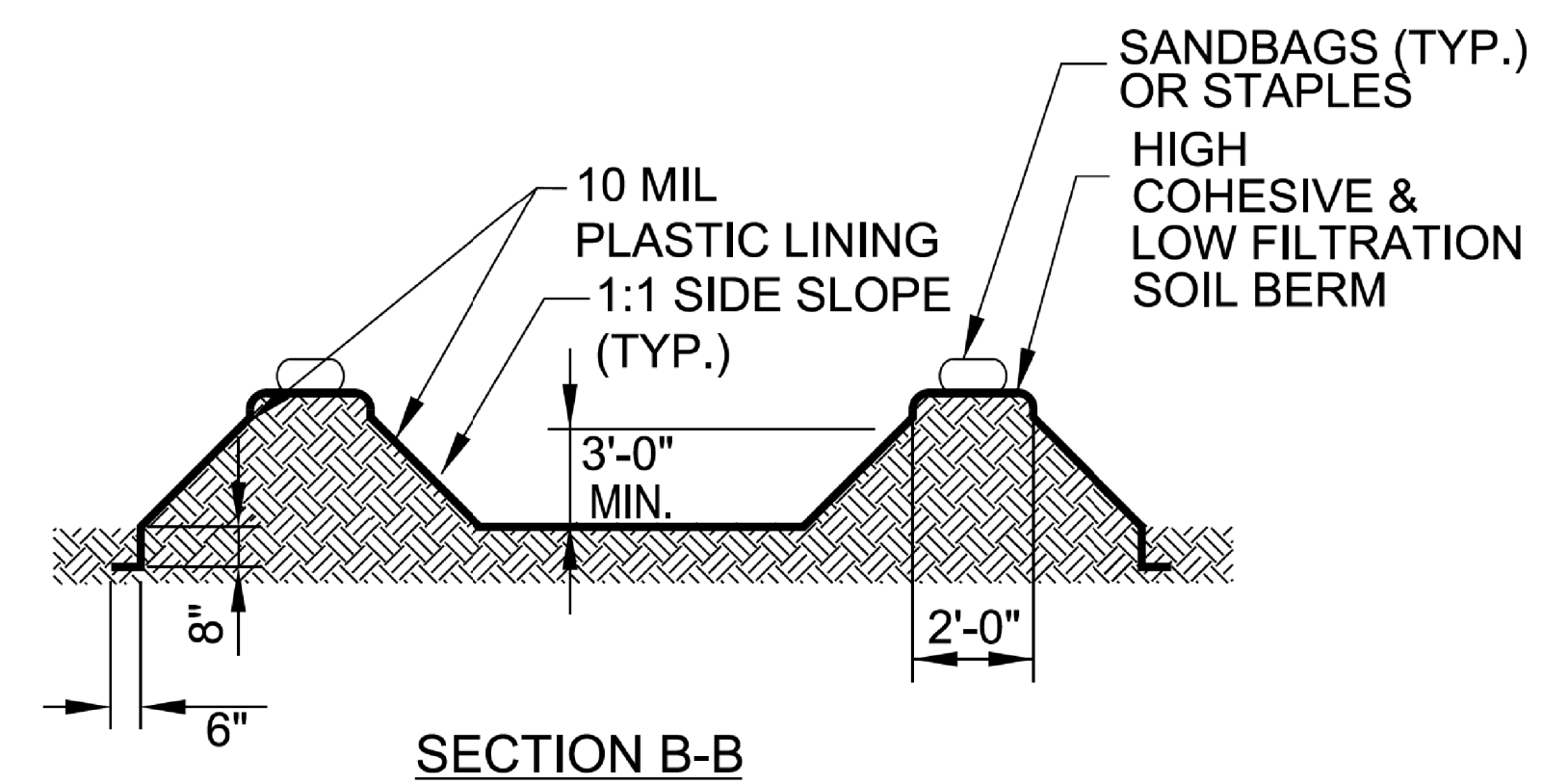
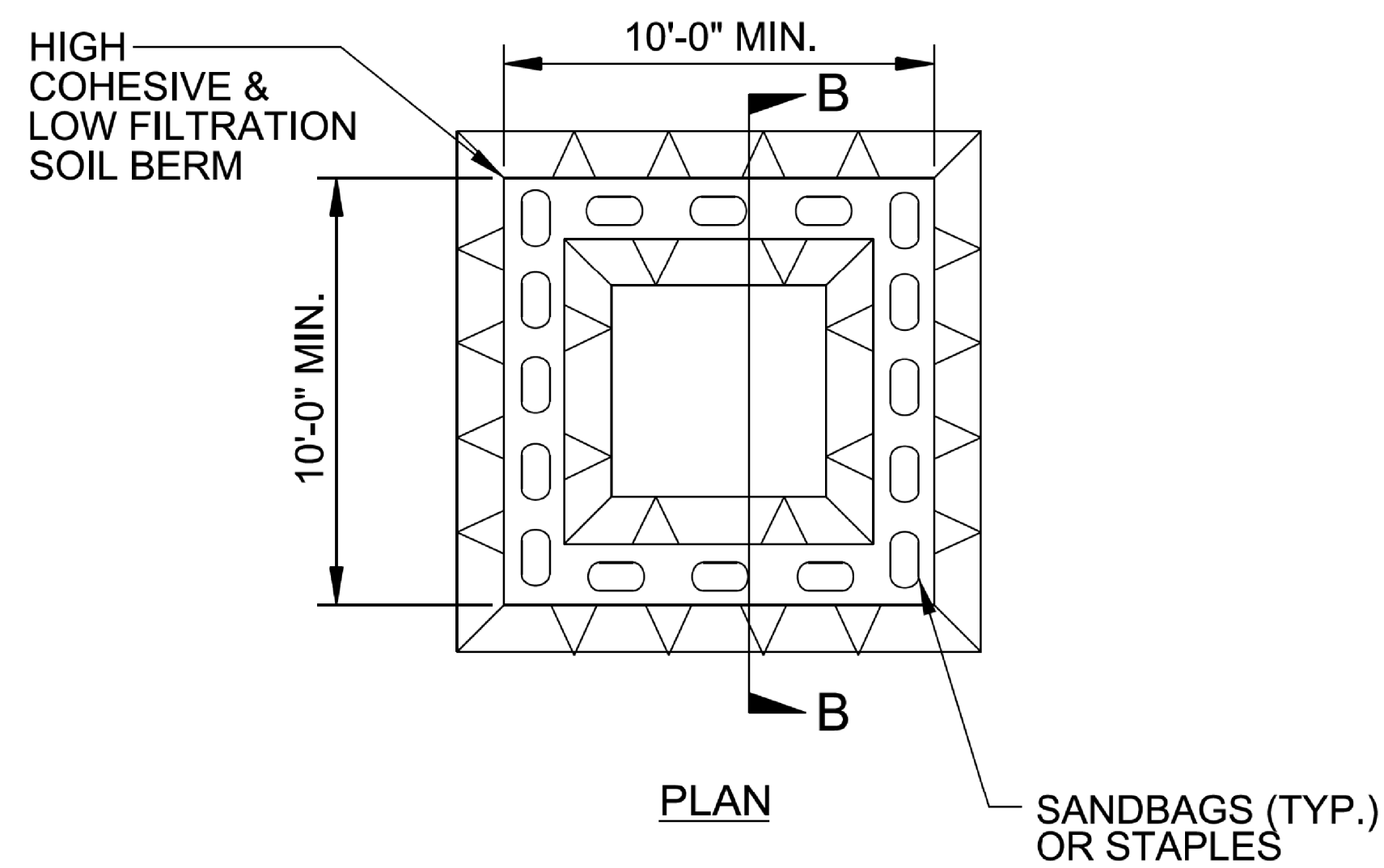
PROJECT REFERENCE NO. <i>BPII,RO10</i>	SHEET NO. <i>EC-2A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>BPII,RO10</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>BPII.R010</i>	SHEET NO. <i>EC-3B</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

MATTING FOR EROSION CONTROL (COIR FIBER)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L- *SLOPE*	12+50	13+01.88	LT	84
4	-L- *SLOPE*	13+74.13	14+50	LT	92
4	-L- *SLOPE*	10+00	13+20	RT	873
4	-L- *SLOPE*	13+57	16+10	RT	590
			SUBTOTAL		1639
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				9100
			TOTAL		10739
			SAY		10740

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L- *DITCH*	10+08	13+25	RT	752
4	-L- *DITCH*	13+35	16+12	RT	851
			SUBTOTAL		1578
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				800
			TOTAL		2378
			SAY		2410

PROJECT REFERENCE NO.	SHEET NO.
BPII,ROIO	EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

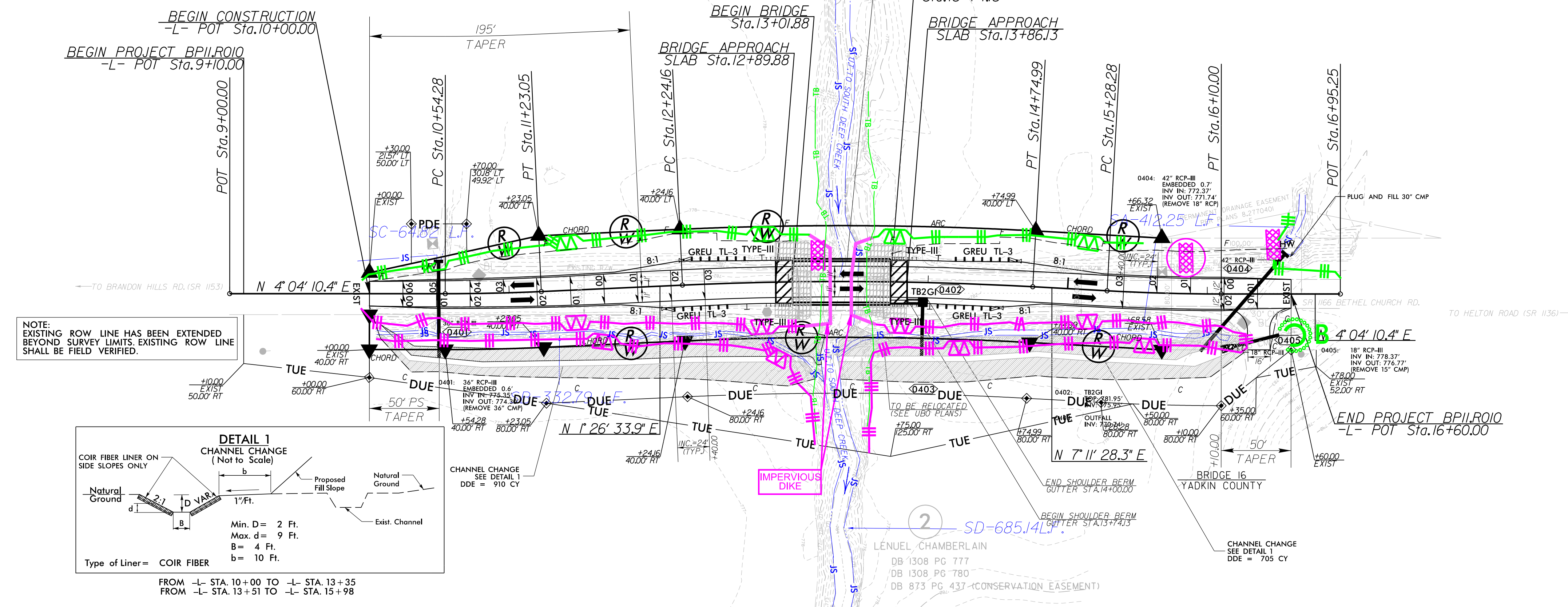
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

CONSTRUCTION SEQUENCE FOR BENT
1. INSTALL IMPERVIOUS DIKE.
2. DEWATER SITE UTILIZING SPECIAL STILLING BASIN.
3. DEMO EXISTING BENT STRUCTURE.
4. INSTALL PROPOSED BENT STRUCTURE.
5. REMOVE IMPERVIOUS DIKE AND SPECIAL STILLING BASIN.
6. COMPLETE BRIDGE CONSTRUCTION.

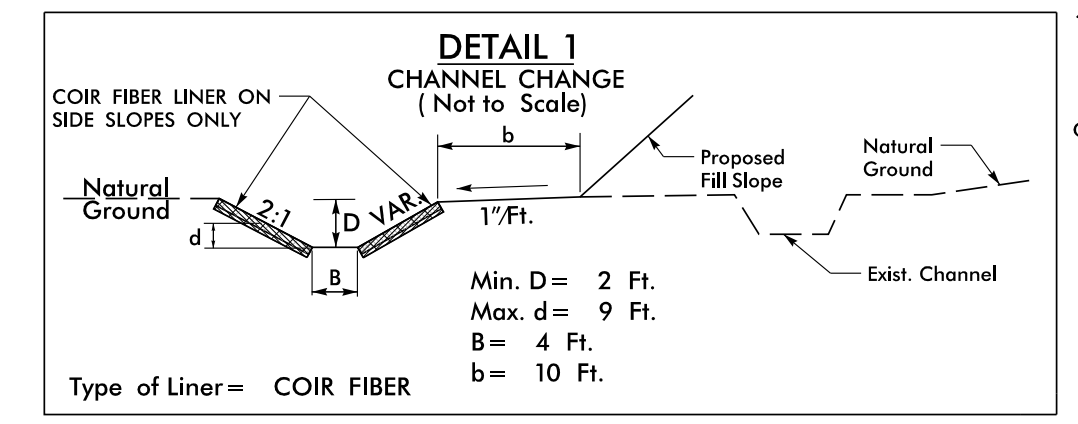
NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING
BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL
AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT
PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

-L-	-L-	-L-
Sta. 13+49.68	Sta. 15+69.15	
PI Sta. 13+49.68	PI Sta. 15+69.15	
$\Delta = 5' 44" 54.4" (RT)$	$\Delta = 3' 07" 17.9" (LT)$	
$D = 2' 17" 30.6"$	$D = 3' 49" 11.0"$	
$L = 250.82'$	$L = 81.72'$	
$T = 125.52'$	$T = 40.87'$	
$R = 2,500.00'$	$R = 1,500.00'$	
$S_e = 4\%$	$S_e = 4\%$	



NOTE:
EXISTING ROW LINE HAS BEEN EXTENDED
BEYOND SURVEY LIMITS. EXISTING ROW LINE
SHALL BE FIELD VERIFIED.



FROM -L- STA. 10+00 TO -L- STA. 13+35
 FROM -L- STA. 13+51 TO -L- STA. 15+98

REVISIONS

8.17/99

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PROJECT REFERENCE NO.	SHEET NO.
BPII,ROIO	EC-05/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

FINAL GRADE
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

Place Matting for Erosion Control
on Slopes as Work Allows. See
Sheet EC-3B for Station Locations.

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING
BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL
AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT
PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

-L-	-L-	-L-
Sta 13+49.68	Sta 15+69.15	
PI Sta 13+49.68	PI Sta 15+69.15	
$\Delta = 5' 44" 54.4" (RT)$	$\Delta = 3' 07" 17.9" (LT)$	
$D = 2' 17" 30.6"$	$D = 3' 49" 11.0"$	
$L = 250.82'$	$L = 81.72'$	
$T = 125.52'$	$T = 40.87'$	
$R = 2,500.00'$	$R = 1,500.00'$	
$S_e = 4\%$	$S_e = 4\%$	

BEGIN CONSTRUCTION
-L- POT Sta.10+00.00

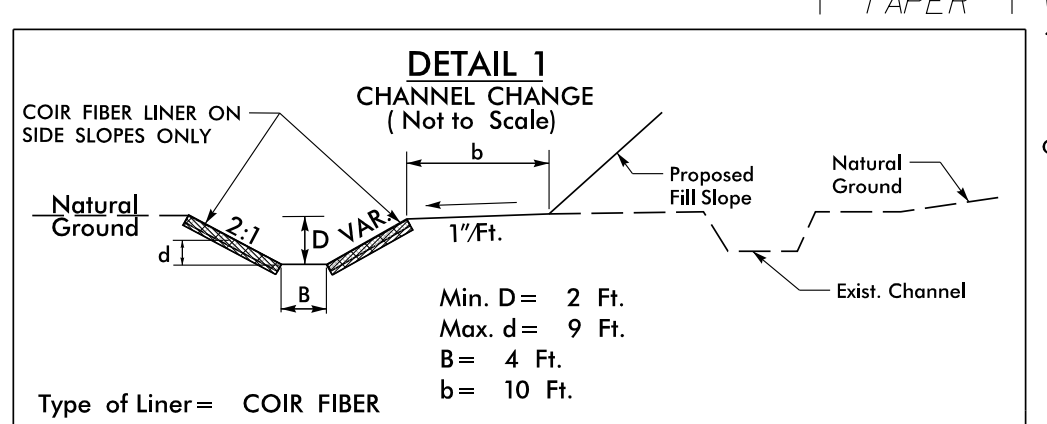
BEGIN PROJECT BPII,ROIO
-L- POT Sta.9+10.00

1
SHIRLEY WILES
DB 348 PG 805

END BRIDGE
Sta.13+74.13

BRIDGE APPROACH
SLAB Sta.13+86.13

NOTE:
EXISTING ROW LINE HAS BEEN EXTENDED
BEYOND SURVEY LIMITS. EXISTING ROW LINE
SHALL BE FIELD VERIFIED.

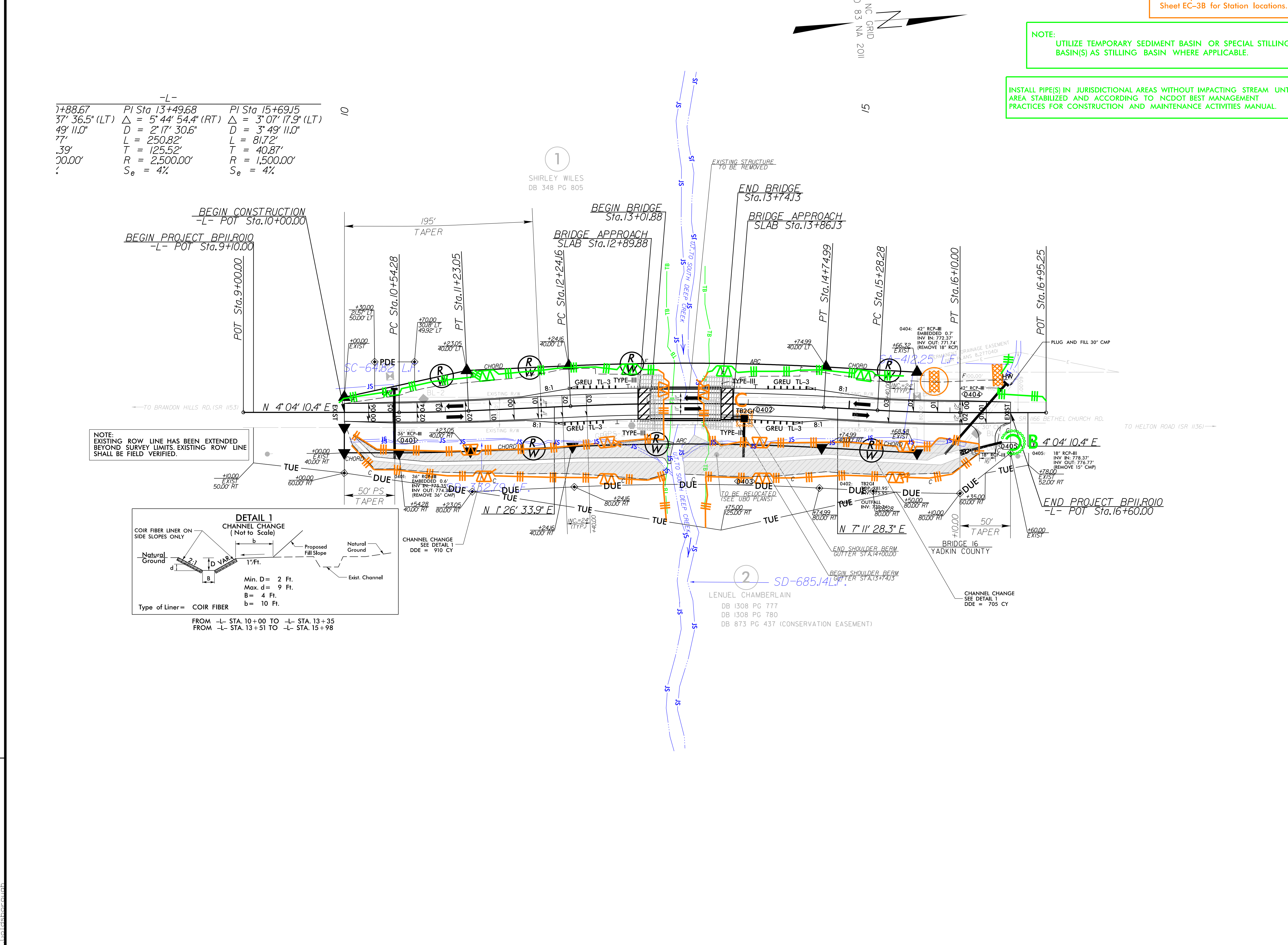


FROM -L- STA. 10+00 TO -L- STA. 13+35
FROM -L- STA. 13+51 TO -L- STA. 15+98

REVISIONS

8/17/99

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NA 2011

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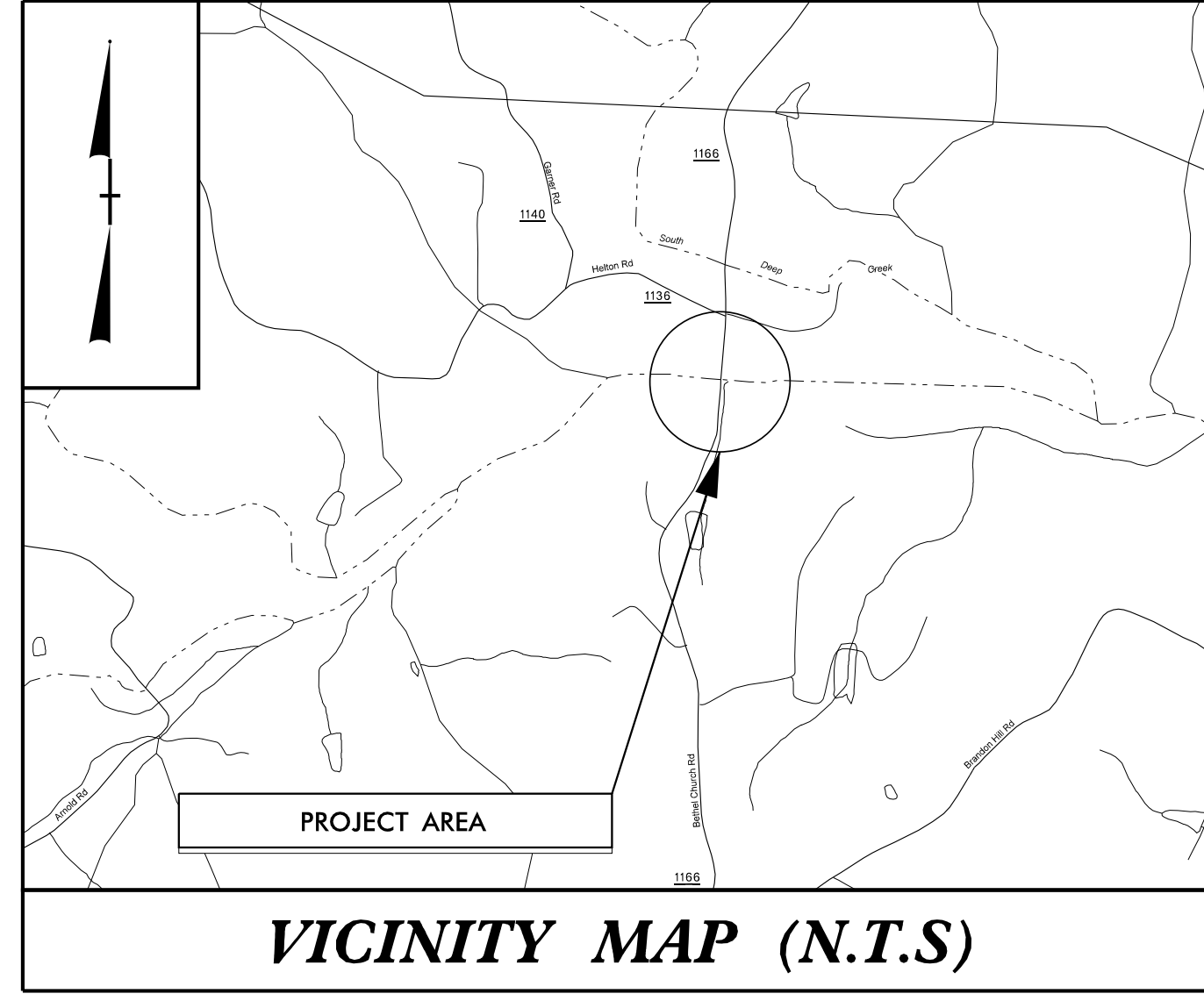
2
SD-685.14
LENUEL CHAMBERLAIN
DB 1308 PG 777
DB 1308 PG 780
DB 873 PG 437 (CONSERVATION EASEMENT)

01/24/2023

TIP PROJECT: BP11.R010

T.I.P. NO.	SHEET NO.
BP11.R010	UO-1

NOTE:
 ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS.
 NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



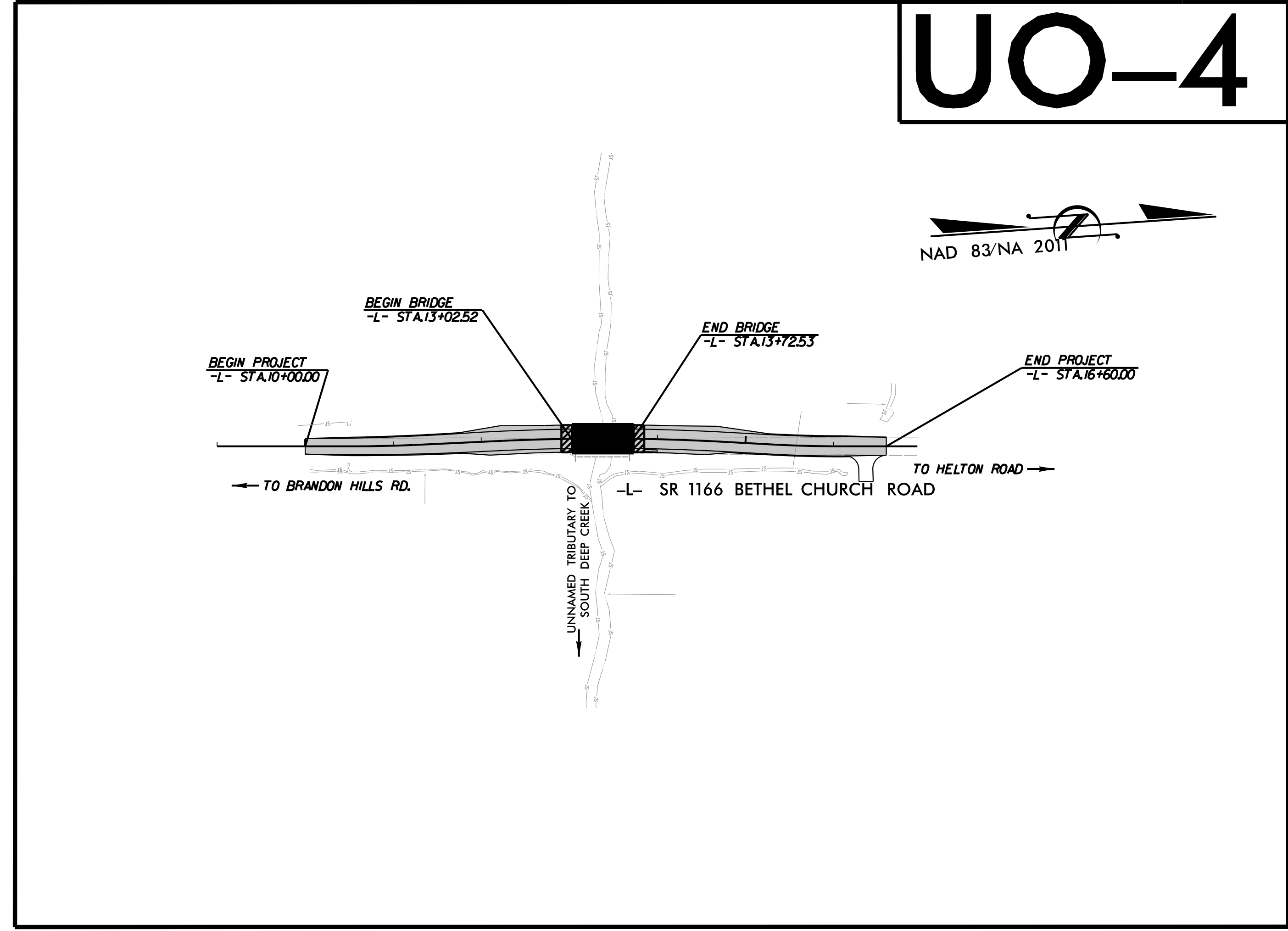
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
YADKIN COUNTY

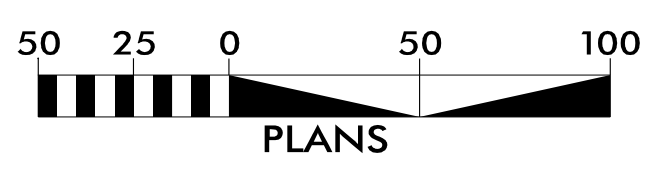
LOCATION: BRIDGE NO. 890016 ON SR 1166 (BETHEL CHURCH ROAD)
 OVER U.T. TO SOUTH DEEP CREEK

TYPE OF WORK: RELOCATION OF POWER, AND FIBER UTILITIES

UO-4



GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2	UBO SYMBOLOGY SHEET
UO-3	OMITTED
UO-4	UBO PLAN SHEETS

UTILITY OWNERS WITH CONFLICTS

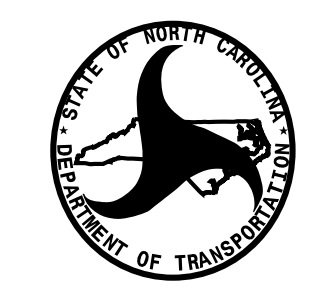
- (A) POWER - ENERGY UNITED
- (B) FIBER - SPECTRUM

PREPARED IN THE OFFICE OF:



Johnson, Mirmiran & Thompson, Inc.
 4700 Falls of Neuse Rd., Suite 100,
 Raleigh, NC, 27609
 License NO: C-3097

Nick Asaro, PLS UTILITY PROJECT MANAGER
 Joe Montgomery PROJECT UTILITY COORDINATOR



DIVISION OF HIGHWAYS
 DIVISION II
 DIV ADDRESS
 801 STATESVILLE RD
 NORTH WILKSBORO, NC 28659

Brandon Greer DIVISION UTILITY ENGINEER

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	
Water Meter	
Relocate Water Meter	
Remove Water Meter	
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

EXISTING UTILITIES SYMBOLS

Power Pole		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
CATV Pedestal		SUE Test Hole	
Gas Valve		Water Meter	
Gas Meter		Water Valve	
Located Miscellaneous Utility Object		Fire Hydrant	
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	
End of Information	E.O.I.		

*For Existing Utilities
 Utility Line Drawn from Record W
 (Type as Shown)
 Designated Utility Line W
 (Type as Shown)

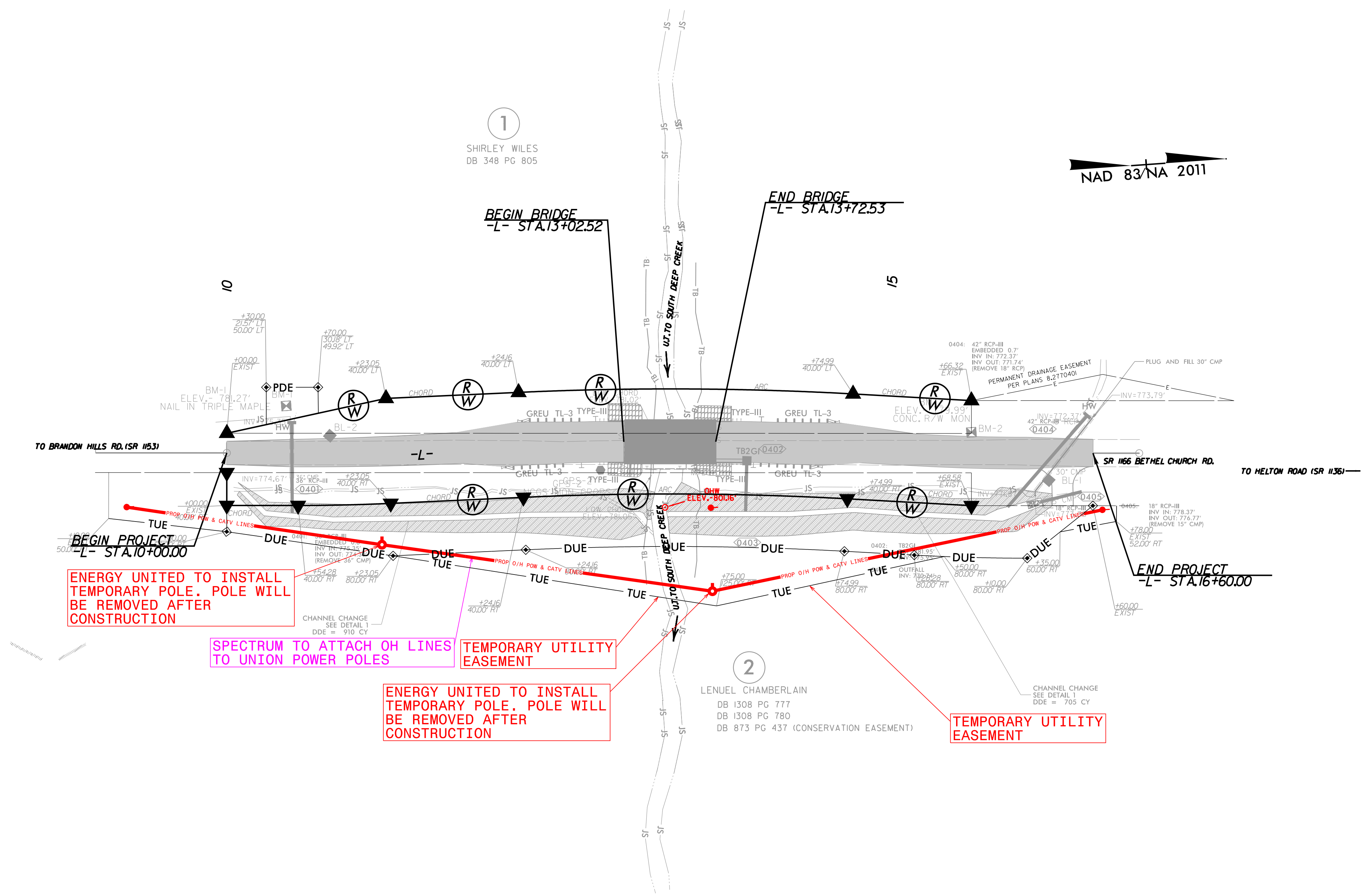
01/24/2023

PROJECT REFERENCE NO.	SHEET NO.
BP11.R010	U0-4
THIS SHEET CORRESPONDS TO RDY-4	

UTILITIES BY OTHERS

ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

AFTER CONSTRUCTION, POWER & SPECTRUM UTILITIES TO RETURN TO PRIOR PERMANENT EASEMENT



ENERGY UNITED TO INSTALL TEMPORARY POLE. POLE WILL BE REMOVED AFTER CONSTRUCTION

SPECTRUM TO ATTACH OH LINES TO UNION POWER POLES

TEMPORARY UTILITY EASEMENT

ENERGY UNITED TO INSTALL TEMPORARY POLE. POLE WILL BE REMOVED AFTER CONSTRUCTION

TEMPORARY UTILITY EASEMENT

1

2

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**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

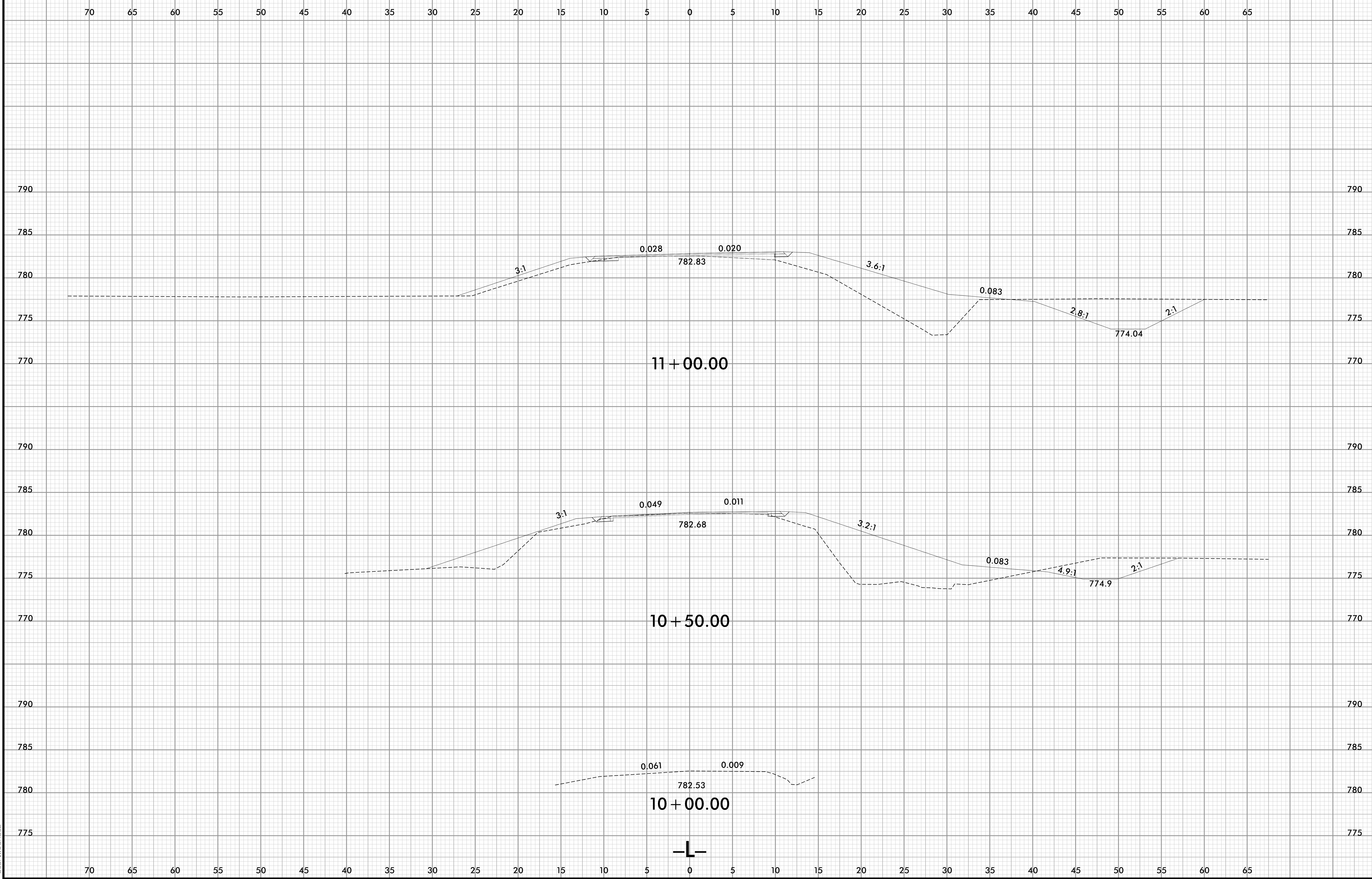
NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

CROSS-SECTION SUMMARY

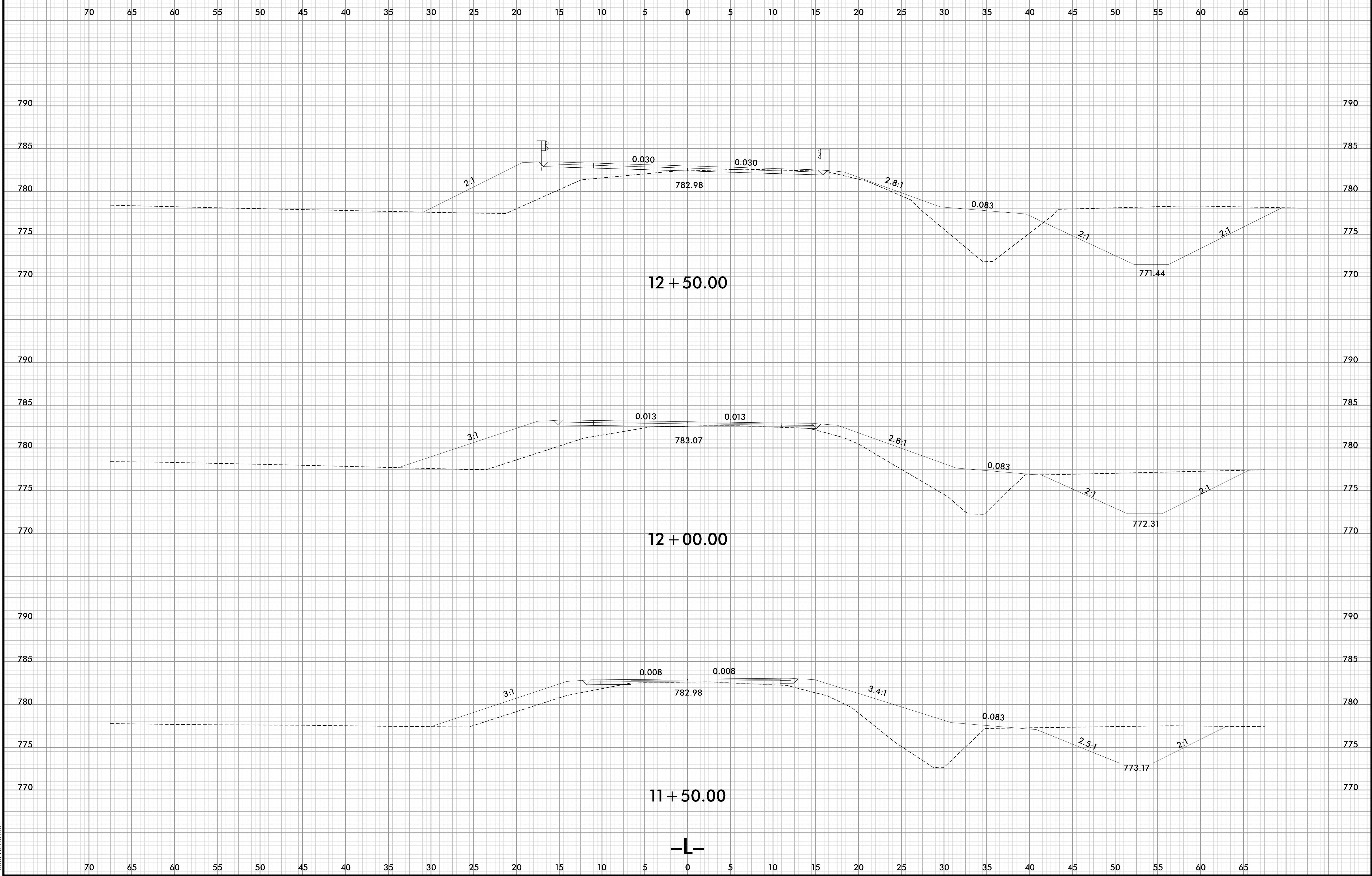
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L	(cu. yd.)	(cu. yd.)
10+00.00	0	0
10+50.00	4	96
11+00.00	2	165
11+50.00	1	158
12+00.00	0	184
12+50.00	5	163
13+00.00	26	132
13+01.88	2	5
13+74.13	0	0
14+00.00	23	37
14+50.00	33	113
15+00.00	16	127
15+50.00	6	124
16+00.00	3	134
16+50.00	4	67
16+60.00	1	0

Approximate quantities only. Unclassified excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the lump sum price for "Grading".

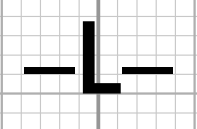
8/17/99

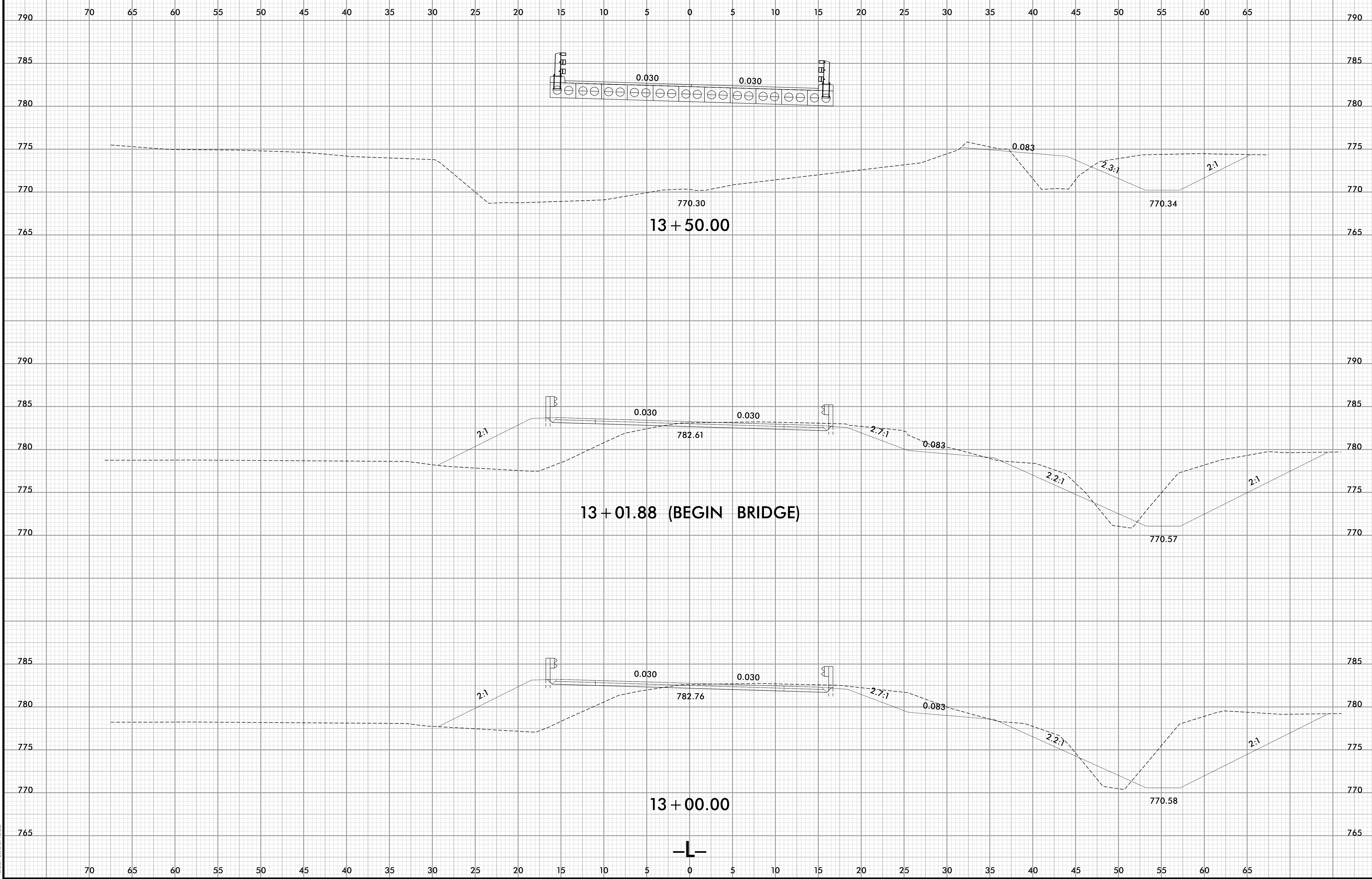


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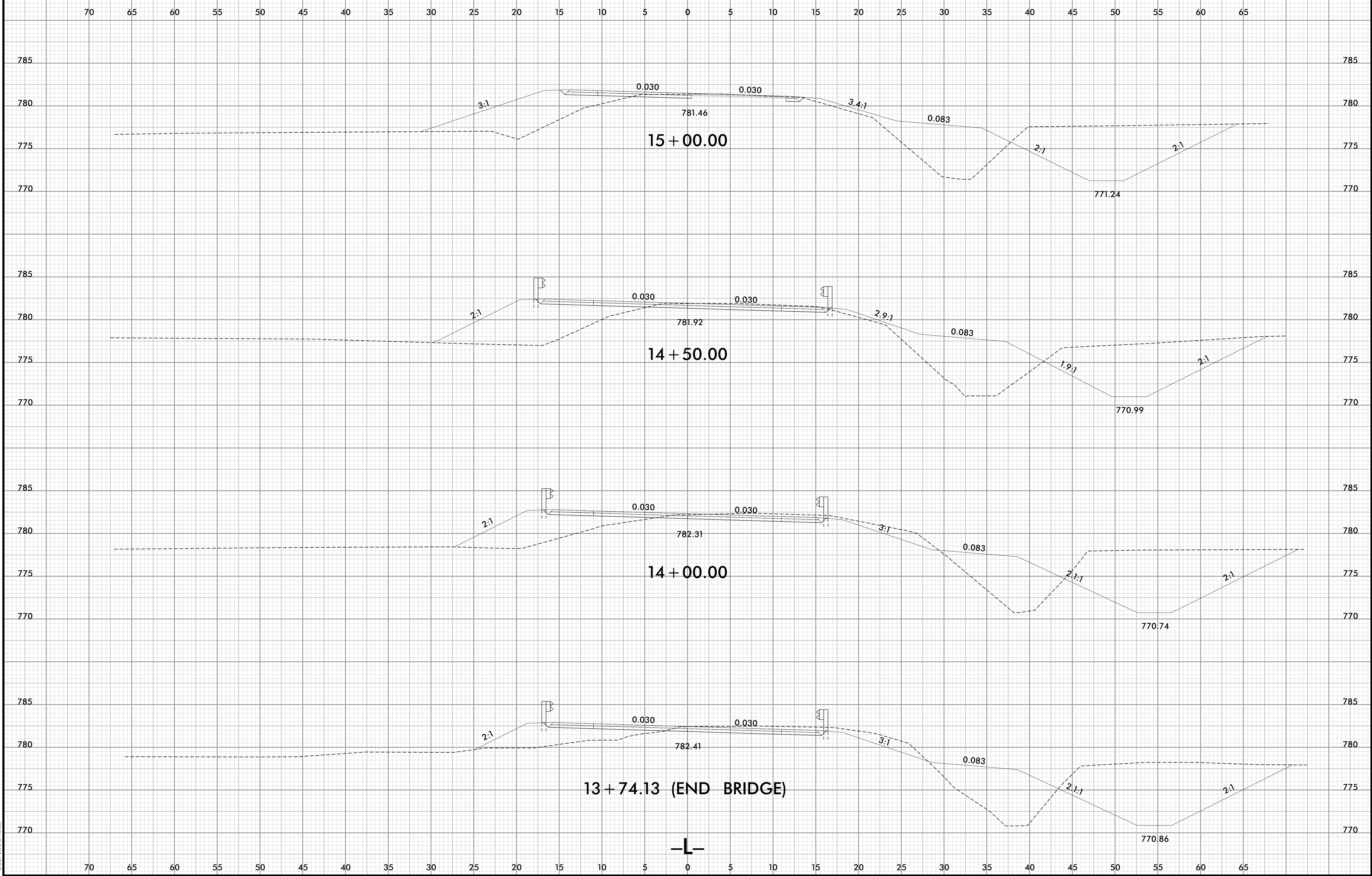


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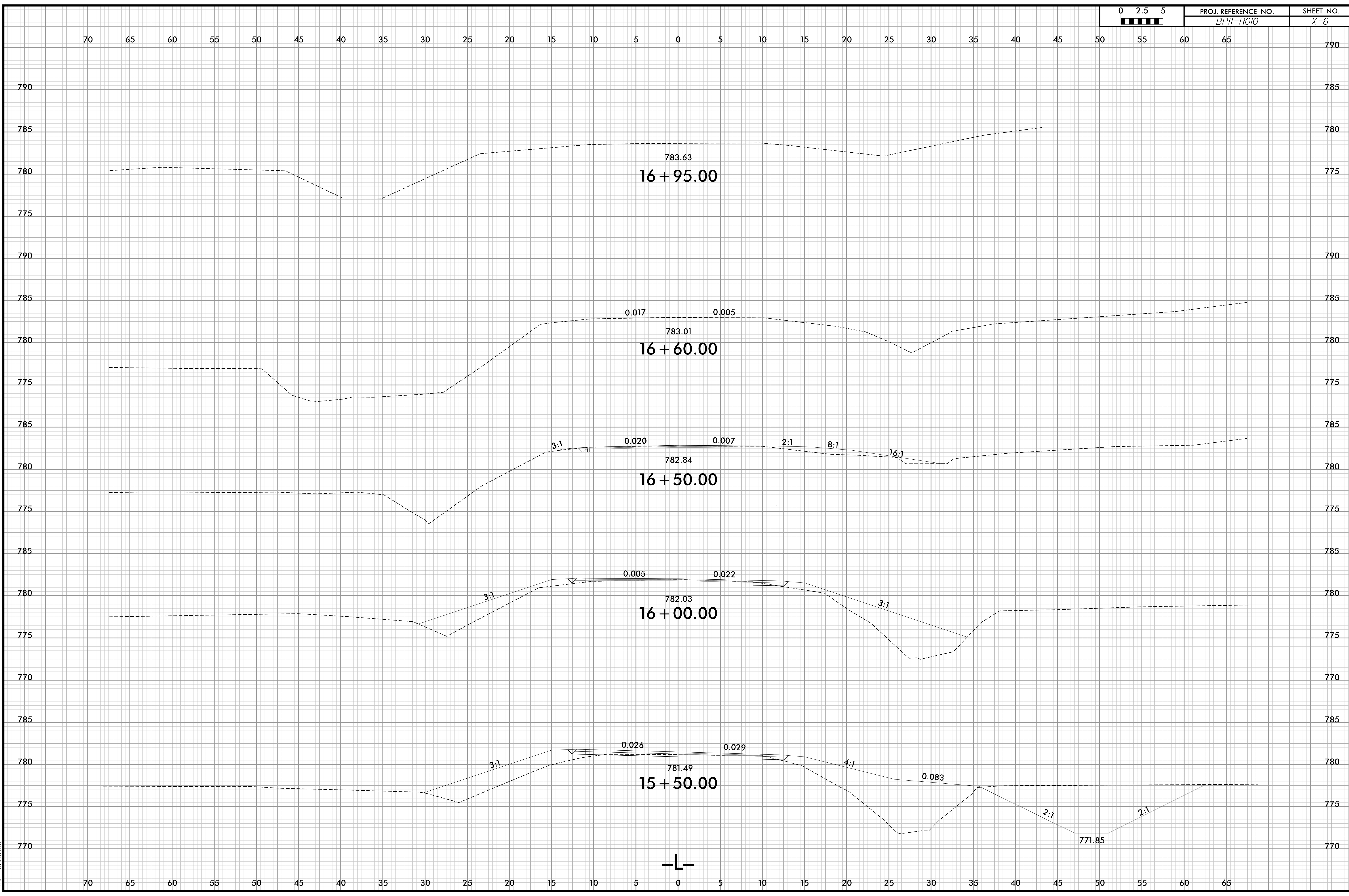




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