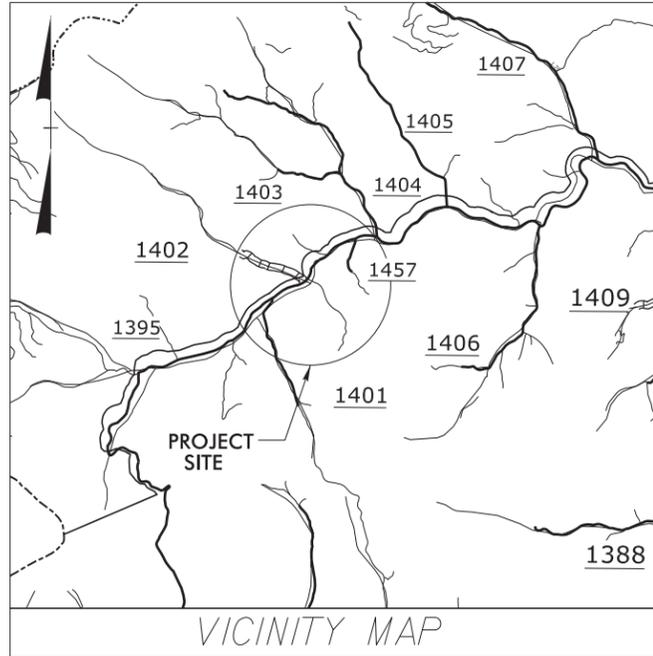


09/26/24

STATE PROJECT: 17.BP.13.R.158

CONTRACT: DM00389

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

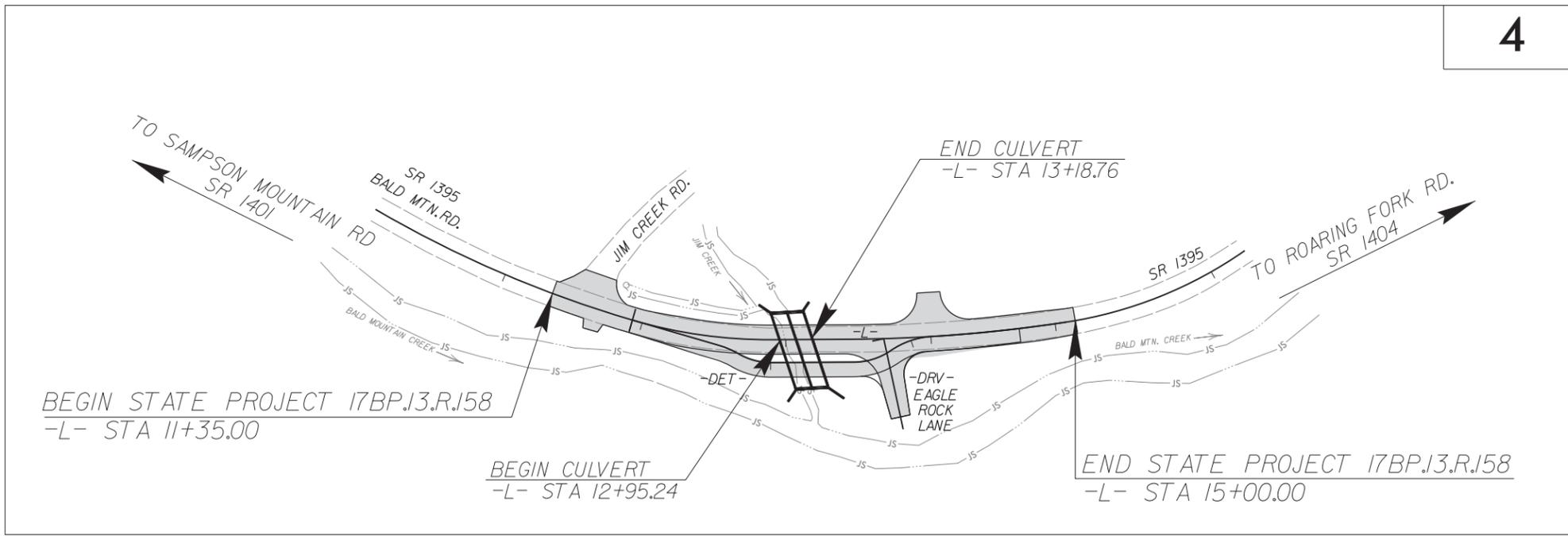
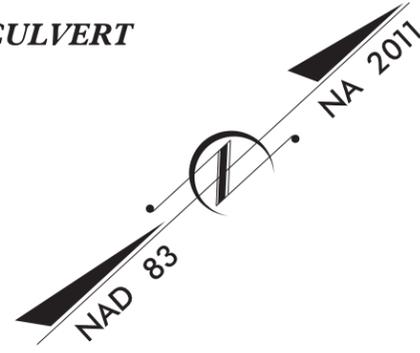
YANCEY COUNTY

LOCATION: REPLACE BRIDGE NO. 120 OVER JIM CREEK ON SR 1395 (BALD MOUNTAIN ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND CULVERT

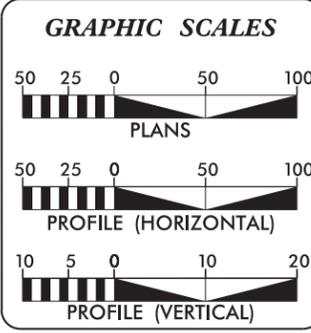
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.13.R.158	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.13.R.158		PE,RW,UTIL,CON	

100% PLANS



4

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2016 = 490

V = 35 MPH

FUNC CLASS = LOCAL

SUB - REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY STATE PROJECT 17BP.13.R.158 = .065 MILES

LENGTH OF STRUCTURE STATE PROJECT 17BP.13.R.158 = .004 MILES

TOTAL LENGTH OF STATE PROJECT 17BP.13.R.158 = .069 MILES

Prepared in the Office of:
KCI ASSOCIATES OF N.C., P.A.
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214
NC Firm License No: C-0764

Plans Prepared For:
NCDOT DIVISION 13
55 Orange Street
Asheville, NC 28801

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 4, 2022

LETTING DATE:
JANUARY 17, 2024

NCDOT CONTACT: EDDIE DOUGLAS
NCDOT DIVISION 13

ROBERT F. DECOLA, P.E.
KCI PROJECT MANAGER

TYLER M. KRAUSS, P.E.
KCI ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

10/19/2023

DocuSigned by:
Joshua G Dalton
10261D9C14594C3
332224784

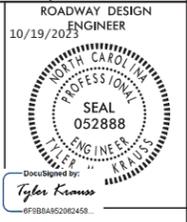
ROADWAY DESIGN ENGINEER

10/19/2023

DocuSigned by:
Tyler Krauss
8F8B8A52002458
SIGNATURE



B.17/99



SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 TO 2A-2	TYPICAL SECTION, PAVEMENT SCHEDULE, WEDGING DETAIL, PROFILE KEY-IN DETAIL AND SHOULDER BERM GUTTER DETAIL
2B-1	DETOUR PLANS
3B-1	SUMMARY OF EARTHWORK, SUMMARY OF SHOULDER BERM GUTTER, SUMMARY OF PAVEMENT REMOVAL, AND SUMMARY OF GUARDRAIL
3D-1	SUMMARY OF DRAINAGE QUANTITIES
4	PLAN SHEET
5	PROFILE SHEET
RW01	TITLE SHEET FOR RW SERIES SHEETS
RW02C-1 TO RW02C-2	SURVEY CONTROL SHEETS
RW02D-1	PROPOSED ALIGNMENT CONTROL SHEET
RW03E-1	PERMANENT EASEMENT CONTROL SHEET
RW04	RIGHT OF WAY SHEET
TMP-1 TO TMP-3	TRANSPORTATION MANAGEMENT PLANS (10 SHEETS)
PMP-1 TO PMP-2	PAVEMENT MARKING PLANS
EC-1 TO EC-5	EROSION CONTROL PLANS (7 SHEETS)
RF-1	REFORESTATION PLANS
UO-1 TO UO-2	UTILITIES BY OTHERS PLANS
X-0	CROSS SECTION SUMMARY SHEET
X-1 TO X-6	-L- CROSS SECTIONS
X-7	-DRV- CROSS SECTIONS
X-8 TO X-11	-DET- CROSS SECTIONS
C-1 TO C-10	CULVERT PLANS

GENERAL NOTES: 2024 SPECIFICATIONS 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.

CLEARING:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 11.

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

SIDE ROADS:
THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

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 RADIUS OR RADIUS 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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE FRENCH BROAD ELECTRIC (POWER) FRONTIER COMMUNICATIONS (COMMUNICATIONS). ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01-16-2024 REV.

The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method 11
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superlevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method 1
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
848.02	Driveway Turnout - Radius Type
862.01	Guardrail Placement
862.02	Guardrail Installation
876.01	Rip Rap in Channels and Ditches
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class "B" Rip Rap

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

Note: Not to Scale

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	○
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	⊗-s-⊗-s-
Potential Contamination Area: Soil	⊗-s-⊗-s-
Known Contamination Area: Water	⊗-w-⊗-w-
Potential Contamination Area: Water	⊗-w-⊗-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	WLB
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	E
Proposed Temporary Drainage Easement	TDE
Proposed Permanent Drainage Easement	PDE
Proposed Permanent Drainage/Utility Easement	DUE
Proposed Permanent Utility Easement	PUE
Proposed Temporary Utility Easement	TUE
Proposed Aerial Utility Easement	AUE

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	C
Proposed Slope Stakes Fill	F
Proposed Curb Ramp	CR
Existing Metal Guardrail	T
Proposed Guardrail	T
Existing Cable Guiderail	□
Proposed Cable Guiderail	□
Equality Symbol	⊗
Pavement Removal	⊗
VEGETATION:	
Single Tree	○
Single Shrub	⊗
Hedge	-----

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

EXISTING STRUCTURES:

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

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	PH
H-Frame Pole	●
U/G Power Line Test Hole (SUE - LOS A)*	⊗
U/G Power Line (SUE - LOS B)*	P
U/G Power Line (SUE - LOS C)*	P
U/G Power Line (SUE - LOS D)*	P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊗
Telephone Pedestal	⊗
Telephone Cell Tower	⊗
U/G Telephone Cable Hand Hole	PH
U/G Telephone Test Hole (SUE - LOS A)*	⊗
U/G Telephone Cable (SUE - LOS B)*	T
U/G Telephone Cable (SUE - LOS C)*	T
U/G Telephone Cable (SUE - LOS D)*	T
U/G Telephone Conduit (SUE - LOS B)*	TC
U/G Telephone Conduit (SUE - LOS C)*	TC
U/G Telephone Conduit (SUE - LOS D)*	TC
U/G Fiber Optics Cable (SUE - LOS B)*	TFD
U/G Fiber Optics Cable (SUE - LOS C)*	TFD
U/G Fiber Optics Cable (SUE - LOS D)*	TFD

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	A/G Water

TV:

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

GAS:

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

SANITARY SEWER:

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

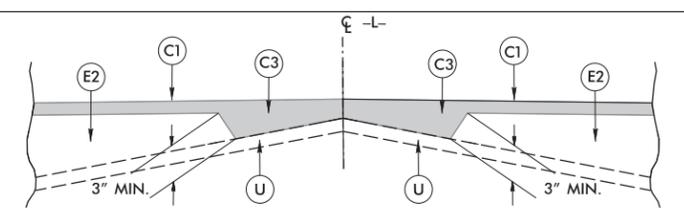
MISCELLANEOUS:

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

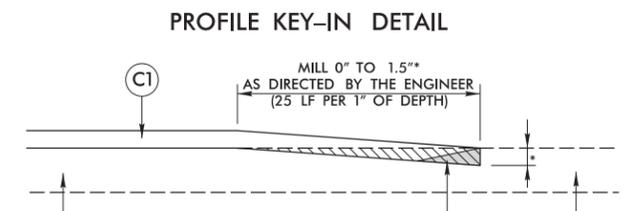
6/2/2019
 09-001-2027-1116
 MS-2016-1010146-09
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 \$\$\$\$BULSERNAME\$\$\$\$

FINAL PAVEMENT DESIGN	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
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 1¼" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
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.
J1	PROP. VAR. DEPTH AGGREGATE BASE COURSE
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING).

ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

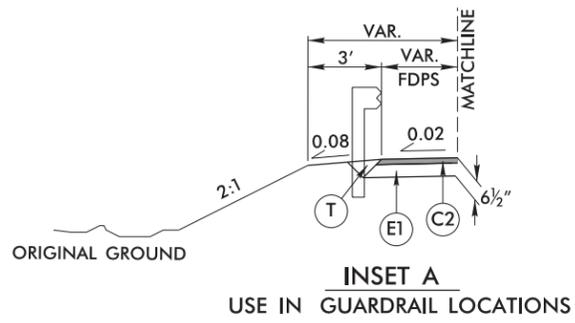


Detail Showing Method of Wedging

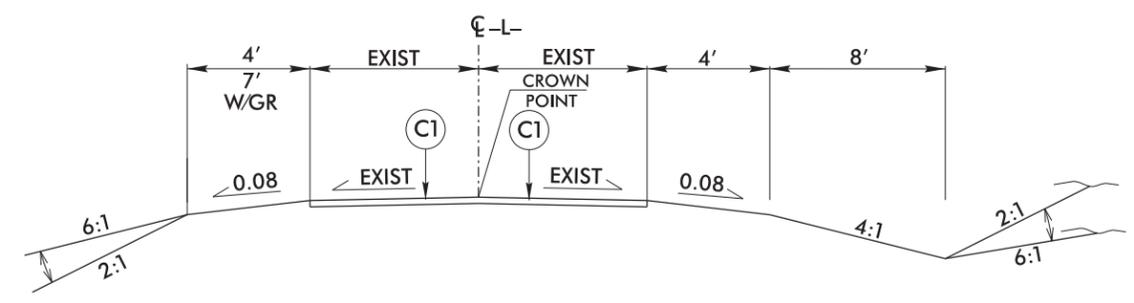


TEMPORARY ASPHALT WEDGING AS DIRECTED BY THE ENGINEER

- * MILL DEPTH AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER
- ** SEE TYPICALS FOR MIX TYPE



INSET A
USE IN GUARDRAIL LOCATIONS

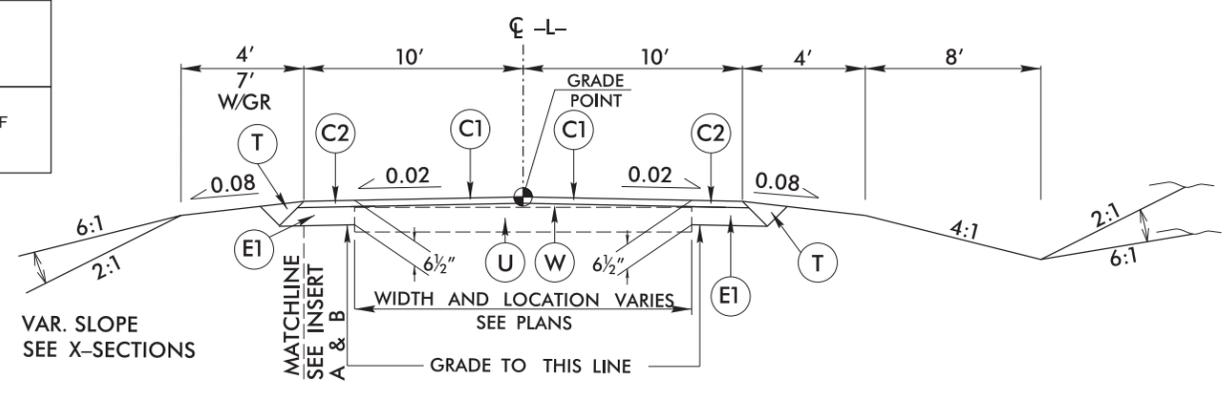


VAR. SLOPE
SEE X-SECTIONS

ROADWAY TYPICAL SECTION NO. 1

ROADWAY TYPICAL SECTION NO. 1

-L- STA. 11+35.00 TO STA. 11+75.00



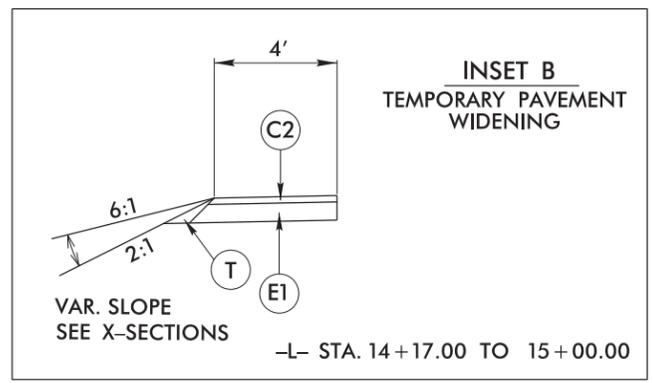
VAR. SLOPE
SEE X-SECTIONS

ROADWAY TYPICAL SECTION NO. 2

ROADWAY TYPICAL SECTION NO. 2

-L- STA. 11+75.00 TO STA. 12+25.00

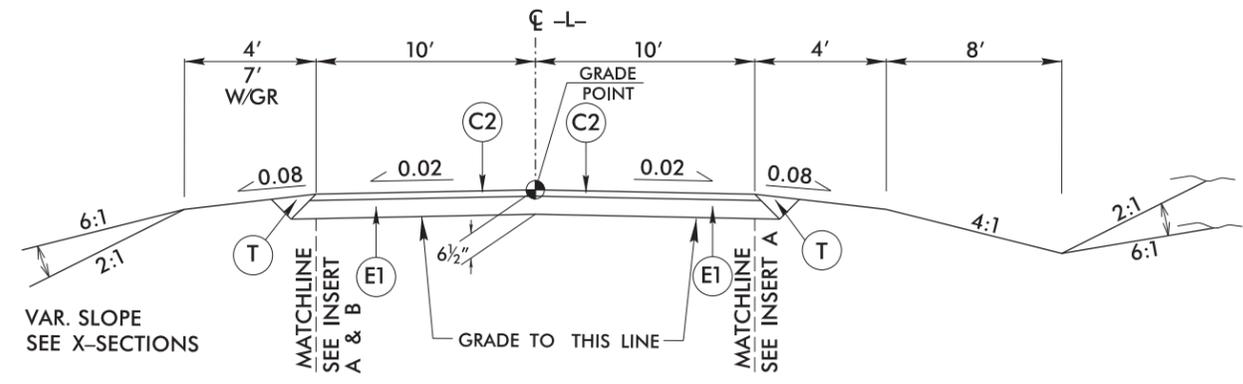
-L- STA. 14+75.00 TO STA. 15+00.00



INSET B
TEMPORARY PAVEMENT
WIDENING

VAR. SLOPE
SEE X-SECTIONS

-L- STA. 14+17.00 TO 15+00.00



VAR. SLOPE
SEE X-SECTIONS

ROADWAY TYPICAL SECTION NO. 3

ROADWAY TYPICAL SECTION NO. 3

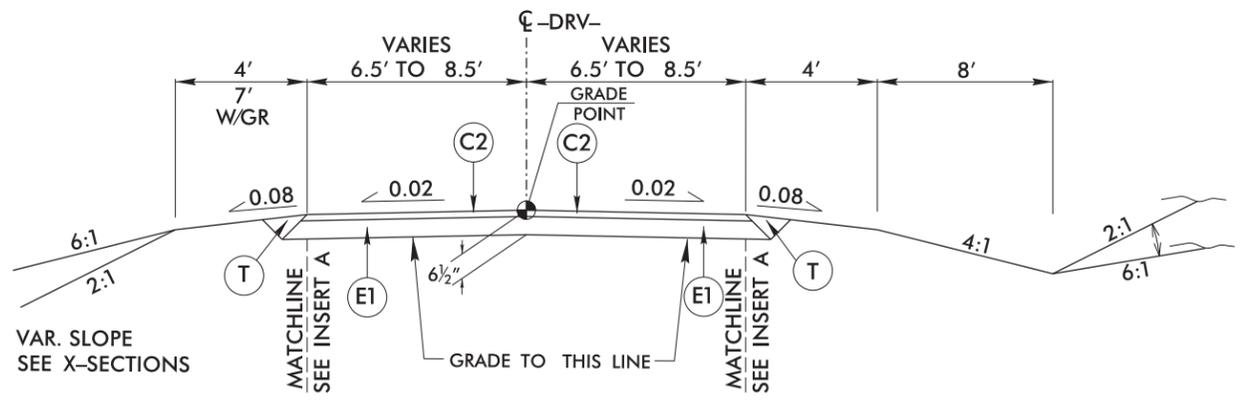
-L- STA. 12+25.00 TO STA. 14+75.00

FOR GRADING STA. 12+75.00
TO 13+50.00 RT
SEE CROSS SECTIONS

PROJECT REFERENCE NO. 17BP.13.R.158	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER 10/19/2023 TYLER KRASS SEAL 052888 NORTH CAROLINA PROFESSIONAL ENGINEER	PAVEMENT DESIGN ENGINEER 10/19/2023 JOSEPH HOLLAND SEAL 024964 NORTH CAROLINA PROFESSIONAL ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
KCI ASSOCIATES OF N.C., P.A. 4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27609-6270 Phone (919) 783-9214 NC Firm License No. C-0764	

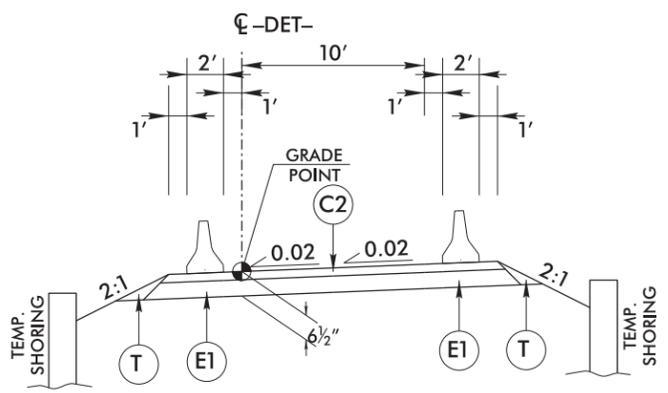
6/22/99
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 NCDOT Division 13 Bridge Replacements C:\17BP\13.R\158_Yancey_990120_B5881\Roadway\Proj\B5881_Rdu_typ.dgn
 10/16/2023 10:46:09 AM

C1	1.5" S9.5B
C2	2 1/2" S9.5B
C3	VAR. S9.5B
E1	4" B25.0C
E2	VAR. B25.0C
J1	VAR. ABC
T	EARTH MAT.
U	EXIST. PVMT.
W	WEDGING



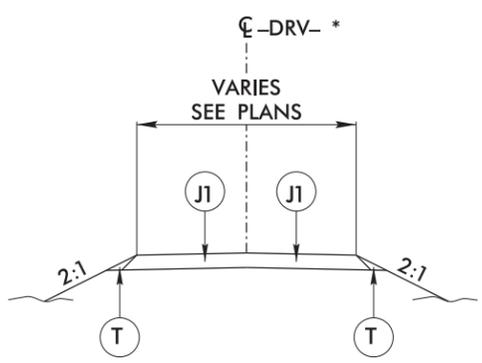
ROADWAY TYPICAL SECTION NO. 4

ROADWAY TYPICAL SECTION NO. 4
 -DRV- STA. 10+10.00 TO STA. 10+55.00



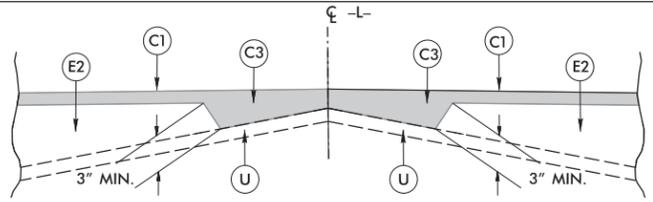
ROADWAY TYPICAL SECTION NO. 5

ROADWAY TYPICAL SECTION NO. 5
 -DET- STA. 10+00.00 TO STA. 12+57.92

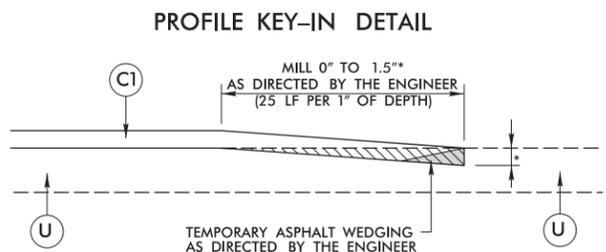


ROADWAY TYPICAL SECTION NO. 6

ROADWAY TYPICAL SECTION NO. 6
 -DRV- STA. 10+10.00 TO STA. 10+55.00

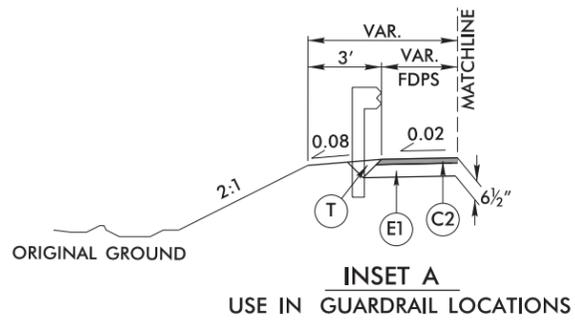


Detail Showing Method of Wedging



PROFILE KEY-IN DETAIL

* MILL DEPTH AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER
 ** SEE TYPICALS FOR MIX TYPE



INSET A
 USE IN GUARDRAIL LOCATIONS

***USE IN CONJUNCTION WITH -DET- DURING PHASE 1 & 2**

PROJECT REFERENCE NO. 17BP.13.R.158	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER 10/19/2023 Taylor Kromer SEAL 052888 NORTH CAROLINA PROFESSIONAL ENGINEER	PAVEMENT DESIGN ENGINEER 10/19/2023 Joseph Holland SEAL 024964 NORTH CAROLINA PROFESSIONAL ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
KCI ASSOCIATES OF N.C., P.A. 4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27609-6270 Phone (919) 783-9214 NC Firm License No. C-0764	

8/17/99

DETOUR (DET)

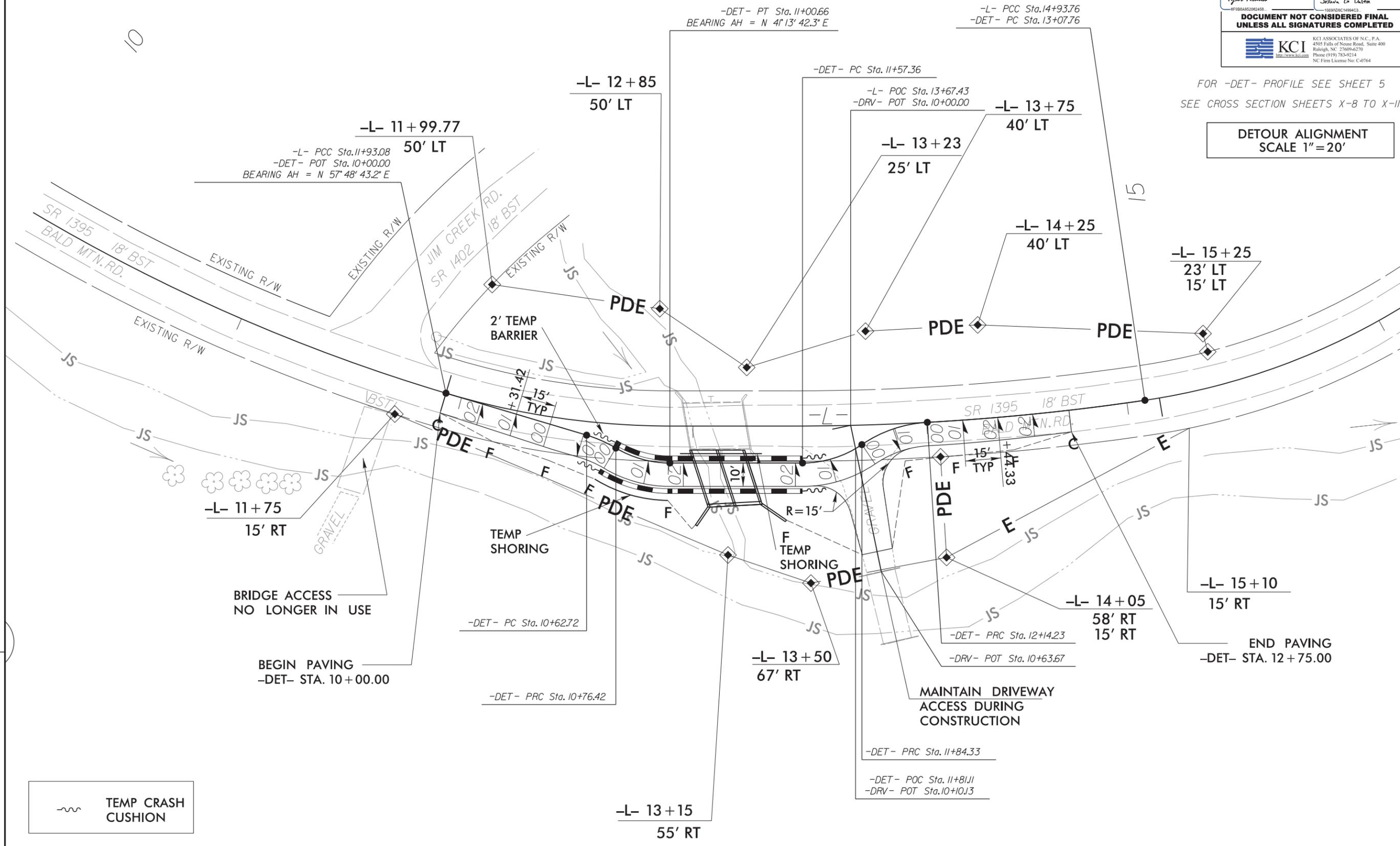
PI Sta 10+69.61 Δ = 14° 16' 25.9" (RT) D = 104' 10" 26.9" L = 13.70' T = 6.89' R = 55.00'	PI Sta 10+88.84 Δ = 30° 51' 26.8" (LT) D = 127' 19" 26.2" L = 24.24' T = 12.42' R = 45.00'	PI Sta 11+71.26 Δ = 34° 19' 42.9" (LT) D = 127' 19" 26.2" L = 26.96' T = 13.90' R = 45.00'	PI Sta 11+99.66 Δ = 31° 09' 16.4" (RT) D = 104' 10" 26.9" L = 29.91' T = 15.33' R = 55.00'	PI Sta 12+61.03 Δ = 5° 11' 23.5" (LT) D = 5° 32' 56.8" L = 93.53' T = 46.79' R = 1,032.52'
--	---	---	---	---



PROJECT REFERENCE NO. 17BP.13.R.158	SHEET NO. 2B-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 10/19/2023 KRAUS	HYDRAULICS ENGINEER 10/19/2023 KRAUS
DocuSigned by: Tyler Kraus	DocuSigned by: Justin G. Dalton
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 KCI ASSOCIATES OF N.C., P.A. 4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27669-4270 Phone (919) 783-9214 NC Firm License No: C-0764	

FOR -DET- PROFILE SEE SHEET 5
SEE CROSS SECTION SHEETS X-8 TO X-11

DETOUR ALIGNMENT
SCALE 1" = 20'



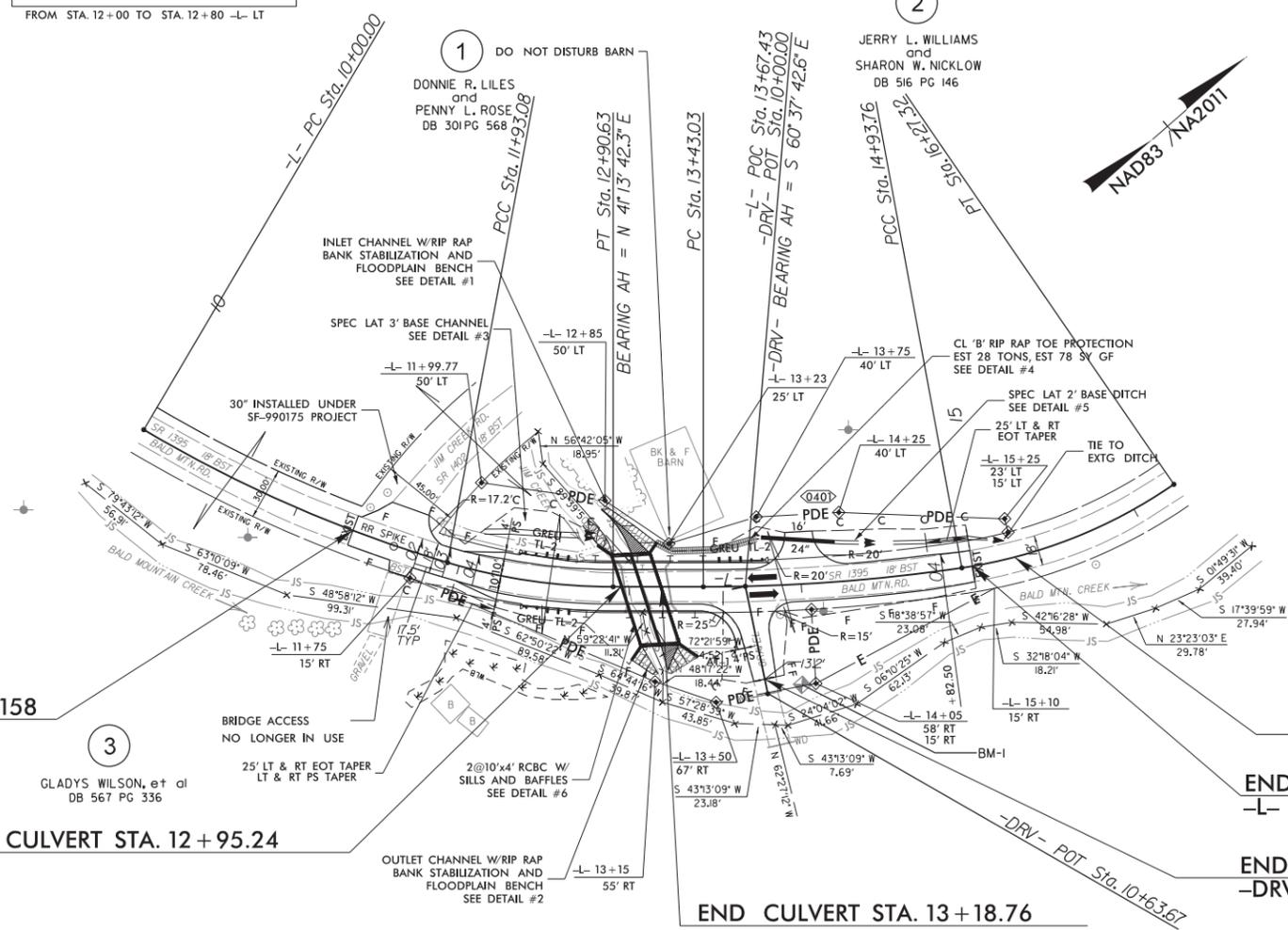
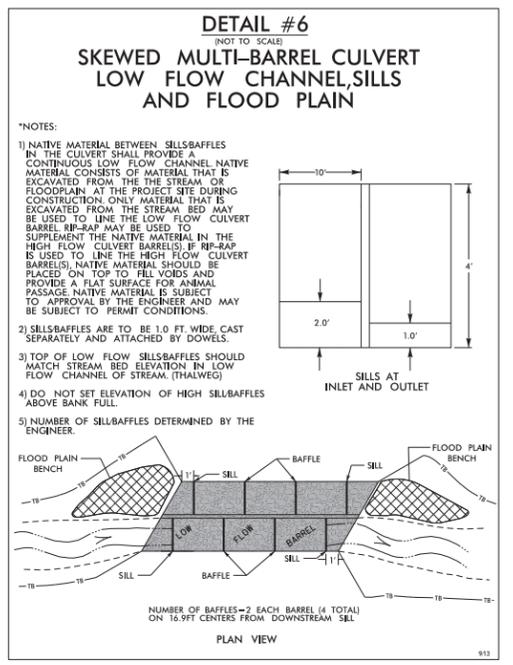
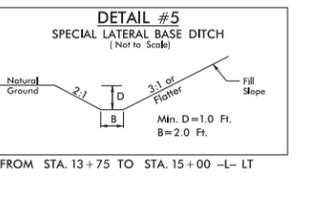
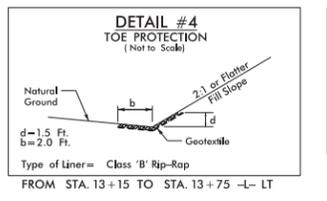
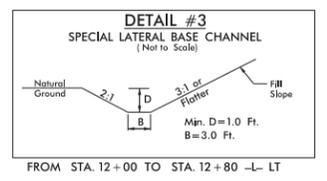
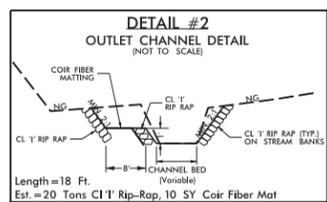
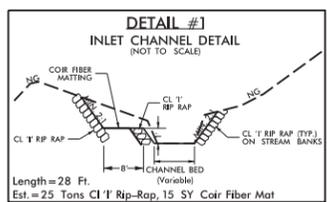
TEMP CRASH CUSHION

REVISIONS

8/17/99

PROJECT REFERENCE NO. 17BP.13.R.158	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 10/19/2023	HYDRAULICS ENGINEER 10/19/2023
Developed by: Tyler Krauss	DocuSigned by: Joshua G. Dutton
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 KCI ASSOCIATES OF N.C., P.A. 4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27609-4270 Phone (919) 783-9214 NC Firm License No: C-0764	

PI Sta 10+97.03 Δ = 13° 59' 54.9" (LT) D = 7° 15' 00.0" L = 193.08' T = 97.03' R = 790.29'	PI Sta 12+42.20 Δ = 16° 35' 00.8" (LT) D = 17° 00' 00.0" L = 97.55' T = 49.12' R = 337.03' SE = 4%	PI Sta 14+18.53 Δ = 8° 21' 50.0" (LT) D = 5° 32' 56.8" L = 150.72' T = 75.50' R = 1,032.52' SE = 4%	PI Sta 15+61.72 Δ = 26° 11' 33.3" (LT) D = 19° 36' 38.9" L = 133.56' T = 67.97' R = 292.16'
---	--	---	--



BEGIN STATE PROJECT 17BP.13.R.158
-L- POC STA 11+35.00

BEGIN CULVERT STA. 12+95.24

END CULVERT STA. 13+18.76

END CONSTRUCTION
-L- POC STA 15+25.00

END STATE PROJECT 17BP.13.R.158
-L- POC STA 15+00.00

END CONSTRUCTION
-DRV- POT STA 10+55.00

4
DAWN HOLCOMBE SHUFORD
and
STEPHANIE HOLCOMBE JOYCE
DB 381 PG 85

FOR CULVERT PLANS SEE SHEETS C-01 THRU C-10
FOR TEMPORARY DETOUR SEE SHEET 2B-1
FOR -L- PROFILE SEE SHEET 5

REVISIONS

09/06/99

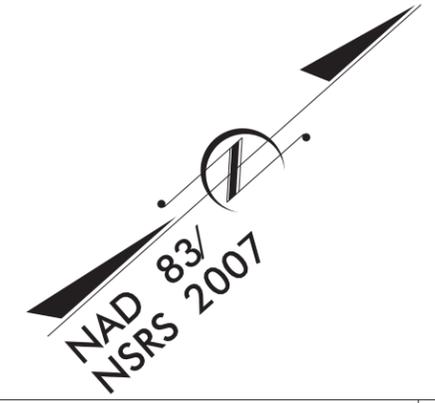
TIP PROJECT: 17BP.13.R.158

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.13.R.158	RW01	06

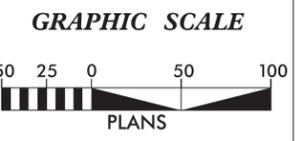
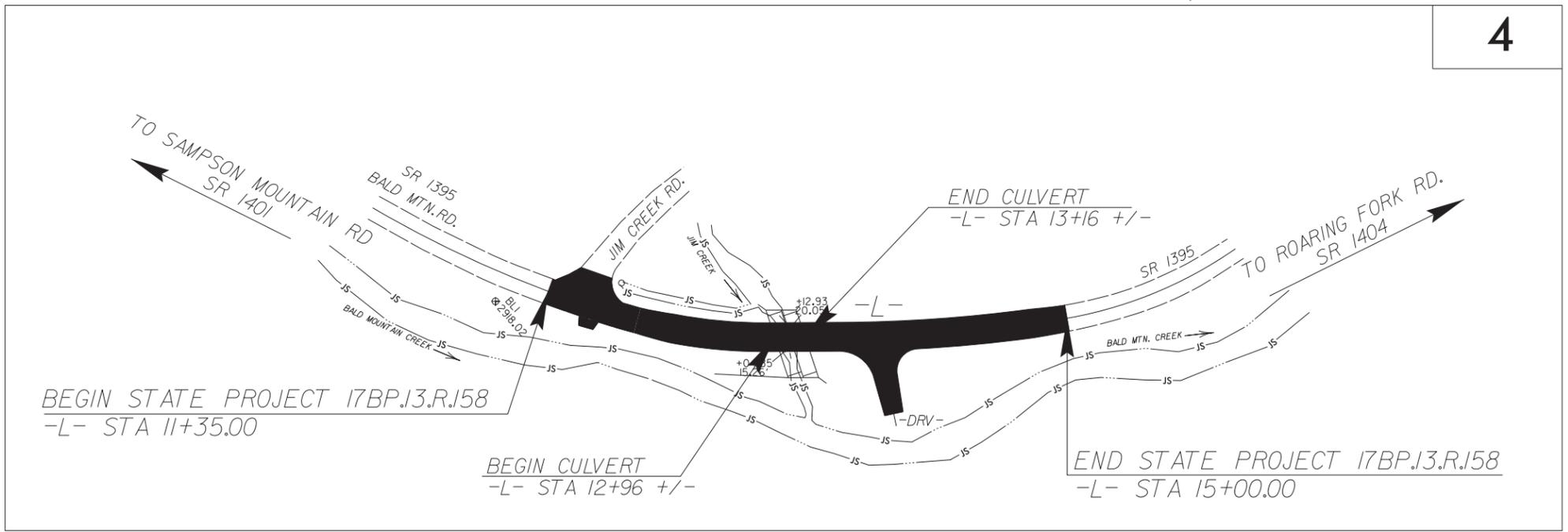
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

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

YANCEY COUNTY



4



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "990175 BL-1" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 827,171.6040(ft) EASTING: 978,414.8470(ft) ELEVATION: 2,918.02(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999817054

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "990175 BL-1" TO -L- STATION 10+00 IS S 78-39'35.8" W 107.05(ft)

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

Prepared in the Office of:

V&M
Vaughn & Melton
 1318-F Patton Avenue
 Asheville, NC 28806
 Firm License # F-1088

2018 STANDARD SPECIFICATIONS

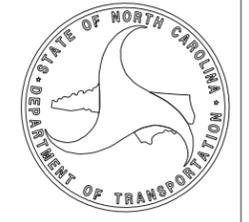
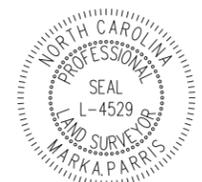
RIGHT OF WAY DATE:
04-07-2022

LETTING DATE:
01-17-2024

PROFESSIONAL LAND SURVEYOR

DocuSigned by:

 F1570CB85C7248A...



SIGNATURE: Date:

SYSTEM\$\$\$\$\$DNN\$\$\$\$\$SERNAME\$\$\$\$\$

REVISIONS

20-JUN-2021 13:21
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 jcgordon

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. 17BP.13.R.158	SHEET NO. RW02C-2
Location and Surveys	
 <p style="font-size: 8px;">1318-F Patton Avenue Asheville, NC 28805 Firm License # F-1088</p>	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

BL	POINT	DESC.	NORTH	EAST	ELEVATION
1		BL -1	827171.6040	978414.8470	2918.02
2		BL -2	827331.7040	978605.3520	2911.18
3		BL -3	827528.5090	978730.6770	2900.98

.....
 BM1 ELEVATION = 2908.62
 N 827341 E 978673
 SPIKE IN BASE OF 15' POPLAR

EL									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	827150.555	978309.888							
CURVE			N 64°48'40.6" E	192.60	13°59'54.9"(LT)	07°15'00.0"	193.08	97.03	790.29
PCC	827232.527	978484.178							
CURVE			N 49°31'12.8" E	97.21	16°35'00.8"(LT)	17°00'00.0"	97.55	49.12	337.03
PT	827295.634	978558.119							
LINE			N 41°13'42.3" E	52.40					
PC	827335.041	978592.651							
CURVE			N 37°02'47.3" E	150.59	08°21'50.0"(LT)	05°32'56.8"	150.72	75.50	1032.52
PCC	827455.234	978683.377							
CURVE			N 19°46'05.7" E	132.40	26°11'33.3"(LT)	19°36'38.9"	133.56	67.97	292.16
PT	827579.834	978728.157							

EY									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	827313.147	978438.969							
CURVE			S 04°44'56.7" E	73.07	13°21'53.5"(LT)	18°15'00.0"	73.23	36.78	313.95
PT	827240.331	978445.019							
LINE			S 11°25'53.5" E	28.34					
POT	827212.554	978450.635							

I, Mark A. Parris, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made by others and the following information was used to perform the survey:

Class of survey: **AA**
 Type of GPS field procedure: OPUS
 Dates of survey: Nov. 11, 2011
 Datum/Epoch: NAD 83/NSRS 2007
 Published/Fixed-control use: 09-0175
 Localized around: BL-1
 Northing: 827171.6040
 Easting: 978414.8470
 Combined grid factor: 0.999817054
 Geoid model: 09
 Units: US Survey Feet

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from Mar. 21, 2016 to Mar. 22, 2016, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 6th day of July, 2021.


 Professional Land Surveyor L-4529

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY 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.

Location and Surveys

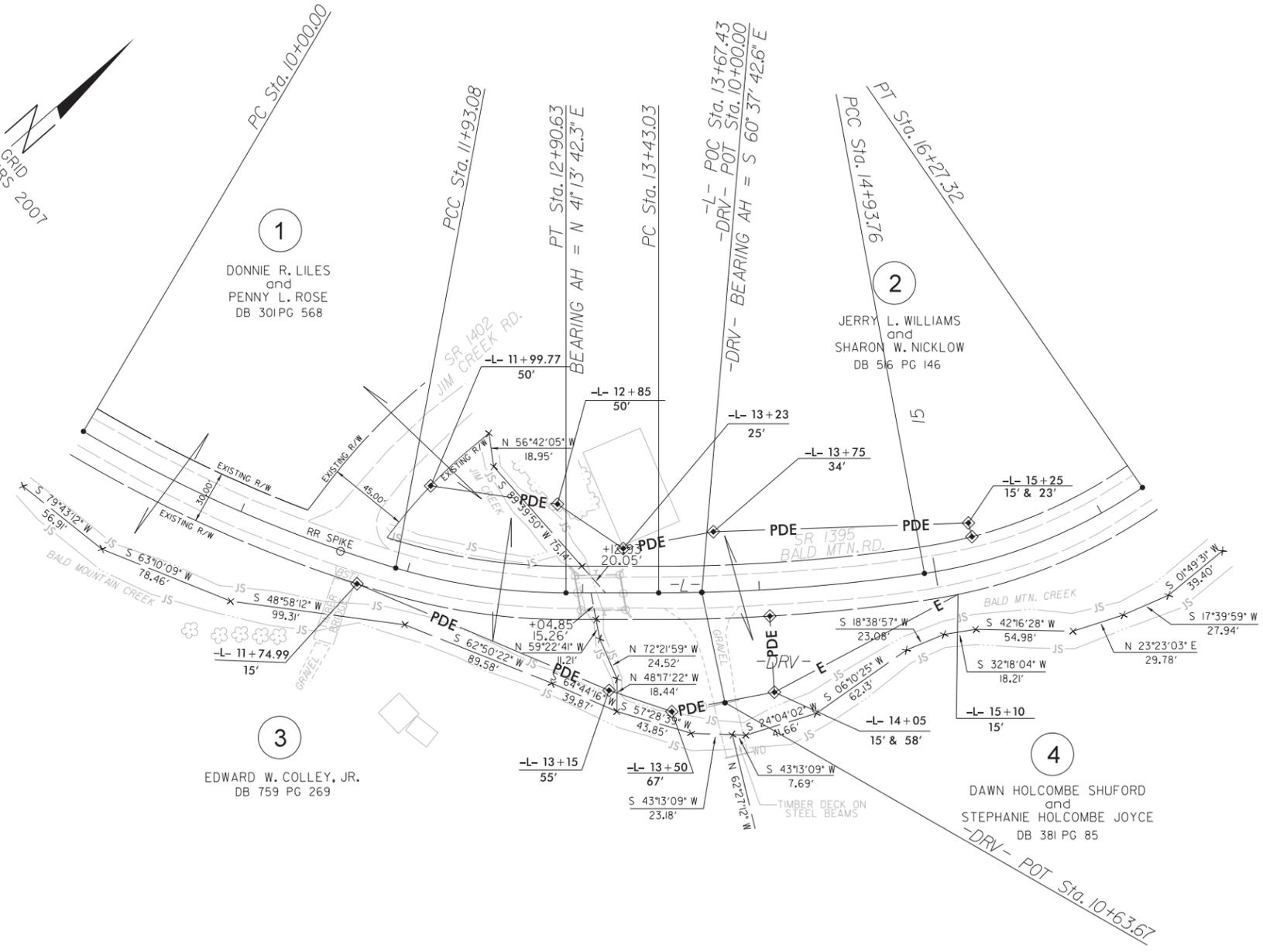
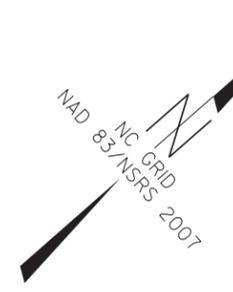


PROJECT SURVEYOR



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PI Sta 10+97.03 $\Delta = 13^{\circ} 59' 54.9''$ (LT) $D = 7^{\circ} 15' 00.0''$ $L = 193.08'$ $T = 97.03'$ $R = 790.29'$	PI Sta 12+42.20 $\Delta = 16^{\circ} 35' 00.8''$ (LT) $D = 17^{\circ} 00' 00.0''$ $L = 97.55'$ $T = 49.12'$ $R = 337.03'$	PI Sta 14+18.53 $\Delta = 8^{\circ} 21' 50.0''$ (LT) $D = 5^{\circ} 32' 56.8''$ $L = 150.72'$ $T = 75.50'$ $R = 1,032.52'$	PI Sta 15+61.72 $\Delta = 26^{\circ} 11' 33.3''$ (LT) $D = 19^{\circ} 36' 38.9''$ $L = 133.56'$ $T = 67.97'$ $R = 292.16'$
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I, Mark A. Parris, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed on 07/15/2021, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 15 day of July, 2021.


 Mark A. Parris
 Registered Professional Surveyor L-4529

REVISIONS

Q:\US_2021\0818_VA\17052021\12-18_B-5881_RDW_Steaking\Survey\NData - Work\TOD_SEND\B5881.Ls.RW04.dgn
 Jc.gordon

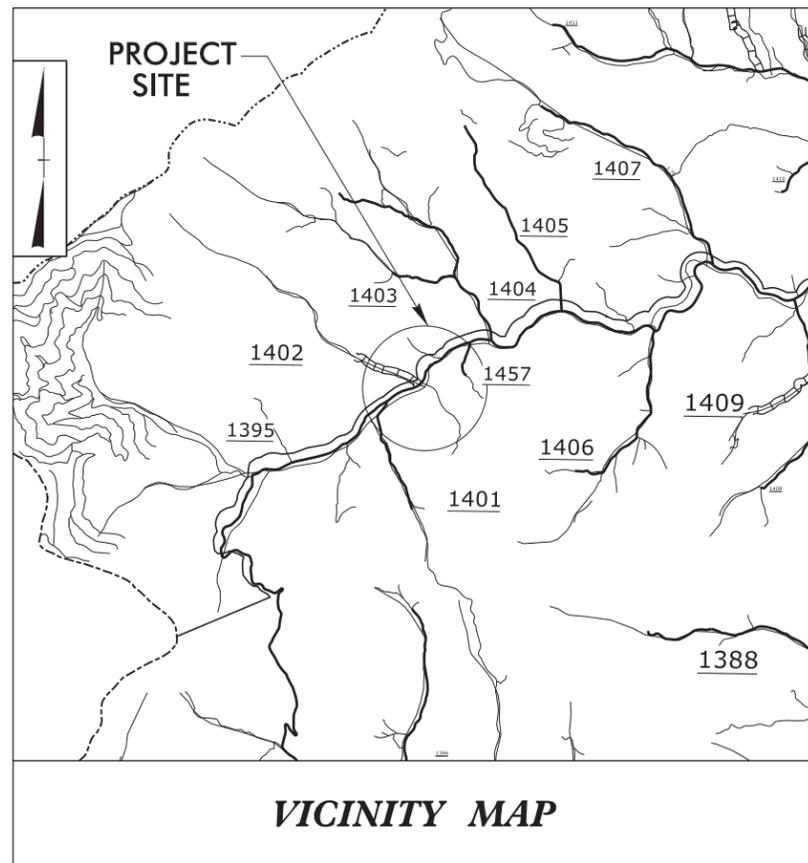
NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED JULY 15, 2021.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

YANCEY COUNTY



**LOCATION: REPLACE BRIDGE NO. 120
OVER JIM CREEK ON
SR 1395 (BALD MOUNTAIN ROAD)**

**TYPE OF WORK: GRADING, PAVING,
DRAINAGE, AND
CULVERT**

05-SEP-2023 11:49 AM \\2016\221601946.09 NCDOT Division 13 Bridge Replacements\C_17BP.13.R.158_Yancey_990120.B5881\TrafficControl\TCP\200_001_990120_TC_TMP_01.dgn \$\$\$USERNAME\$\$\$



PLANS PREPARED BY:

ROBERT F. DECOLA, P.E.
PROJECT MANAGER

TYLER M. KRAUSS, P.E.
ROADWAY DESIGN ENGINEER

KCI ASSOCIATES OF NC, PA

NCDOT CONTACTS:

ZACHARY CLARK, P.E.
PROJECT ENGINEER

KARMEN DAIS, P.E.
PROJECT DESIGN ENGINEER



INDEX OF SHEETS

<u>SHEET NO.</u>	<u>TITLE</u>
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	PHASING
TMP-2A	ADVANCE SIGNING DETAIL FOR TEMPORARY SIGNAL (WESTBOUND LANE SHIFT)
TMP-2B	ADVANCE SIGNING DETAIL FOR TEMPORARY SIGNAL (EASTBOUND LANE SHIFT)
TMP-3A	PHASE I DETAIL (WESTBOUND LANE SHIFT)
TMP-3B	PHASE II DETAIL (EASTBOUND LANE SHIFT)
TMP-3C	PHASE III DETAIL (WESTBOUND LANE SHIFT)
TMP-3D	PHASE IV DETAIL

SHEET NO.
TMP-1

DM00389

TIP PROJECT: 17BP.13.R.158

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

KCI ASSOCIATES OF N.C., P.A.
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214
NC Firm License No: C-0764

APPROVED: *Tyler Krauss*
6F98A5C20C458...
DATE: 10/19/2023

SEAL



ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR 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 WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
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
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1180.01	SKINNY - DRUMS
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

REMOVAL

USER DEFINED (IF NEEDED)

USER DEFINED (IF NEEDED)

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TEMPORARY PAVEMENT MARKINGS

DESCRIPTION	PAY ITEM
P1 - WHITE EDGELINE	PAINT (4")
P5 - 2FT,6FT/SP. WHITE MINISKIP	PAINT (4")
P13 - YELLOW DOUBLE CENTER	PAINT (4")
P61 - WHITE STOPBAR	PAINT (24")

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

05-SEP-2023 11:50 AM \\2016\221601946.09 NCDOT Division 13 Bridge Replacements\C.17BP.13.R.158_Yancey_990120.B58881\TrafficControl\TCP\200_002_990120_TC_TMP_01A.dgn \$\$\$USERNAME\$\$\$

GENERAL NOTES

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 UNDESIRE 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.
- 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.
- 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.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- F) 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.
- G) 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

- H) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATIONS.

SIGNING

- I) 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.
- J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- K) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 100 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

- L) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION, ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE / RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

- M) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH OR HIGHER	30 FT

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

ROAD NAME:	MARKING	MARKER
SR 1395 (BALD MOUNTAIN ROAD)	PAINT	TEMPORARY RAISED

- Q) PLACE ON 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.

MISCELLANEOUS

- T) IN THE EVENT OF A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 100 FT AND 200 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.
- U) MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES.

05-SEP-2023 11:59 AM \\2016\221601916.09 NCDOT Division 13 Bridge Replacements\C.17BP.13.R.158_Yancey_990120_B5881\TrafficControl\TCP\200_003_990120_TC_TMP_01B.dgn



DocuSigned by:
Tyler Krauss
APPROVED: _____
DATE: 10/19/2023

SEAL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



TRANSPORTATION
OPERATIONS
PLAN

PROJ. REFERENCE NO.	SHEET NO.
17BP.13.R.158	TMP-1C

PHASING

IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING PHASES:

PHASE 1

USING ROADWAY STANDARD DRAWING 1101.01 SHEET 3 OF 3, INSTALL ADVANCE WARNING SIGNS.

USING ROADWAY STANDARD DRAWING 1101.03 SHEET 3 OF 9, AND ROADWAY STANDARD DRAWING 1101.02 SHEET 17 OF 19 COMPLETE THE FOLLOWING:

USING TEMPORARY PORTABLE TRAFFIC SIGNALS, MAINTAIN TRAFFIC IN A ONE-LANE, TWO-WAY OPERATION ALONG THE EXISTING SR 1395 WEST BOUND LANE. (SEE SHEET 2A, 3A)

CONSTRUCT 25' OF DOWNSTREAM PROPOSED 2 @ 10'X4' RCBC AT APPROXIMATELY -L- STA 13+07.

CONSTRUCT DETOUR PAVEMENT FROM APPROXIMATELY STA -DET- 10+00 +/- TO STA -L- 12+75 +/-.

PHASE 2

USING ROADWAY STANDARD DRAWING 1101.02 SHEET 17 OF 19 AND TEMPORARY PORTABLE TRAFFIC SIGNALS, COMPLETE THE FOLLOWING:

MOVE TRAFFIC ONTO DETOUR ROUTE AS A ONE-LANE, TWO-WAY OPERATION. (SEE SHEET 2B,3B)

REMOVE EXISTING CULVERT AND CONSTRUCT REMAINING 31' OF UPSTREAM PROPOSED 2 @ 10'X4' RCBC AT APPROXIMATELY -L- STA 13+07.

CONSTRUCT NEW PAVEMENT (EXCLUDING FINAL LAYER) FROM APPROXIMATELY -L- STA. 12+00 +/- TO STA. -L- 14+61 +/-.

CONSTRUCT TEMPORARY PAVEMENT FROM APPROXIMATELY -L- STA. 14+17 +/- LT TO -L- STA. 15+00 +/- LT.

PHASE 3

USING ROADWAY STANDARD DRAWING 1101.02 SHEET 17 OF 19 AND TEMPORARY PORTABLE TRAFFIC SIGNALS, COMPLETE THE FOLLOWING:

MOVE TRAFFIC ONTO THE NEWLY CONSTRUCTED WESTBOUND LANE IN A ONE-LANE, TWO-WAY OPERATION.

REMOVE TEMPORARY DETOUR AND SHORING, AND CONSTRUCT REMAINING EASTBOUND PAVEMENT (EXCLUDING FINAL LAYER) -L- STA. 12+00 +/- TO -L- STA. 14+61 +/-, INCLUDING GUARDRAIL.

PHASE 4

USING ROADWAY STANDARD DRAWING 1101.02 SHEET 1 OF 19 AND FLAGGERS, COMPLETE THE FOLLOWING:

CONSTRUCT PAVEMENT (EXCLUDING FINAL LAYER) FROM -L- STA. 11+35 +/- TO 12+00 +/- AND FROM -L- STA. 14+61 +/- TO 15+00 +/- . REMOVE TEMPORARY PAVEMENT FROM -L- STA. 14+17 +/- LT TO -L- STA. 15+00 +/- LT.

PLACE TEMPORARY PAVEMENT MARKINGS FROM -L- STA. 11+35 TO -L- STA. 15+00.00.

PLACE SR 1395 TRAFFIC INTO NEW TWO-LANE, TWO-WAY PATTERN.

USING ROADWAY STANDARD DRAWING 1101.02 SHEET 1 OF 19 AND FLAGGERS, PLACE THE FINAL SURFACE LAYER AND FINAL PAVEMENT MARKINGS ON SR 1395.

REMOVE ALL WORK ZONE TRAFFIC CONTROL DEVICES AND OPEN TRAFFIC TO THE FINAL PATTERN.

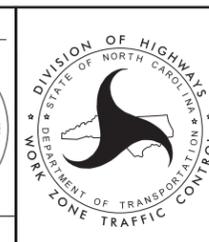
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\$\$\$\$\$USERNAME\$\$\$\$\$



DocuSigned by:
Tyler Krauss
APPROVED: 0F1BBA9520E2458
DATE: 10/19/2023

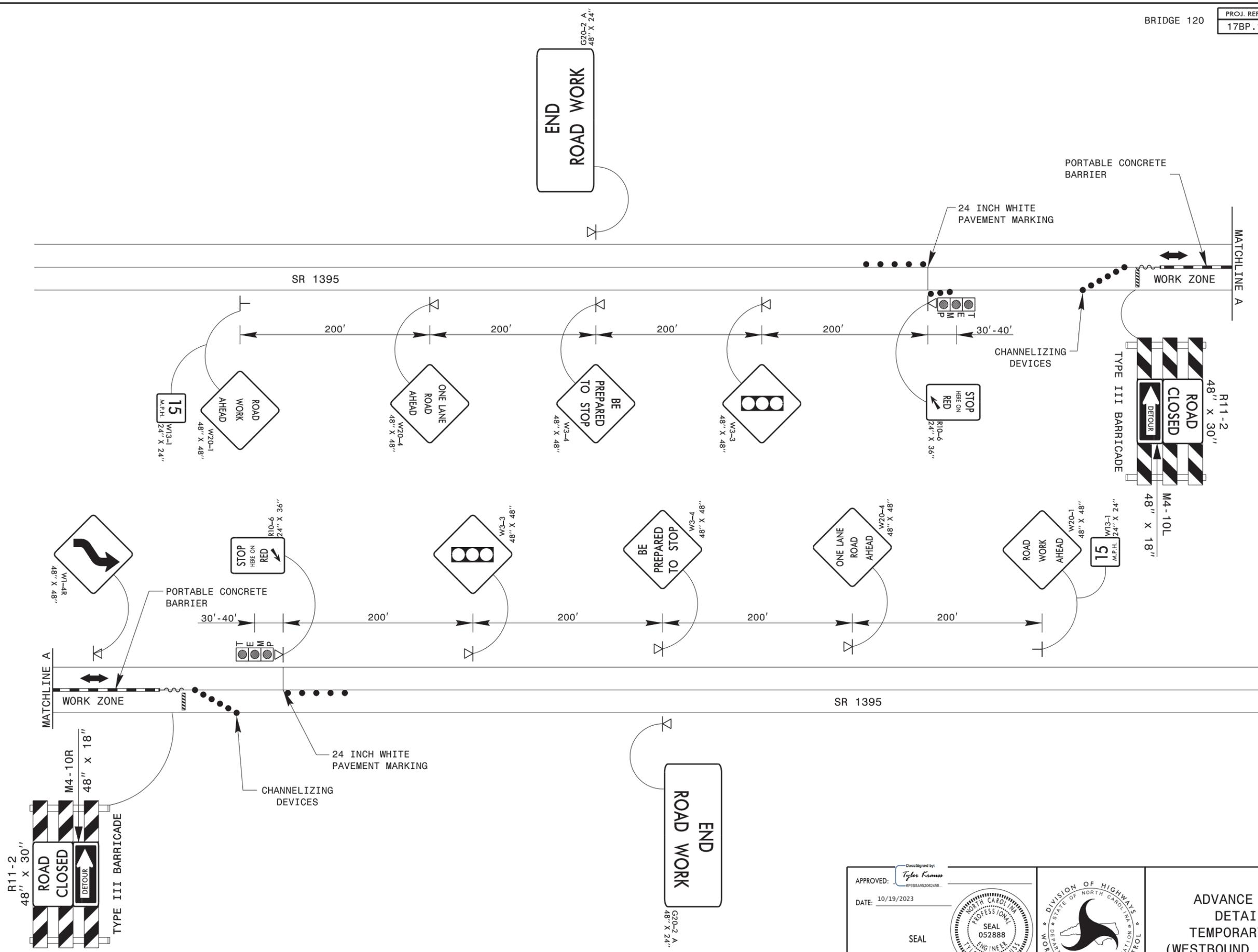
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UNLESS ALL SIGNATURES COMPLETED**



PHASING

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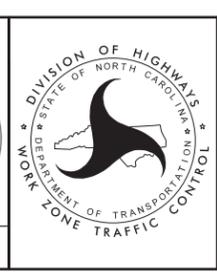


END ROAD WORK
G20-2 A
48" x 24"

APPROVED: *Tyler Krauss*
DATE: 10/19/2023

SEAL

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



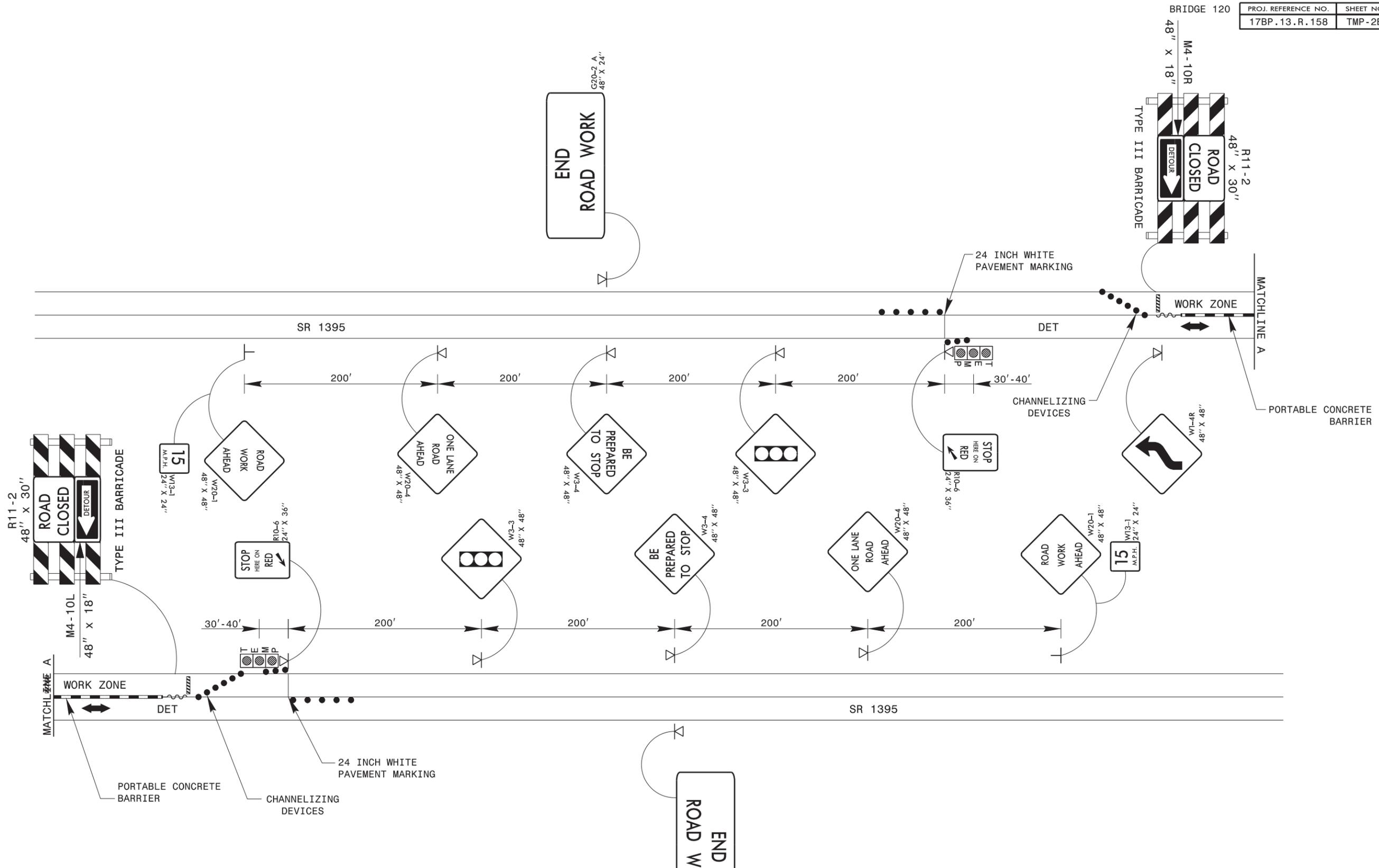
ADVANCE SIGNING
DETAIL FOR
TEMPORARY SIGNAL
(WESTBOUND LANE SHIFT)

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL



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PROJ. REFERENCE NO.	SHEET NO.
17BP.13.R.158	TMP-2B



END ROAD WORK
G20-2 A
48" X 24"

KCI
KCI ASSOCIATES OF N.C., P.A.
400 Falls of Neuse Road, Suite 400
Raleigh, NC 27609-6270
Phone: (919) 783-9214
NC Firm License No. C-4764

DocuSigned by:
Taylor Kromas
APPROVED: [Signature]
DATE: 10/19/2023

SEAL

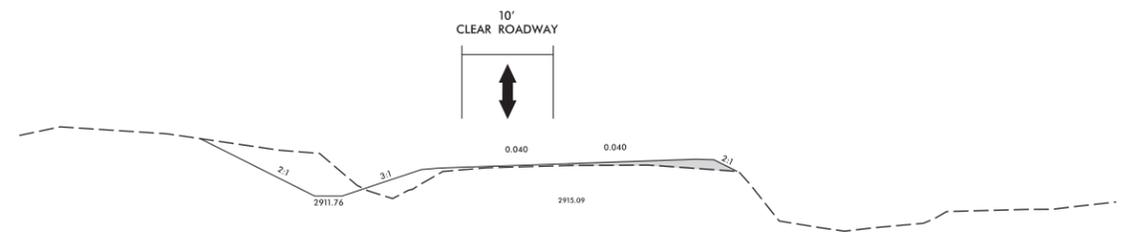
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UNLESS ALL SIGNATURES COMPLETED**



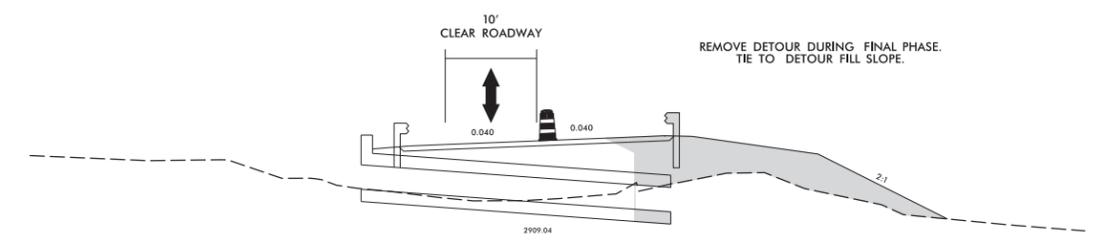
**ADVANCE SIGNING
DETAIL FOR
TEMPORARY SIGNAL
(EASTBOUND LANE SHIFT)**

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

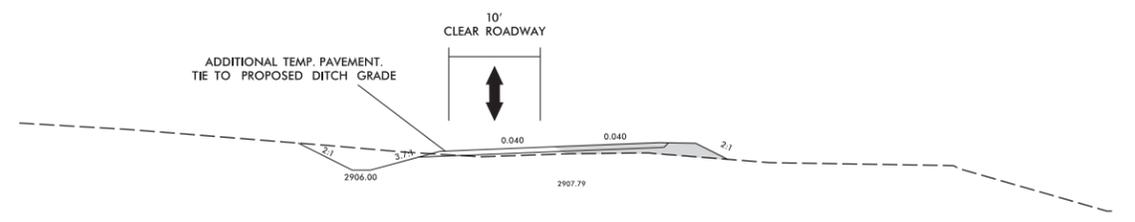
REFER TO SHEET TMP-2A FOR TEMP SIGNAL



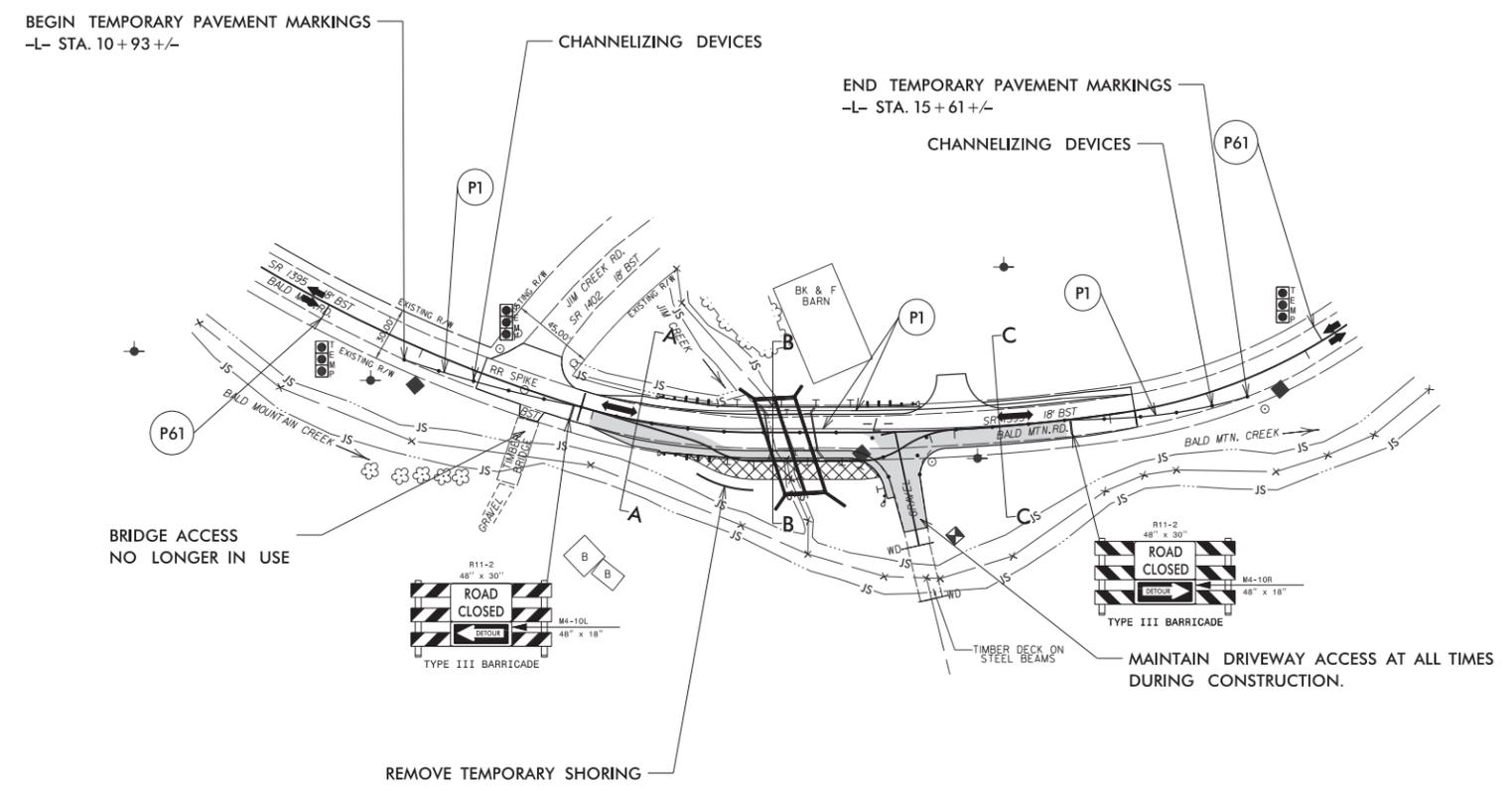
A-A -L- STA. 12+25



B-B -L- STA. 13+00



C-C -L- STA. 14+25



MAINTAIN DRIVEWAY ACCESS AT ALL TIMES DURING CONSTRUCTION.

12/21/2023 M:\2016\221601946.09 NCDOT Division 13 Bridge Replacements\C.17BP.13.R.158_Yancey_990120.B58881\TrafficControl\TCP\200_013_990120.TC_TMP_03C.dgn User:charlie.flowe

KCI ASSOCIATES OF N.C., P.A.
4505 Falls of Neuse Road, Suite 400
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Phone: (919) 783-9214
NC Firm License No. C-4764

APPROVED: *Charles Plave*
DATE: 12/21/2023

SEAL

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UNLESS ALL SIGNATURES COMPLETED**



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

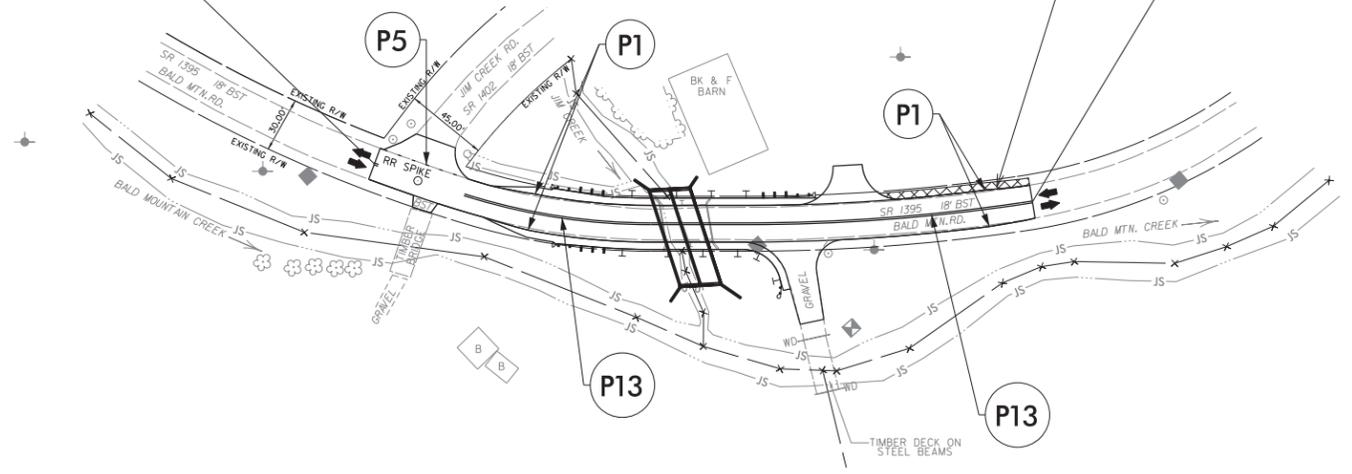
PHASE 3 DETAIL
(WESTBOUND LANE SHIFT)



BEGIN PAVEMENT MARKINGS
-L- STA 11+35.00

END PAVEMENT MARKINGS
-L- STA 15+00.00

REMOVE TEMPORARY PAVEMENT



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 KCI ASSOCIATES OF N.C., P.A.
 400 Falls of Noce Road, Suite 400
 Raleigh, NC 27609-6270
 Phone (919) 783-9214
 NC Firm License No. C-4764

DocuSigned by:
Tyler Krauss
 APPROVED: 0F98BA652092459...
 DATE: 10/19/2023
 SEAL




PHASE 4 DETAIL

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

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PROJECT: 17BP.13.R.158

CONTRACT: DM00389

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PAVEMENT MARKING PLANS

YANCEY COUNTY

**LOCATION: BRIDGE No. 120 ON SR 1395 (BALD MOUNTAIN ROAD)
OVER JIM CREEK**

PROJECT REFERENCE NO. 17BP.13.R.158	SHEET NO. PMP-1
APPROVED: <u>Tyler Krauss</u> <small>495884452082458</small>	
DATE: 10/19/2023	
SEAL: 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 <small>KCI ASSOCIATES OF N.C., P.A. 4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27609-6270 Phone (919) 783-9214 NC Firm License No. C-0764</small>	

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR 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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	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- SR 1385 (BALD MOUNTAIN RD.)	PAINT	NONE
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

PAVEMENT MARKING SCHEDULE

SYMB	DESCRIPTION
P1	PAINT (4") WHITE EDGELINE
P5	PAINT (4") 2FT.-6FT./SP WHITE MINISKIP
P13	PAINT (4") YELLOW DOUBLE CENTER

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-2	PAVEMENT MARKING DETAIL

KELVIN L. JORDAN SIGNING & DELINEATION REGIONAL ENGINEER

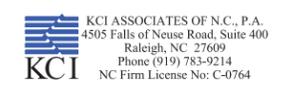
RENEE B. ROACH, PE, CPM STATE SIGNING & DELINEATION ENGINEER

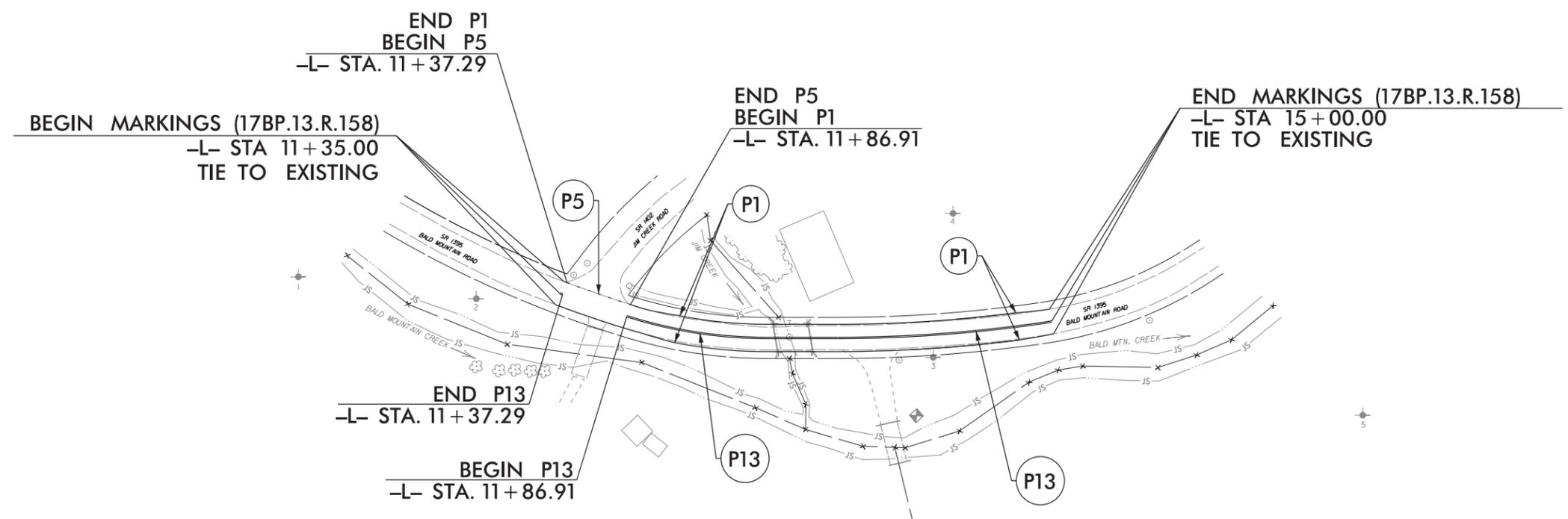


PLANS PREPARED BY:

ROBERT F. DECOLA, P.E. PROJECT MANAGER

TYLER M. KRAUSS, P.E. PROJECT DESIGN ENGINEER





PAVEMENT MARKING LEGEND	
	WHITE EDGELINE (4")
	2FT.-6FT/SP. WHITE MINISKIP (4")
	YELLOW DOUBLE CENTER (4")

KCI ASSOCIATES OF N.C., P.A.
 4505 Falls of Neuse Road, Suite 400
 Raleigh, NC 27609
 Phone (919) 783-9214
 NC Firm License No: C-0764

DocuSigned by:
Tyler Krauss
 APPROVED: _____
 DATE: 10/19/2023
 SEAL:

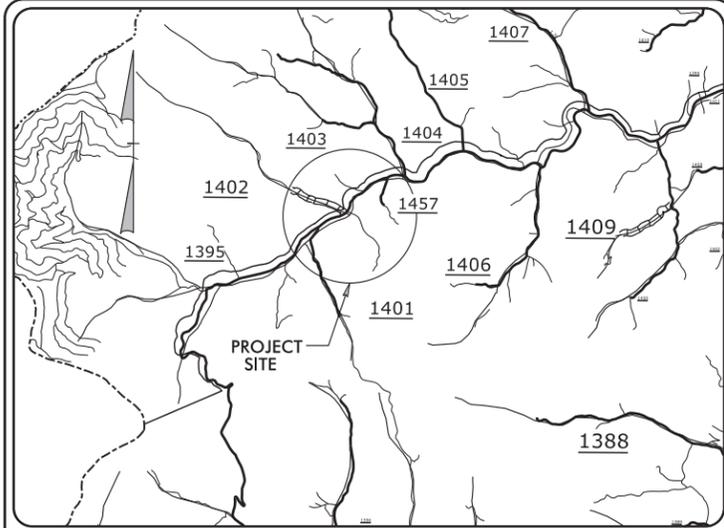
**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



PAVEMENT MARKING DETAIL

31-JUL-2023 12:09
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 \$\$\$USERNAME\$\$\$

TIP PROJECT: 17BP.13.R.158

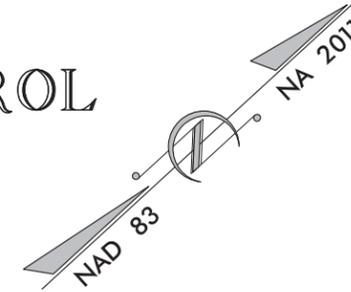


VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL**

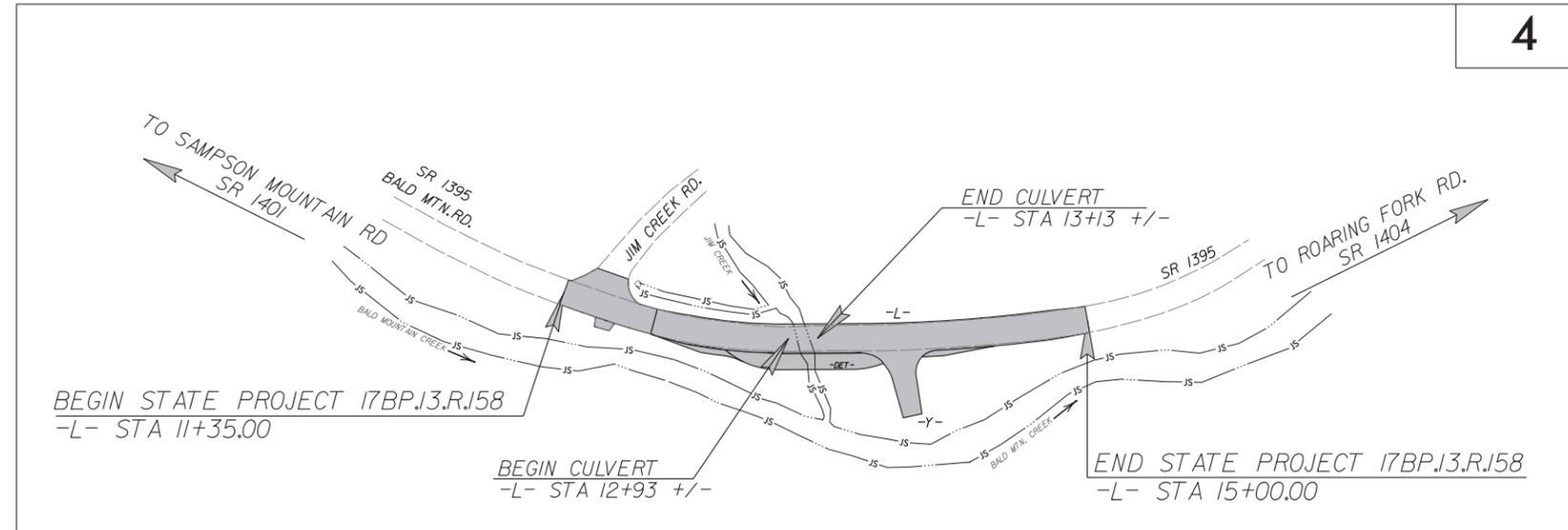
YANCEY COUNTY



**LOCATION: REPLACE BRIDGE NO. 120 OVER JIM
CREEK ON SR 1395 (BALD MOUNTAIN ROAD)**

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.13.R.158	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.13.R.158		PE,RW,UTIL,CON	

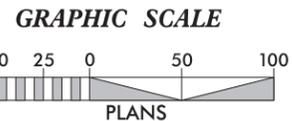


4

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
Refer To E. C. Special Provisions for Special Considerations.



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.

Company Logo

Prepared In the Office of:
SUNGATE DESIGN GROUP, P.A.

905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243
ENG FIRM LICENSE NO. C-890

Designed by:
MATTHEW C. EDWARDS, EI 3992
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.
17BP.13.R.158	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol	Std. #	Description	Symbol
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	
1630.05	Temporary Diversion		1635.02	Rock Pipe Inlet Sediment Trap Type 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		1636.03	Excelsior Wattle Barrier	
1632.02	Type B		1636.03	Coir Fiber Wattle Barrier	
1632.03	Type C				

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>17BP13.R158</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

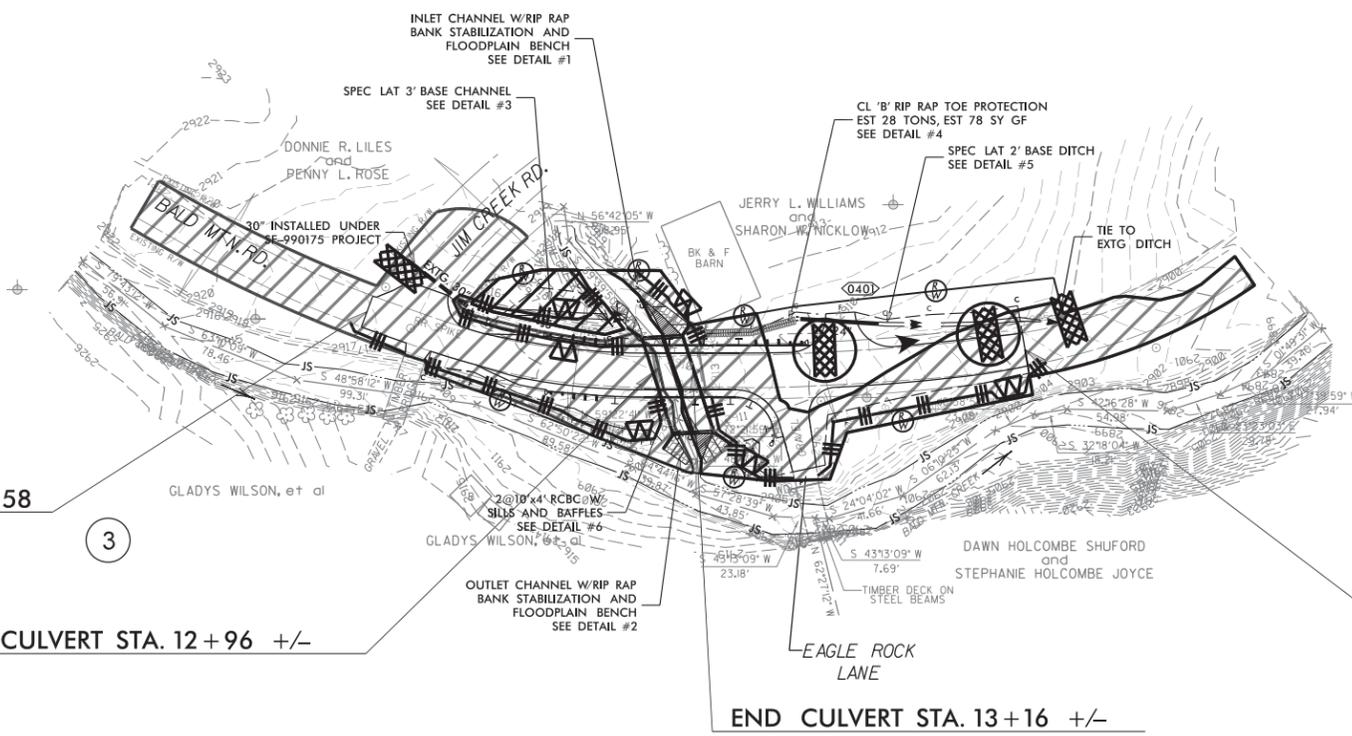
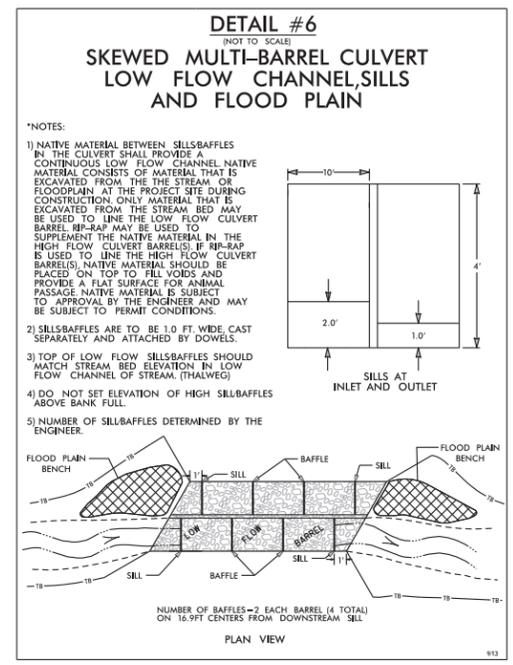
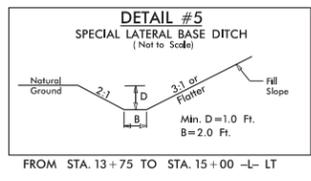
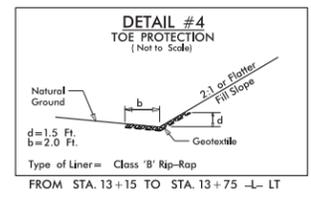
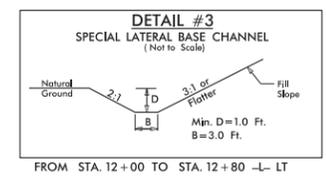
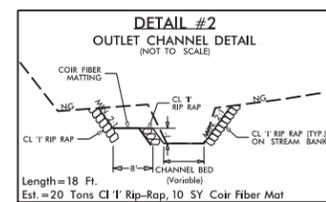
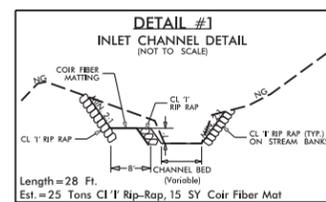
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

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

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

PROJECT REFERENCE NO. 17BP.13.R.158	SHEET NO. EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



BEGIN STATE PROJECT 17BP.13.R.158
-L- POC STA 11+35.00

BEGIN CULVERT STA. 12+96 +/-

END CULVERT STA. 13+16 +/-

END STATE PROJECT 17BP.13.R.158
-L- POC STA 15+00.00



FOR TEMPORARY DETOUR SEE SHEET 2B-1
FOR -L- PROFILE SEE SHEET 5

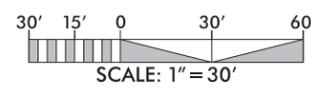
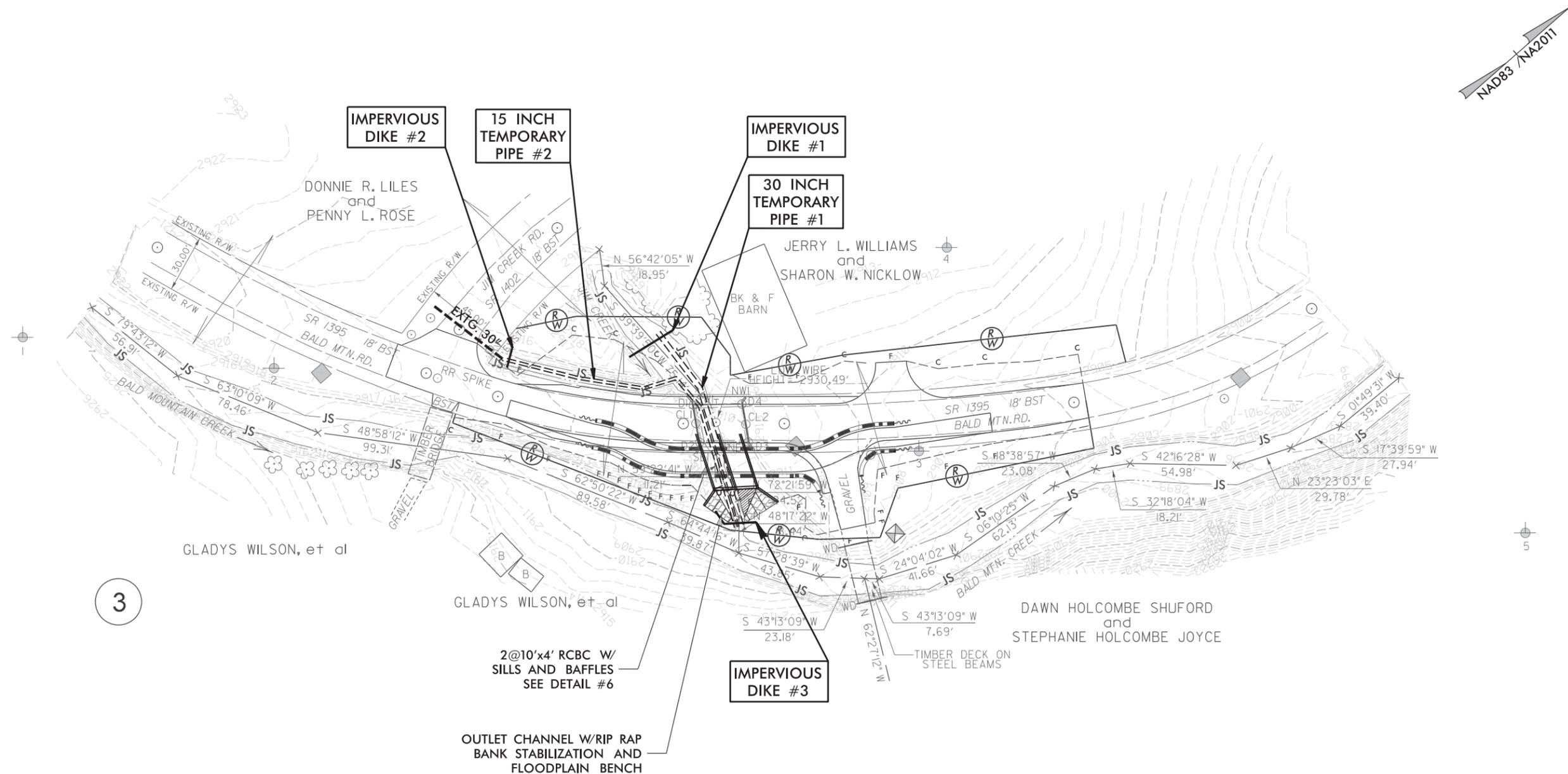
2@10'X4' CULVERT CONSTRUCTION SEQUENCE

STA. 13+07 -L- JIM CREEK

PROJECT REFERENCE NO.	SHEET NO.
17BP.13.R.158	EC-04A/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE I

- 1.) UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
- 2.) INSTALL IMPERVIOUS DIKES #1, #2, #3, 30" TEMPORARY PIPE #1, AND 15" TEMPORARY FLEXIBLE PIPE #2.
- 3.) DEWATER CONSTRUCTION AREA, UTILIZING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 4.) RETAIN EXISTING BRIDGE FOR USE BY TRAFFIC.
- 5.) CONSTRUCT 24' OF 2@10'X4' RCBC AND OUTLET CHANNEL W/RIP RAP BANK STABILIZATION AND FLOODPLAIN BENCH.
- 6.) CONSTRUCT DETOUR IN ACCORDANCE WITH THE PLANS.
- 7.) SHIFT TRAFFIC ONTO DETOUR TO BE USED AS A ONE LANE ROAD.



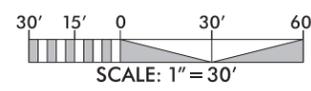
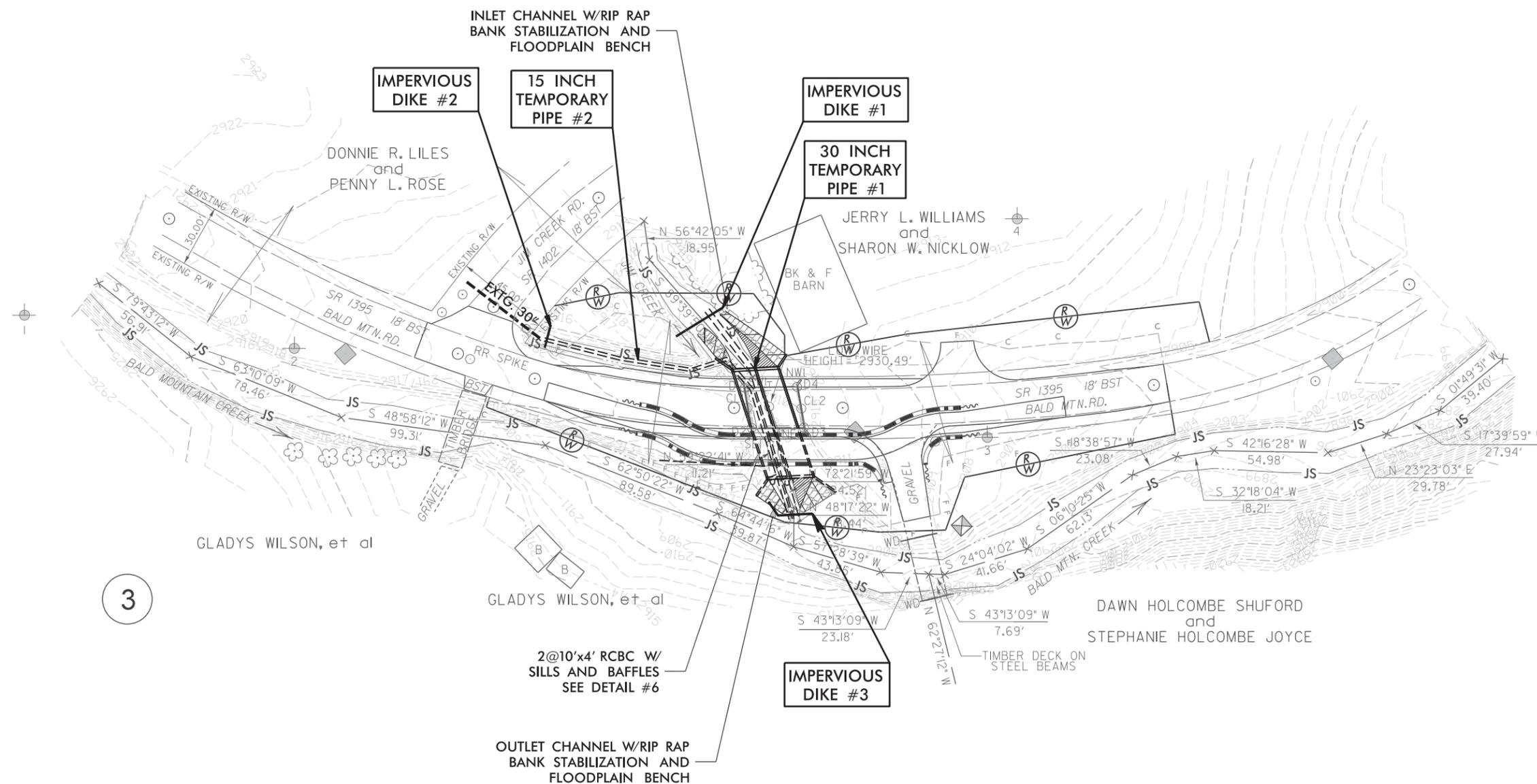
2@10'X4' CULVERT CONSTRUCTION SEQUENCE

STA. 13+07 -L- JIM CREEK

PROJECT REFERENCE NO.	SHEET NO.
17BP.13.R.158	EC-04B/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE II

- 1.) REMOVE EXISTING BRIDGE.
- 2.) CONSTRUCT REMAINING PORTION OF 2@10'X4' RCBC AND INLET CHANNEL W/RIP RAP BANK STABILIZATION AND FLOODPLAIN BENCH.
- 3.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKS.
- 4.) REMOVE ANY REMAINING SPECIAL STILING BASIN(S), IMPERVIOUS DIKS, AND TEMPORARY PIPES.
- 5.) COMPLETE ROADWAY.

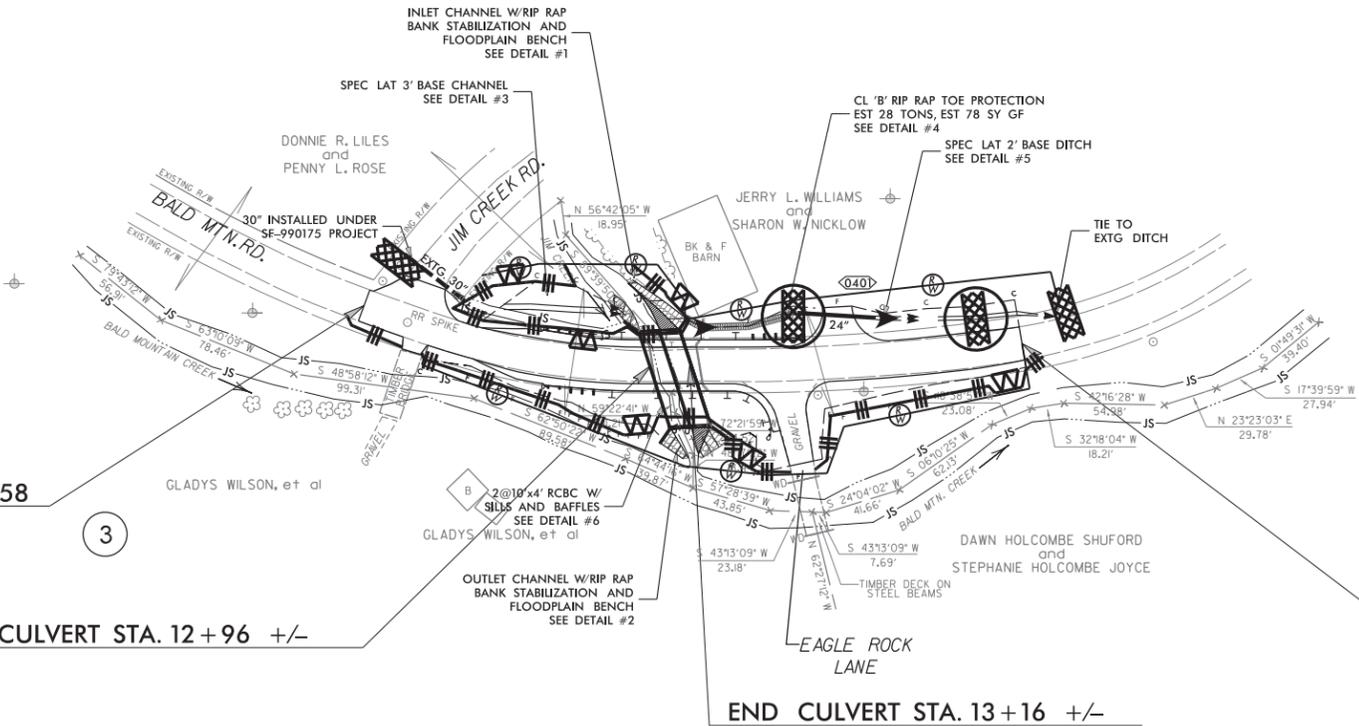
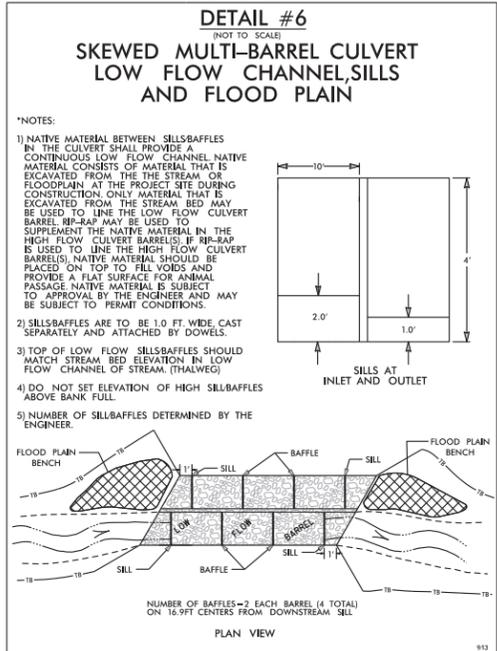
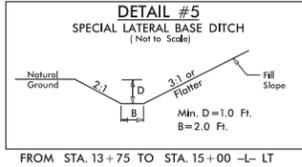
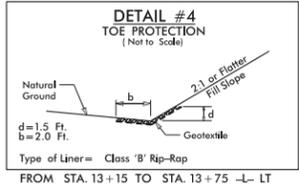
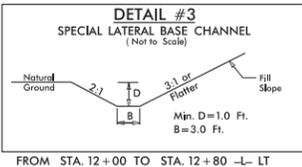
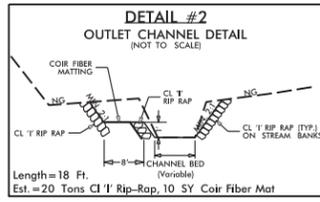
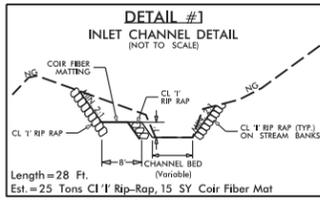


3

FINAL GRADING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

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

PROJECT REFERENCE NO. 17BP.13.R.158	SHEET NO. EC-05/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



BEGIN STATE PROJECT 17BP.13.R.158
-L- POC STA 11+35.00

BEGIN CULVERT STA. 12+96 +/-

END CULVERT STA. 13+16 +/-

END STATE PROJECT 17BP.13.R.158
-L- POC STA 15+00.00

FOR TEMPORARY DETOUR SEE SHEET 2B-1
FOR -L- PROFILE SEE SHEET 5

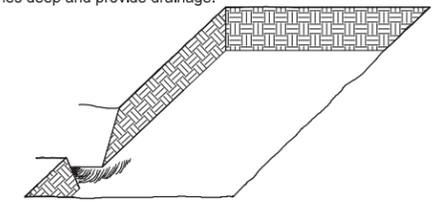
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.13.R.158	RF-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

PLANTING DETAILS

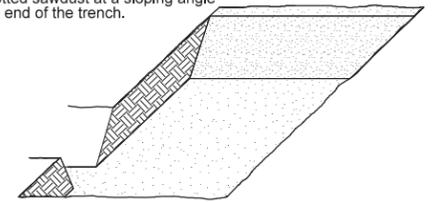
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

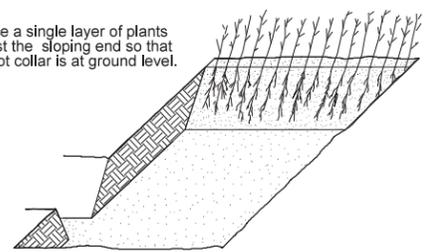
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



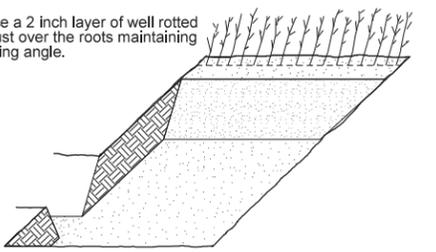
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

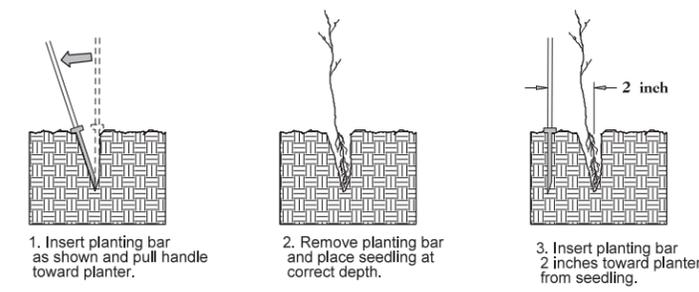


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

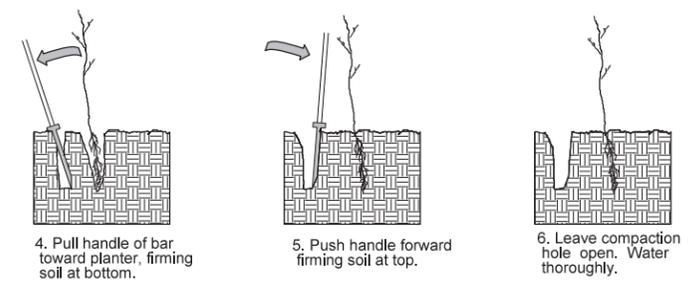


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



1. Insert planting bar as shown and pull handle toward planter.
2. Remove planting bar and place seedling at correct depth.
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

- TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

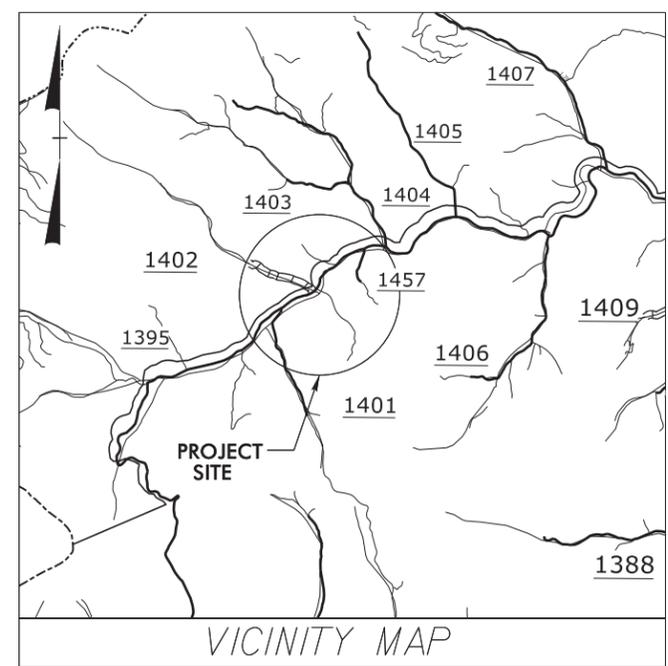
25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in BR
25% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in BR
25% NYSSA SYLVATICA	BLACK GUM	12 in - 18 in BR
25% BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR

REFORESTATION DETAIL SHEET
N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

09.08/99

06-SEP-2023 10:33
M:\2016\221601946\09 NCDOT Division 13 Bridge Replacements\C_17BP.13.R.158_Yancey_990120_B588\Utilities\290_001_B-588L_ut_tsh_U001_psh.dgn
\$\$\$\$\$SERNAME\$\$\$\$\$

STATE PROJECT: 17BP.13.R.158



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

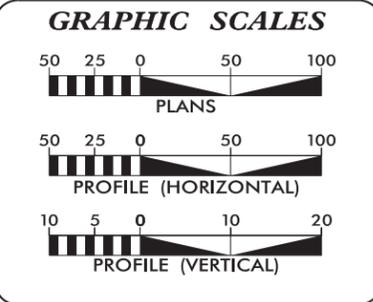
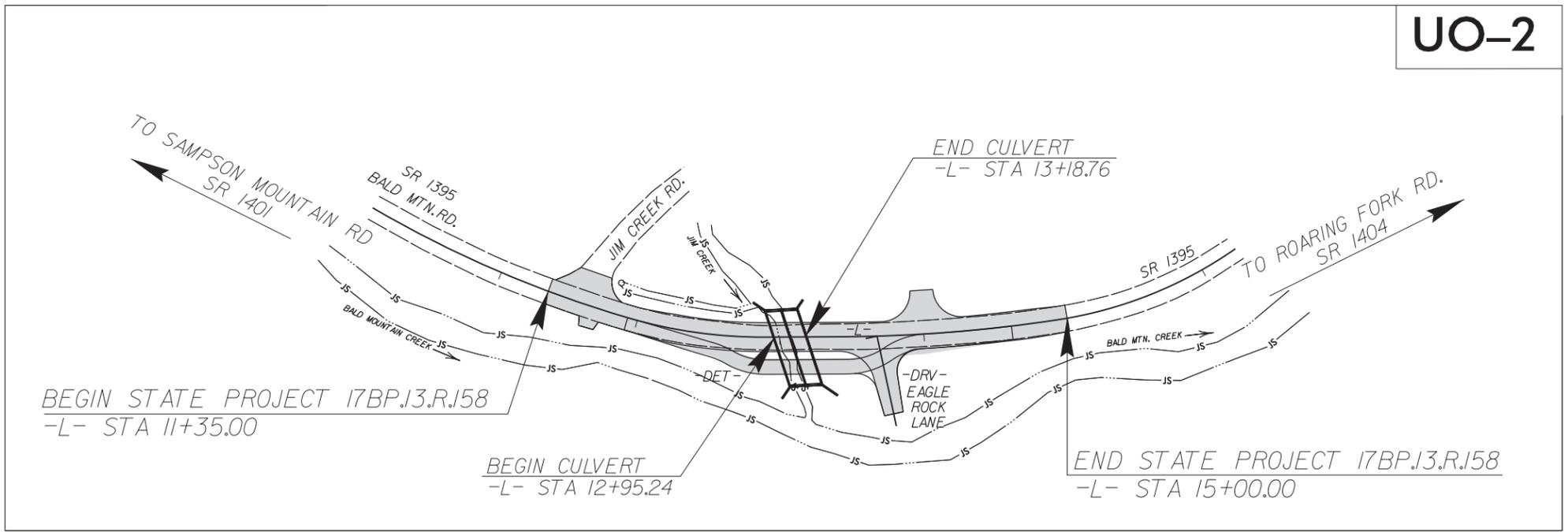
**UTILITIES BY OTHERS PLANS
YANCEY COUNTY**

**LOCATION: REPLACE BRIDGE NO.120 OVER JIM
CREEK ON SR 1395 (BALD MOUNTAIN ROAD)**

**TYPE OF WORK: RELOCATION OF AERIAL POWER
& COMMUNICATION FACILITIES**

T.I.P. NO.	SHEET NO.
17BP.13.R.158	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.



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-01	TITLE SHEET
UO-02	UBO PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

- (A) POWER - FRENCH BROAD EMC
- (B) TELEPHONE - FRONTIER COMMUNICATIONS
- (C) CABLE TV - COUNTRY CABLEVISION

PREPARED IN THE OFFICE OF:

KCI Associates of N.C., P.A.
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214
Fax (919) 783-9266

JOHN FAISON UTILITY PROJECT MANAGER
DANIEL ALLEN PROJECT UTILITY DESIGNER

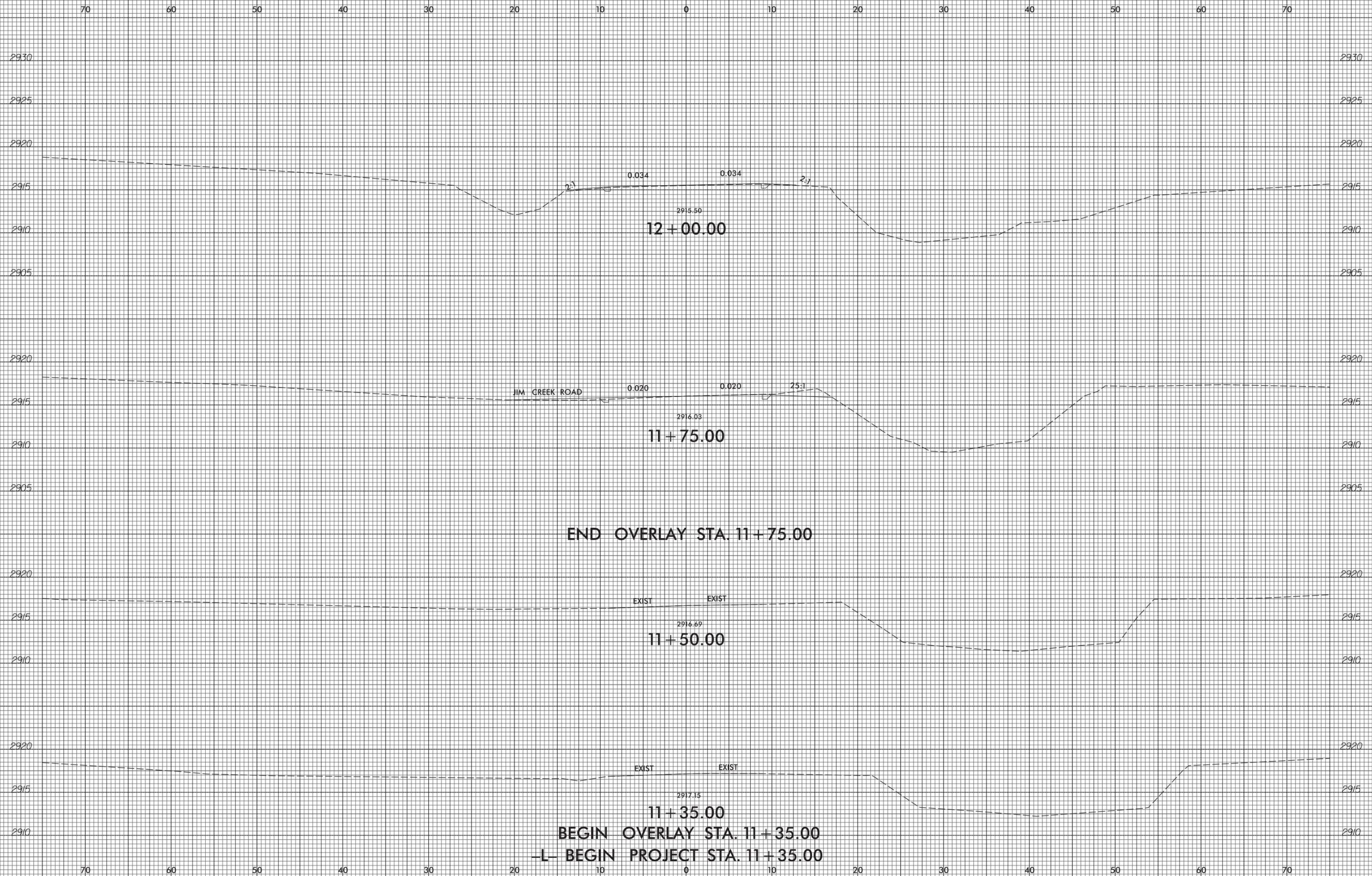
**DIVISION OF HIGHWAYS
UTILITIES UNIT**
1555 MAIL SERVICES CENTER
RALEIGH, NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

KEITH RADCLIFF SENIOR UTILITY ENGINEER
MARK GIBBS, P.E. DIVISION ENGINEER
JOHN D. METCALF DIVISION UTILITY COORDINATOR

6/23/16



PROJ. REFERENCE NO. 17BP.13.R.158	SHEET NO. X-1
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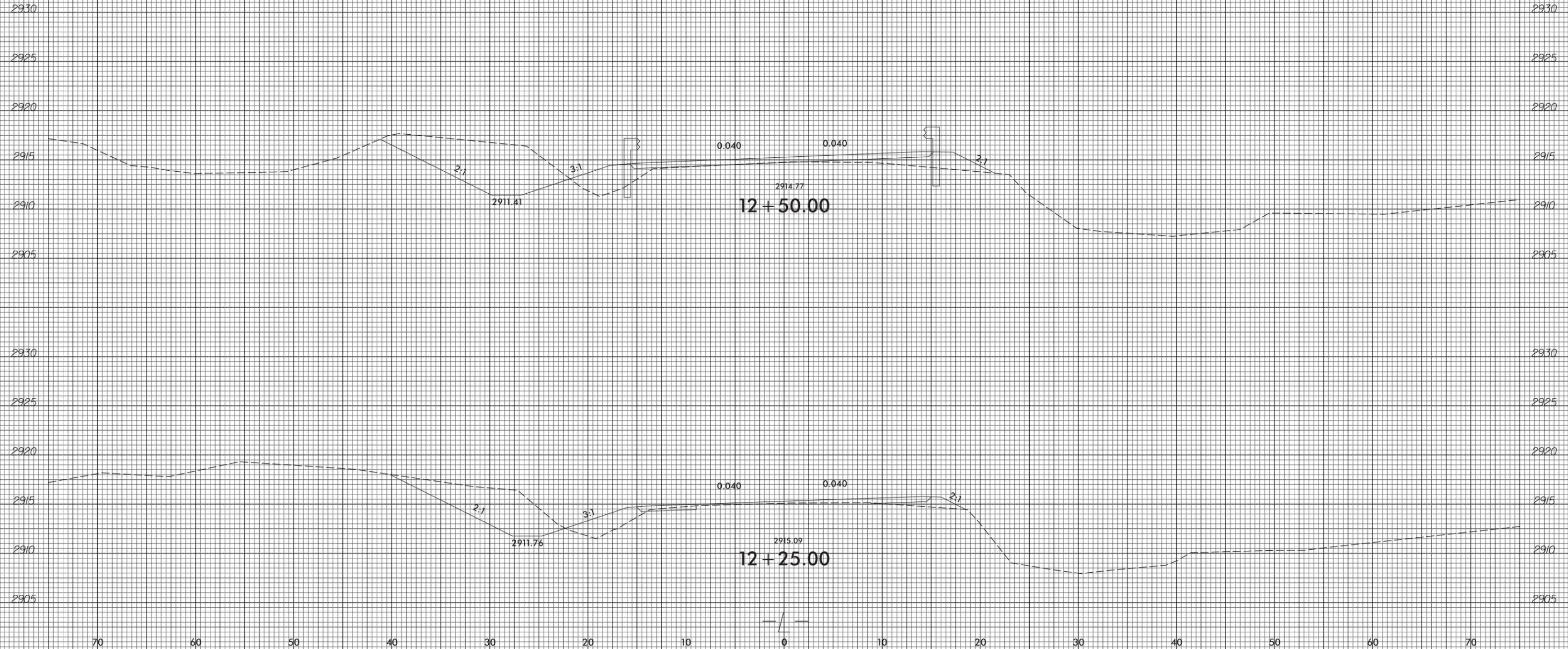
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6/23/16



PROJ. REFERENCE NO.	SHEET NO.
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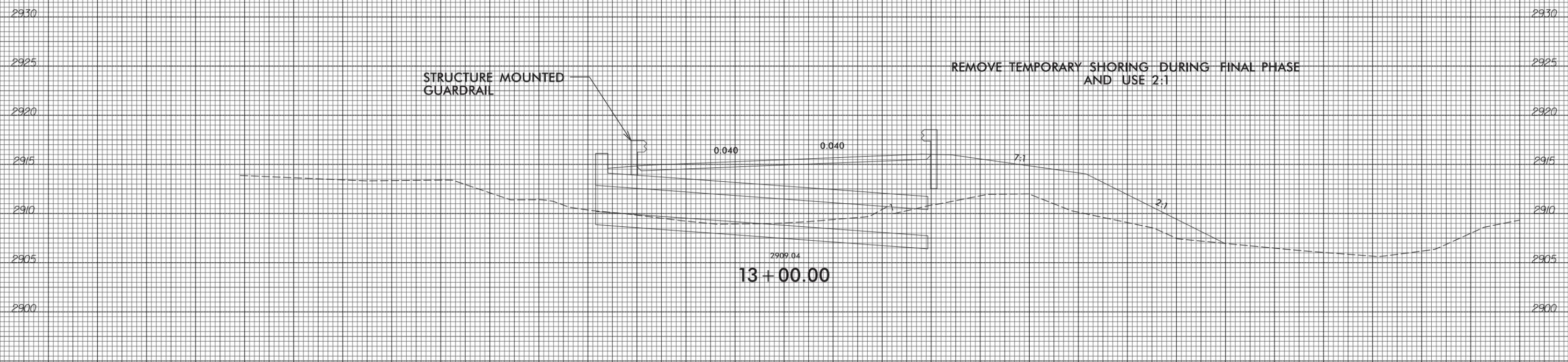
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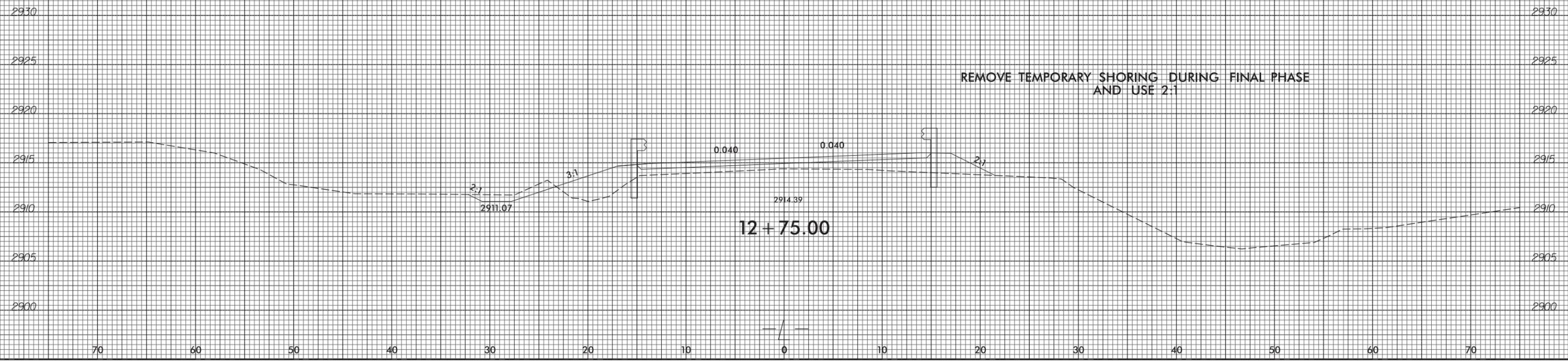
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END CULVERT STA. 13+18.76



BEGIN CULVERT STA. 12+95.24



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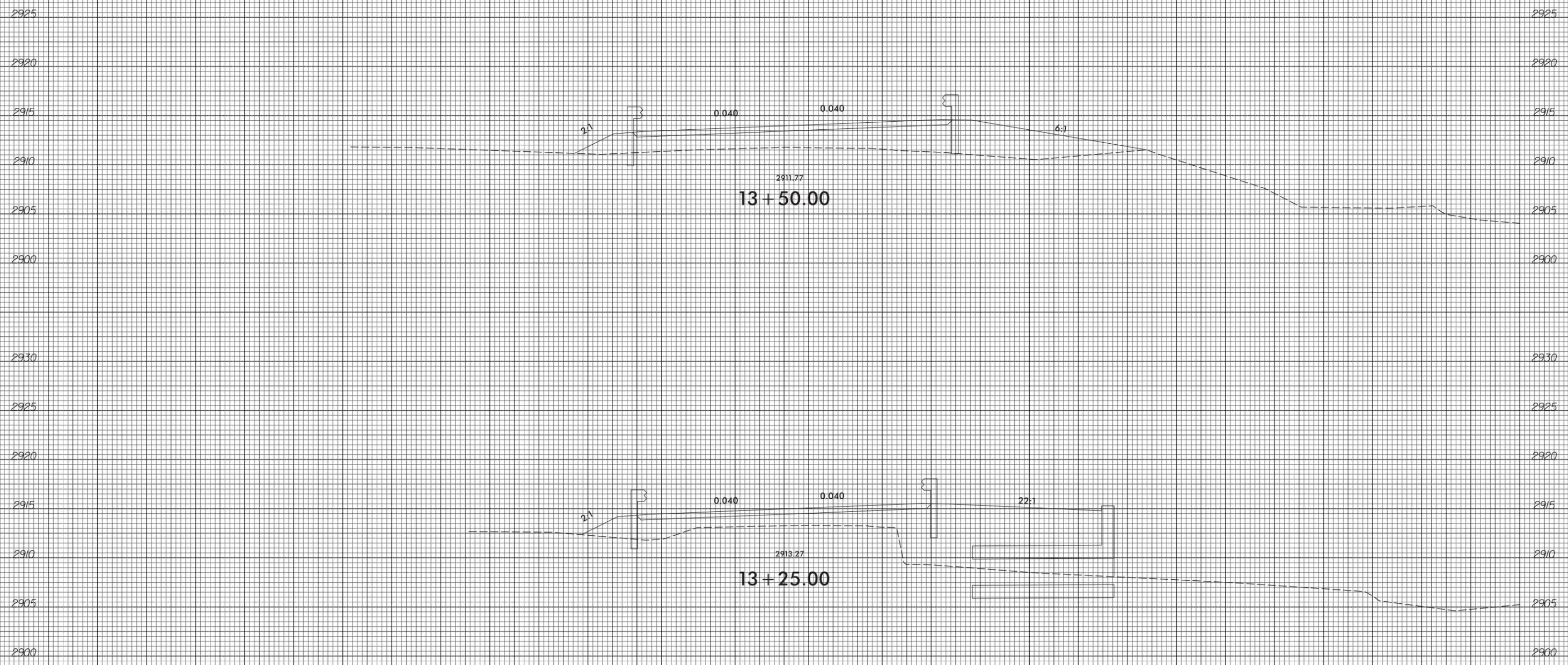
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6/23/16



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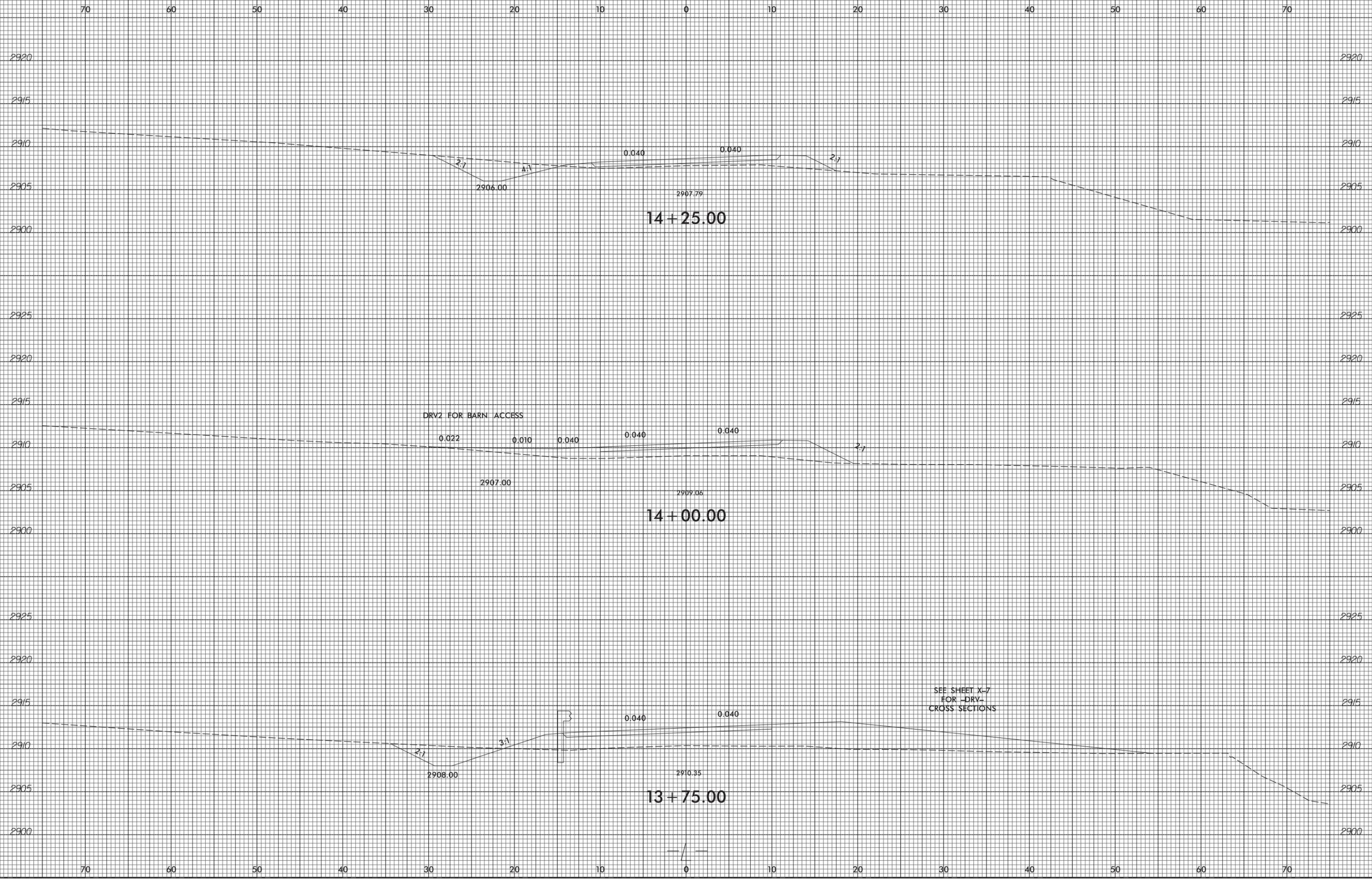
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6/23/16



PROJ. REFERENCE NO.	SHEET NO.
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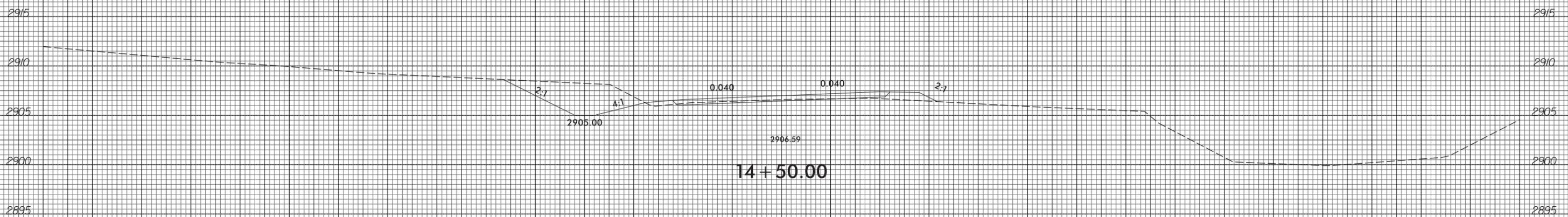
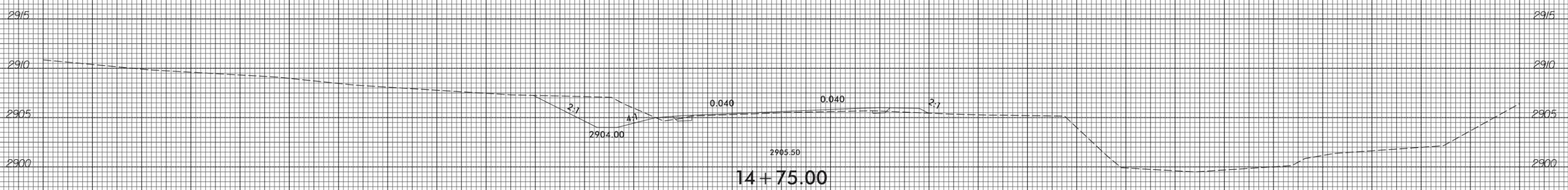
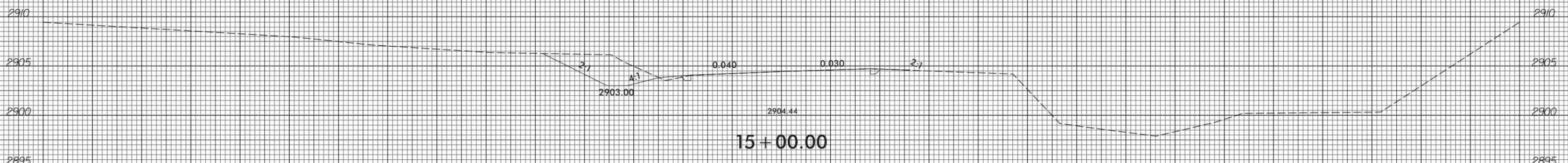
6/23/16



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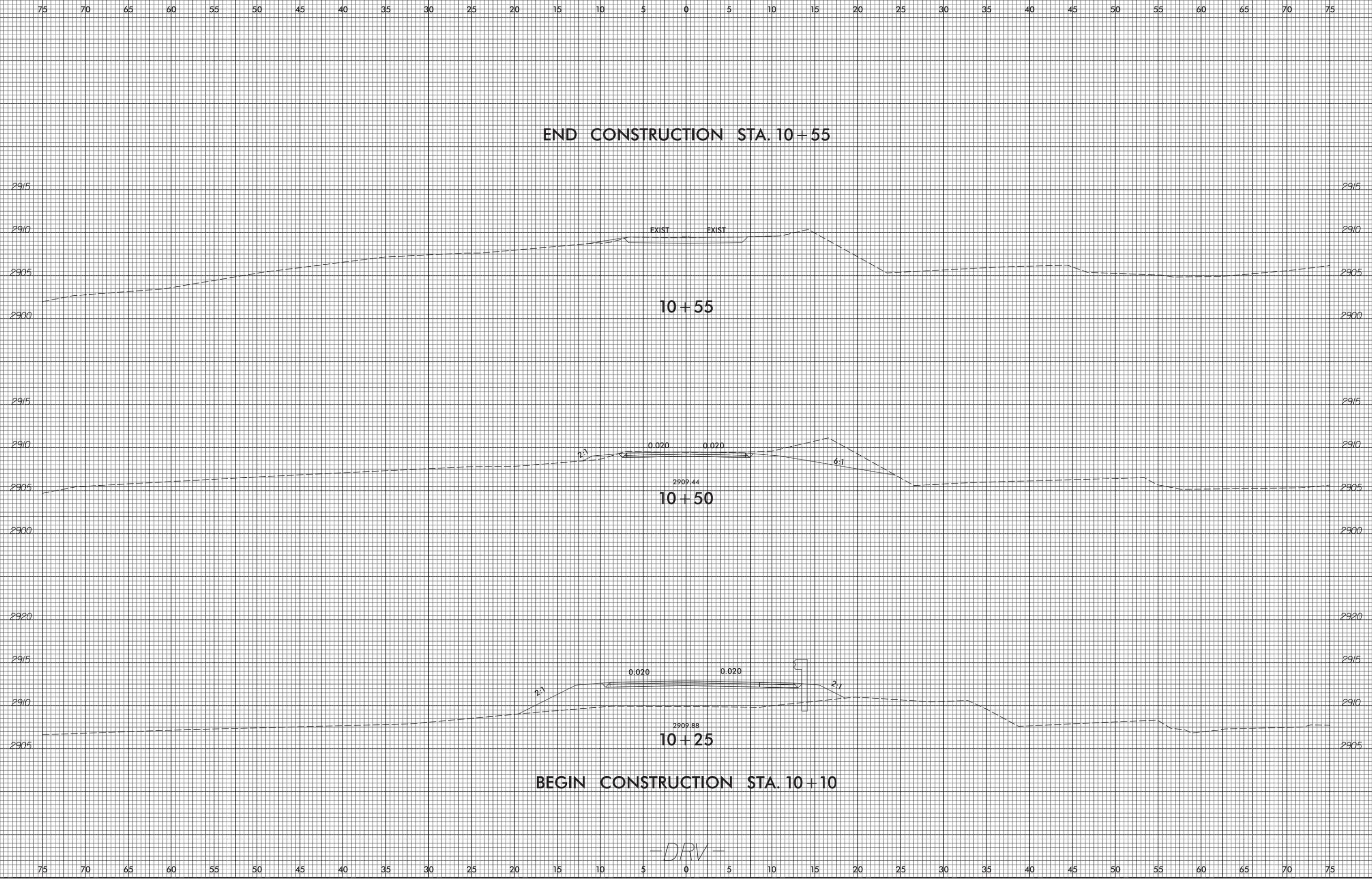
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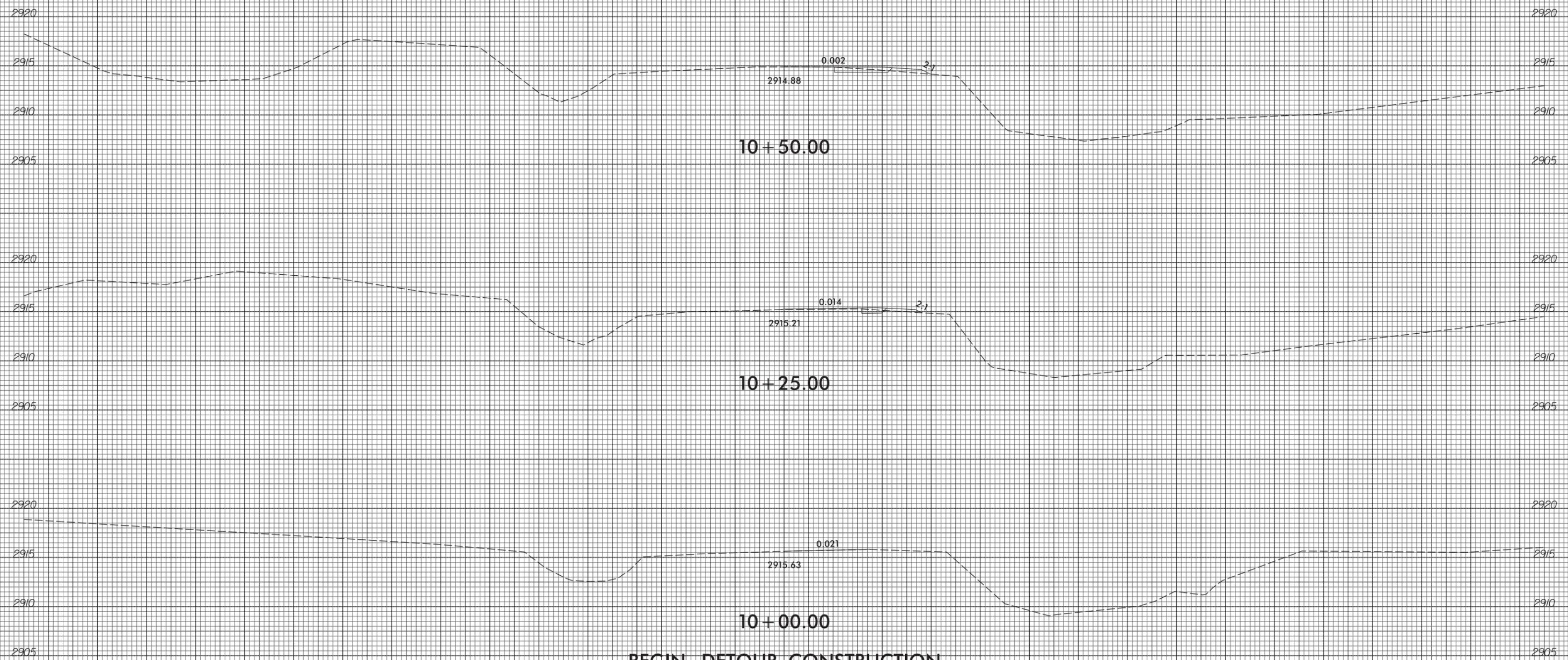


6/23/16



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BEGIN DETOUR CONSTRUCTION
-DET- STA. 10+00.00

-DET-

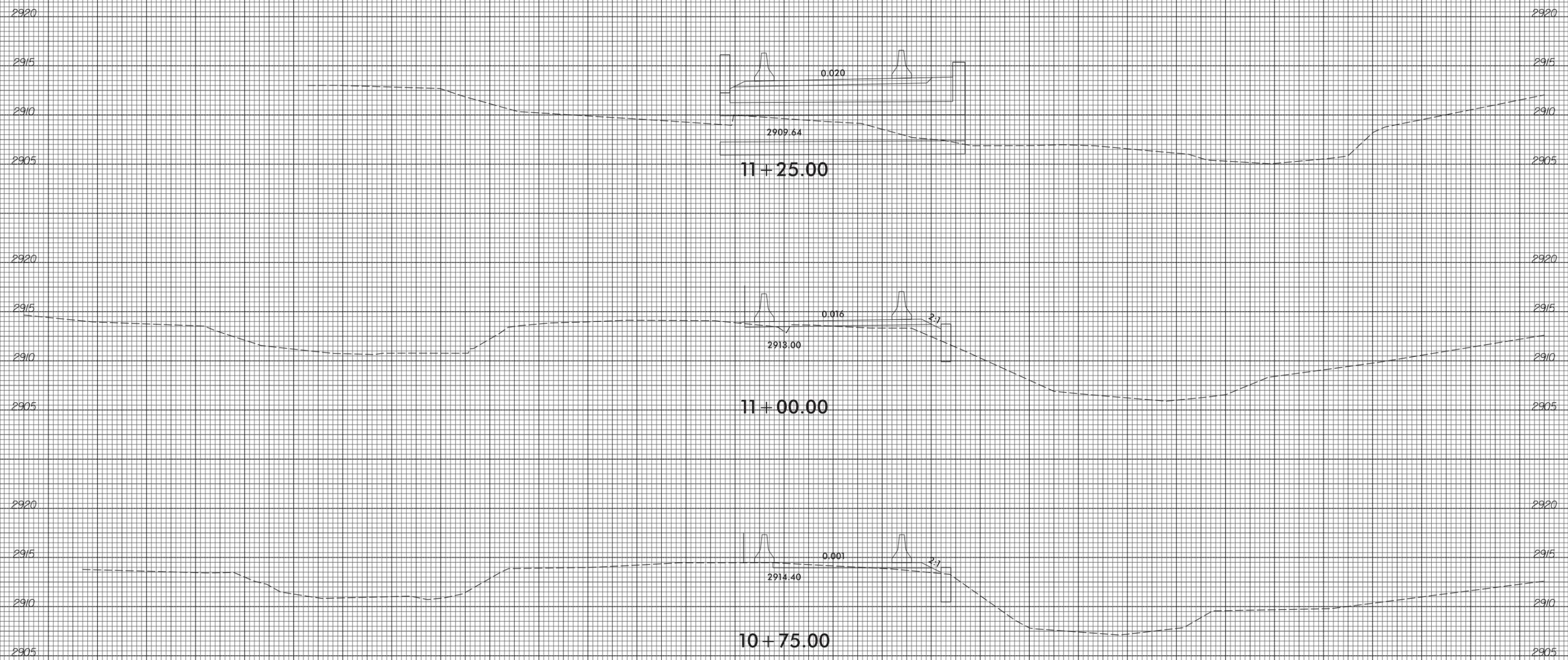
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PROJ. REFERENCE NO. 17BP.13.R.158	SHEET NO. X-9
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-DET-

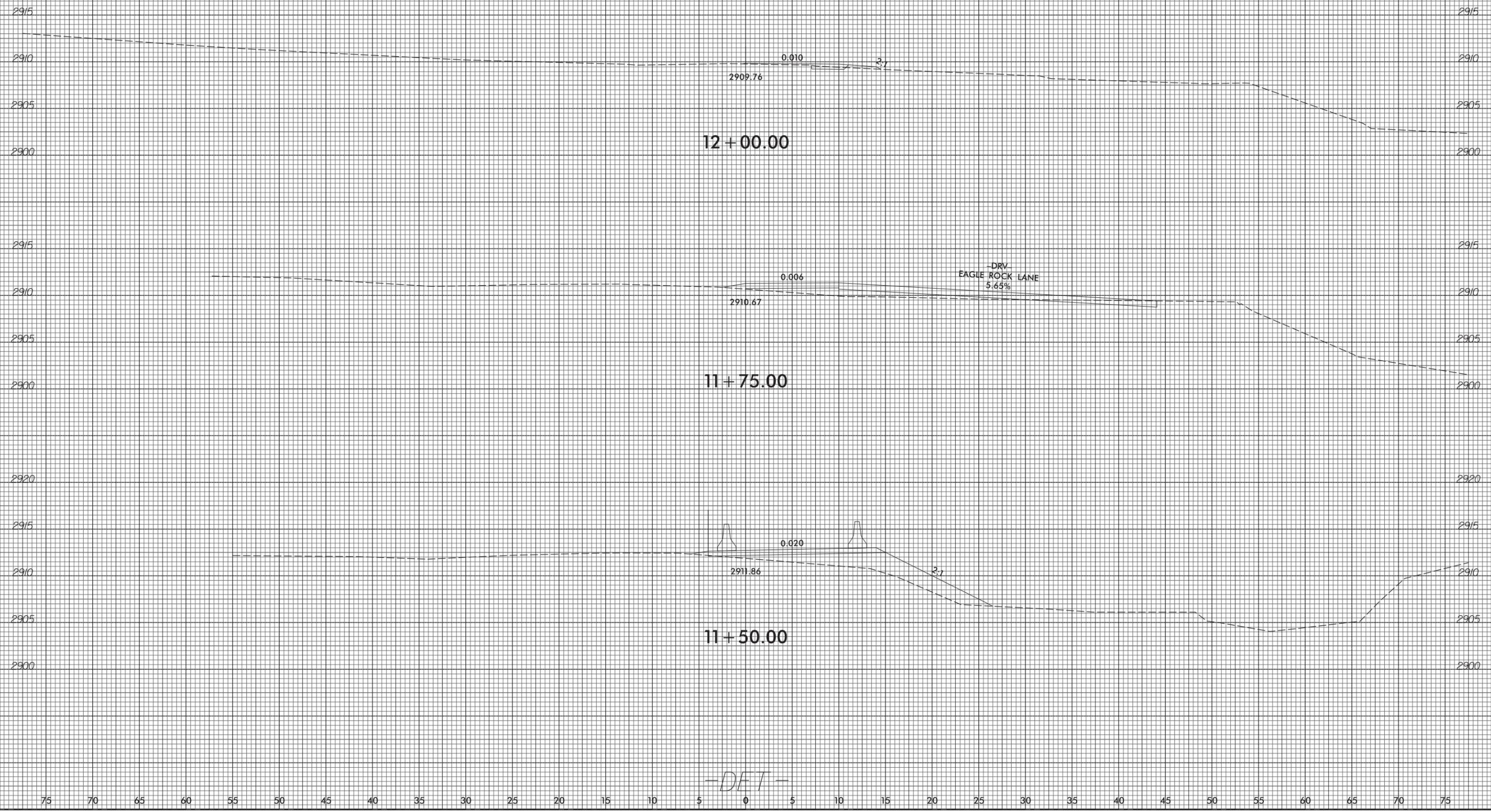
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6/23/16



PROJ. REFERENCE NO.	SHEET NO.
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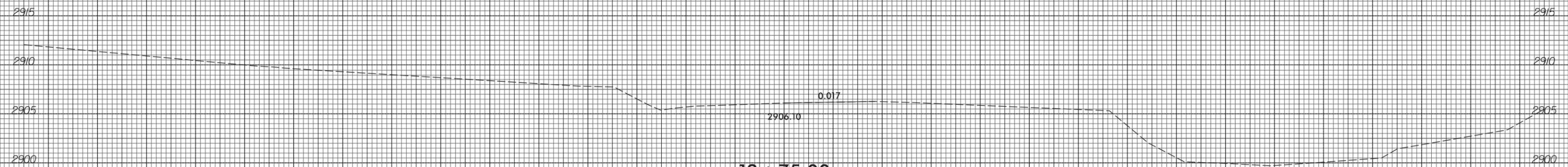
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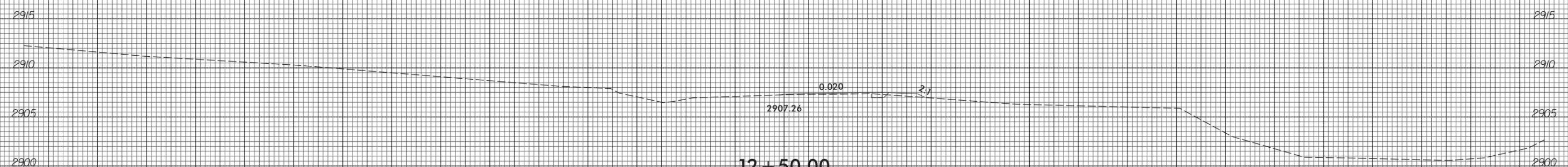
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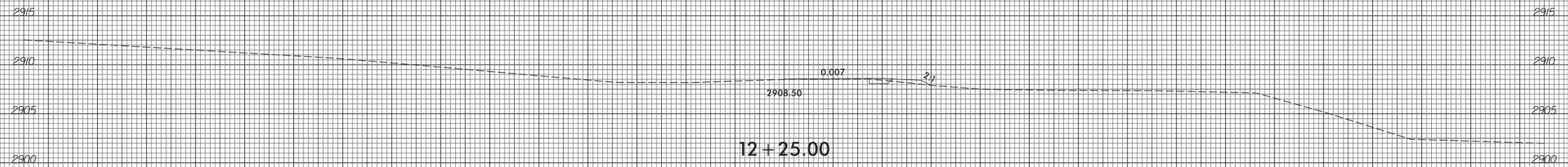
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12 + 75.00



12 + 50.00



12 + 25.00

-DET-

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LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR REINFORCED CONCRETE BOX CULVERTS

LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE								COMMENT NUMBER		
						MOMENT				SHEAR						
						LIVE-LOAD FACTORS (γ _{LL})	RATING FACTOR	BOX NO.	ELEMENT TYPE	DISTANCE FROM LEFT END OF ELEMENT (ft)	RATING FACTOR	BOX NO.	ELEMENT TYPE		DISTANCE FROM LEFT END OF ELEMENT (ft)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	1	1.13	--	1.75	1.62	1	TOP SLAB	5.00	1.13	1	TOP SLAB	10.00		
	HL-93 (OPERATING)	N/A		1.47	--	1.35	2.10	1	TOP SLAB	5.00	1.47	1	TOP SLAB	10.00		
	HS-20 (INVENTORY)	36.000	2	1.73	62.280	1.75	1.74	1	TOP SLAB	5.00	1.73	1	TOP SLAB	10.00		
	HS-20 (OPERATING)	36.000		2.24	80.640	1.35	2.26	1	TOP SLAB	5.00	2.24	1	TOP SLAB	10.00		
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH		4.56	61.560	1.40	4.56	1	TOP SLAB	5.00	5.76	1	TOP SLAB	10.00		
		SNGARBS2	20.000		4.27	85.400	1.40	4.27	1	TOP SLAB	5.00	5.21	1	TOP SLAB	10.00	
		SNAGRIS2	22.000		4.56	100.320	1.40	4.56	1	TOP SLAB	5.00	5.61	1	TOP SLAB	10.00	
		SNCOTTS3	27.250	3	2.47	67.308	1.40	3.30	1	TOP SLAB	5.00	2.47	1	TOP SLAB	10.00	
		SNAGGRS4	34.925		3.17	110.712	1.40	3.87	1	TOP SLAB	5.00	3.17	1	TOP SLAB	10.00	
		SNS5A	35.550		2.90	103.095	1.40	3.73	1	TOP SLAB	5.00	2.90	1	TOP SLAB	10.00	
		SNS6A	39.950		2.80	111.860	1.40	3.72	1	TOP SLAB	5.00	2.80	1	TOP SLAB	10.00	
		SNS7B	42.000		2.78	116.760	1.40	3.72	1	TOP SLAB	5.00	2.78	1	TOP SLAB	10.00	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		4.56	150.480	1.40	4.56	1	TOP SLAB	5.00	4.81	1	TOP SLAB	10.00	
		TNT4A	33.075		3.11	102.863	1.40	3.92	1	TOP SLAB	5.00	3.11	1	TOP SLAB	10.00	
		TNT6A	41.600		2.90	120.640	1.40	3.74	1	TOP SLAB	5.00	2.90	1	TOP SLAB	10.00	
		TNT7A	42.000		3.01	126.420	1.40	3.85	1	TOP SLAB	5.00	3.01	1	TOP SLAB	10.00	
		TNT7B	42.000		2.92	122.640	1.40	3.77	1	TOP SLAB	5.00	2.92	1	TOP SLAB	10.00	
		TNAGRIT4	43.000		2.98	128.140	1.40	3.92	1	TOP SLAB	5.00	2.98	1	TOP SLAB	10.00	
EMERGENCY VEHICLE (EV)	EV2	28.750		3.23	92.863	1.30	3.23	1	TOP SLAB	5.00	3.97	1	TOP SLAB	10.00		
	EV3	43.000	4	2.27	97.610	1.30	2.86	1	TOP SLAB	5.00	2.27	1	TOP SLAB	10.00		

LOAD FACTORS:

DESIGN LOAD RATING FACTORS

LOAD TYPE	MAX FACTOR	MIN FACTOR
DC	1.25	0.90
DW	1.50	0.65
EV	1.30	0.90
EH	1.35	0.90
ES	1.35	0.90
LS	1.75	--
WA	1.00	--

NOTES:

1. RATING FACTORS ARE BASED ON THE STRENGTH I LIMIT STATE.
2. MIN FILL CONTROLS

CONTROLLING LOAD RATING

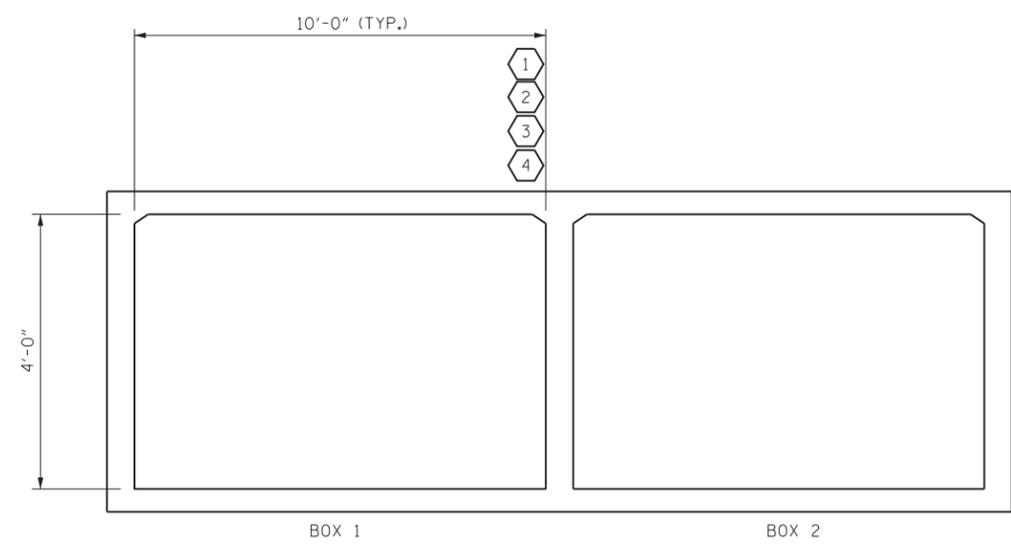
1 DESIGN LOAD RATING (HL-93)

2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

4 EMERGENCY VEHICLE LOAD RATING **

** SEE CHART FOR VEHICLE TYPE



PROJECT NO. 17BP.13.R.158
YANCEY COUNTY
 STATION: 13+07.00 -L-

10/19/2023

DocuSigned by:
Robert Decola
C91B1BE9951B4FF...



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 LRFR SUMMARY FOR
 REINFORCED CONCRETE
 BOX CULVERTS
 (NON-INTERSTATE TRAFFIC)

DESIGN ENGINEER OF RECORD: R.F. DECOLA	DATE: 10/19/2023
ASSEMBLED BY: R.J. FLORY CHECKED BY: R.F. DECOLA	DATE: 03/26/21 DATE: 04/01/21
DRAWN BY: WMC 7/11 CHECKED BY: GM 7/11	REV. 10/17/11 MAA/GM REV. 12/17 MAA/THC

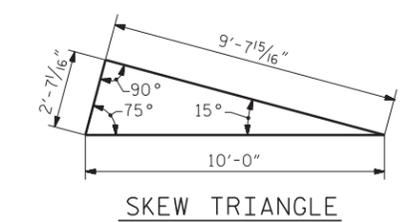
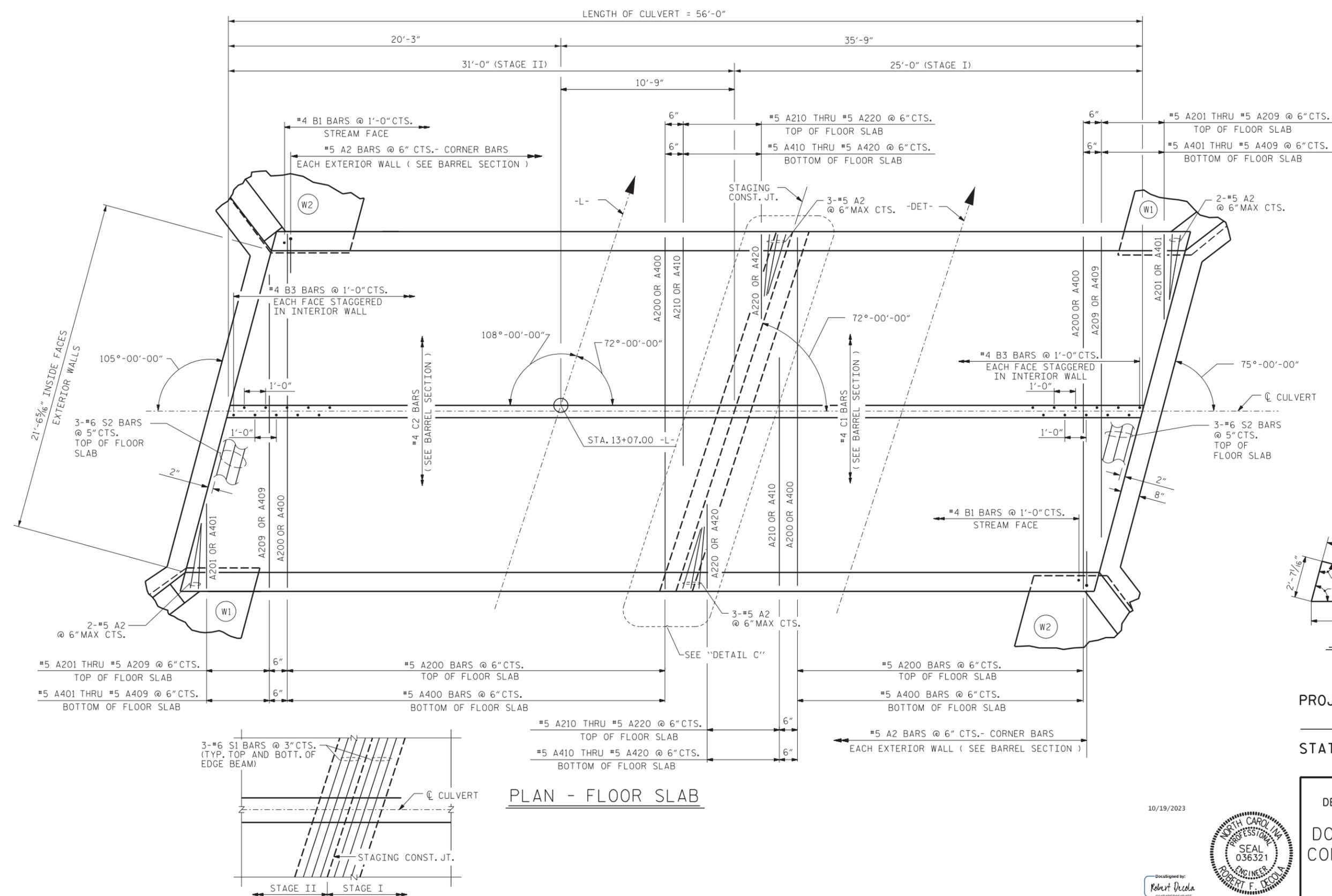
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS LICENSE NUMBER: C-074
KCI Associates
 of North Carolina, P.A.
4505 Falls of Neuse Road, Suite 400, Raleigh, NC 27609-6270 Phone 1919-783-9214

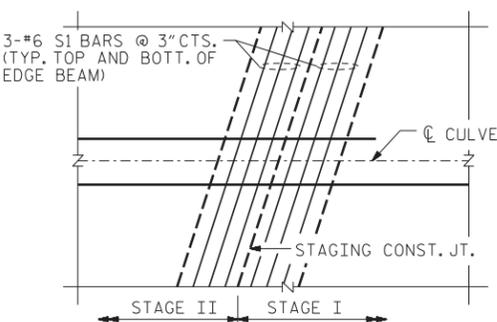
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-02
1			3			TOTAL SHEETS
2			4			10

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Robert J. Decola
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PLAN - FLOOR SLAB



DETAIL C
SHOWING "S" BARS IN FLOOR SLAB SEE "DETAIL B" ON SHEET C-03 FOR DETAILS.

PROJECT NO. 17BP.13.R.158
YANCEY COUNTY
STATION: 13+07.00 -L-

10/19/2023

DocuSigned by:
Robert Decola
C1911BEE99104177



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
DOUBLE 10 FT. X 4 FT.
CONCRETE BOX CULVERT
72°-00'-00" SKEW

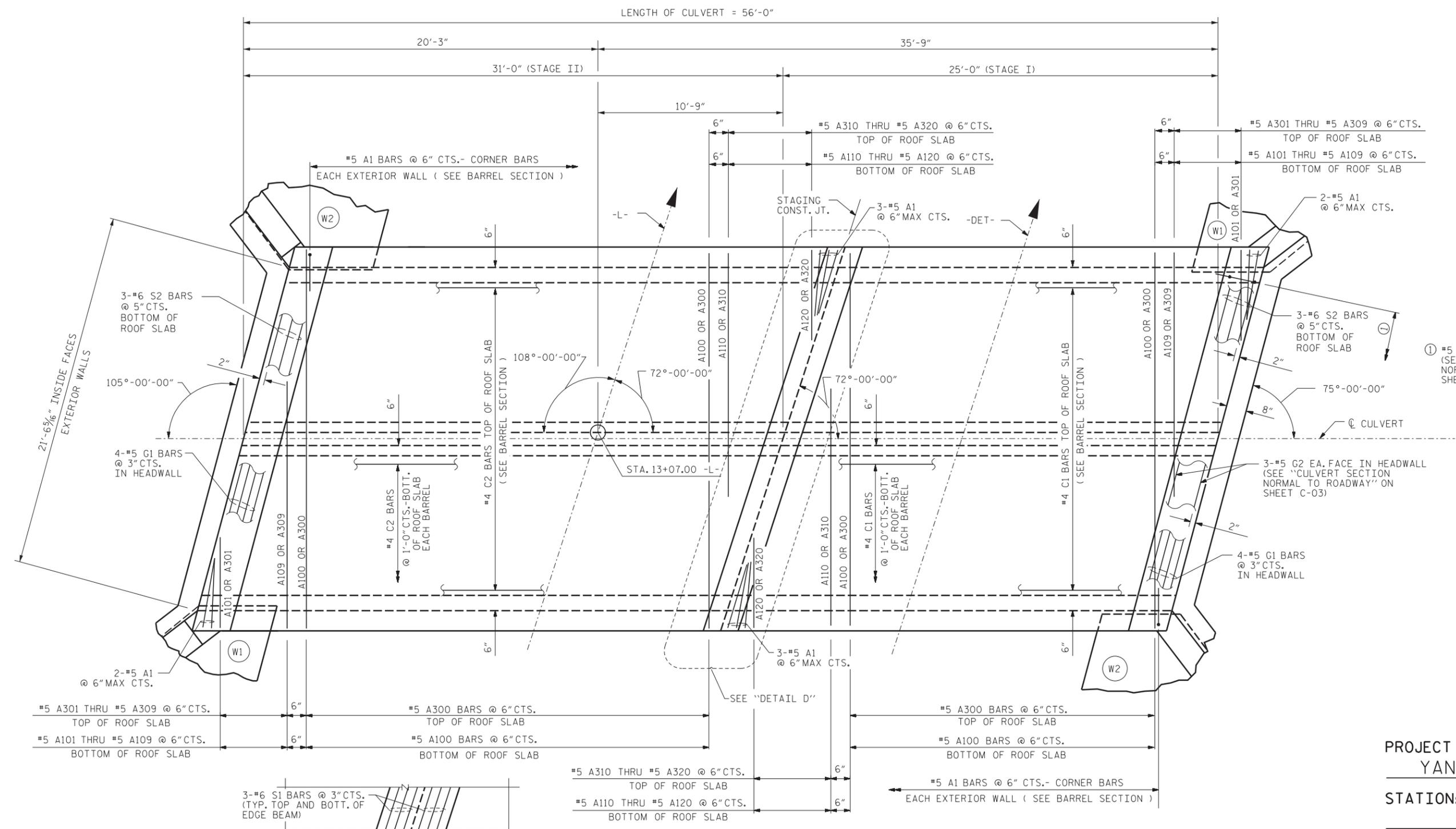
DESIGN ENGINEER OF RECORD: R.F. DECOLA	DATE : 10/19/2023
DRAWN BY : R.J. FLORY	DATE : 03/26/21
CHECKED BY : R.F. DECOLA	DATE : 04/05/21

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ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS LICENSE NUMBER: C-03
KCI Associates
of North Carolina, P.A.
4509 Falls of Neuse Road, Suite 400 Raleigh, NC 27609-6210 Phone (919) 783-9214

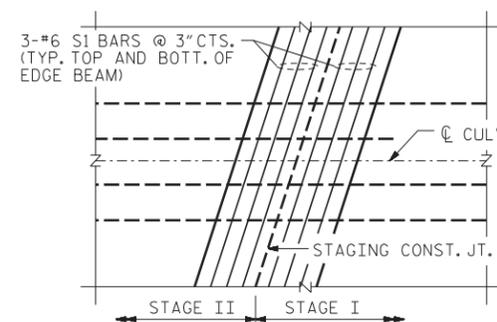
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NO.	DATE	NO.	DATE
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Structures\plcfcg
Robert.DeCola



① #5 S3 @ 1'-0"CTS. IN HEADWALL (SEE "CULVERT SECTION NORMAL TO ROADWAY" ON SHEET C-03)

PLAN - ROOF SLAB



DETAIL D
SHOWING "S" BARS IN ROOF SLAB SEE "DETAIL A" ON SHEET C-03 FOR DETAILS.

PROJECT NO. 17BP.13.R.158
YANCEY COUNTY
STATION: 13+07.00 -L-

10/19/2023

Designed by:
Robert Decola



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
DOUBLE 10 FT. X 4 FT.
CONCRETE BOX CULVERT
72°-00'-00" SKEW

DESIGN ENGINEER OF RECORD: R.F. DECOLA	DATE : 10/19/2023
DRAWN BY : R.J. FLORY	DATE : 03/26/21
CHECKED BY : R.F. DECOLA	DATE : 04/05/21

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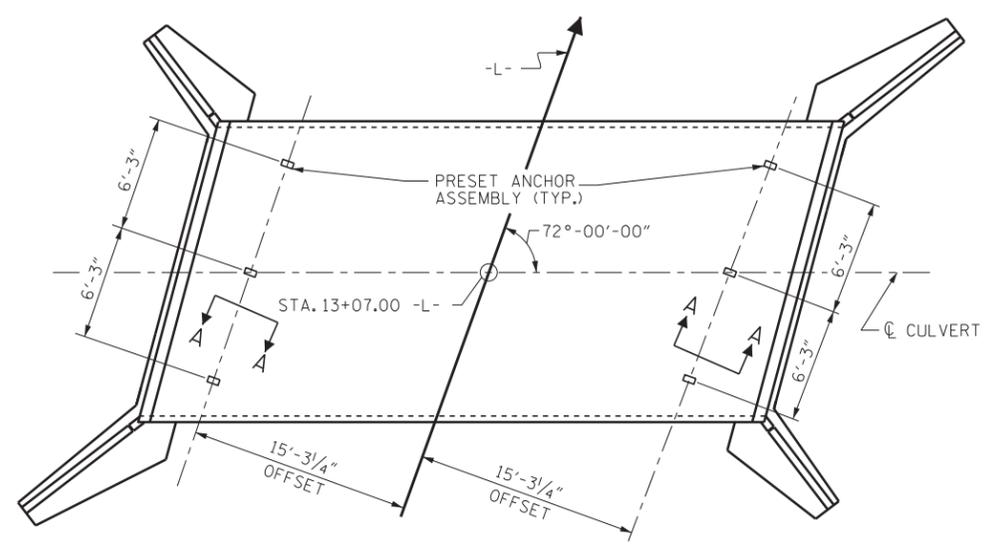
REVISIONS		SHEET NO.	
NO.	DATE	NO.	DATE
1		3	
2		4	

TOTAL SHEETS: 10

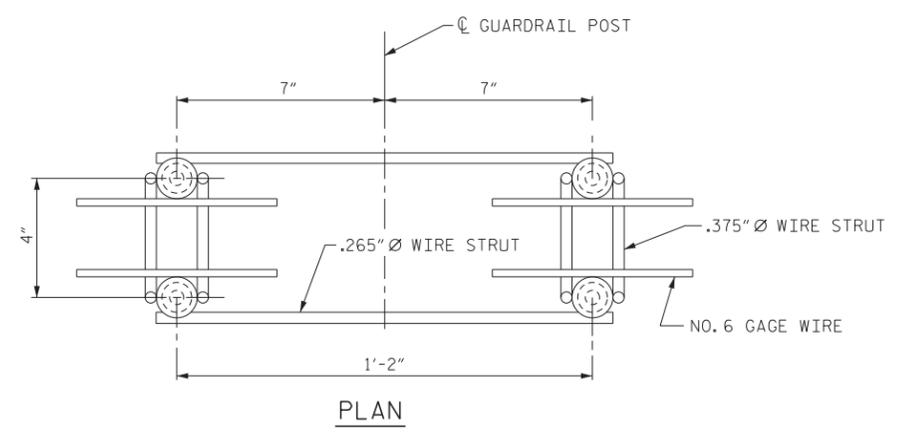
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NOTES

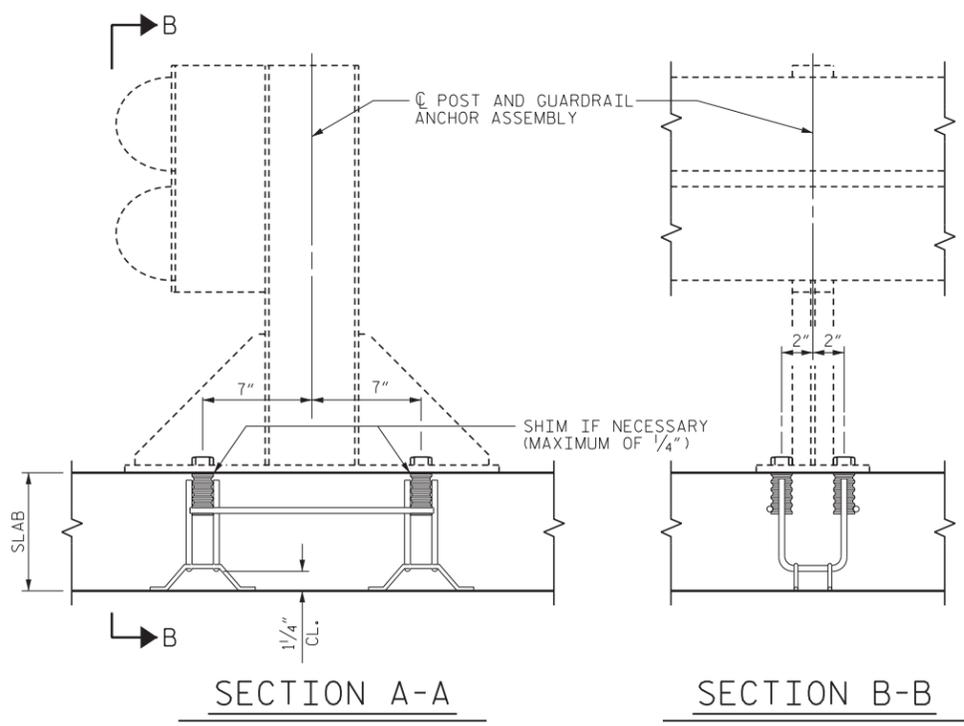
- THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS SHALL CONSIST OF THE FOLLOWING COMPONENTS :
- A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 2 1/2".
 - B. 4 - 1"Ø X 2 1/4" BOLTS WITH WASHERS, BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 1"Ø X 2 1/4" GALVANIZED BOLTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)
 - C. WIRE STRUTS SHOWN IN THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS DETAIL ARE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 P.S.I. AS AN OPTION, A 1/16"Ø WIRE STRUT WITH A MINIMUM TENSILE STRENGTH OF 90,000 PSI IS ACCEPTABLE.
- GUARDRAIL ANCHOR ASSEMBLY WITH BOLTS SHALL BE ASSEMBLED IN THE SHOP. BOLT THREADS MAY BE RECUT AS NECESSARY TO INSURE FIT.
- THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CLASS "A" CONCRETE.
- FERRULES TO BE PLUGGED DURING POURING OF SLAB AS RECOMMENDED BY THE MANUFACTURER.
- AT THE CONTRACTOR'S OPTION, FERRULES WITH OPEN OR CLOSED ENDS MAY BE USED.
- PAYMENT FOR GUARDRAIL, POSTS, AND POST BASE PLATES IS INCLUDED IN ROADWAY PAY ITEMS.
- SLAB REINFORCING STEEL MAY BE SHIFTED AS NECESSARY TO CLEAR GUARDRAIL ANCHOR ASSEMBLY. CARE SHOULD BE TAKEN TO KEEP THE SHIFTING OF REINFORCING STEEL TO A MINIMUM.
- THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF GUARDRAIL ANCHOR ASSEMBLY. LEVEL TWO FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 1"Ø BOLT IS 21.8 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.



PLAN OF CULVERT GUARDRAIL ANCHOR ASSEMBLY SPACING

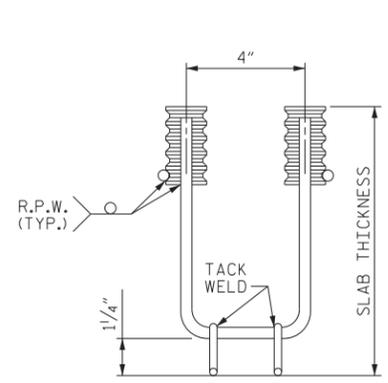


PLAN

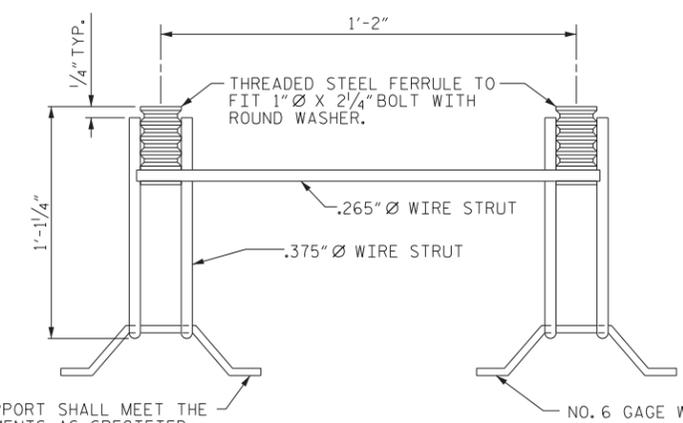


SECTION A-A

SECTION B-B



ELEVATION



SIDE VIEW

THIS SUPPORT SHALL MEET THE REQUIREMENTS AS SPECIFIED FOR SUPPORTS FOR REINFORCING STEEL. SEE SPECIFICATIONS.

GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS

PROJECT NO. 17BP.13.R.158
YANCEY COUNTY
 STATION: 13+07.00 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 ANCHORAGE DETAILS FOR
 GUARDRAIL ANCHOR ASSEMBLY
 FOR CULVERTS

DESIGN ENGINEER OF RECORD: R.F. DECOLA	DATE : 10/19/2023
ASSEMBLED BY : R.J. FLORY	DATE : 03/11/21
CHECKED BY : R.F. DECOLA	DATE : 03/11/21
DRAWN BY : FCJ 6/88	REV. 10/1/11 MAA/GM
CHECKED BY : ARB 6/88	REV. 12/17 MAA/THC
	REV. 6/19 MAA/THC

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ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS LICENSE NUMBER C-074
KCI Associates
 of North Carolina, P.A.
 4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27609-6270 Phone 1919-783-9214

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	C-10	
1			3			TOTAL SHEETS	
2			4			10	

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	- -	20,000 LBS. PER SQ. IN.
	- -	27,000 LBS. PER SQ. IN.
	- -	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	- - -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	- - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	- - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	- - - - -	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N.C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1 1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 3/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16" INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

STD. NO. SN