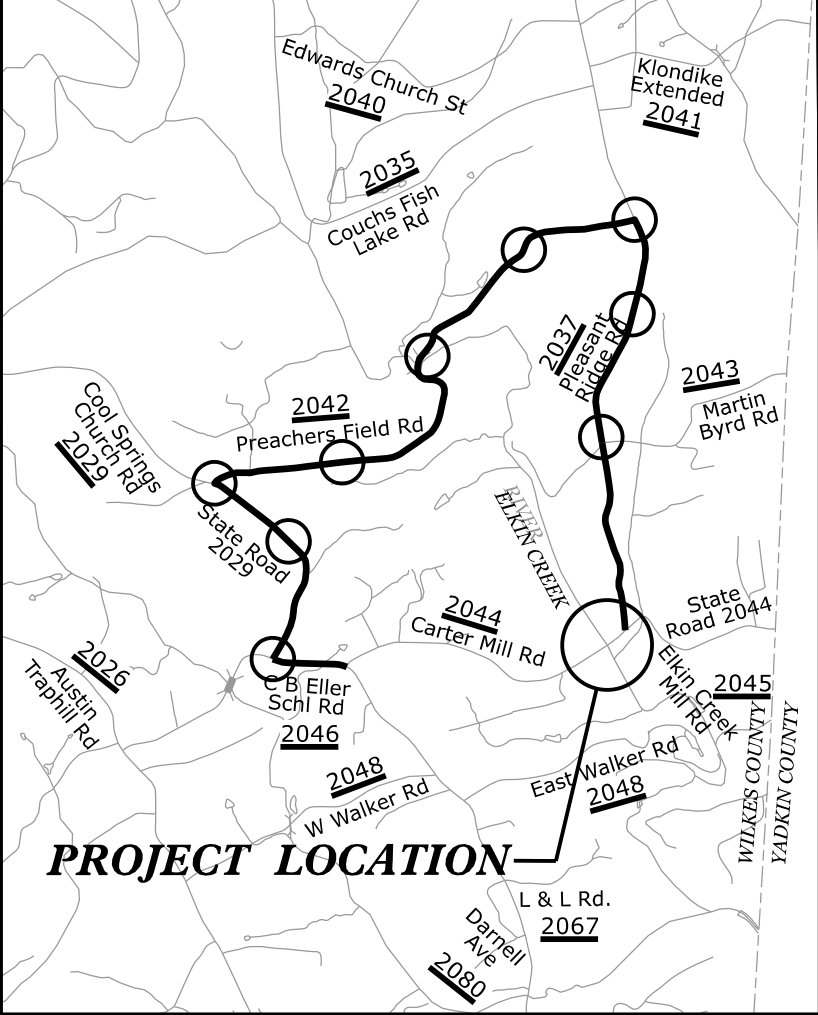


TIP PROJECT: BP11-R049

CONTRACT: DK00480

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



VICINITY MAP (NTS)

100% PLANS

OFF SITE DETOUR ROUTE

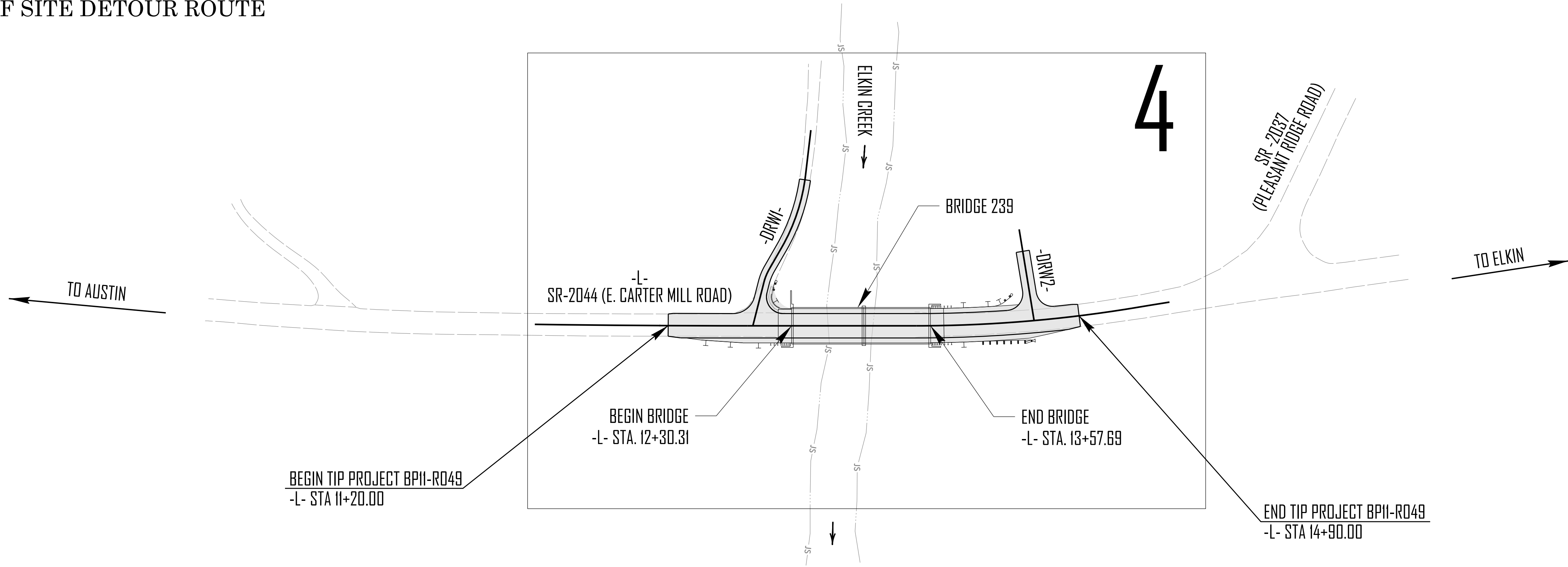
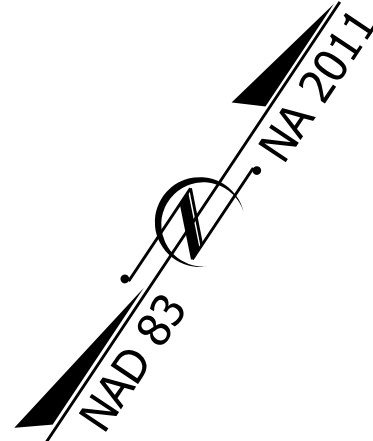
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WILKES COUNTY

LOCATION: *BRIDGE 239 OVER ELKIN CREEK*
ON SR 2044 (E. CARTER MILL ROAD)

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP11-R049	11	
STATE PROJ. NO.		F. A. PROJ. NO.	DESCRIPTION
BP11.R049.1			PE
BP11.R049.2			R/W & UTL
BP11.R049.3			CONST.



THIS PROJECT HAS NO CONTROLLED ACCESS.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

DESIGN DATA

ADT 2026 = 1225
ADT 2046 = 1500
K = %
D = %
T = % *
V = 55 MPH
* TTST =2% DUAL 1%
FUNC CLASS =
RURAL MINOR
COLLECTOR

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT BP11-R049 = 0.046 MILES
LENGTH OF STRUCTURE TIP PROJECT BP11-R049 = 0.024 MILES
TOTAL LENGTH OF TIP PROJECT BP11-R049 = 0.070 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:

July 31, 2025

LETTING DATE:

July 16, 2026

JORDAN C. BENDL, P.E.
PROJECT ENGINEER

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

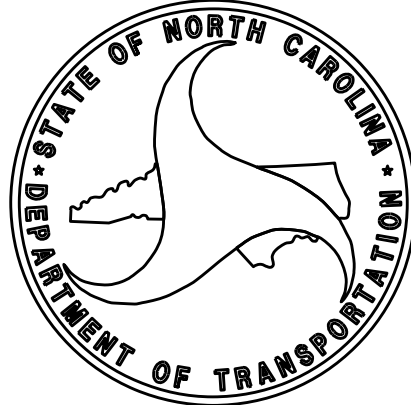
ROBBIE N. WEISZ, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

DocuSigned by:
Jordan Bendl
AF5429677CADC4F...
6/2/2026
P.E.

SIGNATURE:
ROADWAY DESIGN ENGINEER

Signed by:
Jack R. Crino
3054179BF0354AE...
6/2/2026
P.E.



INDEX OF SHEETS	
SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1 THRU 2C-3	ROADWAY DETAILS
3B-1 THRU 3B-2	ROADWAY SUMMARIES
3P-1	PARCEL INDEX SHEET
4 THRU 6	PLAN AND PROFILE SHEET
RW01 THRU RW04	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENTS AND PROPERTY TIES
TMP-1 THRU TMP-3	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UO-1 THRU UO-2	UTILITY BY OTHERS PLANS
X-1	CROSS-SECTION INDEX
X-1A	CROSS-SECTION SUMMARY SHEET
X-01 THRU X-16	CROSS-SECTIONS
S-1 THRU S-24	STRUCTURE PLANS

GENERAL NOTES:	2024 SPECIFICATIONS EFFECTIVE: 01-16-2024 REVISED:
GRADING:	THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED OR FUTURE 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.
CLEARING:	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
SUPERELEVATION:	ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.
SHOULDER CONSTRUCTION:	ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01
SIDE ROADS:	THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.
DRIVEWAYS:	DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
GUARDRAIL:	THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.
END BENTS:	THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT O EXCAVATION APPROACHING A BRIDGE.
UTILITIES:	UTILITY OWNERS ON THIS PROJECT ARE TELECOM - CHARTER/SPECTRUM: WILLIAM JONES (336)-268-1979 TELECOM - BRIGHTSPEED: TIMMIE HYLTON (276)-692-5081 POWER - DUKE ENERGY: PATRICK SIZEMORE (336)-917-2522 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

2024 ROADWAY ENGLISH STANDARD DRAWINGS	EFF. 01-16-2024 REV.
The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:	
STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	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)
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
423.01	Bridge Approach Fills - Type 1 Approach Fill for Bridge Abutment
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
840.00	Concrete Base Pad for Drainage Structures
840.02	Concrete Catch Basin - 12" thru 54" Pipe
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
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement (Use Details 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 Standard for Sheet 8 of 9)
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

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	
Permanent 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	

CONVENTIONAL PLAN SHEET SYMBOLS

Hedge	
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:

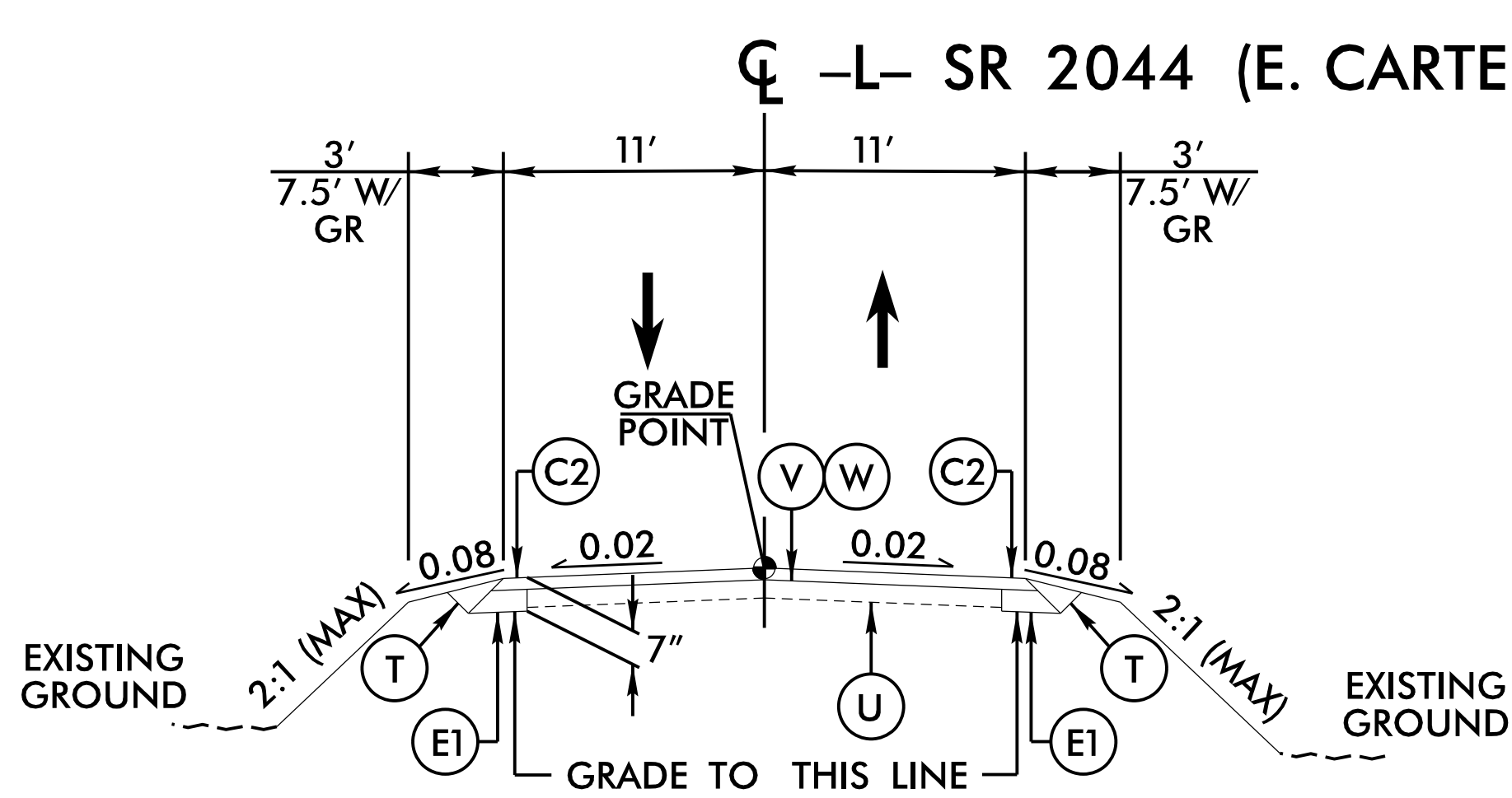
Gas Valve	
Gas Meter	
U/G Gas Line Test Hole (SUE - LOS A)*	
U/G Gas Line (SUE - LOS B)*	
U/G Gas Line (SUE - LOS C)*	
U/G Gas Line (SUE - LOS D)*	
Above Ground Gas Line	

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)*	

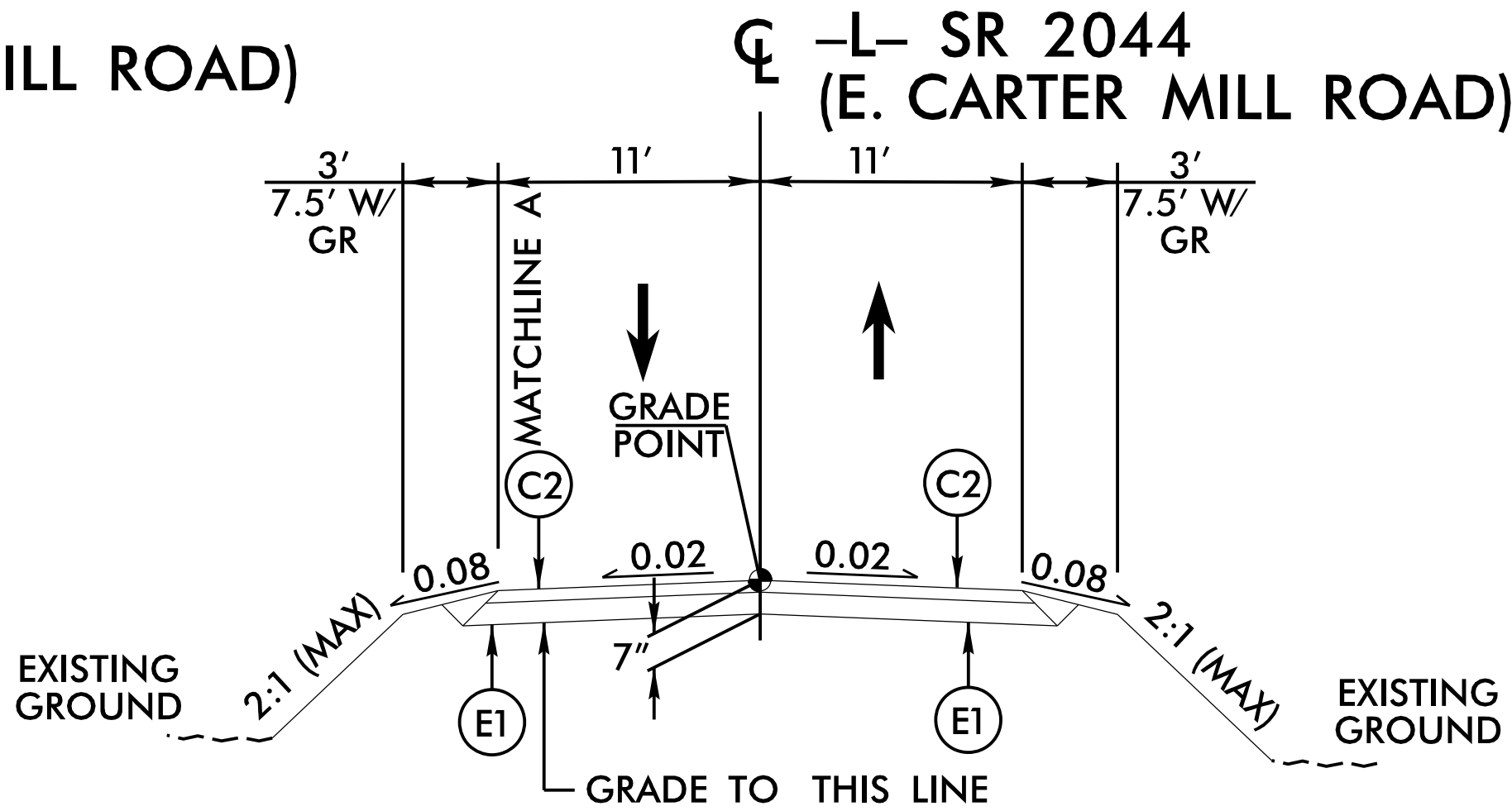
MISCELLANEOUS:

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	



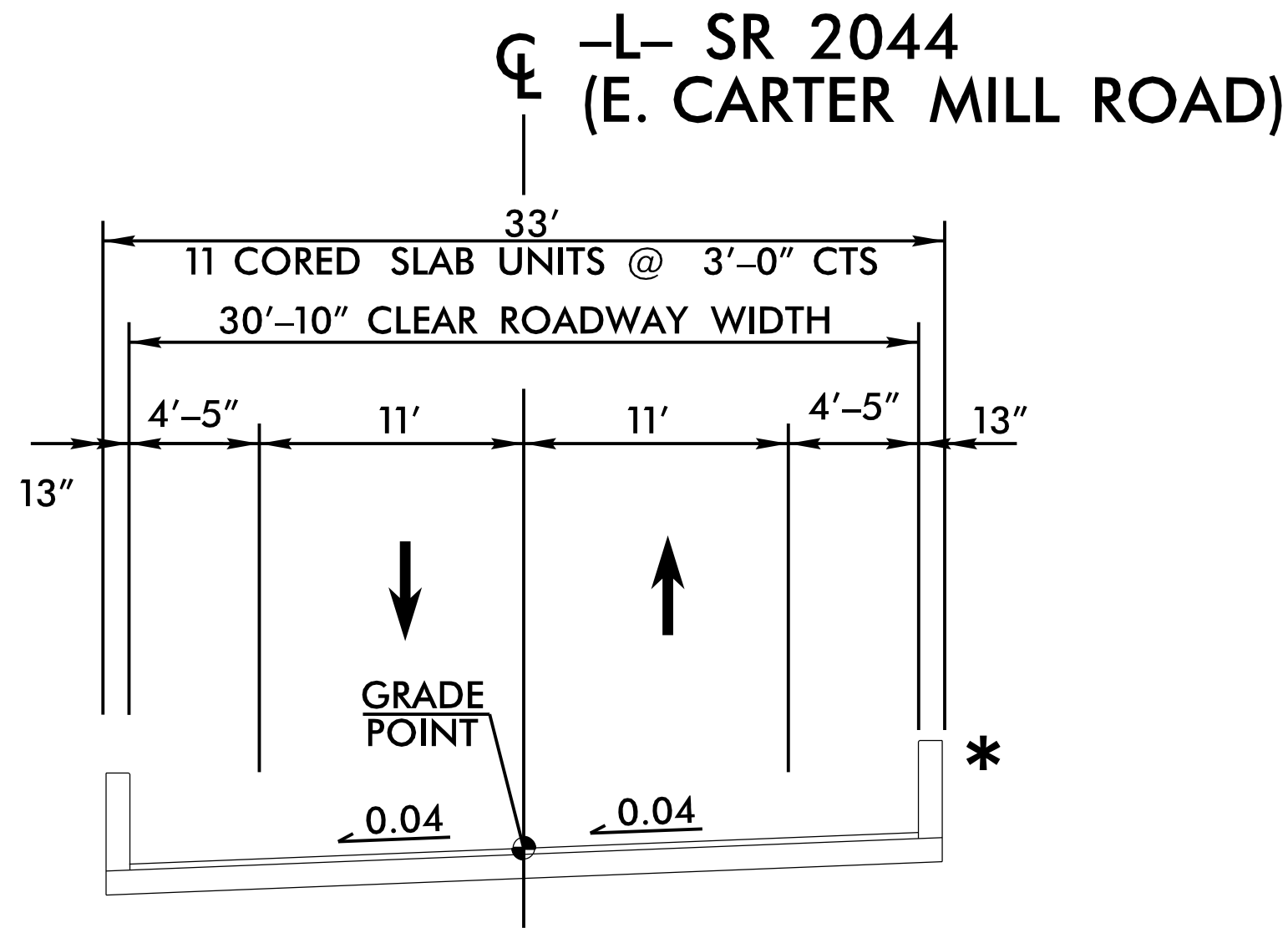
TYPICAL SECTION NO. 1

-L- STA. 11+20.00 TO 11+70.00
-L- STA. 14+40.00 TO 14+90.00



TYPICAL SECTION NO. 2

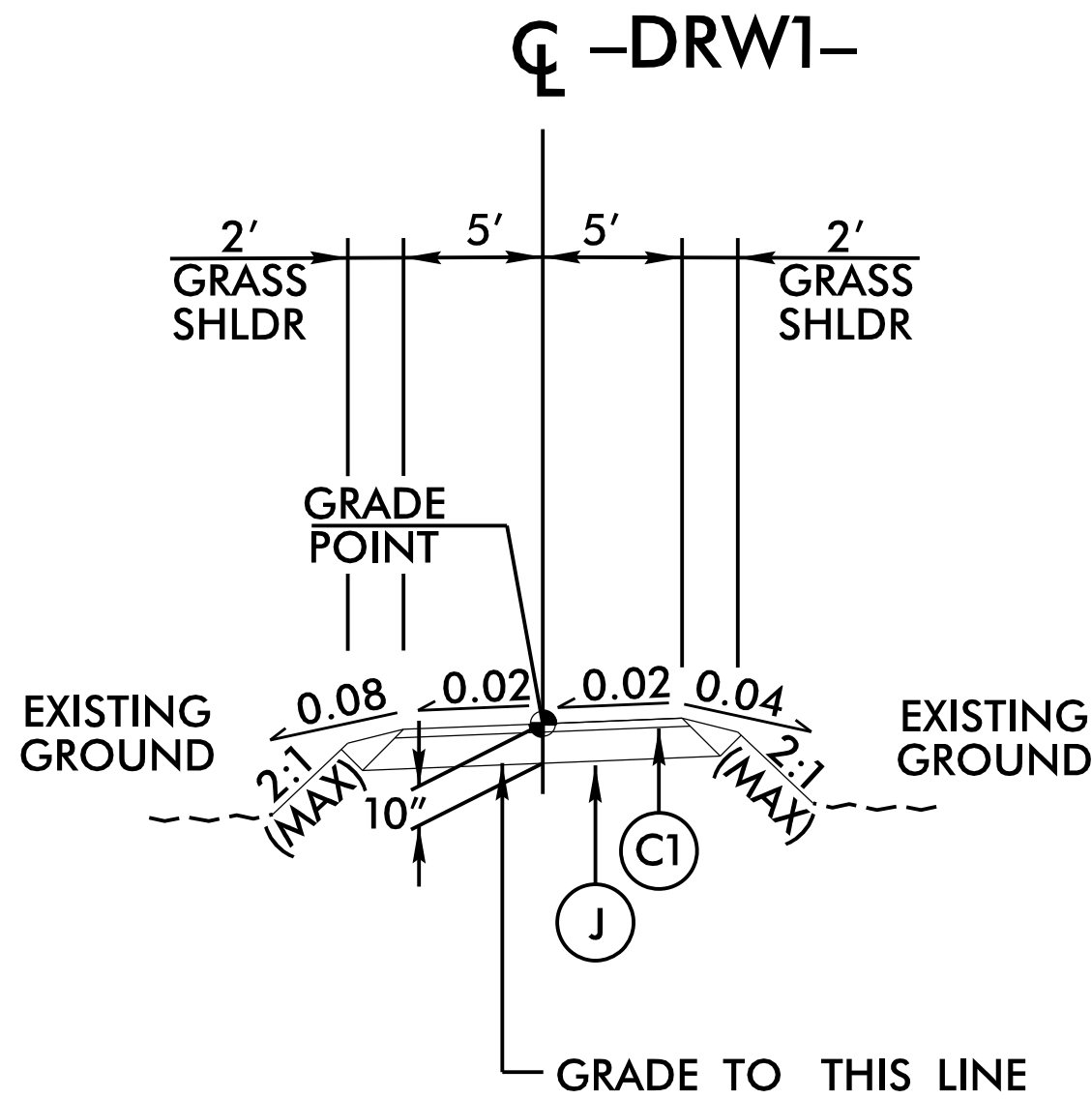
-L- STA. 11+70.00 TO 12+30.31
-L- STA. 13+57.69 TO 14+40.00



TYPICAL SECTION NO. 3

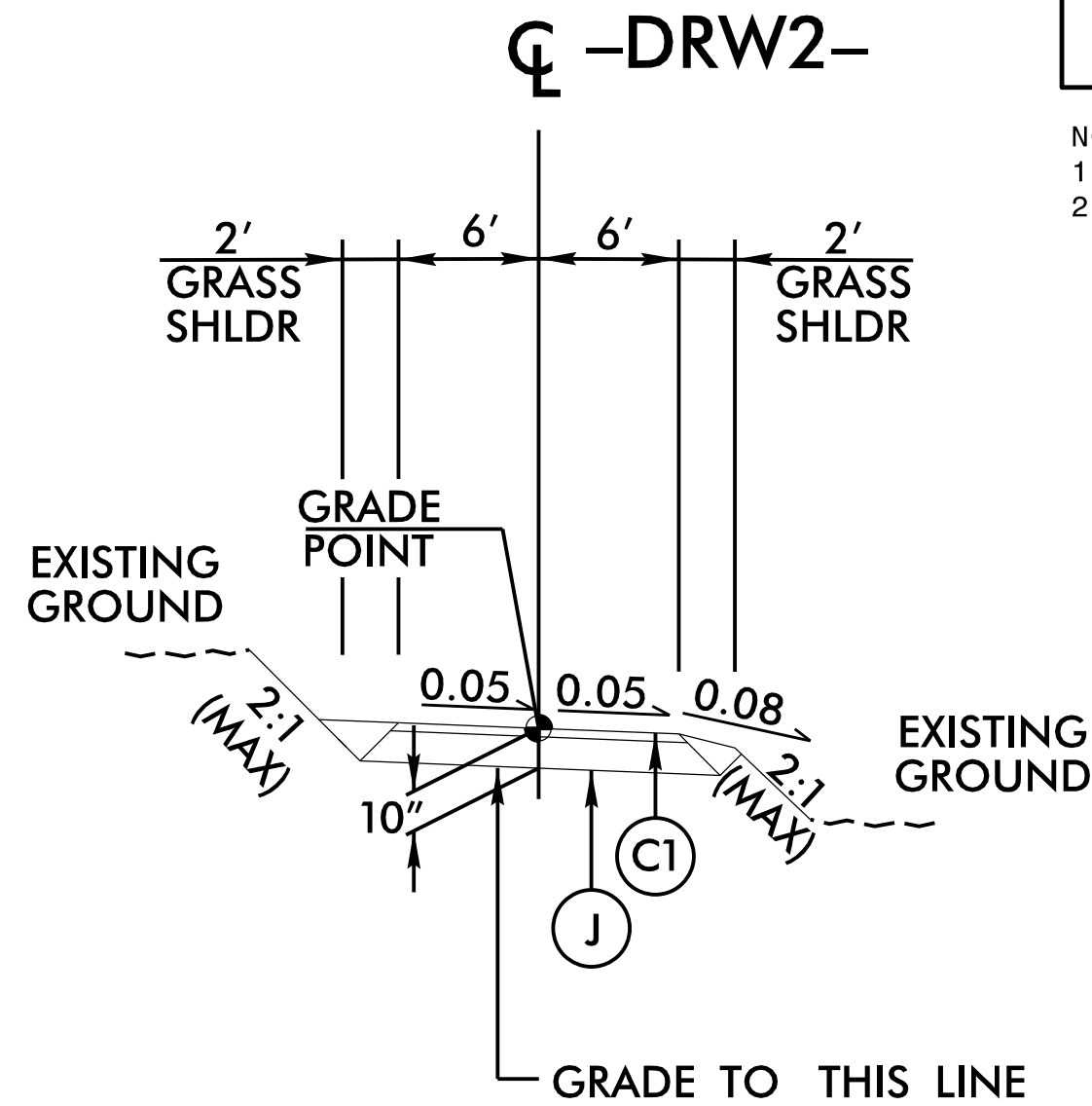
-L- STA. 12+30.31 TO 13+57.69

* SEE STRUCTURE PLANS FOR
STRUCTURE CONSTRUCTION DETAILS



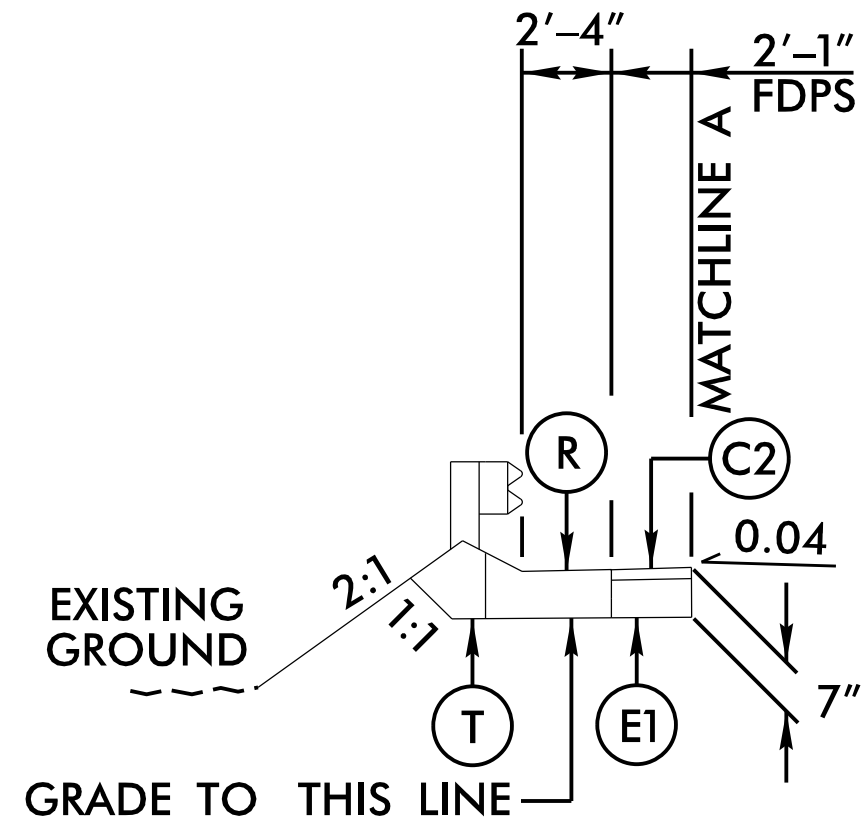
TYPICAL SECTION NO. 4

-DRW1- STA. 10+45.00 TO 11+74.10



TYPICAL SECTION NO. 5

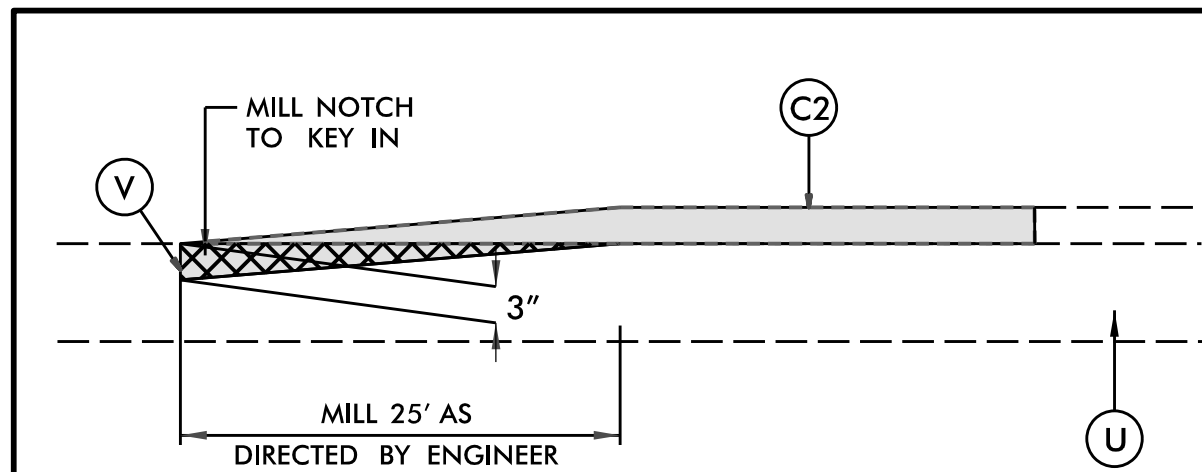
-DRW2- STA. 10+20.00 TO 10+72.08



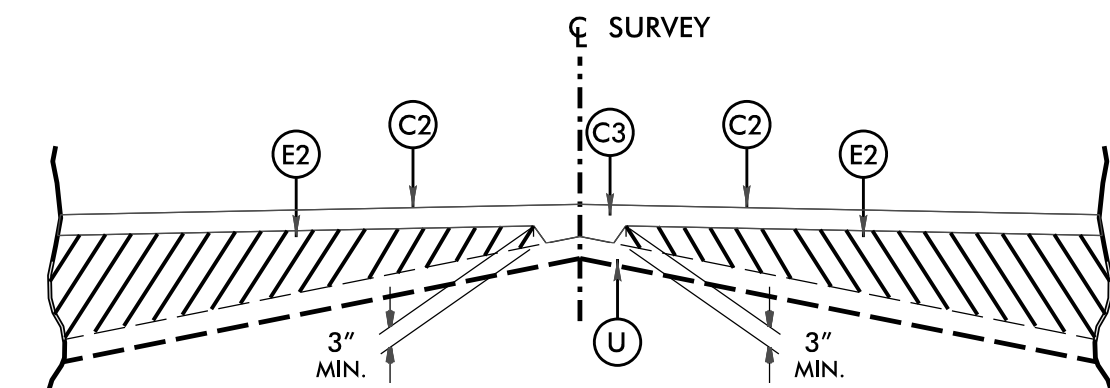
TYPICAL SECTION NO. 2A

-L- STA. 12+12.50 TO 12+23.73

NOTE:
1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
2. TRANSITION FULL DEPTH SHOULDER IN AREAS OF 8:1 TAPERS, UNLESS OTHERWISE SHOWN IN THE PLANS.



INCIDENTAL MILLING DETAIL



WEDGING DETAIL FOR RESURFACING

PRELIMINARY PAVEMENT SCHEDULE

C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" OR GREATER THAN 1 1/2" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
J	8" AGGREGATE BASE COURSE
R	PROPOSED SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	INCIDENTAL MILLING.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL).

BP11-R049

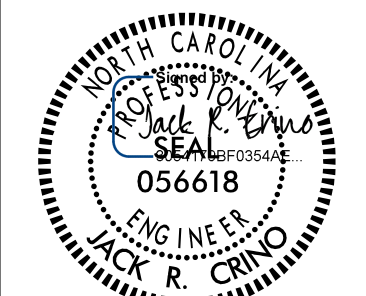
2A-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY



ROADWAY DESIGN UNIT

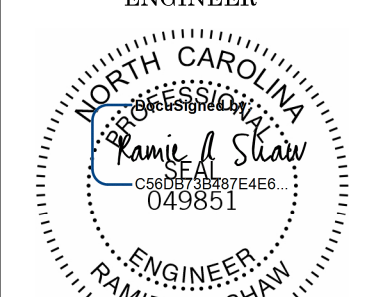
ROADWAY DESIGN
ENGINEER



6/2/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS FULL SIGNATURE IS COMPLETED

PAVEMENT DESIGN
ENGINEER



6/2/2026

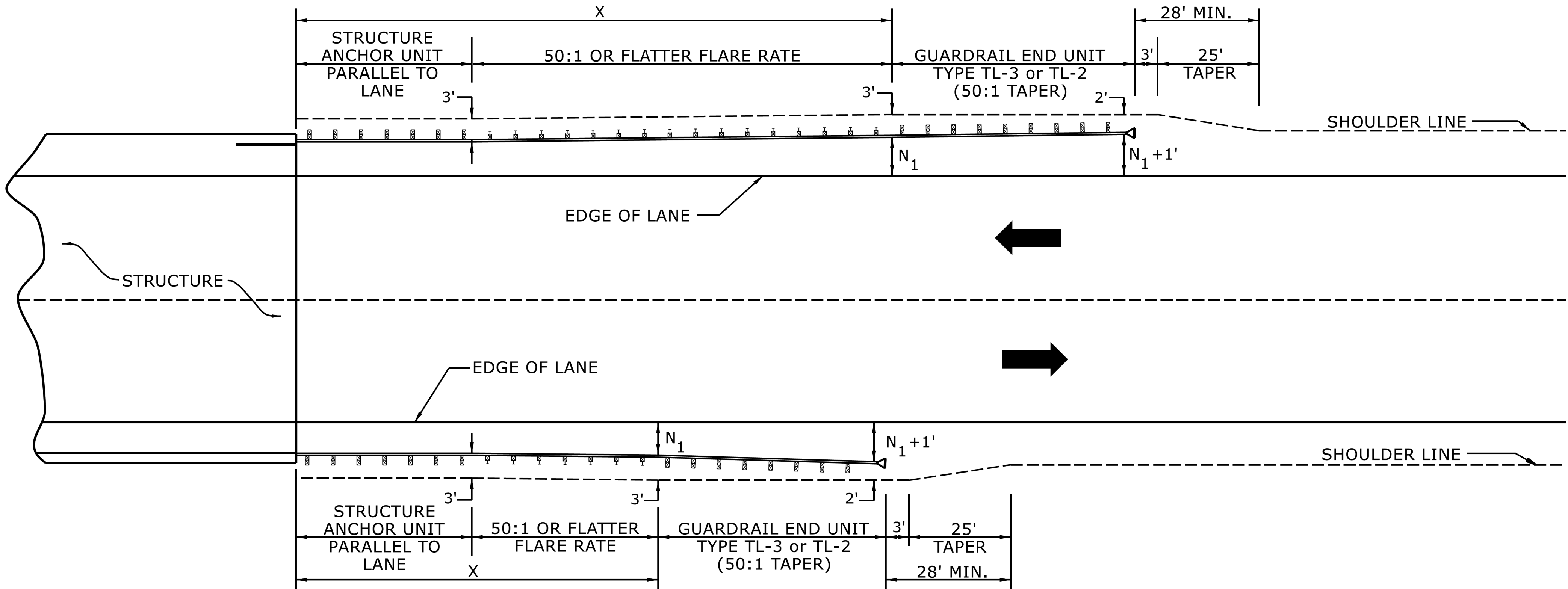
PREPARED BY

Kimley»Horn

NO LICENSE REQUIRED
ALL PROJECTS ARE DESIGNED BY THE
FIRM'S NORTH CAROLINA LICENSED ENGINEERS
AND/OR PROFESSIONAL SURVEYORS

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
BPII-R049	2C-2



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



6/2/2026

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UNLESS ALL SIGNATURES COMPLETED

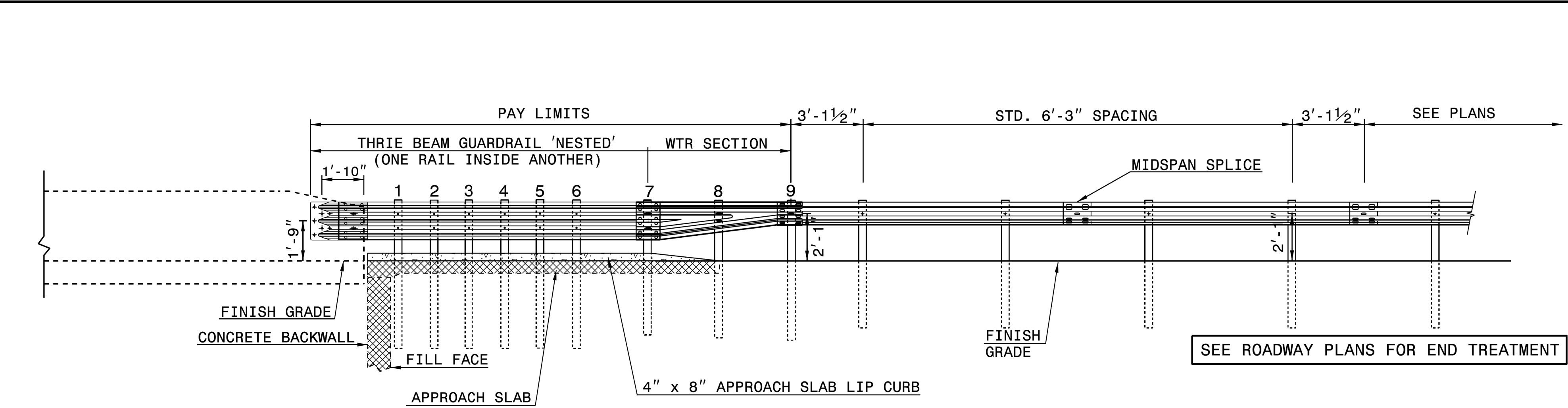
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

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

SEE TITLE BLOCK

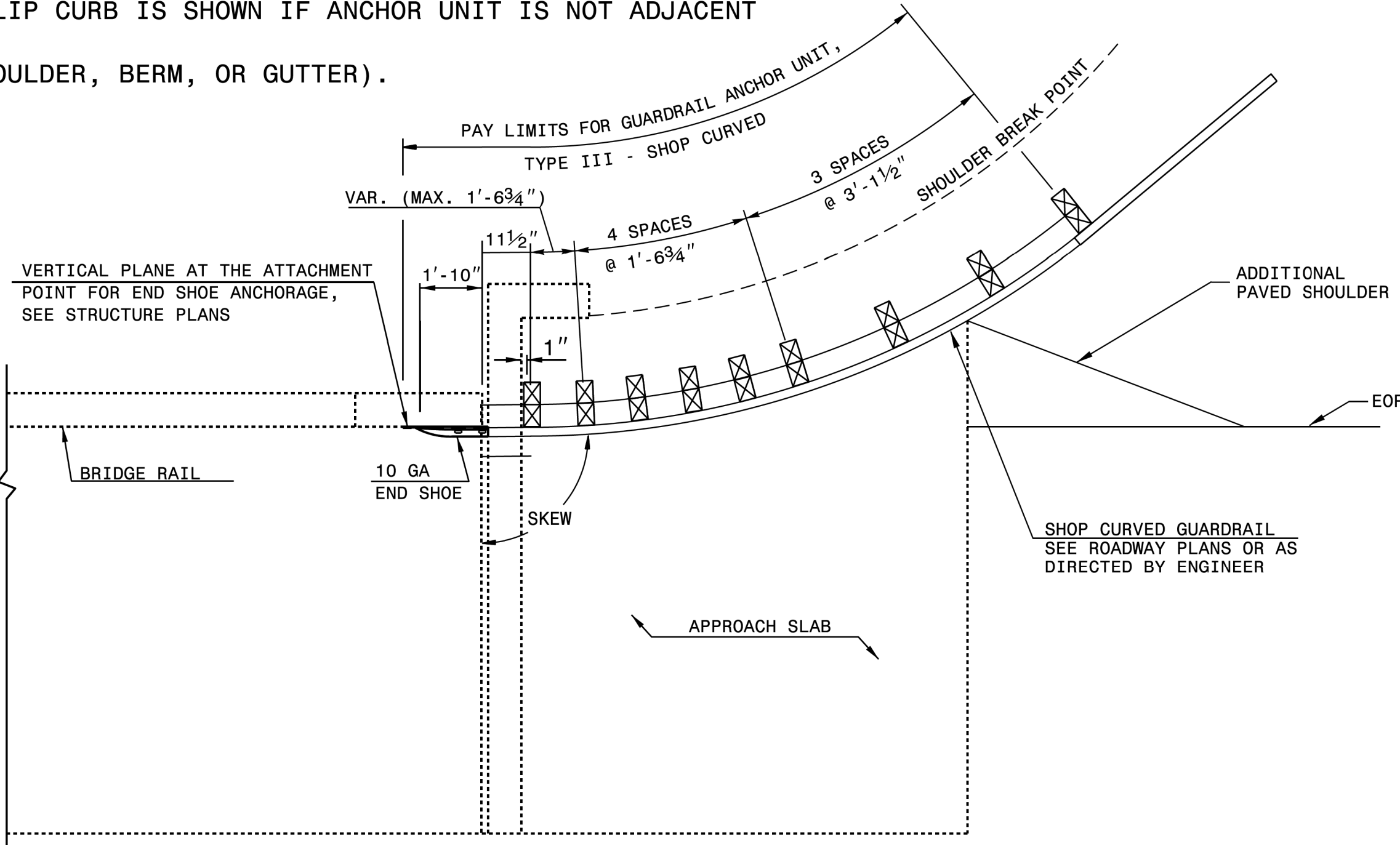
ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR TYPE III - SHOP CURVED STRUCTURE ANCHOR UNIT
SHEET 1 OF 1	
TYPE III SC	



ELEVATION

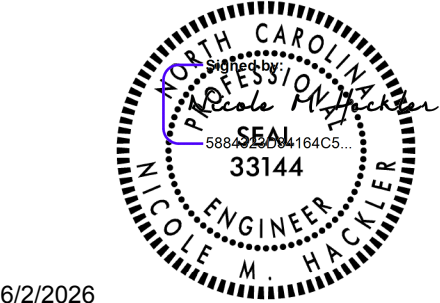
- NOTE:
- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 - *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
 - SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 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.



PLAN VIEW

**GUARDRAIL ANCHOR UNIT, TYPE III - SHOP CURVED
FOR ATTACHMENT TO RAIL ON BRIDGE**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR TYPE III - SHOP CURVED STRUCTURE ANCHOR UNIT
SHEET 1 OF 1	
TYPE III SC	



6/2/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
CONTRACT STANDARDS AND DEVELOPMENT UNIT Office 919-707-6950 FAX 919-250-4119	
SEE PLATE FOR TITLE	
ORIGINAL BY: E.E.Ward	DATE: 4-4-02
MODIFIED BY: T.S.Spell	DATE: 2-01-18
CHECKED BY:	DATE:
FILE SPEC.: \\howerton\guardrail\31\guardrail\typeiiiisc.dgn	

NOTES:
1. APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING PAVEMENT, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR GRADING.
2. EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGNER. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

SUMMARY OF EARTHWORK
IN CUBIC YARDS

LINE	STATION	STATION	EXCAVATION		EMBANKMENT	BORROW	WASTE
			TOTAL UNCLASSIFIED	UNDERCUT	EMBANKMENT +15%		TOTAL
-L-	11 + 20.00	12 + 30.31	5		622	617	
-L-	13 + 57.69	14 + 90.00	3		697	694	
-DRW1-	10 + 45.00	11 + 74.10	8		174	166	
-DRW2-	10 + 20.00	10 + 72.08	11		5	0	6
PROJECT SUBTOTAL			27	0	1498	1477	6
WASTE IN LIEU OF BORROW						-6	-6
PROJECT TOTAL			27	0	1498	1471	0
EST 5% TO REPLACE TOP SOIL ON BORROW PIT						74	
GRAND TOTAL			27			1545	
SAY			100			1600	
ESTIMATED DDE = 40 CY							

SUMMARY OF PAVEMENT REMOVAL			
LINE	STATION TO STATION		AREA (SY)
-L-	11 + 70.00 TO 12 + 25.00		127
-L-	13 + 42.00 TO 13 + 68.00		61
-L-	14 + 20.00 TO 14 + 40.00		43
-DRW1-	10 + 45.00 TO 11 + 74.10		163
TOTAL			394
SAY			400

SUMMARY OF PAVEMENT BREAKING			
LINE	STATION TO STATION		AREA (SY)
-L-	13 + 68.00 TO 14 + 20.00		114
TOTAL			114
SAY			120

SUMMARY OF SHOULDER BERM GUTTER			
LINE	STATION TO STATION	LOCATION	LENGTH (LF)
-DRW1-/-L-	11 + 47.34 TO 12 + 19.00	LT/LT	25
TOTAL			25
SAY			25

LUMP SUM GRADING
QUANTITIES

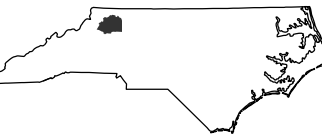
THE PAY ITEMS WILL BE PAID FOR AT THE THE CONTRACT LUMP SUM PRICE FOR "GRADING". QUANTITIES ARE APPROXIMATE AND SHALL BE CONFIRMED BY CONTRACTOR PRIOR TO BIDDING.

SPEC NO.	ITEM	QUANTITY	UNIT
200	CLEARING AND GRUBBING	0.1	ACR
225	UNCLASSIFIED EXCAVATION	100	CY
250	REMOVAL OF EXISTING ASPHALT PAVEMENT	400	SY
250	BREAKING OF EXISTING ASPHALT PAVEMENT	120	SY
500	FINE GRADING	680	SY

BP11-R049

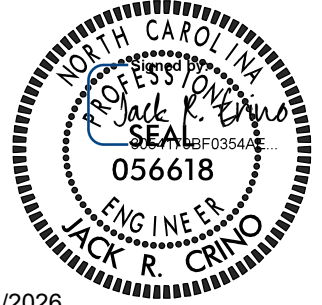
38-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY



ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER



9/2/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PREPARED BY



NO LICENSE REQUIRED
ALL PROJECTS ARE DESIGNED BY THE FIRM
FOR THE STATE OF NORTH CAROLINA
SINCE 1978

REVISIONS

PARCEL NO.	PROPERTY OWNERS NAMES	TOTAL AREA TAKEN (SY)	PROPOSED RIGHT-OF-WAY (SY)	TEMPORARY CONSTRUCTION EASEMENT (SY)	PERMANENT DRAINAGE EASEMENT (SY)	PERMANENT UTILITY EASEMENT (SY)
1	EDDIE D. & SHELIA W. SETTLE	530	55	279	194	0
2	MICHAEL R. & MAIDRON C. BAKER	270	270	0	0	0
3	CHRISTOPHER J. & STEPHANIE J. CARTWRIGHT	590	333	0	0	257
4	LARRY G. MARTIN	542	0	103	443	0

GUARDRAIL SUMMARY

[illegible]

ADDITIONAL GUARDRAIL POSTS = 5 EA

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

[illegible]

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

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

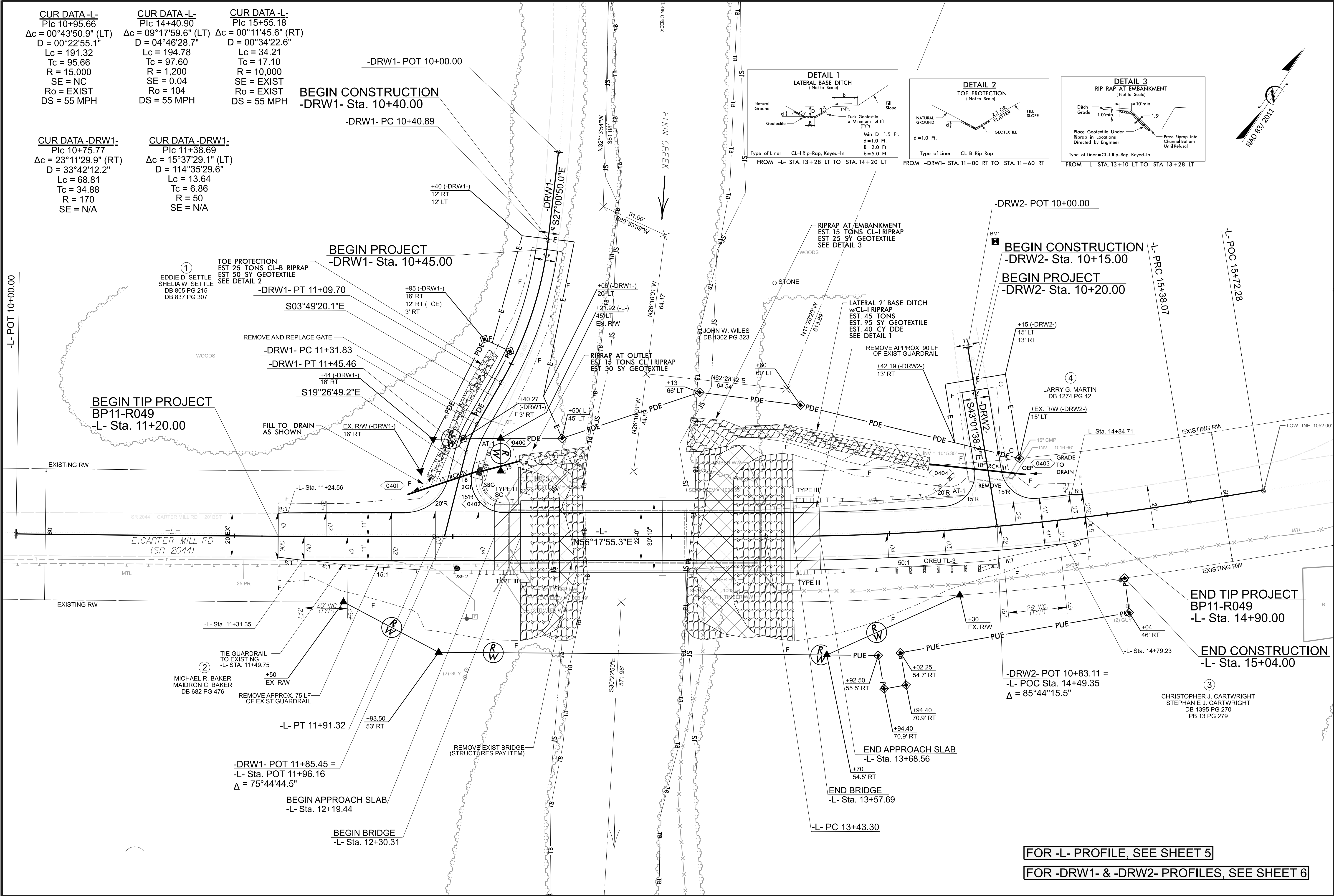
PREPARED BY

Kimley»Horn

NC LICENSE #F4962
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601

REVISIONS

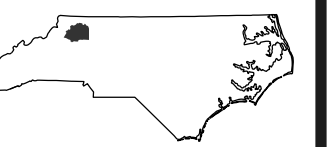
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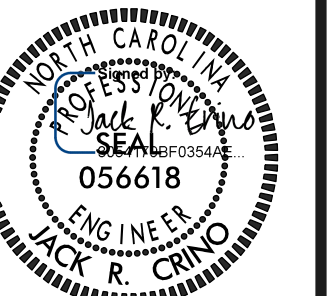
BP11-R049

4

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER



2/2/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

HYDRAULICS
ENGINEER

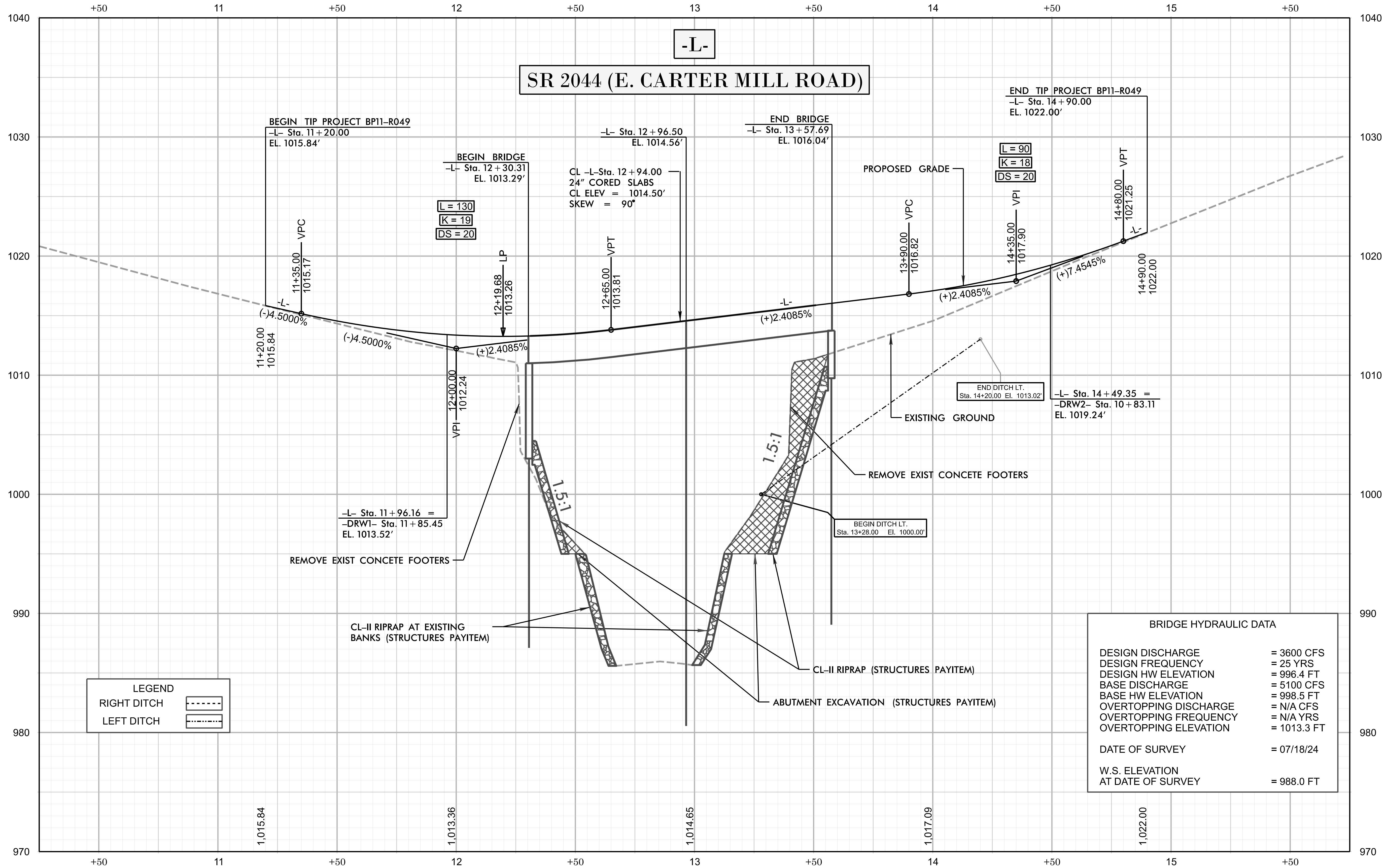


2/2/2026

PREPARED BY

Kimley»Horn
INCORPORATED
10000 WOODHOLLOW DRIVE, SUITE 100
DURHAM, NORTH CAROLINA 27703
(919) 480-0700

REVISIONS

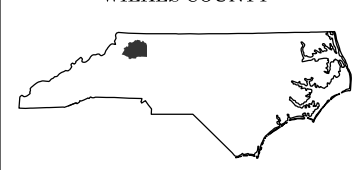


FOR -L- PLAN, SEE SHEET 4

BP11-R049

5

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY



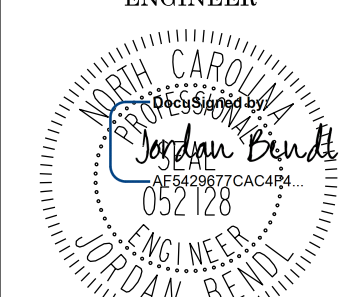
ROADWAY DESIGN UNIT
ENGINEER



2/2/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

HYDRAULICS
ENGINEER



2/2/2026

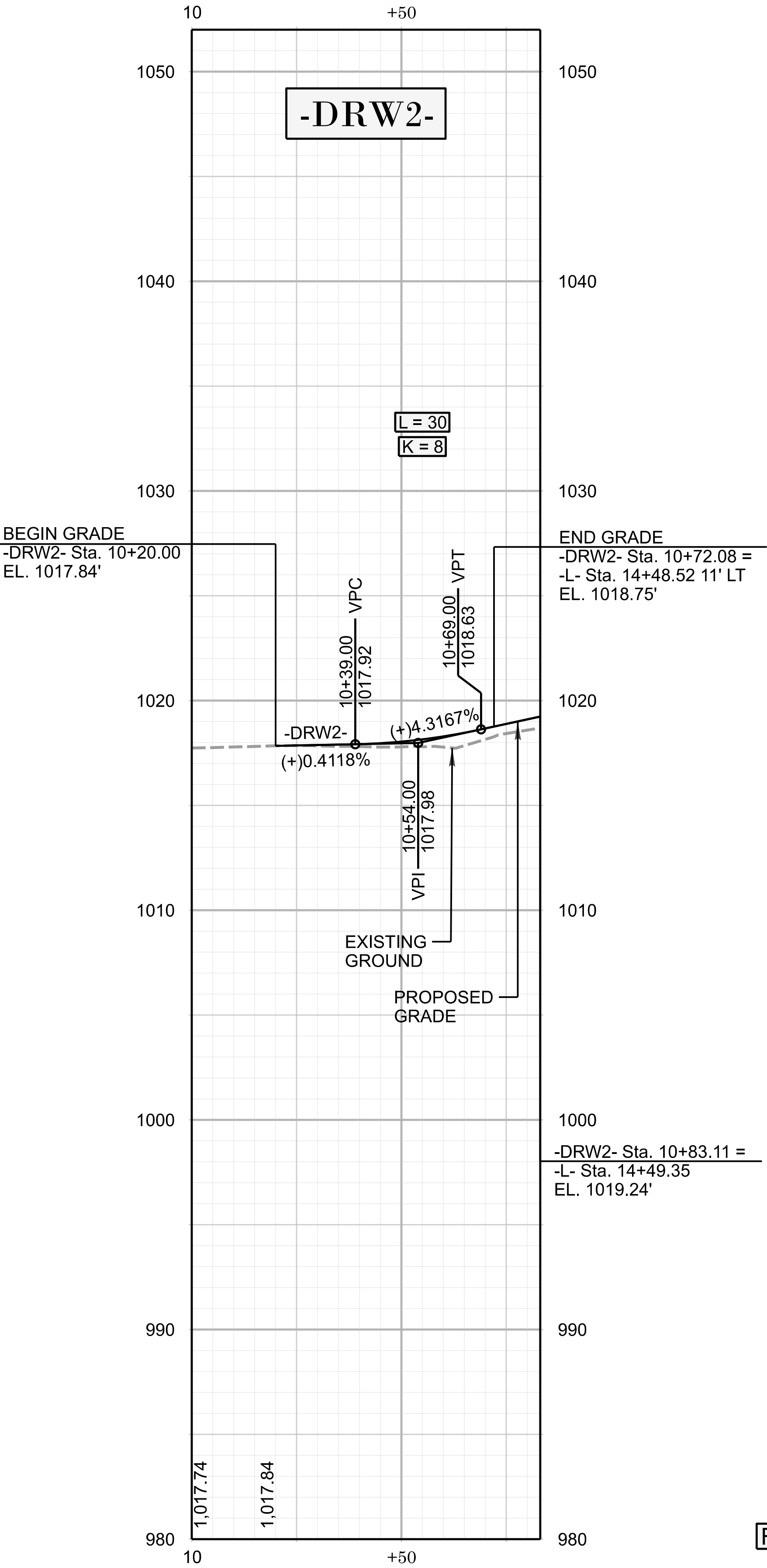
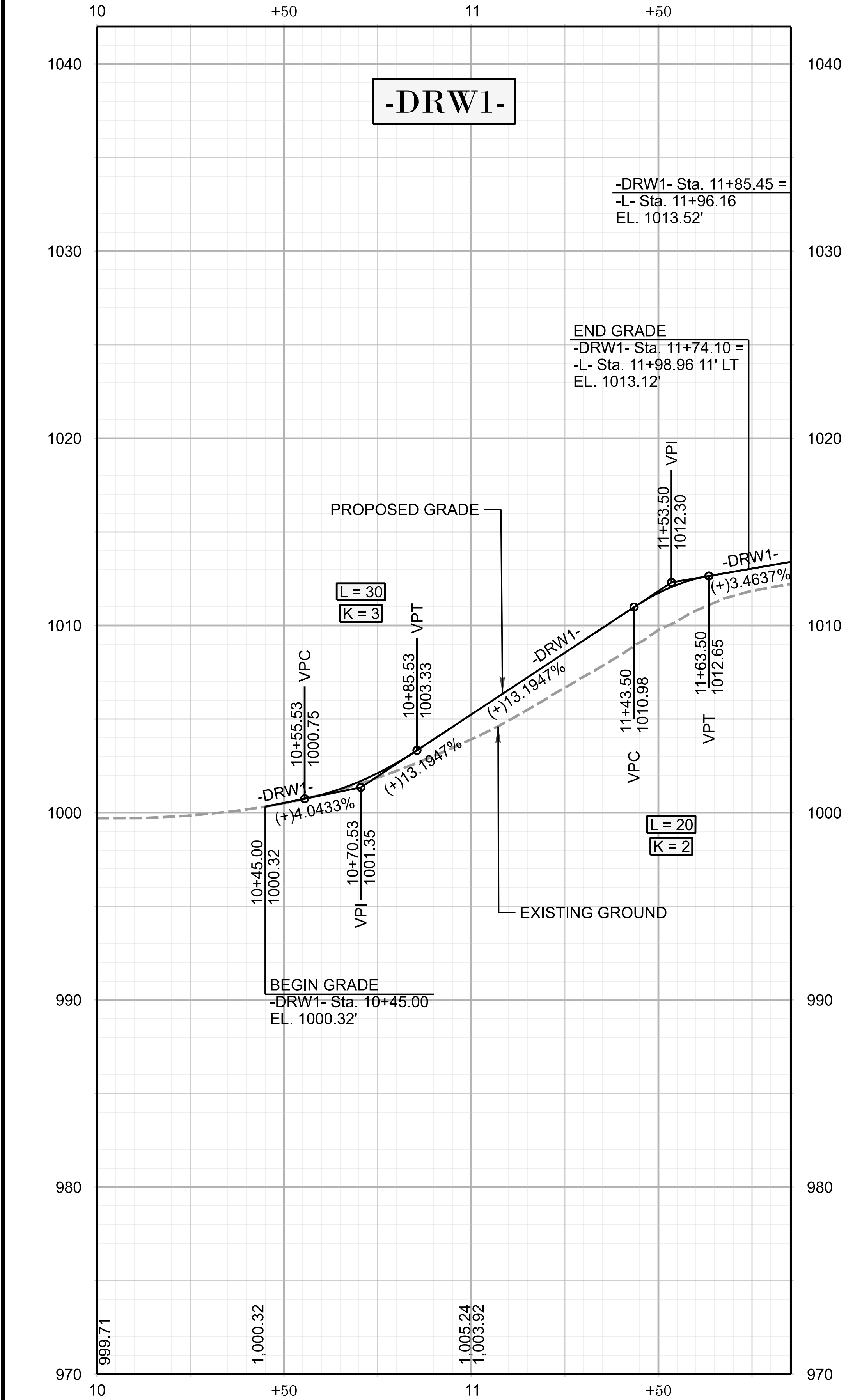
PREPARED BY

Kimley»Horn

NO LICENSE REQUIRED
ALL PROJECTS ARE DESIGNED BY THE FIRM
IN ACCORDANCE WITH THE NORTH CAROLINA
ENGINEERING ACT OF 1991

REVISIONS

11/14/23

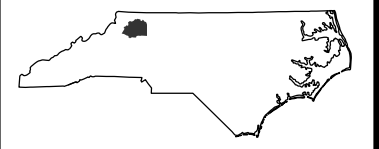


FOR -DRW1- AND -DRW2- PLAN, SEE SHEET 4

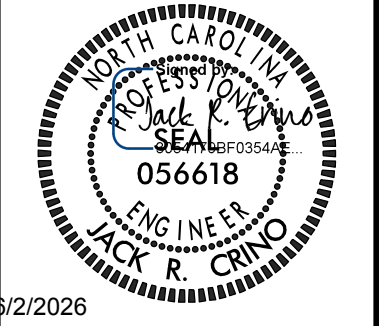
BP11-R049

6

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY

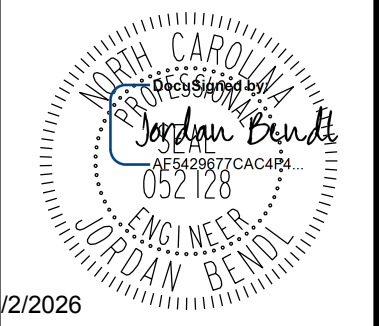


ROADWAY DESIGN UNIT
ENGINEER



2/2/2026
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

HYDRAULICS
ENGINEER

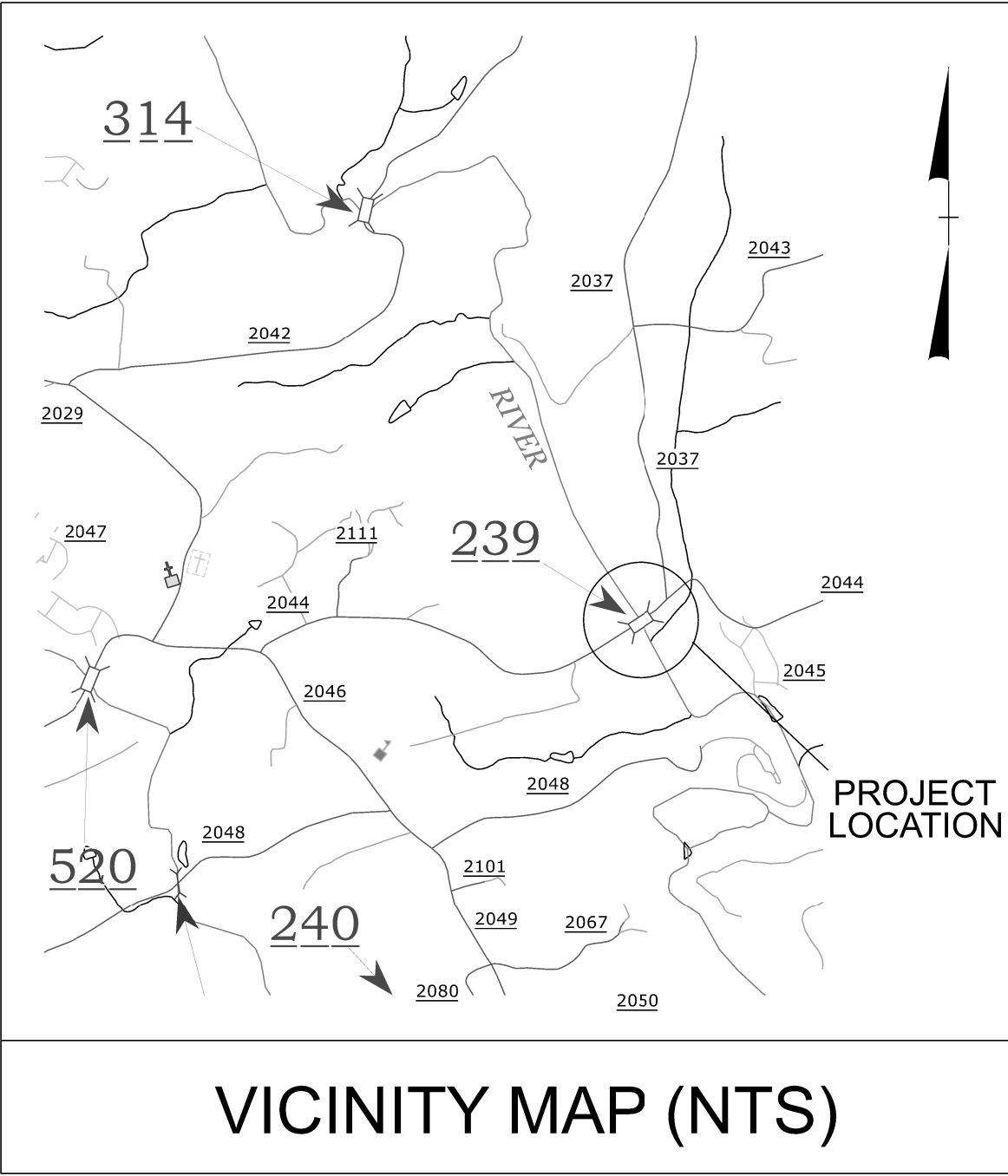


PREPARED BY
Kimley»Horn

REVISIONS

TIP PROJECT: BP11.R049

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP11.R049	RW01	5

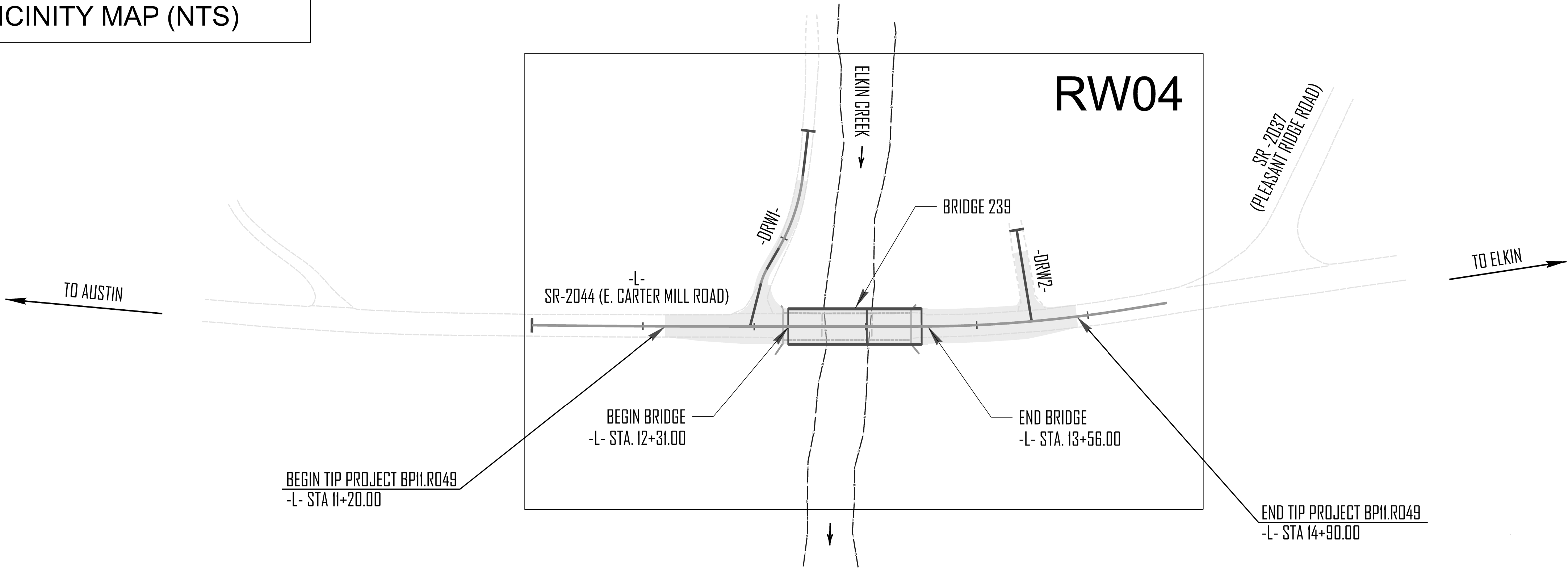
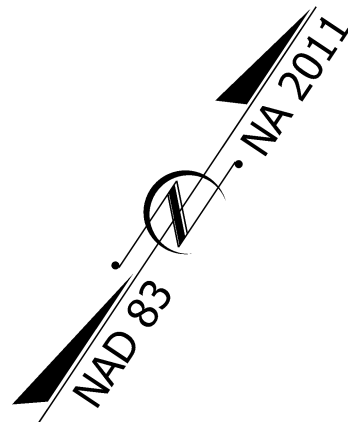


VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

WILKES COUNTY



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
NCDOT FOR MONUMENT 239-2
WITH NAD83/2011 STATE PLANE GRID COORDINATES OF
NORTHING: 926208.409 EASTING: 1445924.721
ELEVATION: 1010.74
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.99999060
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:



GEOSPHERE LAND SURVEYING OF NC
128 TALBERT ROAD
MOORESVILLE NC 28117
FIRM C-5241

2024 STANDARD SPECIFICATIONS

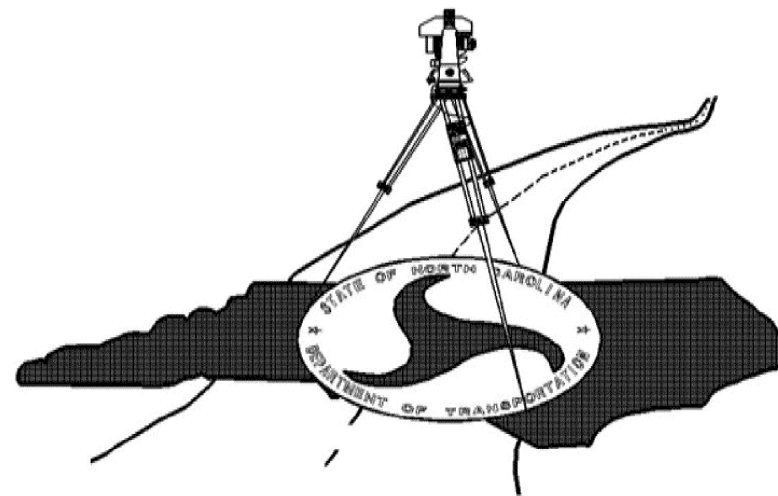
RIGHT OF WAY DATE:
October 1, 2025

LETTING DATE:
August 20, 2026

PROFESSIONAL LAND
SURVEYOR



Digitally signed by Sarah Vincent
DN: cn=Sarah Vincent, o=Geosphere Land Surveying of NC, email=Sarah.Vincent@geosphere-nc.com, c=US
9/16/2025
SIGNATURE: DATE:



PROPOSED ALIGNMENT CONTROL SHEET

I, Sarah J Vincent, PLS, CERTIFY THAT THE DATA COMPILED CAME FROM AVAILABLE SURVEYS/MAPPING PERFORMED BY OTHERS AND PROVIDED TO ME BY NCDOT AND DO NOT CERTIFY TO THE ACCURACY OR QUALITY OF THE INDIVIDUAL DATA SOURCES.

THIS 16TH DAY OF SEPTEMBER, 2025.

Sarah J Vincent
Digitally signed by Sarah Vincent
DN: cn=Sarah Vincent,
c=US, o=Sarah Vincent, email=Sarah.Vincent@shurg.com,
serial=2025.09.16.15:05:06.00Z

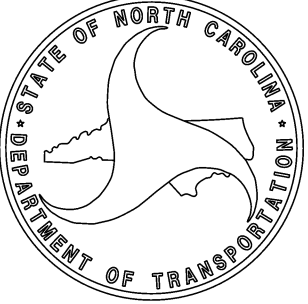
PROFESSIONAL LAND SURVEYOR L-5617

BP11.R049

R/W

02D-I

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR



DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL SIGNATURES
ARE COMPLETED

2024 STANDARD
SPECIFICATIONS

PROPOSED ALIGNMENT: L												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
PC	10+00.00	926109.4909	1445747.9543	N56°39'50.8"E	191.32	00°43'50.9"	00°22'55.1"	191.32	95.66	15000.00		
PT	11+91.32	926214.6303	1445907.7955	N56°17'55.3"E	151.97							
PC	13+43.30	926298.9551	1446034.2289	N51°38'55.5"E	194.56	09°17'59.6"	04°46'28.7"	194.78	97.60	1200.00		
PRC	15+38.07	926419.6777	1446186.8094	N47°05'48.2"E	34.18	00°11'45.0"	00°34'22.6"	34.18	17.09	10000.00		
END	15+72.25	926442.9446	1446211.8448									

PROPOSED ALIGNMENT: DRW1												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	926392.7257	1445857.5506	S27°00'50.0"E	40.8906							
PC	10+40.89	926356.2964	1445876.1233	S15°25'05.0"E	68.3422	23°11'29.9"	33°42'12.2"	68.81	34.88	170		
PT	11+09.70	926290.4138	1445894.2928	S03°49'20.1"E	22.1236							
PC	11+31.83	926268.3394	1445895.7676	S11°38'04.6"E	13.5930	15°37'29.1"	114°35'29.6"	13.64	6.86	50		
PT	11+45.46	926255.0258	1445898.5089	S19°26'49.2"E	39.9906							
END	11+85.45	926217.3166	1445911.8231									

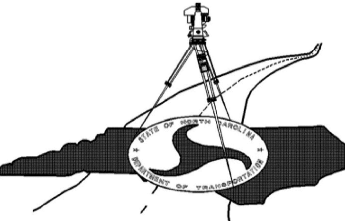
PROPOSED ALIGNMENT: DRW2												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	926422.3740	1446063.0362	S43°01'38.2"E	83.11							
END	10+83.11	926361.6193	1446119.7449									

NOTES:

1. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

TIP PROJECT: BP11.R049
County: Wilkes

PREPARED FOR



LOCATION AND
SURVEYS UNIT

PREPARED BY



GEOSPHERE LAND SURVEYING OF NC
128 TALBERT ROAD
MOORESVILLE NC 28117
FIRM C-5241

RIGHT OF WAY CONTROL SHEET

PERMANENT ROW MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
11+50.00	30.00	926166.7458	1445889.9637
11+93.50	53.00	926171.7461	1445939.0154
12+21.92	-30.00	926256.5650	1445916.6033
12+21.92	-45.00	926269.0441	1445908.2803
13+70.00	54.50	926269.3616	1446087.5201
14+30.00	30.00	926325.9356	1446122.9661

PERMANENT ROW MARKER IRON PIN AND CAP: DRW1			
STATION	OFFSET	NORTH	EAST
11+44.00	16.00	926251.5256	1445882.8065
11+59.07	18.00	926236.2001	1445886.0668

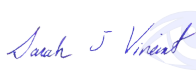
PERMANENT EASEMENT MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
12+50.00	-45.00	926284.6261	1445931.644
13+13.00	-66.00	926337.0533	1445972.404
13+60.00	-60.00	926357.7684	1446014.078
13+92.50	55.50	926282.2166	1446107.255
13+94.40	70.90	926270.9513	1446117.944
14+02.25	54.70	926288.8963	1446115.002
14+04.00	69.60	926278.0241	1446125.355
15+04.00	46.00	926362.278	1446191.969
15+04.00	30.00	926374.2845	1446181.394

PERMANENT EASEMENT MARKER IRON PIN AND CAP: DRW1			
STATION	OFFSET	NORTH	EAST
10+95.00	3.00	926304.5643	1445889.7152
10+95.00	16.00	926302.5806	1445876.8675
11+40.27	3.00	926259.3055	1445894.1194

PERMANENT EASEMENT MARKER IRON PIN AND CAP: DRW2			
STATION	OFFSET	NORTH	EAST
10+34.07	-15.00	926393.0803	1446110.8981

I, Sarah J Vincent, PLS, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED FROM 9/11/2025 TO 9/15/2025, AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 16TH DAY OF SEPTEMBER, 2025.



Digitally signed by Sarah J Vincent

DN: cn=Sarah J Vincent

email=Sarah.J.Vincent@wsp.com

date=2025.09.16 13:56:46-0500

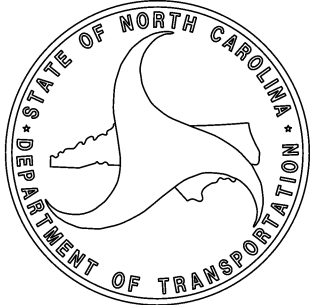
PROFESSIONAL LAND SURVEYOR L-5617

BP11.R049

R/W

03E-1

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR

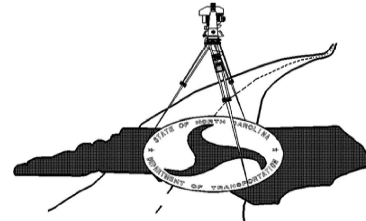


DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL SIGNATURES
ARE COMPLETED

2024 STANDARD
SPECIFICATIONS

TIP PROJECT: BP11.R049
County: Wilkes

PREPARED FOR



LOCATION AND
SURVEYS UNIT

PREPARED BY



GEOSPHERE LAND SURVEYING OF NC

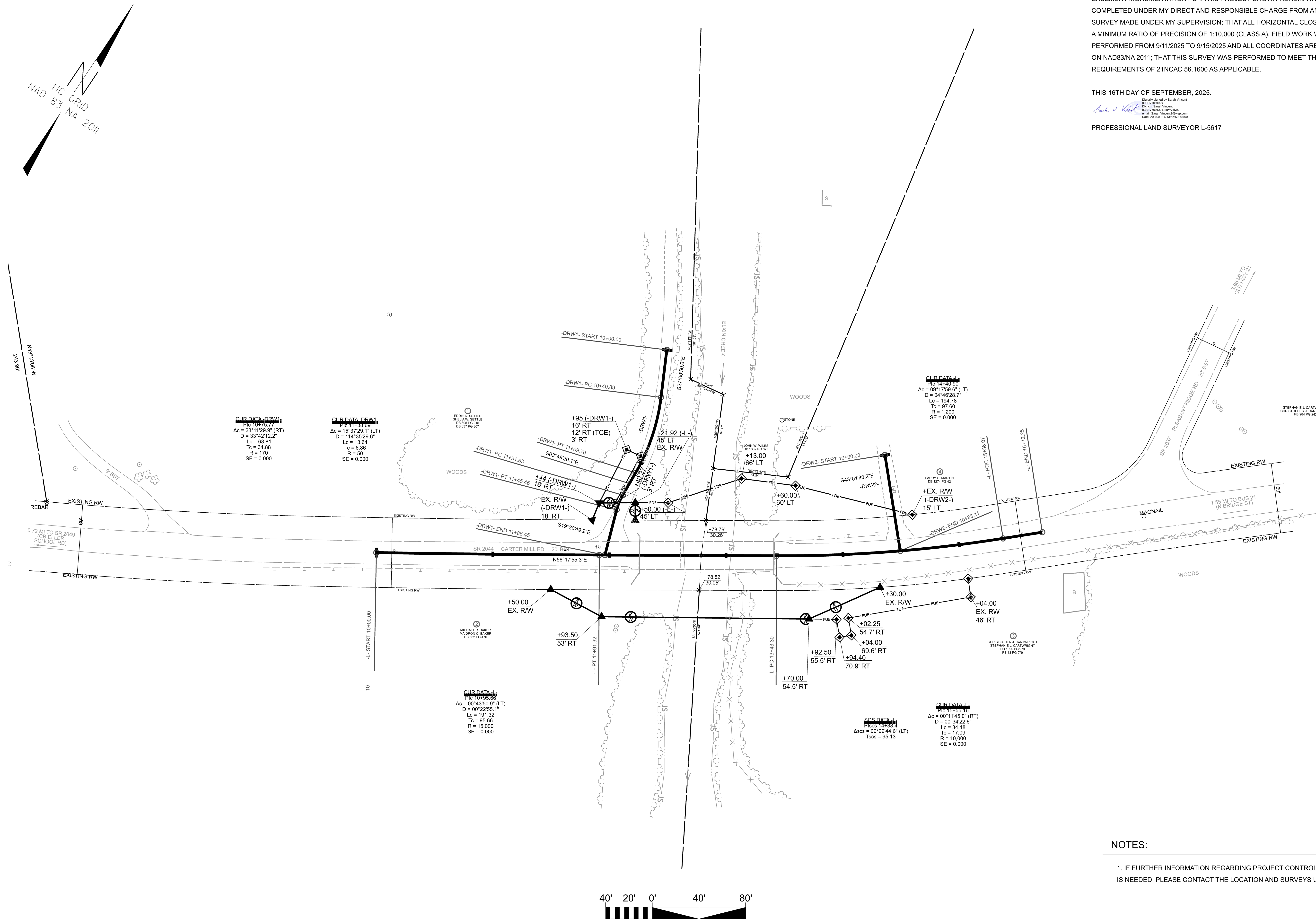
128 TALBERT ROAD

MOORESVILLE NC 28117

FIRM C-5241

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.



I, Sarah J. Vincent, PLS, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED FROM 9/11/2025 TO 9/15/2025 AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 16TH DAY OF SEPTEMBER, 2025

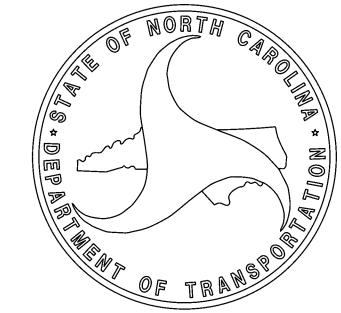
Sarah J Vincent
(USSV709137)
DN: cn=Sarah Vincent
(USSV709137), ou=Active,
email=Sarah.Vincent2@wsp.com
Date: 2025.09.16 13:56:59 -0400

PROFESSIONAL LAND SURVEYOR L-5617

BP11.R049

R/W	RWD4
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NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION

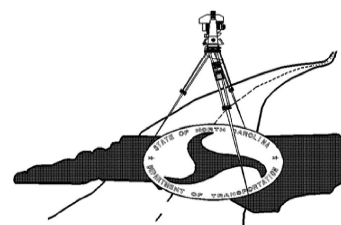
PROFESSIONAL LAND
SURVEYOR

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ARE COMPLETED

2024 STANDARD
SPECIFICATIONS

TIP PROJECT: BP11.R049
County: Wilkes

PREPARED FOR

LOCATION AND
SURVEYS UNIT

PREPARED BY

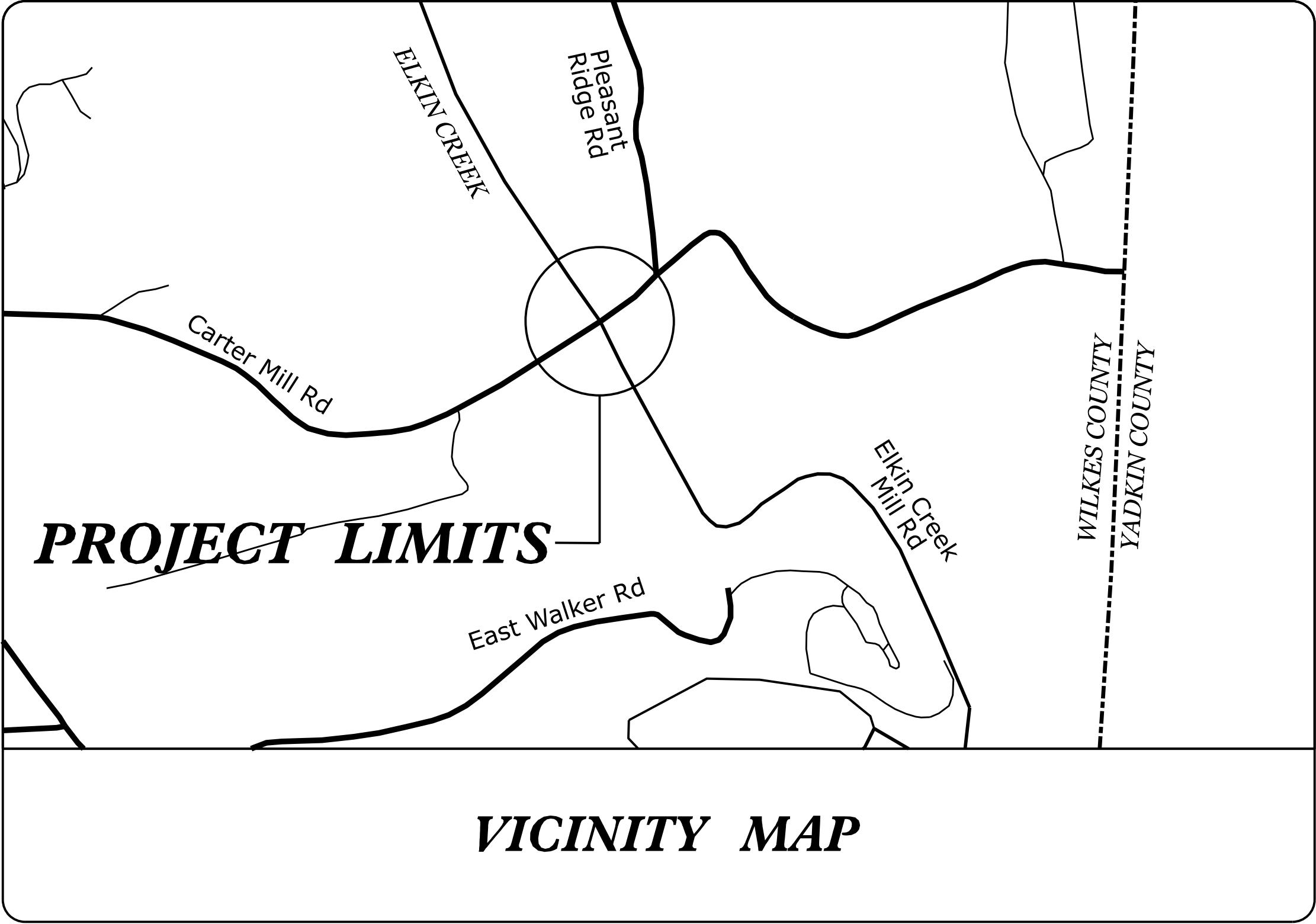
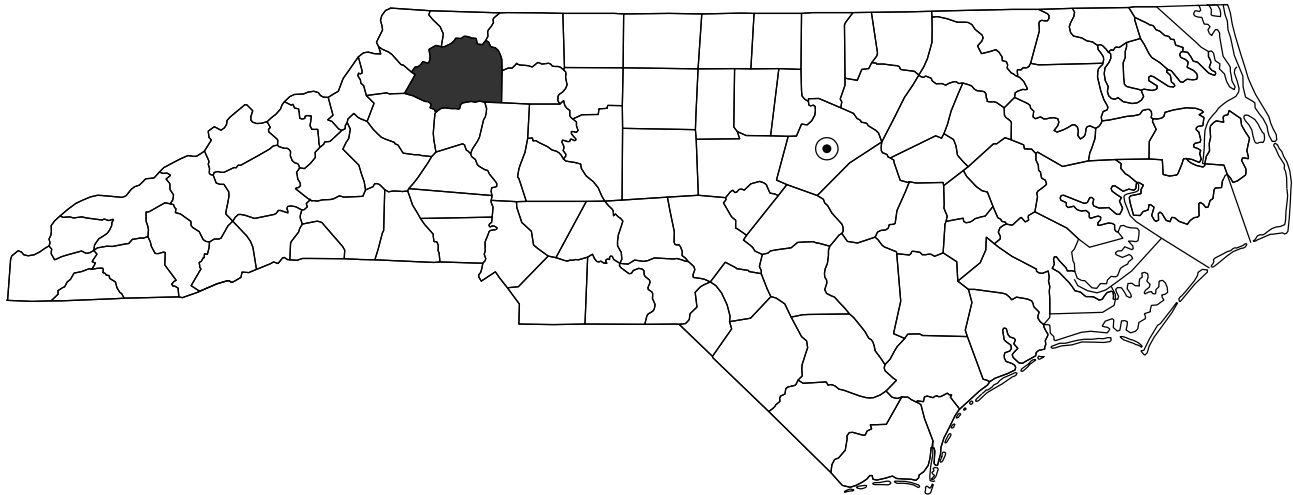
NOTES:

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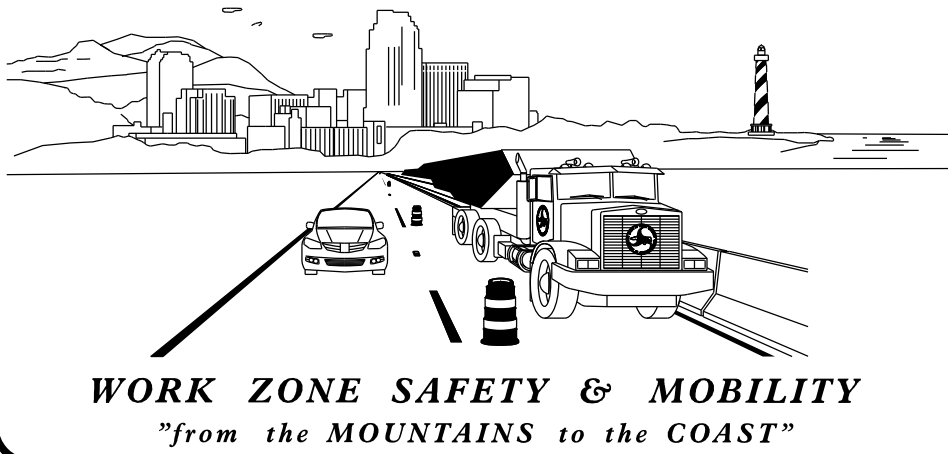
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

WILKES COUNTY



TYPE OF WORK: *GRADING, DRAINAGE*
PAVING, 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 UNIT



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 AND PHASING NOTES
TMP-2	OFFSITE DETOUR ROUTE
TMP-3	PHASE I DETAIL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

APPROVED: _____

DATE: _____

SEAL



6/2/2026

TIP PROJECT: BP11-R049

SHEET NO.

TMP-1

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
1145.01	BARRICADES - TYPE III
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS

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
- P61 - PAINT (24" WHITE) STOPBAR

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Kimley»Horn

APPROVED: _____ DATE: _____

ROADWAY STANDARD
DRAWINGS & LEGEND

MANAGEMENT STRATEGIES

CONSTRUCTION SUMMARY:
PROPOSED BRIDGE REPLACEMENT WILL BE CONSTRUCTED AWAY FROM TRAFFIC USING A ROAD CLOSURE AND DETOUR ROUTE.

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 UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

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

TRAFFIC PATTERN ALTERATIONS

- A) NOTIFY THE ENGINEER AND STATE FORCES THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION, SUCH THAT NECESSARY PROVISIONS CAN BE MADE TO INFORM LOCAL EMERGENCY, LAW ENFORCEMENT, SCHOOLS, OR ANY OTHER PARTIES AFFECTED BY THE ROAD CLOSURE.

SIGNING

- B) 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.
- C) PROVIDE PERMANENT SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- D) PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTES USING ROADWAY STANDARD DRAWING NUMBER 1101.03.
- E) COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- F) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- G) INSTALL SIGNS BEFORE BARRICADES WHEN CLOSING THE ROADWAY TO TRAFFIC. REMOVE BARRICADES BEFORE SIGNS WHEN OPENING THE ROADWAY TO TRAFFIC. INSTALL AND REMOVE SIGNS/BARRICADES IN THE SAME CALENDER DAY.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

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

MISCELLANEOUS

- J) AT ALL POSSIBLE TIMES, MAINTAIN DRIVEWAY ACCESS THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY DRIVEWAYS (ASPHALT OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT DRIVEWAY LOCATIONS IN THE PROJECT LIMITS.
- K) CONTRACTOR TO COORDINATE WITH NCDOT AND THE ENGINEER PRIOR TO TEMPORARY DRIVEWAY CLOSURE

PHASING

STEP 1: USING ROADWAY STANDARD DRAWING NUMBER 1101.02 SHEET 1 OF 19 AND 1101.03 SHEET 1 AND 2 OF 9, PERFORM THE FOLLOWING:

- INSTALL ALL ROAD CLOSURE AND DETOUR SIGNING, INCLUDING BARRICADES.
- INSTALL STOP AHEAD, STOP SIGN, AND STOP BAR ALONG WESTBOUND SR 2044 (E. CARTER MILL ROAD) AT THE INTERSECTION WITH SR 2037 (PLEASANT RIDGE ROAD)
- IMPLEMENT A TEMPORARY CLOSURE OF SR 2044 (E. CARTER MILL ROAD) USING A DETOUR ALONG SR 2037 (PLEASANT RIDGE ROAD), SR 2042 (PREACHERS FIELD ROAD), 2029 (COOL SPRINGS CHURCH ROAD), AND SR 2046 (CB ELLER SCHOOL ROAD).

STEP 2:

STEP 3: INSTALL DRAINAGE PIPES AND STRUCTURE FROM 400, 401, AND 402.

STEP 4:

LAY INCIDENTAL STONE AND UTILIZE FLAGGING AS NECESSARY TO MAINTAIN TEMPORARY ONE WAY TRAFFIC ON -DRW1-.

STEP 5:

REMOVE EXISTING BRIDGE #239 OVER ELKIN CREEK AND CONSTRUCT THE PROPOSED BRIDGE AND APPROACHES AS SHOWN IN THE CONSTRUCTION PLANS.

STEP 6:

INSTALL ALL FINAL PAVEMENT MARKINGS.

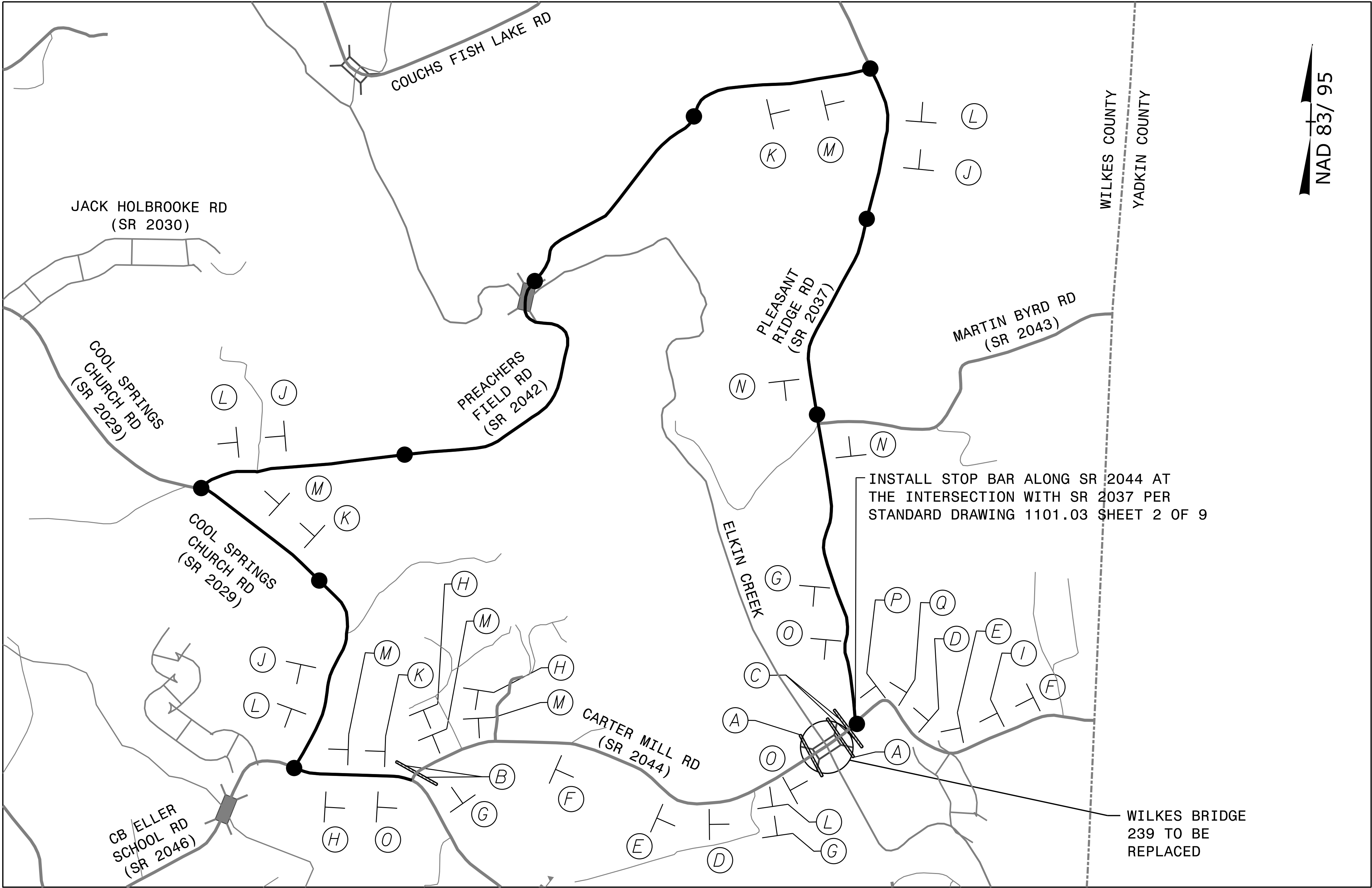
REMOVE ALL TRAFFIC CONTROL SIGNING AND DEVICES AND OPEN SR 2044 (E. CARTER MILL ROAD) TO THE FINAL TRAFFIC PATTERN.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

APPROVED: _____ DATE: _____		GENERAL AND PHASING NOTES
 6/2/2026		

Kimley»Horn

PROJ. REFERENCE NO.	SHEET NO.
BP11-R049	TMP -2



D

ROAD CLOSED 500 FT
W20-3B
48" X 48"

E

ROAD CLOSED 1000 FT
W20-3C
48" X 48"

F

ROAD CLOSED AHEAD
W20-3A
48" X 48"

G

ROAD CLOSED AHEAD
W20-3A
48" X 48"

NEXT RIGHT
SP-4R
42" X 12"

H

ROAD CLOSED AHEAD
W20-3A
48" X 48"

NEXT LEFT
SP-4L
42" X 12"

I

DETOUR AHEAD
W20-2
48" X 48"

J

DETOUR
M4-8
24" X 12"

M5-1 M
21" X 15"

K

DETOUR
M4-8
24" X 12"

M5-1 R
21" X 15"

L

DETOUR
M4-8
24" X 12"

M6-1 L
21" X 15"

M

DETOUR
M4-8
24" X 12"

M6-1
21" X 15"

N

DETOUR
M4-8
24" X 12"

M6-3
21" X 15"

O

END DETOUR
M4-8 A
24" X 18"

P

STOP
R1-1
48" X 48"

Q

W3-1
48" X 48"

A

R11-2
48" X 30"

ROAD CLOSED

TYPE III BARRICADE(S)

B

R11-3
60" X 30"

ROAD CLOSED
0.8 MILES AHEAD
LOCAL TRAFFIC ONLY

DETOUR

M4-10L
48" X 18"

TYPE III WING BARRICADE

C

R11-4
60" X 30"

ROAD CLOSED
TO THRU TRAFFIC

DETOUR

M4-10R
48" X 18"

TYPE III BARRICADE

NOTE:
REFER TO RSD 1101.03 SHEET 1 OF 9
FOR ADVANCE WARNING SIGNAGE
AND BARRICADE PLACEMENT

LEGEND
●—● DETOUR ROUTE
+ STATIONARY SIGN

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

APPROVED: _____ DATE: _____

NORTH CAROLINA
PROFESSIONAL
SEAL
056618
ENGINEER
JACK R. CRINO

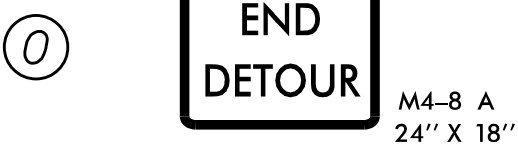
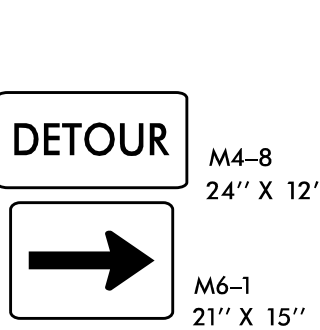
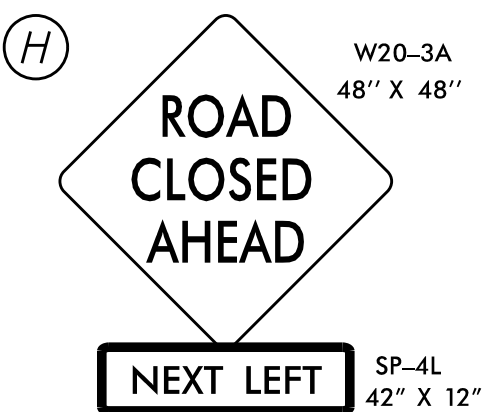
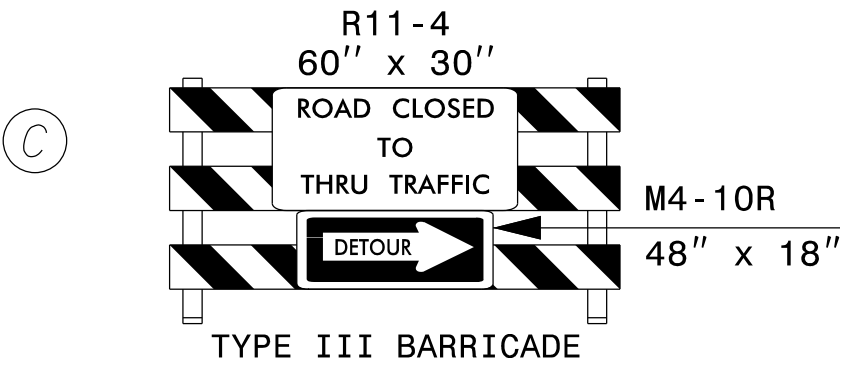
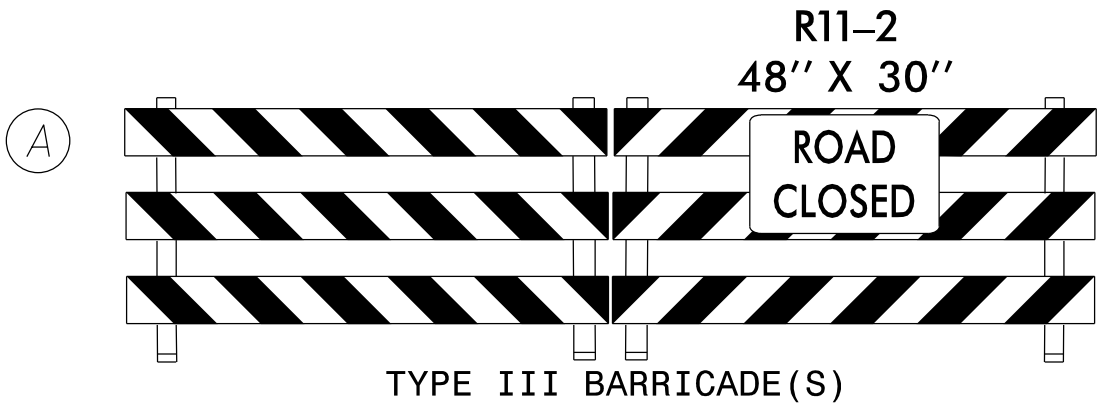
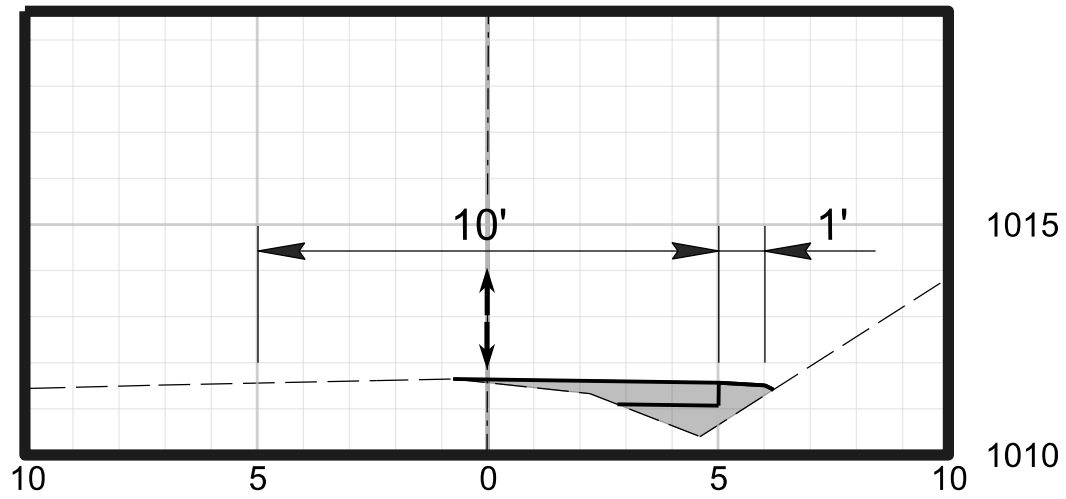
6/2/2026

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

CARTER MILL RD
OFFSITE DETOUR
ROUTE

PROJ. REFERENCE NO.	SHEET NO.
BP11-R049	TMP-3

-DRW1_TEMP-
10+60.00
SECTION A-A



CONTRACTOR TO INSTAL FINAL DRAINAGE SYSTEM AS SHOWN ON THE PLANS OR TEMPORARY MODIFICATION AS NECESSARY TO ENSURE PROPER SITE DRAINAGE

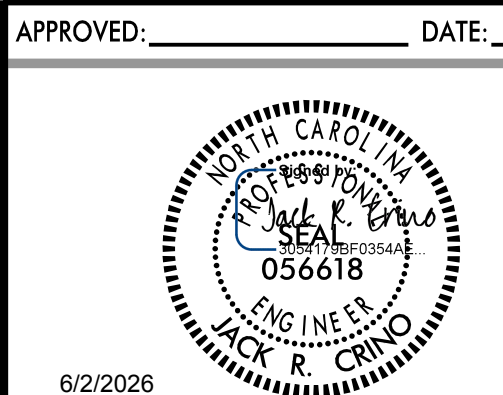
CONTRACTOR USE INCIDENTAL STONE AT THE EXIST EDGE OF PAVEMENT TO GRADE AS SHOWN. FLAG AS NEEDED TO MAINTAIN ONE-WAY TRAFFIC.

E. CARTER MILL RD
(SR 2044)

ANTICIPATED END BENT
EXCAVATION AREA

WORK AREA

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



PHASE I DETAIL

Kimley»Horn

TIP PROJECT: BP11-R049

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
WILKES COUNTY

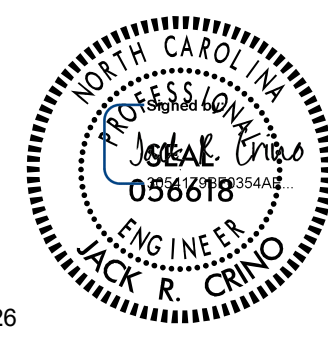
LOCATION: BRIDGE 239 OVER ELKIN CREEK
ON SR 2044 (E. CARTER MILL ROAD)

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

TIP NO.
BP11-R049

SHEET NO.
PMP-1

APPROVED: _____
DATE: _____

SEAL

6/2/2026

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 2044
(E CARTER MILL RD) | THERMOPLASTIC | 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	
THERMOPLASTIC (4", 90 MILS)	
T1	WHITE EDGELINE
T13	YELLOW DOUBLE CENTER

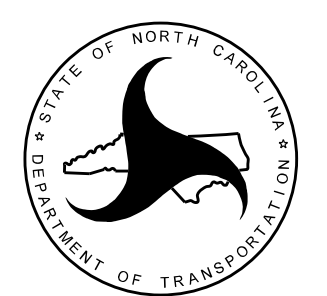
ROADWAY STANDARD DRAWING

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
1205.12	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



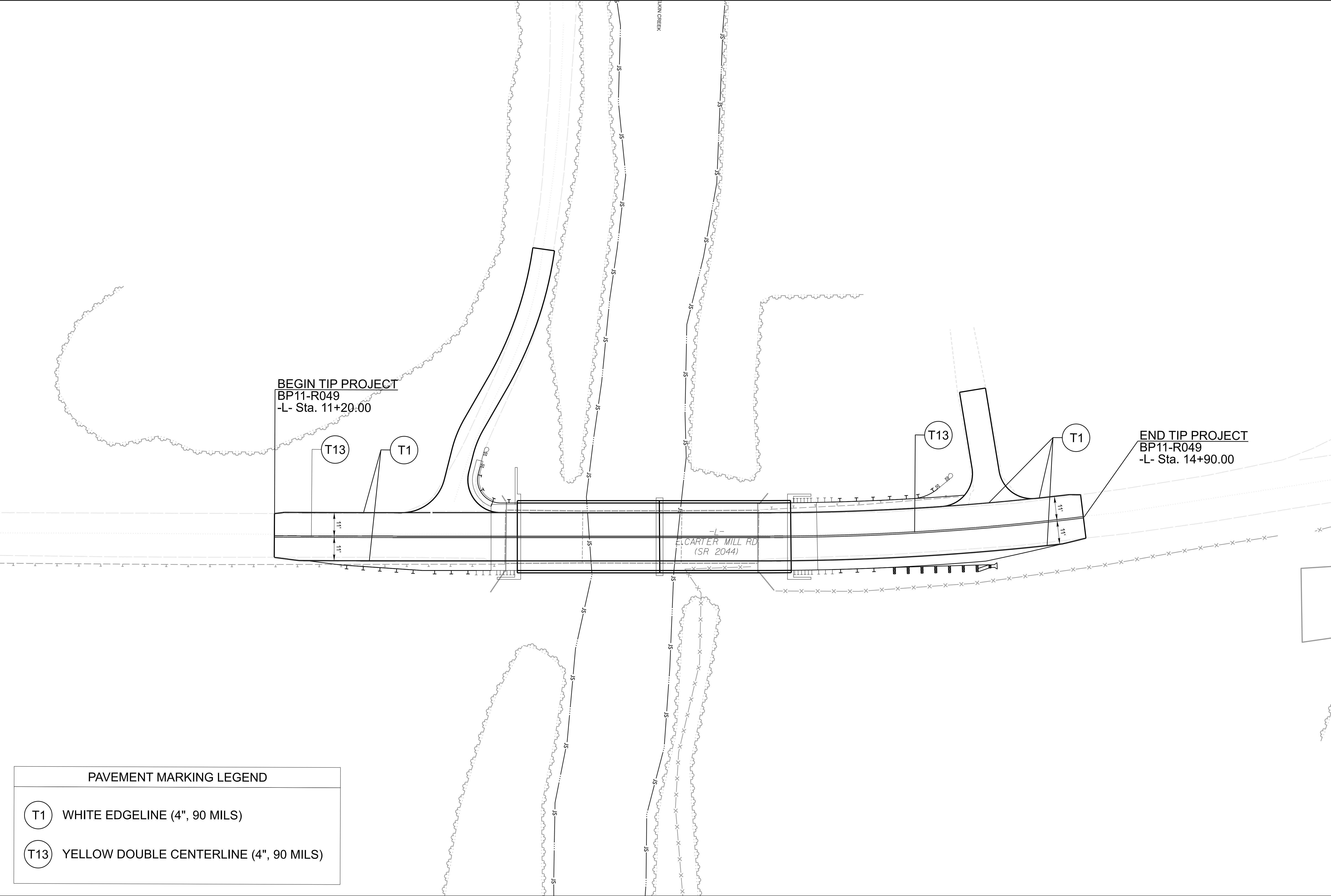
PLAN PREPARED BY: KIMLEY-HORN

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

11/14/23



PAVEMENT MARKING LEGEND	
T1	WHITE EDGELINE (4", 90 MILS)
T13	YELLOW DOUBLE CENTERLINE (4", 90 MILS)

BP11-R049

PMP02

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY

ROADWAY DESIGN UNIT
ENGINEER

6/2/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

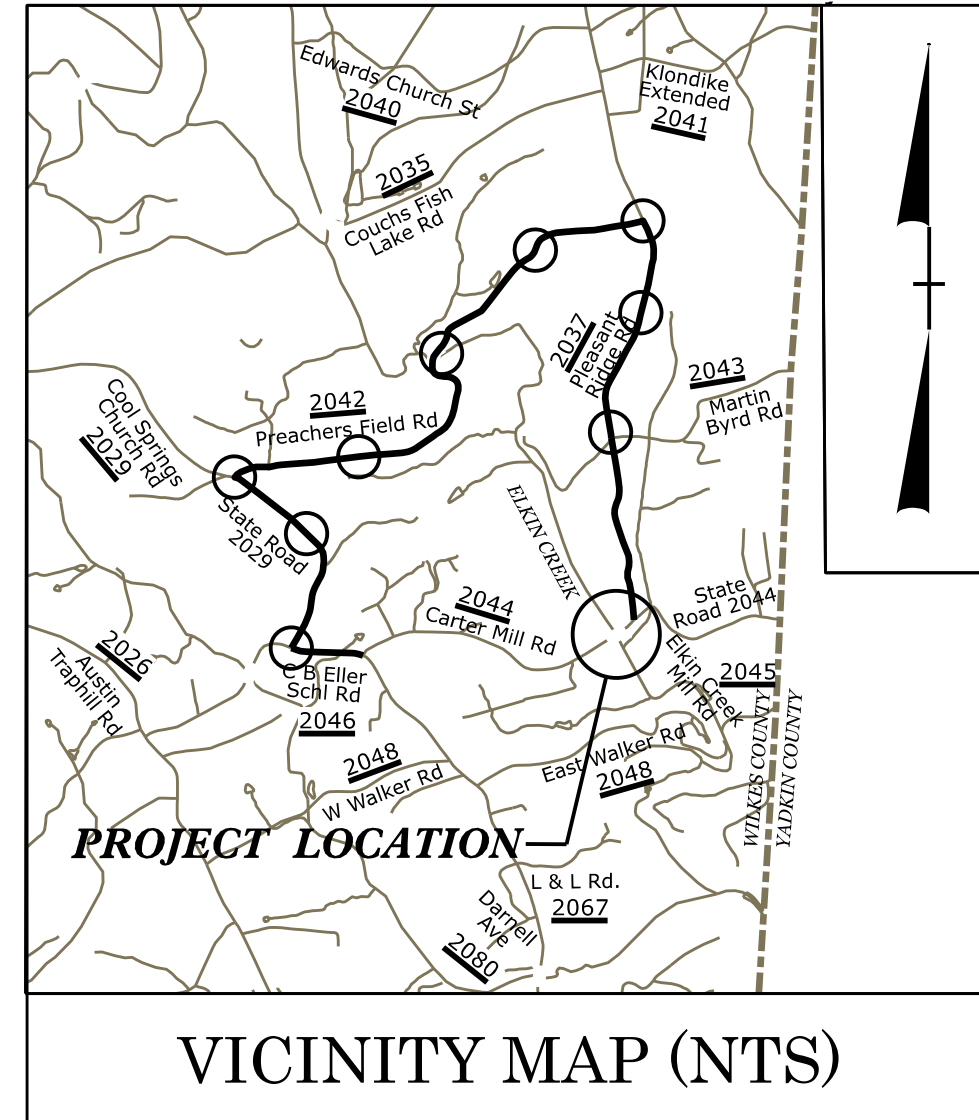
PREPARED BY

NO LICENSE REQUIRED
ALL PROJECTS ARE DESIGNED BY THE FIRM
ALL WORK IS IN ACCORDANCE WITH THE
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS

REVISIONS

TIP PROJECT: BP11.R049

CONTRACT:



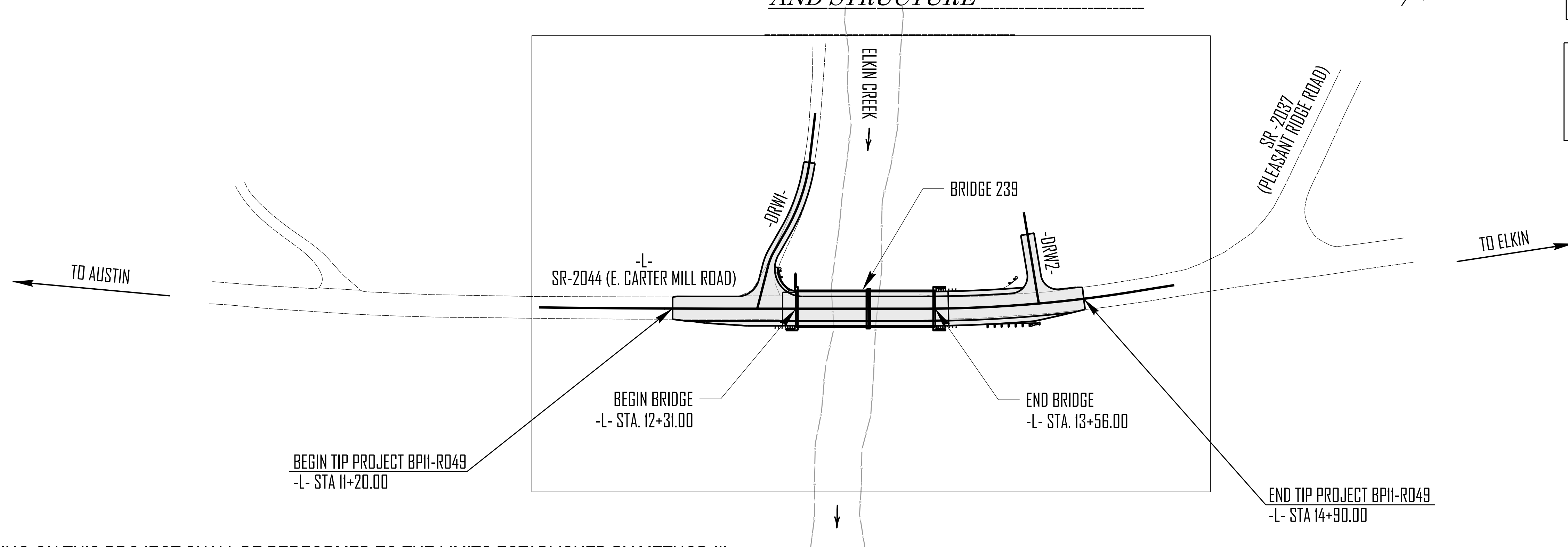
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
=====

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
=====

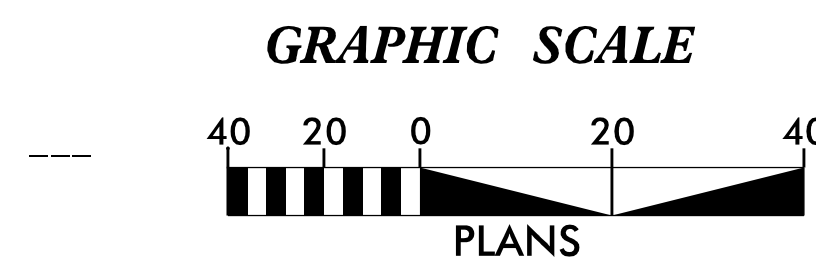
WILKES COUNTY
=====

LOCATION: BRIDGE 239 OVER ELKIN CREEK
ON SR 2044 (E. CARTER MILL ROAD)

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



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.



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.

[illegible]

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

**THIS PROJECT HAS
BEEN DESIGNED TO
SENSITIVE WATERSHED
STANDARDS.**

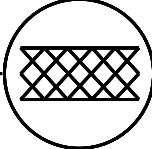
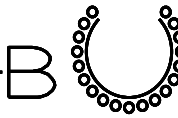
**HIGH QUALITY WATER(S) EXIST
ON THIS PROJECT**

High Quality Water Zone(s) Exist
From Sta. BEGIN PROJECT
to Sta. END PROJECT

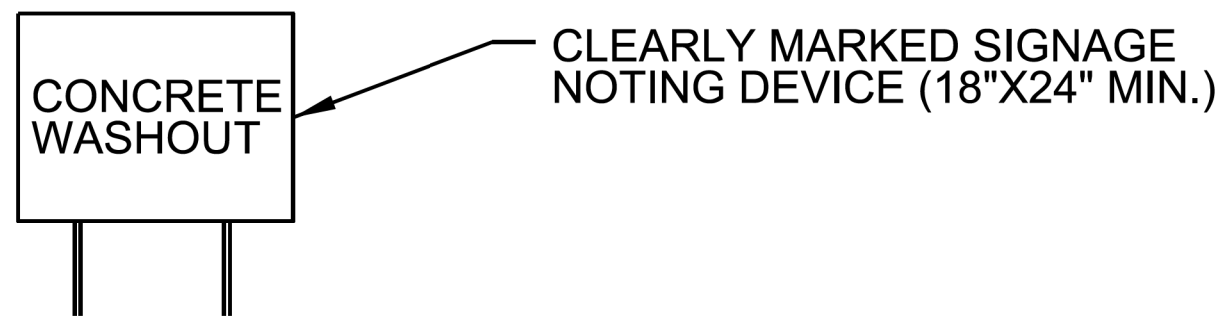
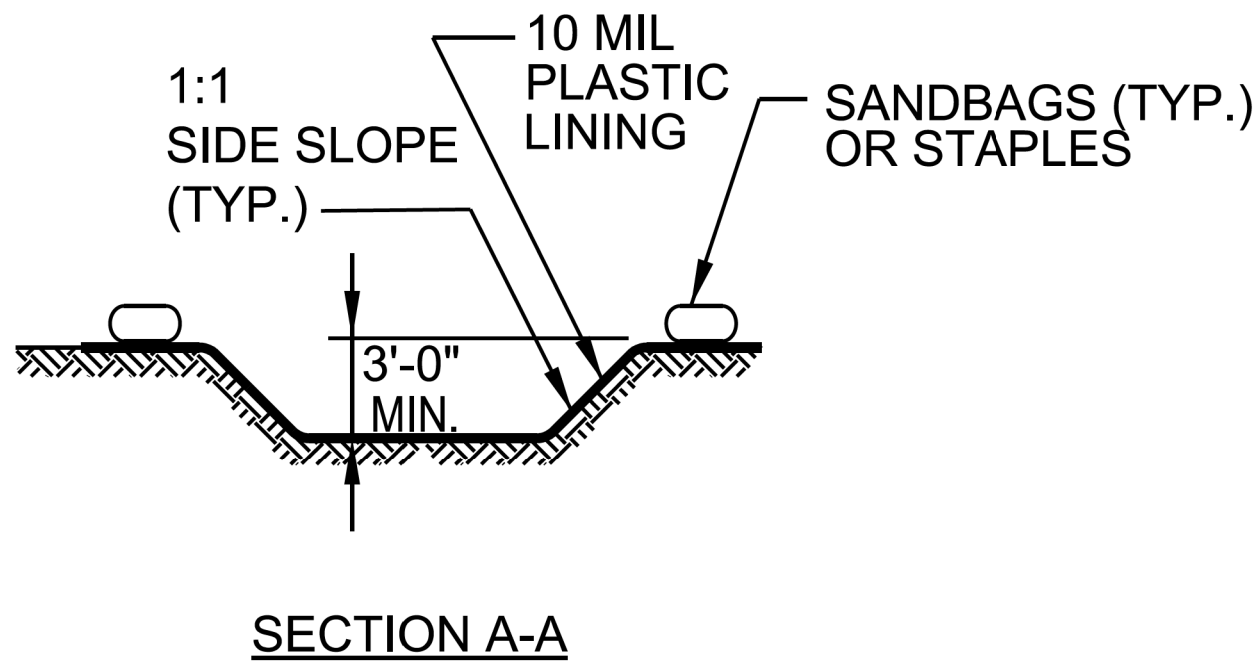
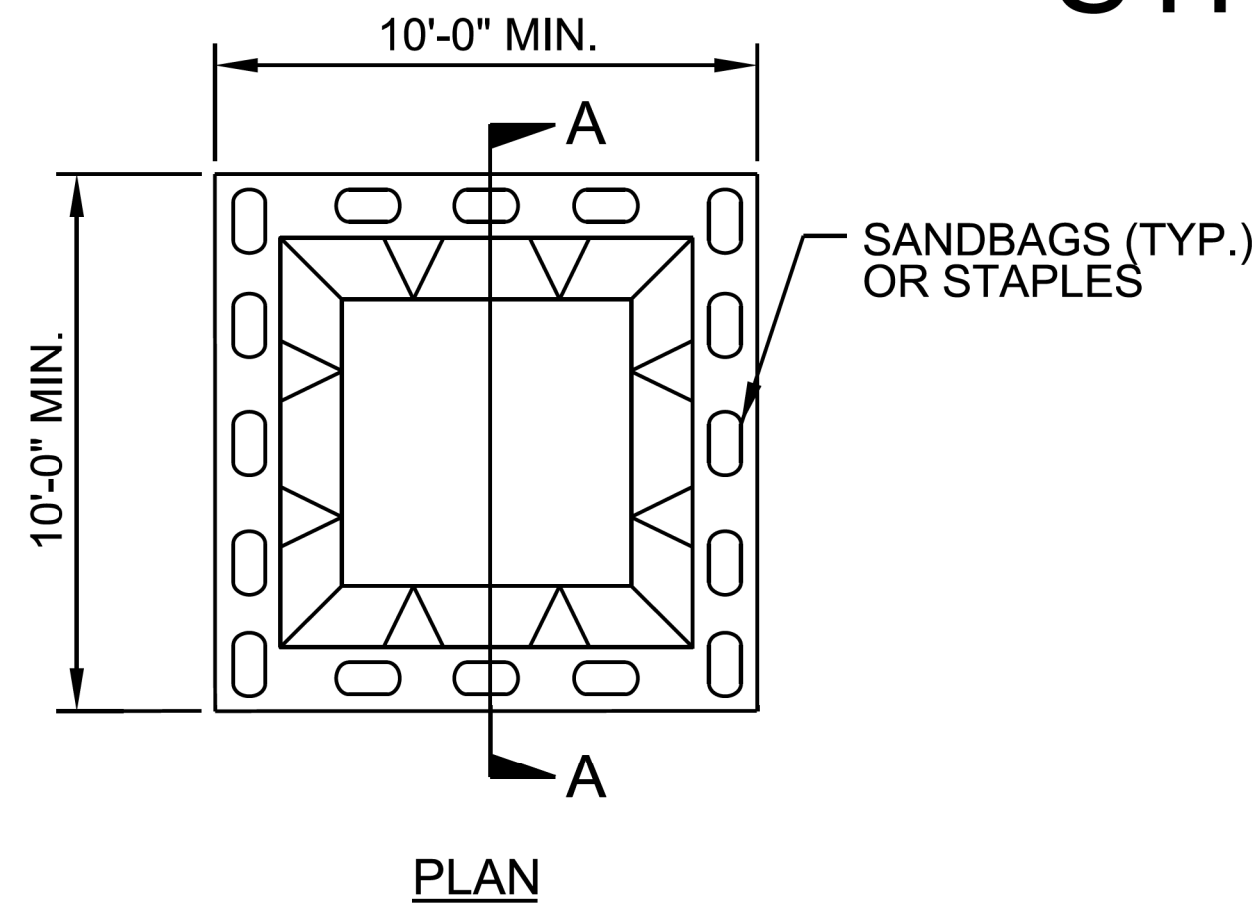
*Refer To E. C. Special Provisions
for Special Considerations.*

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	

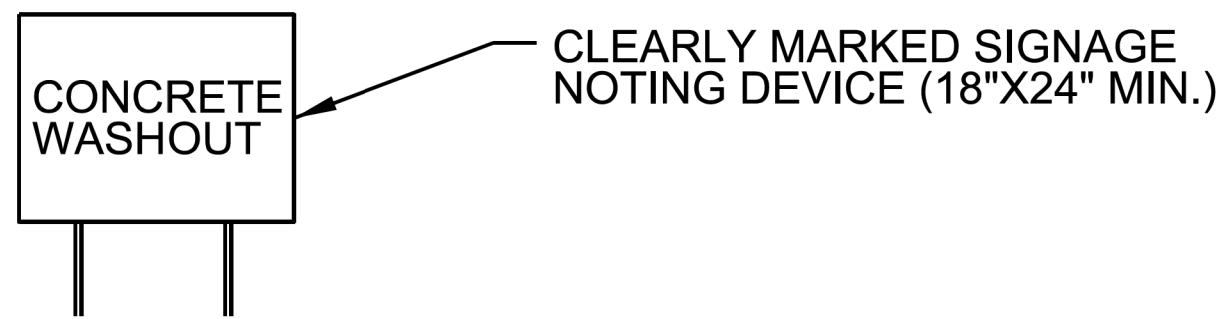
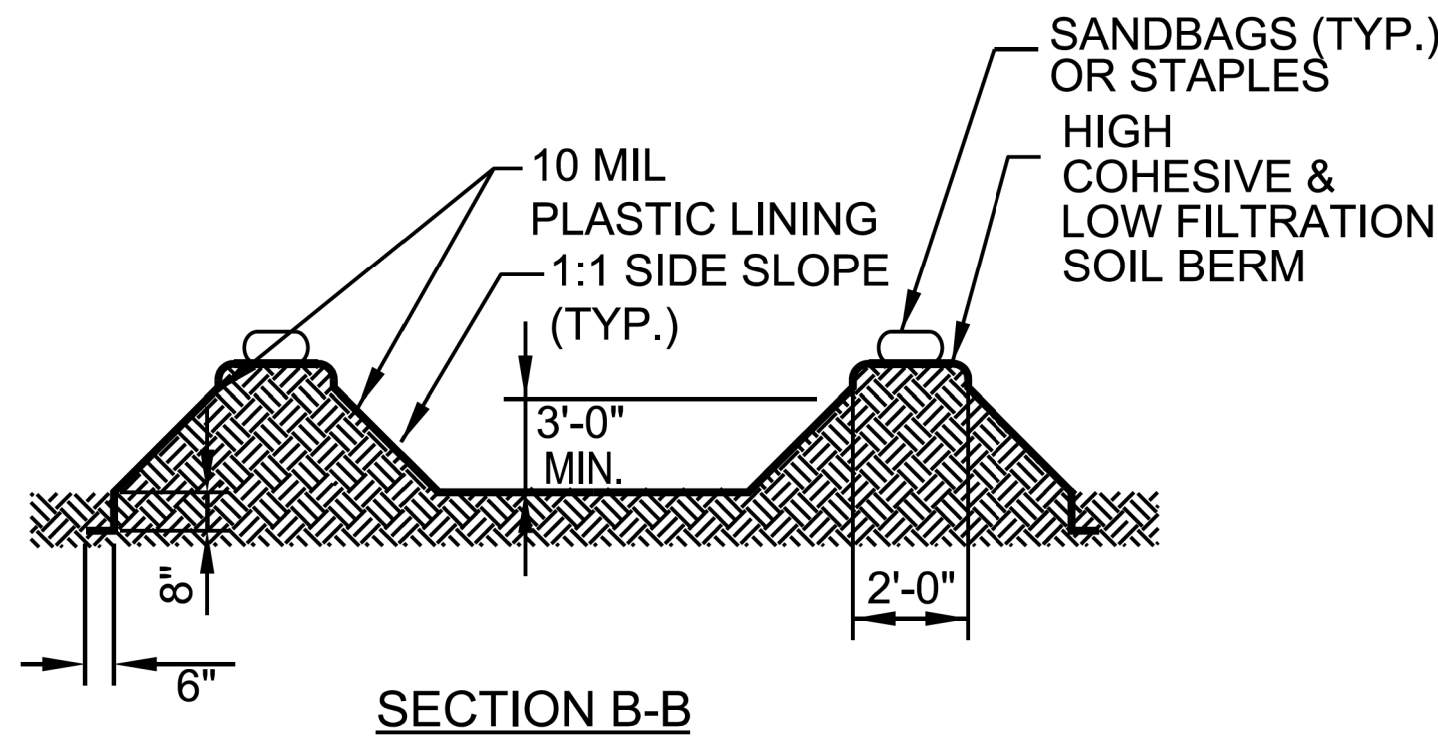
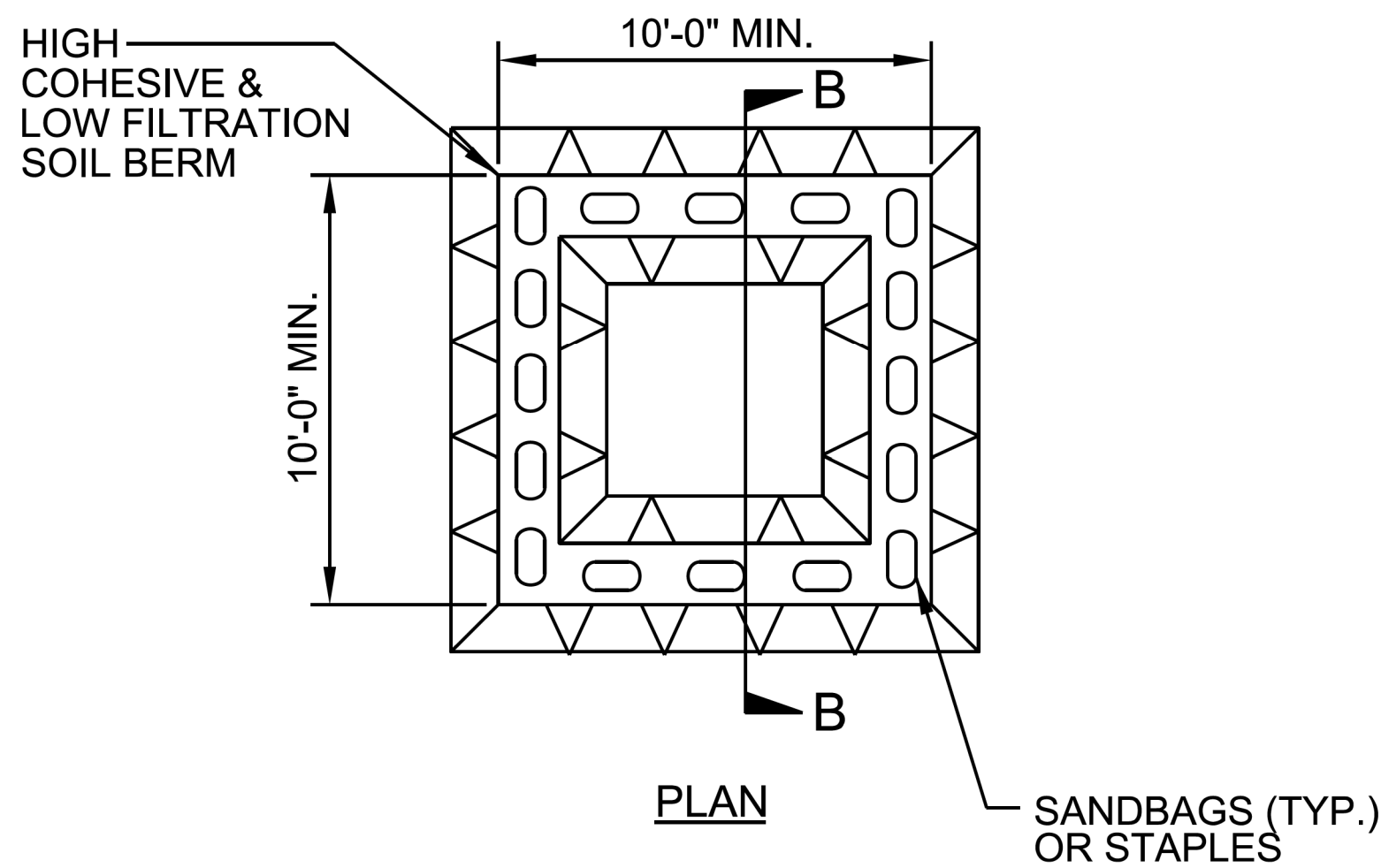
Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet 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	

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.



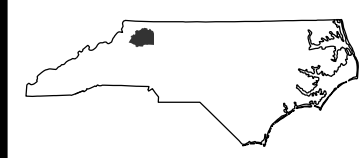
ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- 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.

BP11.R049

EC-02A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY



ROADSIDE ENVIRONMENTAL UNIT

PREPARED BY

Kimley»Horn

NO. LICENSE: 00-0000
ALL WORK SUBJECT TO PROJECT-SPECIFIC
NOTES, SPECIFICATIONS, AND
DESIGN. (10/15/17) 0000

11/14/23

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

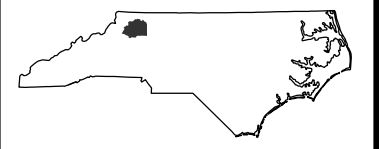
MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
DITCHES					0
SLOPES					
4	-L-	11+20	12+30	RT	230
4	-L-	13+60	14+40	RT	200
4	-L-	13+60	14+20	LT	80
			SUBTOTAL		510
MISCELLANEOUS	MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				1000
				TOTAL	1510
				SAY	1600
NOTE: EXCELSIOR MATTING TO BE USED FOR DITCHES. STRAW MATTING MAY BE USED FOR SLOPES					

BP11.R049

EC-03

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY



ROADSIDE ENVIRONMENTAL UNIT

PREPARED BY

KimleyHorn

INCORPORATED IN 1988
441 SOUTH STREET, SUITE 200
HICKORY, NORTH CAROLINA 28601
PHONE: (815) 875-0000

FOR -L- PLAN, SEE SHEET 4

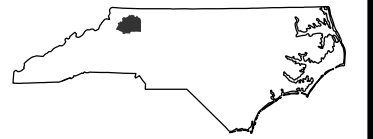
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

BPM.R049

EC-03A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY



ROADSIDE ENVIRONMENTAL UNIT

PREPARED BY

KimleyHorn

AN IRVING-CLOUD COMPANY
441 SOUTH CENTRAL STREET, SUITE 200
WILKES-BARRIE, NORTH CAROLINA 28697
PHONE: (717) 837-2000

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

11/14/23

BP11.R049

EC-04

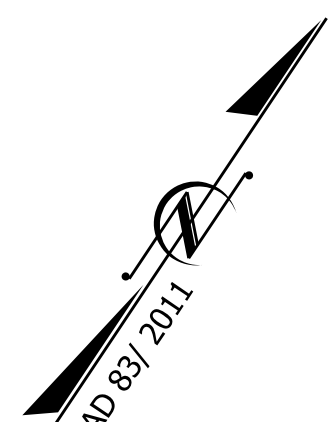
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY

ROADSIDE ENVIRONMENTAL UNIT

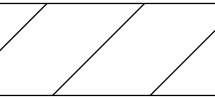
PREPARED BY

Kimley  Horn

NO. LOCATIONS OR OTHER
441 FIVE HUNDRED SIXTY-SEVEN STREET, SUITE 200
HOLLY SPRING, NORTH CAROLINA 28757
PHONE: (919) 417-0000

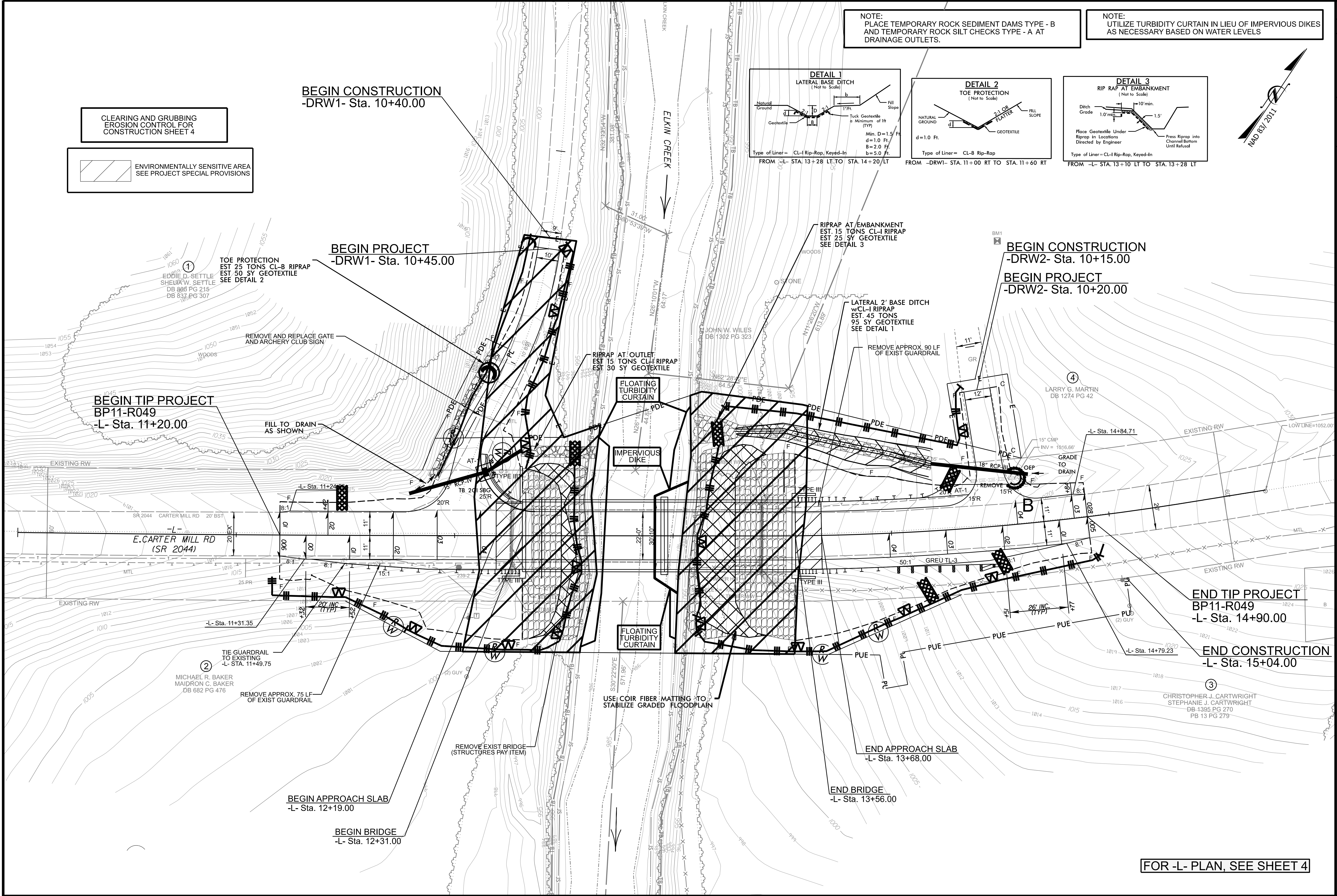
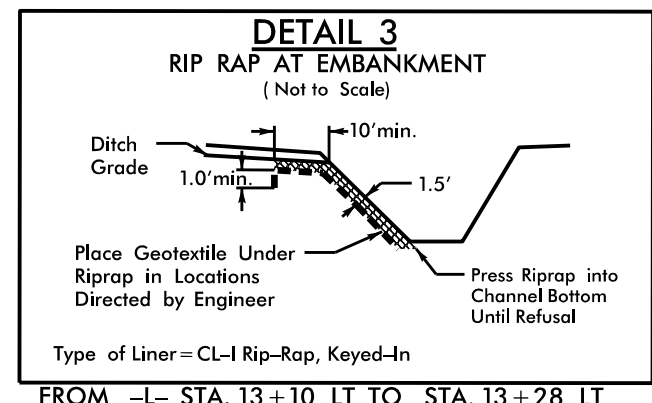
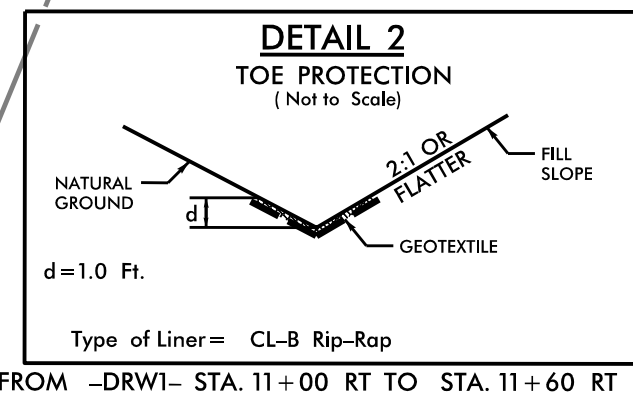
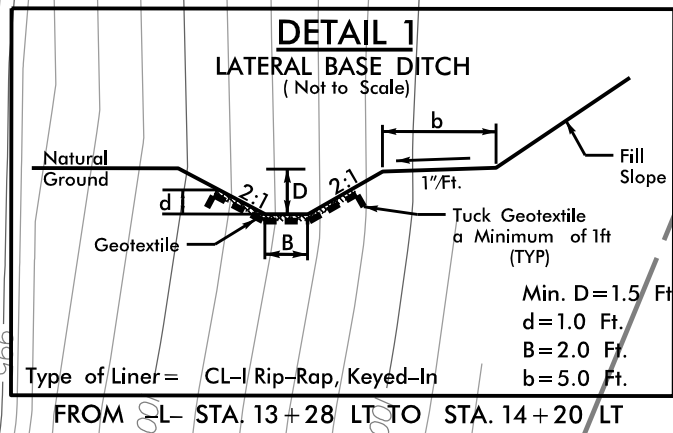


CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

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

NOTE:
UTILIZE TURBIDITY CURTAIN IN LIEU OF IMPERVIOUS DIKES
AS NECESSARY BASED ON WATER LEVELS

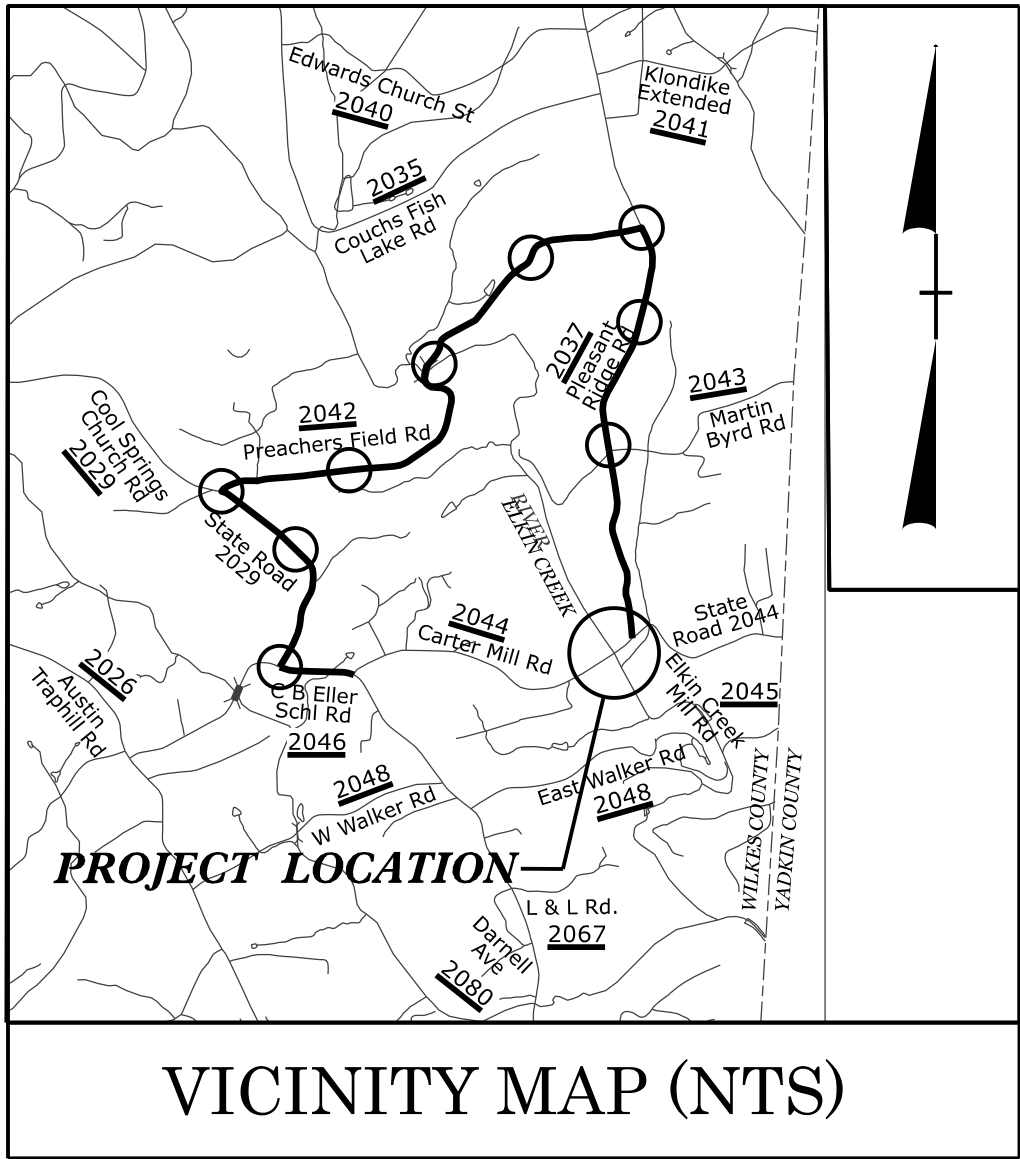


FOR -L- PLAN, SEE SHEET 4



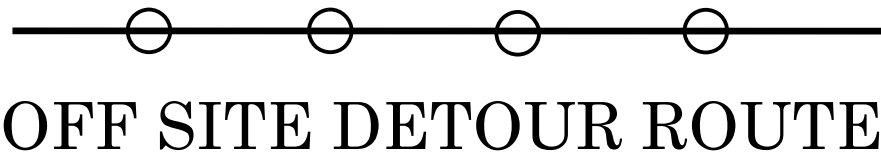
TIP PROJECT: BP11-R049

CONTRACT:



VICINITY MAP (NTS)

90% PLANS



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

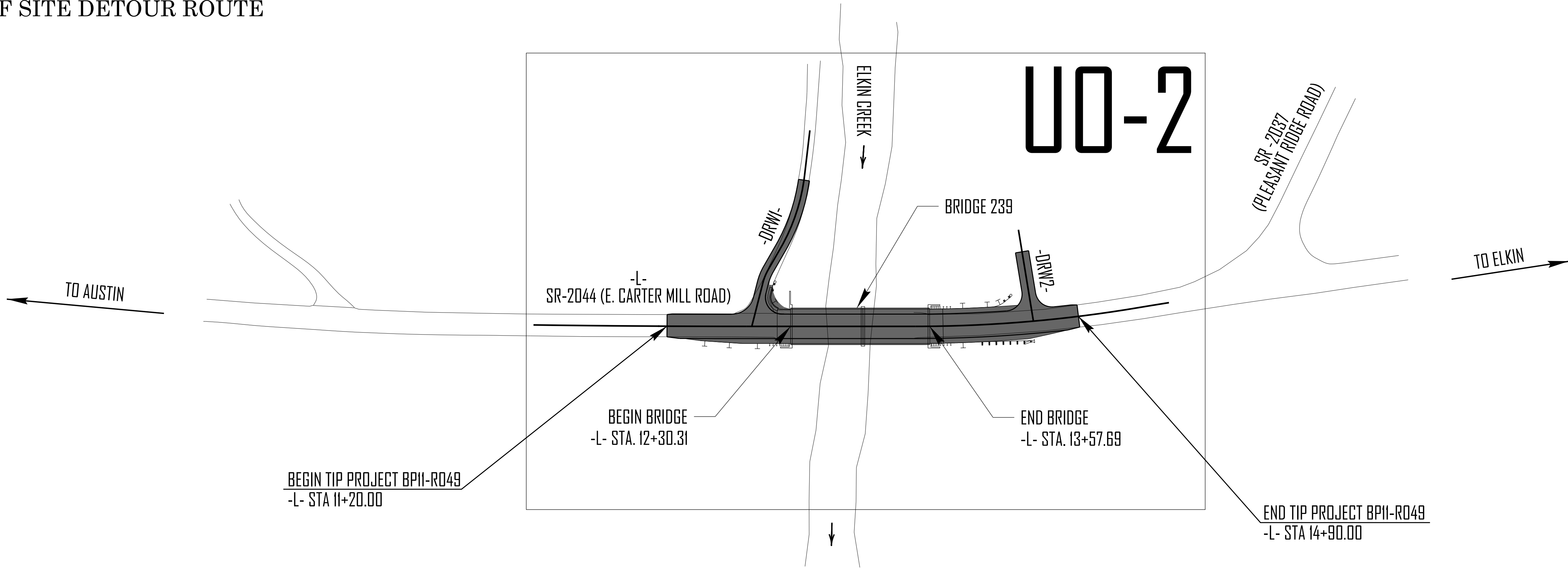
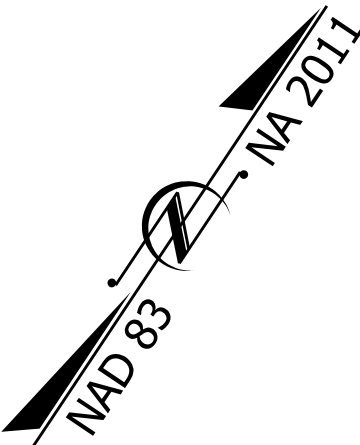
UTILITY BY OTHERS PLANS
WILKES COUNTY

LOCATION: *BRIDGE 239 OVER ELKIN CREEK
ON SR 2044 (E. CARTER MILL ROAD)*

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

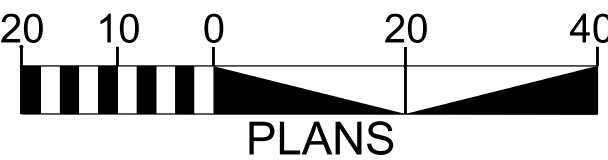
T.I.P. NO.	SHEET NO.
BP11-R049	UO-1

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



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



INDEX OF SHEETS

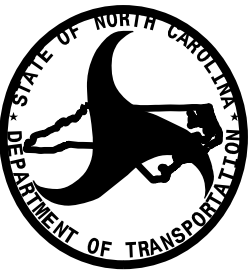
<u>SHEET NO.:</u>	<u>DESCRIPTION:</u>
UO-1	TITLE SHEET
UO-2	UTILITY BY OTHERS PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

- (A) TELECOM - CHARTERS/SPECTRUM:
WILLIAM JONES: 336-268-1979
- (B) TELECOM - BRIGHTSPEED:
TIMMIE HYLTON: 276-692-5081
- (C) POWER - DUKE ENERGY:
PATRICK SIZEMORE: 336-917-2522

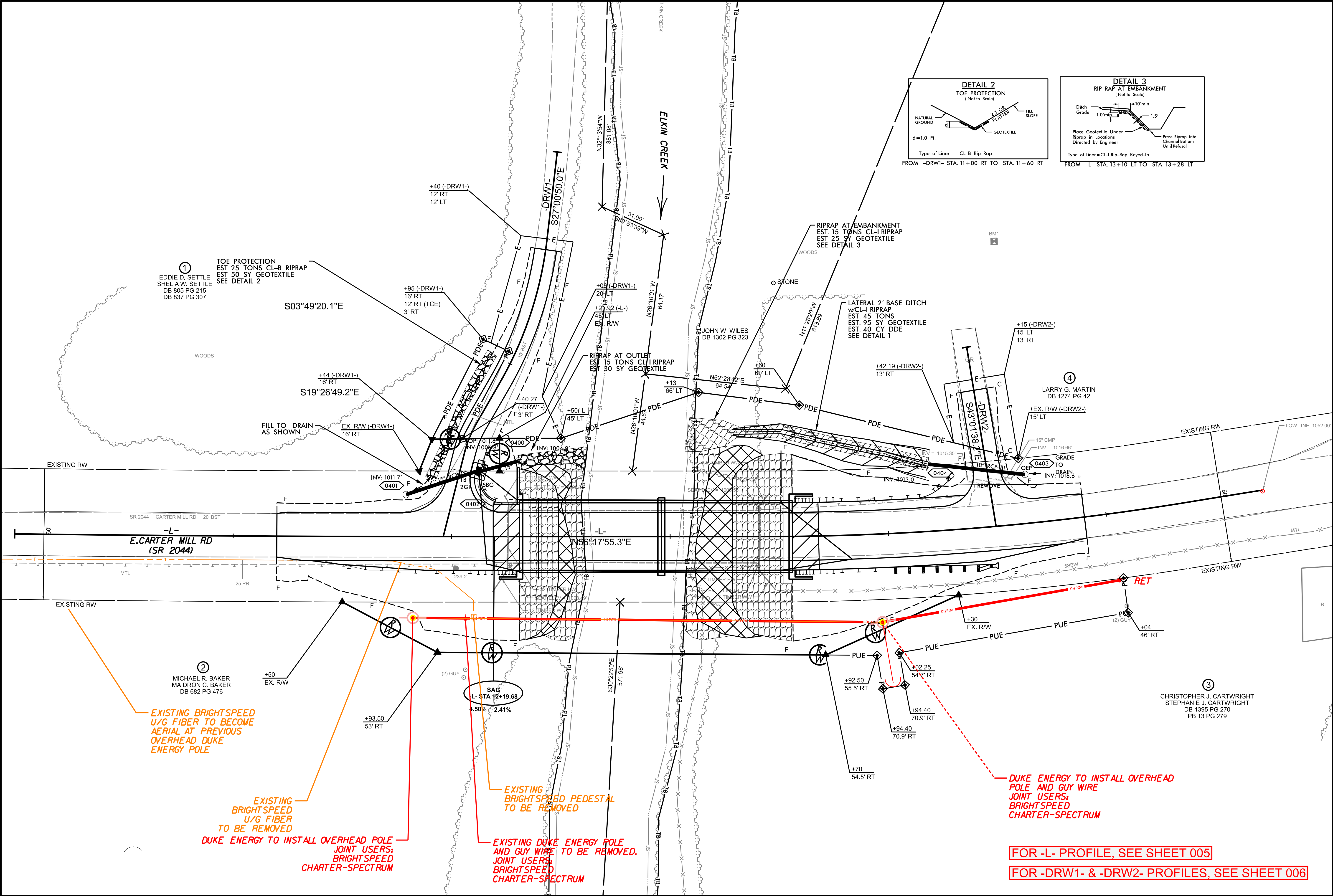
Prepared in the Office of:
KIMLEY-HORN
421 FAYETTEVILLE ST., SUITE 600,
RALEIGH NC, 27601
NC LICENSE #F-0102

JACK CRINO, P.E. CONSULTANT CONTACT #1
JORDAN BENDL, P.E. CONSULTANT CONTACT #2



DIVISION OF HIGHWAYS
DIVISION II
UTILITIES UNIT
801 STATESVILLE RD
NORTH WILKESBORO, 28659
PHONE (336) 667-9111

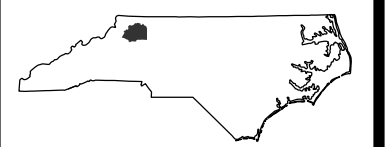
BRANDON GREER DIVISION UTILITY ENGINEER
ALEX WINEBARGER DIVISION UTILITY COORDINATOR



BP11-R049

U0-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY



ROADWAY DESIGN UNIT

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PREPARED BY

Kimley Horn

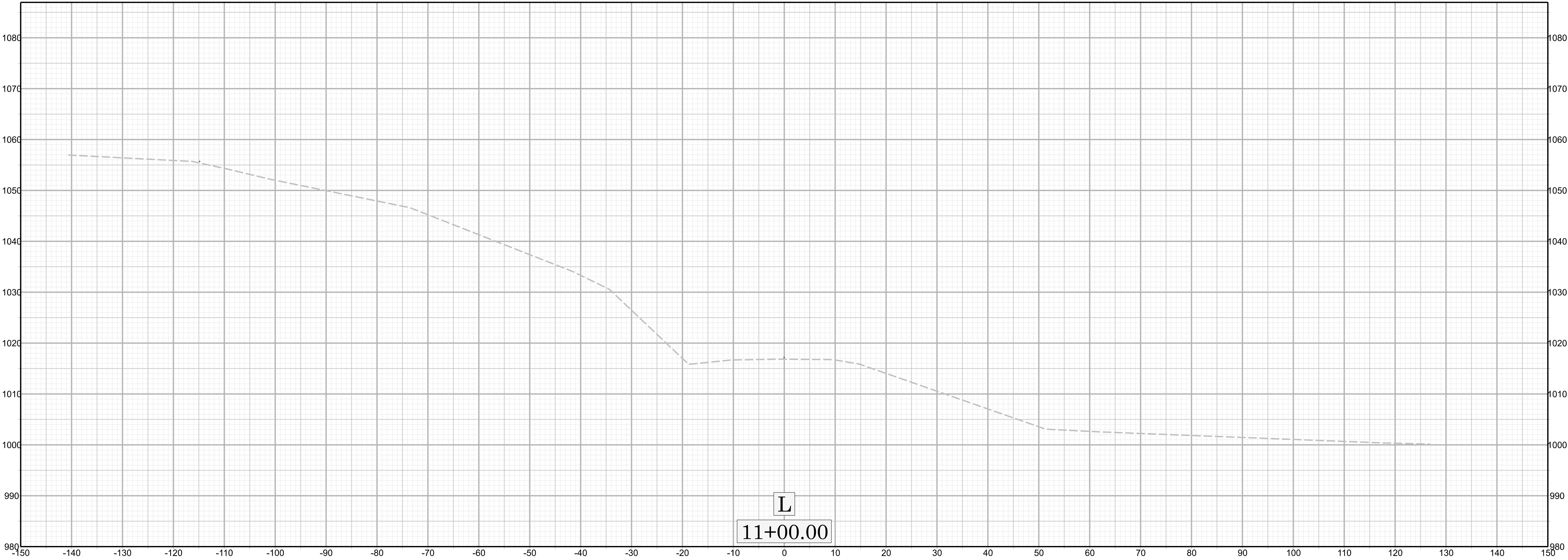
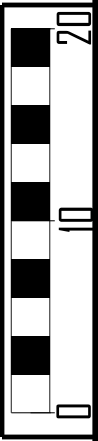
NO LICENSE REQUIRED
ALL PROJECTS ARE DESIGNED BY THE FIRM
IN ACCORDANCE WITH THE NORTH CAROLINA DESIGN
MANUAL (1997 EDITION)

REVISIONS

BP11-R049 WILKES 239 CROSS SECTION INDEX

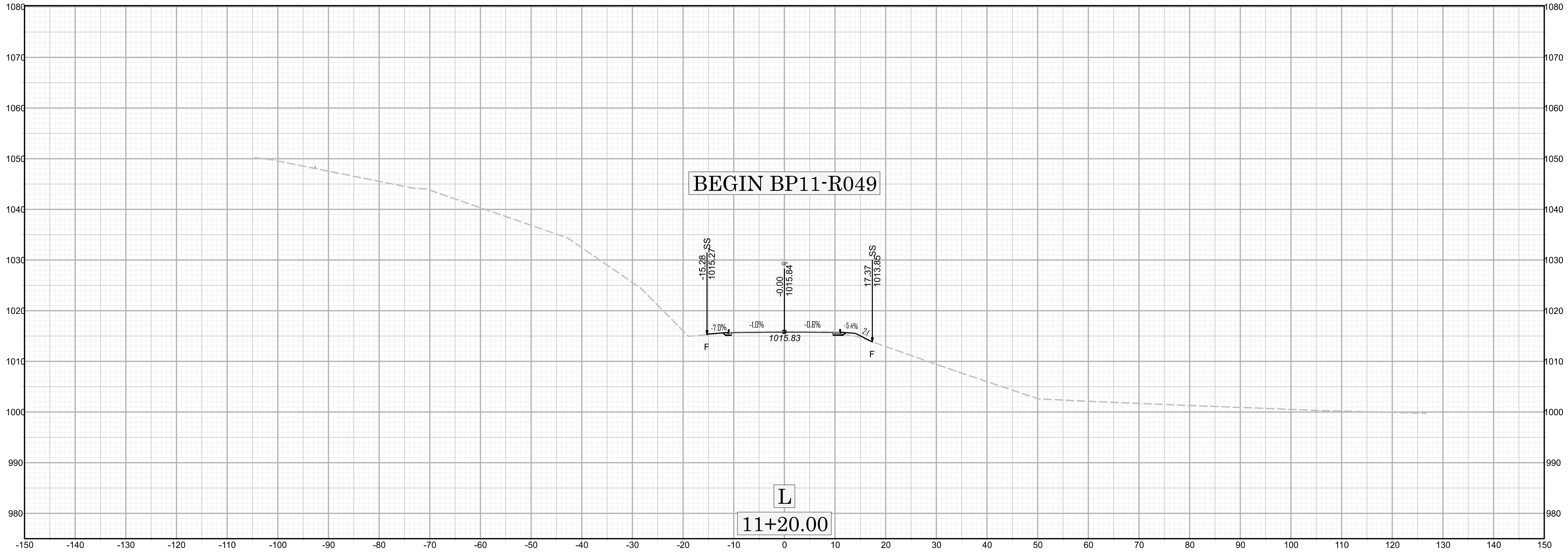
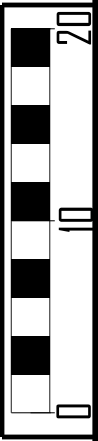
-L- SR 2044 (CARTER MILL ROAD)
-DRW1- DRIVEWAY 1
-DRW2- DRIVEWAY 2

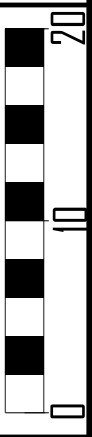
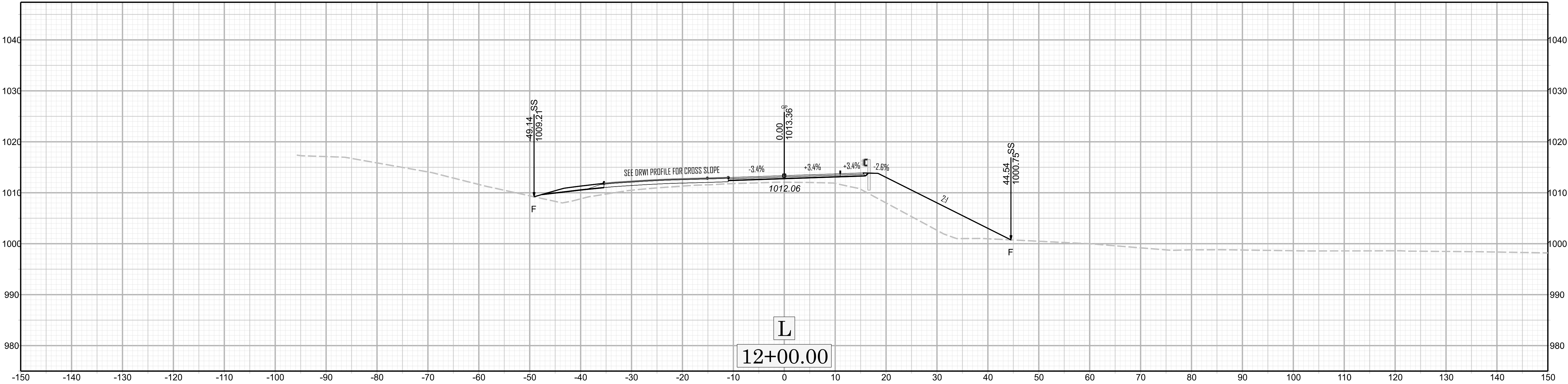
X-2 THRU X-9
X-10 THRU X-14
X-15 THRU X-16



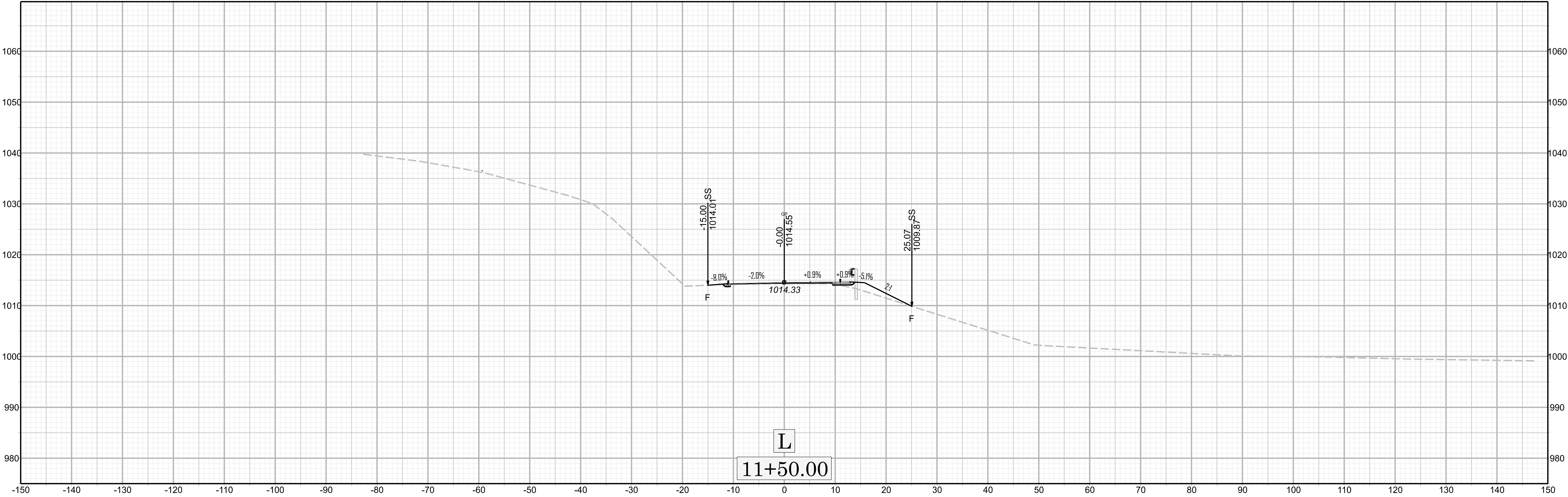
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BPM-R049

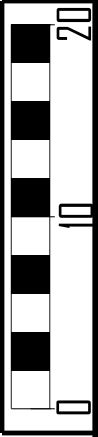
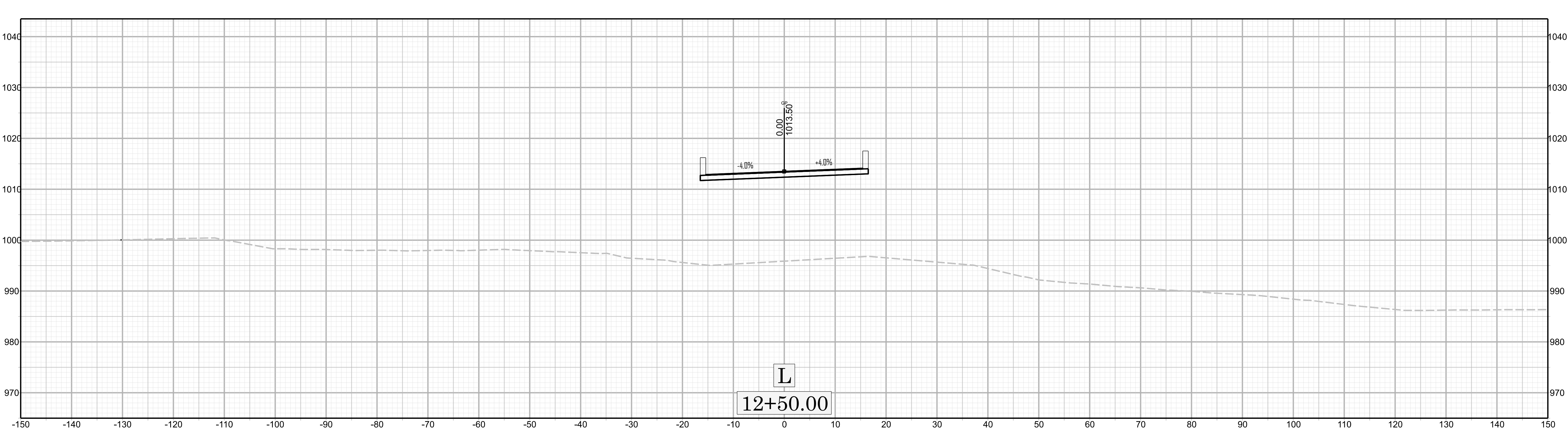




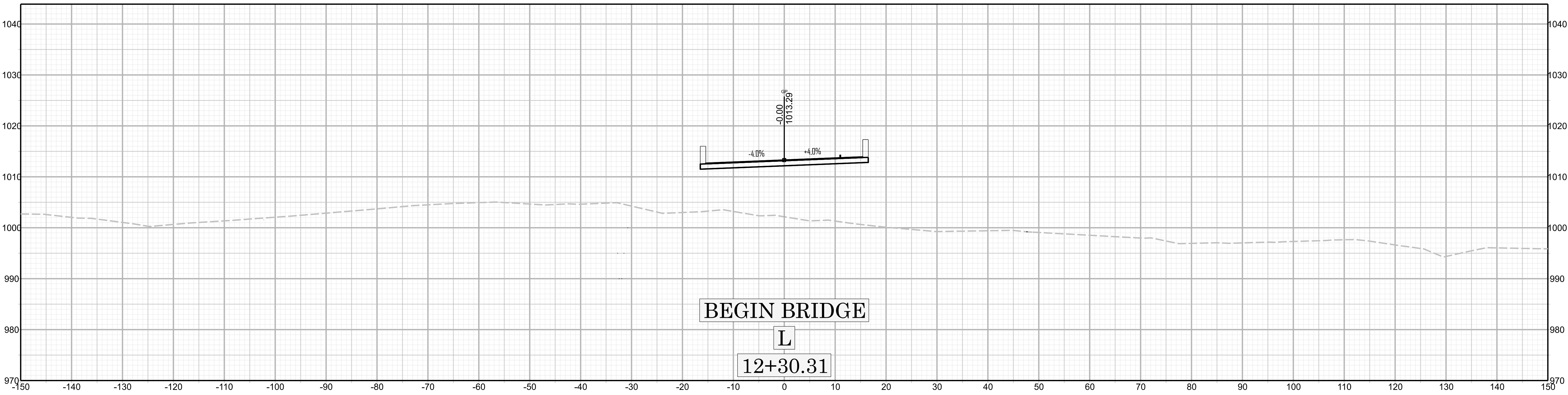
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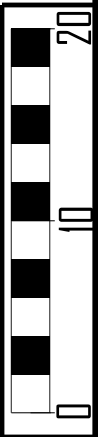
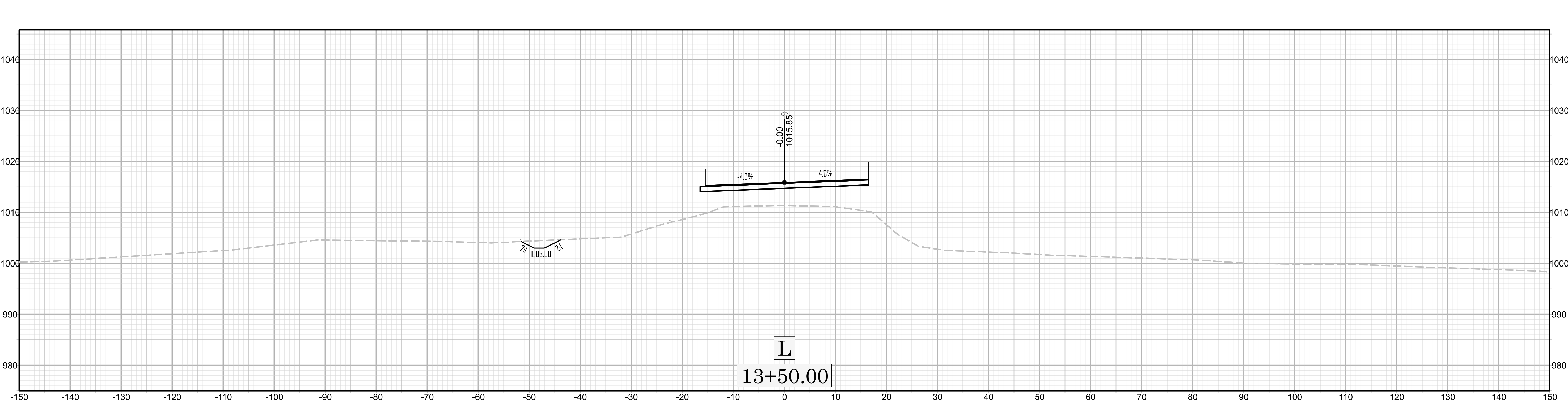
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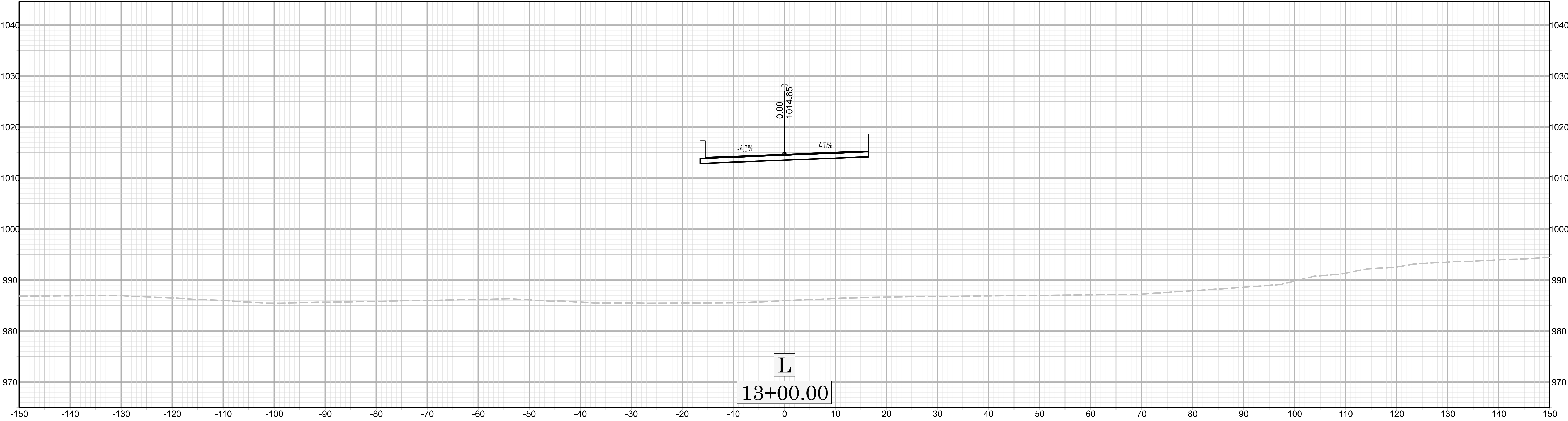
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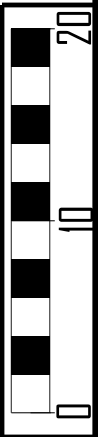
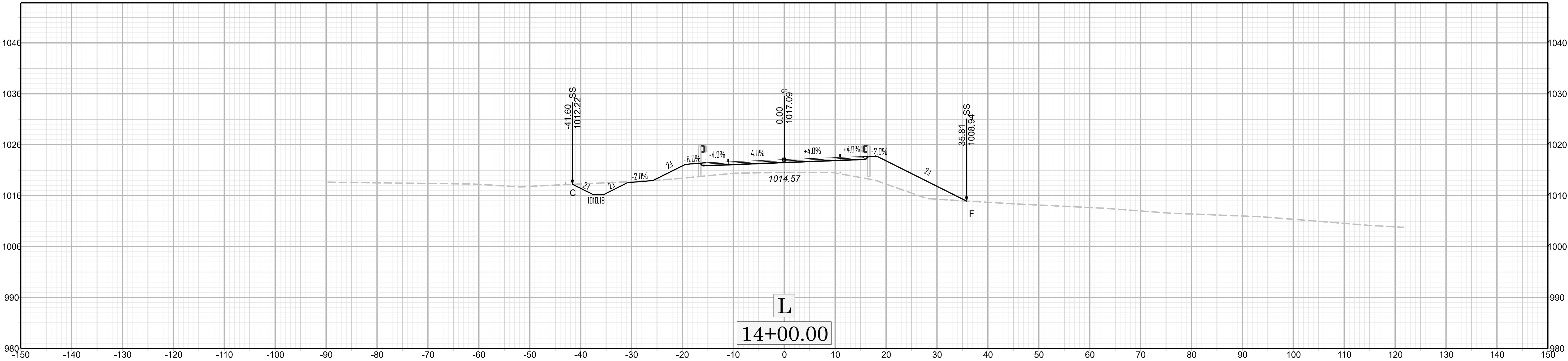
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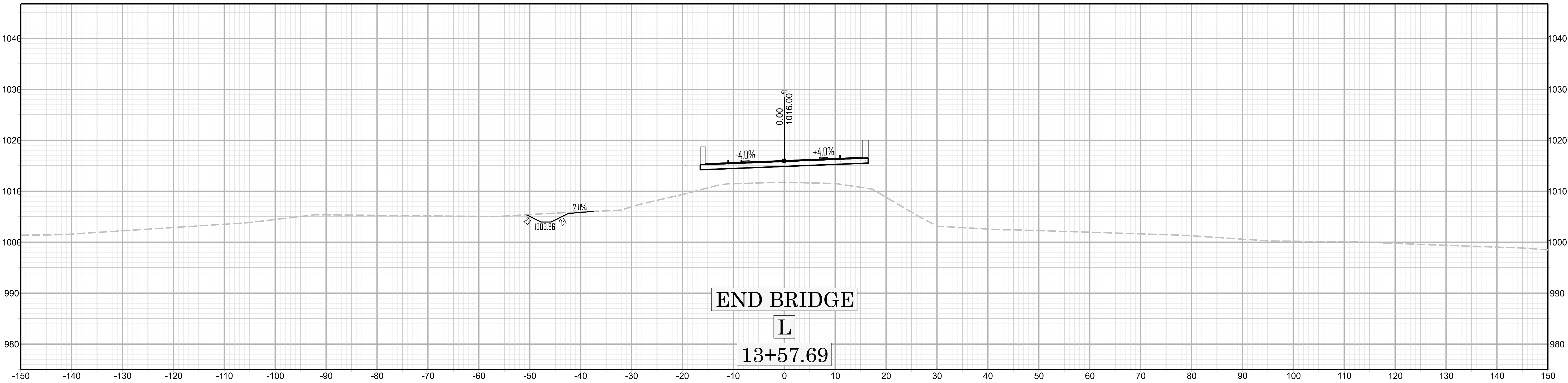
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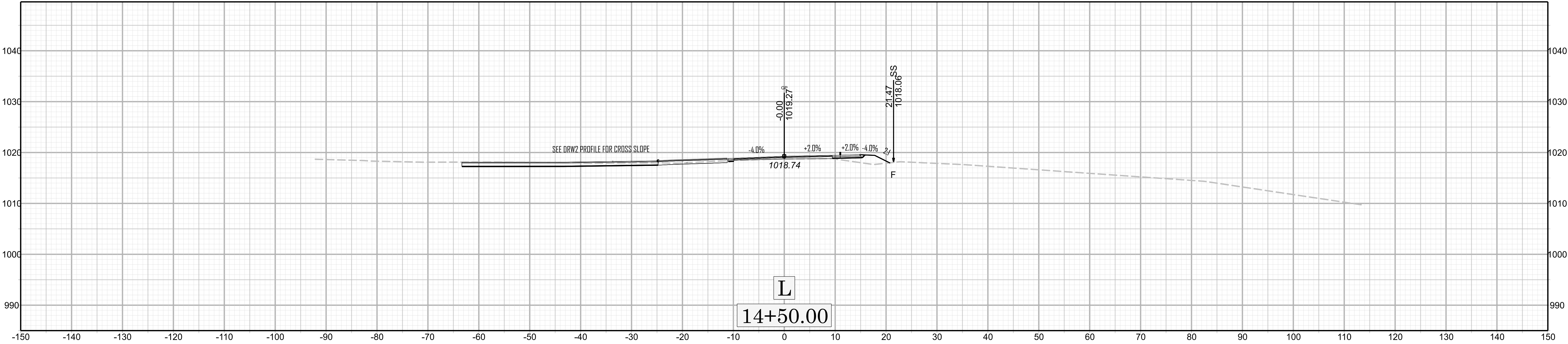
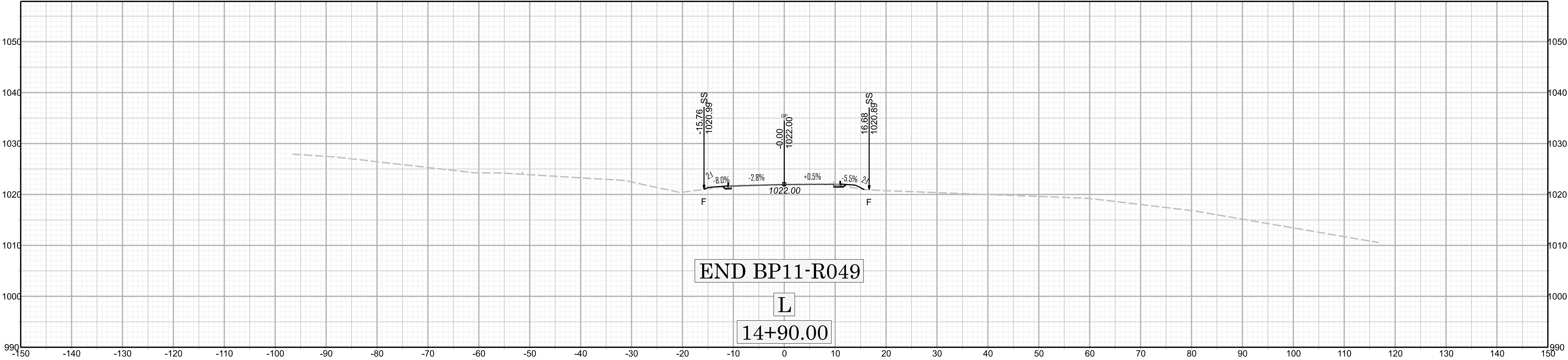
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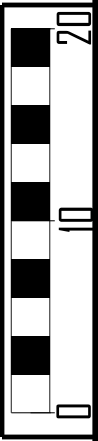


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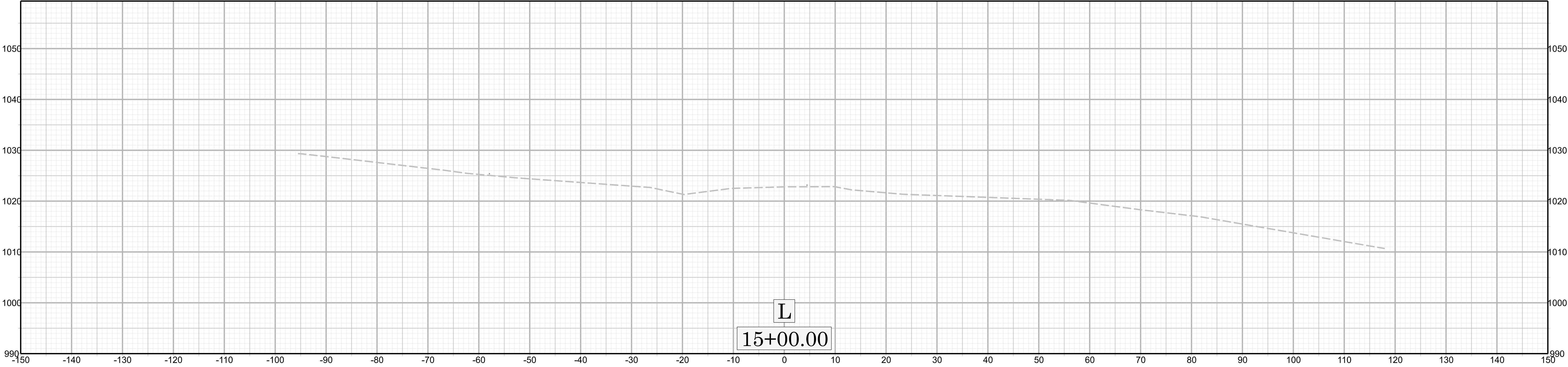
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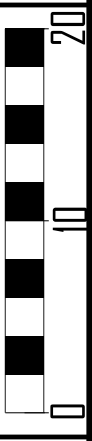
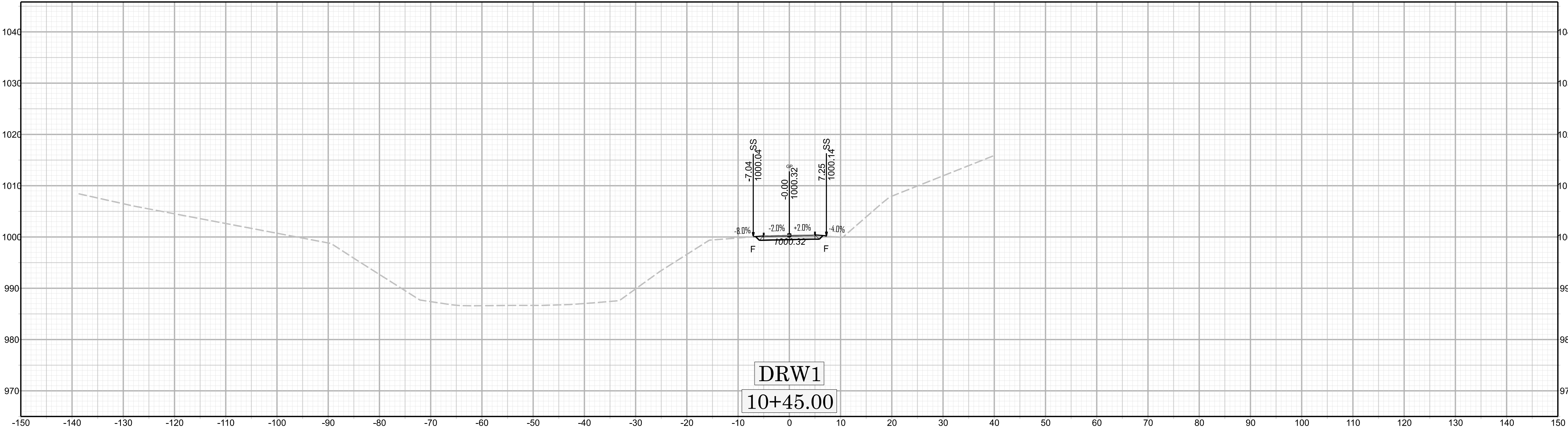




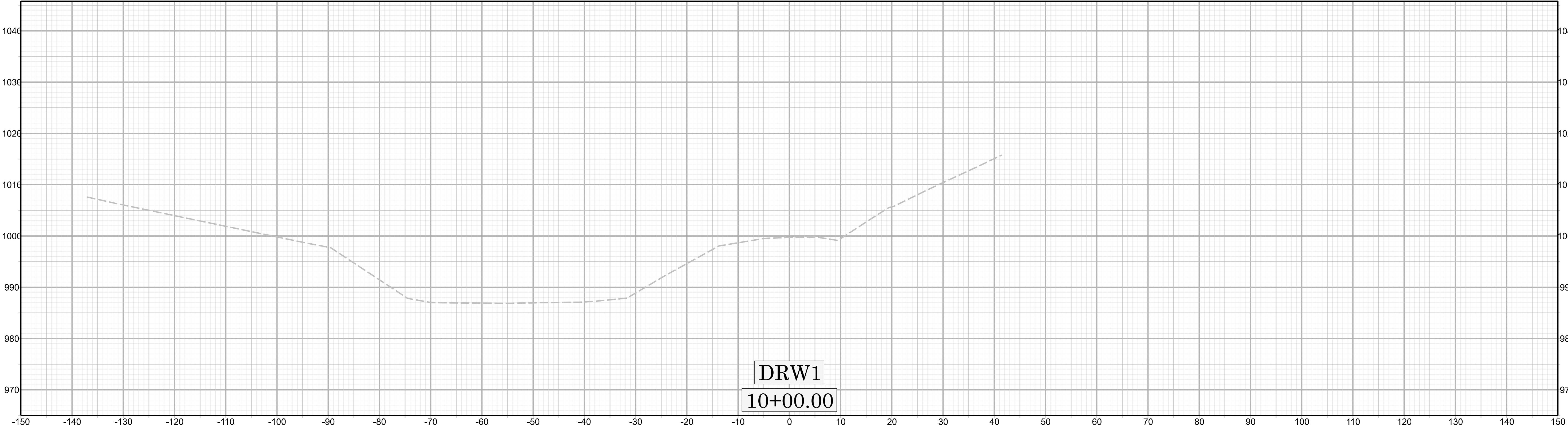
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BP11-R049

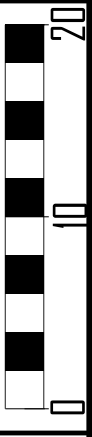




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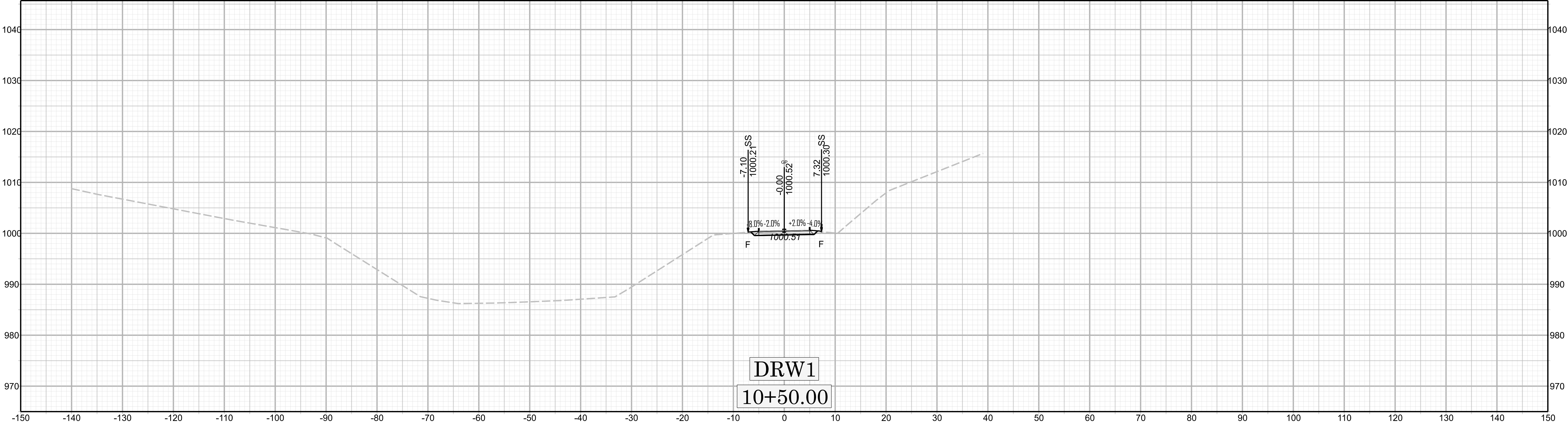


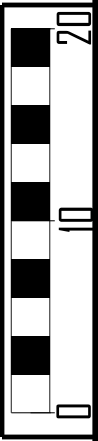
BPM-R049



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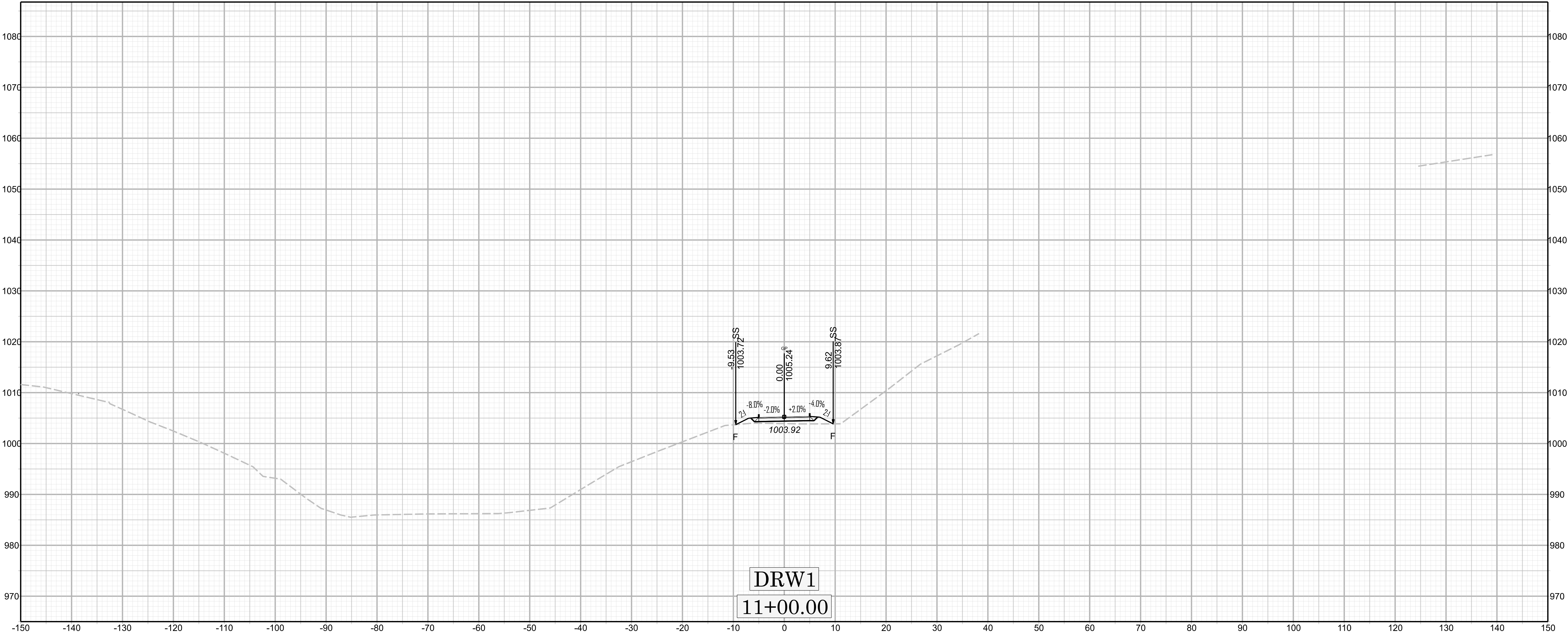
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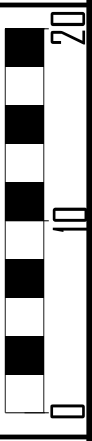


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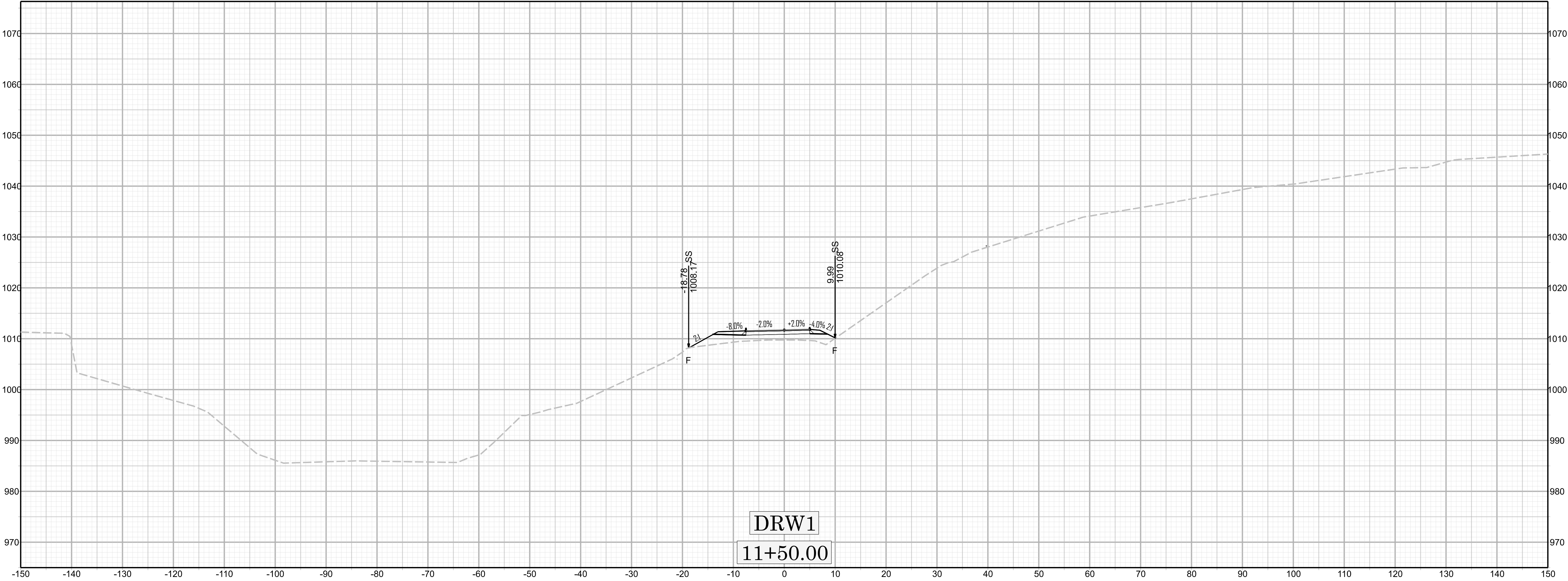


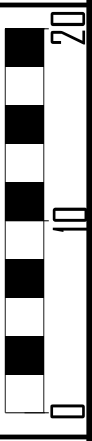
DRW1
11+00.00



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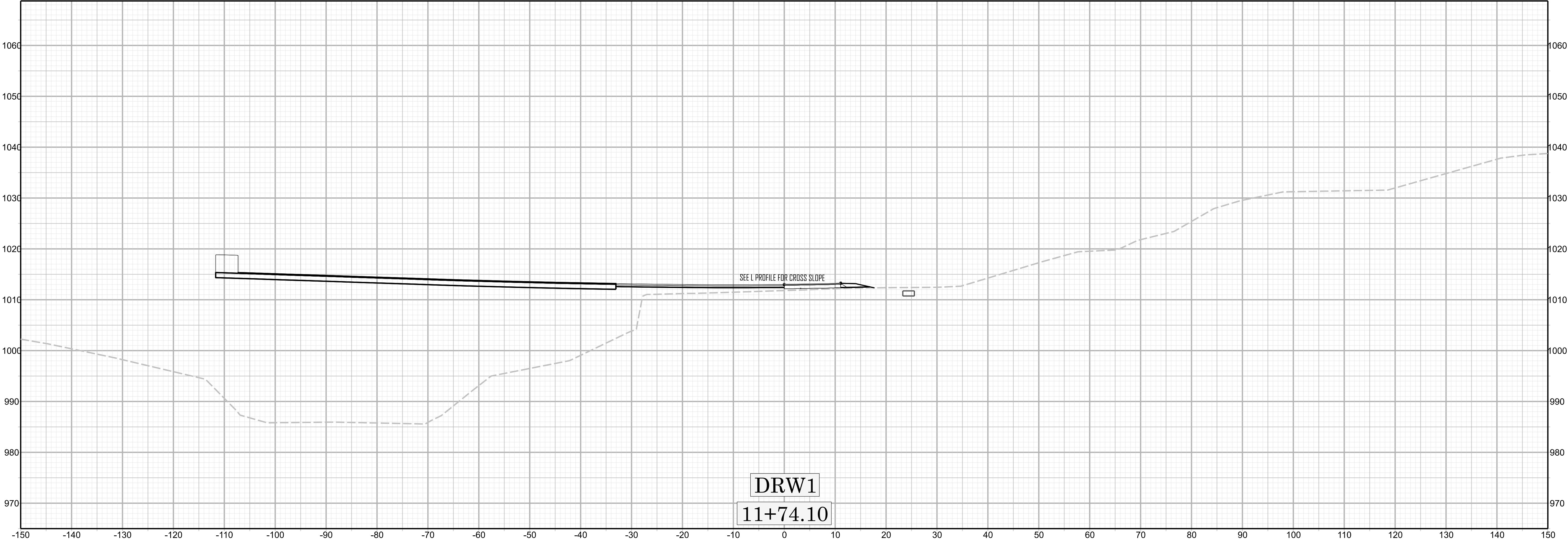
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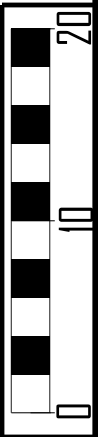
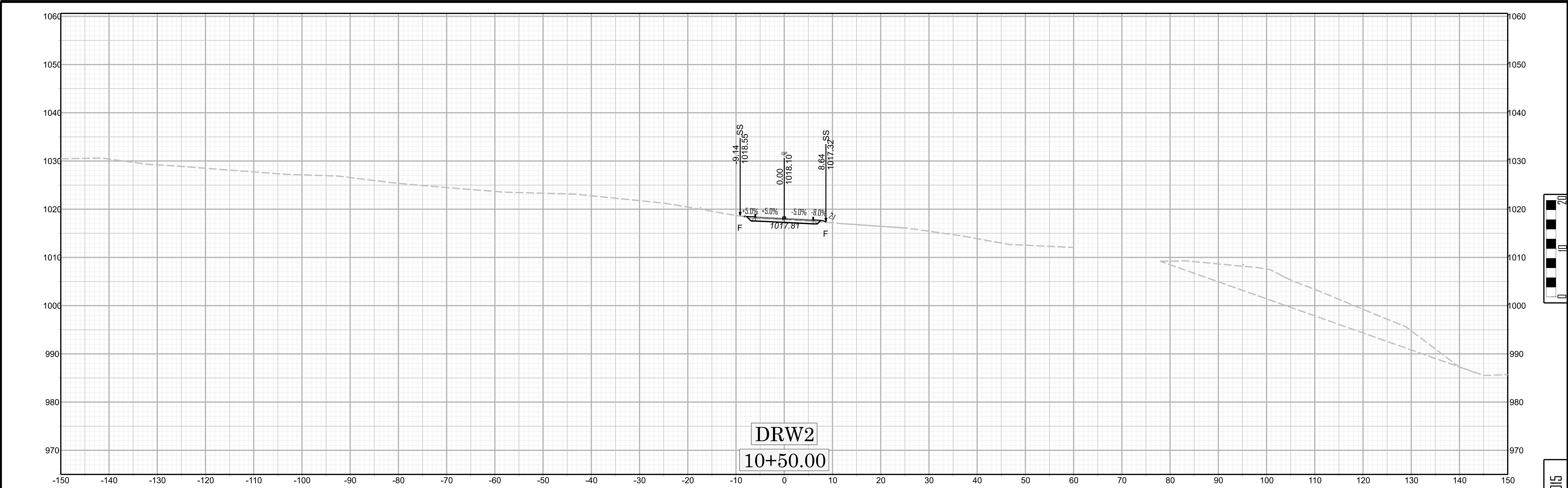


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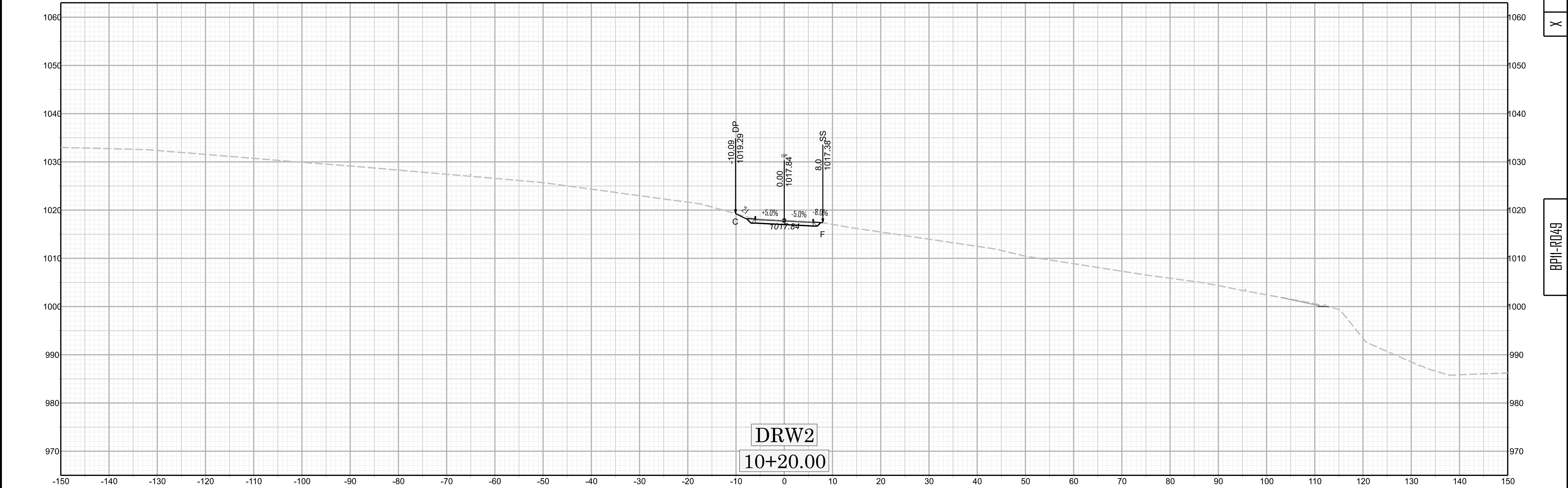
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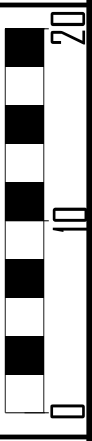
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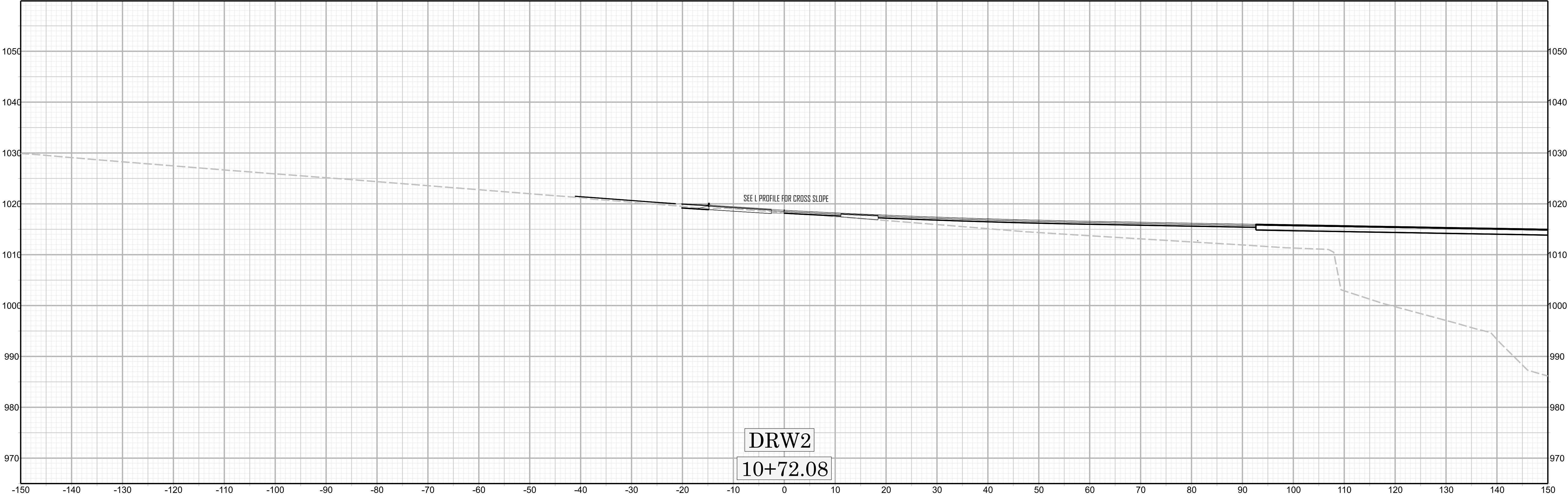


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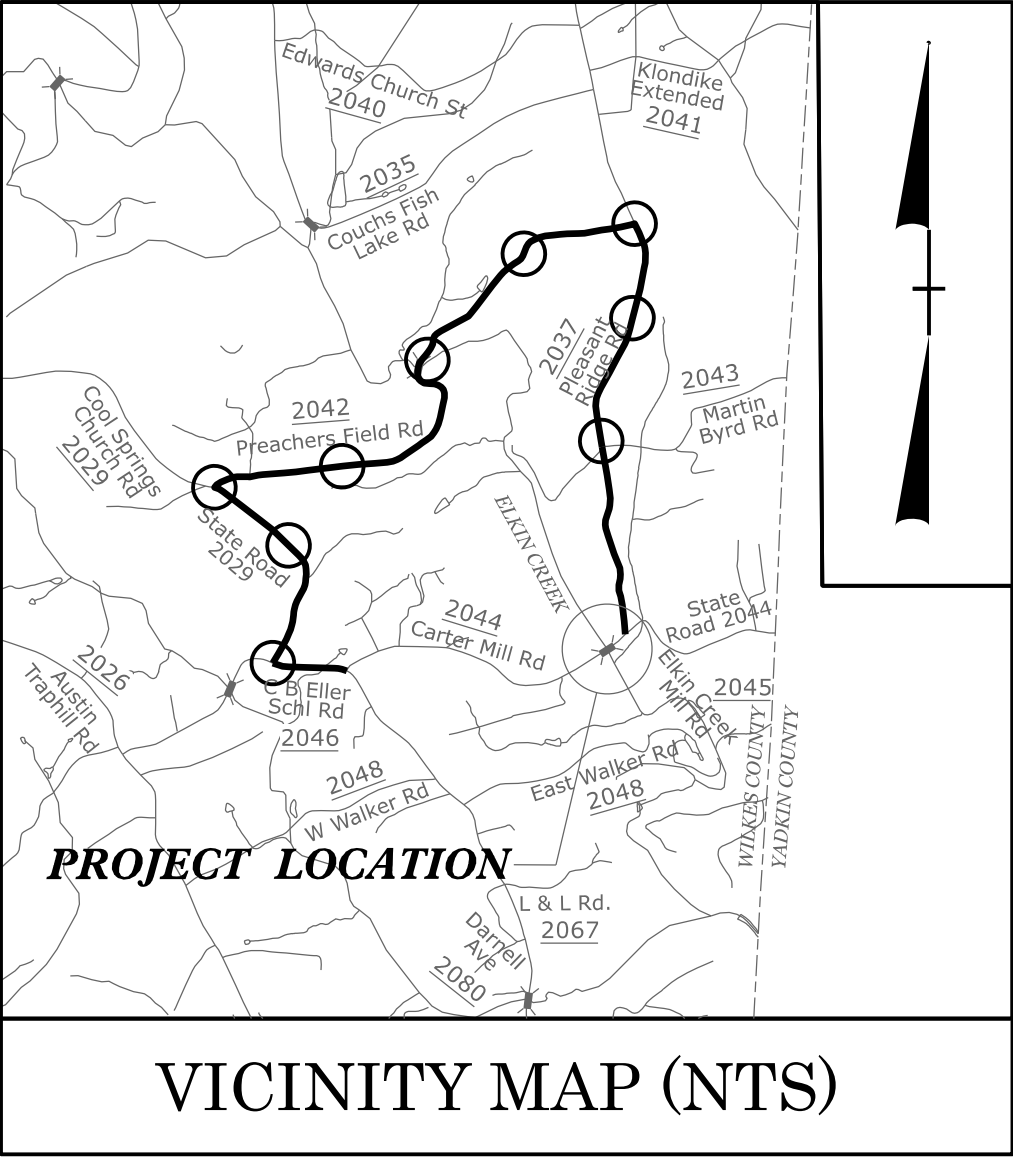
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BPM-R049



TIP PROJECT: BP11-R049

CONTRACT:



VICINITY MAP (NTS)

100% PLANS

OFF SITE DETOUR ROUTE

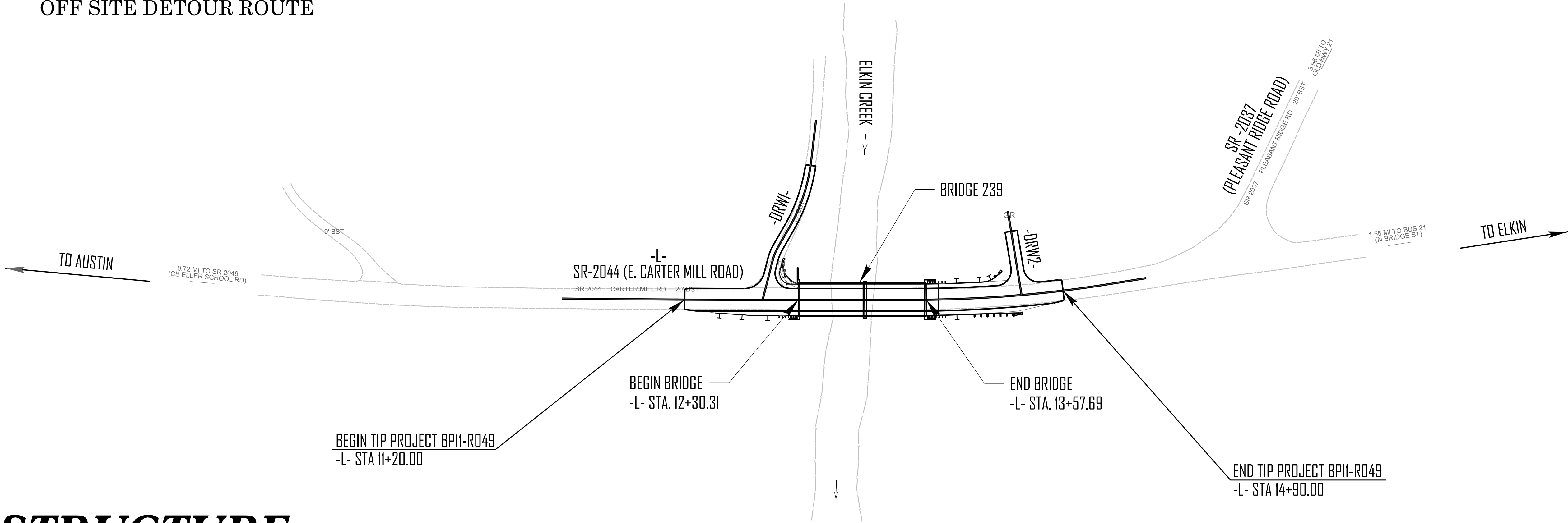
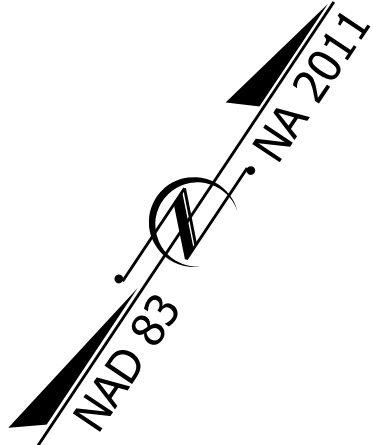
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WILKES COUNTY

LOCATION: *BRIDGE 239 OVER ELKIN CREEK*
ON SR 2044 (E. CARTER MILL ROAD)

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP11-R049		
STATE PROJ. NO.		F. A. PROJ. NO.	DESCRIPTION
BP11.R049.1			PE
BP11.R049.2			R/W & UTL
BP11.R049.3			CONST.



STRUCTURE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DESIGN DATA

ADT 2026 = 1225
ADT 2046 = 1500
K = -- %
D = -- %
T = -- % *
V = 55 MPH
* TTST = 2% DUAL 1%
FUNC CLASS =
RURAL MINOR
COLLECTOR

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT BP11-R049 = 0.046 MILES
LENGTH OF STRUCTURE TIP PROJECT BP11-R049 = 0.024 MILES
TOTAL LENGTH OF TIP PROJECT BP11-R049 = 0.070 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:

July 31, 2025

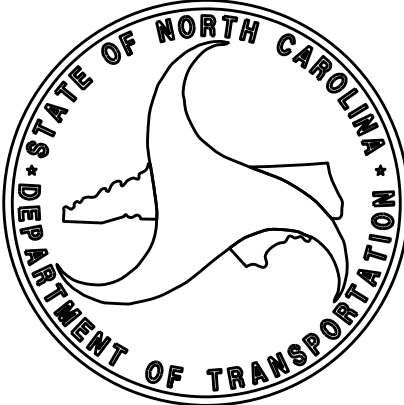
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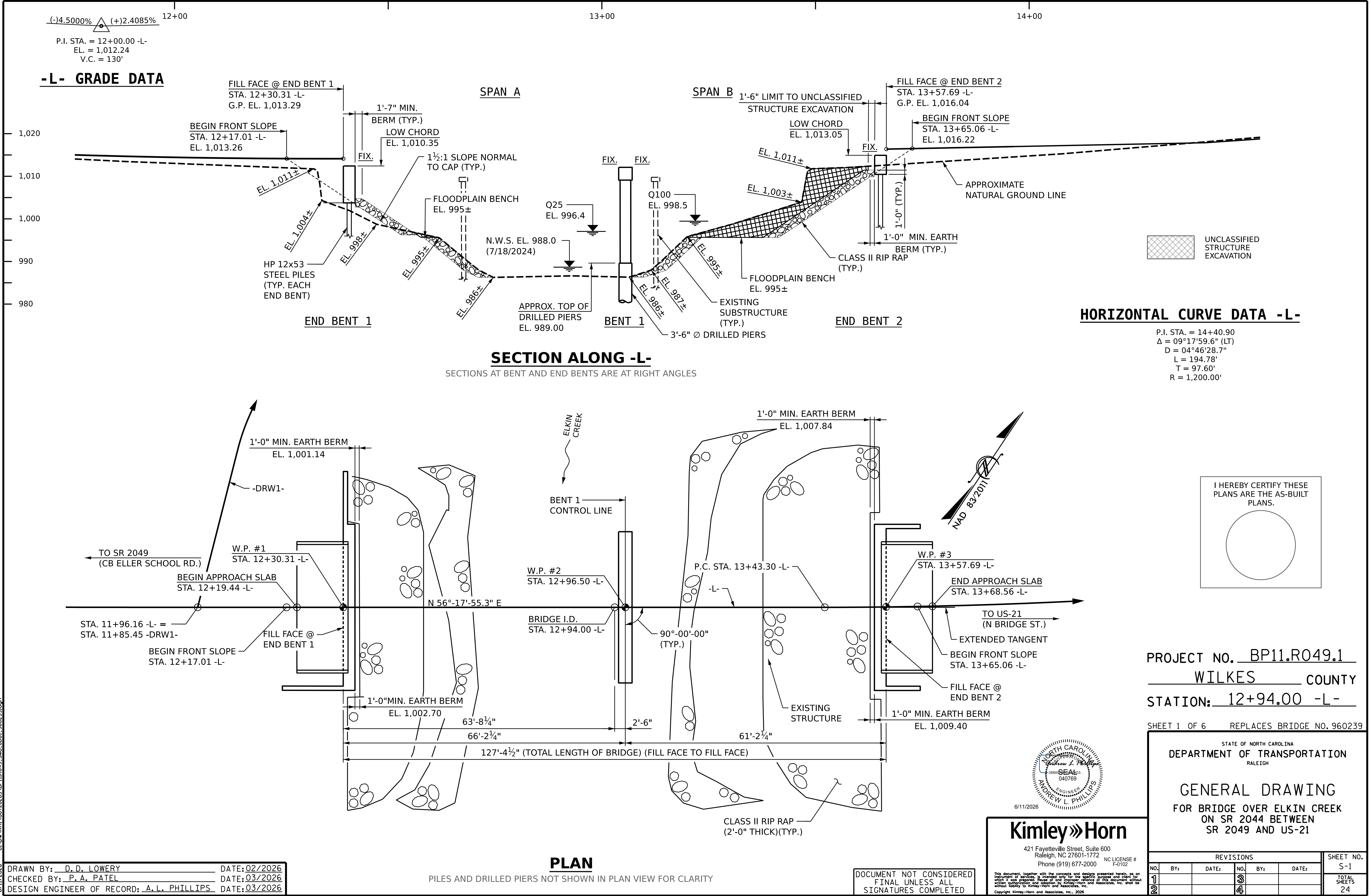
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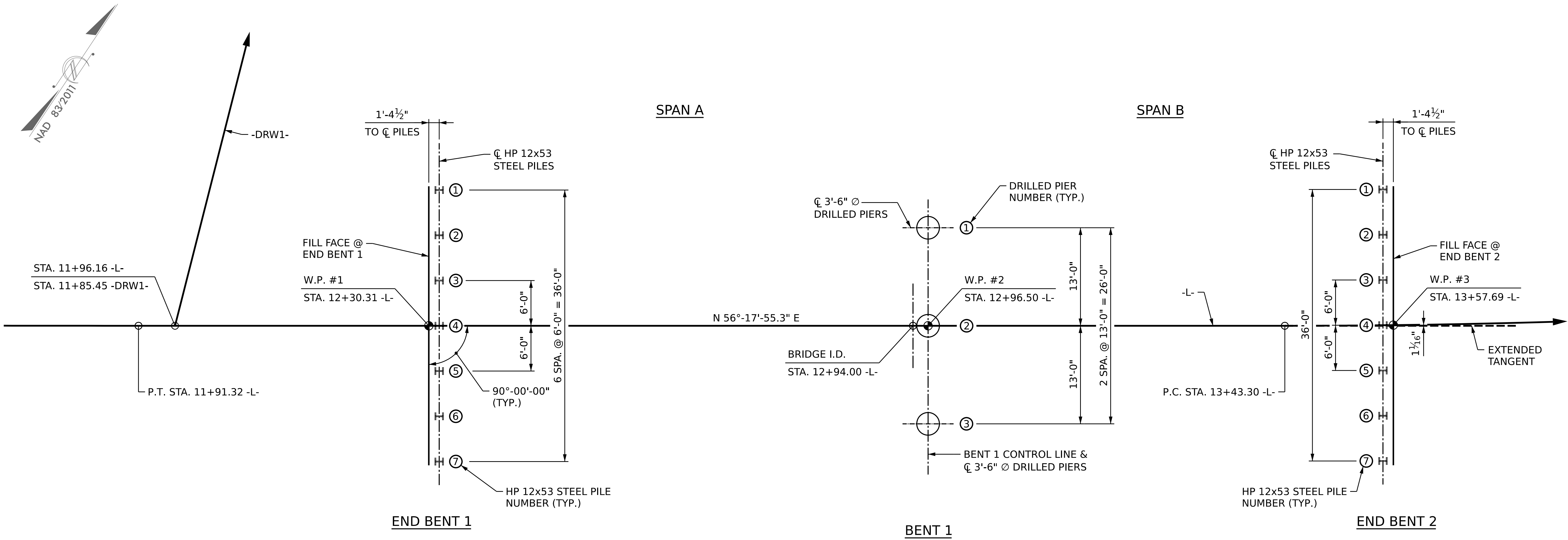
ANDREW L. PHILLIPS, P.E.
PROJECT ENGINEER

PUJA A. PATEL
PROJECT DESIGN ENGINEER

ROBBIE N. WEISZ, P.E.
NCDOT CONTACT







FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES ARE SHOWN TO PILES CENTERLINE
DIMENSIONS LOCATING DRILLED PIERS ARE SHOWN TO DRILLED PIER CENTERLINE

NOTES

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

PROJECT NO. BP11.R049.1
WILKES COUNTY
STATION: 12+94.00 -L-

SHEET 2 OF 6



6/2/2026

Kimley»Horn

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

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER ELKIN CREEK
ON SR 2044 BETWEEN
SR 2049 AND US-21

REVISIONS					SHEET NO. S-2
NO.	BY:	DATE:	NO.	BY:	
1			3		TOTAL SHEETS
2			4		24

DRAWN BY : D. D. LOWERY DATE : 02/2026
CHECKED BY : P. A. PATEL DATE : 03/2026
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 03/2026

SUMMARY OF PILE INFORMATION/INSTALLATION
(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Number of Piles per Line	Factored Resistance per Pile KIPS	Pile Cut-Off (Top of Pile) Elevation FT	Estimated Pile Length per Pile FT	Scour Critical Elevation FT	Driven Piles			Predrilling for Piles **			Drilled-In Piles		
						Minimum Pile Tip (Tip No Higher Than) Elevation FT	Required Driving Resistance (RDR)* per pile KIPS	Pile Redrives Quantity EACH	Predrilling Length per Pile LIN FT	Predrilling Elevation (Elevation Not To Predrill Below) FT	Maximum Predrilling Diameter INCHES	Pile Excavation (Bottom of Hole) Elevation FT	Pile Excavation Not In Soil per Pile LIN FT	Pile Excavation In Soil per Pile LIN FT
End Bent No.1, Piles 1-3	3	160		20			270		7.5	987.5	12			
End Bent No.1, Piles 4-7	4	160		25			270		8.6	985.4	12			
End Bent No. 2, Piles 1-4	4	150		40			250		20.0	975.2	12			
End Bent No. 2, Piles 5-7	3	150		35			250		9.5	984.2	12			
TOTAL QUANTITY:									165.4					

* $RDR = \frac{Factored\ Resistance + Factored\ Drag\ Load + Factored\ Dead\ Load}{Dynamic\ Resistance\ Factor} + Nominal\ Drag\ Load\ Resistance + Nominal\ Resistance\ from\ Scourable\ Material$

** Predrilling for Piles is required for end bents/bents with a predrilling length and at the Contractor's option for end bents/bents with predrilling information but no predrilling length.

PILE DESIGN INFORMATION
(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Axial Load per Pile KIPS	Factored Drag Load per Pile KIPS	Factored Dead Load * per Pile KIPS	Dynamic Resistance Factor	Nominal Drag Resistance per Pile KIPS	Nominal Scour Resistance per Pile KIPS
End Bent No.1, Piles 1-3	156			0.6		
End Bent No.1, Piles 4-7	156			0.6		
End Bent No. 2, Piles 1-4	148			0.6		
End Bent No. 2, Piles 5-7	148			0.6		

* Factored Dead Load is factored weight of pile above the ground line.

SUMMARY OF PILE ACCESSORIES
(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Pipe Pile Plates EACH	Steel Pile Points		
		Pipe Pile Cutting Shoes EACH	Pipe Pile Conical Points EACH	H-Pile Points EACH
End Bent No.1, Piles 1-3				3
End Bent No.1, Piles 4-7				4
End Bent No. 2, Piles 1-4				4
End Bent No. 2, Piles 5-7				3
TOTAL QUANTITY:				14

SUMMARY OF DRILLED PIER INFORMATION/INSTALLATION
(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Number of Piers per Line	Factored Resistance per Pier KIPS	Required Drilled Pier Tip Elevation FT	Required Tip Resistance per Pier KSF	Scour Critical Elevation FT	Minimum Drilled Pier Penetration Into Rock per Pier LIN FT	Drilled Pier Length* per Pier LIN FT	Drilled Pier Length Not In Soil* per Pier LIN FT	Drilled Pier Length In Soil* per Pier LIN FT	Permanent Steel Casing Required? YES	Permanent Steel Casing Tip Elevation (Elevation Not To Extend Casing Below) FT	Permanent Steel Casing Length** per Pier LIN FT
Bent 1, Piers 1-3	3	850	955.80	60	970.00	5	33.2			YES	976.00	13
TOTAL QUANTITY:												
							99.6					39

* Drilled Pier Length, Drilled Pier Length Not in Soil and Drilled Pier Length in Soil represent estimated drilled pier quantities and are measured and paid for as either " ____ Dia. Drilled Piers" or " ____ Dia. Drilled Piers Not in Soil" and " ____ Dia. Drilled Piers in Soil" in accordance with Article 411-7 of the NCDOT Standard Specifications. For bents with a not in soil pay item, drilled piers through air or water will be paid at the contract unit price for " ____ Dia. Drilled Piers in Soil."

** Permanent Steel Casing Length equals the difference between the ground line or top of drilled pier elevation, whichever is higher, and the permanent casing tip elevation and is measured and paid for as "Permanent Steel Casing for ____ Dia. Drilled Pier" in accordance with Article 411-7 of the NCDOT Standard Specifications.

SUMMARY OF DRILLED PIER TESTING
(Blank entries indicate item is not applicable to structure)

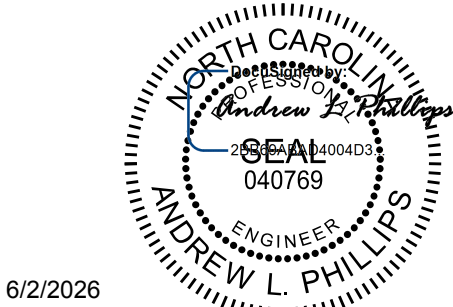
End Bent / Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Standard Penetration Test (SPT) EACH	Crosshole Sonic Logging (CSL) EACH	Thermal Integrity Profiler (TIP) EACH	Shaft Inspection Device (SID) EACH	Pile Integrity Test (PIT) EACH
Bent 1, Piers 1-3		1		1	
TOTAL QUANTITY:		1		1	

- NOTES:
1. The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Hunsberger, W. S., #036283) on 02-13-2026.
 2. Total Pile Driving Equipment Setup quantity (not shown in Pile Foundation Tables) equals the number of driven piles, i.e., the number of piles with a Required Driving Resistance.
 3. The Engineer may adjust the quantity for DPT Testing, Pipe Pile Plates, Permanent Steel Casing, SPTs, TIPs, CSL Testing, SID Inspections and PITs when necessary.

DRAWN BY : D. D. LOWERY DATE : 02/2026
CHECKED BY : P. A. PATEL DATE : 03/2026
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 03/2026

4/11/2026
BP11,R049_SMU_BDR_960239.dgn
david.lowery

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED



6/2/2026

Kimley»Horn

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

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PROJECT NO. BP11.R049.1
WILKES COUNTY
STATION: 12+94.00 -L-

SHEET 3 OF 6

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

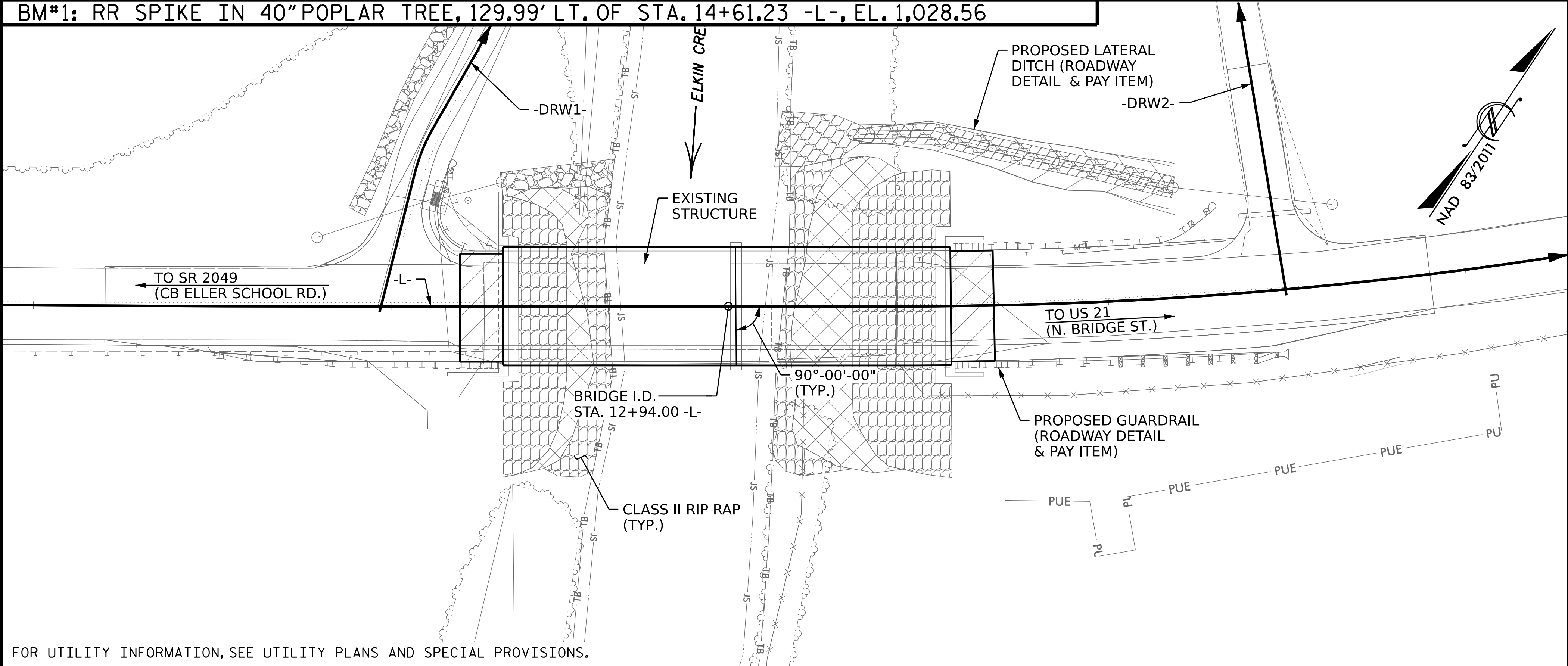
RALEIGH

GENERAL DRAWING

PILE AND DRILLED PIER
FOUNDATION TABLES

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3 TOTAL SHEETS 24
1			3			
2			4			

BM#1: RR SPIKE IN 40" POPLAR TREE, 129.99' LT. OF STA. 14+61.23 -L-, EL. 1,028.56



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.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 12+94.00 -L-."

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET S-1 SHALL BE EXCAVATED FOR A DISTANCE OF 40 FT EACH SIDE OF CENTERLINE 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 3 SPAN (1 @ 35'-3", 1 @ 45'-1", 1 @ 35'-3") TIMBER DECK ON I-BEAMS WITH RIP RAP SLOPING ABUTMENTS, TIMBER END BENTS AND TIMBER BENTS AND LOCATED AT THE SITE OF PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST 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".

THE SCOUR CRITICAL ELEVATION FOR BENT NO.1 IS ELEVATION 970.0. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

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

FOR ASBESTOS ASSESSMENT, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	ASBESTOS ASSESSMENT	3'-6" Ø DRILLED PIER	PERMANENT STEEL CASING FOR 3'-6" Ø DRILLED PIER	SID INSPECTIONS	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL
	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	EA.	EA.	LUMP SUM	CU. YDS.	LUMP SUM	LBS.
SUPERSTRUCTURE									LUMP SUM	
END BENT 1							LUMP SUM	40.4		8,056
BENT 1			99.6	39.0	1	1		30.4		13,197
END BENT 2							LUMP SUM	21.8		2,636
TOTAL	LUMP SUM	LUMP SUM	99.6	39.0	1	1	LUMP SUM	92.6	LUMP SUM	23,889

HYDRAULIC DATA

DESIGN DISCHARGE ----- 3,600 C.F.S.
FREQUENCY OF DESIGN FLOOD ----- 25 YRS.
DESIGN HIGH WATER ELEVATION ----- 996.4 FT.
DRAINAGE AREA ----- 25.5 SQ. MI.
BASE DISCHARGE (Q100) ----- 5,100 C.F.S.
BASE HIGH WATER ELEVATION ----- 998.5 FT.

OVERTOPPING FLOOD DATA

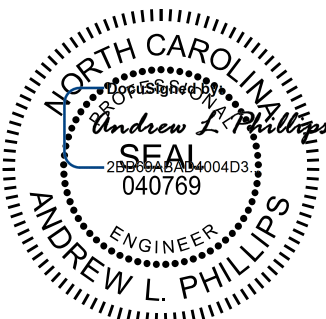
OVERTOPPING DISCHARGE ----- N/A
FREQUENCY OF OVERTOPPING FLOOD --- 500+ YRS.
OVERTOPPING FLOOD ELEVATION ----- 1,013.3* FT.
* @ RIVER STA. 22537

TOTAL BILL OF MATERIAL

	SPIRAL COLUMN REINFORCING STEEL	PILE DRIVING SETUP FOR HP 12x53 STEEL PILES	HP 12x53 STEEL PILES	STEEL PILE POINTS	PREDRILLING FOR PILES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 2'-0" PRESTRESSED CONC. CORED SLABS
	LBS.	EA.	LIN. FT.	EA.	LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO. LIN. FT.
SUPERSTRUCTURE						250.5			LUMP SUM	22 1375.0
END BENT 1		7	160	7	56.9		270	300		
BENT 1	3,452									
END BENT 2		7	265	7	108.5		410	456		
TOTAL	3,452	14	425	14	165.4	250.5	680	756	LUMP SUM	22 1375.0

DRAWN BY: D. D. LOWERY DATE: 02/2026
CHECKED BY: P. A. PATEL DATE: 03/2026
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE: 03/2026

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED



6/2/2026

Kimley»Horn

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

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PROJECT NO. BP11.R049.1

WILKES COUNTY

STATION: 12+94.00 -L-

SHEET 4 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER ELKIN CREEK
ON SR 2044 BETWEEN
SR 2049 AND US-21

REVISIONS						SHEET NO. S-4
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 24
2			4			

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	1.018	--	1.75	0.274	1.05	65'	EL	32	0.513	1.20	65'	EL	6.4	0.80	0.274	1.02	65'	EL	32		
	HL-93 (OPERATING)	N/A		1.358	--	1.35	0.274	1.36	65'	EL	32	0.513	1.56	65'	EL	6.4	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	2	1.306	47.014	1.75	0.274	1.34	65'	EL	32	0.513	1.48	65'	EL	6.4	0.80	0.274	1.31	65'	EL	32		
	HS-20 (OPERATING)	36.000		1.742	62.706	1.35	0.274	1.74	65'	EL	32	0.513	1.92	65'	EL	6.4	N/A	--	--	--	--	--		
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		2.868	38.725	1.4	0.274	3.69	65'	EL	32	0.513	4.33	65'	EL	6.4	0.80	0.274	2.87	65'	EL	32	
		SNGARBS2	20.000		2.171	43.424	1.4	0.274	2.79	65'	EL	32	0.513	3.11	65'	EL	6.4	0.80	0.274	2.17	65'	EL	32	
		SNAGRIS2	22.000		2.071	45.552	1.4	0.274	2.66	65'	EL	32	0.513	2.89	65'	EL	6.4	0.80	0.274	2.07	65'	EL	32	
		SNCOTTS3	27.250		1.428	38.924	1.4	0.274	1.84	65'	EL	32	0.513	2.17	65'	EL	6.4	0.80	0.274	1.43	65'	EL	32	
		SNAGGRS4	34.925		1.206	42.136	1.4	0.274	1.55	65'	EL	32	0.513	1.81	65'	EL	6.4	0.80	0.274	1.21	65'	EL	32	
		SNS5A	35.550		1.179	41.911	1.4	0.274	1.52	65'	EL	32	0.513	1.85	65'	EL	6.4	0.80	0.274	1.18	65'	EL	32	
		SNS6A	39.950		1.087	43.43	1.4	0.274	1.40	65'	EL	32	0.513	1.69	65'	EL	6.4	0.80	0.274	1.09	65'	EL	32	
		SNS7B	42.000		1.035	43.489	1.4	0.274	1.33	65'	EL	32	0.513	1.67	65'	EL	6.4	0.80	0.274	1.04	65'	EL	32	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.327	43.80	1.4	0.274	1.71	65'	EL	32	0.513	2.01	65'	EL	6.4	0.80	0.274	1.33	65'	EL	32	
		TNT4A	33.075		1.335	44.142	1.4	0.274	1.72	65'	EL	32	0.513	1.95	65'	EL	6.4	0.80	0.274	1.33	65'	EL	32	
		TNT6A	41.600		1.096	45.613	1.4	0.274	1.41	65'	EL	32	0.513	1.80	65'	EL	6.4	0.80	0.274	1.10	65'	EL	32	
		TNT7A	42.000		1.105	46.40	1.4	0.274	1.42	65'	EL	32	0.513	1.74	65'	EL	6.4	0.80	0.274	1.10	65'	EL	32	
		TNT7B	42.000		1.150	48.298	1.4	0.274	1.48	65'	EL	32	0.513	1.62	65'	EL	6.4	0.80	0.274	1.15	65'	EL	32	
		TNAGRIT4	43.000		1.089	46.815	1.4	0.274	1.40	65'	EL	32	0.513	1.57	65'	EL	6.4	0.80	0.274	1.09	65'	EL	32	
		TNAGT5A	45.000		1.024	46.084	1.4	0.274	1.32	65'	EL	32	0.513	1.57	65'	EL	6.4	0.80	0.274	1.02	65'	EL	32	
		TNAGT5B	45.000	3	1.010	45.431	1.4	0.274	1.30	65'	EL	32	0.513	1.49	65'	EL	6.4	0.80	0.274	1.01	65'	EL	32	
EMERGENCY VEHICLE (EV)	EV2	28.750		1.700	48.880	1.3	0.274	2.12	65'	EL	32	0.513	2.33	65'	EL	6.4	0.80	0.274	1.70	65'	EL	32		
	EV3	43.000	4	1.109	47.706	1.3	0.274	1.38	65'	EL	32	0.513	1.57	65'	EL	6.4	0.80	0.274	1.11	65'	EL	32		

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ DC	γ DW
	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

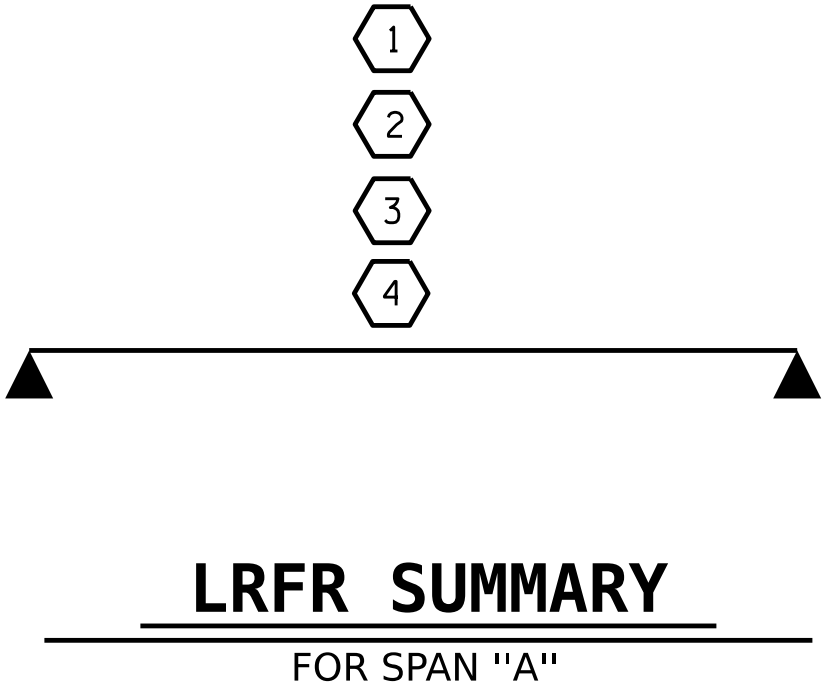
LEGAL LOAD RATING * *

4

EMERGENCY VEHICLE LOAD RATING **

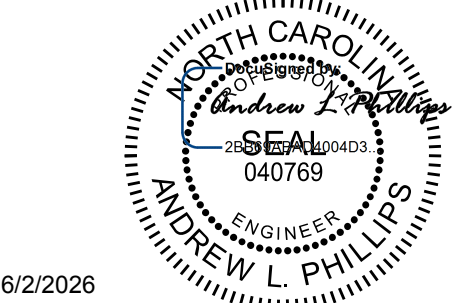
* * SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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

PROJECT NO. BP11.R049.1
WILKES COUNTY
STATION: 12+94.00 -L-

SHEET 5 OF 6



6/2/2026

Kimley»Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
LRFR SUMMARY FOR
65' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS				SHEET NO. S-5
NO.	BY:	DATE:	NO.	
1			3	TOTAL SHEETS
2			4	24

ASSEMBLED BY : D. D. LOWERY		DATE : 02/2026	
CHECKED BY : P. A. PATEL		DATE : 03/2026	
DRAWN BY : CVC	6/10	REV. BY : BNB/AKP	06/23
CHECKED BY : DNS	6/10		

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	1.330	--	1.75	0.275	1.33	60'	EL	29.5	0.52	1.33	60'	EL	5.9	0.80	0.275	1.37	60'	EL	29.5	
		HL-93 (OPERATING)	N/A		1.725	--	1.35	0.275	1.73	60'	EL	29.5	0.52	1.72	60'	EL	5.9	N/A	--	--	--	--	--	
		HS-20 (INVENTORY)	36.000	2	1.601	57.643	1.75	0.275	1.69	60'	EL	29.5	0.52	1.60	60'	EL	5.9	0.80	0.275	1.74	60'	EL	29.5	
		HS-20 (OPERATING)	36.000		2.076	74.723	1.35	0.275	2.19	60'	EL	29.5	0.52	2.08	60'	EL	5.9	N/A	--	--	--	--	--	
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		3.745	50.557	1.4	0.275	4.55	60'	EL	29.5	0.52	4.63	60'	EL	5.9	0.80	0.275	3.74	60'	EL	29.5	
		SNGARBS2	20.000		2.867	57.338	1.4	0.275	3.48	60'	EL	29.5	0.52	3.33	60'	EL	5.9	0.80	0.275	2.87	60'	EL	29.5	
		SNAGRIS2	22.000		2.748	60.460	1.4	0.275	3.34	60'	EL	29.5	0.52	3.11	60'	EL	5.9	0.80	0.275	2.75	60'	EL	29.5	
		SNCOTTS3	27.250		1.866	50.841	1.4	0.275	2.27	60'	EL	29.5	0.52	2.31	60'	EL	5.9	0.80	0.275	1.87	60'	EL	29.5	
		SNAGGRS4	34.925		1.588	55.465	1.4	0.275	1.93	60'	EL	29.5	0.52	1.95	60'	EL	5.9	0.80	0.275	1.59	60'	EL	29.5	
		SNS5A	35.550		1.551	55.139	1.4	0.275	1.89	60'	EL	29.5	0.52	1.99	60'	EL	5.9	0.80	0.275	1.55	60'	EL	29.5	
		SNS6A	39.950		1.435	57.347	1.4	0.275	1.74	60'	EL	29.5	0.52	1.83	60'	EL	5.9	0.80	0.275	1.44	60'	EL	29.5	
		SNS7B	42.000		1.367	57.434	1.4	0.275	1.66	60'	EL	29.5	0.52	1.81	60'	EL	5.9	0.80	0.275	1.37	60'	EL	29.5	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.754	57.887	1.4	0.275	2.13	60'	EL	29.5	0.52	2.17	60'	EL	5.9	0.80	0.275	1.75	60'	EL	29.5	
		TNT4A	33.075		1.765	58.389	1.4	0.275	2.15	60'	EL	29.5	0.52	2.10	60'	EL	5.9	0.80	0.275	1.77	60'	EL	29.5	
		TNT6A	41.600		1.456	60.551	1.4	0.275	1.77	60'	EL	29.5	0.52	1.96	60'	EL	5.9	0.80	0.275	1.46	60'	EL	29.5	
		TNT7A	42.000		1.469	61.714	1.4	0.275	1.79	60'	EL	29.5	0.52	1.88	60'	EL	5.9	0.80	0.275	1.47	60'	EL	29.5	
		TNT7B	42.000		1.535	64.463	1.4	0.275	1.87	60'	EL	29.5	0.52	1.76	60'	EL	5.9	0.80	0.275	1.53	60'	EL	29.5	
		TNAGRIT4	43.000		1.450	62.329	1.4	0.275	1.76	60'	EL	29.5	0.52	1.70	60'	EL	5.9	0.80	0.275	1.45	60'	EL	29.5	
		TNAGT5A	45.000		1.361	61.247	1.4	0.275	1.65	60'	EL	29.5	0.52	1.71	60'	EL	5.9	0.80	0.275	1.36	60'	EL	29.5	
		TNAGT5B	45.000	3	1.340	60.282	1.4	0.275	1.63	60'	EL	29.5	0.52	1.61	60'	EL	5.9	0.80	0.275	1.34	60'	EL	29.5	
EMERGENCY VEHICLE (EV)		EV2	28.750		2.218	63.776	1.3	0.275	2.65	60'	EL	29.5	0.52	2.50	60'	EL	5.9	0.80	0.275	2.22	60'	EL	29.5	
		EV3	43.000	4	1.444	62.085	1.3	0.275	1.73	60'	EL	29.5	0.52	1.69	60'	EL	5.9	0.80	0.275	1.44	60'	EL	29.5	

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ DC	γ DW
	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

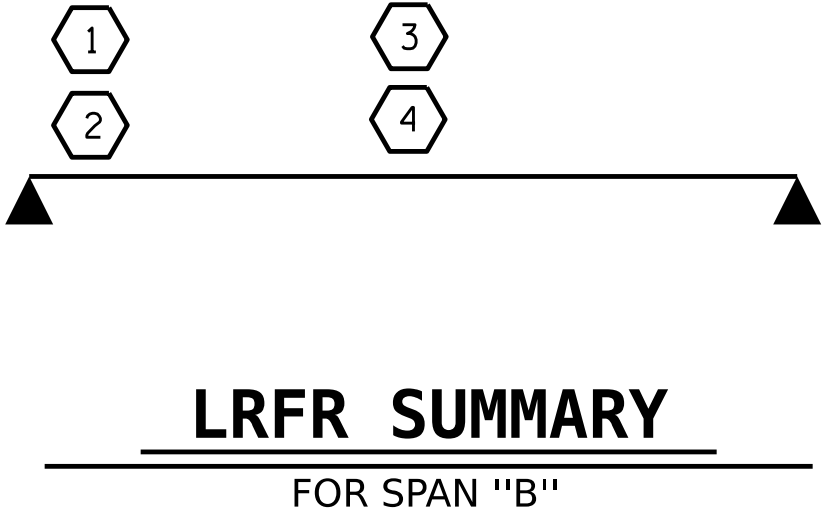
 LEGAL LOAD RATING * *

4

 EMERGENCY VEHICLE LOAD RATING **

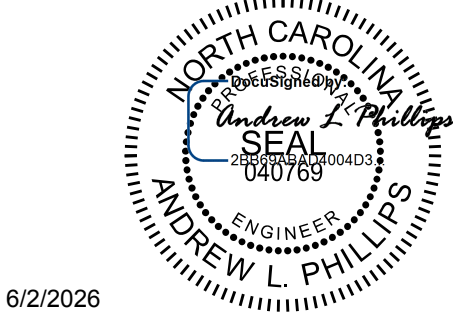
* * SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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

PROJECT NO. BP11.R049.1
WILKES COUNTY
STATION: 12+94.00 -L-

SHEET 6 OF 6



6/2/2026

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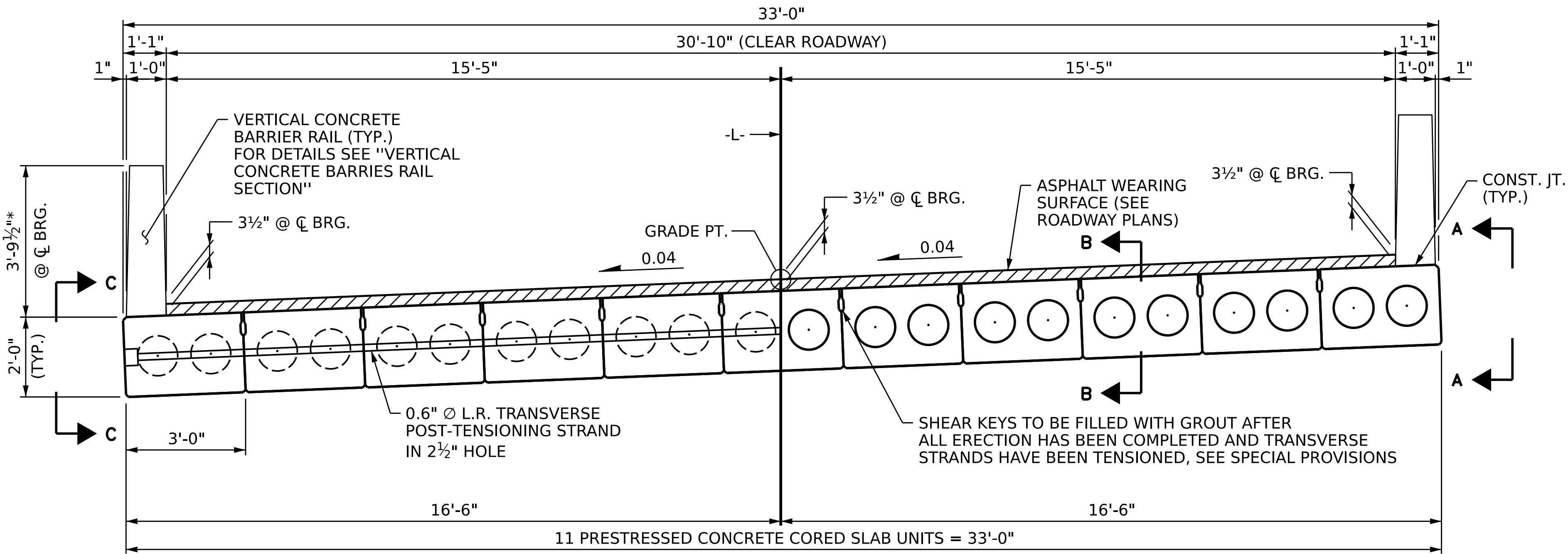
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
LRFR SUMMARY FOR
60' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	
1			3		S-6
2			4		
TOTAL SHEETS					24

ASSEMBLED BY : D. D. LOWERY	DATE : 02/2026
CHECKED BY : P. A. PATEL	DATE : 03/2026
DRAWN BY : CVC 6/10	REV. BY : BNB/AKP 06/23
CHECKED BY : DNS 6/10	



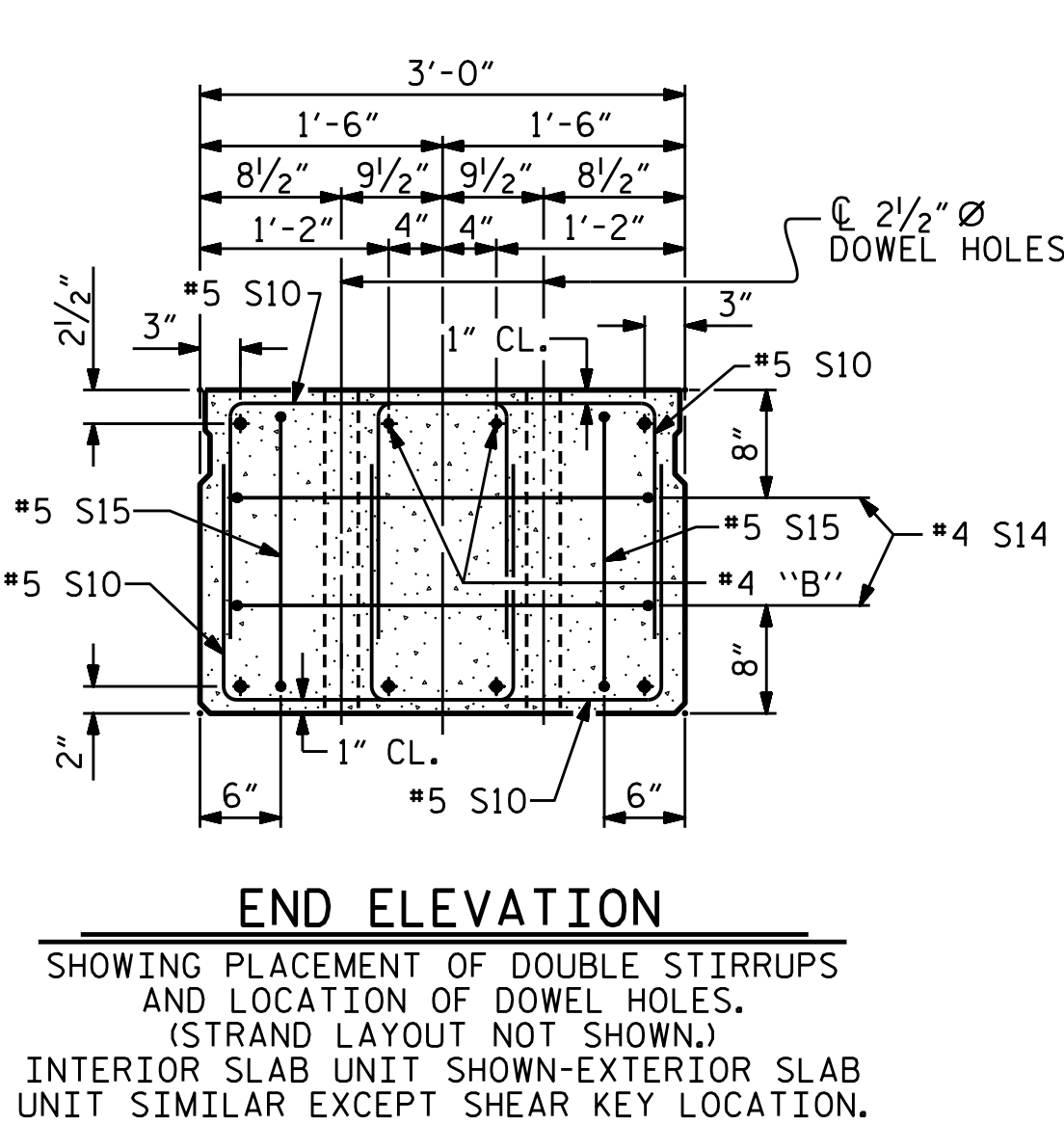
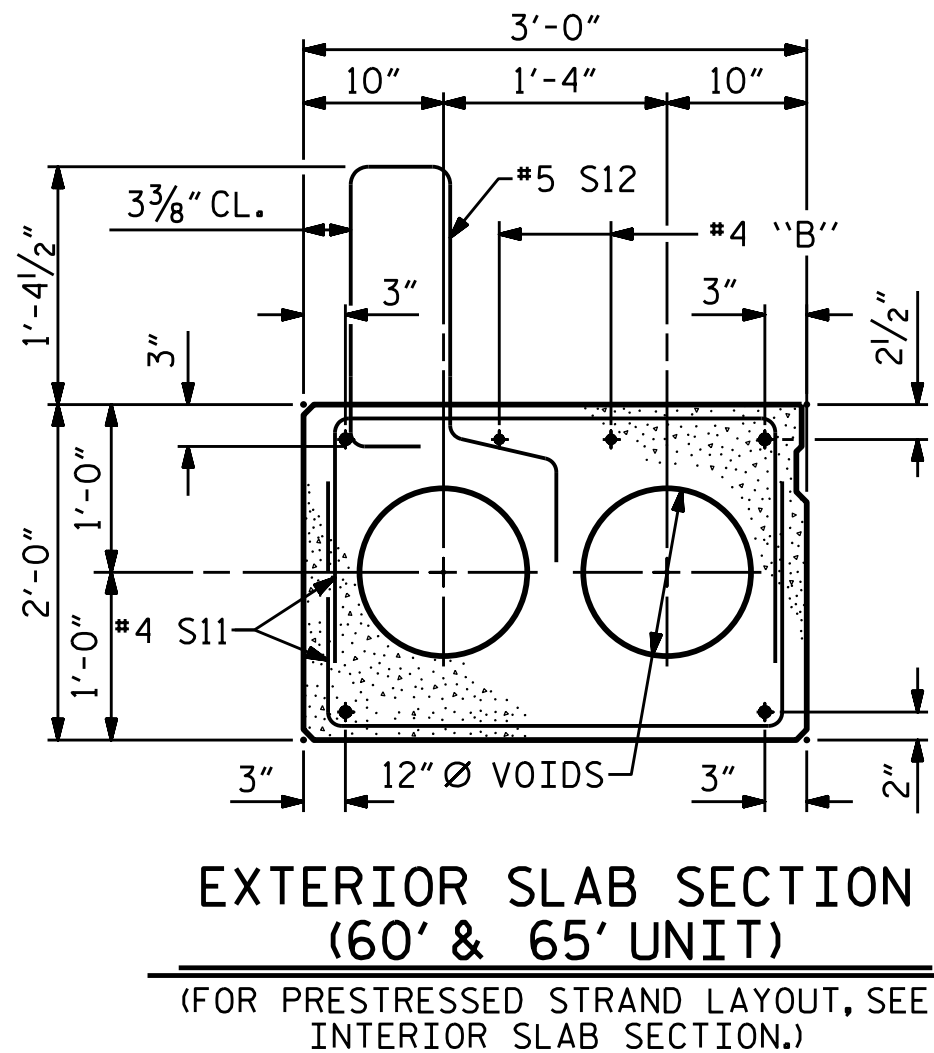
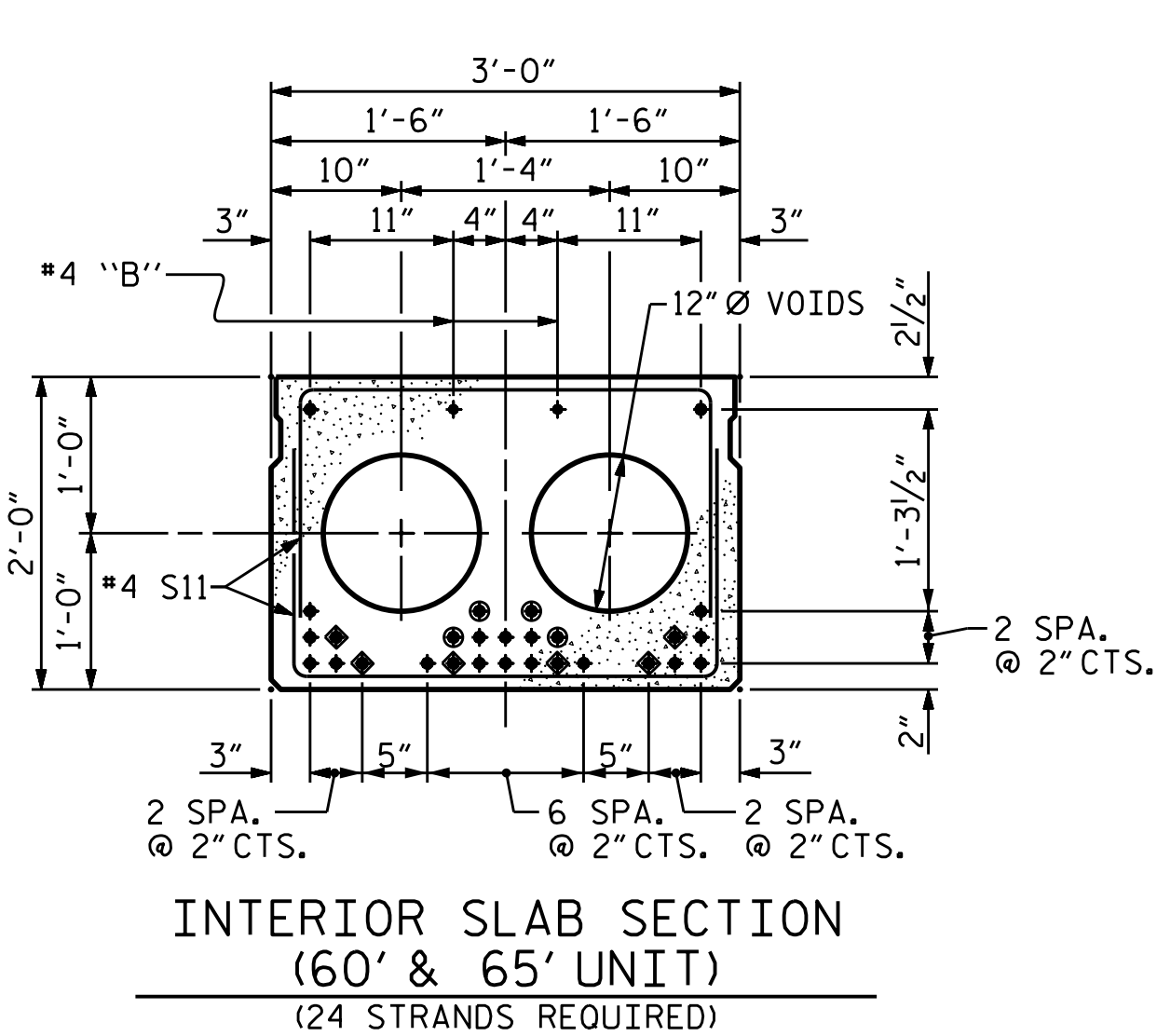
HALF SECTION
AT INTERMEDIATE DIAPHRAGMS

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.

SEE SHEET 2 OF 6 FOR SECTION B-B, VIEWS A-A AND C-C



0.6"Ø LOW RELAXATION STRAND LAYOUT

- ◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12'-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

ASSEMBLED BY : D. D. LOWERY
CHECKED BY : P. A. PATEL
DATE : 02/2026
DATE : 03/2026

DRAWN BY : MAA 6/10
CHECKED BY : MKT 7/10

4/15/2026
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Thomas.Boyd

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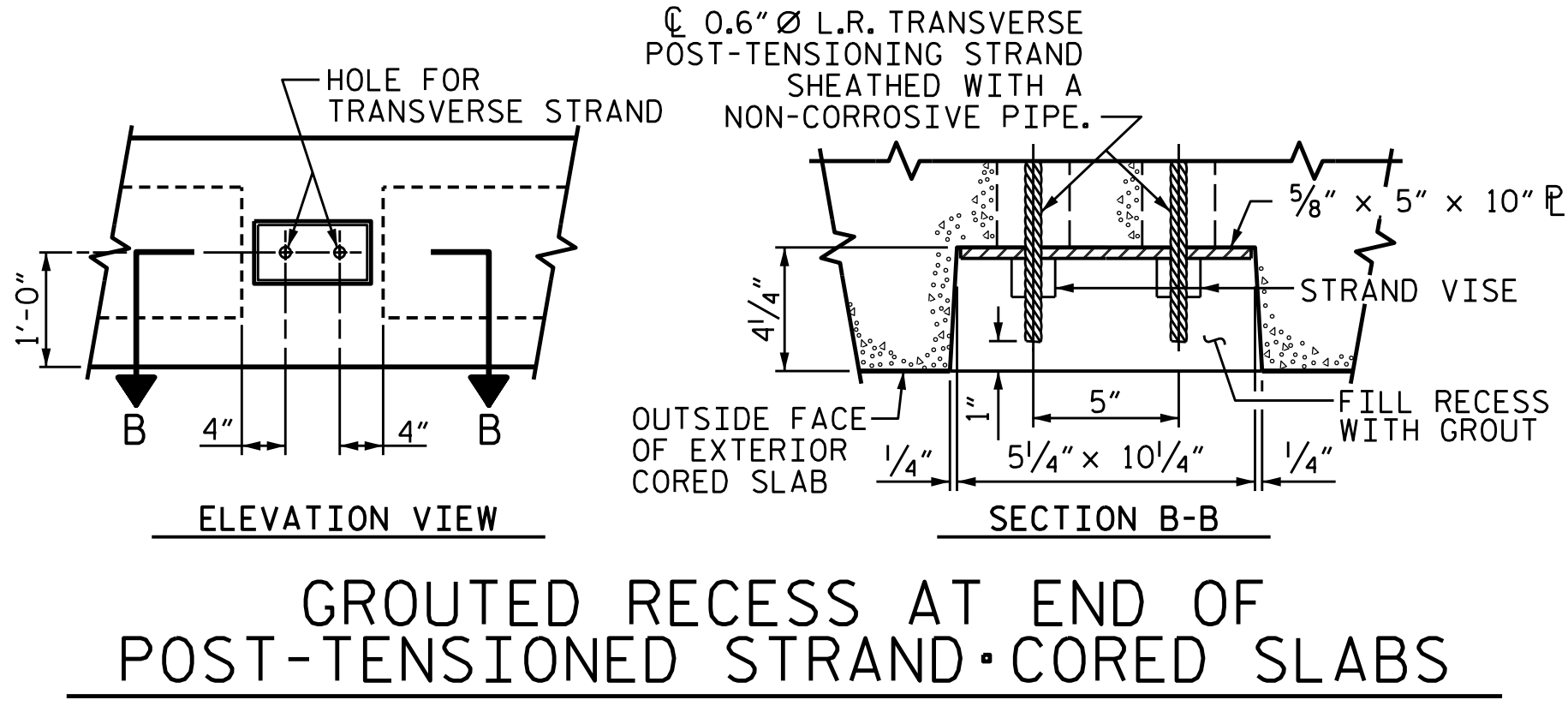
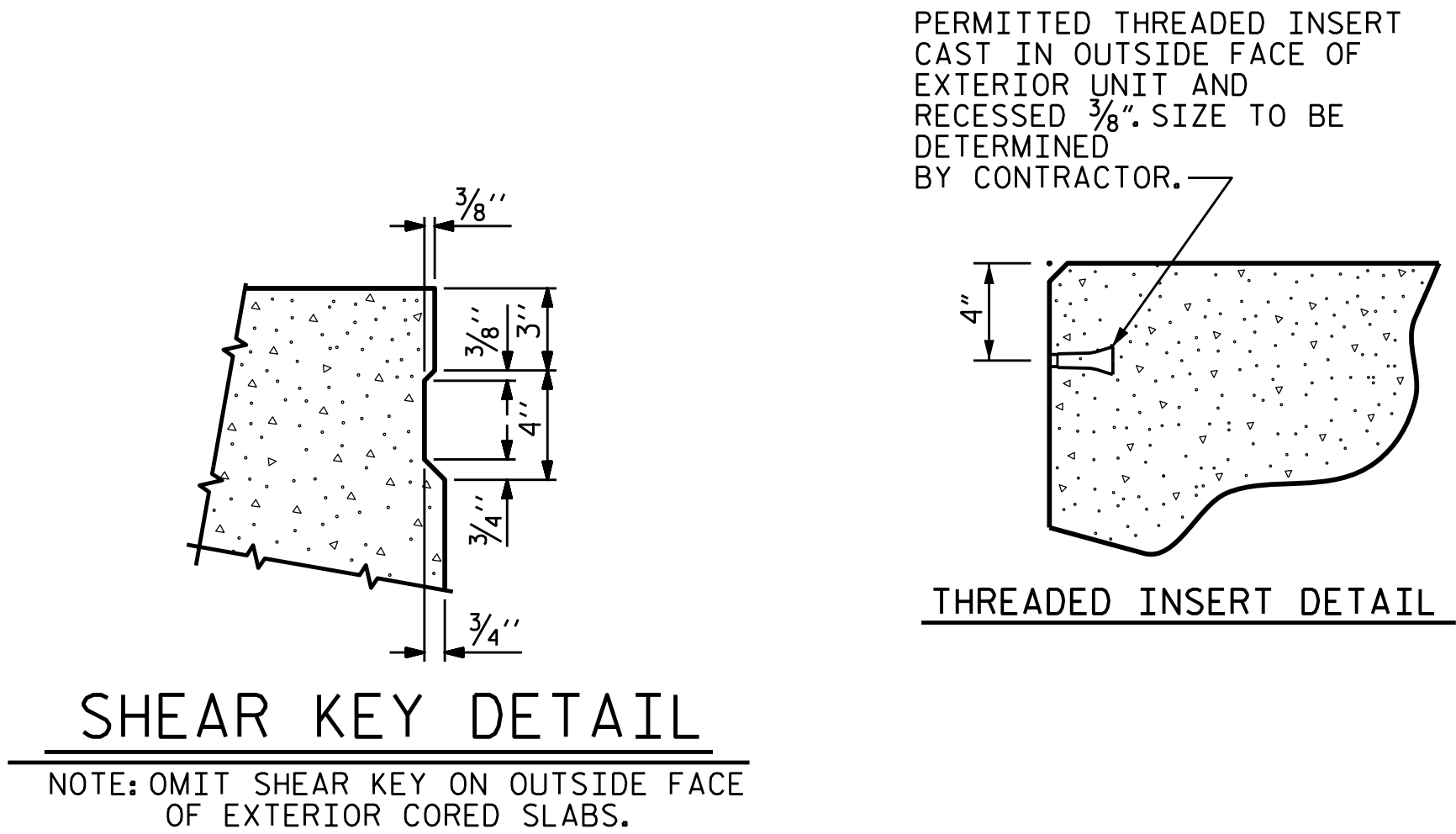
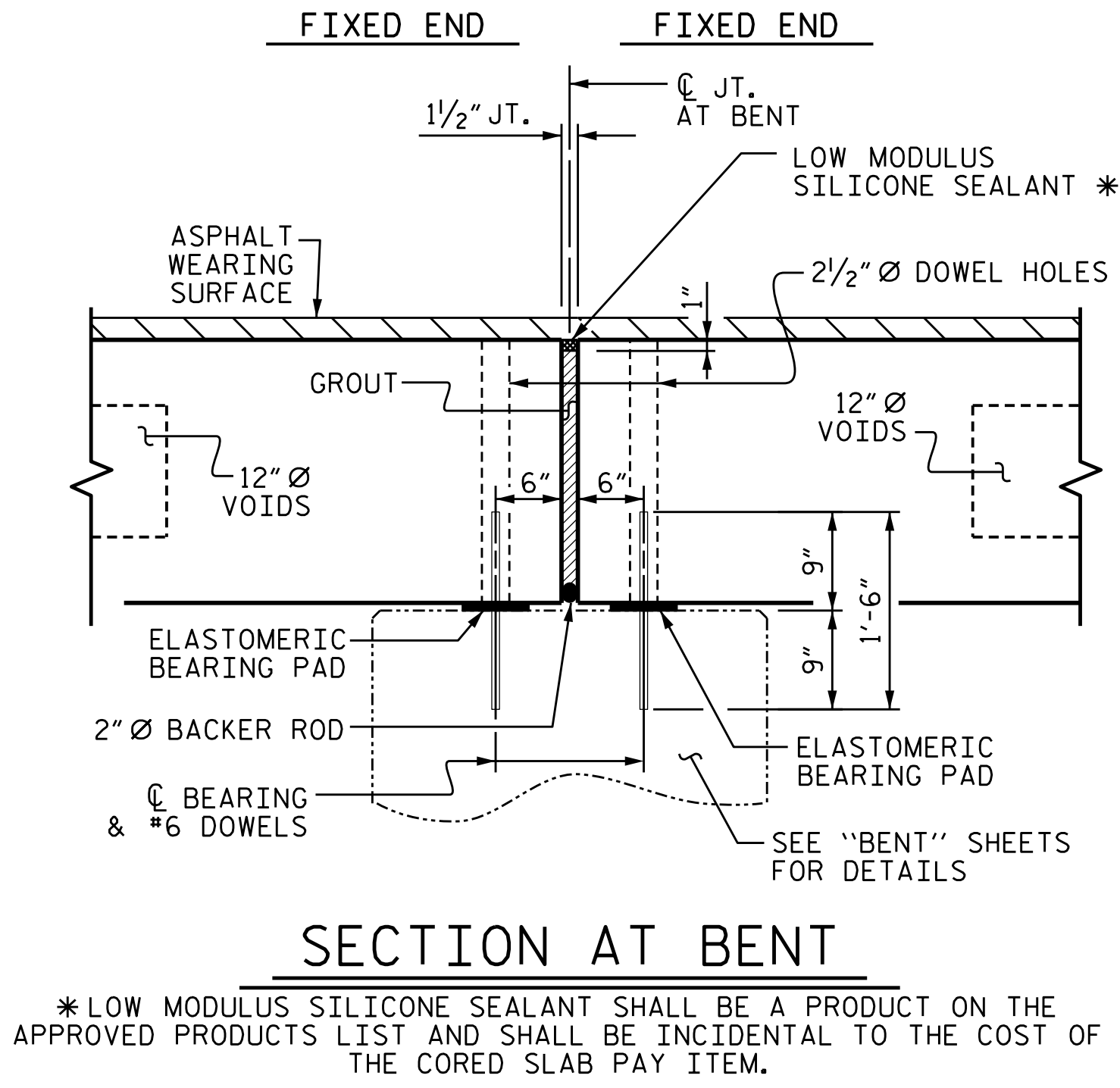
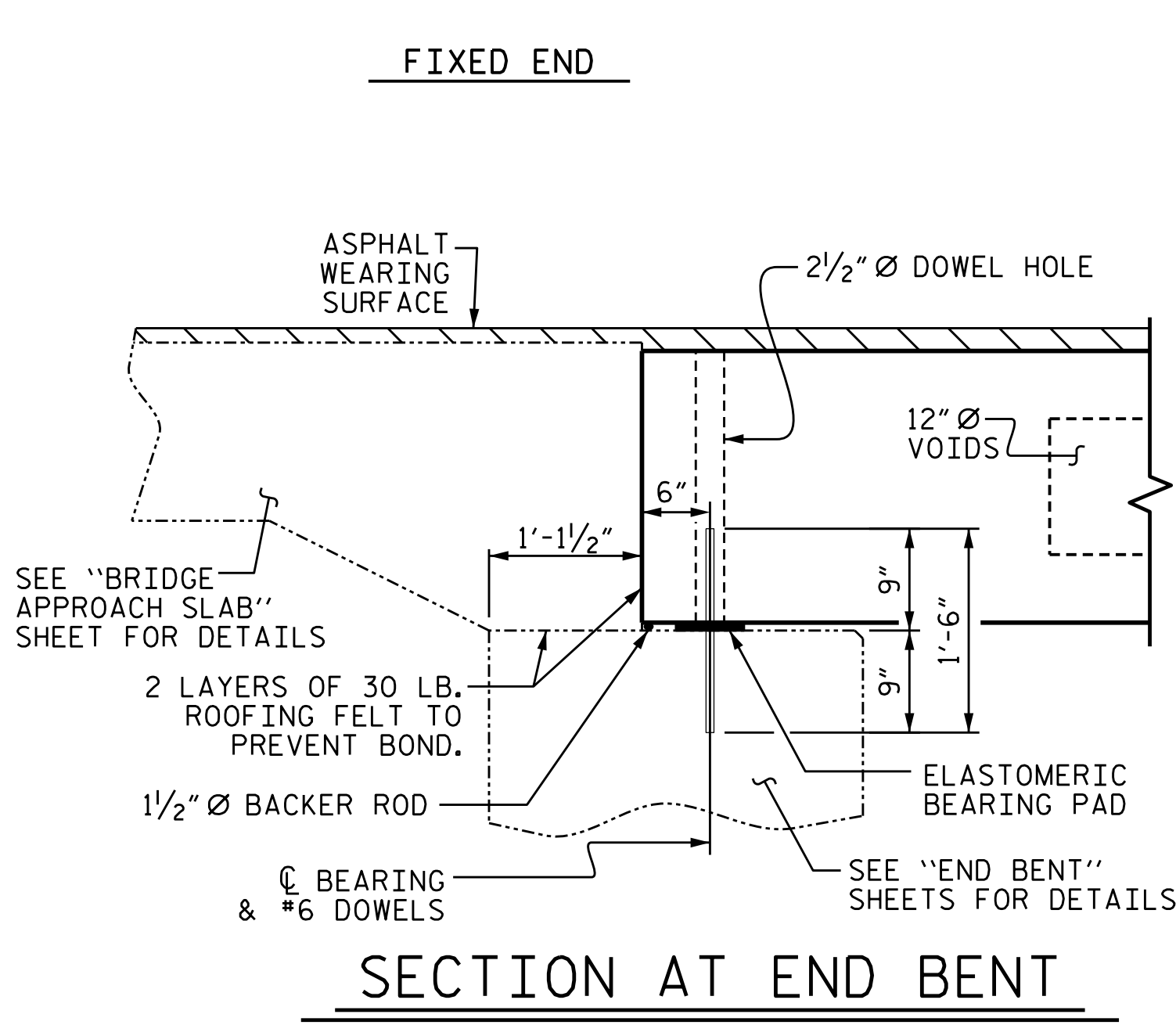
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WILKES COUNTY
STATION: 12+94.00 -L-

SHEET 1 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD

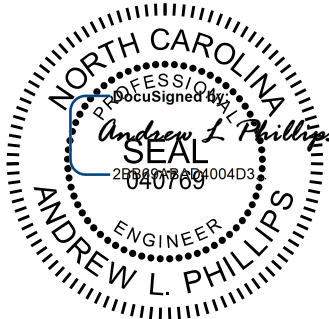
3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT

REVISIONS					SHEET NO. S-7
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1			3		TOTAL SHEETS
2			4		24



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SHEET 2 OF 6



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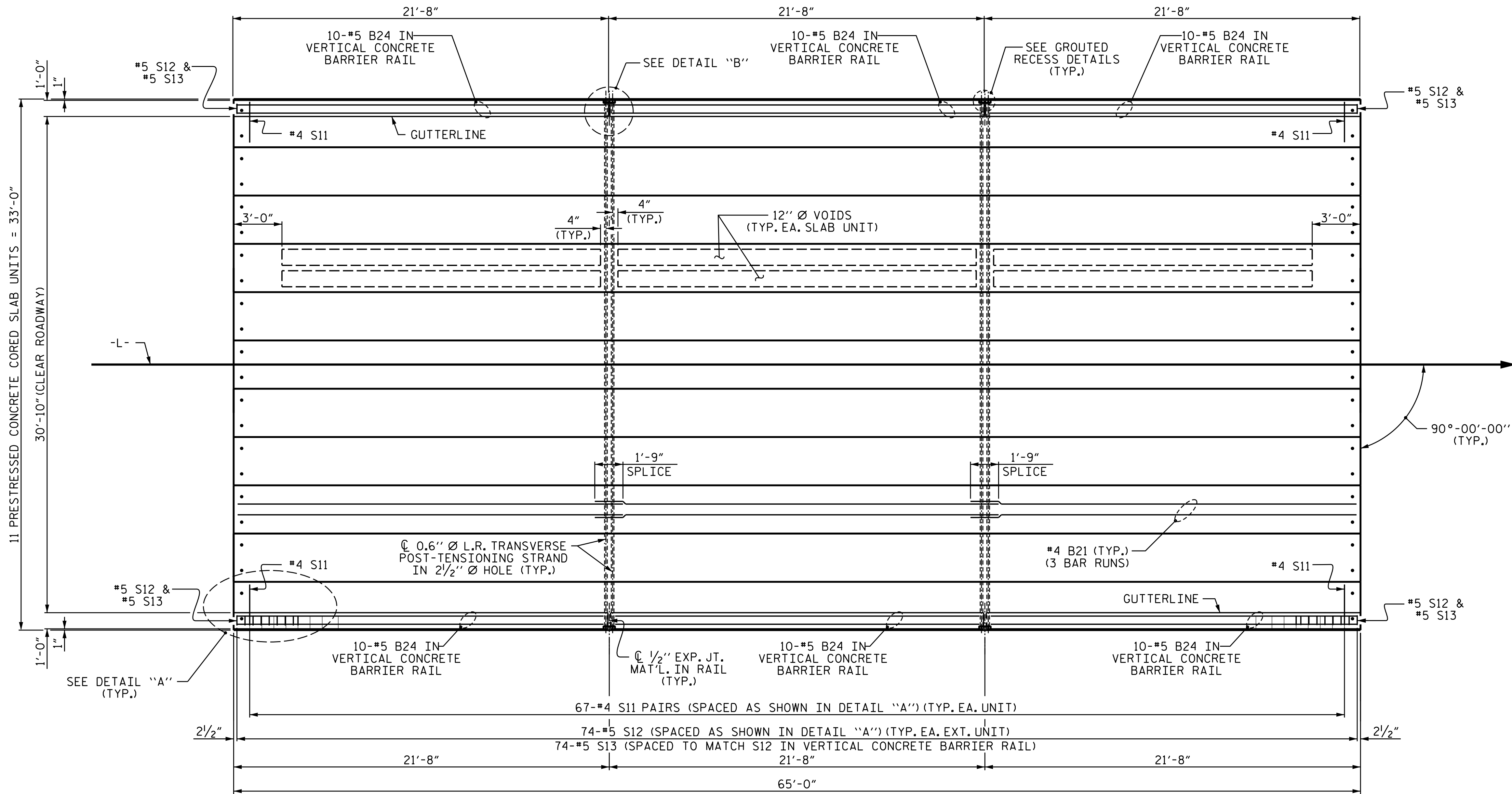
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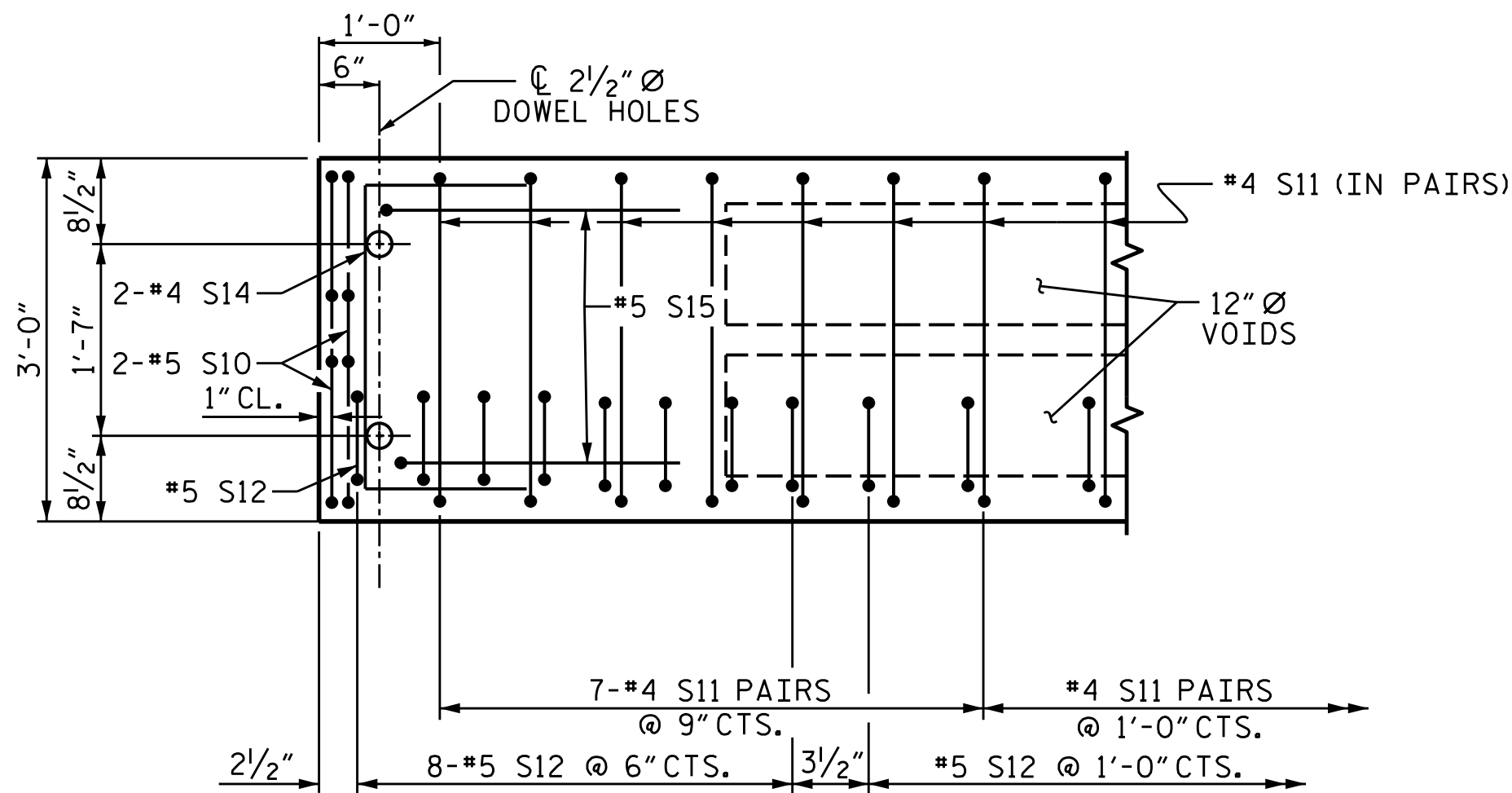
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-8
2			4			
TOTAL SHEETS						24

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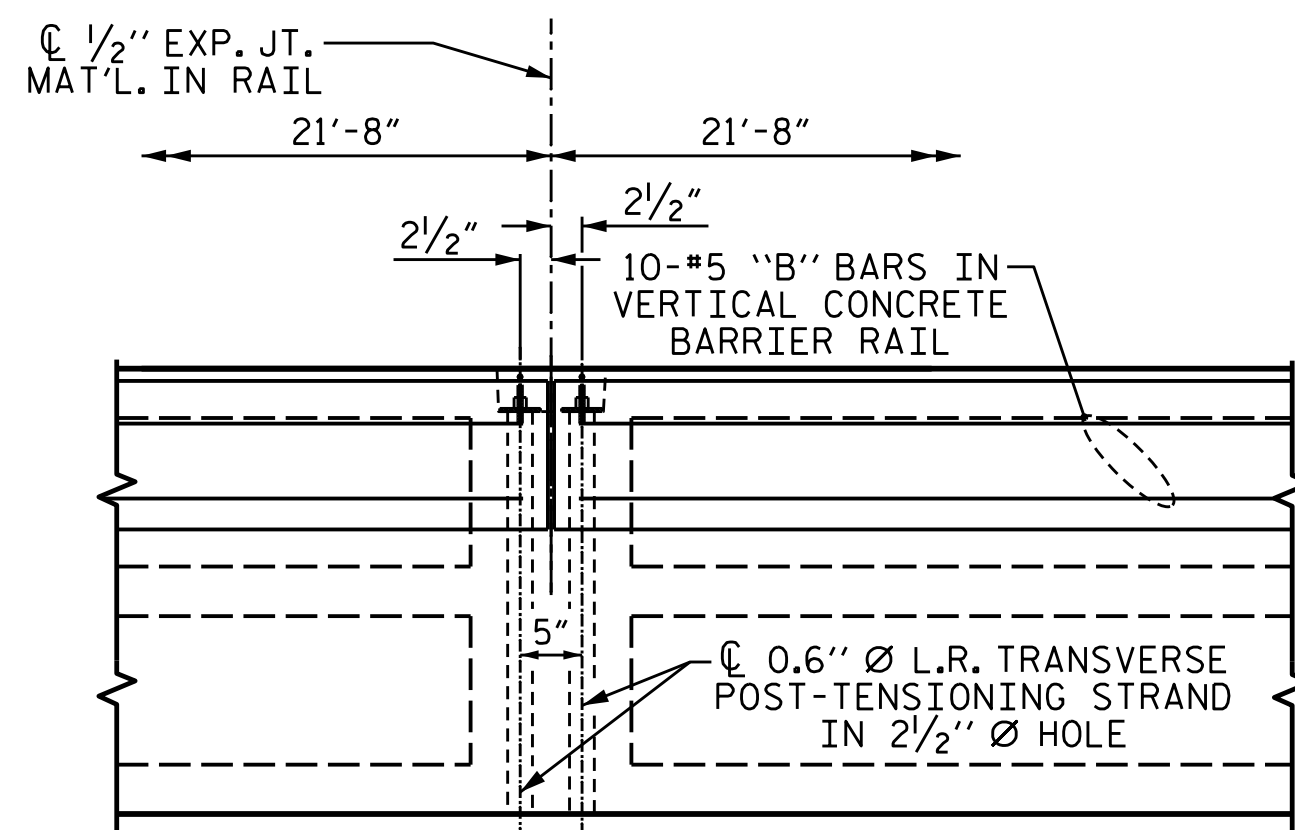


PLAN OF SPAN "A"



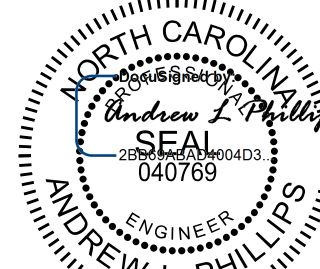
DETAIL "A"

(TYPICAL EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR
UNIT SIMILAR EXCEPT OMIT #5 S12 BARS.



DETAIL "B"

#4 S11 BARS MAY BE SHIFTED AS NECESSARY
TO MAINTAIN 1" CLEAR TO GROUDED RECESS AND
2 1/2" Ø TRANSVERSE POST-TENSIONING STRAND HOLES



6/2/2026

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WILKES COUNTY

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SHEET 3 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF 65' UNIT
30'-10" CLEAR ROADWAY
90° SKEW

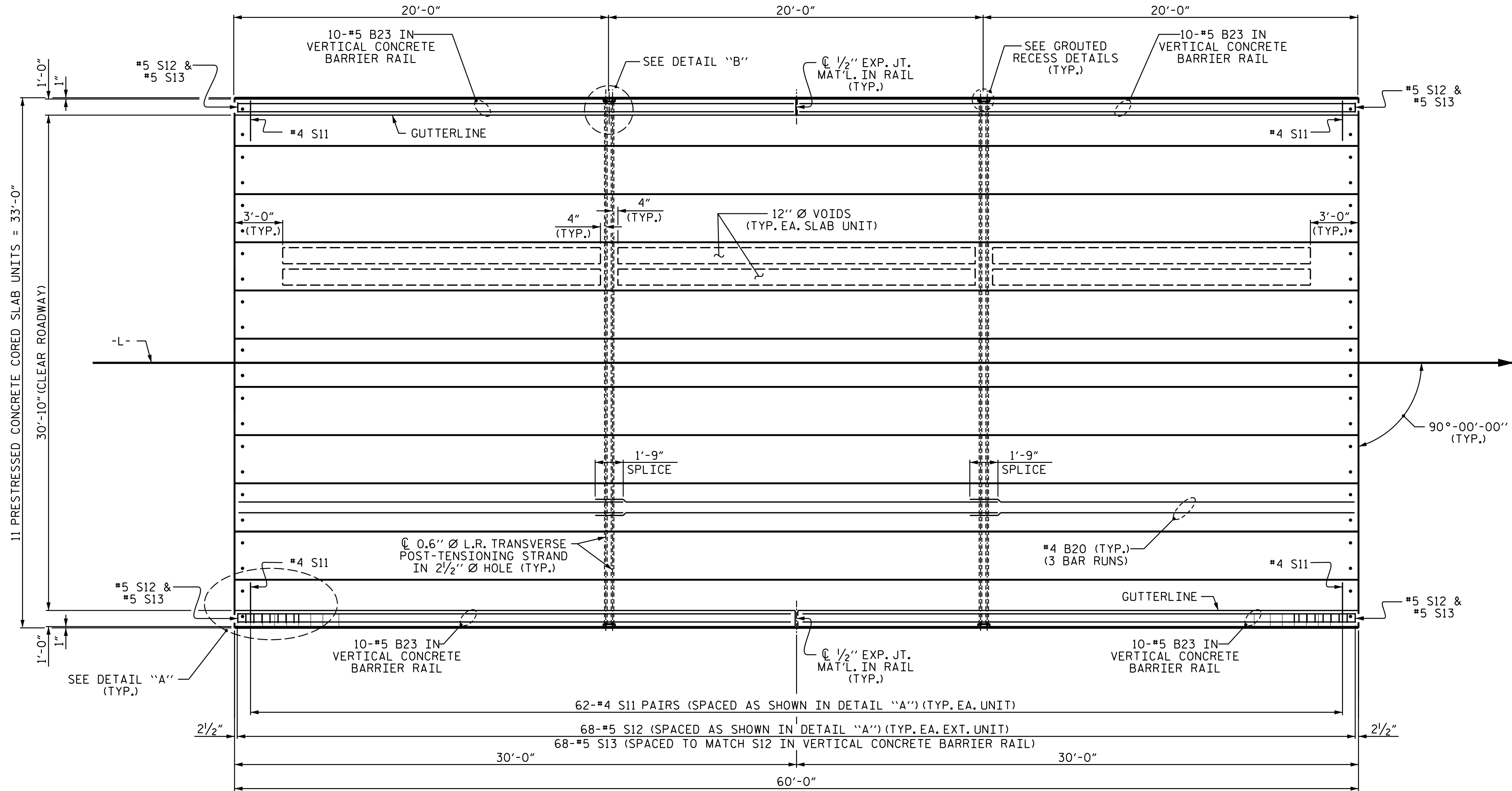
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CHECKED BY : P. A. PATEL	DATE : 03/2026
DRAWN BY : MAA 6/10	REV. 12/5/11 MAA/AAC
CHECKED BY : MKT 7/10	REV. 8/14 MAA/TMG

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david.lowery

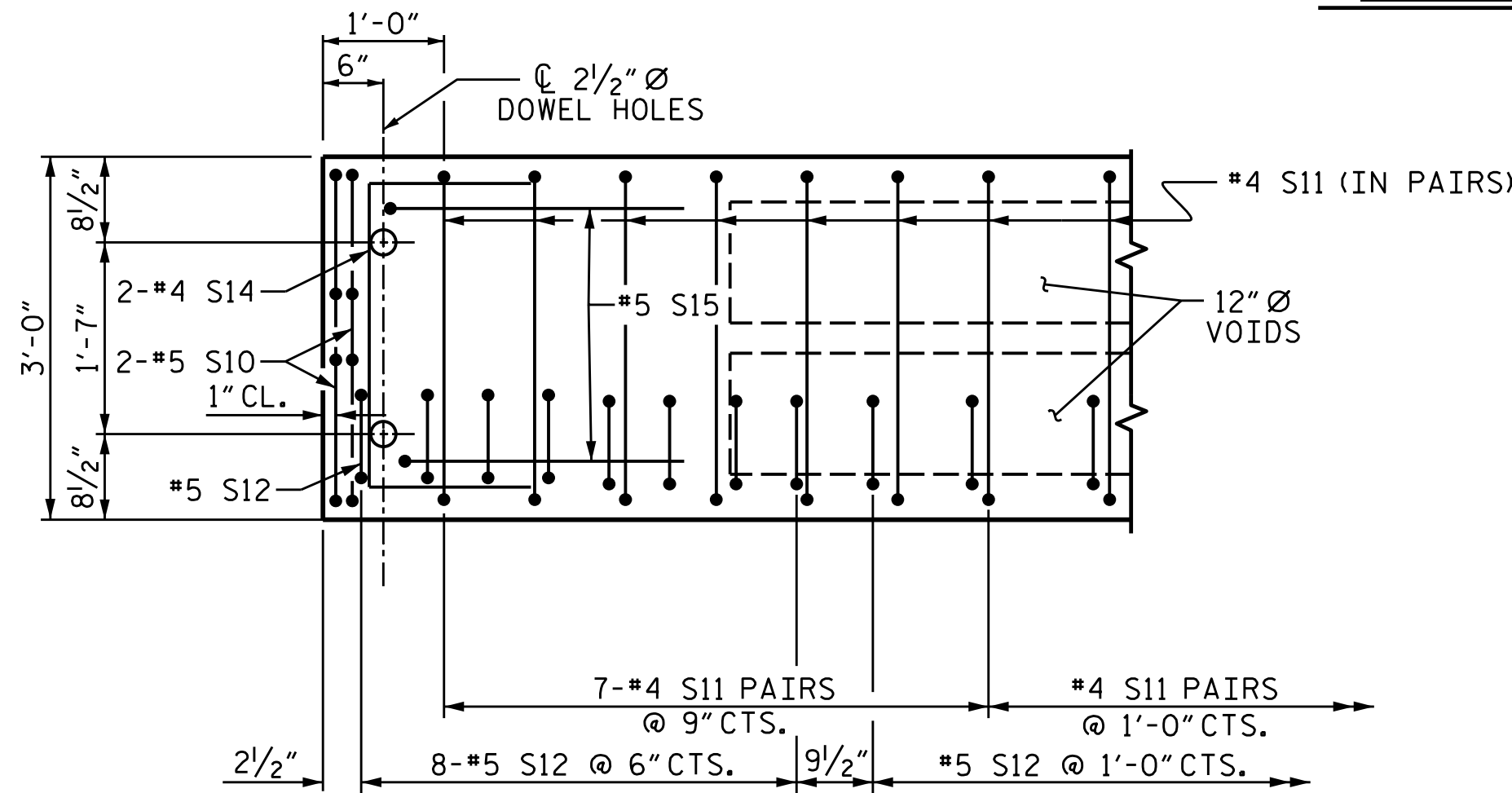
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2			4		
TOTAL SHEETS					24

STD. NO. 24PCS_33_90S_65L

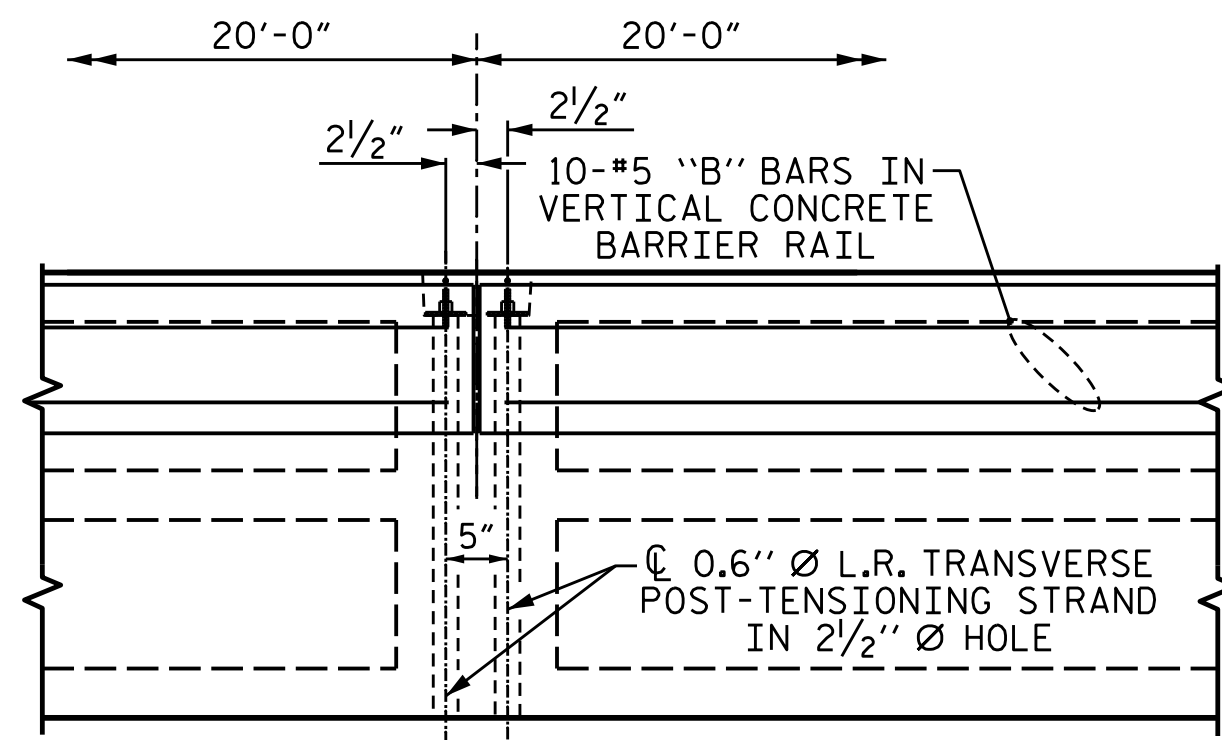


PLAN OF UNIT "B"



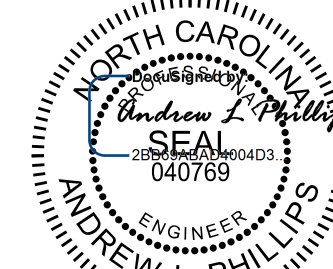
DETAIL "A"

(TYPICAL EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR
UNIT SIMILAR EXCEPT OMIT #5 S12 BARS.



DETAIL "B"

#4 S11 BARS MAY BE SHIFTED AS NECESSARY
TO MAINTAIN 1" CLEAR TO GROUDED RECESS AND
2 1/2" Ø TRANSVERSE POST-TENSIONING STRAND HOLES



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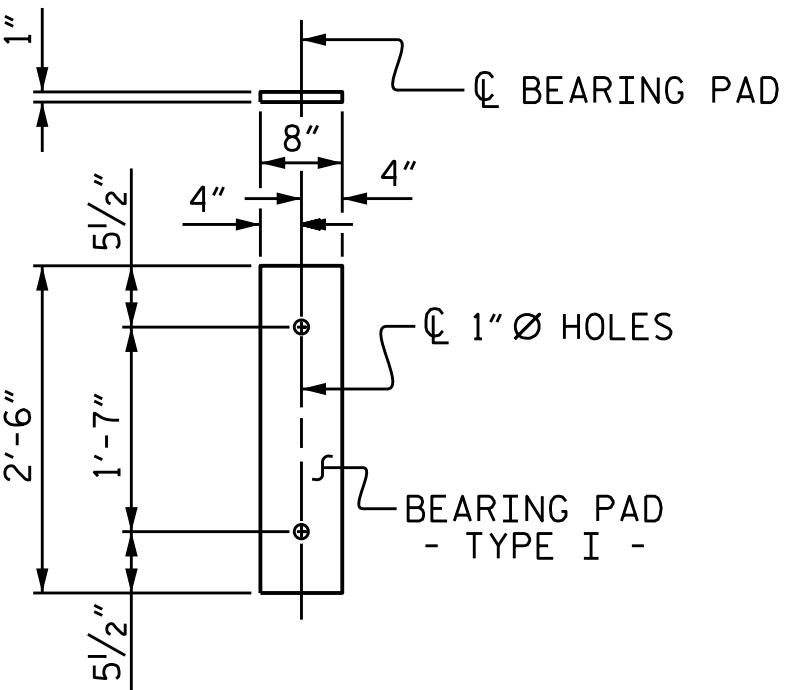
SHEET 4 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF 60' UNIT
30'-10" CLEAR ROADWAY
90° SKEW

REVISIONS					SHEET NO.
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1			3		S-10
2			4		
TOTAL SHEETS					24

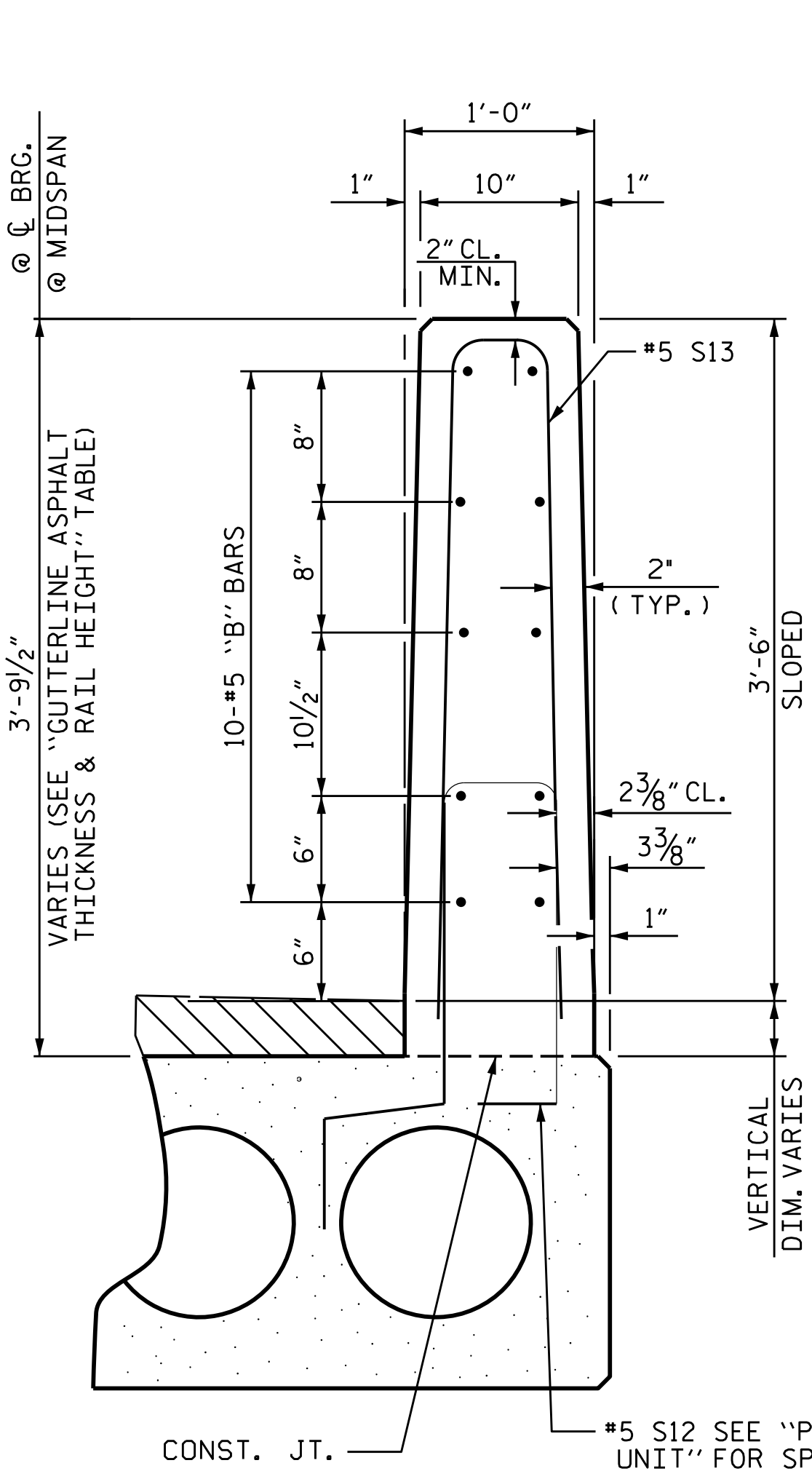
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CHECKED BY : MKT	7/10	REV. 8/14	MAA/TMG



FIXED END
(TYPE I - 44 REQ'D)

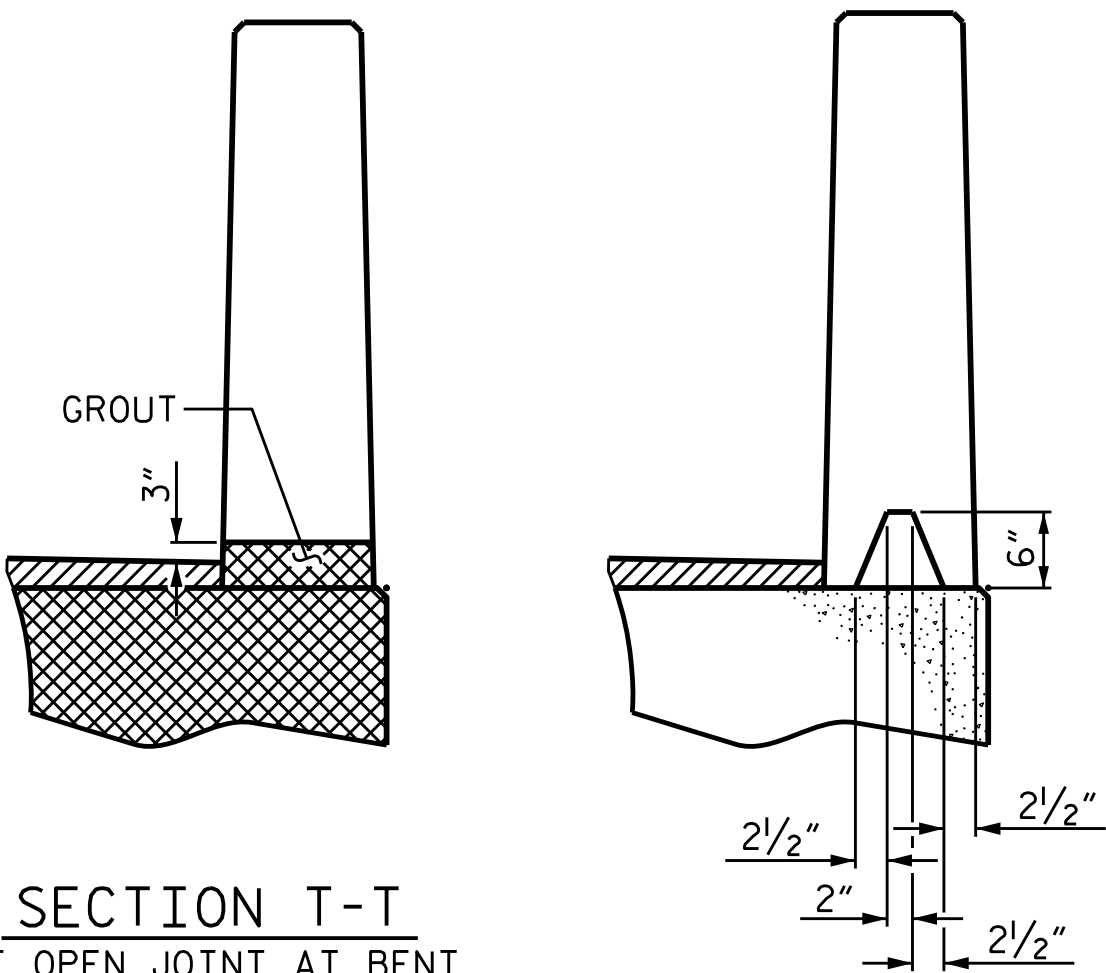
ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.



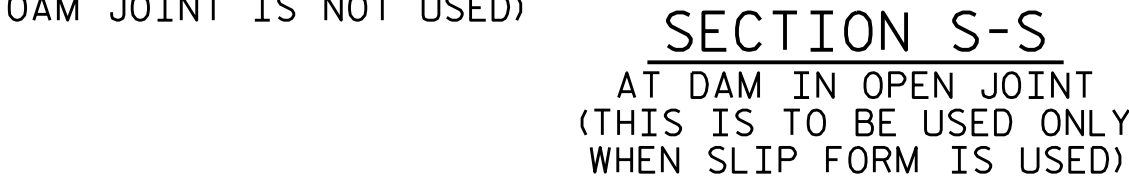
SECTION THRU RAIL

VERTICAL CONCRETE
BARRIER RAIL DETAILS



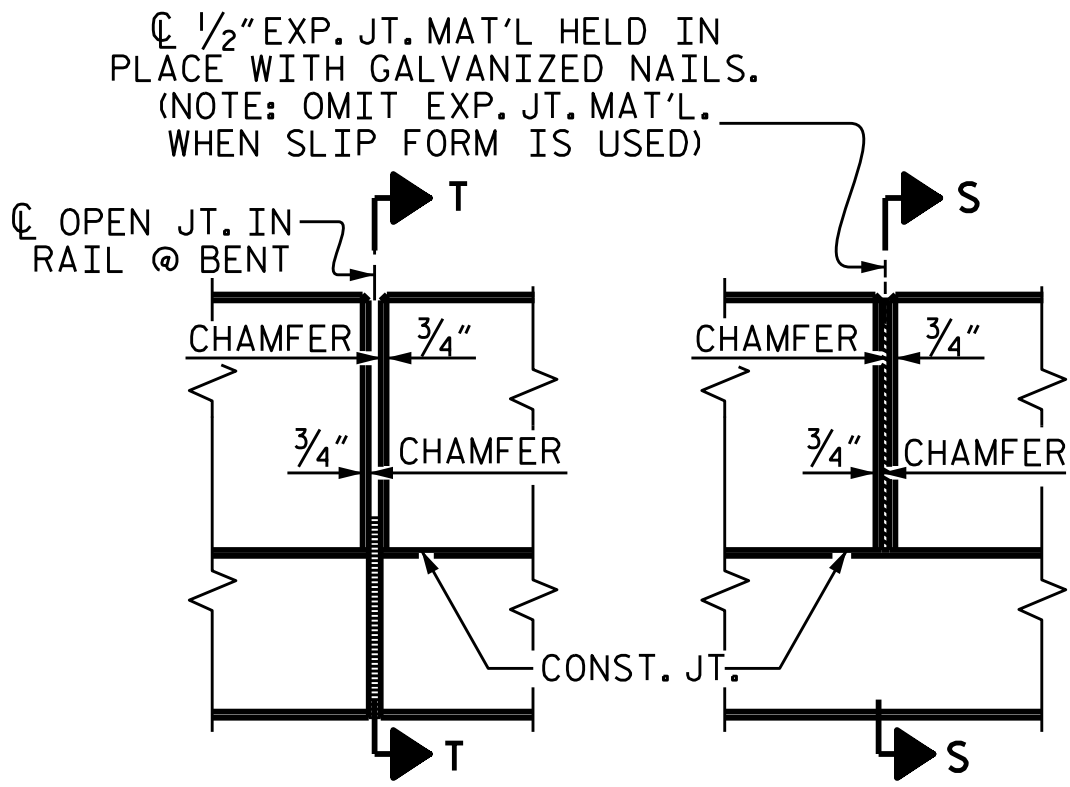
SECTION T-T

AT OPEN JOINT AT BENT
(THIS IS TO BE USED WHERE
FOAM JOINT IS NOT USED)

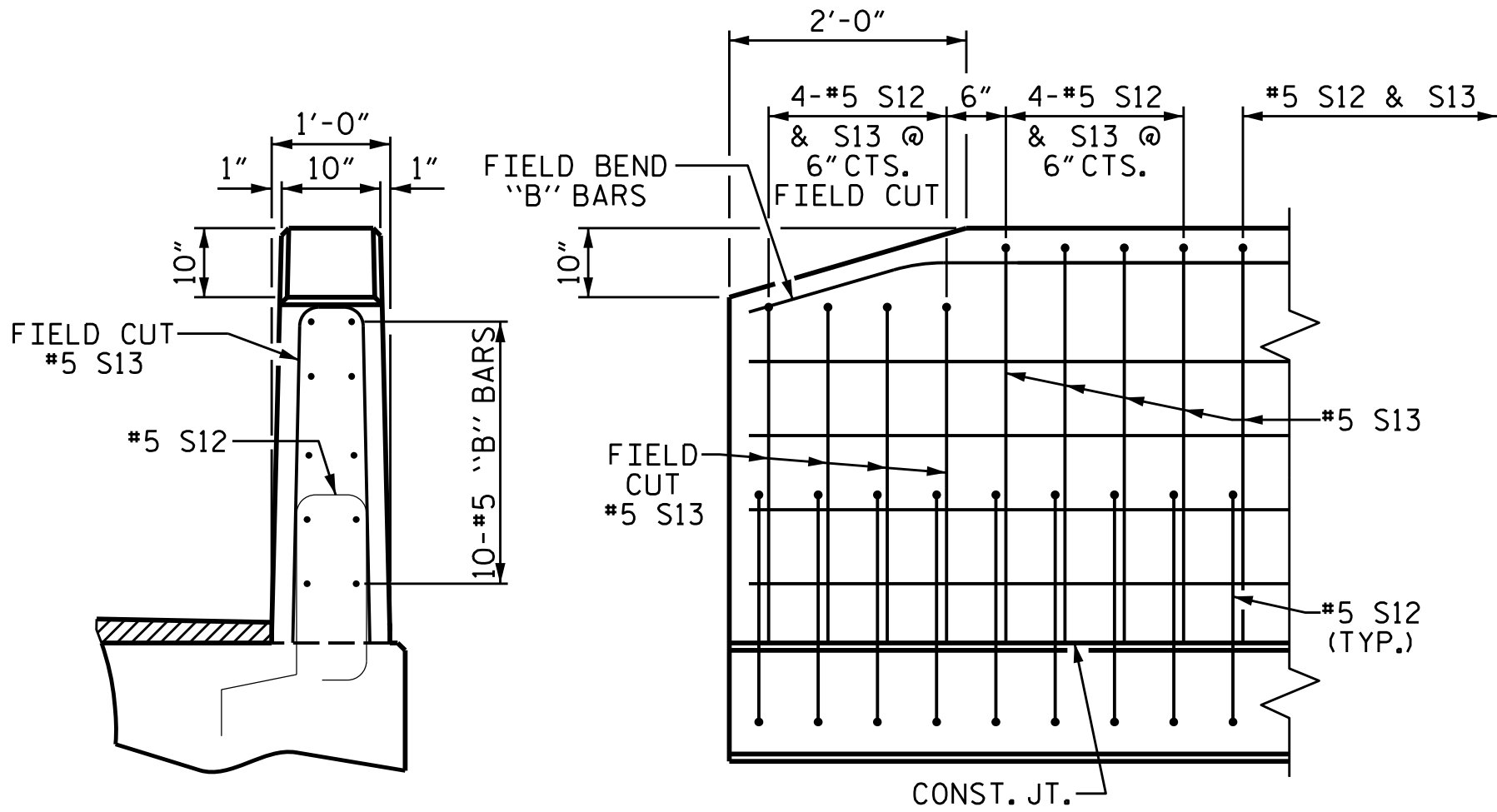


SECTION S-S

AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY
WHEN SLIP FORM IS USED)



ELEVATION AT EXPANSION JOINTS



END VIEW

SIDE VIEW

END OF RAIL DETAILS

CONCRETE RELEASE STRENGTH	
UNIT	PSI
60' & 65' UNITS	4800

GRADE 270 STRANDS	
AREA (SQUARE INCHES)	0.6" Ø L.R.
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950

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.

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.

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

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

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.

MAINTAIN A SYMMETRIC TENSION FORCE BETWEEN EACH PAIR OF TRANSVERSE POST TENSIONING STRANDS IN THE DIAPHRAGM.

THE #4 S11 STIRRUPS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO THE GROUTED RECESS.

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 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.

PROJECT NO. BP11.R049.1
WILKES COUNTY
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SHEET 5 OF 6



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DEPARTMENT OF TRANSPORTATION
RALEIGH

3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT

REVISIONS					SHEET NO. S-11
NO.	BY:	DATE:	NO.	BY:	
1			3		TOTAL SHEETS
2			4		24

STD. NO. 24PCS3.33.90S

ASSEMBLED BY : D. D. LOWERY	DATE : 02/2026
CHECKED BY : P. A. PATEL	DATE : 03/2026
DRAWN BY : MAA 6/10	REV. 5/18
CHECKED BY : MKT 7/10	MAA/THC

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david.lowery

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BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	60' UNIT					
*B23	40	40	#5	STR	29'-7"	1234
*S13	136	136	#5	2	7'-2"	1017
*EPOXY COATED REINFORCING STEEL			LBS.			2251
CLASS AA CONCRETE			CU.YDS.			15.5
TOTAL VERTICAL CONCRETE BARRIER RAIL			LN. FT.			120.25

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	65' UNIT					
*B24	60	60	#5	STR	21'-3"	1330
*S13	148	148	#5	2	7'-2"	1106
*EPOXY COATED REINFORCING STEEL			LBS.			2436
CLASS AA CONCRETE			CU.YDS.			16.9
TOTAL VERTICAL CONCRETE BARRIER RAIL			LN. FT.			130.25

BILL OF MATERIAL FOR ONE 60' CORED SLAB UNIT							
				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B20	6	#4	STR	21'-2"	85	21'-2"	85
S10	8	#5	3	4'-9"	40	4'-9"	40
S11	124	#4	3	5'-10"	483	5'-10"	483
*S12	68	#5	1	5'-7"	396		
S14	4	#4	3	5'-7"	15	5'-7"	15
S15	4	#5	3	7'-1"	30	7'-1"	30
REINFORCING STEEL				LBS.		653	
*EPOXY COATED REINFORCING STEEL				LBS.		396	
6000 P.S.I. CONCRETE				CU. YDS.		10.2	
0.6" Ø L.R. STRANDS				No.		24	

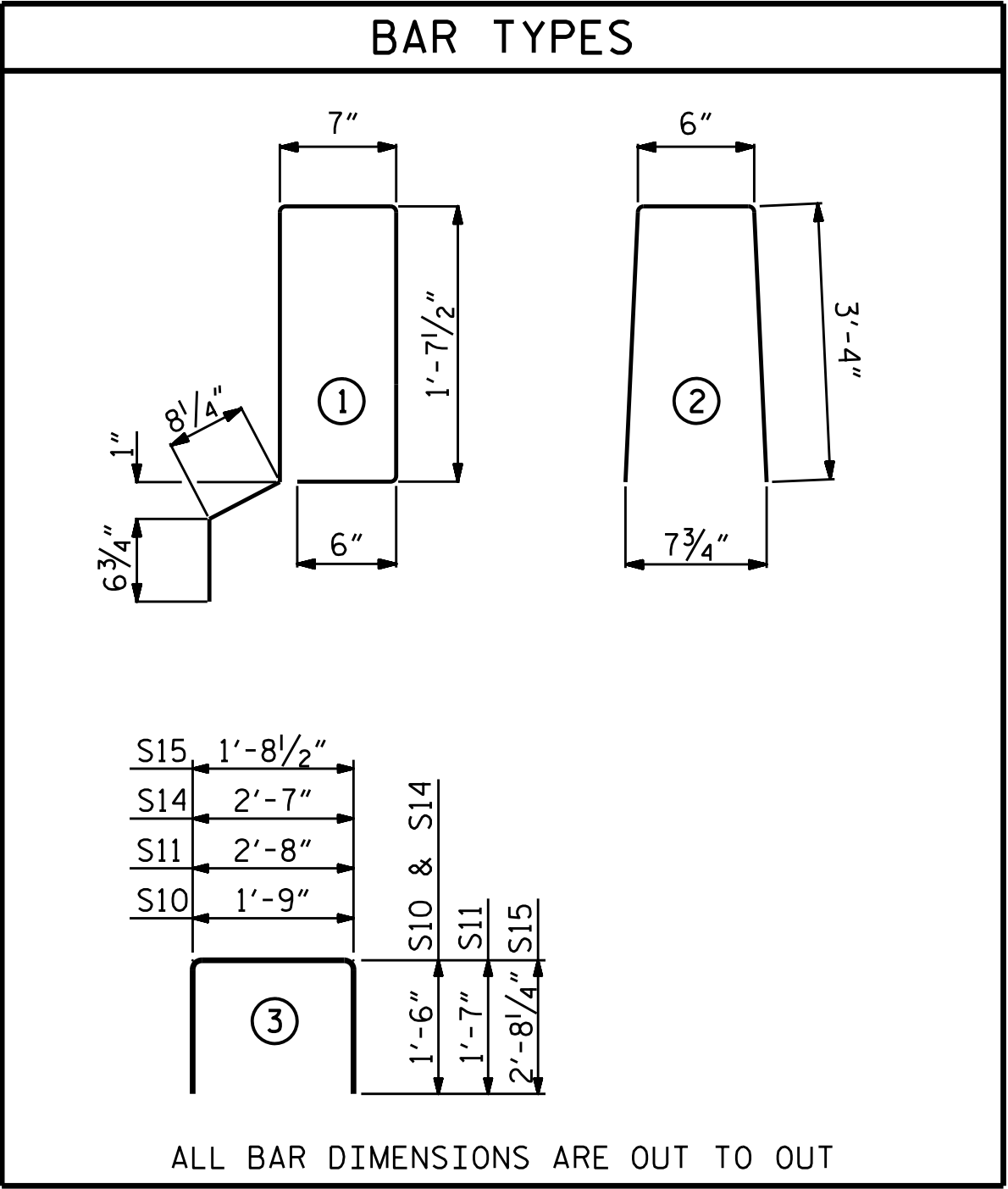
BILL OF MATERIAL FOR ONE 65' CORED SLAB UNIT							
				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B21	6	#4	STR	22'-10"	92	22'-10"	92
S10	8	#5	3	4'-9"	40	4'-9"	40
S11	134	#4	3	5'-10"	522	5'-10"	522
*S12	74	#5	1	5'-7"	431		
S14	4	#4	3	5'-7"	15	5'-7"	15
S15	4	#5	3	7'-1"	30	7'-1"	30
REINFORCING STEEL				LBS.		699	
*EPOXY COATED REINFORCING STEEL				LBS.		431	
6000 P.S.I. CONCRETE				CU. YDS.		11.0	
0.6" Ø L.R. STRANDS				No.		24	

DEAD LOAD DEFLECTION AND CAMBER	
60' & 65' CORED SLAB UNIT	3'-0" × 2'-0"
CAMBER (SLAB ALONE IN PLACE)	0.6" Ø L.R. STRAND
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	1 7⁄8" ↓
FINAL CAMBER	1 3⁄8" ↑
** INCLUDES FUTURE WEARING SURFACE	

GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT		
	ASPHALT OVERLAY THICKNESS @ MID-SPAN	RAIL HEIGHT @ MID-SPAN
60' UNITS	2 1⁄8"	3'-8 1⁄8"
65' UNITS	2 1⁄8"	3'-8 1⁄8"

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
60' UNIT			
EXTERIOR C.S.	2	60'-0"	120'-0"
INTERIOR C.S.	9	60'-0"	540'-0"
TOTAL	11		660'-0"

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
65' UNIT			
EXTERIOR C.S.	2	65'-0"	130'-0"
INTERIOR C.S.	9	65'-0"	585'-0"
TOTAL	11		715'-0"



DRAWN BY : D. D. LOWERY DATE : 02/2026
CHECKED BY : P. A. PATEL DATE : 03/2026
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 03/2026

3/20/2026
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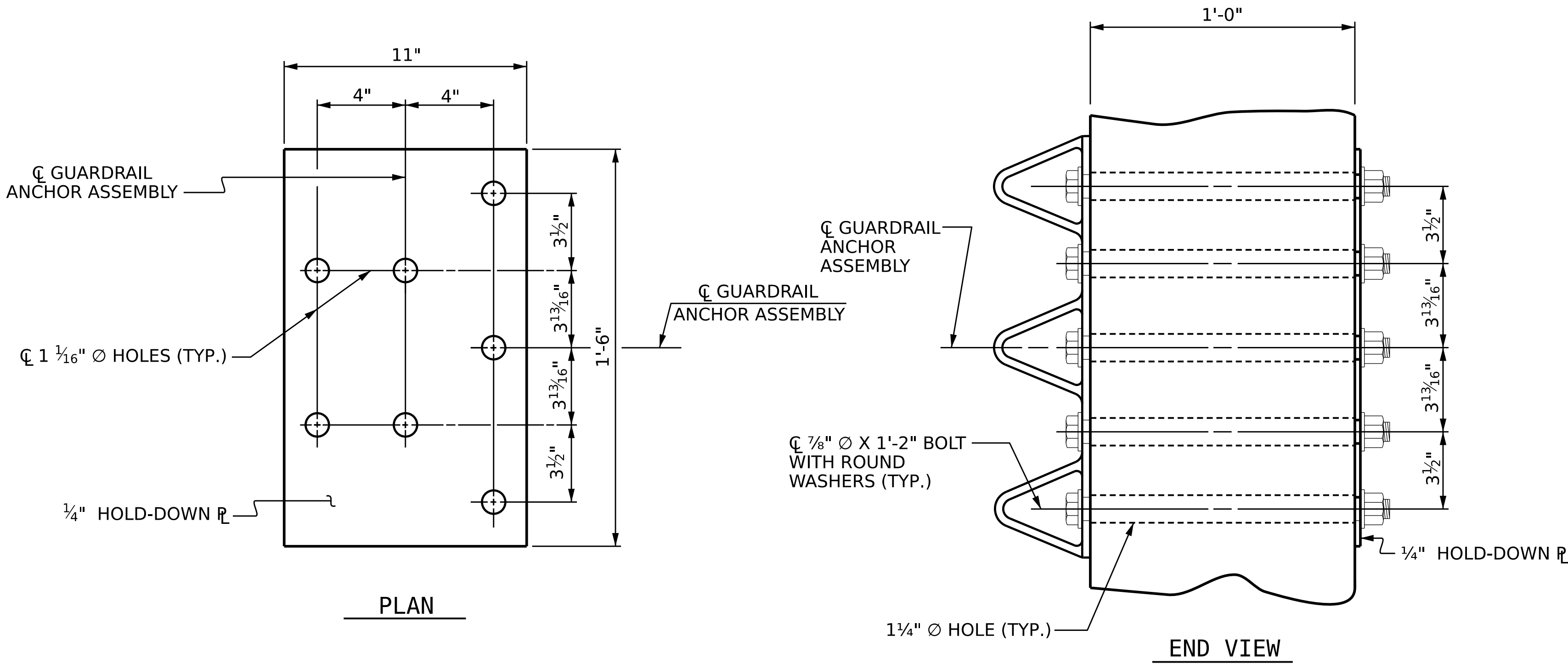
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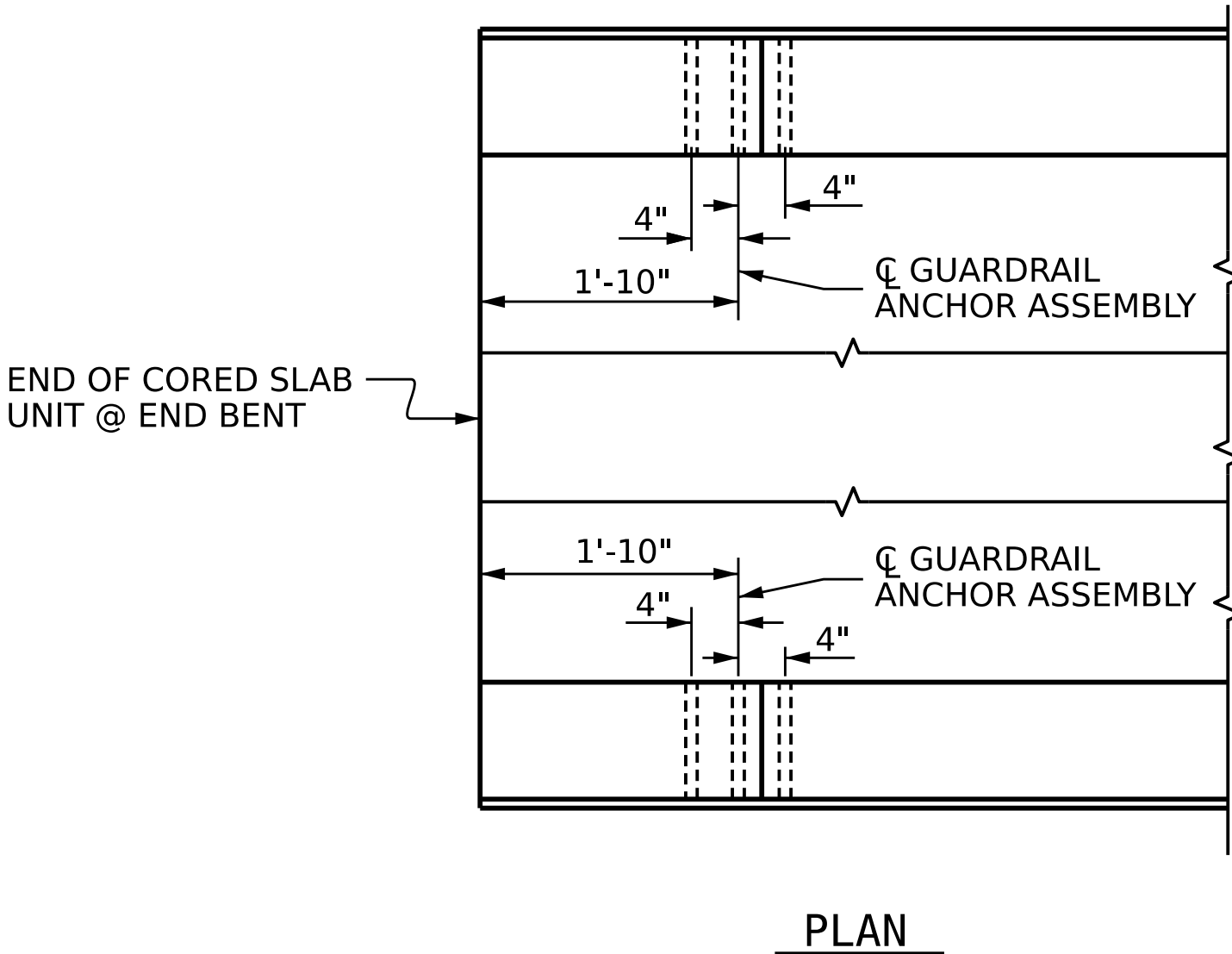
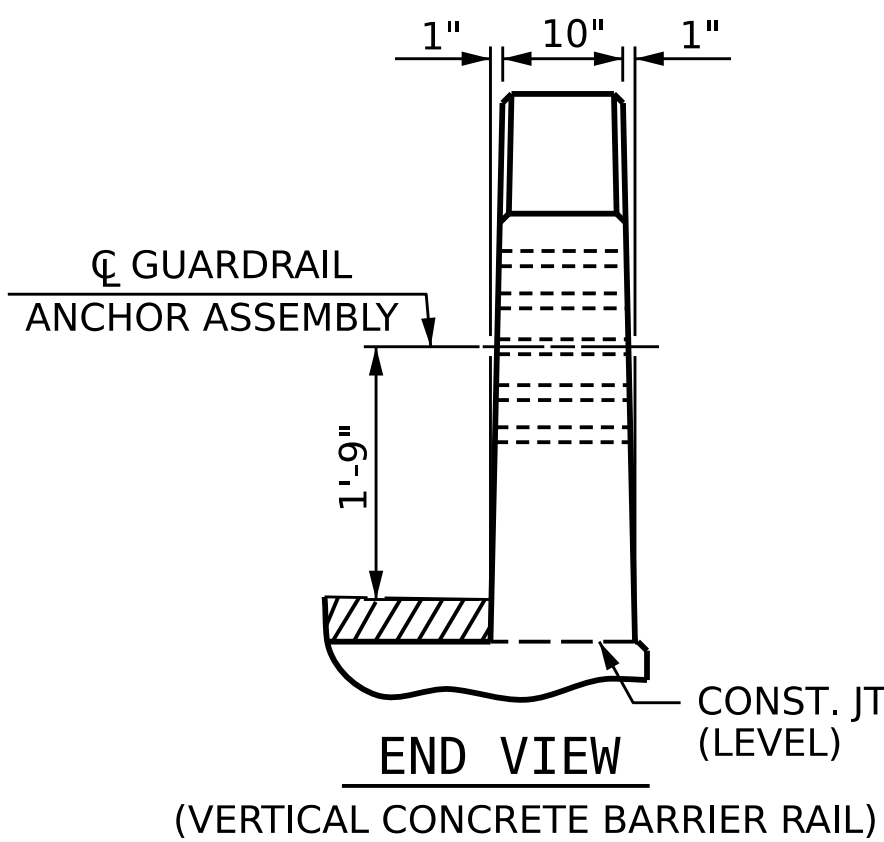
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WILKES COUNTY
STATION: 12+94.00 -L-

SHEET 6 OF 6

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH				
MISC. INFO. 24" CORED SLAB UNIT 90° SKEW				
REVISIONS				
NO.	BY:	DATE:	NO.	BY:
1			3	
2			4	
SHEET NO.				TOTAL SHEETS
S-12				24



GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

END EBNT 1 SHOWN, END BENT 2 SIMILAR

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 7/8"Ø BOLTS WITH NUTS AND WASHERS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8"Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

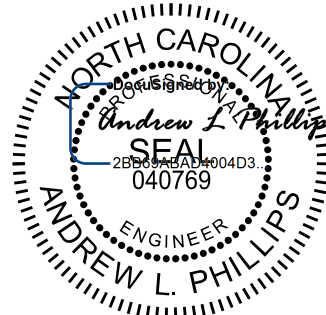
THE 1 1/4"Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.



SKETCH SHOWING POINTS OF ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. BP11.R049.1
WILKES COUNTY
STATION: 12+94.00 -L-



6/2/2026

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD

GUARDRAIL ANCHORAGE DETAILS FOR VERTICAL CONCRETE BARRIER RAIL

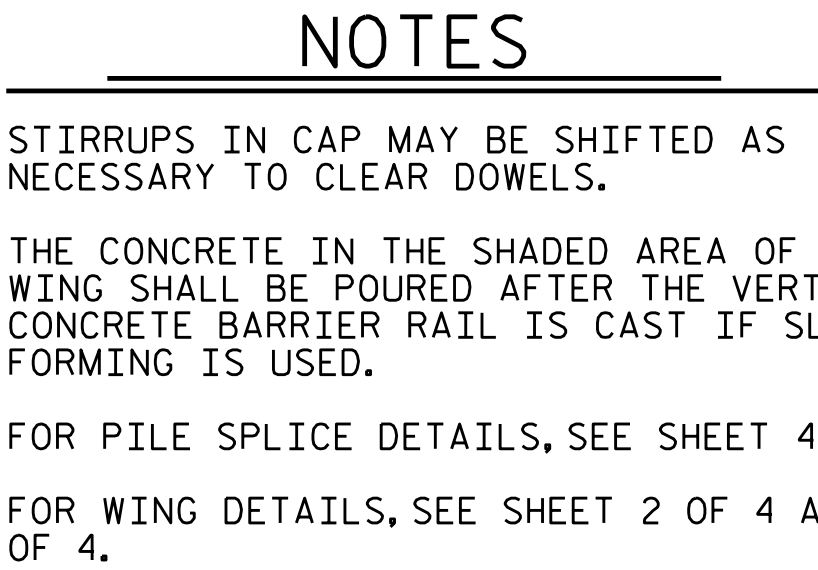
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					24

STD. GRA3

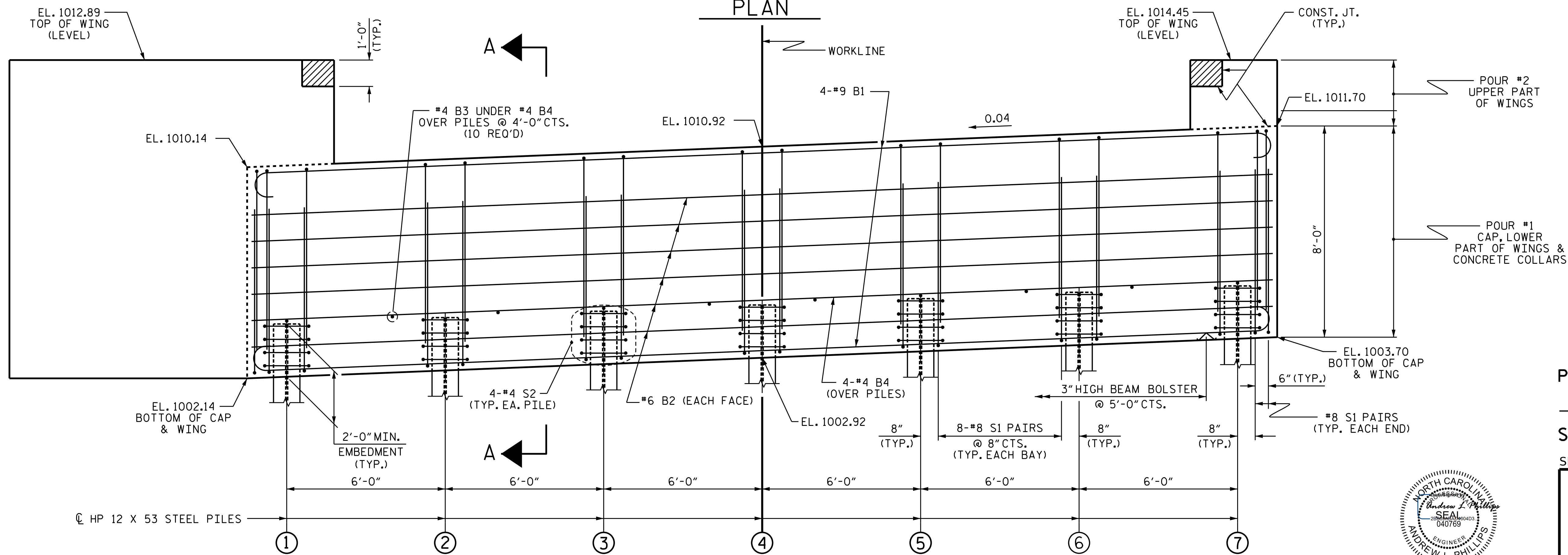
ASSEMBLED BY : D. D. LOWERY			DATE : 02/2026		
CHECKED BY : P. A. PATEL			DATE : 03/2026		
DRAWN BY : MAA 5/10		REV. 1/15	MAA/TMG		
CHECKED BY : GM 5/10		REV. 12/17	MAA/THC		
		REV. 5/18	MAA/THC		

3/20/2026
401.025.BP11.R049.SMU.GRI.S-13.960239.dgn
Thomas.Boyd

5_BP11.R049.SMU.GRI.S-13.960239.dgn



TOP OF PILE ELEVATIONS	
①	1004.20
②	1004.44
③	1004.68
④	1004.92
⑤	1005.16
⑥	1005.40
⑦	1005.64



WINGS AND REINFORCING NOT SHOWN FOR CLARITY.
FOR SECTION A-A, SEE SHEET 4 OF 4.
CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

DRAWN BY : D. D. LOWERY DATE : 02/2026
 CHECKED BY : P. A. PATEL DATE : 03/2026
 DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 03/2026

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WILKES COUNTY
 STATION: 12+94.00 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT 1

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14 TOTAL SHEETS 24
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2			4			

STD. NO. EB_33_90S4



WING DETAILS

SHEETS
24

STD. NO. EB_33_90S4

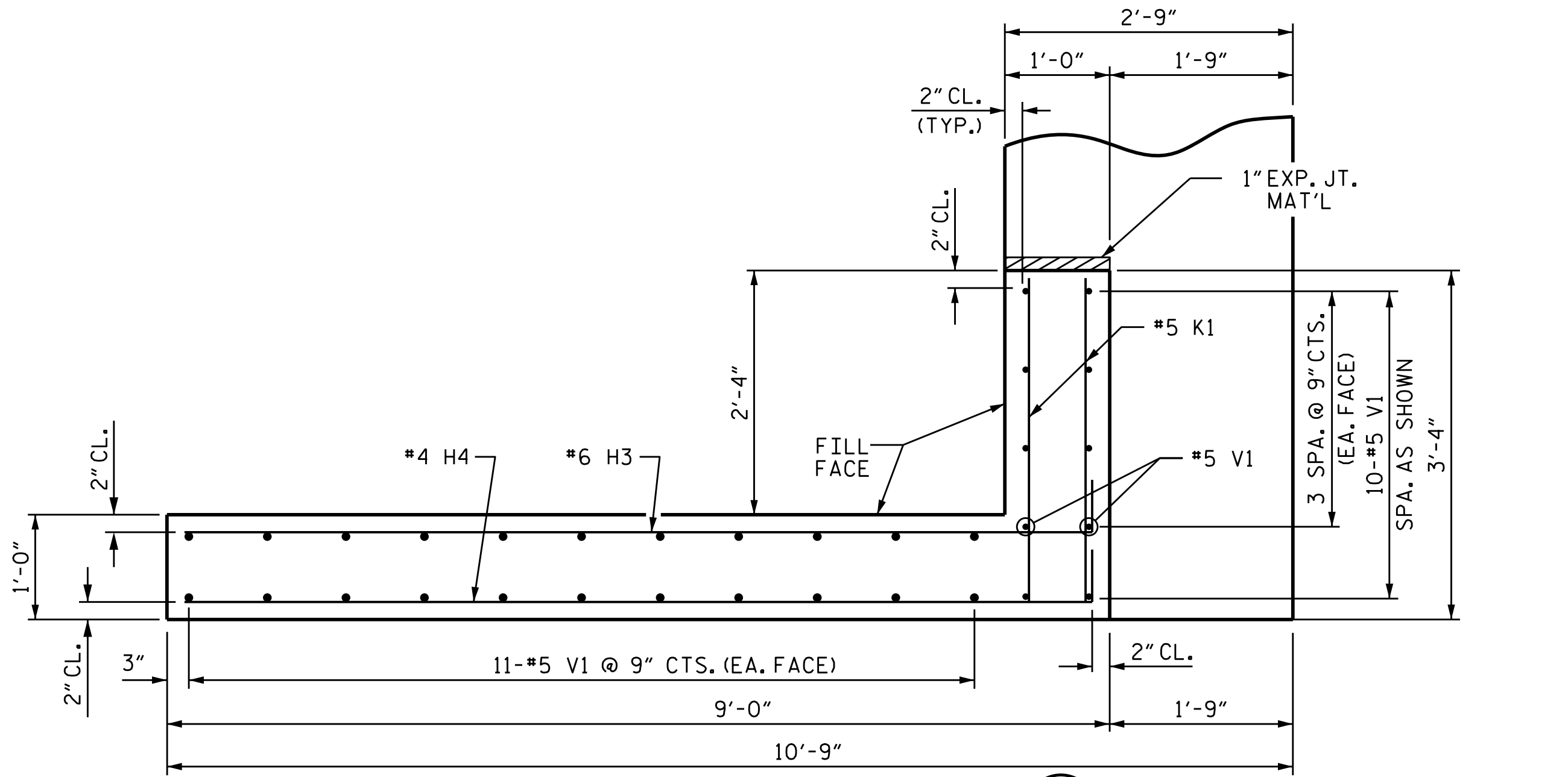
4/16/2026
401_029_BP11.R049_SMU_E02_S-15_960239.dgn
david.lowery

The seal is circular with a double-lined border. The outer ring contains the text "NORTH CAROLINA" at the top and "ANDREW L. PHILLIPS" at the bottom. Inside the ring, the words "Professional Engineer" are written in a smaller font. In the center, the name "Andrew L. Phillips" is written in a large, stylized script. Below the name, the license number "040769" is printed. To the left of the number is the word "SEAL" and to the right is the word "ENGINEER".

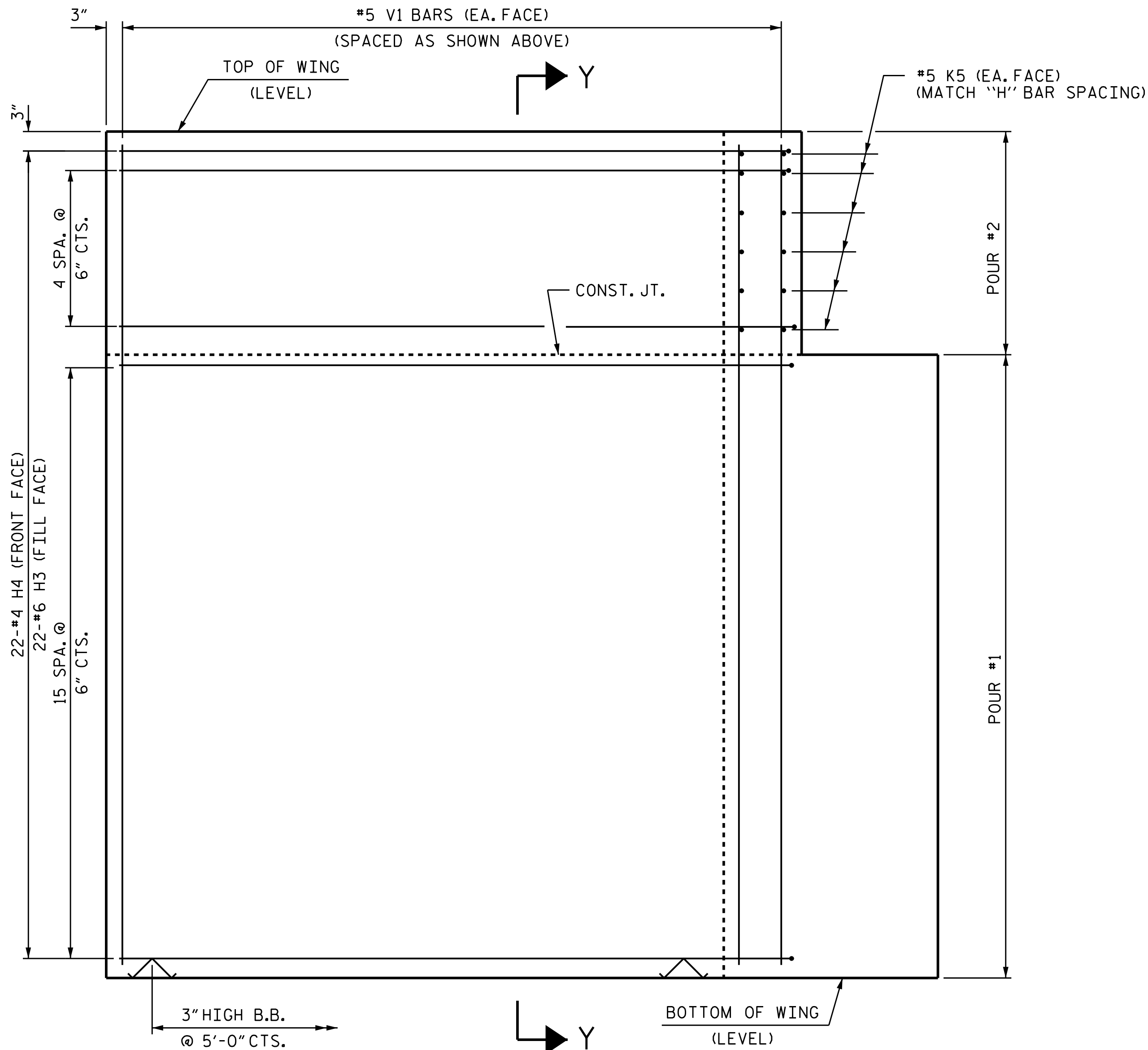
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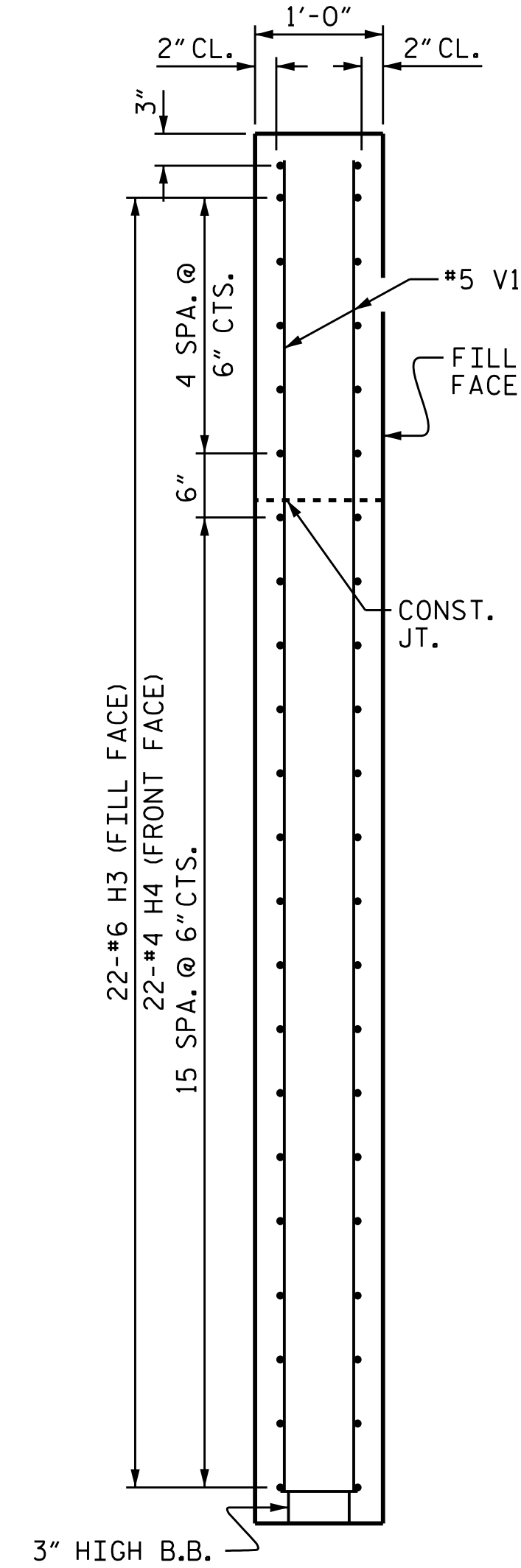
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PLAN OF WING (W2)



ELEVATION OF WING (W2)



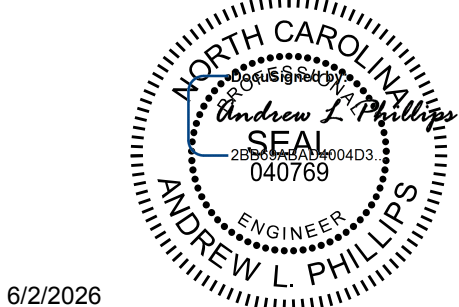
SECTION Y-Y

DRAWN BY : D. D. LOWERY DATE : 02/2026
CHECKED BY : P. A. PATEL DATE : 03/2026
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 03/2026

4/18/2026
89116314BFSMB0B055M40ZD5A.dgn 16.960239.dgn
david.lowery

WING DETAILS

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WILKES COUNTY
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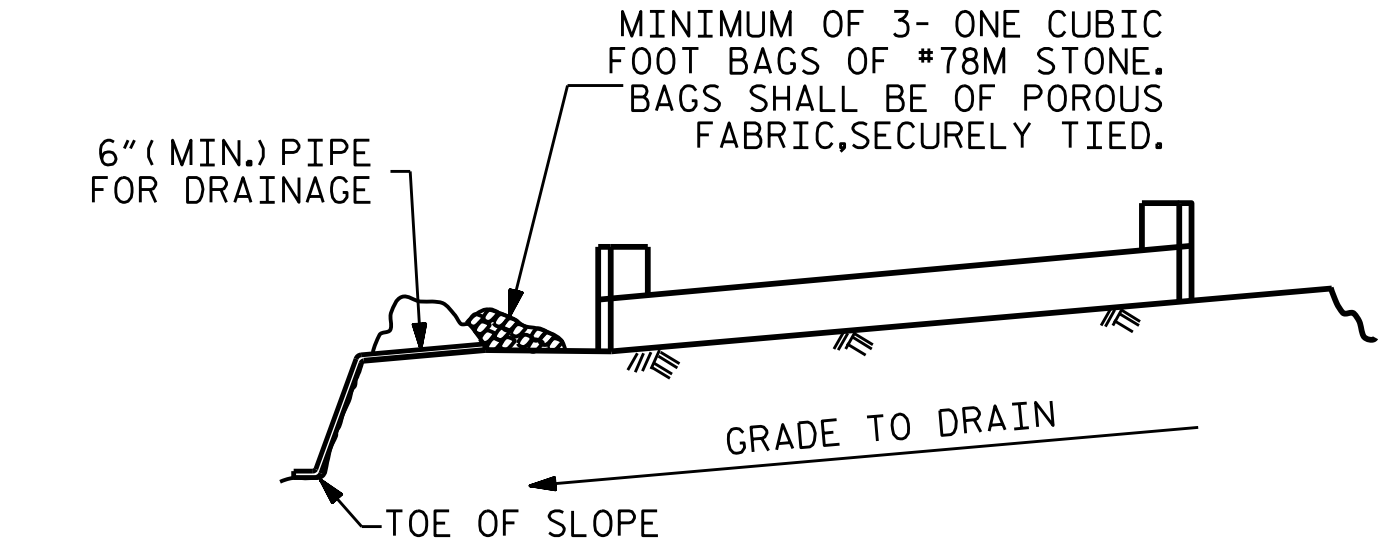
SHEET 3 OF 4 BRIDGE NO. 960239

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 1
WING DETAILS

REVISIONS					SHEET NO. S-16
NO.	BY:	DATE:	NO.	BY:	
1			3		TOTAL SHEETS
2			4		24

STD. NO. EB-33_90S4

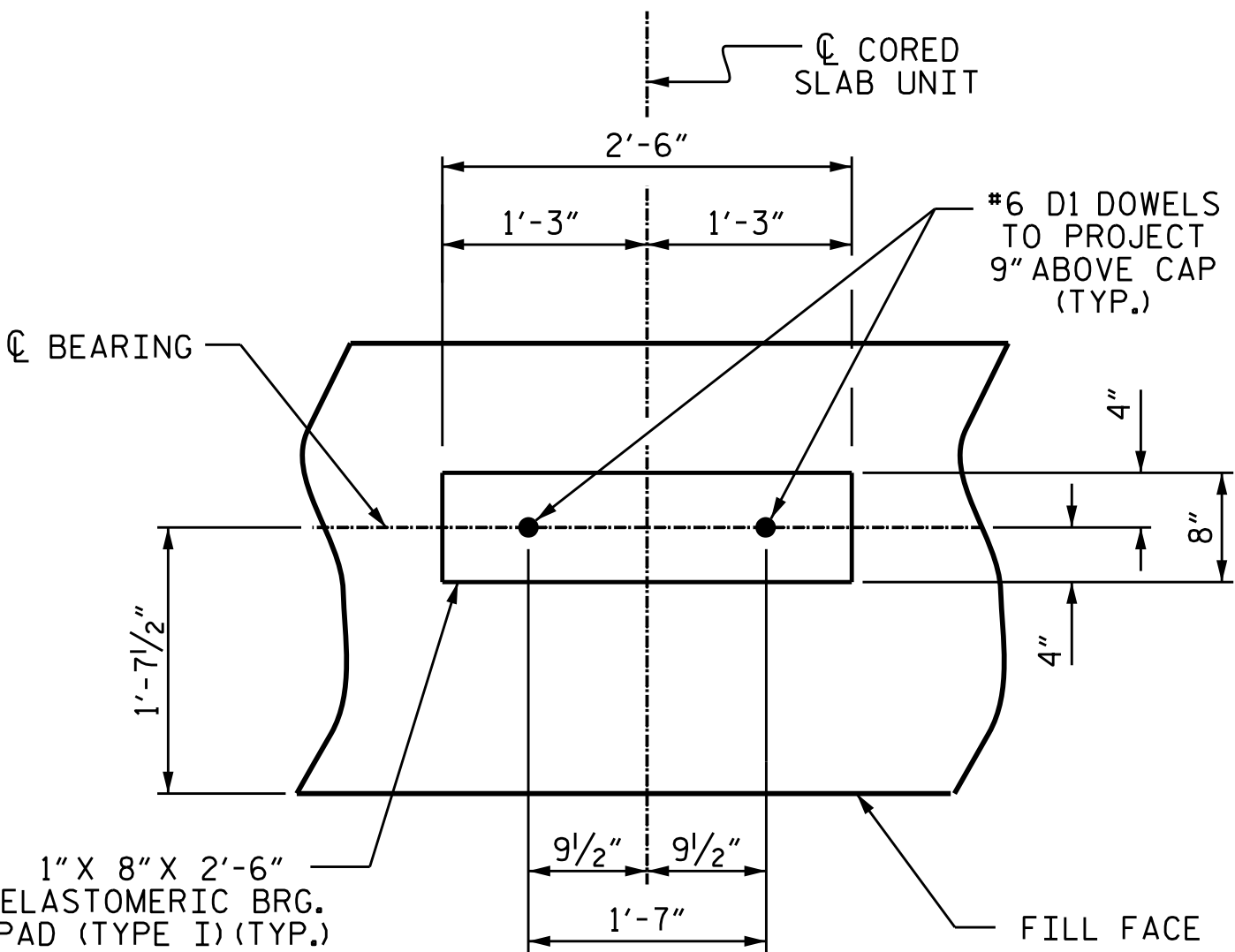


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

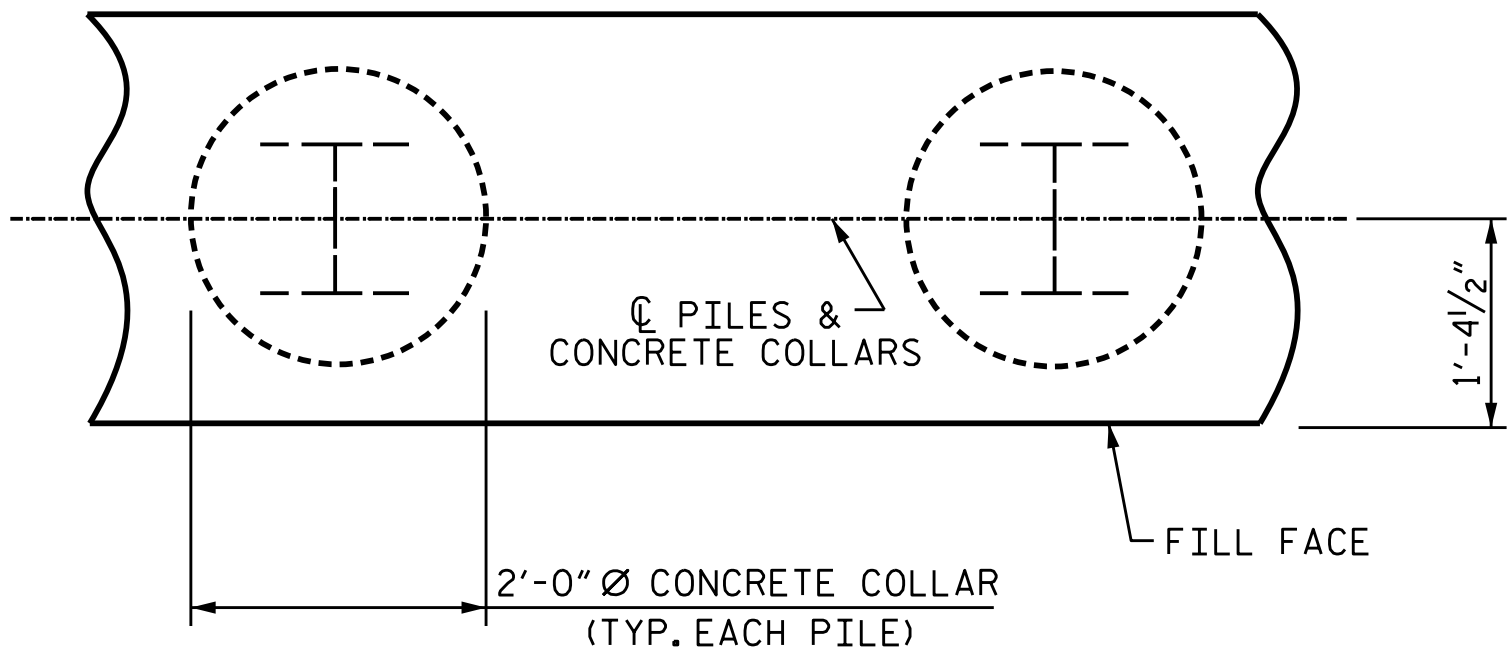
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

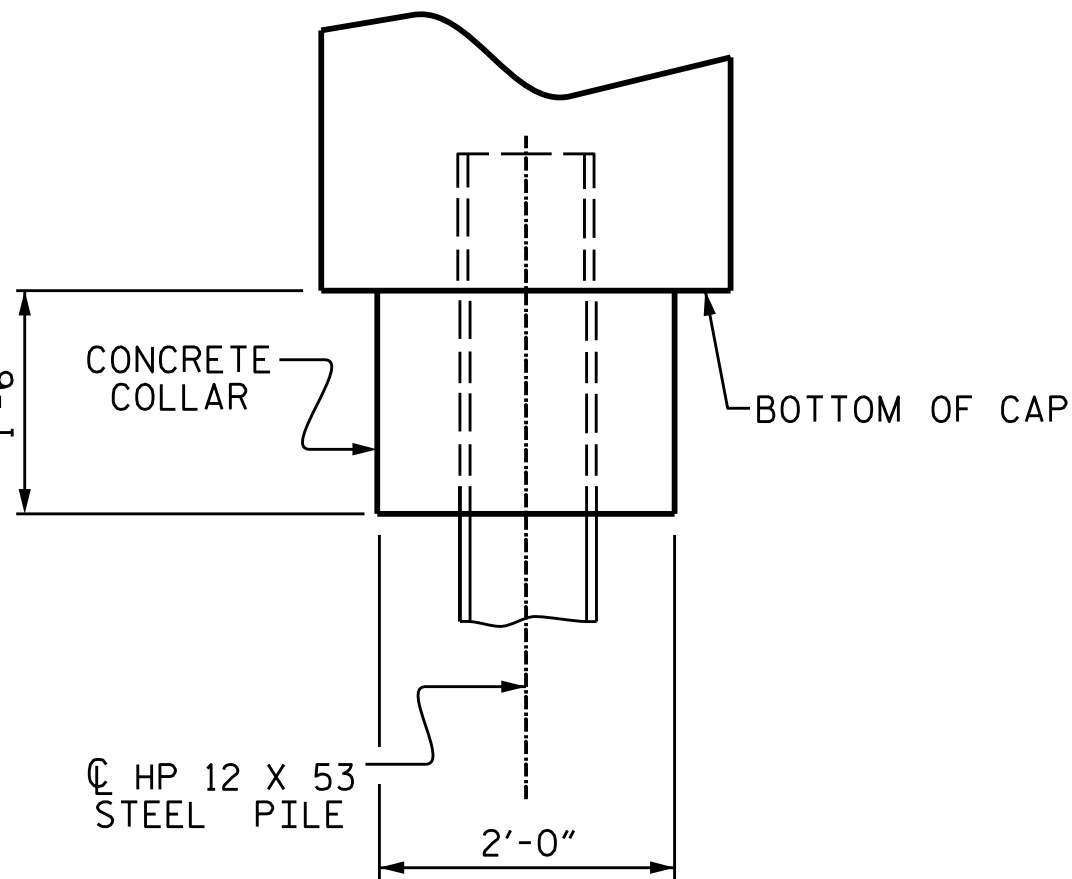
TEMPORARY DRAINAGE AT END BENT



DETAIL "A"

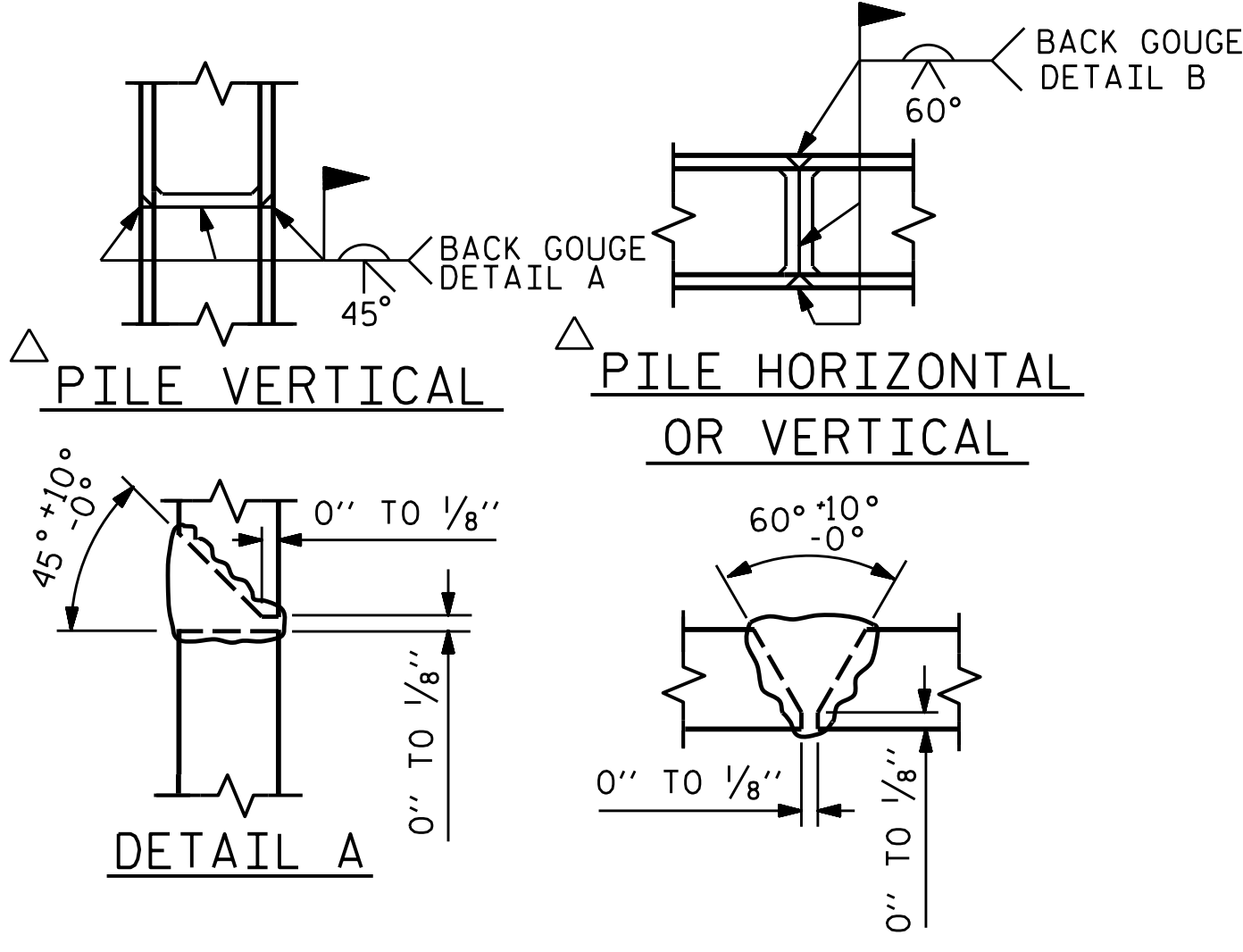


PLAN



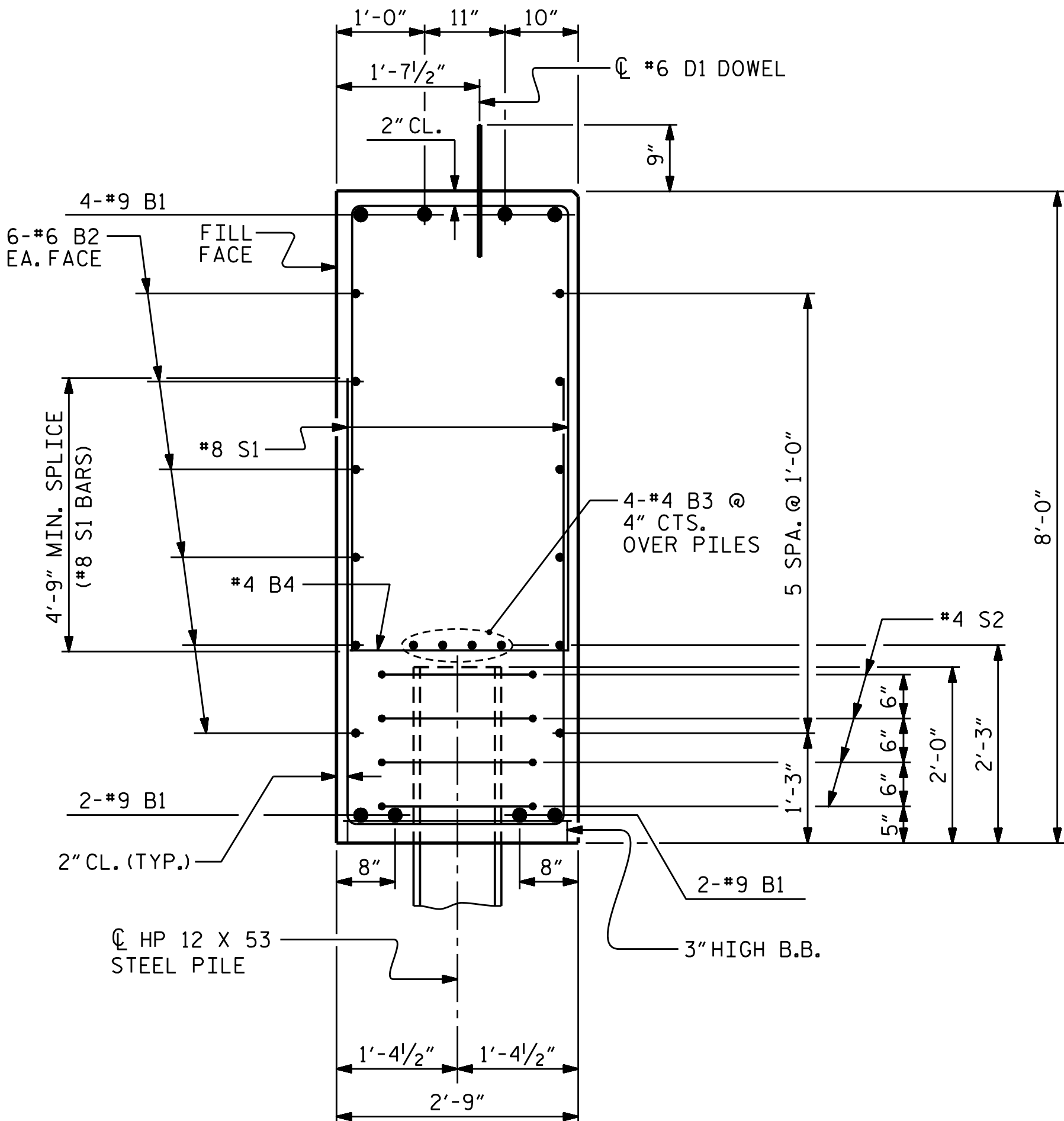
ELEVATION

CORROSION PROTECTION FOR STEEL PILES DETAIL



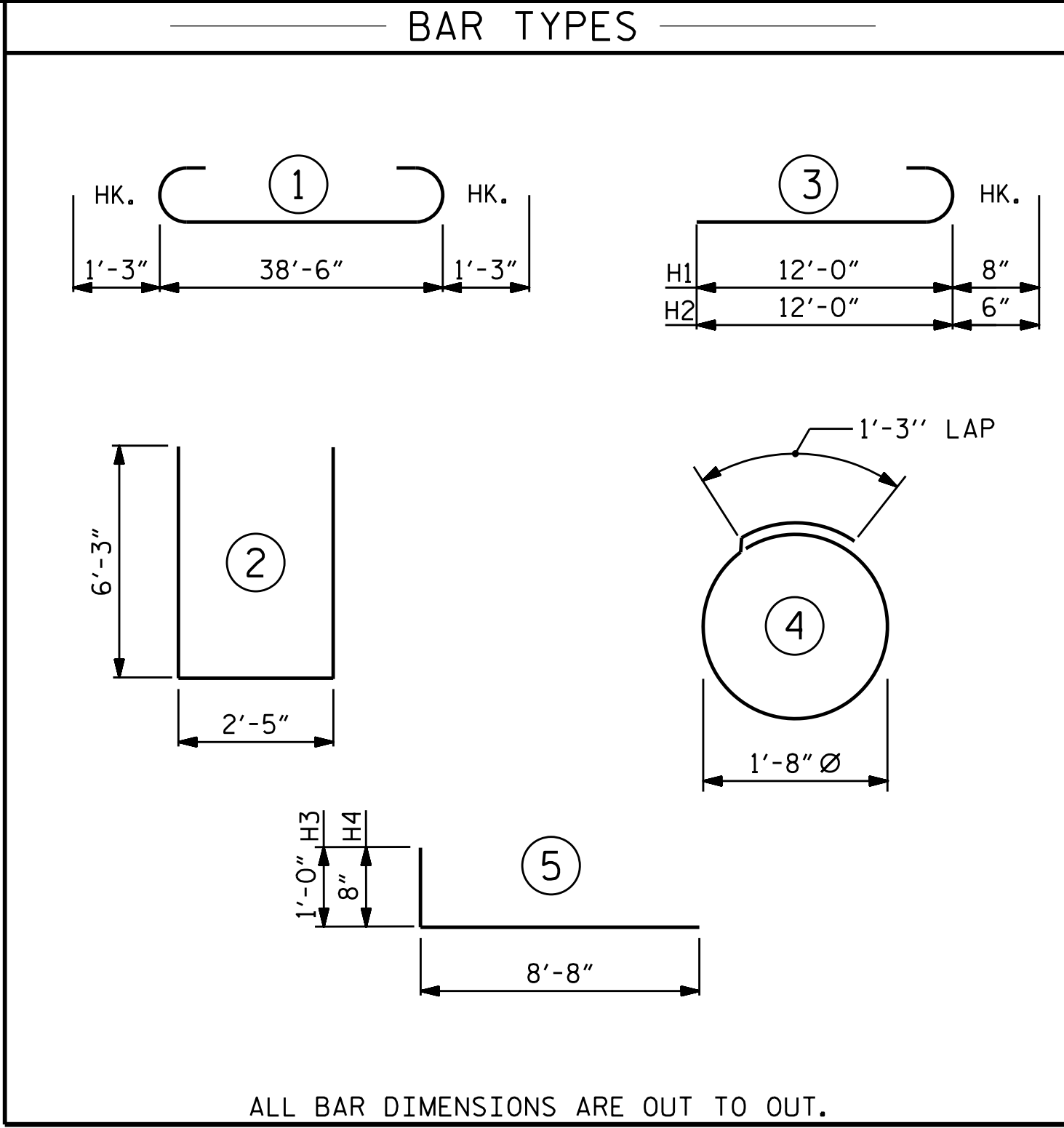
POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS



SECTION A-A

(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		41'-2"	1,120
B2	12	#6	STR	38'-8"	697
B3	10	#4	STR	2'-5"	16
B4	4	#4	STR	38'-2"	102
D1	22	#6	STR	1'-6"	50
H1	22	#6	3	12'-8"	419
H2	22	#4	3	12'-6"	184
H3	22	#6	5	9'-8"	319
H4	22	#4	5	9'-4"	137
K1	12	#5	STR	2'-11"	37
S1	104	#8	2	14'-11"	4,142
S2	28	#4	4	6'-6"	122
V1	66	#5	STR	10'-4"	711
REINFORCING STEEL (FOR ONE END BENT)					8,056 LBS.
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)					
POUR #1 CAP, LOWER PART OF WINGS & COLLARS					38.0 C.Y.
POUR #2 UPPER PART OF WINGS					2.4 C.Y.
TOTAL CLASS A CONCRETE					40.4 C.Y.

PROJECT NO. BP11.R049.1
WILKES COUNTY
STATION: 12+94.00 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

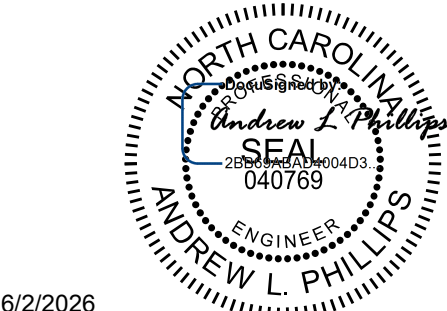
RALEIGH

SUBSTRUCTURE

END BENT No. 1

DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS 24
2			4			



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DRAWN BY : D. D. LOWERY DATE : 02/2026
CHECKED BY : P. A. PATEL DATE : 03/2026
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 03/2026

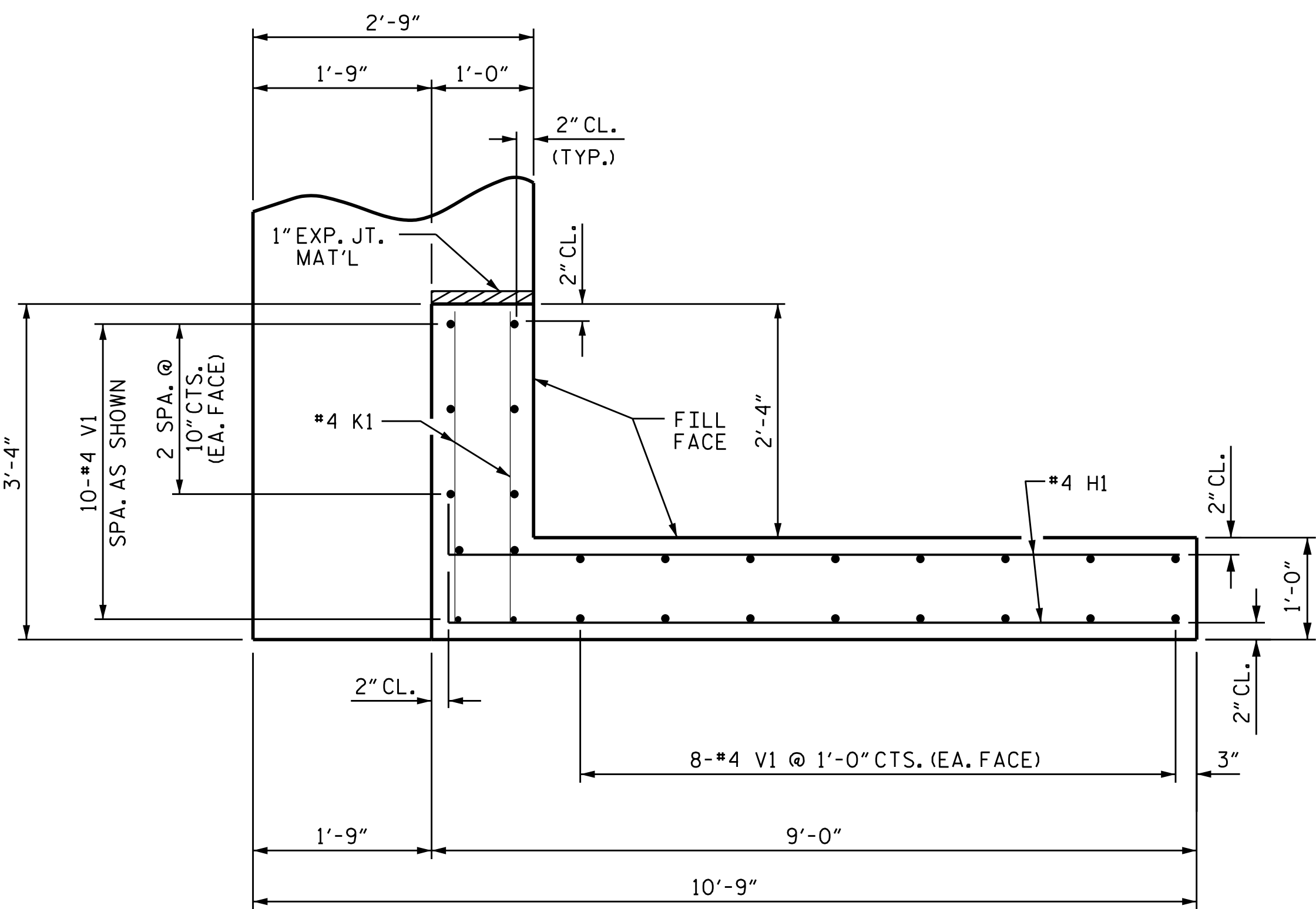


FOR WING DETAILS, SEE SHEET 2 OF 3.

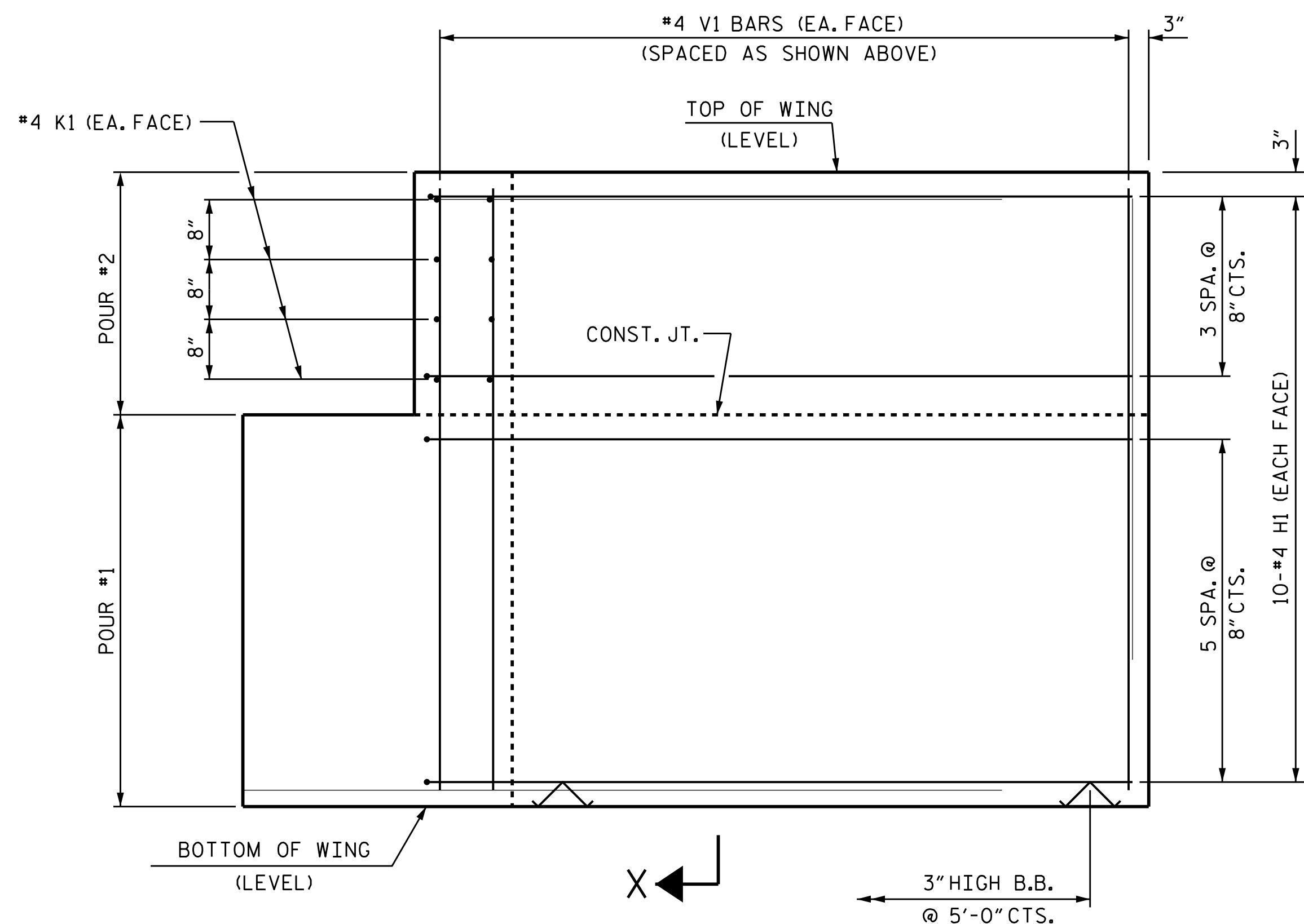
PLAN



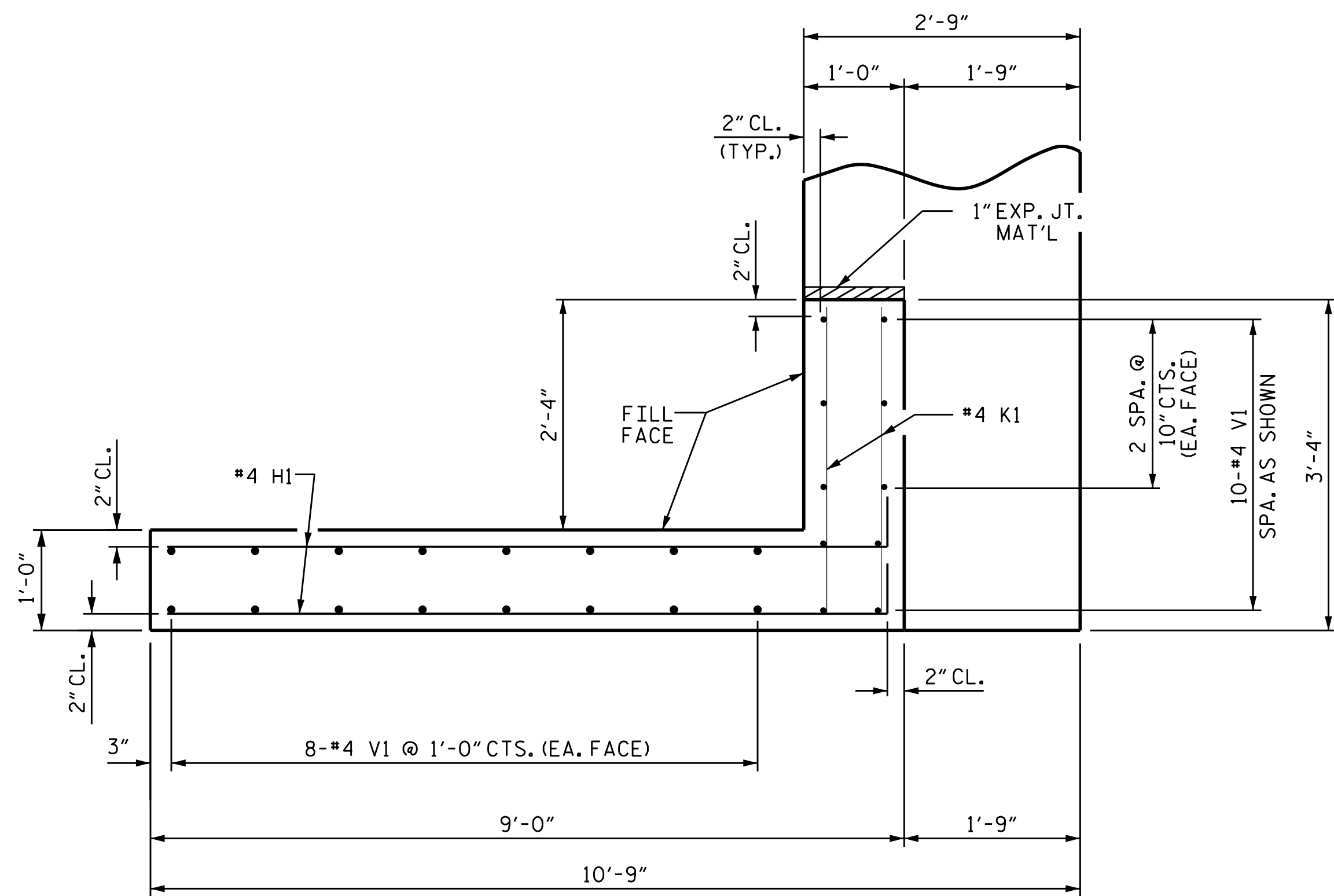
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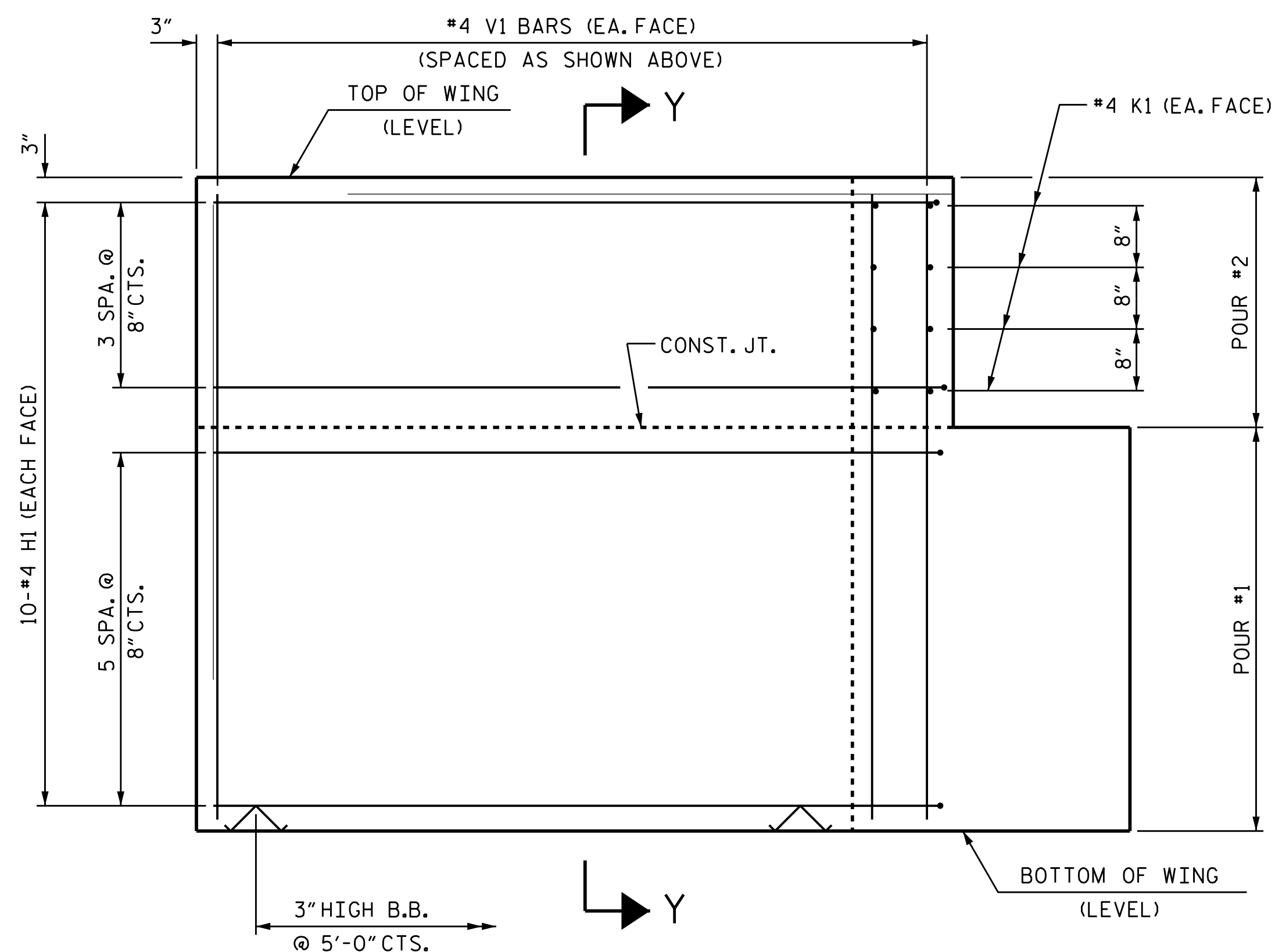
PLAN OF WING (W1)



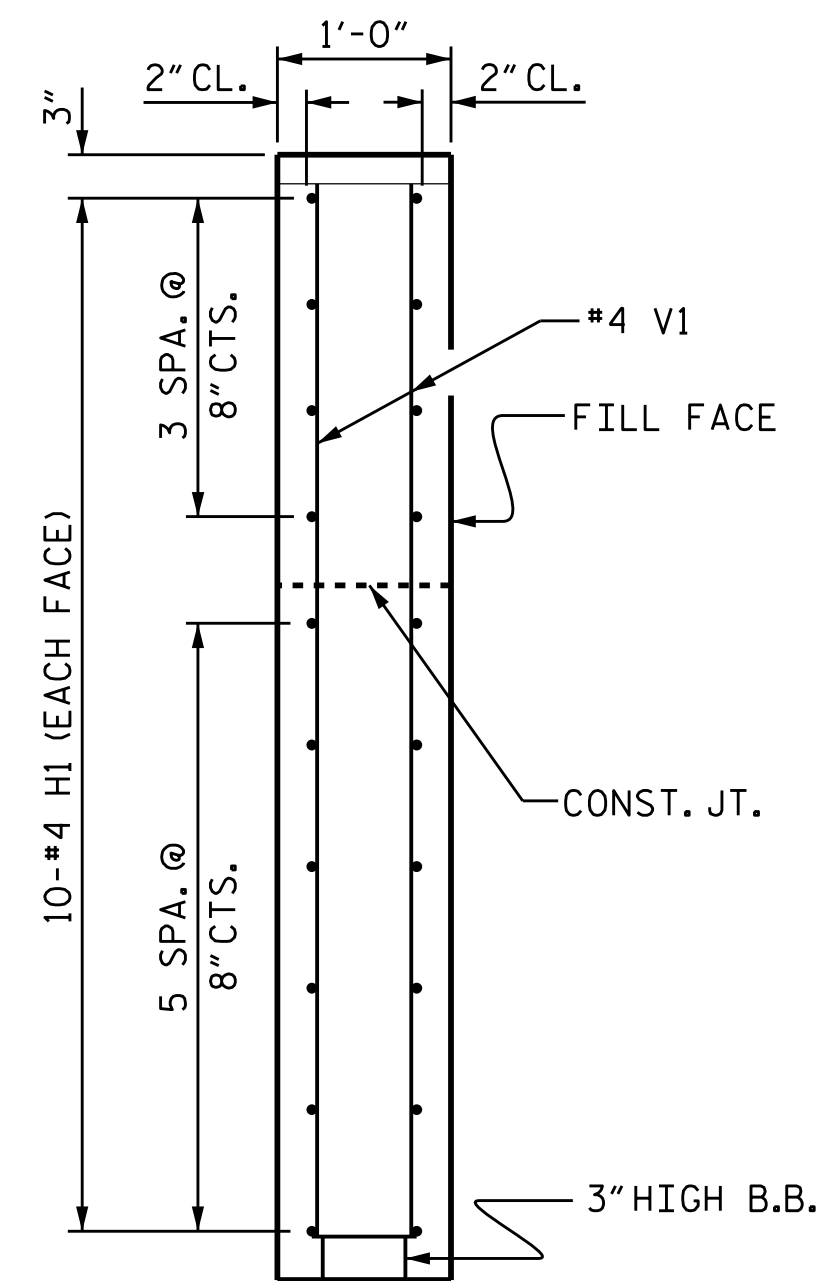
ELEVATION OF WING (W1)



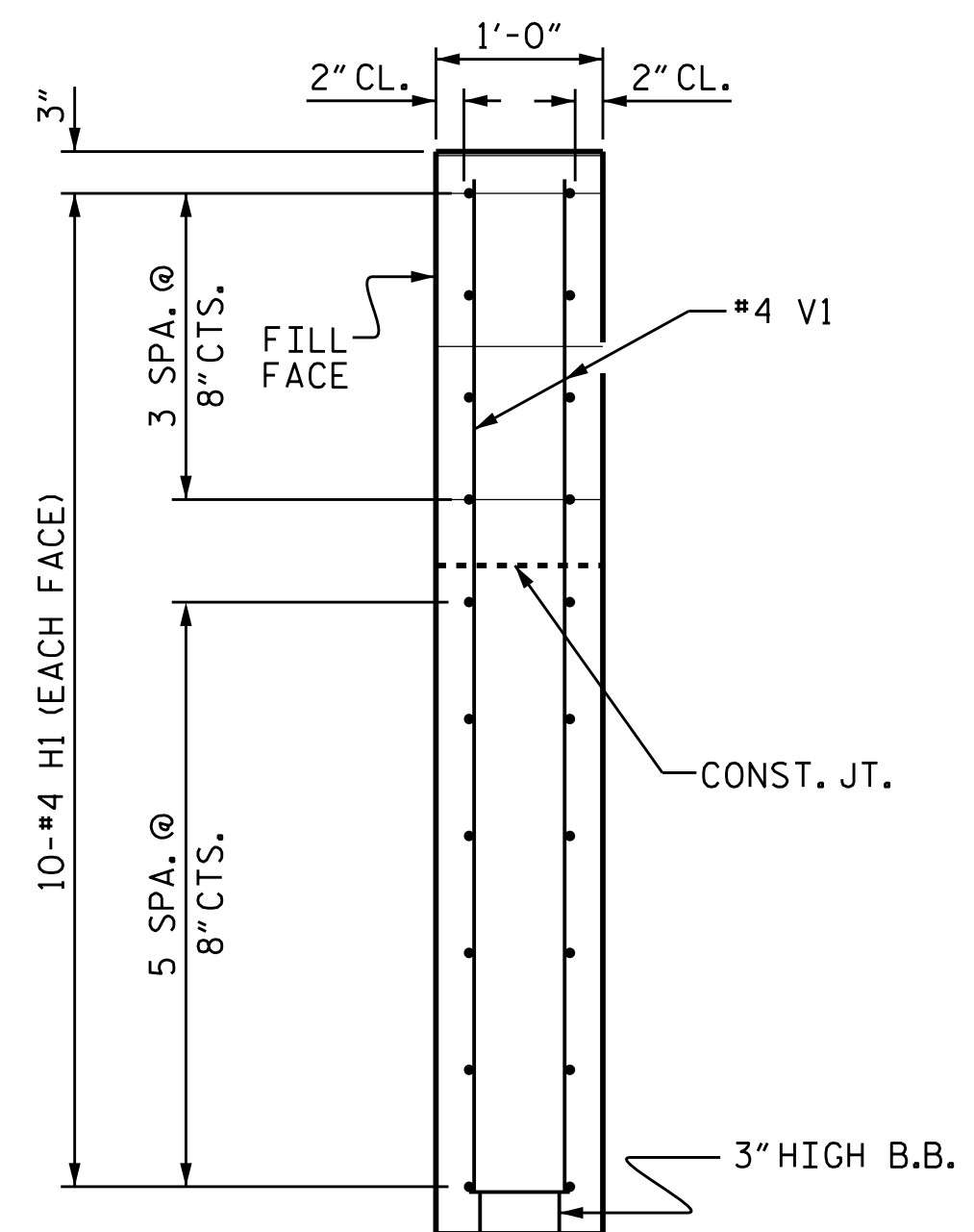
PLAN OF WING (W2)



ELEVATION OF WING (W2)



SECTION X-X



SECTION Y-Y

PROJECT NO. BP11.R049.1
WILKES COUNTY
 STATION: 12+94.00 -L-

SHEET 2 OF 3

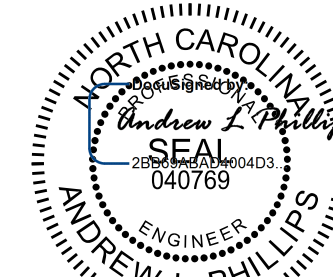
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 2
WING DETAILS

REVISIONS						SHEET NO. S-19
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 24
2			4			

ASSEMBLED BY : D. D. LOWERY		DATE : 02/2026	
CHECKED BY : P. A. PATEL		DATE : 03/2026	
DRAWN BY : WJH 12/11		REV. 4/15	MAA/TMG
CHECKED BY : AAC 12/11			

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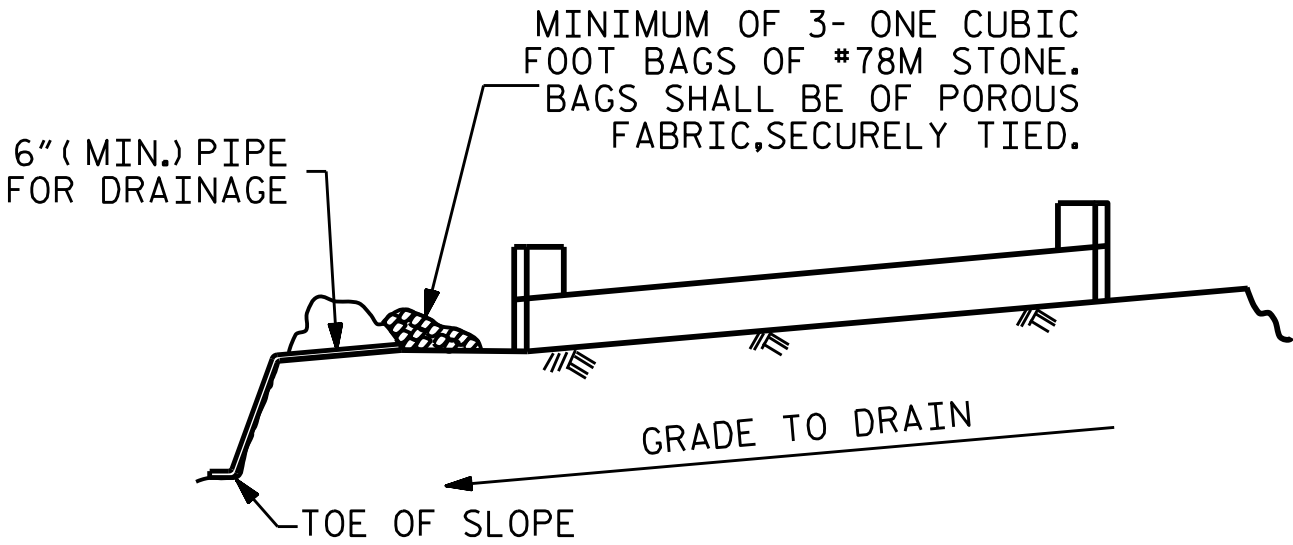
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STD. NO. EB_33_90S4

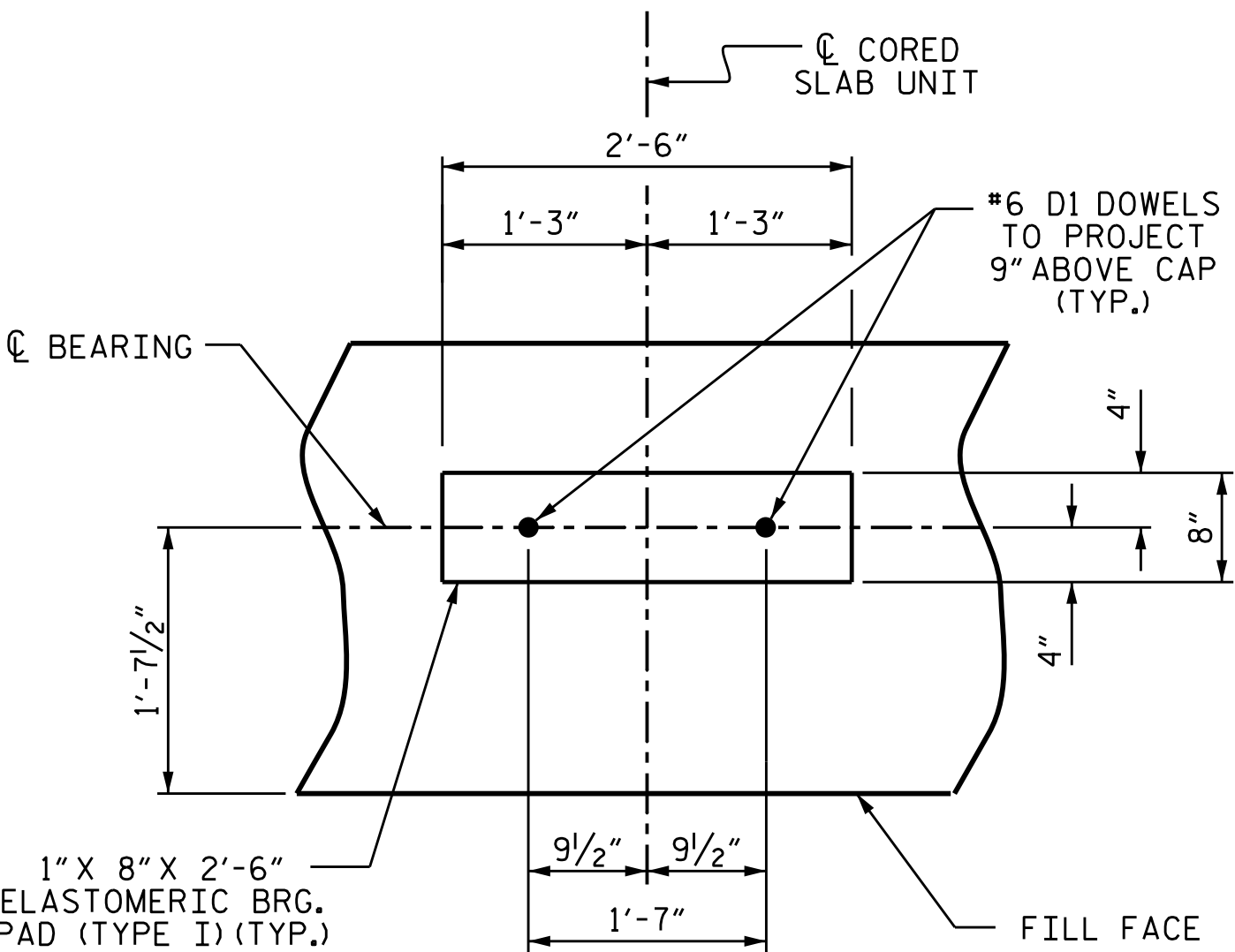


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

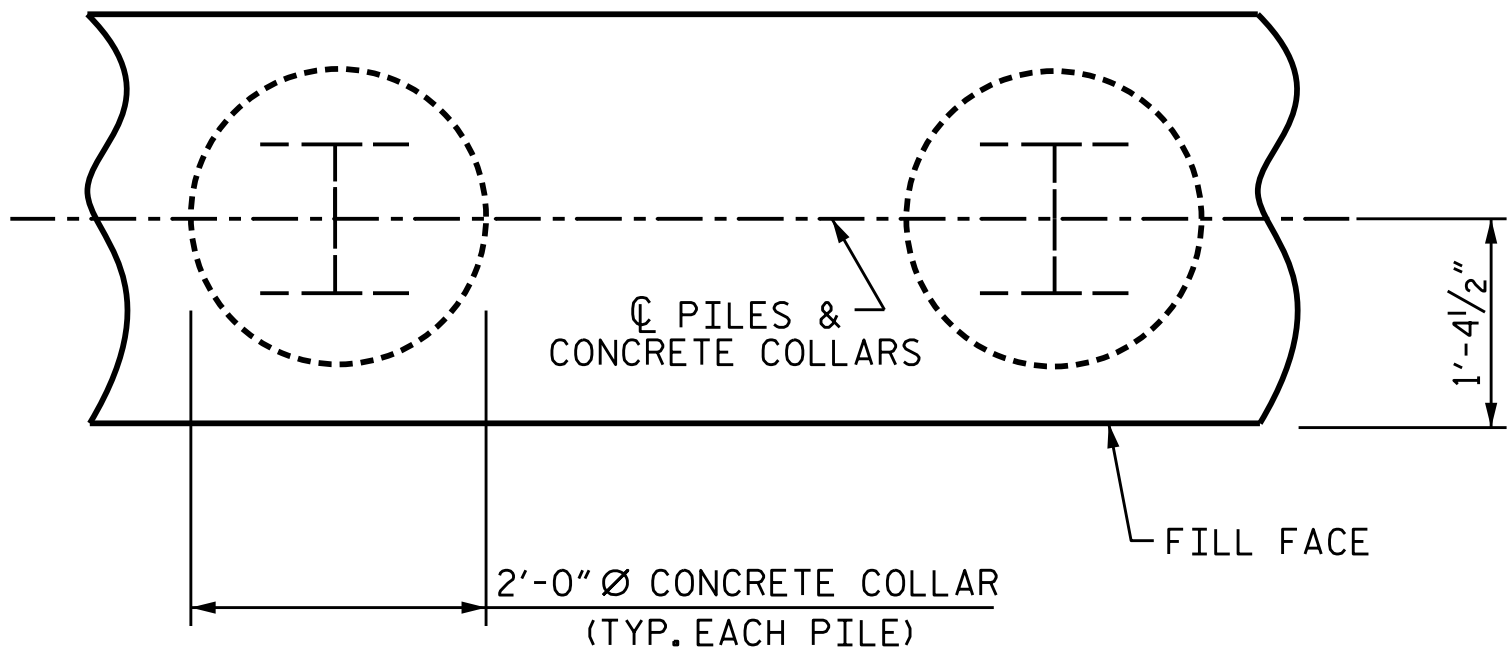
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

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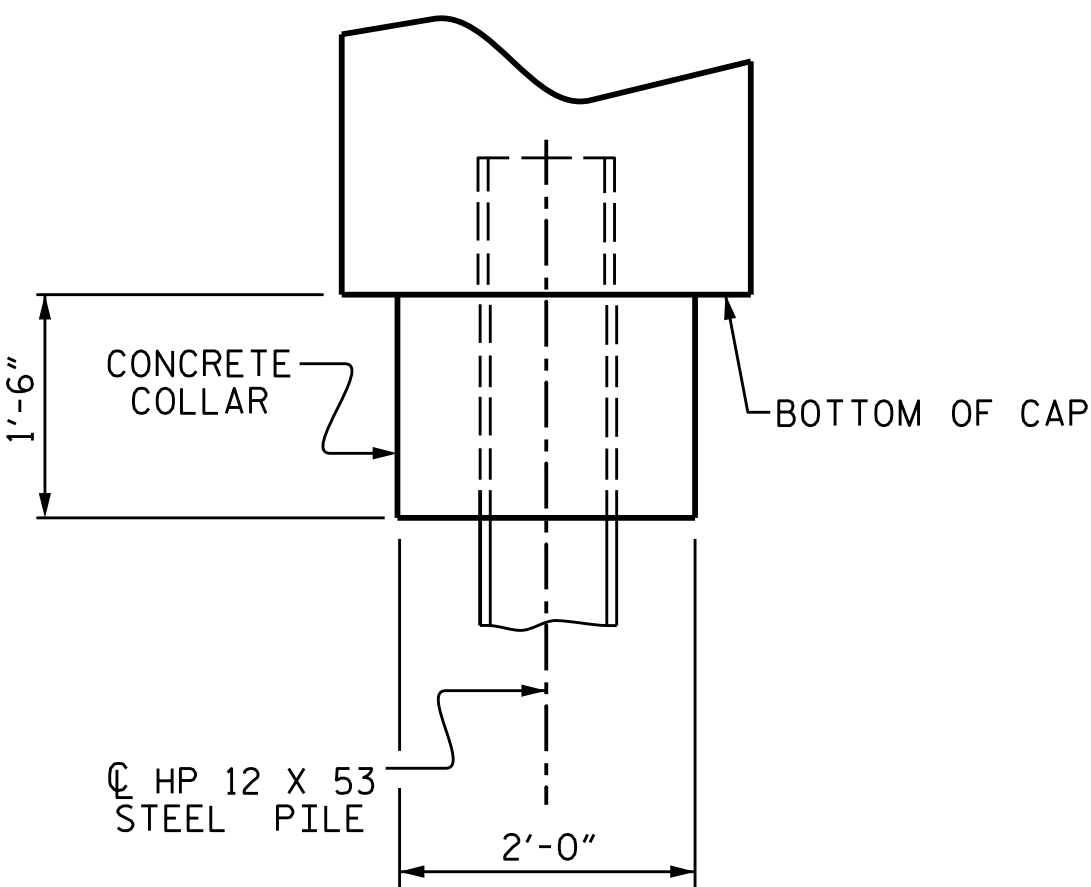
TEMPORARY DRAINAGE AT END BENT



DETAIL "A"

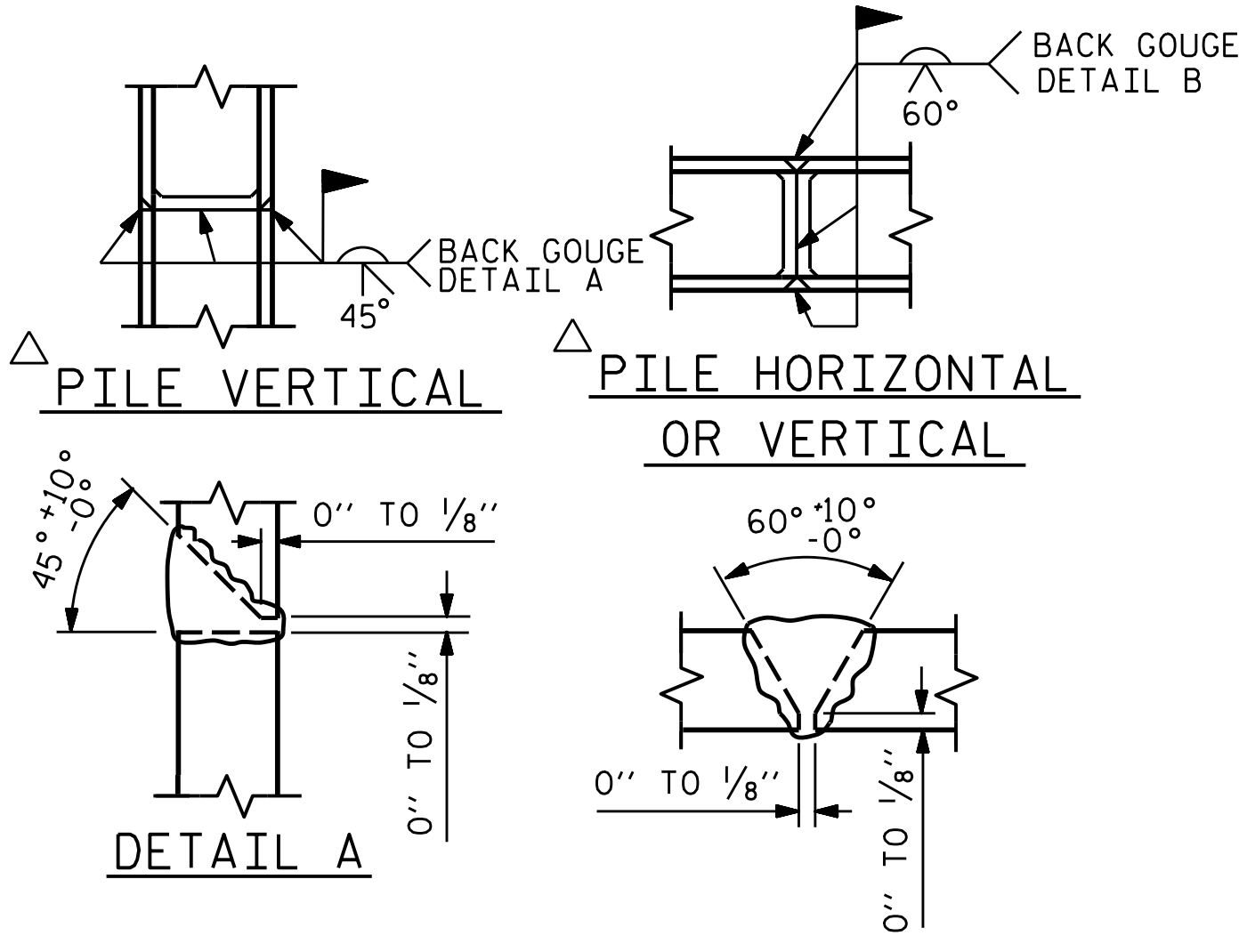


PLAN



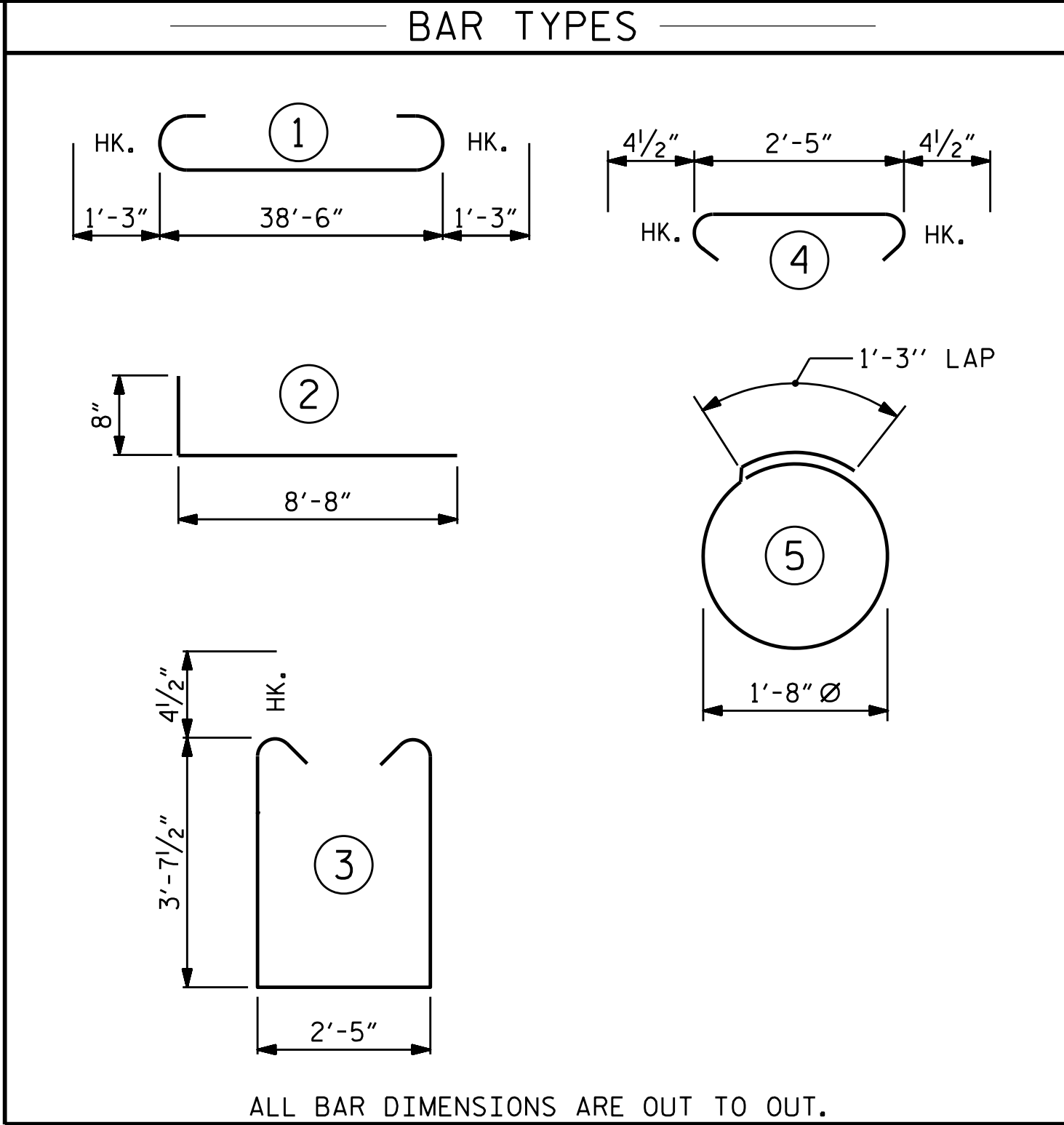
ELEVATION

CORROSION PROTECTION FOR STEEL PILES DETAIL



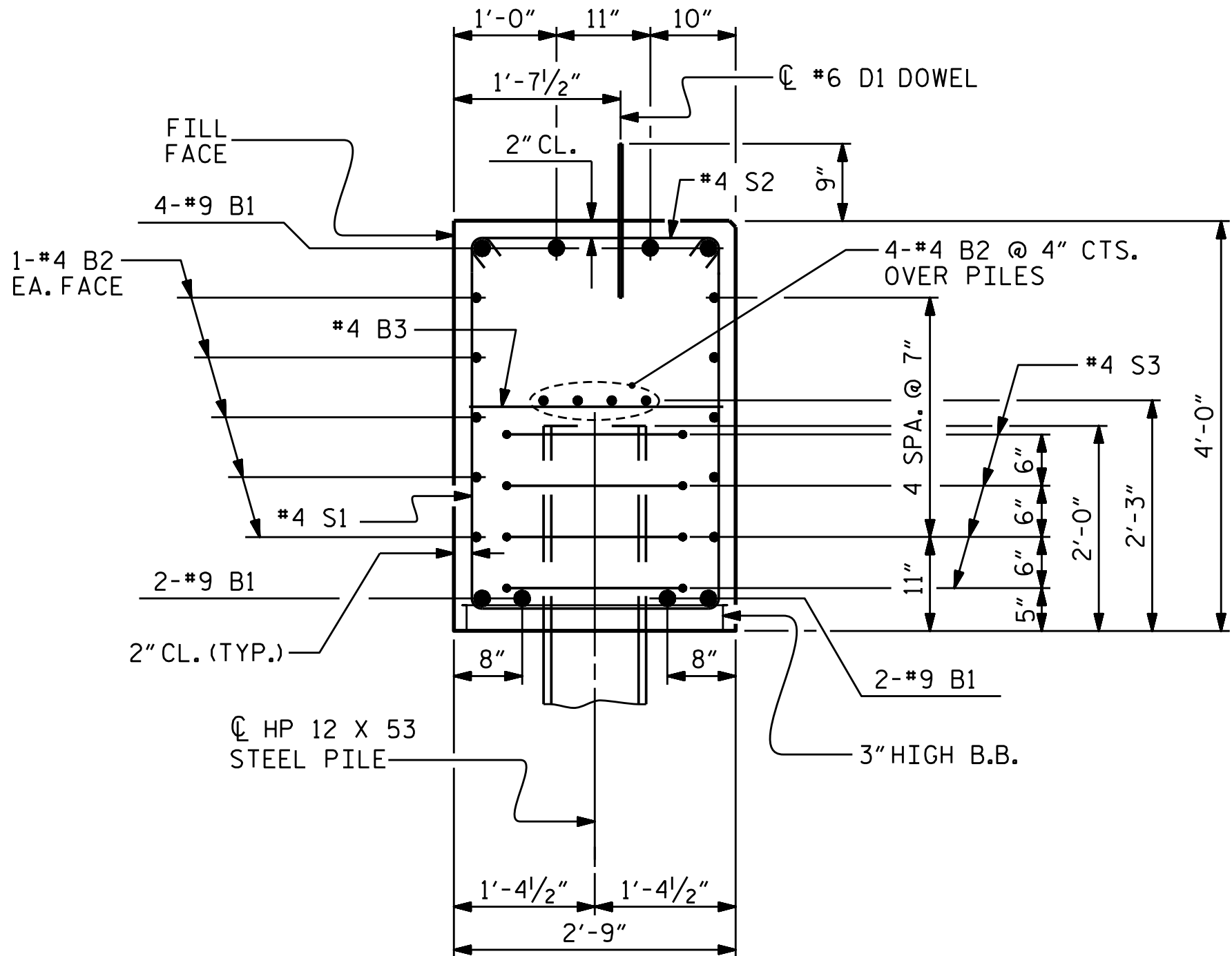
POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS



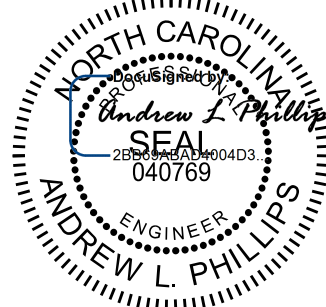
ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		41'-0"	1115
B2	28	#4	STR	20'-7"	385
B3	10	#4	STR	2'-5"	16
D1	22	#6	STR	1'-6"	50
H1	40	#4	2	9'-4"	249
K1	16	#4	STR	2'-11"	31
S1	50	#4	3	10'-5"	348
S2	50	#4	4	3'-2"	106
S3	28	#4	5	6'-6"	122
V1	52	#4	STR	6'-2"	214
REINFORCING STEEL (FOR ONE END BENT)					2636 LBS.
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)					
POUR #1 CAP, LOWER PART OF WINGS & COLLARS					19.5 C.Y.
POUR #2 UPPER PART OF WINGS					2.3 C.Y.
TOTAL CLASS A CONCRETE					21.8 C.Y.



SECTION B-B

(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")



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WILKES COUNTY
STATION: 12+94.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT No. 2
DETAILS

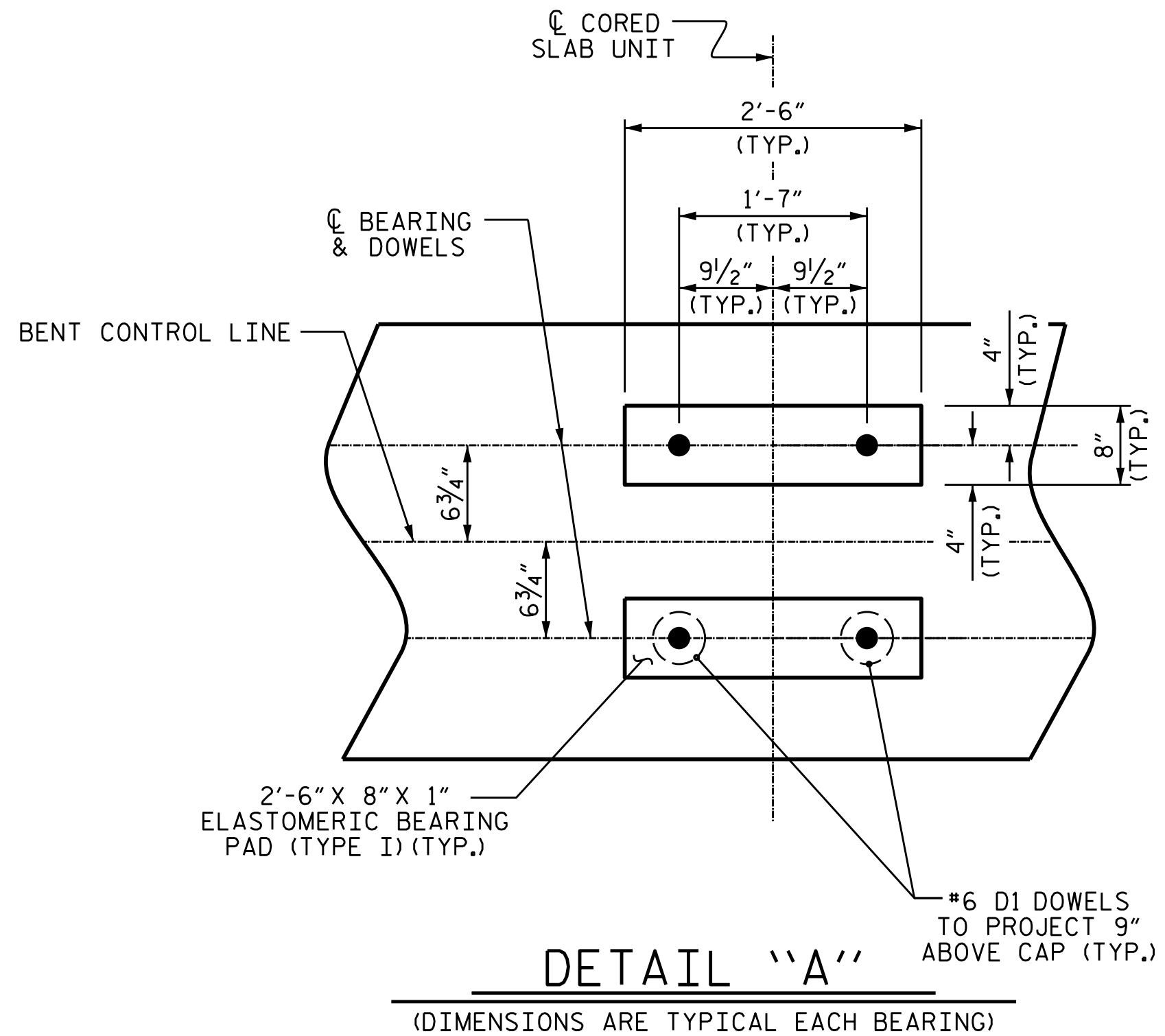
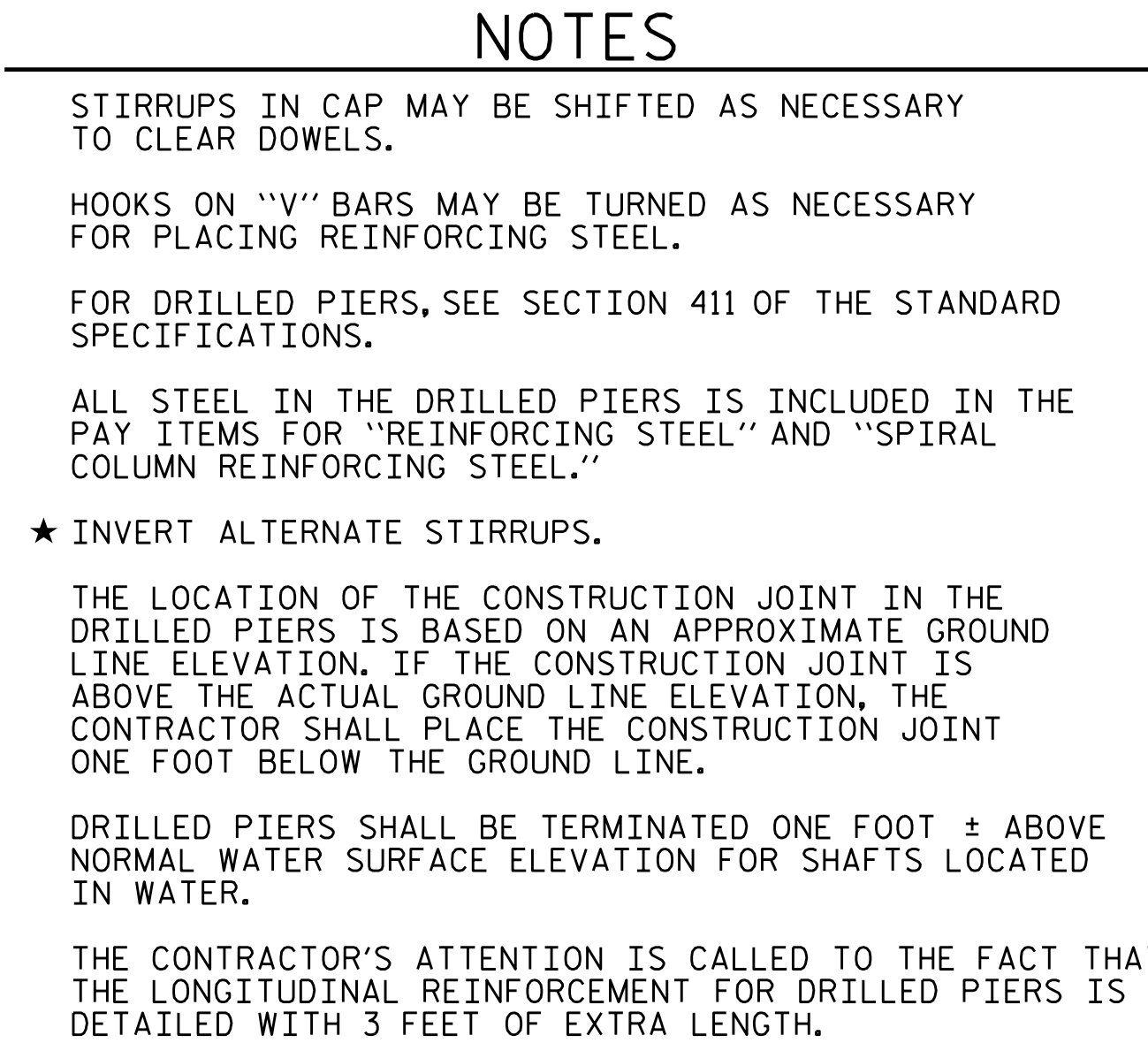
REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	
1			3	S-20
2			4	
TOTAL SHEETS				24

STD. NO. EB-33_90S4

ASSEMBLED BY : D. D. LOWERY	DATE : 02/2026
CHECKED BY : P. A. PATEL	DATE : 03/2026
DRAWN BY : WJH 12/11	REV. 4/17
CHECKED BY : AAC 12/11	MAA/THC

4/15/2026
401.039.BP11.R049.SMU.E07.S-20.960239.dgn
Thomas.Boyd

9_BP11.R049.SMU.E07.S-20.960239.dgn



SHEET 1 OF 2

SUBSTRUCTURE
BENT No. 1

REVISIONS						SHEET NO. S-21
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 24
2			4			

STD. NO. DP_BT_33_90S_>50'

5/13/2026
401_041_BP11.R049_SMU_B01-S-21_960239.dgn
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6/2/2026

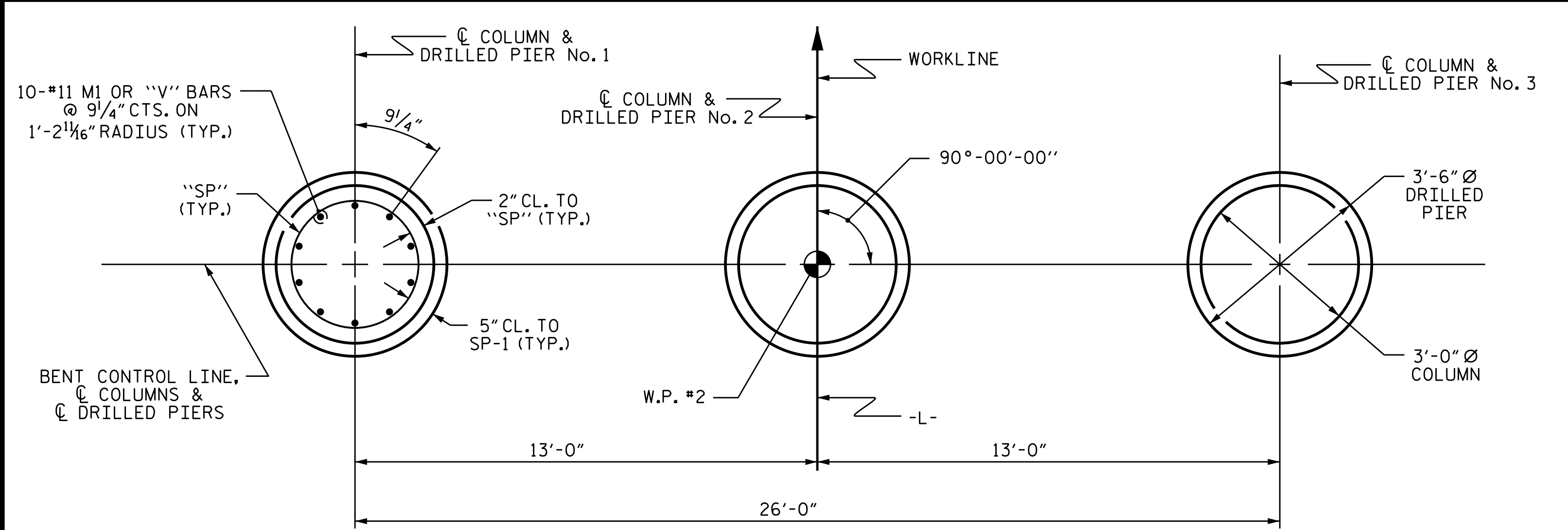
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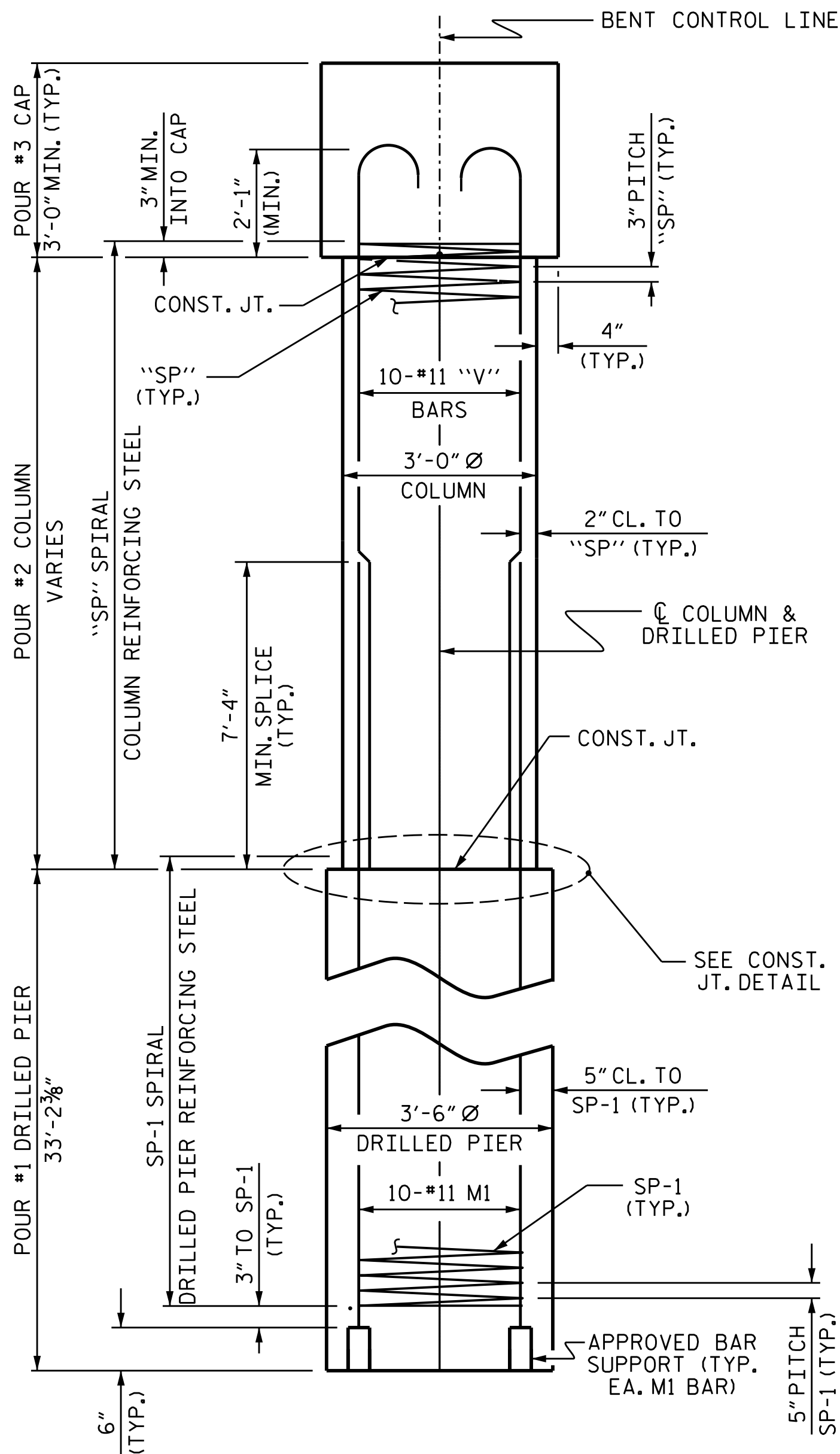
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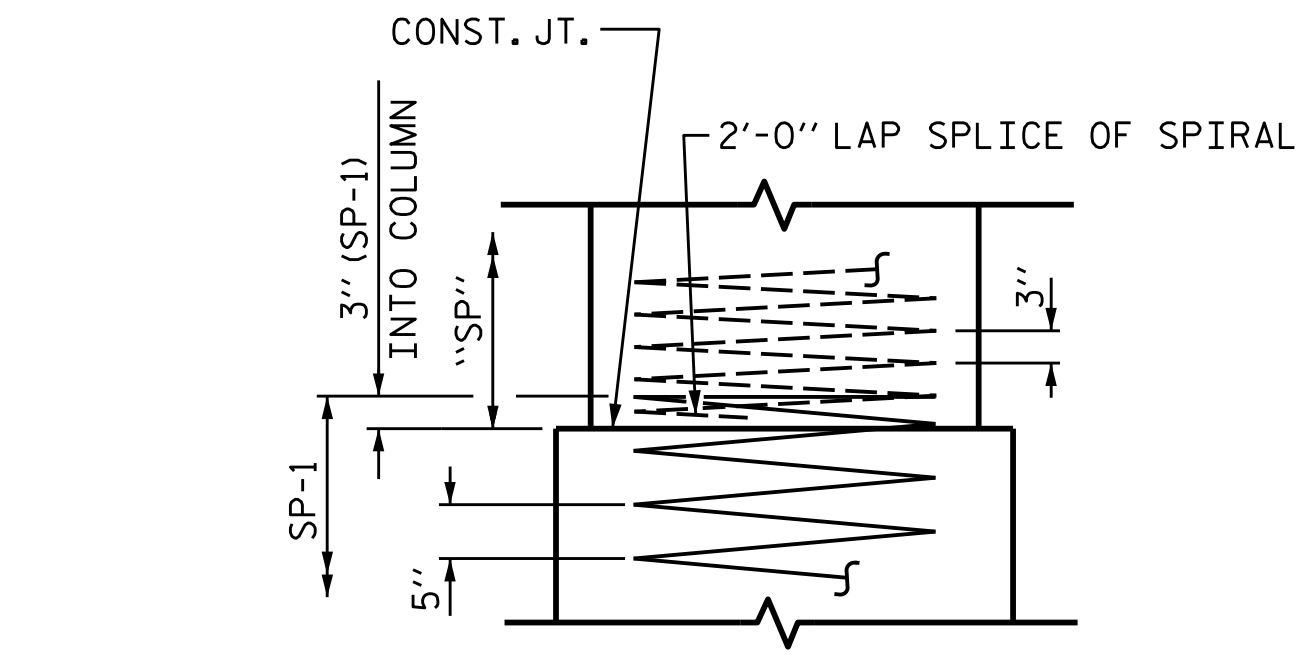
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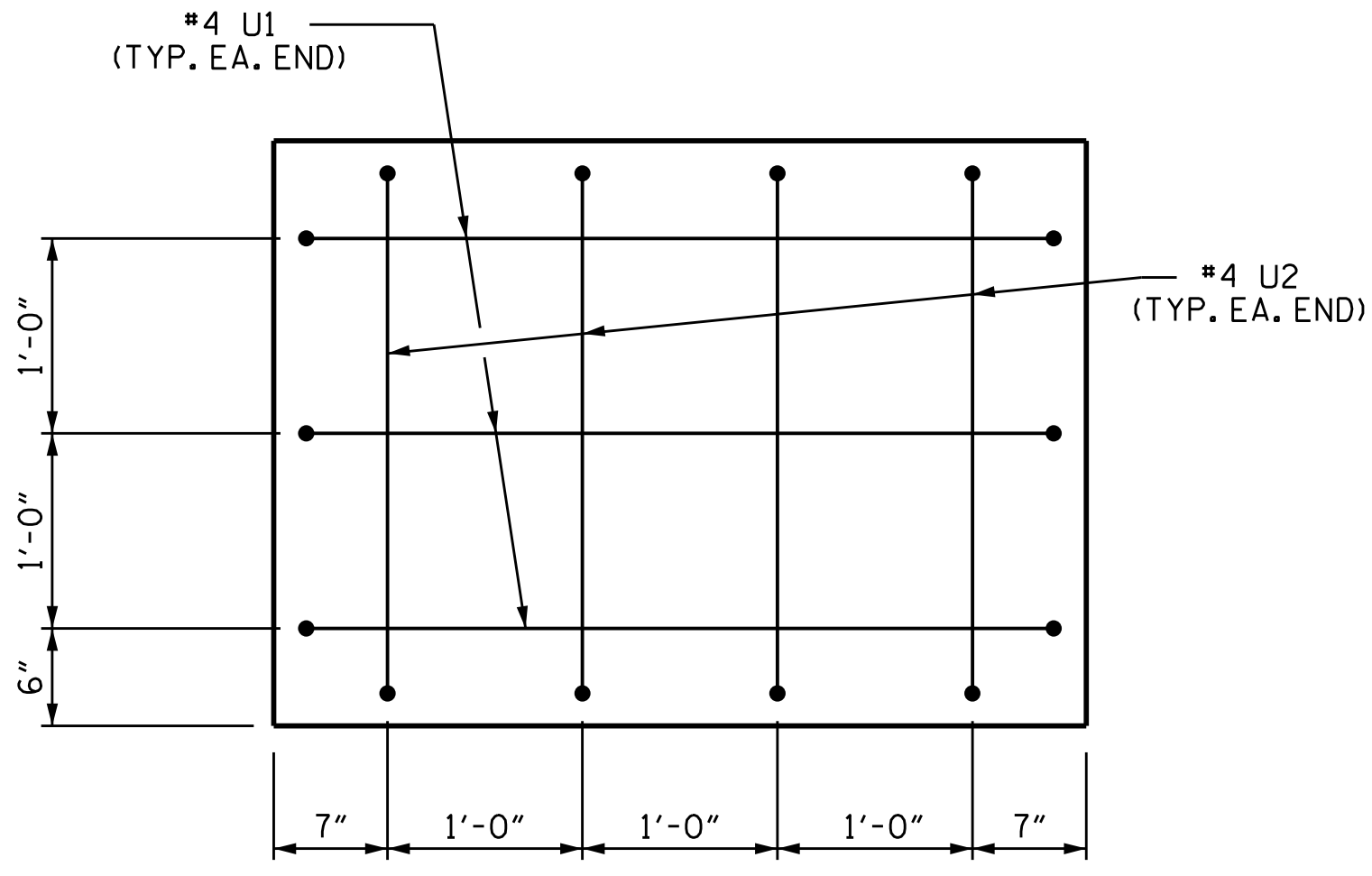
PLAN OF DRILLED PIERS & COLUMNS



END ELEVATION

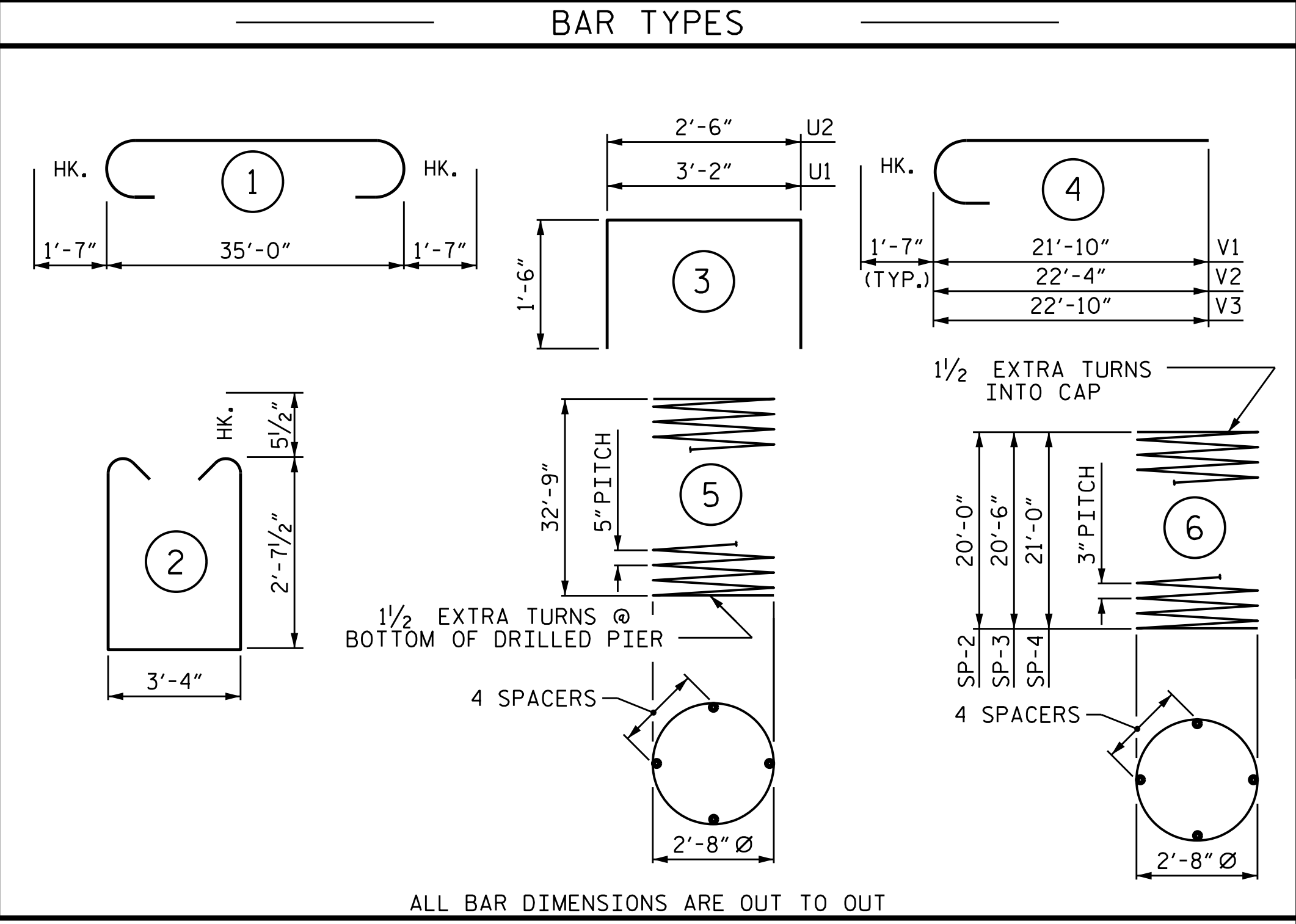


CONSTRUCTION JOINT DETAIL

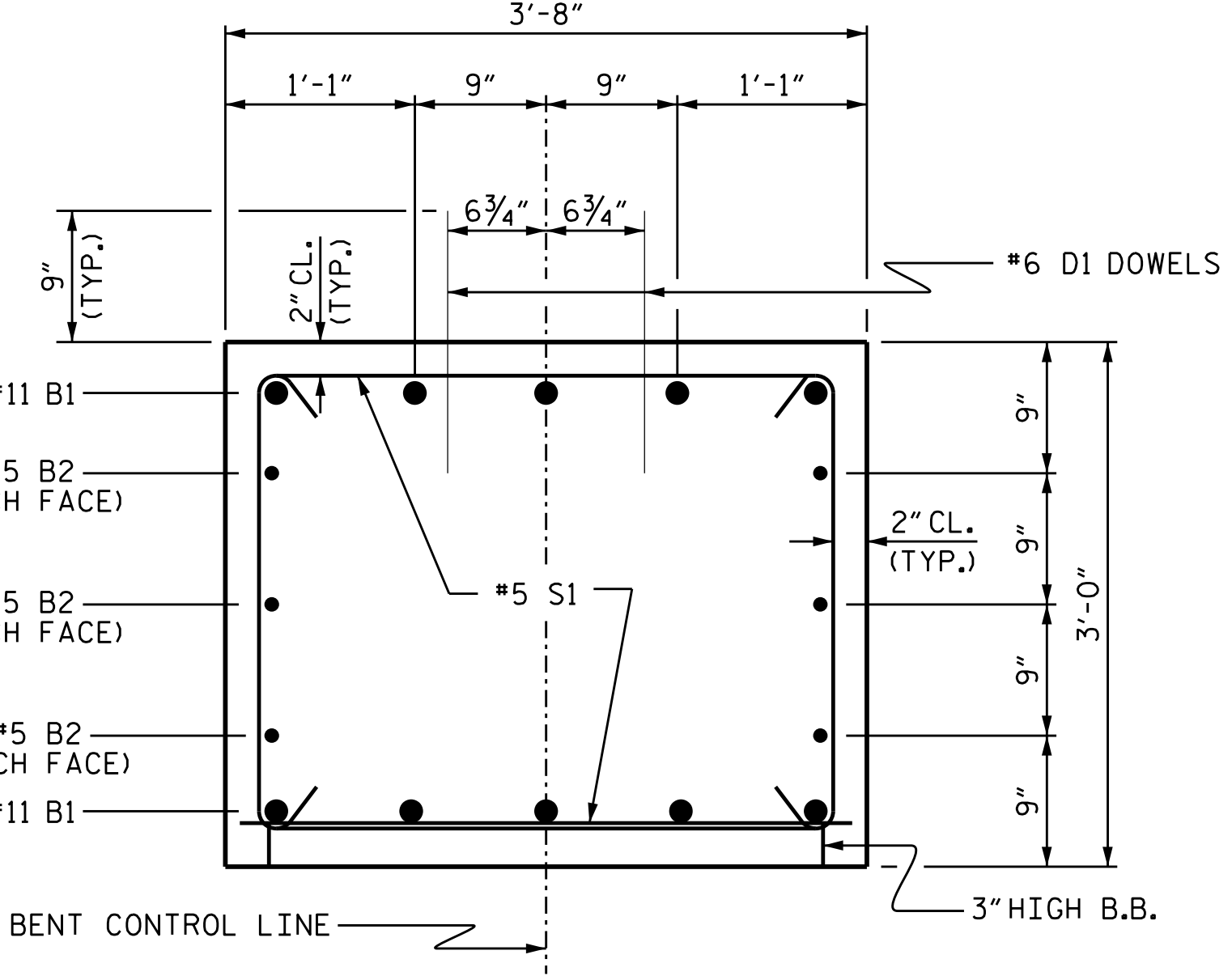


END OF CAP VIEW

(TYPICAL BOTH ENDS)



ALL BAR DIMENSIONS ARE OUT TO OUT



SECTION THRU CAP

BILL OF MATERIAL					
BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#11	1	38'-2"	2,028
B2	6	#5	STR	35'-2"	220
D1	44	#6	STR	1'-6"	99
M1	30	#11	STR	40'-1"	6,389
S1	60	#5	2	9'-6"	595
V1	10	#11	4	23'-5"	1,457
V2	10	#11	4	23'-11"	1,483
V3	10	#11	4	24'-5"	1,510
U1	6	#4	3	6'-2"	25
U2	8	#4	3	5'-6"	29
REINFORCING STEEL (FOR ONE BENT)					13,197 LBS.
SP-1	3	*	5	662'-1"	2,072
SP-2	1	**	6	672'-5"	449
SP-3	1	**	6	688'-11"	460
SP-4	1	**	6	705'-5"	471
SPIRAL COLUMN REINFORCING STEEL (FOR ONE BENT)					3,452 LBS.
* THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR					
** THE SP-2, SP-3, AND SP-4 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR					
CLASS A CONCRETE BREAKDOWN (FOR ONE BENT)					
POUR #2 (COLUMNS)					15.9 C.Y.
POUR #3 (CAP)					14.5 C.Y.
TOTAL CLASS A CONCRETE					30.4 C.Y.
DRILLED PIERS: (FOR ONE BENT)					
DRILLED PIER CONCRETE					
POUR #1 (DRILLED PIERS)					35.5 C.Y.

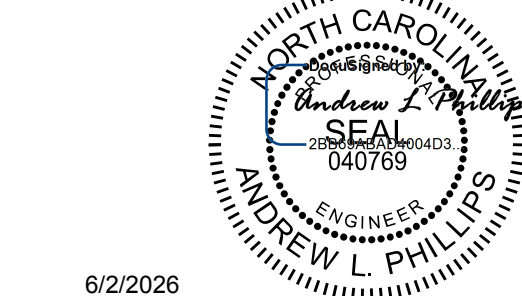
PROJECT NO. BP11.R049.1
WILKES COUNTY
STATION: 12+94.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE BENT No. 1					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					24

ASSEMBLED BY : D. D. LOWERY	DATE : 02/2026
CHECKED BY : P. A. PATEL	DATE : 03/2026
DRAWN BY : DGE 3/10	REV. 11/14
CHECKED BY : MKT 3/10	MAA/TMG

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

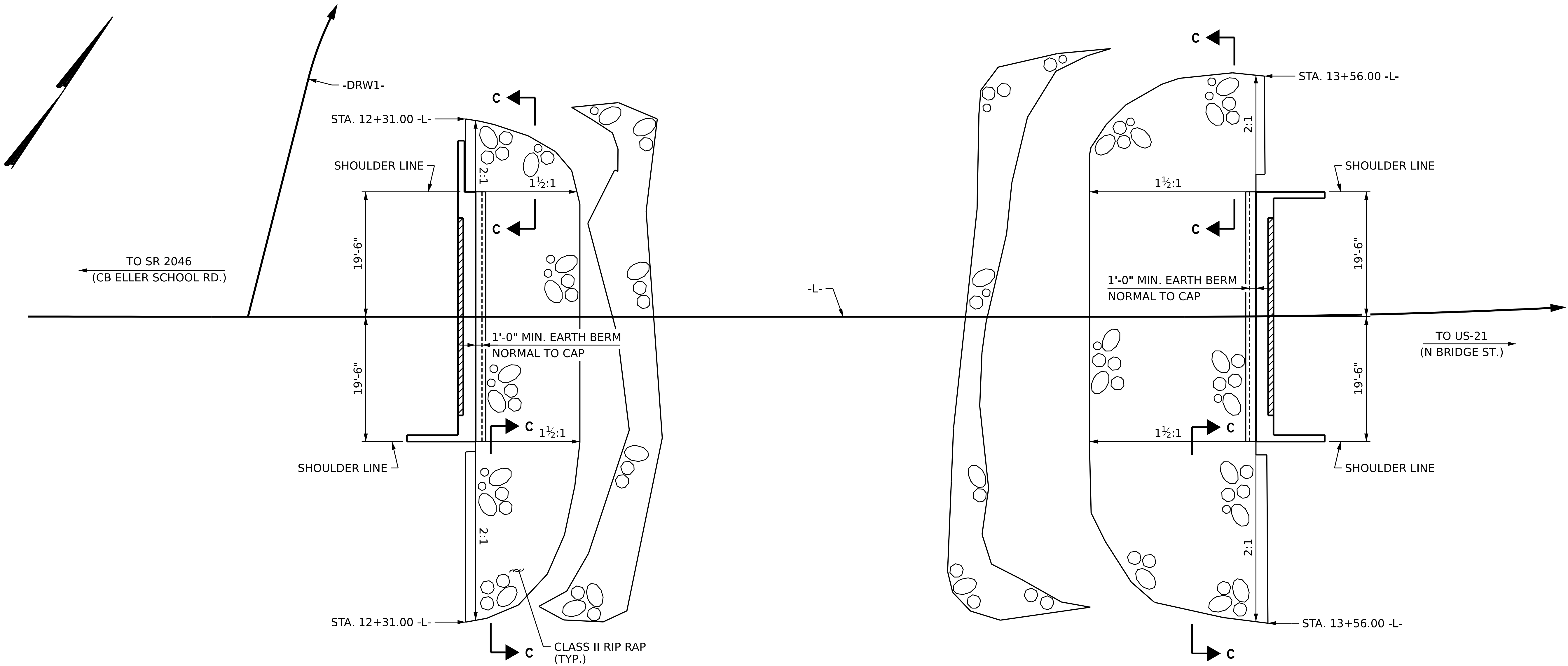


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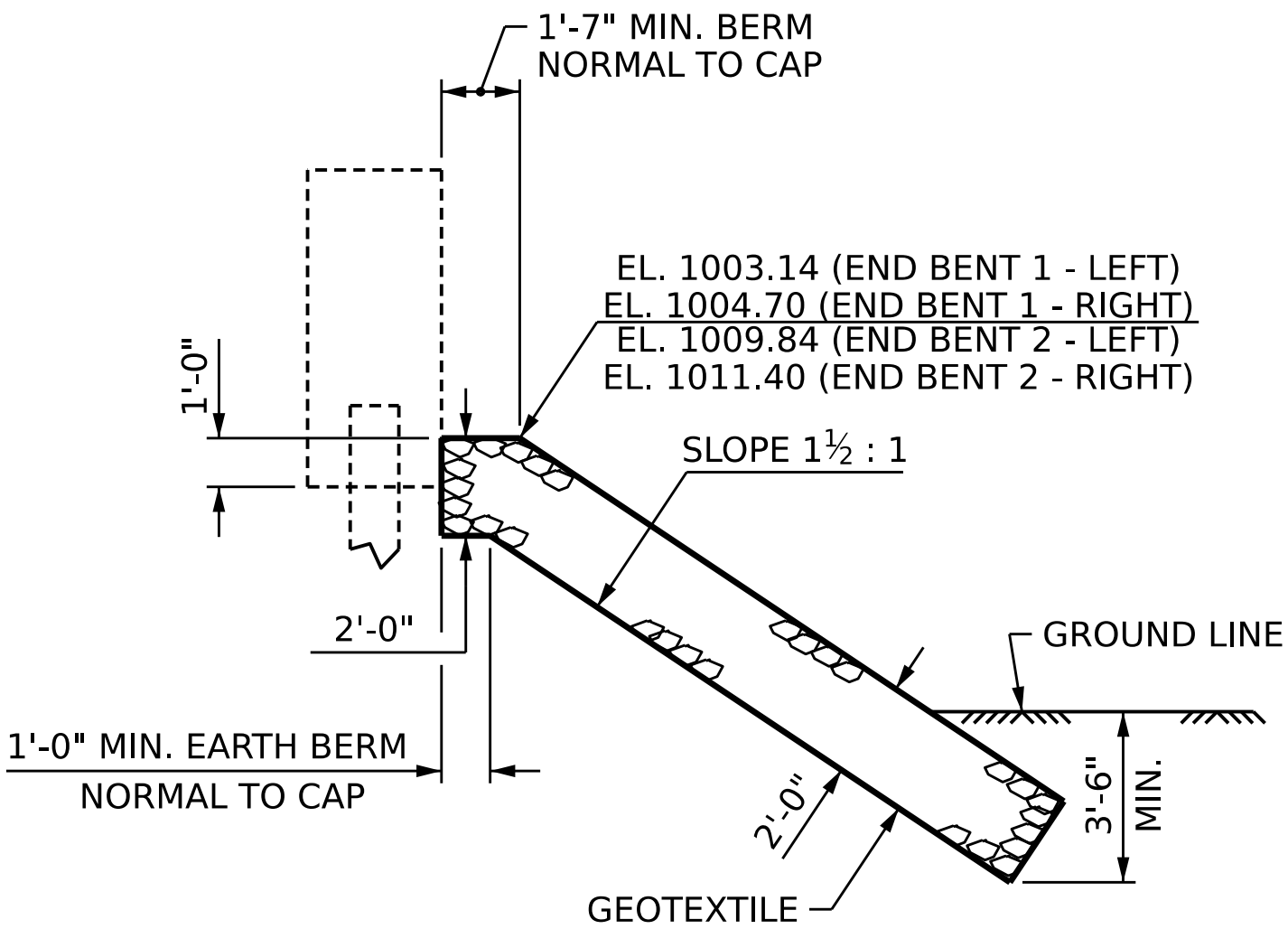
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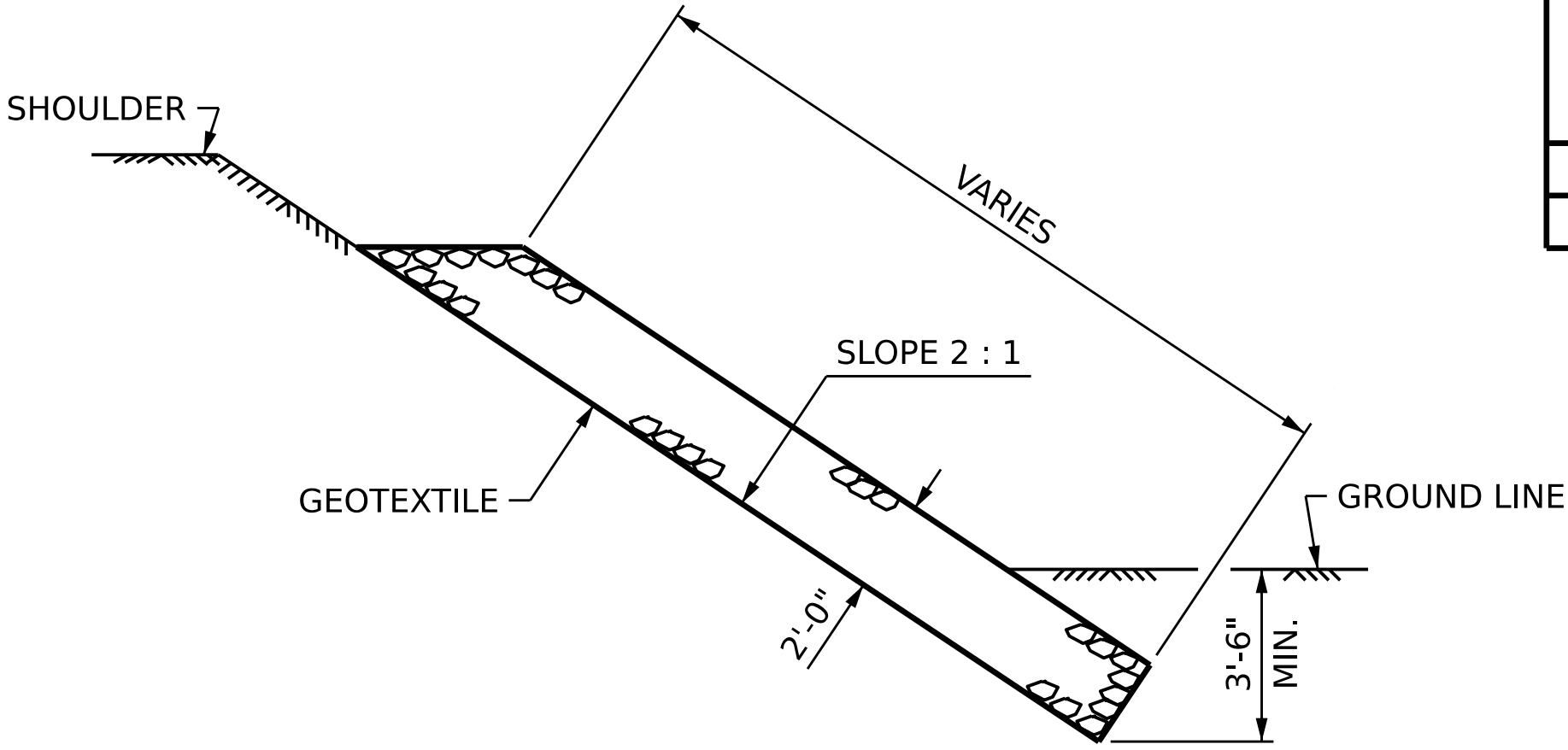


END BENT 1

END BENT 2



CL SECTION



SECTION C-C

BERM RIP RAPPED

ESTIMATED QUANTITIES		
BRIDGE @ STA. 12+94.00 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	270	300
END BENT 2	410	456

PROJECT NO. BP11.R049.1
WILKES COUNTY
STATION: 12+94.00 -L-



6/2/2026

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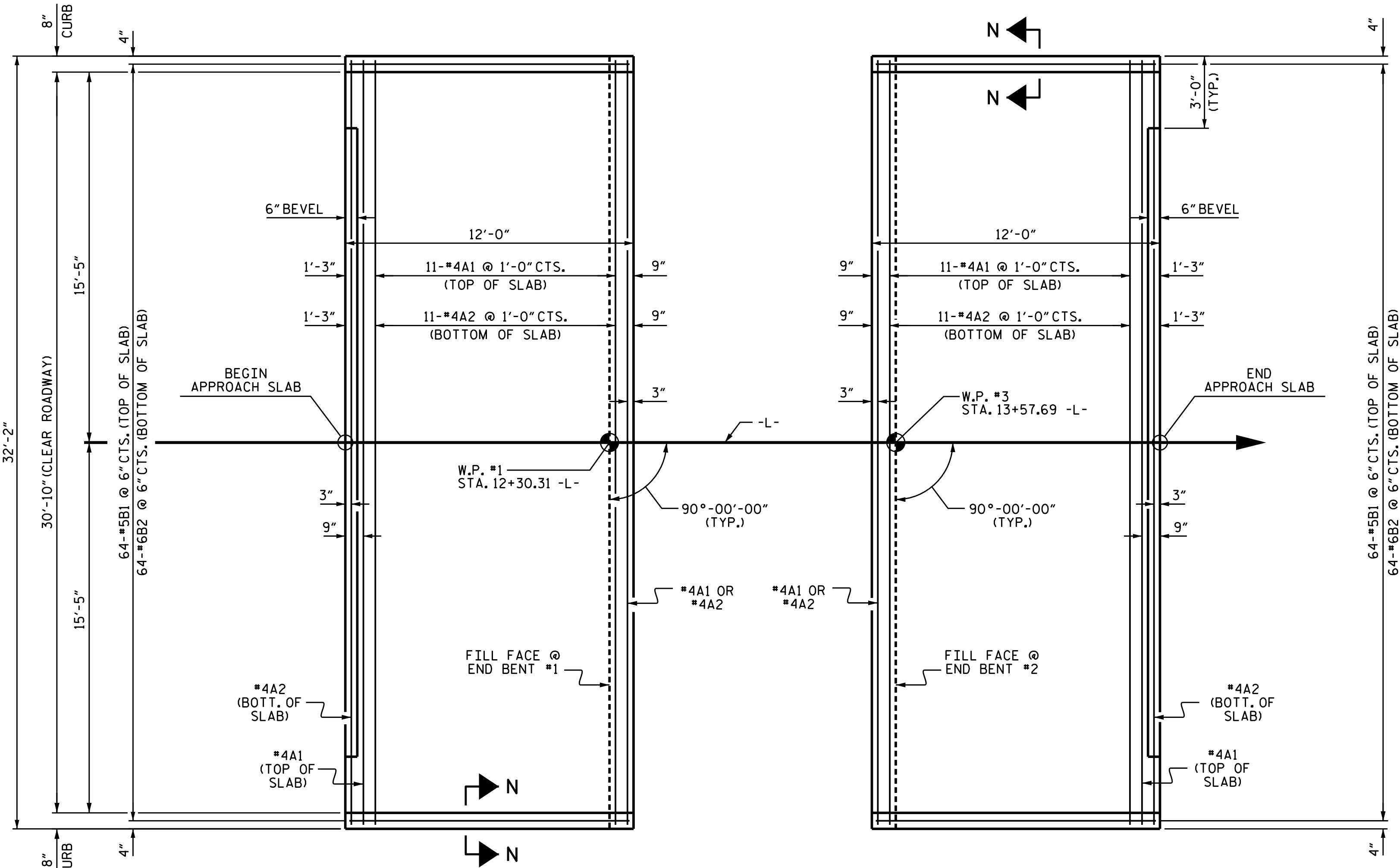
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
SUBSTRUCTURE RIP RAP DETAILS						
REVISIONS						SHEET NO. S-23
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS 24
1			3			
2			4			

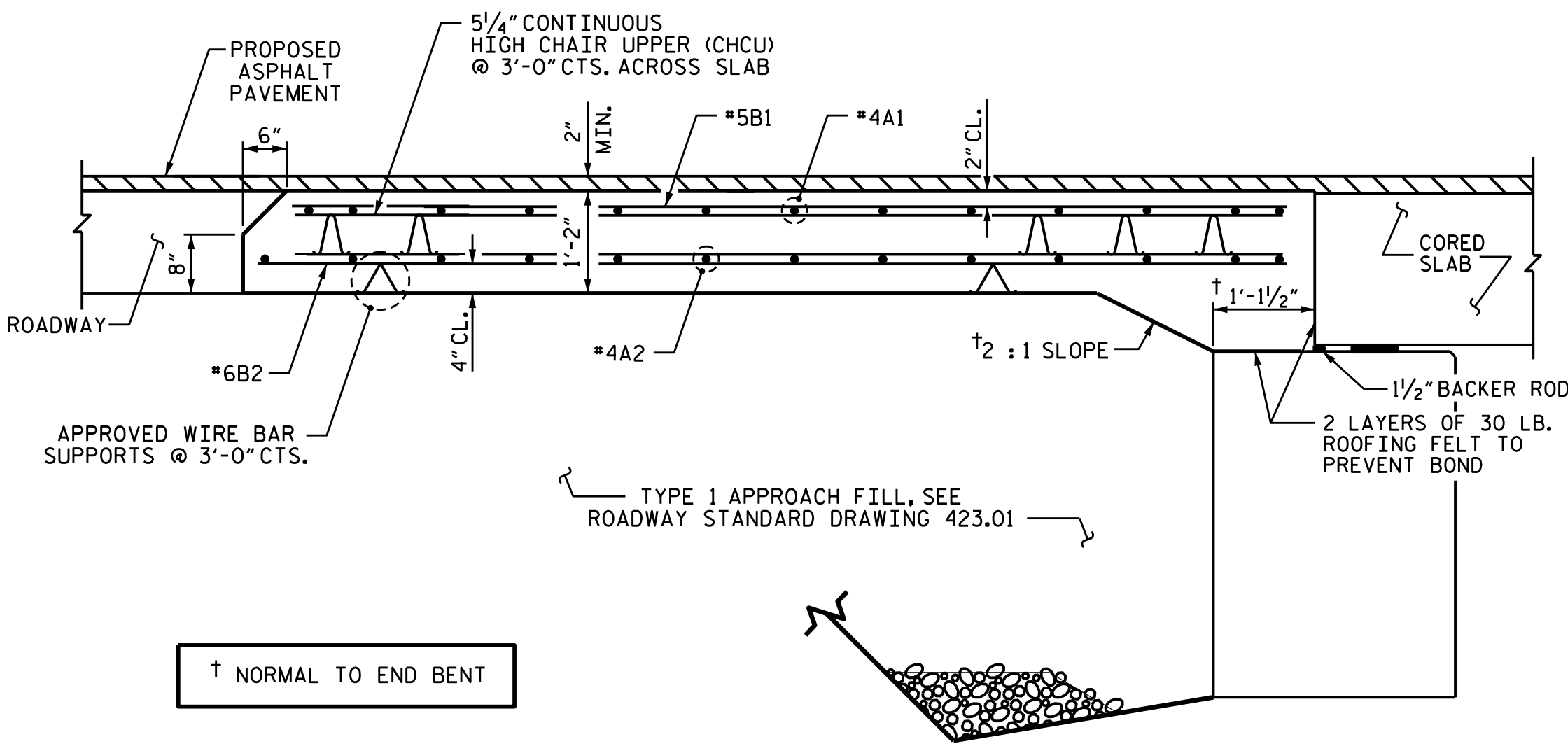
DRAWN BY : D. D. LOWERY DATE : 02/2026
CHECKED BY : P. A. PATEL DATE : 03/2026
DESIGN ENGINEER OF RECORD: A. L. PHILLIPS DATE : 03/2026



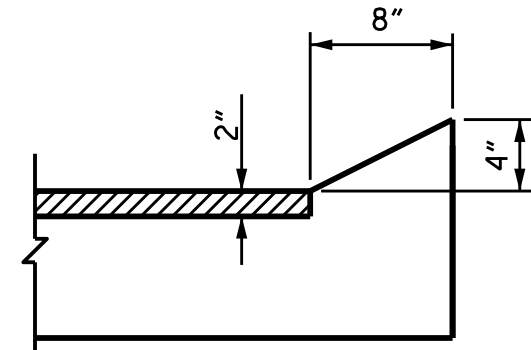
PLAN @ END BENT #1

PLAN @ END BENT #2

DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS



SECTION THRU SLAB



SECTION N-N

CURB DETAILS

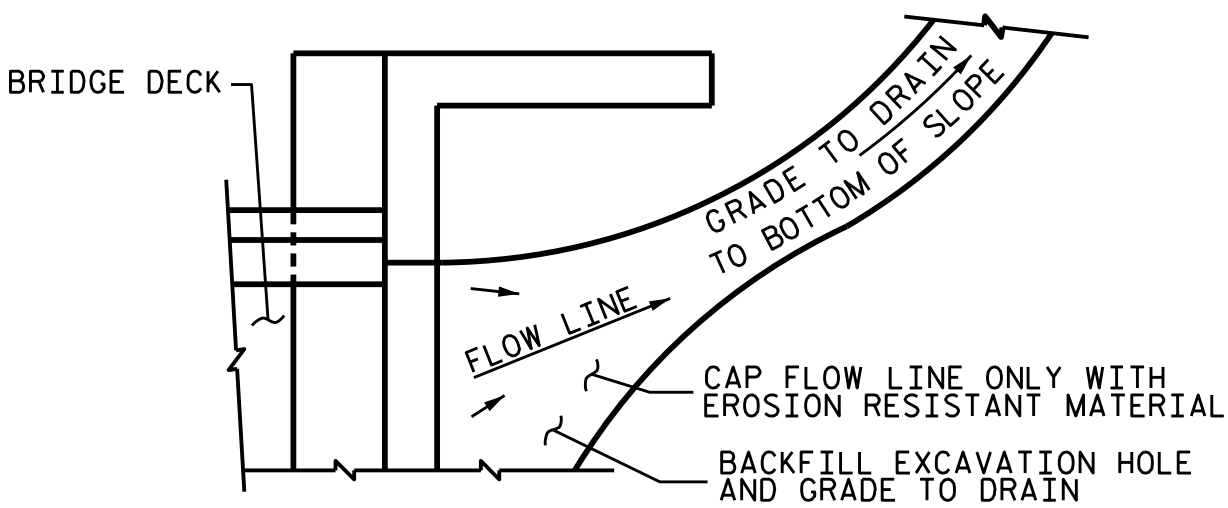
SPLICE LENGTHS		
BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"

NOTES

FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.

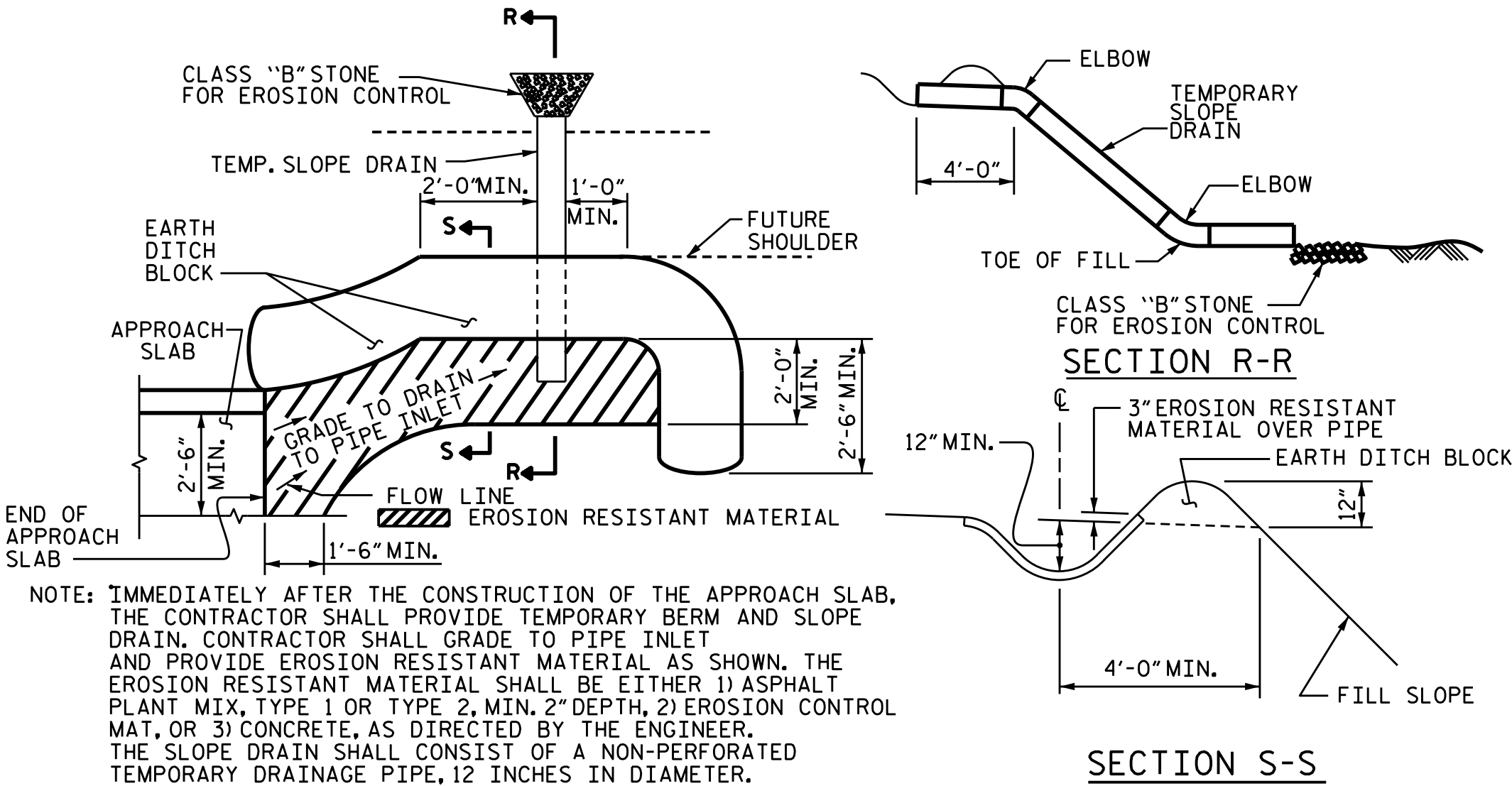
AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

APPROACH SLAB GROOVING IS NOT REQUIRED.



NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT TO THE STRUCTURE. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THESE MATERIALS PRIOR TO CONSTRUCTION OF THE APPROACH SLAB.

TEMPORARY DRAINAGE DETAIL



NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH, 2) EROSION CONTROL MAT, OR 3) CONCRETE, AS DIRECTED BY THE ENGINEER. THE SLOPE DRAIN SHALL CONSIST OF A NON-PERFORATED TEMPORARY DRAINAGE PIPE, 12 INCHES IN DIAMETER.

PLAN VIEW

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

PROJECT NO. BP11.R049.1
WILKES COUNTY
STATION: 12+94.00 -L-



6/2/2026

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
BRIDGE APPROACH SLAB
FOR PRESTRESSED CONCRETE
CORED SLAB UNIT
(SUB-REGIONAL TIER)
90° SKEW

REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	
1			3	S-24
2			4	

ASSEMBLED BY : D. D. LOWERY	DATE : 02/2026
CHECKED BY : P. A. PATEL	DATE : 03/2026
DRAWN BY : SHS/MAA 05/09	REV. 08/19 BNB/THC
CHECKED BY : BCH 05/09	REV. 01/25 HRS

3/19/2026
401.047.BP11.R049.SMU.AS01.S-24.960239.dgn
Thomas.Boyd

7_BP11.R049.SMU.AS01.S-24.960239.dgn

STD. NO. BAS.33.90S

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.