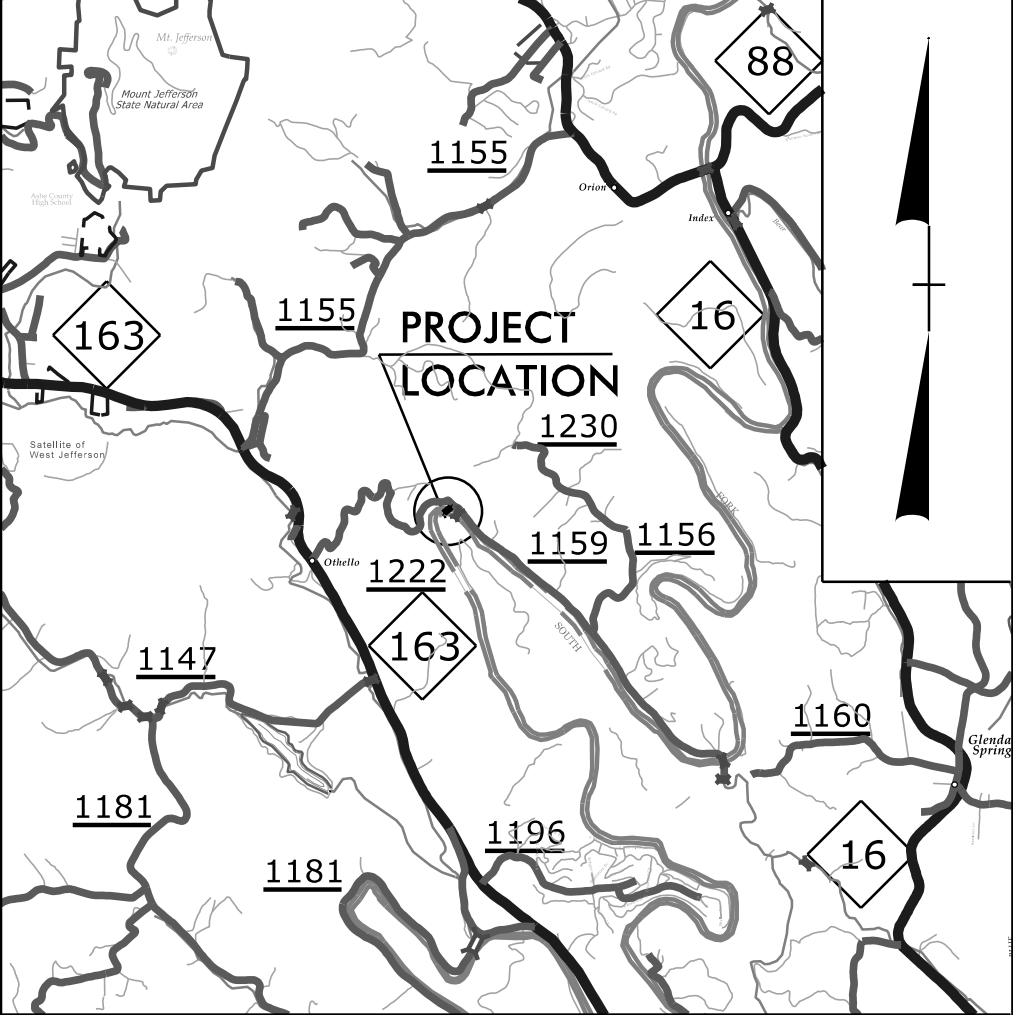


PROJECT: HB-0054

CONTRACT: DK00466

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



VICINITY MAP (NTS)

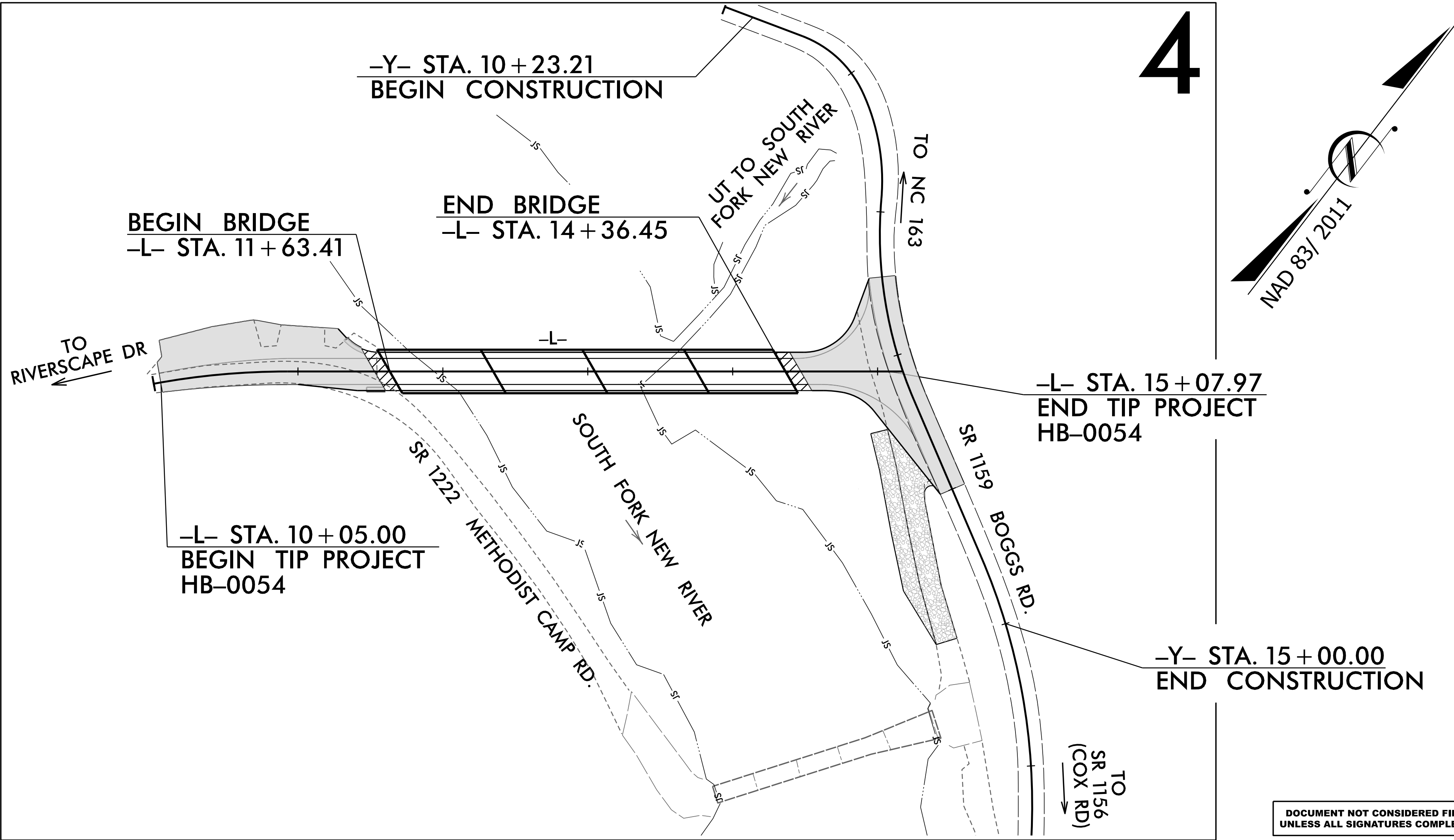
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ASHE COUNTY

LOCATION: *BRIDGE #040509 OVER SOUTH FORK NEW RIVER
ON SR 1222 (METHODIST CAMP RD)*

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HB-0054	11	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
50724.1.1	FBRG111	PE	
50724.2.1	FBRG111	R/W	
50724.2.2	FBRG111	UTIL.	
50724.3.1	FBRG111	CONST.	



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

DESIGN DATA

ADT 2026 = 50
ADT 2046 = 75
V = 25 MPH

FUNC CLASS =
LOCAL RURAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT HB-0054 = 0.043 MILES
LENGTH OF STRUCTURE TIP PROJECT HB-0054 = 0.052 MILE
TOTAL LENGTH OF TIP PROJECT HB-0054 = 0.095 MILES



TGS ENGINEERS
201 W. MARION ST.
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 10, 2025

LETTING DATE:
SEPTEMBER 17, 2026

NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION 111
801 STATESVILLE RD
NORTH WILKESBORO, NC 28659

JIMMY TERRY, PE
PROJECT ENGINEER

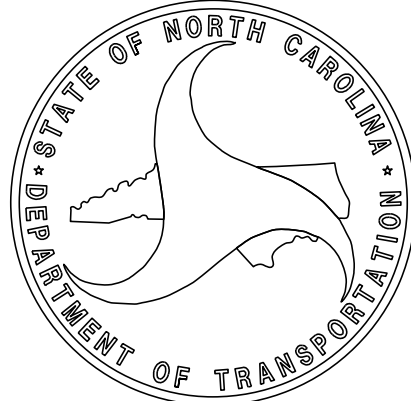
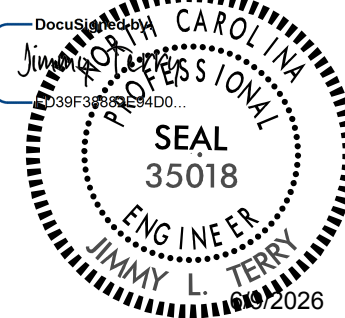
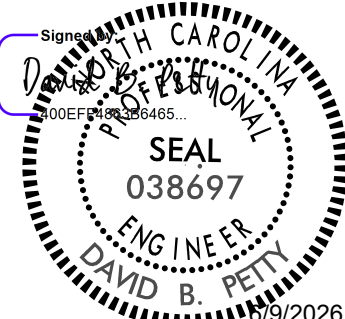
AUSTIN R. TURNER, PE
PROJECT DESIGN ENGINEER

DANIEL R. ADAMS, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: _____
ROADWAY DESIGN ENGINEER

SIGNATURE: _____
P.E.



EFF. 08-11-2025

REV. 11-26-2025

2024 ROADWAY ENGLISH STANDARD DRAWINGS

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

STD.NO. TITLE

DIVISION 2 - EARTHWORK

- 200.02 Method of Clearing - Method II
- 225.02 Guide for Grading Subgrade - Secondary and Local
- 225.04 Method of Obtaining Superelevation - Two Lane Pavement
- 225.06 Method of Grading Sight Distance at Intersections
- 275.01 Rock Plating

DIVISION 3 - PIPE CULVERTS

- 300.01 Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)

DIVISION 4 - MAJOR STRUCTURES

- 423.01 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 8 - INCIDENTALS

- 815.02 Subsurface Drain
- 840.00 Concrete Base Pad for Drainage Structures
- 840.25 Anchorage for Frames - Brick or Concrete or Precast
- 840.29 Frames and Narrow Slot Flat Grates
- 840.35 Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
- 840.46 Traffic Bearing Precast Drainage Structure
- 840.66 Drainage Structure Steps
- 846.01 Concrete Curb, Gutter and Curb & Gutter
- 846.04 Drop Inlet Installation in Shoulder Berm Gutter
- 862.01 Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 11, 12, and 14 of 15)
- 862.02 Guardrail Installation (Use Detail in Lieu of Standard for Sheet 5 of 9)
- 862.03 Structure Anchor Units (Use Detail in Lieu of Standards for Sheets 6 and 8 of 9)
- 876.01 Rip Rap in Channels and Ditches

GENERAL NOTES: 2024 SPECIFICATIONS

EFFECTIVE: 01-16-2024

REVISED:

GRADE LINE:
GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

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

SUBSURFACE DRAINS:

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

GUARDRAIL:

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

TEMPORARY SHORING:

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

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 OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE SKYLINE.
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.

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-2 SPECIAL DETAILS - METHODS OF PIPE INSTALLATION

2C-3 THRU 2C-4 SPECIAL DETAILS - GUARDRAIL PLACEMENT

2C-5 SPECIAL DETAILS - TYPE III SC STRUCTURE ANCHOR UNIT

3B-1 ROADWAY AND DRAINAGE SUMMARIES

3G-1 GEOTECHNICAL SUMMARIES

4 PLAN SHEET

5 PROFILE SHEET

RW-1 THRU RW-4 SURVEY CONTROL SHEETS

TMP-1 THRU TMP- 6 TRAFFIC MANAGEMENT PLANS

PMP-1 THRU PMP- 2 PAVEMENT MARKING PLANS

EC-1 THRU EC-5 EROSION CONTROL PLANS

RF-1 REFORESTATION DETAIL

RF-2 THRU RF-3 STREAMBANK REFORESTATION DETAILS

SIGN-1 THRU SIGN-4 SIGNING PLANS

UO-1 THRU UO-2 UTILITIES BY OTHERS PLANS

X-1 CROSS-SECTION INDEX

X-1A CROSS-SECTION SUMMARY SHEET

X-2 THRU X-26 CROSS-SECTIONS

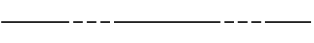
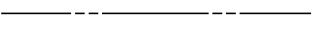
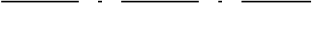
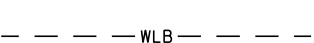
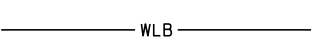
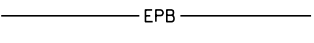
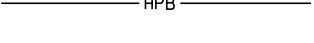
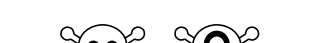
S-1 THRU S-35 STRUCTURE PLANS

STRUCTURE STANDARD NOTES

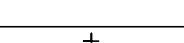
05/29/25

Note: Not to Scale

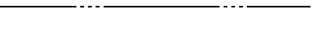
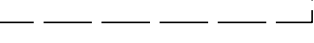
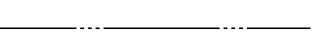
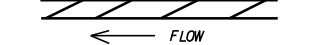
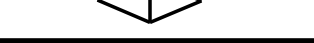
BOUNDARIES AND PROPERTY:

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	

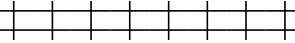
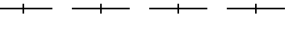
HYDROLOGY:

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	

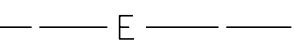
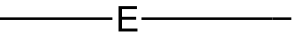
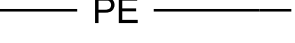
STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

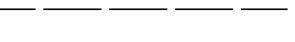
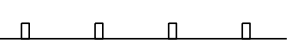
RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

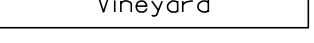
Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent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

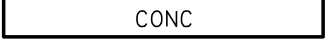
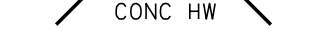
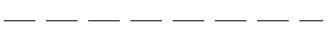
Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	
Pavement Removal	

VEGETATION:

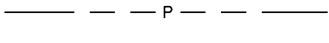
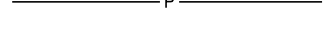
Single Tree	
Single Shrub	

Hedge	
Woods Line	
Orchard	
Vineyard	

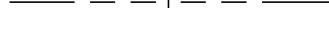
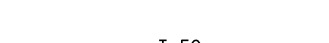
EXISTING STRUCTURES:

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	

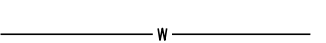
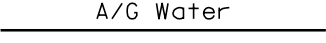
UTILITIES: * SUE - Subsurface Utility Engineering
LOS - Level of Service - A,B,C or D (Accuracy)

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)*	

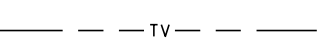
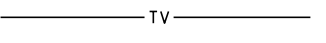
TELEPHONE:

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)*	

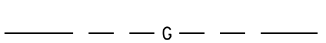
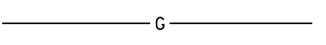
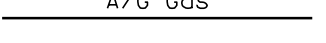
WATER:

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	

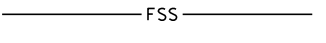
TV:

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)*	

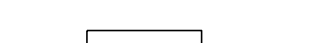
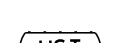
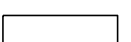
GAS:

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	

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



USE TYPICAL SECTION NO. 2
-L- STA. 11+63.41 TO -L- STA. 14+36.45



USE TYPICAL SECTION NO.1

-L- STA. 10+05.00 TO -L- STA. 11+63.41 (BEGIN BRIDGE)
-L- STA. 14+36.45 (END BRIDGE) TO -L- STA. 15+07.97



USE TYPICAL SECTION NO. 3

-Y- STA 12+45.00 TO -Y- STA. 14+00.00



* SEE PLAN & XS-SECTION
FOR LOCATION OF
ASPHALT PARKING

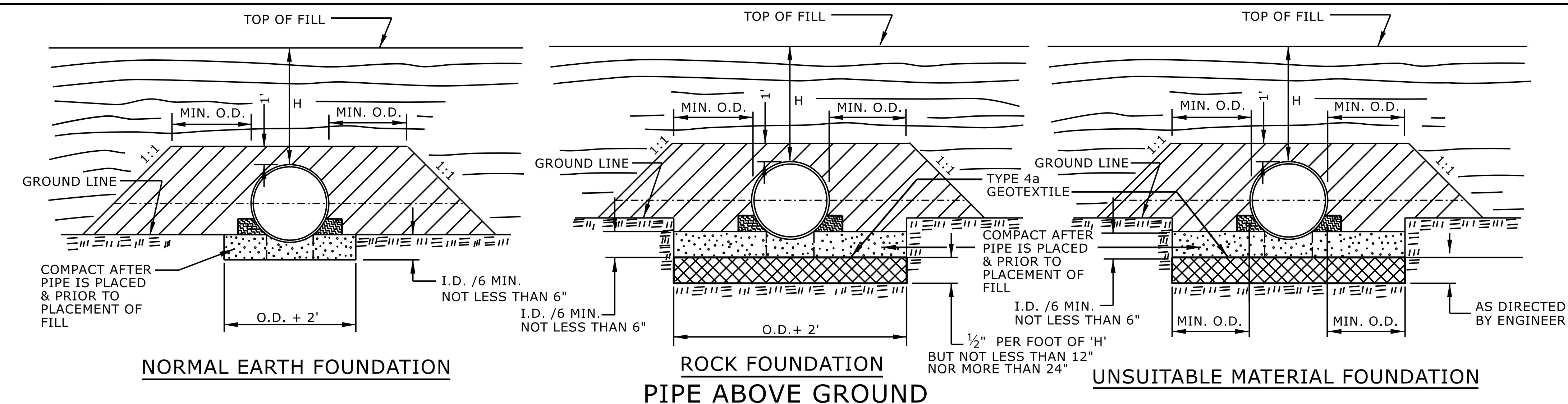
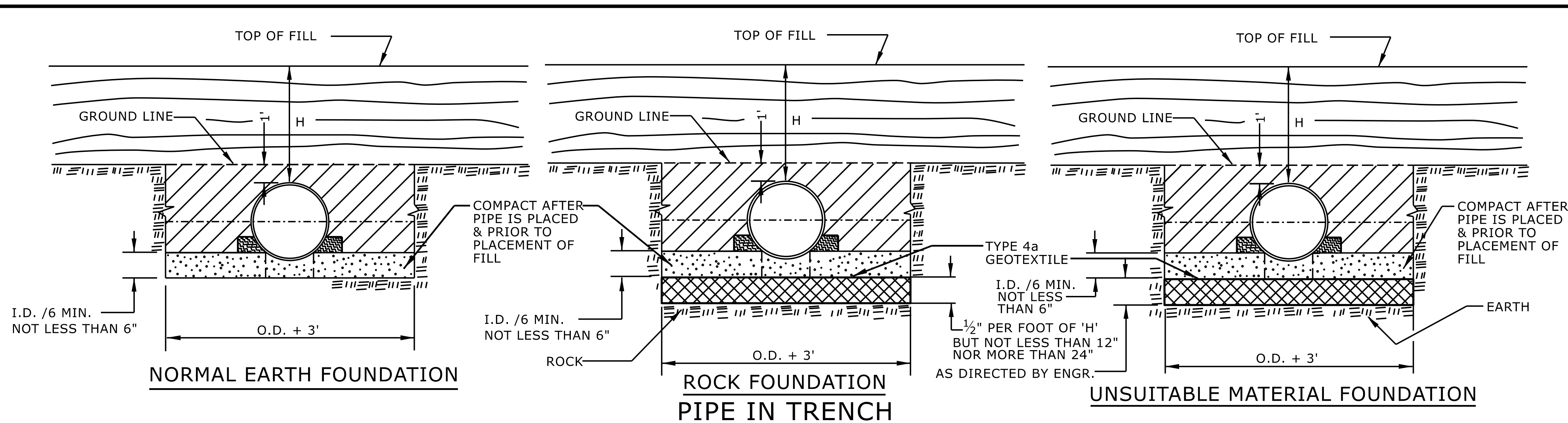
USE INSET B

—L— STA. 10+05.00 TO —L— STA. 11+52.52, LT



USE INSET C	
-L STA. 11 + 33.56 APPROACH SLAB), LT	-L STA. 11 + 43.57 (BEGIN
-L STA. 11 + 47.37 APPROACH SLAB), RT	-L STA. 11 + 60.40 (BEGIN





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

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

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

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

	SPRINGLINE OF PIPE
	SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.
	UNDISTURBED EARTH MATERIAL
	SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

ROADWAY DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION FLEXIBLE PIPE	STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
---	--

SHEET 1 OF 2
300.01



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
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.: _____

PROJECT REFERENCE NO.	SHEET NO.
HB-0054	2C-2

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

ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE

SHEET 2 OF 2
300.01

TOP OF FILL

GROUND LINE

H

I.D. /6 MIN.
NOT LESS THAN 6"

O.D. + 3'

NORMAL EARTH FOUNDATION

TOP OF FILL

GROUND LINE

H

I.D. /6 MIN.
NOT LESS THAN 6"

ROCK

O.D. + 3'

**ROCK FOUNDATION
PIPE IN TRENCH**

TOP OF FILL

GROUND LINE

H

TYPE 4a
GEOTEXTILE

I.D. /6 MIN.
NOT LESS
THAN 6"

1½" PER FOOT OF 'H'
BUT NOT LESS THAN 12"
NOR MORE THAN 24"
AS DIRECTED BY ENGR.

O.D. + 3'

UNSUITABLE MATERIAL FOUNDATION

TOP OF FILL

GROUND LINE

H

MIN. O.D.

MIN. O.D.

I.D. /6 MIN.
NOT LESS THAN 6"

O.D. + 2'

NORMAL EARTH FOUNDATION

TOP OF FILL

GROUND LINE

H

MIN. O.D.

MIN. O.D.

I.D. /6 MIN.
NOT LESS THAN 6"

O.D. + 2'

**ROCK FOUNDATION
PIPE ABOVE GROUND**

TOP OF FILL

GROUND LINE

H

MIN. O.D.

MIN. O.D.

I.D. /6 MIN.
NOT LESS THAN 6"

1½" PER FOOT OF 'H'
BUT NOT LESS THAN 12"
NOR MORE THAN 24"
AS DIRECTED BY ENGINEER

MIN. O.D.

MIN. O.D.

UNSUITABLE MATERIAL FOUNDATION

GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT
ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP
OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1
FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE
UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL
ACCOMPLISH COMPACTION.

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

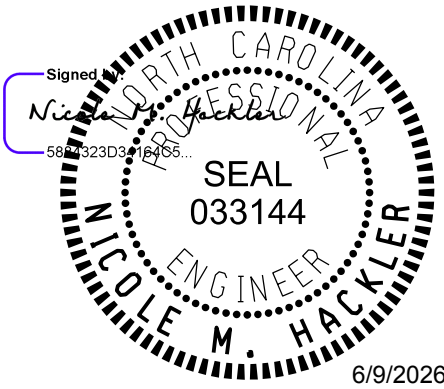
REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS
FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II,
BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE
WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.



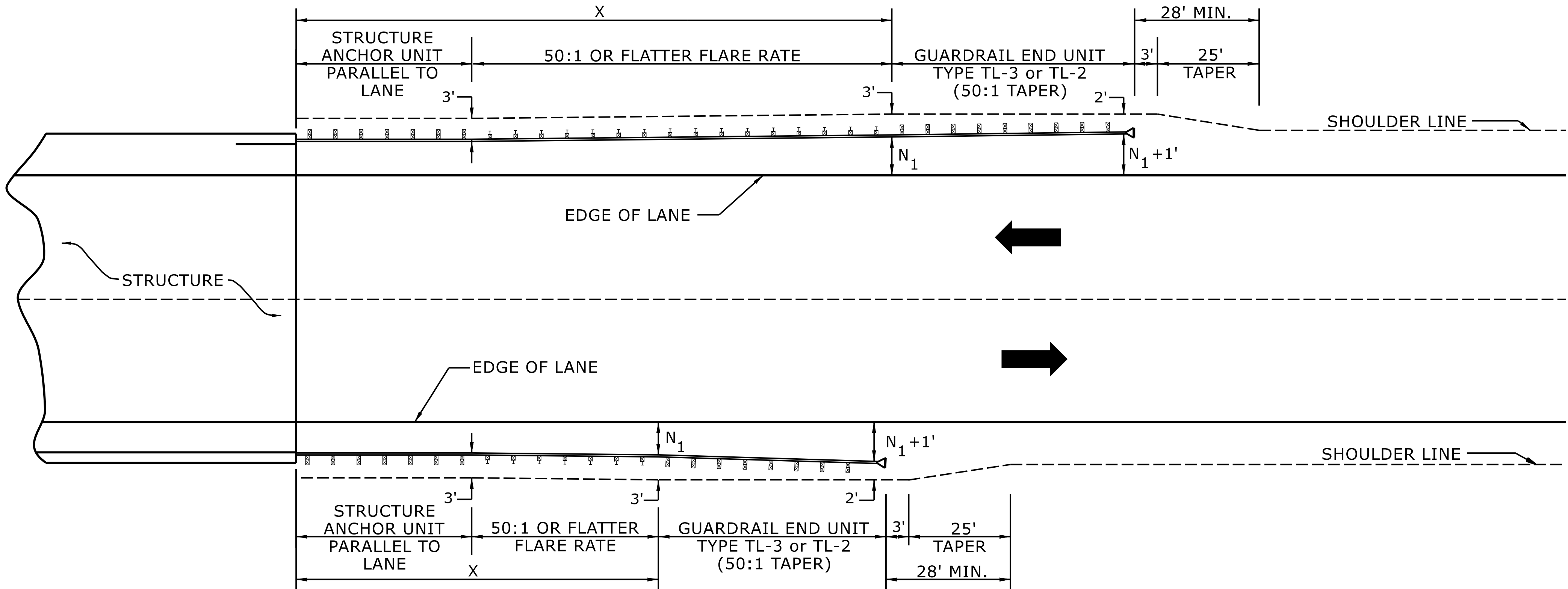
DOCUMENT NOT CONSIDERED FINAL
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**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

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

PROJECT REFERENCE NO.	SHEET NO.
HB-0054	2C-3



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

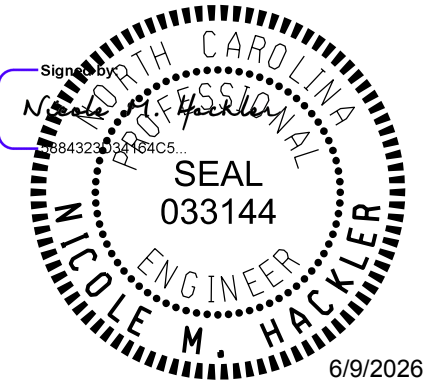
SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

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.

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT



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

SHEET 4 OF 15
862D01

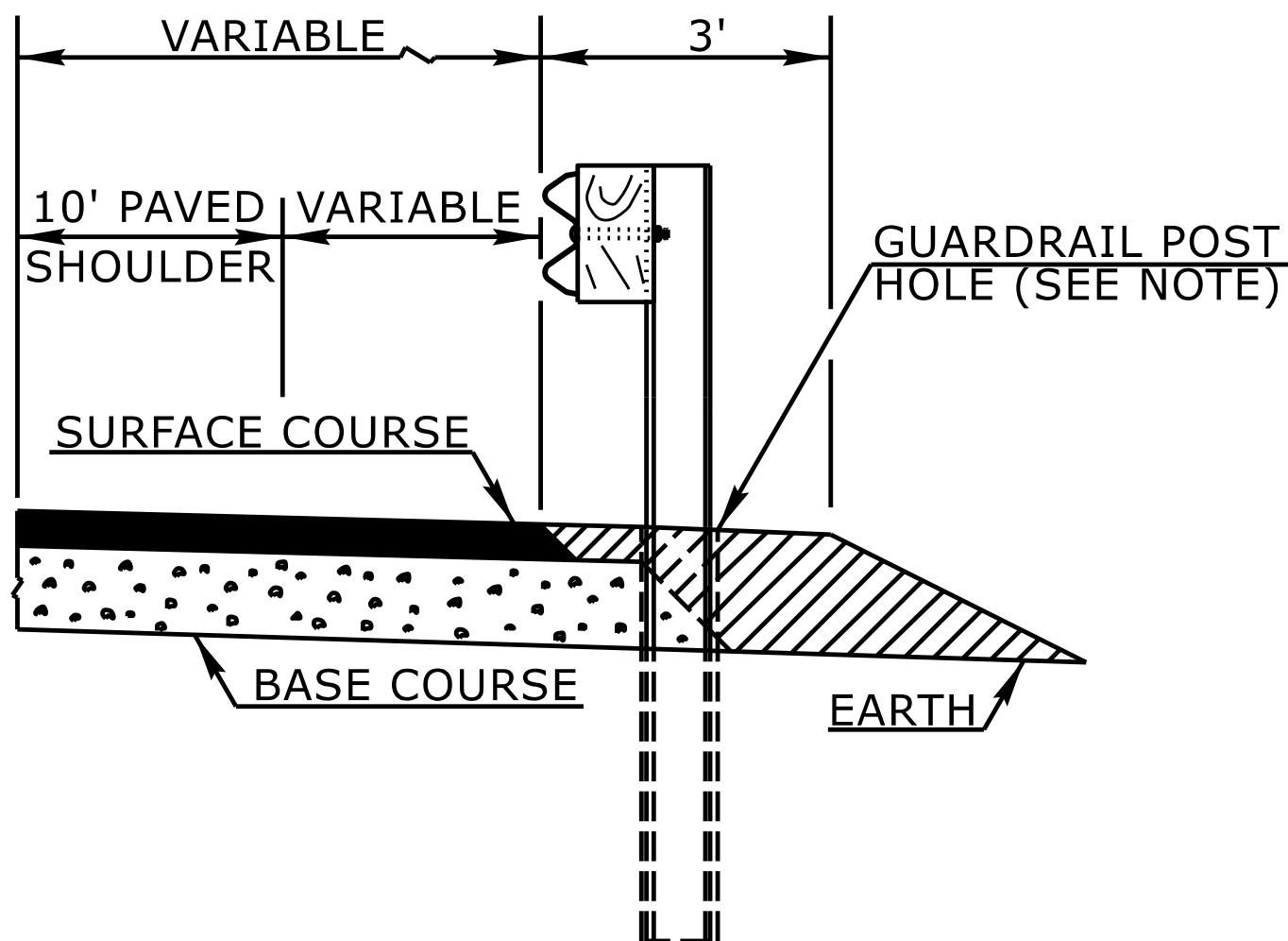
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

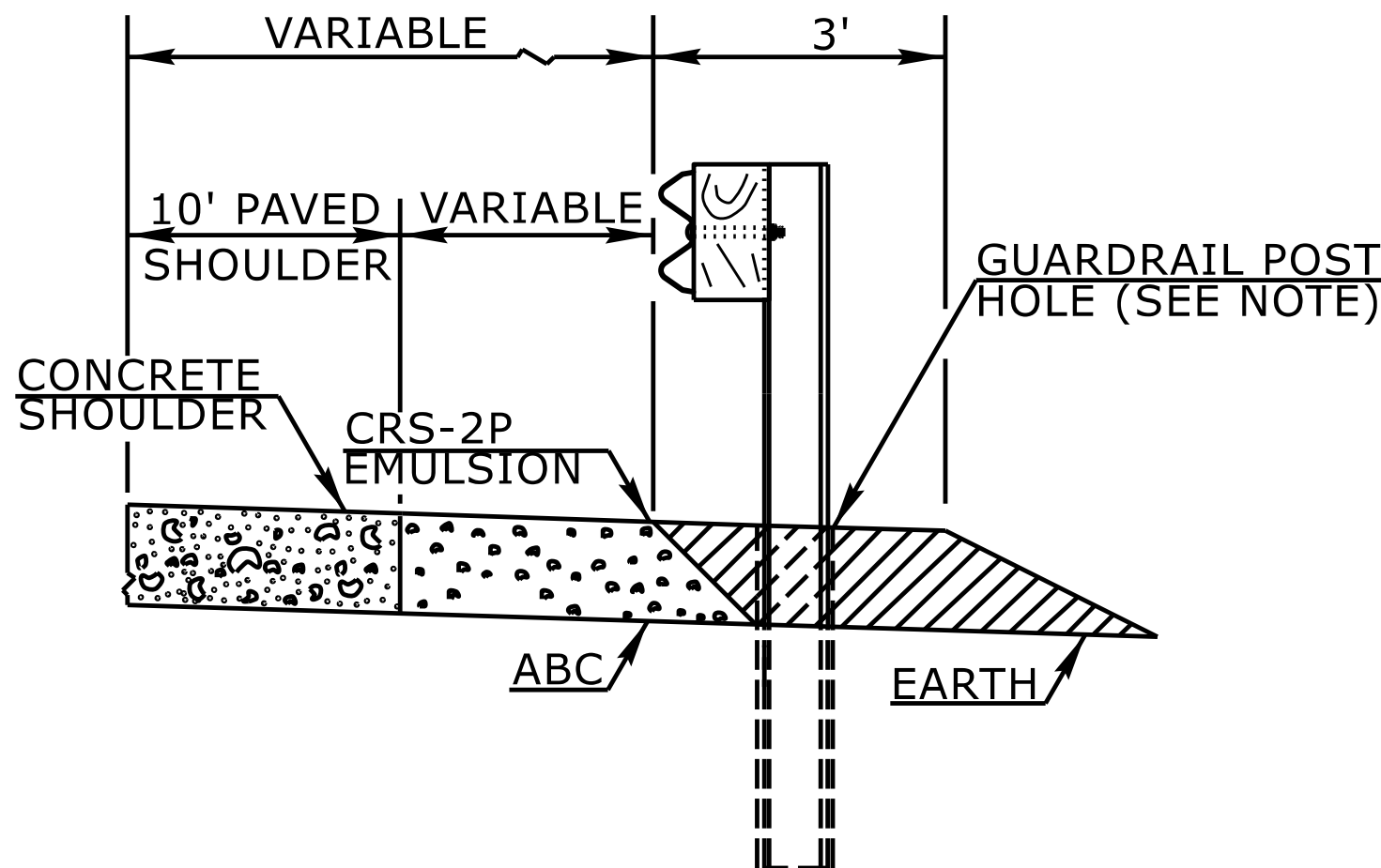
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

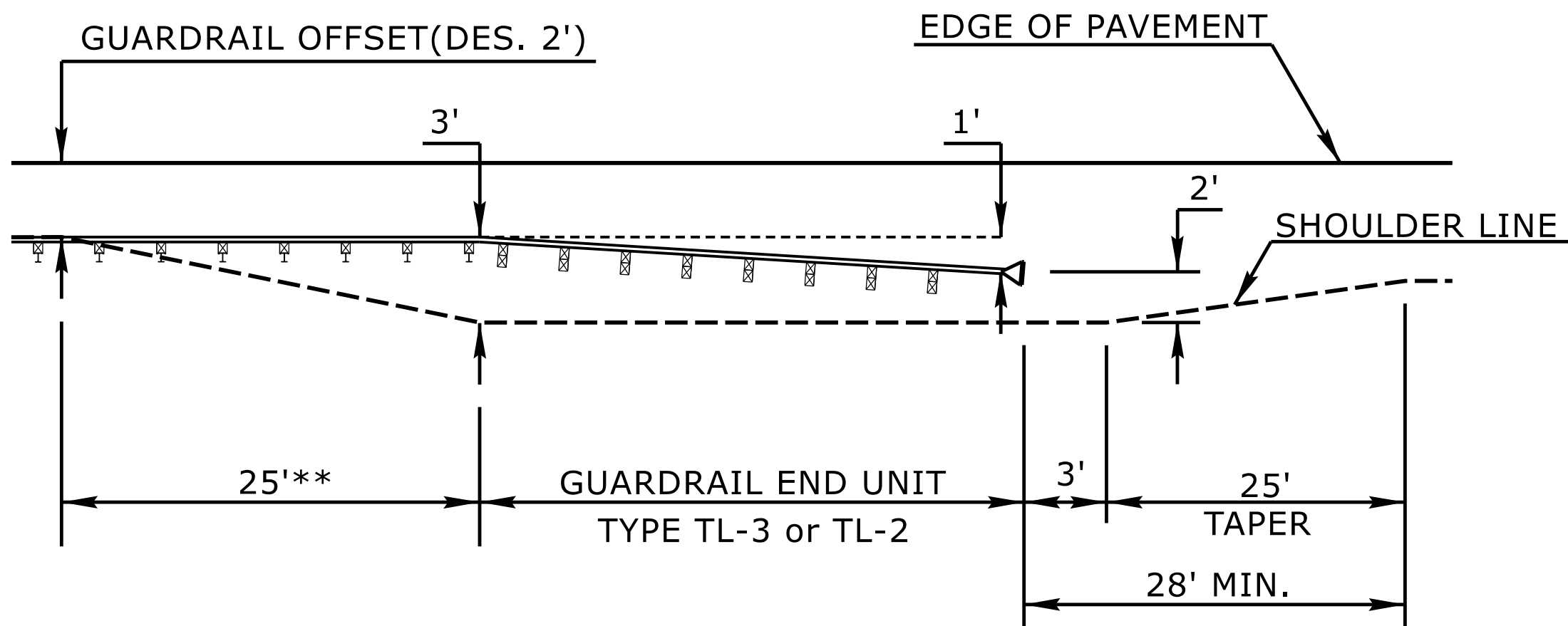
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MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:



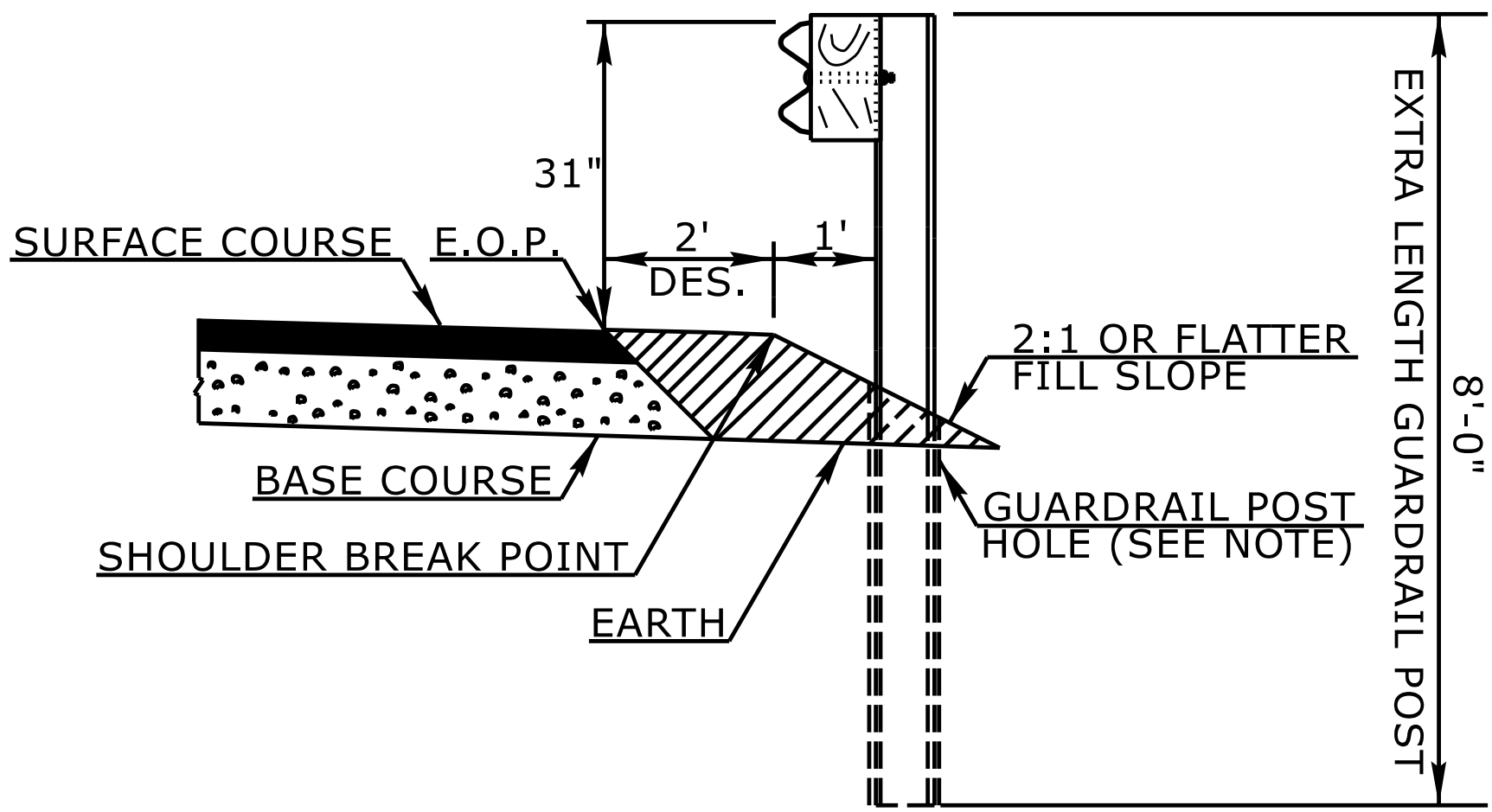
FLEXIBLE PAVED SHOULDER



CONCRETE PAVED SHOULDER



8' GUARDRAIL POST ON 2:1 SLOPE-END UNIT TRANSITION*
PLAN VIEW



8' GUARDRAIL POST ON 2:1 SLOPE*

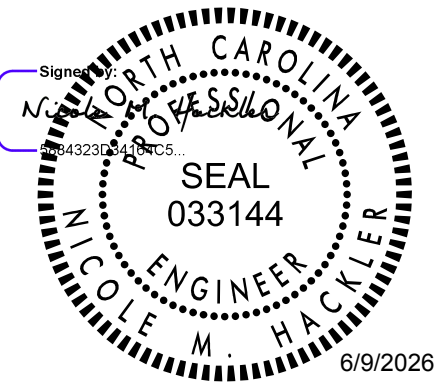
* THE 8' GUARDRAIL POST ON 2:1 SLOPE DETAIL IS INTENDED FOR USE ONLY IN SEVERELY CONSTRAINED AREAS WITH A POSTED SPEED $\leq$ 60 MPH. GUARDRAIL END UNITS MAY NOT BE PLACED ON THE 2:1 SLOPE AND MUST TRANSITION TO THE SHOULDER.
** 8' GUARDRAIL POST SHOULD BE USED IN THIS RANGE

NOTE:
WHEN WOODEN GUARDRAIL POSTS ARE USED, DRILL HOLES THROUGH EARTH MATERIAL AND BASE COURSE. THE POST MAY THEN BE DRIVEN TO THE PROPER DEPTH. DRILL THE HOLE OF SUFFICIENT SIZE TO ACCOMMODATE THE PARTICULAR POST BEING USED. BACKFILL AND TAMP HOLES USING THE EXCAVATED MATERIAL.

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 11 OF 15
862D01



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**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: L.SMITH DATE: 10-14-2025
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

SHEET 1 OF 1
TYPE III SC

SHEET 1 OF 1
TYPE III SC

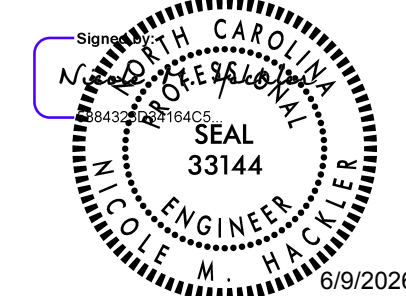


**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
 -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4"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

PAY LIMITS FOR GUARDRAIL ANCHOR
 TYPE III - SHOP CURVED



SHEET 1 OF 1
TYPE III SC



[illegible]

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

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

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

SUMMARY OF ROCK PLATING

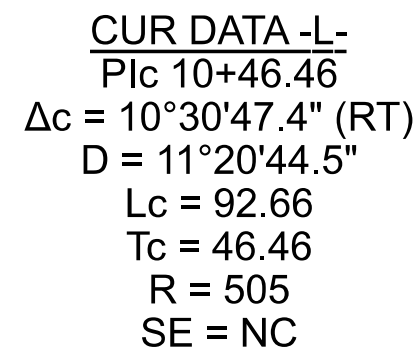
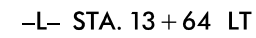
LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
-Y-	1.5:1	13+50	1.5:1	15+00	RT	3		500
							TOTAL SY:	500

*Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location.

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU1	12	100	200	300		
			TOTAL CY/TONS/SY:		100	200**	300**	0	0

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)
*AST = Aggregate Stabilization
**Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

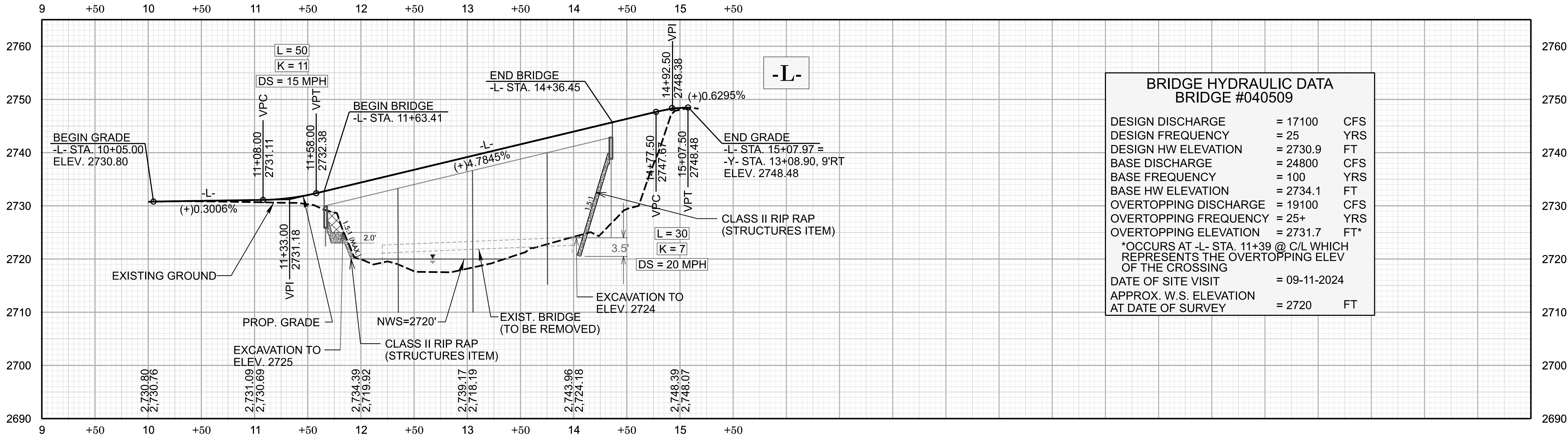


<u>CUR DATA -Y-</u> <u>Plc 10+87.68</u>	<u>CUR DATA -Y-</u> <u>Plc 11+53.81</u>	<u>CUR DATA -Y-</u> <u>Plc 12+63.26</u>	<u>CUR DATA -Y-</u> <u>Plc 15+51.23</u>
$\Delta c = 44^{\circ}18'36.6''$ (RT)	$\Delta c = 29^{\circ}51'50.2''$ (RT)	$\Delta c = 28^{\circ}05'15.8''$ (LT)	$\Delta c = 25^{\circ}58'40.1''$ (RT)
D = 76°23'39.7"	D = 39°30'51.6"	D = 19°45'25.8"	D = 13°10'17.2"
Lc = 58.00	Lc = 75.58	Lc = 142.16	Lc = 197.23
Tc = 30.54	Tc = 38.67	Tc = 72.54	Tc = 100.34
R = 75	R = 145	R = 290	R = 435
SE = EXIST	SE = EXIST	SE = EXIST	SE = EXIST

FOR -L- PROFILE, SEE SHEET NO. 5
FOR -Y PROFILE, SEE SHEET NO. 5

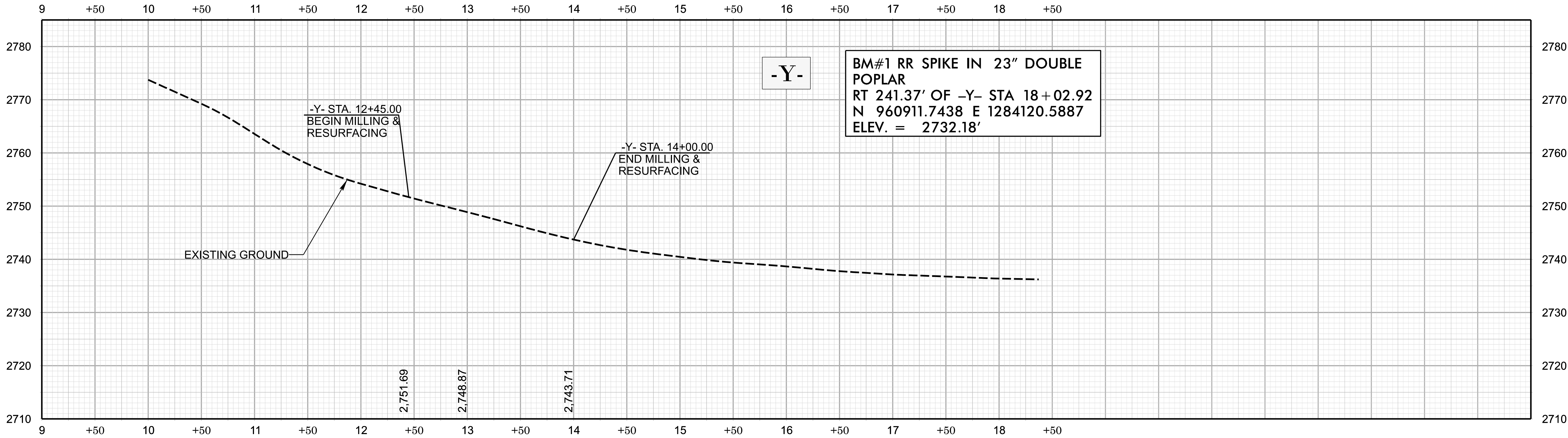
CONTACT & PRINT

11/14/23



BRIDGE HYDRAULIC DATA BRIDGE #040509		
DESIGN DISCHARGE	= 17100	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 2730.9	FT
BASE DISCHARGE	= 24800	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2734.1	FT
OVERTOPPING DISCHARGE	= 19100	CFS
OVERTOPPING FREQUENCY	= 25+	YRS
OVERTOPPING ELEVATION	= 2731.7	FT*
*OCCURS AT -L- STA. 11+39 @ C/L WHICH REPRESENTS THE OVERTOPPING ELEV OF THE CROSSING		
DATE OF SITE VISIT	= 09-11-2024	
APPROX. W.S. ELEVATION	= 2720	FT
AT DATE OF SURVEY		

FOR -L- PLAN, SEE SHEET NO. 4



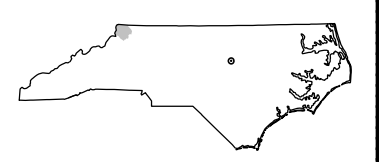
BM#1 RR SPIKE IN 23" DOUBLE POPLAR
RT 241.37' OF -Y- STA 18+02.92
N 960911.7438 E 1284120.5887
ELEV. = 2732.18'

FOR -Y- PLAN, SEE SHEET NO. 4

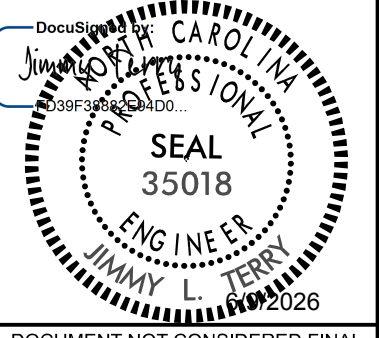
HB-0054

4R01 | 5

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHE COUNTY

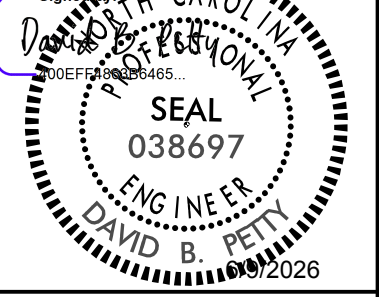


ROADWAY DESIGN UNIT
ENGINEER



DOCUMENT NOT CONSIDERED FINAL
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HYDRAULICS
ENGINEER



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PREPARED BY
TGS ENGINEERS
201 W. MAIN ST., STE. 200
SHELBY, NC 28150
CORP. LICENSE NO. 17-C-0275

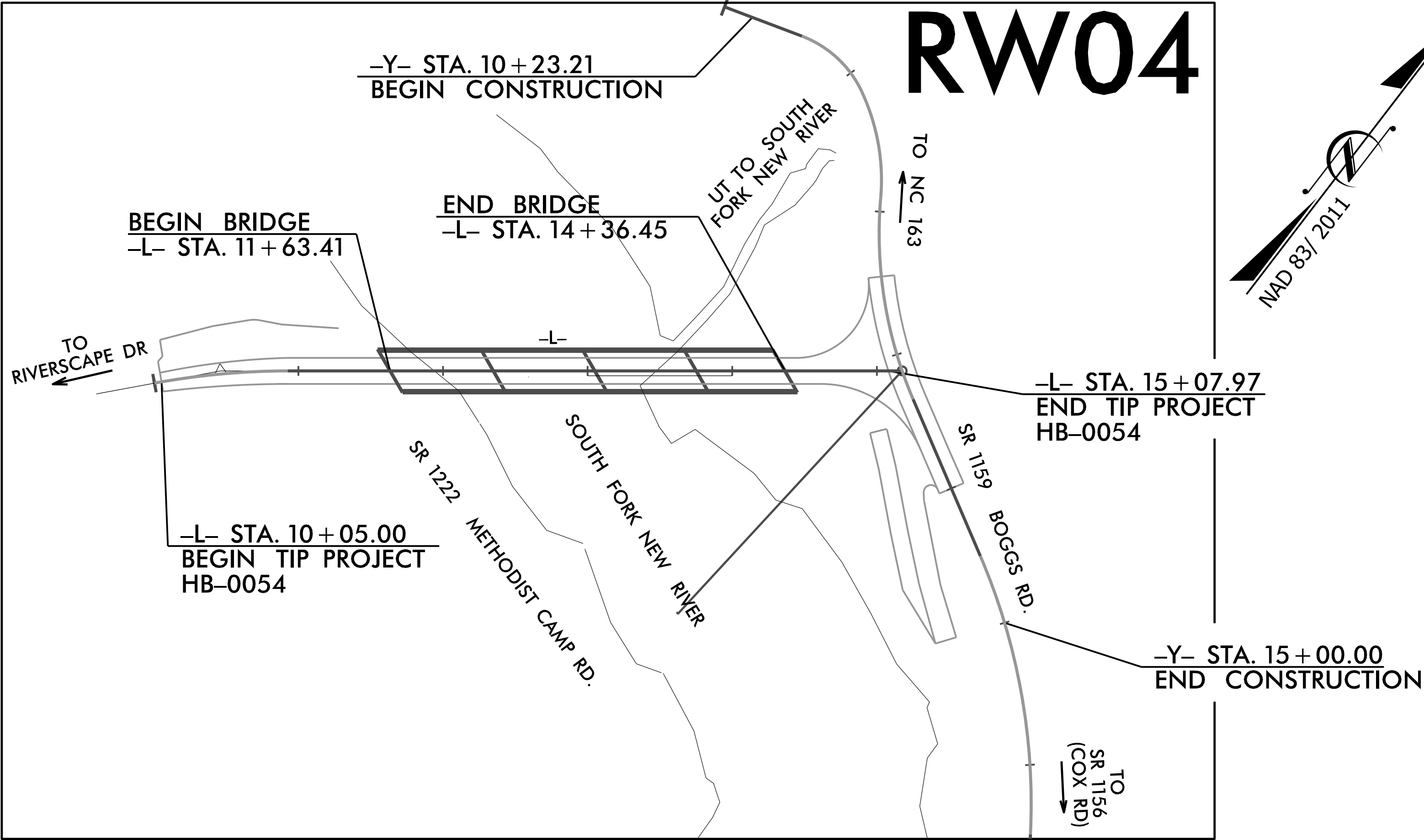
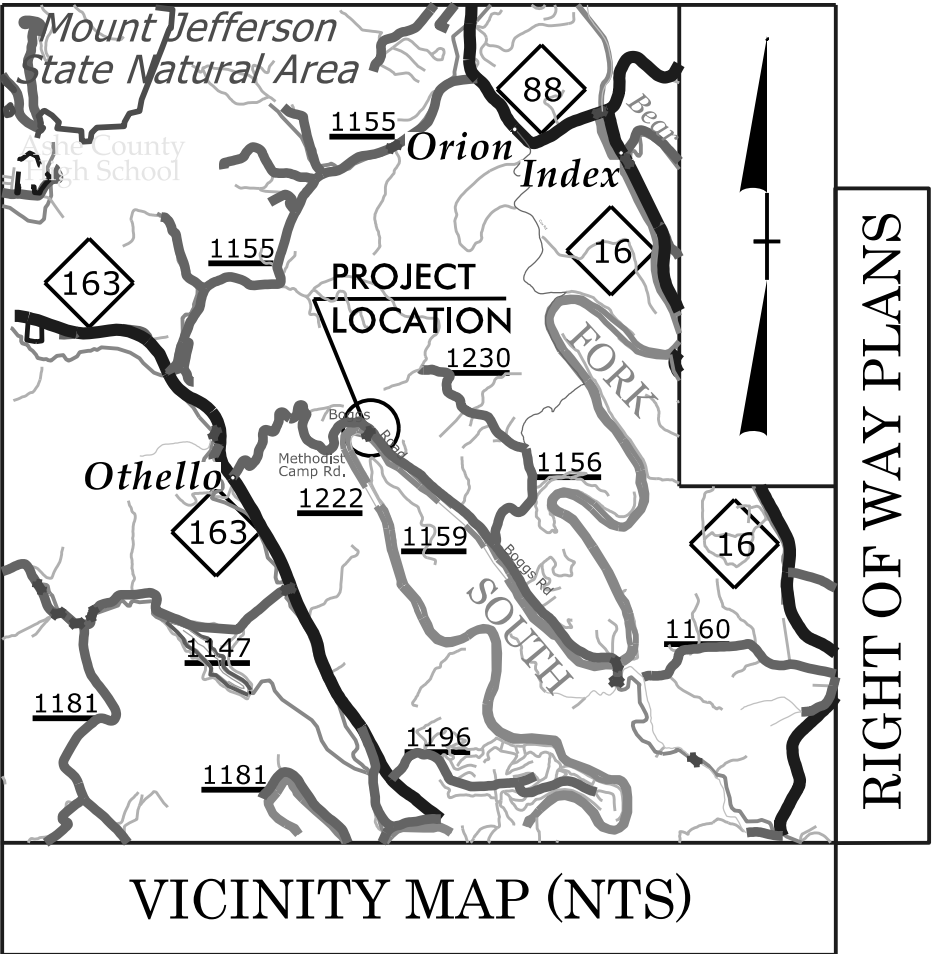
REVISIONS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE NO.	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HB-0054	RW01	4

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

-ASHE- 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 "506-2"
WITH NAD 83 NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 961180.277 EASTING: 1284205.052
ELEVATION: 2736.67'
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.99993586
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

WETHERILL ENGINEERING, INC.
1053 13TH ST SE
HICKORY, NC 28602

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 23, 2025

LETTING DATE:
SEPTEMBER 17, 2026

PROFESSIONAL LAND
SURVEYOR

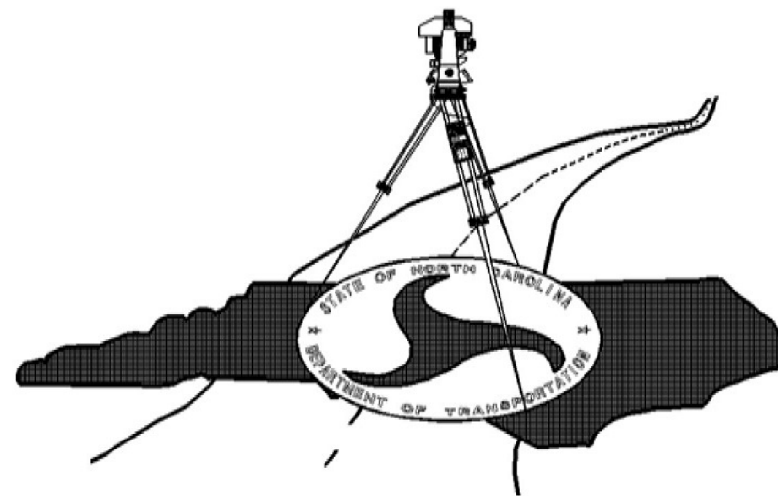
Signed by:

Andre S. DeGroat

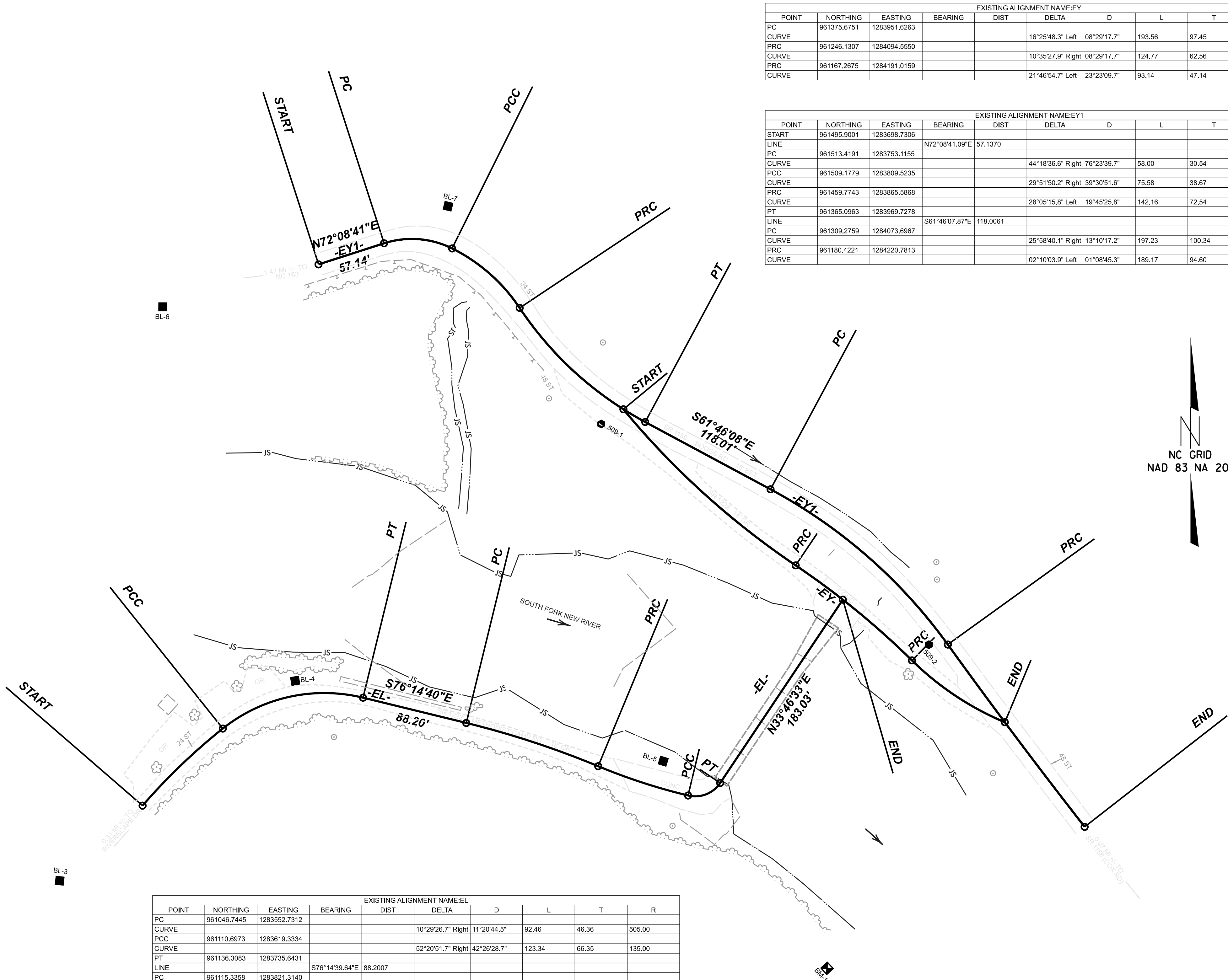
4B1D546EDCE4442...

SIGNATURE:

DATE:



SURVEY CONTROL SHEET
W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



EXISTING ALIGNMENT NAME:EL									
POINT	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R
PC	961046.7445	1283552.7312							
CURVE					10°29'26.7" Right	11°20'44.5"	92.46	46.36	505.00
PCC	961110.6973	1283619.3334							
CURVE					52°20'51.7" Right	42°26'28.7"	123.34	66.35	135.00
PT	961136.3083	1283735.6431							
LINE			S76°14'39.64"E	88.2007					
PC	961115.3358	1283821.3140							
CURVE					08°48'14.8" Right	07°38'22.0"	115.25	57.74	750.00
PRC	961079.4567	1283930.7130							
CURVE					08°59'47.2" Left	11°27'33.0"	78.51	39.34	500.00
PCC	961055.1410	1284005.2765							
CURVE					69°47'15.3" Left	229°10'59.2"	30.45	17.44	25.00
PT	961065.5451	1284031.9200							
LINE			N33°46'32.74"E	183.0286					
END	961217.6822	1284133.6737							

EXISTING ALIGNMENT NAME:EY									
POINT	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R
PC	961375.6751	1283951.6263							
CURVE					16°25'48.3" Left	08°29'17.7"	193.56	97.45	675.00
PRC	961246.1307	1284094.5550							
CURVE					10°35'27.9" Right	08°29'17.7"	124.77	62.56	675.00
PRC	961167.2675	1284191.0159							
CURVE					21°46'54.7" Left	23°23'09.7"	93.14	47.14	245.00

EXISTING ALIGNMENT NAME:EY1									
POINT	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R
START	961495.9001	1283698.7306							
LINE			N72°08'41.09"E	57.1370					
PC	961513.4191	1283753.1155							
CURVE					44°18'36.6" Right	76°23'39.7"	58.00	30.54	75.00
PCC	961509.1779	1283809.5235							
CURVE					29°51'50.2" Right	39°30'51.6"	75.58	38.67	145.00
PRC	961459.7743	1283865.5868							
CURVE					28°05'15.8" Left	19°45'25.8"	142.16	72.54	290.00
PT	961365.0963	1283969.7278							
LINE			S81°46'07.87"E	118.0061					
PC	961309.2759	1284073.6967							
CURVE					25°58'40.1" Right	13°10'17.2"	197.23	100.34	435.00
PRC	961180.4221	1284220.7813							
CURVE					02°10'03.9" Left	01°08'45.3"	189.17	94.60	5000.00

I, MATTHEW T. CORNWELL, PLS, CERTIFY THAT THE PROJECT CONTROL WAS PERFORMED UNDER MY SUPERVISION FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

CLASS OF SURVEY: **AA**
TYPE OF GPS FIELD PROCEDURE: RTN
DATES OF SURVEY: MARCH 2022
DATUM/EPOCH: NAD83/2011
PUBLISHED/FIXED-CONTROL USE: N/A
LOCALIZED AROUND: 506-2
NORTHING: 961180.277
EASTING: 1284205.052
COMBINED GRID FACTOR: 0.99993586
GEOID MODEL: GEOID18
UNITS: US SURVEY FEET

I ALSO CERTIFY THAT THE BASELINE CONTROL FOR THIS PROJECT WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:20,000 (CLASS AA) AND VERTICAL ACCURACY TO CLASS A. FIELD WORK WAS PERFORMED JANUARY 2024, AND ALL COORDINATES ARE BASED ON NAD 83/NA 2011 AND ALL ELEVATIONS ARE BASED ON NAVD 88; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 3/6/2024
DocuSigned by:
Matthew Cornwell
EBD30F11473E475
PROFESSIONAL LAND SURVEYOR L-4775

BASELINE POINTS TABLE				
POINT	DESC	NORTH	EAST	ELEVATION
1	509-1	961363.4440	1283933.2570	2747.4500
2	509-2	961180.2770	1284205.0520	2736.6700
3	BL-3	960984.4533	1283483.9083	2726.8400
4	BL-4	961150.3533	1283679.3001	2730.0800
5	BL-5	961083.5998	1283984.6536	2722.1000
6	BL-6	961460.6757	1283569.4754	2783.4800
7	BL-7	961544.1837	1283806.1118	2762.9000

BENCHMARK TABLE				
BENCHMARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM1	960911.7438	1284120.5887	2732.1800	RRSPIKE IN 23" DOUBLE POPLAR



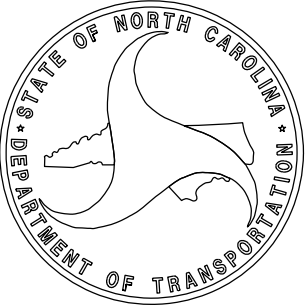
NOTES:

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.

HB-0054

R/W 02C-I

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR

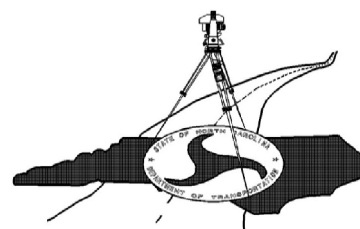


DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL SIGNATURES
ARE COMPLETED

2024 STANDARD
SPECIFICATIONS

TIP PROJECT: HB-0054
County: Ashe

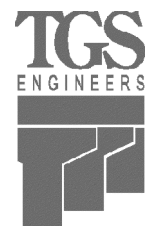
PREPARED FOR



LOCATION AND
SURVEYS UNIT

PREPARED BY

TGS ENGINEERS
201 WEST MARION ST.
SUITE 200
SHELBY, NC 28150
704-476-0003



PROPOSED ALIGNMENT CONTROL SHEET

I, ANDRE S. DEGROAT, 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.

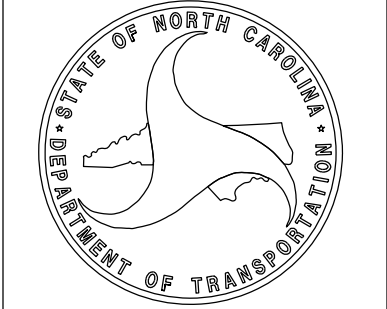
THIS 15TH DAY OF AUGUST, 2025.

Signed by:
Andre S. DeGroat
481054850CE1442
PROFESSIONAL LAND SURVEYOR L-3966

HB-0054

R/W02

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR



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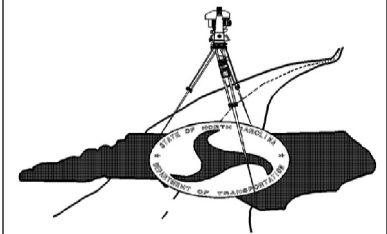
2024 STANDARD
SPECIFICATIONS

PROPOSED ALIGNMENT: L												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
PC	10+00.00	961046.7445	1283552.7312	N46°10'25.6"E	92.5321	10°30'47.4"	11°20'44.5"	92.6621	46.4615	505.0000		
PT	10+92.66	961110.8205	1283619.4878	N51°25'49.3"E	424.8105							
END	15+17.47	961375.6751	1283951.6263									

PROPOSED ALIGNMENT: Y												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	961495.9001	1283698.7306	N72°08'41.1"E	57.1370							
PC	10+57.14	961513.4191	1283753.1155	S85°42'00.6"E	56.5672	44°18'36.6"	76°23'39.7"	58.0019	30.5384	75.0000		
PCC	11+15.14	961509.1779	1283809.5235	S48°36'47.2"E	74.7249	29°51'50.2"	39°30'51.6"	75.5775	38.6682	145.0000		
PRC	11+90.72	961459.7743	1283865.5868	S47°43'30.0"E	140.7454	28°05'15.8"	19°45'25.8"	142.1647	72.5409	290.0000		
PT	13+32.88	961365.0963	1283969.7278	S61°46'07.9"E	118.0061							
PC	14+50.89	961309.2759	1284073.6967	S48°46'47.8"E	195.5433	25°58'40.1"	13°10'17.2"	197.2283	100.3389	435.0000		
PT	16+48.12	961180.4221	1284220.7813	S36°52'29.7"E	189.1598							
END	18+37.28	961029.1042	1284334.2904									

TIP PROJECT: HB-0054
County: Ashe

PREPARED FOR



LOCATION AND
SURVEYS UNIT

PREPARED BY



TRANSPORTATION PLANNING
DESIGN - BRIDGE
STRUCTURE DESIGN
CIVIL/SITE DESIGN
SURVEYING/SUE
CONSTRUCTION OBSERVATION
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

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.

RIGHT OF WAY CONTROL SHEET

PERMANENT ROW MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
10+05.00	15.0000	961040.5702	1283567.2617
10+05.00	9.0000	961044.5447	1283562.7669
10+05.00	-9.0000	961056.4682	1283549.2824
10+05.00	-15.0000	961060.4427	1283544.7876
11+25.00	-30.0000	961154.4376	1283626.0673
11+25.00	-15.0000	961142.7098	1283635.4193
11+30.94	15.0000	961122.9552	1283658.7643
11+91.06	30.0000	961148.7137	1283715.1257
14+06.00	30.0000	961282.7203	1283883.1754

-POINT NOT SET (IN BOULDER)

PERMANENT EASEMENT MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
11+46.00	-51.0000	961183.9492	1283629.3934
11+68.00	-30.0000	961181.2466	1283659.6869

-POINT NOT SET (IN RIVER)

-POINT NOT SET (IN RIVER)

TEMPORARY CONSTRUCTION EASEMENT MARKER NAIL AND FLAGGING: L			
STATION	OFFSET	NORTH	EAST
10+05.00	-39.0000	961076.3407	1283526.8084
10+70.00	-42.0000	961127.9287	1283574.4601
10+77.00	15.0000	961089.4353	1283617.1070
11+12.00	-38.0000	961152.5874	1283610.9156
11+19.00	22.0000	961110.0405	1283653.7964
11+50.00	39.0000	961116.0765	1283688.6327
11+59.62	-38.0000	961182.2762	1283648.1466
11+62.17	30.0000	961130.6981	1283692.5334
12+20.40	65.0000	961139.6397	1283759.8844
14+05.00	65.0000	961254.7320	1283904.2148

-POINT NOT SET (IN PICNIC AREA)

-POINT NOT SET (IN RIVER)

-POINT NOT SET (IN RIVER)

PERMANENT ROW MARKER IRON PIN AND CAP: Y			
STATION	OFFSET	NORTH	EAST
10+22.00	30.0000	961474.0906	1283728.8694
12+05.00	57.0000	961414.1807	1283827.9796
15+50.86	60.0000	961207.3179	1284115.9143

-POINT NOT SET (IN TREE)

TEMPORARY CONSTRUCTION EASEMENT NAIL AND FLAGGING: Y			
STATION	OFFSET	NORTH	EAST
13+59.00	112.0000	961254.0640	1283939.7605
13+71.00	99.8420	961259.0994	1283956.0842
14+25.00	261.9690	961090.7144	1283926.9698
14+25.00	280.0796	961074.7582	1283918.4029
14+93.00	277.0000	961057.3499	1283955.7731
15+32.00	66.5784	961212.6814	1284099.3593
15+67.00	234.0000	961071.7608	1284006.3513
15+82.00	47.5955	961197.5532	1284144.2480
16+48.00	248.0000	961035.4243	1284019.5857
16+49.00	220.0000	961047.6991	1284045.3236

-POINT NOT SET (IN RIVER)

-POINT NOT SET (IN RIVER)

-POINT NOT SET (IN CONCRETE)

-POINT NOT SET (IN BOULDER)

I, ANDRE S. DEGROAT, 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 07/28/2025 TO 08/15/2025, 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 15TH DAY OF AUGUST, 2025.

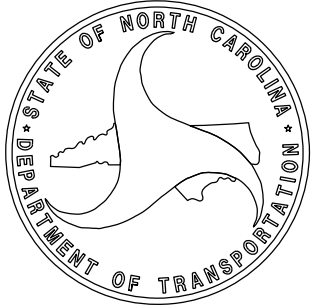
Signed by:
Andre S. DeGroat

PROFESSIONAL LAND SURVEYOR L-3966

HB-0054

R/W03

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR

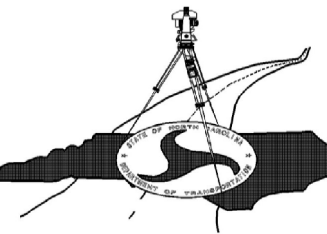


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2024 STANDARD
SPECIFICATIONS

TIP PROJECT: HB-0054
County: Ashe

PREPARED FOR



LOCATION AND
SURVEYS UNIT

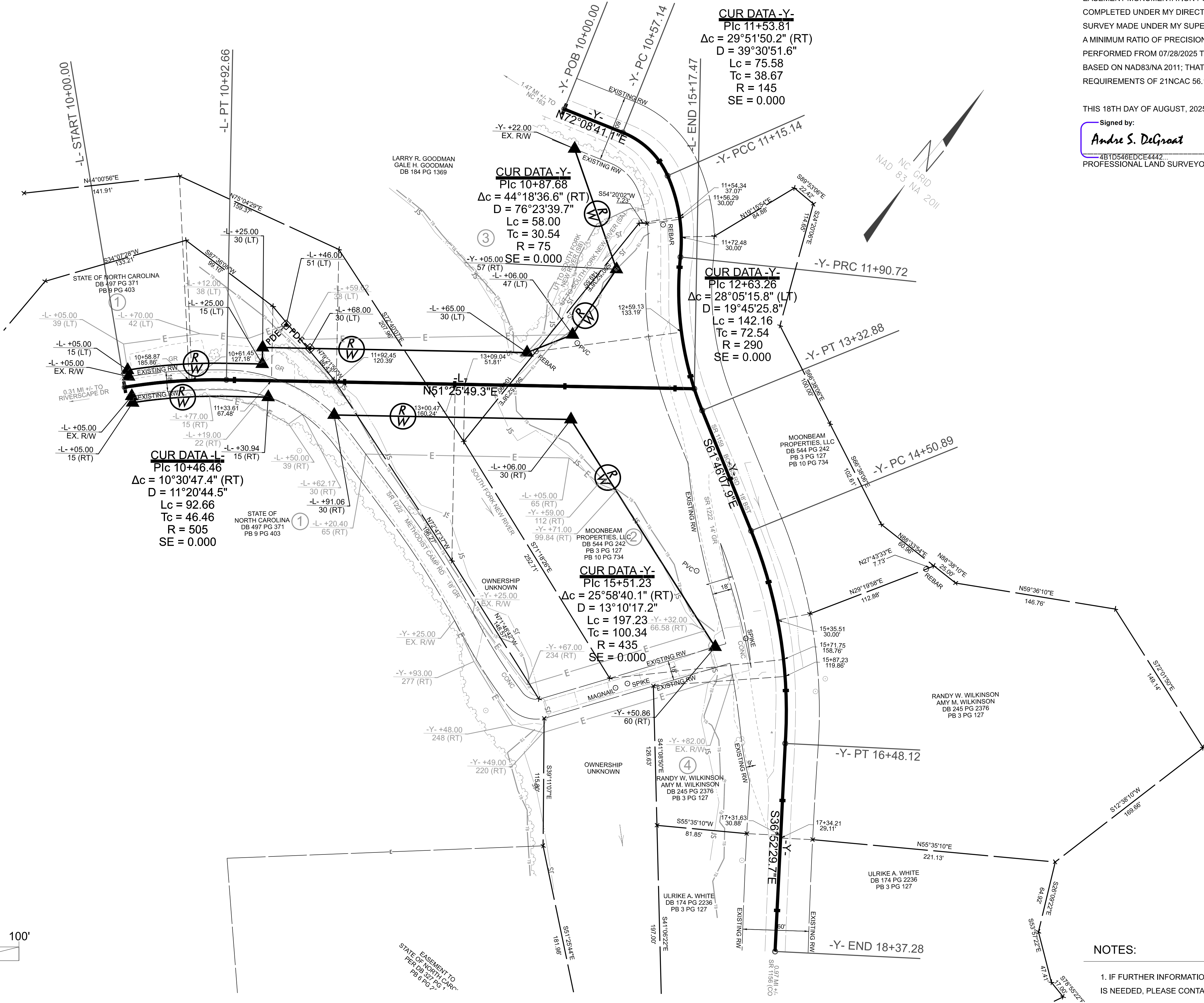
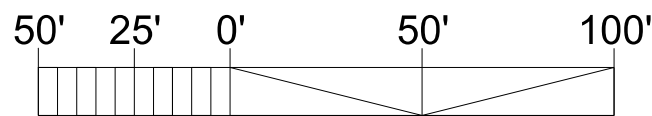
PREPARED BY



TRANSPORTATION PLANNING
DESIGN - BRIDGE
STRUCTURE DESIGN
CIVIL/SITE DESIGN
SURVEYING/SUE
CONSTRUCTION OBSERVATION
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

NOTES:

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



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THIS 18TH DAY OF AUGUST, 2025.

Signed by:

Andre S. DeGroat

4B1D548EDCE4442
PROFESSIONAL LAND SURVEYOR L-3966

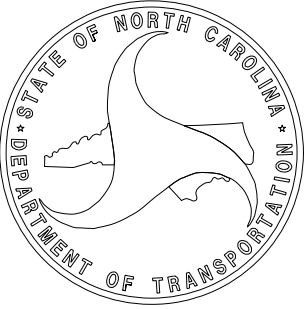
NOTES:

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HB-0054

R/W 04

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR

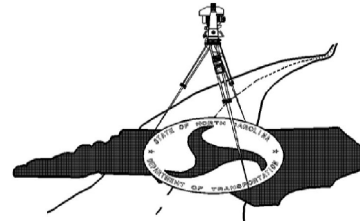


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2024 STANDARD
SPECIFICATIONS

TIP PROJECT: HB-0054
County: Ashe

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LOCATION AND
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TRANSPORTATION PLANNING
DESIGN - BRIDGE
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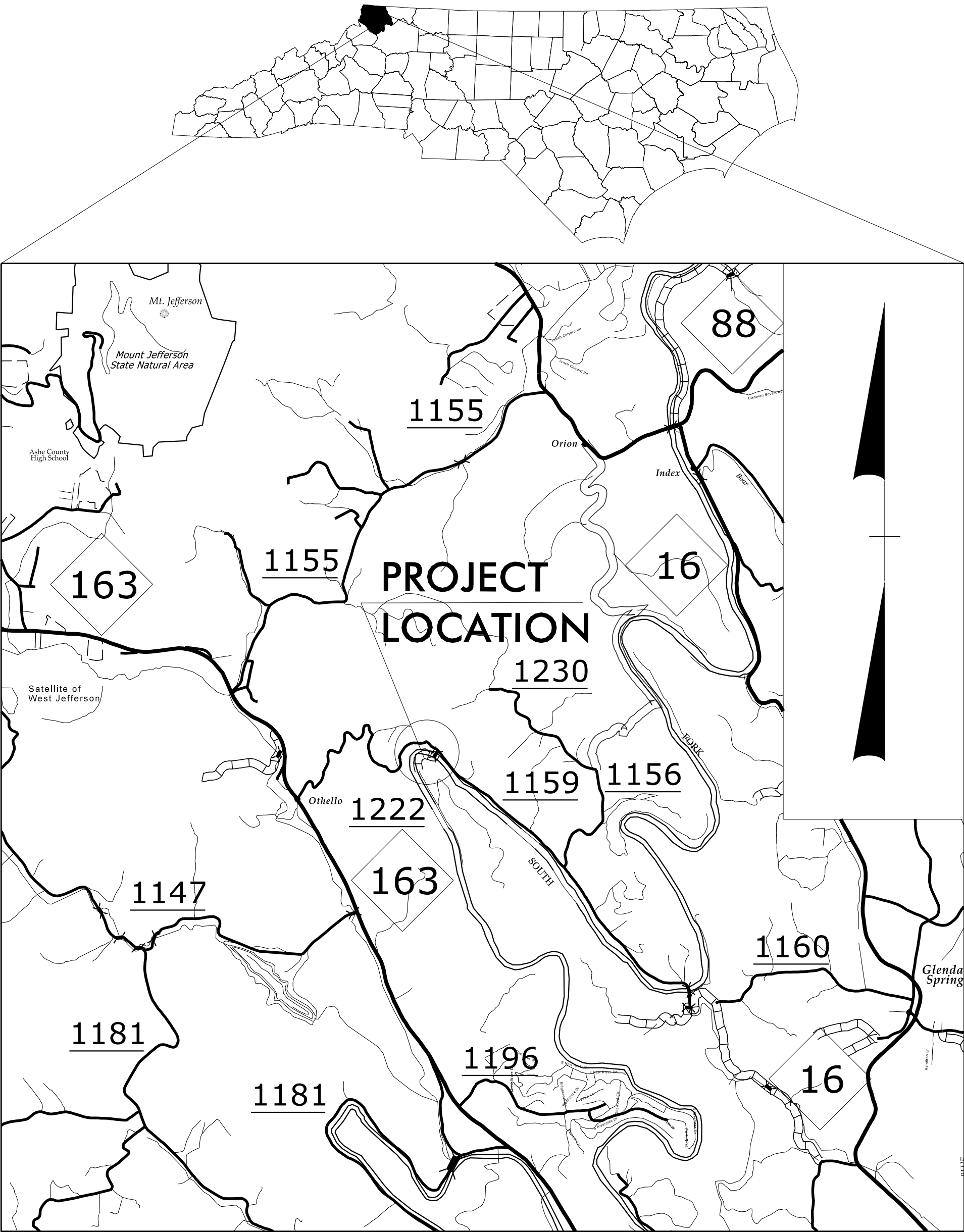
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ASHE COUNTY

LOCATION: *BRIDGE #040509 OVER SOUTH FORK NEW RIVER
ON SR 1222 (METHODIST CAMP RD)*

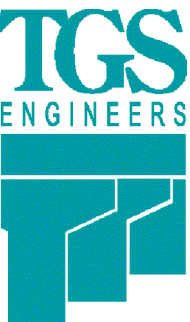
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND STRUCTURE*



VICINITY MAP



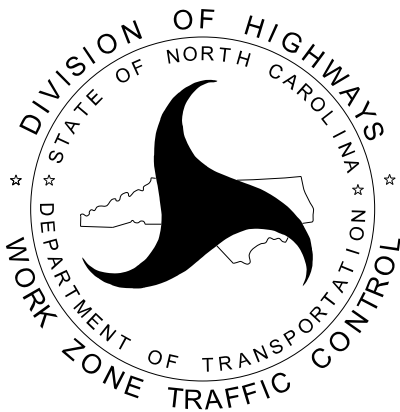
PLANS PREPARED FOR N.C.D.O.T. BY: TGS ENGINEERS



TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DON A. PARKER, P.E.
PROJECT ENGINEER

CODA BRANNAN, E.I.
DESIGN ENGINEER



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

APPROVED *Don A. Parker*

DATE: 6/8/2026



PROJECT: HB-0054

SHEET NO.
TMP-1

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE I
TMP-5	TEMPORARY TRAFFIC CONTROL PHASE II
TMP-6	TEMPORARY TRAFFIC CONTROL PHASE III

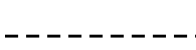
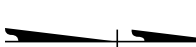
ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS

LEGEND

GENERAL

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



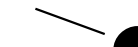
SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

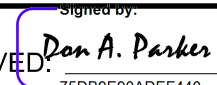
-  CRYSTAL/CRYSTAL
-  CRYSTAL/RED
-  YELLOW/YELLOW

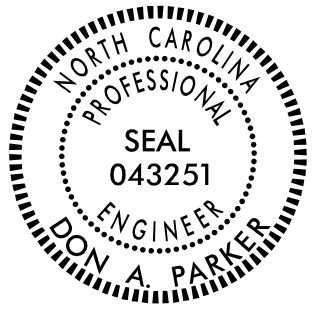
PAVEMENT MARKING SYMBOLS

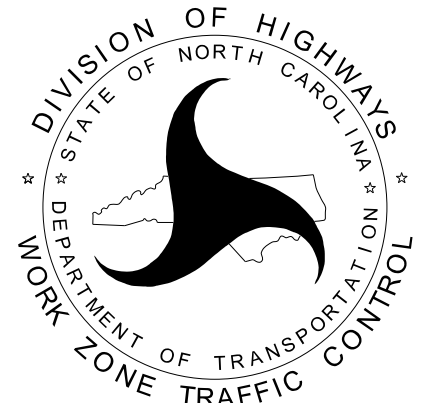
-    
- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
PAINT (4")	
P1	WHITE EDGELINE (4")
P5	2 FT.- 6 FT./SP WHITE MINISKIP (4")
P13	YELLOW DOUBLE CENTER (4")
P61	WHITE STOPBAR (24")
COLD APPLIED PLASTIC (IV)	
C1	WHITE EDGELINE (4")
C13	YELLOW DOUBLE CENTER (4")

APPROVED: 
DATE: 6/8/2026





ROADWAY STANDARD
DRAWINGS & LEGEND

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PROJ. REFERENCE NO.	SHEET NO.
HB-0054	TMP-1B
TCS ENGINEERS TCS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-9887 CORP. LICENSE NO.: C-0275	

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRE

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

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

LANE AND SHOULDER CLOSURE REQUIREMENTS

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

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

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

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

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

PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

- G) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- I) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

- J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

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

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
-L- SR 1222 METHODIST CAMP RD.	PAINT	NONE
-L- SR 1222 METHODIST CAMP RD.	COLD APPLIED PLASTIC (IV) (CONCRETE BRIDGE DECK)	NONE
-Y- SR 1159 BOGGS RD.	PAINT	NONE

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

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

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

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

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:

FULL ROADWAY CLOSURES
LANE SHIFTS OR CLOSURES
SHOULDER CLOSURES
ONE-LANE, TWO WAY OPERATION (FLAGGING)

CONTRACTING & INNOVATIVE CONTRUCTION STRATEGIES:
INTERMEDIATE CONTRACT TIMES / LIQUIDATED DAMAGES

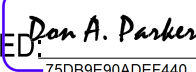
LOCAL NOTES

1. COORDINATE THE CLOSURE OF METHODIST CAMP RD WITH THE NORTH CAROLINA DEPARTMENT OF NATURAL AND CULTURAL RESOURCES (NCDNCR) AS FOLLOWS:

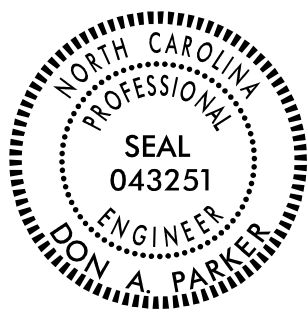
JOSHUA MCINTYRE, NEW RIVER STATE PARK, RANGER
JOSHUA.MCINTYRE@NCPARKS.GOV

TRACY MINTON, NEW RIVER STATE PARK, SUPERINTENDANT
TRACY.MINTON@NCPARKS.GOV

2/6/2026
X:\NCDOT\HB-0054 - Ashe 509\Work Zone Traffic Control\HB-0054_TC_TMP_01B.dgn
User:rbrownan

APPROVED: 
750BB6B0ADEF440...

DATE: 6/8/2026



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



TRANSPORTATION
OPERATIONS
PLAN

PROJ. REFERENCE NO.	SHEET NO.
HB-0054	TMP-3
TGS ENGINEERS TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

PHASING

NOTE: FOR FLAGGING OPERATIONS, SEE RSD 1101.02

PHASE I

- STEP 1 -- INSTALL WORKZONE ADVANCE WARNING SIGNS IN ACCORDANCE WITH RSD 1101.01.
- STEP 2 -- AWAY FROM TRAFFIC AND USING FLAGGERS AS NEEDED, PERFORM SIGHT DISTANCE CLEARING AND CONSTRUCT PROPOSED BRIDGE, EXCLUDING END BENT NO. 1, APPROACH SLAB NO. 1, SPAN A CORED SLAB UNITS, AND CONCRETE WEARING SURFACE.
- STEP 3 -- USING FLAGGERS AS NEEDED, CONSTRUCT PROPOSED EMBANKMENT, GRAVEL DRIVE, PARKING AREA, AND ROCK PLATING ADJACENT TO BOGGS RD. (-Y-).
- STEP 4 -- AWAY FROM TRAFFIC AND USING FLAGGERS AS NEEDED, CONSTRUCT FULL DEPTH ASPHALT UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM BRIDGE APPROACH TO BOGGS RD. (-L- STA. 15+08 +/-).
- STEP 5 -- INSTALL AND COVER ROAD CLOSURE ADVANCE WARNING SIGNS (SEE TMP-5 AND LOCAL NOTE 1, TMP-1B).

PHASE II

COMPLETE STEPS 1-3 WITHIN 90 CONSECUTIVE CALENDAR DAYS BEGINNING THE TUESDAY FOLLOWING LABOR DAY. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

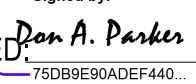
- STEP 1 -- INSTALL TYPE-III BARRICADES, UNCOVER ROAD CLOSURE SIGNS, AND CLOSE -L- (METHODIST CAMP RD) (SEE TMP-5).
- STEP 2 -- AWAY FROM TRAFFIC, COMPLETE BRIDGE CONSTRUCTION INCLUDING END BENT NO. 1, APPROACH SLAB NO. 1, SPAN A CORED SLAB UNITS, AND PLACE CONCRETE WEARING SURFACE ON THE ENTIRE BRIDGE (SEE TMP-5).
- AWAY FROM TRAFFIC, PLACE BASE COURSE FROM -L- STA. 10+05 +/- TO THE PROPOSED BRIDGE. TIE TO WITHIN 1 1/2" OF CONCRETE WEARING SURFACE.
- STEP 3 -- INSTALL TEMPORARY PAVEMENT MARKINGS IN THE FINAL PATTERN AND OPEN METHODIST CAMP RD. (-L-) ON THE NEW BRIDGE (AS SHOWN ON TMP-6). (EXISTING BRIDGE REMAINS CLOSED).

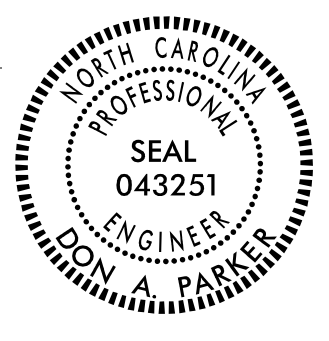
PHASE III

- STEP 1 -- AWAY FROM TRAFFIC, REMOVE EXISTING BRIDGE.
- STEP 2 -- USING FLAGGERS, CONSTRUCT ASPHALT PARKING AREA AND PLACE FIRST LAYER OF SURFACE COURSE FROM -L- STA. 10+05 +/- TO THE PROPOSED BRIDGE.
- STEP 3 -- USING FLAGGERS, PLACE THE FINAL LAYER OF SURFACE COURSE AND INSTALL THE FINAL PAVEMENT MARKINGS THROUGHOUT THE PROJECT LIMITS.

NOTE: THE FOLLOWING OPTIONS ARE AVAILABLE DURING MILLING AND RESURFACING OPERATIONS ON BOGGS RD. (-Y-):

- A. MILL A SINGLE LANE AND PAVE BACK BY THE END OF THE WORKDAY.
- B. MILL THE ENTIRE WIDTH OF ROADWAY AND PAVE BACK WITHIN 72 HOURS
- STEP 4 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

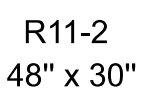
APPROVED: 
DATE: 6/8/2026



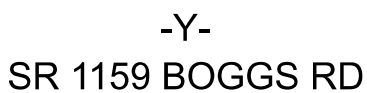
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PHASING



TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275



EXIST
WIDTH

EXIST
WIDTH

GRAVEL
DRIVE

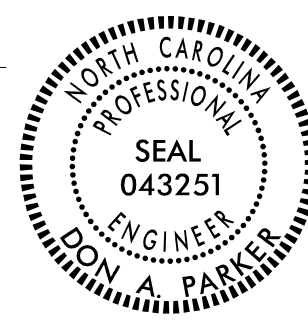
GRAVEL
PARKING

MATCHLINE A-A
-Y- STA. 13+75.00
PHASE I

— ROCK PLATING

APPROVED: Do

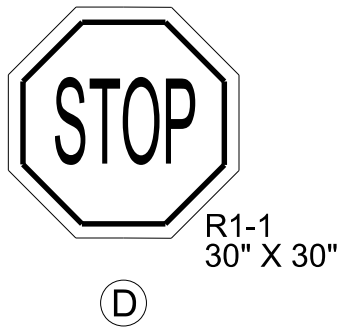
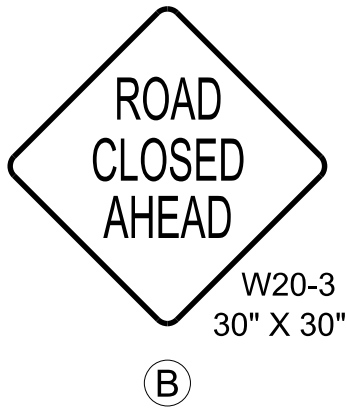
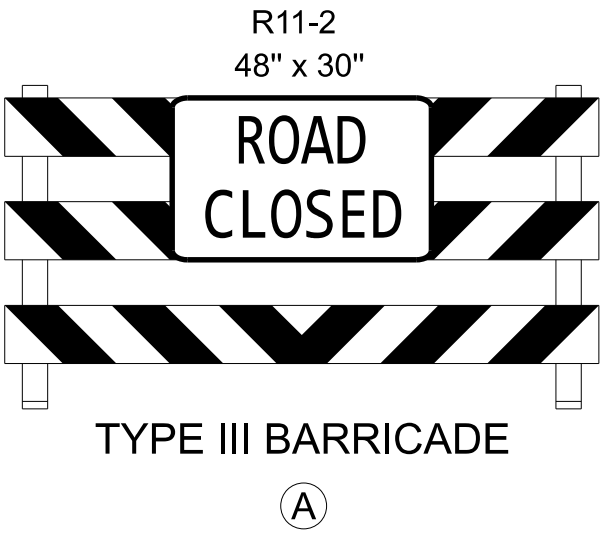
DATE: 6/8/2026



PHASE I

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UNLESS ALL SIGNATURES COMPLETED**

PROJ. REFERENCE NO.	SHEET NO.
HB-0054	TMP-5
TGS ENGINEERS TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	



PLACE BASE COURSE AND TIE TO WITHIN
1 1/2" OF CONCRETE WEARING SURFACE
PRIOR TO RE-OPENING TO TRAFFIC

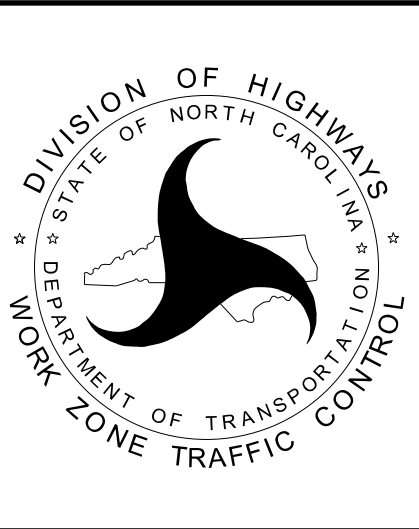
COMPLETE PROPOSED STRUCTURE
(SPAN A AND CONC. WEARING SURFACE)

-L- STA. 10+05±

L- SR 1222
METHODIST CAMP RD.

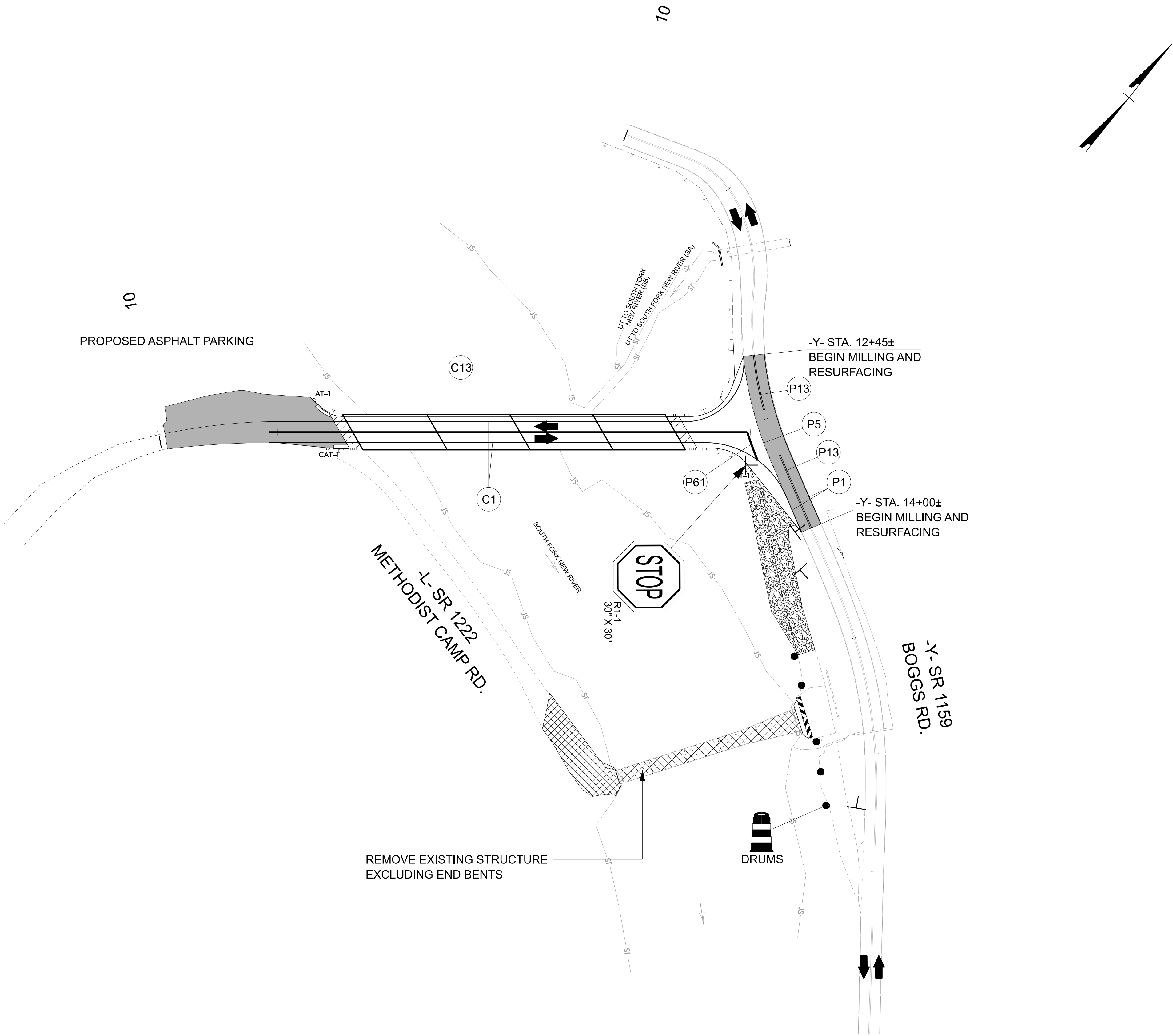
-Y- SR 1159
BOGGS RD.

APPROVED	Signed by: Don A. Parker 750B8E90ADE440...
DATE:	6/8/2026
NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



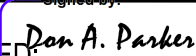
PHASE II

PROJ. REFERENCE NO.	SHEET NO.
HB-0054	TMP-6
TGS ENGINEERS TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	



NOTE:

FOR ADDITIONAL DETAILS ON PHASE III TRAFFIC PATTERN, SEE THE FINAL PAVEMENT MARKING PLAN.

APPROVED: 
150B8E9DADEF440...

DATE: 6/8/2026

NORTH CAROLINA

PROFESSIONAL

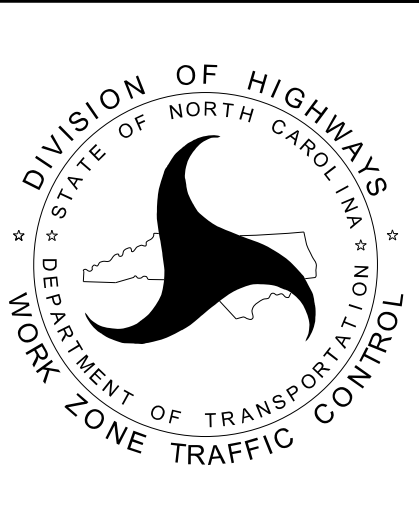
SEAL

043251

ENGINEER

DON A. PARKER

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PHASE III

6/3/2026 6:11:00 PM C:\Users\adamad\OneDrive\Documents\Projects\Ashe\HB-0054\Drawings\HB-0054-Sgn-PMP_01.dgn

CONTRACT:

PROJECT: HB-0054

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
ASHE COUNTY

LOCATION: *BRIDGE #040509 OVER SOUTH FORK NEW RIVER
ON SR 1222 (METHODIST CAMP RD)*
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND STRUCTURE*

TIP NO.	SHEET NO.
HB-0054	PMP-1
APPROVED: <u>Don A. Parker</u> 75C8B630ADE440...	
DATE: 6/8/2026	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE, SCHEDULE SHEET, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, GENERAL NOTES, AND FINAL PAVEMENT MARKING SCHEDULE
PMP-1A	REVISED ROADWAY STANDARD DRAWING (1205D01)
PMP-2	PAVEMENT MARKING DETAIL

ROADWAY STANDARD DRAWING

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 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

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 1222 METHODIST CAMP RD	PAINT	NONE
-L- SR 1222 (BRIDGE DECK)	PAINT	NONE
-Y- SR 1159 BOGGS RD	PAINT	NONE

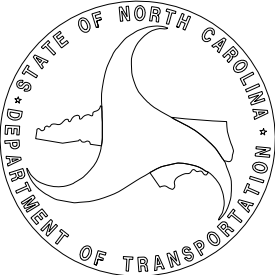
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
- E) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
- F) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON CONCRETE BRIDGE DECKS PRIOR TO PLACING PAINT PAVEMENT MARKING MATERIAL.

FINAL PAVEMENT MARKING
SCHEDULE

SYMBOL	DESCRIPTION
PAVEMENT MARKINGS	
PAINT (4")	
P1	(4") WHITE EDGELINE
P5	(4") 2 FT.-6 FT./SP WHITE MINISKIP
P13	(4") YELLOW DOUBLE CENTER
PAINT (24")	
P61	WHITE STOPBAR (24", 90 MILS)

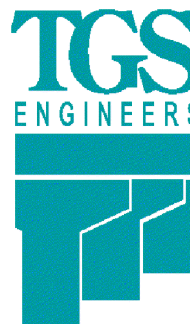
PLAN SUBMITTED TO: NCDOT

DANIEL R. ADAMS, P.E. NCDOT CONTACT



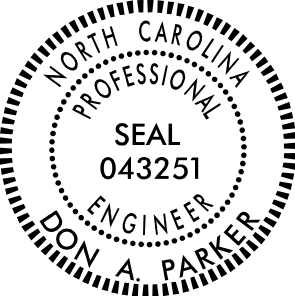
PLAN PREPARED BY: TGS ENGINEERS

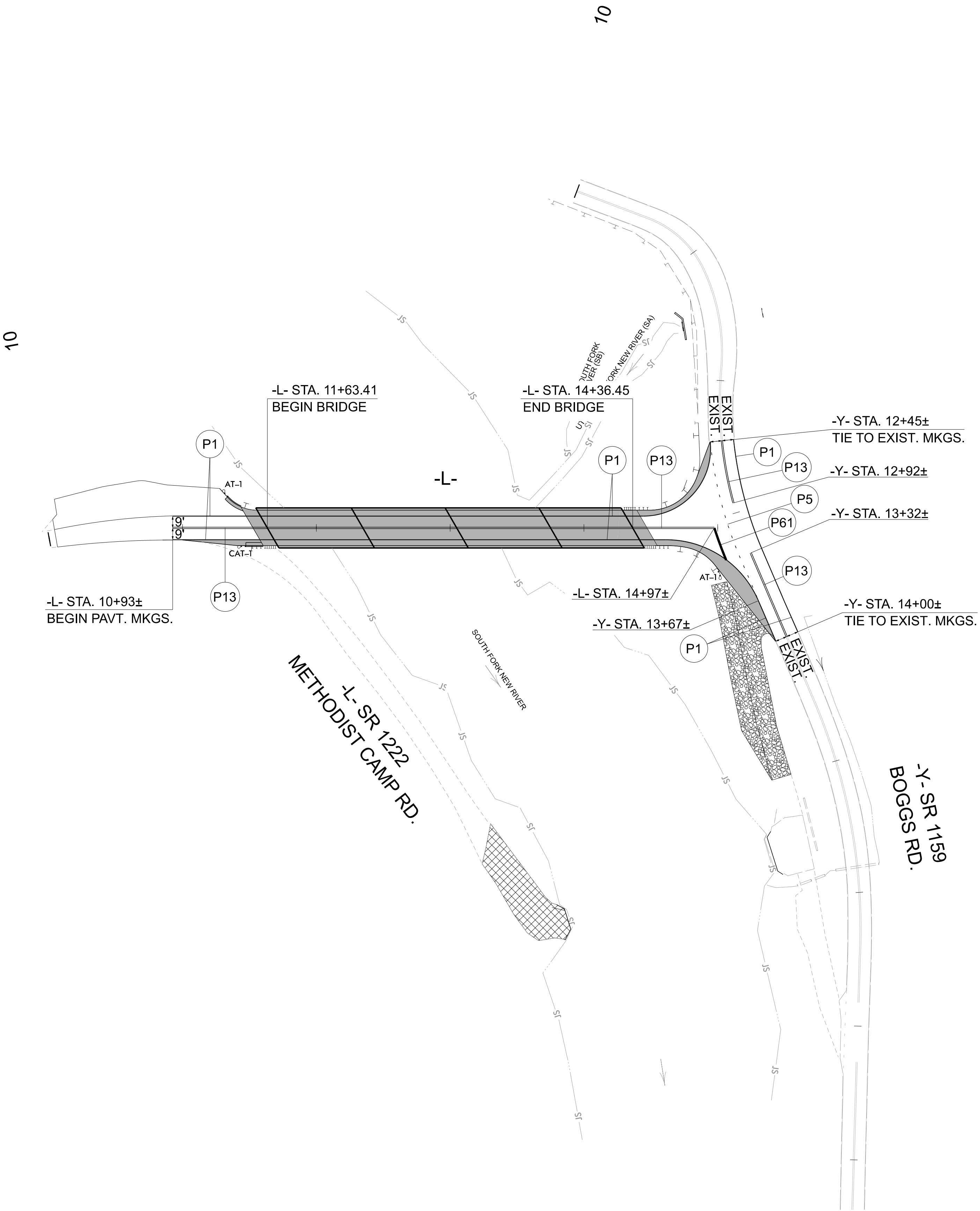
DON A. PARKER, P.E. PROJECT ENGINEER
CODA BRANNAN, E.I. DESIGN ENGINEER



TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

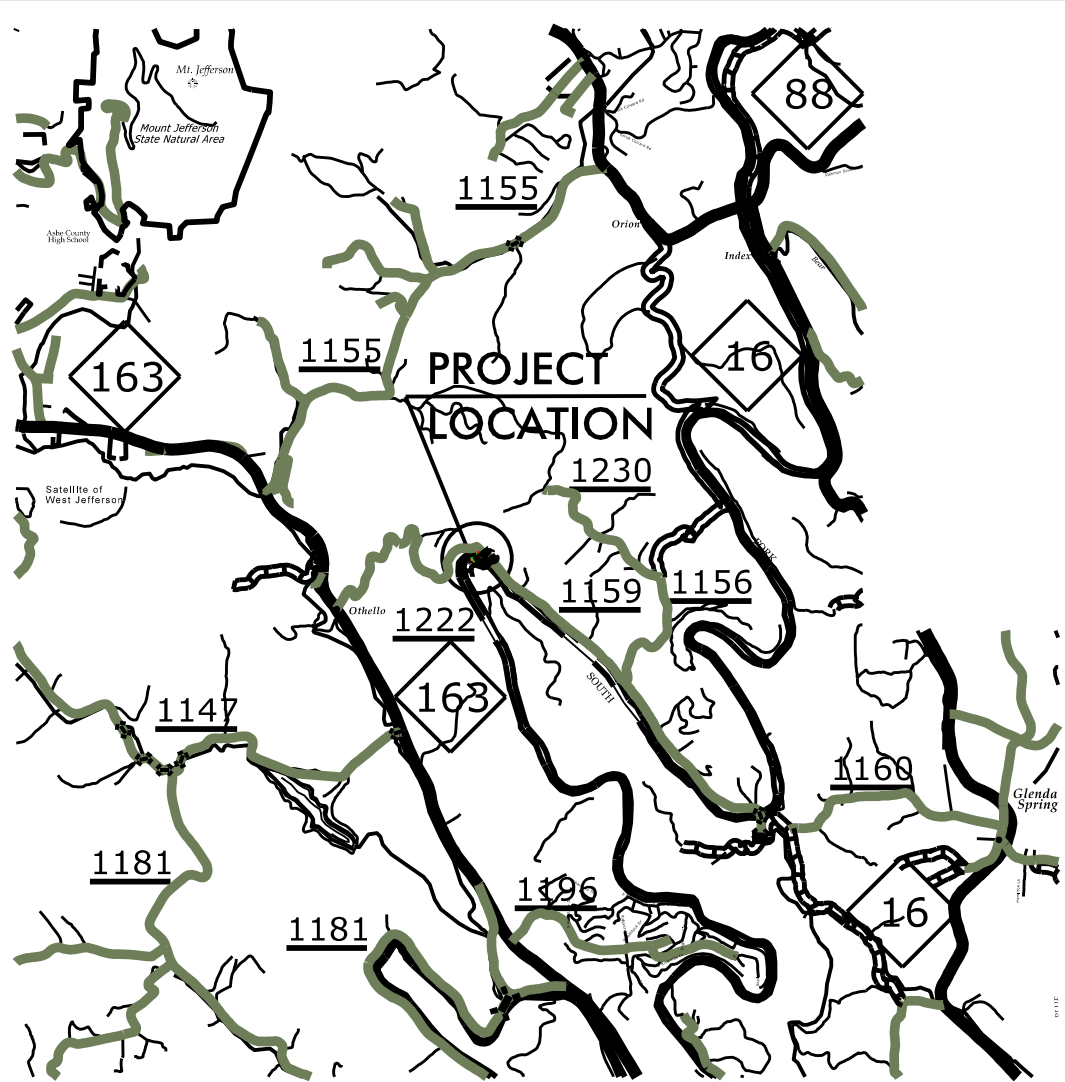
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CONTINUOUS LINES EDGE LINE YELLOW OR WHITE 4" / 6" LANE LINE WHITE 4" / 6" CENTER LINE YELLOW 4" / 6" GORE LINE WHITE 8" / 12" DIAGONAL LINE YELLOW OR WHITE 12" 45 MPH OR HIGHER 8" LESS THAN 45 MPH 4"-6" FOR BICYCLE FACILITIES CROSSWALK LINE WHITE 8" TRANSVERSE 24" LONGITUDINAL RxR LINE WHITE 16" STOP OR TRANSVERSE BAR WHITE 24"		10'-30'/SP SKIP LINE UNLESS OTHERWISE SHOWN, USE 10'-30'/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES. 10' 30' 4" / 6" YELLOW OR WHITE		2'-6'/SP MINI-SKIP LINE UNLESS OTHERWISE SHOWN, USE 2'-6'/SP MINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS, EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND BICYCLE LANE EXTENSIONS. 2' 6' 4" / 6" YELLOW OR WHITE		STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	
3'-3'/SP MINI-SKIP LINE UNLESS OTHERWISE SHOWN, USE 3'-3'/SP MINI-SKIPS FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS. 3' 3' 8" / 12" WHITE		3'-9'/SP MINI-SKIP LINE UNLESS OTHERWISE SHOWN, USE 3'-9'/SP MINI-SKIPS FOR MINI-SKIP LANE LINES, LINE EXTENSIONS THROUGH TAPERS, AND MINI-SKIPS USED FOR BICYCLE LANE LINES. 3' 9' 4" / 6" WHITE					
		GENERAL NOTES: 1- USE 6" LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER. 2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE. 3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.		ROADWAY DETAIL DRAWING FOR PAVEMENT MARKINGS LINE TYPES AND OFFSETS			
		SHEET 1 OF 2 1205D01					
				SEAL 042546 ENGINEER MATTHEW V. SPRINGER 6/9/2026			
		CONTRACTS STANDARDS AND DEVELOPMENT UNIT Office 919-707-8950 FAX 919-250-4119		SEE TITLE BLOCK			
		ORIGINAL BY: M.V. SPRINGER DATE: 2-15-24 MODIFIED BY: DATE: CHECKED BY: DATE: FILE SPEC.:					

TIP NO.	SHEET NO.
HB-0054	PMP-2
APPROVED: <i>Don A. Parker</i> Signed by: 750B9E9DADEF440...	
DATE: 6/8/2026	
SEAL	
	
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PAVEMENT MARKING DETAIL

TIP PROJECT: HB-0054



VICINITY MAP

NOT TO SCALE

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

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

HIGH QUALITY WATER(S) EXIST ON THIS PROJECT

High Quality Water Zone(s) Exist From Sta. BEGIN to Sta. END
Refer To E. C. Special Provisions for Special Considerations.

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

GRAPHIC SCALE



PLANS

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.

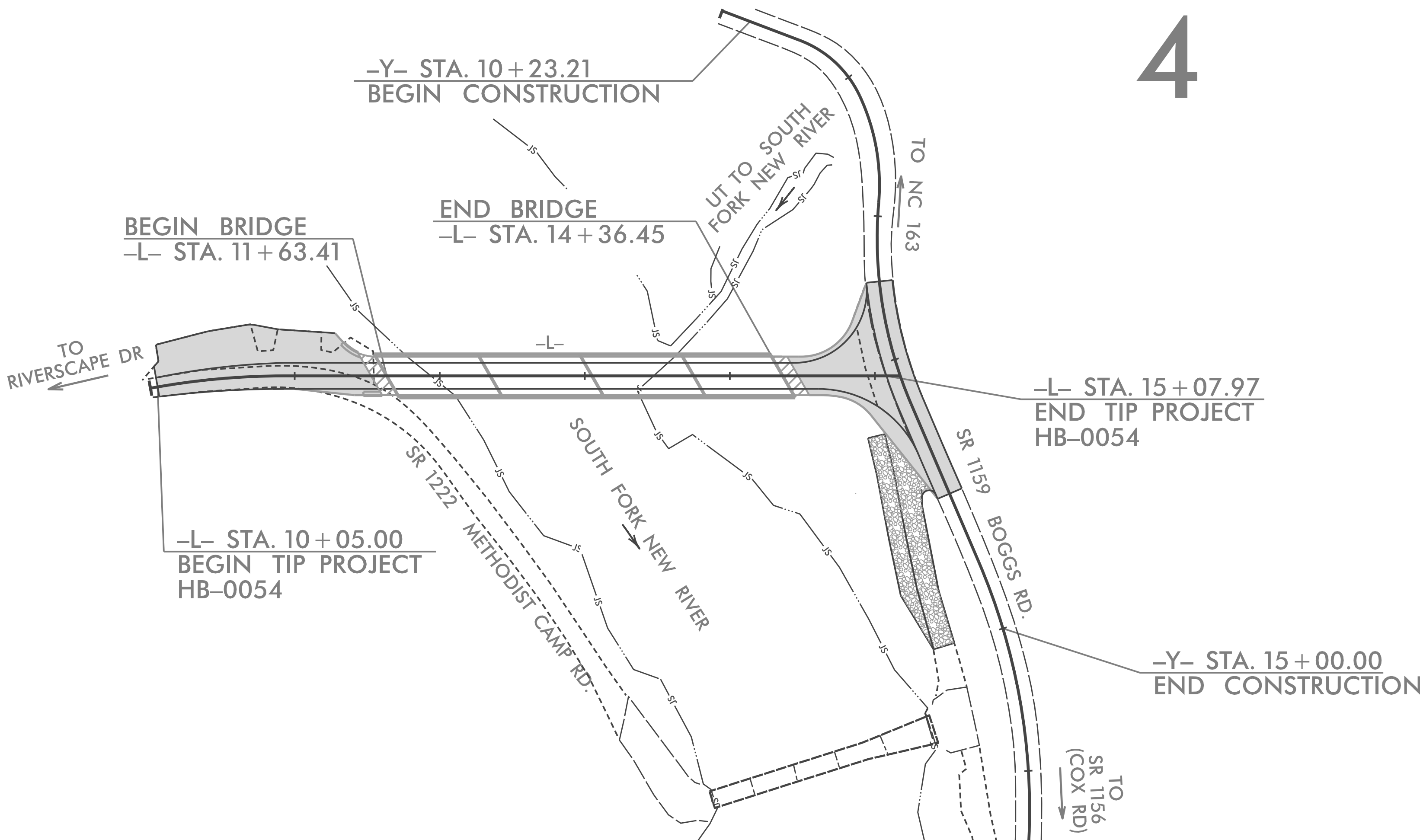
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

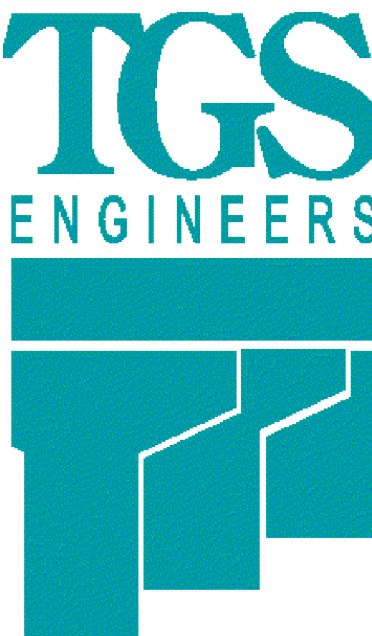
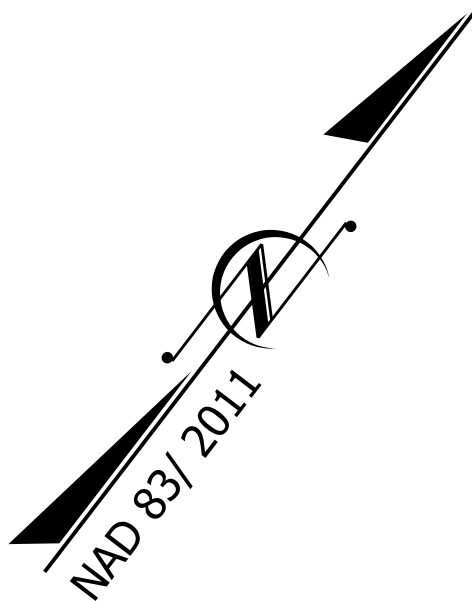
ASHE COUNTY

LOCATION: BRIDGE # 040509 OVER SOUTH FORK NEW RIVER ON SR 1222 (METHODIST CAMP ROAD)

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



4



Prepared in the Office of:
TGS ENGINEERS
201 W. MARION ST-STE 200
SHELBY, NC 28150

Designed by:
Andrew H. Cochran, PE 3015
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

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

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

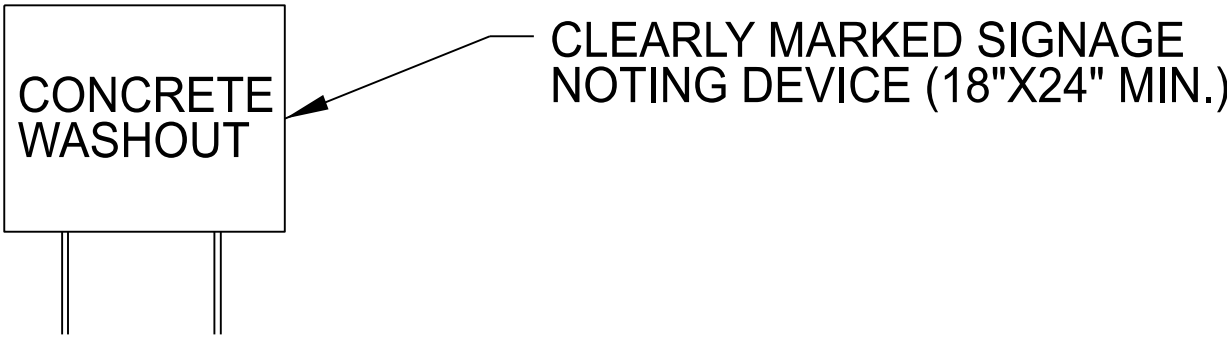
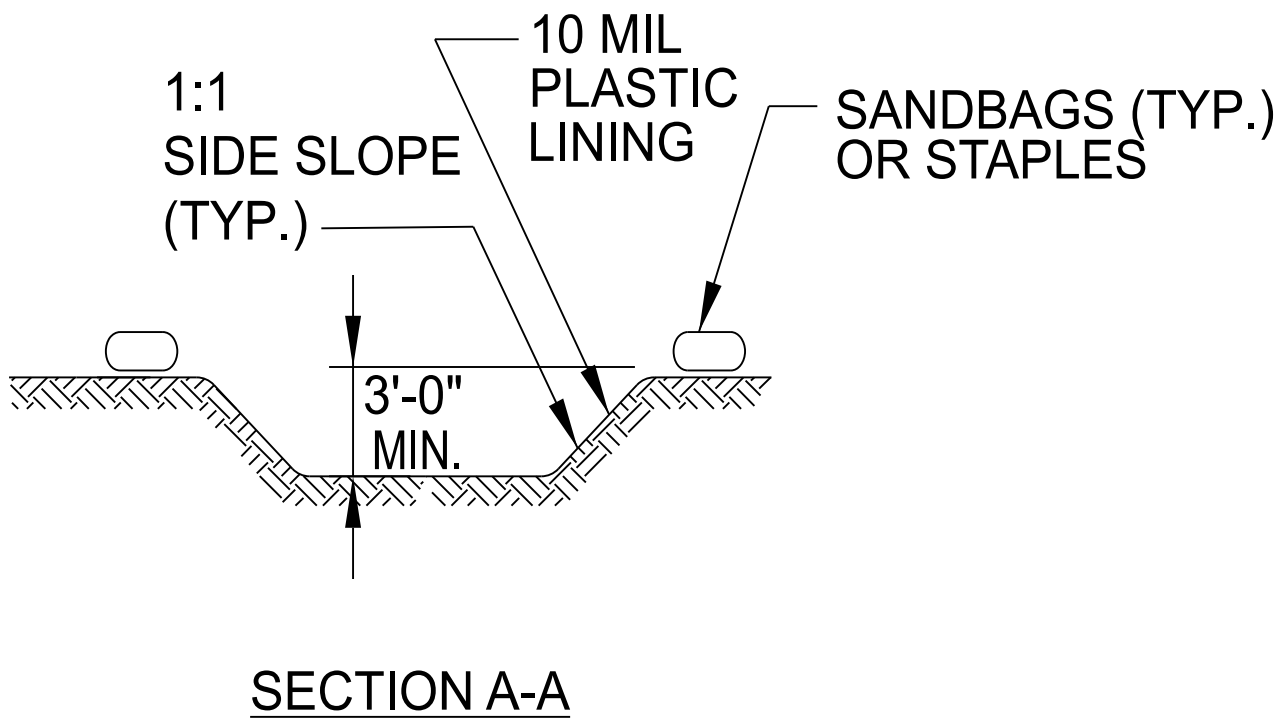
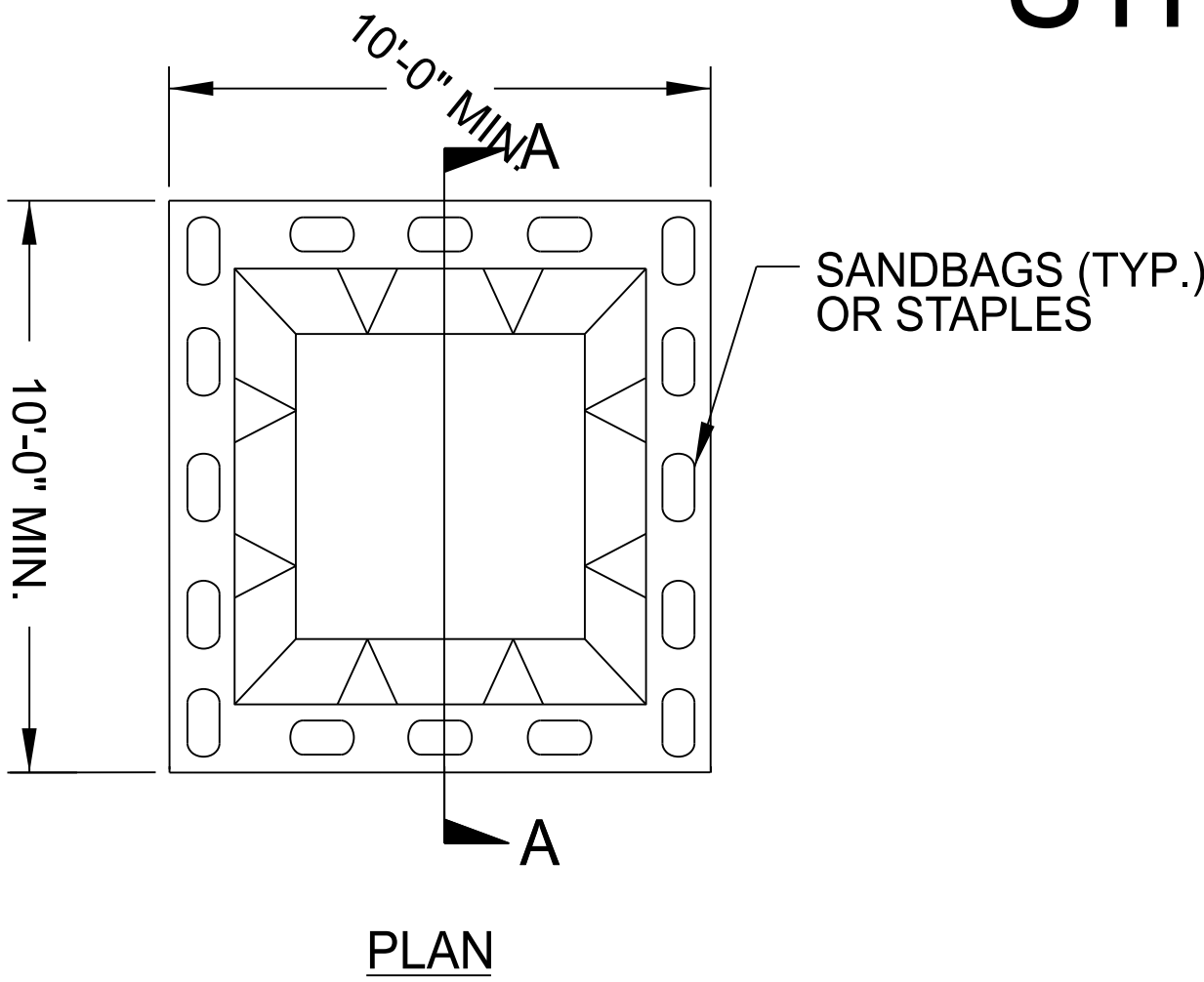
PROJECT REFERENCE NO.		SHEET NO.	
HB-0054		EC-02	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

EROSION & SEDIMENT CONTROL LEGEND

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

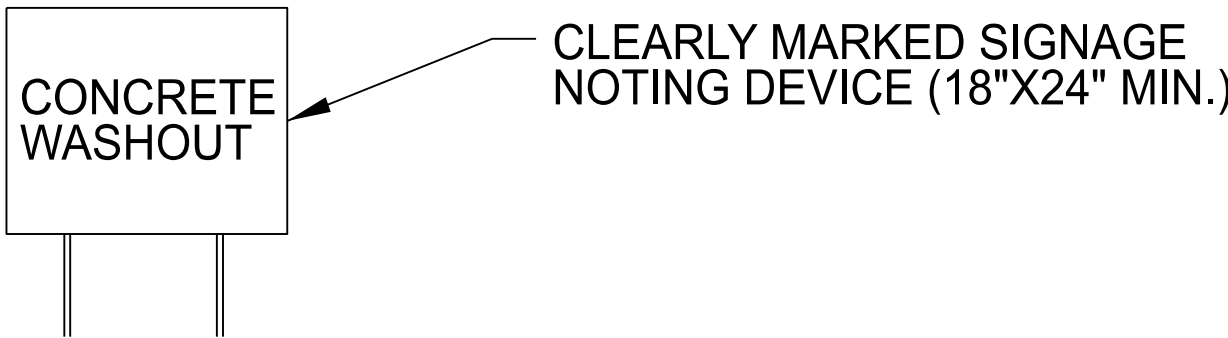
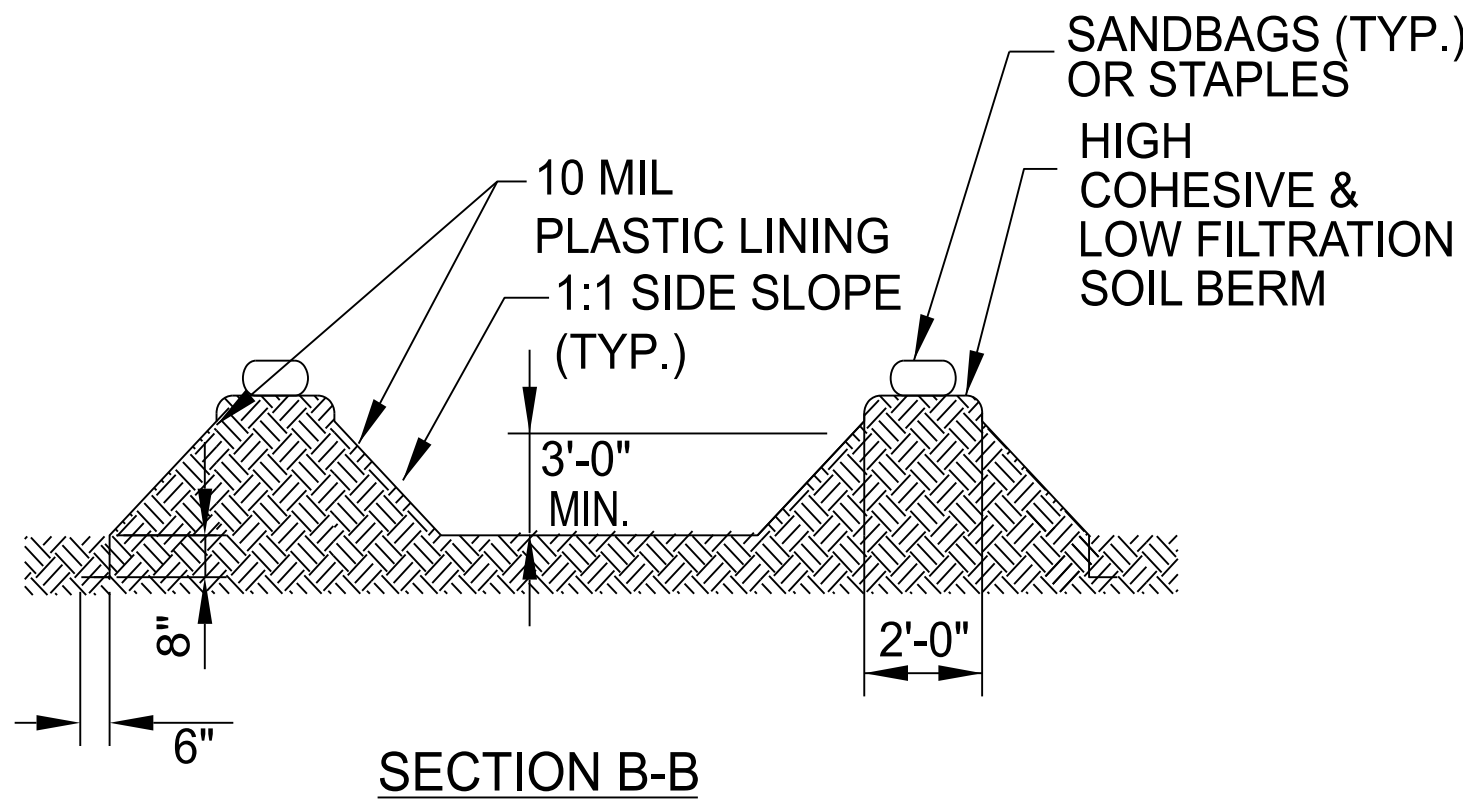
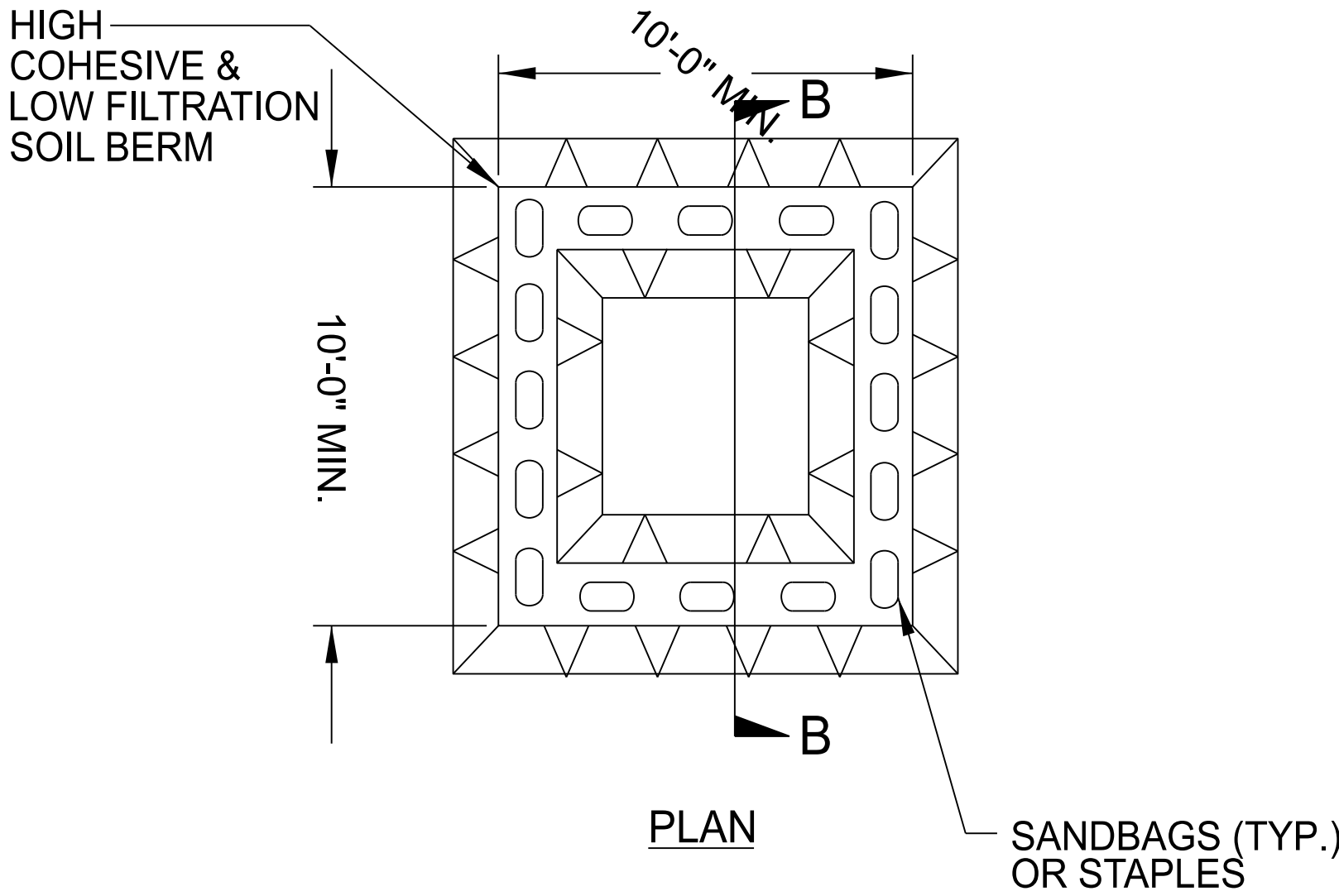
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HB-0054	EC-02A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

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



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

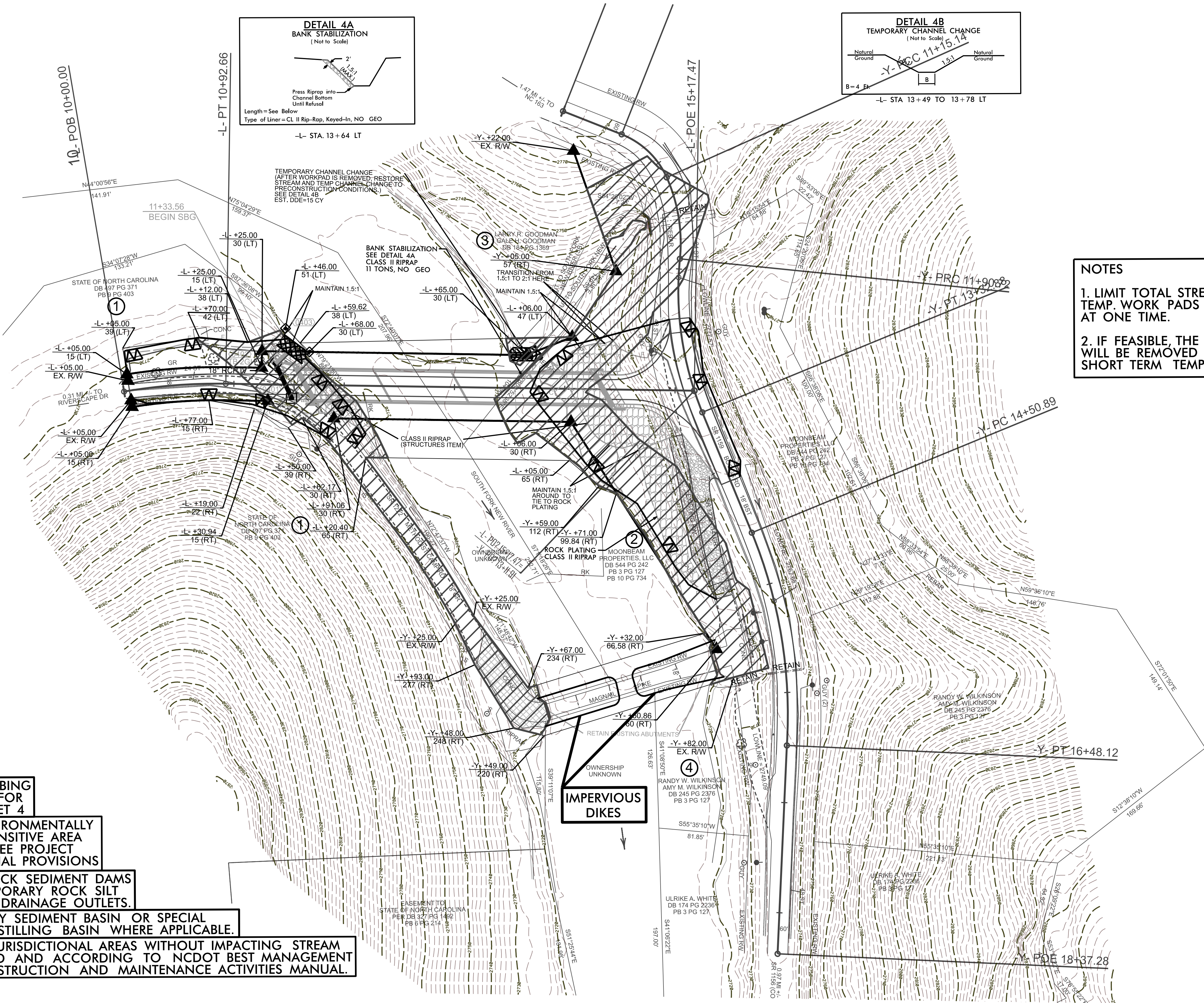
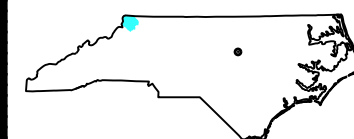
- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY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

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

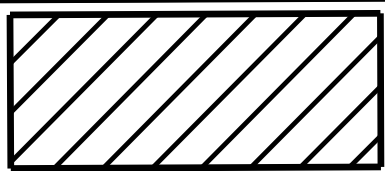
PROJECT REFERENCE NO.	SHEET NO.
HB-0054	EC-03
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

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



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4



ENVIRONMENTALLY
SENSITIVE AREA
SEE PROJECT
SPECIAL PROVISIONS

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

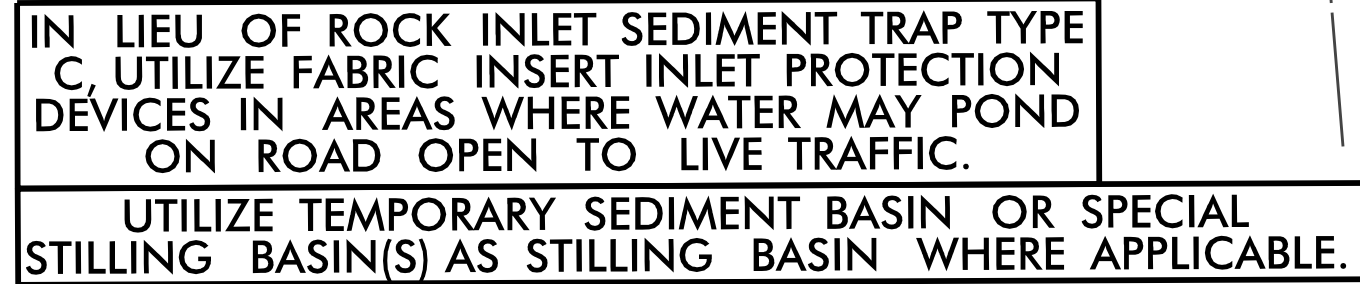
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL
STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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

NOTES

1. LIMIT TOTAL STREAMFLOW BLOCKAGE FROM
TEMP. WORK PADS TO NO MORE THAN 50%
AT ONE TIME.

2. IF FEASIBLE, THE EXISTING INSTREAM BENTS
WILL BE REMOVED WITHOUT THE PROPOSED
SHORT TERM TEMPORARY WORKPADS.



C-05

ADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

TGS ENGINEERS
201 W. MARION ST., STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

2. IF FEASIBLE, THE EXISTING INSTREAM BENTS WILL BE REMOVED WITHOUT THE PROPOSED SHORT TERM TEMPORARY WORKPADS.

CONTENTS

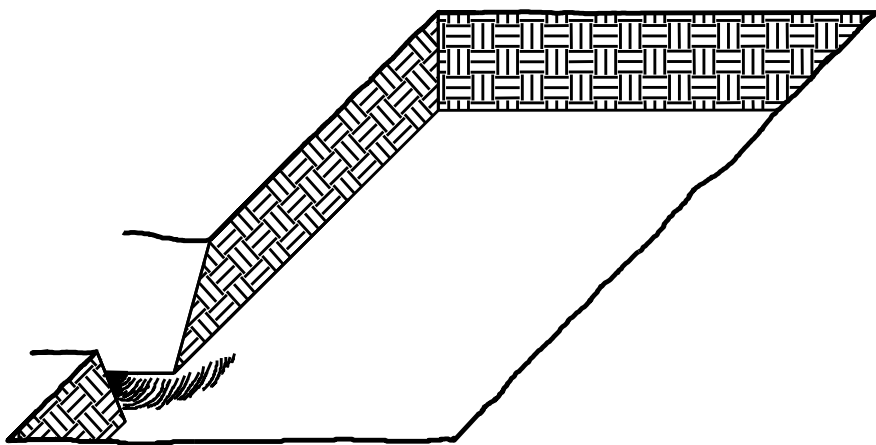
STATE	STATE PROJECT REFERENCE NO.	SHEET	SHEETS
N.C.	HB-0054	RF-1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	

PLANTING DETAILS

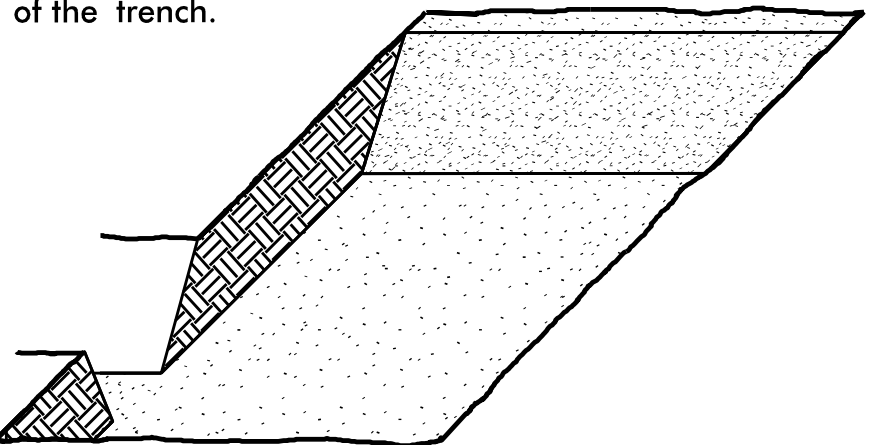
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

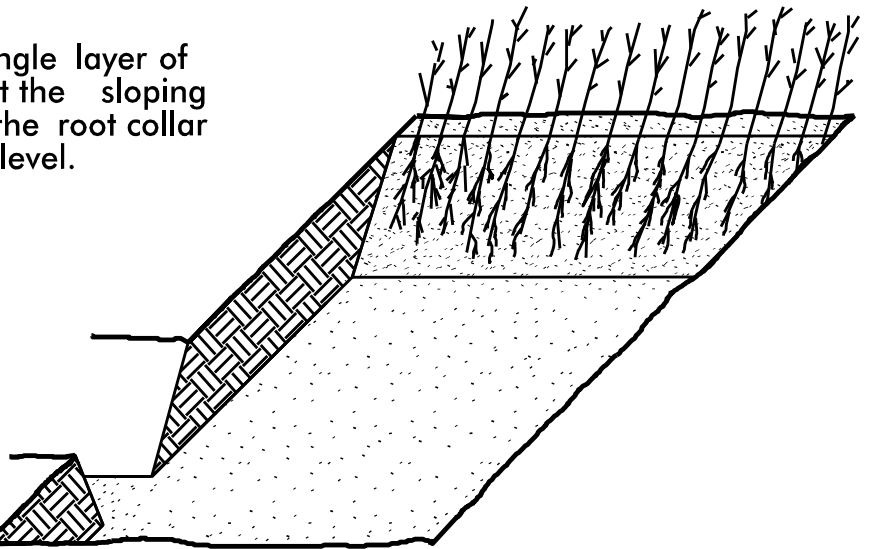
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



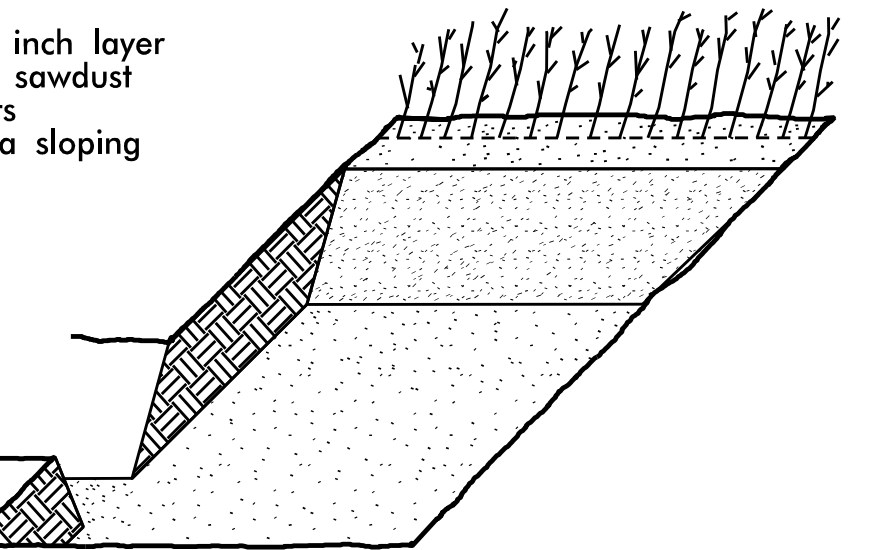
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

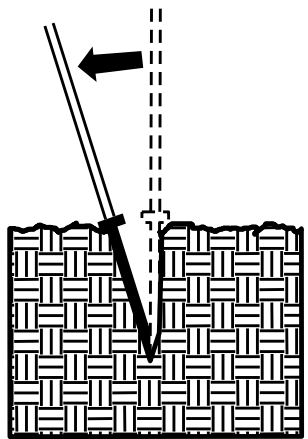


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

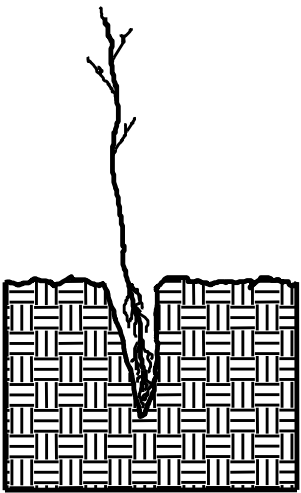


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

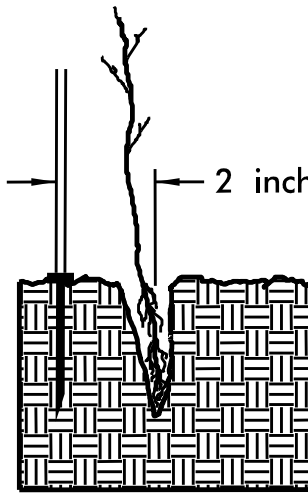
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



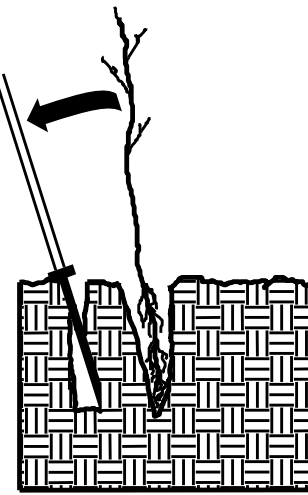
1. Insert planting bar as shown and pull handle toward planter.



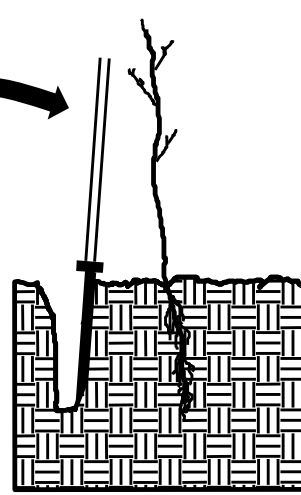
2. Remove planting bar and place seedling at correct depth.



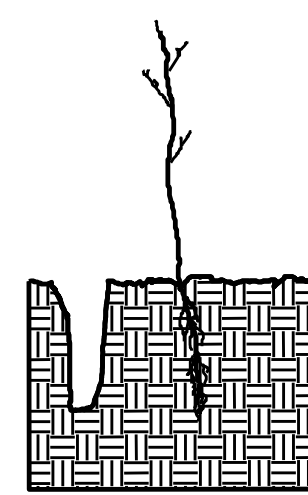
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



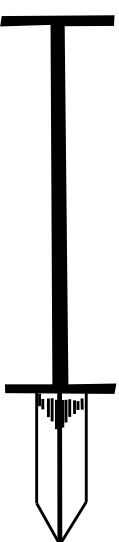
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

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



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



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

REFORESTATION

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

REFORESTATION

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

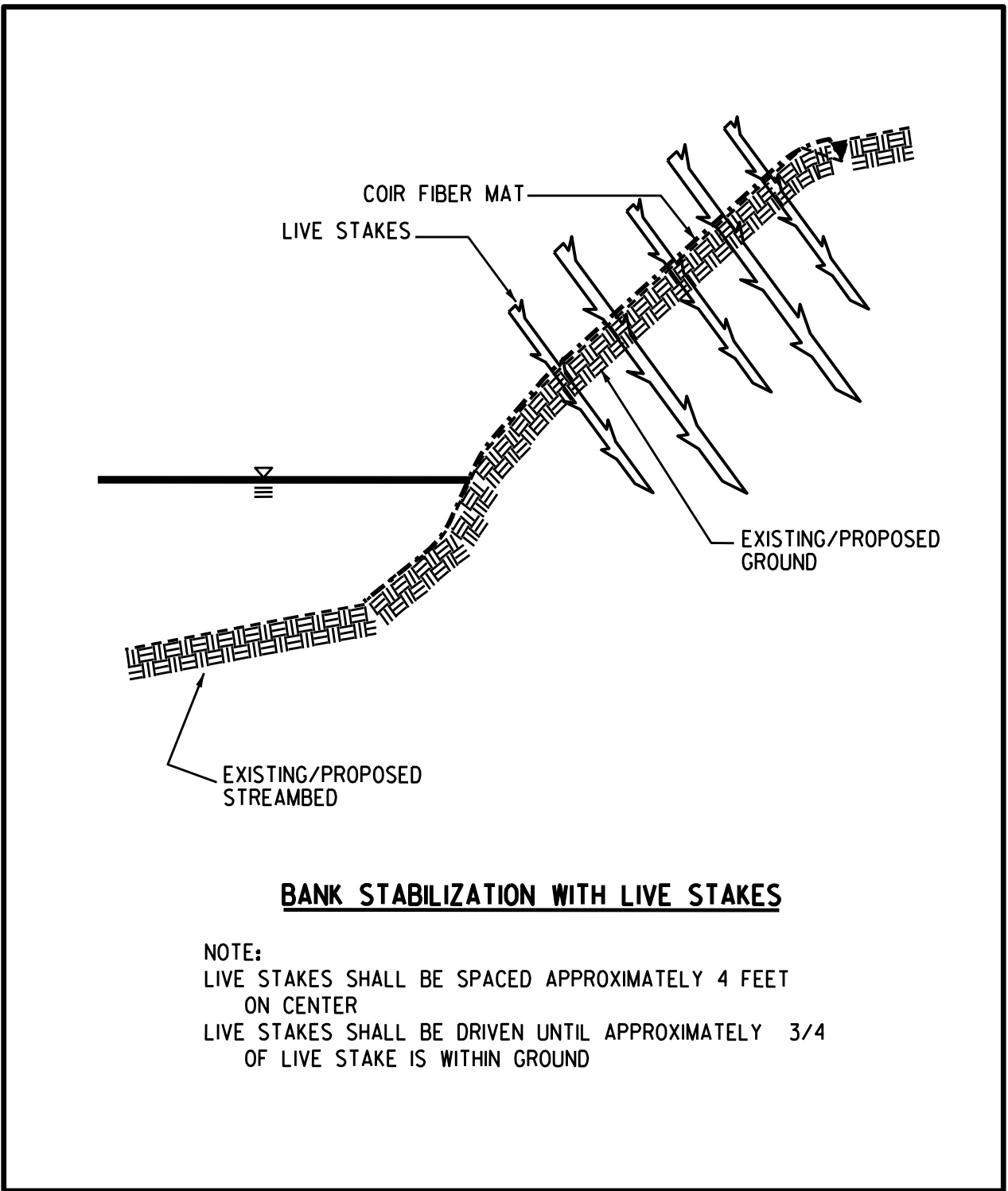
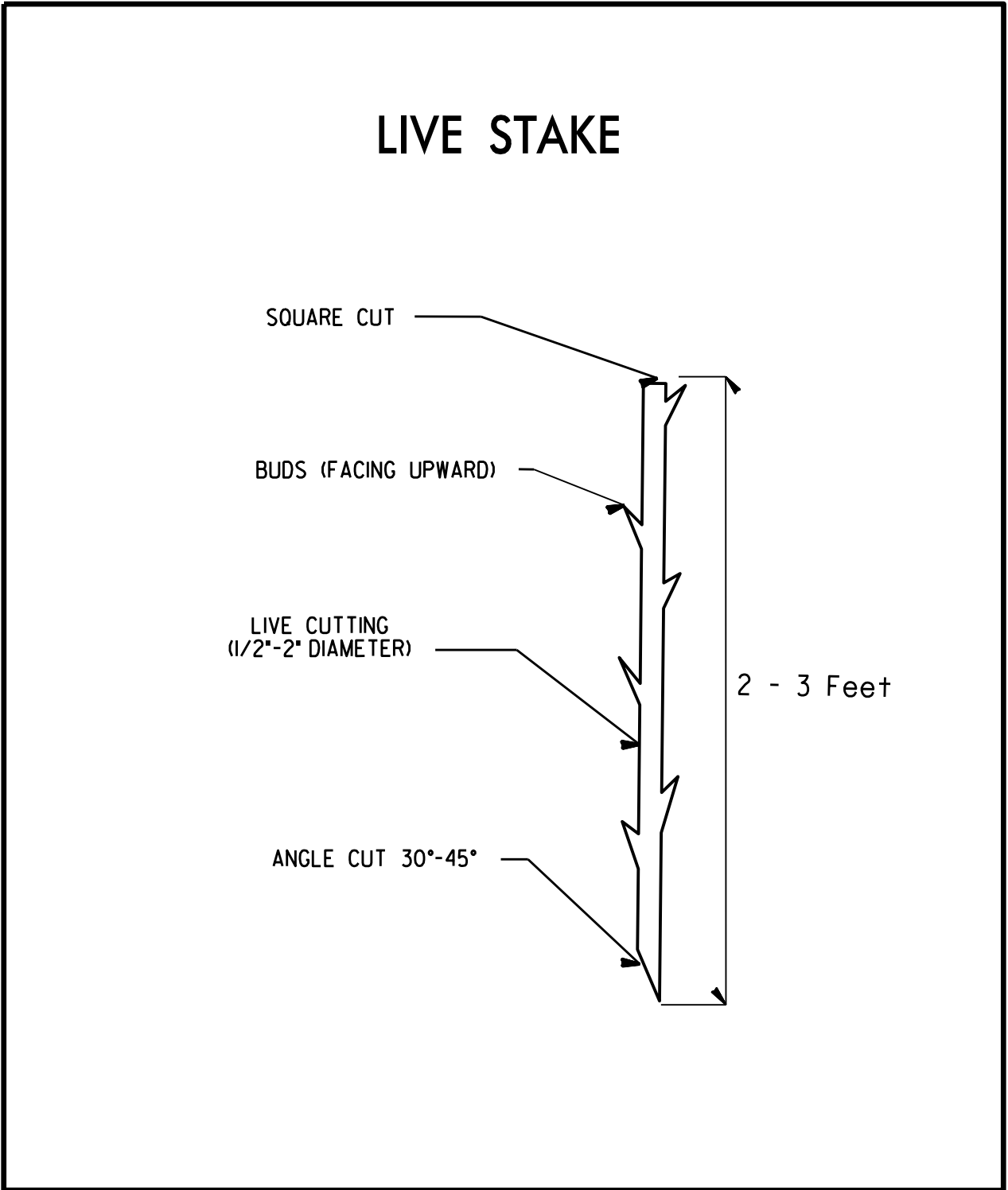
25%	LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in – 18 in BR
25%	PLATANUS OCCIDENTALIS	SYCAMORE	12 in – 18 in BR
25%	BETULA NIGRA	RIVER BIRCH	12 in – 18 in BR
25%	NYSSA SYLVATICA	BLACK GUM	12 in – 18 in BR

REFORESTATION DETAIL SHEET

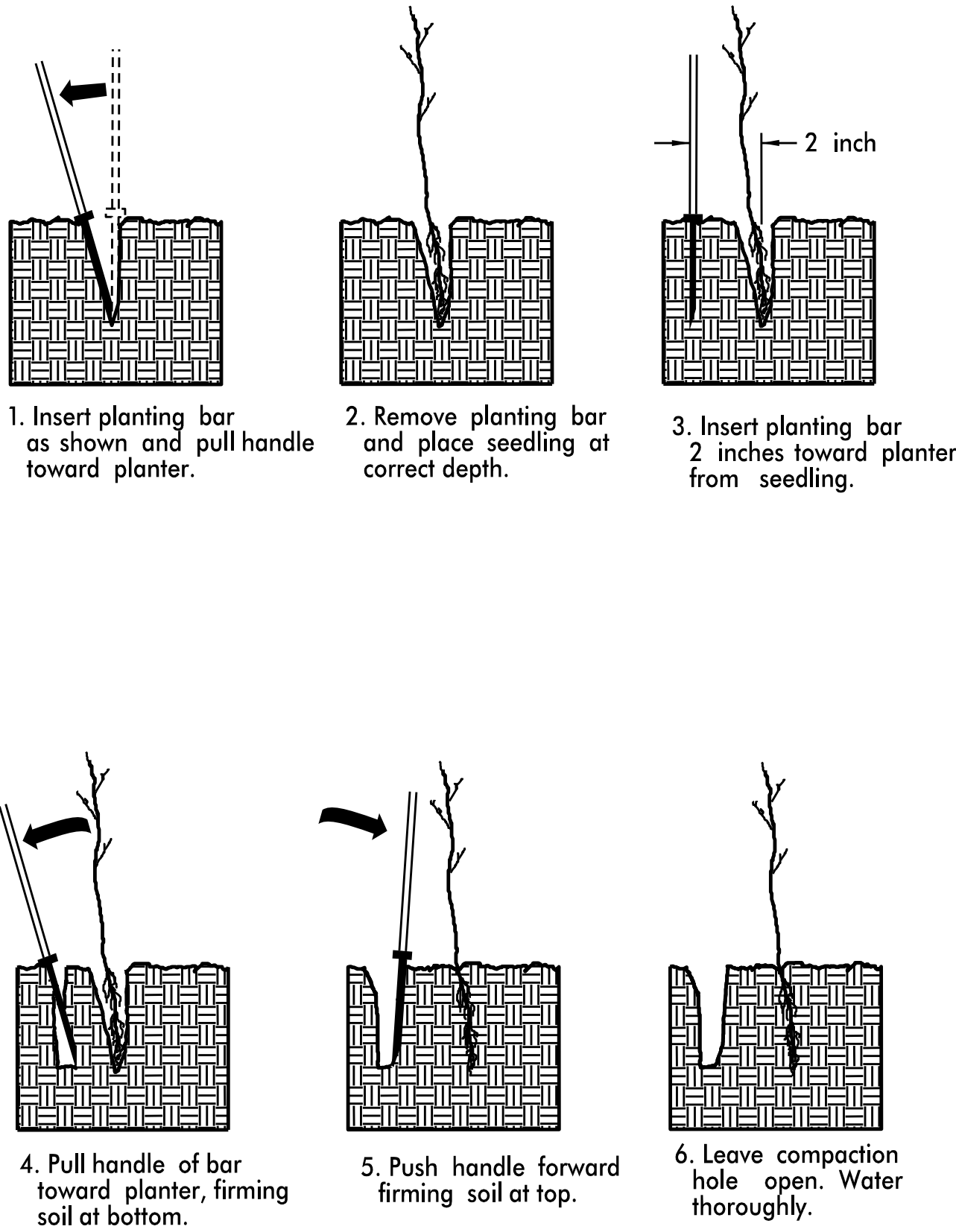
N.C.D.O.T. – ROADSIDE ENVIRONMENTAL UNIT

PLANTING DETAILS

LIVE STAKES PLANTING DETAIL



BAREROOT PLANTING DETAIL
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR

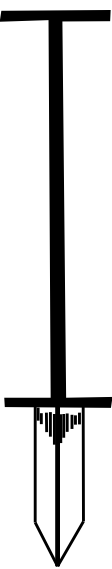


PLANTING NOTES:

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

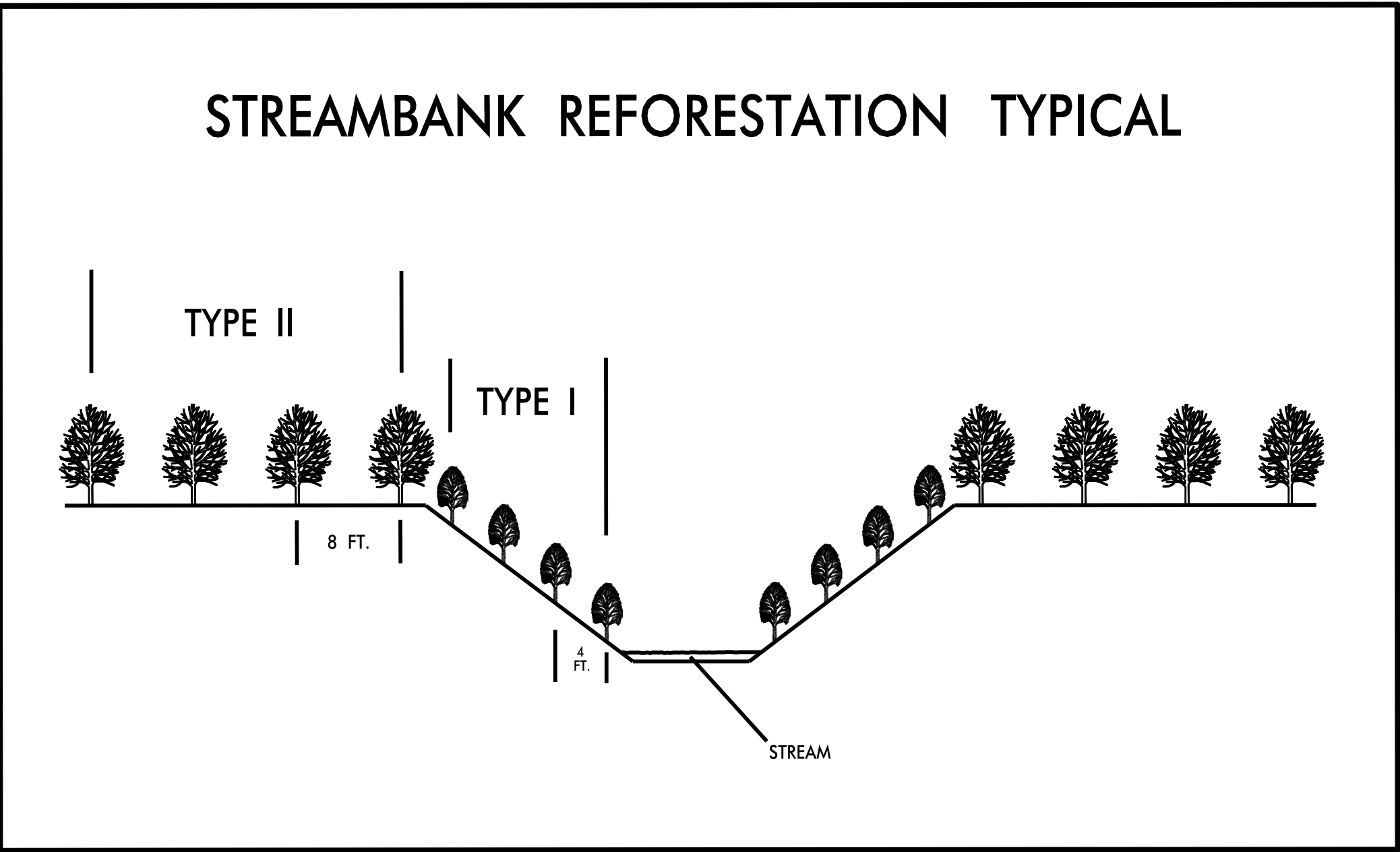


KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



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

- ☐ TYPE 1 STREAMBANK REFORESTATION SHALL BE PLANTED 3 FT. TO 5 FT. ON CENTER, RANDOM SPACING, AVERAGING 4 FT. ON CENTER, APPROXIMATELY 2724 PLANTS PER ACRE.
- ☐ TYPE 2 STREAMBANK REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.
- ☐ NOTE: TYPE 1 AND TYPE 2 STREAMBANK REFORESTATION SHALL BE PAID FOR AS "STREAMBANK REFORESTATION"



STREAMBANK REFORESTATION

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

TYPE 1

50%	SALIX NIGRA	BLACK WILLOW	2 ft – 3 ft LIVE STAKES
50%	CORNUS AMOMUM	SILKY DOGWOOD	2 ft – 3 ft LIVE STAKES

TYPE 2

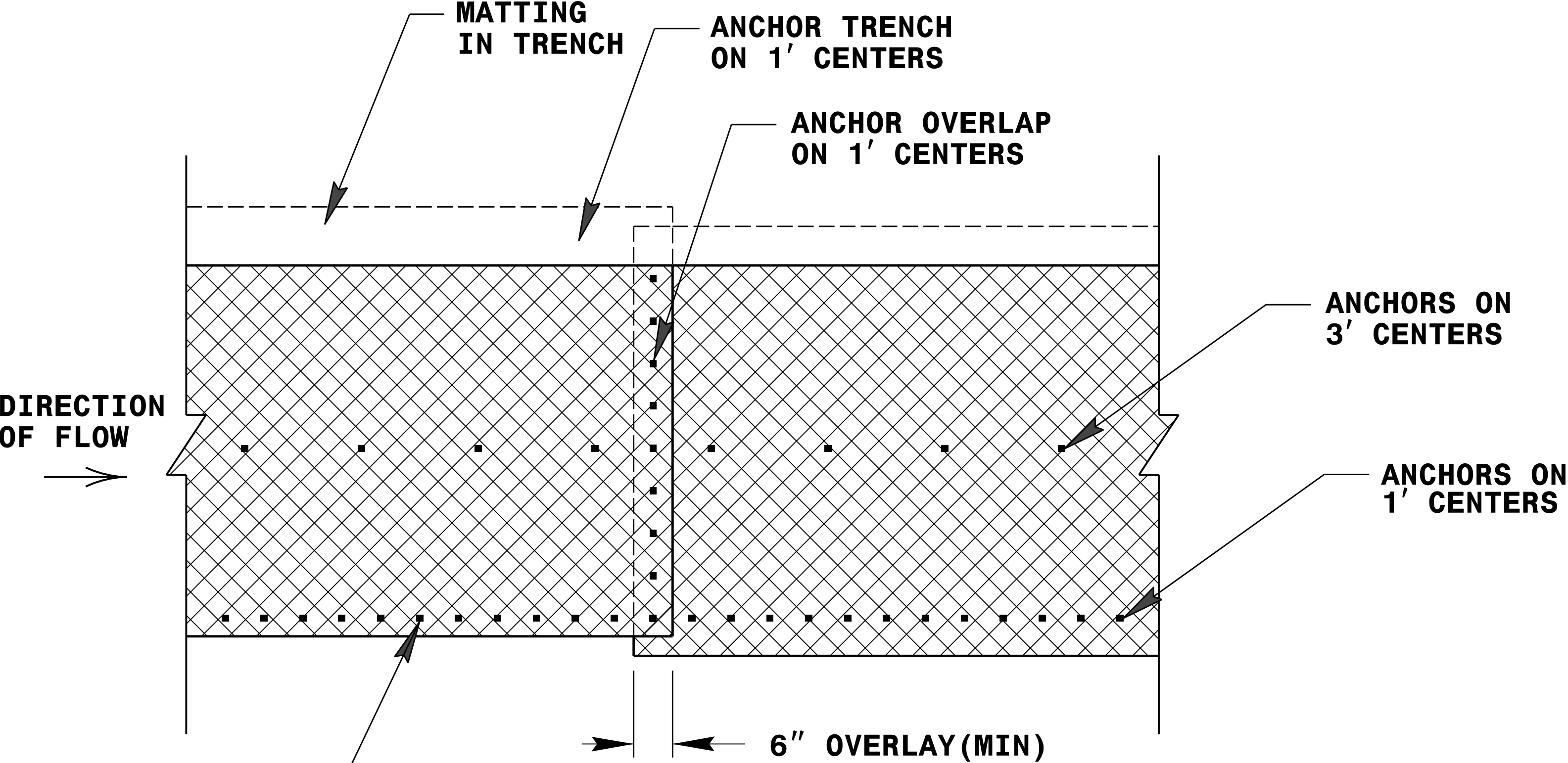
25%	LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in – 18 in BR
25%	PLATANUS OCCIDENTALIS	SYCAMORE	12 in – 18 in BR
25%	BETULA NIGRA	RIVER BIRCH	12 in – 18 in BR
25%	NYSSA SYLVATICA	BLACK GUM	12 in – 18 in BR

- ☐ SEE PLAN SHEETS FOR AREAS TO BE PLANTED

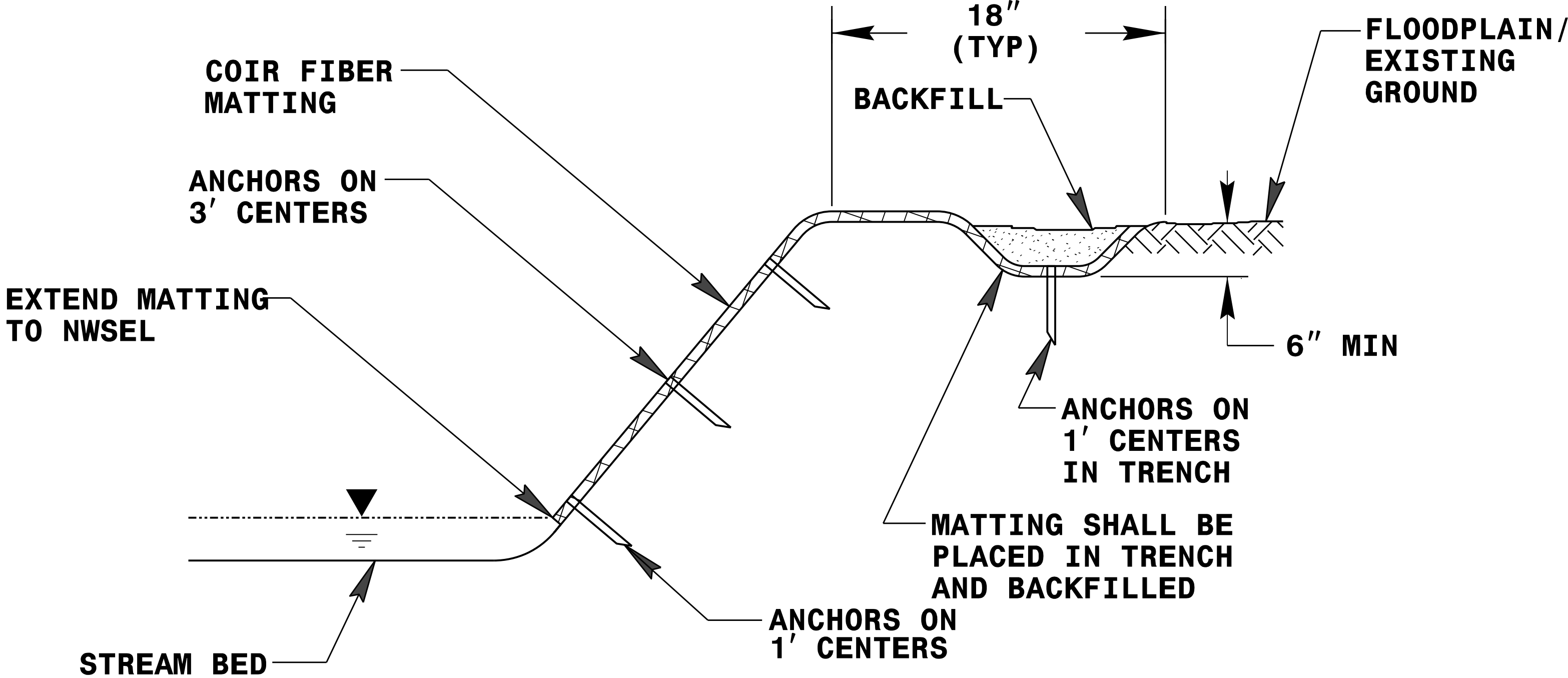
STREAMBANK REFORESTATION
DETAIL SHEET 1 OF 2
N.C.D.O.T. – ROADSIDE ENVIRONMENTAL UNIT

PROJECT REFERENCE NO. <i>HB-0054</i>	SHEET NO. <i>RF-2</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
HB-0054	RF-3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



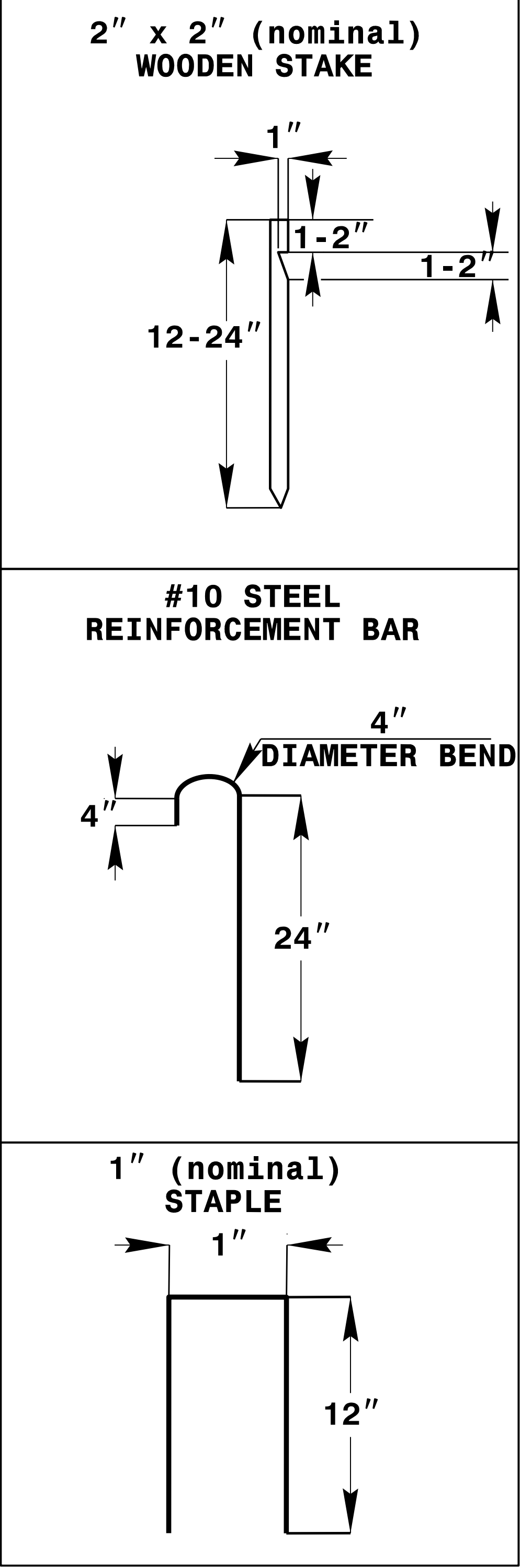
PLAN VIEW



TYPICAL CROSS SECTION

COIR FIBER MATTING DETAIL

NOT TO SCALE



ANCHOR OPTIONS

STREAMBANK REFORESTATION

DETAIL SHEET 2 OF 2

N.C.D.O.T. – ROADSIDE ENVIRONMENTAL UNIT

PROJECT: HB-0054

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLAN
ASHE COUNTY

LOCATION: *BRIDGE #040509 OVER SOUTH FORK NEW RIVER
ON SR 1222 (METHODIST CAMP RD)*
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND STRUCTURE*

TIP NO.
HB-0054

SHEET NO.
SIGN-1

Signed by:
Don A. Parker

APPROVED:
150B9E9ADEF443...

DATE:
6/8/2026

SEAL


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - CONTRACT STANDARDS AND DEVELOPMENT 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
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL SIGN ERECTION, TYPE E DISPOSAL OF SIGN SYSTEM, U-CHANNEL	90	L. F.
4102000000	904		8	EA.
4155000000	907		6	EA.

GENERAL NOTES

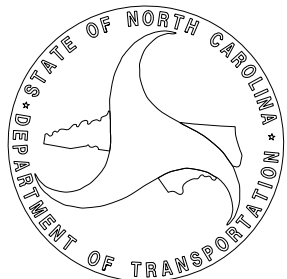
- . SIGNS FURNISHED BY STATE
- . CONFIRM IN WRITING AT LEAST 4 MONTHS IN ADVANCE, THE ACTUAL DATE THE DEPARTMENT FURNISHED SIGNS WILL BE REQUIRED.
- . IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- . ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- . THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- . SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	TYPE "E" SIGNS
SIGN-3	EXISTING SIGNS
SIGN-4	PROPOSED SIGNS

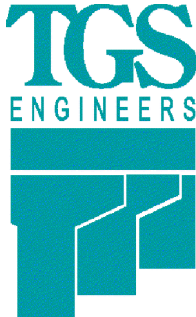
PLAN SUBMITTED TO: NCDOT

ROB WEISZ, P.E. NCDOT CONTACT



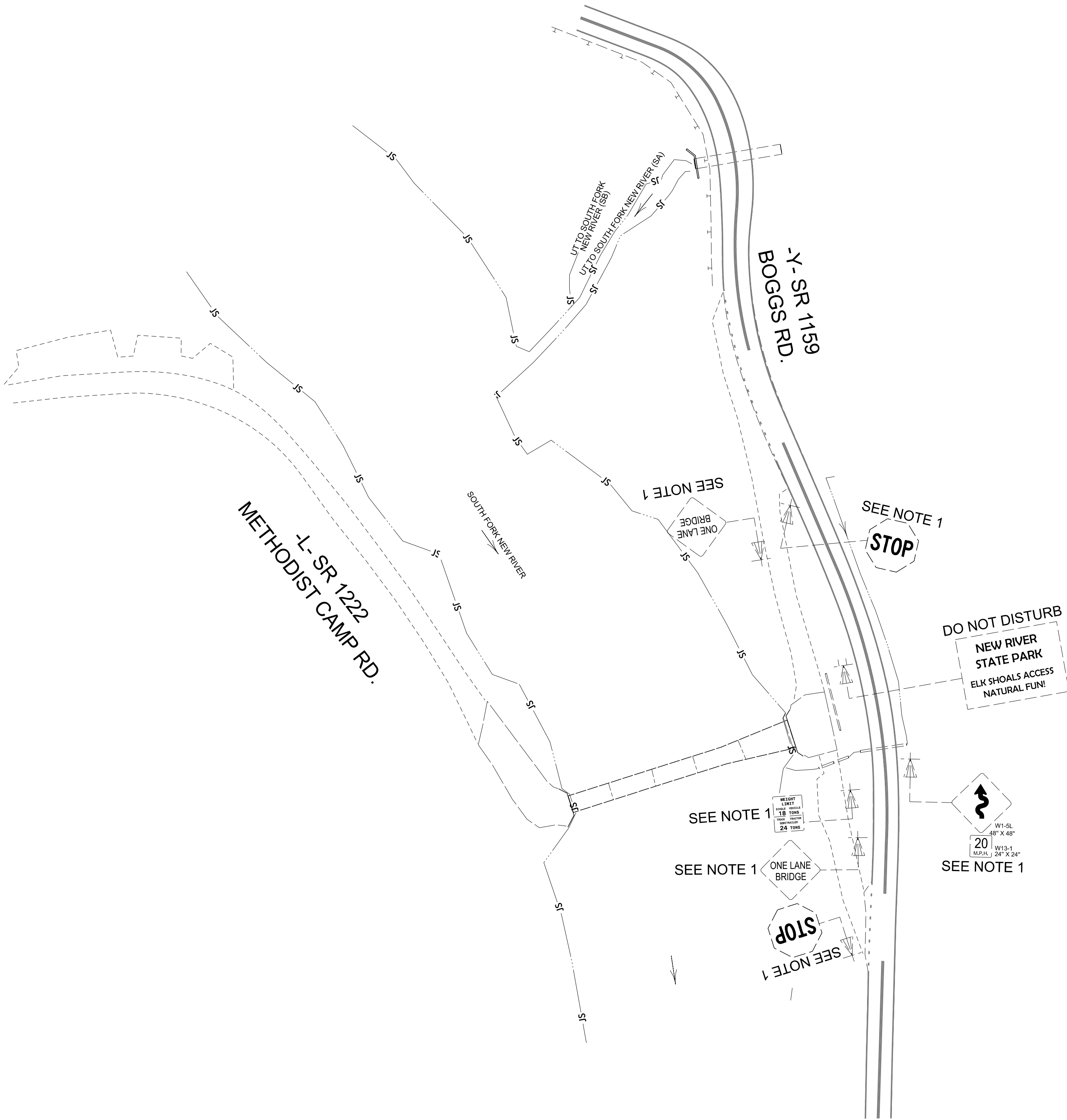
PLAN PREPARED BY: TGS ENGINEERS

DON A. PARKER, P.E. PROJECT ENGINEER
CODA BRANNAN, E.I. DESIGN ENGINEER



TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

TIP NO.	SHEET NO.
HB-0054	SIGN-3
Signed by: APPROVED: <i>Don A. Parker</i> 750B9E90ADE440...	
DATE: 6/8/2026	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	TGS ENGINEERS 706 HILLSBOROUGH STREET (SUITE 200) RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275

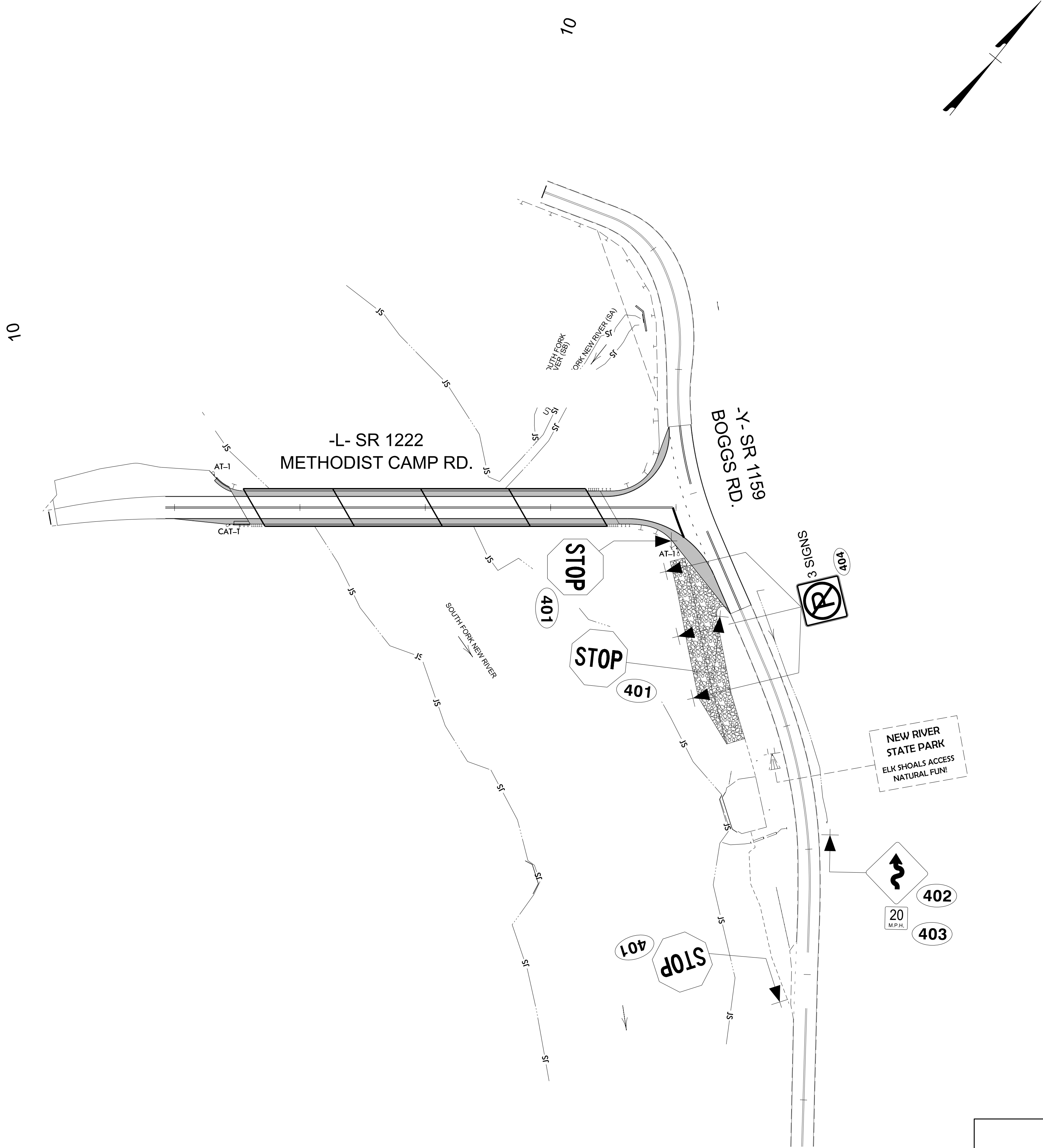


PROJECT NOTES

- 1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL

EXISTING SIGNS

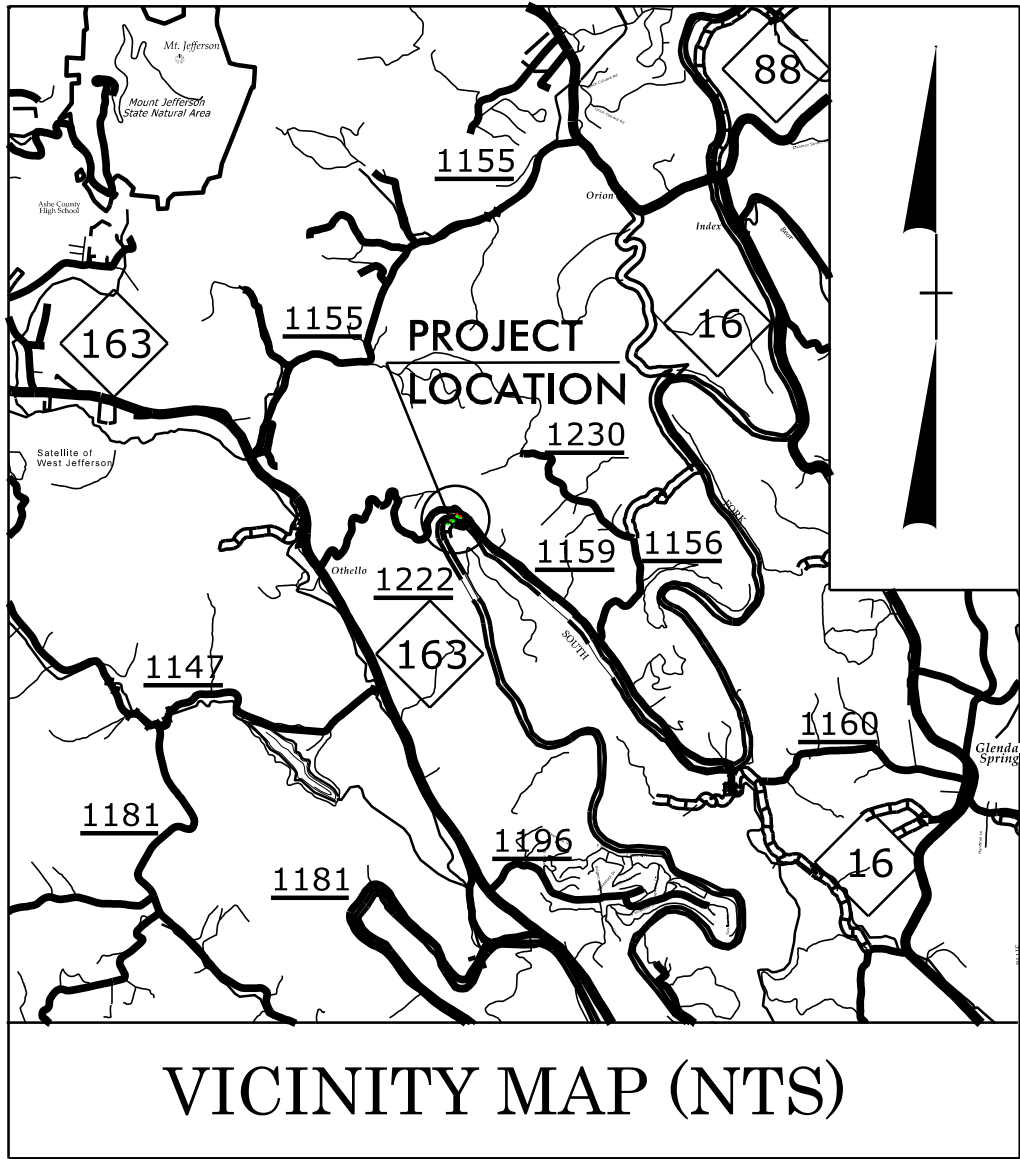
TIP NO.	SHEET NO.
HB-0054	SIGN-4
APPROVED: <i>Don A. Parker</i> Signed by: 75089E90ADE440...	
DATE: 6/8/2026	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 706 HILLSBOROUGH STREET (SUITE 200) RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	



PROPOSED SIGNS

TIP PROJECT: HB-0054

CONTRACT:



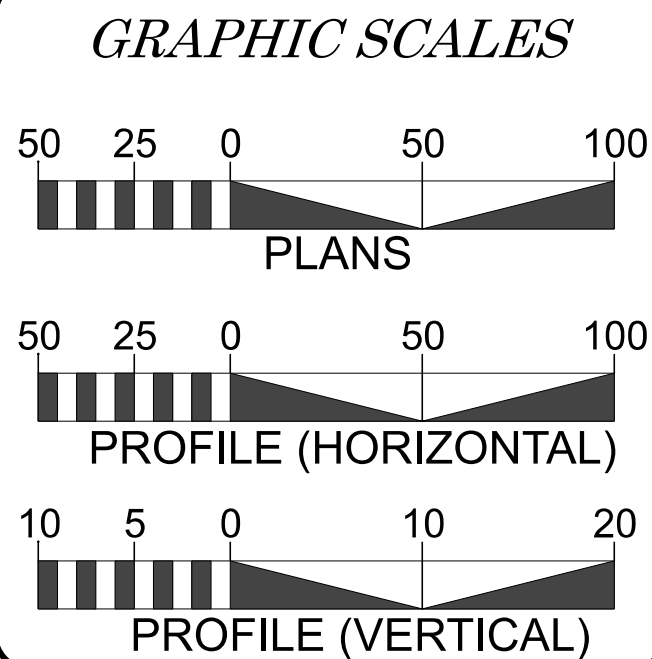
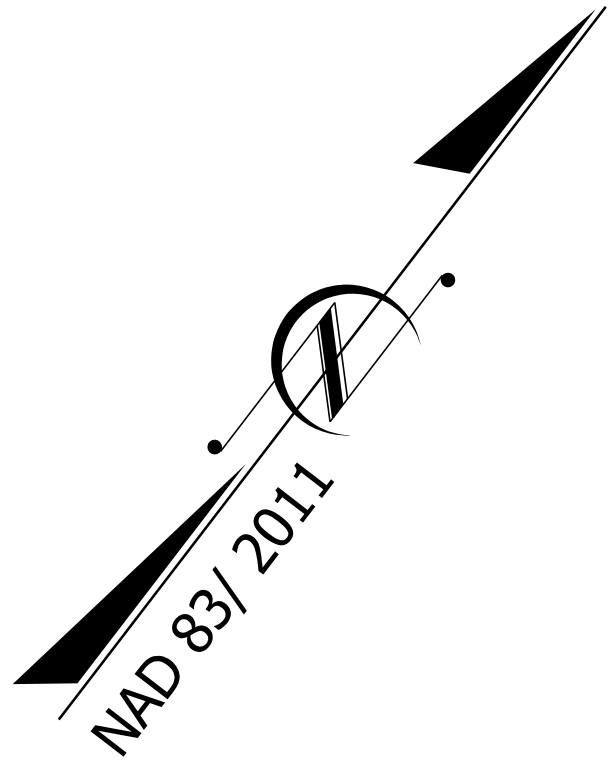
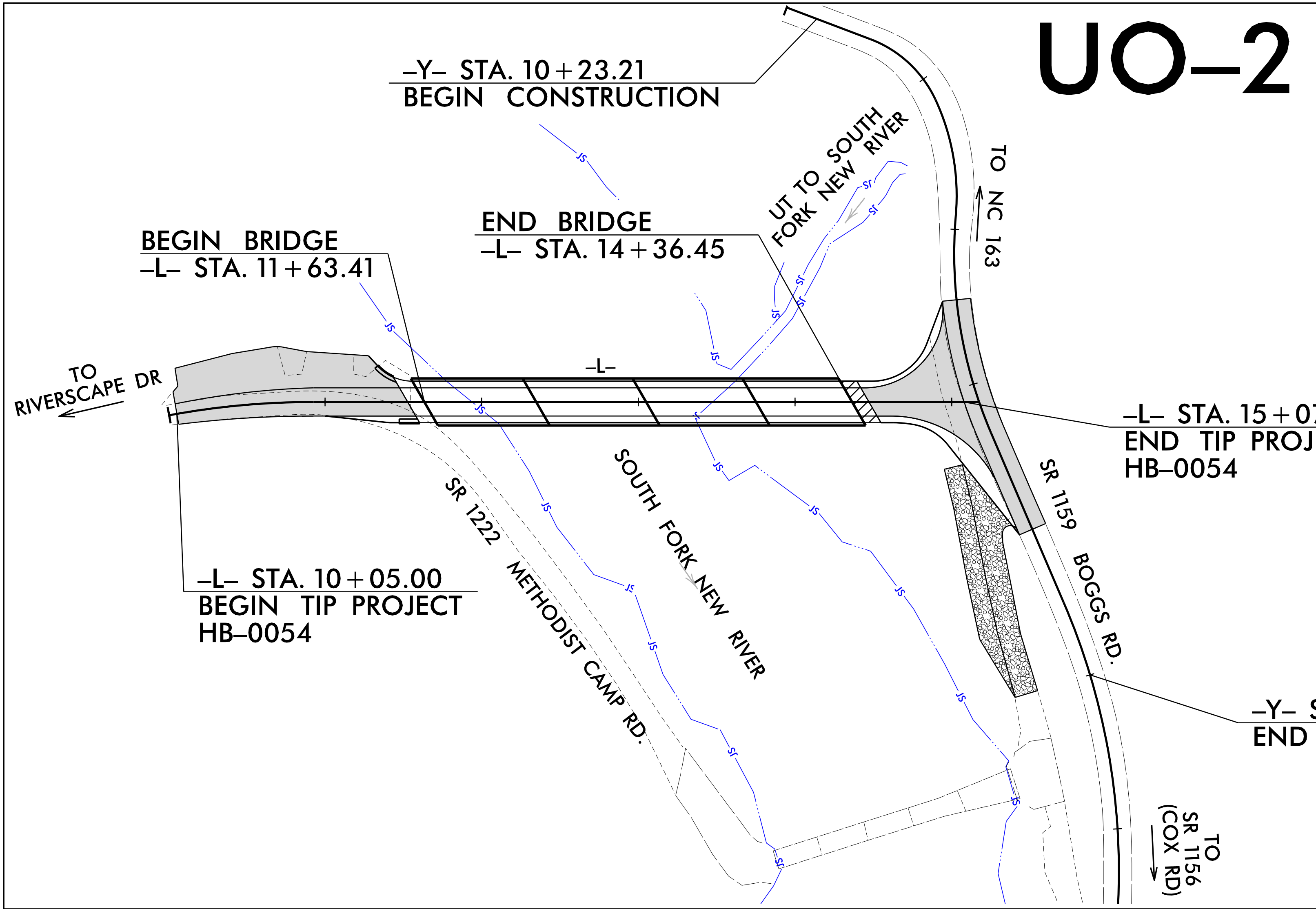
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
ASHE COUNTY

LOCATION: BRIDGE #040509 OVER SOUTH FORK NEW RIVER
ON SR 1222 (METHODIST CAMP ROAD)
TYPE OF WORK: COMMUNICATIONS

T.I.P. NO.	SHEET NO.
HB-0054	UO-1

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



INDEX OF SHEETS	
<u>SHEET NO.:</u>	<u>DESCRIPTION:</u>
UO-1	TITLE SHEET
UO-2	UBO PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

(A) COMMUNICATIONS - SKYLINE

PREPARED IN THE OFFICE OF

TELICS

119 BROOKSTOWN AVE.
SUITE 305
WINSTON SALEM, NC 27101
(336) 705 - 8844

CORY WOOD UTILITY PROJECT MANAGER
CORY WOOD UTILITY COORDINATOR

 **DIVISION OF HIGHWAYS
DIVISION II**
801 STATESVILLE RD.
NORTH WILKESBORO NC 28659
PHONE (336) 903-9101
FAX (336) 667-4549

BRANDON GREER DIVISION UTILITIES ENGINEER

UO-2

UTILITY CONSTRUCTION
PLANS ONLY

DESIGNED BY:

DRAWN BY:

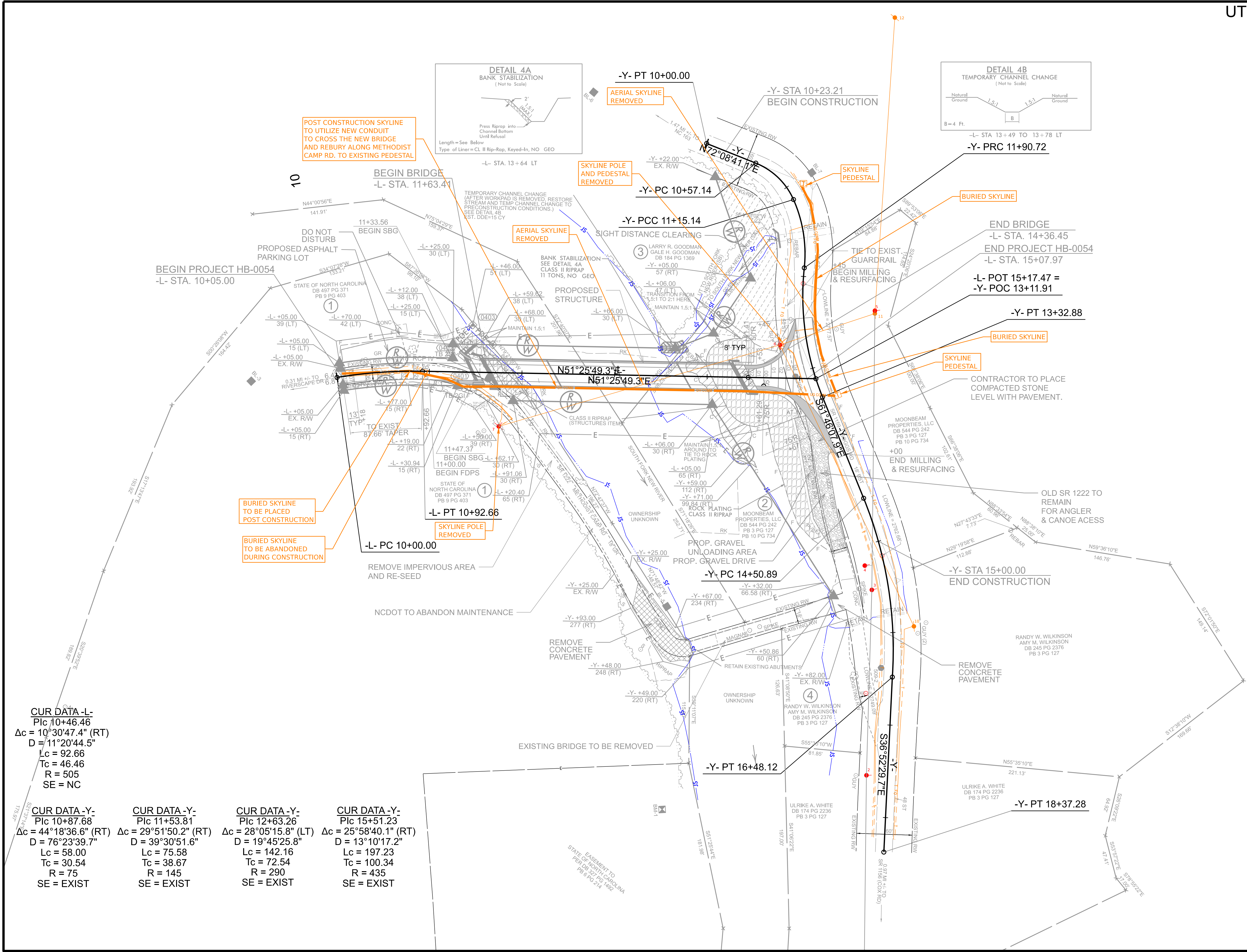
CHECKED BY:

APPROVED BY _____

REVISÉ:

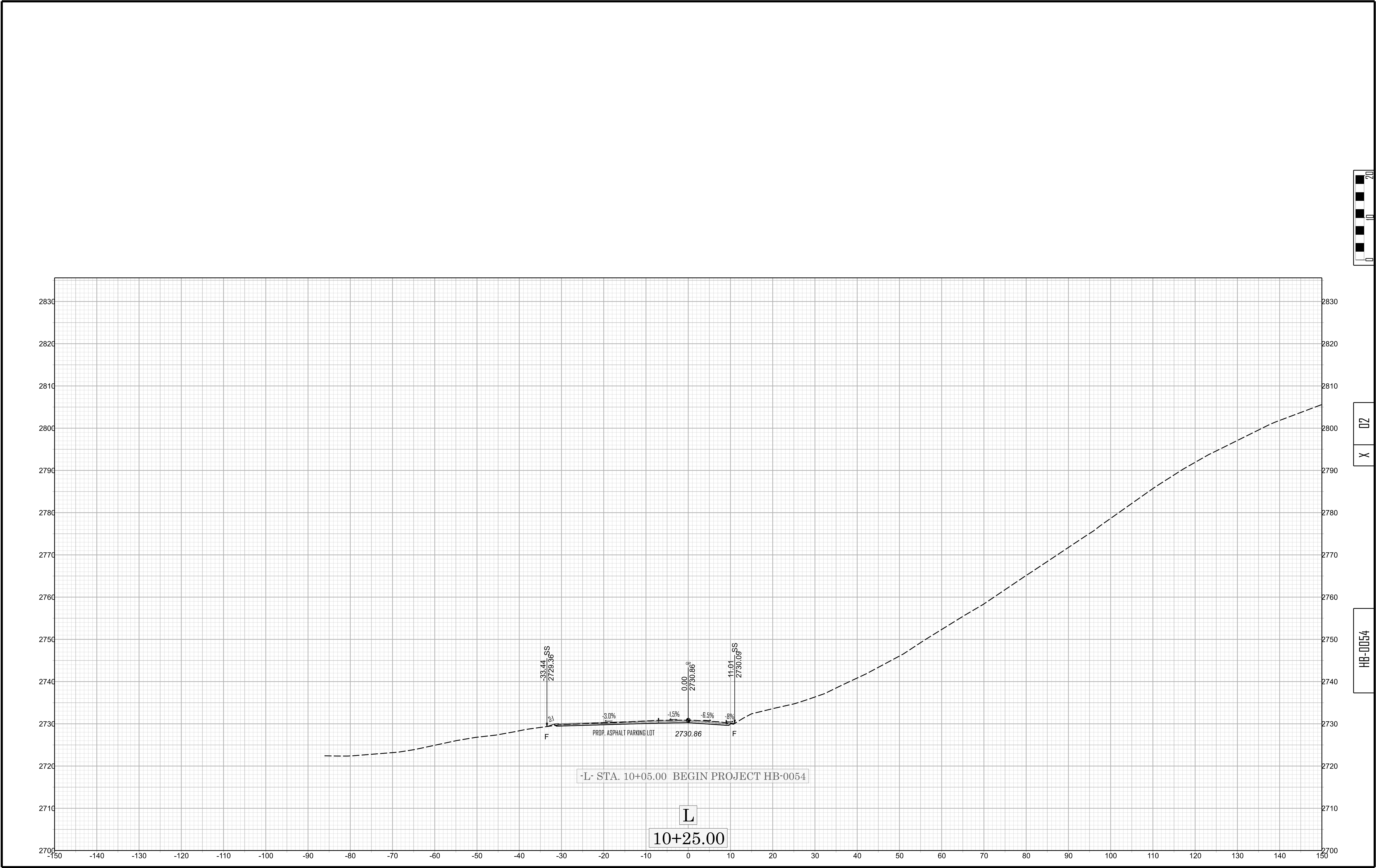
1598 WESTBROOK PLAZA DR.
SUITE 202
WINSTON SALEM, NC 27103
PHONE: (706) 705-8844

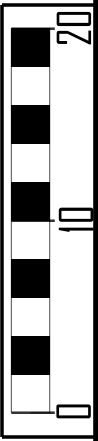
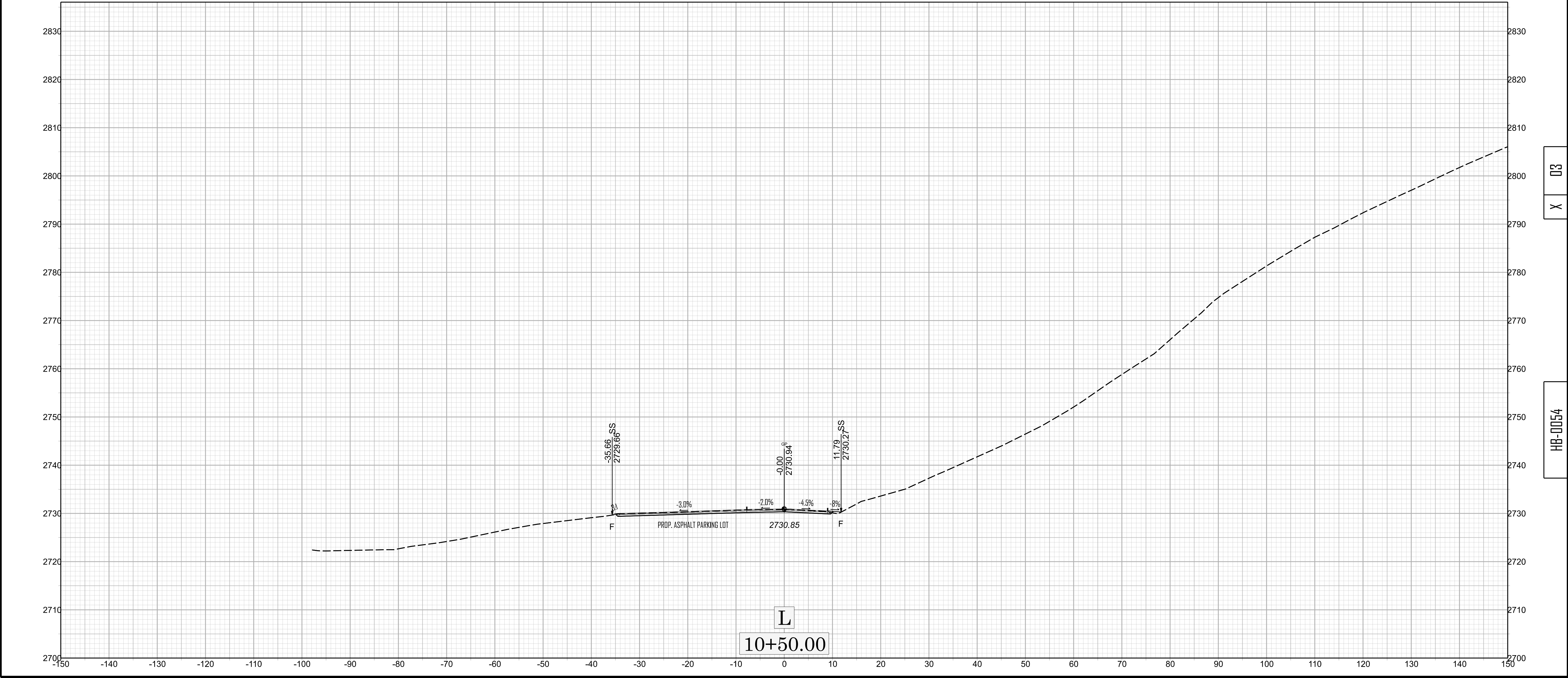
REVISIONS



HB - 0054
CROSS - SECTION INDEX

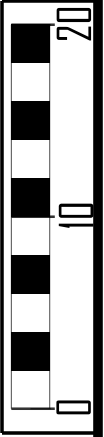
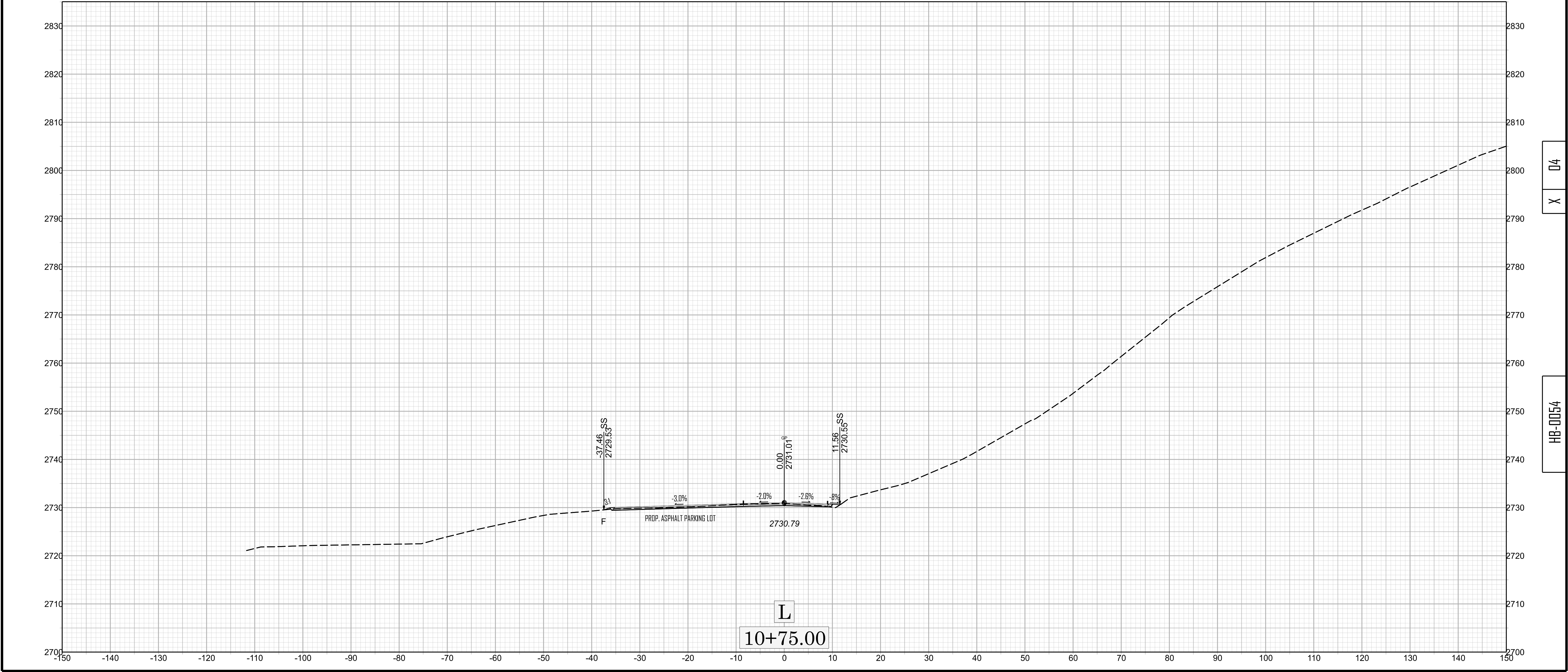
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XS - SECTION	SUMMARY.....	X - 1A
	- L -	X - 2 THRU X - 15
	- Y -	X - 16 THRU X - 26





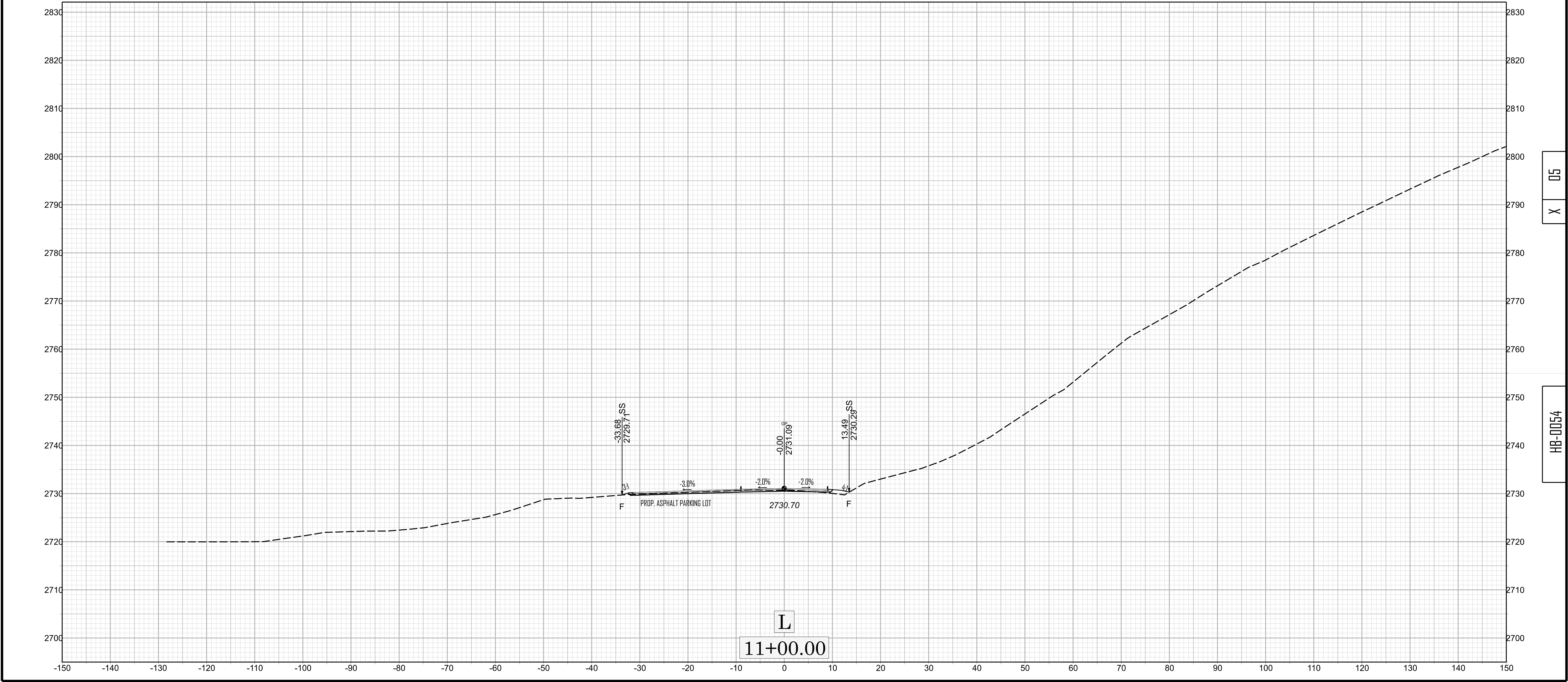
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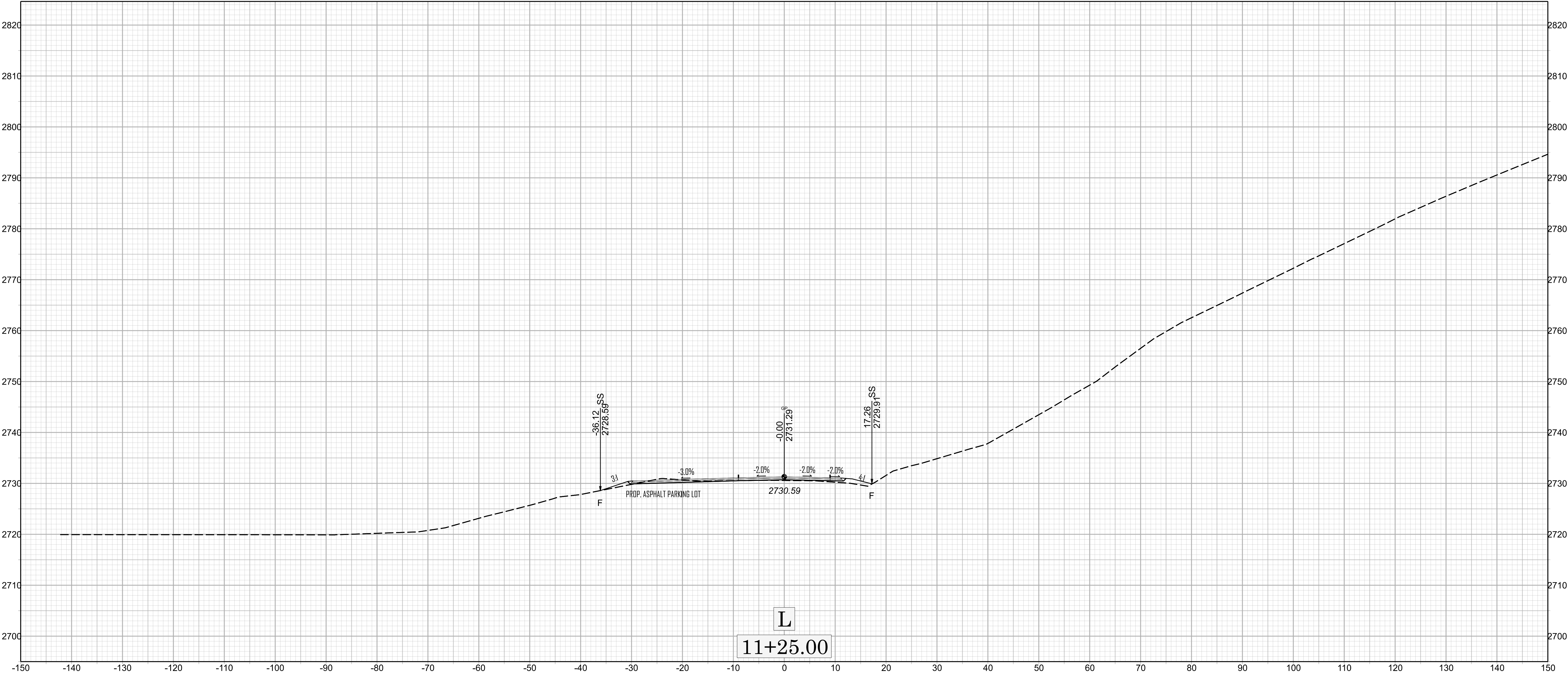
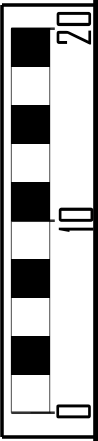
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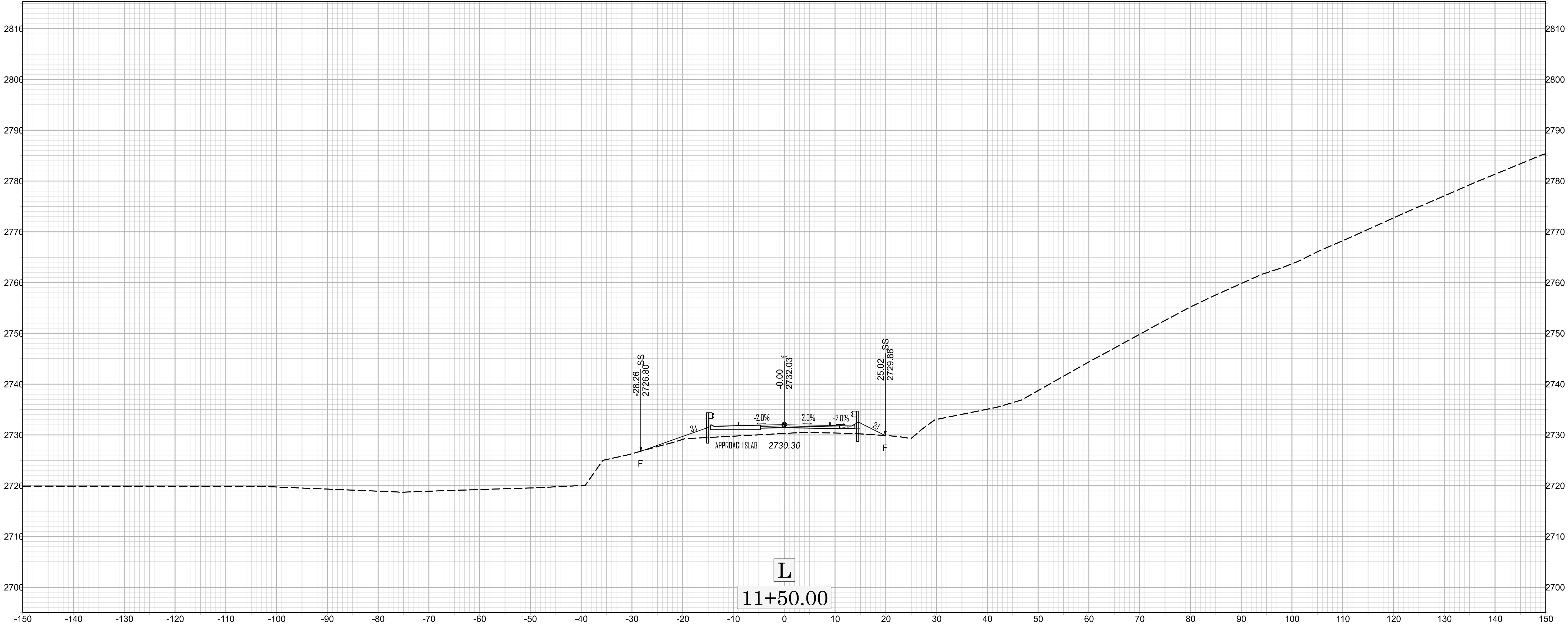
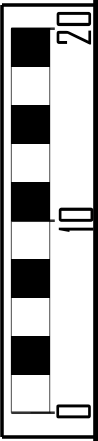
HB-0054





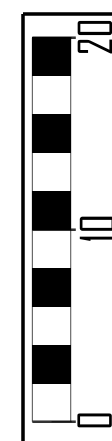
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HB-0054



X 07

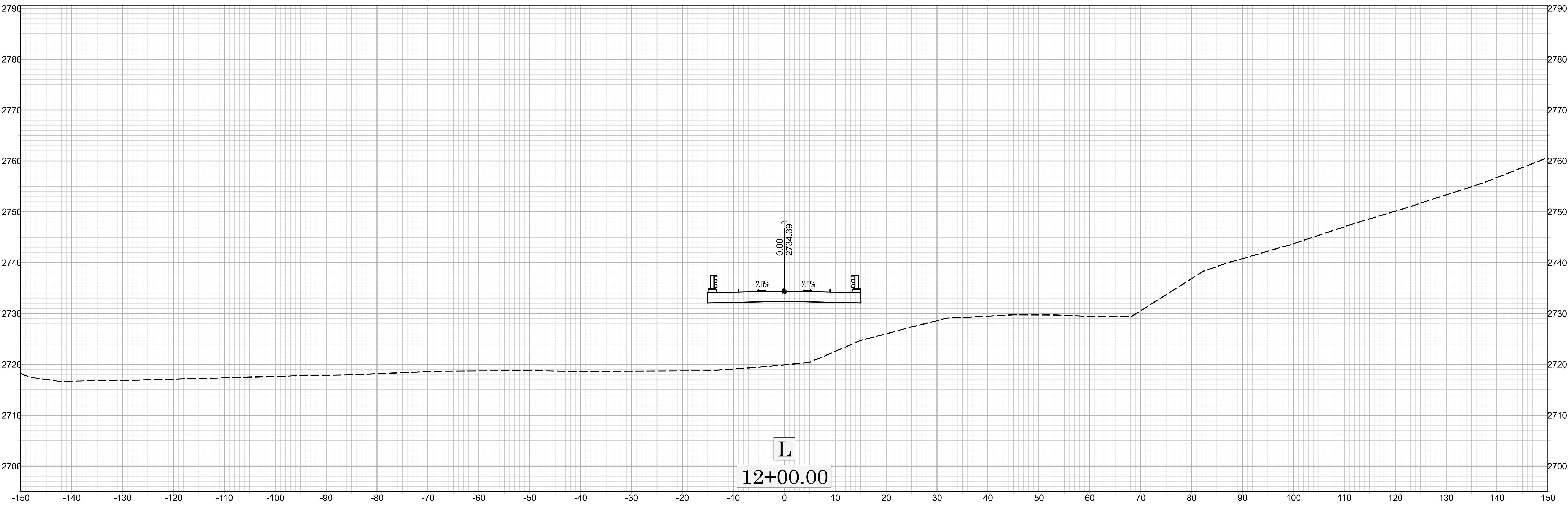
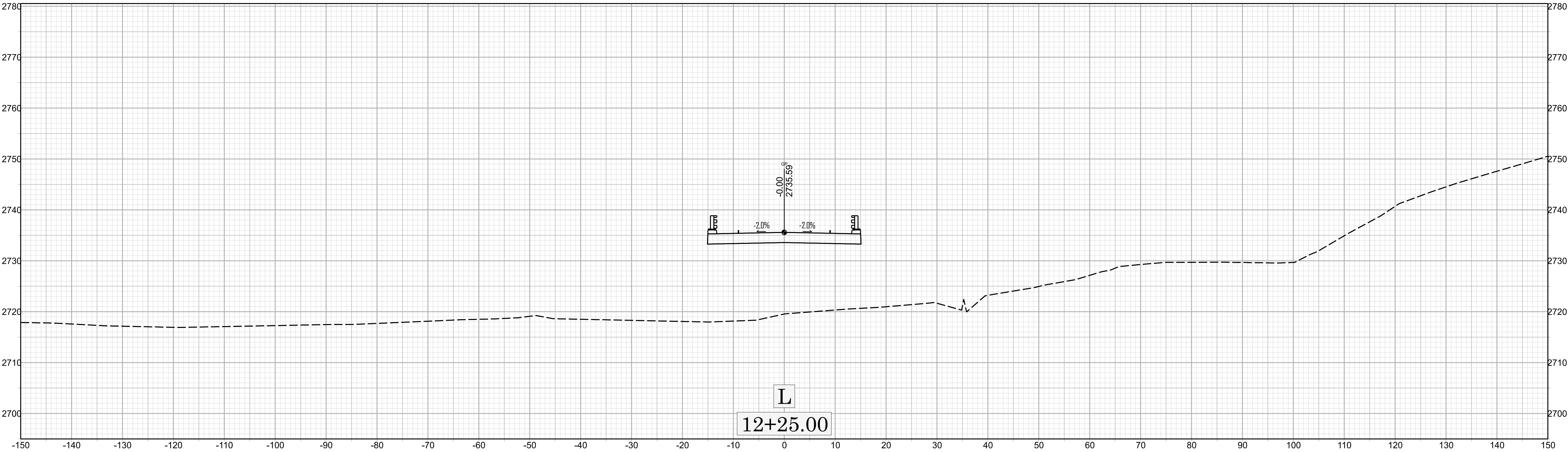
HB-0054



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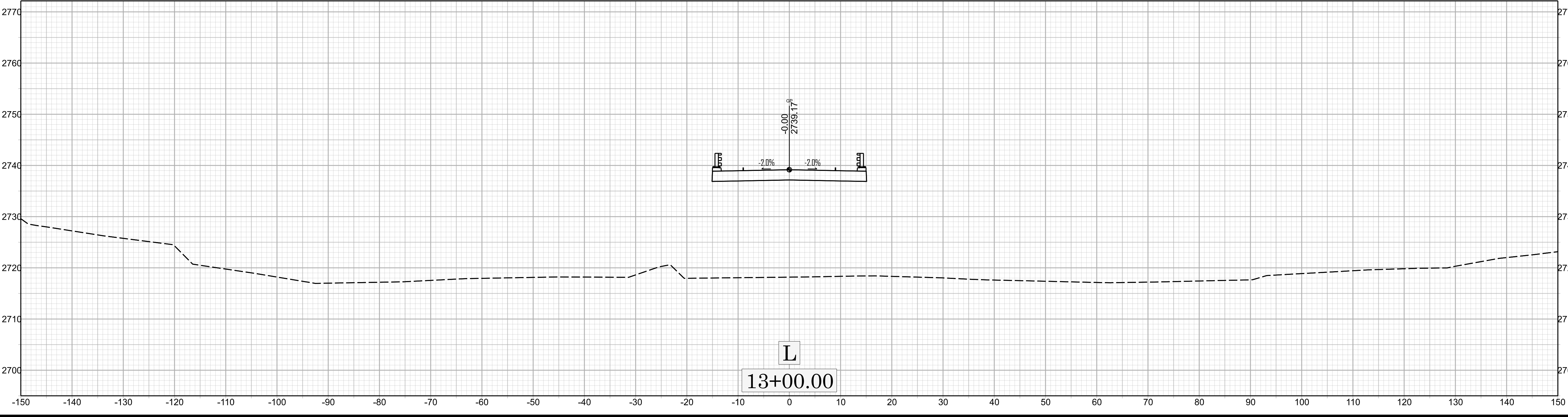
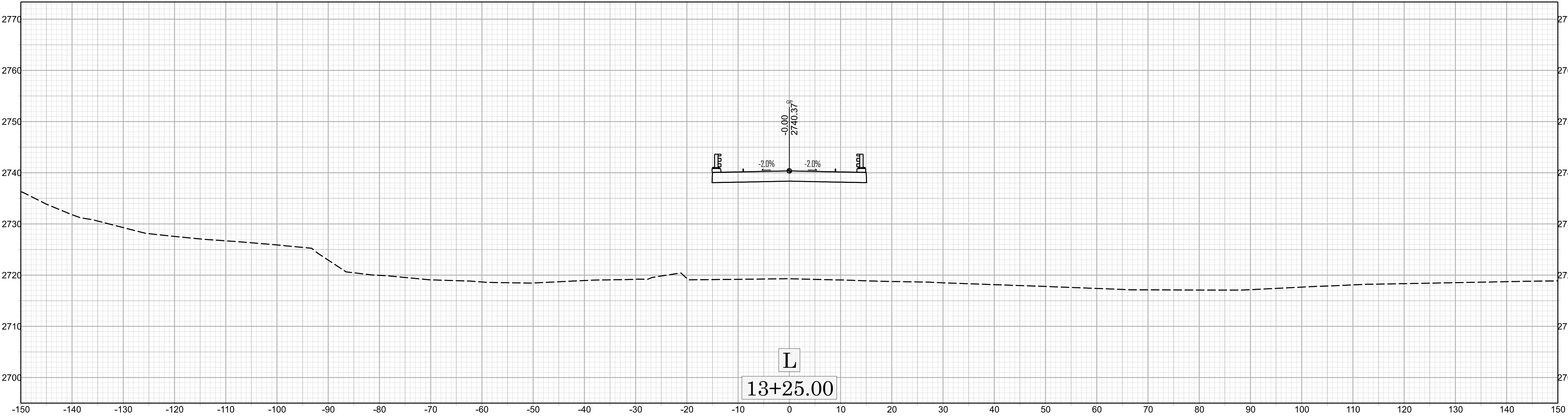
HB-0054

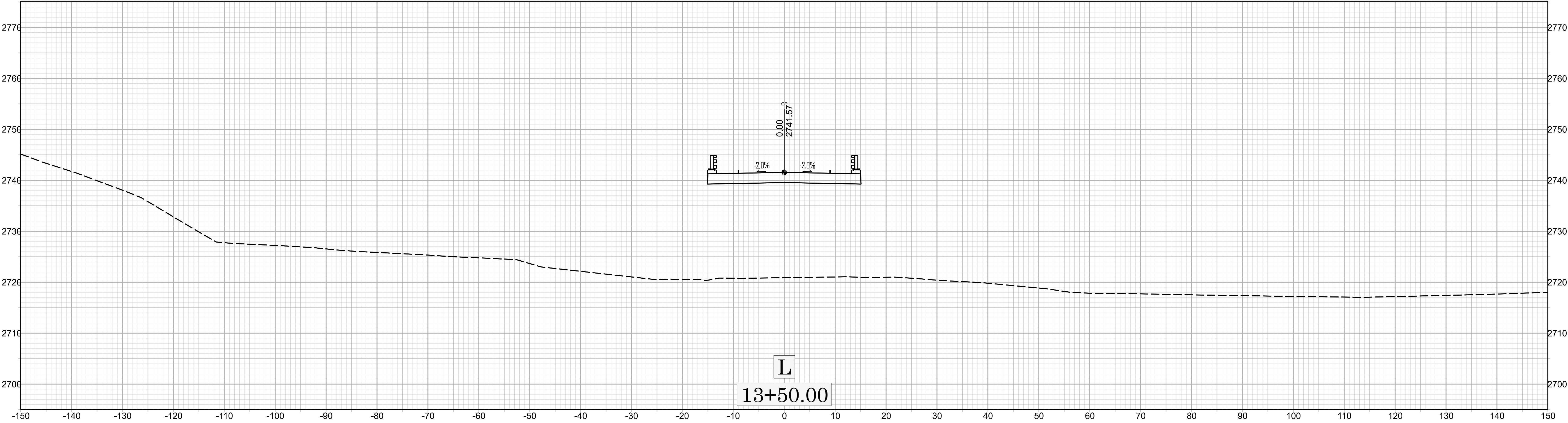
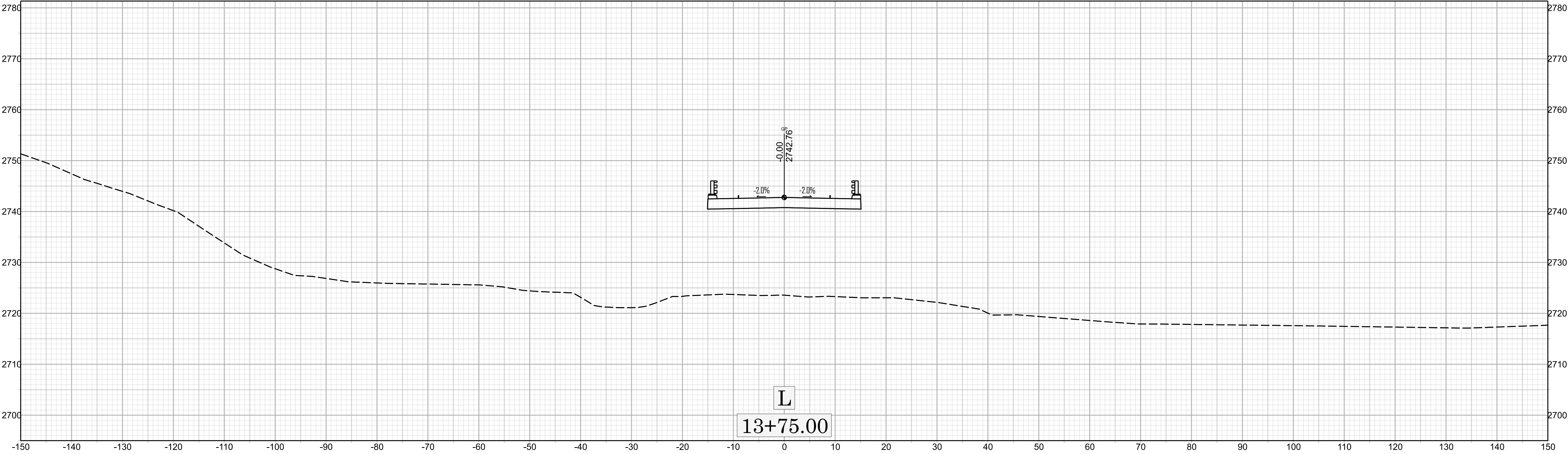
11/14/23

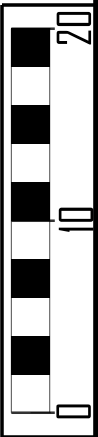
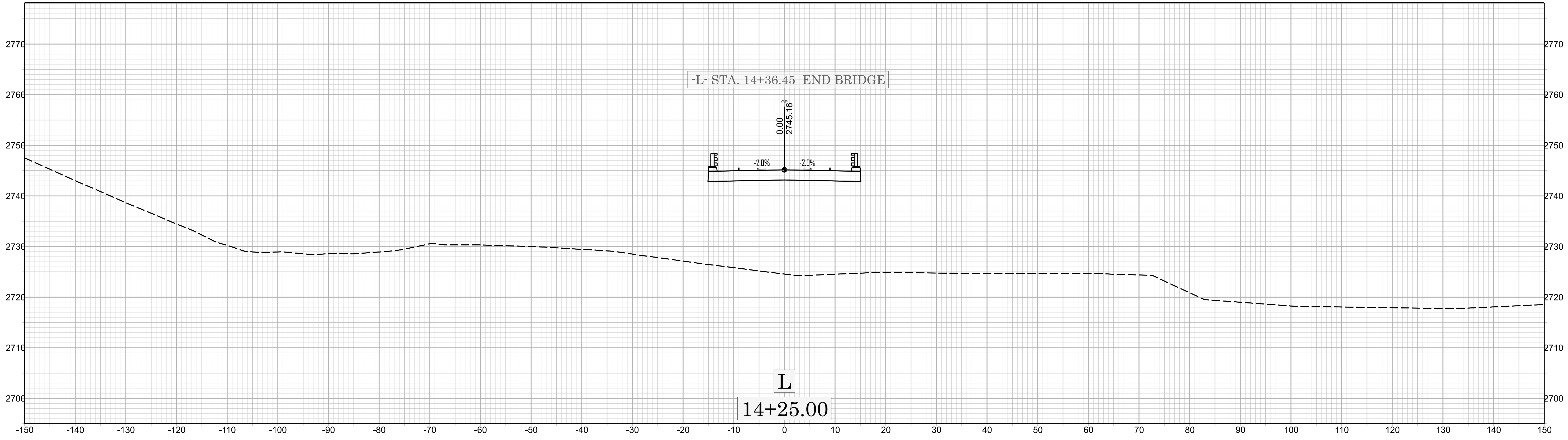




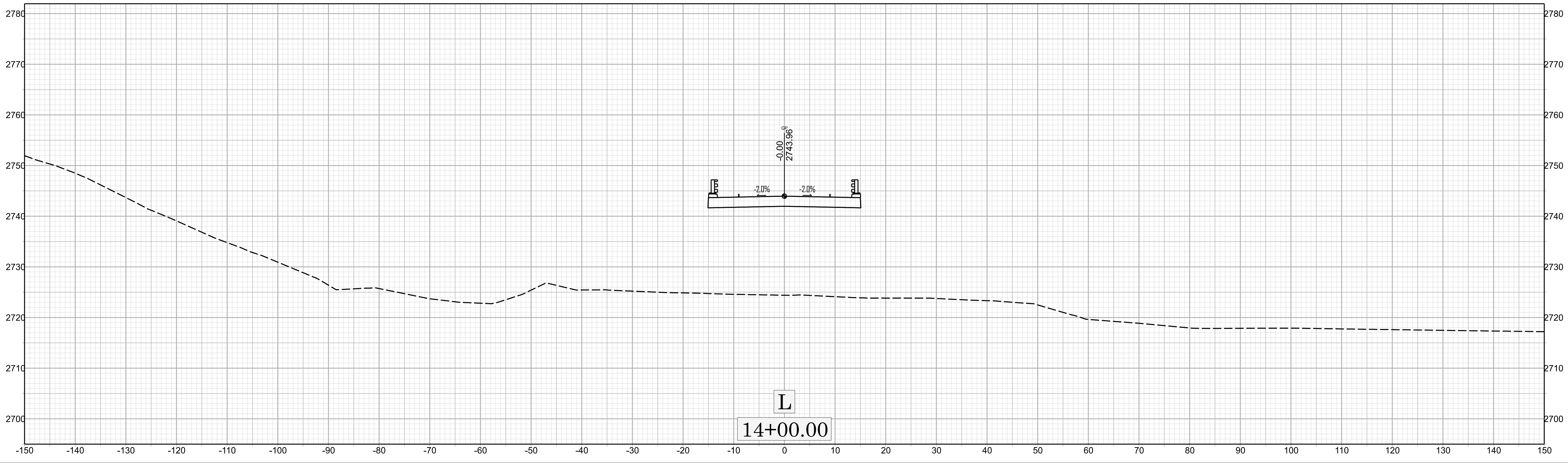
HB-0054



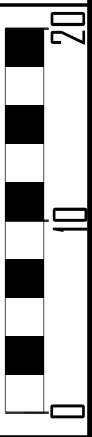
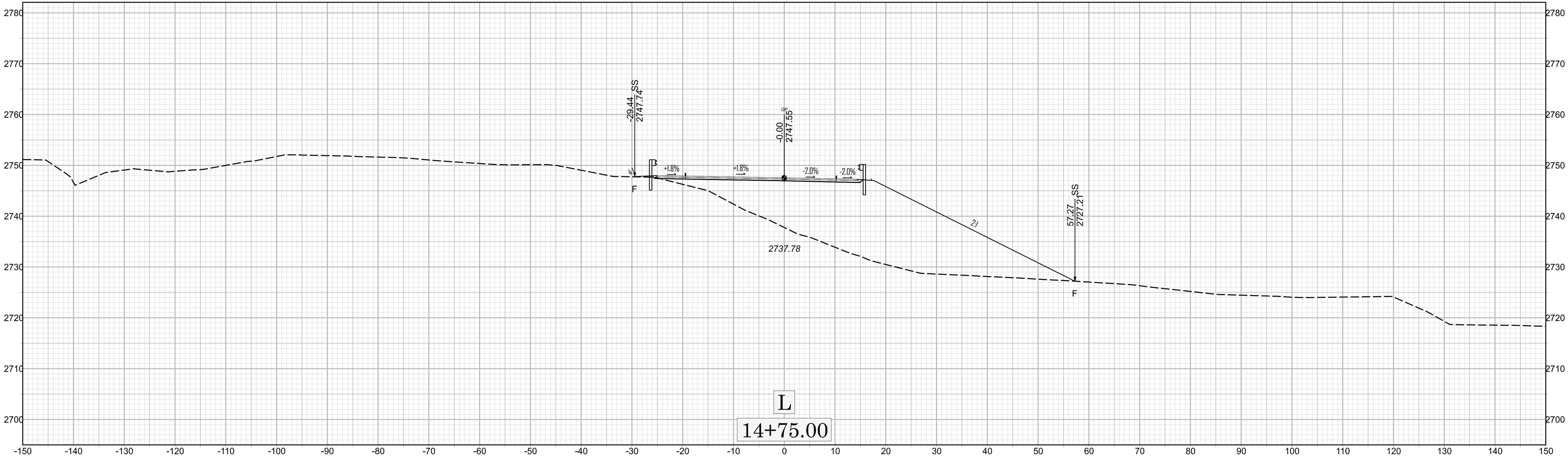




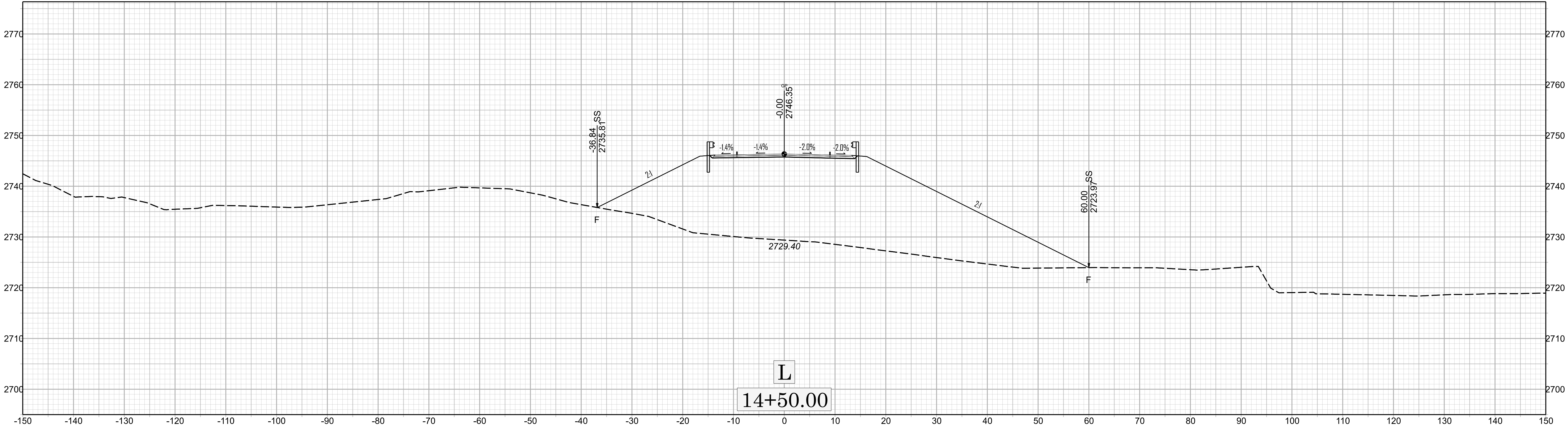
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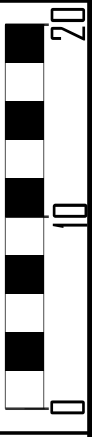
HB-0054



X 14

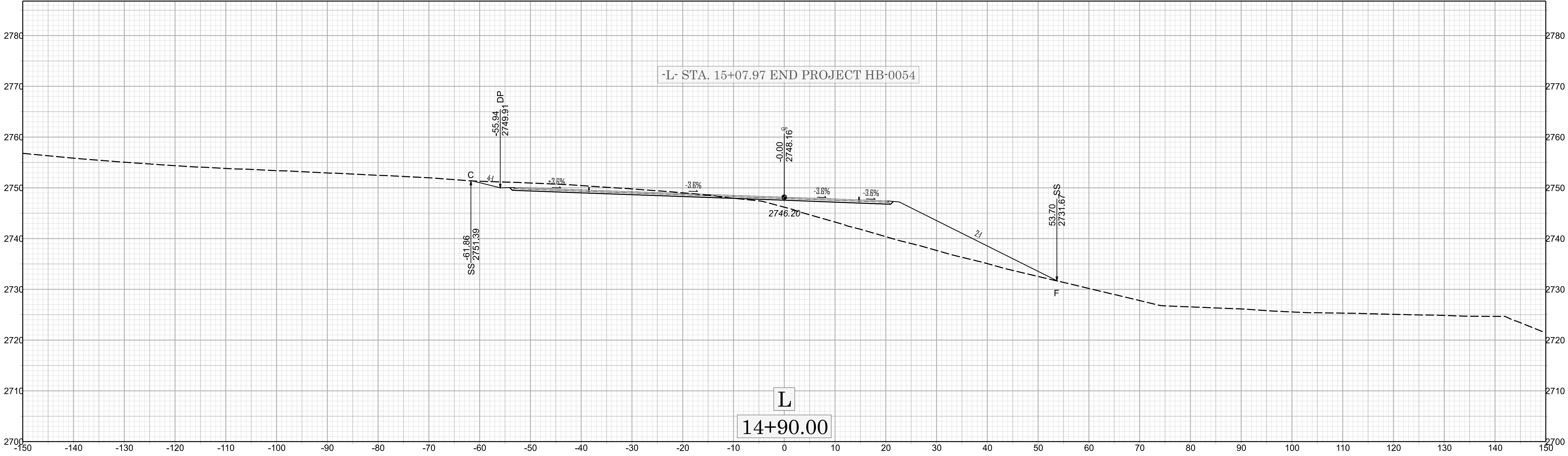


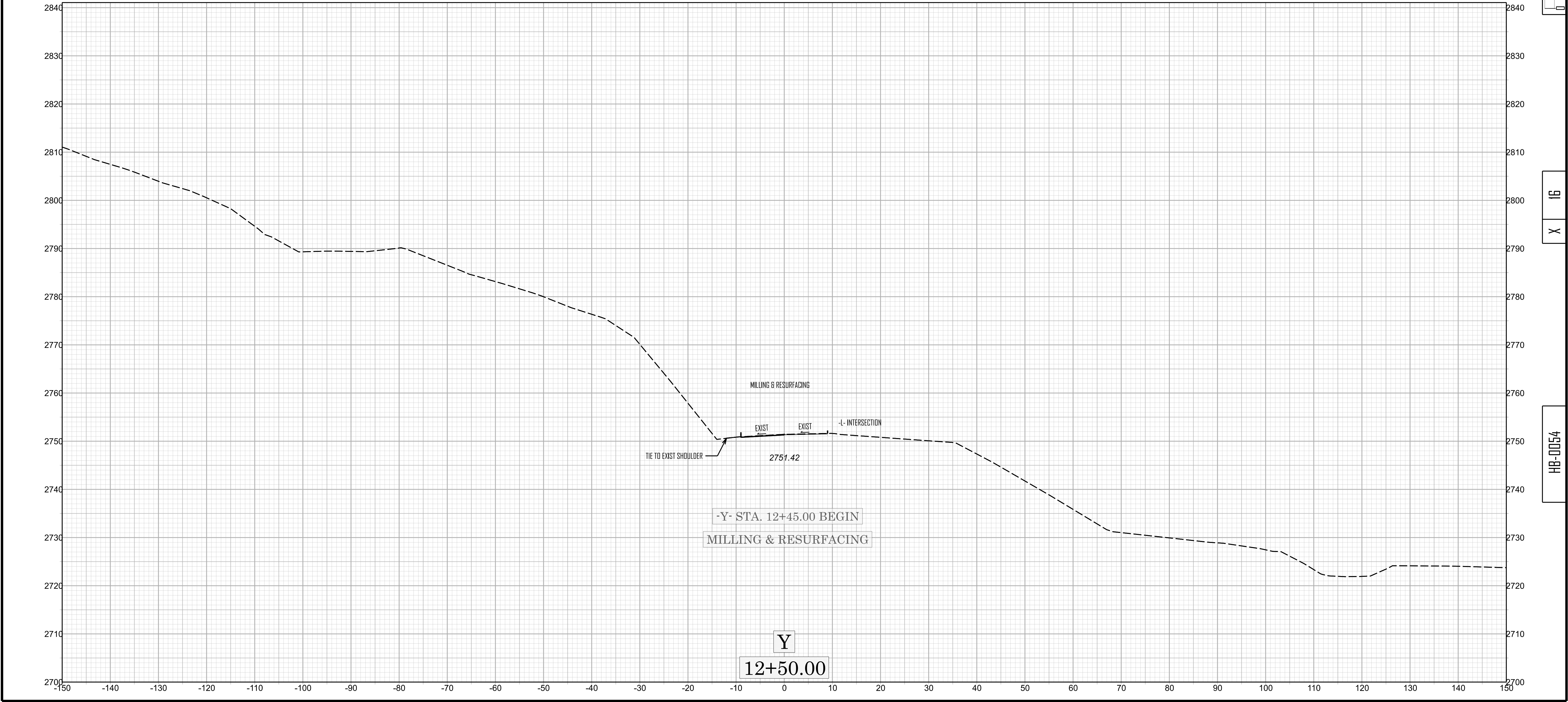
HB-0054

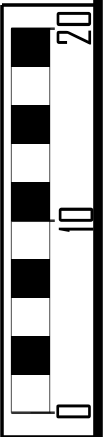
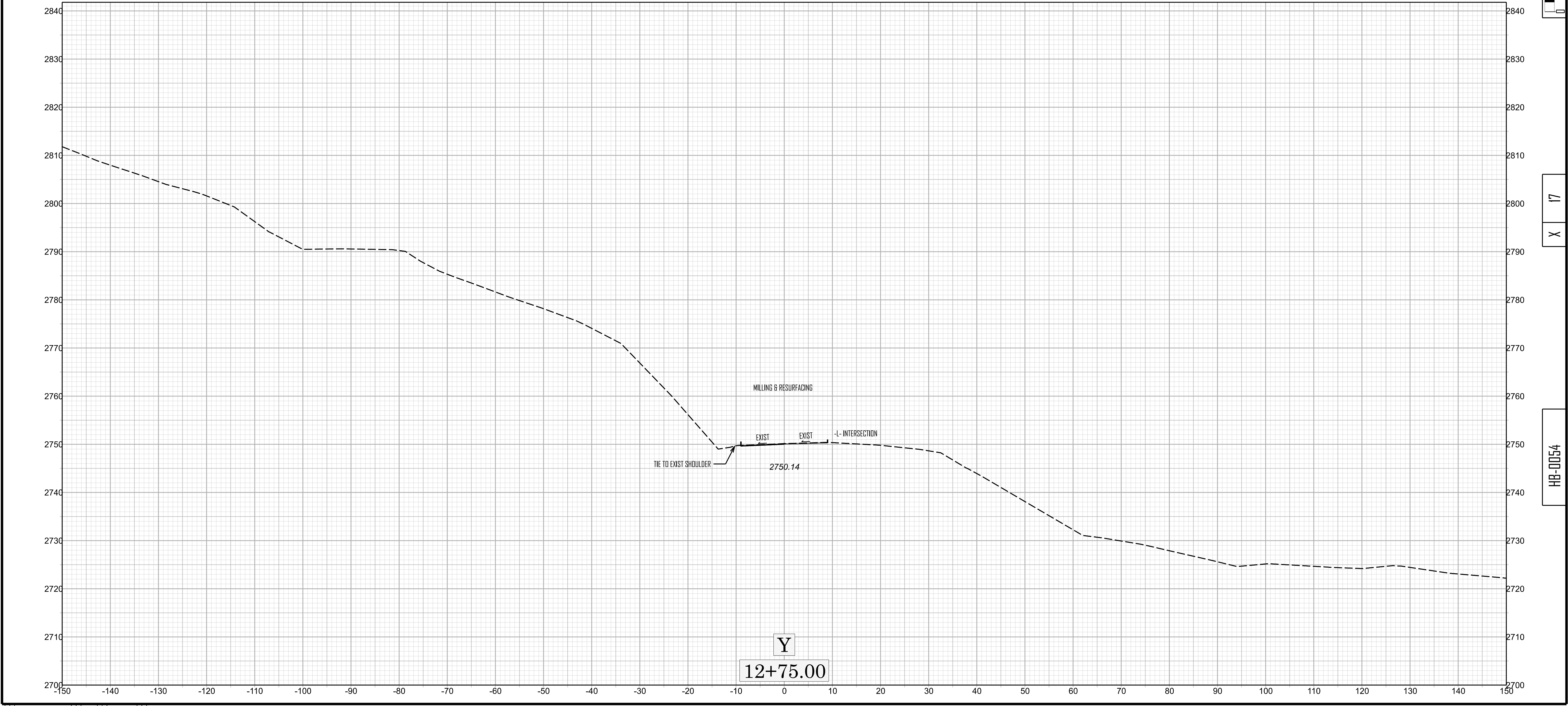


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HB-0054

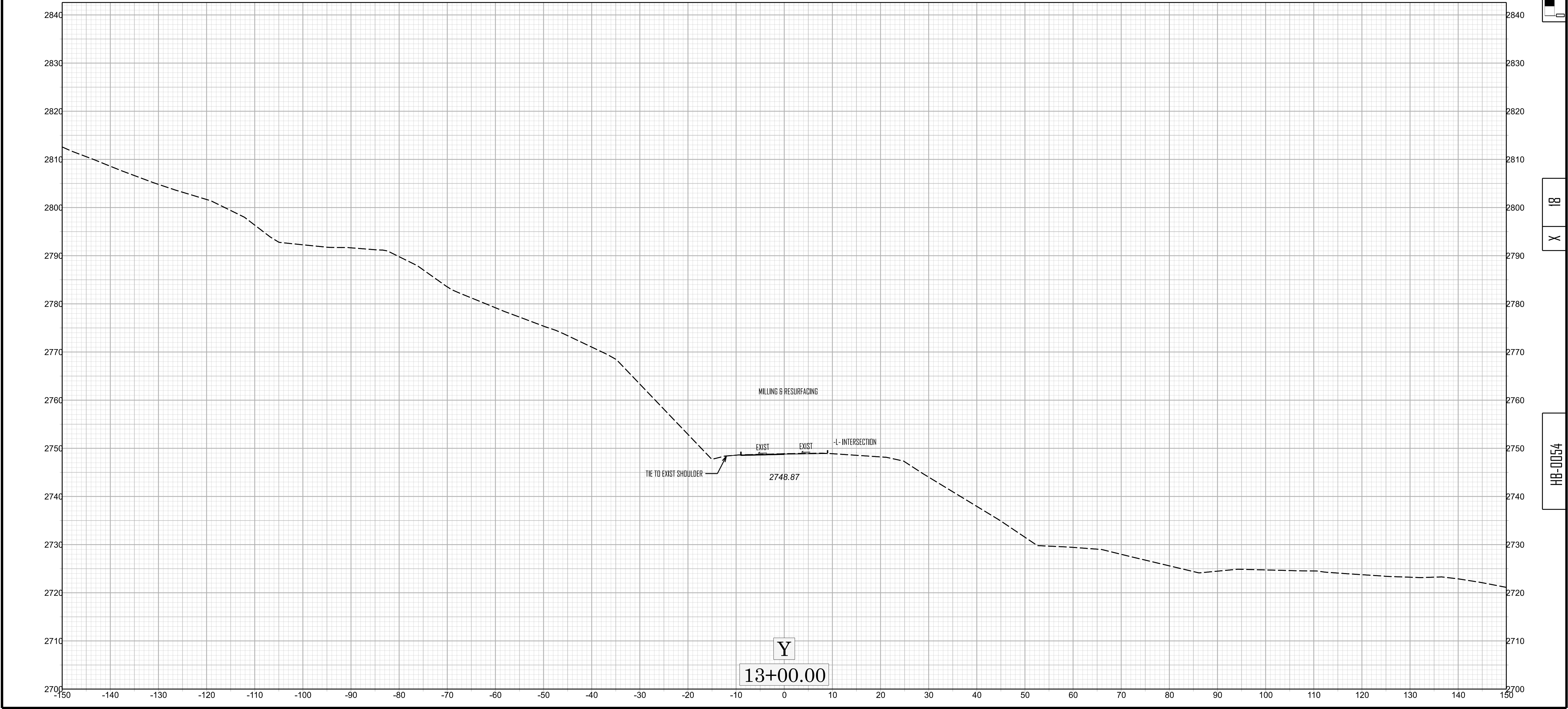


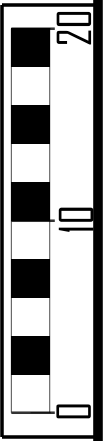
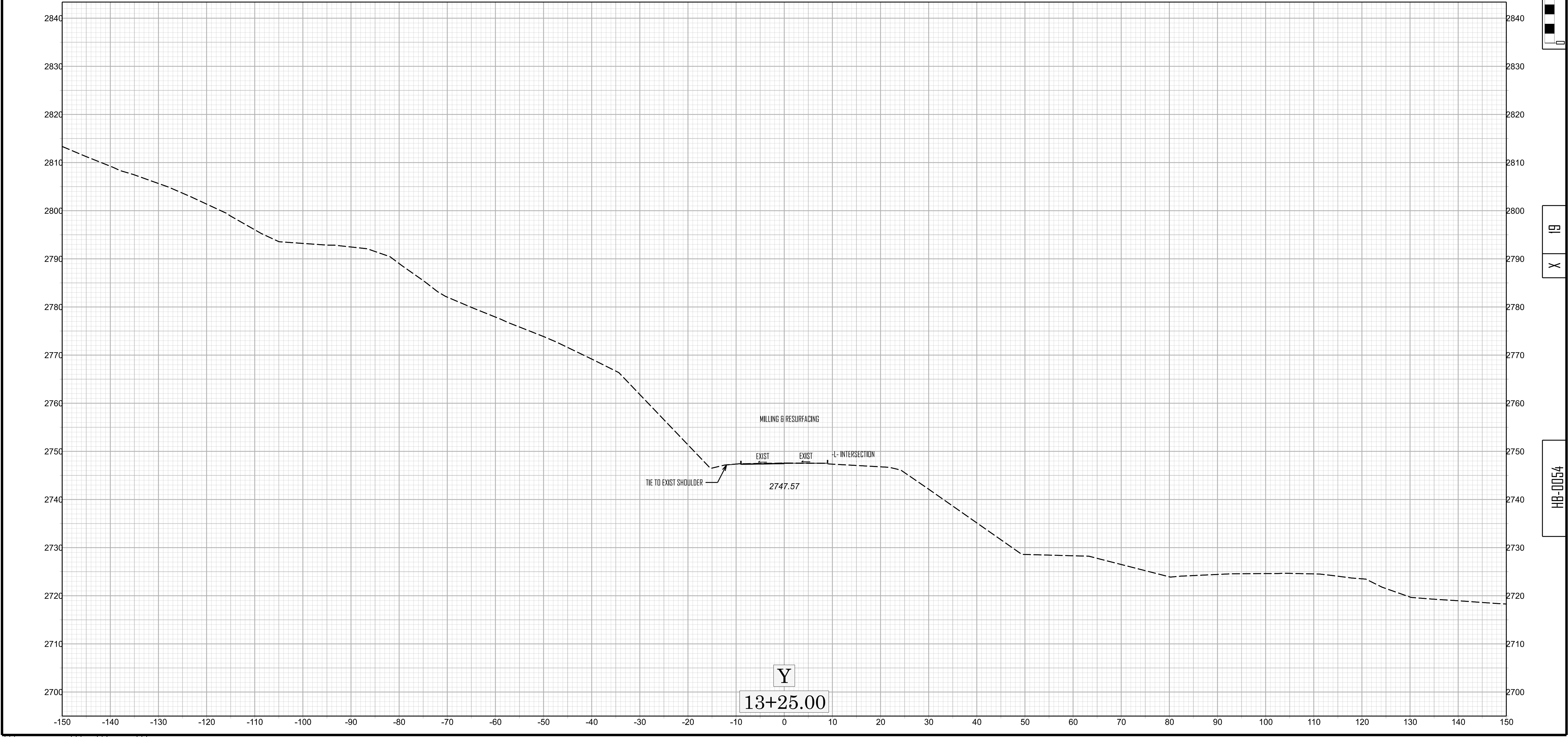




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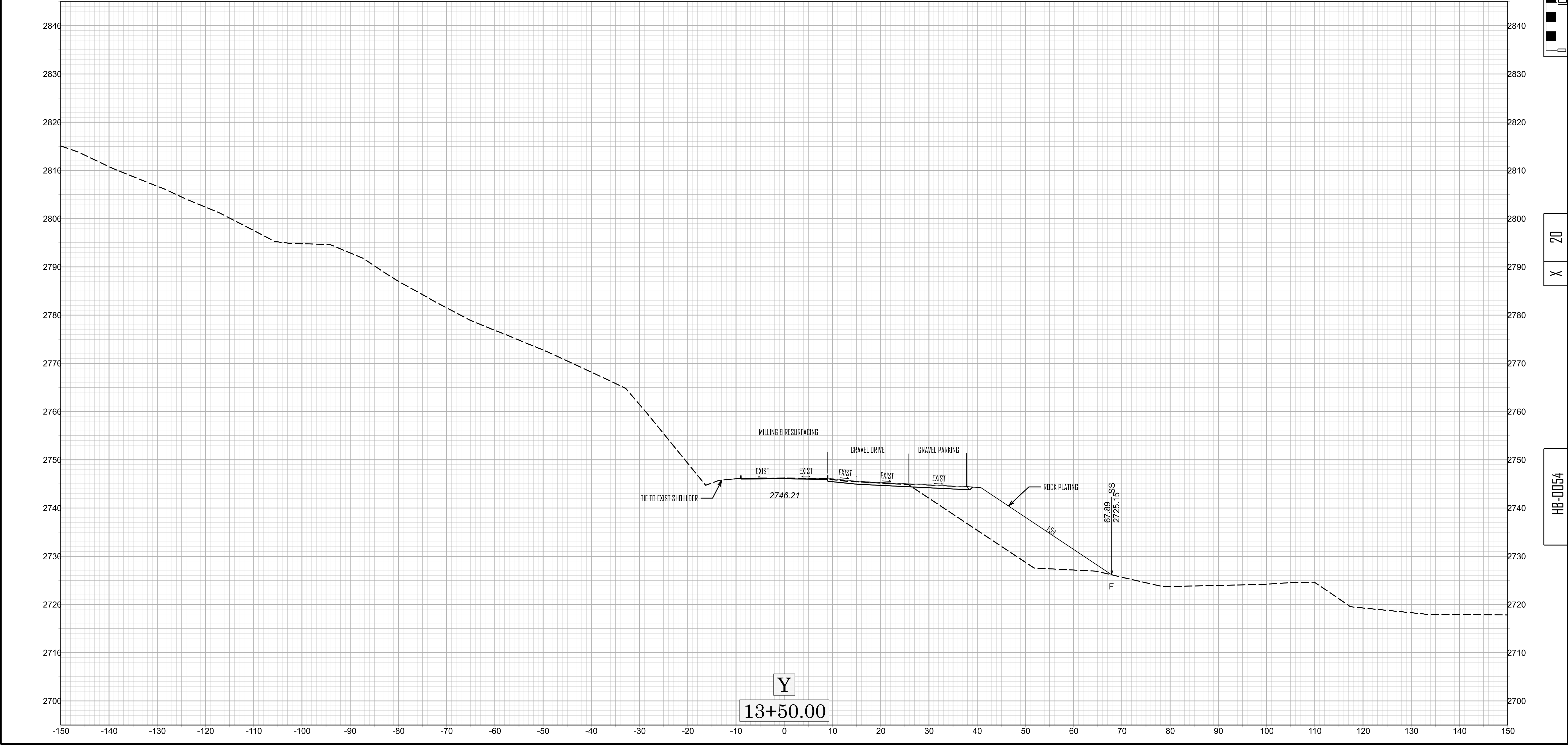
HB-0054

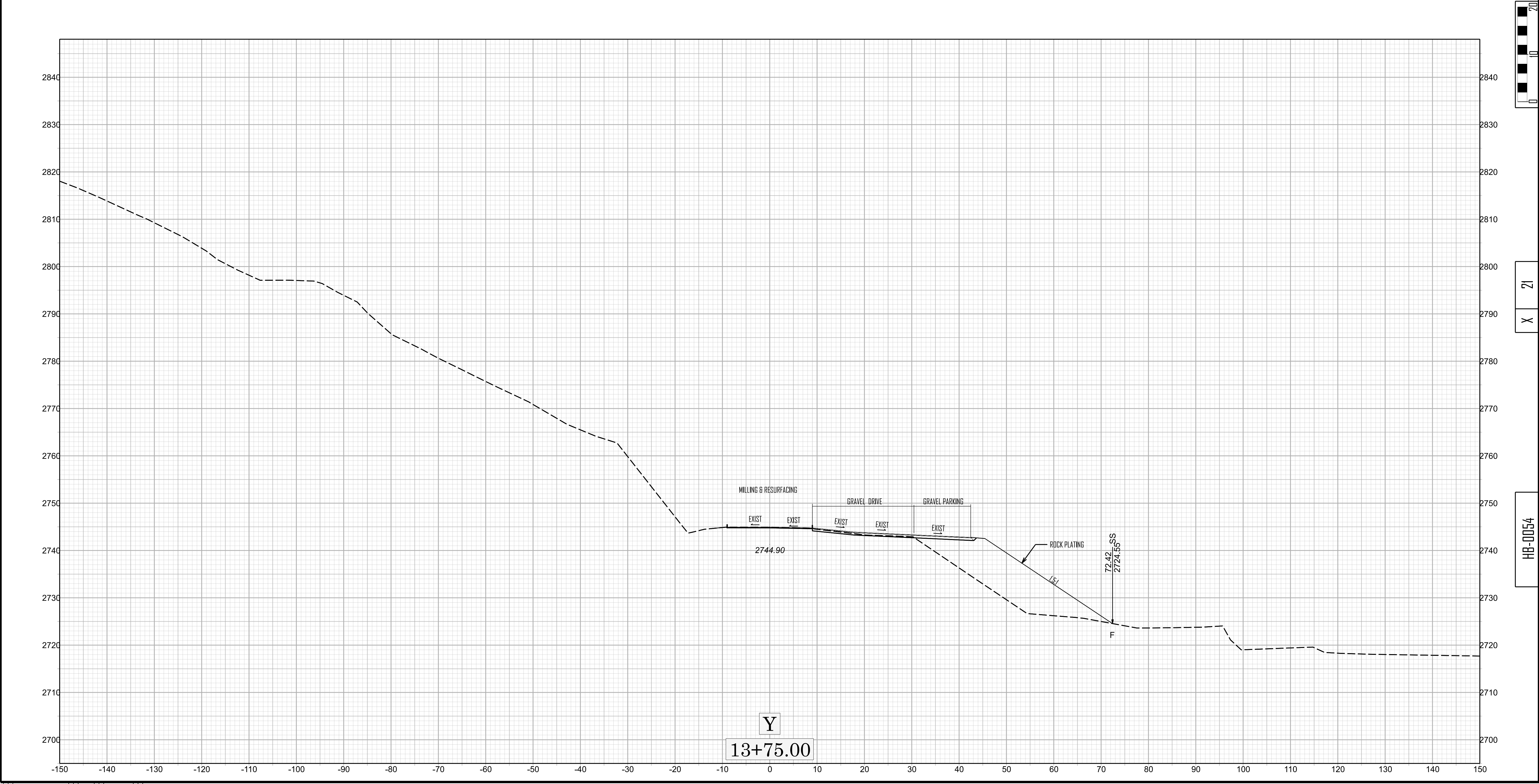


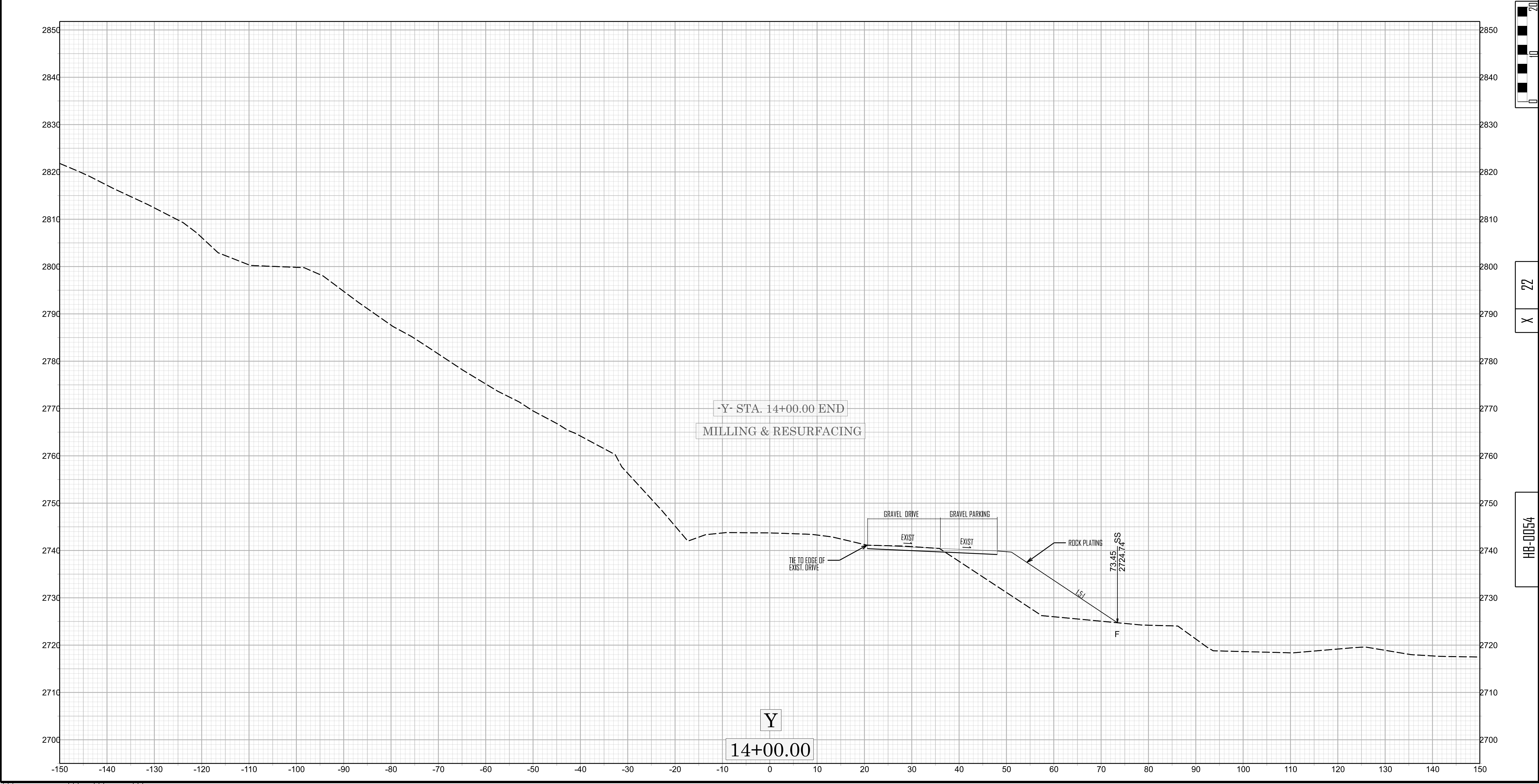


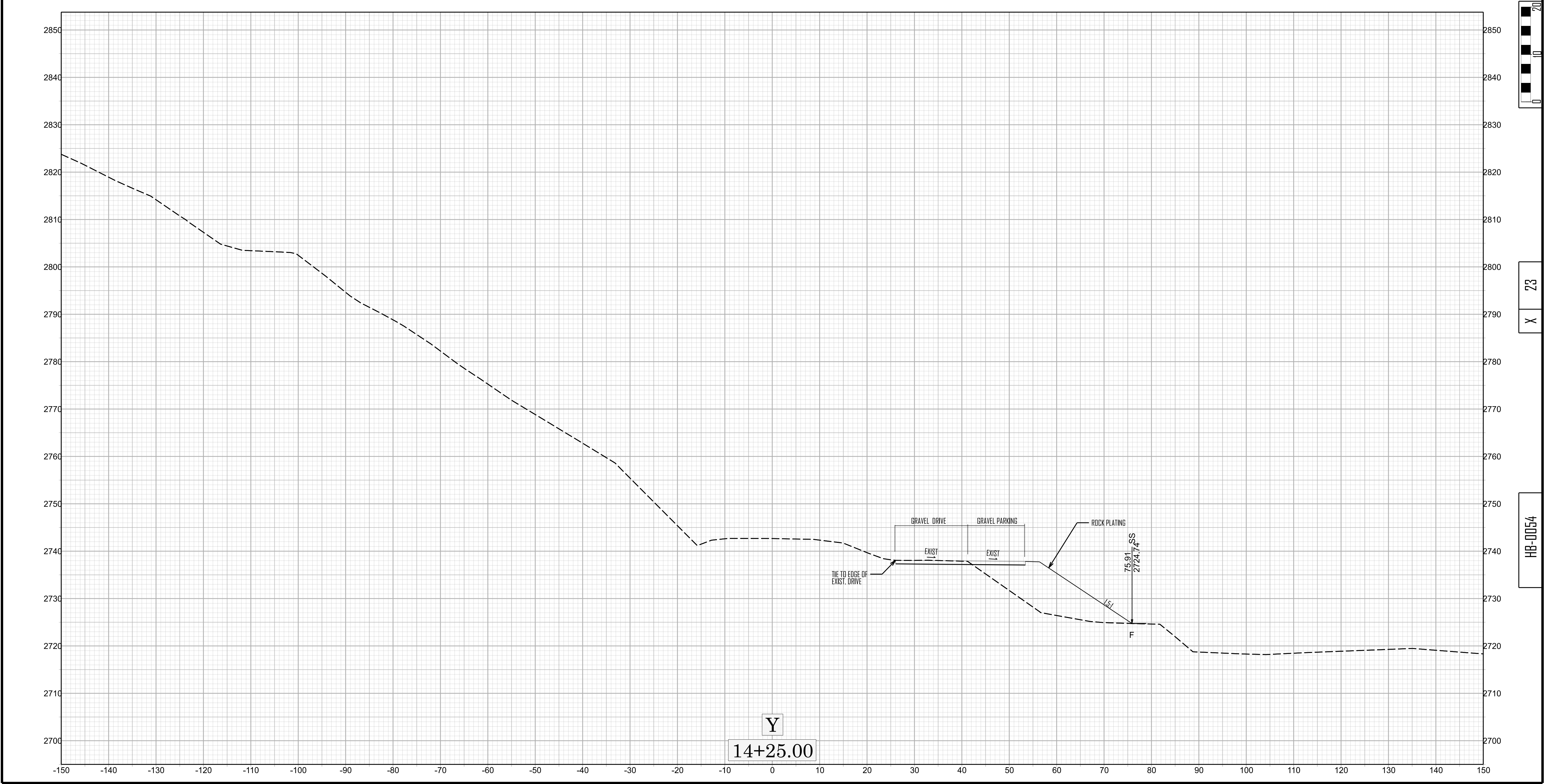
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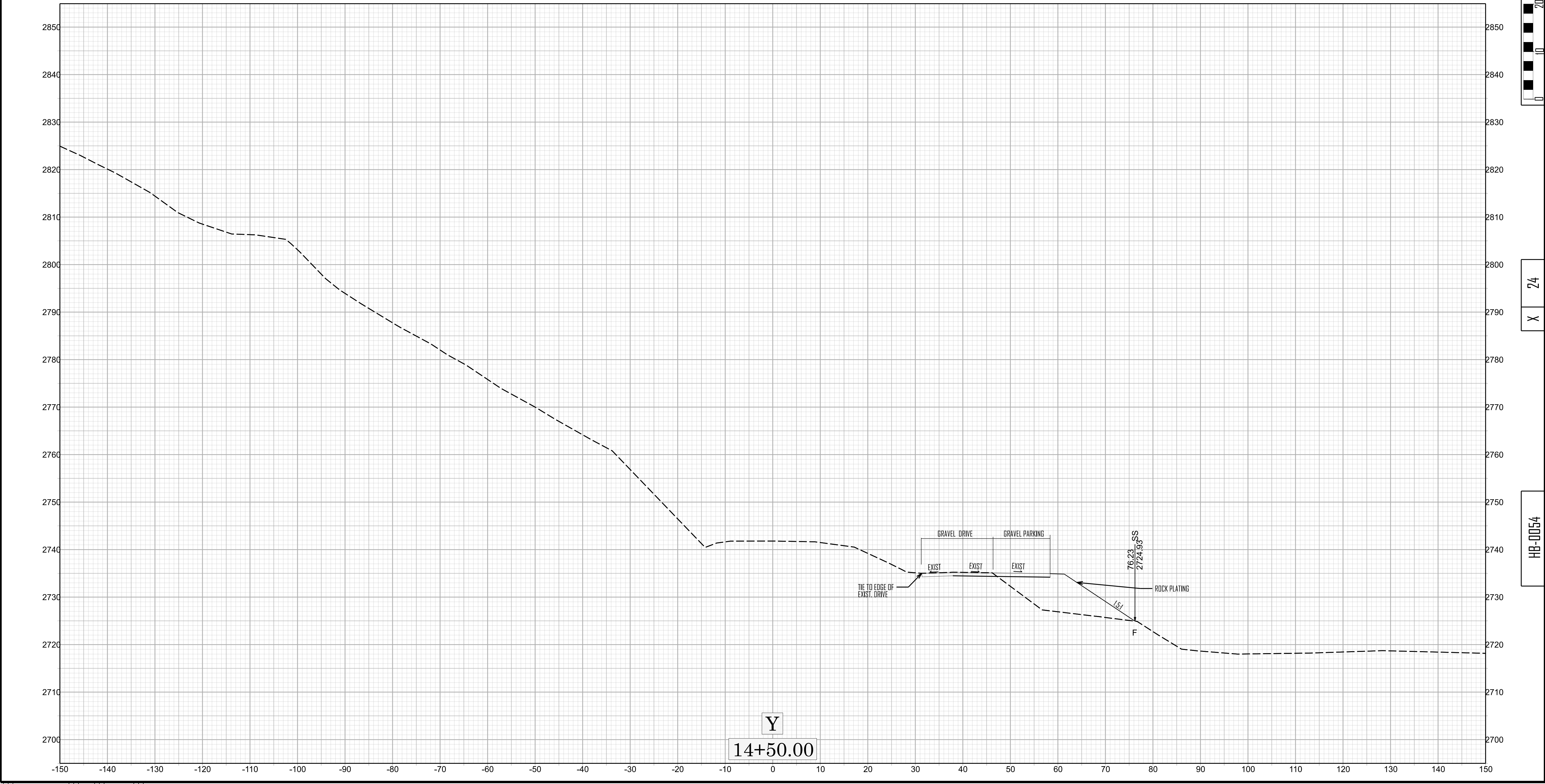
HB-0054

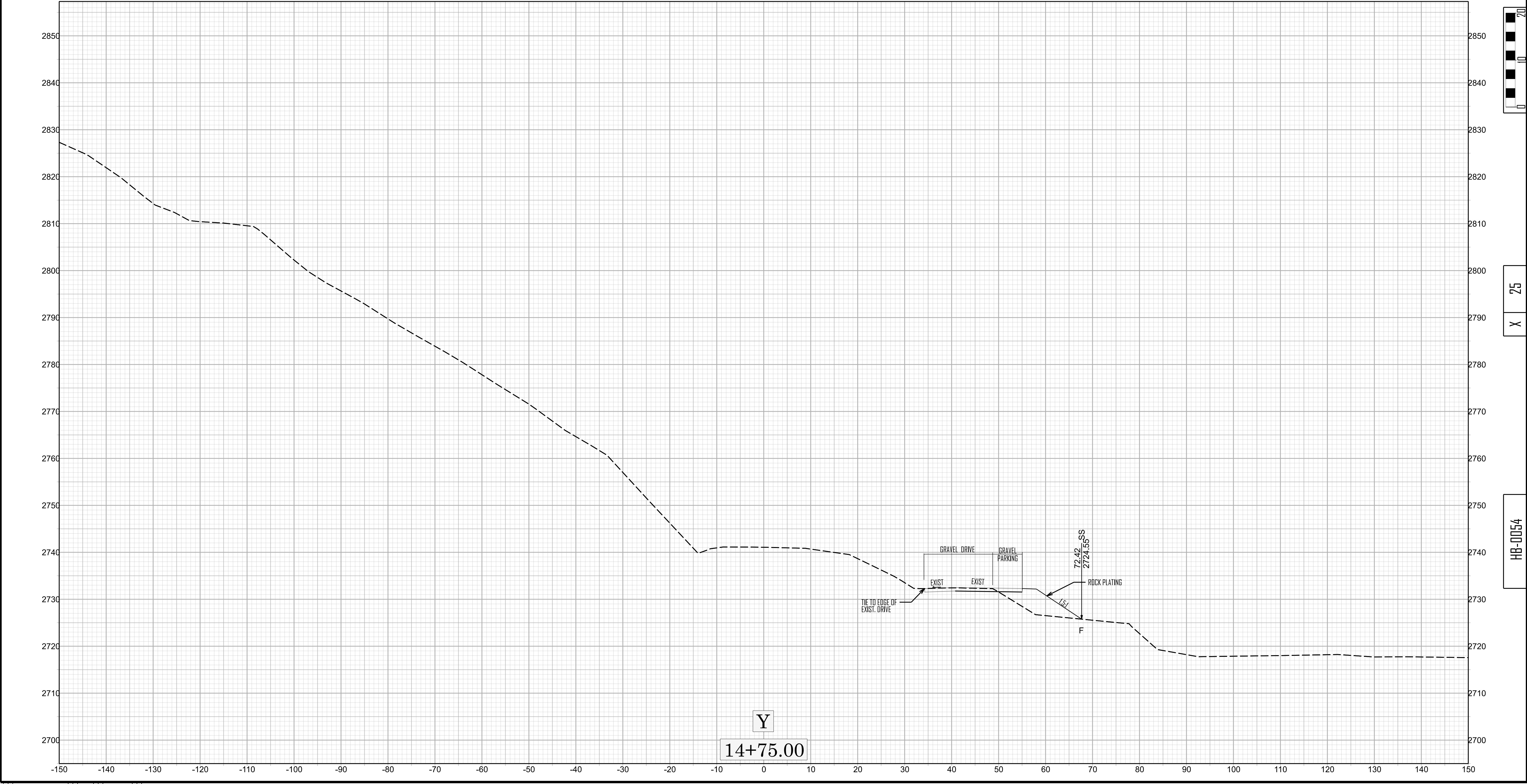


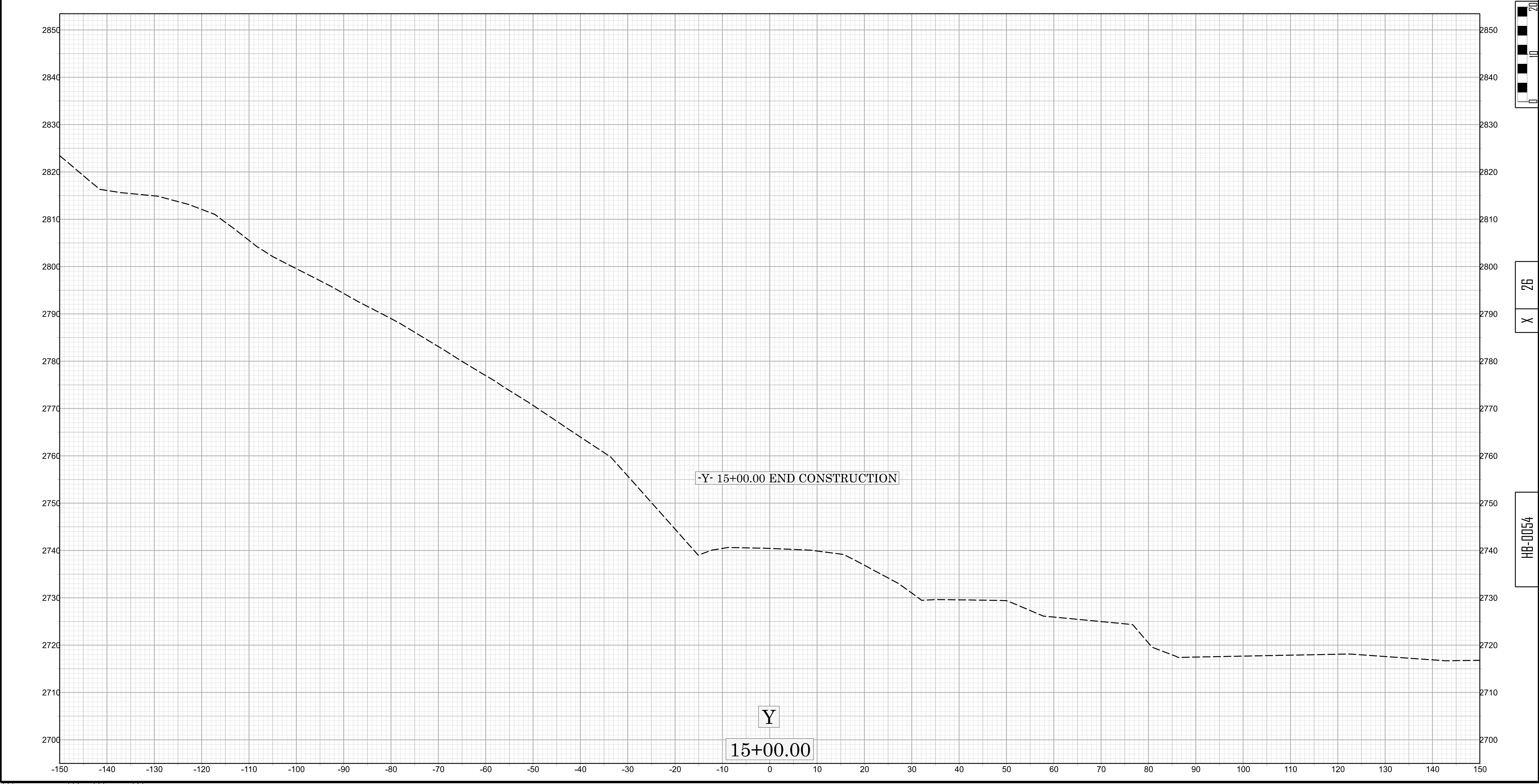


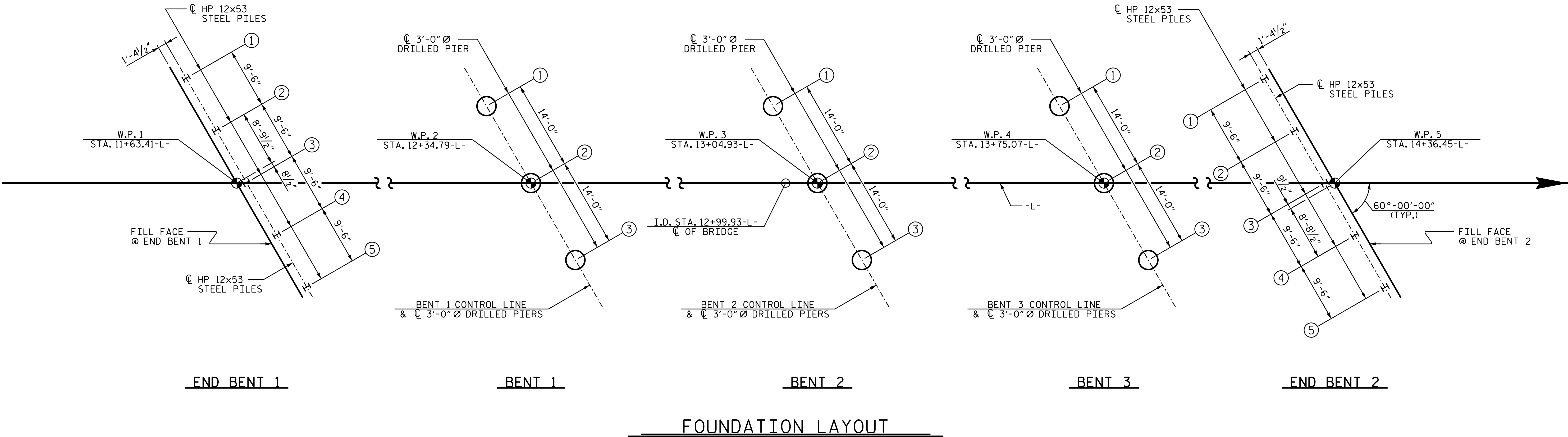












NOTES

FOR PILES,SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

FILL HOLES FOR PILE EXCAVATION AT END BENT 1 WITH CONCRETE.

FOR DRILLED PIERS.SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

INSTALL PERMANENT STEEL CASINGS AT BENT 1 BY VIBRATING,SCREWING OR DRIVING PERMANENT CASINGS BEFORE EXCAVATING OR DISTURBING ANY MATERIAL BELOW ELEVATION 2,719 FT.

INSTALL PERMANENT STEEL CASINGS AT BENT 2 BY VIBRATING,SCREWING OR DRIVING PERMANENT CASINGS BEFORE EXCAVATING OR DISTURBING ANY MATERIAL BELOW ELEVATION 2,718 FT.

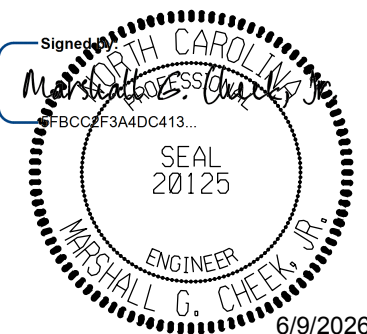
INSTALL PERMANENT STEEL CASINGS AT BENT 3 BY VIBRATING,SCREWING OR DRIVING PERMANENT CASINGS BEFORE EXCAVATING OR DISTURBING ANY MATERIAL BELOW ELEVATION 2,718 FT.

DRILLED PIERS AT BENT 1 REQUIRE PILOT BORINGS THAT WILL BE USED TO DETERMINE THE REQUIRED TIP NO HIGHER THAN ELEVATION.EACH BORING AT BENT 1 SHALL BE ADVANCED TO AN ELEVATION OF 2,700 FT.THE ENGINEER WILL REVIEW THE RESULTS INCLUDING ROCK CORES TO DETERMINE THE TIP ELEVATION FOR EACH DRILLED PIER.SEE GEOTECHNICAL SPECIAL PROVISION FOR PILOT BORINGS.

DRILLED PIERS AT BENT 2 REQUIRE PILOT BORINGS THAT WILL BE USED TO DETERMINE THE REQUIRED TIP NO HIGHER THAN ELEVATION.EACH BORING AT BENT 2 SHALL BE ADVANCED TO AN ELEVATION OF 2,700 FT.THE ENGINEER WILL REVIEW THE RESULTS INCLUDING ROCK CORES TO DETERMINE THE TIP ELEVATION FOR EACH DRILLED PIER.SEE GEOTECHNICAL SPECIAL PROVISION FOR PILOT BORINGS.

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 2 OF 5



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER
SOUTH FORK NEW RIVER
ON SR 1222 BETWEEN
RIVERSCAPE DR. AND SR 1159

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-2 TOTAL SHEETS 35
2			4			

DRAWN BY : JLA DATE : 1/25
CHECKED BY : MGC DATE : 4/25

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		Driven Piles			Predrilling For Piles *			Drilled-in-Piles			
					Scour Critical Elevation FT	Min. Pile Tip (Tip No Higher Than) Elev. FT	Required Driving Resistance (RDR)** per Pile KIPS	Pile Redrives Quantity EACH	Predrilling Length per Pile LIN FT	Predrilling Elevation (Elev Not To Predrill Below) FT	Maximum Predrilling Dia INCHES	Pile Excavation (Bottom of Hole) Elev FT	Pile Exc Not In Soil per Pile LIN FT	Pile Exc In Soil per Pile LIN FT	
End Bent 1, Piles 1-3	3	200	See End Bent Sheets	15									2716	4.60	5.30
End Bent 1, Piles 4-5	2	200	See End Bent Sheets	15									2714	5.30	6.60
End Bent 2, Piles 1-3	3	180	See End Bent Sheets	25			300								
End Bent 2, Piles 4-5	2	180	See End Bent Sheets	30			300								
Total Quantity:														24.40	29.10

**RDR =
$$\frac{\text{Factored Resistance} + \text{Factored Drag Load} + \text{Factored Dead Load}}{\text{Dynamic Resistance Factor}}$$
 + 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 1, Piles 1-5	200					
End Bent 2, Piles 1-5	180			0.6		

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

SUMMARY OF DRILLED PIER INFORMATION/INSTALLATION
(BLANK ENTRIES INDICATE ITEM IS NOT APPLICABLE TO STRUCTURE)

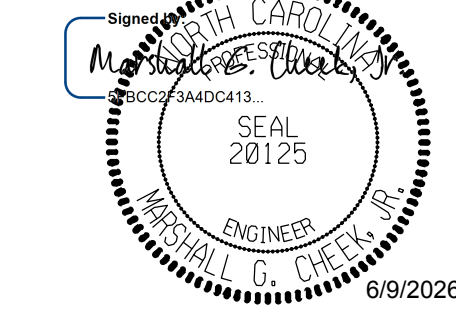
End Bent/ Bent No. Piers *-# (e.g., "Bent 1, Piers 1-3")	Number of Piles per Line	Factored Resistance per Pier KIPS	Minimum Pier Tip (Tip No Higher Than) Elevation FT	Required Tip Resistance Per Pier KIPS	Scour Critical Elevation FT	Minimum Drilled Pier Penetration Into Rock per Pier LIN FT	Drilled Pier 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 (Elev Not To Extend Casing Below) FT	Permanent Steel Casing Length * per Pier LIN FT
Bent 1, Piers 1-3	3	800	2708.00	5	2718.00	11		11.00	2.00	Yes	2718.00	3.00
Bent 2, Pier 1-3	3	800	2707.00	5	2717.00	11		11.00	3.00	Yes	2717.00	4.00
Bent 3, Piers 1-3	3	800	2709.00	5	2717.00	9		9.00	4.50	Yes	2717.00	5.50
Total Quantity:								93.00	28.50			37.50

* Drilled Pier Length, Drilled Pier Length Not 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.

NOTES

- The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Michael J. Walko, #026917) on 3/3/2025.
- 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.
- The Engineer may adjust the quantity for DPT testing, Pipe Pile Plates, Permanent Steel Casings, SPTs, TIPs, CSL Testing, SID Inspections and PITs when necessary.



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 3 OF 5

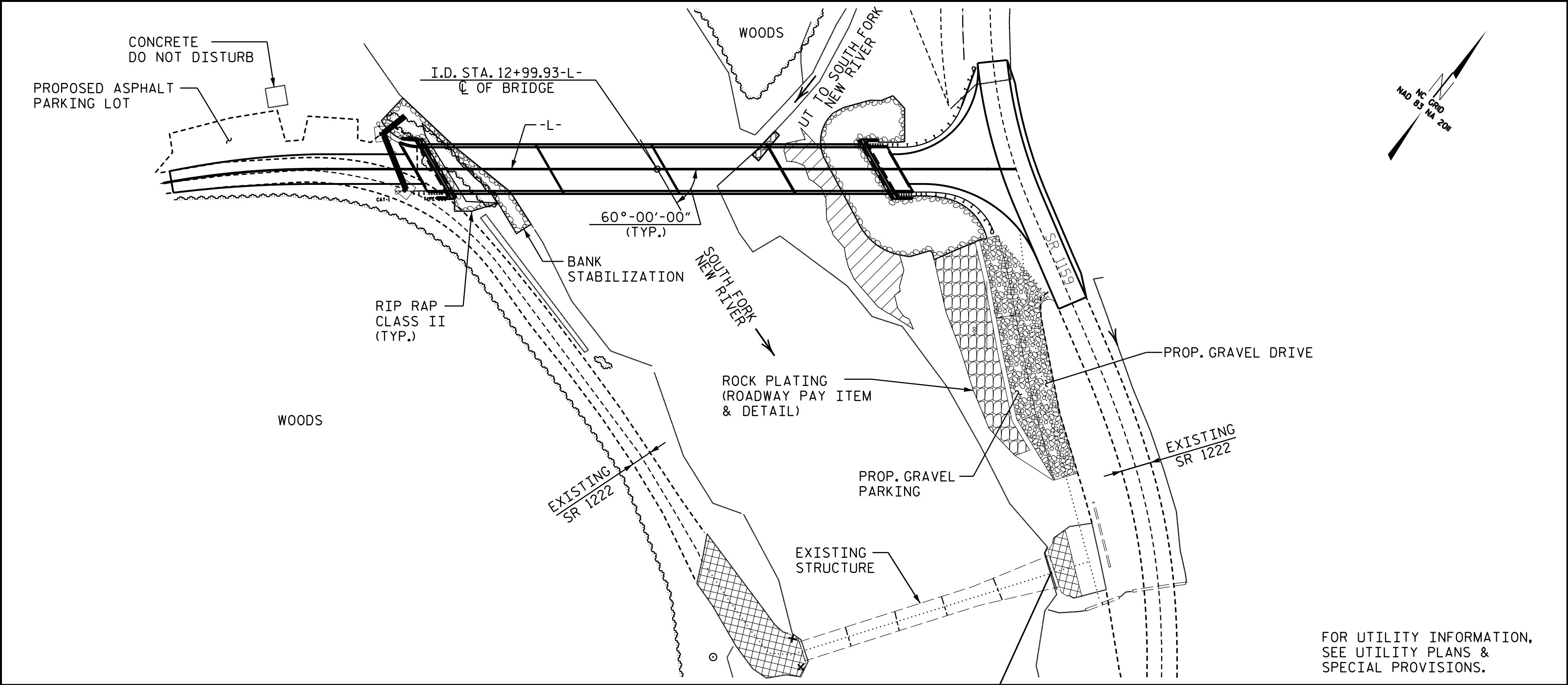
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER
SOUTH FORK NEW RIVER
ON SR 1222 BETWEEN
RIVERSCAPE DR. AND SR 1159

REVISIONS						SHEET NO. S-3 TOTAL SHEETS 35
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

DRAWN BY : JLA DATE : 1/25
CHECKED BY : MGC DATE : 4/25

BENCHMARK #1: RR SPIKE IN 23" DOUBLE POPLAR: 468 FT RIGHT OF STA 12+99.93 -L-; ELEV. 2,732.18



LOCATION SKETCH

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF 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 EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

AFTER SERVING AS A TEMPORARY STRUCTURE, THE EXISTING 5 SPAN STRUCTURE (1 @ 31'-0", 2 @ 30'-0", 1 @ 35'-0" & 1 @ 36'-0") CONSISTING OF A TIMBER DECK ON STEEL I-BEAMS WITH A CLEAR ROADWAY WIDTH OF 11'-1" AND WITH 1/2" ASPHALT WEARING SURFACE ON A SUBSTRUCTURE CONSISTING OF REINFORCED CONCRETE ABUTMENTS AND PIERS AND LOCATED DOWNSTREAM OF THE PROPOSED BRIDGE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE INTEGRITY OF THE BRIDGE DETERIORATE, THIS LOAD LIMIT MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

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

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. 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.

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

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR ASBESTOS ASSESSMENT, SEE SPECIAL PROVISIONS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 25' LT. AND 40' RT. OF THE -L- AT END BENT 1 AND 25' LT. AND 90' RT. AT END BENT 2 AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION.

AT THE CONTRACTOR'S OPTION, PRESTRESSED CONCRETE END BENT AND BENT CAPS MAY BE SUBSTITUTED IN PLACE OF THE CAST-IN-PLACE CAPS. THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER TO RECEIVE REVISED PLANS AND DETAILS FROM THE STRUCTURES MANAGEMENT UNIT. THE REDESIGN AND ANY ADDITIONAL MATERIALS NEEDED WILL BE AT NO ADDITIONAL COST TO THE CONTRACTOR.

THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT, MAINTAIN AND AFTERWARDS REMOVE A TEMPORARY ACCESS AT STATION 12+99.93-L- FOR USE DURING CONSTRUCTION OF THE PROPOSED STRUCTURE. FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS, SEE SPECIAL PROVISIONS.

AT THE CONTRACTOR'S OPTION, AND UPON REMOVAL OF THE CAUSEWAY, THE CLASS II RIP RAP USED IN THE CAUSEWAY MAY BE PLACED AS RIP RAP SLOPE PROTECTION. SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 12+99.93-L-.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE REPLACED BY SPICED BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

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 BASE PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 12+99.93-L-."

THE CLASS AA CONCRETE IN THE CONCRETE WEARING SURFACE SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG. SEE CONCRETE WEARING SURFACE SPECIAL PROVISION.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR FIBER OPTIC CONDUIT SYSTEM, SEE SPECIAL PROVISIONS.

FOR CORED SLAB AND BOX BEAM POST TENSIONING, SEE SPECIAL PROVISIONS.

THE SCOUR CRITICAL ELEVATION FOR BENT 1 IS ELEVATION 2,718 FT, FOR BENT 2 IS 2,717 FT, AND FOR BENT 3 IS 2,717 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

FOR CONCRETE WATERPROOFING MEMBRANE- CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.

SAMPLE BAR REPLACEMENT

SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE:
SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND f = 60ksi.

PROJECT NO. HB-0054

ASHE COUNTY

STATION: 12+99.93-L-

SHEET 4 OF 5



6/10/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER
SOUTH FORK NEW RIVER
ON SR 1222 BETWEEN
RIVERSCAPE DR. AND SR 1159

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			35

DRAWN BY : JLA DATE : 12 /24
CHECKED BY : MGC DATE : 2/25

TOTAL BILL OF MATERIAL														
ITEM	CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS	REMOVAL OF EXISTING STRUCTURE	ASBESTOS ASSESSMENT	PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL	3'-0" Ø DRILLED PIERS IN SOIL	3'-0" Ø DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 3'-0" Ø DRILLED PIERS	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION	CONCRETE WEARING SURFACE	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS
	LUMP SUM	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EA.	LUMP SUM	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM
SUPERSTRUCTURE	LUMP SUM	LUMP SUM	LUMP SUM								7,132	6,815		LUMP SUM
END BENT 1				29.10	24.40					LUMP SUM			22.8	
BENT 1						6.00	33.00	9.00	1				18.8	
BENT 2						9.00	33.00	12.00	1				20.7	
BENT 3						13.50	27.00	16.50	1				21.7	
END BENT 2													22.6	
TOTALS	LUMP SUM	LUMP SUM	LUMP SUM	29.10	24.40	28.50	93.00	37.50	3	LUMP SUM	7,132	6,815	106.6	LUMP SUM

TOTAL BILL OF MATERIAL														
ITEM	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP 12 x 53 STEEL PILES	HP 12 x 53 STEEL PILES		42" OREGON RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	FOAM JOINT SEALS	3'-0" x 2'-0" PRESTRESSED CONCRETE CORED SLABS		FIBER OPTIC CONDUIT SYSTEM	CONCRETE WATERPROOFING MEMBRANE-CONCRETE WEARING SURFACE
	LBS.	LBS.	EA.	NO.	LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	LUMP SUM	NO.	LIN. FT.	LIN. FT.	SQ. FT.
SUPERSTRUCTURE						523.85			LUMP SUM	LUMP SUM	40	2,700.00	268.43	7132
END BENT 1	2,926			5	75		365	260						
BENT 1	8,941	1,202												
BENT 2	9,633	1,426												
BENT 3	9,858	1,504												
END BENT 2	2,761		5	5	135		535	600						
TOTALS	34,119	4,132	5	10	210	523.85	900	860	LUMP SUM	LUMP SUM	40	2,700.00	268.43	7132

PROJECT NO. HB-0054
ASHE COUNTY
 STATION: 12+99.93-L-

SHEET 5 OF 5

 MARSHALL S. CHEEK, JR. ENGINEER 31802 12/31/2025 MARSHALL S. CHEEK, JR. 6/10/2026	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH GENERAL DRAWING FOR BRIDGE OVER SOUTH FORK NEW RIVER ON SR 1222 BETWEEN RIVERSCAPE DR. AND SR 1159																										
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="6" style="text-align: center;">REVISIONS</th> <th style="text-align: center;">SHEET NO.</th> </tr> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY:</th> <th style="width: 15%;">DATE:</th> <th style="width: 5%;">NO.</th> <th style="width: 15%;">BY:</th> <th style="width: 15%;">DATE:</th> <th rowspan="3" style="text-align: center; vertical-align: middle;">TOTAL SHEETS 35</th> </tr> <tr> <td style="text-align: center;">1</td> <td></td> <td></td> <td style="text-align: center;">3</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">2</td> <td></td> <td></td> <td style="text-align: center;">4</td> <td></td> <td></td> </tr> </table>	REVISIONS						SHEET NO.	NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS 35	1			3			2			4		
REVISIONS						SHEET NO.																					
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS 35																					
1			3																								
2			4																								

DRAWN BY :	JLA	DATE :	3/25
CHECKED BY :	MGC	DATE :	4/25

+

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 (LL)	MOMENT					SHEAR					LIVE-LOAD FACTORS (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		1.060	--	1.75	0.248	1.14	70'	EL	34.423	0.655	1.06	70'	EL	6.885	0.80	0.248	1.11	70'	EL	34.423	
		HL-93 (OPERATING)	N/A		1.374	--	1.35	0.248	1.48	70'	EL	34.423	0.655	1.37	70'	EL	6.885	N/A	--	--	--	--	--	
		HS-20 (INVENTORY)	36.000		1.320	47.508	1.75	0.248	1.48	70'	EL	34.423	0.655	1.32	70'	EL	6.885	0.80	0.248	1.44	70'	EL	34.423	
		HS-20 (OPERATING)	36.000		1.711	61.585	1.35	0.248	1.91	70'	EL	34.423	0.655	1.71	70'	EL	6.885	N/A	--	--	--	--	--	
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		3.204	43.258	1.4	0.248	4.12	70'	EL	34.423	0.655	3.90	70'	EL	6.885	0.80	0.248	3.20	70'	EL	34.423	
		SNGARBS2	20.000		2.403	48.063	1.4	0.248	3.09	70'	EL	34.423	0.655	2.78	70'	EL	6.885	0.80	0.248	2.40	70'	EL	34.423	
		SNAGRIS2	22.000		2.282	50.210	1.4	0.248	2.94	70'	EL	34.423	0.655	2.58	70'	EL	6.885	0.80	0.248	2.28	70'	EL	34.423	
		SNCOTTS3	27.250		1.595	43.463	1.4	0.248	2.05	70'	EL	34.423	0.655	1.95	70'	EL	6.885	0.80	0.248	1.59	70'	EL	34.423	
		SNAGGRS4	34.925		1.339	46.755	1.4	0.248	1.72	70'	EL	34.423	0.655	1.62	70'	EL	6.885	0.80	0.248	1.34	70'	EL	34.423	
		SNS5A	35.550		1.309	46.526	1.4	0.248	1.68	70'	EL	34.423	0.655	1.65	70'	EL	6.885	0.80	0.248	1.31	70'	EL	34.423	
		SNS6A	39.950		1.203	48.069	1.4	0.248	1.55	70'	EL	34.423	0.655	1.50	70'	EL	6.885	0.80	0.248	1.20	70'	EL	34.423	
		SNS7B	42.000		1.146	48.129	1.4	0.248	1.47	70'	EL	34.423	0.655	1.48	70'	EL	6.885	0.80	0.248	1.15	70'	EL	34.423	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.468	48.444	1.4	0.248	1.89	70'	EL	34.423	0.655	1.79	70'	EL	6.885	0.80	0.248	1.47	70'	EL	34.423	
		TNT4A	33.075		1.475	48.790	1.4	0.248	1.90	70'	EL	34.423	0.655	1.74	70'	EL	6.885	0.80	0.248	1.48	70'	EL	34.423	
		TNT6A	41.600		1.208	50.272	1.4	0.248	1.55	70'	EL	34.423	0.655	1.58	70'	EL	6.885	0.80	0.248	1.21	70'	EL	34.423	
		TNT7A	42.000		1.216	51.061	1.4	0.248	1.56	70'	EL	34.423	0.655	1.55	70'	EL	6.885	0.80	0.248	1.22	70'	EL	34.423	
		TNT7B	42.000		1.261	52.955	1.4	0.248	1.62	70'	EL	34.423	0.655	1.44	70'	EL	6.885	0.80	0.248	1.26	70'	EL	34.423	
		TNAGRIT4	43.000		1.197	51.476	1.4	0.248	1.54	70'	EL	34.423	0.655	1.40	70'	EL	6.885	0.80	0.248	1.20	70'	EL	34.423	
		TNAGT5A	45.000		1.128	50.745	1.4	0.248	1.45	70'	EL	34.423	0.655	1.39	70'	EL	6.885	0.80	0.248	1.13	70'	EL	34.423	
		TNAGT5B	45.000		1.113	50.088	1.4	0.248	1.43	70'	EL	34.423	0.655	1.33	70'	EL	6.885	0.80	0.248	1.11	70'	EL	34.423	
EMERGENCY VEHICLE (EV)		EV2	28.750		1.198	57.432	1.3	0.248	2.32	70'	EL	34.423	0.655	2.08	70'	EL	6.885	0.80	0.248	1.20	70'	EL	34.423	
		EV3	43.000		1.306	56.170	1.3	0.248	1.52	70'	EL	34.423	0.655	1.41	70'	EL	6.885	0.80	0.248	1.31	70'	EL	34.423	

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	8DC	8DW
	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.

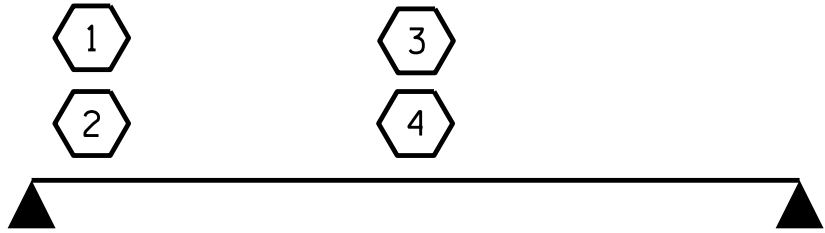
ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

-
-
-
-

	CONTROLLING LOAD RATING
	DESIGN LOAD RATING (HL-93)
	DESIGN LOAD RATING (HS-20)
	LEGAL LOAD RATING **
	EMERGENCY VEHICLE LOAD RATING **
** SEE CHART FOR VEHICLE TYPE	
GIRDER LOCATION	
I - INTERIOR GIRDER EL - EXTERIOR LEFT GIRDER ER - EXTERIOR RIGHT GIRDER	

+



LRFR SUMMARY

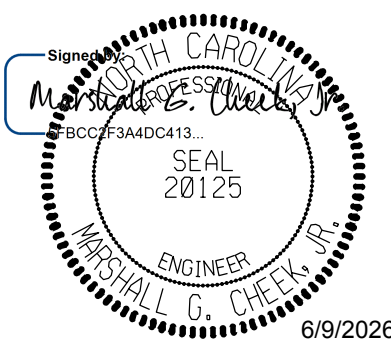
FOR SPAN "A, B & C"

PROJECT NO. HB-0054

ASHE COUNTY

STATION: 12+99.93-L-

SHEET 1 OF 2



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

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

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	
1			3		S-6 TOTAL SHEETS 35
2			4		

STD. NO. 24LRFR1-60&120S-70L

ASSEMBLED BY :	JLA	DATE :	1/25
CHECKED BY :	MGC	DATE :	3/25
DRAWN BY :	CVC	6/10	REV. 6/23
CHECKED BY :	DNS	6/10	BNB/AKP

+

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 (δ LL)	MOMENT				SHEAR				LIVE-LOAD FACTORS (δ 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		1.133	--	1.75	0.249	1.48	60'	EL	29.423	0.649	1.13	60'	EL	5.885	0.80	0.249	1.52	60'	EL	29.423	
		HL-93 (OPERATING)	N/A		1.468	--	1.35	0.249	1.91	60'	EL	29.423	0.649	1.47	60'	EL	5.885	N/A	--	--	--	--	--	
		HS-20 (INVENTORY)	36.000		1.364	49.098	1.75	0.249	1.87	60'	EL	29.423	0.649	1.36	60'	EL	5.885	0.80	0.249	1.92	60'	EL	29.423	
		HS-20 (OPERATING)	36.000		1.768	63.645	1.35	0.249	2.42	60'	EL	29.423	0.649	1.77	60'	EL	5.885	N/A	--	--	--	--	--	
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		3.938	53.159	1.4	0.249	5.03	60'	EL	29.423	0.649	3.94	60'	EL	5.885	0.80	0.249	4.13	60'	EL	29.423	
		SNGARBS2	20.000		2.837	56.744	1.4	0.249	3.85	60'	EL	29.423	0.649	2.84	60'	EL	5.885	0.80	0.249	3.17	60'	EL	29.423	
		SNAGRIS2	22.000		2.648	58.256	1.4	0.249	3.69	60'	EL	29.423	0.649	2.65	60'	EL	5.885	0.80	0.249	3.03	60'	EL	29.423	
		SNCOTTS3	27.250		1.970	53.671	1.4	0.249	2.50	60'	EL	29.423	0.649	1.97	60'	EL	5.885	0.80	0.249	2.06	60'	EL	29.423	
		SNAGGRS4	34.925		1.661	58.001	1.4	0.249	2.13	60'	EL	29.423	0.649	1.66	60'	EL	5.885	0.80	0.249	1.75	60'	EL	29.423	
		SNS5A	35.550		1.696	60.293	1.4	0.249	2.08	60'	EL	29.423	0.649	1.70	60'	EL	5.885	0.80	0.249	1.71	60'	EL	29.423	
		SNS6A	39.950		1.558	62.257	1.4	0.249	1.93	60'	EL	29.423	0.649	1.56	60'	EL	5.885	0.80	0.249	1.58	60'	EL	29.423	
		SNS7B	42.000		1.510	63.410	1.4	0.249	1.84	60'	EL	29.423	0.649	1.55	60'	EL	5.885	0.80	0.249	1.51	60'	EL	29.423	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.846	60.907	1.4	0.249	2.36	60'	EL	29.423	0.649	1.85	60'	EL	5.885	0.80	0.249	1.94	60'	EL	29.423	
		TNT4A	33.075		1.787	59.108	1.4	0.249	2.37	60'	EL	29.423	0.649	1.79	60'	EL	5.885	0.80	0.249	1.95	60'	EL	29.423	
		TNT6A	41.600		1.607	66.863	1.4	0.249	1.96	60'	EL	29.423	0.649	1.67	60'	EL	5.885	0.80	0.249	1.61	60'	EL	29.423	
		TNT7A	42.000		1.598	67.100	1.4	0.249	1.97	60'	EL	29.423	0.649	1.60	60'	EL	5.885	0.80	0.249	1.62	60'	EL	29.423	
		TNT7B	42.000		1.499	62.942	1.4	0.249	2.06	60'	EL	29.423	0.649	1.50	60'	EL	5.885	0.80	0.249	1.69	60'	EL	29.423	
		TNAGRIT4	43.000		1.447	62.223	1.4	0.249	1.95	60'	EL	29.423	0.649	1.45	60'	EL	5.885	0.80	0.249	1.60	60'	EL	29.423	
		TNAGT5A	45.000		1.455	65.474	1.4	0.249	1.83	60'	EL	29.423	0.649	1.45	60'	EL	5.885	0.80	0.249	1.50	60'	EL	29.423	
		TNAGT5B	45.000		1.374	61.845	1.4	0.249	1.80	60'	EL	29.423	0.649	1.37	60'	EL	5.885	0.80	0.249	1.48	60'	EL	29.423	
EMERGENCY VEHICLE (EV)		EV2	28.750		2.136	61.396	1.3	0.249	2.93	60'	EL	29.423	0.649	2.14	60'	EL	5.885	0.80	0.249	2.45	60'	EL	29.423	
		EV3	43.000		1.443	62.038	1.3	0.249	1.91	60'	EL	29.423	0.649	1.44	60'	EL	5.885	0.80	0.249	1.59	60'	EL	29.423	

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	δDC	δDW
	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.

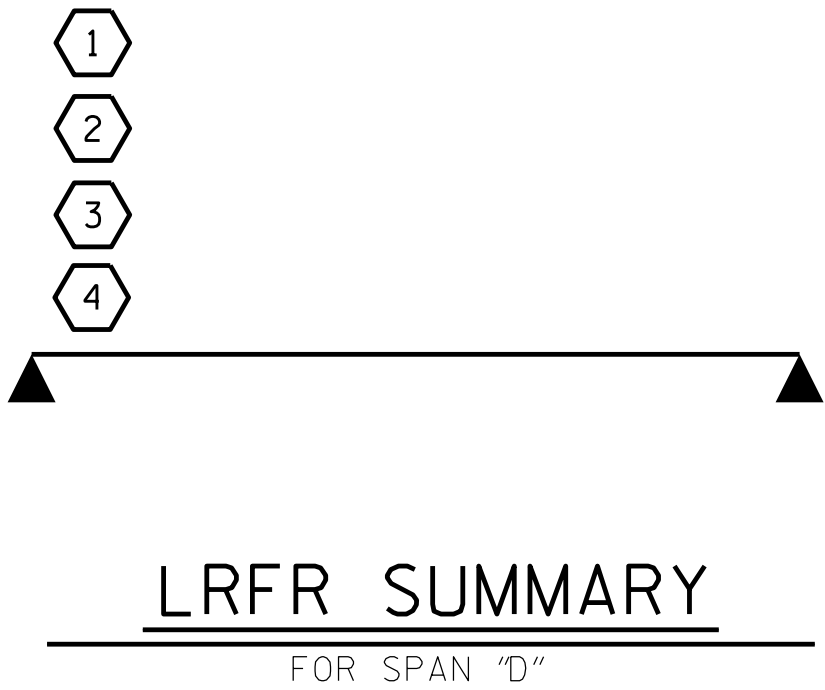
ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

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-
-

	CONTROLLING LOAD RATING
	DESIGN LOAD RATING (HL-93)
	DESIGN LOAD RATING (HS-20)
	LEGAL LOAD RATING **
	EMERGENCY VEHICLE LOAD RATING **
** SEE CHART FOR VEHICLE TYPE	
GIRDER LOCATION	
I - INTERIOR GIRDER EL - EXTERIOR LEFT GIRDER ER - EXTERIOR RIGHT GIRDER	

+



PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 2 OF 2

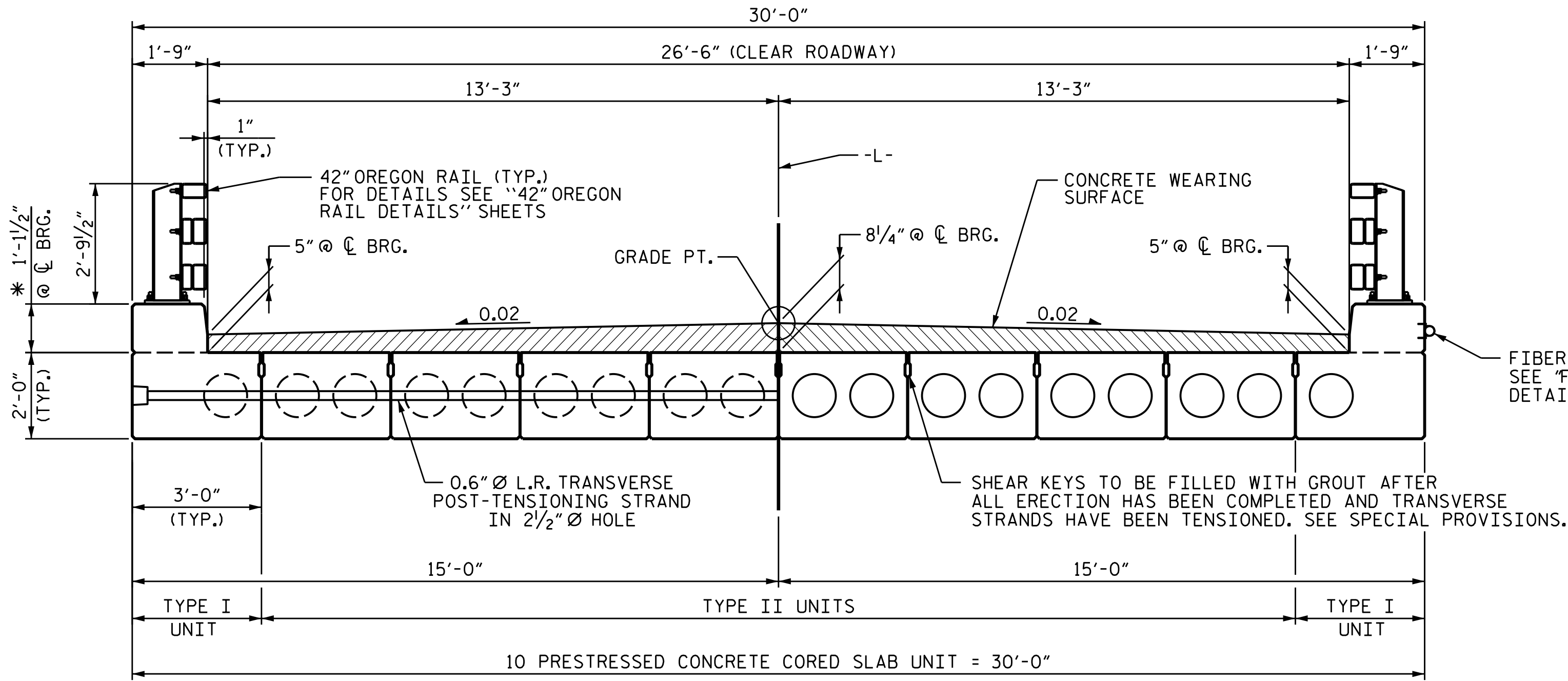
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-7 TOTAL SHEETS 35
2			4			

ASSEMBLED BY :	JLA	DATE :	1/25
CHECKED BY :	MGC	DATE :	3/25
DRAWN BY :	CVC	6/10	REV. 6/23
CHECKED BY :	DNS	6/10	BNB/AKP



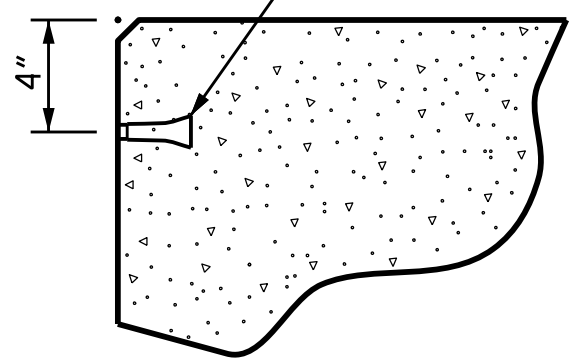
HALF SECTION
AT INTERMEDIATE DIAPHRAGMS

HALF SECTION
THROUGH VOIDS

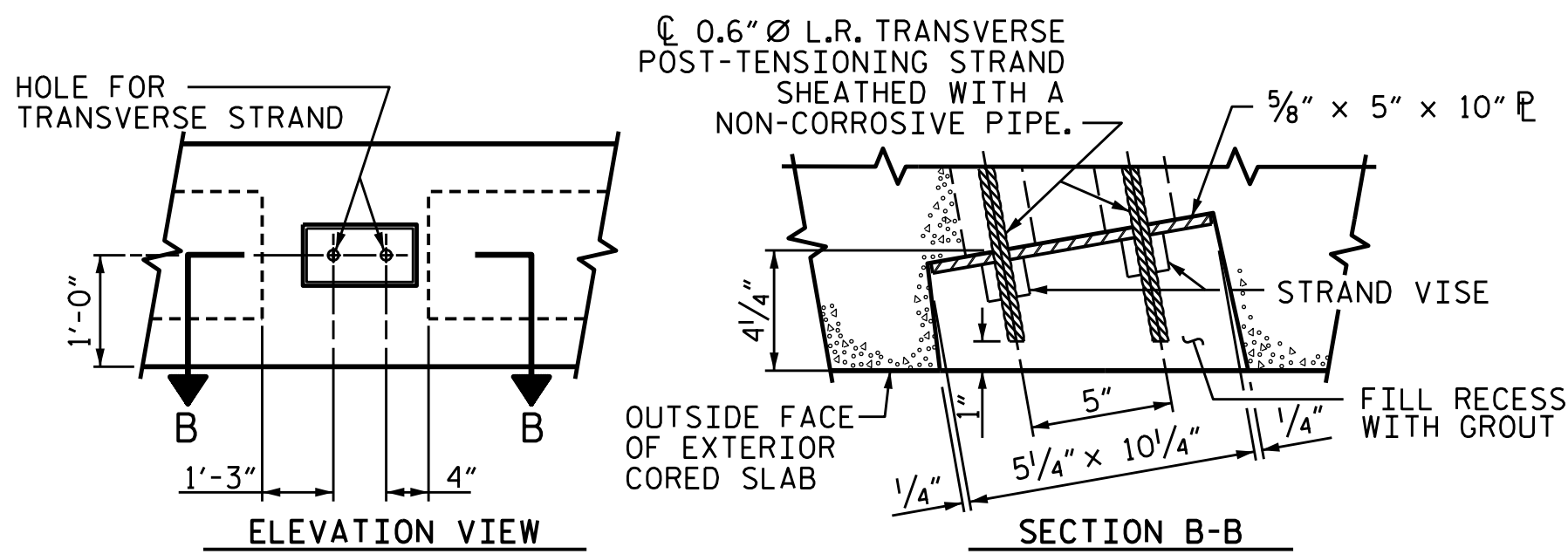
TYPICAL SECTION

* - THE MAXIMUM CURB HEIGHT AND CONCRETE WEARING SURFACE IS SHOWN. THE HEIGHT OF THE CURB AND CONCRETE WEARING SURFACE VARIES WHILE THE TOP OF THE CURB FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND CONCRETE WEARING SURFACE, SEE THE "42" OREGON RAIL SECTION" DETAIL, SHEET 8 OF 8.

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

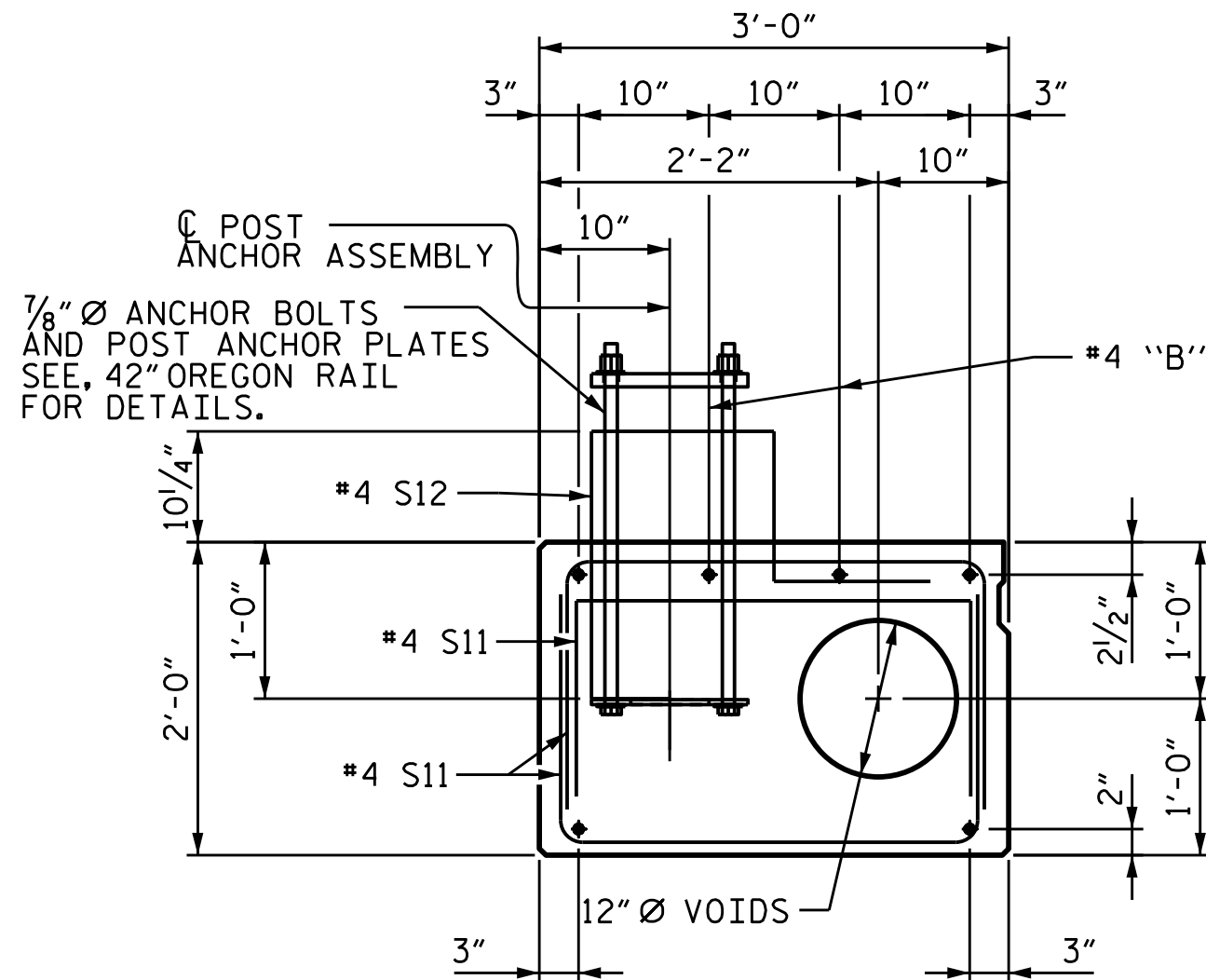


THREADED INSERT DETAIL



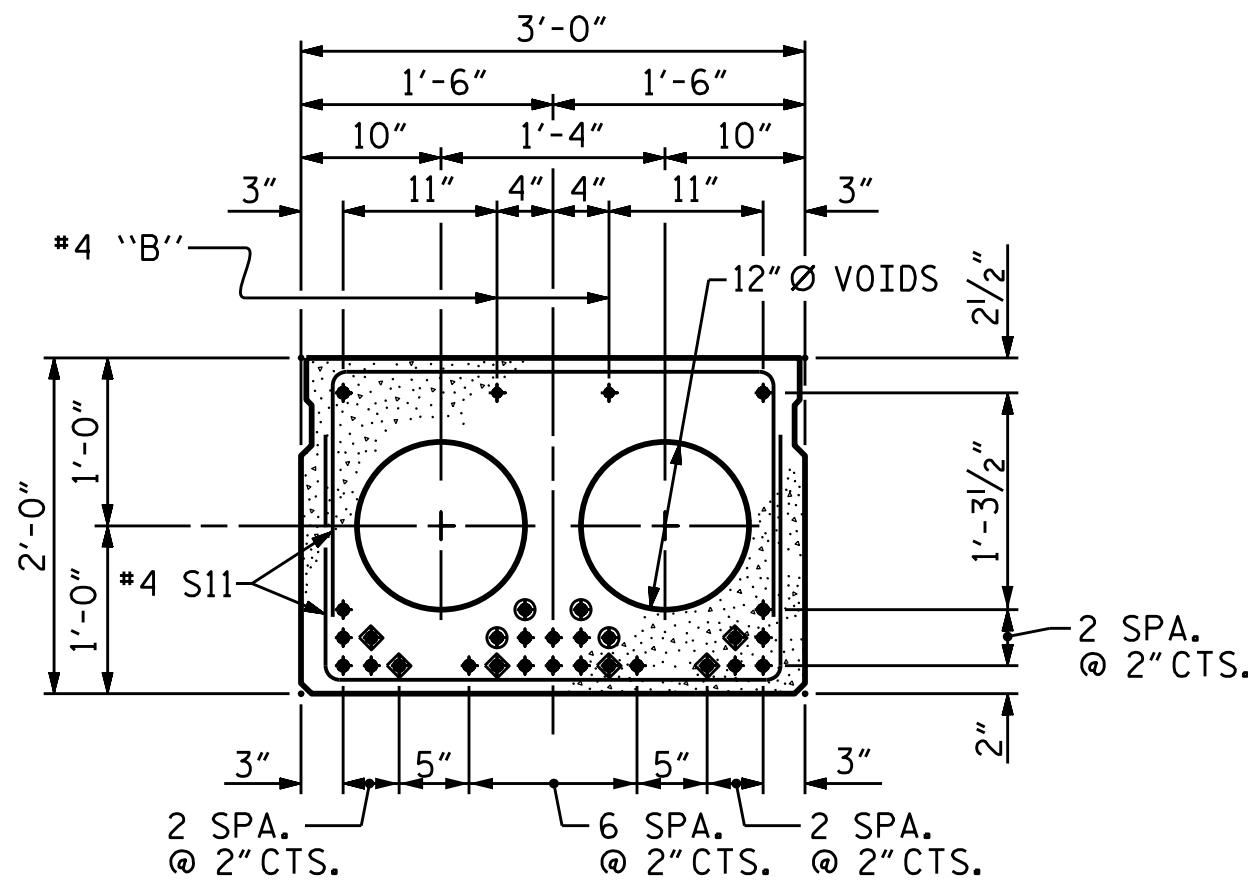
GRAUTED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS

FIBER OPTIC CONDUIT SYSTEM
SEE "FIBER OPTIC CONDUIT SYSTEM
DETAILS" SHEET 8 OF 8.

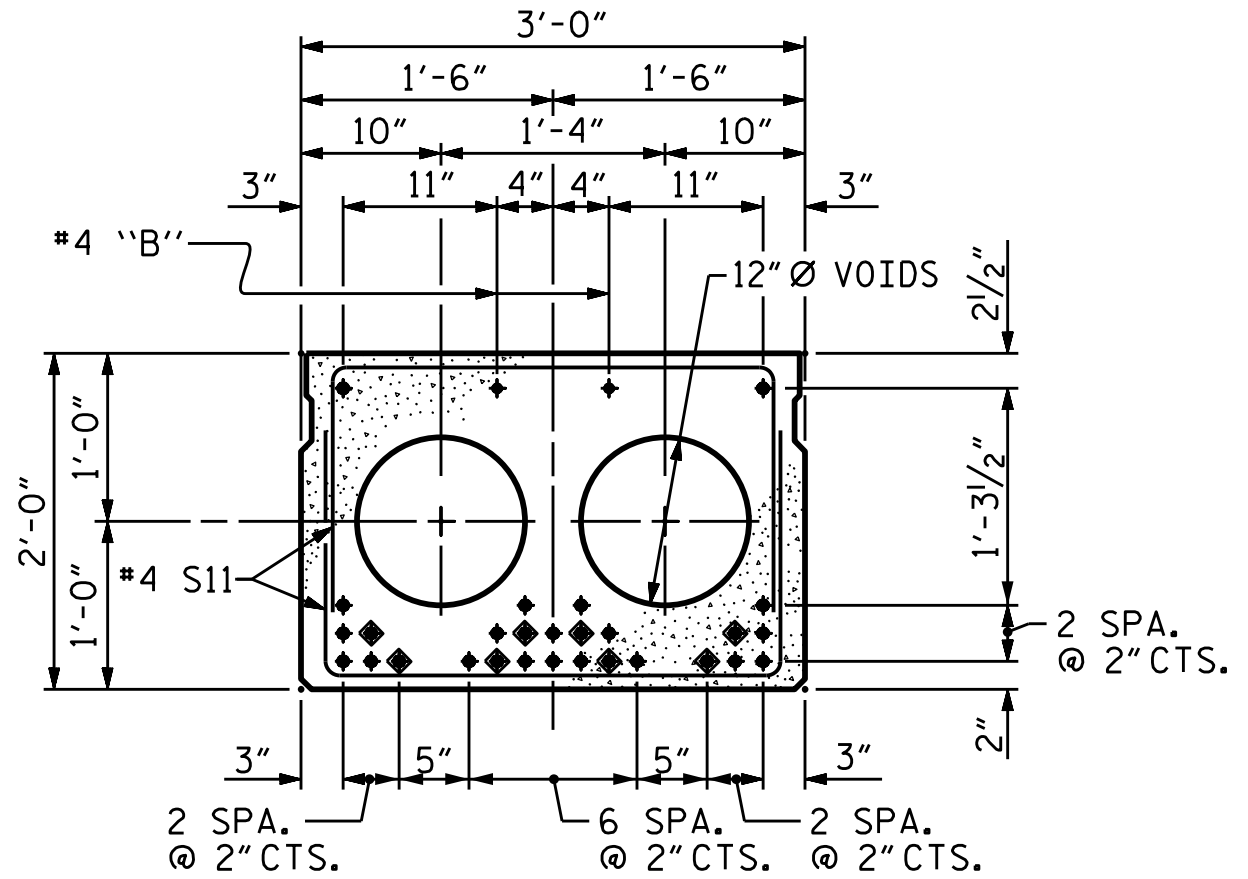


EXTERIOR SLAB SECTION

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



INTERIOR SLAB SECTION (60' UNIT) (24 STRANDS REQUIRED)

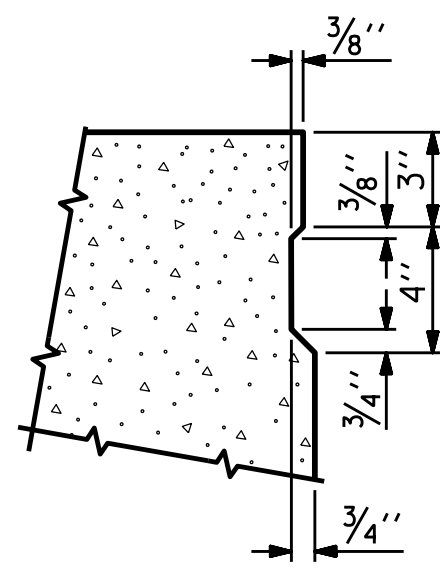


INTERIOR SLAB SECTION (70' UNIT) (28 STRANDS REQUIRED)

0.6" Ø LOW RELAXATION STRAND LAYOUT

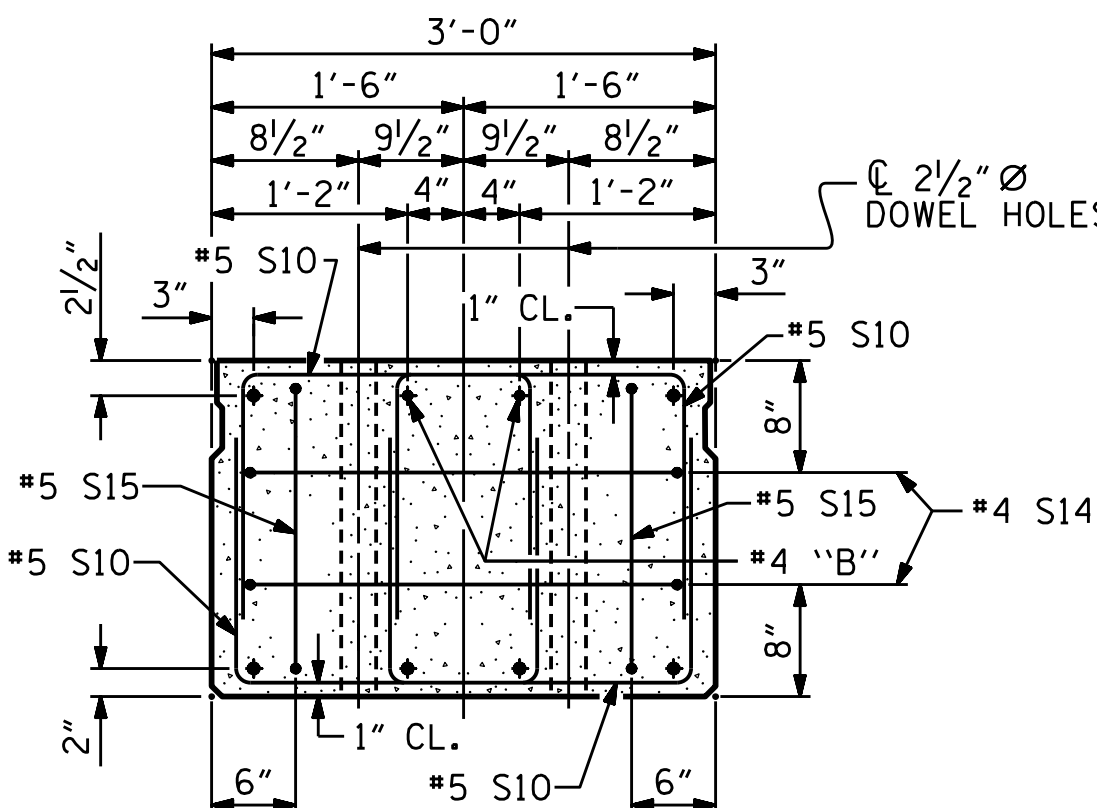
- ◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.
- OPTIONAL FULL LENGTH DEBONDED STRANDS. THESE STRANDS ARE NOT REQUIRED. IF THE FABRICATOR CHOOSES TO INCLUDE THESE STRANDS IN THE CORED SLAB UNIT, THE STRANDS SHALL BE DEBONDED FOR THE FULL LENGTH OF THE UNIT AT NO ADDITIONAL COST. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND



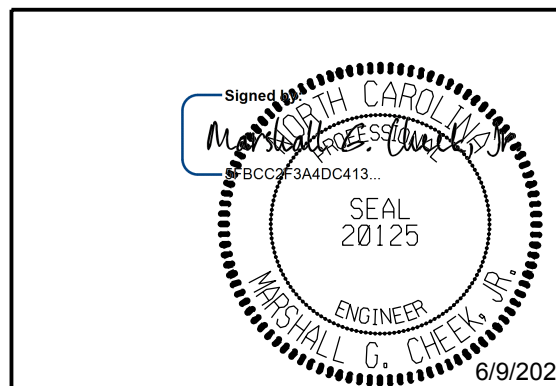
SHEAR KEY DETAIL

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



END ELEVATION

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



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PROJECT NO. HB-0054

ASHE COUNTY

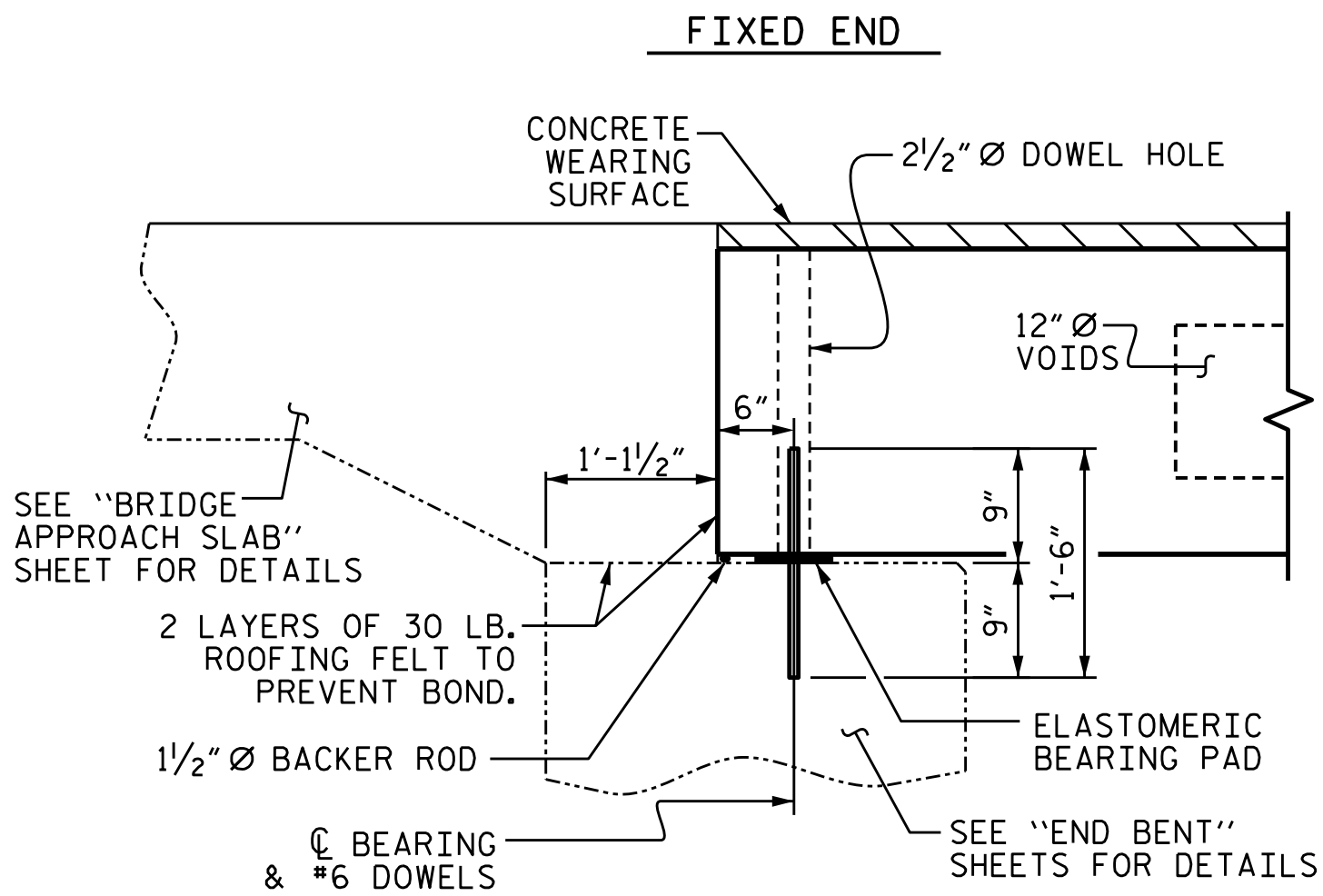
STATION: 12+99.93-L-

SHEET 1 OF 8

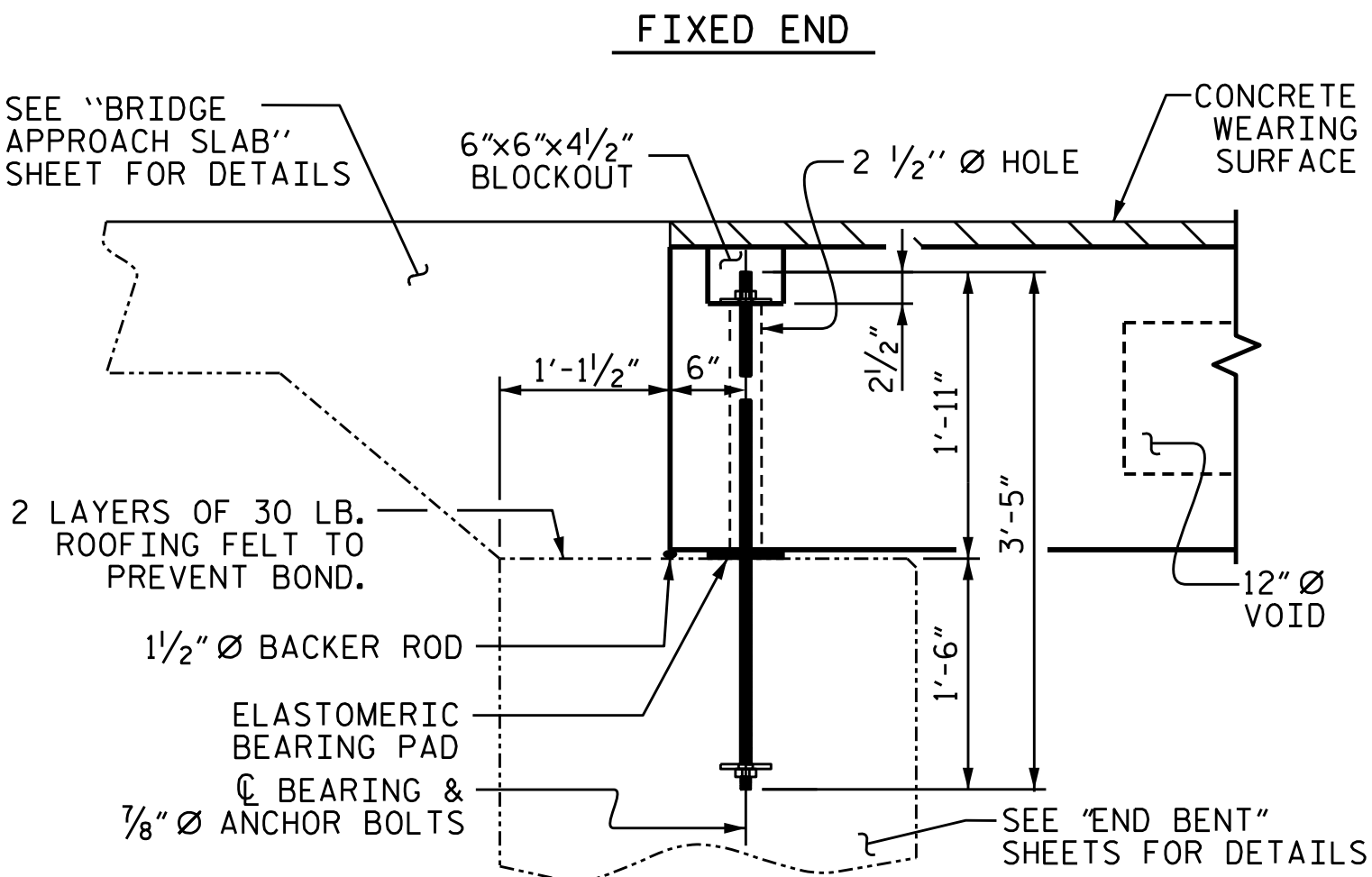
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-8
2			4			
TOTAL SHEETS						35

ASSEMBLED BY :	JLA	DATE :	1/25
CHECKED BY :	MGC	DATE :	3/25
DRAWN BY :	MAA	6/10	REV. 8/14
CHECKED BY :	MKT	7/10	MAA/TMG

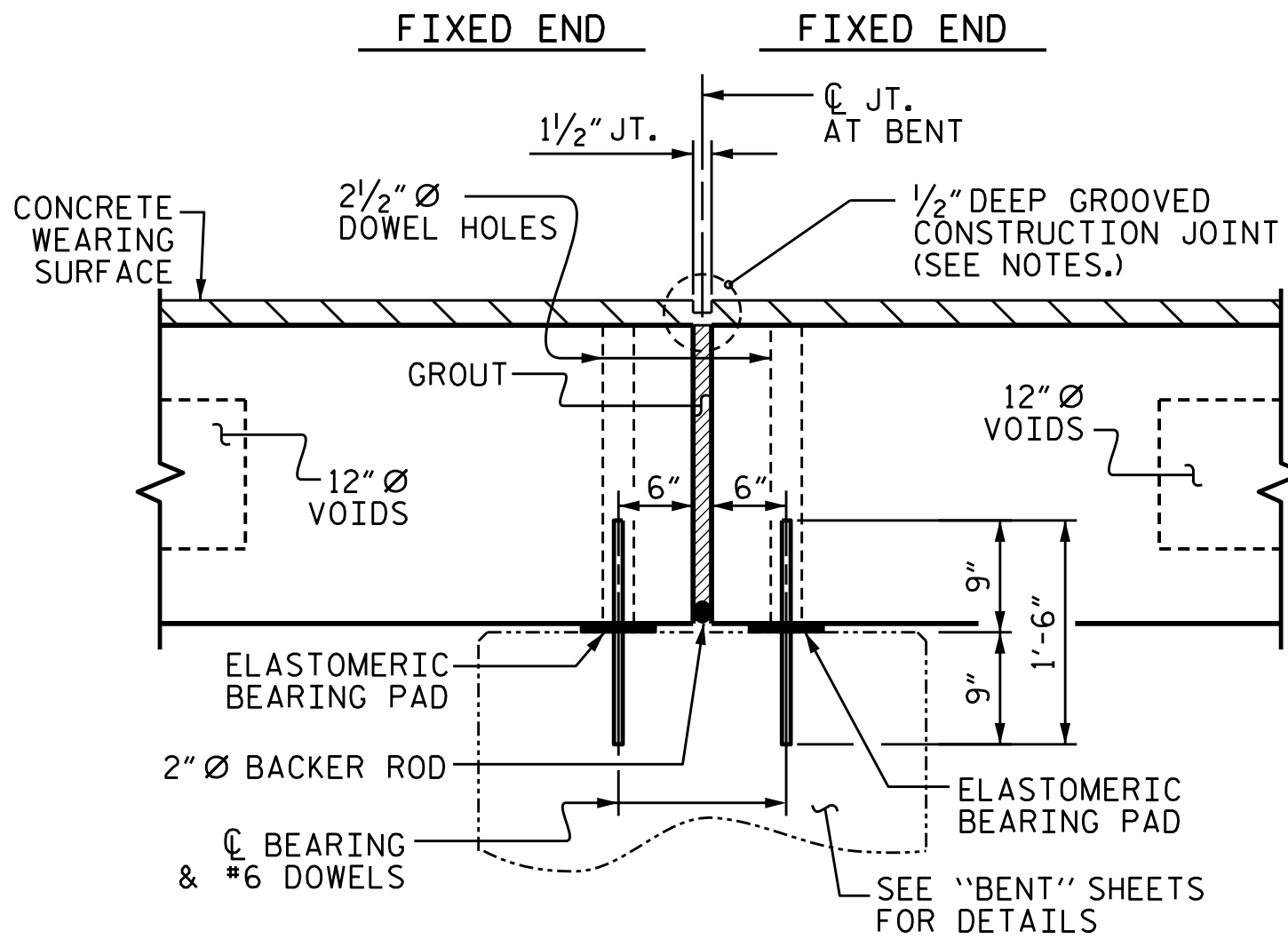


SECTION AT END BENT

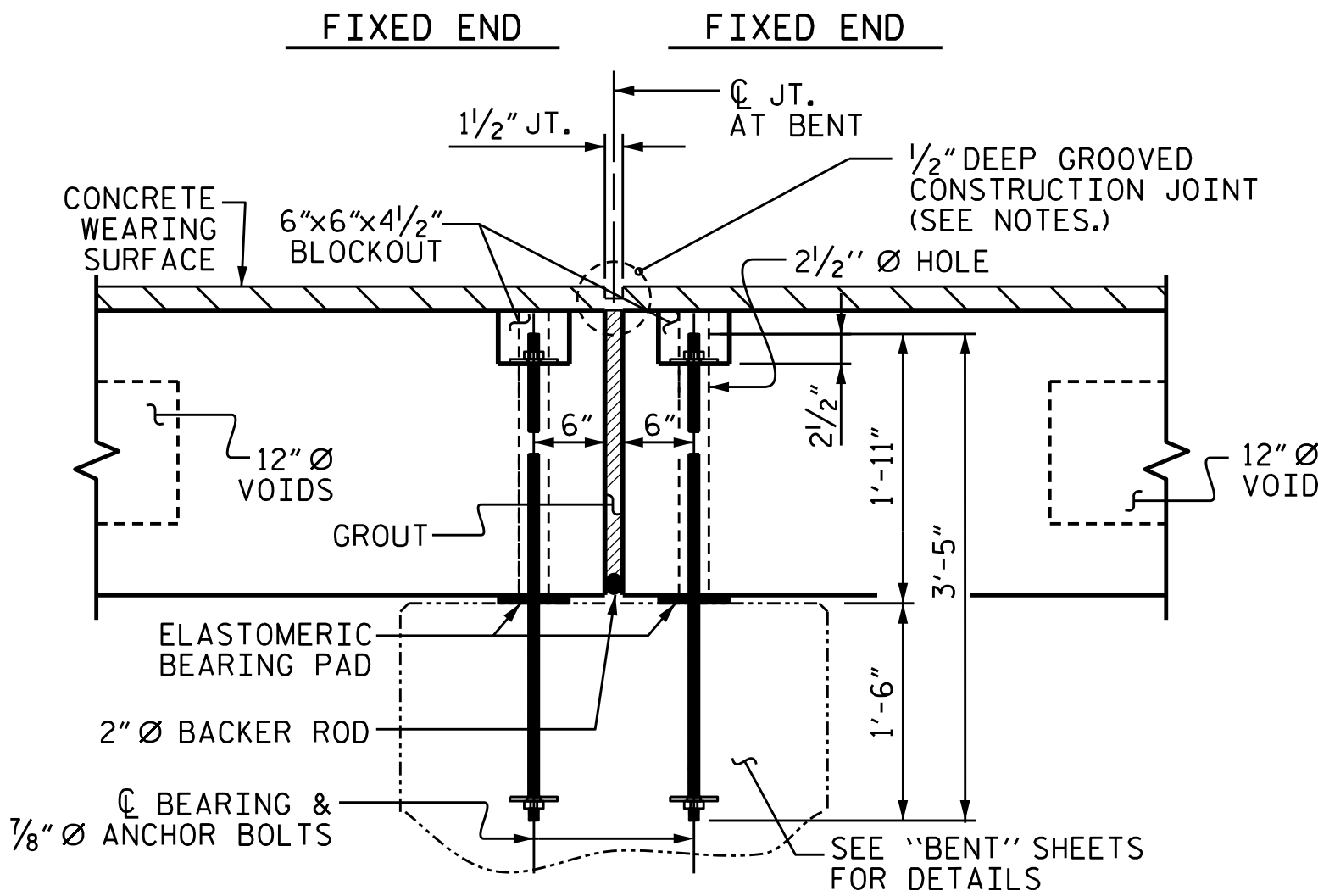


SECTION AT END BENT FOR EXTERIOR CORED SLAB UNITS

FOR "BLOCKOUT DETAIL FOR ANCHOR BOLTS", SEE SHEETS 3 THRU 6 OF 8.

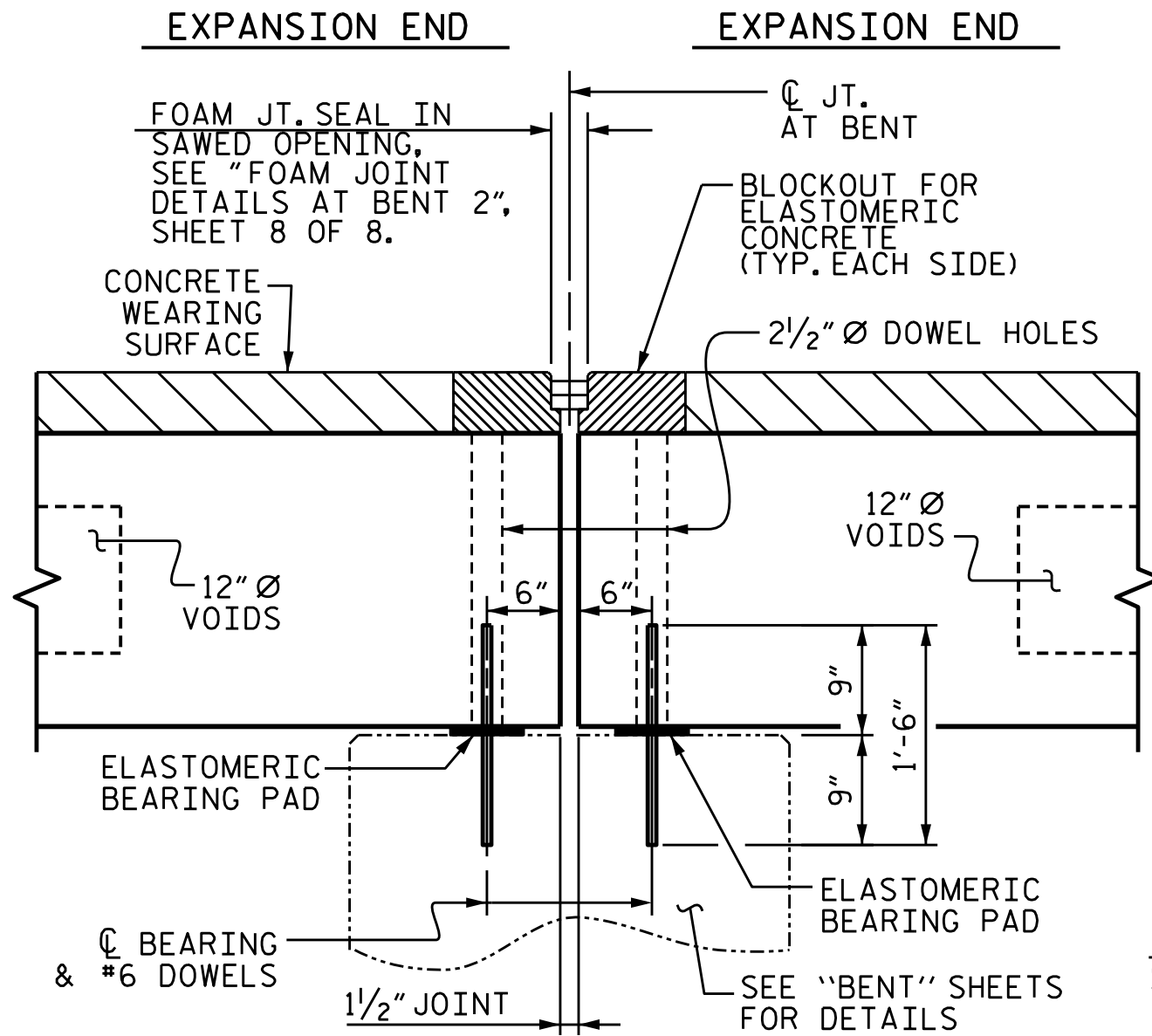


SECTION AT BENTS 1 & 3

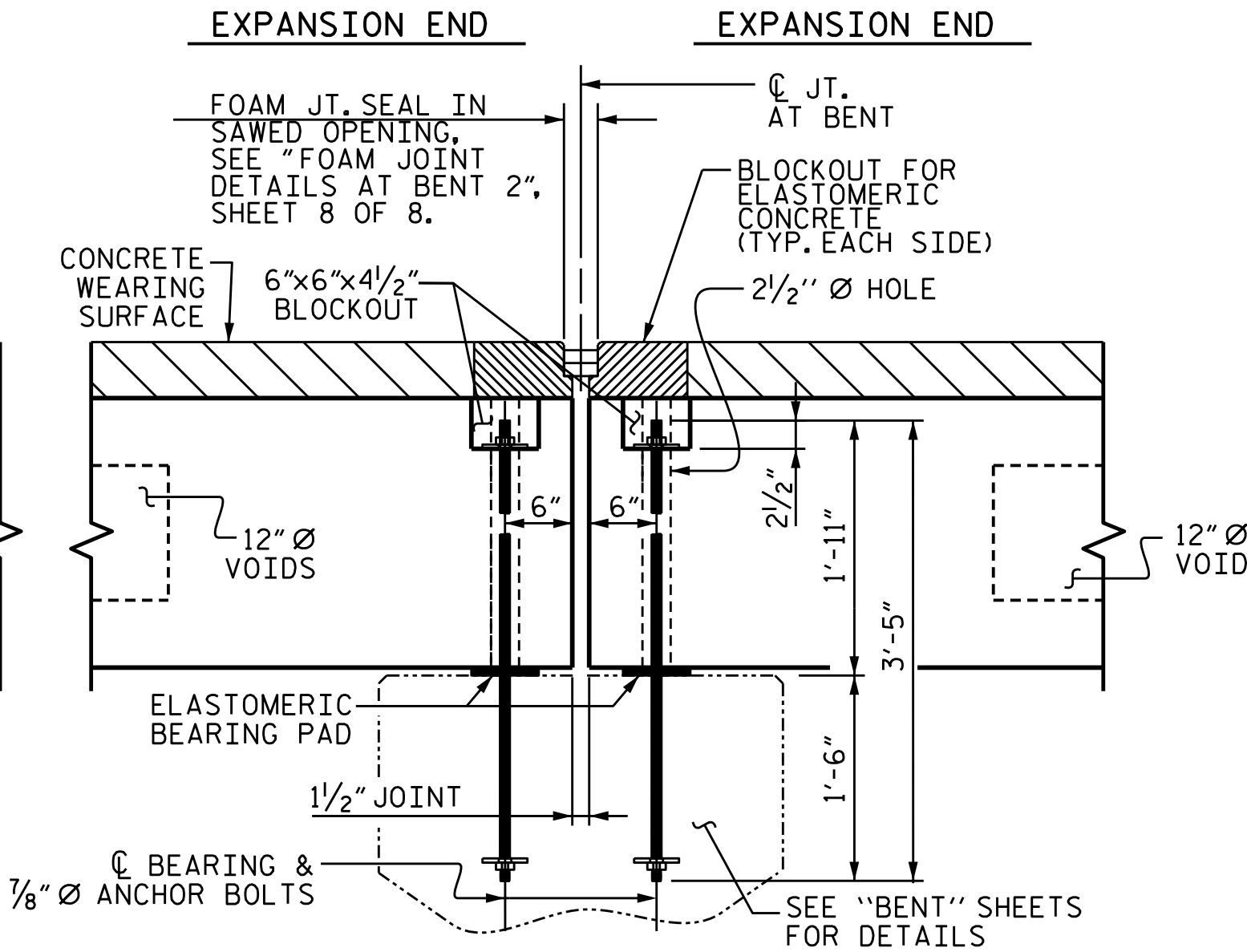


SECTION AT BENTS 1 & 3 FOR EXTERIOR CORED SLAB UNITS

FOR "BLOCKOUT DETAIL FOR ANCHOR BOLTS", SEE SHEETS 3 THRU 6 OF 8.



SECTION AT BENT 2

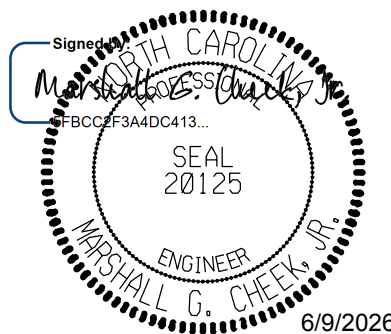


SECTION AT BENT 2 FOR EXTERIOR CORED SLAB UNITS

FOR "BLOCKOUT DETAIL FOR ANCHOR BOLTS", SEE SHEETS 3 THRU 6 OF 8.

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 2 OF 8



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS 35
2			4			

STD. NO. 24PCS4_30_60S

DRAWN BY : JLA DATE : 1/25
CHECKED BY : MGC DATE : 6/25
DESIGN ENGINEER OF RECORD : MGC DATE : 6/25



(SIMILAR EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR
UNIT SIMILAR EXCEPT OMIT #4 S12 BARS.



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



TYPE I UNIT

NOTES

EXTERIOR SLAB UNITS SHALL BE ANCHORED WITH 7/8" Ø ANCHOR BOLTS.

THE 2½" ANCHOR BOLT HOLES SHALL BE FILLED WITH
NON-SHRINK GROUT. SEE GROUT FOR STRUCTURES SPECIAL
PROVISION.

ANCHOR BOLTS SHALL BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF $\frac{1}{2}$ TURN.

ANCHOR BOLT BLOCKOUTS SHALL BE FILLED WITH NON-SHRINK GROUT AFTER TIGHTENING OF THE ANCHOR BOLTS AND PRIOR TO PLACEMENT OF CONCRETE WEARING SURFACE.

THE VERTICAL FACES OF THE ANCHOR BOLT BLOCKOUTS SHALL BE FINISHED WITH A ROUGHENED SURFACE.

HOLD DOWN PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

PAYMENT FOR HOLD DOWN PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

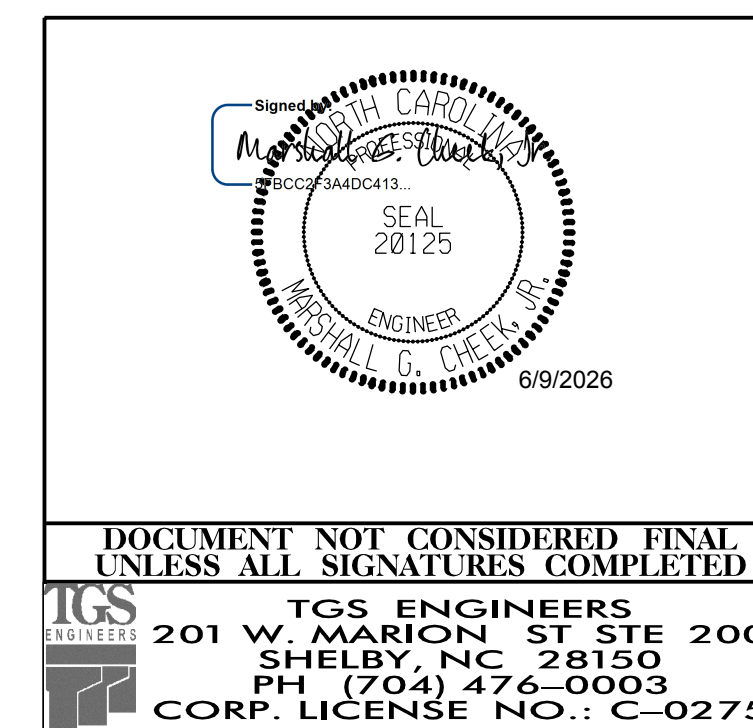
ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. PLATES SHALL MEET THE REQUIREMENTS OF AASHTO M293. BOLTS, NUTS AND PLATES SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLT, NUTS AND PLATES. SHOP INSPECTION IS REQUIRED.

THE #4 S12 BARS MAY BE SHIFTED AS NECESSARY TO
MAINTAIN 1" CLEAR TO ANCHOR BOLT BLOCKOUT.

PROJECT NO. HB-0054
ASHE COUNTY

STATION: 12+99.93-L-

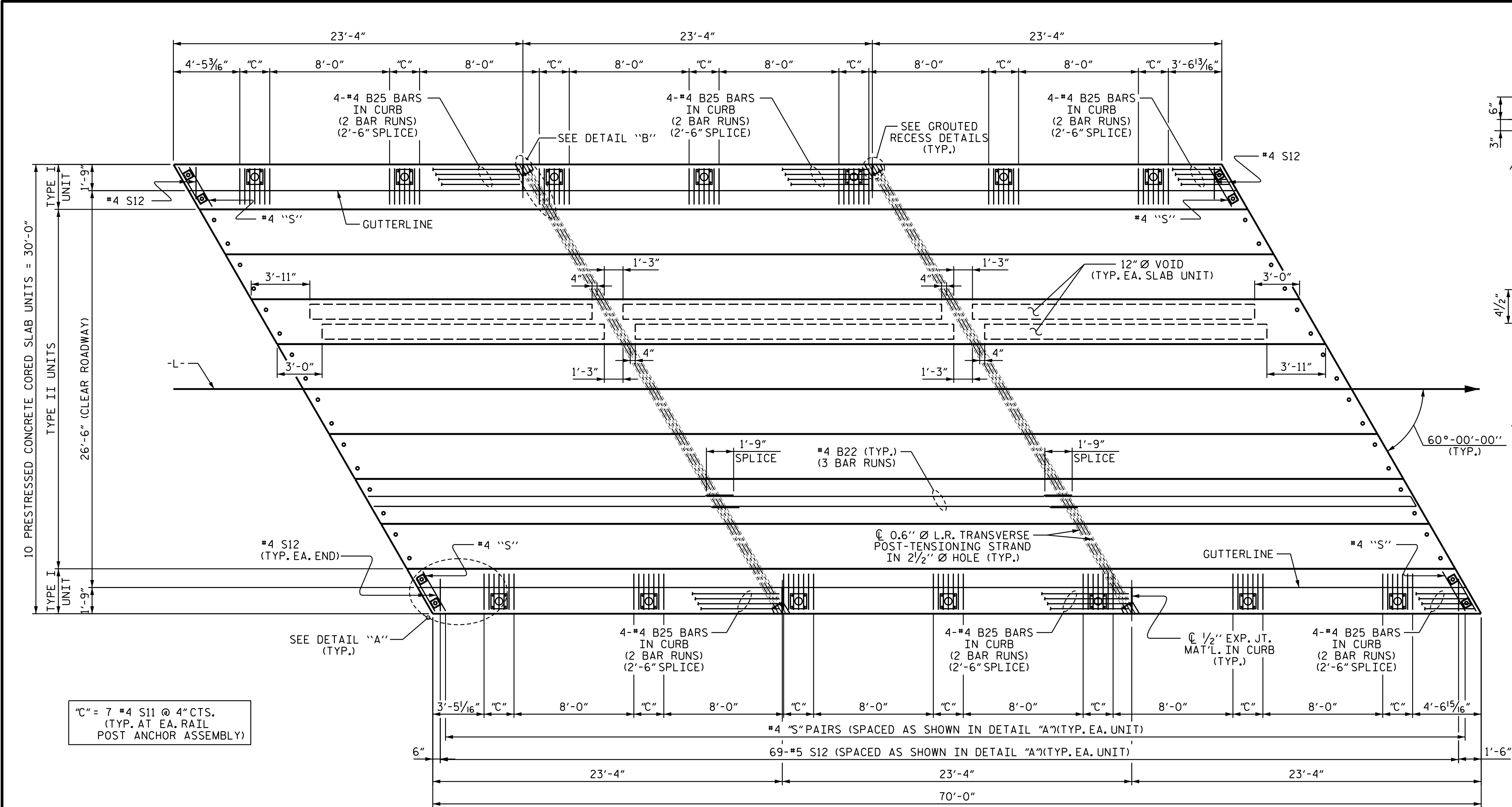
SHEET 3 OF 8



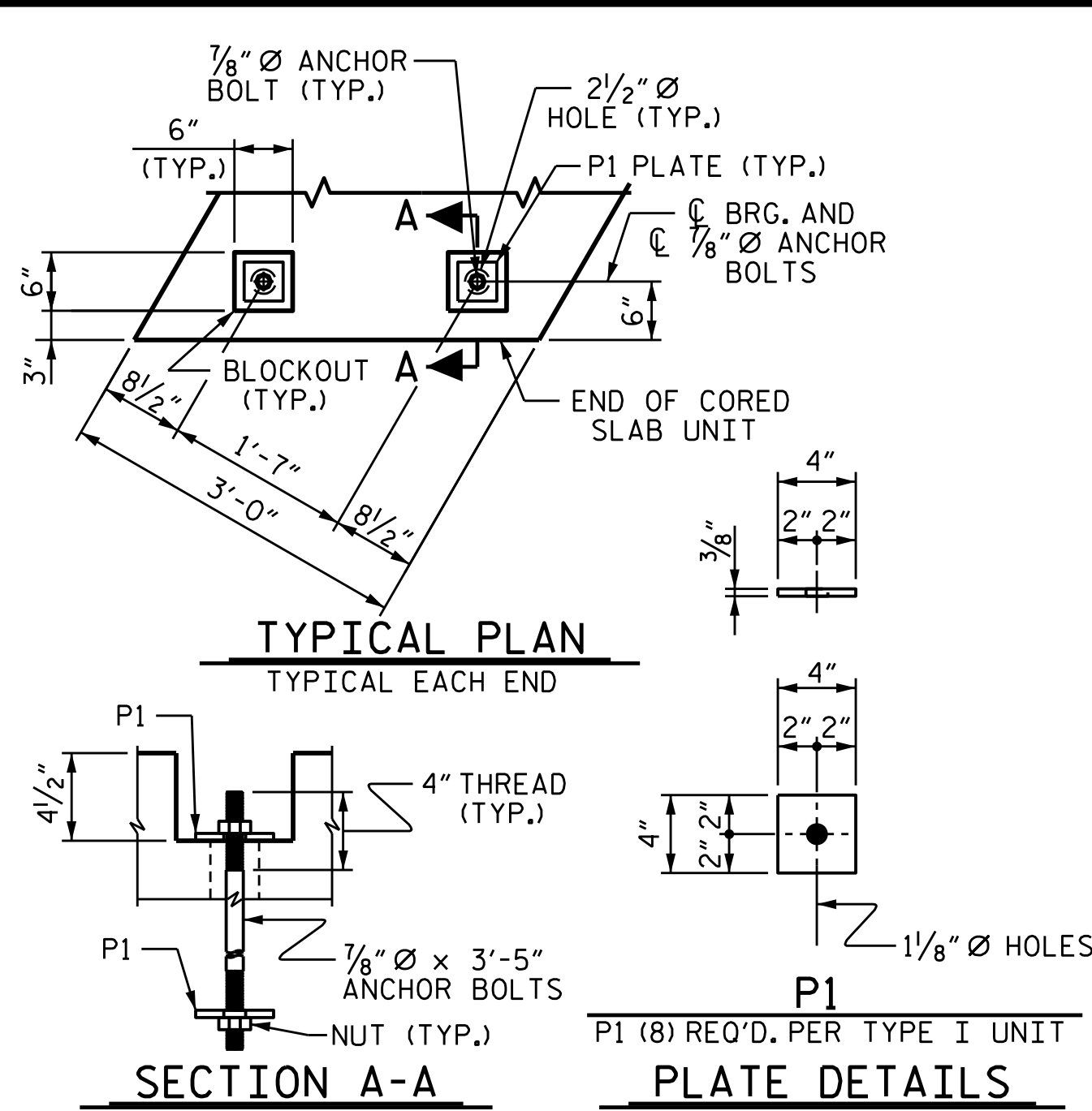
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE

PLAN OF 70' UNIT
26'-6" CLEAR ROADWAY
60° SKEW

REVISED SHEET NO.						SHEET NO.	
NO.						BY:	
DATE:						DATE:	
1						3	
2						4	
TOTAL SHEETS						35	



"C" = 7 #4 S11 @ 4" CTS.
(TYP. AT EA. RAIL
POST ANCHOR ASSEMBLY)



BLOCKOUT DETAIL FOR ANCHOR BOLTS

TYPE I UNIT

NOTES

EXTERIOR SLAB UNITS SHALL BE ANCHORED WITH 7/8" Ø ANCHOR BOLTS.

THE 2 1/2" ANCHOR BOLT HOLES SHALL BE FILLED WITH NON-SHRINK GROUT. SEE GROUT FOR STRUCTURES SPECIAL PROVISION.

ANCHOR BOLTS SHALL BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN.

ANCHOR BOLT BLOCKOUTS SHALL BE FILLED WITH NON-SHRINK GROUT AFTER TIGHTENING OF THE ANCHOR BOLTS AND PRIOR TO PLACEMENT OF CONCRETE WEARING SURFACE.

THE VERTICAL FACES OF THE ANCHOR BOLT BLOCKOUTS SHALL BE FINISHED WITH A ROUGHENED SURFACE.

HOLD DOWN PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

PAYMENT FOR HOLD DOWN PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

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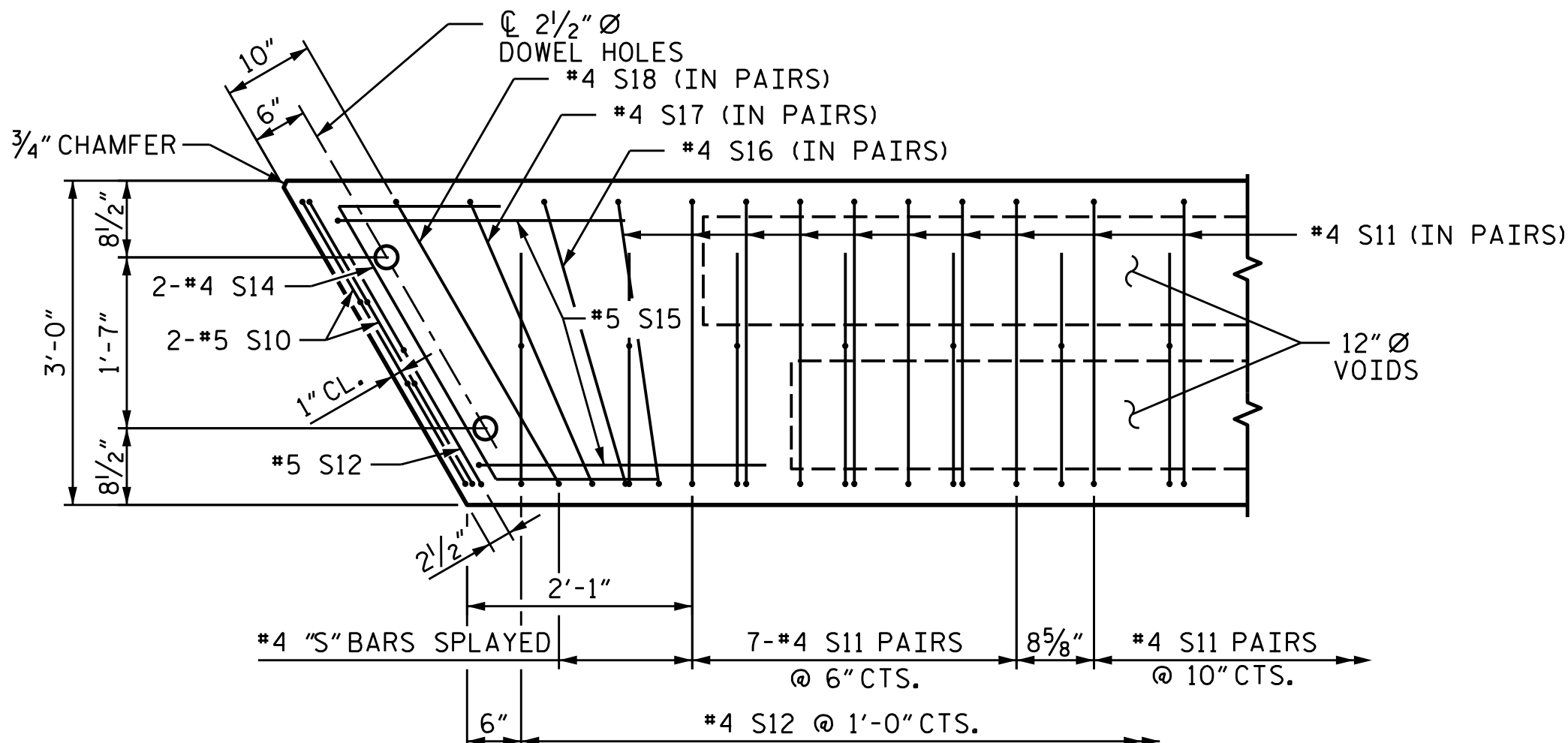
THE #4 S12 BARS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO ANCHOR BOLT BLOCKOUT.

PROJECT NO. HB-0054

ASHE COUNTY

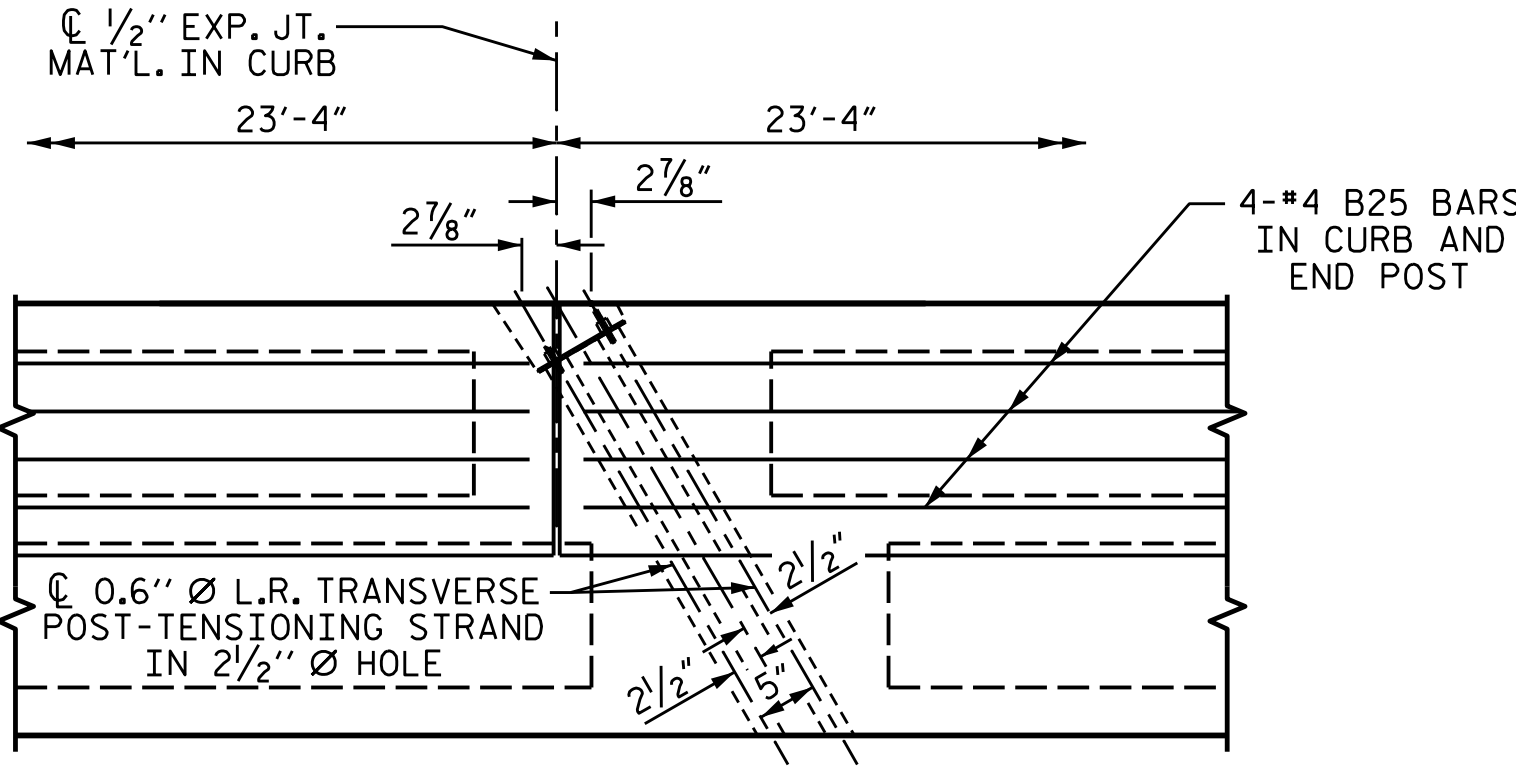
STATION: 12+99.93-L-

SHEET 5 OF 8



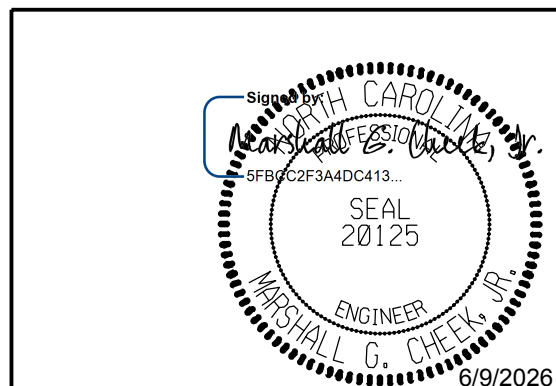
DETAIL "A"

(SIMILAR EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR
UNIT SIMILAR EXCEPT OMIT #4 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



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

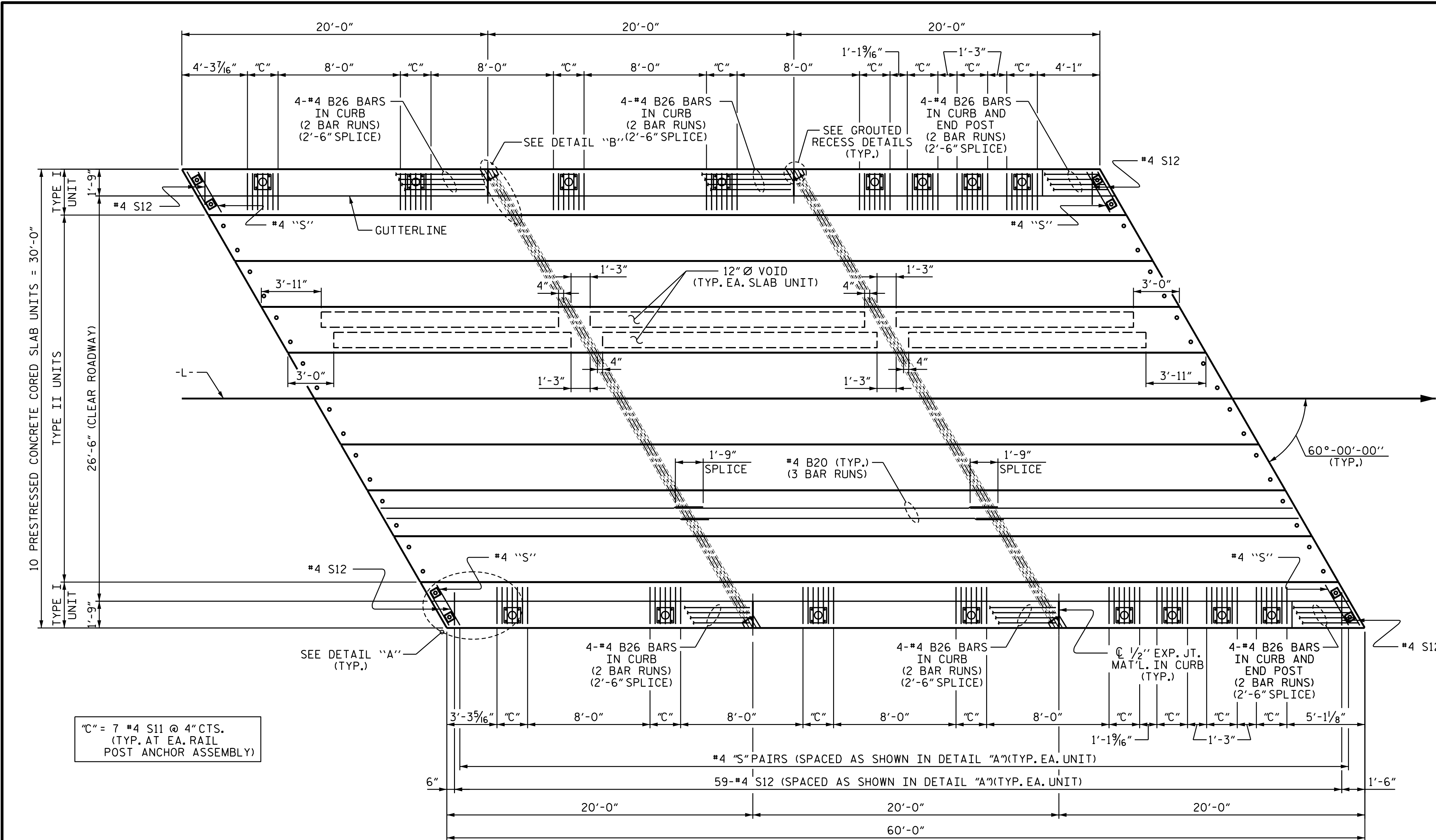
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE

PLAN OF 70' UNIT
26'-6" CLEAR ROADWAY
60° SKEW

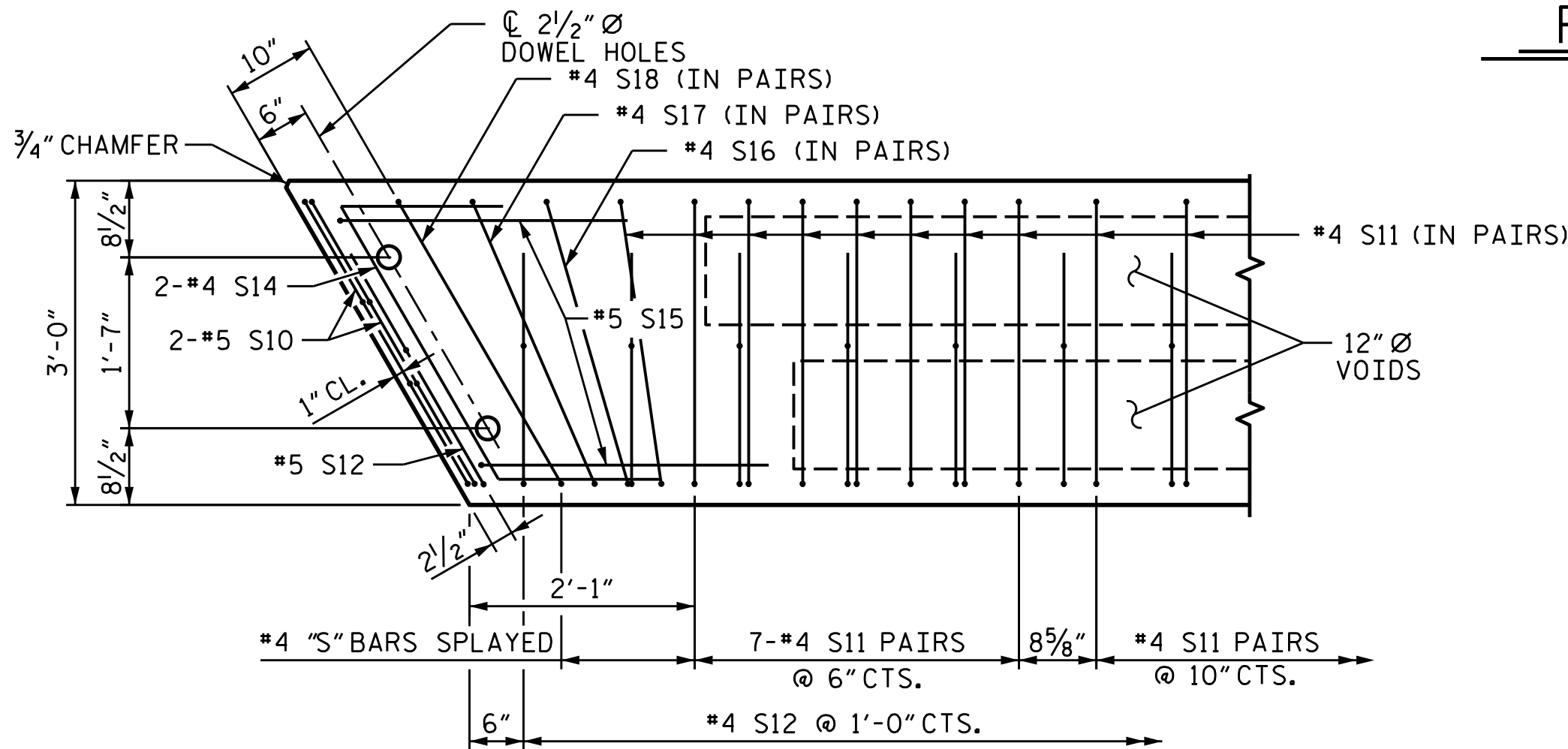
REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S-12
2			4			TOTAL SHEETS 35

ASSEMBLED BY :	JLA	DATE :	1/25
CHECKED BY :	MGC	DATE :	3/25
DRAWN BY :	MAA	REV. 12/5/11	MAA/AAC
CHECKED BY :	MKT	REV. 8/14	MAA/TMG



"C" = 7 #4 S11 @ 4" CTS.
(TYP. AT EA. RAIL
POST ANCHOR ASSEMBLY)

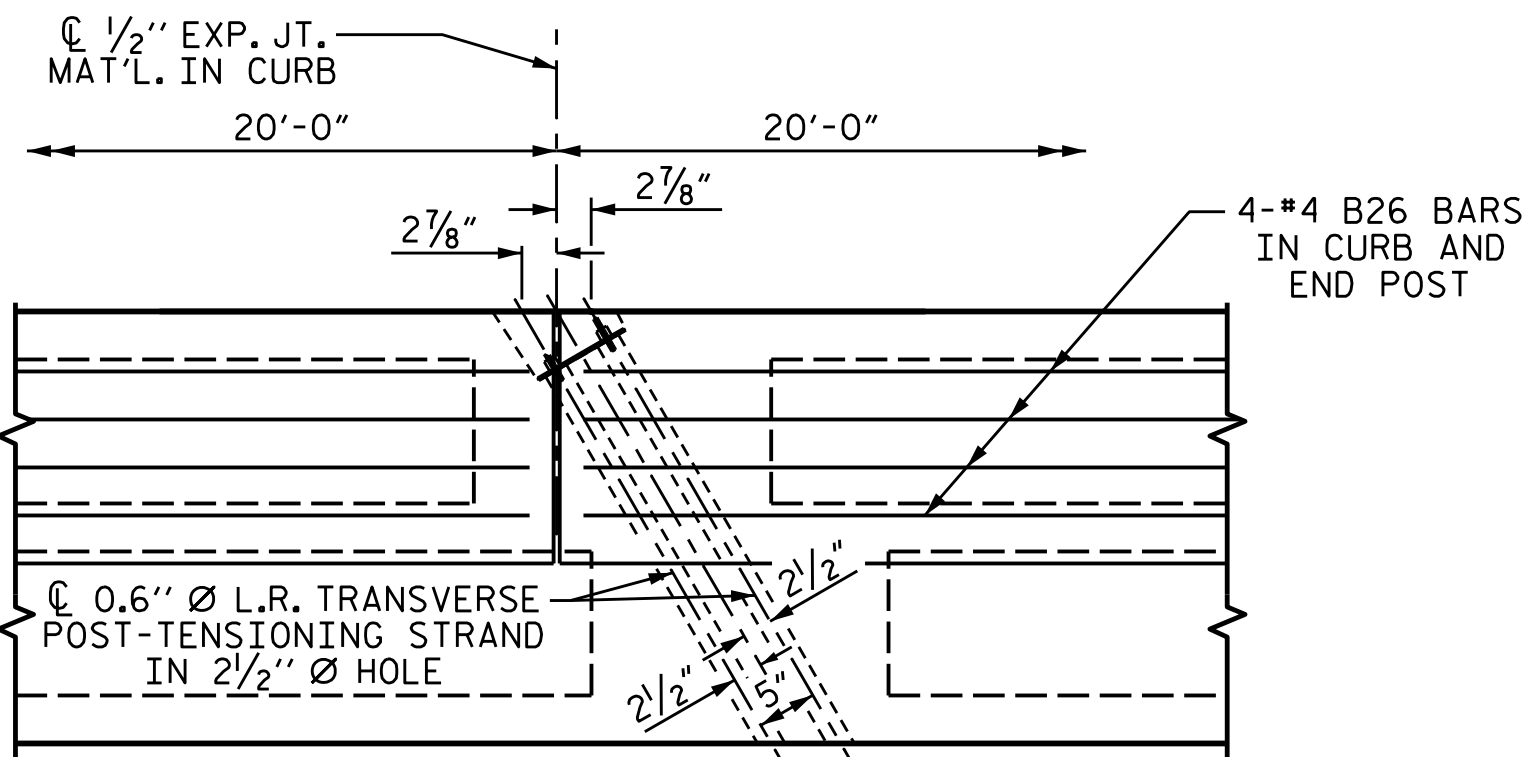


DETAIL "A"

(SIMILAR EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR
UNIT SIMILAR EXCEPT OMIT #4 S12 BARS.

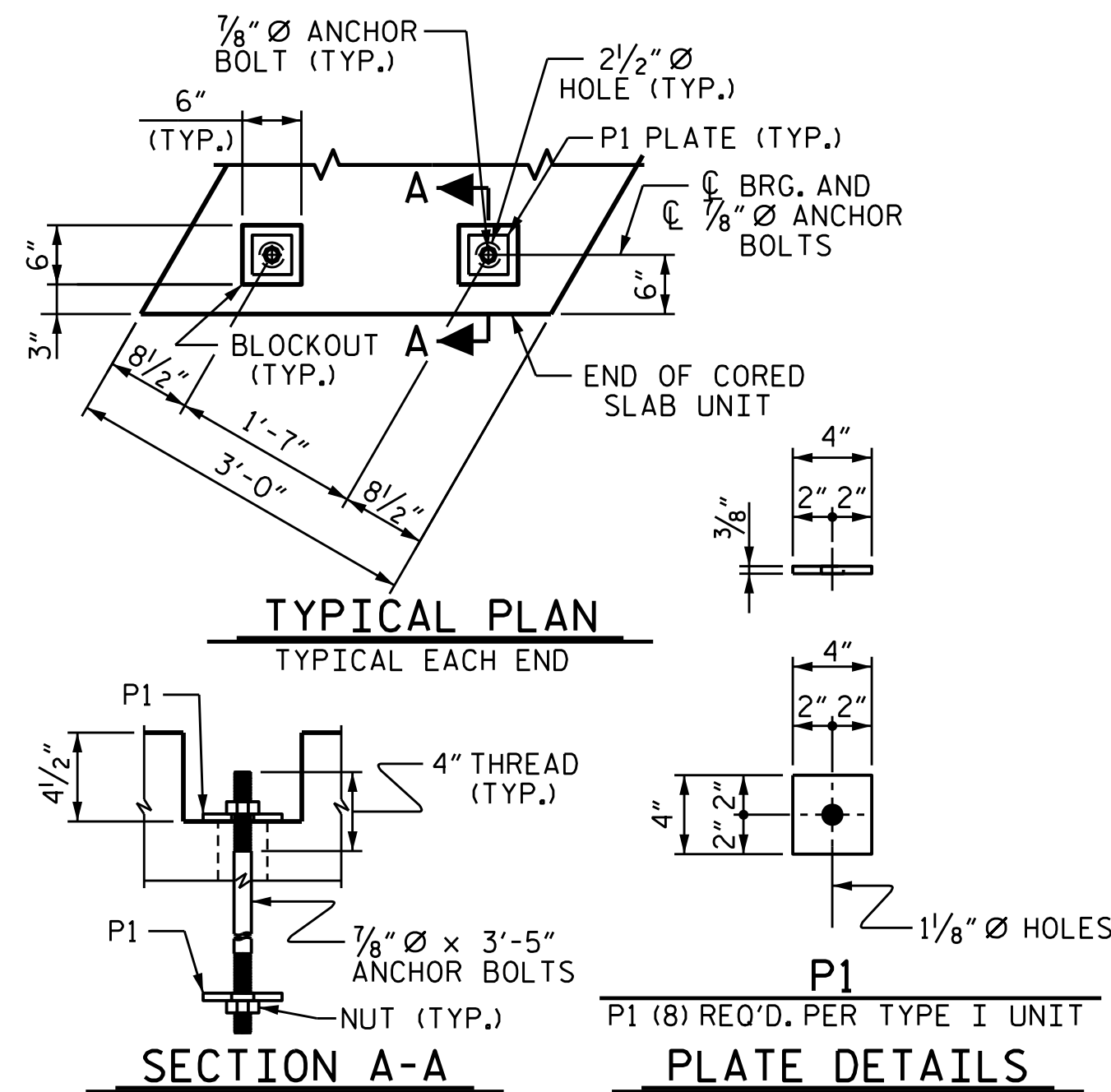
PLAN OF UNIT

SPAN D



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



BLOCKOUT DETAIL
FOR ANCHOR BOLTS

TYPE I UNIT

NOTES

EXTERIOR SLAB UNITS SHALL BE ANCHORED WITH 7/8" Ø ANCHOR BOLTS.

THE 2 1/2" ANCHOR BOLT HOLES SHALL BE FILLED WITH NON-SHRINK GROUT. SEE GROUT FOR STRUCTURES SPECIAL PROVISION.

ANCHOR BOLTS SHALL BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN.

ANCHOR BOLT BLOCKOUTS SHALL BE FILLED WITH NON-SHRINK GROUT AFTER TIGHTENING OF THE ANCHOR BOLTS AND PRIOR TO PLACEMENT OF CONCRETE WEARING SURFACE.

THE VERTICAL FACES OF THE ANCHOR BOLT BLOCKOUTS SHALL BE FINISHED WITH A ROUGHENED SURFACE.

HOLD DOWN PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

PAYMENT FOR HOLD DOWN PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. PLATES SHALL MEET THE REQUIREMENTS OF AASHTO M293. BOLTS, NUTS AND PLATES SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLT, NUTS AND PLATES. SHOP INSPECTION IS REQUIRED.

THE #4 S12 BARS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO ANCHOR BOLT BLOCKOUT.

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 6 OF 8

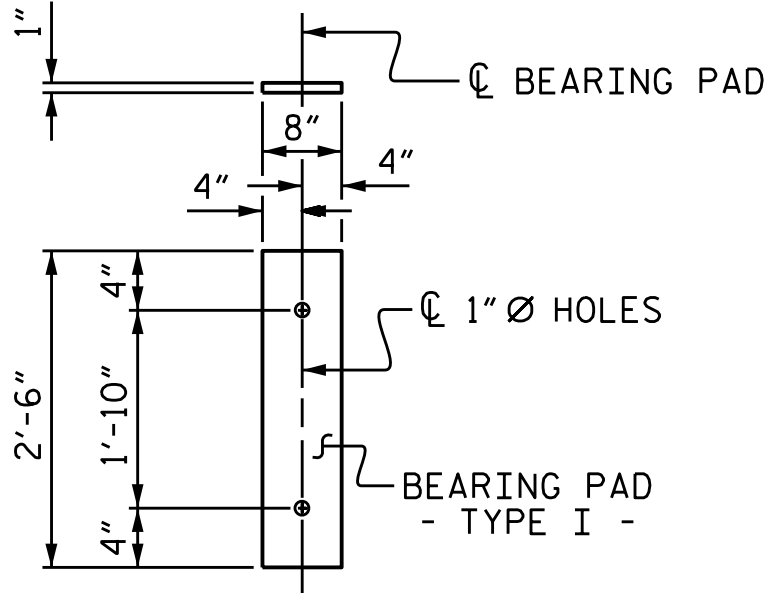


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
PLAN OF 60' UNIT
26'-6" CLEAR ROADWAY
60° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-13
2			4			
TOTAL SHEETS 35						



FIXED END
(TYPE I - 80 REQ'D)

ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

TYPE I
TYPE II

BILL OF MATERIAL FOR ONE 70' CORED SLAB UNIT FOR SPAN A							
				TYPE I UNIT		TYPE II UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B22	6	#4	STR	24'-6"	98	24'-6"	98
S10	8	#5	2	5'-0"	42	5'-0"	42
S11	233	#4	2	5'-10"	908		
S11	170	#4	2			5'-10"	662
*S12	69	#4	1	5'-7"	257		
S14	4	#4	3	5'-11"	16	5'-11"	16
S15	4	#5	2	7'-1"	30	7'-1"	30
S16	4	#4	2	5'-11"	16	5'-11"	16
S17	4	#4	2	6'-1"	16	6'-1"	16
S18	4	#4	2	6'-3"	17	6'-3"	17
REINFORCING STEEL				LBS.	1,143		897
* EPOXY COATED REINFORCING STEEL				LBS.	257		
7000 P.S.I. CONCRETE				CU. YDS.	13.8		12.0
0.6" Ø L.R. STRANDS				No.	28		28

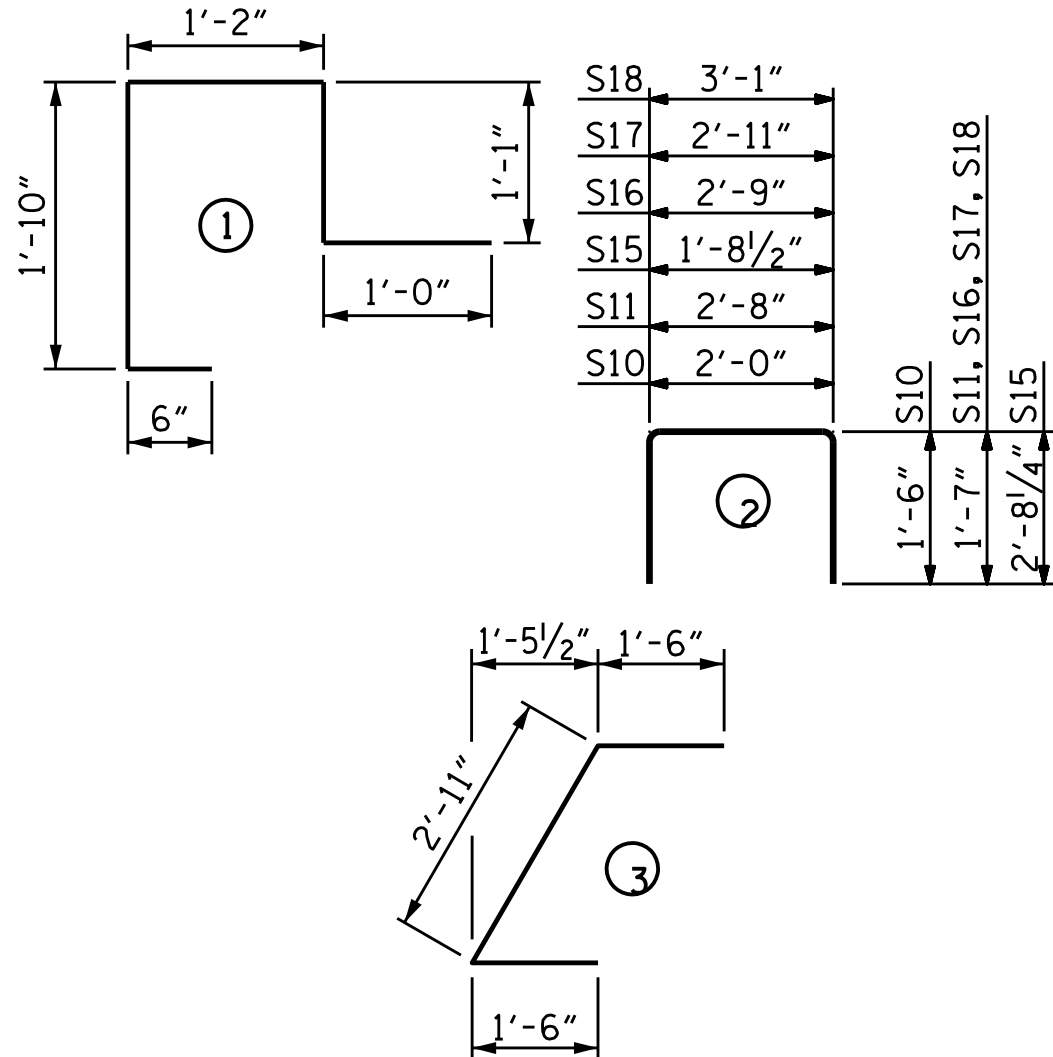
TYPE I
TYPE II

BILL OF MATERIAL FOR ONE 70' CORED SLAB UNIT FOR SPAN B & C							
				TYPE I UNIT		TYPE II UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B22	6	#4	STR	24'-6"	98	24'-6"	98
S10	8	#5	2	5'-0"	42	5'-0"	42
S11	219	#4	2	5'-10"	853		
S11	170	#4	2			5'-10"	662
*S12	69	#4	1	5'-7"	257		
S14	4	#4	3	5'-11"	16	5'-11"	16
S15	4	#5	2	7'-1"	30	7'-1"	30
S16	4	#4	2	5'-11"	16	5'-11"	16
S17	4	#4	2	6'-1"	16	6'-1"	16
S18	4	#4	2	6'-3"	17	6'-3"	17
REINFORCING STEEL				LBS.	1,088		897
* EPOXY COATED REINFORCING STEEL				LBS.	257		
7000 P.S.I. CONCRETE				CU. YDS.	13.8		12.0
0.6" Ø L.R. STRANDS				No.	28		28

TYPE I
TYPE II

BILL OF MATERIAL FOR ONE 60' CORED SLAB UNIT FOR SPAN D							
				TYPE I UNIT		TYPE II UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B20	6	#4	STR	21'-2"	85	21'-2"	85
S10	8	#5	2	5'-0"	42	5'-0"	42
S11	202	#4	2	5'-10"	787		
S11	146	#4	2			5'-10"	569
*S12	59	#4	1	5'-7"	220		
S14	4	#4	3	5'-11"	16	5'-11"	16
S15	4	#5	2	7'-1"	30	7'-1"	30
S16	4	#4	2	5'-11"	16	5'-11"	16
S17	4	#4	2	6'-1"	16	6'-1"	16
S18	4	#4	2	6'-3"	17	6'-3"	17
REINFORCING STEEL				LBS.	1009		791
* EPOXY COATED REINFORCING STEEL				LBS.	220		
6000 P.S.I. CONCRETE				CU. YDS.	11.9		10.4
0.6" Ø L.R. STRANDS				No.	24		24

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

GUTTERLINE CONCRETE THICKNESS & CURB HEIGHT

	CONCRETE OVERLAY THICKNESS @ MID-SPAN	CURB HEIGHT @ MID-SPAN
60' UNITS	3 3/8"	1'-0 1/8"
70' UNITS	3 1/2"	1'-0"

CORED SLABS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
70' UNIT			
EXTERIOR C.S.	6	70'-0"	420'-0"
INTERIOR C.S.	24	70'-0"	1,680'-0"
TOTAL	30		2,100'-0"

CORED SLABS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
60' UNIT			
EXTERIOR C.S.	2	60'-0"	120'-0"
INTERIOR C.S.	8	60'-0"	480'-0"
TOTAL	10		600'-0"

DEAD LOAD DEFLECTION AND CAMBER

	3'-0" x 2'-0"
70' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	2 1/4" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **	3/4" ↓
FINAL CAMBER	1 1/2" ↑

** INCLUDES FUTURE WEARING SURFACE

DEAD LOAD DEFLECTION AND CAMBER

	3'-0" x 2'-0"
60' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	1 1/8" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **	1/2" ↓
FINAL CAMBER	1 3/8" ↑

** INCLUDES FUTURE WEARING SURFACE

CONCRETE RELEASE STRENGTH

UNIT	PSI
60' UNITS	4800
70' UNITS	5500

GRADE 270 STRANDS

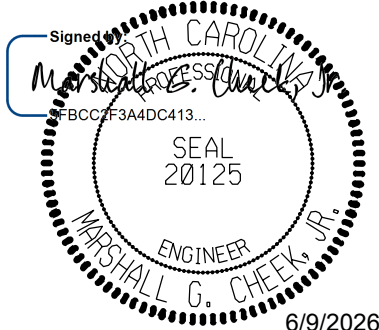
	0.6" Ø L.R.
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950

PROJECT NO. HB-0054

ASHE COUNTY

STATION: 12+99.93-L-

SHEET 7 OF 8



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

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

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.

S-14

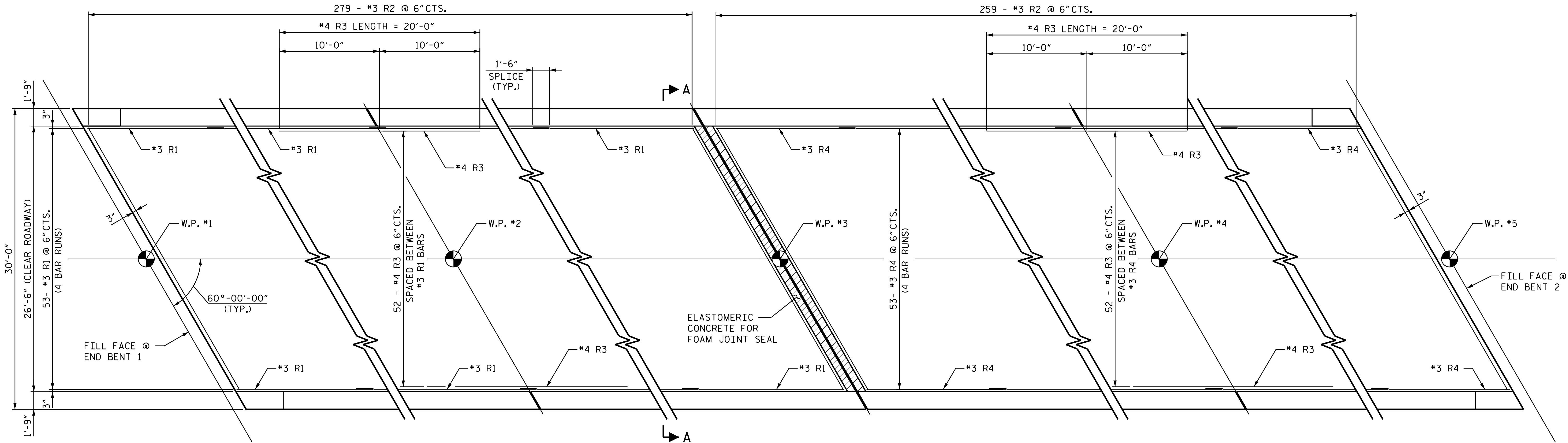
TOTAL

SHEETS

35

STD. NO. 24PCS3_30_60&120S

ASSEMBLED BY :	JLA	DATE :	1/25
CHECKED BY :	MGC	DATE :	3/25
DRAWN BY :	MAA	6/10	REV. 5/18
CHECKED BY :	MKT	7/10	MAA/THC



NOTES

PLACEMENT OF THE CONCRETE WEARING SURFACE SHALL OCCUR AFTER CASTING THE CONCRETE CURB. THE COST OF THE #3 & #4 BARS CAST WITH THE CONCRETE WEARING SURFACE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE WEARING SURFACE. FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.

A GROOVED CONTRACTION JOINT, 1/2" IN DEPTH, SHALL BE TOOLED IN THE TOP OF THE CONCRETE WEARING SURFACE AT BENTS 1 & 3, IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS.

PLAN OF CONCRETE WEARING SURFACE

FOR FOAM JOINT SEAL, SEE "FOAM JOINT SEAL DETAILS" SHEET 8 OF 8.

GROOVING BRIDGE FLOORS

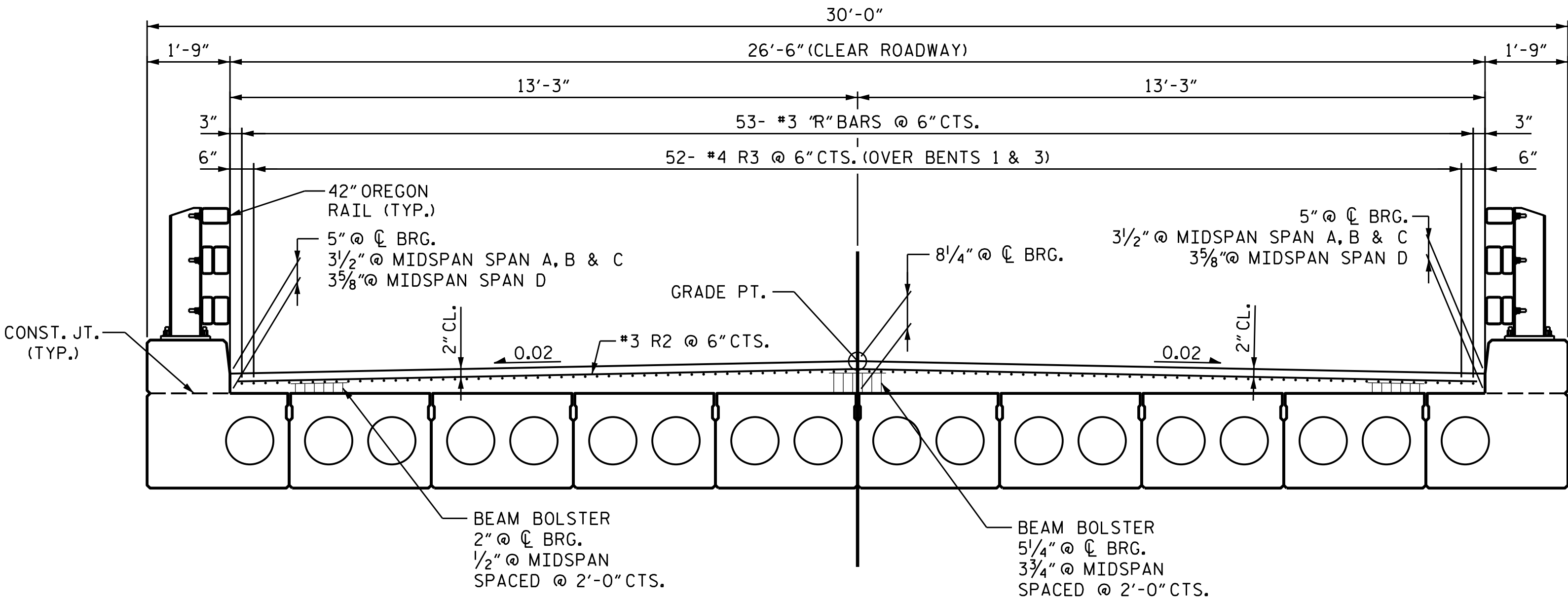
APPROACH SLABS	535 SQ. FT.
CONCRETE WEARING SURFACE	6,280 SQ. FT.
TOTAL	6,815 SQ. FT.

BILL OF MATERIAL FOR CONCRETE WEARING SURFACE

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
* R1	212	#3	STR	36'-0"	2,870
* R2	538	#3	STR	30'-2"	6,102
* R3	104	#4	STR	20'-0"	1,389
* R4	212	#3	STR	33'-8"	2,684

* EPOXY COATED REINF. STEEL	13,045 LBS.
CONCRETE WEARING SURFACE	7,132 SQ. FT.
CONCRETE WATERPROOFING MEMBRANE-CONCRETE WEARING SURFACE	7,132 SQ. FT.

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-



SECTION A-A



6/10/2026

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TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CONCRETE WEARING SURFACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-16 TOTAL SHEETS 35
2			4			

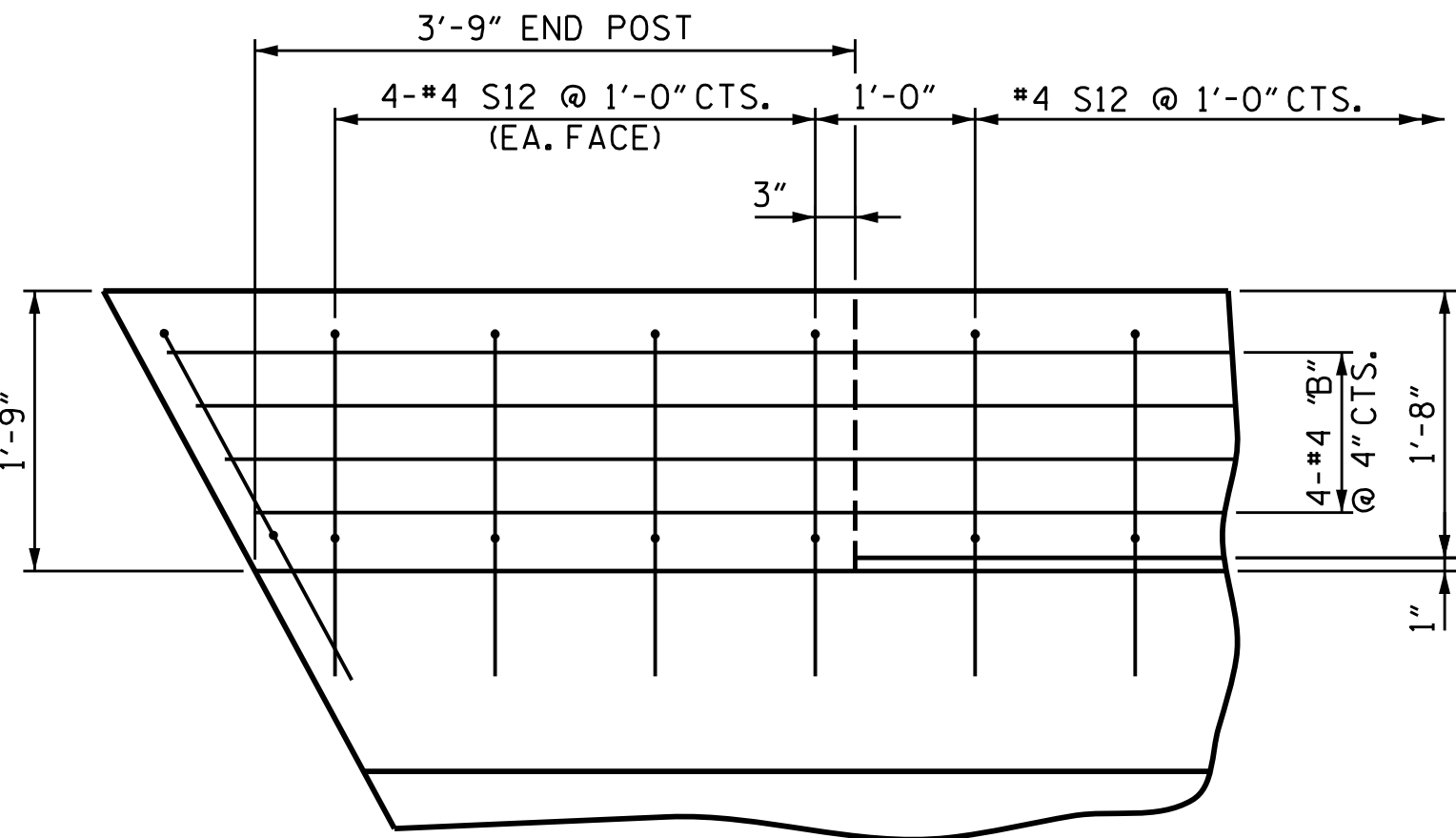
DRAWN BY : JLA DATE : 1/25
CHECKED BY : MGC DATE : 4/25

NOTES

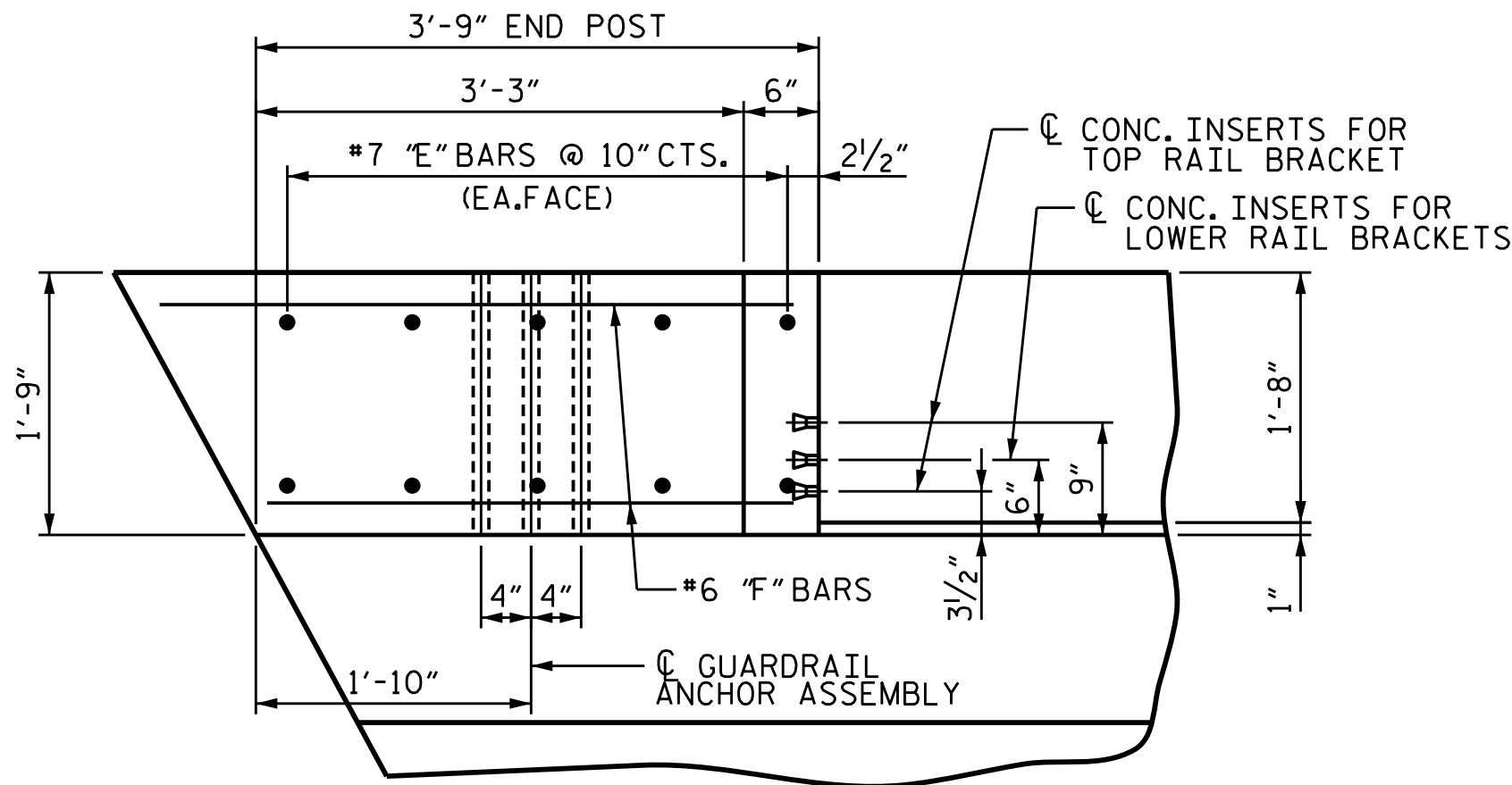
QUANTITIES FOR THE #4 S12 BARS ARE INCLUDED WITH THE CORED SLAB BILL OF MATERIAL.

THE COST OF THE CONCRETE CURB AND END POSTS SHALL BE CONSIDERED INCIDENTAL TO THE PRICE BID FOR 42" OREGON RAIL.

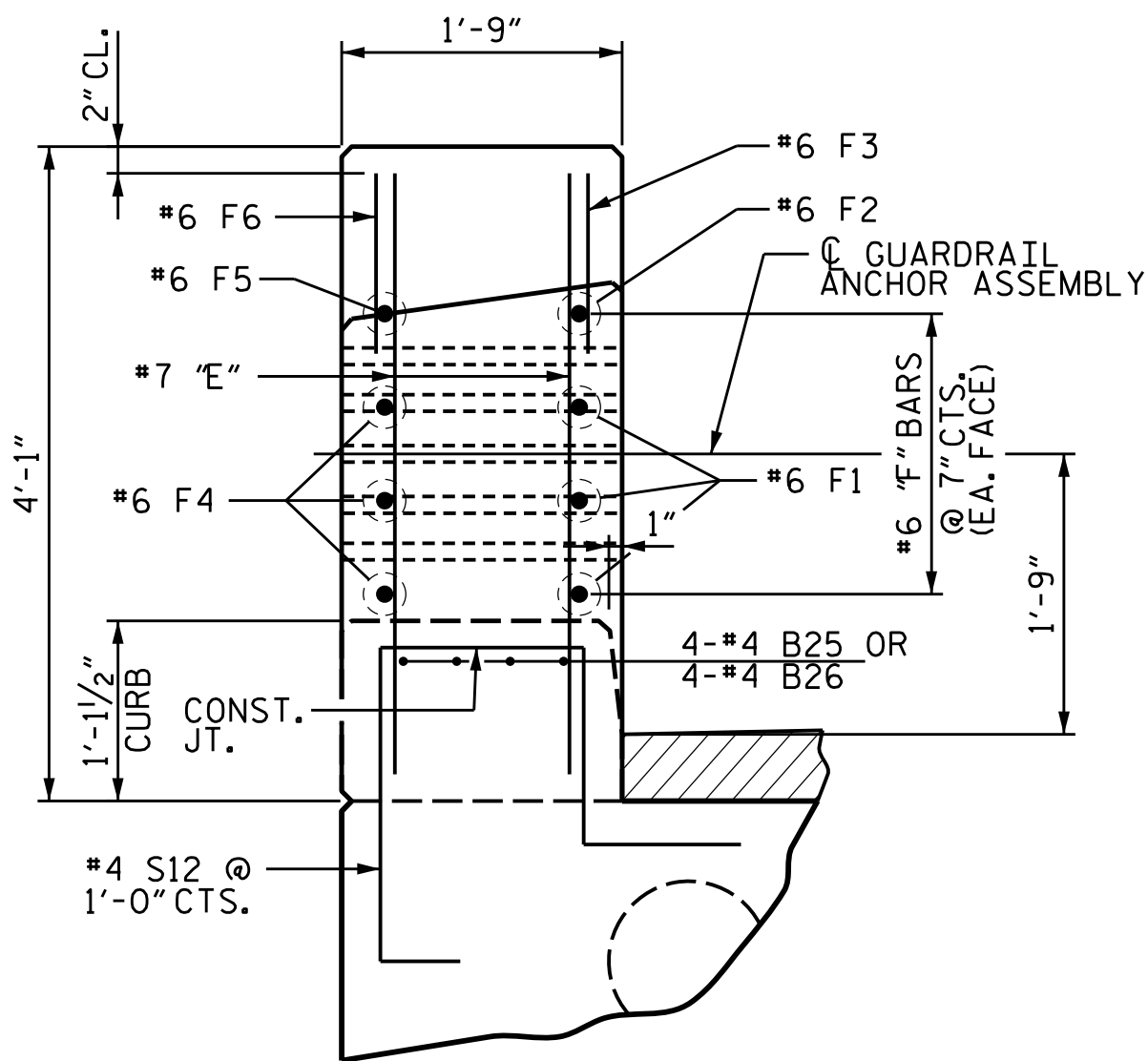
BILL OF MATERIAL FOR END POSTS AND CURB					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*B25	144	#4	STR	13'-3"	1,275
*B26	48	#4	STR	11'-7"	371
*E1	8	#7	STR	2'-10"	46
*E2	8	#7	STR	3'-0"	49
*E3	8	#7	STR	3'-3"	53
*E4	8	#7	STR	3'-7"	59
*E5	8	#7	STR	3'-9"	61
*F1	12	#6	STR	3'-6"	63
*F2	4	#6	STR	3'-0"	18
*F3	4	#6	STR	3'-11"	24
*F4	12	#6	STR	3'-10"	69
*F5	4	#6	STR	3'-5"	21
*F6	4	#6	STR	4'-3"	26
* EPOXY COATED REINFORCING STEEL LBS. 2,135					
CLASS AA CONCRETE CU.YDS. 42.0					



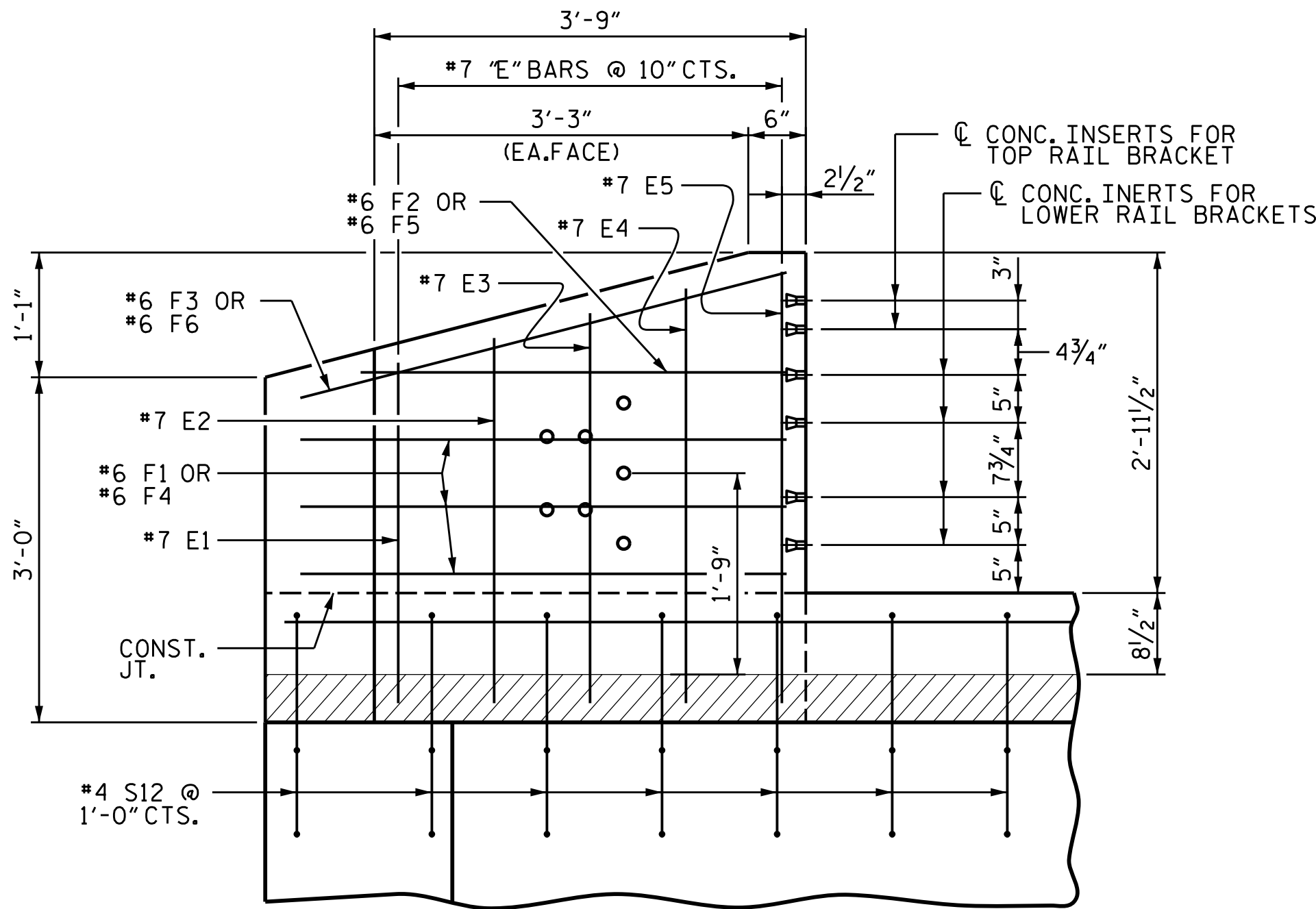
PLAN OF CURB



PLAN OF END POST



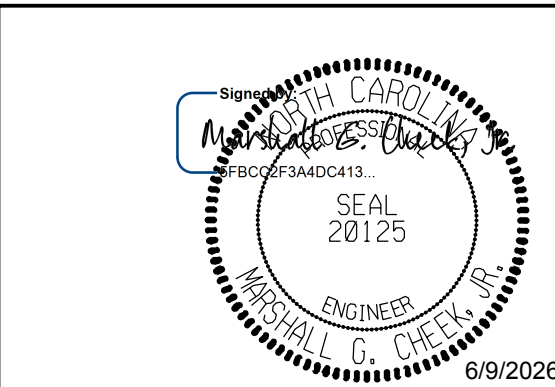
END VIEW



ELEVATION

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 1 OF 3

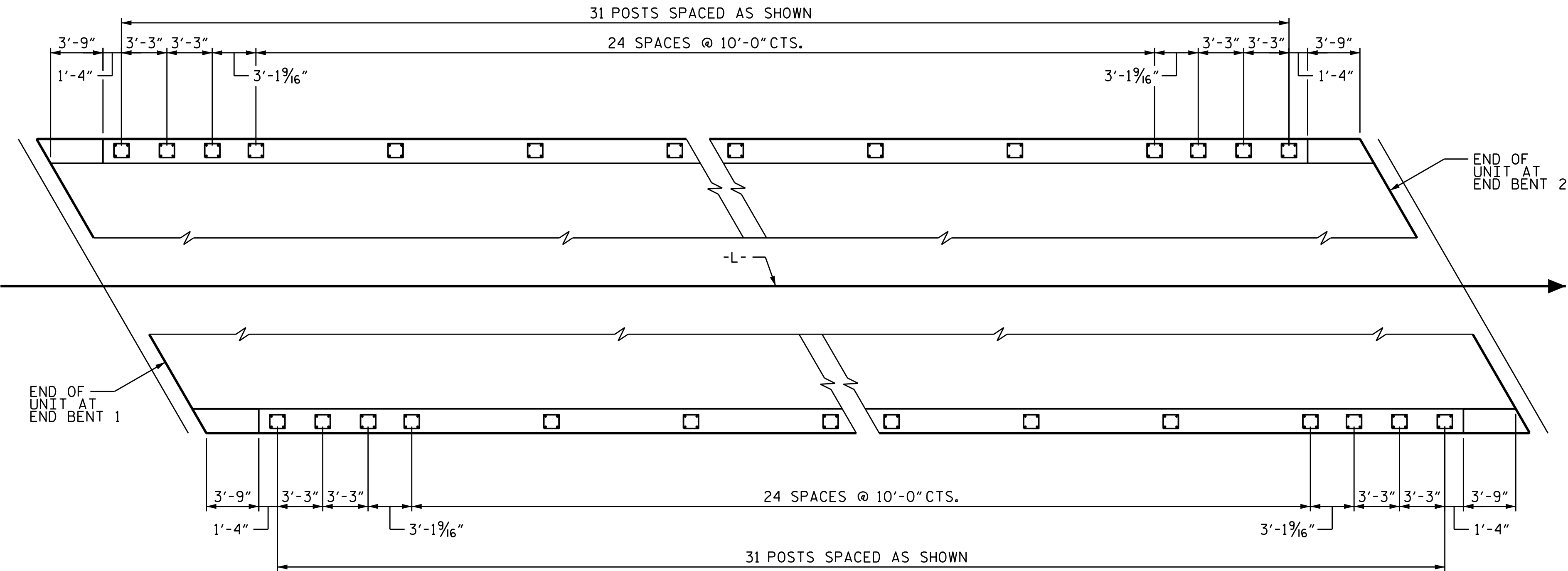


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

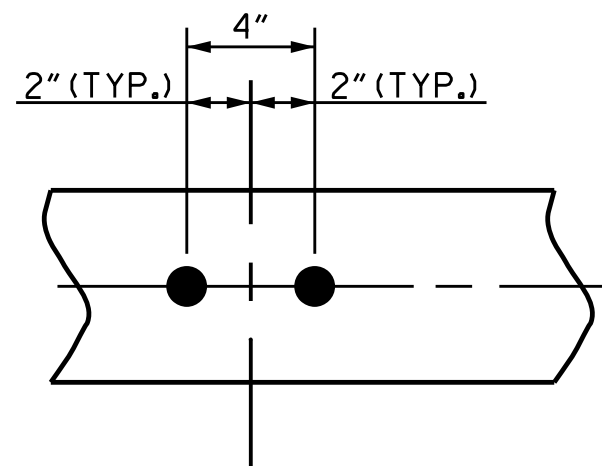
TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
CURB AND END POST DETAILS FOR 42" OREGON RAIL					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS 35					S-17

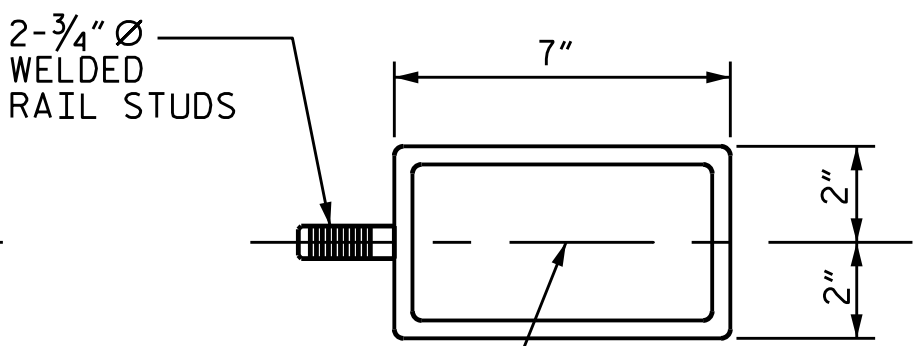
DRAWN BY : JLA DATE : 1/25
CHECKED BY : MGC DATE : 3/25



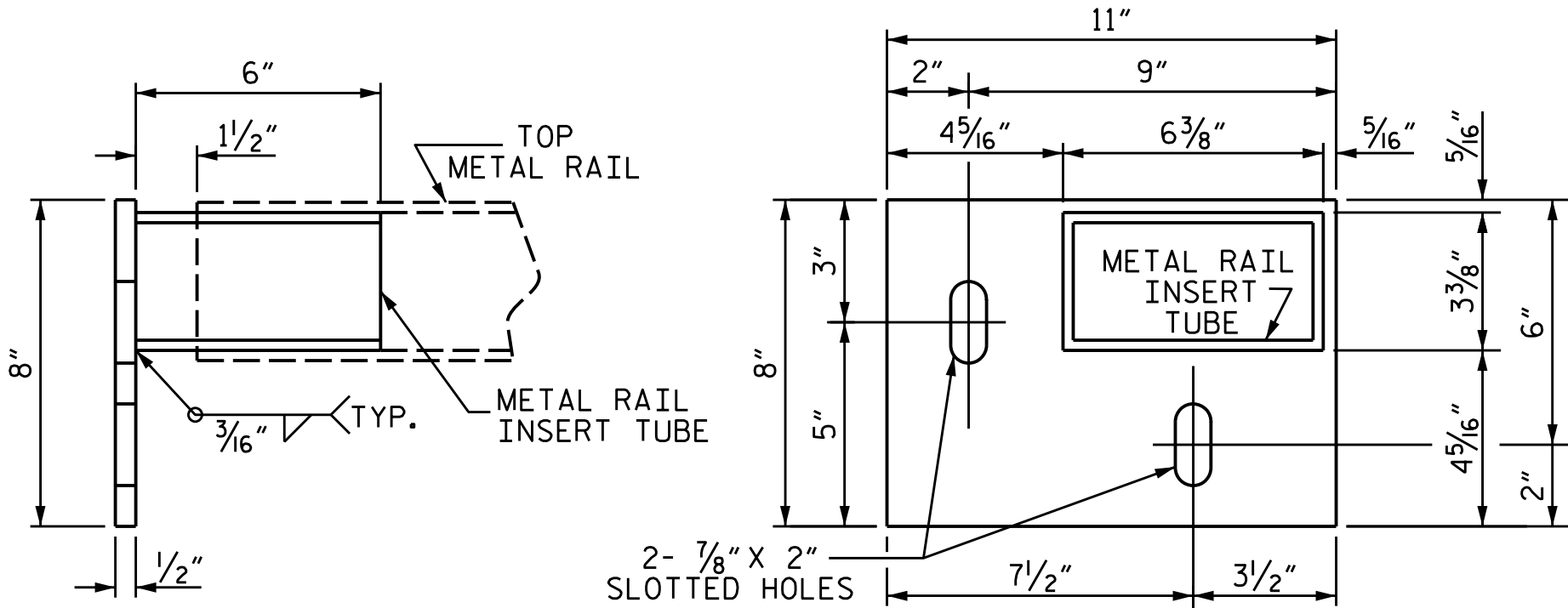
PLAN OF RAIL POST SPACINGS



ELEVATION

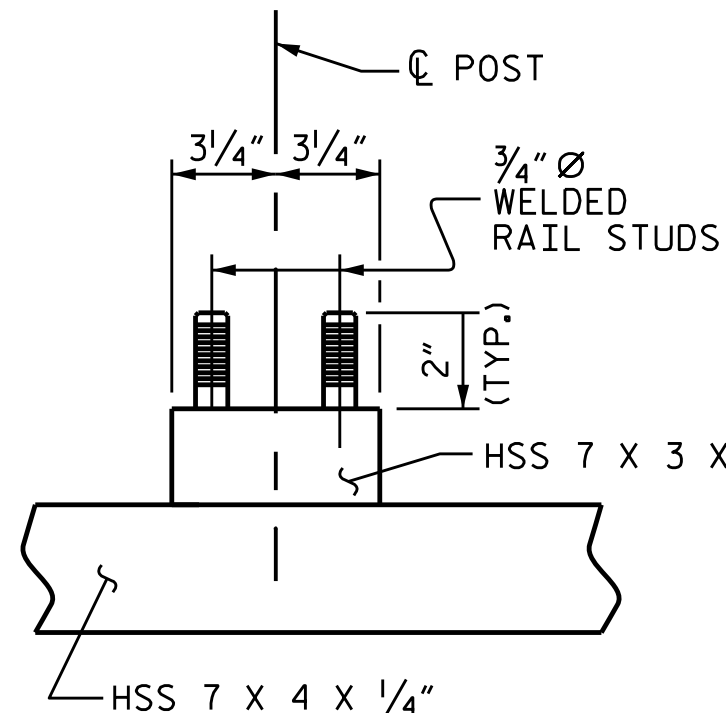


TOP RAIL SECTION

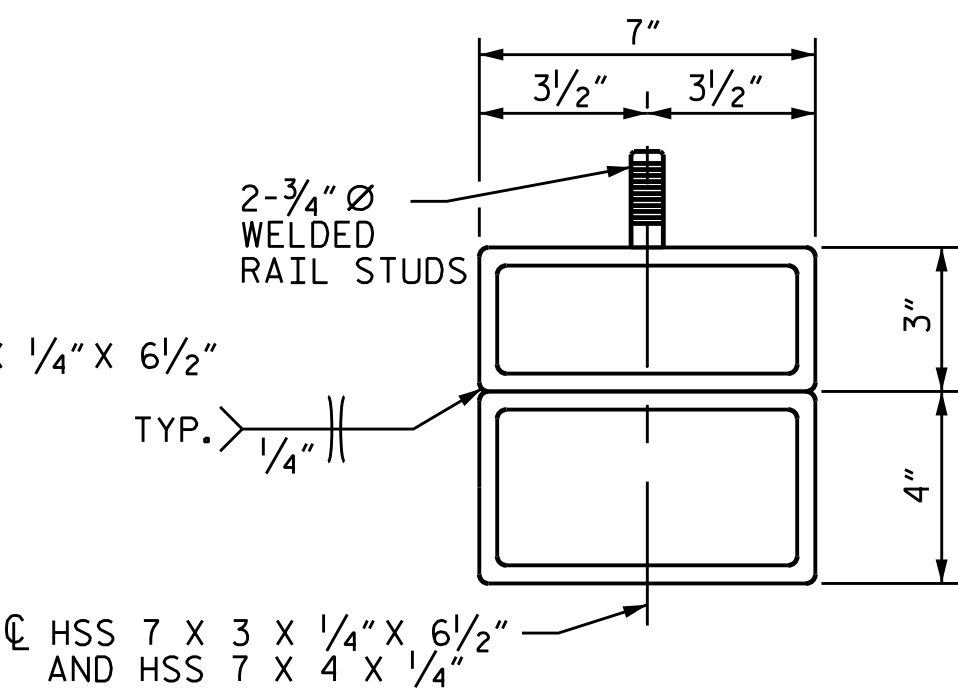


TOP METAL RAIL ATTACHMENT BRACKET

THE METAL RAIL INSERT TUBE SHALL BE FABRICATED FROM 1/4" PLATES.

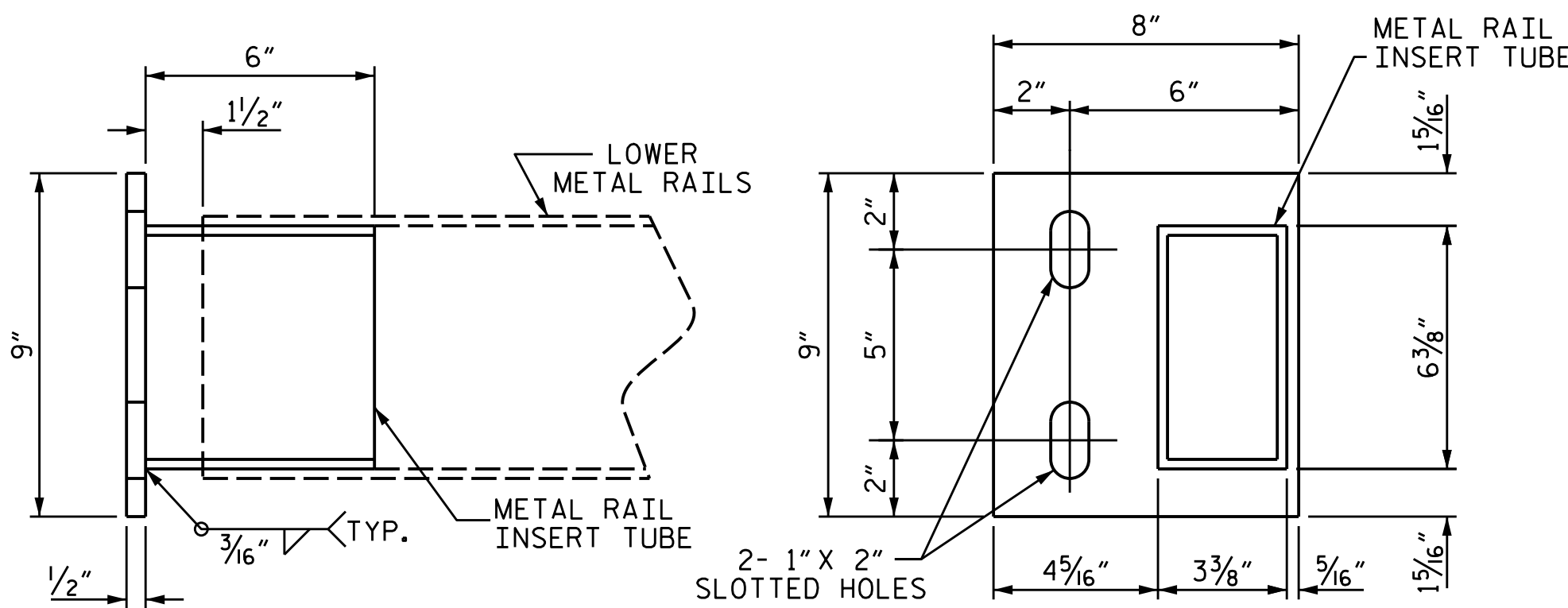


PLAN



SECTION OF LOWER RAILS

RAIL STUD DETAILS



LOWER METAL RAILS ATTACHMENT BRACKET

THE METAL RAIL INSERT TUBE SHALL BE FABRICATED FROM 1/4" PLATES.

NOTES

STRUCTURAL CONCRETE INSERT

EACH STRUCTURAL CONCRETE INSERT ASSEMBLY SHALL CONSIST OF THE FOLLOWING COMPONENTS:

- FERRULE SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 1/2".
- 1 - 3/4" Ø X 1 5/8" BOLT WITH WASHER. BOLT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLT AND WASHER SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLT AND WASHER MAY BE USED AS AN ALTERNATE FOR THE 3/4" Ø X 1 5/8" GALVANIZED BOLT AND WASHER. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)
- WIRE STRUT SHOWN IN THE STRUCTURAL CONCRETE INSERT DETAIL IS THE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 PSI. AS AN OPTION, A 1/16" Ø WIRE STRUT WITH A MINIMUM TENSILE STRENGTH OF 90,000 PSI IS ACCEPTABLE.

NOTES

METAL RAIL TO END POST CONNECTION

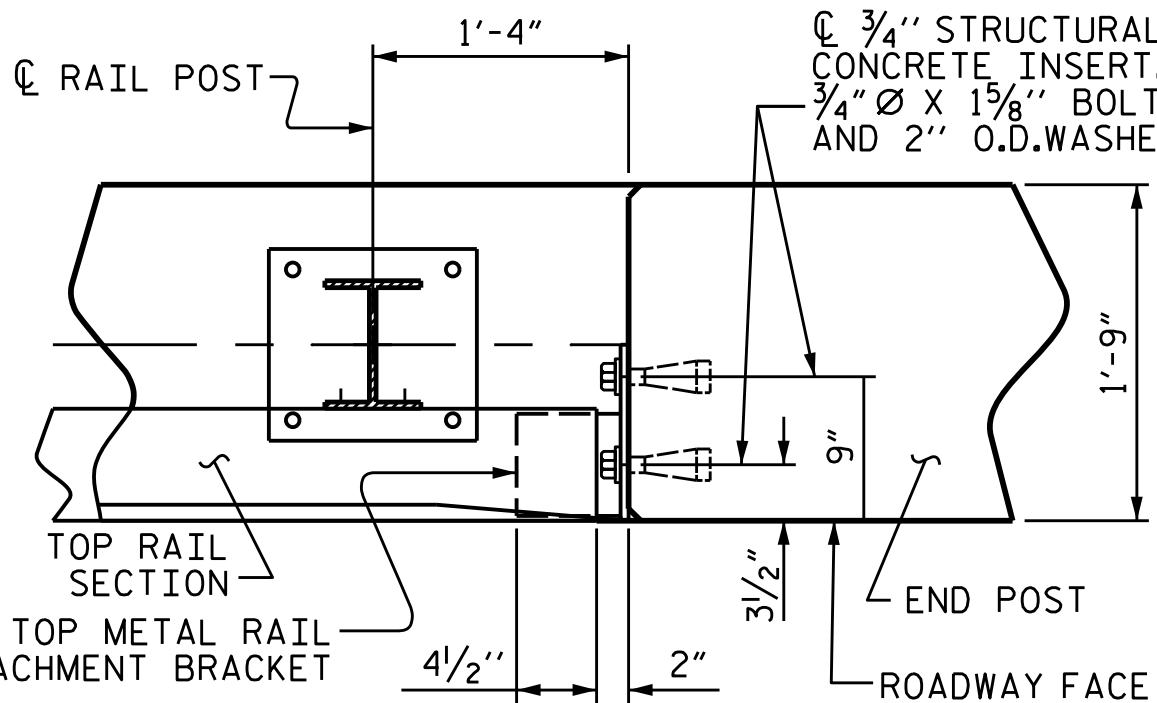
EACH METAL RAIL TO END POST CONNECTION SHALL CONSIST OF THE FOLLOWING COMPONENTS:

- 1/2" METAL BRACKET PLATE AND 1/4" METAL RAIL INSERT TUBE SHALL CONFORM TO AASHTO M270 GRADE 36 AND SHALL BE GALVANIZED AFTER FABRICATION TO AASHTO M111.
- 3/4" STRUCTURAL CONCRETE INSERTS SHALL HAVE A WORKING LOAD SHEAR CAPACITY OF 4800 LBS. THE FERRULES SHALL ENGAGE A 3/4" Ø X 1 5/8" BOLT WITH 2" O.D. WASHER IN PLACE. THE 3/4" Ø X 1 5/8" BOLT SHALL HAVE N. C. THREADS.

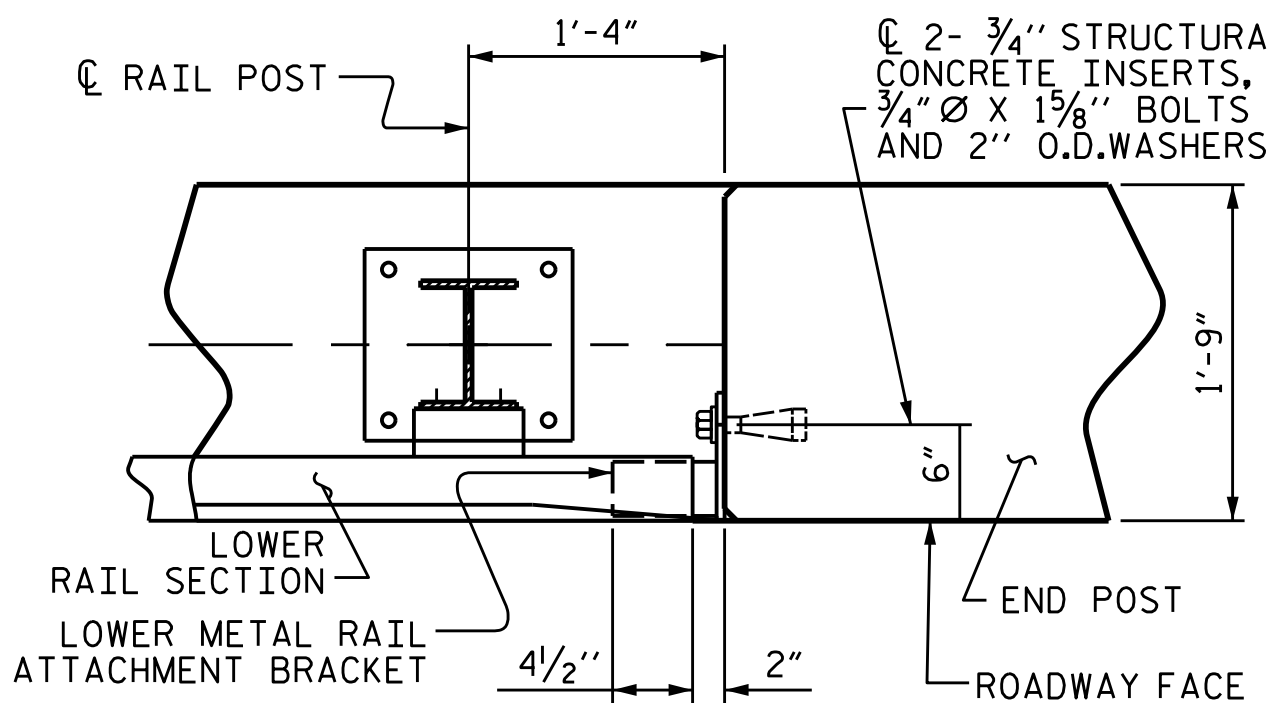
THE 3/4" STRUCTURAL CONCRETE INSERTS WITH BOLTS SHALL BE ASSEMBLED IN THE SHOP.

THE COST OF THE 3/4" STRUCTURAL CONCRETE INSERT, THE 1/2" BRACKET PLATES, AND THE RAIL INSERT TUBES COMPLETE IN PLACE SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

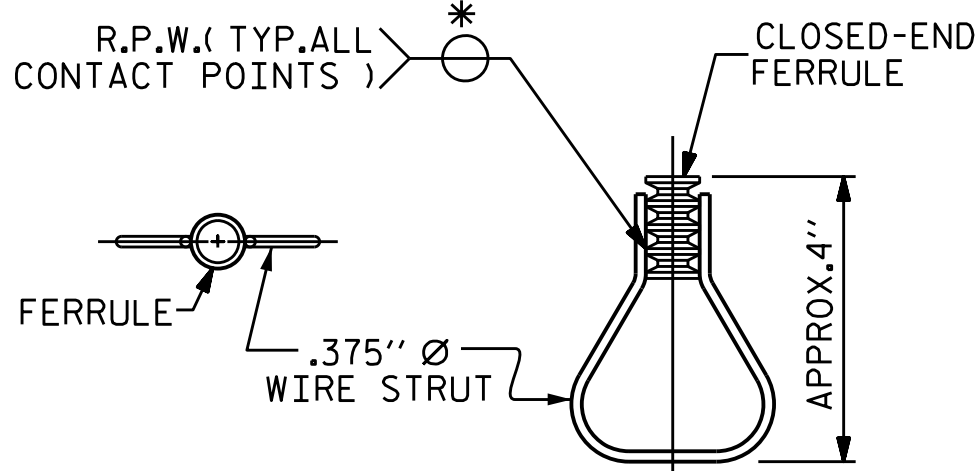
THE CONTRACTOR, AT HIS OPTION, MAY USE AN ADHESIVE BONDING SYSTEM IN LIEU OF THE STRUCTURAL CONCRETE INSERT EMBEDDED IN THE END POST. IF THE ADHESIVE BONDING SYSTEM IS USED, THE 3/4" Ø X 1 5/8" BOLTS WITH WASHERS SHALL BE REPLACED WITH 3/4" Ø X 6 1/2" BOLTS AND 2" O.D. WASHERS. ALL SPECIFICATIONS THAT APPLY TO THE 3/4" Ø X 1 5/8" BOLTS SHALL APPLY TO THE 3/4" Ø X 6 1/2" BOLTS. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.



PLAN - TOP RAIL AND END POST



PLAN - LOWER RAIL AND END POST



PLAN

ELEVATION

STRUCTURAL CONCRETE INSERT

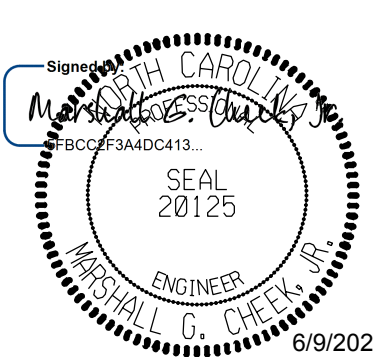
* EACH WELDED ATTACHMENT OF WIRE TO FERRULE SHALL DEVELOP THE TENSILE STRENGTH OF THE WIRE.

PROJECT NO. HB-0054

ASHE COUNTY

STATION: 12+99.93-L-

SHEET 3 OF 3



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TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
RAIL POST SPACINGS
AND
END OF RAIL DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
1			3			TOTAL SHEETS
2			4			35

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.

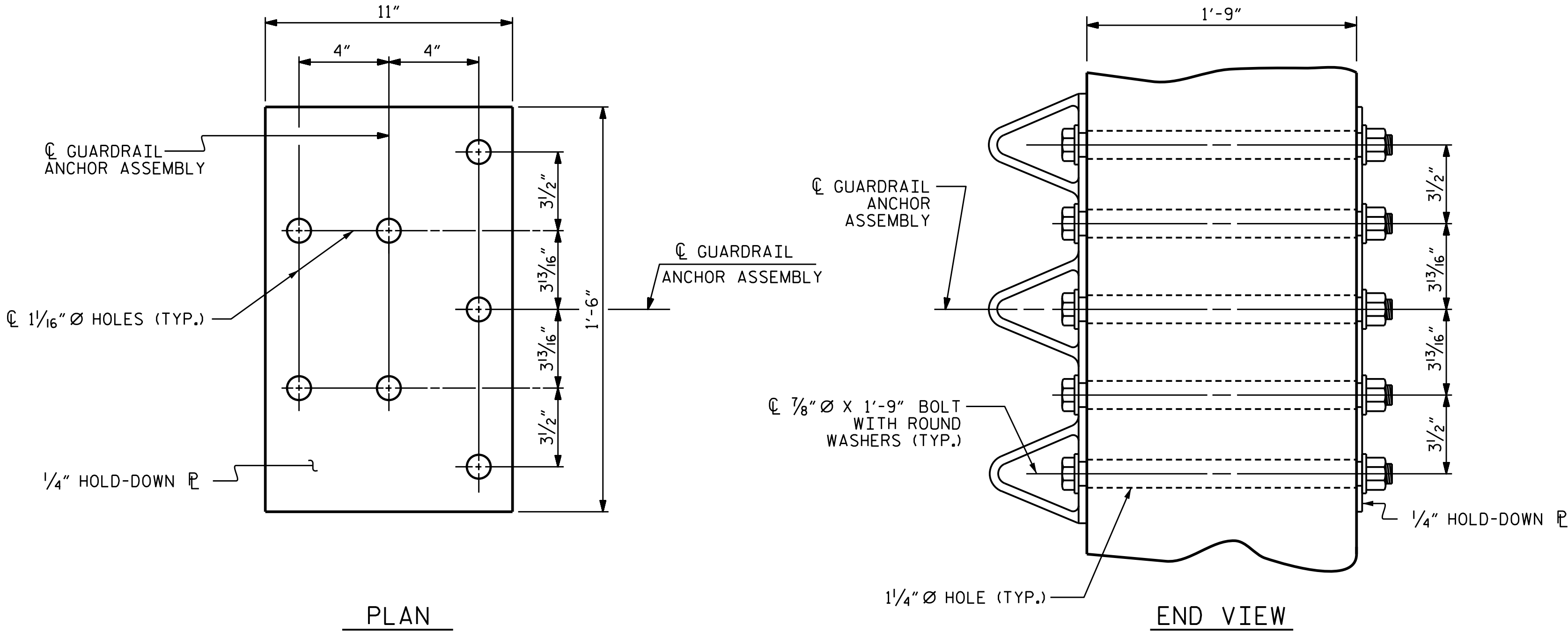
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF THE PARAPET. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

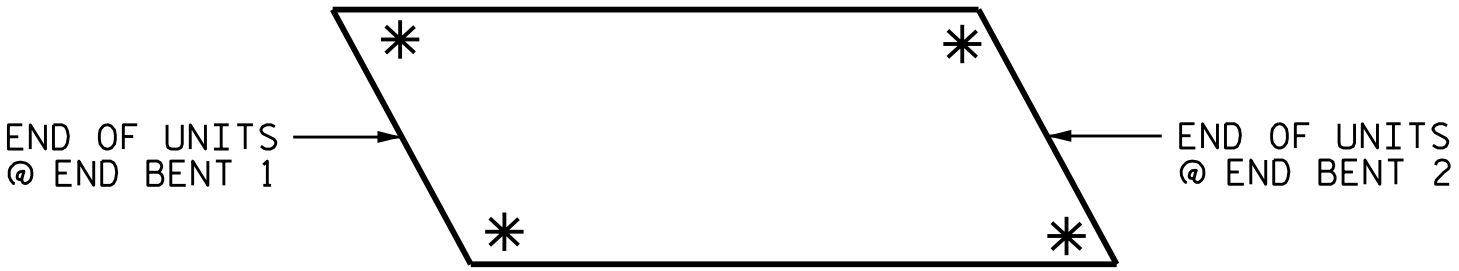
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS, NUTS AND WASHERS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE END POST 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.

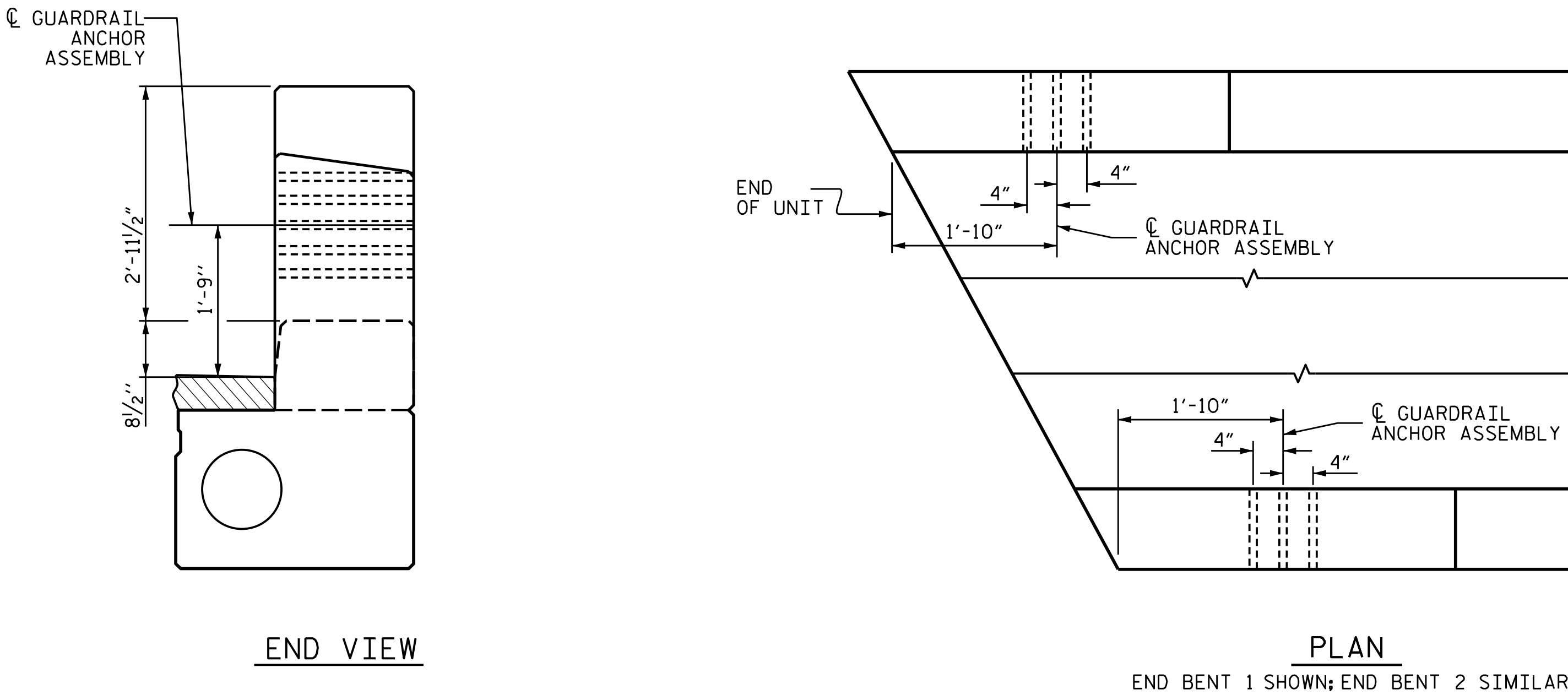


GUARDRAIL ANCHOR ASSEMBLY DETAILS



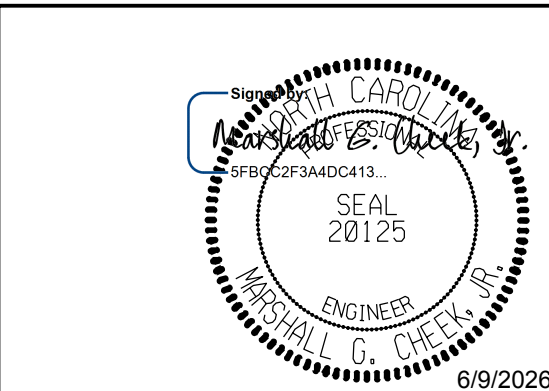
SKETCH SHOWING POINTS OF ATTACHMENT

* LOCATION OF GUARDRAIL ATTACHMENT



LOCATION OF GUARDRAIL ANCHOR AT END POST

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
GUARDRAIL ANCHORAGE
DETAILS
FOR METAL RAILS

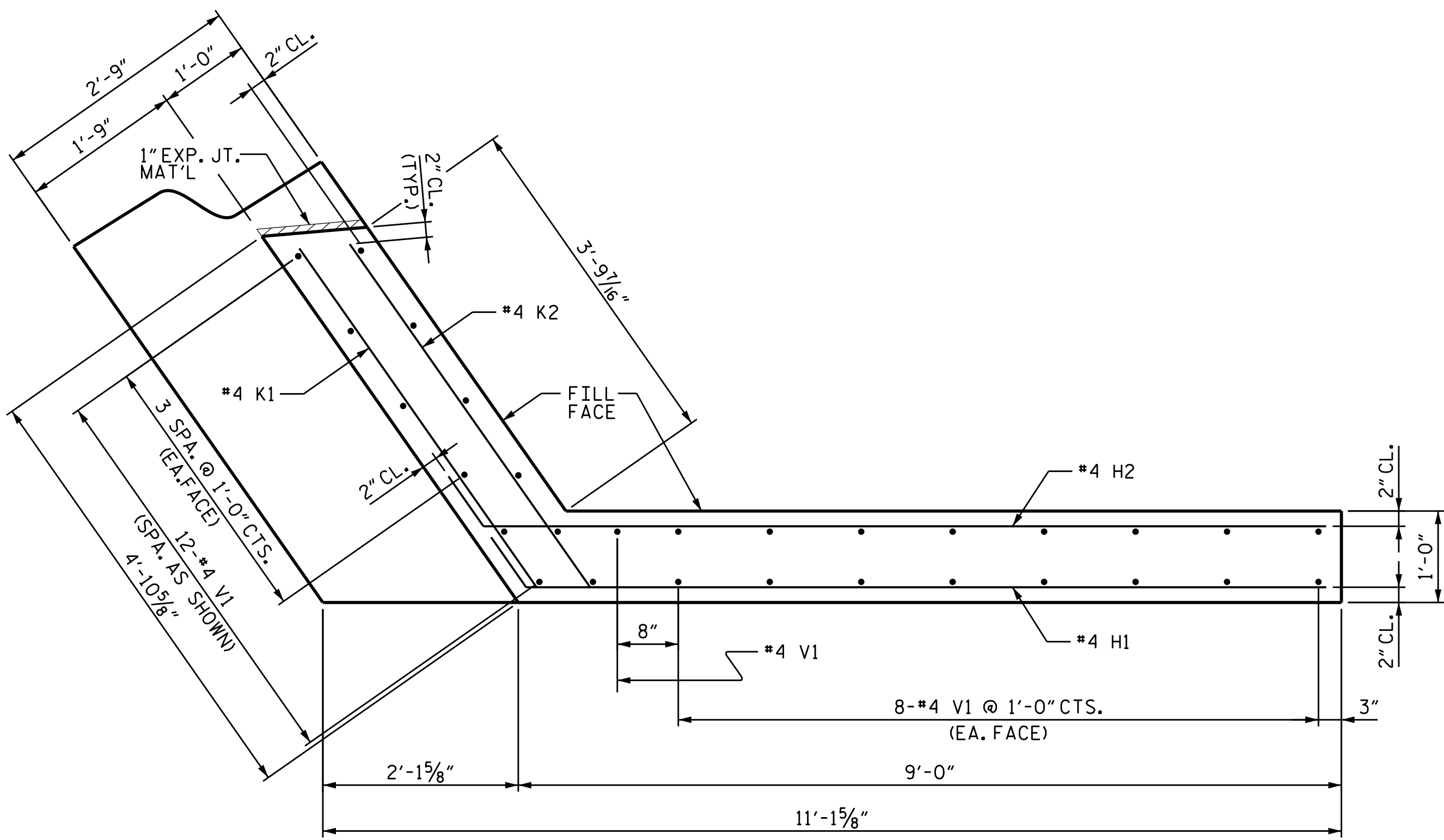
ASSEMBLED BY :	JLA	DATE :	2/25
CHECKED BY :	MGC	DATE :	3/25
DRAWN BY :	MAA	REV. 1/15	MAA/TMG
CHECKED BY :	GM	REV. 12/17	MAA/THC
		REV. 5/18	MAA/THC

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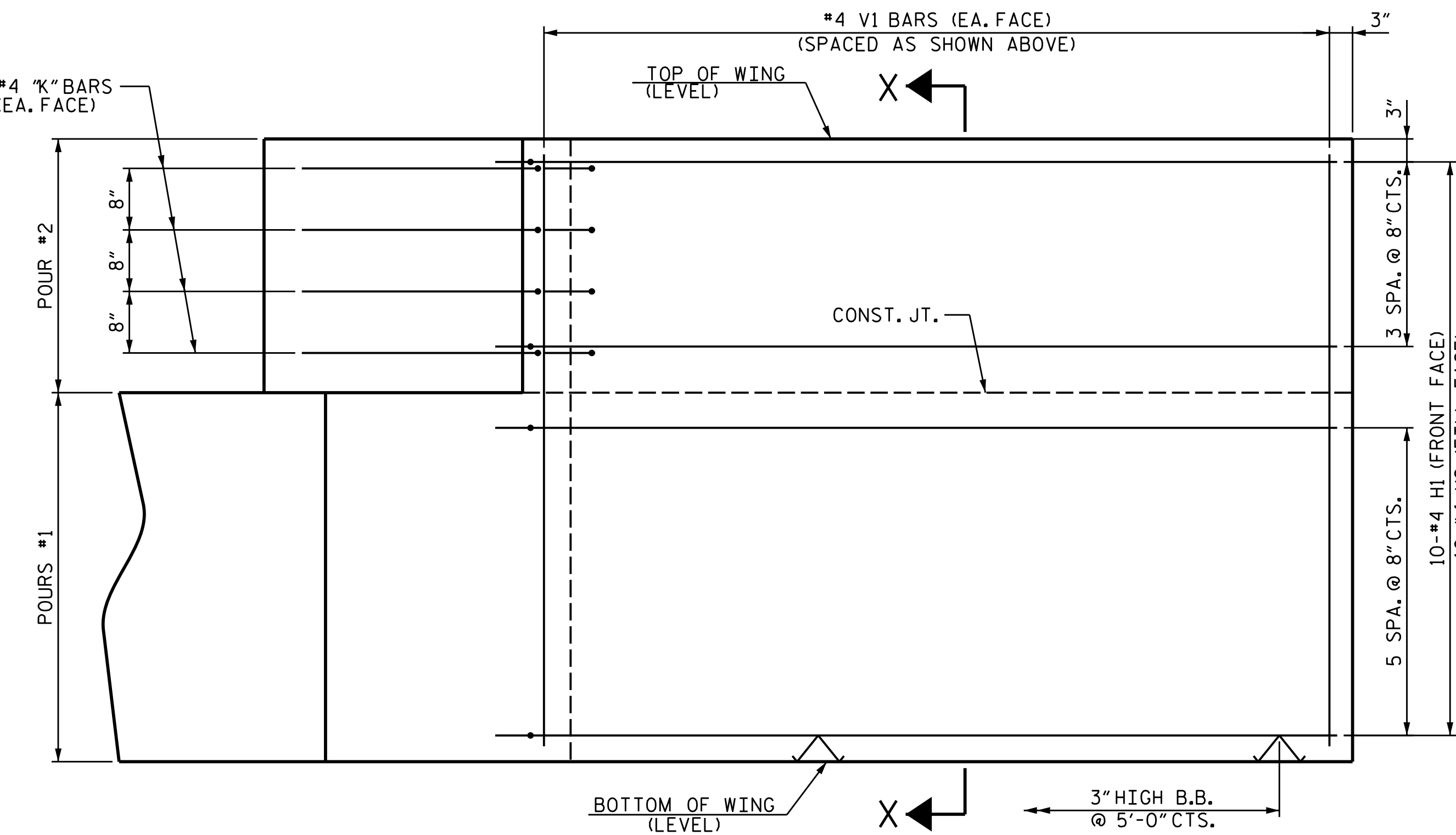
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS
2			4			35

PLAN

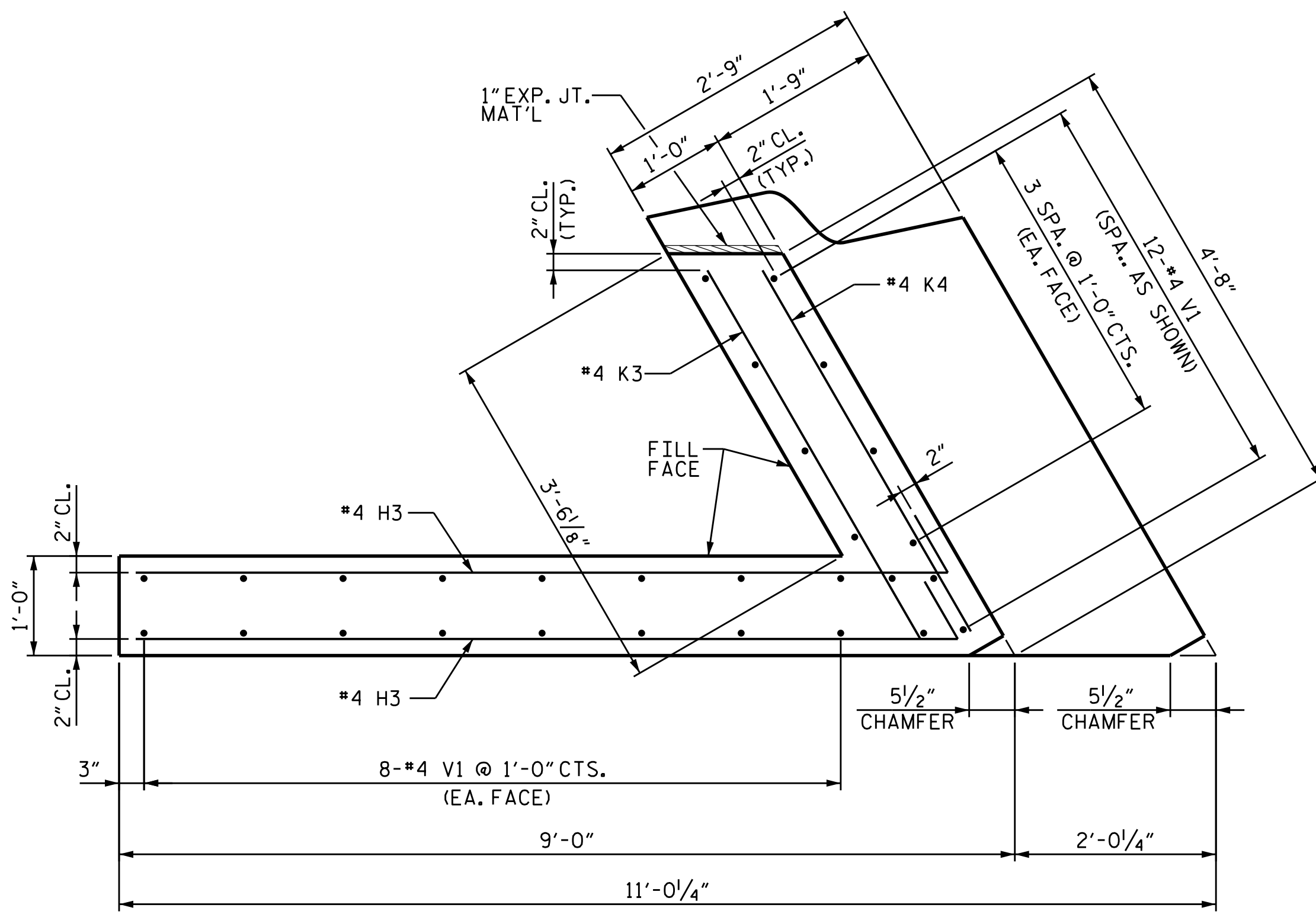
ELEVATION



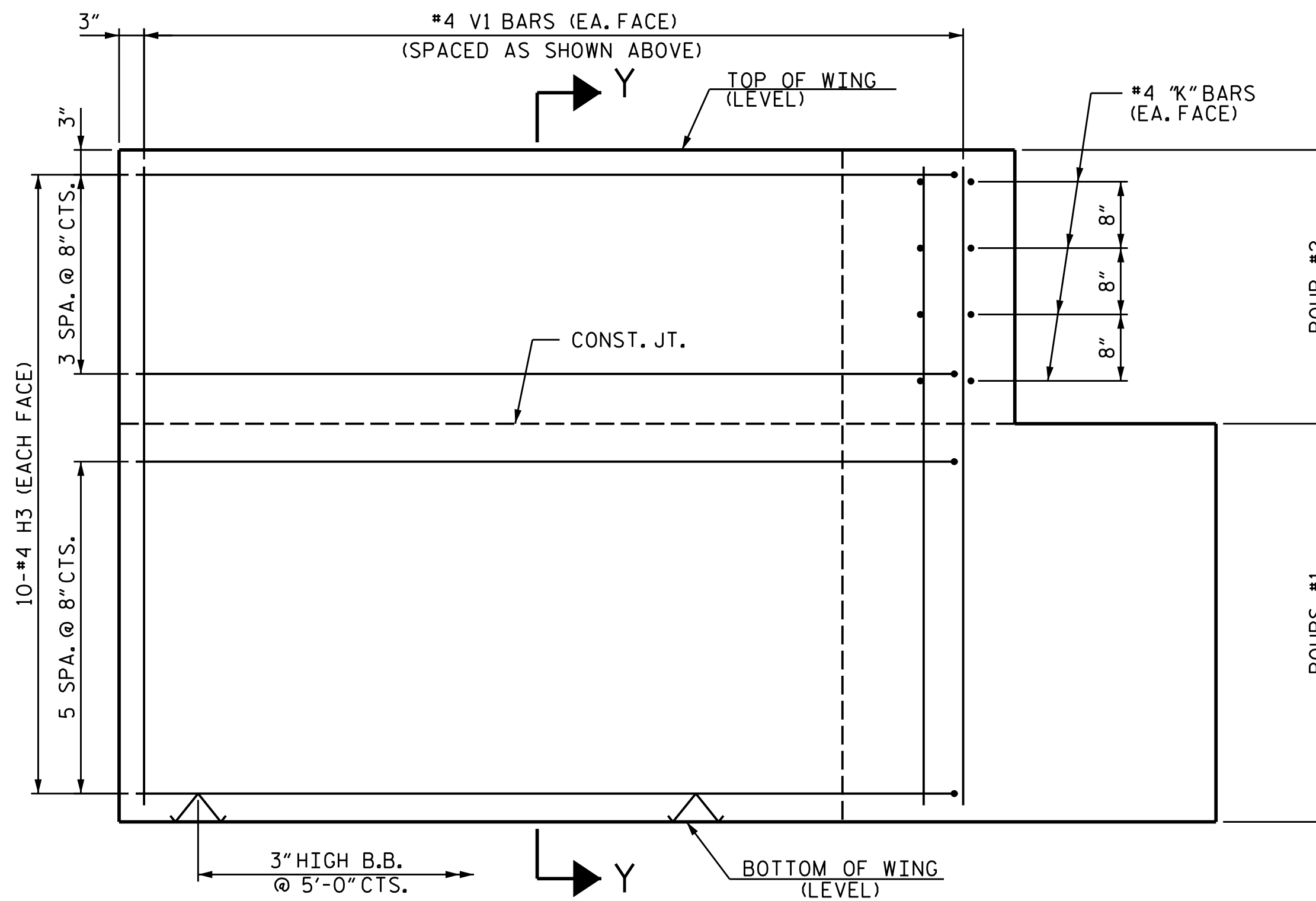
PLAN OF WING (W1)



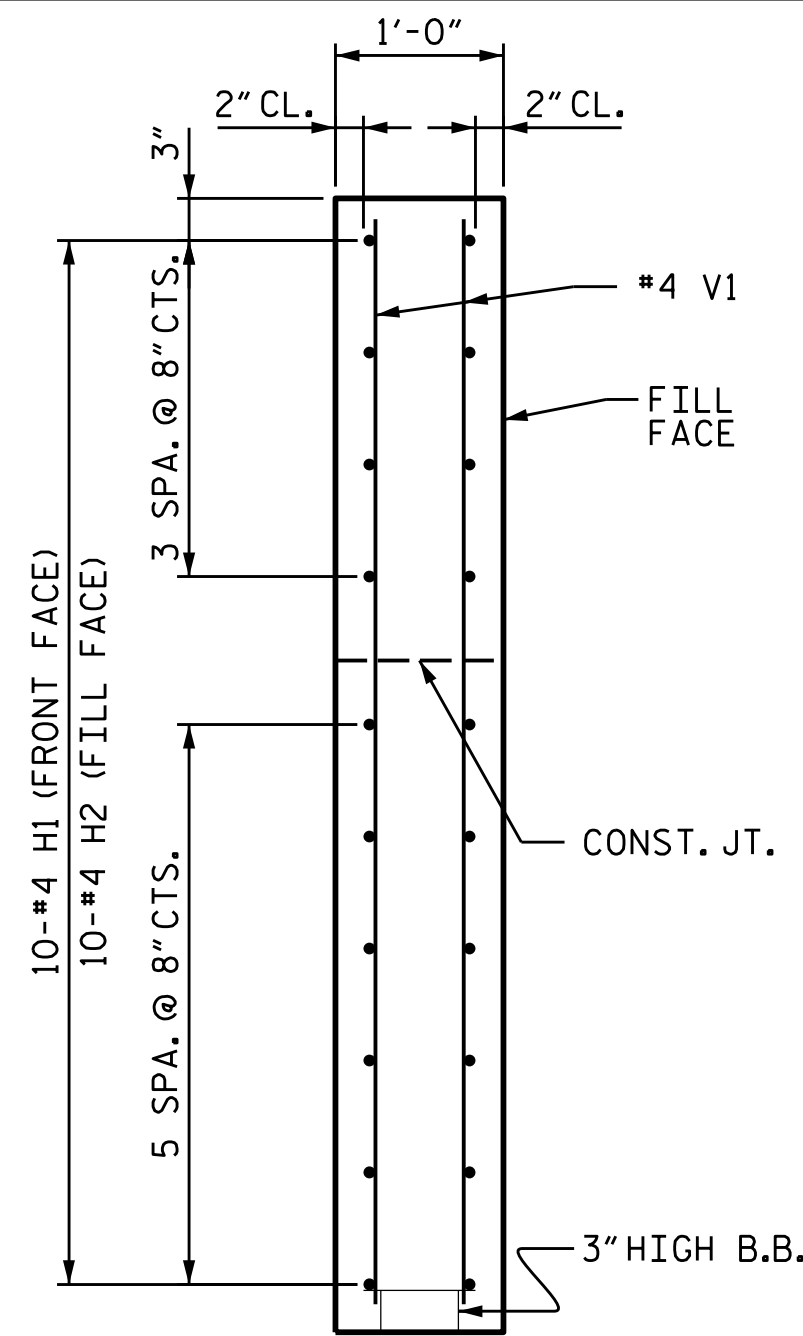
ELEVATION OF WING (W1)



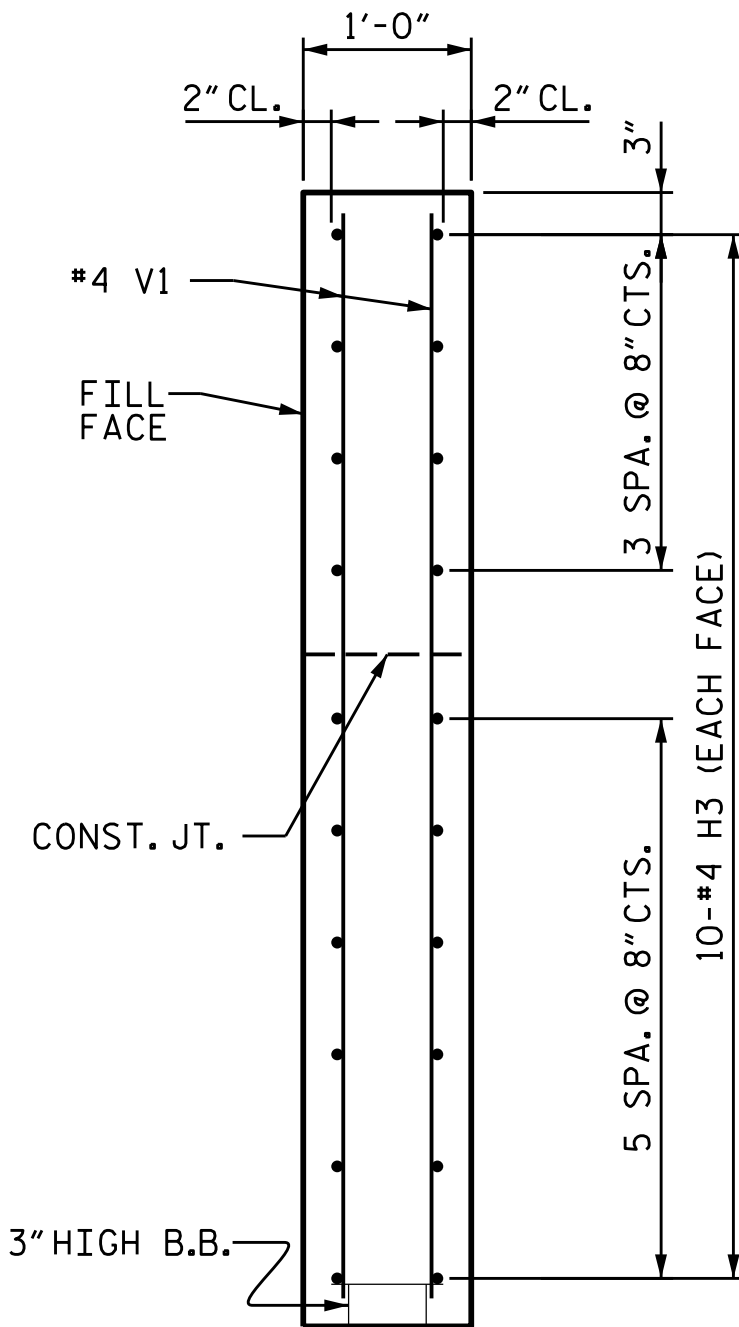
PLAN OF WING (W2)



ELEVATION OF WING (W2)



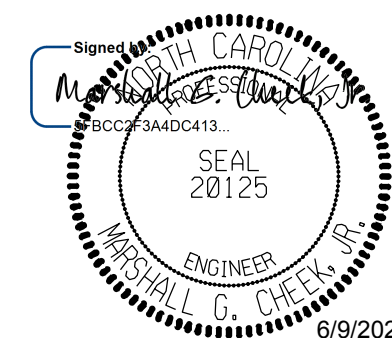
SECTION X-X



SECTION Y-Y

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 2 OF 3

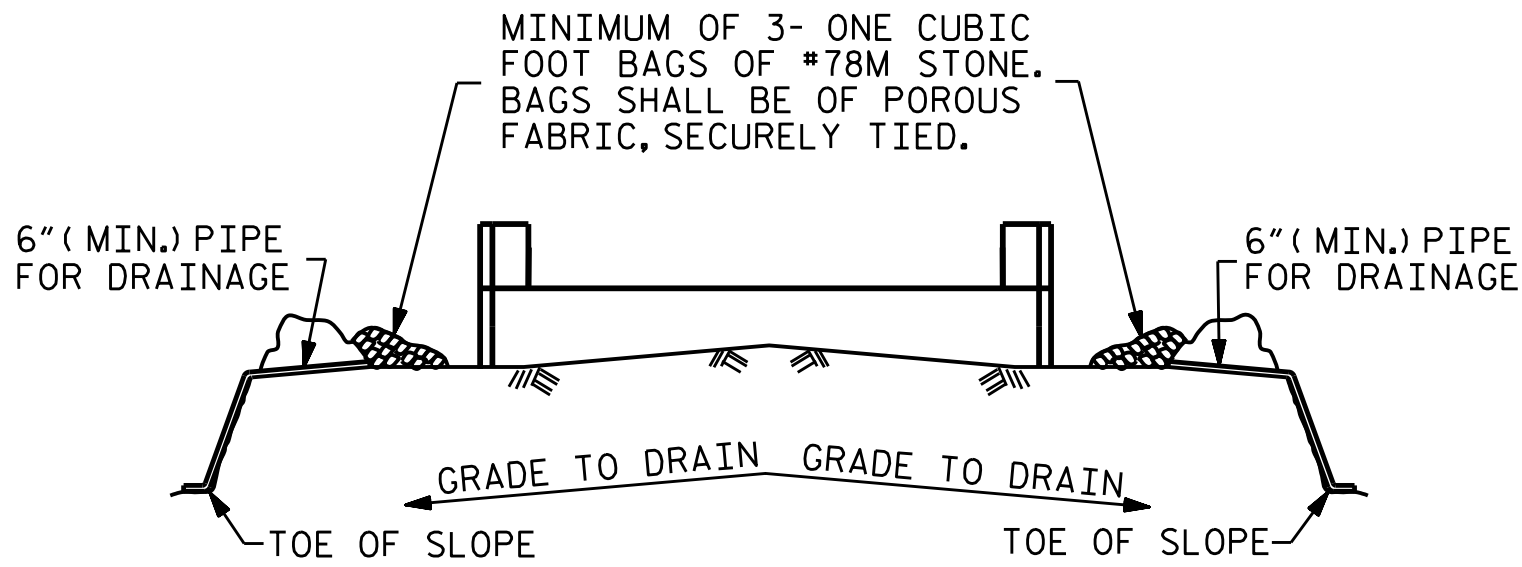


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CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
END BENT 1
WING DETAILS

REVISIONS						SHEET NO. S-22
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 35
2			4			

ASSEMBLED BY : JLA	DATE : 2/25
CHECKED BY : MGC	DATE : 3/25
DRAWN BY : WJH	12/II
CHECKED BY : AAC	12/II
REV. 4/15	MAA/TMG

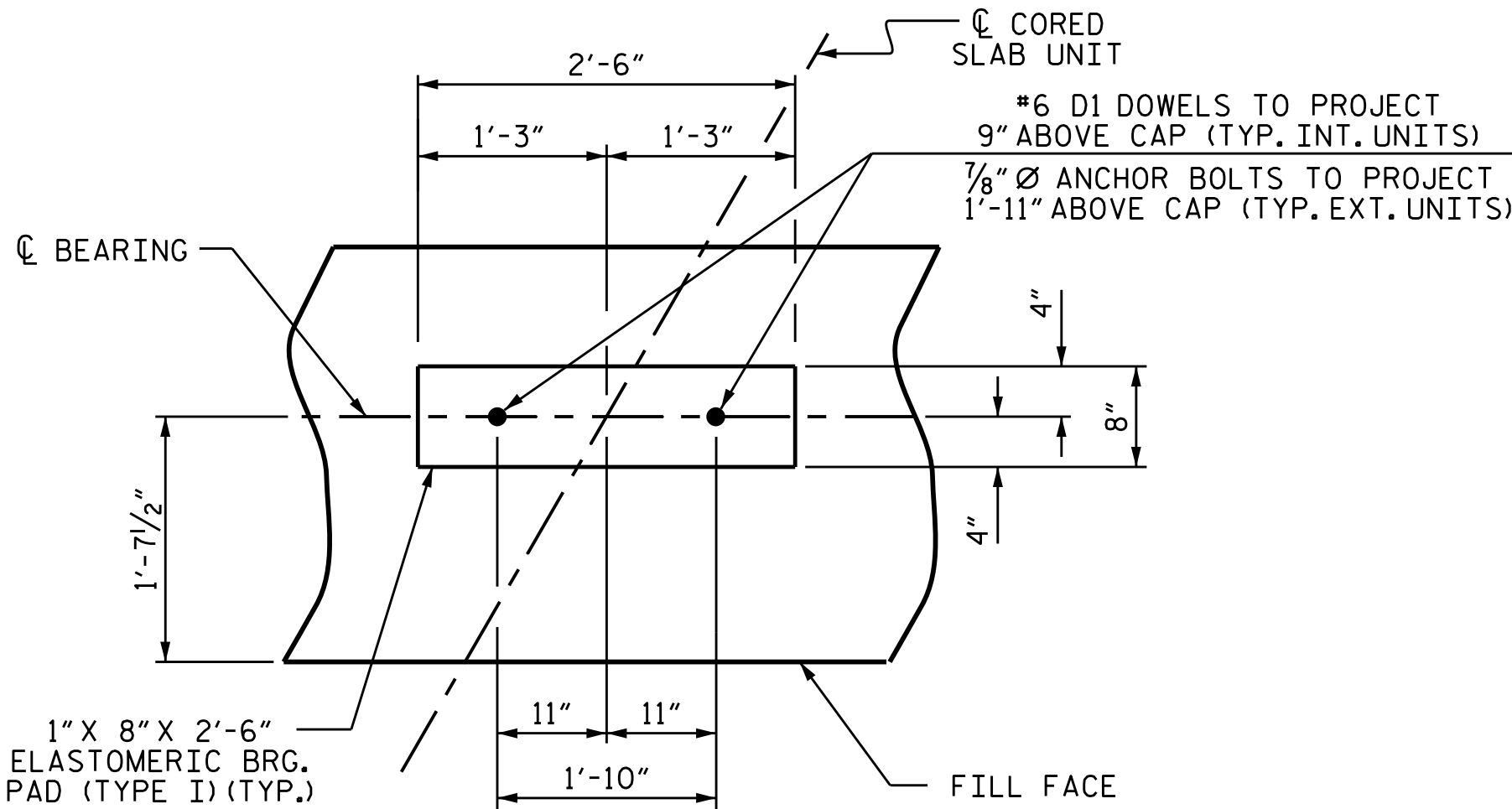


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

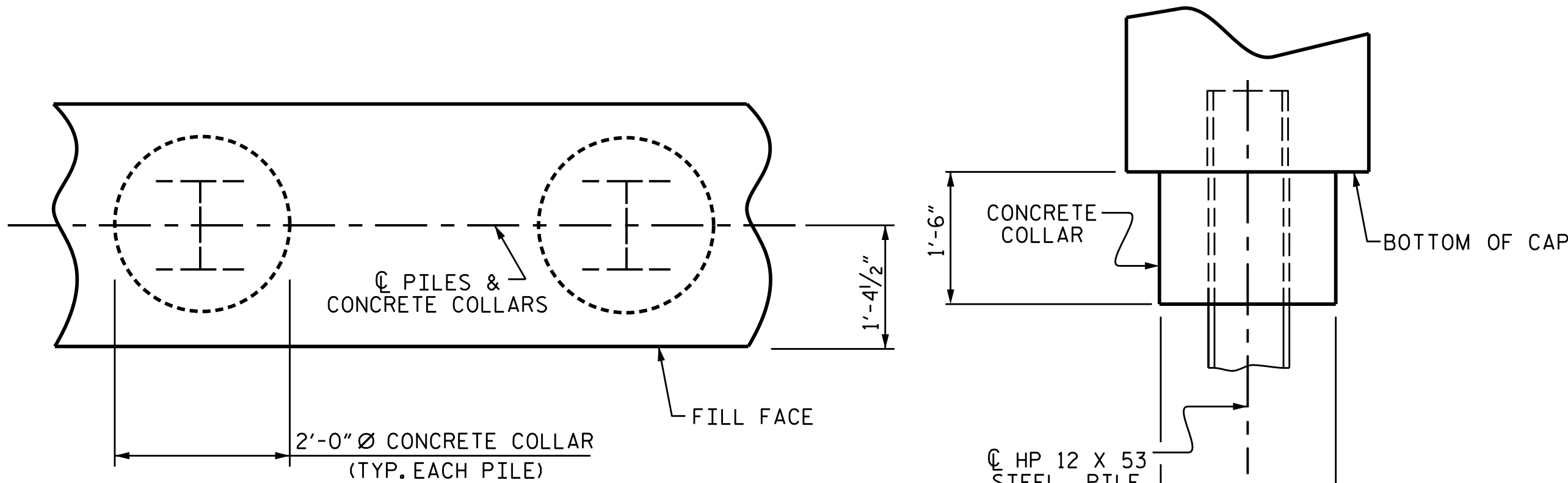
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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



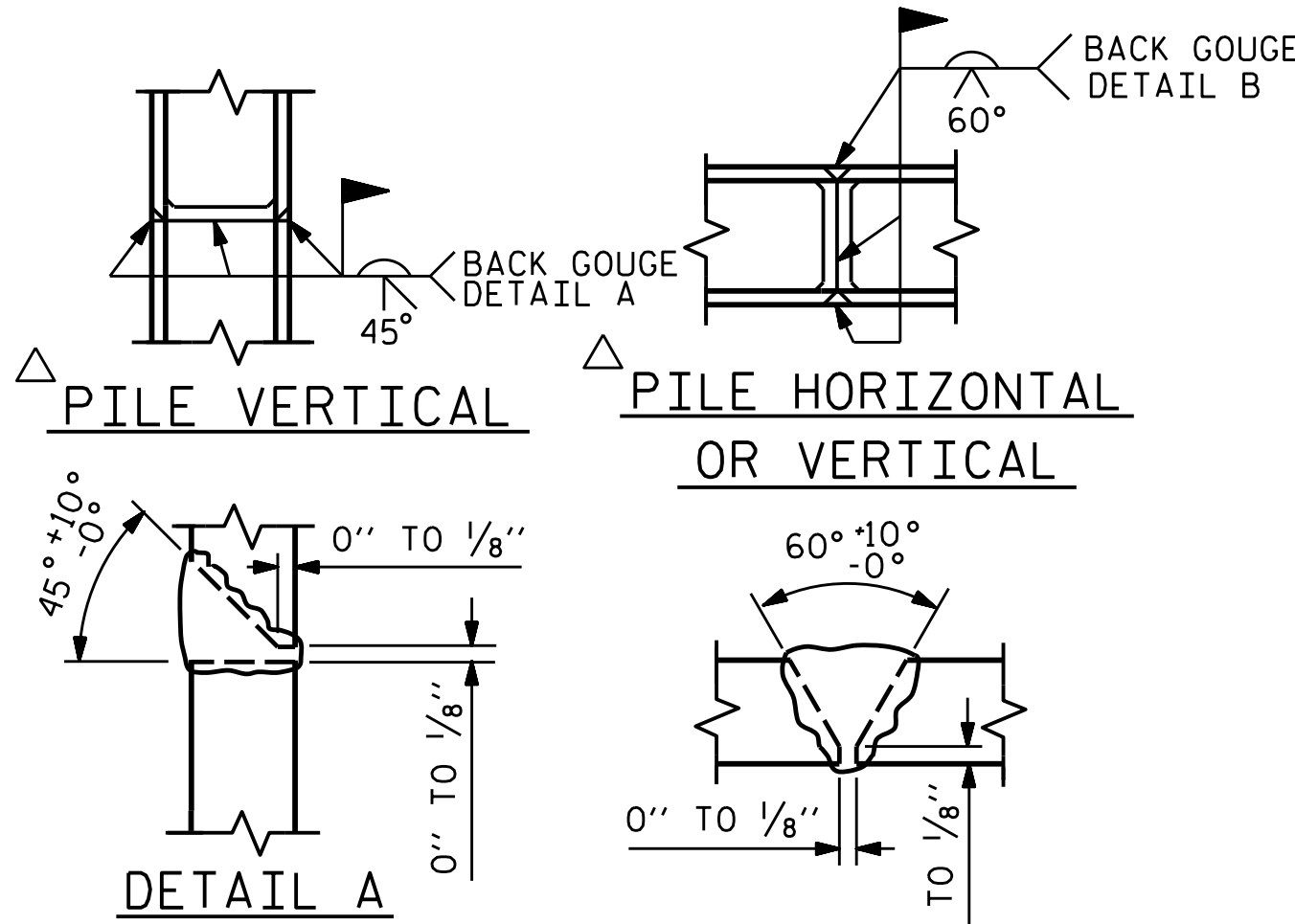
DETAIL "A"



PLAN

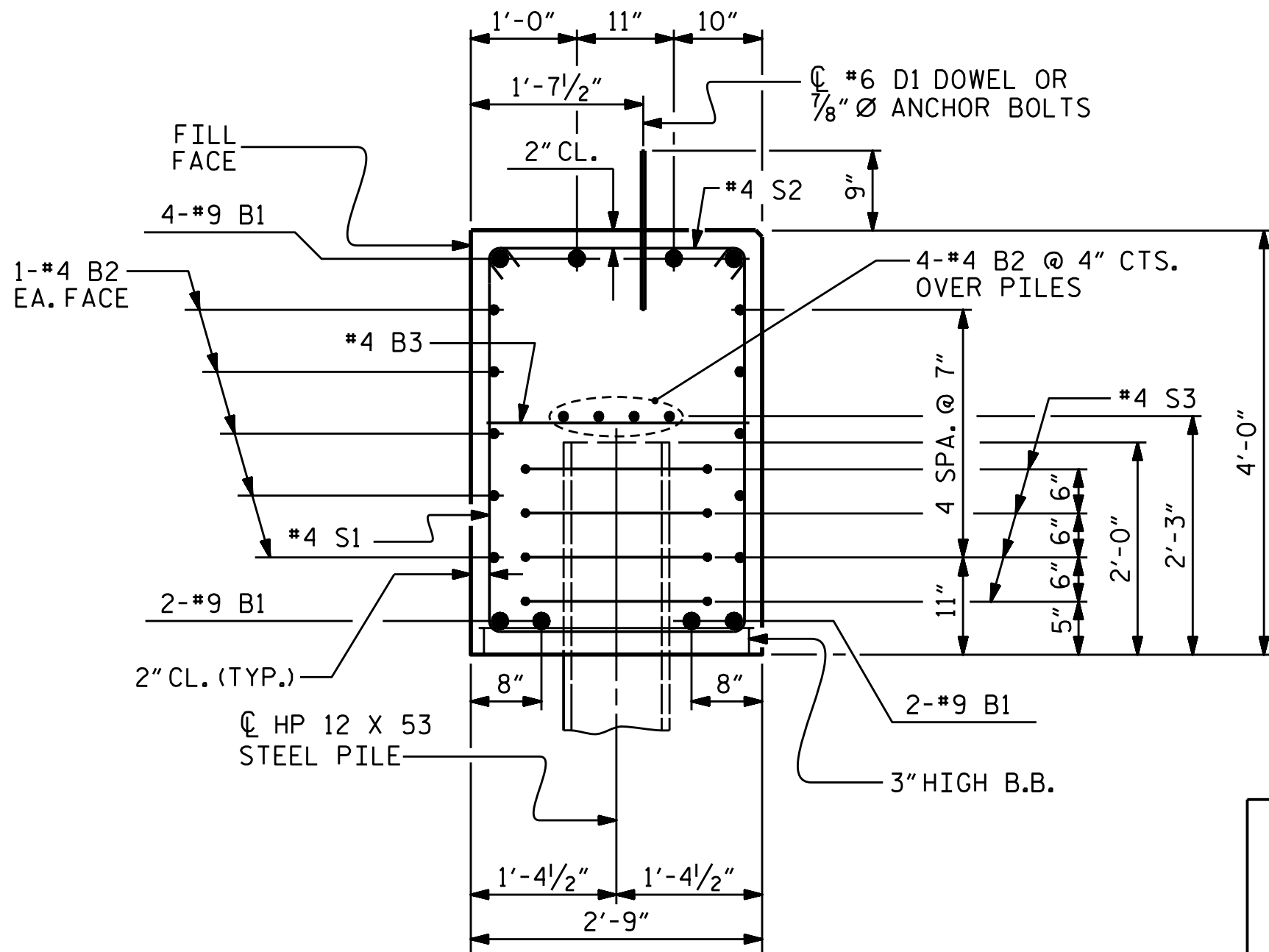
ELEVATION

CORROSION PROTECTION FOR STEEL PILES DETAIL



△ POSITION OF PILE DURING WELDING.

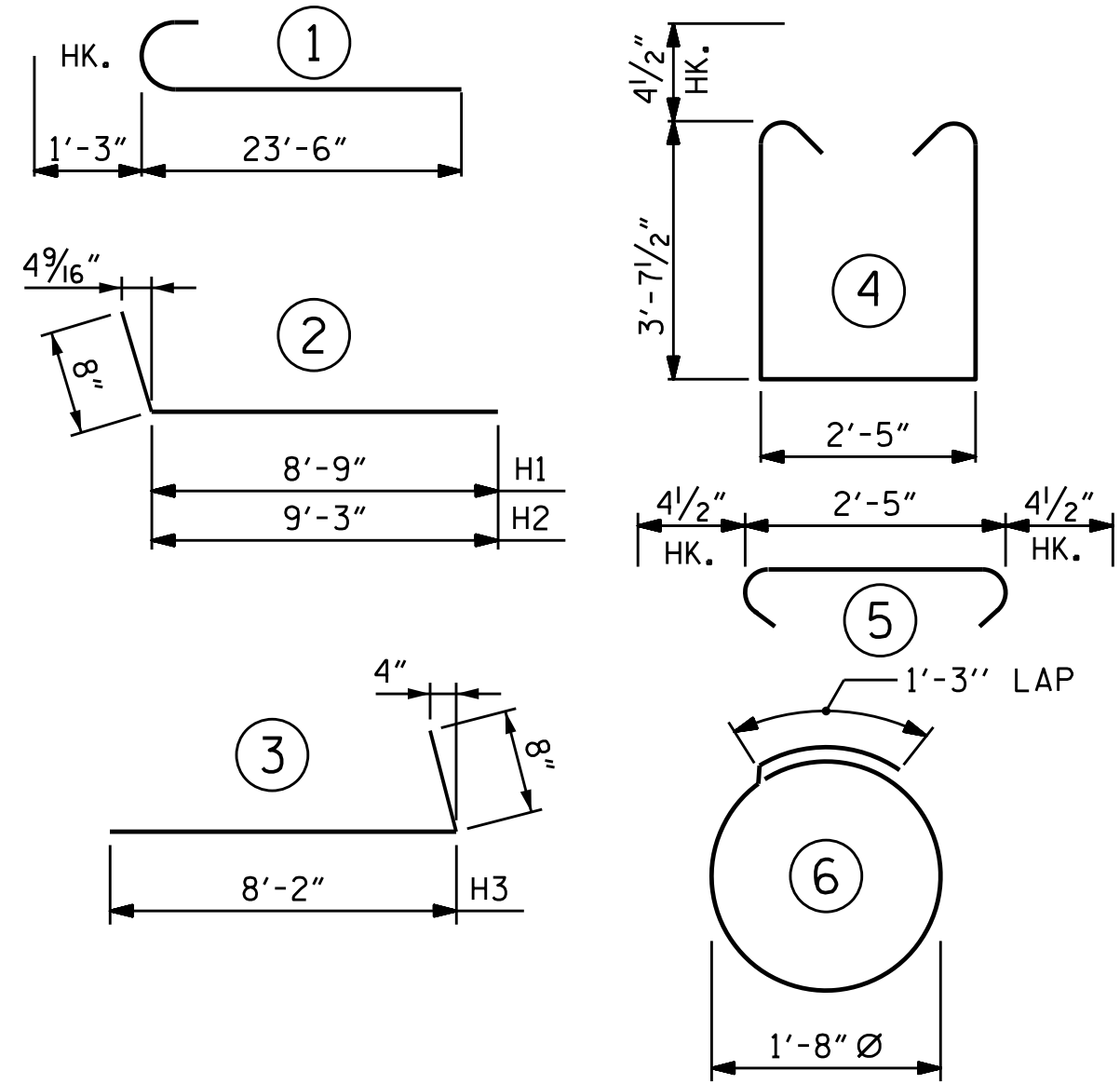
PILE SPLICE DETAILS



SECTION A-A

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

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR END BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	16	#9	1	24'-9"	1,346
B2	28	#4	STR	22'-1"	413
B3	10	#4	STR	2'-5"	16
D1	16	#6	STR	1'-6"	36
H1	10	#4	2	9'-5"	63
H2	10	#4	2	9'-11"	66
H3	20	#4	3	8'-10"	118

K1	4	#4	STR	4'-6"	12
K2	4	#4	STR	4'-7"	12
K3	4	#4	STR	4'-4"	12
K4	4	#4	STR	4'-1"	11

S1	54	#4	4	10'-5"	376
S2	54	#4	5	3'-2"	114
S3	20	#4	6	6'-6"	87

V1	57	#4	STR	6'-5"	244
----	----	----	-----	-------	-----

REINFORCING STEEL 2,926 LBS.

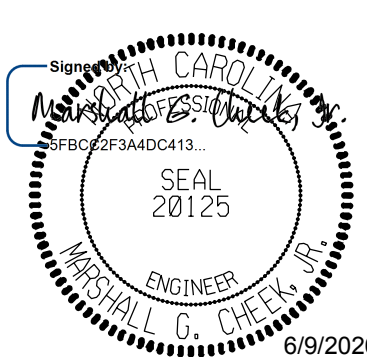
CLASS A CONCRETE BREAKDOWN			
POUR #1	CAP, LOWER PART OF WINGS & COLLARS	20.2	C.Y.
POUR #2	UPPER PART OF WINGS	2.6	C.Y.
TOTAL CLASS A CONCRETE		22.8	C.Y.

PROJECT NO. HB-0054

ASHE COUNTY

STATION: 12+99.93-L-

SHEET 3 OF 3



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

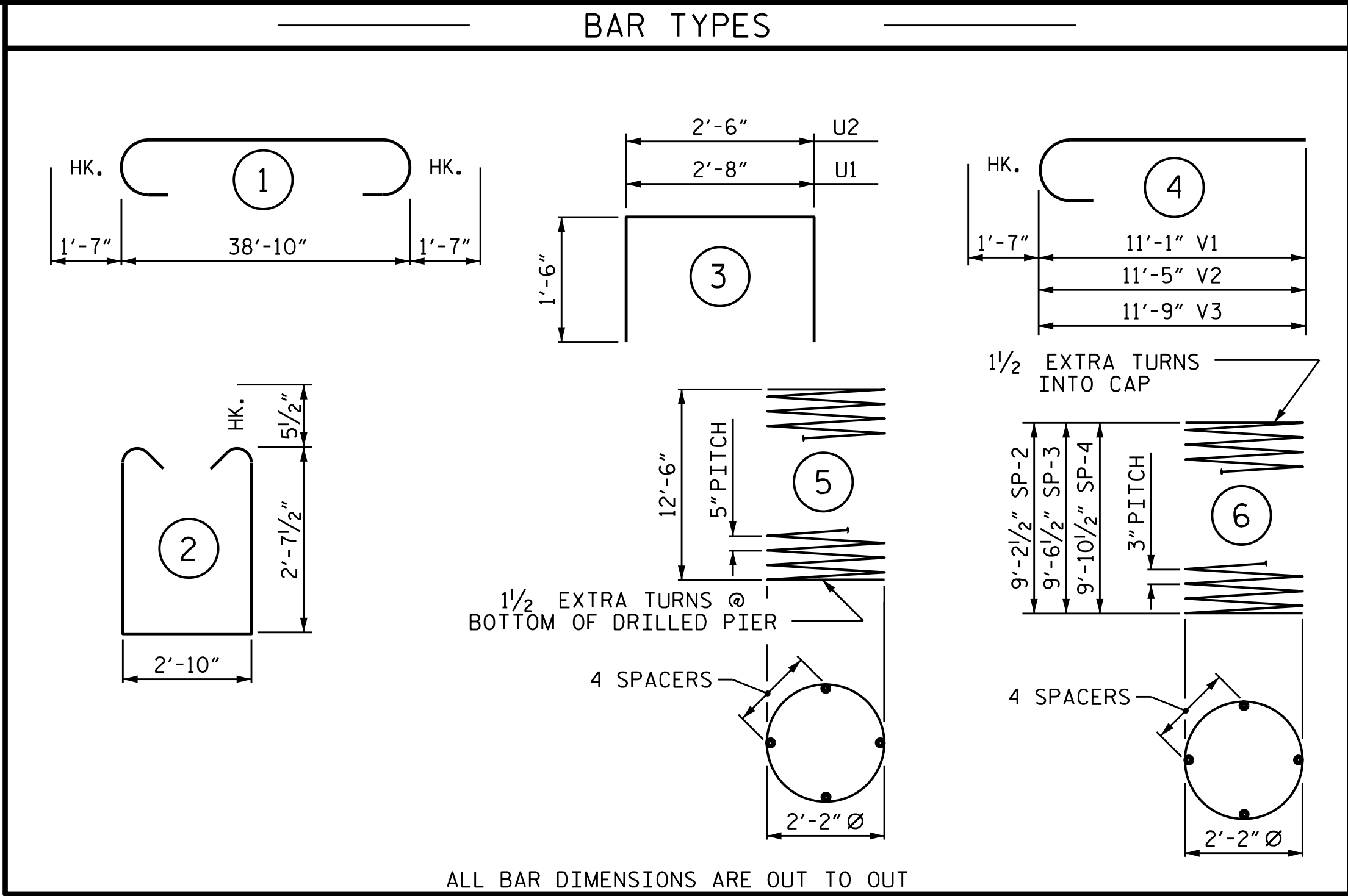
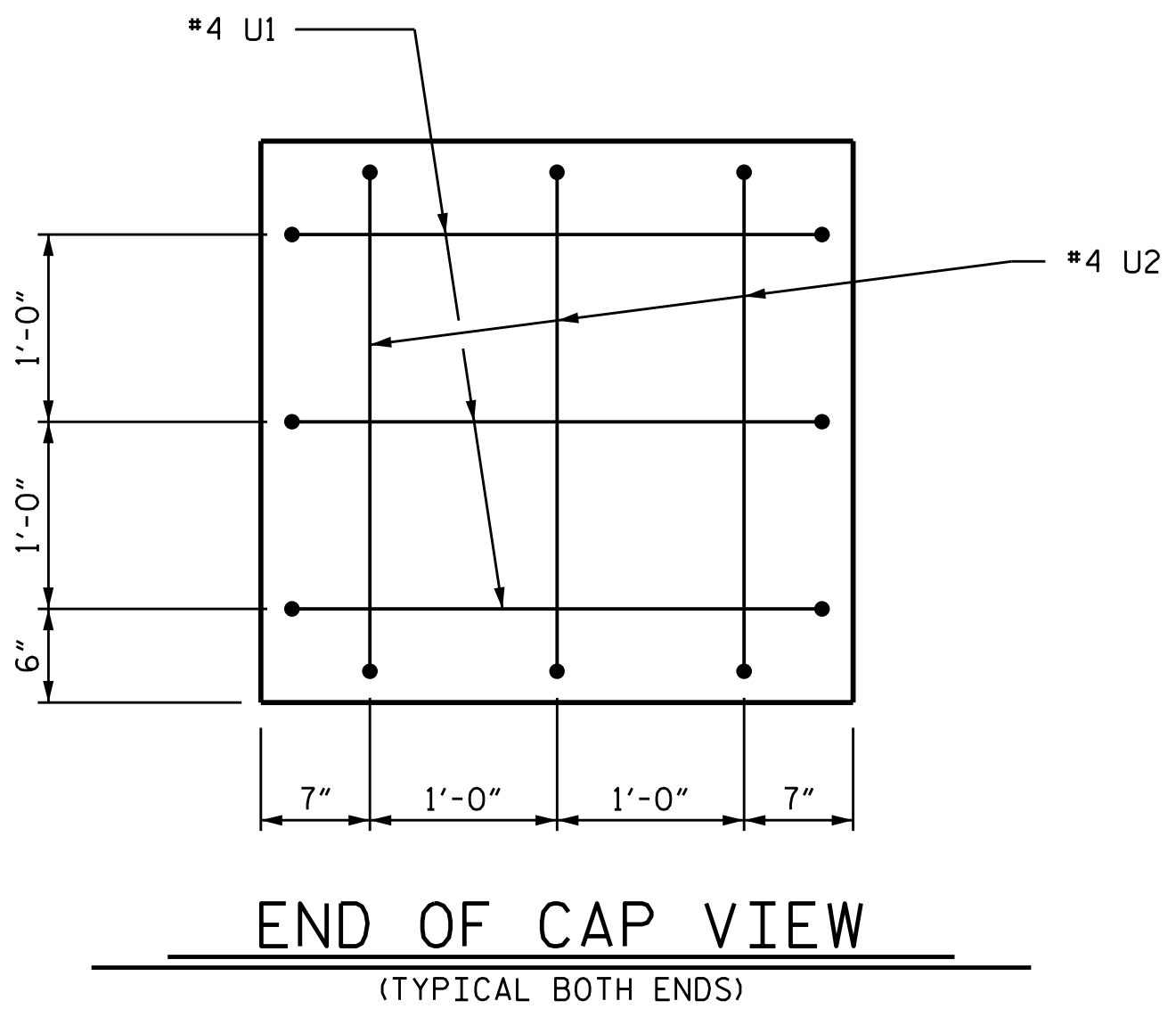
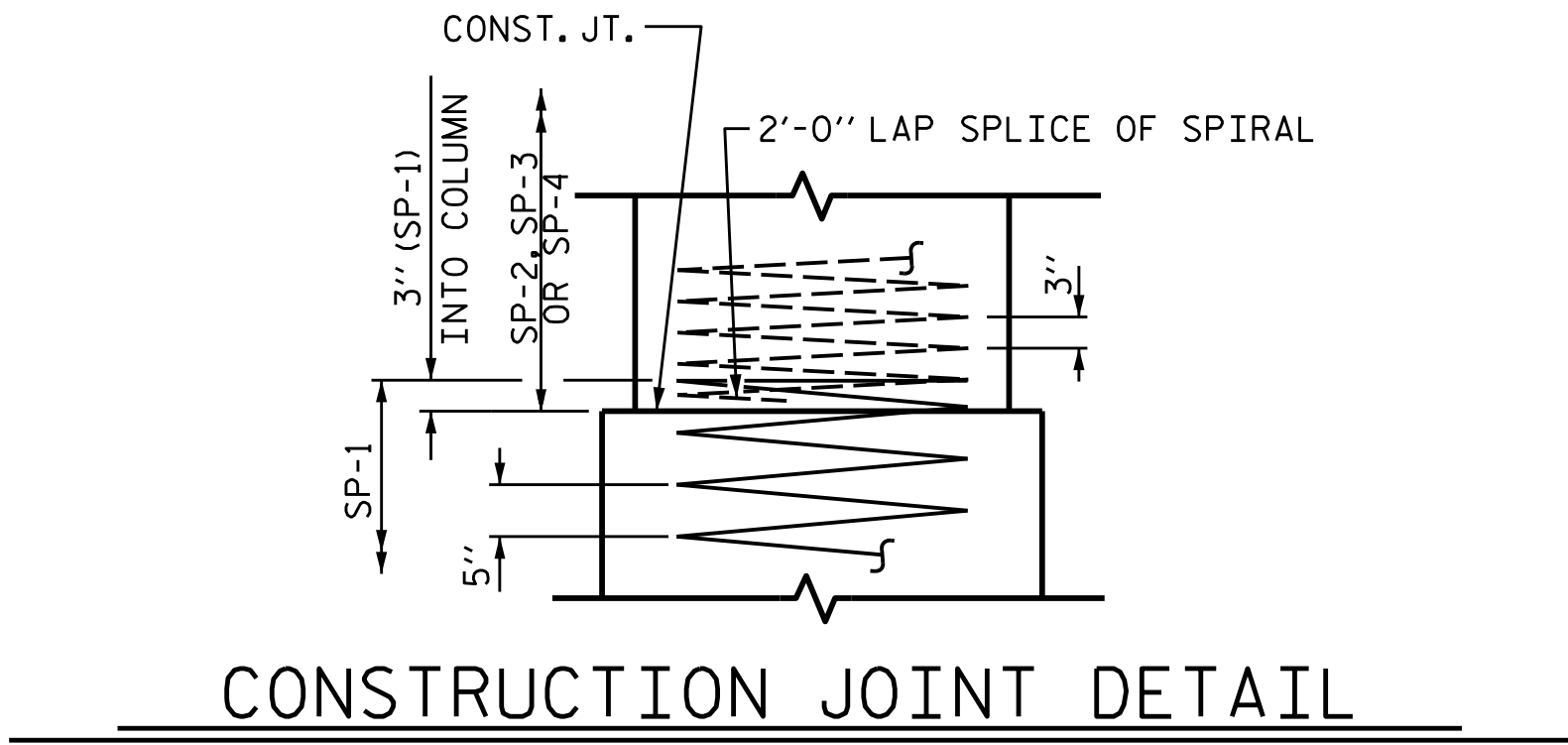
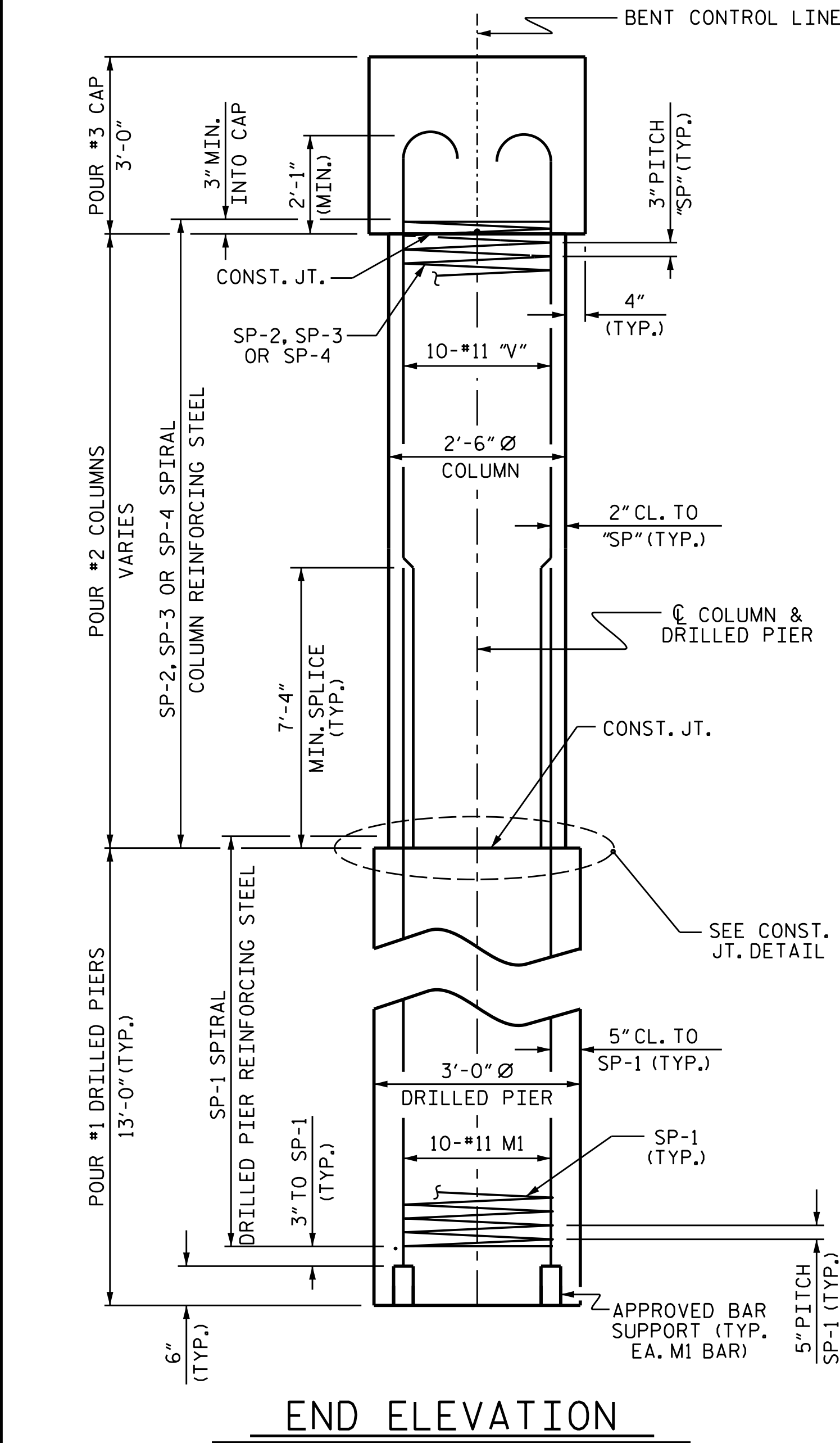
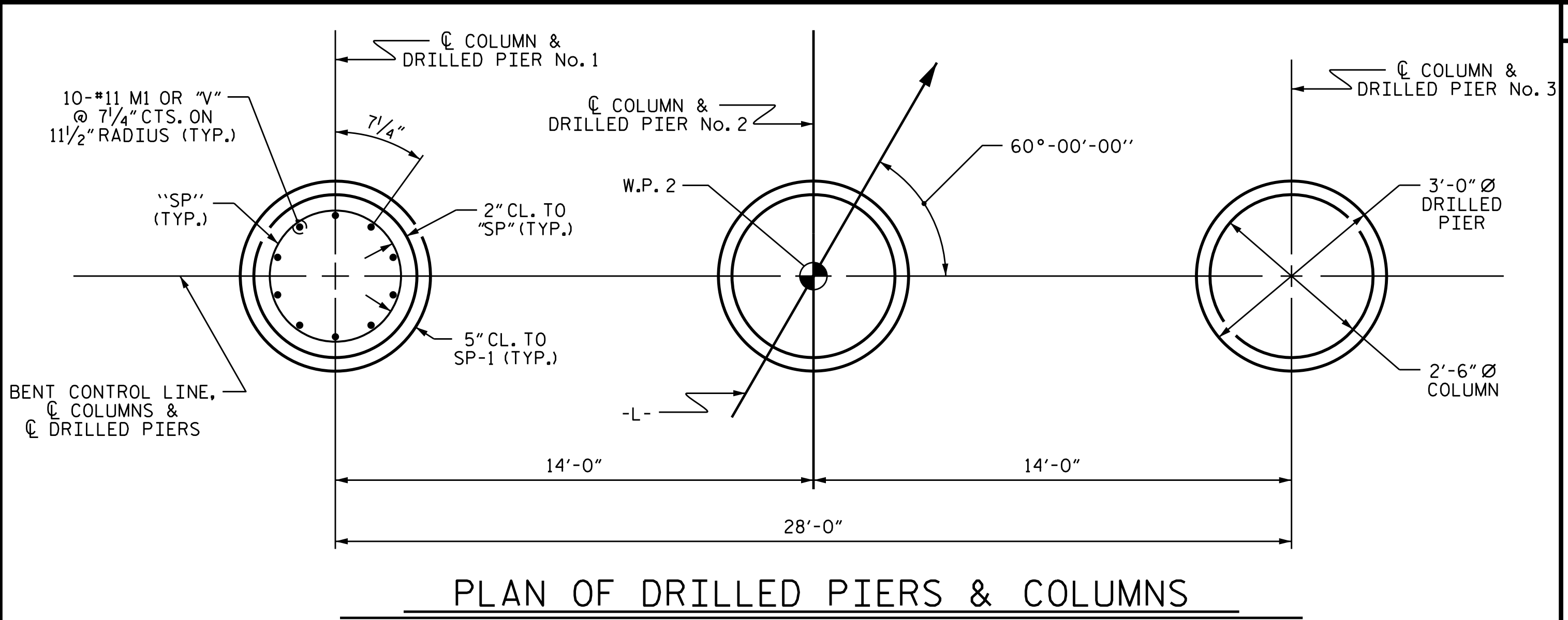
END BENT 1
DETAILS

DOCUMENT NOT CONSIDERED FINAL
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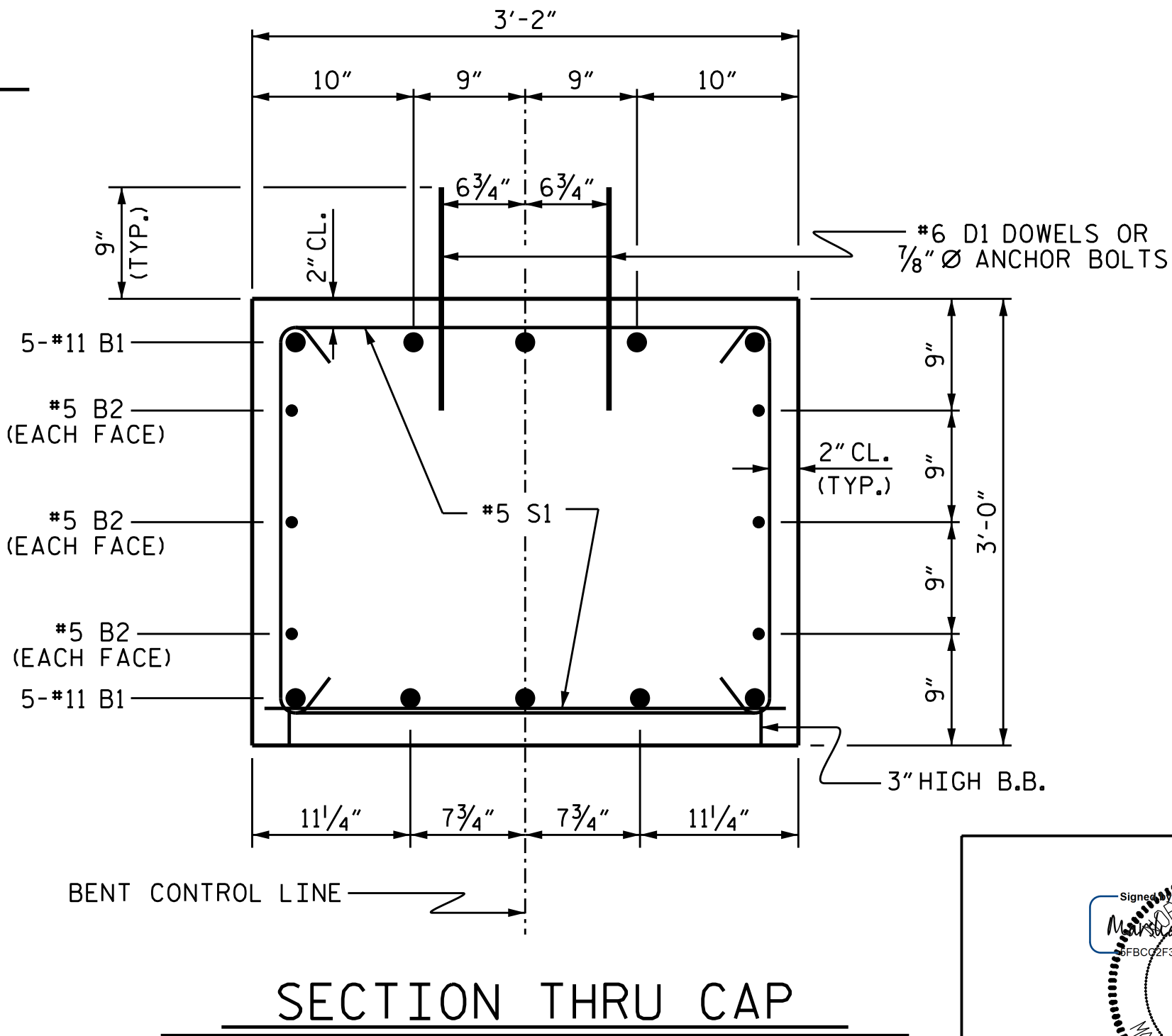
TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-23
1			3			TOTAL SHEETS
2			4			35

ASSEMBLED BY :	JLA	DATE :	2/25
CHECKED BY :	MGC	DATE :	3/25
DRAWN BY :	WJH	12/II	REV. 4/17
CHECKED BY :	AAC	12/II	MAA/THC



BILL OF MATERIAL					
FOR BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#11	1	42'-0"	2,231
B2	6	#5	STR	39'-0"	244
D1	32	#6	STR	1'-6"	72
M1	30	#11	STR	22'-10"	3,639
S1	68	#5	2	9'-0"	638
U1	6	#4	3	5'-8"	23
U2	6	#4	3	5'-6"	22
V1	10	#11	4	12'-8"	673
V2	10	#11	4	13'-0"	691
V3	10	#11	4	13'-4"	708
REINFORCING STEEL					8,941 LBS.
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
SP-1	3	*	5	213'-0"	666
SP-2	1	**	6	260'-7"	174
SP-3	1	**	6	267'-3"	179
SP-4	1	**	6	273'-11"	183
SPIRAL COLUMN REINFORCING STEEL					1,202 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 & SP-4 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR					
CLASS A CONCRETE BREAKDOWN					
POUR #2 (COLUMNS)					5.0 C.Y.
POUR #3 (CAP)					13.8 C.Y.
TOTAL CLASS A CONCRETE					18.8 C.Y.
DRILLED PIERS:					
DRILLED PIER CONCRETE					
POUR #1 (DRILLED PIERS)					10.2 C.Y.



PROJECT NO. HB-0054

ASHE COUNTY

STATION: 12+99.93-L-

SHEET 2 OF 2

Seal of North Carolina
Professional Engineer
MARSHALL G. CHEEK, JR.
6/9/2026

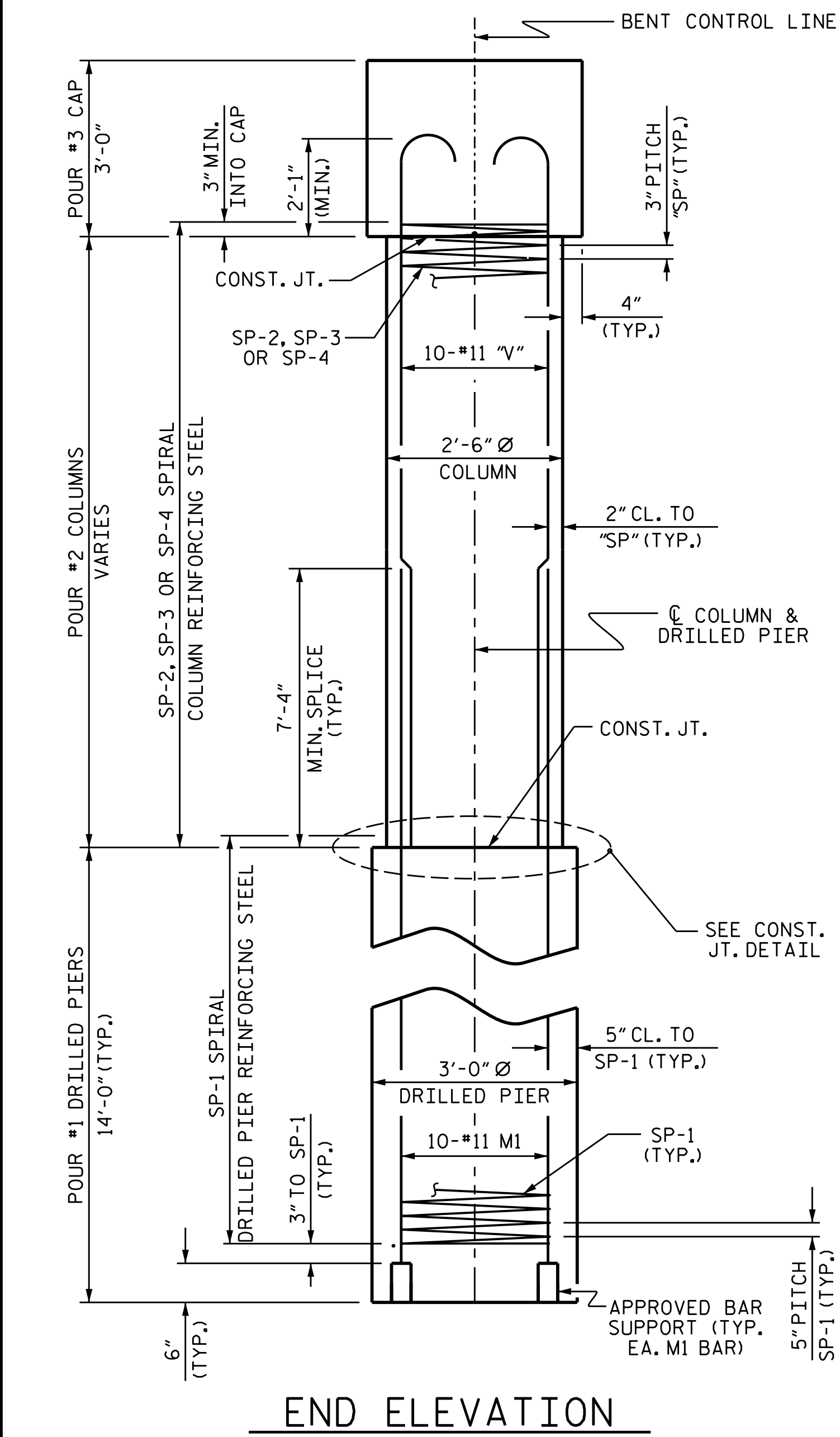
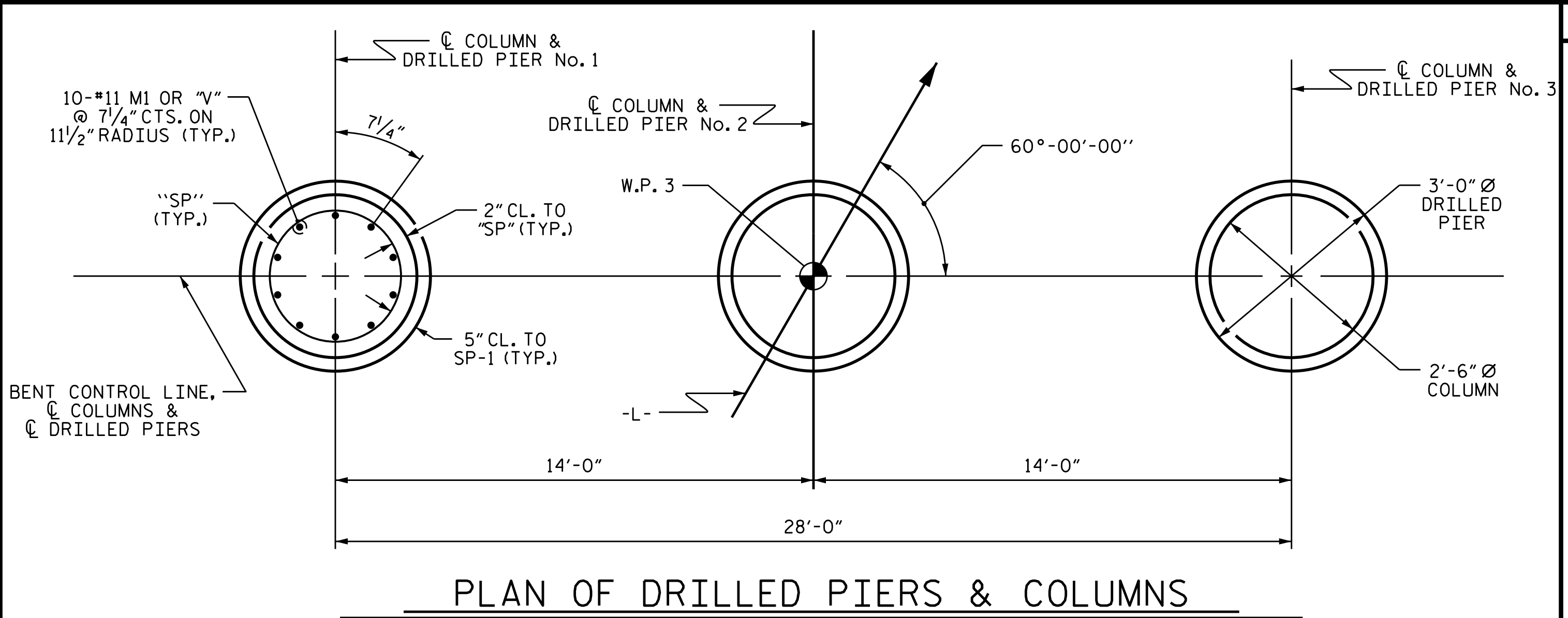
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CORP. LICENSE NO.: C-0275

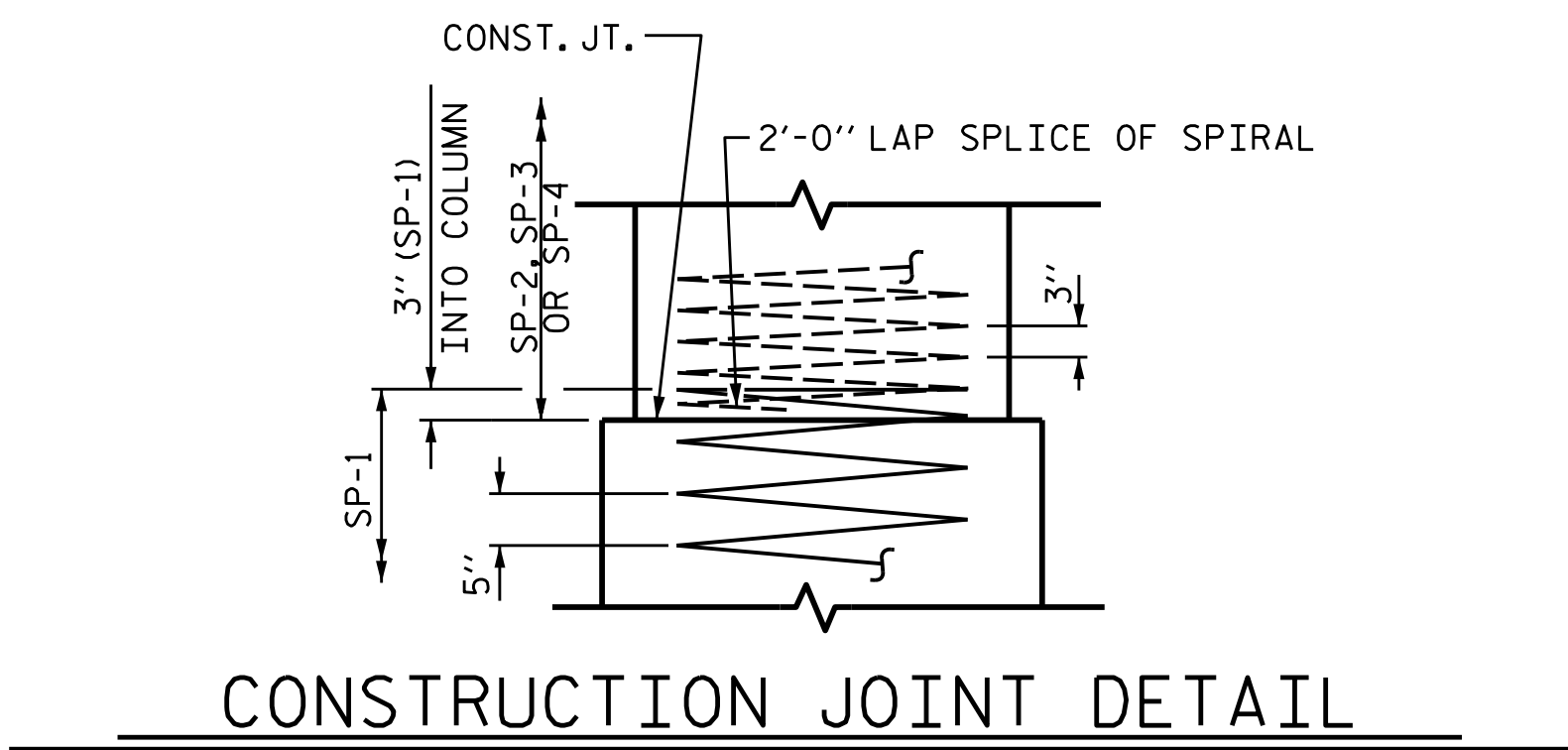
DEPARTMENT OF TRANSPORTATION RALEIGH SUBSTRUCTURE					
BENT 1 DETAILS					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					35

PLAN

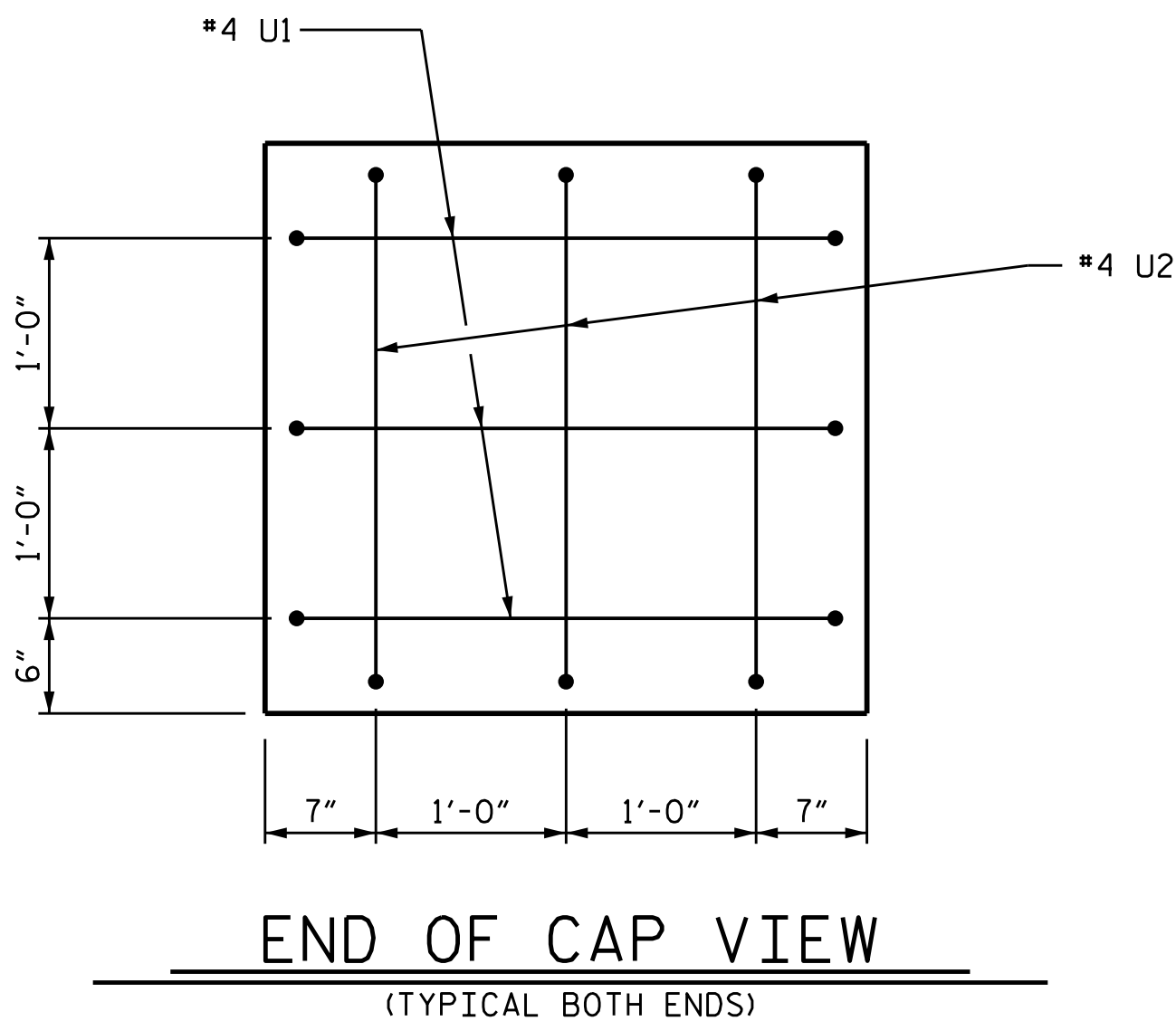
ELEVATION



END ELEVATION

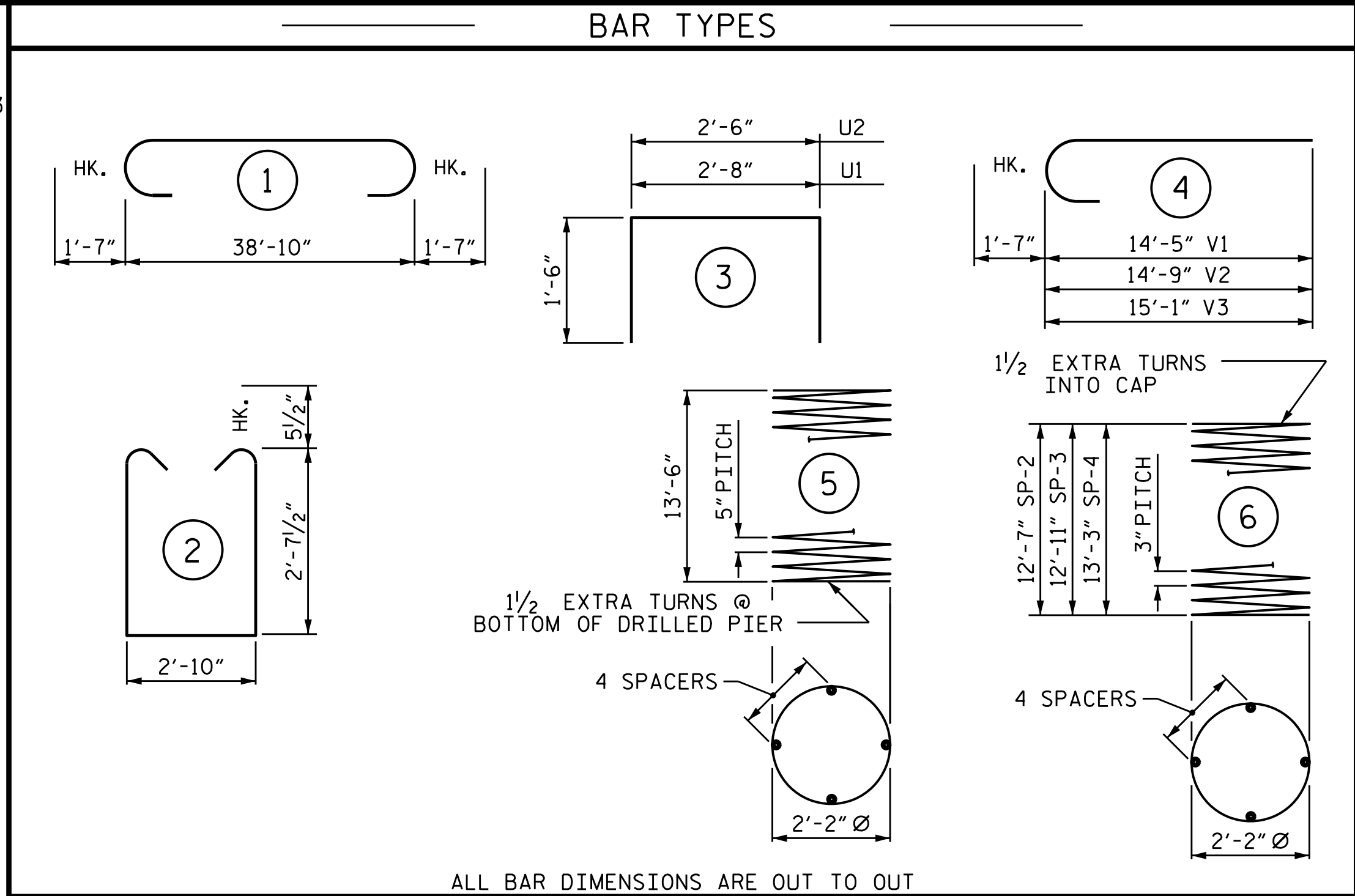


CONSTRUCTION JOINT DETAIL

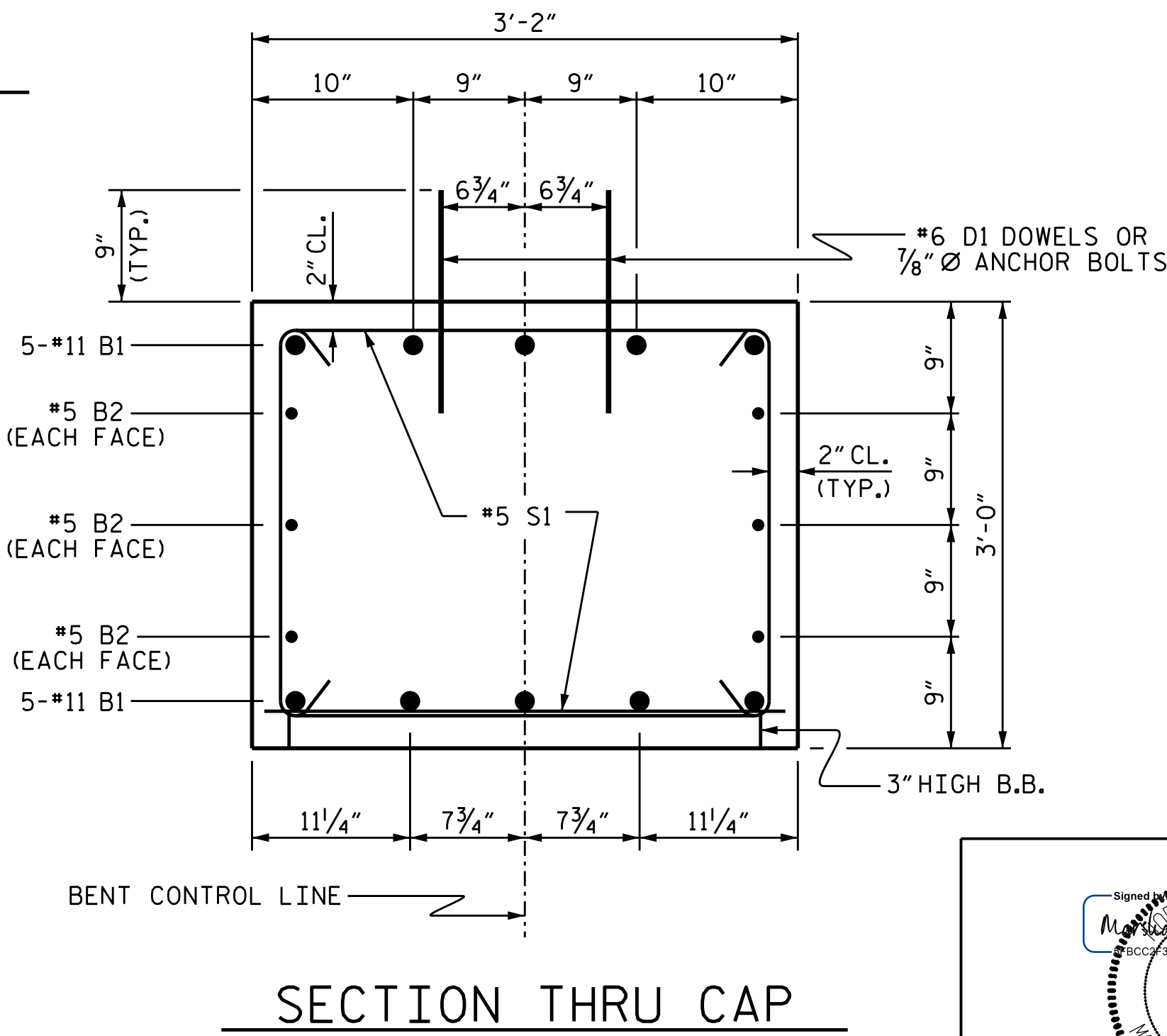


END OF CAP VIEW

(TYPICAL BOTH ENDS)



ALL BAR DIMENSIONS ARE OUT TO OUT



SECTION THRU CAP

BILL OF MATERIAL

FOR BENT 2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#11	1	42'-0"	2,231
B2	6	#5	STR	39'-0"	244
D1	32	#6	STR	1'-6"	72
M1	30	#11	STR	23'-10"	3,799
S1	68	#5	2	9'-0"	638
U1	6	#4	3	5'-8"	23
U2	6	#4	3	5'-6"	22
V1	10	#11	4	16'-0"	850
V2	10	#11	4	16'-4"	868
V3	10	#11	4	16'-8"	886

REINFORCING STEEL 9,633 LBS.

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
SP-1	3	*	5	226'-4"	708
SP-2	1	**	6	347'-5"	232
SP-3	1	**	6	360'-10"	241
SP-4	1	**	6	367'-6"	245

SPIRAL COLUMN REINFORCING STEEL 1,426 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 & SP-4 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR

CLASS A CONCRETE BREAKDOWN

POUR #2 (COLUMNS)	6.9 C.Y.
POUR #3 (CAP)	13.8 C.Y.

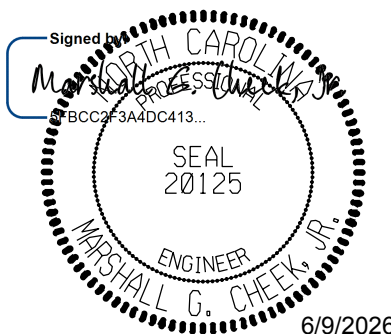
TOTAL CLASS A CONCRETE 20.7 C.Y.

DRILLED PIERS:

DRILLED PIER CONCRETE	
POUR #1 (DRILLED PIERS)	11.0 C.Y.

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 2 OF 2



DOCUMENT NOT CONSIDERED FINAL
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CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE

BENT 2
DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 35
2			4			

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS OR ANCHOR BOLTS.

HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.

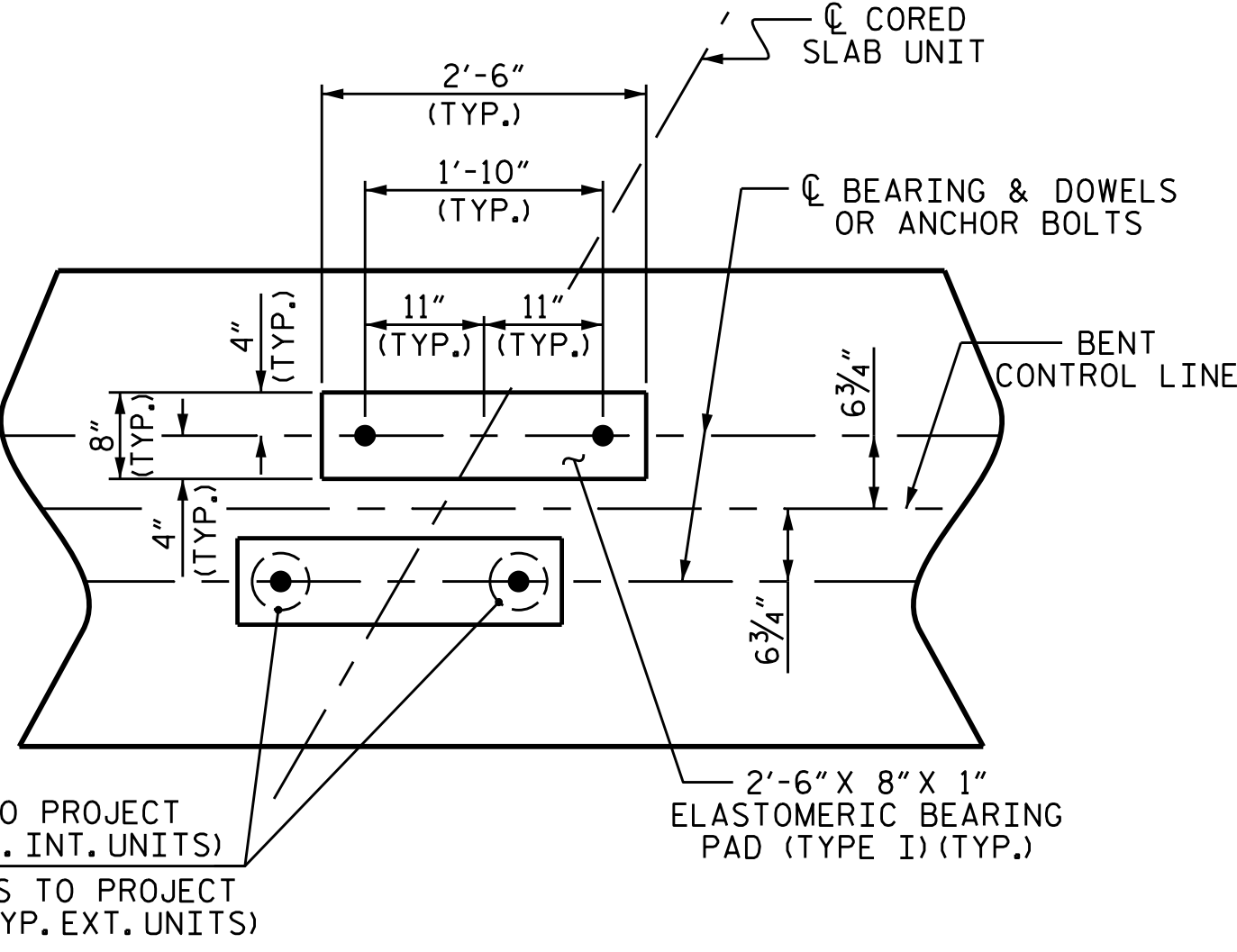
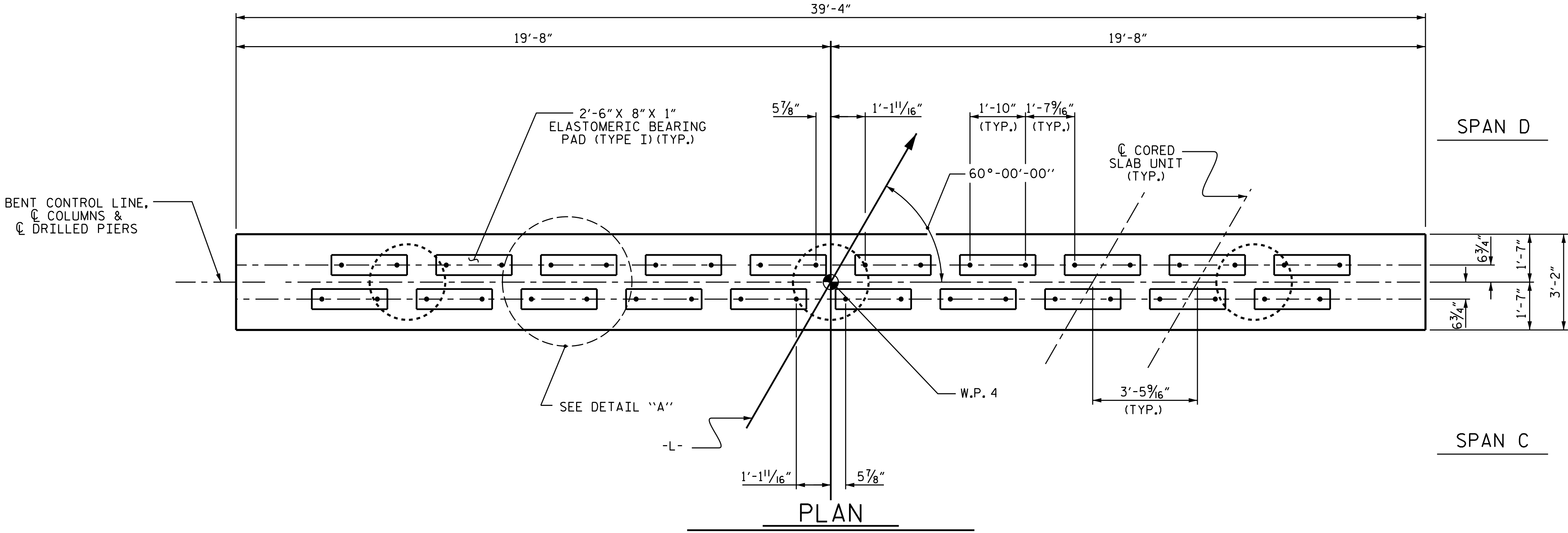
FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR "REINFORCING STEEL" AND "SPIRAL COLUMN REINFORCING STEEL."

★ INVERT ALTERNATE STIRRUPS.

THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIERS IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND LINE ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT ONE FOOT BELOW THE GROUND LINE.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH.



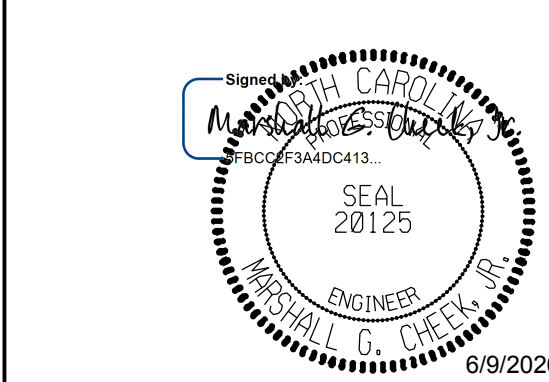
#6 D1 DOWELS TO PROJECT 9" ABOVE CAP (TYP. INT. UNITS)
7/8" Ø ANCHOR BOLTS TO PROJECT 1'-11" ABOVE CAP (TYP. EXT. UNITS)

DETAIL "A"

(DIMENSIONS ARE TYPICAL EACH BEARING)

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 1 OF 2



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
BENT 3

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

REVISIONS						SHEET NO. S-28
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 35
2			4			

ASSEMBLED BY :	JLA	DATE :	2/25
CHECKED BY :	MGC	DATE :	3/25
DRAWN BY :	DGE	4/10	REV. 11/14
CHECKED BY :	MKT	4/10	MAA/TMG

DIMENSIONS & REINFORCING STEEL ARE TYPICAL FOR EACH COLUMN & DRILLED PIER UNLESS OTHERWISE NOTED.

PLAN OF DRILLED PIERS & COLUMNS

END ELEVATION

CONSTRUCTION JOINT DETAIL

END OF CAP VIEW

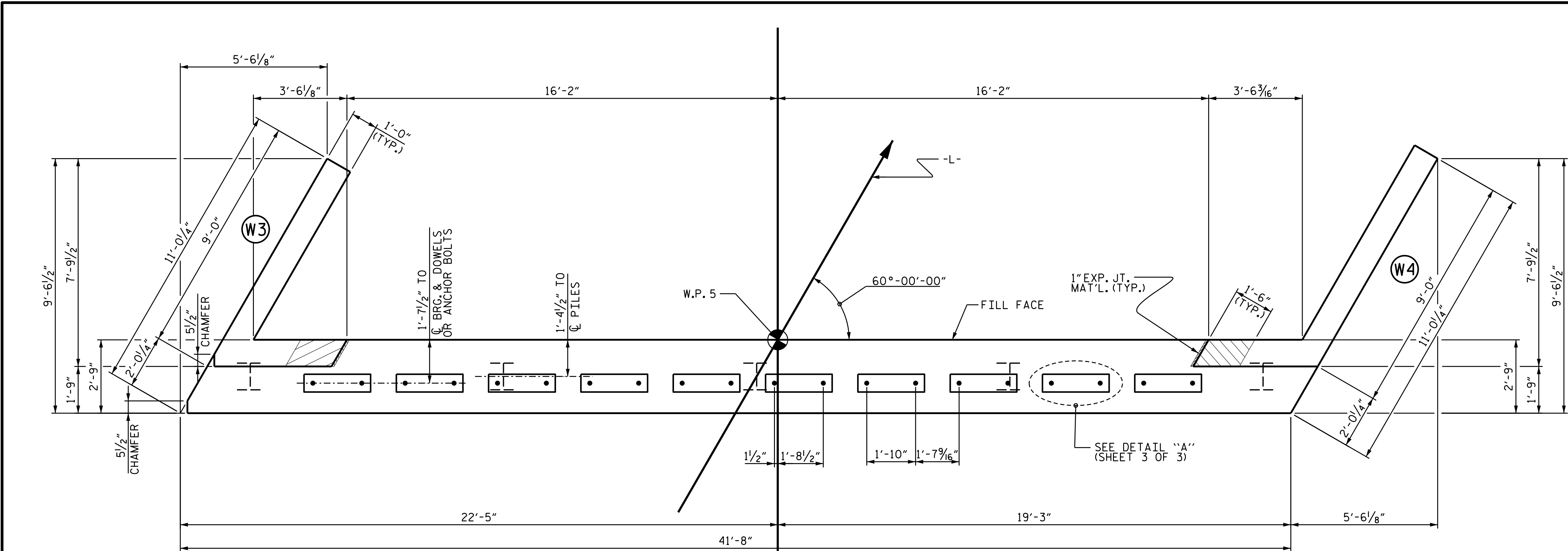
ALL BAR DIMENSIONS ARE OUT TO OUT

SECTION THRU CAP

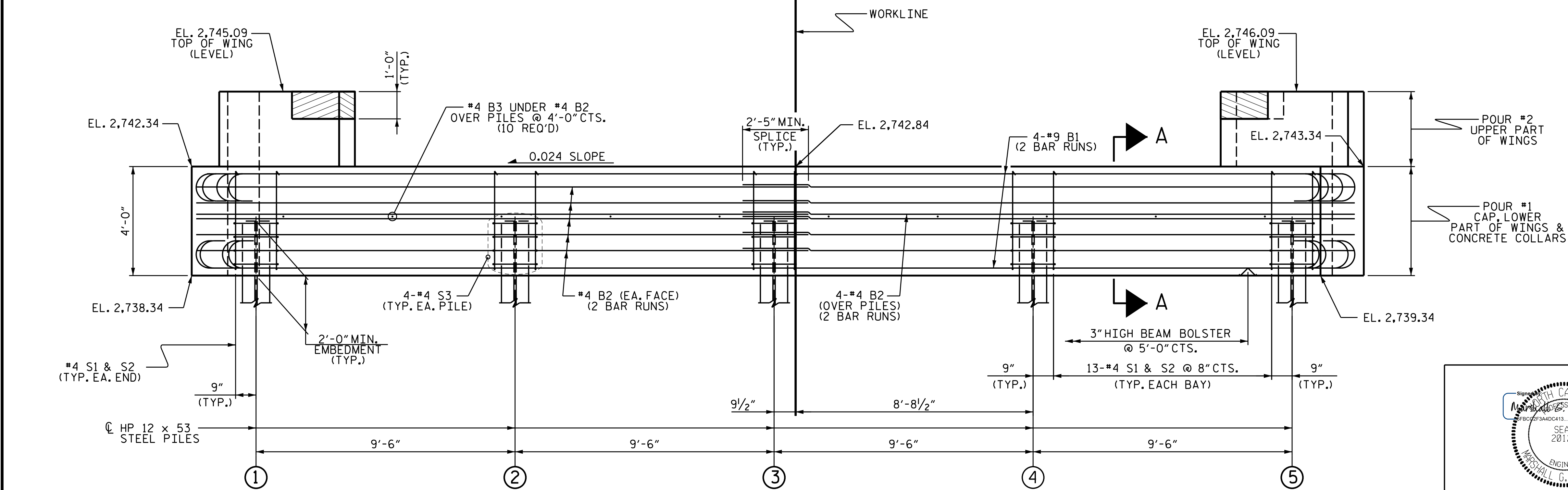
FOR BENT 3

DRILLED PIER CONCRETE POUR #1 (DRILLED PIERS)	10.6 C.Y.
--	-----------

STD. NO. DP_BT_30_60S_<50'



PLAN



ELEVATION

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS OR ANCHOR BOLTS.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE CURB IS CAST IF SLIP FORMING IS USED.

FOR PILE SPLICE DETAILS, SEE SHEET 3 OF 3.

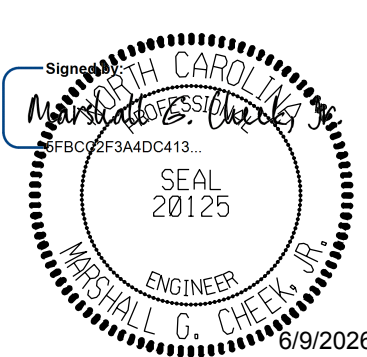
FOR WING DETAILS, SEE SHEET 2 OF 3.

INSTALL THE 6"Ø DRAIN PIPE THROUGH THE WING AS REQUIRED FOR THE BRIDGE APPROACH FILLS. SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WINGWALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.

TOP OF PILE ELEVATIONS	
①	2,740.40
②	2,740.62
③	2,740.85
④	2,741.08
⑤	2,741.31

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 1 OF 3



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
END BENT 2

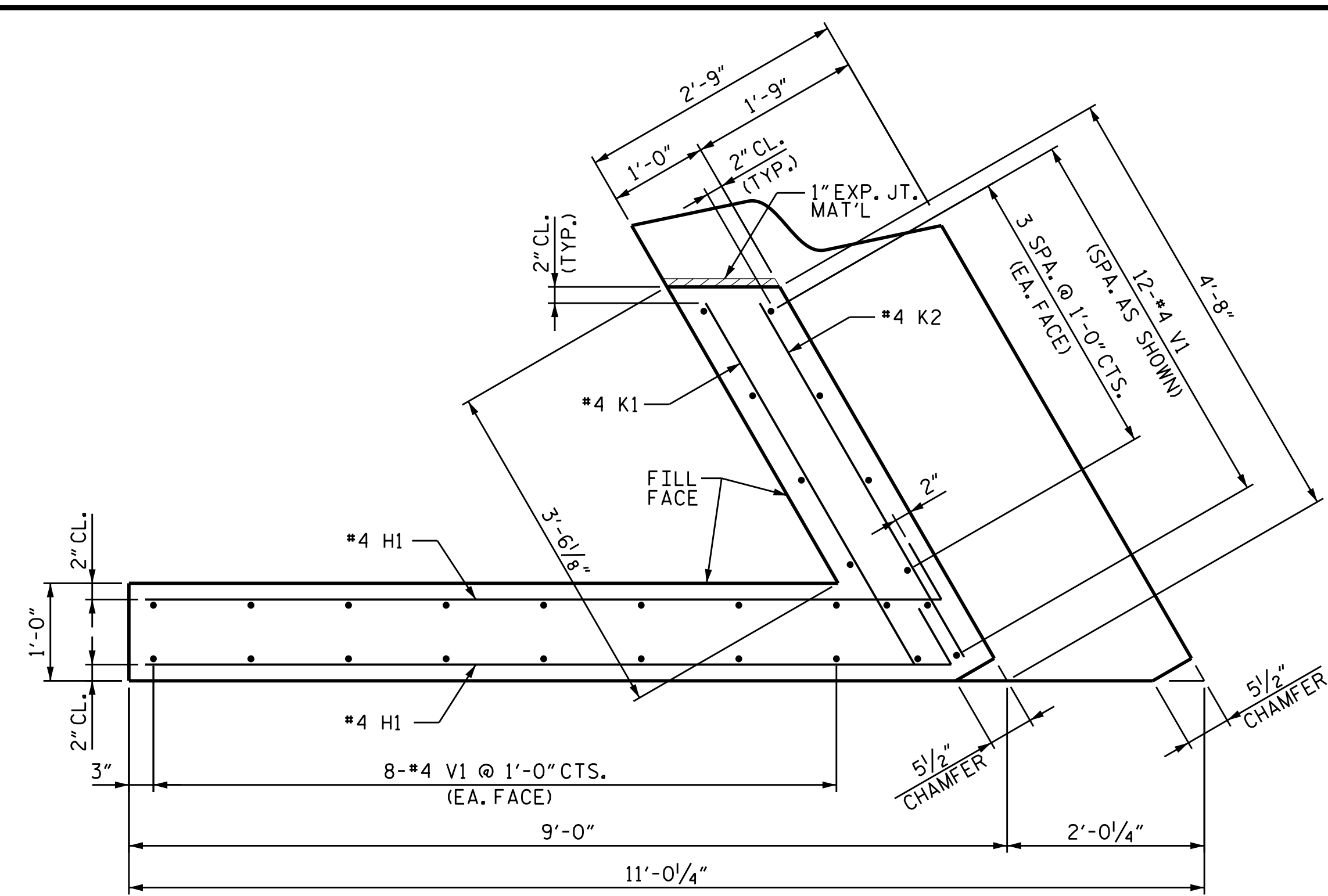
ASSEMBLED BY :	JLA	DATE :	2/25
CHECKED BY :	MGC	DATE :	3/25
DRAWN BY :	WJH	12/11	
CHECKED BY :	AAC	12/11	

REV. 4/15 MAA/TMG

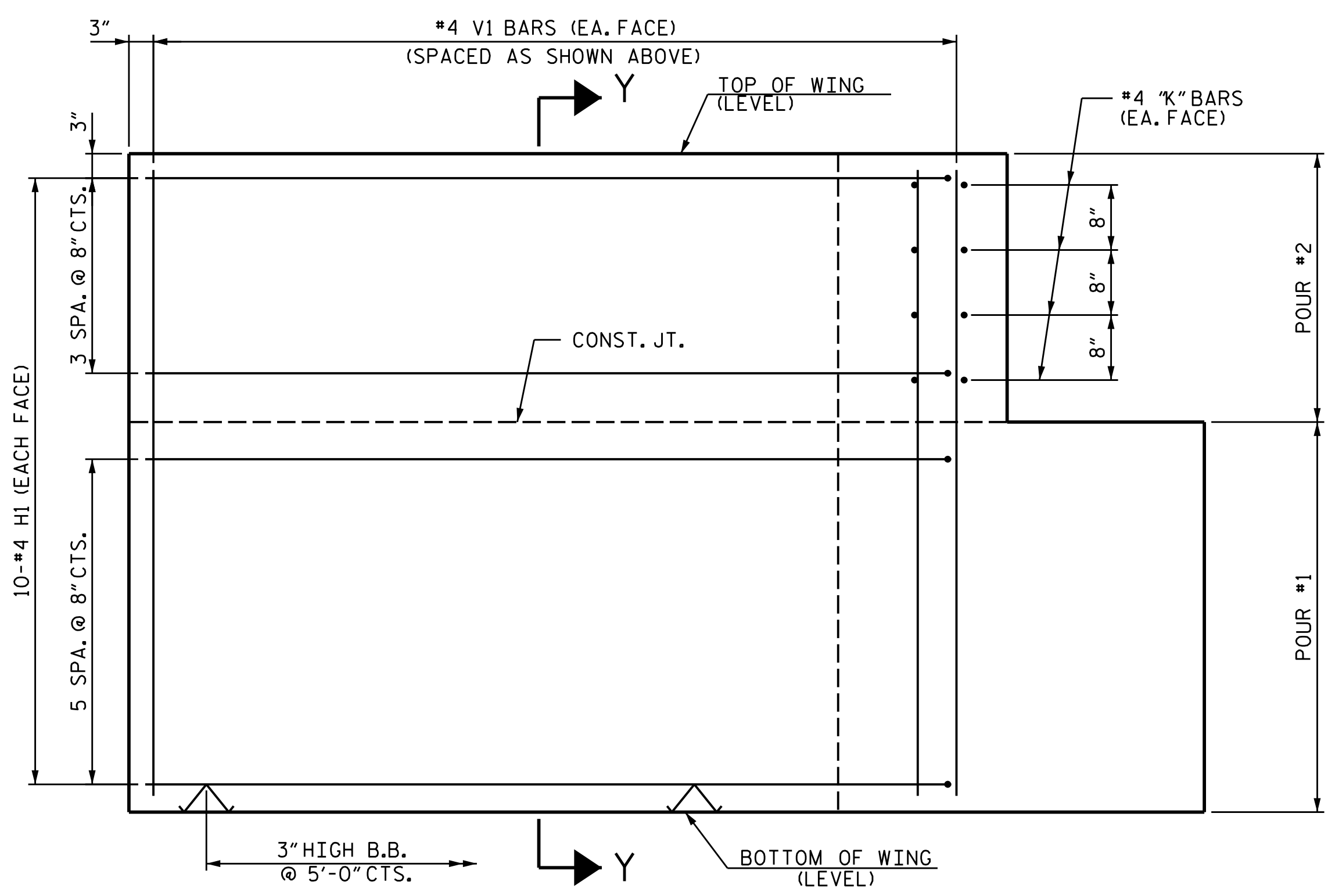
WINGS NOT SHOWN FOR CLARITY.
FOR SECTION A-A, SEE SHEET 3 OF 3.
CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 3 OF 3.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED					
TGS ENGINEERS 201 W. MARION ST. STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275					

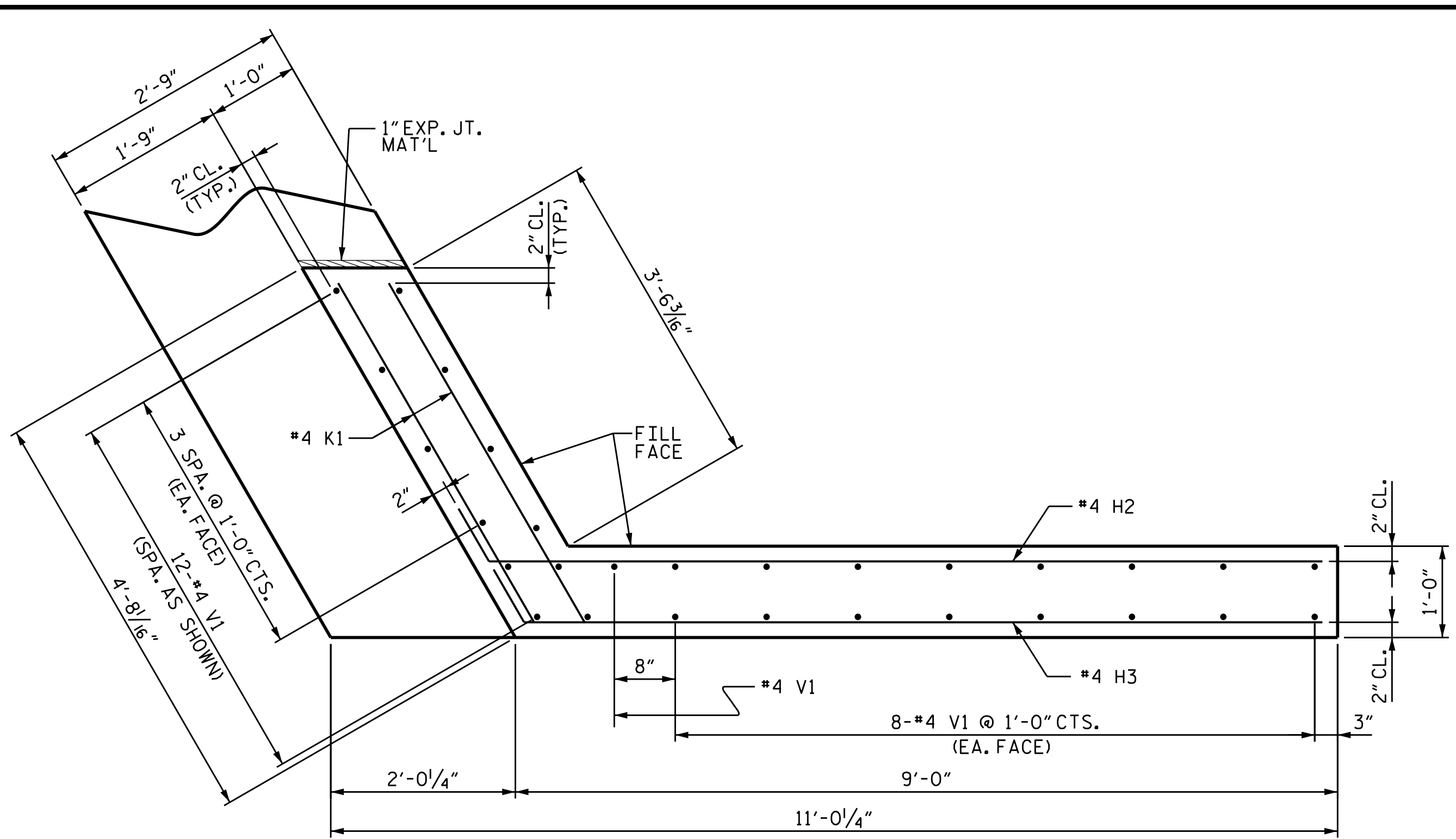
REVISIONS						SHEET NO. S-30
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 35
2			4			



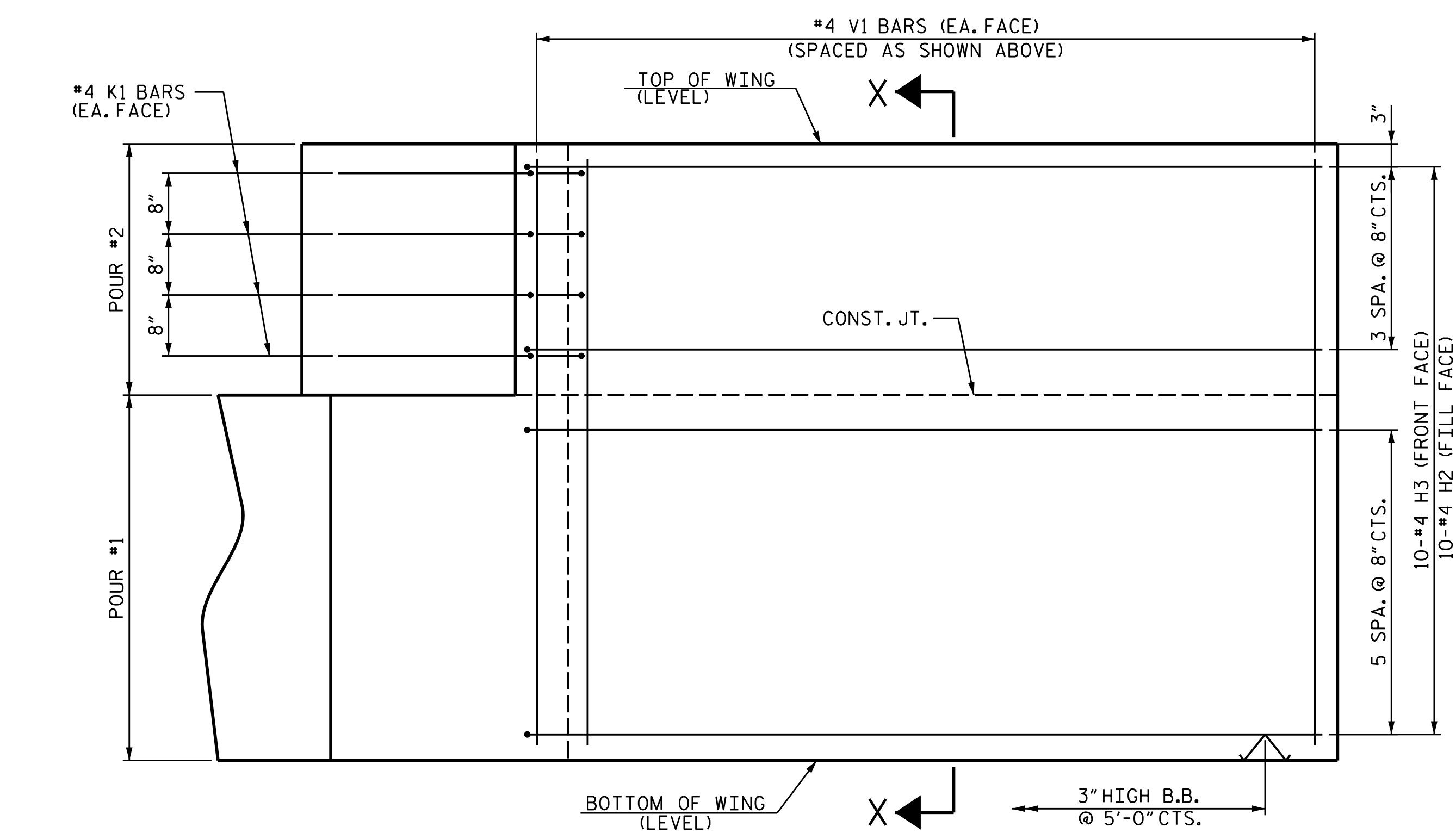
PLAN OF WING (W3)



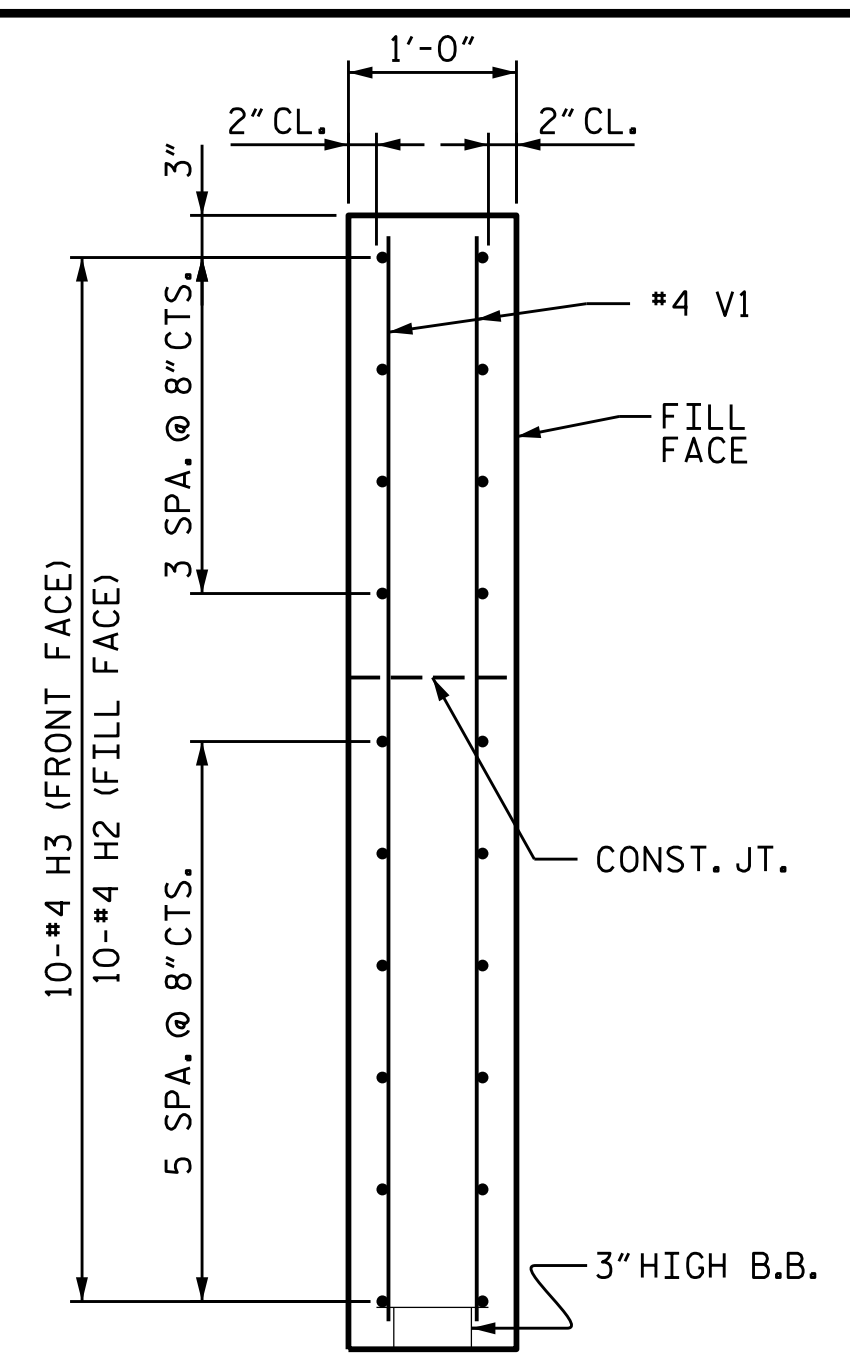
ELEVATION OF WING (W3)



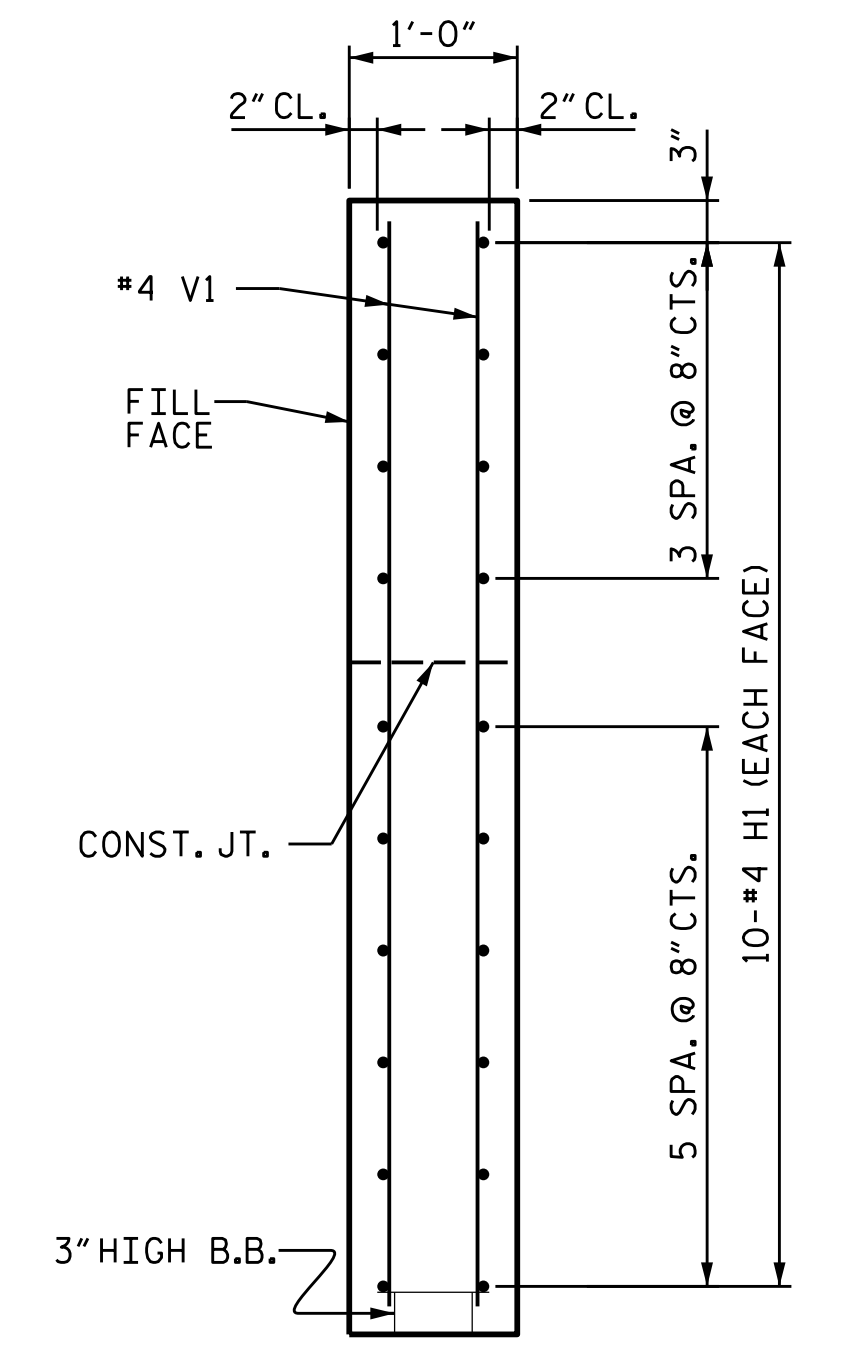
PLAN OF WING (W4)



ELEVATION OF WING (W4)



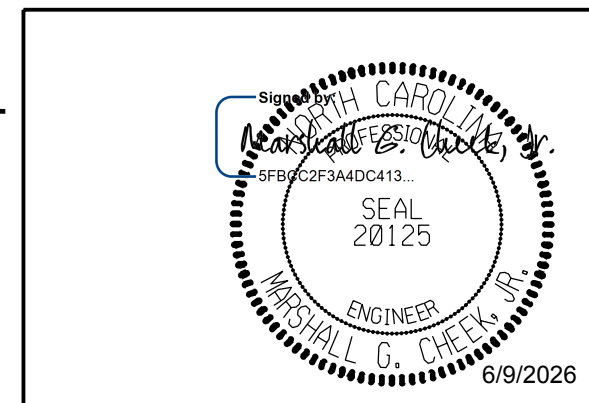
SECTION X-X



SECTION Y-Y

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

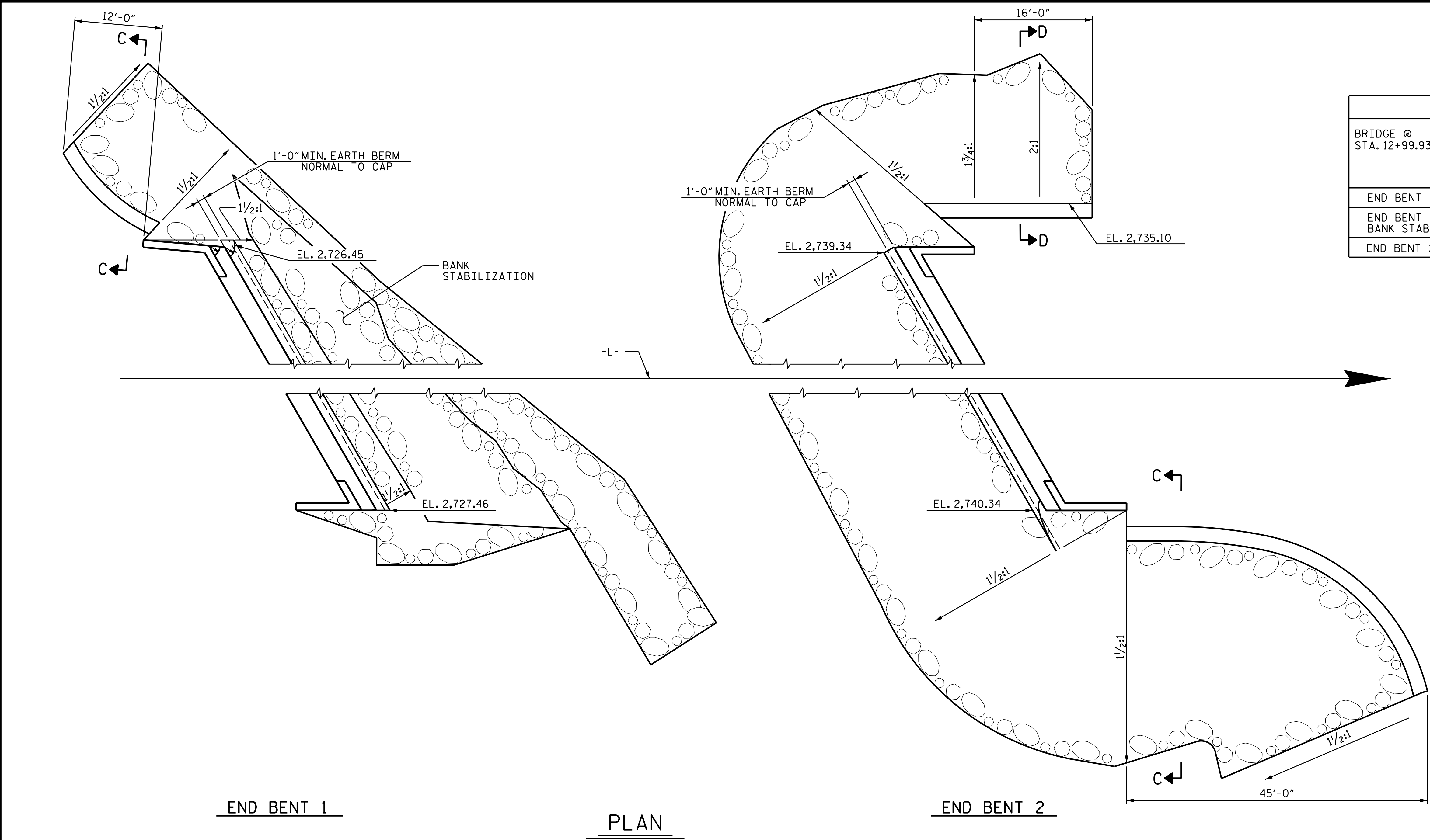
SHEET 2 OF 3



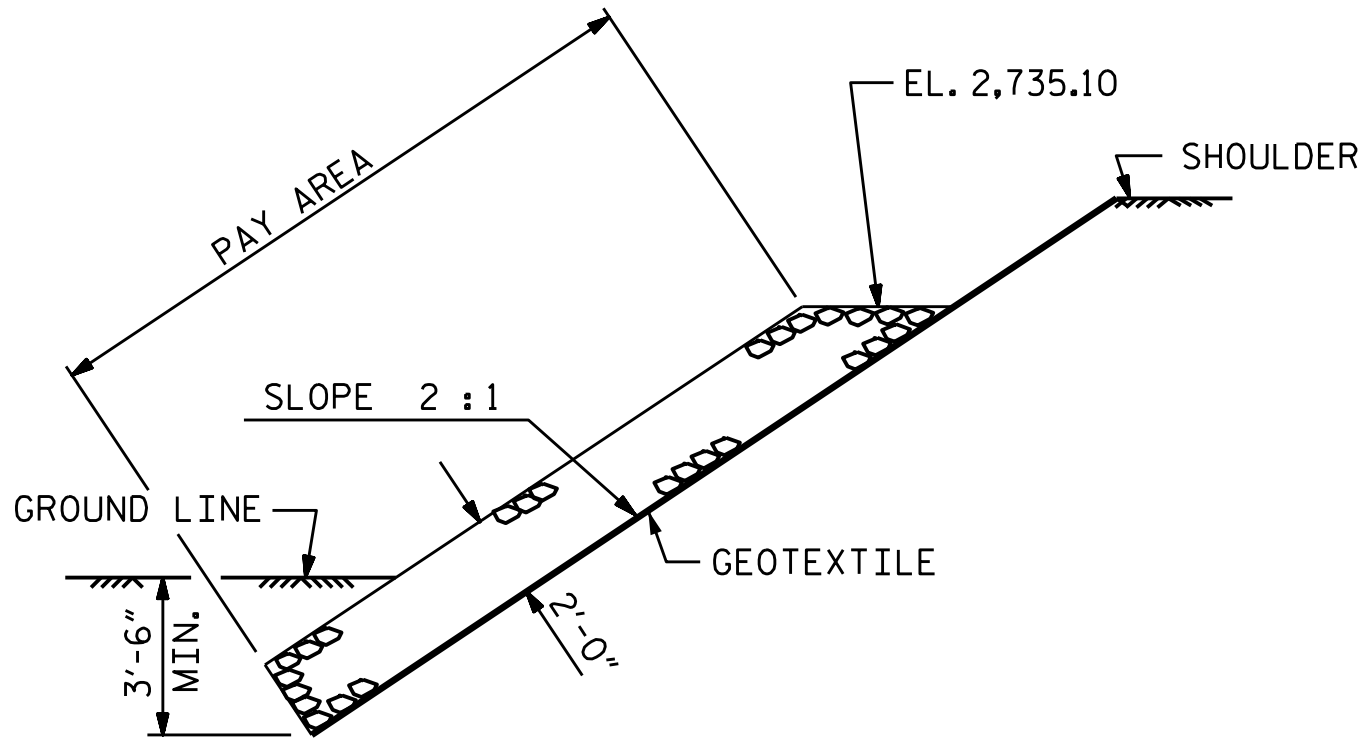
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-31
2			4			
TOTAL SHEETS						35

ASSEMBLED BY :	JLA	DATE :	2/25
CHECKED BY :	MGC	DATE :	3/25
DRAWN BY :	WJH	12/11	REV. 4/15
CHECKED BY :	AAC	12/11	MAA/TMG

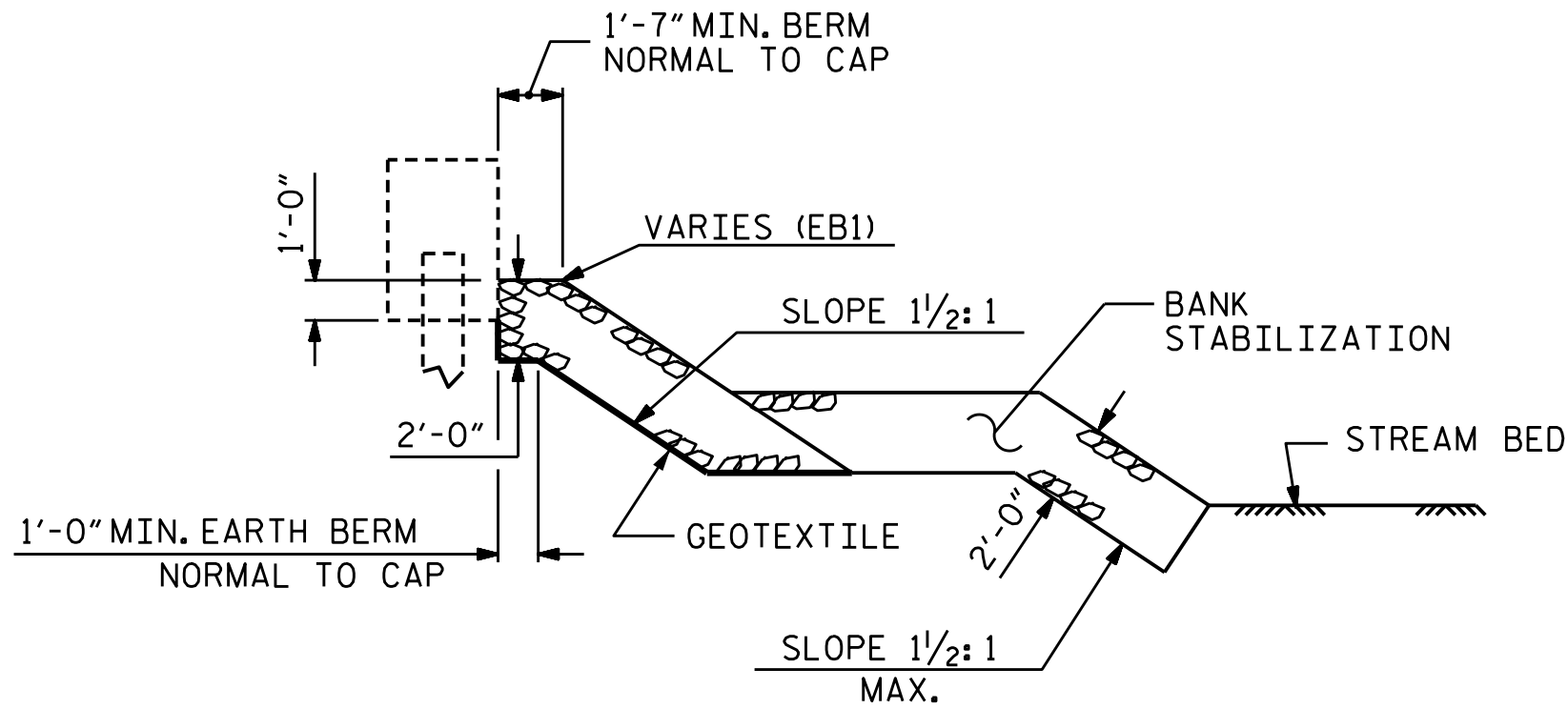


ESTIMATED QUANTITIES		
BRIDGE @ STA. 12+99.93-L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	235	260
END BENT 1 BANK STABILIZATION	130	
END BENT 2	535	600

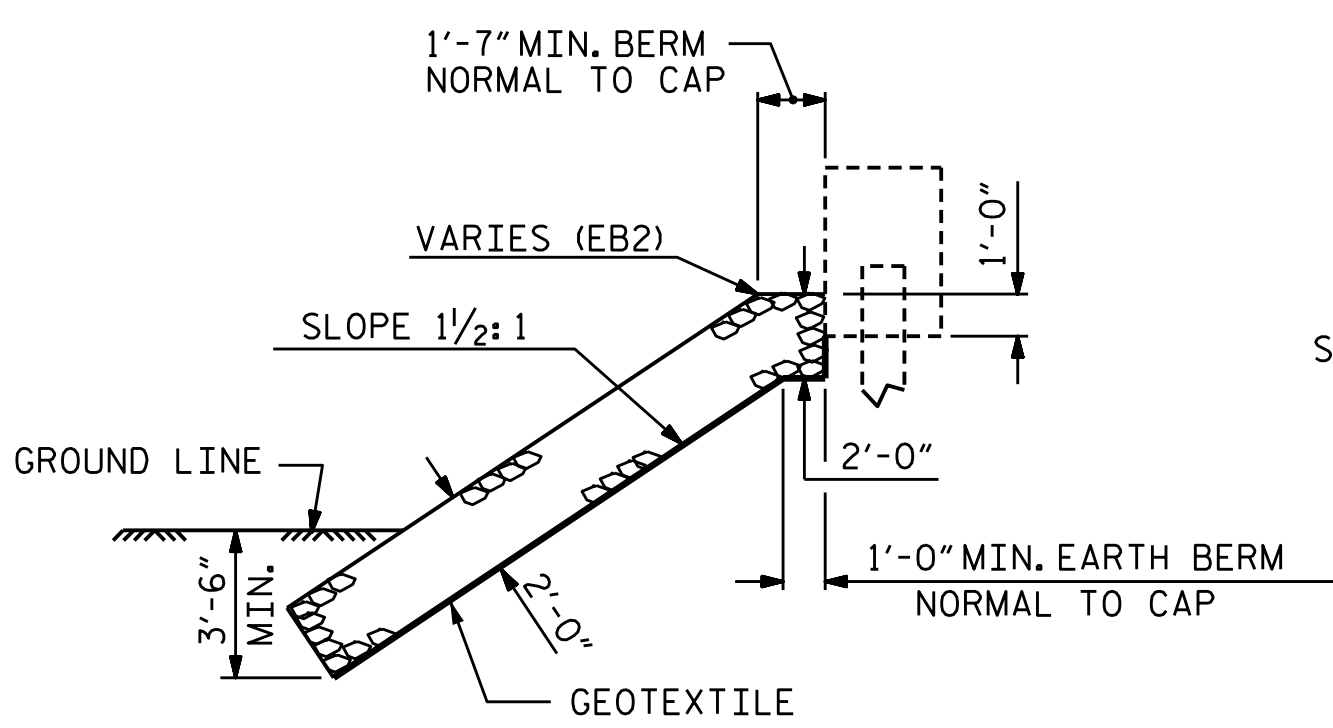


SECTION D-D

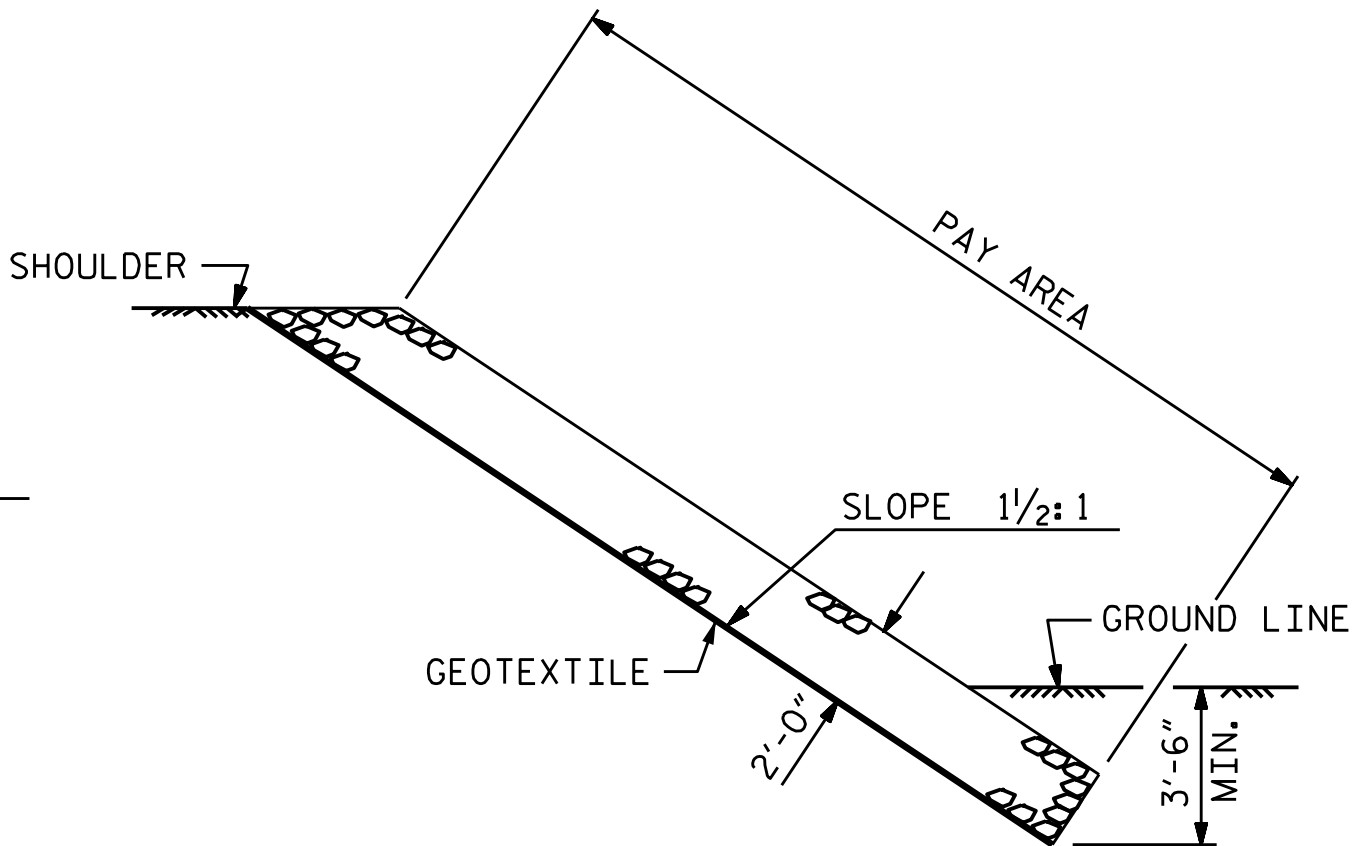
PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-



SECTION END BENT 1
BERM RIP RAPPED



SECTION END BENT 2
BERM RIP RAPPED



SECTION C-C

Signature of Marshall G. Cheek, Jr.

Seal of the State of North Carolina, Engineer, License No. 9804, dated 6/9/2026.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS

201 W. MARION ST. STE 200

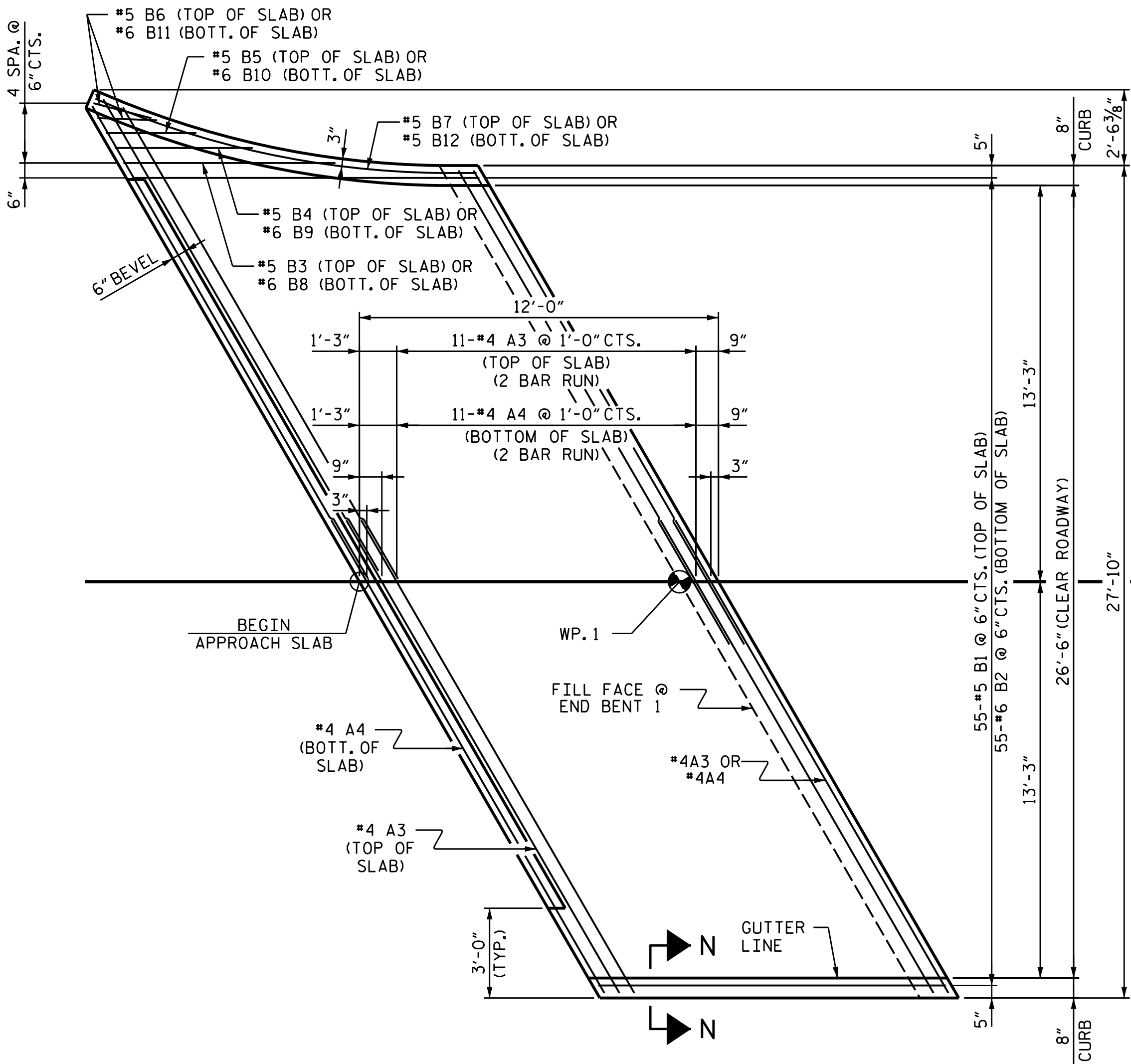
SHELBY, NC 28150

PH (704) 476-0003

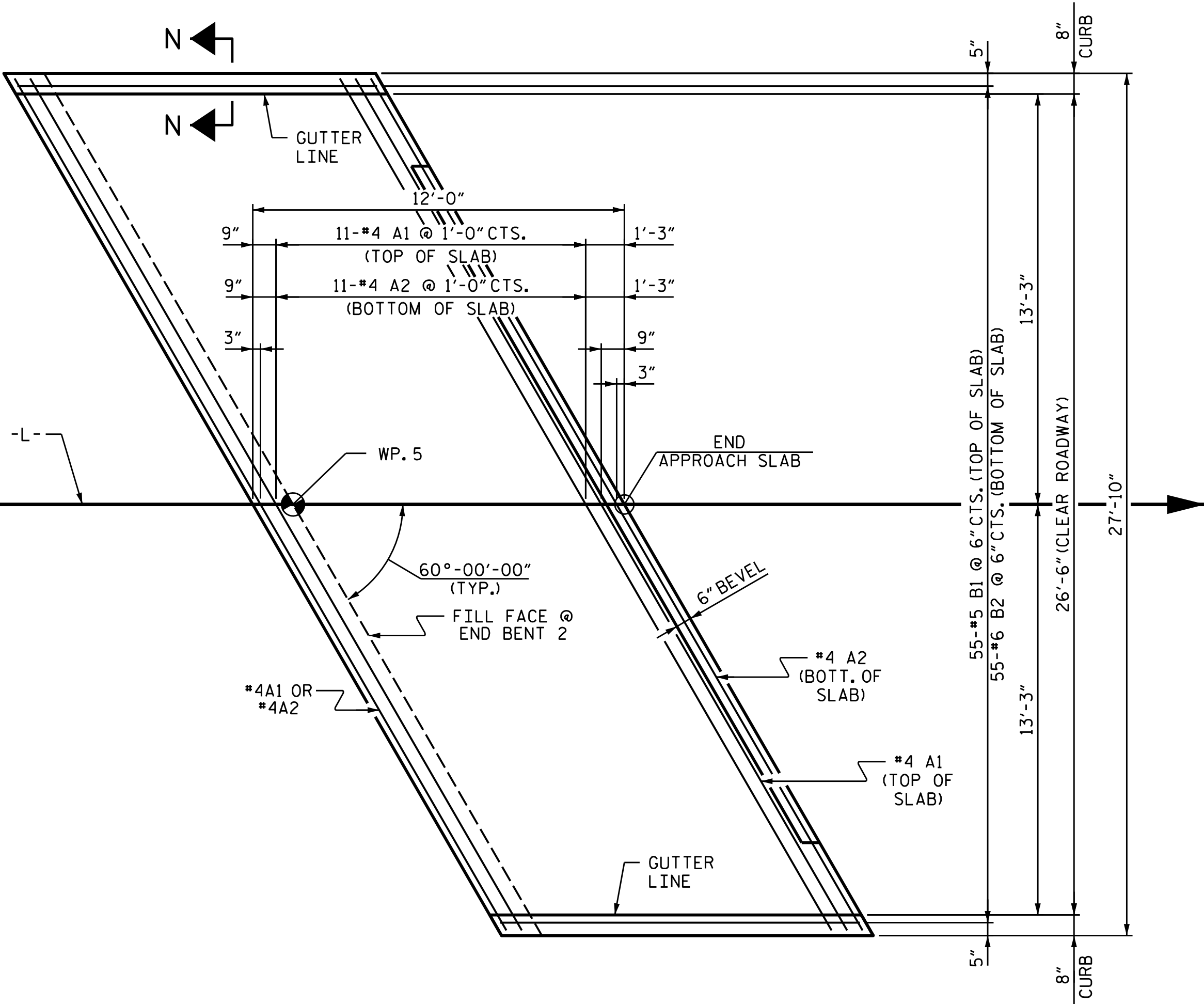
CORP. LICENSE NO.: C-0275

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-33
2			4			
TOTAL SHEETS 35						

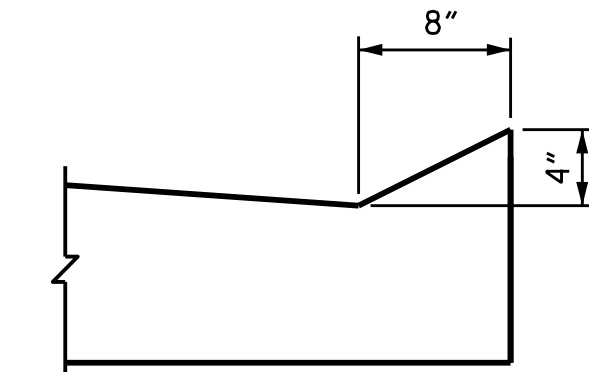
DRAWN BY : JLA DATE : 4/25
CHECKED BY : MGC DATE : 4/25



PLAN @ END BENT 1



PLAN @ END BENT 2



SECTION N-N

CURB DETAILS

BILL OF MATERIAL					
APPROACH SLAB AT EB 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A3	26	*4	STR	18'-3"	317
A4	26	*4	STR	18'-1"	314
* B1	55	*5	STR	11'-1"	636
B2	55	*6	STR	11'-7"	957
* B3	1	*5	STR	7'-1"	7
* B4	1	*5	STR	4'-7"	5
* B5	1	*5	STR	3'-0"	3
* B6	2	*5	STR	2'-0"	4
* B7	1	*5	STR	13'-1"	14
B8	1	*6	STR	7'-1"	11
B9	1	*6	STR	4'-7"	7
B10	1	*6	STR	3'-0"	5
B11	2	*6	STR	2'-0"	6
B12	1	*5	STR	13'-1"	14
REINFORCING STEEL				LBS.	1,314
* EPOXY COATED REINFORCING STEEL				LBS.	986
CLASS AA CONCRETE				C. Y.	18.9
APPROACH SLAB AT EB 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	13	*4	STR	31'-9"	276
A2	13	*4	STR	31'-9"	276
* B1	55	*5	STR	11'-1"	636
B2	55	*6	STR	11'-7"	957
REINFORCING STEEL				LBS.	1,233
* EPOXY COATED REINFORCING STEEL				LBS.	912
CLASS AA CONCRETE				C. Y.	18.3

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB UNIT (SUB-REGIONAL TIER) 60° SKEW					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					35

Signature of Marshall G. Cheek, Jr.

Seal of the State of North Carolina, Engineer, License No. 20125

6/9/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS

201 W. MARION ST. STE 200

SHELBY, NC 28150

PH (704) 476-0003

CORP. LICENSE NO.: C-0275

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

ARC OFFSETS - END BENT 1 LEFT SIDE

ASSEMBLED BY : JLA	DATE : 4/25
CHECKED BY : MGC	DATE : 4/25
DRAWN BY : SHS/MAA	5-09 REV. 08-19 BNB/THC
CHECKED BY : BCH	5-09 REV. 01-25 HRS

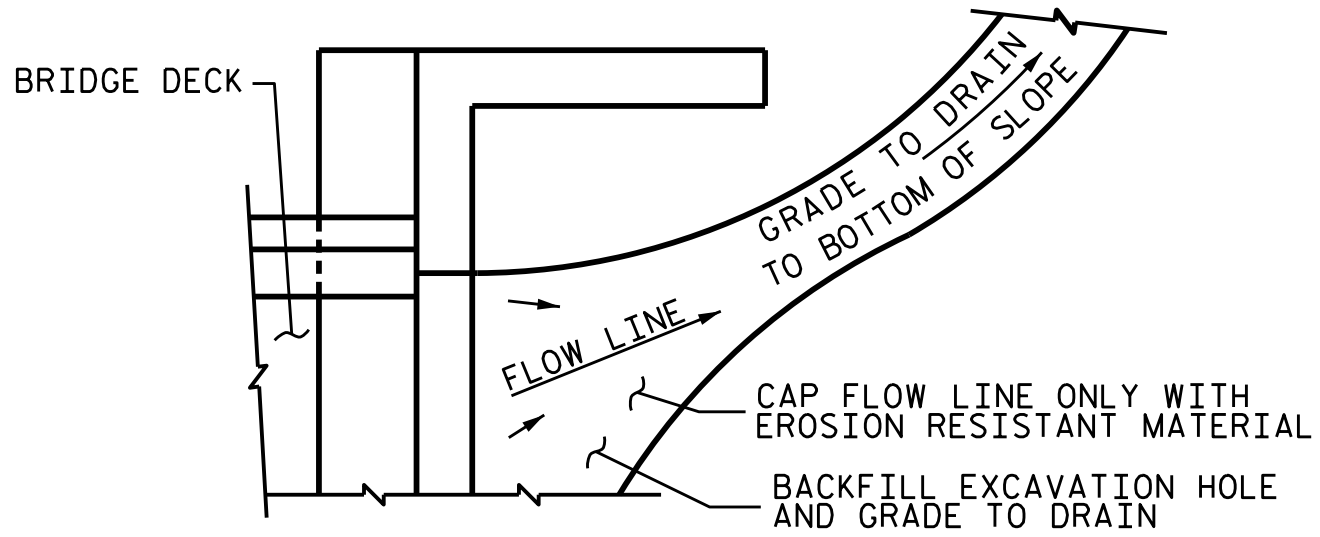
STD. NO. BAS_30_60S

NOTES

FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.

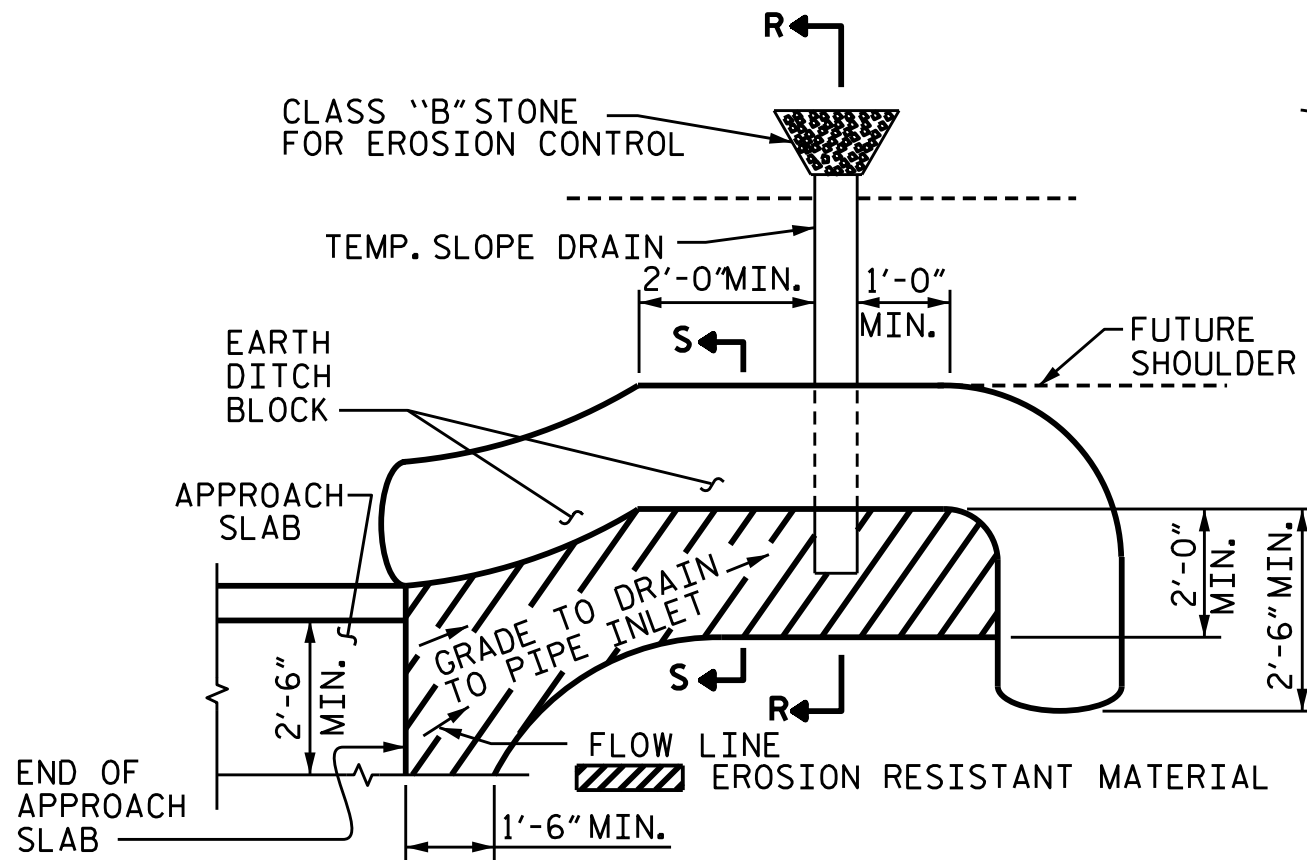
AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

APPROACH SLAB GROVING IS 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

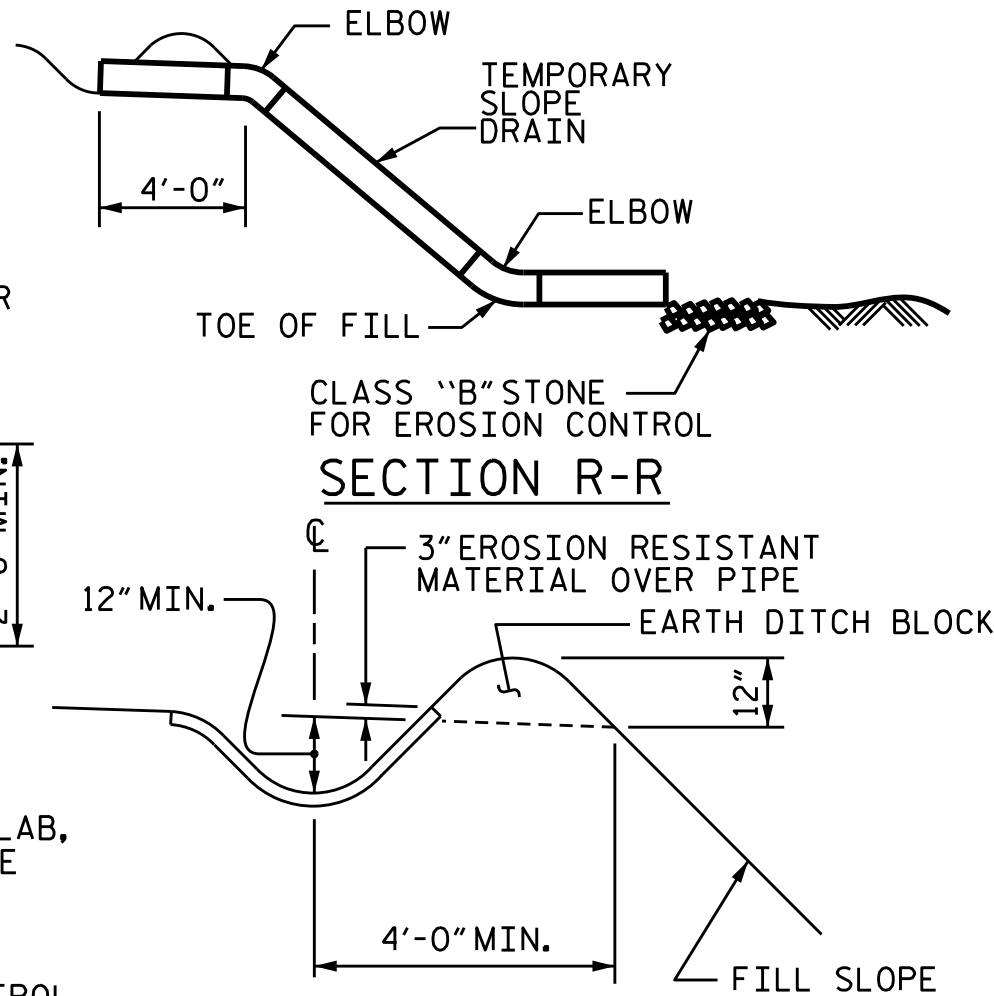


NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 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

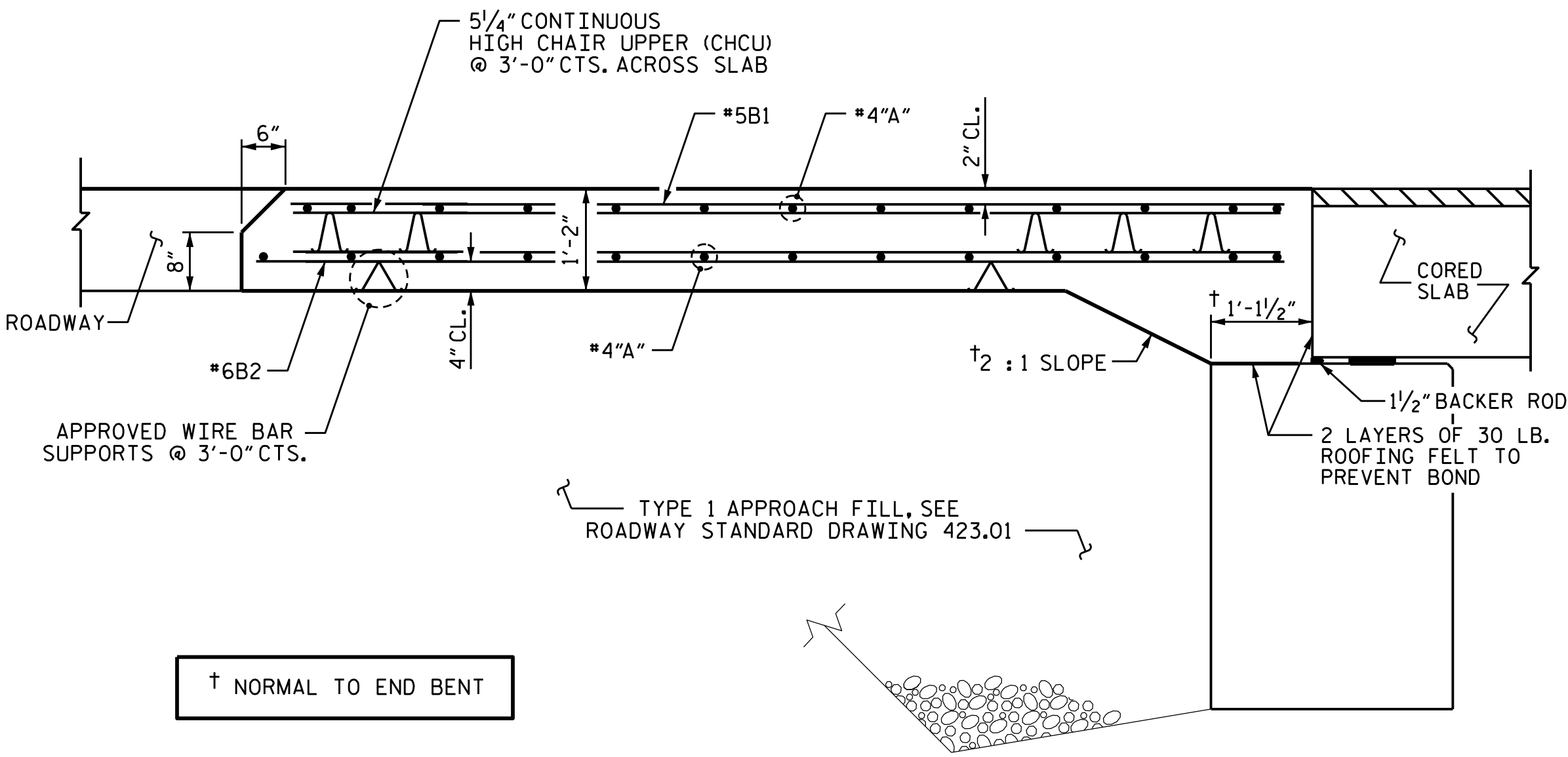
TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



SECTION R-R

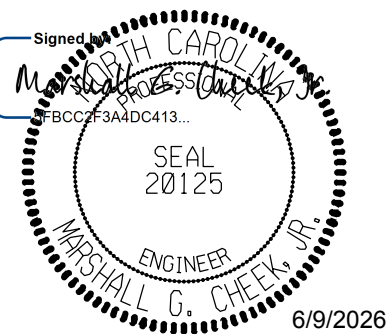
SECTION S-S



SECTION THRU SLAB

PROJECT NO. HB-0054
ASHE COUNTY
STATION: 12+99.93-L-

SHEET 2 OF 2



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BRIDGE APPROACH SLAB
FOR PRESTRESSED CONCRETE
CORED SLAB UNIT
(SUB-REGIONAL TIER)
60° SKEW

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-35
2			4			
TOTAL SHEETS						35

STD. NO. BAS_30_60S

ASSEMBLED BY :	JLA	DATE :	4/25
CHECKED BY :	MGC	DATE :	4/25
DRAWN BY :	SHS/MAA	5-09	REV. 08-19 BNB/THC
CHECKED BY :	BCH	5-09	REV. 01-25 HRS

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 7⁄8" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7⁄8" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7⁄8" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - 7⁄8"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 5⁄16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1⁄16" 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.