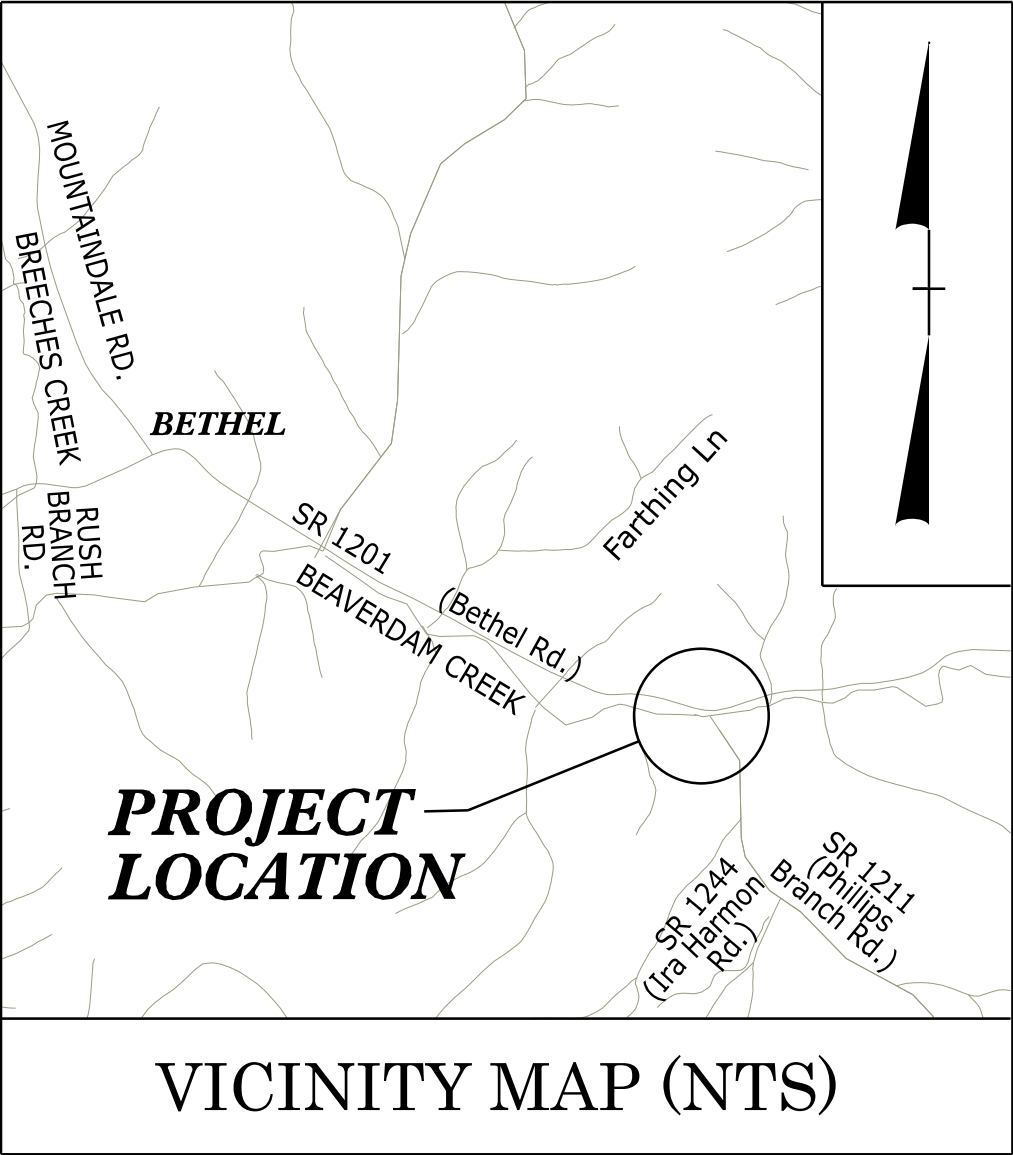


CONTRACT: DK00440 TIP PROJECT: DF18311.2095756

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



VICINITY MAP (NTS)

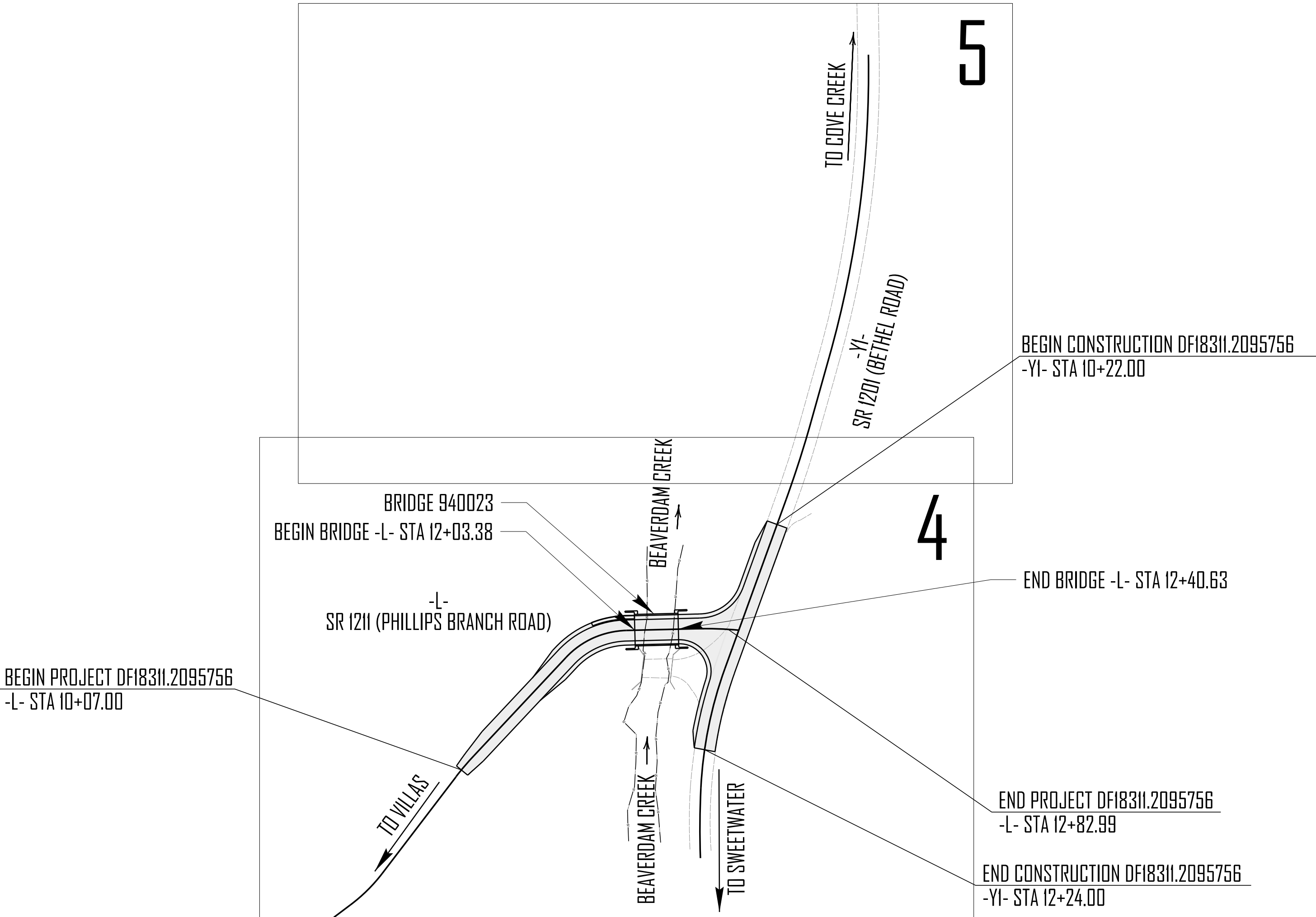
100% PLAN SET

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WATAUGA COUNTY

LOCATION: *BRIDGE 940023 OVER BEAVERDAM
CREEK ON SR 1211 (PHILLIPS
BRANCH ROAD)*

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



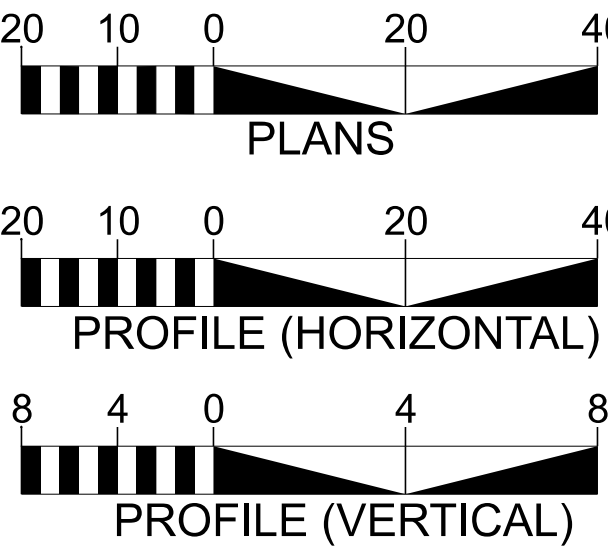
NAD 83 NA 2011

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18311.2095756	11	
STATE PROJ. NO.		F. A. PROJ. NO.	DESCRIPTION
DF18311.2095756			P.E.
DF18311.2095756			R/W + UTL
DF18311.2095756			CONST.

THIS PROJECT HAS NO CONTROLLED ACCESS.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2026 = 309
ADT 2046 = 377
K = %
D = %
T = %
V = 25 MPH
TTST =1% DUAL 2%
FUNC CLASS =
LOCAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT DF18311.2095756
= 0.045 MILES
LENGTH OF STRUCTURE TIP PROJECT DF18311.2095756
= 0.007 MILE
TOTAL LENGTH OF TIP PROJECT DF18311.2095756
= 0.052 MILES

Prepared in the Office of:

KIMLEY-HORN

421 FAYETTEVILLE ST., SUITE 600, RALEIGH NC, 27601
NC LICENSE #F-0102

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 23, 2025

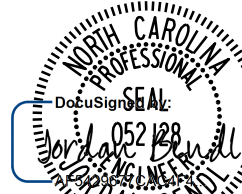
LETTING DATE:
MARCH 19, 2026

JORDAN C. BENDL, P.E.
PROJECT ENGINEER

JACK R. CRINO, P.E.
PROJECT DESIGN ENGINEER

ROBBIE N. WEISZ, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

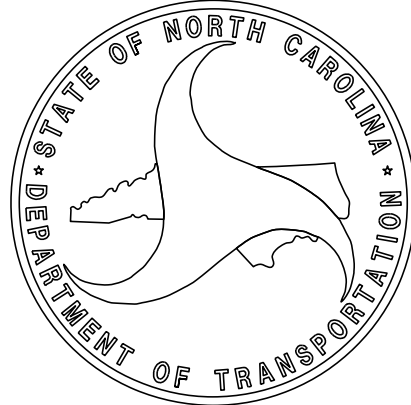


SIGNATURE:

ROADWAY DESIGN ENGINEER



SIGNATURE:

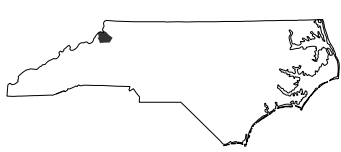


INDEX OF SHEETS		GENERAL NOTES:		2024 ROADWAY ENGLISH STANDARD DRAWINGS	
SHEET NUMBER	SHEET	2024 SPECIFICATIONS EFFECTIVE: 01-16-2024 REVISED:		EFF. 01-16-2024 REV.	
1	TITLE SHEET	GRADING AND SURFACING:		The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and 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 200.03 Method of Clearing - Method III 225.02 Guide for Grading Subgrade - Secondary and Local 225.04 Method of Obtaining Superelevation - Two Lane Pavement DIVISION 3 - PIPE CULVERTS 300.01 Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2) DIVISION 4 - MAJOR STRUCTURES 423.02 Bridge Approach Fills - Type 1A Approach Fill for Bridge Abutment DIVISION 5 - SUBGRADE, BASES AND SHOULDERS 560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I DIVISION 8 - INCIDENTALS 806.01 Concrete Right-of-Way Marker 840.00 Concrete Base Pad for Drainage Structures 840.29 Frames and Narrow Slot Flat Grates 840.35 Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates 840.45 Precast Drainage Structure 840.46 Traffic Bearing Precast Drainage Structure 840.66 Drainage Structure Steps 846.01 Concrete Curb, Gutter, and Curb & Gutter 846.04 Drop Inlet Installation in Shoulder Berm Gutter 862.01 Guardrail Placement (Use Detail in Lieu of Standards for Sheets 4, 6, 12, and 14 of 15) 862.02 Guardrail Installation 862.03 Structure Anchor Units (Use Detail in Lieu of Standards for Sheets 4, 6 ,12, and 14 of 15) 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	
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS	THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.			
1B	CONVENTIONAL SYMBOLS	CLEARING:			
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.			
2C-1 THRU 2C-3	ROADWAY DETAILS	SUPERELEVATION:			
3B-1 THRU 3B-2	ROADWAY SUMMARIES	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.			
3P-1	PARCEL INDEX SHEET	SHOULDER CONSTRUCTION:			
4 THRU 7	PLAN AND PROFILE SHEET	ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01			
RW02C-1 THRU RW02C-3	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENTS, AND PROPERTY LINES	GUARDRAIL:			
TMP-1 THRU TMP-4	TRAFFIC MANAGEMENT PLANS	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.			
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS	TEMPORARY SHORING:			
EC-1 THRU EC-5	EROSION CONTROL PLANS	SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".			
UBO-1 THRU UBO-3	UTILITIES BY OTHERS PLANS	END BENTS:			
X-1	CROSS-SECTION INDEX	THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.			
X-1A	CROSS-SECTION SUMMARY SHEET	UTILITIES:			
X-2 THRU X-15	CROSS-SECTIONS	UTILITY OWNERS ON THIS PROJECT ARE			
S-1 THRU S-14	STRUCTURE PLANS	POWER - BLUE RIDGE ENERGY: WAYNE REESE - 1-800-451-5474 EXT 4241			
		COMMUNICATIONS - SKYLINE/SKYBEST: ERIC CHURCH - 336-876-6130			
		COMMUNICATIONS - CHARTER SPECTRUM: ANDREW WATSON - andrew.watson@charter.com			
		ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS			
		RIGHT-OF-WAY MARKERS:			
		ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.			

DF18311.2095756

1A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WATAUGA COUNTY



ROADWAY DESIGN UNIT
ENGINEER

Seal of the North Carolina Professional Engineers and Surveyors

Seal of the North Carolina Professional Engineers and Surveyors

Seal of the North Carolina Professional Engineers and Surveyors

1/26/2026

PREPARED BY

KimleyHorn

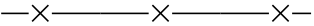
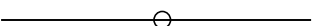
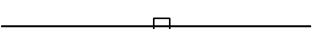
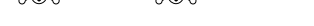
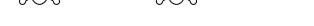
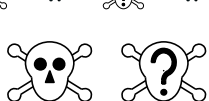
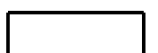
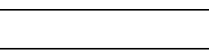
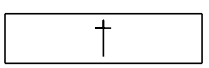
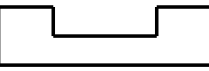
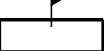
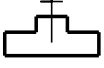
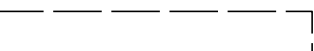
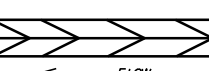
INC. LICENSE NO. 056618
NORTH CAROLINA PROFESSIONAL ENGINEER
JANUARY 16, 2024
JANUARY 16, 2024

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

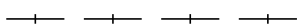
REVISIONS

Note: Not to Scale

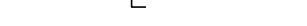
BOUNDARIES AND PROPERTY:

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	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
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	
Buffer Zone 1	
Buffer Zone 2	
Flow Arrow	
Disappearing Stream	
Spring	
Wetland	
Proposed Lateral, Tail, Head Ditch	
False Sump	

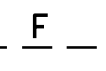
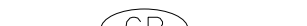
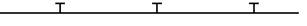
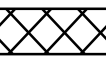
RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

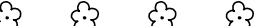
Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent 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:

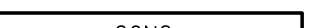
Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	
Pavement Removal	
VEGETATION:	
Single Tree	
Single Shrub	
Hedge	

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

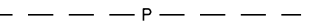
Woods Line	
Orchard	
Vineyard	

EXISTING STRUCTURES:

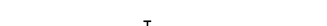
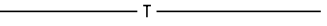
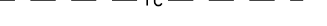
MAJOR:	
Bridge, Tunnel or Box Culvert	
Bridge Wing Wall, Head Wall and End Wall	
MINOR:	
Head and End Wall	
Pipe Culvert	
Footbridge	
Drainage Box: Catch Basin, DI or JB	
Paved Ditch Gutter	
Storm Sewer Manhole	
Storm Sewer	

UTILITIES:

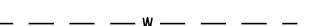
** SUE - Subsurface Utility Engineering
LOS - Level of Service - A,B,C or D (Accuracy)*

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)*	

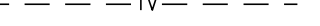
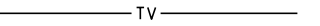
TELEPHONE:

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)*	

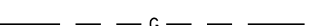
WATER:

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	

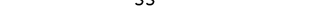
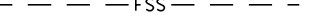
TV:

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)*	

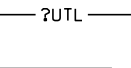
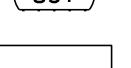
GAS:

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	

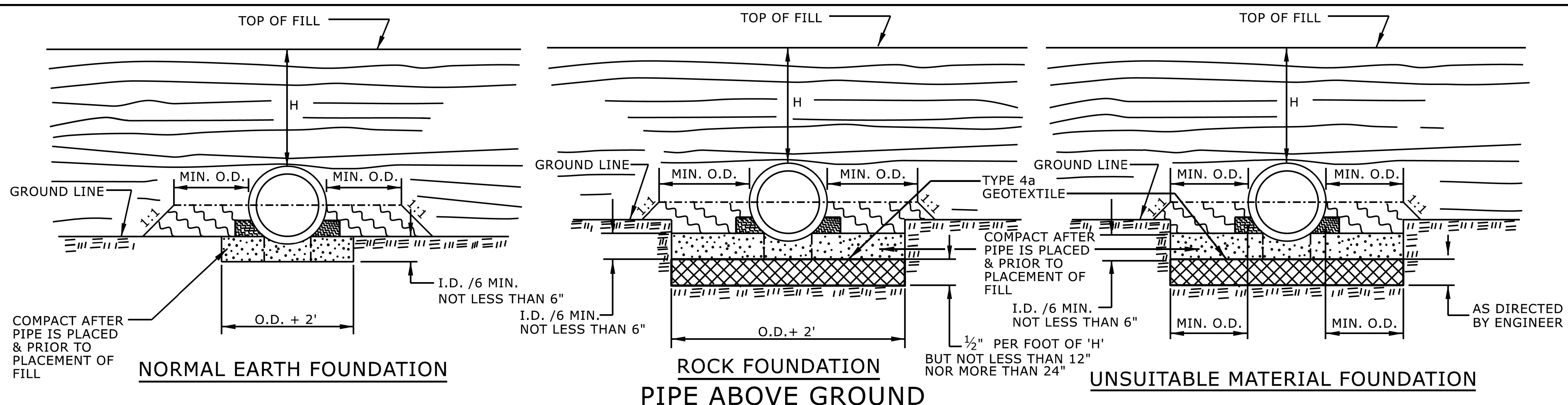
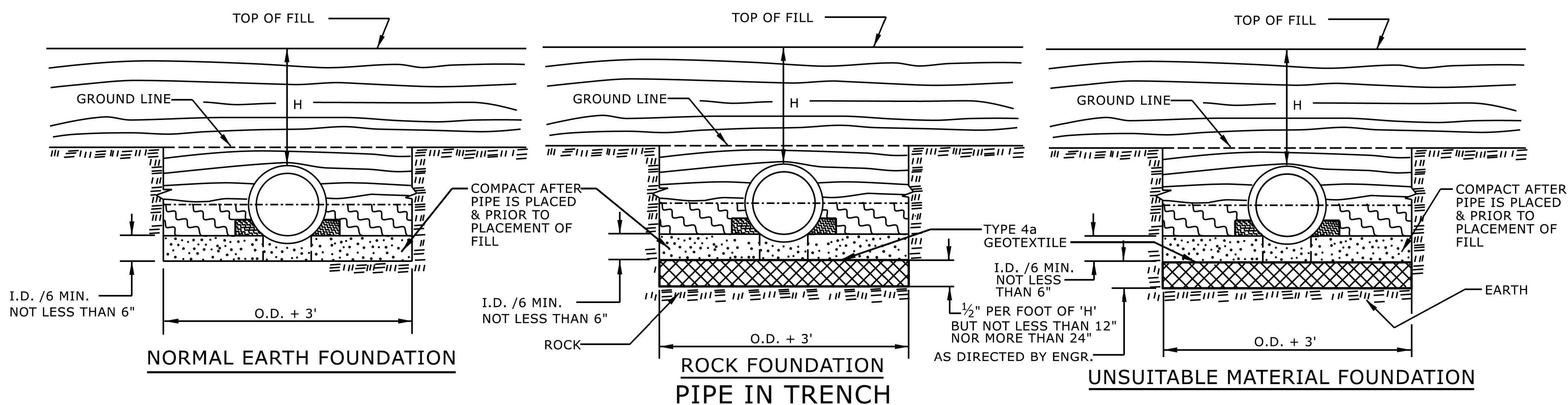
SANITARY SEWER:

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	
Geoenviromental Boring	
Abandoned According to Utility Records	
End of Information	

REVISIONS



GENERAL NOTES:
I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT
ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP
OF THE EMBANKMENT AT THAT POINT.

	APPROVED SUITABLE LOCAL MATERIAL.
	TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
	LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

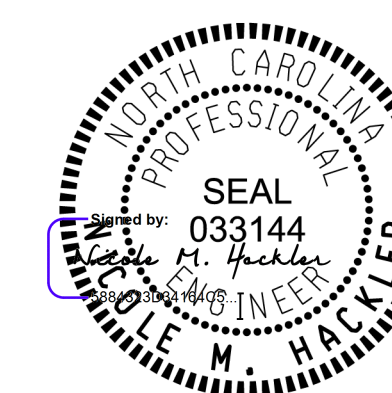
REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS
FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

	SPRINGLINE OF PIPE
	SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.
	UNDISTURBED EARTH MATERIAL
	SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION RIGID PIPE

SHEET 2 OF 2
300.01



1/22/2

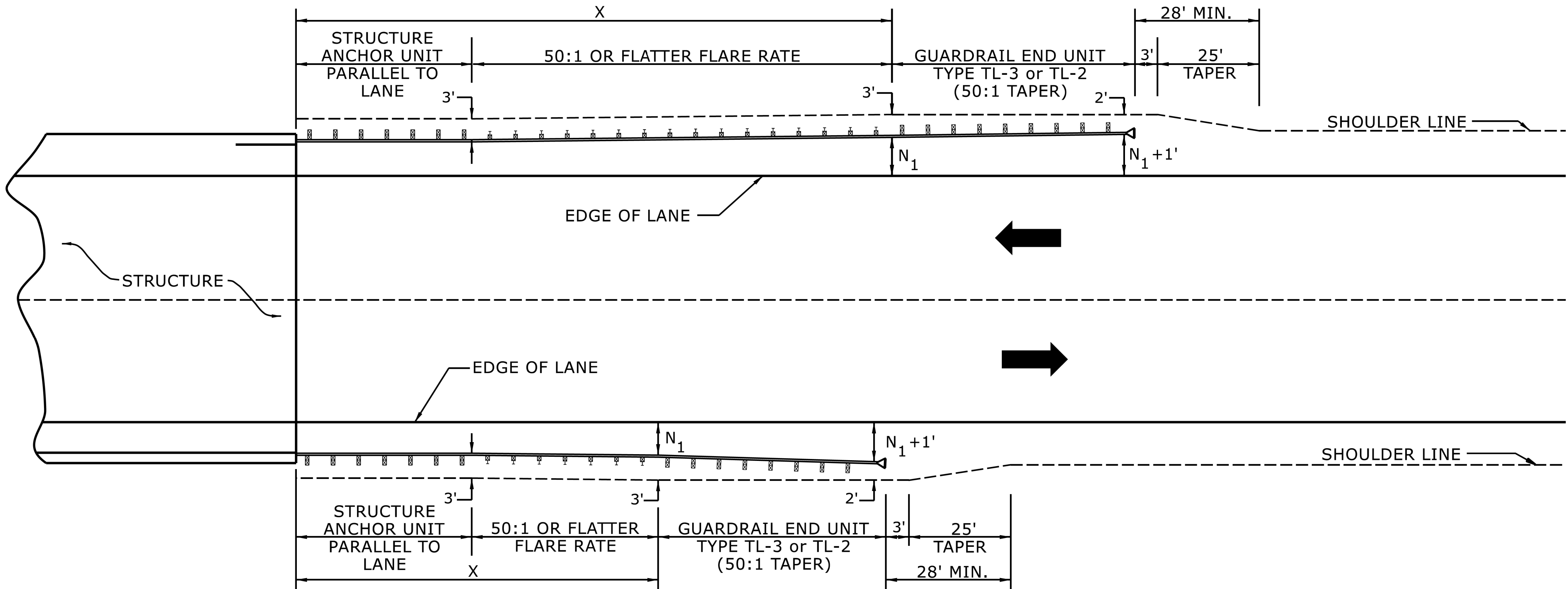
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____



USE FLARE RATE AS THE CONTROL IF THE "N₁" DISTANCE IS NOT OBTAINED.
("N₁" IS BASED ON SHOULDER WIDTHS IN THE ROADWAY DESIGN MANUAL)

SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

FOR POSTED SPEEDS ≥ 45MPH USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45MPH USE GREU TYPE TL-2

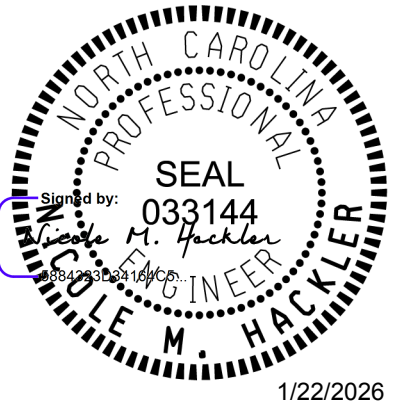
GUARDRAIL LENGTH OF NEED (X) IS CALCULATED BASED ON THE AASHTO ROADSIDE DESIGN GUIDE.

LENGTHS AND OFFSETS FOR PROPOSED GUARDRAIL AT TWO LANE - TWO WAY LOCATIONS

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 4 OF 15
862D01



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

SHEET 1 OF 1
TYPE III SC

SHEET 1 OF 1
TYPE III SC

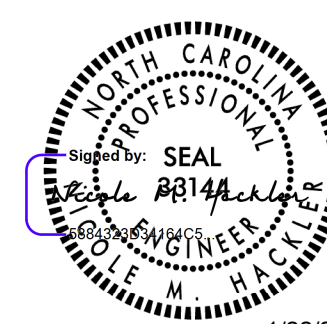


**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
 -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
 -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
 -USE NO STEEL POSTS WITHIN THE GUARDRAIL ANCHOR UNIT LIMITS.
 -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 -SEE STANDARD 862.03 SHEET 4 FOR POST SECTIONS 1 THRU 9.

PAY LIMITS FOR GUARDRAIL ANCHOR
 TYPE III - SHOP CURVED



SHEET 1 OF 1
TYPE III SC



1/22/2026

SUMMARY OF EARTHWORK
IN CUBIC YARDS

LINE	STATION	STATION	EXCAVATION		EMBANKMENT	BORROW	WASTE
			TOTAL UNCLASSIFIED	UNDERCUT	EMBANKMENT + 15%		TOTAL
-L-	10 + 07.00	12 + 03.38	27		614	587	
-L-	12 + 40.63	12 + 82.99	13		404	391	
-Y1-	10 + 22.00	10 + 82.08	7		101	94	
-Y1-	11 + 62.90	12 + 24.00	10		3	0	7
		PROJECT SUBTOTAL	57		1122	1072	7
MATERIAL FOR SHOULDER CONSTRUCTION					6	6	
LOSS DUE TO CLEARING & GRUBBING			-10			10	
ADDITIONAL UNDERCUT				20	23	23	20
WASTE IN LIEU OF BORROW						-7	
EST 5% FOR REPLACING TOPSOIL ON BORROW PITS						55	
GRAND TOTAL			47	20	1151	1159	20
SAY			100	20		1200	

DDE = 18 C.Y.
SHOULDER BORROW = 5 C.Y.

SUMMARY OF SHOULDER BERM GUTTER

LINE	STATION TO STATION	LOCATION	LENGTH (LF)
-L-	11 + 70.38 TO 12 + 03.38	LT	33
TOTAL			33
SAY			35

SUMMARY OF PAVEMENT REMOVAL

LINE	STATION TO STATION	LOCATION	AREA (SY)
-L-	12 + 33.29 TO 12 + 82.99	RT	131
TOTAL			131
SAY			140

LUMP SUM GRADING
QUANTITIES

THE PAY ITEMS WILL BE PAID FOR AT THE THE CONTRACT LUMP SUM PRICE FOR "GRADING". QUANTITIES ARE APPROXIMATE AND SHALL BE CONFIRMED BY CONTRACTOR PRIOR TO BIDDING.

SPEC NO.	ITEM	QUANTITY	UNIT
200	CLEARING AND GRUBBING	0.3	ACR
225	UNCLASSIFIED EXCAVATION	100	CY
250	REMOVAL OF EXISTING ASPHALT PAVEMENT	140	SY
500	FINE GRADING	670	SY

DF18311.2095756

3B-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WATAUGA COUNTY



ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER



1/26/2026

PREPARED BY

Kimley»Horn

NO LICENSE OF ARCHT
PAVEMENT SPECIALIST
PAVING NORTH CAROLINA 1701
EXPIRES 07/01/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS

11/14/23

"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.
G = GATING IMPACT ATTENUATOR TYPE TL-3
NG = NON-GATING IMPACT ATTENUATOR TYPE TL-3
TYPE III* = TYPE III SHOP CURVED STRUCTURE ANCHOR UNIT. SEE DETAIL ON SEET 28-1

GUARDRAIL SUMMARY

[illegible]

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

[illegible]

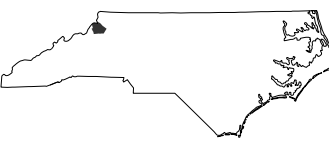
SHEET TOTALS (48" or Less)
PROJECT TOTALS (48" or Less)

[illegible]

DF18311.2095756

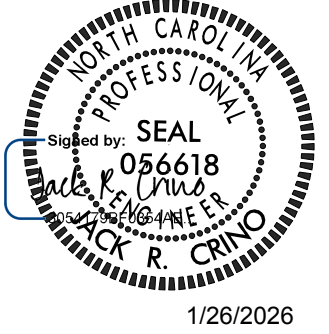
3B-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WATAUGA COUNTY



ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER



1/26/2026

PREPARED BY

Kimley»Horn

NC LICENSE #F4162
FOYETTEVILLE STREET, SUITE 600
ANLIRH, NORTH CAROLINA 27601
PHONE: (919) 577-2000

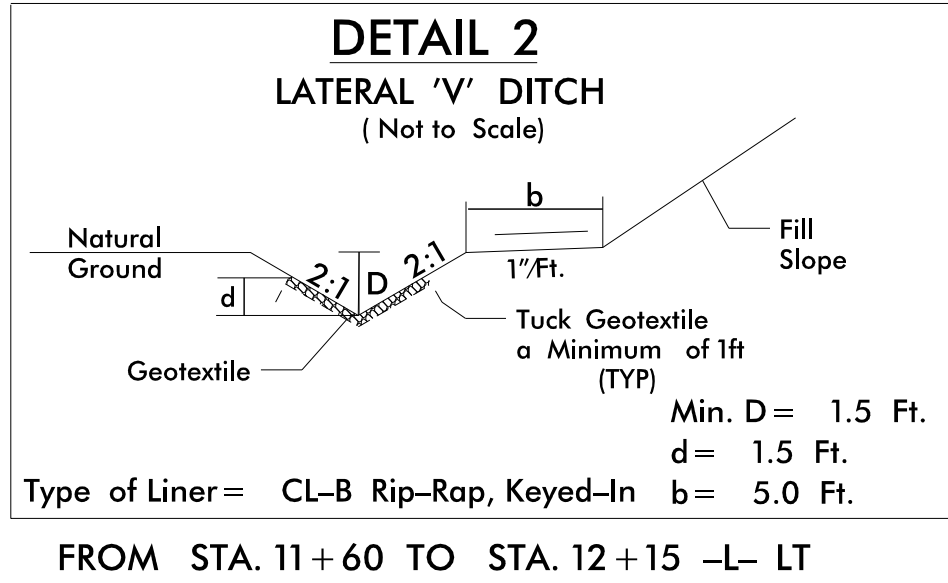
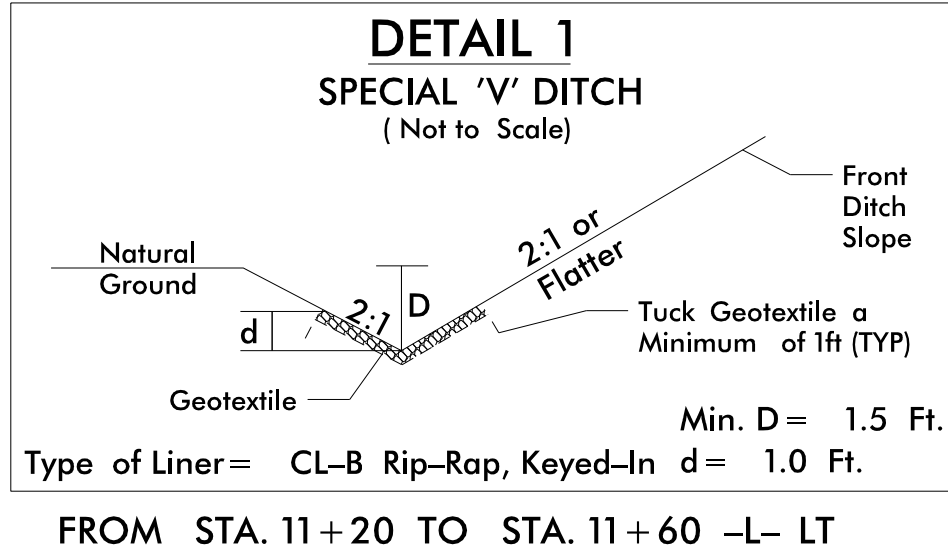
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS

PROJ. REFERENCE NO.	SHEET NO.
DF18311.2095756	3P-1

[illegible][illegible]

* REFER TO SHEET 2B-1 FOR
TYPE III SHOP CURVE DETAILS.



CUR DATA -L- Plc 8+76.72 $\Delta c = 15^{\circ}42'23.1''$ (LT) D = 40'55'32.0" Lc = 38.38 Tc = 19.31 R = 140 SE = EXIST	CUR DATA -L- Plc 10+11.42 $\Delta c = 05^{\circ}47'44.2''$ (RT) D = 24'22'52.3" Lc = 23.77 Tc = 11.90 R = 235 SE = EXIST	CUR DATA -L- Plc 11+68.80 $\Delta c = 45^{\circ}22'31.6''$ (RT) D = 78'29'14.5" Lc = 57.81 Tc = 30.52 R = 73 DS = 15 MPH RO = 24	CUR DATA -L- Plc 12+74.02 $\Delta c = 06^{\circ}46'21.8''$ (RT) D = 18'28'57.0" Lc = 36.64 Tc = 18.34 R = 310 SE = N/A
CUR DATA -Y1- Plc 12+05.39 $\Delta c = 17^{\circ}03'33.9''$ (LT) D = 16'22'12.8" Lc = 104.21 Tc = 52.49 R = 350 SE = EXIST	CUR DATA -Y1- Plc 12+87.10 $\Delta c = 04^{\circ}54'28.4''$ (LT) D = 08'11'06.4" Lc = 59.96 Tc = 30.00 R = 700 SE = EXIST		

BEGIN PROJECT DF18311.2095756
-L- STA 10+07.00

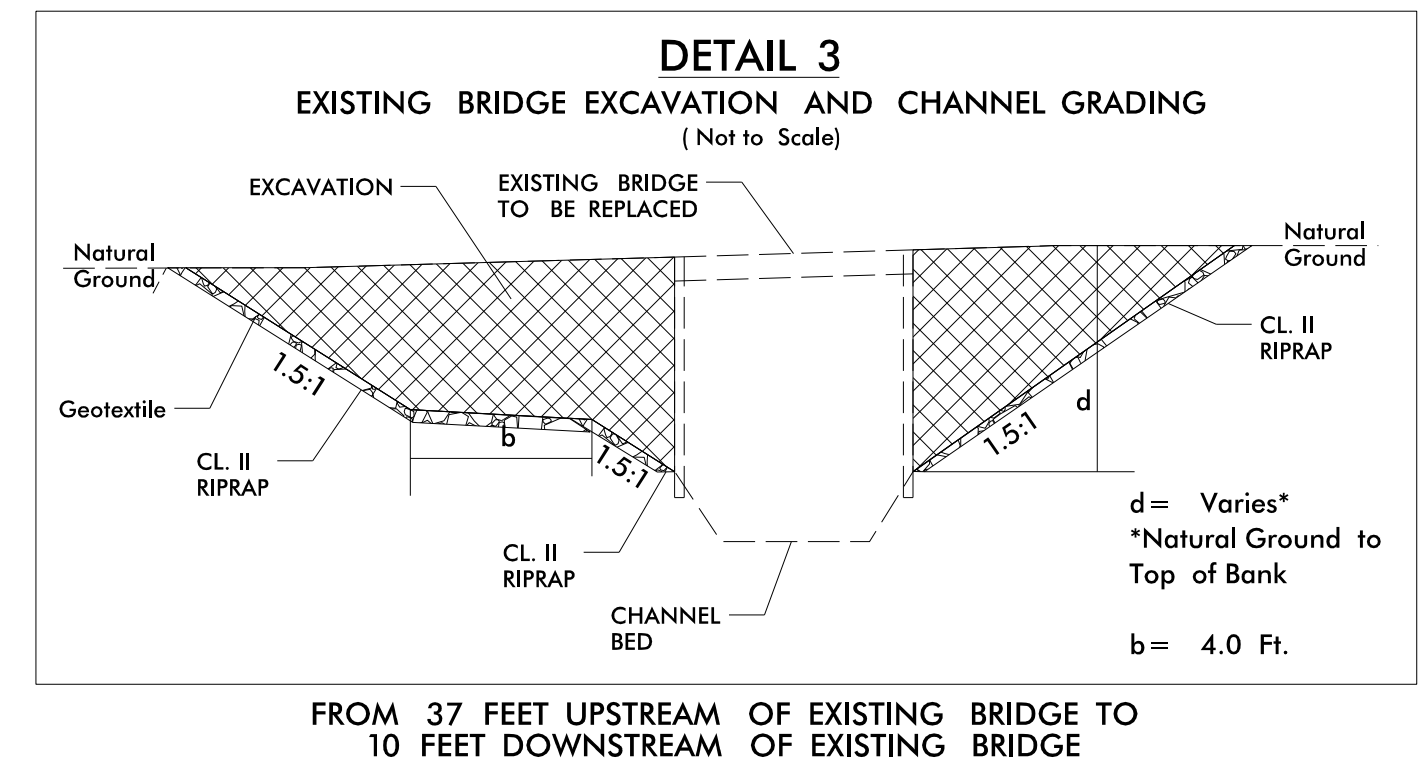
①
JUSTIN S MORETZ
JESSICA I MORETZ
DB 1992 PG 398

②
ROAH D NORRIS
JUDY Y NORRIS
DB 243 PG 786

BEGIN CONSTRUCTION DF18311.2095756
-L- STA 10+07.00

FOR -L- PROFILE, SEE SHEET 6

FOR -Y1- PROFILE, SEE SHEET 7



DF18311.2095756

4

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WATAUGA COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

SEAL
056618
1/26/2026

HYDRAULICS
ENGINEER

SEAL
056618
1/26/2026

PREPARED BY

Kimley»Horn

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS

11/14/23

CUR DATA -Y1-

Pic 7+42.31

$\Delta c = 16^{\circ}37'35.2''$ (RT)

D = 06°21'58.3"

Lc = 261.17

Tc = 131.51

R = 900

SE = EXIST

CUR DATA -Y1-

Pic 9+64.38

$\Delta c = 04^{\circ}12'27.0''$ (RT)

D = 06°01'52.1"

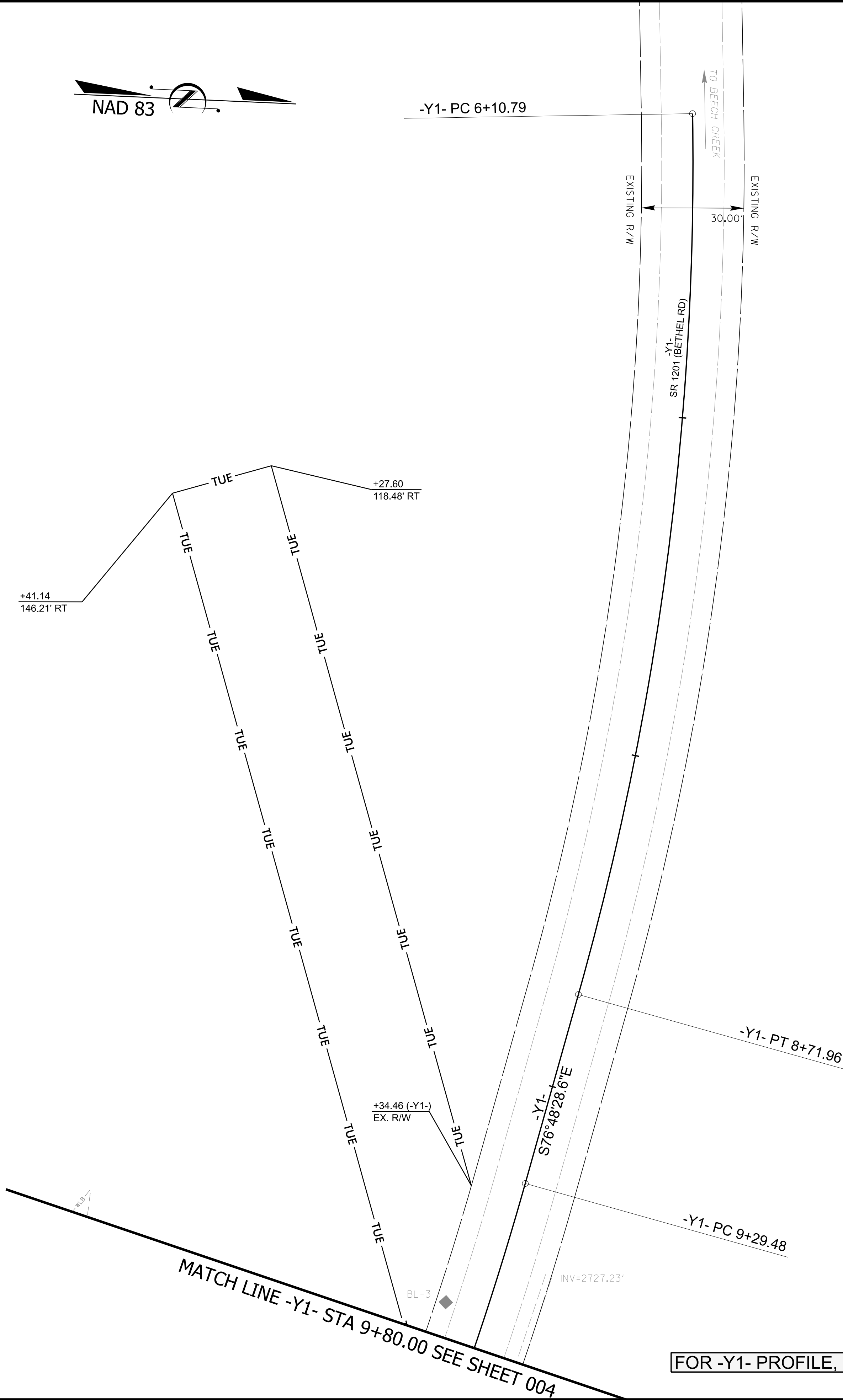
Lc = 69.76

Tc = 34.90

R = 950

SE = EXIST

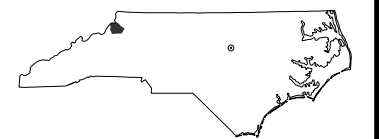
③
MOLLIE KINCIAD BOLICK
DB 2378 PG 410



DF18311.2095756

5

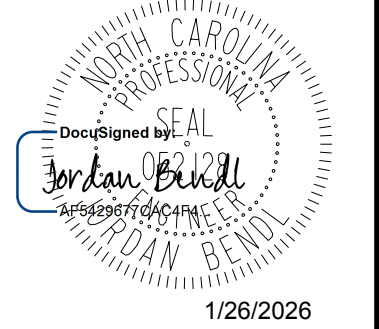
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WATAUGA COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER



HYDRAULICS
ENGINEER



PREPARED BY
Kimley»Horn
CONSULTANTS

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS



6

Professional Engineer Seal for Jack R. Crino, State of North Carolina, License No. 056618, expires 1/26/2026.

DocuSigned by:
Jordan Bendt
2568290770AC194

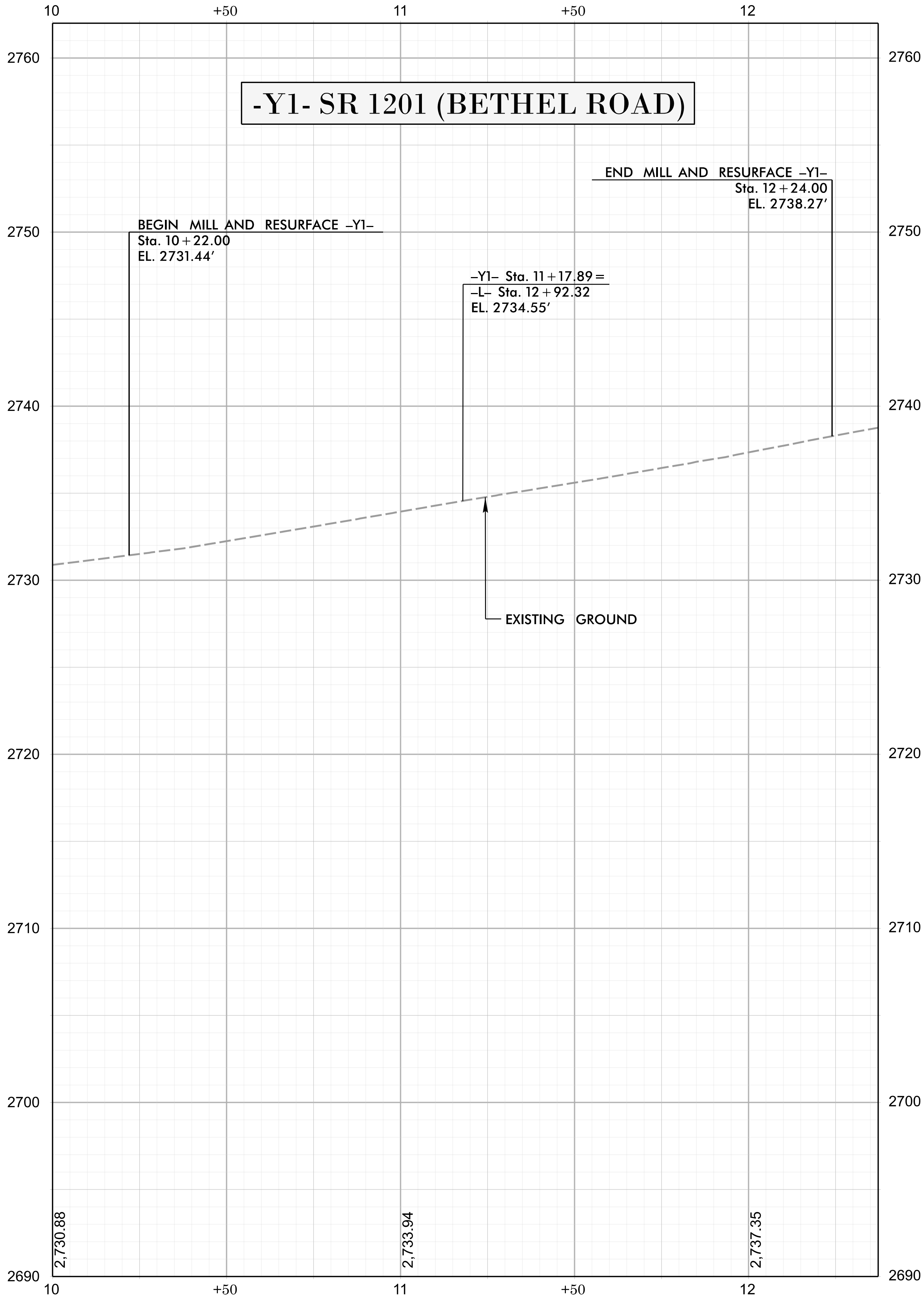
1/26/2026

Kimley»Horn

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETE

REVISIONS

11/14/23

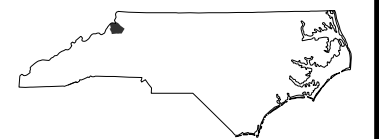


FOR -Y1- PLAN, SEE SHEET 4

DF18311.2095756

7

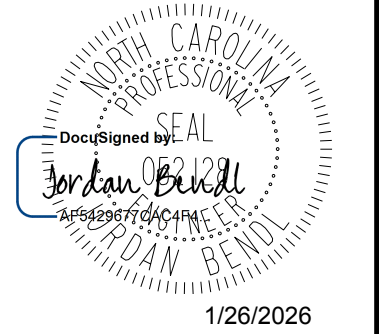
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WATAUGA COUNTY



ROADWAY DESIGN UNIT
ENGINEER



HYDRAULICS
ENGINEER



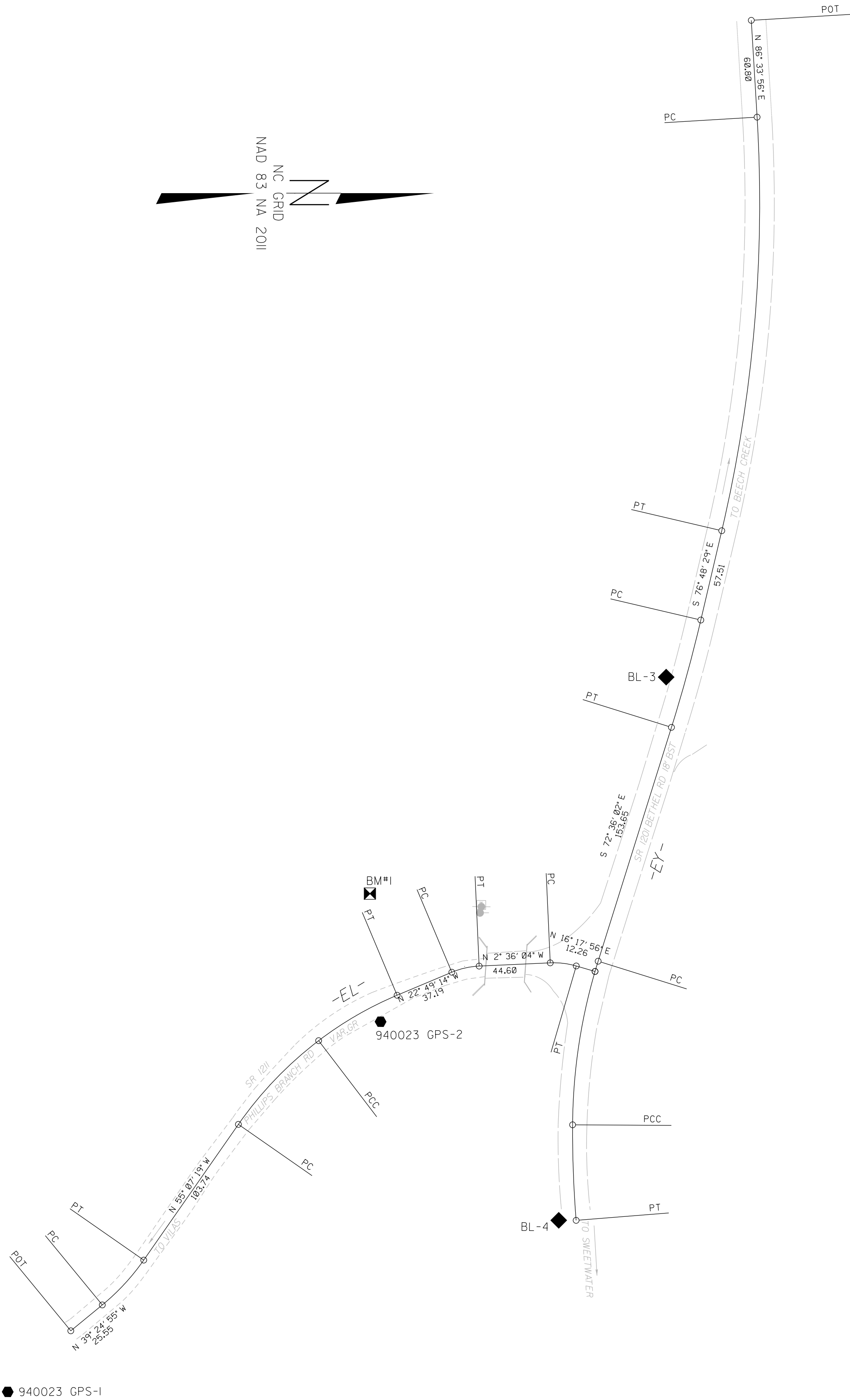
PREPARED BY
Kimley»Horn
INC. LICENSE # 4016
REGISTERED PROFESSIONAL ENGINEER
NORTH CAROLINA 1971
EXPIRES 12/31/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



PROJECT REFERENCE NO.	SHEET NO.
94-0023	RW02C-1
Location and Surveys	
Location and Surveys Division 11 North Wilkesboro	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, R. Landon Wagener, PLS, certify that the Project Control was performed under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: **AA**
Type of GPS field procedure: RTN
Dates of survey: 12/04/2024
Datum/Epoch: NAD83-2011
Published/Fixed-control use: RTN
Localized around: 940023 GPS-2
Northing: 936806.3716
Easting: 1165254.6606
Combined grid factor: 0.99991153
Geoid model: GEOID18
Units: US SURVEY FOOT

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 12/04/2024 to 12/10/2024 , 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 27th day of May 2025.

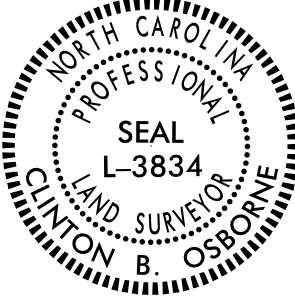
Signed by:

94068137FD03047D

Professional Land Surveyor L-4301

NOTES:

- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- 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.

PROJECT REFERENCE NO.	SHEET NO.
94-0023	RW02-2
Location and Surveys	
 Stantec ONE WEST FOURTH ST., SUITE 820 WINSTON SALEM, N.C. 27101 LICENSE NO.: F-0672 www.stantec.com	
PROJECT SURVEYOR  CLINTON B. OSBORNE	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

```

*****
BM1      ELEVATION = 2729.37
N 936800      E 1165174
RR SPIKE IN 32*POPLAR
*****

```

Class of survey: **AA**
Type of GPS field procedure: RTN
Dates of survey: 12/04/2024
Datum/Epoch: NAD83-2011
Published/Fixed-control use: RTN
Localized around: 940023 GPS-2
Northing: 936806.3716
Easting: 1165254.6606
Combined grid factor: 0.99991153
Geoid model: GEOID18
Units: US SURVEY FOOT

This 11 day of December 2024.

Professional Land Surveyor L-3834

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.

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

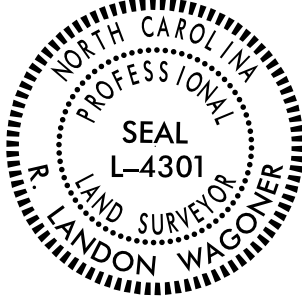
PROJECT REFERENCE NO.
94-0023

SHEET NO.
RW02-3

Location and Surveys

Location and Surveys
Division 11
North Wilkesboro

PROJECT SURVEYOR



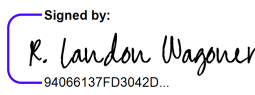
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, R.Landon Wagoner, PLS, certify that the Project Control was performed under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: **AA**
Type of GPS field procedure: RTN
Dates of survey: 12/04/2024
Datum/Epoch: NAD83-2011
Published/Fixed-control use: RTN
Localized around: 940023 GPS-2
Northing: 936806.3716
Easting: 1165254.6606
Combined grid factor: 0.99991153
Geoid model: GEOID18
Units: US SURVEY FOOT

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 12/04/2024 to 12/10/2024 , 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 27th day of May 2025.

Signed by:

9406137FD3942D...

Professional Land Surveyor L-4301

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	936612.240	1165448.451							
LINE			N 39°24'55.5" W	25.55					
PC	936631.981	1165432.227							
CURVE			N 47°16'07.0" W	38.26	15°42'23.1"(LT)	40°55'32.0"	38.38	19.31	140.00
PT	936657.941	1165404.125							
LINE			N 55°07'18.5" W	103.74					
PC	936717.262	1165319.021							
CURVE			N 46°13'35.2" W	72.68	17°47'26.6"(RT)	24°22'52.3"	72.97	36.78	235.00
PCC	936767.541	1165266.543							
CURVE			N 30°04'32.8" W	56.83	14°30'38.2"(RT)	25°27'53.2"	56.98	28.64	225.00
PT	936816.720	1165238.063							
LINE			N 22°49'13.7" W	37.19					
PC	936850.999	1165223.639							
CURVE			N 12°42'38.8" W	17.55	20°13'09.8"(RT)	114°35'29.6"	17.64	8.92	50.00
PT	936868.122	1165219.777							
LINE			N 02°36'03.9" W	44.60					
PC	936912.678	1165217.752							
CURVE			N 06°50'55.9" E	16.42	18°53'59.7"(RT)	114°35'29.6"	16.49	8.32	50.00
PT	936928.980	1165219.710							
LINE			N 16°17'55.8" E	12.26					
POT	936940.744	1165223.150							

EY POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	937038.656	1164626.829							
LINE			N 86°33'56.3" E	60.80					
PC	937042.298	1164687.516							
CURVE			S 85°07'16.1" E	260.25	16°37'35.2"(RT)	06°21'58.3"	261.17	131.51	900.00
PT	937020.164	1164946.826							
LINE			S 76°48'28.6" E	57.51					
PC	937007.038	1165002.822							
CURVE			S 74°42'15.1" E	69.75	04°12'27.0"(RT)	06°01'52.1"	69.76	34.90	950.00
PT	936988.639	1165070.099							
LINE			S 72°36'01.6" E	153.65					
PC	936942.693	1165216.715							
CURVE			S 81°07'48.5" E	103.83	17°03'33.9"(LT)	16°22'12.8"	104.21	52.49	350.00
PCC	936926.685	1165319.299							
CURVE			N 87°53'10.3" E	59.94	04°54'28.4"(LT)	08°11'06.4"	59.96	30.00	700.00
PT	936928.895	1165379.201							

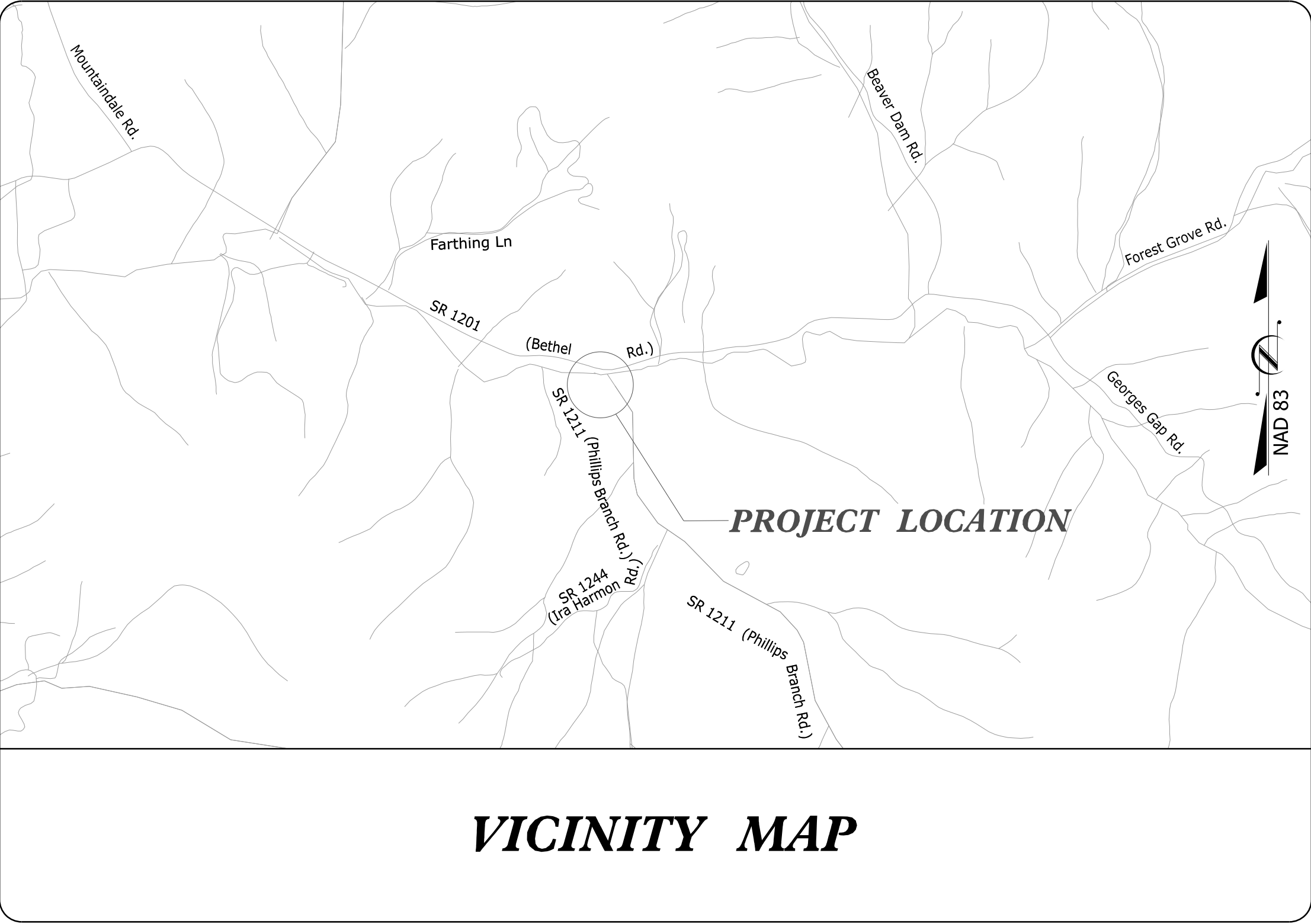
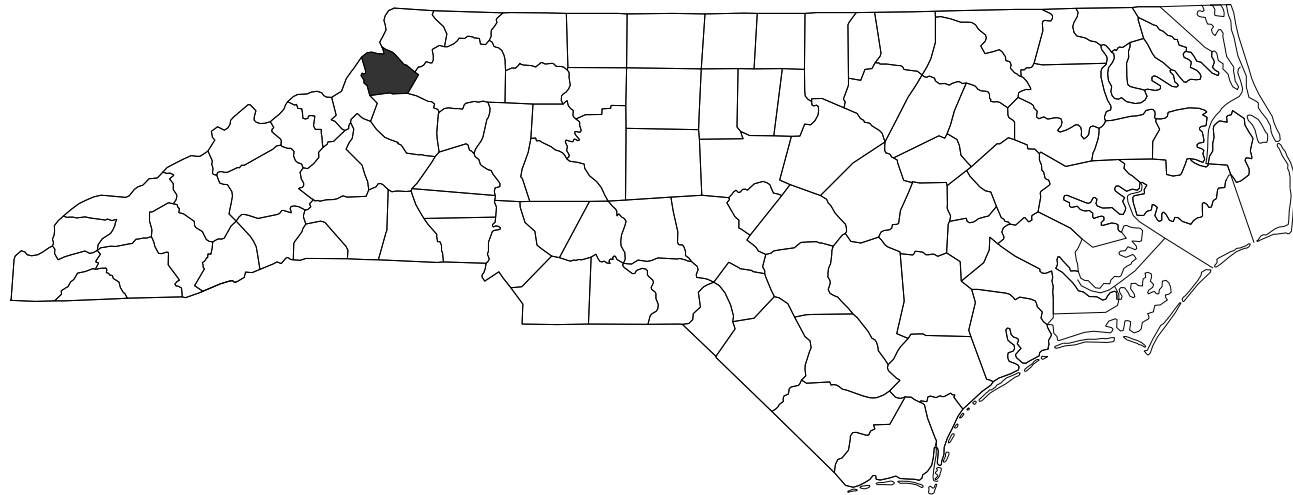
NOTES:

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.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

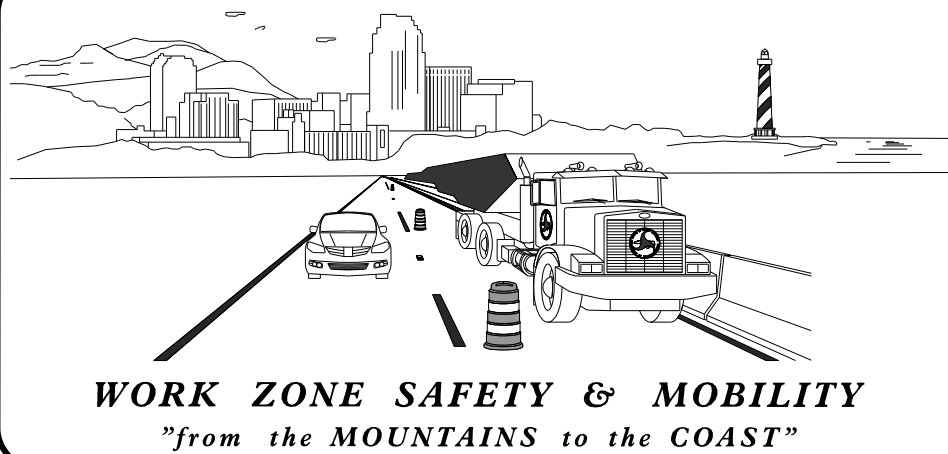
TRANSPORTATION MANAGEMENT PLAN

WATAUGA COUNTY



VICINITY MAP

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



PLANS PREPARED BY:

BEN CRAWFORD, P.E.

WZTC ENGINEER

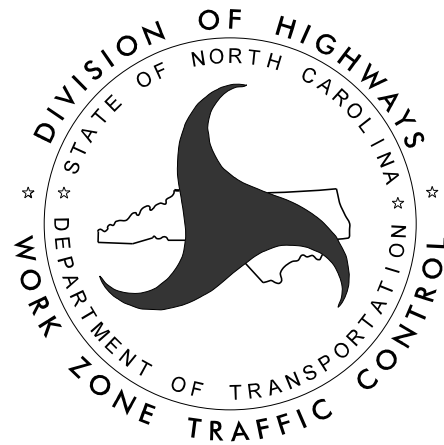
JACK CRINO, P.E.

WZTC DESIGN ENGINEER

NCDOT CONTACTS:

ROBBIE WEISZ, P.E.

PROJECT MANAGER
NCDOT PROJECT MANAGEMENT



INDEX OF SHEETS

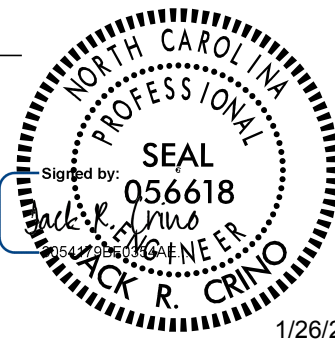
SHEET NO.	TITLE
TMP-1	TITLE SHEET, PROJECT VICINITY AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	GENERAL NOTES
TMP-1C	PHASING NOTES
TMP-2	TEMPORARY SHORING NOTES
TMP-3	PHASE I DETAIL
TMP-4	PHASE II DETAIL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

APPROVED: _____

DATE: _____

SEAL



DF18311.2095756

TIP PROJECT:

ROADWAY STANDARD DRAWINGS

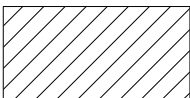
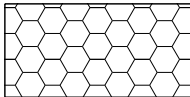
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANAUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER 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
1150.01	FLAGGERS
1160.01	TEMPORARY CRASH CUSHION
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL & BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL & BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

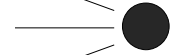
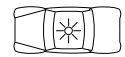
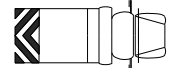
LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.

-  WORK AREA
-  MILLING, RESURFACING AND WEDGING
-  REMOVAL
-  TEMPORARY PAVEMENT

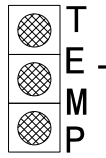
TRAFFIC CONTROL DEVICES

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

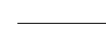
TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

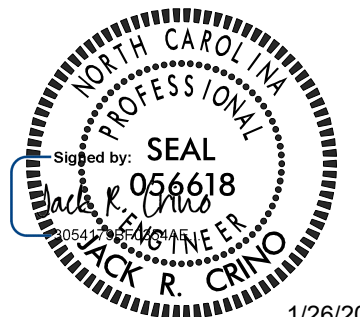
PAVEMENT MARKING LINES

- P1 - PAINT (4" WHITE) EDGELINE
- P5 - PAINT (4" WHITE) 2'-6"/SP MINISKIP
- P61 - PAINT (24" WHITE) WHITE STOPBAR

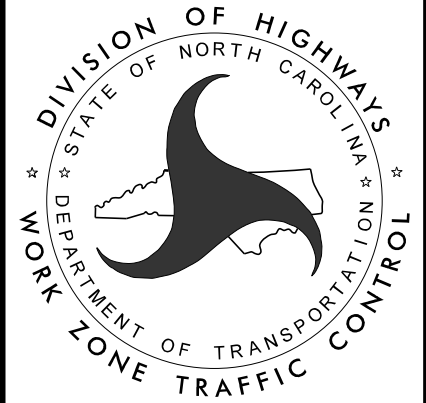
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Kimley»Horn

APPROVED: _____ DATE: _____



1/26/2026



ROADWAY STANDARD
DRAWINGS & LEGEND

MANAGEMENT STRATEGIES

PROPOSED IMPROVEMENTS ALONG SR 1211 (PHILLIPS BRANCH RD) AND SR 1201 (BETHEL RD) WILL BE CONSTRUCTED IN PHASES WHILE MAINTAINING TRAFFIC AND USING TEMPORARY TRAFFIC PATTERNS AND TEMPORARY LANE CLOSURES. LOCAL ACCESS TO RESIDENTS AND BUSINESSES WILL BE MAINTAINED AT ALL POSSIBLE TIMES DURING CONSTRUCTION.

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 UNDESIREED 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 PLANS, OR DIRECTED BY THE ENGINEER.

NCDOT HAS THE AUTHORITY TO MODIFY DAY AND TIME RESTRICTIONS AS TRAFFIC DICTATES DUE TO HEAVY TRAFFIC ALONG SR 1211 (PHILLIPS BRANCH RD) and SR 1201 (BETHEL RD), FOR THE DURATION OF THE PROJECT.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
SR 1211 (PHILLIPS BRANCH RD) SR 1201 (BETHEL RD)	SEE CONTRACT

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME
SR 1211 (PHILLIPS BRANCH RD)
SR 1201 (BETHEL RD)

HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR’S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR’S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

TIME RESTRICTIONS (CONT.)

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
SR 1211 (PHILLIPS BRANCH RD)	MONDAY THRU SUNDAY 6:00 A.M TO 9:00 P.M.	30 MINUTES FOR ROADWAY PAVING AND CONSTRUCTION

LANE AND SHOULDER CLOSURE REQUIREMENTS

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

- I) 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.
- J) 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 LANE* SIGNS (W8-11) 100FT IN ADVANCE AND A MINIMUM OF ONCE EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

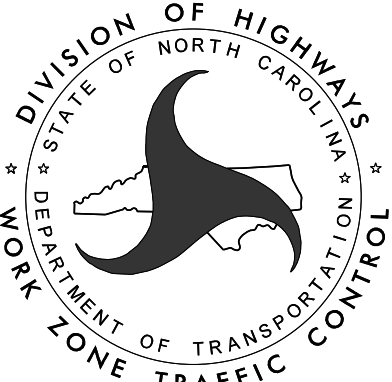
- L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- M) PROVIDE REQUIRED SIGNING TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- N) CONTRACTOR SHALL COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- O) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- P) 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 CONTROL DEVICES

- Q) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (25 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) AND 1135 (CONES) FOR ADDITIONAL REQUIREMENTS.
- R) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- S) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 100 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Kimley»Horn

APPROVED: _____ DATE: _____			GENERAL NOTES
-----------------------------	---	---	---------------

PROJ. REFERENCE NO.	SHEET NO.
DF18311.2095756	TMP-1C

GENERAL NOTES (CONT.)

PAVEMENT MARKINGS AND MARKERS

- T) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:
- | ROAD NAME | MARKING | MARKER |
|------------------------------|---------|--------|
| SR 1211 (PHILLIPS BRANCH RD) | PAINT | N/A |
| SR 1201 (BETHEL RD) | PAINT | N/A |
- U) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVMENT MARKING LINES.
- V) REPLACE ANY PAVEMENT MARKING LINES THAT HAVE BEEN DAMANGED BY THE END OF EACH DAY’S OPERATION.
- W) 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.
- X) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY’S OPERATION.

MISCELLANEOUS

- Y) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE ENGINEER.
- Z) IN THE EVENT 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) AND RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

PHASING

WHILE MAINTAINING TRAFFIC USING RSD 1101.02 FOR LANE CLOSURES AS NECESSARY, PERFORM THE FOLLOWING AS SHOWN ON SHEETS TMP-3 AND TMP-4. LANE CLOSURES ARE REQUIRED ANYTIME PERSONNEL OR EQUIPMENT ARE WORKING WITHIN FIVE FEET OF A TRAVEL LANE.

PHASE 1

- STEP 1: PRIOR TO BEGINNING CONSTRUCTION, INSTALL ADVANCE WARNING SIGNS ALONG SR 1211 (PHILLIPS BRANCH RD) AND SR 1201 (BETHEL RD) AS SHOWN ON RSD. 1101.01 SHEET 3 OF 3.
- STEP 2: INSTALL ADVANCE WORK SIGNS FOR A PORTABLE TEMPORARY SIGNAL IN ACCORDANCE WITH RSD 1101.02 SHEET 17 OF 19 AND COVER.
- STEP 3: INSTALL PORTABLE TEMPORARY SIGNALS AND TEMPORARY PAVEMENT MARKINGS. ACTIVATE PORTABLE TEMPORARY SIGNALS AND PLACE TRAFFIC ON TO TEMPORARY PATTERN AS SHOWN IN TMP-3.
- STEP 4: AWAY FROM TRAFFIC INSTALL THE TEMPORARY SHORING AS SHOWN IN TMP-3.
- STEP 5: CONSTRUCT ON THE ROADWAY AND BRIDGE AS SHOWN ON TMP-3, INCLUDING BUT NOT LIMITED TO BRIDGE CONSTRUCTION, DRAINAGE, GRADING, GUARDRAIL, AND PAVING UP TO BUT NOT INCLUDING THE FINAL LAYER OF ASPHALT SURFACE COURSE.

PHASE 2

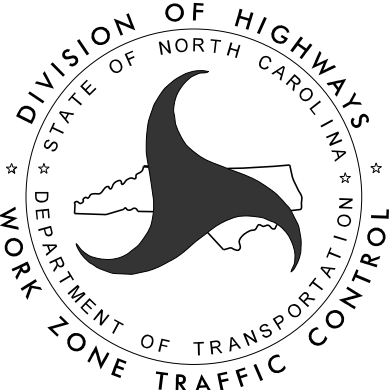
- STEP 1: WHILE MAINTAINING TRAFFIC IN THE PHASE 1 TEMPORARY PATTERN, PLACE ABC STONE ALONG SR 1211 (PHILLIPS BRANCH RD) FROM STATION 10+07.00 TO 11+00.00 TO ENSURE A SMOOTH TRANSITION FROM THE EXISTING GRAVEL ROAD TO THE NEW ASPHALT ROAD CONSTRUCTED IN PHASE 1.
- STEP 2: ADJUST TEMPORARY PAVEMENT MARKINGS AND SHIFT TRAFFIC ON TO PATTERN SHOWN IN TMP-4.
- STEP 3: UTILIZING 30 MINUTE NIGHTTIME ROLLING ROADBLOCKS IN ACCORDANCE WITH RSD 1101.03 SHEET 8 OF 9, STOP TRAFFIC ON -L- (PHILLIPS BRANCH ROAD) AND CONSTRUCT THE ROADWAY FROM -L- STA. 10+07.00 TO 10+93.00. INSTALL CHANGEABLE MESSAGE SIGN 14 DAYS BEFORE NIGHTTIME CLOSURE. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMANGES.
- STEP 4: AWAY FROM TRAFFIC, CONSTRUCT THE ROADWAY AND FLOOD BENCH AS SHOWN ON TMP-4, INCLUDING BUT NOT LIMITED TO PAVEMENT REMOVAL, REMOVAL OF EXISTING BRIDGE, TEMPORARY SHORING REMOVAL, BRIDGE EXCAVATION, GRADING, GUARDRAIL, DRAINAGE, AND PAVING UP TO BUT NOT INCLUDING THE FINAL LAYER OF ASPHALT SURFACE COURSE.

PHASE 3

- STEP 1: REMOVE TRAFFIC CONTROL DEVICES INSTALLED IN PHASE 2, INSTALL TEMPORARY PAVEMENT MARKINGS IN THE FINAL PATTERN AS SHOWN ON PAVEMENT MARKING PLANS, AND SHIFT TRAFFIC INTO THE FINAL PATTERN.
- STEP 2: UTILIZING FLAGGING FOR A TEMPORARY LANE CLOSURE AS SHOWN ON RSD. 1101.02 SHEET 1 OF 19, MILL AND RESURFACE SR 1201 (BETHEL RD) AND PLACE THE FINAL ASPHALT SURFACE COURSE AND FINAL PAVEMENT MARKINGS AND MARKERS ON SR 1211 (PHILLIPS BRANCH RD)
- STEP 3: REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN ALL LANES TO TRAFFIC.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Kimley»Horn

APPROVED: _____ DATE: 9/2026		ROADWAY GENERAL AND PHASING NOTES
		

TEMPORARY SHORING NOTES

**TEMPORARY SHORING RECOMMENDATIONS
DATED SEPTEMBER 10, 2025
FROM FALCON ENGINEERING**

1.

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.
2.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.
3.

DESIGN TEMPORARY SHORING FROM -L- STATION 12+03, 21’ RT TO STATION 12+11, 20.5’ RT FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

ABOVE ELEVATION 2,716:
UNIT WEIGHT (GAMMA) = 120 LB/CF
FRICTION ANGLE (f) = 30 DEGREES
COHESION (c) = 0 LB/SF

BELOW ELEVATION 2,716:
UNIT WEIGHT (GAMMA) = 140 LB/CF
FRICTION ANGLE (F) = 45 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 2,722.5 FT
4.

DRIVEN PILING FOR TEMPORARY SHORING FROM 12+03, 21’ RT TO STATION 12+11, 20.5’ RT WILL NOT PENETRATE BELOW ELEVATION 2,716 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.
5.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM -L- STATION 12+03, 21’ RT TO STATION 12+11, 20.5’ RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

**TEMPORARY SHORING RECOMMENDATIONS
DATED SEPTEMBER 10, 2025
FROM FALCON ENGINEERING**

1.

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.
2.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.
3.

DESIGN TEMPORARY SHORING FROM -L- STATION 12+36, 21’ RT TO STATION 12+44, 21.5’ RT FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

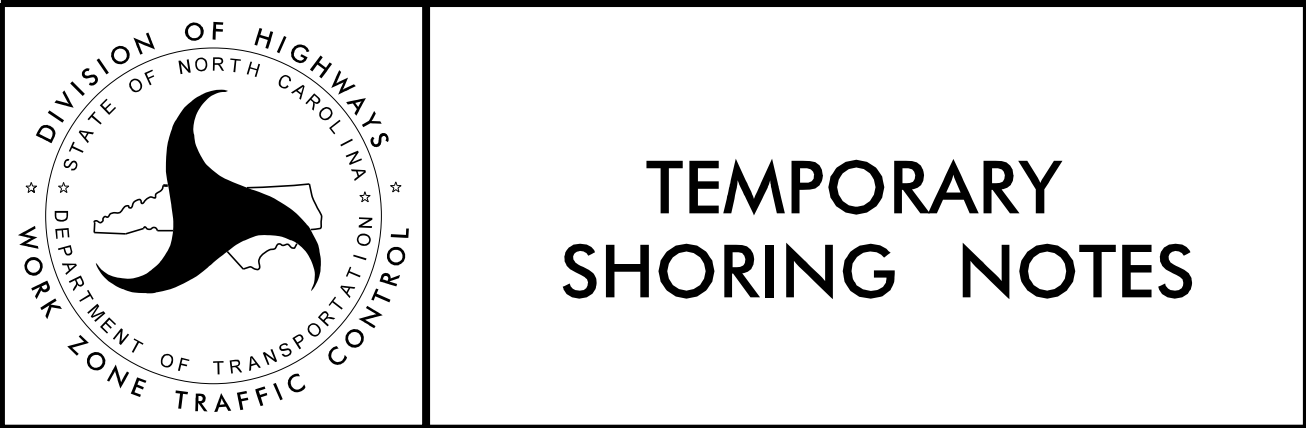
ABOVE ELEVATION 2,718:
UNIT WEIGHT (GAMMA) = 120 LB/CF
FRICTION ANGLE (f) = 30 DEGREES
COHESION (c) = 0 LB/SF

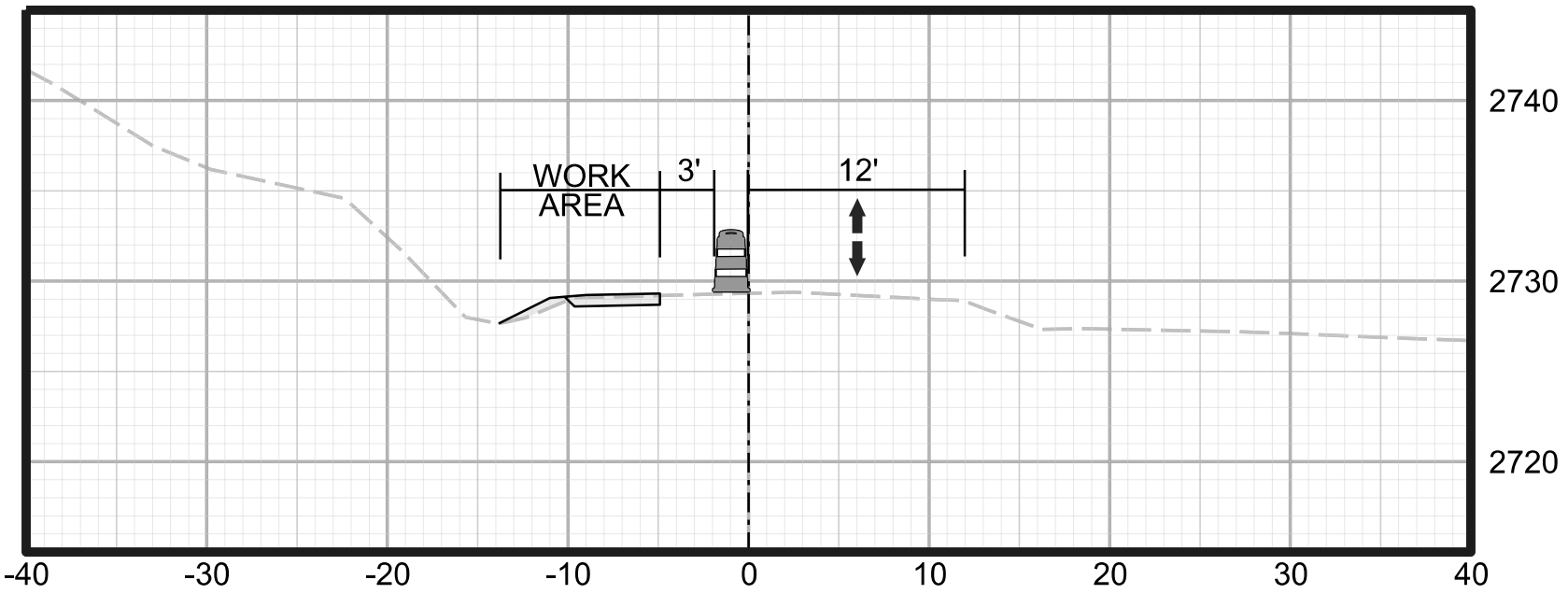
BELOW ELEVATION 2,718:
UNIT WEIGHT (GAMMA) = 140 LB/CF
FRICTION ANGLE (F) = 45 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 2,722.5 FT
4.

DRIVEN PILING FOR TEMPORARY SHORING FROM 12+36, 21’ RT TO STATION 12+44, 21.5’ RT WILL NOT PENETRATE BELOW ELEVATION 2,718 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.
5.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM -L- STATION 12+36, 21’ RT TO STATION 12+44, 21.5’ RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

Kimley»Horn





-L-
10+50.00
SECTION A-A



-L-
12+25.00
SECTION B-B

POSSIBLE SHORING LOCATIONS						
SHORING ID NO.	BEGIN STA. & OFFSET REF	END STA. & OFFSET REF	SHORING TYPE	EST. AVG. SHORING HT.	MAX SHORING HT.	REFERENCE DATA SOURCE
1	-L- 12+03 +/- (21.0 +/- RIGHT)	-L- 12+11 +/- (20.5 +/- RIGHT)	ROADWAY	6 FT.	6 FT.	TMP-2 SHEET
2	-L- 12+36 +/- (21.0 +/- RIGHT)	-L- 12+44 +/- (21.5 +/- RIGHT)	ROADWAY	6 FT.	8 FT.	TMP-2 SHEET

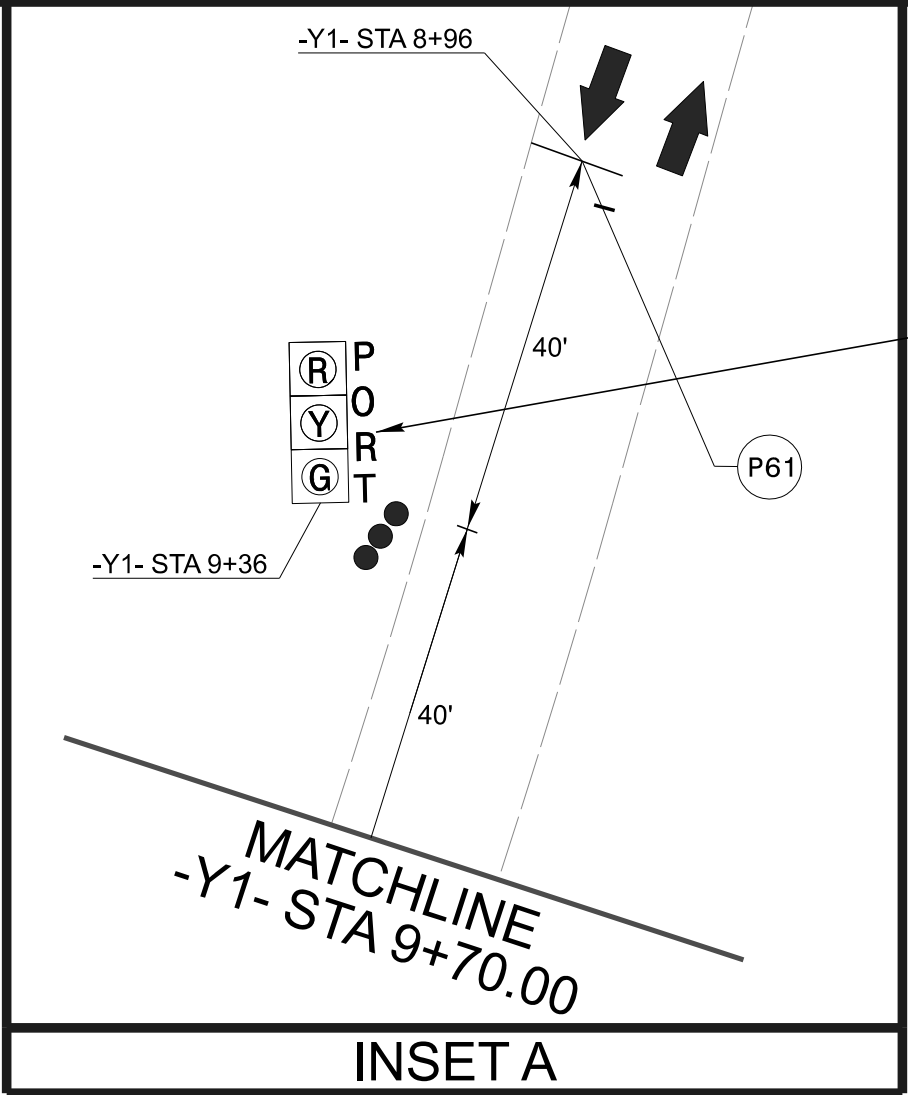


BEGIN PROJECT DF18311.2095756
-L- STA 10+07.00

APPROVED: _____ DATE: _____

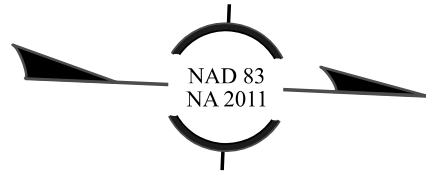


PHASE I DETAIL



MATCHLINE
-Y1- STA 9+70.00
(SEE INSET A)

PROJ. REFERENCE NO.	SHEET NO.
DF18311.2095756	TMP-3



TIE TO EXIST PAVEMENT MARKINGS
-Y1- STA. 9+76.00 (9' RT)

SR 1211 (PHILLIPS BRANCH RD)

0402

0403

-L- STA 12+03 +/- (21.0 +/- RT)

-L- STA 12+11 +/- (20.5 +/- RT)

-L- STA 12+36 +/- (21.0 +/- RT)

-L- STA 12+44 +/- (21.5 +/- RT)

CONTRACTOR TO LAY ABC STONE TO
CREATE SMOOTH TIE-IN FOR PHASE 2

PLACE PORTABLE TEMPORARY SIGNAL
40' BEHIND BEGIN PROJECT

TIE TO EXIST PAVEMENT MARKINGS
-Y1- STA 12+92.00 (9' RT)

PLACE PORTABLE TEMPORARY SIGNAL,
AND ADVANCE WARNING SIGNS BEYOND THE END
OF THE LANE SHIFT IN ACCORDANCE WITH RSD
1101.02 SHEET 17 OF 19.

MATCHLINE
-Y1- STA 13+00.00
(SEE INSET B)

INSET B

MATCHLINE
-Y1- STA 13+00.00

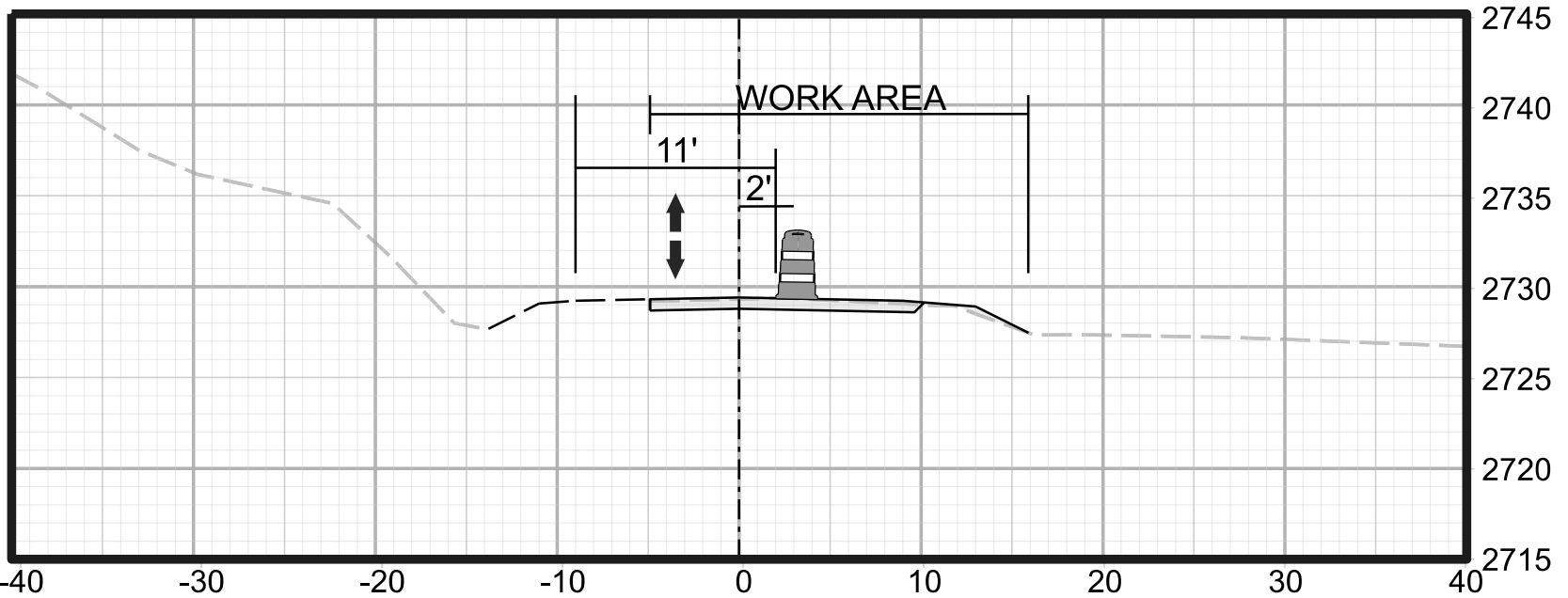
PORT

-Y1- STA 13+44

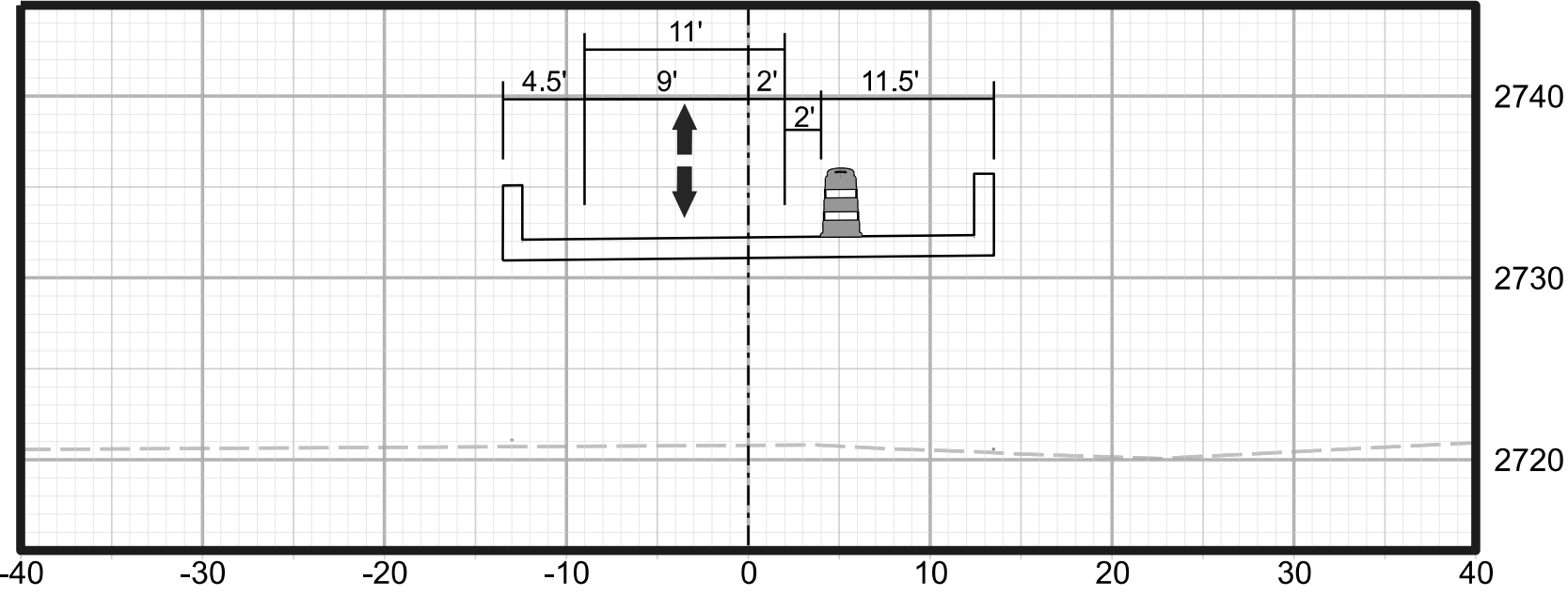
APPROX EDGE OF
TRAVEL TAKEN
FROM AERIAL

P61

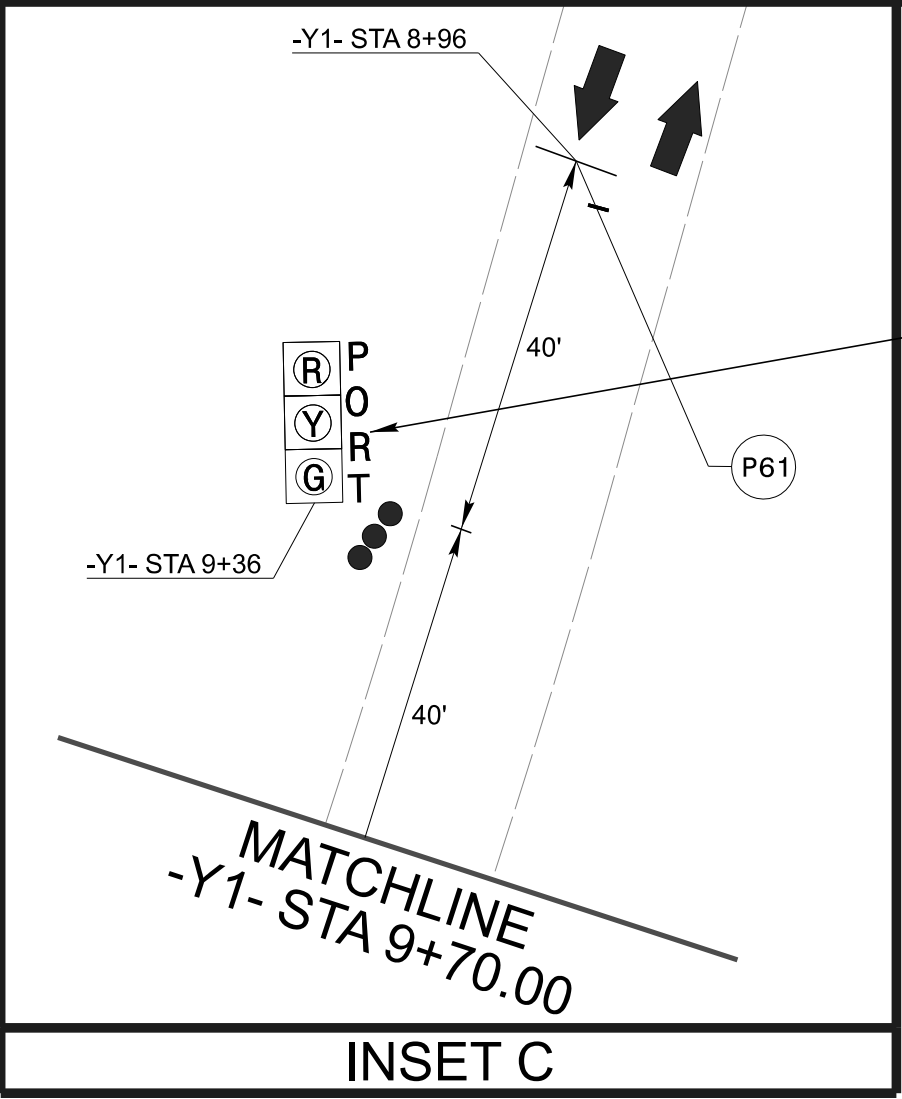
-Y1- STA 13+72



-L-
10+50.00
SECTION C-C

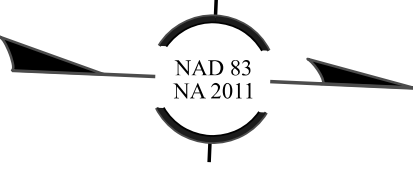


-L-
12+25.00
SECTION D-D



MATCHLINE
-Y1- STA 9+70.00
(SEE INSET C)

PROJ. REFERENCE NO.	SHEET NO.
DF18311.2095756	TMP-4



TIE TO EXIST PAVEMENT MARKINGS
-Y1- STA. 9+76.00 (9' RT)

10

BEGIN PROJECT DF18311.2095756
-L- STA 10+07.00



SR 1211 (PHILLIPS BRANCH RD)

CONSTRUCT ROADWAY IMPROVEMENTS
UTILIZING 30 MINUTE ROAD CLOSURES

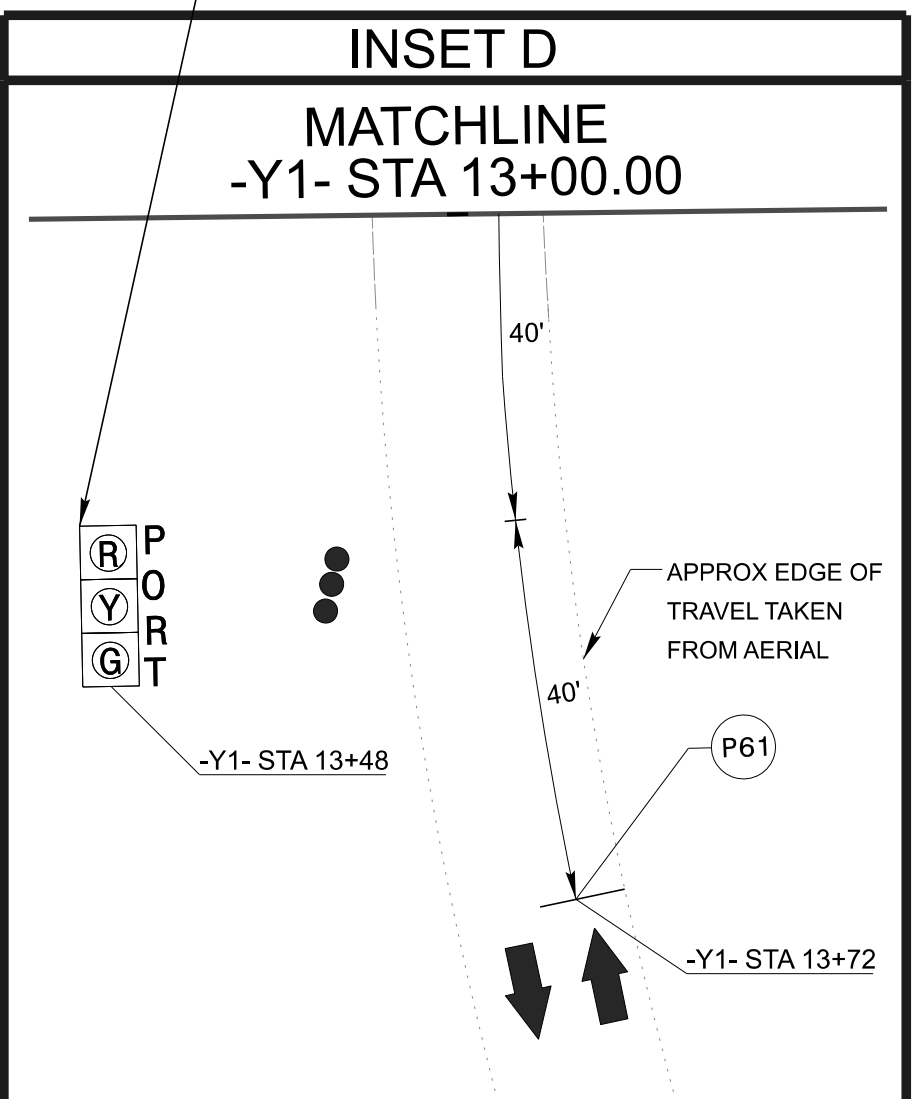
PLACE PORTABLE TEMPORARY SIGNAL
40' BEHIND BEGIN PROJECT

TIE TO EXIST PAVEMENT MARKINGS
-Y1- STA 12+92.00 (9' RT)

PLACE PORTABLE TEMPORARY SIGNAL,
AND ADVANCE WARNING SIGNS BEYOND THE END
OF THE LANE SHIFT IN ACCORDANCE WITH RSD
1101.02 SHEET 17 OF 19.

MATCHLINE
-Y1- STA 13+00.00
(SEE INSET D)

PLACE PORTABLE TEMPORARY SIGNAL, STOP BAR,
AND ADVANCE WARNING SIGNS BEYOND THE END
OF THE LANE SHIFT IN ACCORDANCE WITH RSD
1101.02 SHEET 17 OF 19.



INSET D

MATCHLINE
-Y1- STA 13+00.00

PORT

-Y1- STA 13+48

APPROX EDGE OF
TRAVEL TAKEN
FROM AERIAL

P61

-Y1- STA 13+72

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Kimley»Horn

PHASE II DETAIL

APPROVED: _____ DATE: _____



CONTRACT: DK00440 TIP PROJECT: DF18311.2095756

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
WATAUGA COUNTY

LOCATION: BRIDGE 940023 OVER BEAVERDAM
CREEK ON SR 1211 (PHILLIPS
BRANCH ROAD)

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

TIP NO.	SHEET NO.
DF18311.2095756	PMP-1
APPROVED: _____	
DATE: _____	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

INDEX

SHEET NO.	DESCRIPTION
PMP -1	PAVEMENT MARKING PLAN TITLE,SCHEDULE SHEET, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, GENERAL NOTES, AND FINAL PAVEMENT MARKING SCHEDULE
PMP -2	PAVEMENT MARKING PLAN SHEETS

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 1211 (PHILLIPS BRANCH RD)	INTEGRATED MULTIPOLYMER	NONE
-Y1- SR 1201 (BETHEL RD)	INTEGRATED MULTIPOLYMER	NONE

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

PAVEMENT
MARKING SCHEDULE

SYMBOL	DESCRIPTION
PAVEMENT MARKINGS	
INTEGRATED MULTIPOLYMER (4", 90 MILS)	
IM1	WHITE EDGELINE
IM5	2 FT.-6 FT./SP WHITE MINISKIP
IM13	YELLOW DOUBLE CENTER

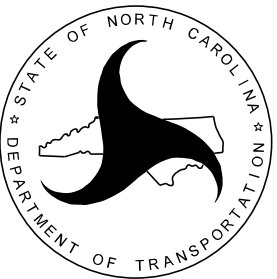
ROADWAY STANDARD DRAWING

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 MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
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

PLANS SUBMITTED TO: NCDOT

ROB WEISZ, P.E. DIVISION 11 BRIDGE PROGRAM MANAGER

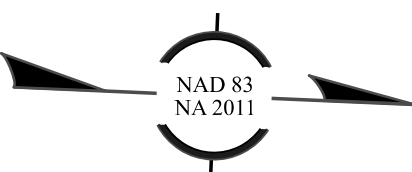


PLAN PREPARED BY: KIMLEY-HORN

JACK R. CRINO, P.E. PROJECT DESIGN ENGINEER

Kimley»Horn

NC LICENSE #F-0102
FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 677-2000



1/26/202

NC LICENSE #F4102
FOYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PH(919) 213-077-2000

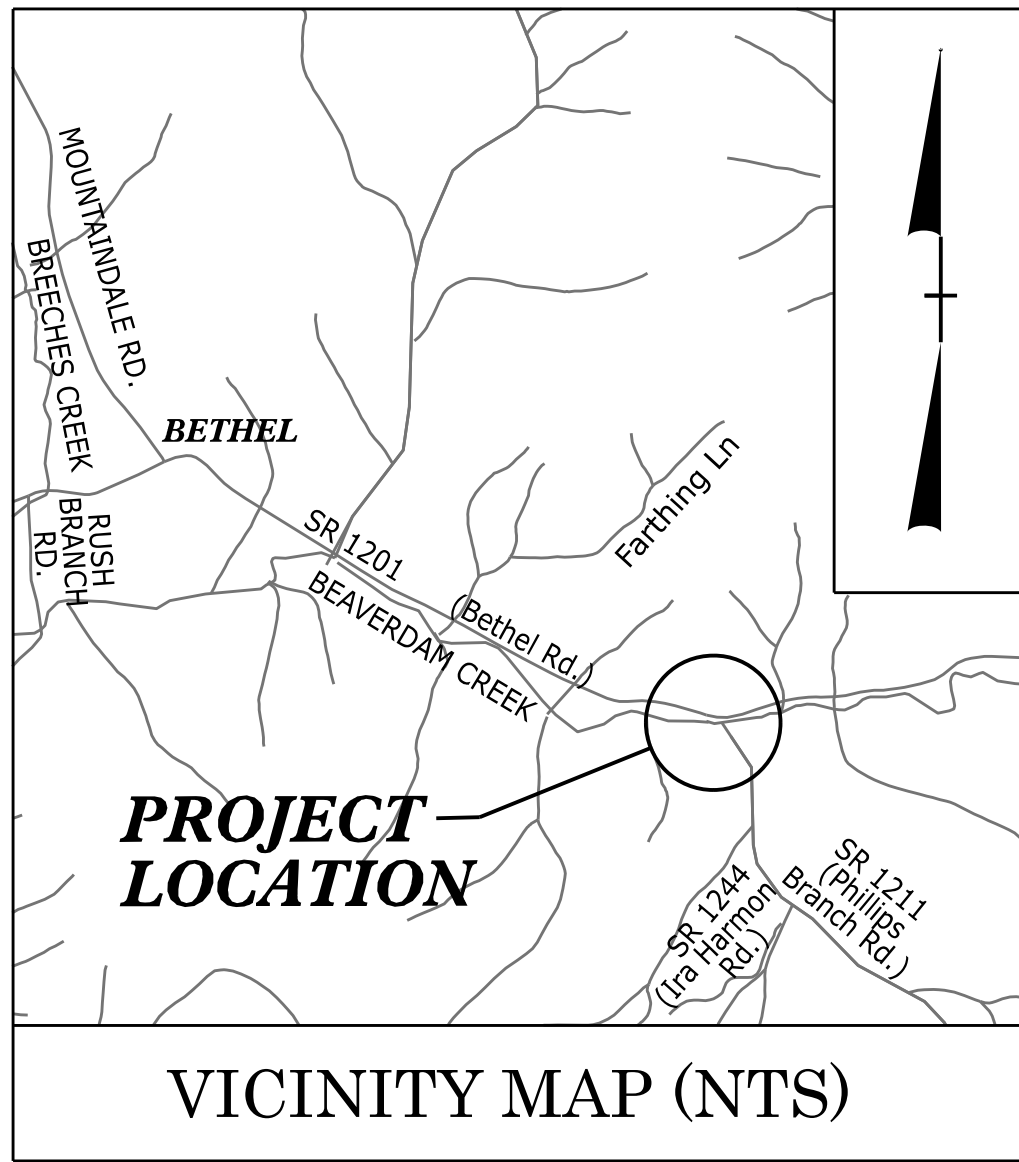
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETE

REVISIONS

PAVEMENT MARKING LEGEND

- IM1 WHITE EDGELINE (4")
- IM5 2FT.-6FT./SP WHITE MINISKIP (4")
- IM13 YELLOW DOUBLE CENTERLINE (4")

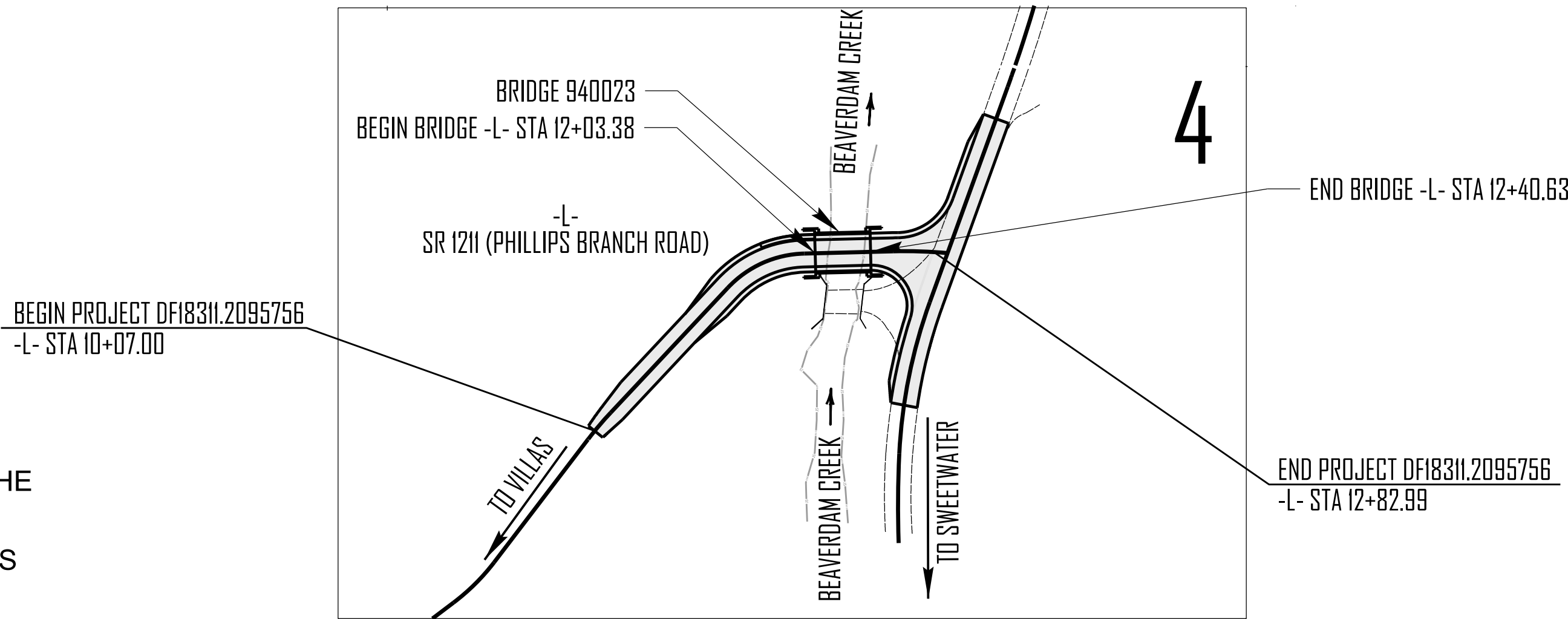
CONTRACT: DK00440 TIP PROJECT: DF18311.2095756



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
WATAUGA COUNTY

LOCATION: BRIDGE 940023 OVER BEAVERDAM CREEK ON SR 1211 (PHILLIPS BRANCH ROAD)
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18311.2095756	EC-11	
STATE PROJ. NO.		F. A. PROJ. NO.	DESCRIPTION
DF18311.2095756			P.E.
DF18311.2095756			R/W + UTL
DF18311.2095756			CONST.



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III
THIS PROJECT HAS NO CONTROLLED ACCESS
THIS PROJECT IS NOT WITHIN THE MUNICIPAL BOUNDARIES OF TOWN OR CITY.

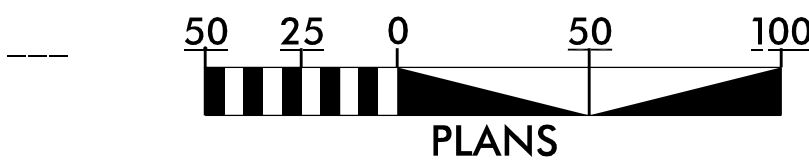
THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

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.

GRAPHIC SCALE



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL STORMWATER CONSTRUCTION PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES.

Kimley»Horn

Prepared in the Office of:
Kimley-Horn
421 Fayetteville Street, Suite 600
Raleigh, NC 27601

Designed by:

JUSTIN ROSE

4389

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

EROSION & SEDIMENT CONTROL LEGEND

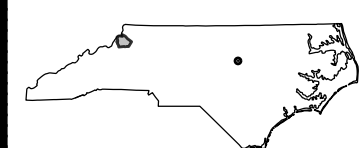
Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	
1630.04	Stilling Basin	
1630.05	Temporary Diversion	
1630.06	Special Stilling Basin	
1630.07	Skimmer Basin	
1630.08	Tiered Skimmer Basin	
1630.09	Earthen Dam with Skimmer	
	Infiltration Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	
1632.02	Type B	
1632.03	Type C	

Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet Sediment Trap Type A	
1635.02	Rock Pipe Inlet Sediment Trap Type B	
1636.01	Excelsior Wattle Check	
1636.01	Excelsior Wattle Check with Flocculant	
1636.01	Coir Fiber Wattle Check	
1636.01	Coir Fiber Wattle Check with Flocculant	
1636.02	Silt Fence Excelsior Wattle Break	
	Silt Fence Coir Fiber Wattle Break	
1636.03	Excelsior Wattle Barrier	
1636.03	Coir Fiber Wattle Barrier	

DF18311.2095756

EC-02

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WATAUGA COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

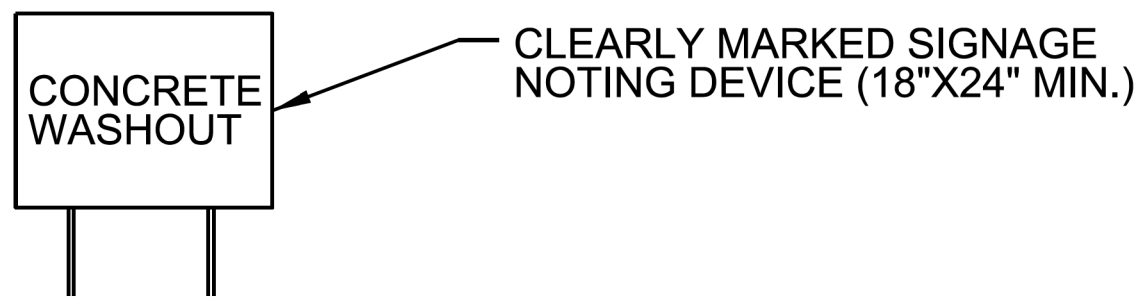
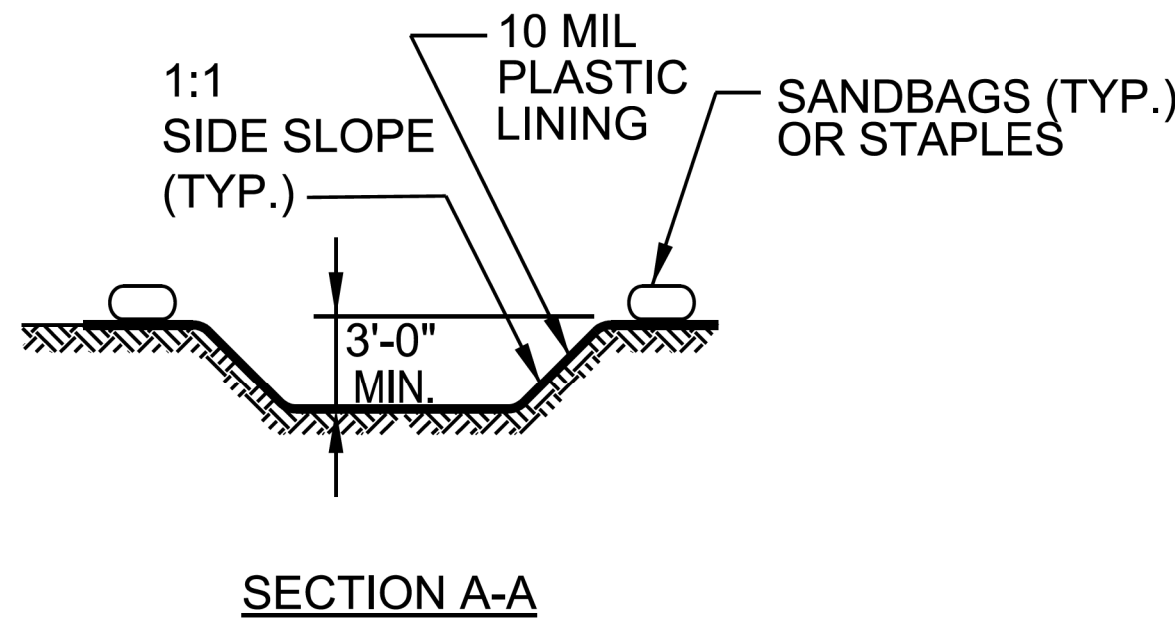
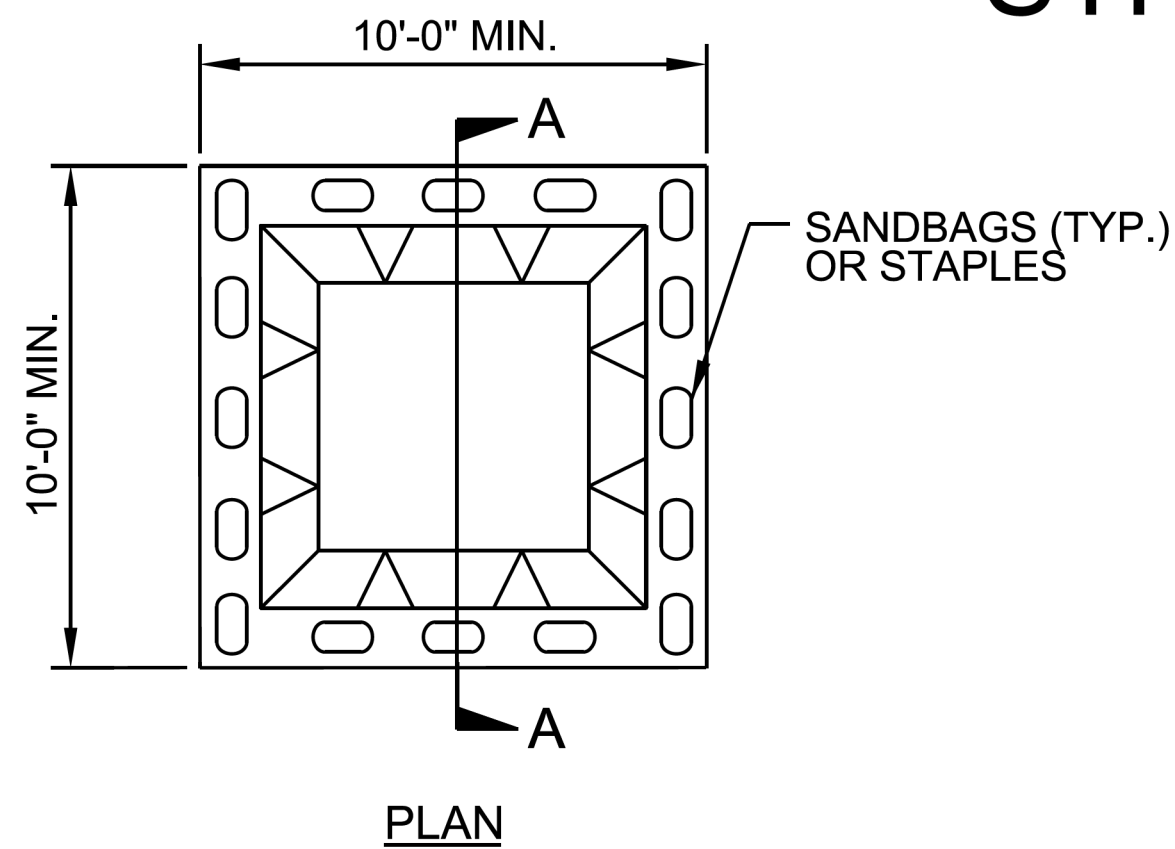
PREPARED BY

Kimley»Horn

NO LICENSE REQUIRED
FOR THIS PROJECT
NORTH CAROLINA 1701
EXPIRES 12/31/2024

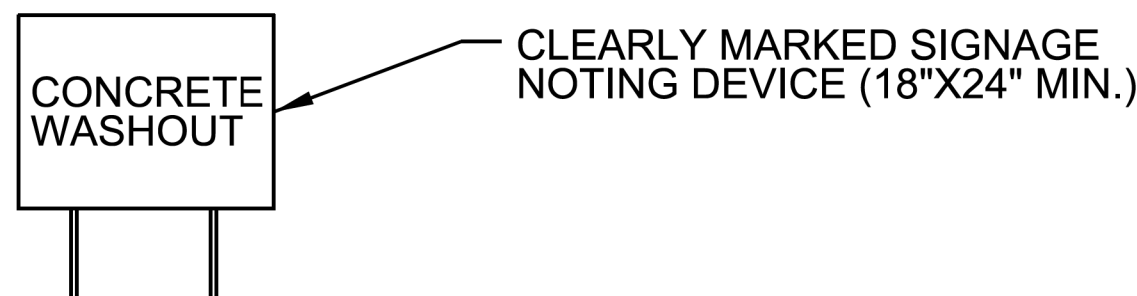
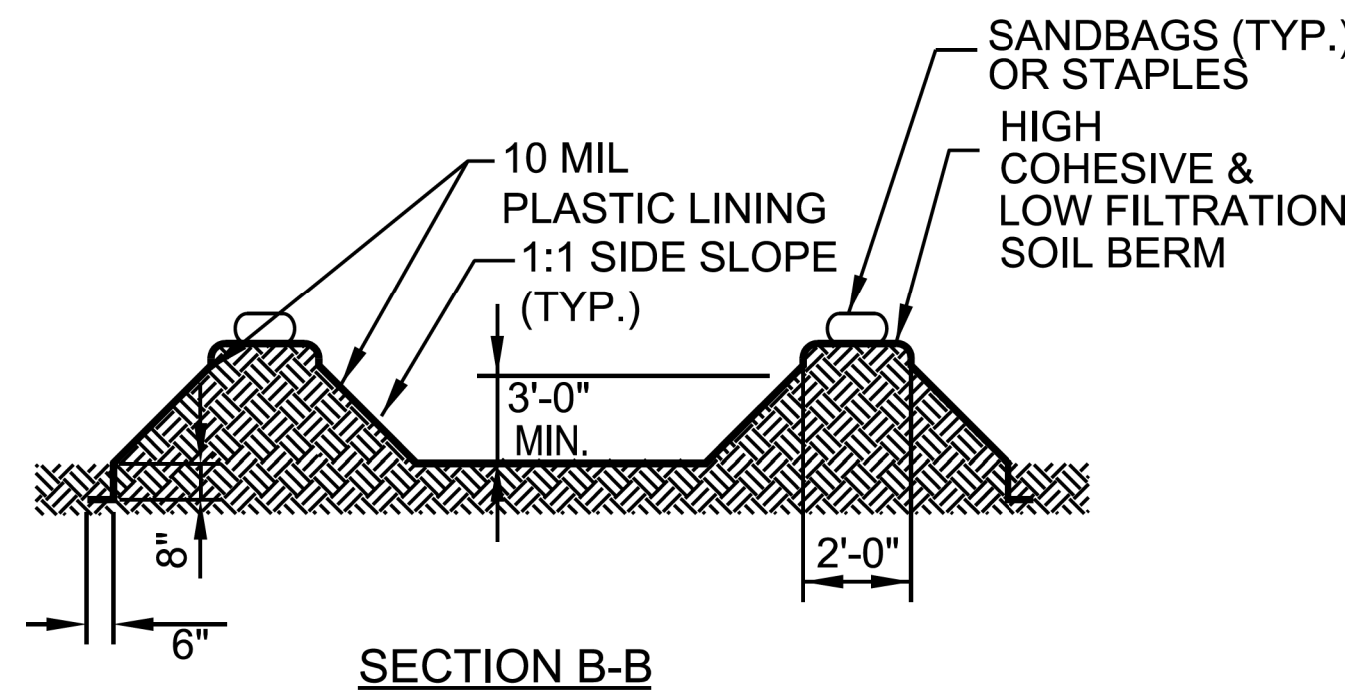
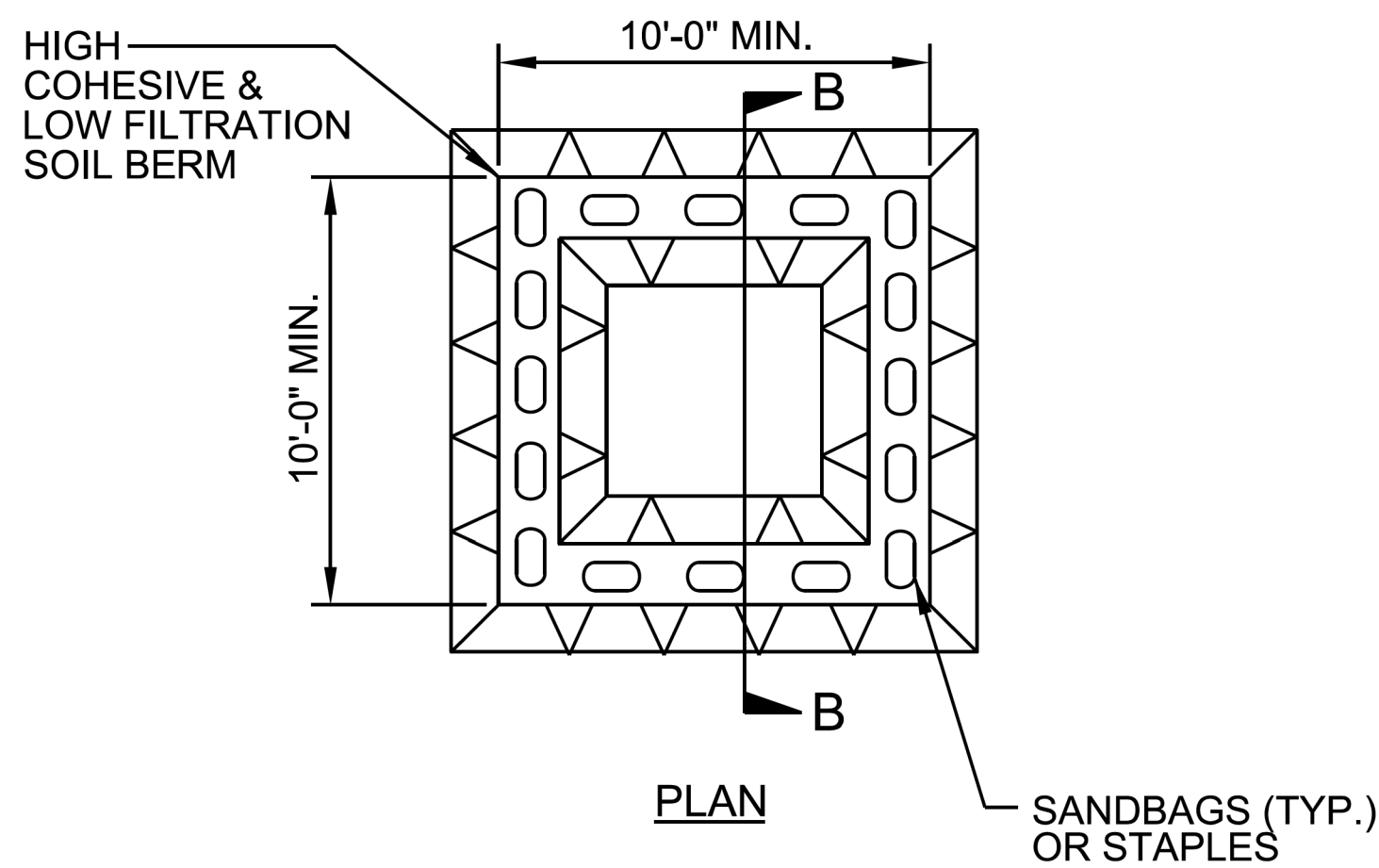
REVISIONS

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.



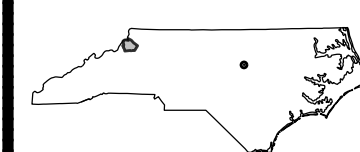
ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- 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.

DF18311.2095756

EC-2A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WATAUGA COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Kimley»Horn

NO LICENSE REQUIRED
NORTH CAROLINA 1701
EXPIRATION DATE 12/31/2024

REVISIONS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

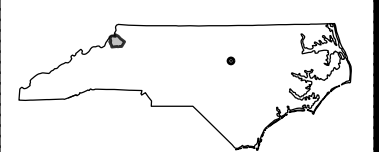
MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
DITCHES					
					0
SLOPES					
4	-L-	11+20	11+95	LT	120
4	-L-	12+50	12+80	LT	70
4	-Y1-	10+22	11+00	RT	150
			SUBTOTAL		340
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					500
			TOTAL		840
NOTE: EXCELSIOR MATTING TO BE USED FOR DITCHES. STRAW MATTING MAY BE USED FOR SLOPES					

DF18311.2095756

EC-03

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WATAUGA COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY
Kimley»Horn

NC LICENSE # 4016
DATE: 01/14/2023
KIMLEY-HORN & ASSOCIATES, INC.
1000 W. WATKINS ST., SUITE 200
WILKES-BARR, PA 18201

REVISIONS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

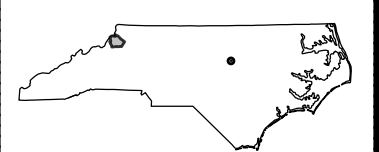
SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
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

DF18311.2095756

EC-3A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WATAUGA COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

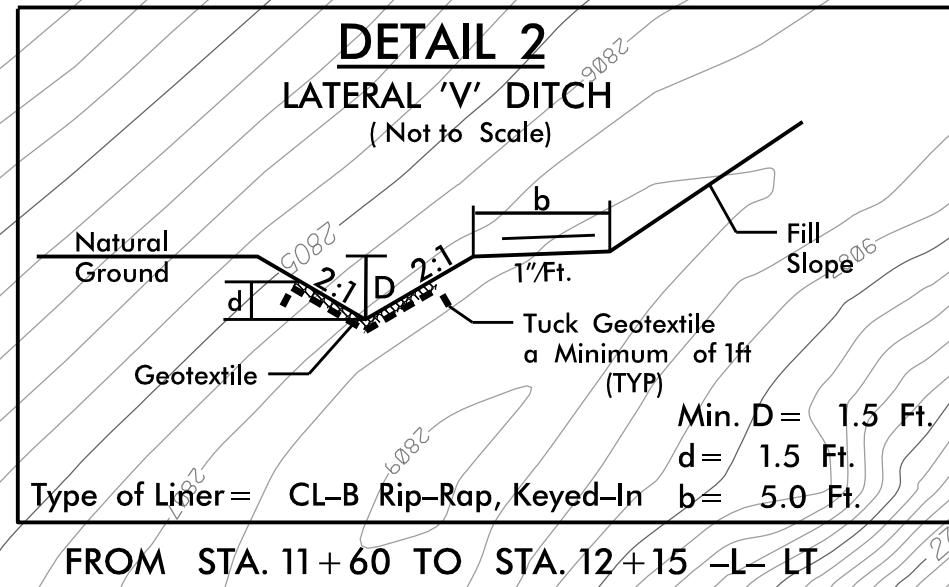
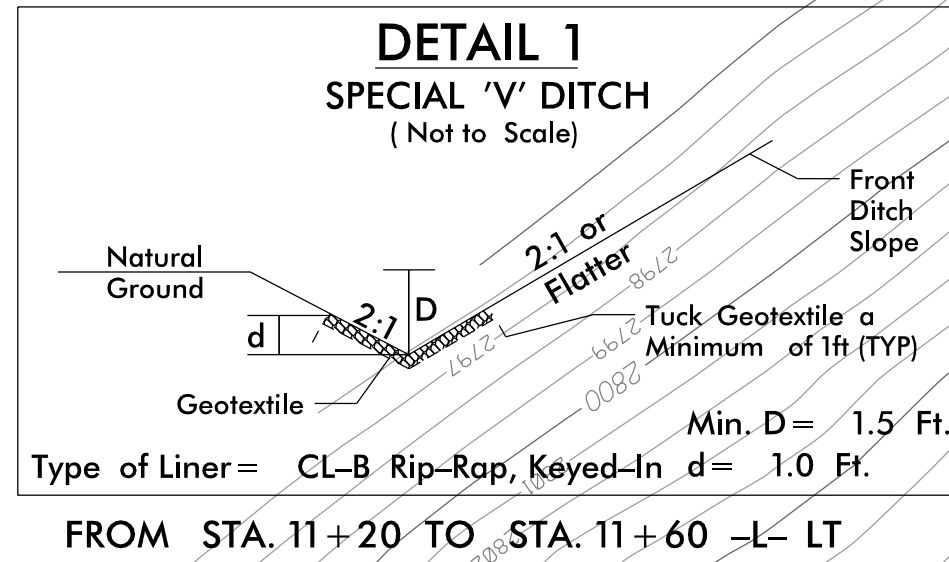
HYDRAULICS
ENGINEER

PREPARED BY

Kimley»Horn
INC LICENSE # 4516
REGISTERED PROFESSIONAL ENGINEER
NORTH CAROLINA 1793
EXPIRATION 07/2026

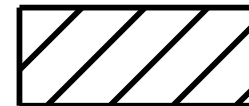
REVISIONS

* REFER TO SHEET 2B-1 FOR
TYPE III SHOP CURVE DETAILS.



BEGIN PROJECT DF18311.2095756
-L- STA 10+07.00

BEGIN CONSTRUCTION DF18311.2095756
-L- STA 10+07.00



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

②
ROAH D NORRIS
JUDY T NORRIS
DB 243 PG 786

FLOODPLAIN BENCH LT
EXCAVATION 155 CY
CL. II. EST. 285 TONS
SEE DETAIL 3
(STRUCTURES PAY ITEM)

EXISTING BRIDGE
EXCAVATION (SEE
STRUCTURES PLANS)

LOW WIRE AT 40°
ELEV=2748.2'
RIP/RAP

-L- STA 10+96.04

LATERAL 'V' DITCH
w/CL-B RIPRAP
EST. 23 TONS
46 SY GEOTEXTILE
18 CY DDE
SEE DETAIL 2

-L- PC 11+38.28

SPECIAL 'V' DITCH
w/CL-B RIPRAP
EST. 9 TONS
18 SY GEOTEXTILE
SEE DETAIL 1

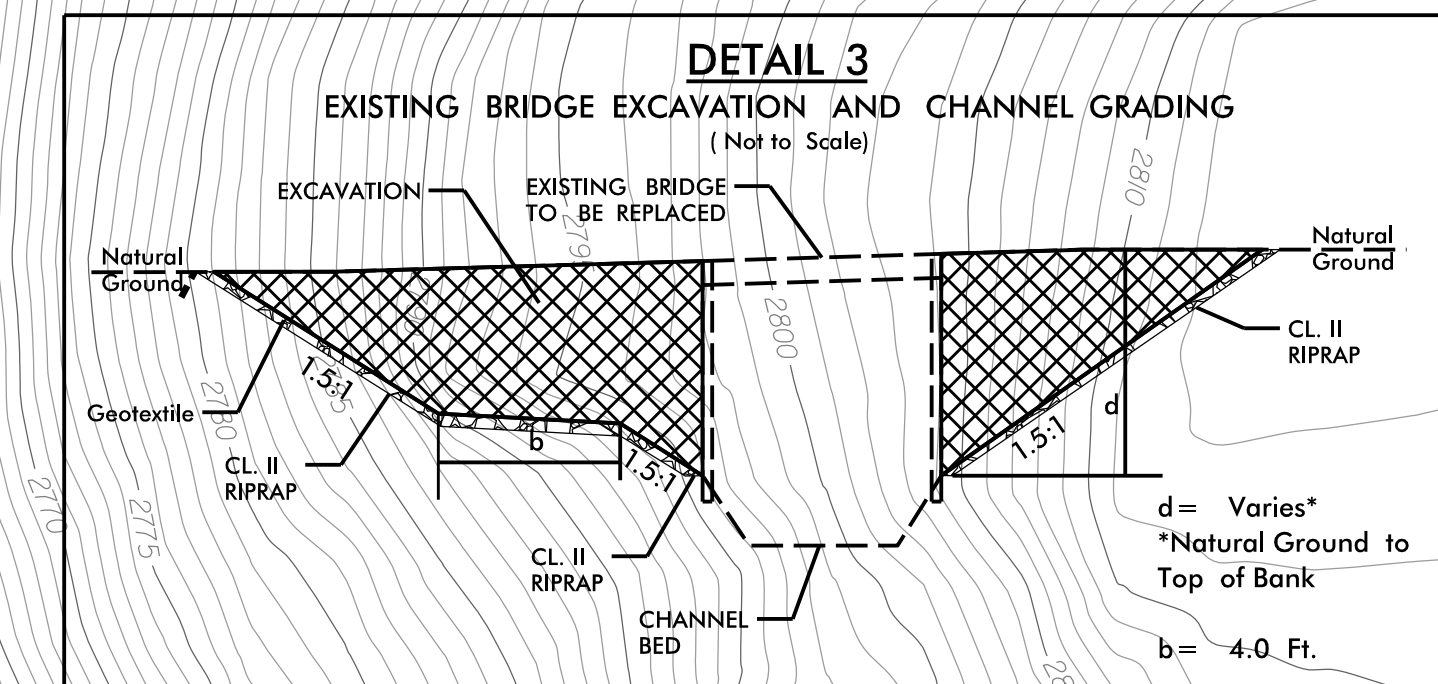
-L- STA 11+05.46

①
JUSTIN S MORETZ
JESSICA MORETZ
DB 1992 PG 398

BEGIN BRIDGE
-L- STA 12+03.38

END BRIDGE
-L- STA 12+40.63

-Y1- POE 13+17.06



FROM 37 FEET UPSTREAM OF EXISTING BRIDGE TO
10 FEET DOWNSTREAM OF EXISTING BRIDGE

UTILIZE SPECIAL STILLING
BASINS AS NEEDED
FOR BRIDGE CONSTRUCTION

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE: EC DEVICES SHALL NOT
BLOCK ACTIVE TRAFFIC. ROAD
WILL REMAIN OPEN
FOR CONST. DURATION.

⑤
THOMAS CORRAO
LISETTE CORRAO
DB 2348 PG 873
PB 20 PG 299

FLOODPLAIN BENCH RT
EXCAVATION 95 CY
CL. II. EST. 165 TONS
SEE DETAIL 3
(STRUCTURES PAY ITEM)

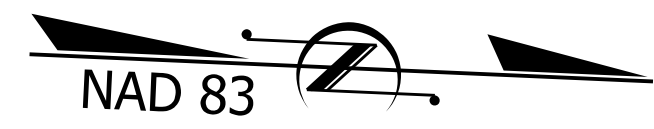
END CONSTRUCTION
-Y1- STA 12+24.00

-Y1- PCC 12+57.10

BEGIN CONSTRUCTION
-Y1- STA 10+22.00

-Y1- PT 9+99.24

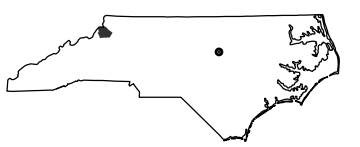
MATCH LINE -Y1- STA 9+80.00 SEE SHEET 005



DF18311.2095756

EC-4

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WATAUGA COUNTY



ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

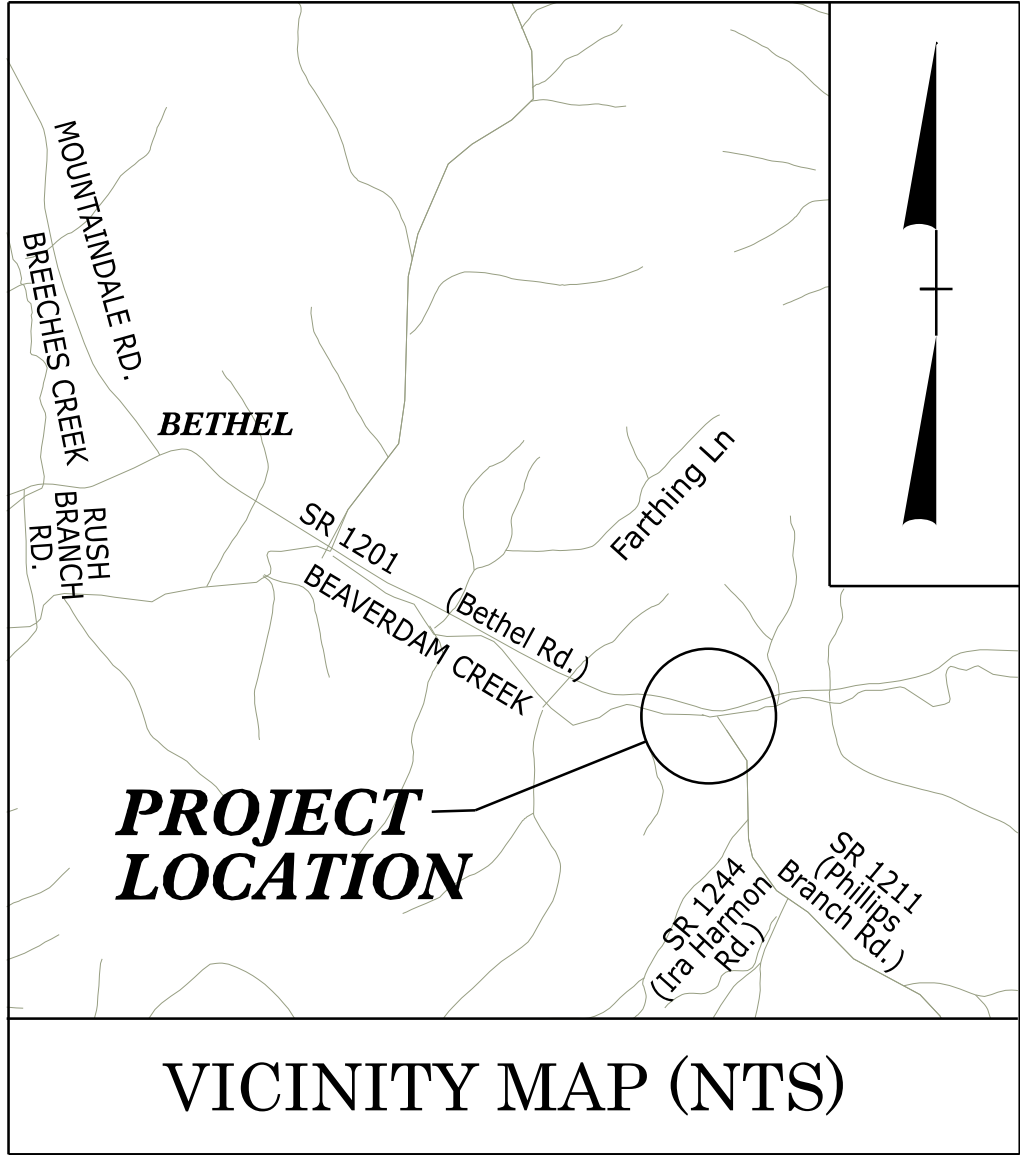
PREPARED BY

Kimley Horn

NO LICENSE IN NORTH CAROLINA
NORTH CAROLINA LICENSE NO. 1701
NORTH CAROLINA LICENSE NO. 1701

REVISIONS

CONTRACT: DK00440 TIP PROJECT: DF18311.2095756



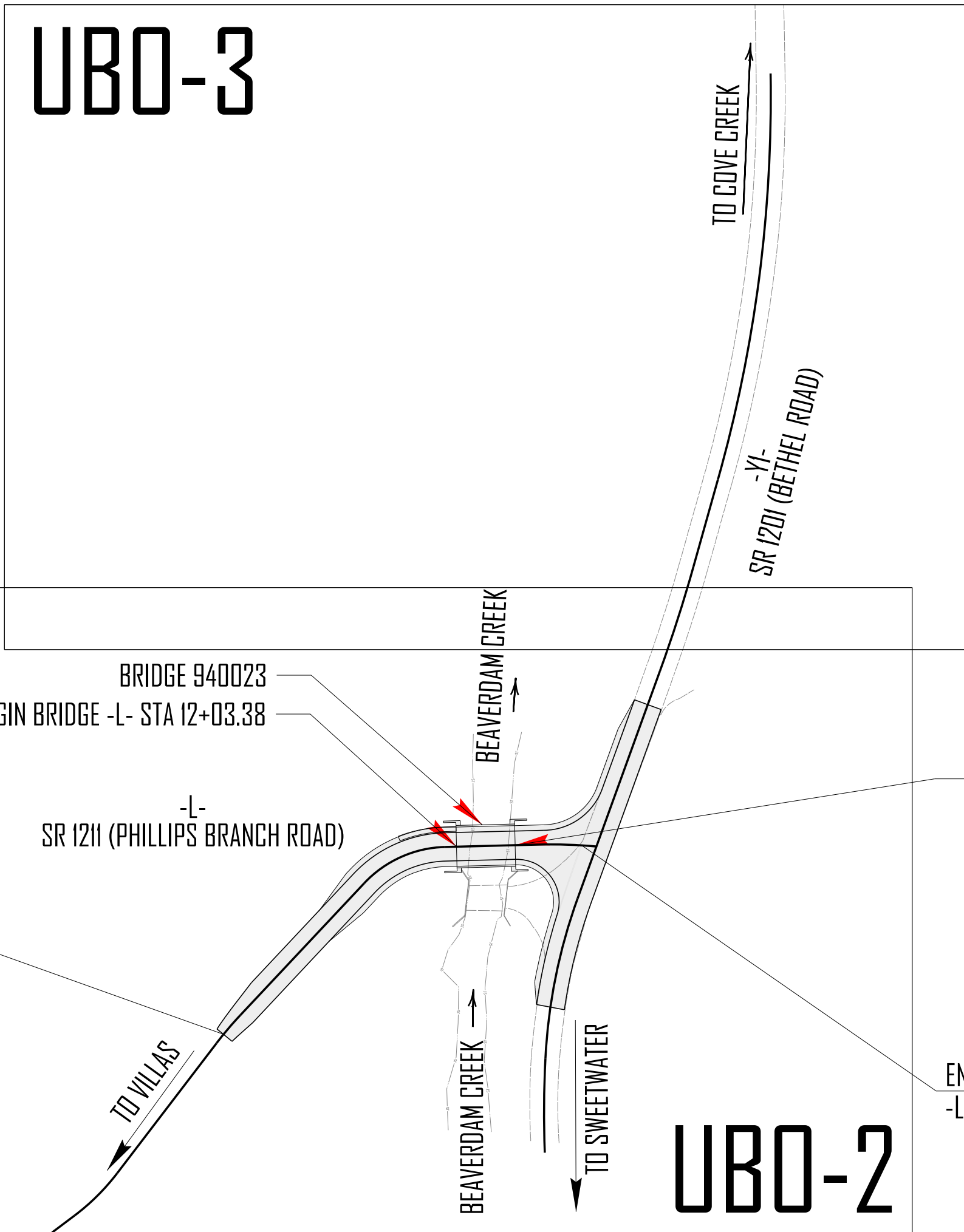
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITY BY OTHERS PLANS
WATAUGA COUNTY**

LOCATION: *BRIDGE 940023 OVER BEAVERDAM CREEK ON SR 1211 (PHILLIPS BRANCH ROAD)*

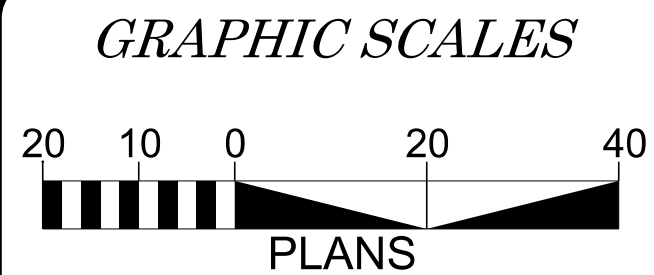
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND STRUCTURE*

T.I.P. NO.	SHEET NO.
DF18311.2095756	UBO-1
NOTE: 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.	



NCDOT CONTACT: ROBBIE N. WEISZ, P.E.
DIVISION 11, PROJECT ENGINEER
(336) 903-9220

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UO - 1	TITLE SHEET
UO-2 THRU UO-3	UTILITIES BY OTHERS PLAN SHEETS

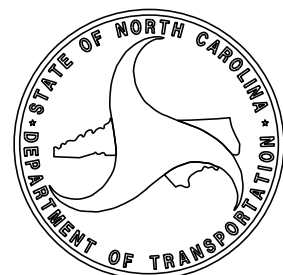
UTILITY OWNERS ON PROJECT

(A) POWER - BLUE RIDGE ENERGY: WAYNE REESE 1-800-451-5474 x4241
(B) COMM - SKYLINE/SKYBEST: ERIC CHURCH 336-876-6130
(C) COMM - CHARTER SPECTRUM: ANDREW WATSON andrew.watson@charter.com

Kimley»Horn

NC LICENSE #F-0102
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 677-2200

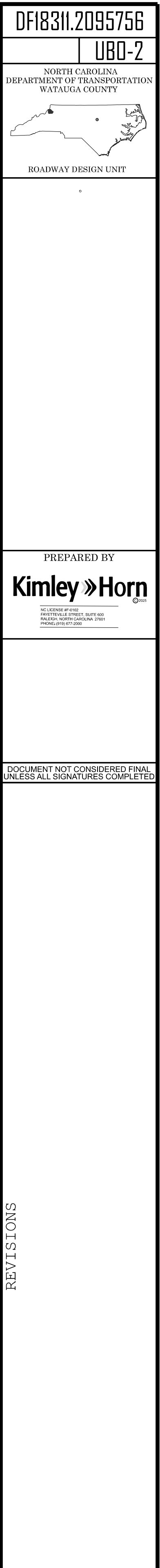
JACK R. CRINO, P.E.
UTILITY COORDINATOR



DIVISION OF HIGHWAYS
DIVISION 11
PROJECT DELIVERY UNIT
801 STATESVILLE RD
NORTH WILKESBORO, NC 28659
PHONE (336) 903-9101

ROBBIE N. WEISZ, P.E. ALEX WINEBARGER
DIVISION 11 PROJECT ENGINEER DIVISION 11 UTILITY COORDINATOR

BRANDON GREER
DIVISION 11 UTILITY ENGINEER





DF18311.2095756

UBO-3

NORTH CAROLINA

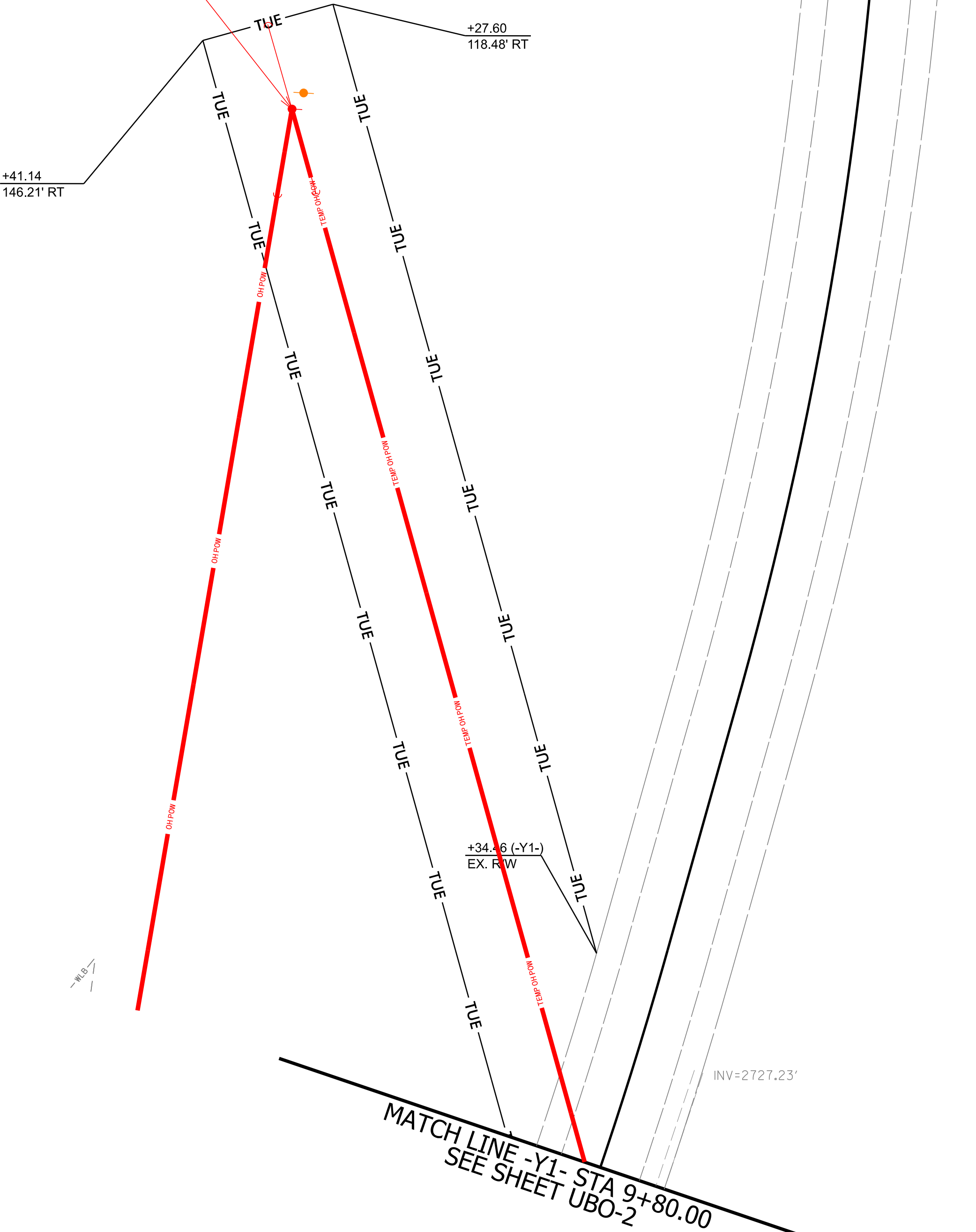
DEPARTMENT OF TRANSPORTATION

WATAUGA COUNTY

ROADWAY DESIGN UNIT

③ BLUE RIDGE ENERGY TO INSTALL GUY
WIRES FOR TEMPORARY OVERHEAD LINES.
RETAIN POLE FOR FINAL CONDITION
JOINT USERS:
CHARTER/SPECTRUM
SKYLINE

MOLLIE KINCIAD BOLICK
DB 2378 PG 410



PREPARED BY

Kimley » Horn

NC LICENSE # 4105

REGISTERED PROFESSIONAL ENGINEER

EXPIRATION DATE 12/31/2024

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS

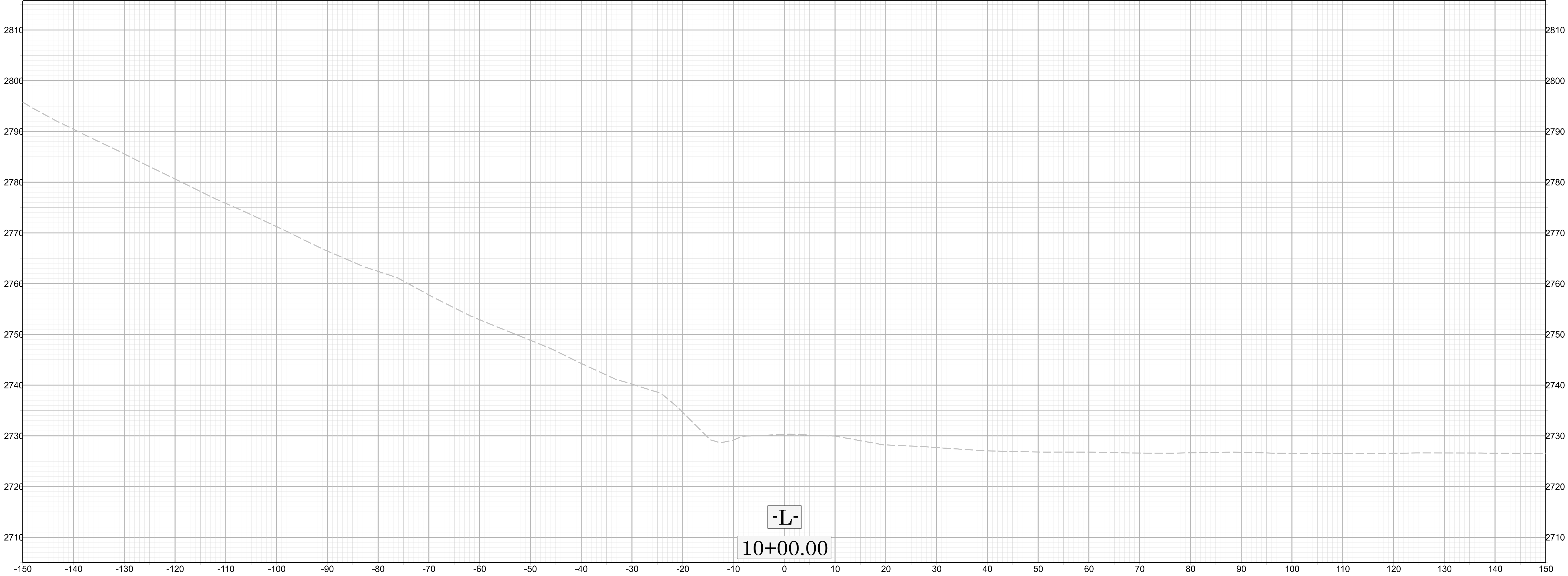
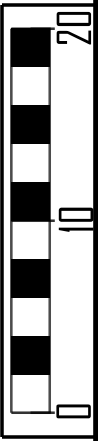
DF18311.2095756
CROSS SECTION INDEX

-L- SR 1211 (PHILLIPS BRANCH ROAD)

X-2 THRU X-8

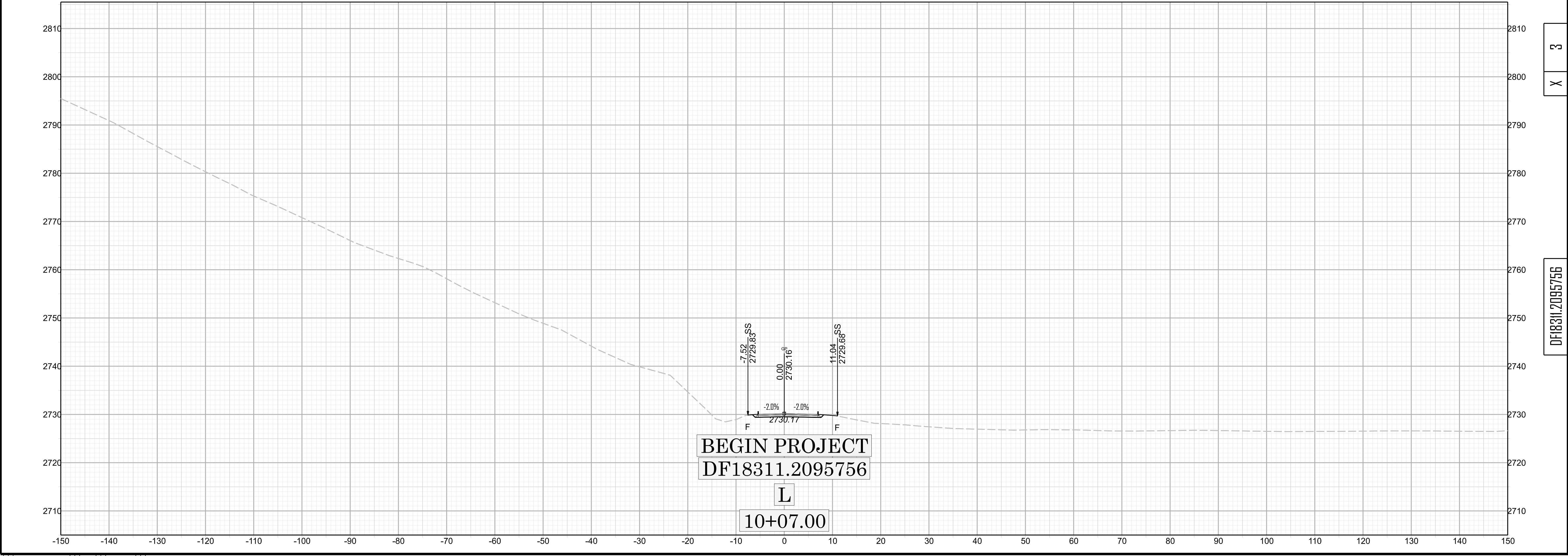
-YI- SR 1201 (BETHEL ROAD)

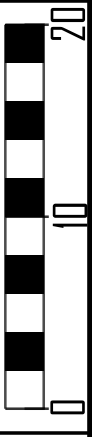
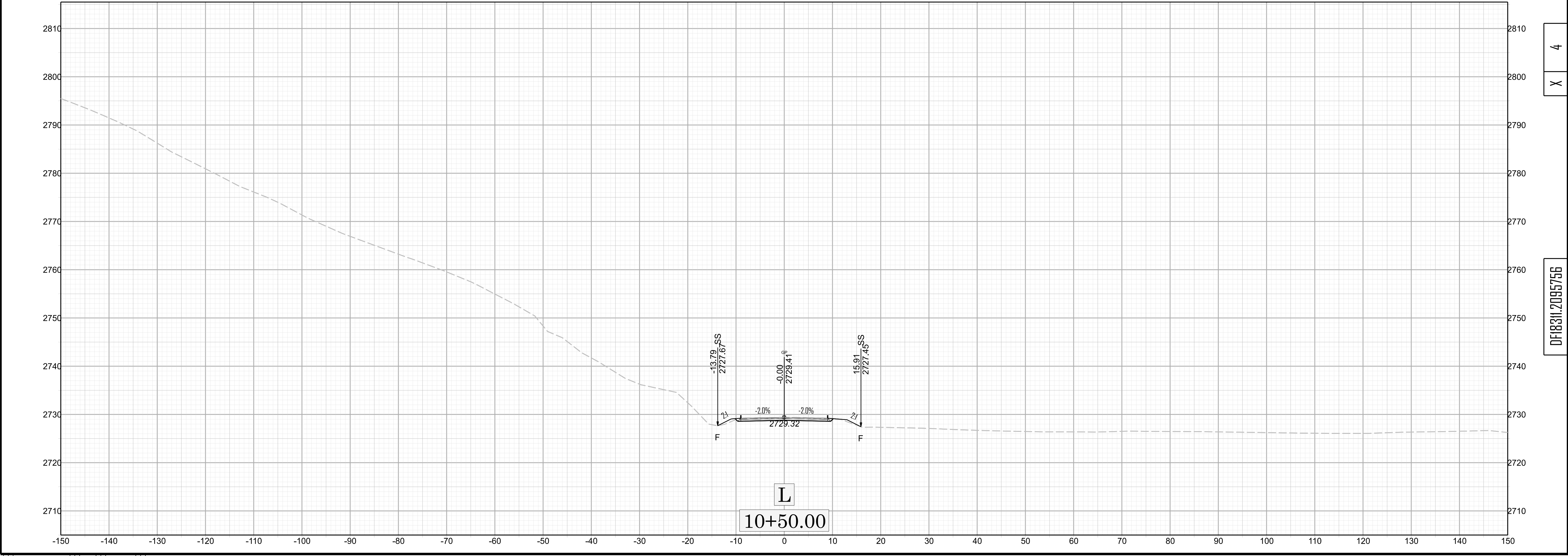
X-9 THRU X-15



X 2

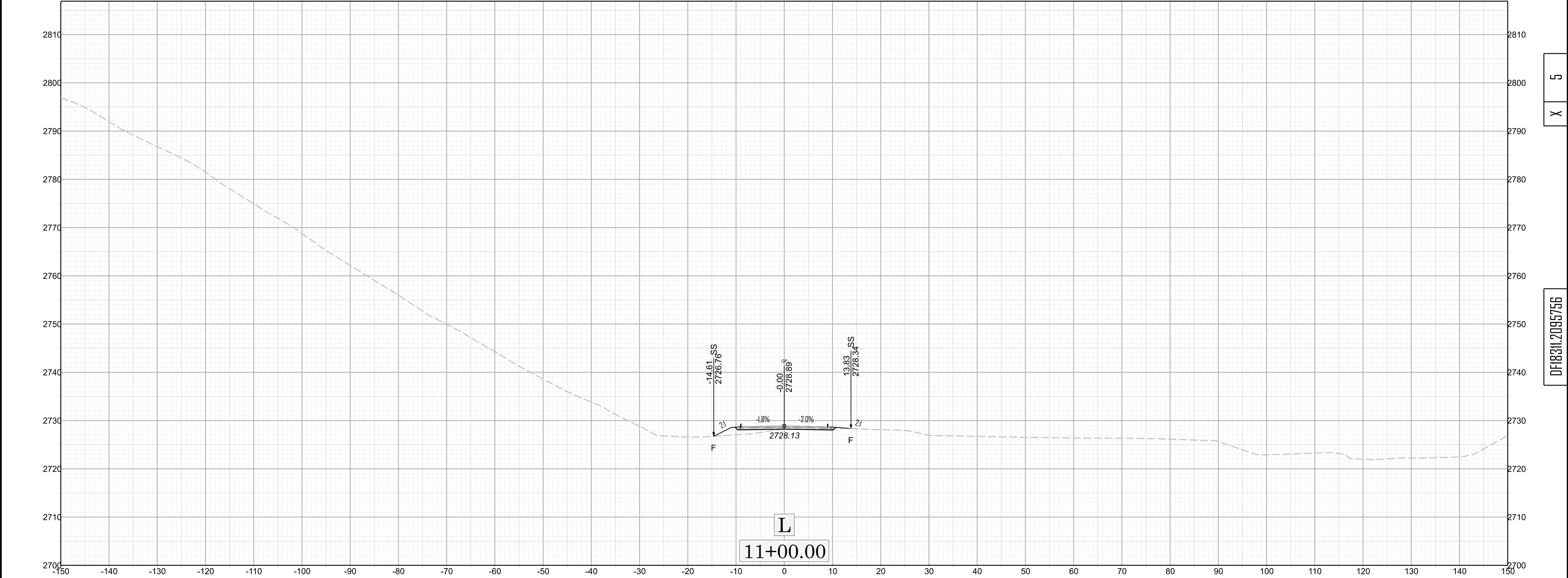
DF18311.2095756

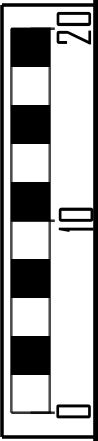




X 4

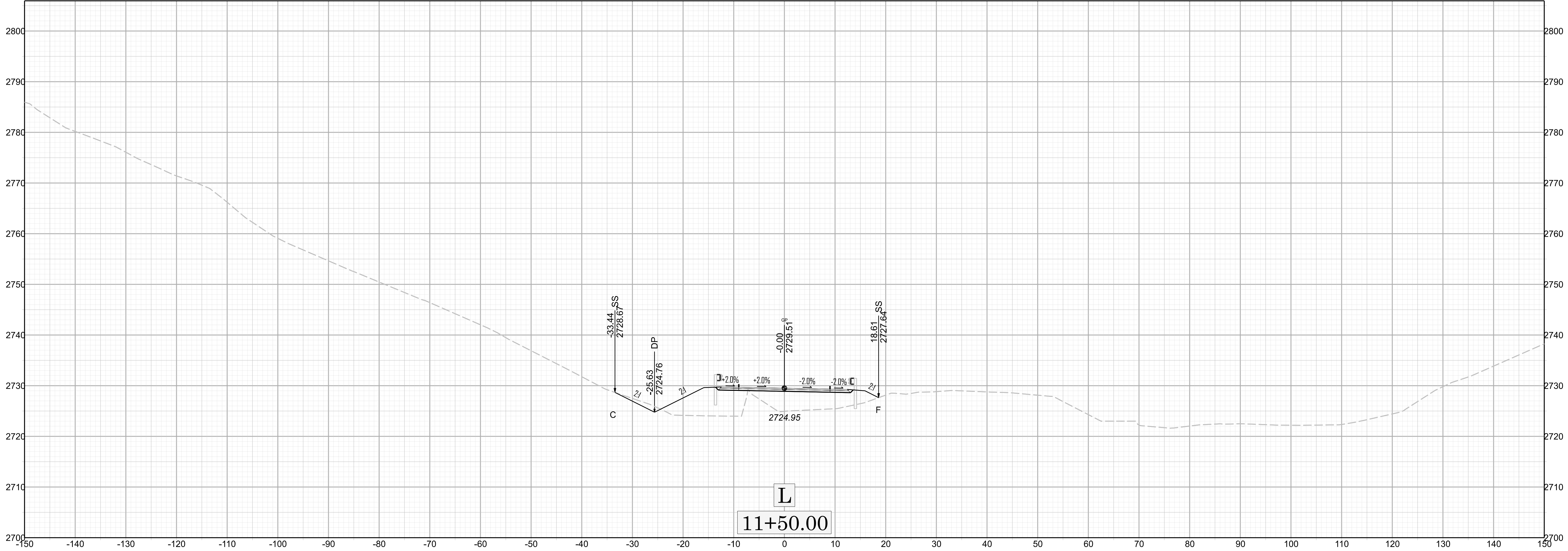
DF18311.2005756

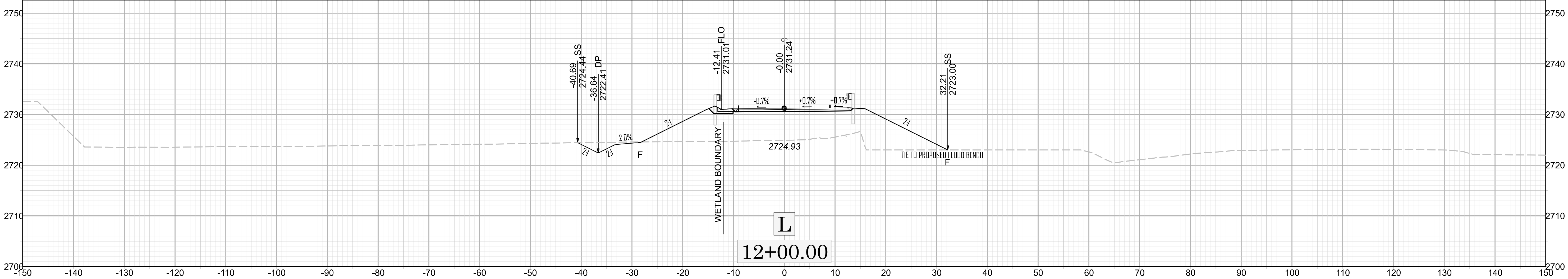
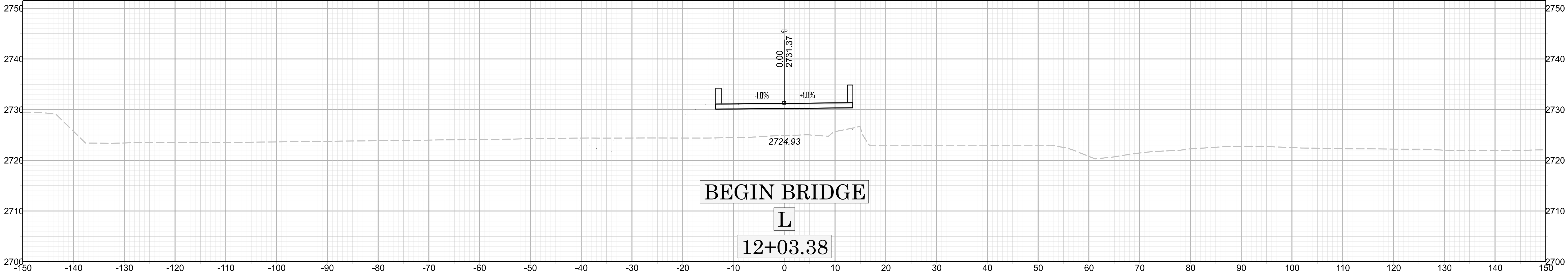
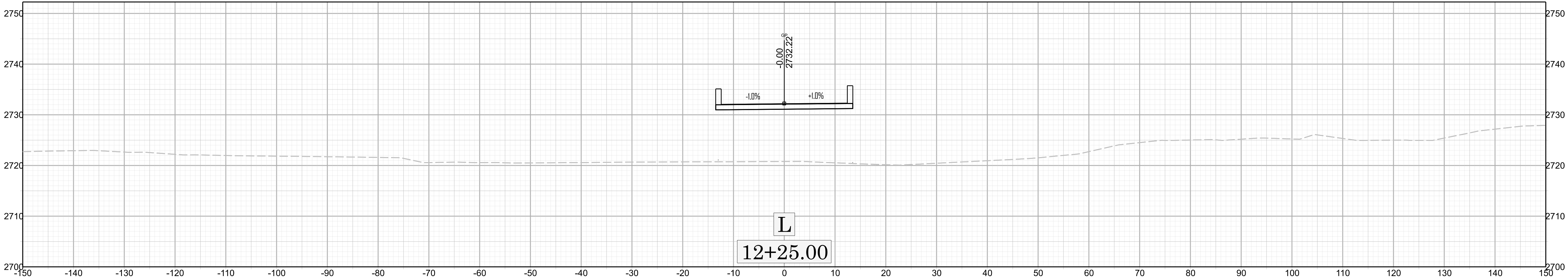


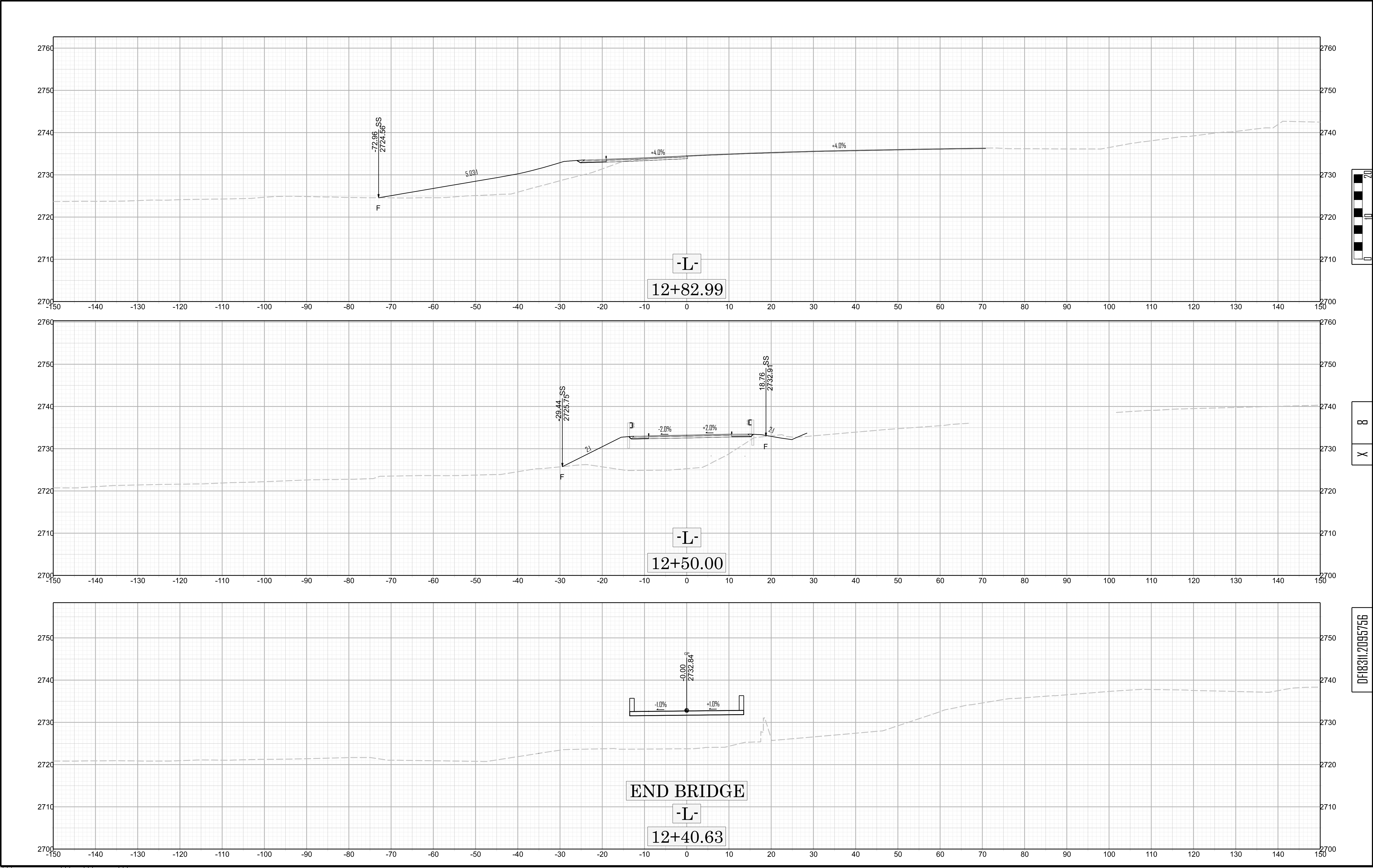


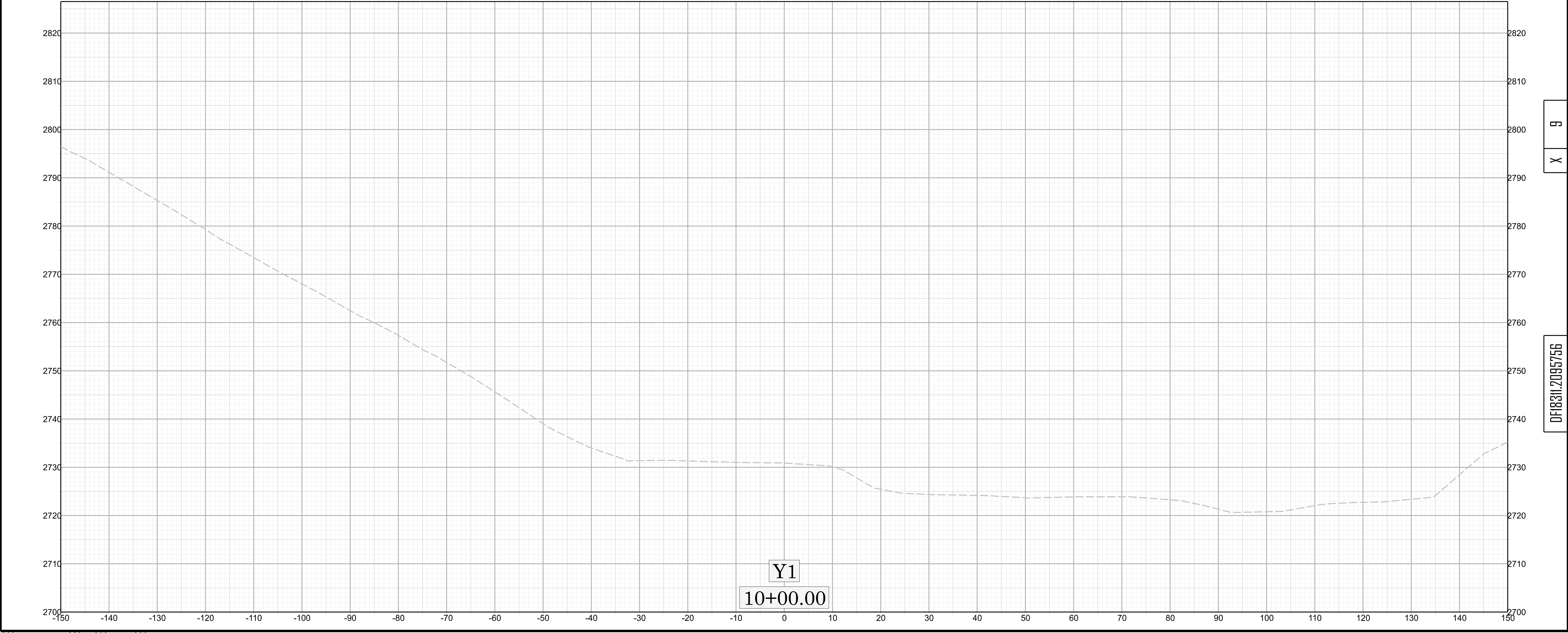
X 6

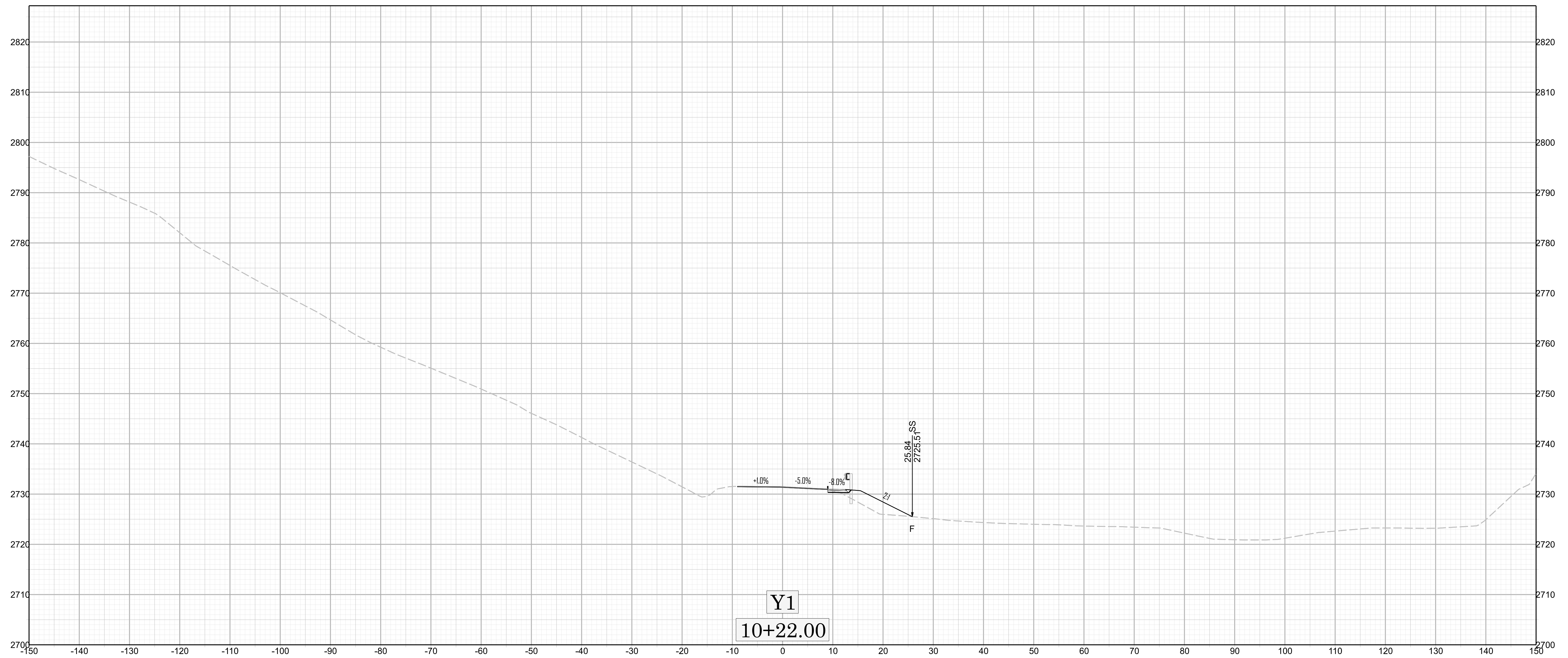
DF18311.2095756

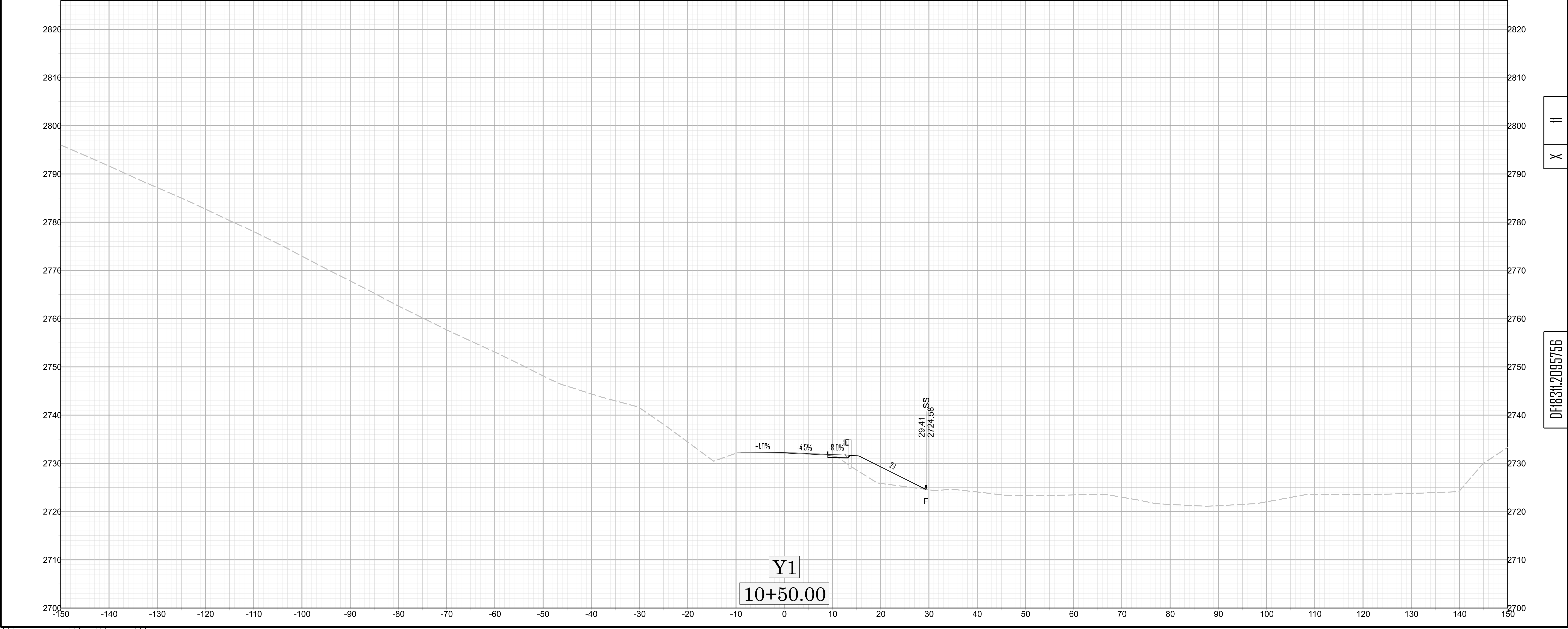


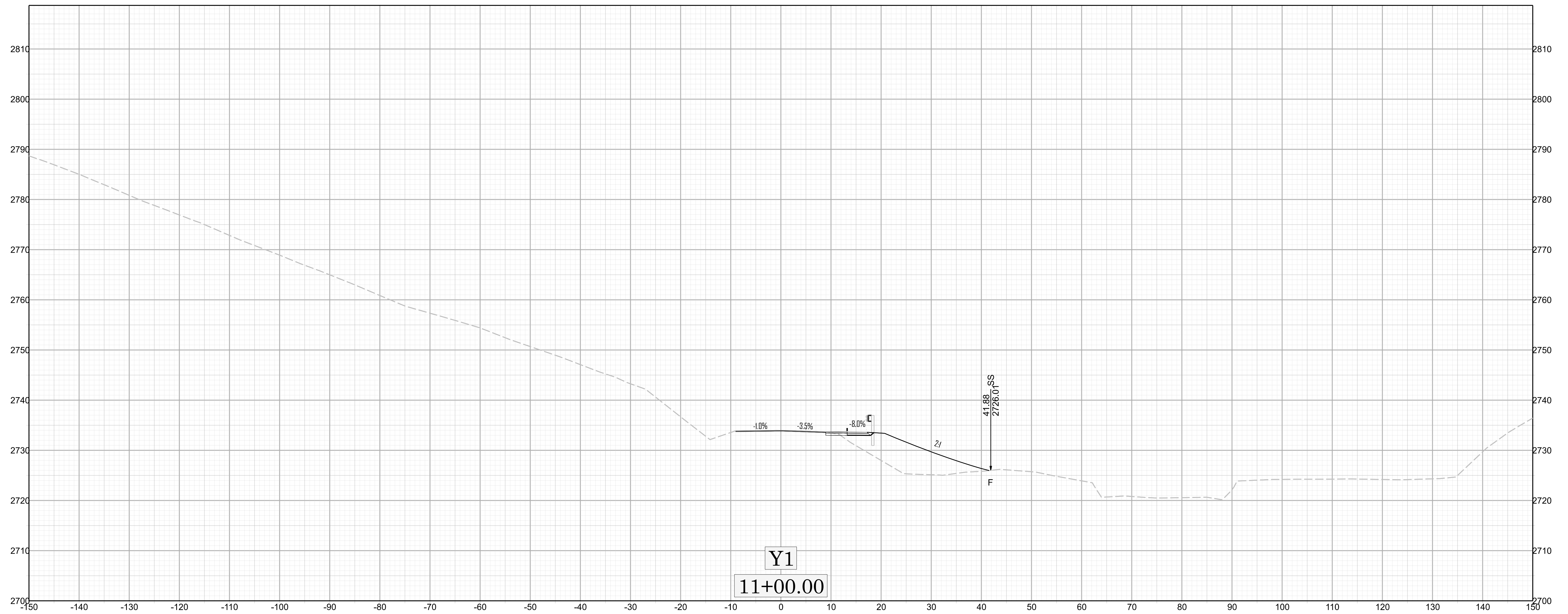


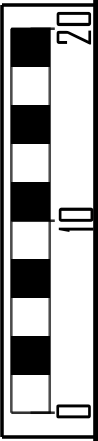






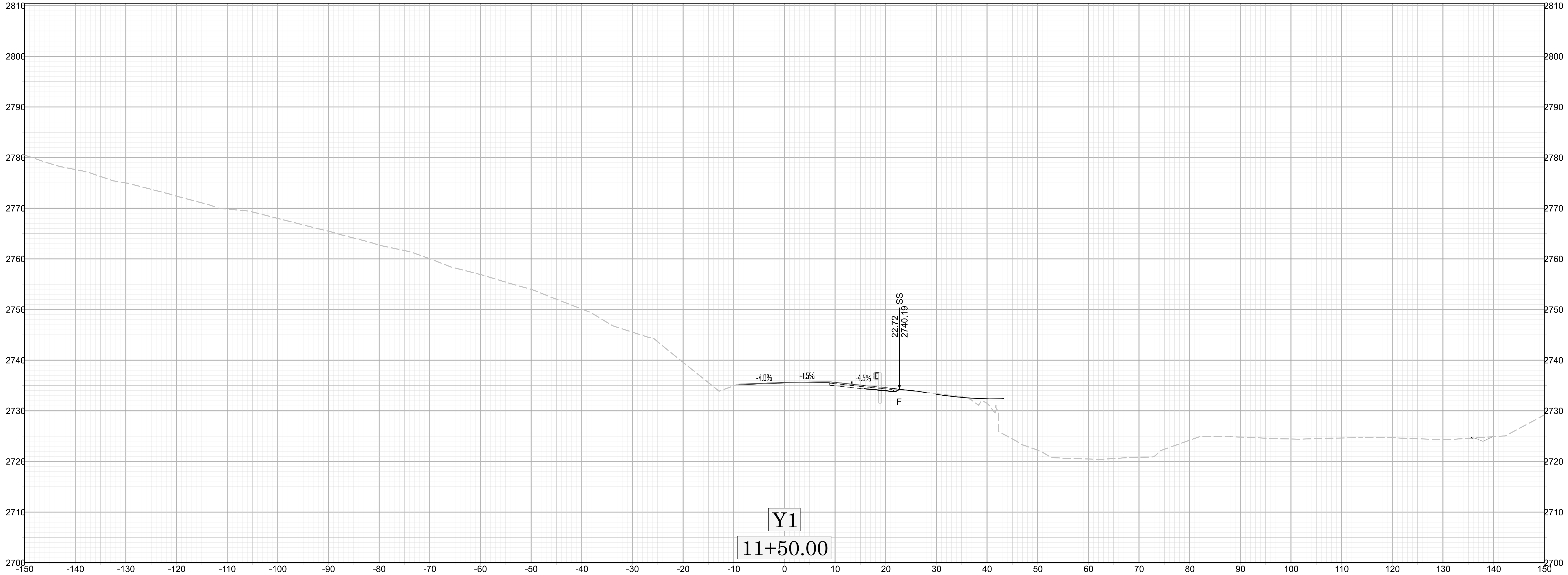


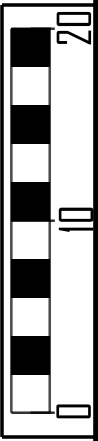




X 13

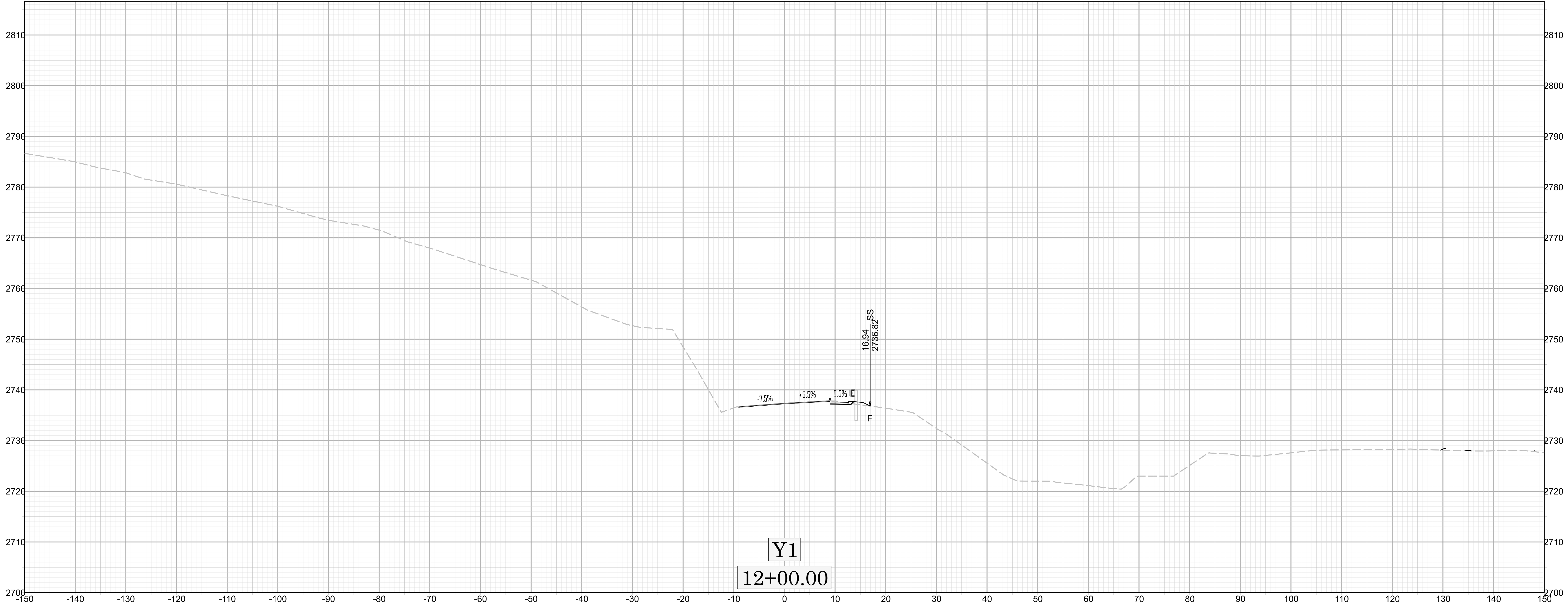
DF18311.2095756

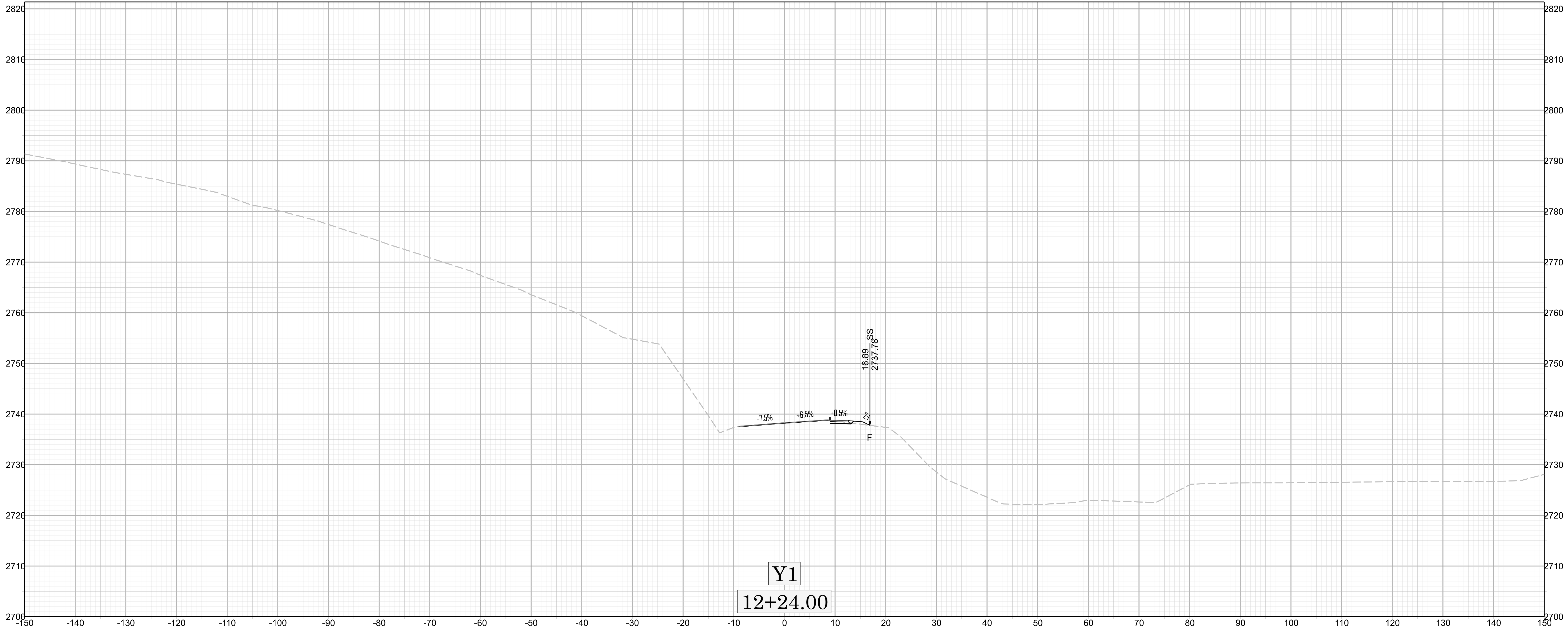
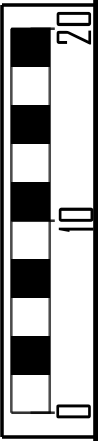




X 14

DF18311.2005756



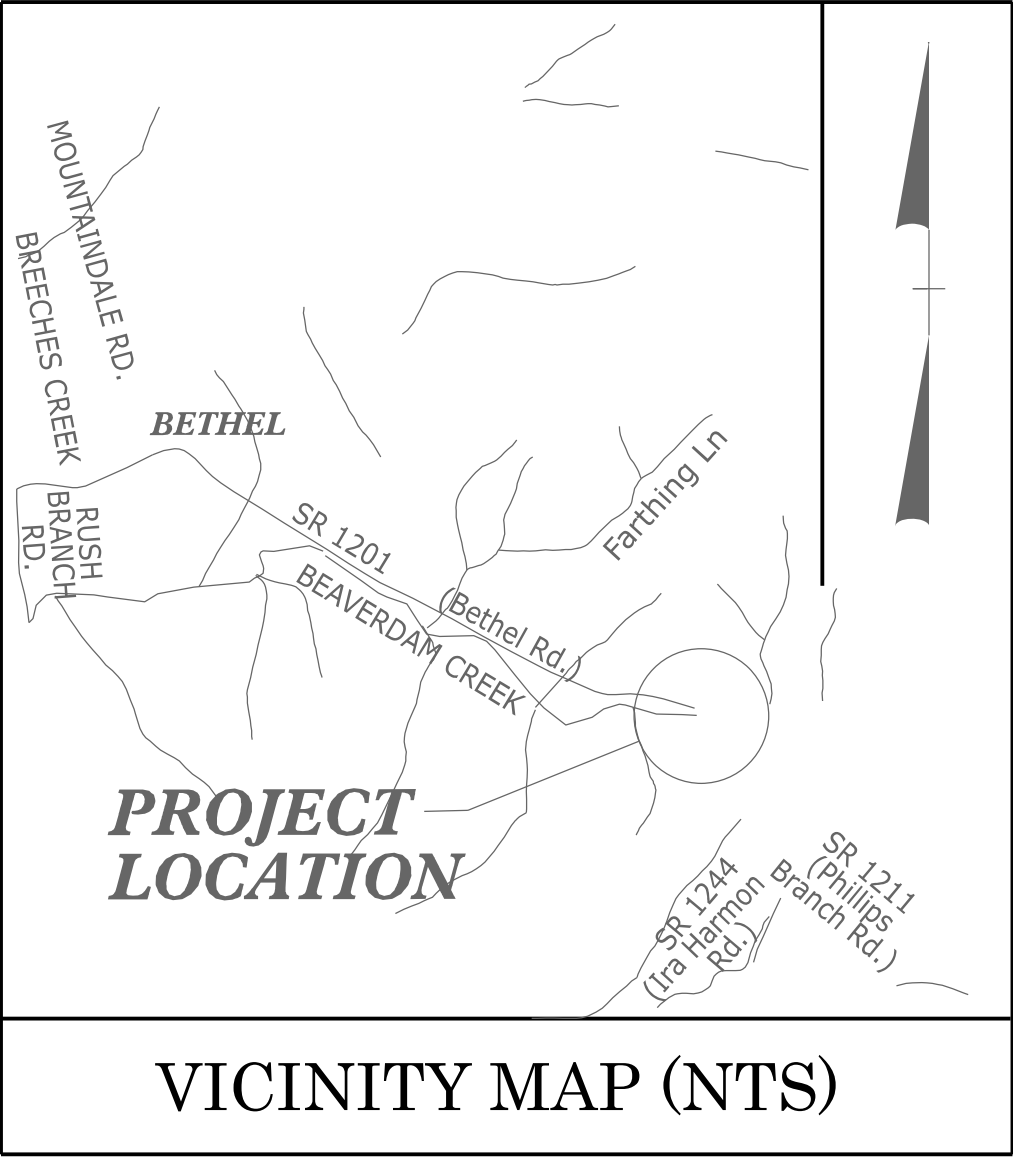


X 15

DF18311.2005756

CONTRACT: DK00440 TIP PROJECT: DF18311.2095756

CONTRACT: DK00440 TIP PROJECT: DF18311.2095756

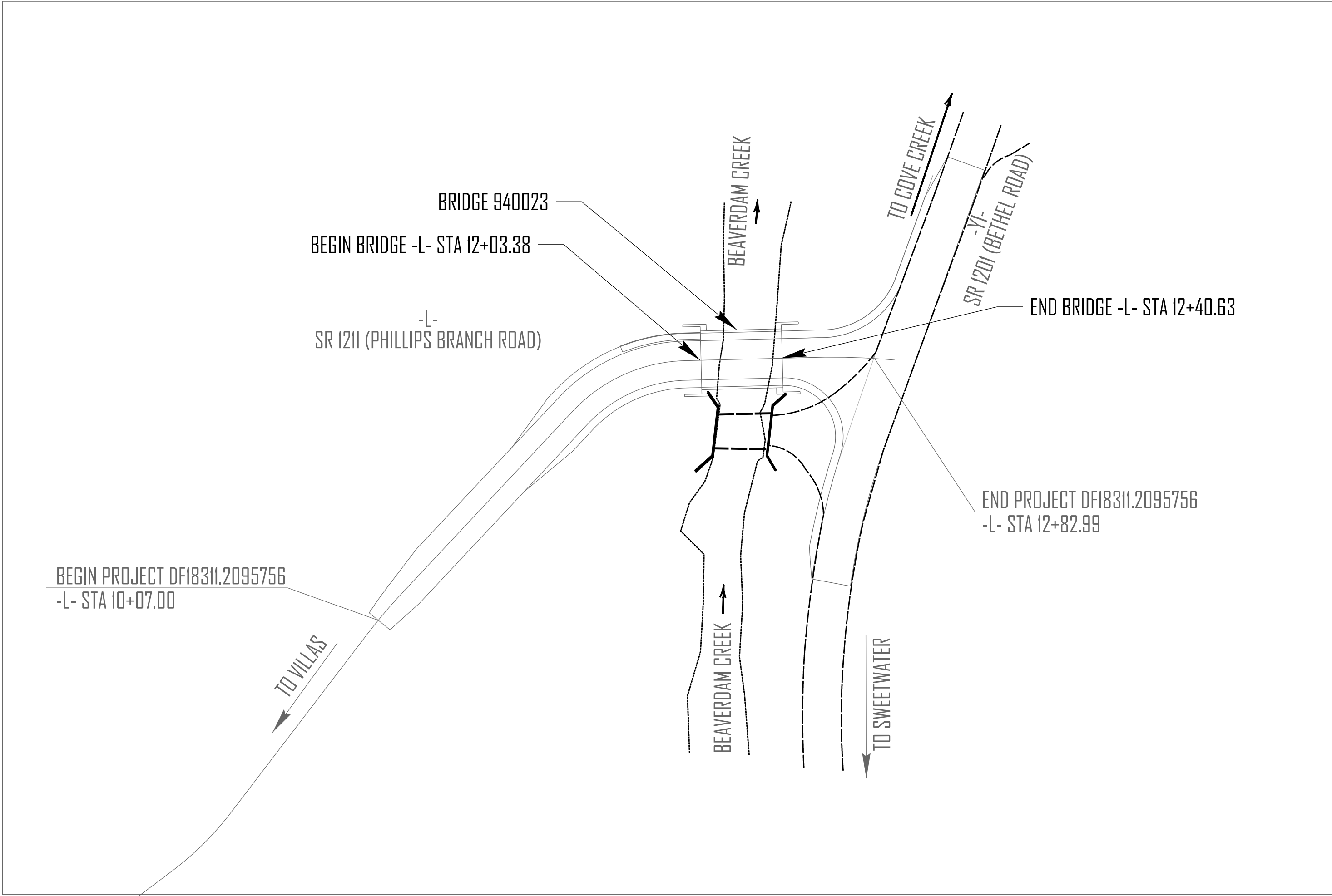


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WATAUGA COUNTY

LOCATION: *BRIDGE 940023 OVER BEAVERDAM CREEK ON SR 1211 (PHILLIPS BRANCH ROAD)*

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



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

STRUCTURES

DESIGN DATA

ADT 2026 = (309)
ADT 2046 = (377)
K = %
D = %
T = %
V = 25 MPH
TTST =1% DUAL 2%
FUNC CLASS =
LOCAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT DF18311.2095756
= 0.045 MILES
LENGTH OF STRUCTURE TIP PROJECT DF18311.2095756
= 0.007 MILE
TOTAL LENGTH OF TIP PROJECT DF18311.2095756
= 0.052 MILES

Prepared in the Office of:

KIMLEY-HORN

421 FAYETTEVILLE ST., SUITE 600, RALEIGH NC, 27601
NC LICENSE #F-0102

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

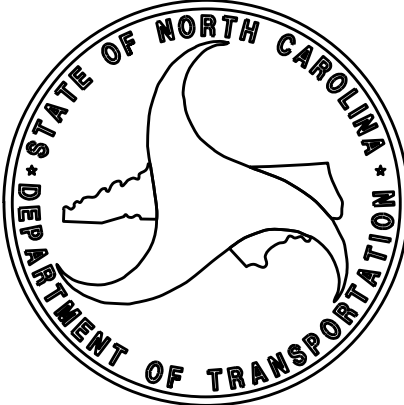
MAY 23, 2025

LETTING DATE:

ANDREW L. PHILLIPS, P.E.
PROJECT ENGINEER

JACK LOGAN, E.I.
PROJECT DESIGN ENGINEER

ROBBIE N. WEISZ, P.E.
NCDOT CONTACT



8/26/21

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

-L- GRADE DATA

P.I. STA. = 11+21.50
EL. = 2728.16'
V.C. = 120'

FILL FACE @ END BENT 1
STA. 12+03.38 -L-
G.P. EL. 2731.37'

FILL FACE @ END BENT 2
STA. 12+40.63 -L-
G.P. EL. 2732.84'

UNCLASSIFIED
STRUCTURE
EXCAVATION

ELEVATION

SECTIONS AT END BENTS ARE AT RIGHT ANGLES

HORIZONTAL CURVE DATA -Y1-

P.I. STA. 12+05.39
 $\Delta = 17^{\circ} 03' 33.9"$ (LT)
D = 16° 22' 12.8"
L = 104.21'
T = 52.49'
R = 350.00'

HORIZONTAL CURVE DATA -L-

P.I. STA. 11+68.80
 $\Delta = 45^{\circ} 22' 31.6"$ (RT)
D = 78° 29' 14.5"
L = 57.81'
T = 30.52'
R = 73.00'

P.I. STA. 12+74.02
 $\Delta = 06^{\circ} 46' 21.8"$ (RT)
D = 18° 28' 57.0"
L = 36.64'
T = 18.34'
R = 310.00'

PLAN

FOOTINGS NOT SHOWN IN PLAN VIEW FOR CLARITY

DRAWN BY : T. K. BOYD DATE : 09/2025
CHECKED BY : J. R. LOGAN DATE : 09/2025
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 09/2025

1/14/2026
401.001.DF18311.SMU.GD01.001.940023.dgn
Thomas.Boyd

Kimley»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

This document, together with the concepts and designs presented herein, is an instrument of service. It is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written authorization and approval by Kimley-Horn and Associates, Inc. shall be solely to Kimley-Horn and Associates, Inc. Copyright Kimley-Horn and Associates, Inc., 2025

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

PROJECT NO. DF18311.2095756

WATAUGA COUNTY

STATION: 12+22.00 -L-

SHEET 1 OF 4 REPLACES BRIDGE NO. 940023

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
**FOR BRIDGE OVER
BEAVERDAM CREEK ON
SR 1211 BETWEEN
US 321 AND SR 1201**

REVISIONS					SHEET NO. S-1
NO.	BY:	DATE:	NO.	BY:	
1			3		TOTAL SHEETS 14
2			4		

8/26/21

+

SUMMARY OF SPREAD FOOTING INFORMATION
(Blank entries indicate item is not applicable to structure)

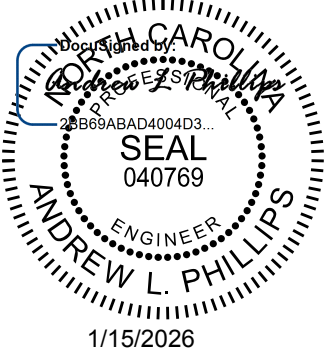
End Bent / Bent No, Footing(s) #(-#) (e.g., "Bent 1, Footing 1-2")	Factored Bearing Resistance KSF	Footing Dimensions (Length x Width) FT x FT	Required Bearing Resistance KSF	Scour Critical Elevation FT	Minimum Bottom of Footing (Footing No Higher Than) Elevation FT
End Bent No. 1	10	See Structure Plans	25	2716.50	2716.00
End Bent No. 2	10	See Structure Plans	25	2718.00	2717.50

NOTES:

1. The Micropile and Spread Footing Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (W. Scott Hunsberger, #036283) on 08-08-2025.

PROJECT NO. DF18311.2095756
WATAUGA COUNTY
STATION: 12+22.00 -L-

SHEET 2 OF 4



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
MICROPILE AND SPREAD FOOTING FOUNDATION TABLES					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 14

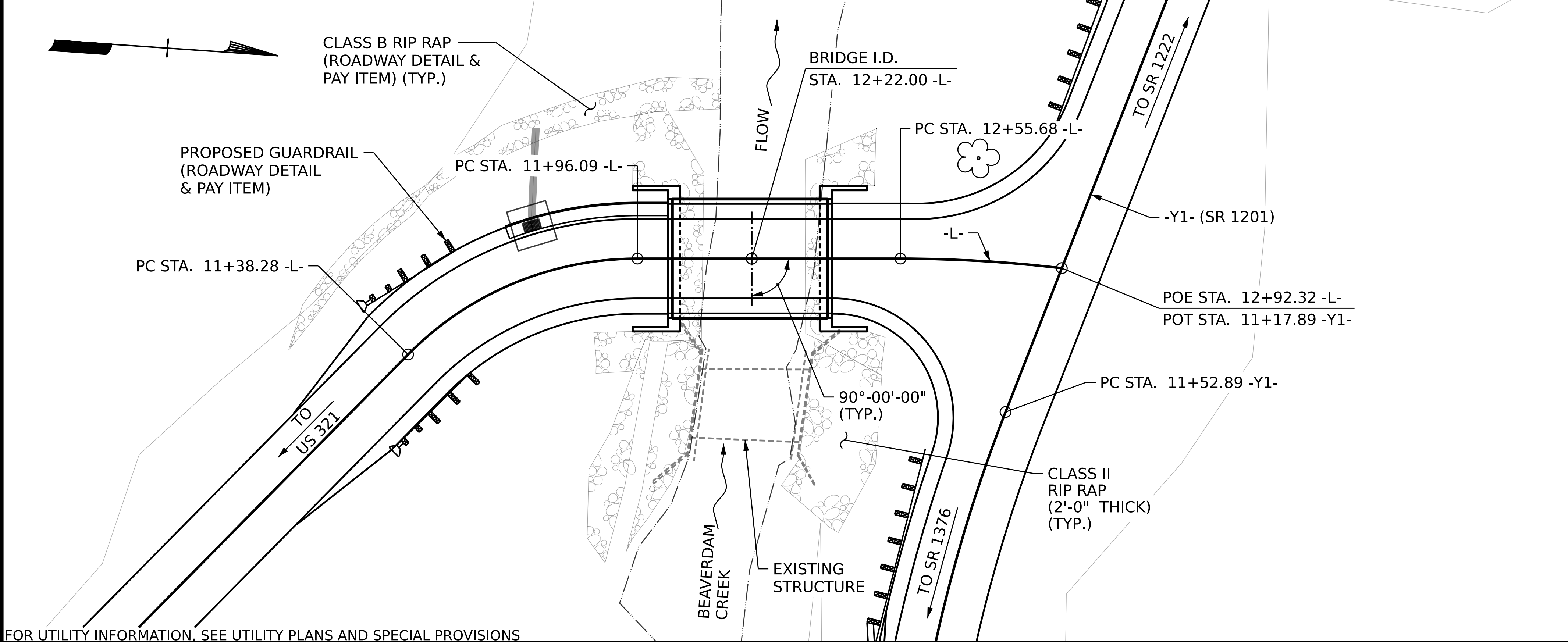
DRAWN BY :	T. K. BOYD	DATE :	09/2025
CHECKED BY :	J. R. LOGAN	DATE :	09/2025
DESIGN ENGINEER OF RECORD:	A. L. PHILLIPS	DATE :	09/2025

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

Kimley»Horn
421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

This document, together with the concepts and designs presented herein, is an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written authorization and approval by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc. Copyright Kimley-Horn and Associates, Inc., 2025.

BM #1: R/R SPIKE IN 32" POPLAR TREE, 33.50' LT. OF STA. 11+55.40 -L-, EL. 2729.37'



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS

LOCATION SKETCH

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET S-1 SHALL BE EXCAVATED FOR A DISTANCE OF 20 FT. EACH SIDE OF $\bar{C}$ ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

THE EXISTING STRUCTURE CONSISTING OF 1 @ 25'-0" SPAN TIMBER DECK ON I-BEAMS WITH 1'-0" WIDE WOODEN ABUTMENTS AND LOCATED AT THE SITE OF THE PROPOSE STRUCTURE, SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COSTS INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18-EVALUATING SCOUR AT BRIDGES".

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

THE SCOUR CRITICAL ELEVATION FOR BENT(S) No. 1 AND 2 IS THE BOTTOM OF FOOTING ELEVATION. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

TOTAL BILL OF MATERIAL

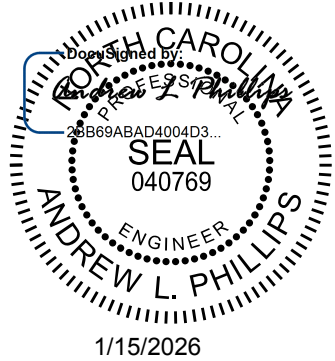
	REMOVAL OF EXISTING STRUCTURE	ASBESTOS ASSESSMENT	FOUNDATION EXCAVATION FOR END BENTS	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	REINFORCING STEEL	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" x 1'-9" PRESTRESSED CONC CORED SLABS	
	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	CU. YDS.	LBS.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE							70.25			LUMP SUM	9	315.0
END BENT 1			LUMP SUM	LUMP SUM	91.0	10,065		70.0	78.0			
END BENT 2			LUMP SUM	LUMP SUM	91.0	10,065		50.0	56.0			
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	182.0	20,130	70.25	120.0	134.0	LUMP SUM	9	315.0

FOUNDATION NOTES

- KEY IN SPREAD FOOTINGS AT END BENTS No. 1 AND 2 AT LEAST 1'-0" INTO WEATHERED ROCK WITH MINIMUM THICKNESS AS SHOWN ON THE PLANS.
- FOOTING EXCAVATIONS AT END BENTS No. 1 AND 2 WILL EXTEND INTO MATERIAL THAT DETERIORATES WHEN EXPOSED TO THE ELEMENTS. CHECK FIELD CONDITIONS FOR THE REQUIRED RESISTANCE AND PLACE CONCRETE IMMEDIATELY AFTER THE EXCAVATION IS COMPLETED.
- IF WEATHERED ROCK IS NOT PRESENT AT BOTTOM OF FOOTING ELEVATION. UNDERCUT TO 1'-0" BENEATH TOP OF WEATHERED ROCK AND BACKFILL WITH GROUT OR CONCRETE.

DRAWN BY : T. K. BOYD DATE : 09/2025
CHECKED BY : J. R. LOGAN DATE : 09/2025
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 09/2025

11/18/2025
401.005.0F18311.SMU.LS01.003.940023.dgn
Thomas.Boyd



Kimley»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

This document, together with the concepts and designs presented herein, is an instrument of service, it is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written subscription and approval by Kimley-Horn and Associates, Inc. shall be Copyright Kimley-Horn and Associates, Inc. 2025

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

PROJECT NO. DF18311.2095756
WATAUGA COUNTY
STATION: 12+22.00 -L-

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
LOCATION SKETCH AND
BILL OF MATERIAL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS 14
2			4			

8/26/21

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LOAD TYPE	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING ⬢#	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE						COMMENT NUMBER		
						LIVE-LOAD FACTORS (γ LL)	MOMENT					SHEAR					LIVE-LOAD FACTORS (γ LL)	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION		DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD	HL-93 (INVENTORY)	N/A	⬢1	1.395	--	1.75	0.288	2.19	35'	EL	17	0.565	1.39	35'	EL	1.7	0.80	0.288	2.02	35'	EL	17		
	HL-93 (OPERATING)	N/A		1.808	--	1.35	0.288	2.84	35'	EL	17	0.565	1.81	35'	EL	1.7	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	⬢2	1.621	58.344	1.75	0.288	2.86	35'	EL	20.4	0.565	1.62	35'	EL	1.7	0.80	0.288	2.66	35'	EL	20.4		
	HS-20 (OPERATING)	36.000		2.101	75.631	1.35	0.288	3.71	35'	EL	20.4	0.565	2.10	35'	EL	1.7	N/A	--	--	--	--	--		
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		4.176	56.381	1.4	0.288	6.25	35'	EL	17	0.565	4.17	35'	EL	1.7	0.80	0.288	4.60	35'	EL	17	
		SNGARBS2	20.000		3.157	63.146	1.4	0.288	5.24	35'	EL	20.4	0.565	3.16	35'	EL	1.7	0.80	0.288	3.90	35'	EL	20.4	
		SNAGRIS2	22.000		3.009	66.203	1.4	0.288	5.20	35'	EL	20.4	0.565	3.01	35'	EL	1.7	0.80	0.288	3.87	35'	EL	20.4	
		SNCOTTS3	27.250		2.103	57.309	1.4	0.288	3.13	35'	EL	17	0.565	2.10	35'	EL	1.7	0.80	0.288	2.30	35'	EL	17	
		SNAGGRS4	34.925		1.881	65.678	1.4	0.288	2.89	35'	EL	17	0.565	1.88	35'	EL	1.7	0.80	0.288	2.13	35'	EL	17	
		SNS5A	35.550		1.984	70.532	1.4	0.288	2.81	35'	EL	17	0.565	1.98	35'	EL	1.7	0.80	0.288	2.07	35'	EL	17	
		SNS6A	39.950		1.868	74.644	1.4	0.288	2.71	35'	EL	17	0.565	1.87	35'	EL	1.7	0.80	0.288	1.99	35'	EL	17	
		SNS7B	42.000		1.906	80.065	1.4	0.288	2.58	35'	EL	17	0.565	1.91	35'	EL	1.7	0.80	0.288	1.91	35'	EL	17	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		2.178	71.886	1.4	0.288	3.35	35'	EL	17	0.565	2.18	35'	EL	1.7	0.80	0.288	2.47	35'	EL	17	
		TNT4A	33.075		2.055	67.983	1.4	0.288	3.34	35'	EL	17	0.565	2.05	35'	EL	1.7	0.80	0.288	2.47	35'	EL	17	
		TNT6A	41.600		2.022	84.102	1.4	0.288	2.93	35'	EL	17	0.565	2.02	35'	EL	1.7	0.80	0.288	2.16	35'	EL	17	
		TNT7A	42.000		1.870	78.545	1.4	0.288	3.02	35'	EL	20.4	0.565	1.87	35'	EL	1.7	0.80	0.288	2.23	35'	EL	20.4	
		TNT7B	42.000		1.816	76.267	1.4	0.288	2.98	35'	EL	17	0.565	1.82	35'	EL	1.7	0.80	0.288	2.19	35'	EL	17	
		TNAGRIT4	43.000		1.741	74.876	1.4	0.288	2.97	35'	EL	20.4	0.565	1.74	35'	EL	1.7	0.80	0.288	2.20	35'	EL	20.4	
		TNAGT5A	45.000		1.840	82.782	1.4	0.288	2.78	35'	EL	17	0.565	1.84	35'	EL	1.7	0.80	0.288	2.05	35'	EL	17	
		TNAGT5B	45.000	⬢3	1.645	74.004	1.4	0.288	2.68	35'	EL	17	0.565	1.64	35'	EL	1.7	0.80	0.288	1.98	35'	EL	17	
EMERGENCY VEHICLE (EV)	EV2	28.750		2.409	69.272	1.3	0.288	4.06	35'	EL	20.4	0.565	2.41	35'	EL	1.7	0.80	0.288	2.80	35'	EL	20.4		
	EV3	43.000	⬢4	1.641	70.582	1.3	0.288	2.67	35'	EL	17	0.565	1.64	35'	EL	1.7	0.80	0.288	1.83	35'	EL	17		

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γDC	γDW
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

1.
2.
3.
4.

⬡#

CONTROLLING LOAD RATING

⬡1

DESIGN LOAD RATING (HL-93)

⬡2

DESIGN LOAD RATING (HS-20)

⬡3

LEGAL LOAD RATING * *

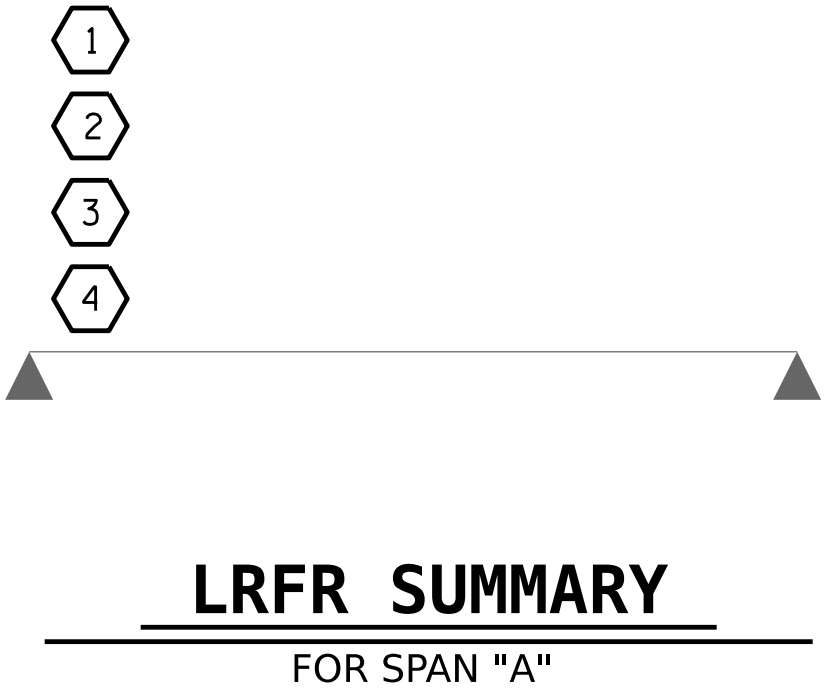
⬡4

EMERGENCY VEHICLE LOAD RATING **

* * SEE CHART FOR VEHICLE TYPE

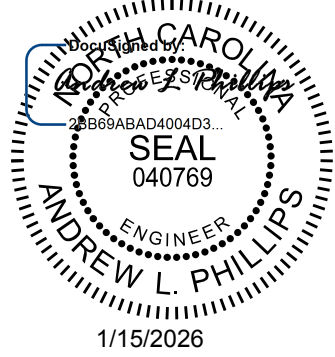
GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



PROJECT NO. DF18311.2095756
WATAUGA COUNTY
STATION: 12+22.00 -L-

SHEET 4 OF 4



Kimley»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000

NC LICENSE # F-0102

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

This document, together with the concepts and designs presented herein, is an instrument of service, it is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written substitution and approval by Kimley-Horn and Associates, Inc. shall be solely to Kimley-Horn and Associates, Inc. 1/15/2026

Copyright Kimley-Horn and Associates, Inc., 2025

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

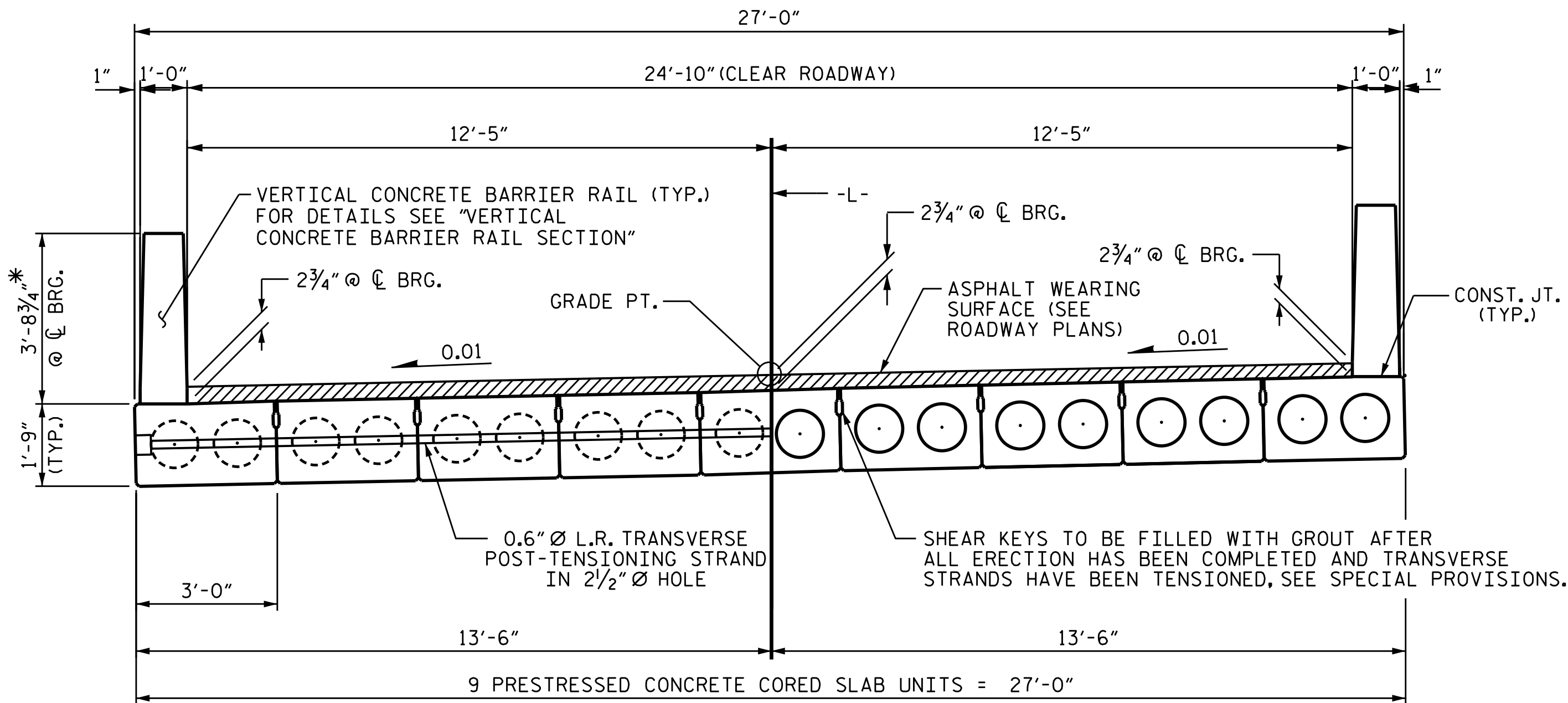
STANDARD
LRFD SUMMARY FOR
35' CORED SLAB UNIT
90° SKEW

REVISIONS					SHEET NO. S-4
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

TOTAL SHEETS
14

ASSEMBLED BY:	T. K. BOYD	DATE :	09/2025
CHECKED BY :	J. R. LOGAN	DATE :	09/2025
DRAWN BY :	MAA 1/08	REV. 11/12/08RR	MAA/GM
CHECKED BY :	GM/DI 2/08	REV. 10/1/11	MAA/GM
		REV. 04/23	RNB/AJI

8/26/21

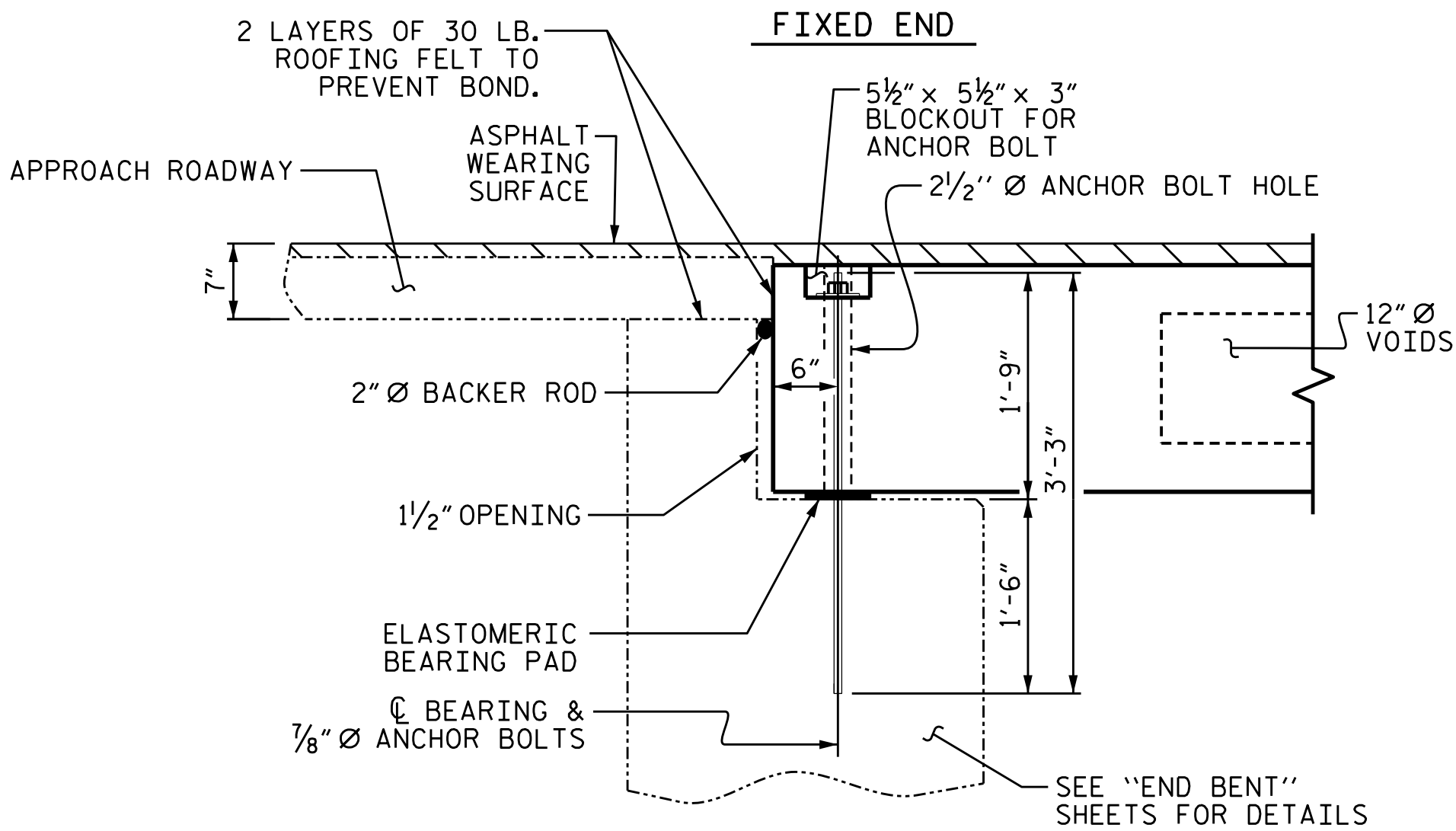


HALF SECTION
AT INTERMEDIATE DIAPHRAGMS

HALF SECTION
THROUGH VOIDS

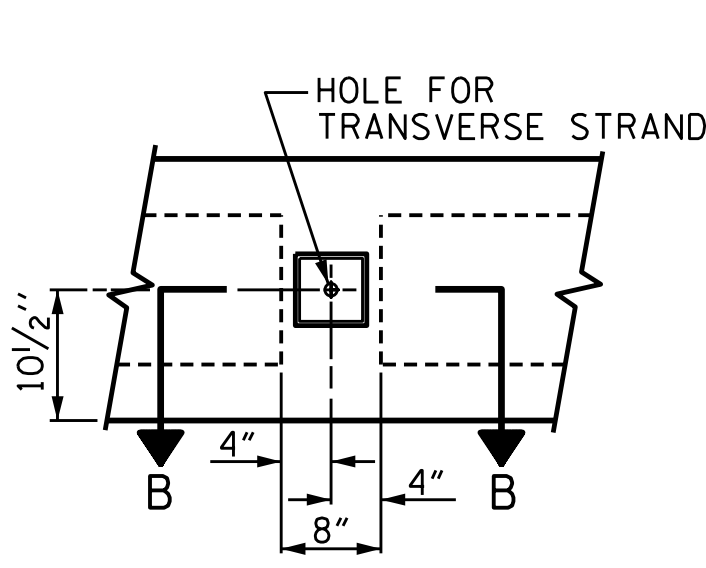
TYPICAL SECTION

* - THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.

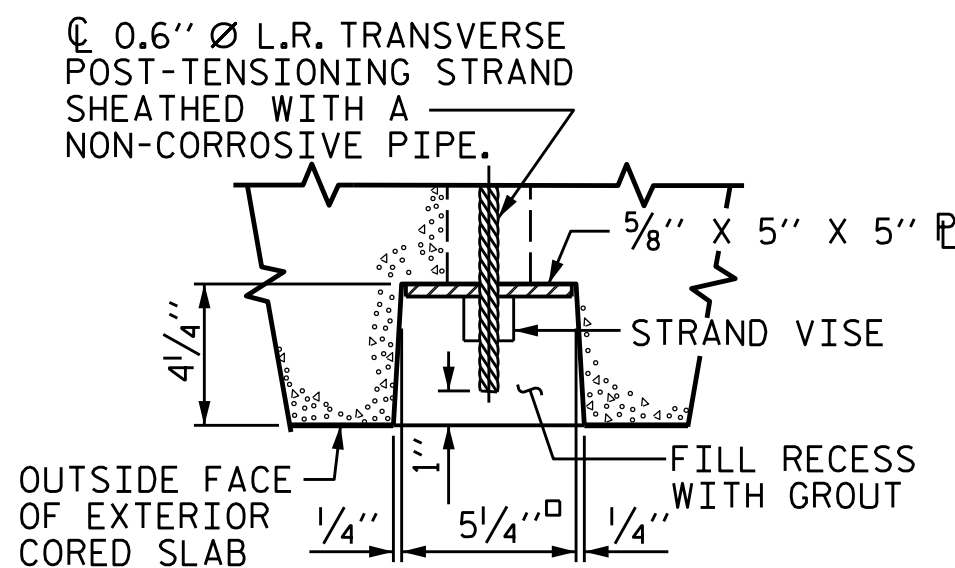


SECTION AT END BENT

(TYP. INTERIOR AND EXTERIOR CORED SLAB UNITS)
(POST TENSIONING NOT SHOWN FOR CLARITY)

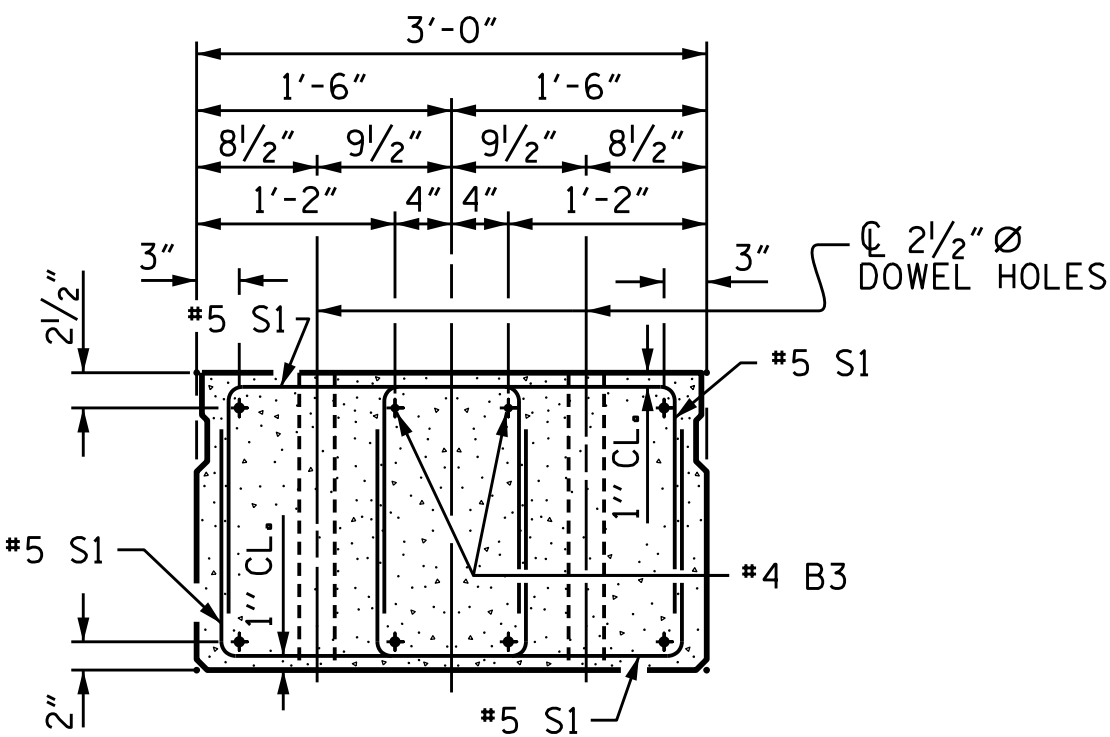


ELEVATION VIEW



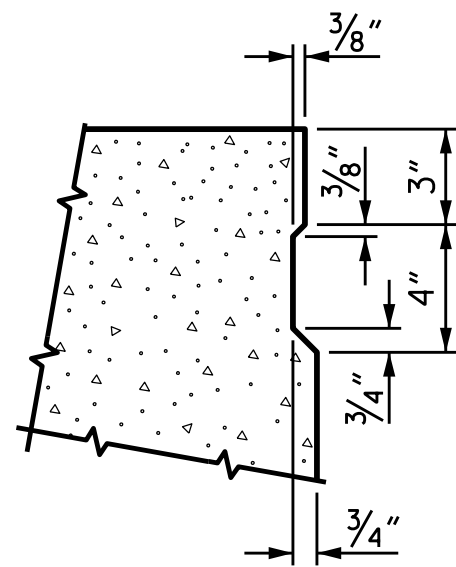
SECTION B-B

GROUTED RECESS AT END OF POST-TENSIONED STRAND OF CORED SLABS



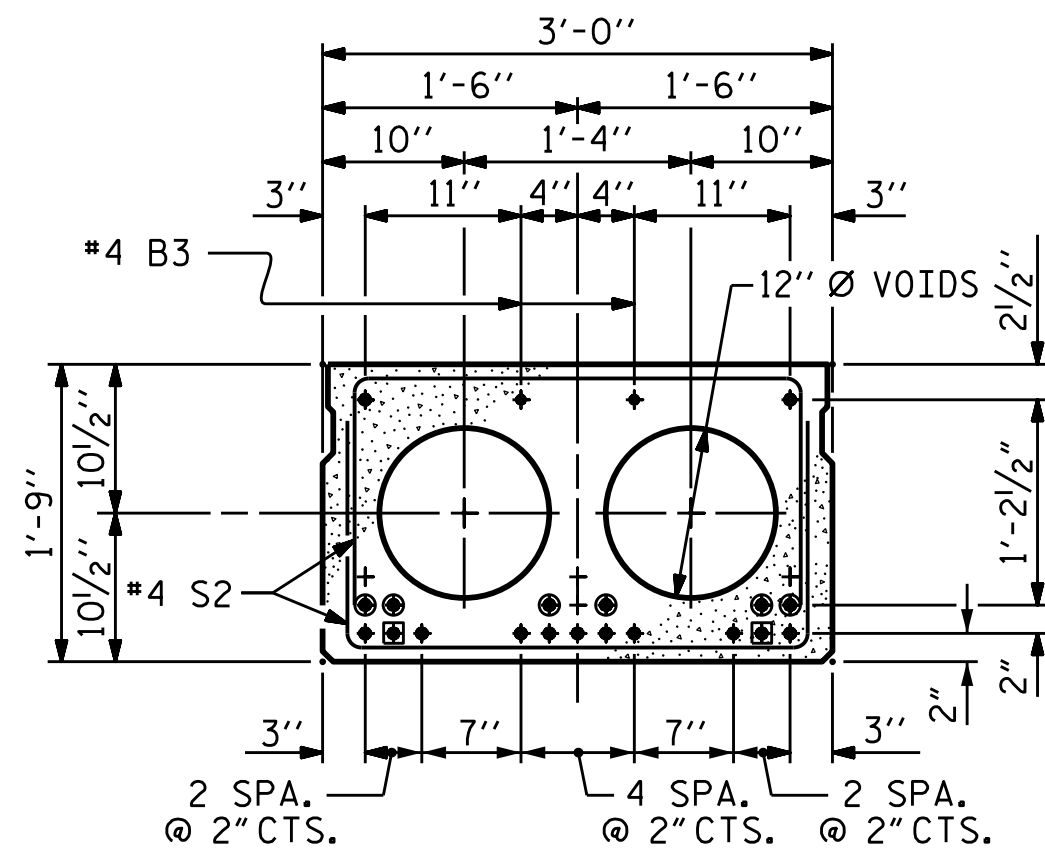
END ELEVATION

SHOWING PLACEMENT OF DOUBLE STIRRUPS
AND LOCATION OF DOWEL HOLES.
(STRAND LAYOUT NOT SHOWN.)
INTERIOR SLAB UNIT SHOWN-EXTERIOR SLAB
UNIT SIMILAR EXCEPT SHEAR KEY LOCATION.



SHEAR KEY DETAIL

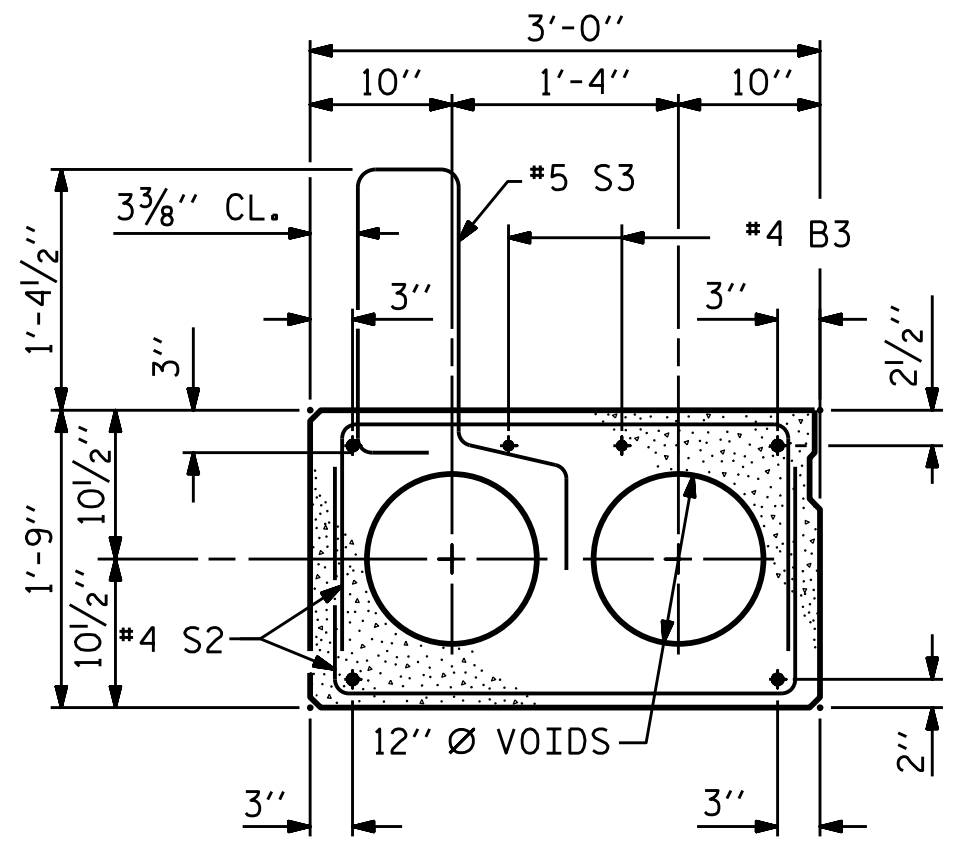
NOTE: OMIT SHEAR KEY ON OUTSIDE FACE
OF EXTERIOR CORED SLABS.



INTERIOR SLAB SECTION (35' UNIT)

(13 STRANDS REQUIRED)

0.6" Ø LOW RELAXATION STRAND LAYOUT



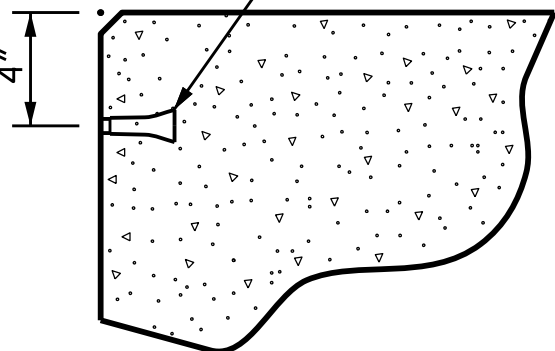
EXT. SLAB SECTION

(FOR PRESTRESSED STRAND LAYOUT, SEE
INTERIOR SLAB SECTION.)

- BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 2'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.
- OPTIONAL FULL LENGTH DEBONDED STRANDS. THESE STRANDS ARE NOT REQUIRED. IF THE FABRICATOR CHOOSES TO INCLUDE THESE STRANDS IN THE CORED SLAB UNIT, THE STRANDS SHALL BE DEBONDED FOR THE FULL LENGTH OF THE UNIT AT NO ADDITIONAL COST. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND

PERMITTED THREADED INSERT
CAST IN OUTSIDE FACE OF
EXTERIOR UNIT AND
RECESSED 3/8" SIZE TO BE
DETERMINED BY
CONTRACTOR.



THREADED INSERT DETAIL

PROJECT NO. **DF18311.2095756**

WATAUGA COUNTY

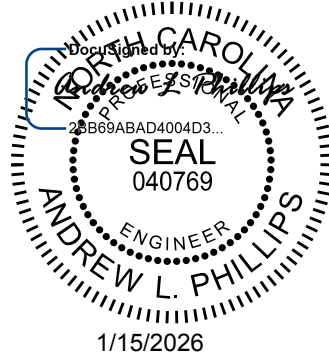
STATION: **12+22.00 -L-**

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
3'-0" X 1'-9"
**PRESTRESSED CONCRETE
CORED SLAB UNIT
90° SKEW**

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 14



Kimley»Horn

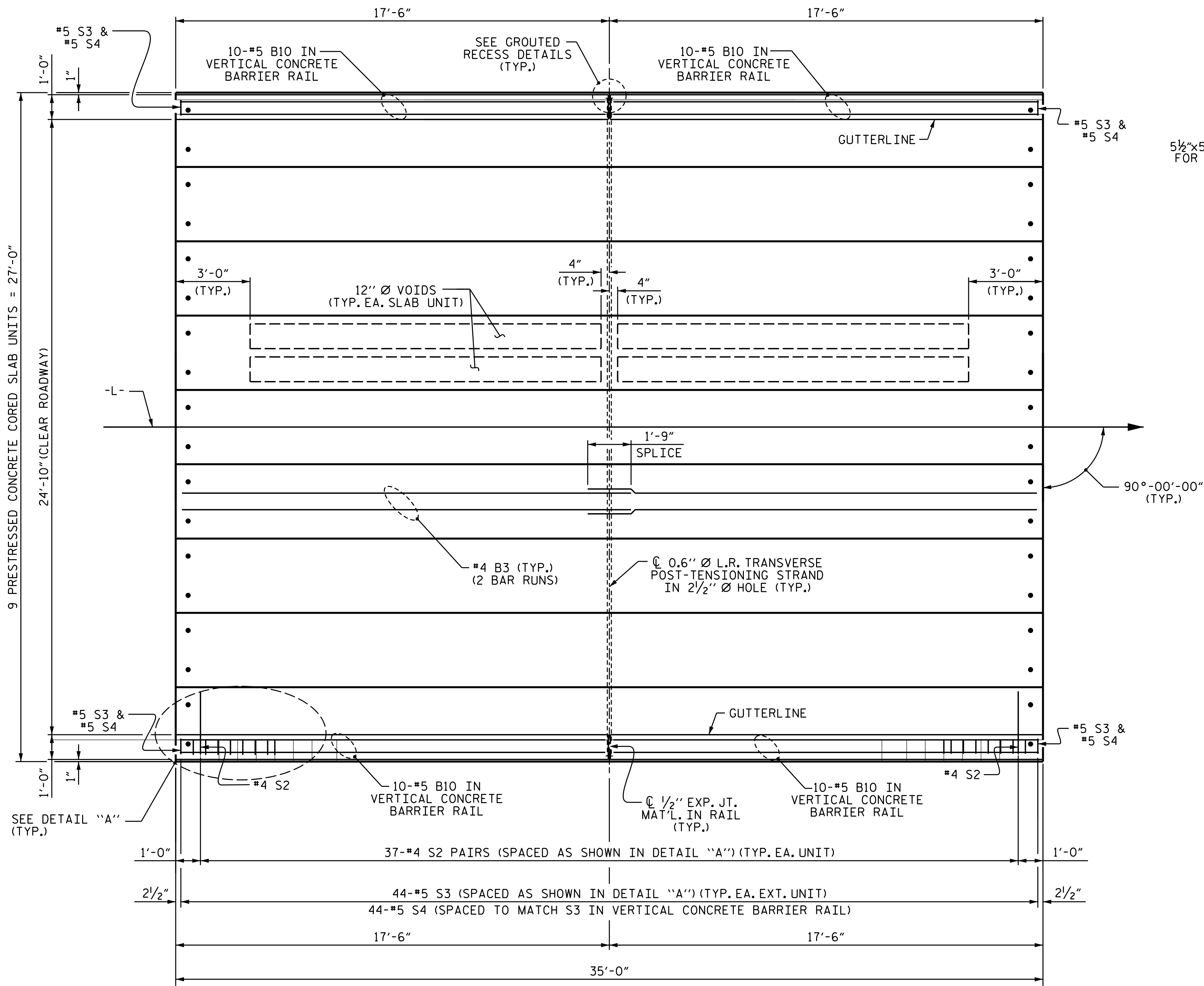
421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written authorization and approval by Kimley-Horn and Associates, Inc. shall be solely the responsibility of the user. Copyright Kimley-Horn and Associates, Inc. 2020

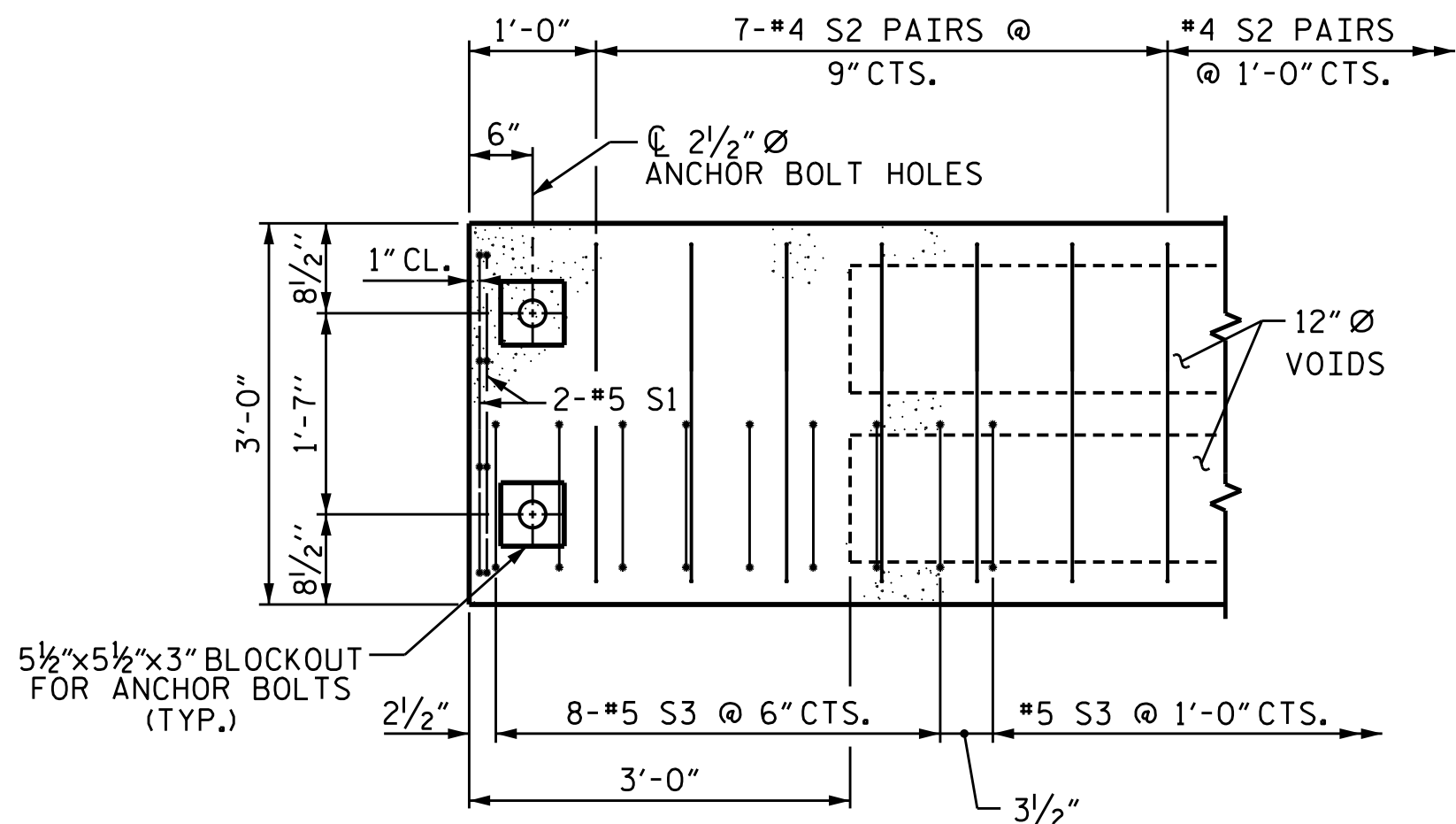
DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

DRAWN BY : **T. K. BOYD** DATE : **09/2025**
CHECKED BY : **J. R. LOGAN** DATE : **09/2025**
DESIGN ENGINEER OF RECORD: **A. L. PHILLIPS** DATE : **09/2025**

11/18/2025
401.009.DF18311.SMU.CS01.005.940023.dgn
Thomas.Boyd

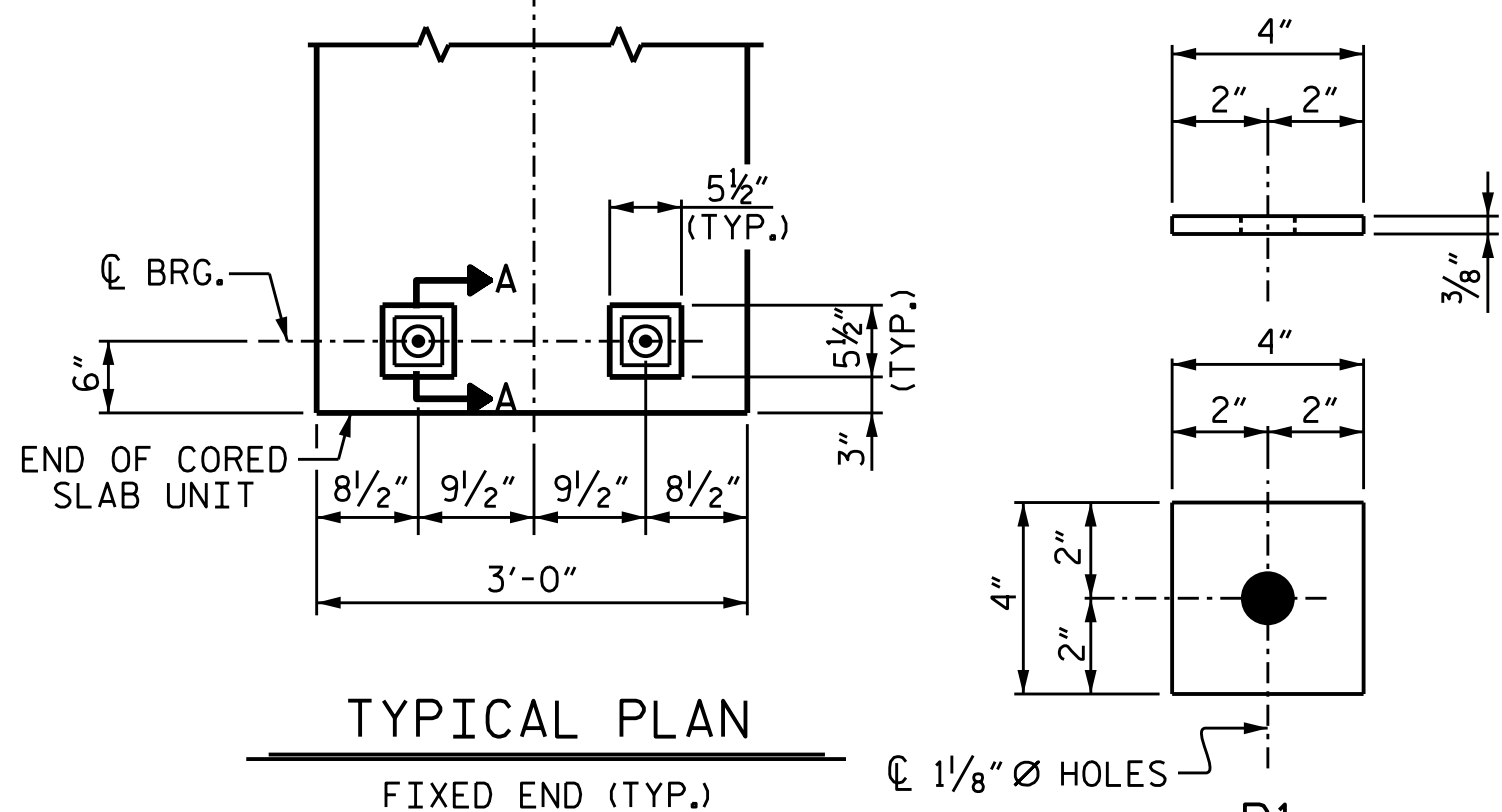


PLAN OF UNIT



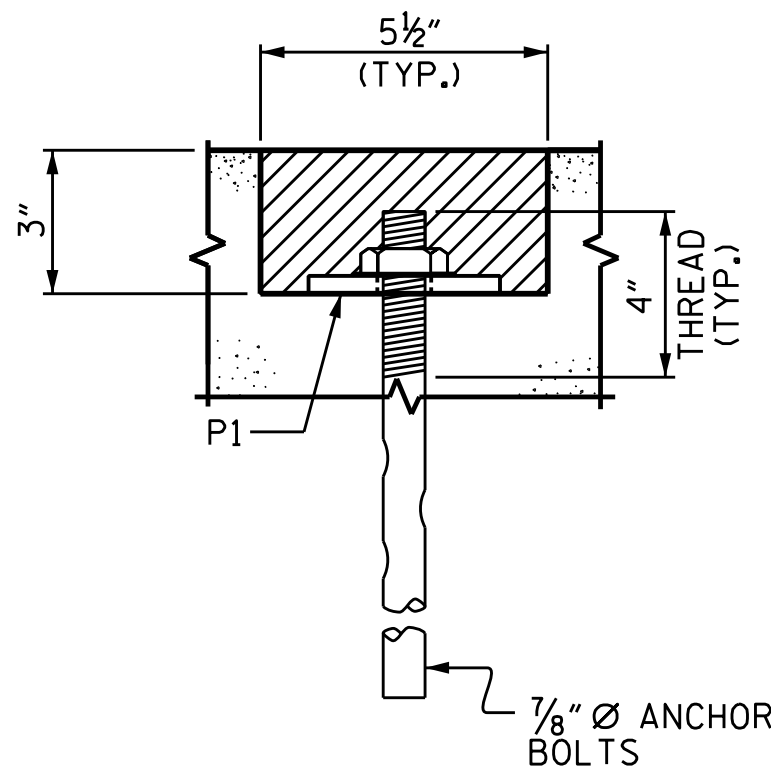
DETAIL "A"

(TYPICAL EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS.



TYPICAL PLAN

(FIXED)

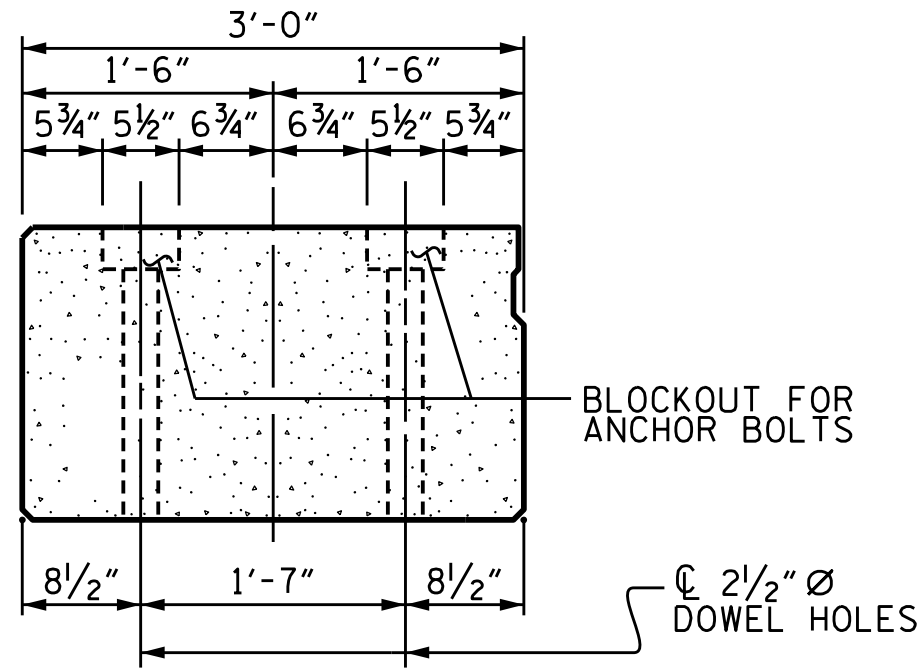


SECTION A-A

(FIXED)

BLOCKOUT DETAIL FOR ANCHOR BOLTS

(TYP. INTERIOR AND EXTERIOR CORED SLABS)



END ELEVATION

SHOWING LOCATION OF BLOCKOUT FOR ANCHOR BOLTS AND ANCHOR BOLT HOLES.

PROJECT NO. DF18311.2095756

WATAUGA COUNTY

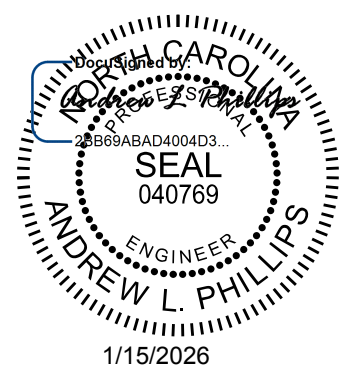
STATION: 12+22.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
PLAN OF 35' UNIT
24'-10" CLEAR ROADWAY
90° SKEW

REVISIONS					SHEET NO. S-6
NO.	BY:	DATE:	NO.	BY:	
1			3		TOTAL SHEETS 14
2			4		



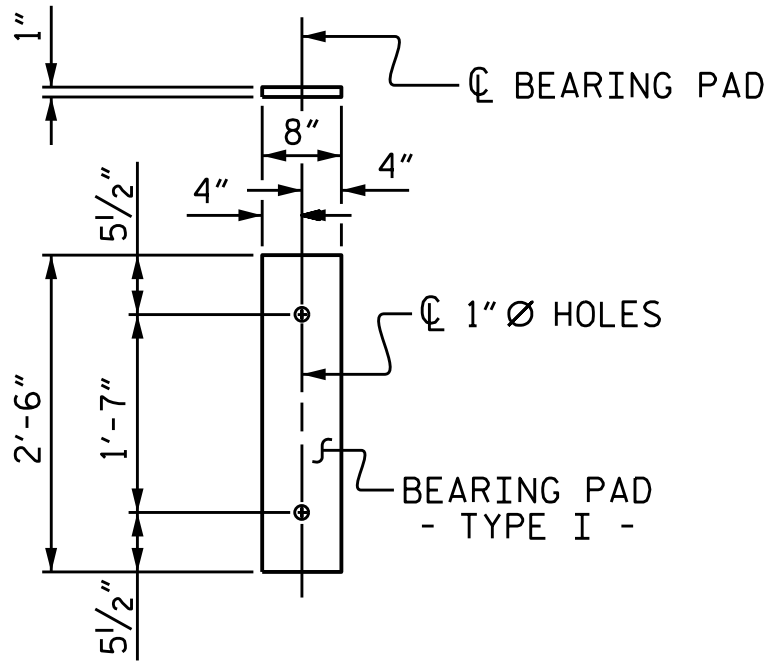
Kimley»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000 NC LICENSE # F-0102

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

DRAWN BY : T. K. BOYD DATE : 09/2025
CHECKED BY : J. R. LOGAN DATE : 09/2025
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 09/2025

8/26/21



FIXED END
(TYPE I - 18 REQ'D)
ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 50 DUROMETER HARDNESS.

**BILL OF MATERIAL FOR ONE
35' CORED SLAB UNIT**

				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B3	4	#4	STR	18'-3"	49	18'-3"	49
S1	8	#5	3	4'-3"	35	4'-3"	35
S2	74	#4	3	5'-4"	264	5'-4"	264
* S3	44	#5	1	5'-7"	256		
REINFORCING STEEL				LBS.	348		348
* EPOXY COATED REINFORCING STEEL				LBS.	256		
5000 P.S.I. CONCRETE				CU. YDS.	5.1		5.1
0.6" Ø L.R. STRANDS				No.	13		13

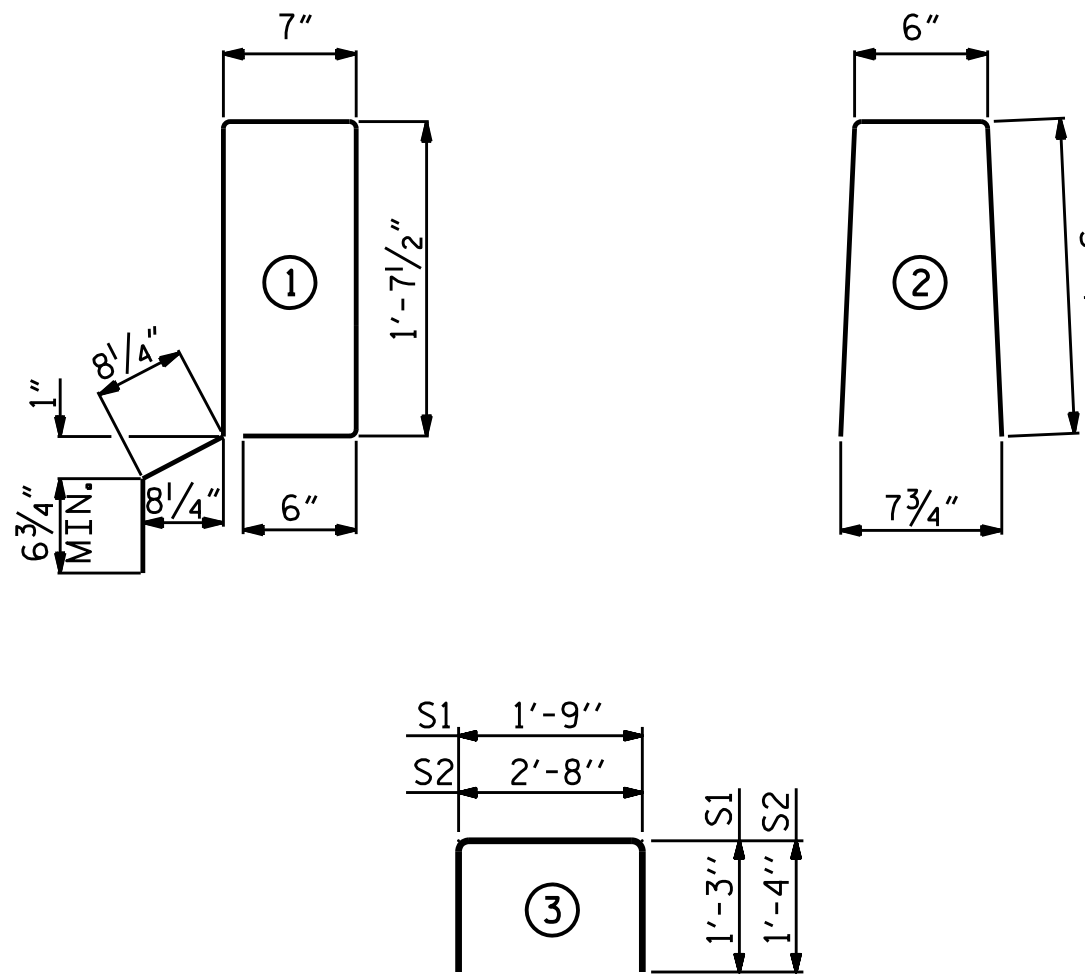
DEAD LOAD DEFLECTION AND CAMBER	
35' CORED SLAB UNIT	3'-0" x 1'-9"
CAMBER (SLAB ALONE IN PLACE)	0.6" Ø L.R. STRAND
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	3/4" ↑
FINAL CAMBER	1/8" ↓
	5/8" ↑

** INCLUDES FUTURE WEARING SURFACE

CORED SLABS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
35' UNIT			
EXTERIOR C.S.	2	35'-0"	70'-0"
INTERIOR C.S.	7	35'-0"	245'-0"
TOTAL	9		315'-0"

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL

BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
35' UNIT						
* B10	40		#5	STR	17'-1"	713
* S4	88		#5	2	7'-2"	658
* EPOXY COATED REINFORCING STEEL						LBS. 1371
CLASS AA CONCRETE						CU. YDS. 9.0
TOTAL VERTICAL CONCRETE BARRIER RAIL						LN. FT. 70.25

GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT

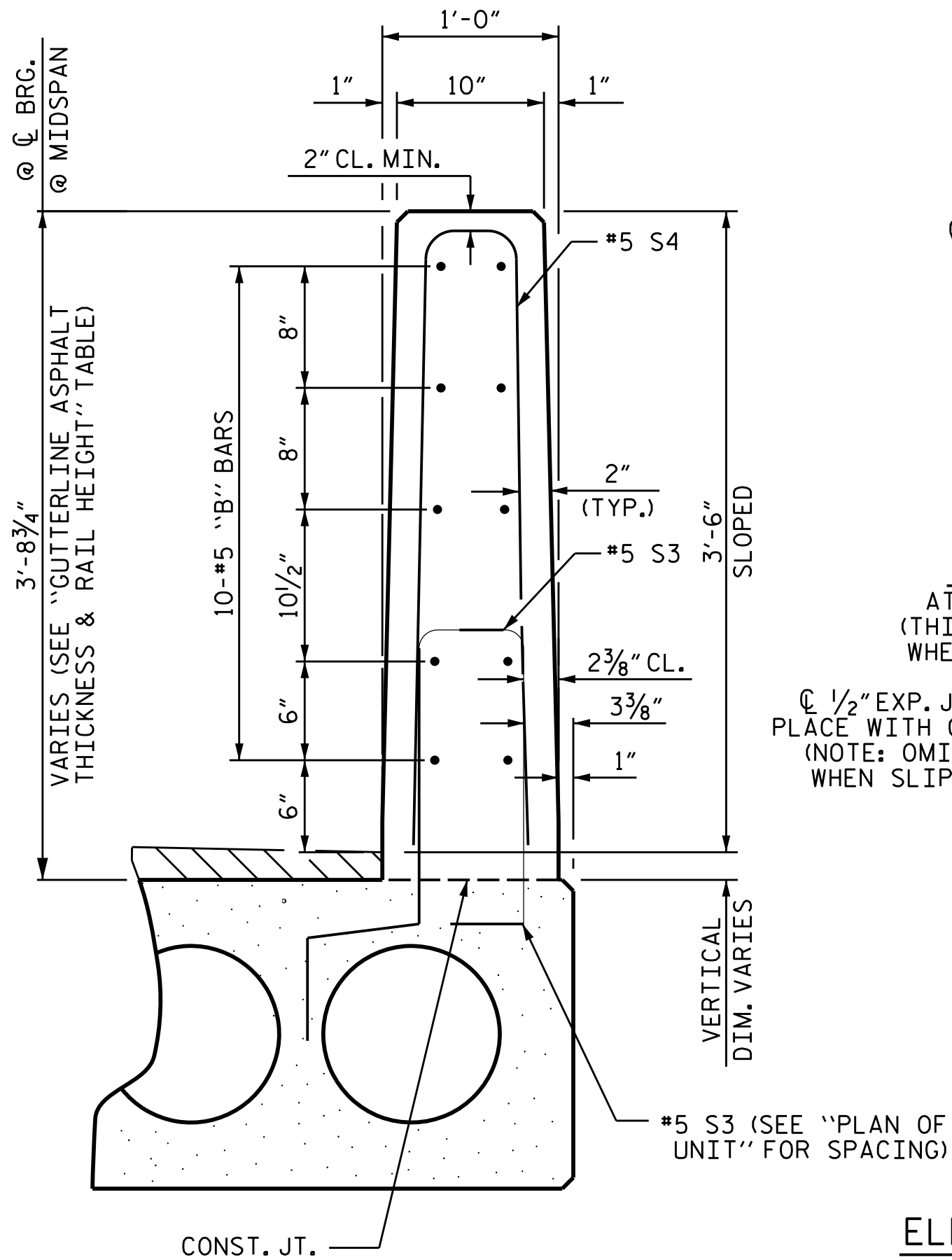
	ASPHALT OVERLAY THICKNESS	RAIL HEIGHT
	@ MID-SPAN	@ MID-SPAN
35' UNITS	2 5/8"	3'-8 5/8"

CONCRETE RELEASE STRENGTH

UNIT	PSI
35' UNIT	4000

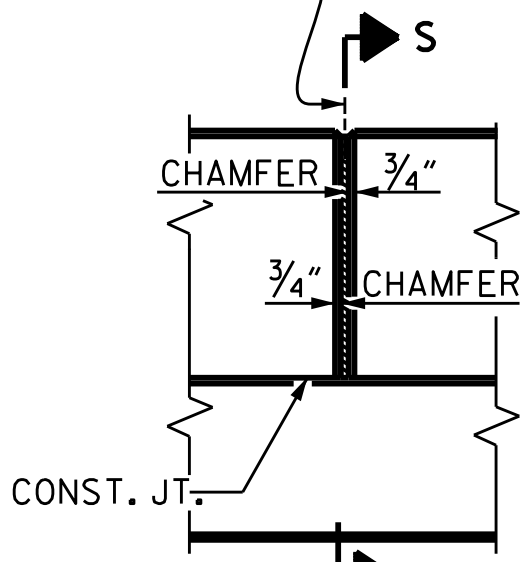
GRADE 270 STRANDS

	0.6" Ø L.R.
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950

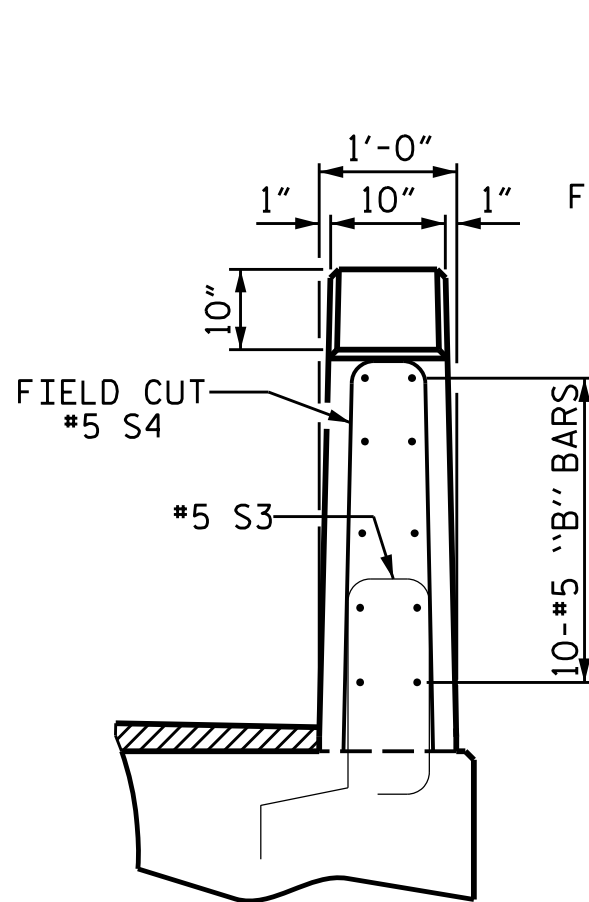


VERTICAL CONCRETE BARRIER RAIL SECTION

SECTION S-S
AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY
WHEN SLIP FORM IS USED)
1/2" EXP. JT. MAT'L HELD IN
PLACE WITH GALVANIZED NAILS.
(NOTE: OMIT EXP. JT. MAT'L
WHEN SLIP FORM IS USED)

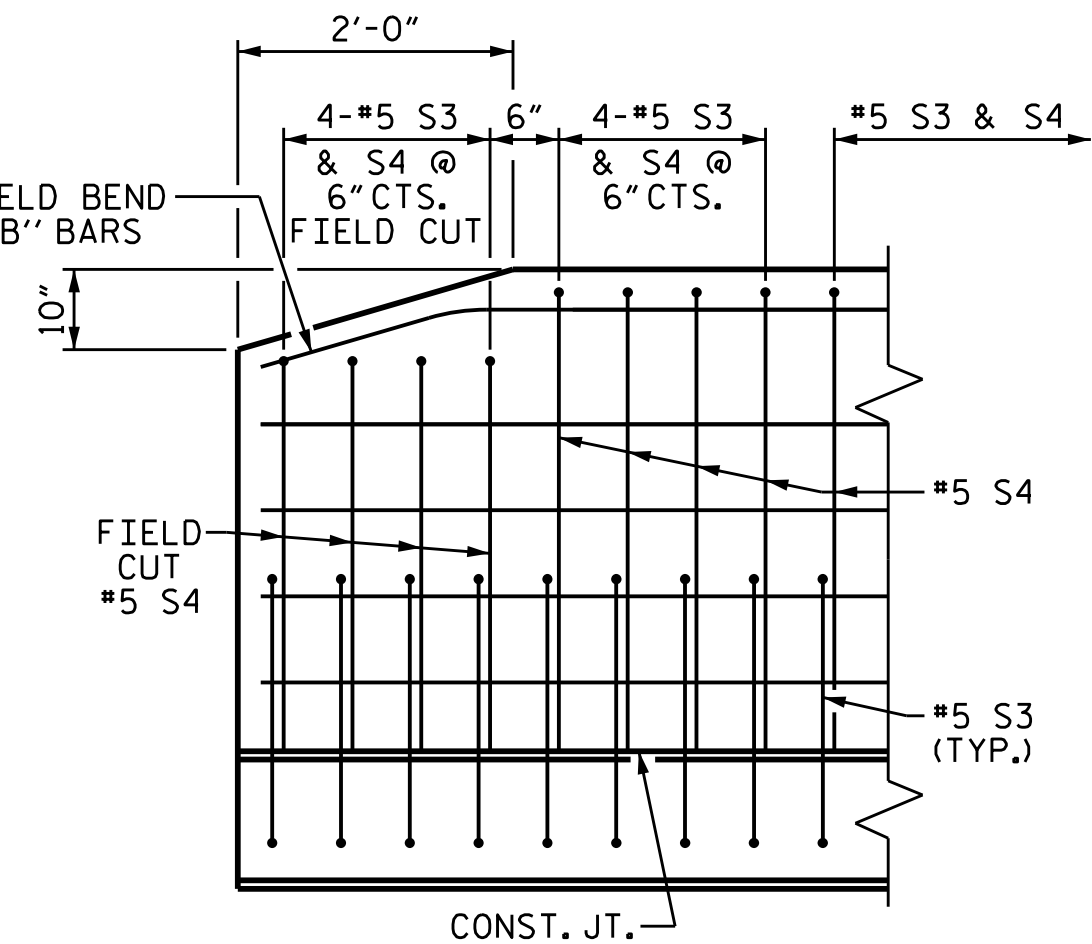


ELEVATION AT EXPANSION JOINTS



END VIEW

END OF RAIL DETAILS



SIDE VIEW

NOTES

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH NON-SHRINK GROUT.

THE BACKER RODS SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

WHEN CORED SLABS ARE CAST, AN INTERNAL HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. AT LEAST SIX WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

ALL REINFORCING STEEL IN THE VERTICAL CONCRETE BARRIER RAIL SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

FLAME CUTTING OF THE TRANSVERSE POST-TENSIONING STRAND IS NOT ALLOWED.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN THE REQUIRED STRENGTH SHOWN IN THE "CONCRETE RELEASE STRENGTH" TABLE.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE PERMITTED THREADED INSERTS ARE DETAILED AS AN OPTION FOR THE CONTRACTOR TO ATTACH FALSEWORK AND FORMWORK DURING CONSTRUCTION.

THE PERMITTED THREADED INSERTS ARE DETAILED AS AN OPTION FOR THE CONTRACTOR TO ATTACH FALSEWORK AND FORMWORK DURING CONSTRUCTION.

THE PERMITTED THREADED INSERTS IN THE EXTERIOR UNITS SHALL BE SIZED BY THE CONTRACTOR, SPACED AT 4'-0" CENTERS AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. STAINLESS STEEL THREADED INSERTS MAY BE USED AS AN ALTERNATE.

THE PERMITTED THREADED INSERTS SHALL BE GROUTED BY THE CONTRACTOR IMMEDIATELY FOLLOWING REMOVAL OF THE FALSEWORK.

THE COST OF THE PERMITTED THREADED INSERTS SHALL BE INCLUDED IN THE PRICE BID FOR THE PRECAST UNITS.

AT ALL FIXED ENDS OF INTERIOR AND EXTERIOR CORED SLAB SECTIONS WITH HOLD-DOWN ANCHOR BOLTS, NUTS FOR ANCHOR BOLTS SHALL BE FINGER-TIGHTENED AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF INTERIOR AND EXTERIOR CORED SLAB SECTIONS WITH HOLD-DOWN ANCHOR BOLTS SHALL BE FILLED WITH NON-SHRINK GROUT TO THE BOTTOM OF THE ANCHOR BOLT BLOCKOUT PRIOR TO INSTALLING THE ANCHOR PLATES, WASHERS, AND NUTS.

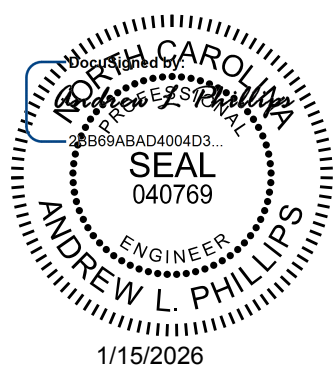
THE ANCHOR BOLT BLOCKOUTS IN INTERIOR AND EXTERIOR CORED SLAB SECTIONS SHALL BE FILLED WITH NON-SHRINK GROUT PRIOR TO PLACEMENT OF THE WEARING SURFACE.

PROJECT NO. **DF18311.2095756**

WATAUGA COUNTY

STATION: **12+22.00 -L-**

SHEET 3 OF 3



Kimley»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

This document, together with the concepts and designs presented herein, are an instrument of service, prepared only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written authorization and approval by Kimley-Horn and Associates, Inc. shall be considered a violation of the professional engineering and architectural codes of ethics. Copyright Kimley-Horn and Associates, Inc. 2020

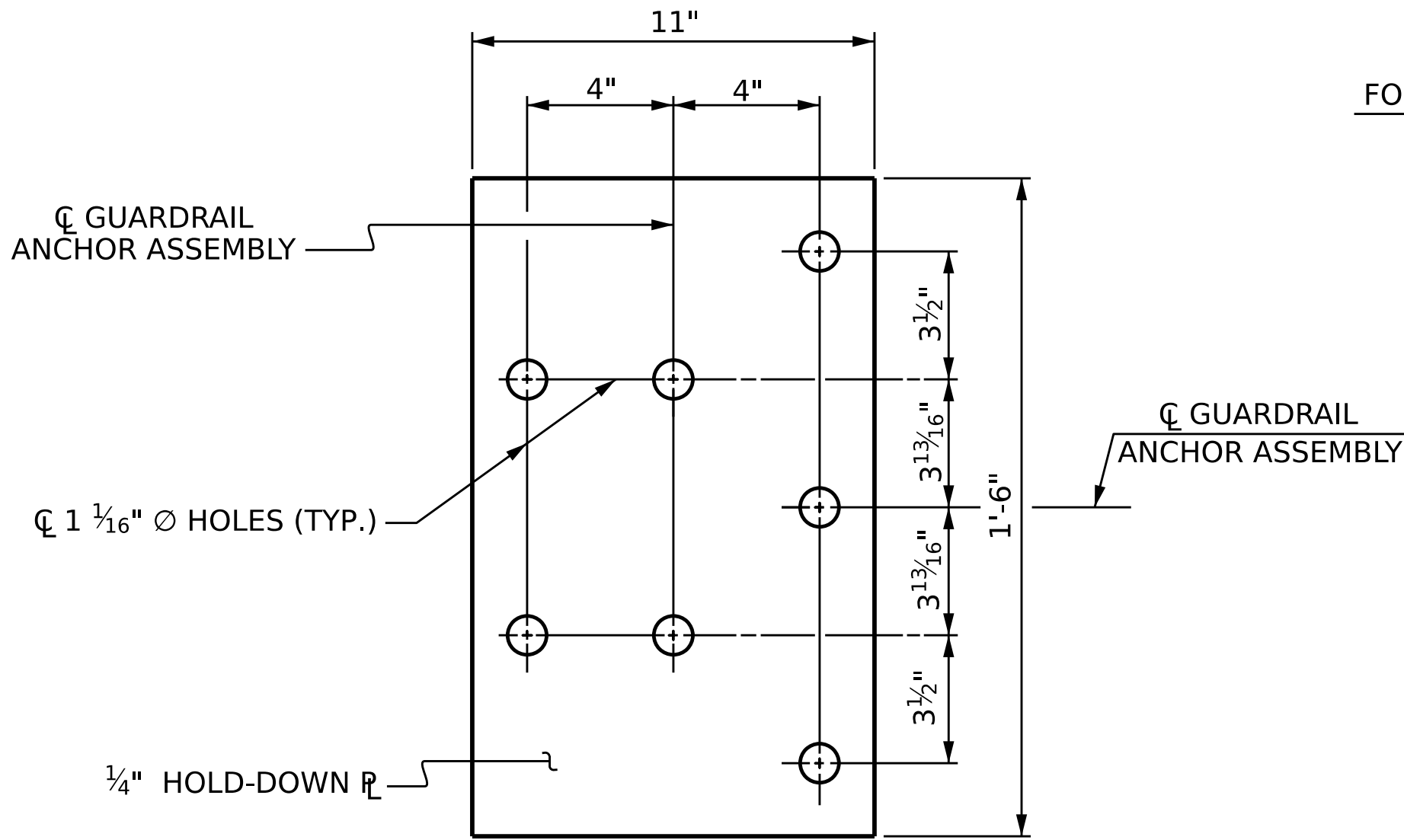
DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
3'-0" X 1'-9"
**PRESTRESSED CONCRETE
CORED SLAB UNIT
90° SKEW**

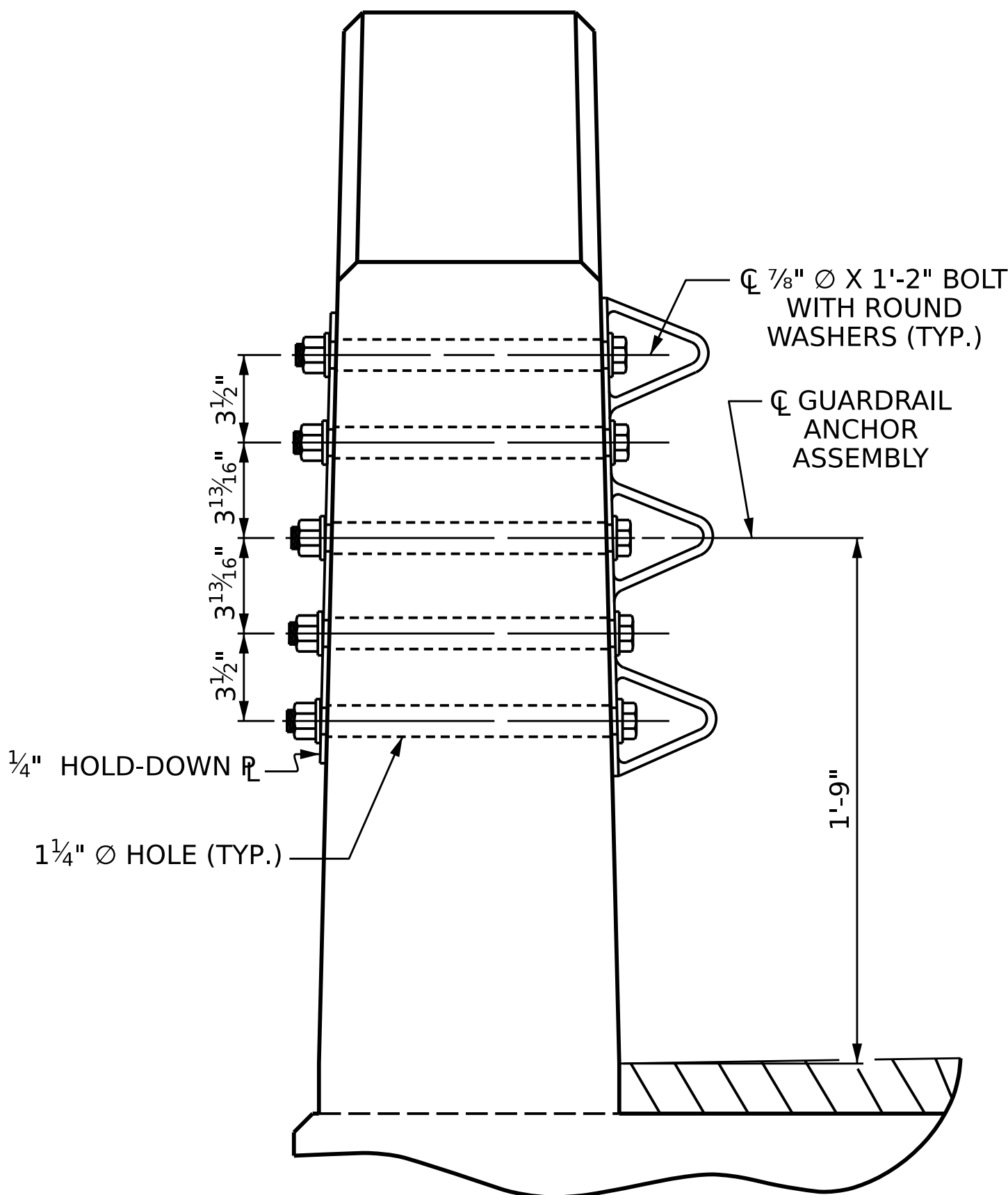
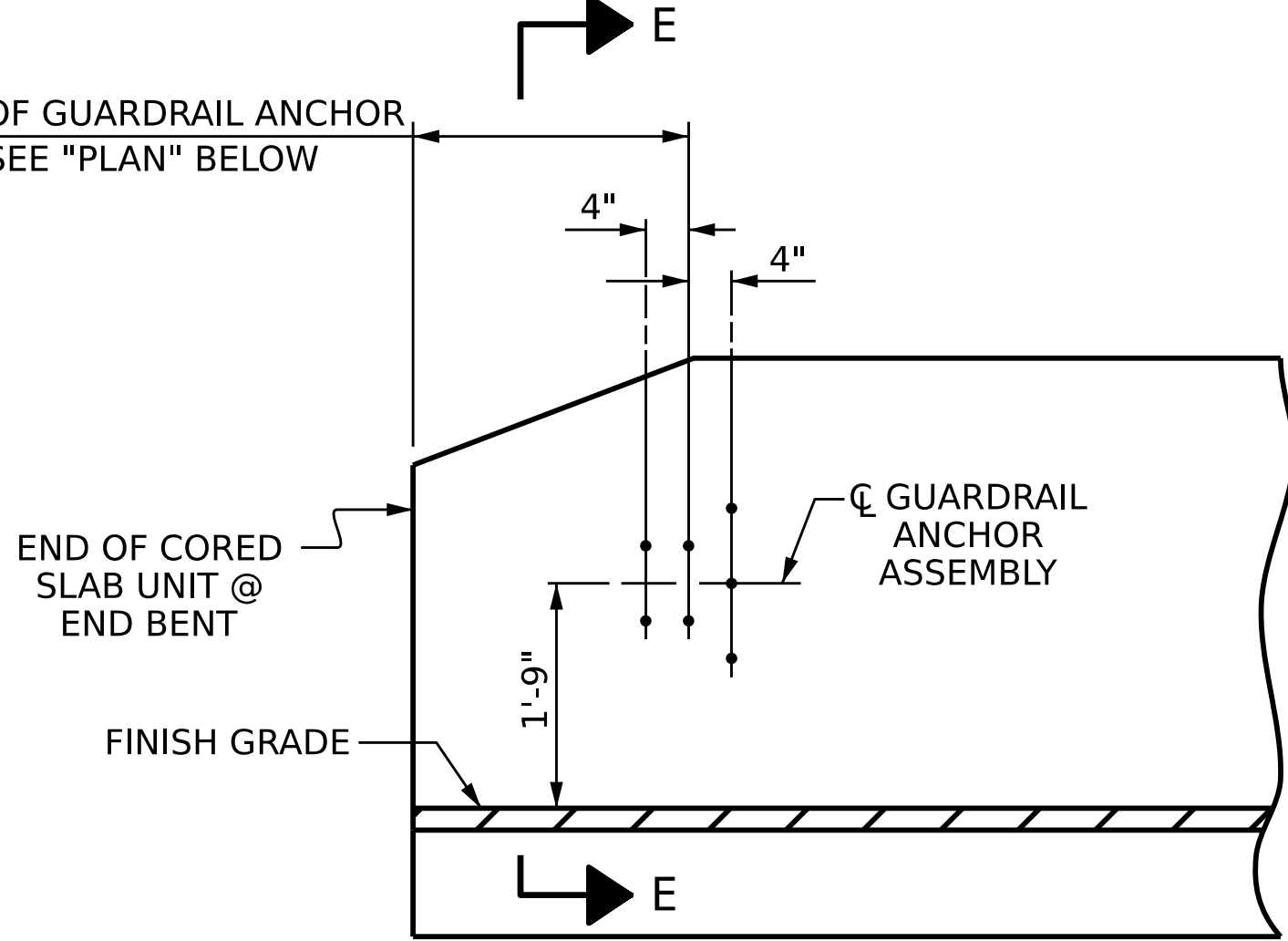
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 14

DRAWN BY :	T. K. BOYD	DATE :	09/2025
CHECKED BY :	J. R. LOGAN	DATE :	09/2025
DESIGN ENGINEER OF RECORD:	A. L. PHILLIPS	DATE :	09/2025

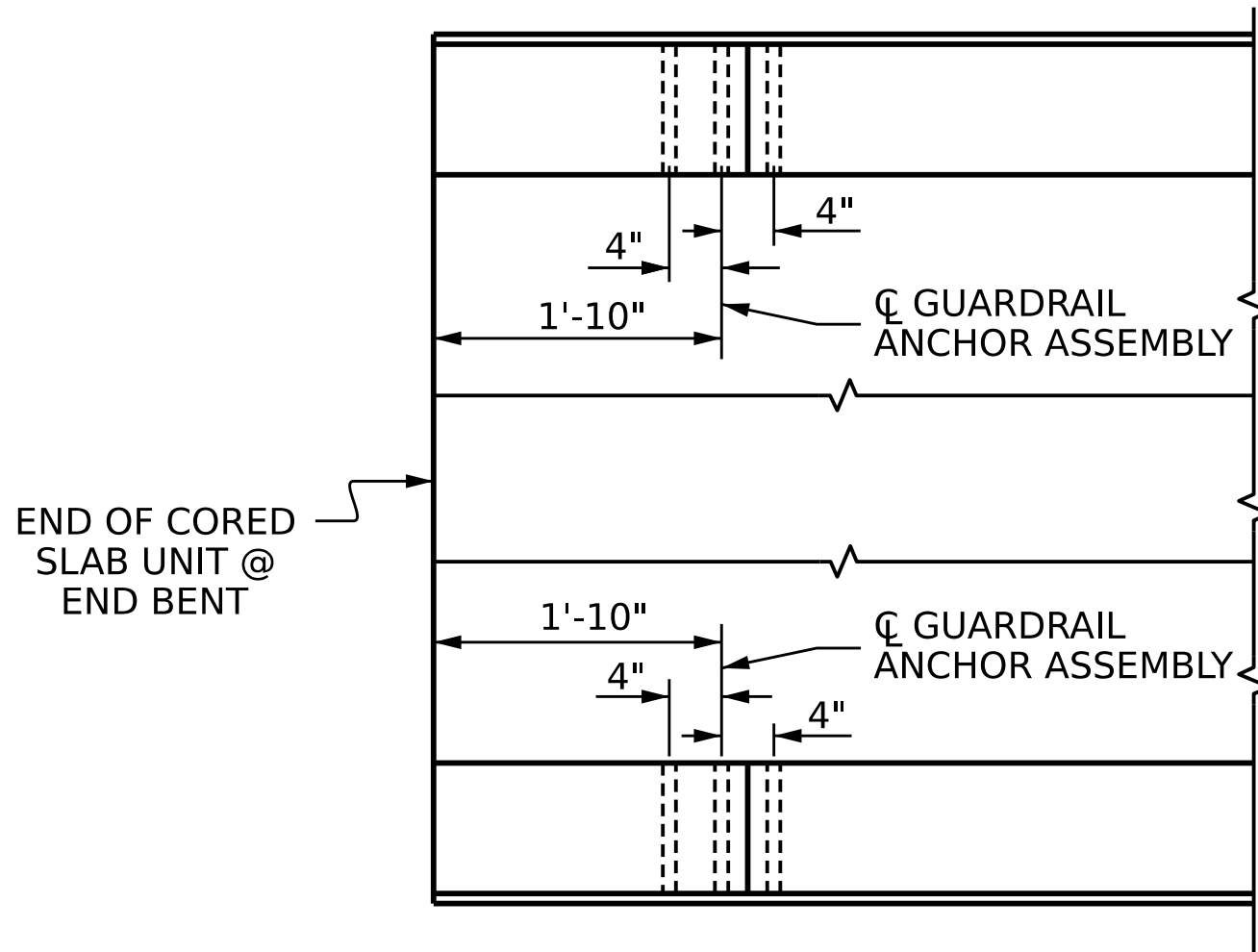
8/26/21



FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW

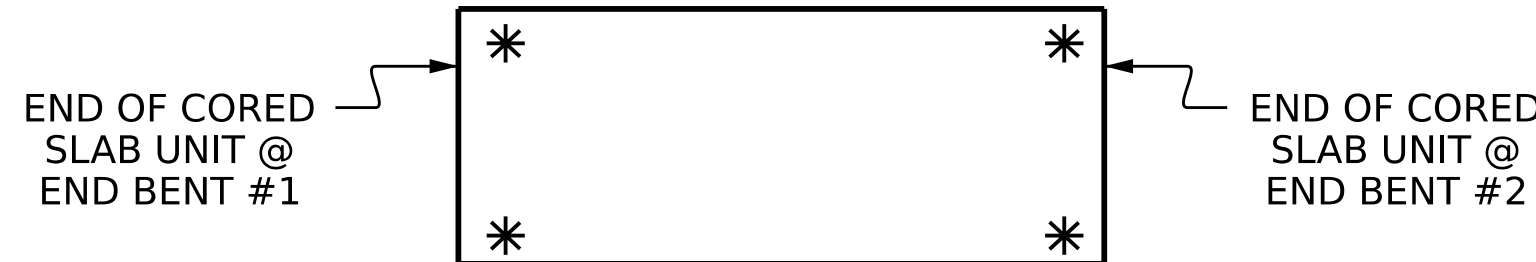


GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

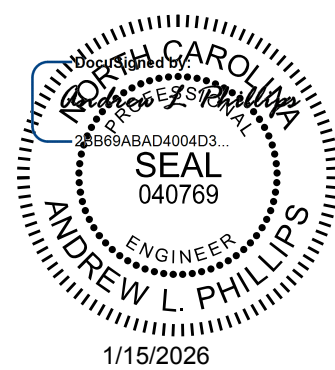
END BENT #1 SHOWN, END BENT #2 SIMILAR



SKETCH SHOWING POINTS OF ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. DF18311.2095756
WATAUGA COUNTY
STATION: 12+22.00 -L-



Kimley»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

This document, together with the concepts and designs presented herein, is an instrument of service, it is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written substitution and approval by Kimley-Horn and Associates, Inc. shall be Copyright Kimley-Horn and Associates, Inc. 2025

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
**GUARDRAIL ANCHORAGE
DETAILS
FOR VERTICAL CONCRETE
BARRIER RAIL**

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 14

DRAWN BY : T. K. BOYD DATE : 09/2025
CHECKED BY : J. R. LOGAN DATE : 09/2025
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 09/2025

9/17/2025
401.015_DF18311.SMU.GR01.008_940023.dgn
Thomas.Boyd



NO SEPERATE PAYMENT SHALL BE MADE FOR THE
ANCHOR BOLTS, ANCHOR PLATES, WASHERS, AND
NUTS. THE COST OF THE MATERIAL AND
INSTALLATION SHALL BE CONSIDERED
INCIDENTAL TO THE VARIOUS PAY ITEMS.

REVISIONS						SHEET NO. S-9
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 14
2			4			

11/18/2025
401_017_DF18311_SMU_E01_009_940023.dgn
Thomas.Boyd

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000

This document, together with the concepts and designs presented herein, as an instrument of services, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Copyright Kimley-Horn and Associates, Inc., 2025



11/18/2025
401_019_DF18311_SMU_E02_010_940023.dgn
Thomas.Boyd

Kimley»Horn
421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000 NC LICEN
F-0102

This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. It is not to be relied upon for any other purpose without the written authorization and adoption by Kimley-Horn and Associates, Inc. s. without liability to Kimley-Horn and Associates, Inc. s.

Copyright Kimley-Horn and Associates, Inc. 2025

This document, together with the concepts and designs presented herein, as an instrument of services, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Copyright Kimley-Horn and Associates, Inc., 2025

NO SEPERATE PAYMENT SHALL BE MADE FOR THE
ANCHOR BOLTS, ANCHOR PLATES, WASHERS, AND
NUTS. THE COST OF THE MATERIAL AND
INSTALLATION SHALL BE CONSIDERED
INCIDENTAL TO THE VARIOUS PAY ITEMS.

REVISIONS						SHEET NO. S-10
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 14
2			4			



WING 1 DETAILS



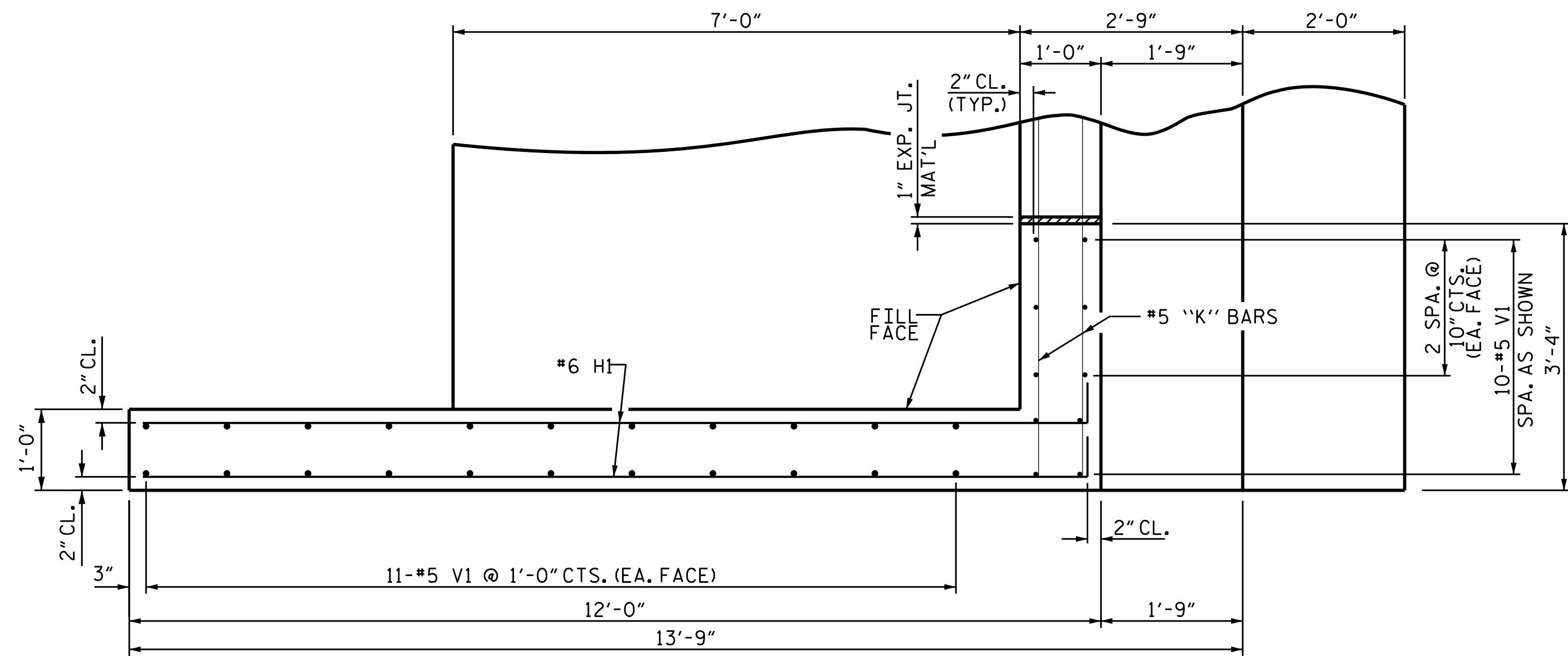
Professional Engineer Seal for Andrew L. Phillips, State of North Carolina, License No. 040769, expires 1/15/2026.

This document, together with the concepts and designs presented herein, as an instrument of services, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

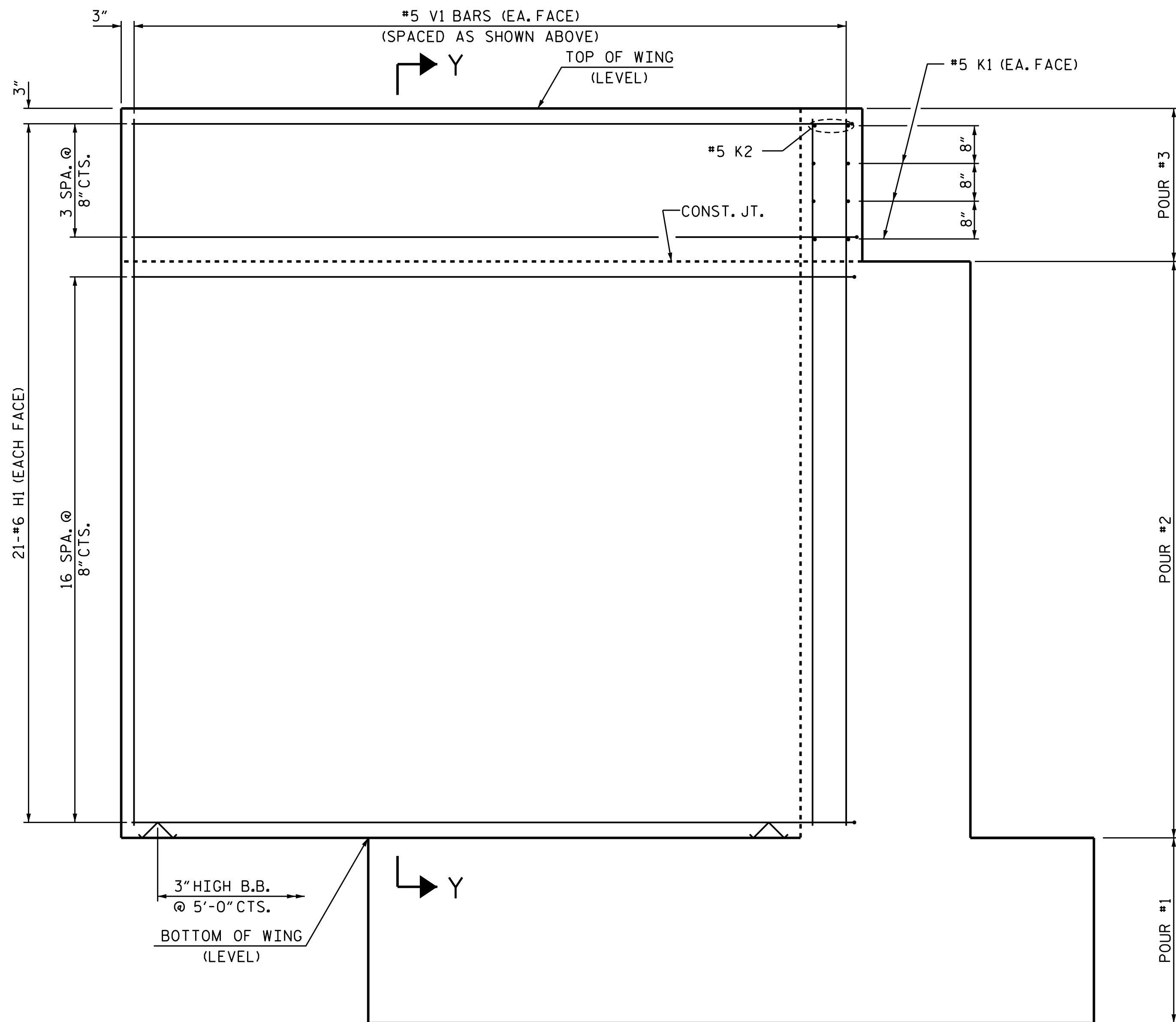
Copyright Kimley-Horn and Associates, Inc. 2025

WING DETAILS

10/27/2025
401_021_DF18311_SMU_E03_011_940023.dgn
Thomas.Boyd

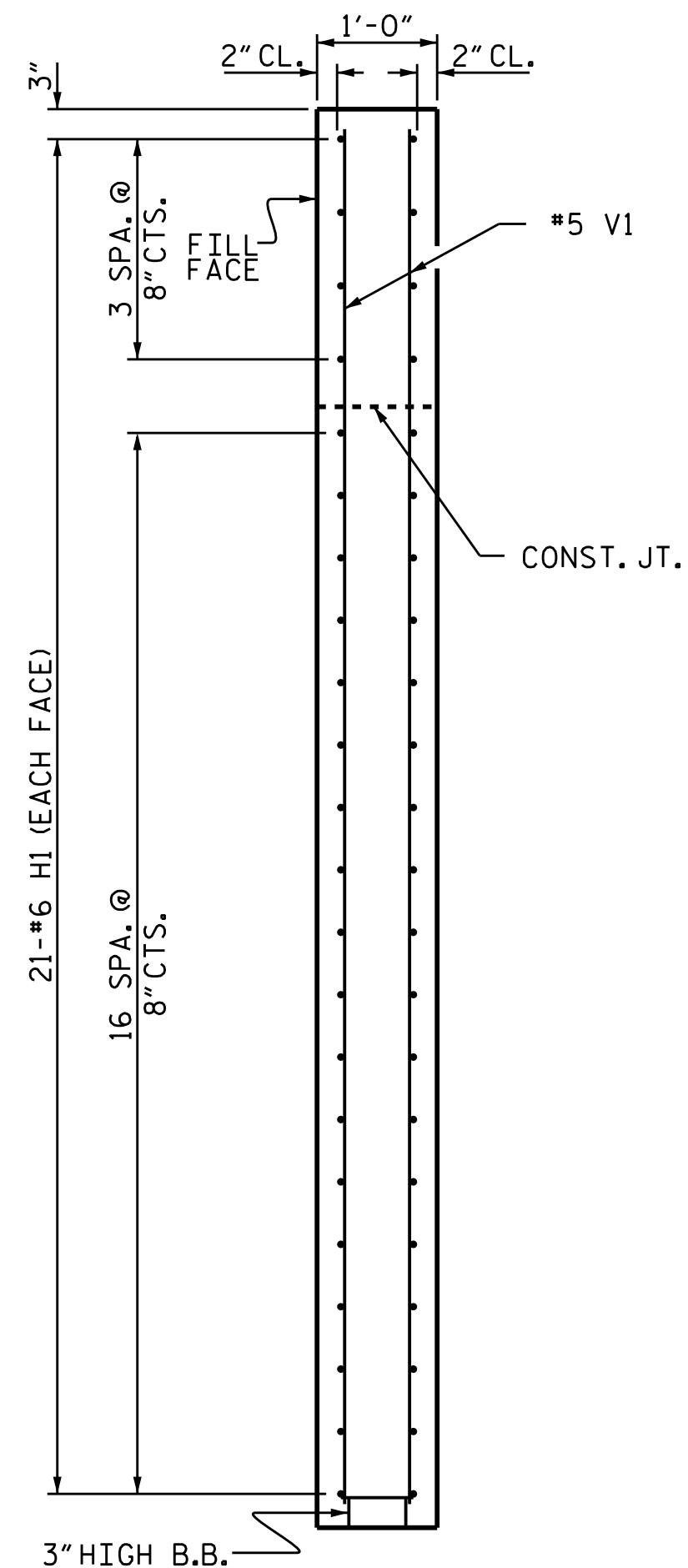


PLAN OF WING (W2)



ELEVATION OF WING (W2)

WING 2 DETAILS



SECTION Y-Y

DRAWN BY : T. K. BOYD DATE : 09/2025
 CHECKED BY : J. R. LOGAN DATE : 09/2025
 DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 09/2025

10/27/2025
401_023_DF18311_SMU_E04_012_940023.dgn
Thomas.Boyd

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

Kimley»»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000

This document, together with the concepts and designs presented herein, as an instrument of services, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Copyright Kimley-Horn and Associates, Inc., 2025

PROJECT NO. DF18311.2095756

WATAUGA COUNTY

STATION: 12+22.00 -L-

SHEET 4 OF 5

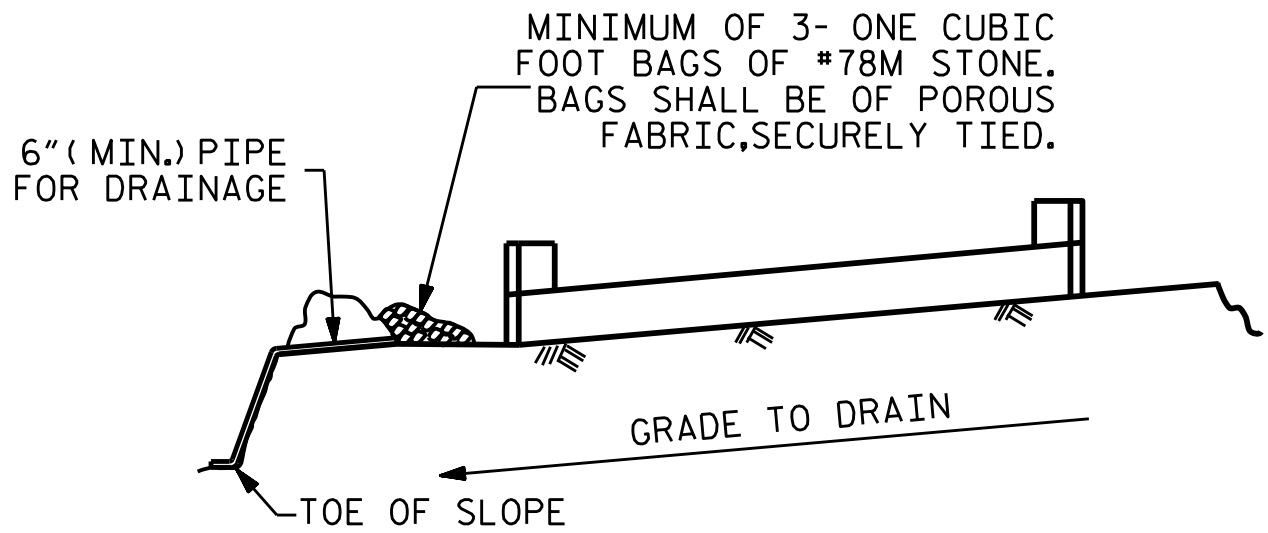
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT

WING DETAILS

REVISIONS						SHEET NO. S-12
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 14
2			4			

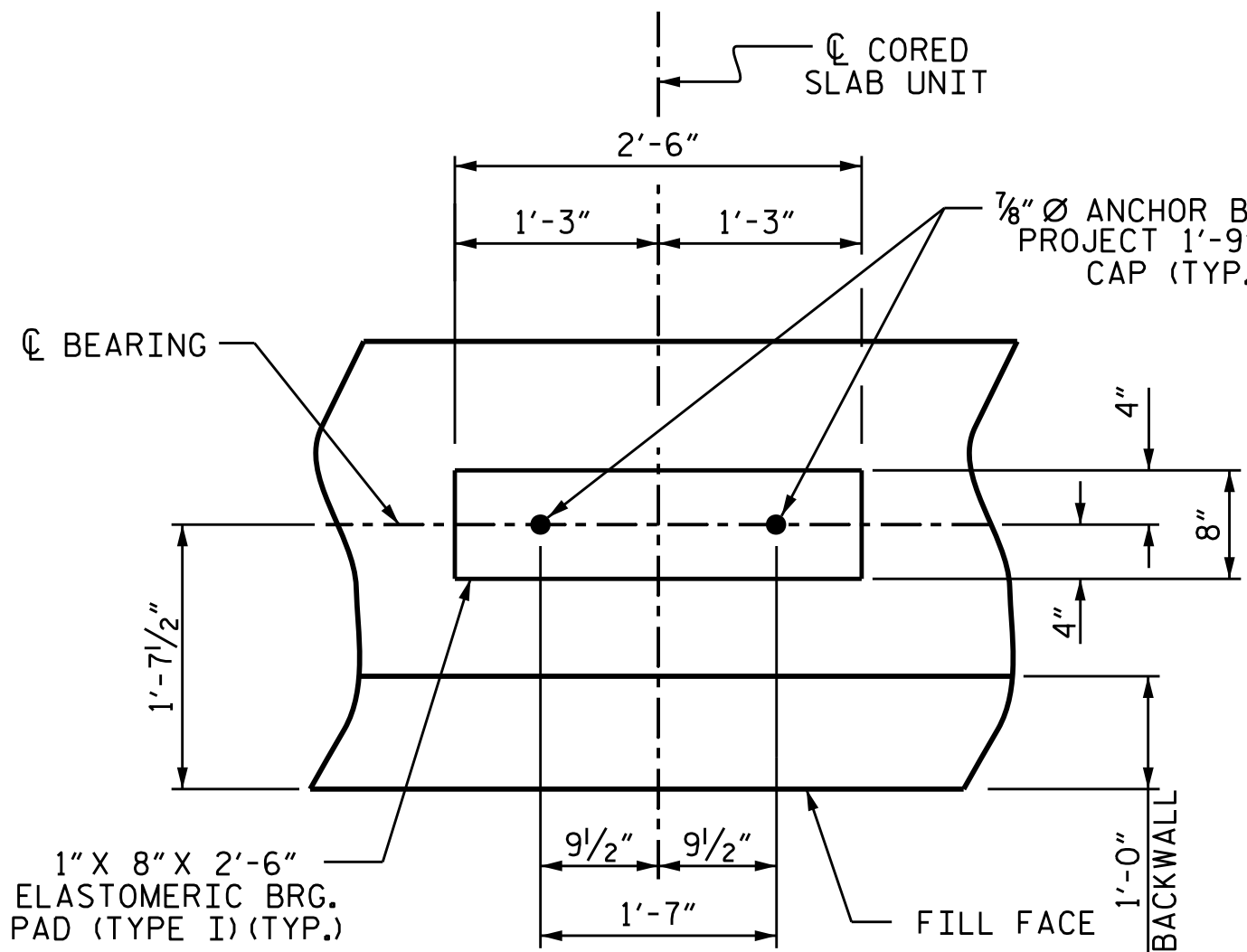


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

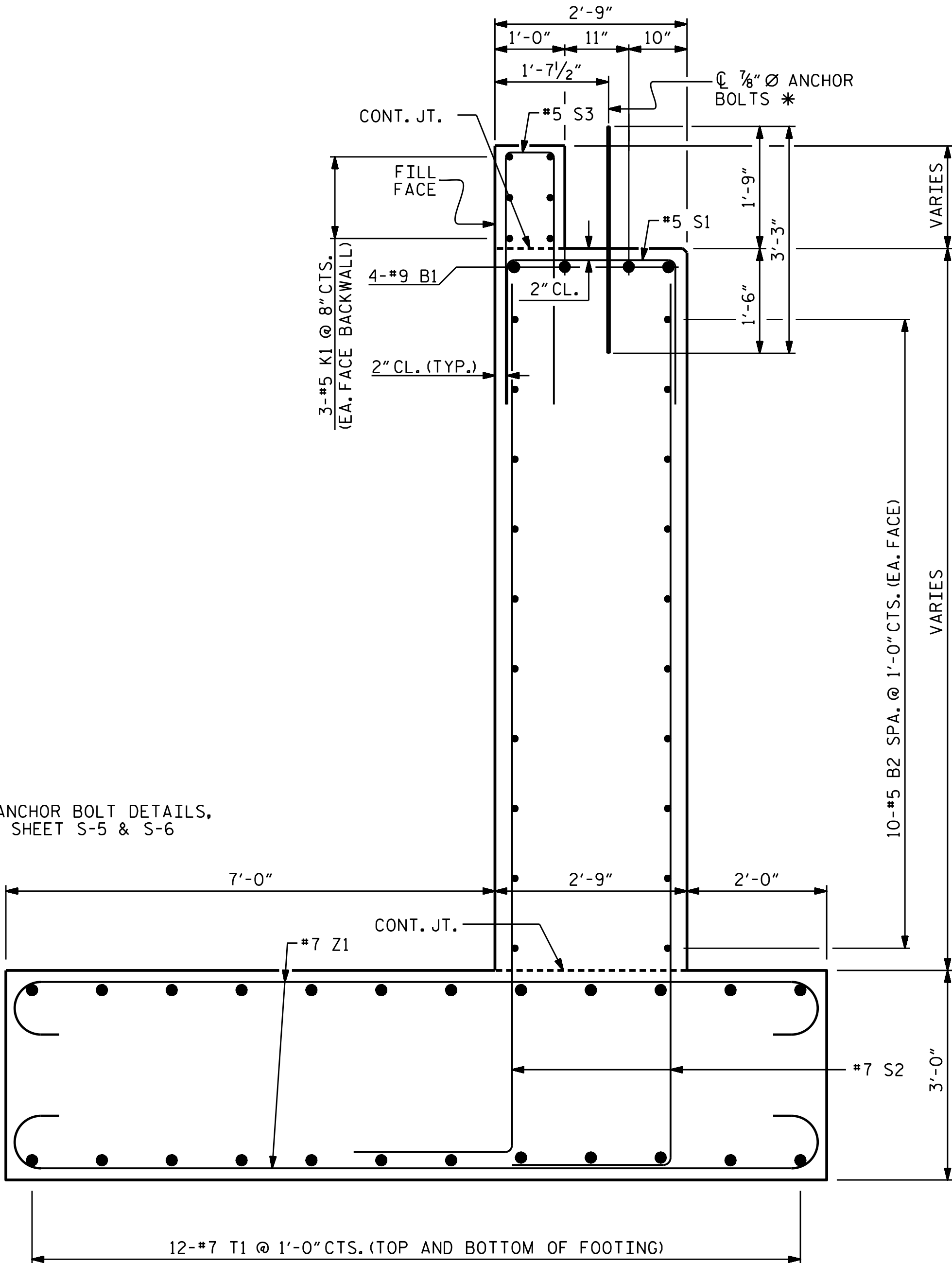
TEMPORARY DRAINAGE AT END BENT



DETAIL "A"

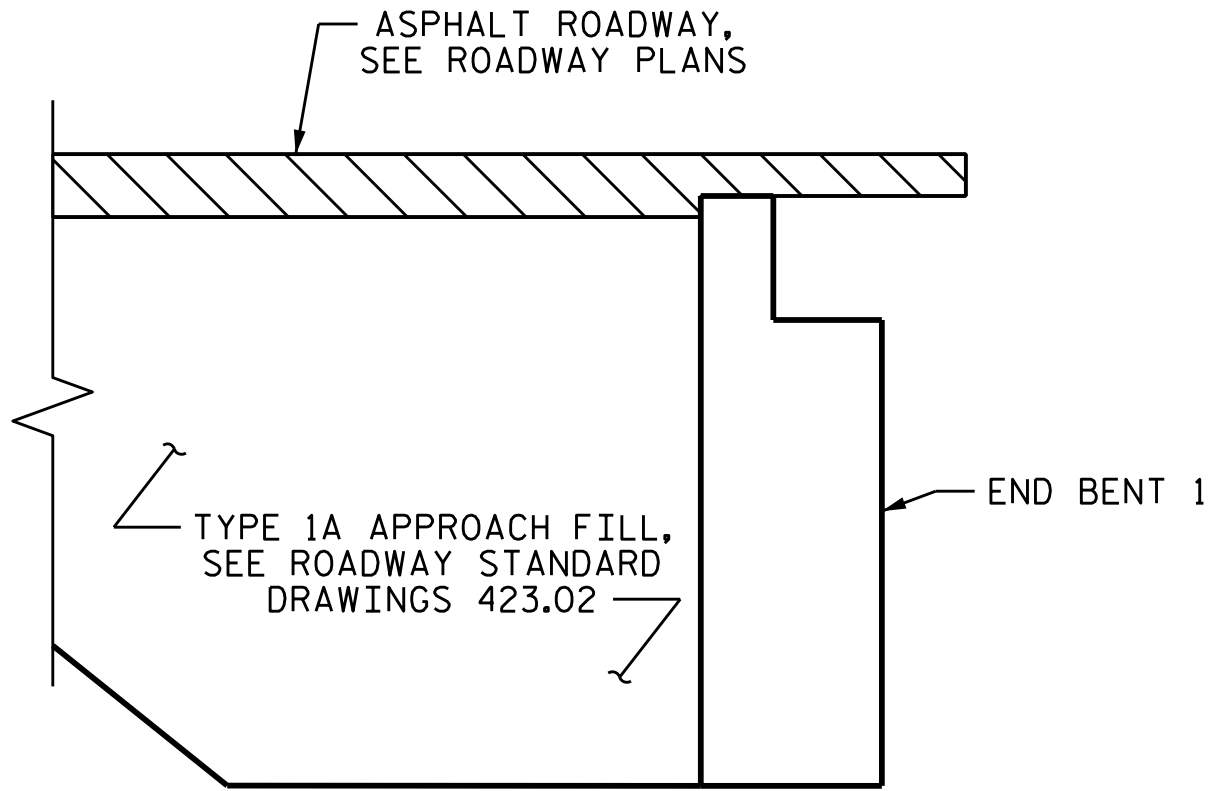
(END BENT NO. 1 SHOWN, END BENT NO. 2 SIMILAR BY ROTATION) (TYP. INTERIOR AND EXTERIOR CORED SLAB UNITS)

* FOR ANCHOR BOLT DETAILS, SEE SHEET S-5 & S-6



SECTION A-A

BAR TYPES		BILL OF MATERIAL					
		FOR ONE END BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT		
B1	4	#9	1	35'-2"	478		
B2	20	#5	STR	32'-8"	681		
H1	84	#6	2	12'-8"	1,598		
K1	6	#5	STR	32'-8"	204		
K2	4	#5	STR	3'-0"	13		
S1	34	#5	3	11'-9"	417		
S2	68	#7	2	13'-9"	1,911		
S3	34	#5	3	12'-8"	449		
T1	24	#7	1	34'-4"	1,684		
V1	64	#5	STR	12'-2"	812		
Z1	68	#7	1	13'-1"	1,818		
REINFORCING STEEL (FOR ONE END BENT)					10,065 LBS.		
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)							
POUR #1	FOOTING				43.1 C.Y.		
POUR #2	CAP & LOWER PART OF WINGS				43.8 C.Y.		
POUR #3	UPPER PART OF WINGS & BACKWALL				4.3 C.Y.		
TOTAL CLASS A CONCRETE					91.1 C.Y.		



BACK FILL DETAILS

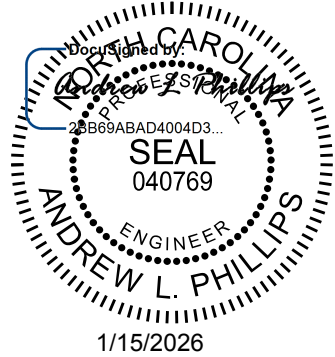
(END BENT 1 SHOWN, AND BENT 2 SIMILAR)

PROJECT NO. DF18311.2095756

WATAUGA COUNTY

STATION: 12+22.00 -L-

SHEET 5 OF 5



Kimley»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

This document, together with the concepts and designs presented herein, is an instrument of service, it is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written authorization and approval by Kimley-Horn and Associates, Inc. shall be a violation of the professional engineering laws and regulations of the State of North Carolina. Copyright Kimley-Horn and Associates, Inc. 2025

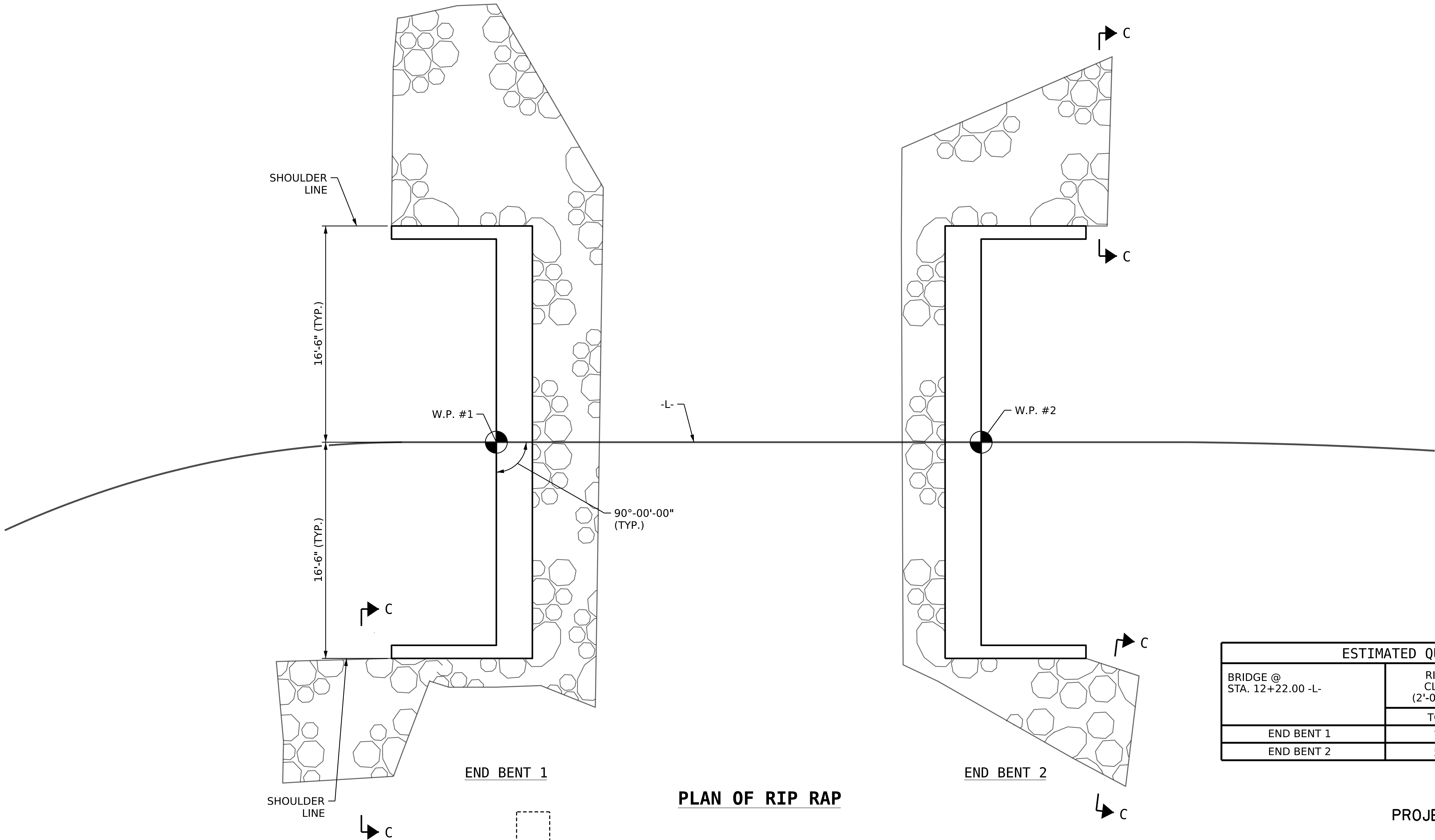
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : T. K. BOYD DATE : 09/2025
CHECKED BY : J. R. LOGAN DATE : 09/2025
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 09/2025

11/18/2025
401.025.DF18311.SMU.E05.013.940023.dgn
Thomas.Boyd

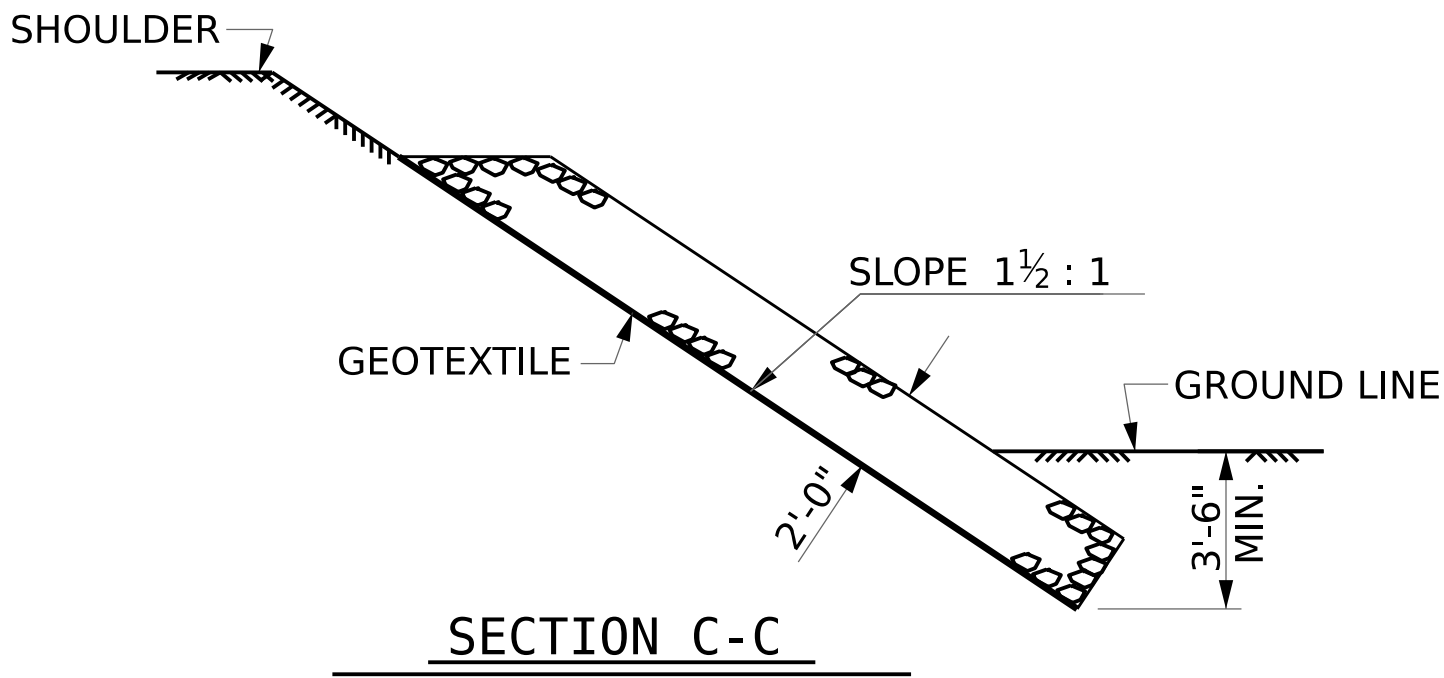
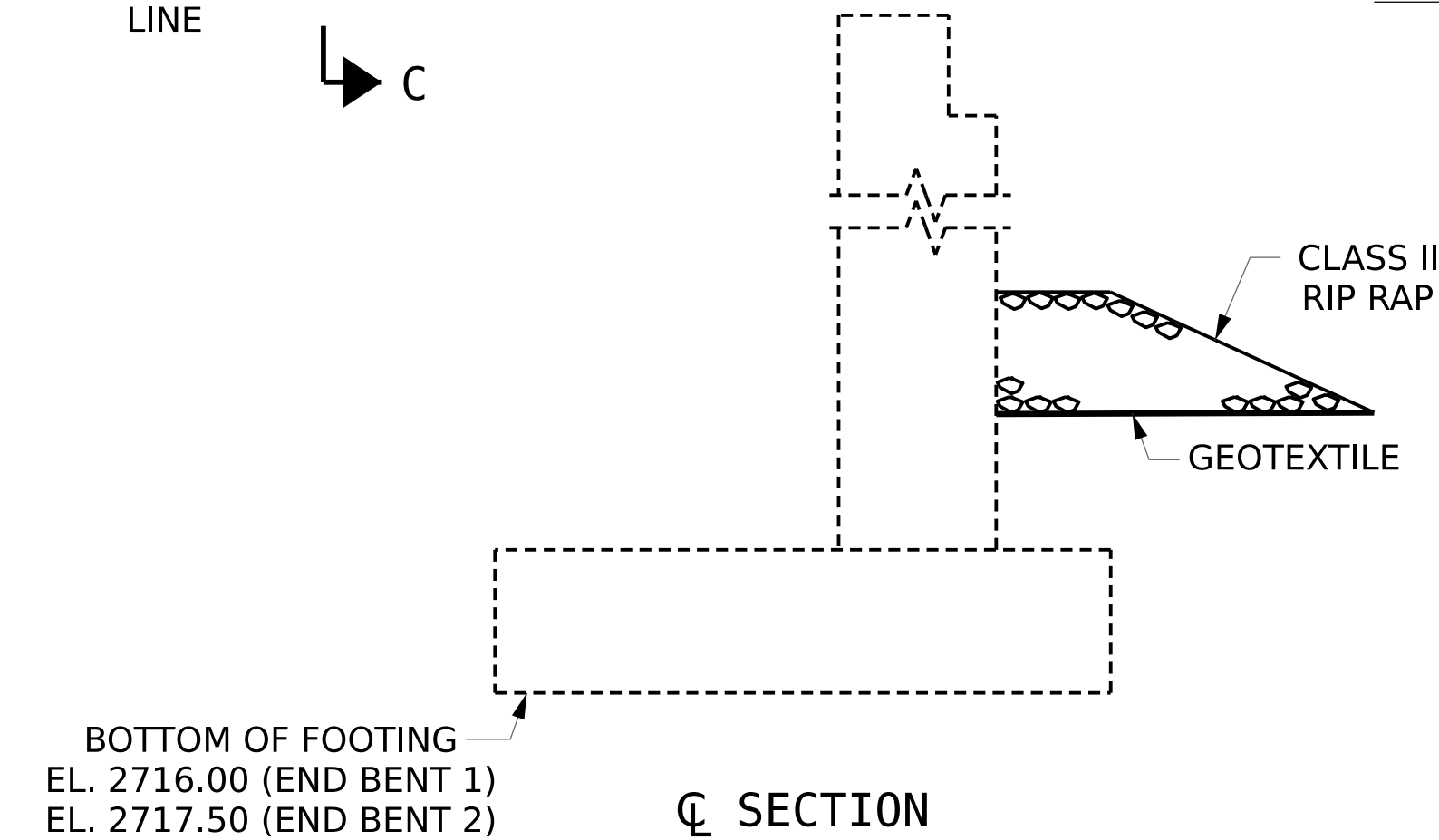
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-13	
SUBSTRUCTURE END BENT DETAILS						TOTAL SHEETS 14	
REVISIONS							
NO.	BY:	DATE:	NO.	BY:	DATE:		
1			3				
2			4				

8/26/21

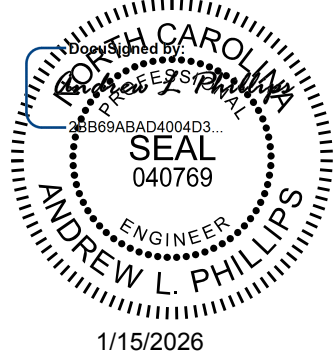


ESTIMATED QUANTITIES		
BRIDGE @ STA. 12+22.00 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	70.0	78.0
END BENT 2	50.0	56.0

PLAN OF RIP RAP



PROJECT NO. DF18311.2095756
WATAUGA COUNTY
STATION: 12+22.00 -L-



Kimley»Horn
421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

This document, together with the concepts and designs presented herein, is an instrument of service, it is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance of this document without written authorization and approval by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc. Copyright Kimley-Horn and Associates, Inc. 2025

REVISIONS					SHEET NO. S-14
NO.	BY:	DATE:	NO.	BY:	
1			3		TOTAL SHEETS 14
2			4		

DRAWN BY :	T. K. BOYD	DATE :	09/2025
CHECKED BY :	J. R. LOGAN	DATE :	09/2025
DESIGN ENGINEER OF RECORD:	A. L. PHILLIPS	DATE :	09/2025

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	AASHTO (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE AASHTO
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	----	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	---	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	----	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 AASHTO
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 2024 "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 ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" 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 ¼" 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 ⅞" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - ⅞"Ø STUDS FOR 4 - ¾" 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 ⅝" 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 ⅛" 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.