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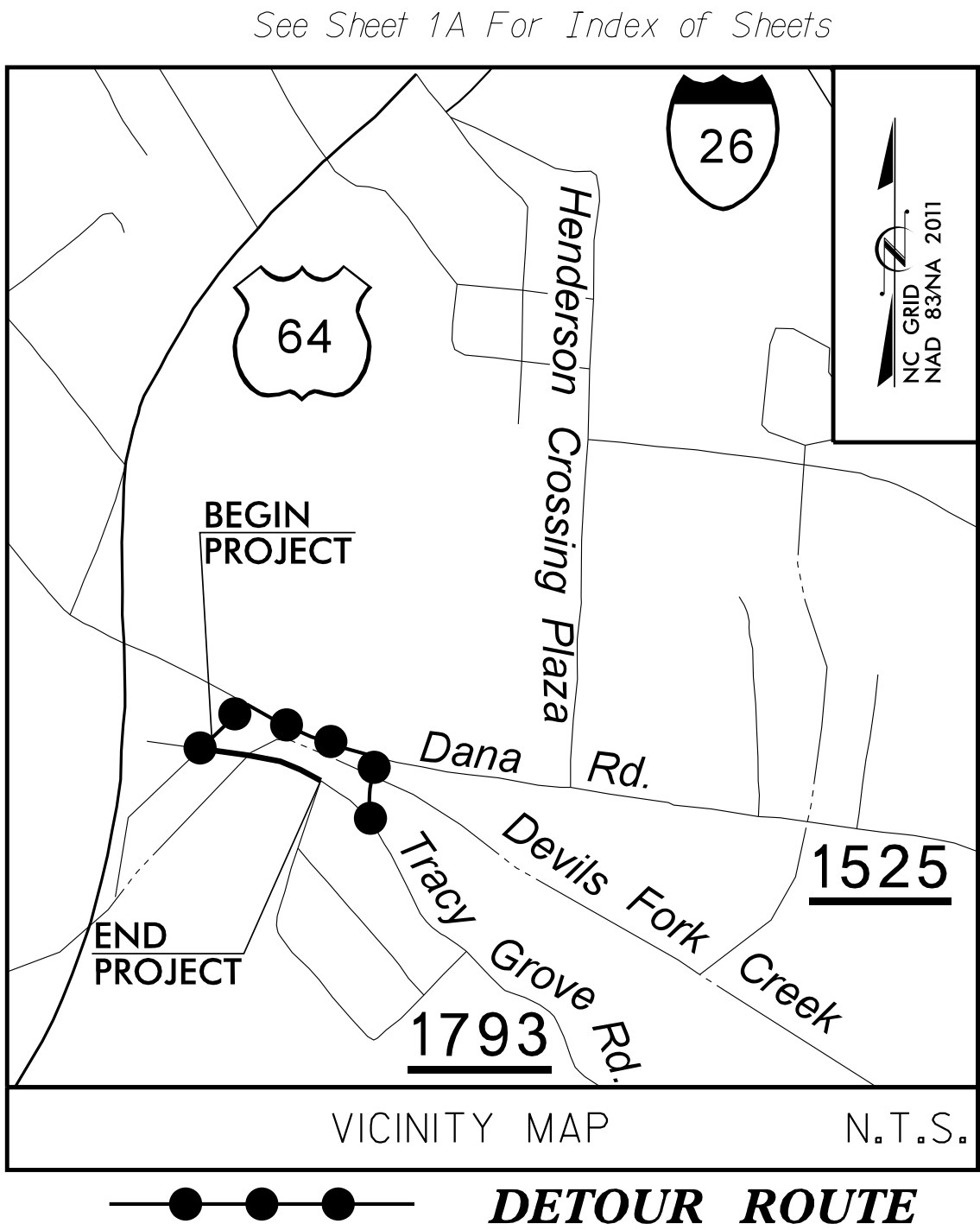
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09/08/2019

TIP PROJECT: B-5929

CONTRACT:DN01162



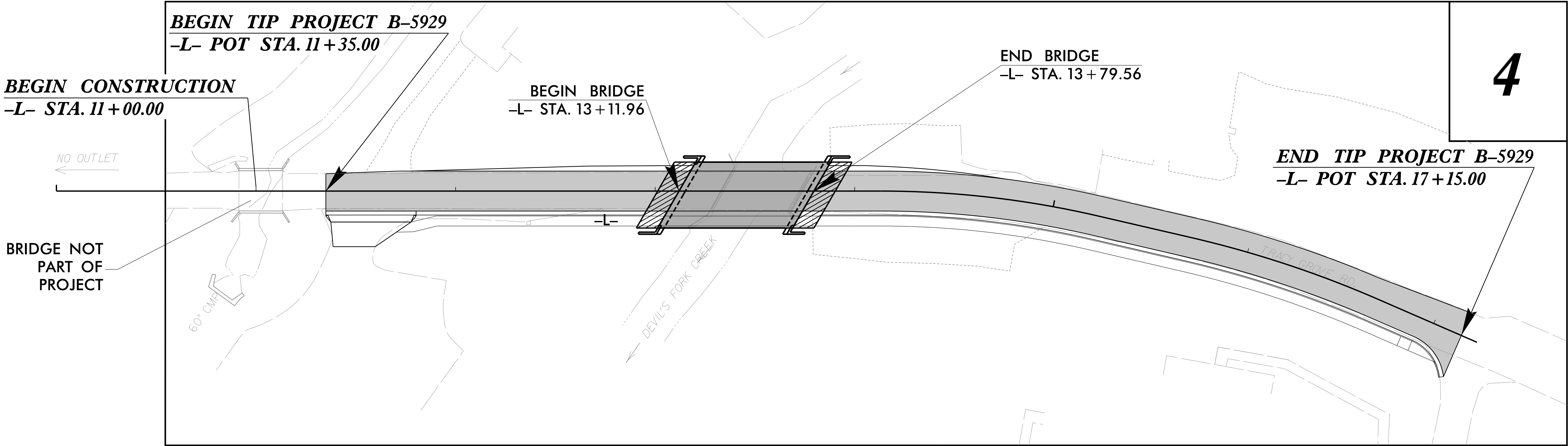
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HENDERSON COUNTY

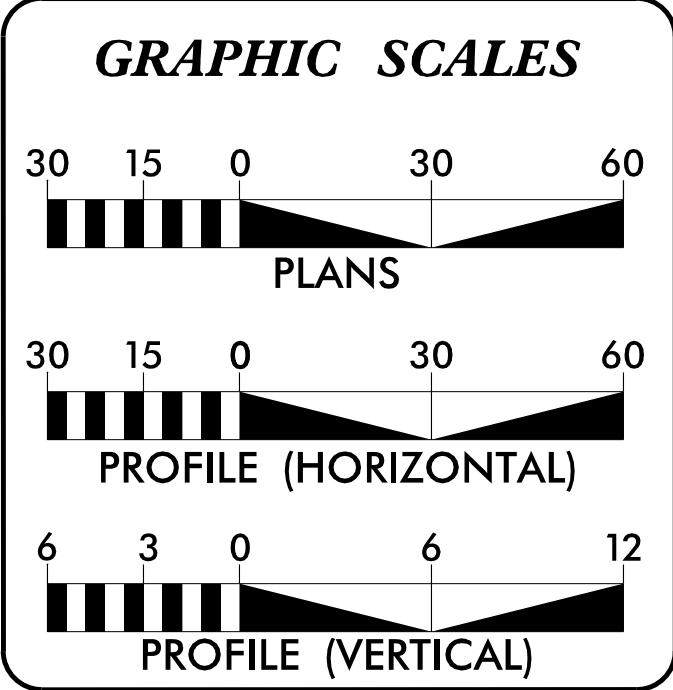
LOCATION: BRIDGE NO. 440350 OVER DEVILS FORK CREEK
ON TRACY GROVE ROAD

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5929	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
50150.1.1	BRSTP-1932(9)	P.E.	
50150.2.1	BRSTP-1932(9)	ROWUTIL.	
50150.3.1	BRSTP-1932(9)	CONST.	



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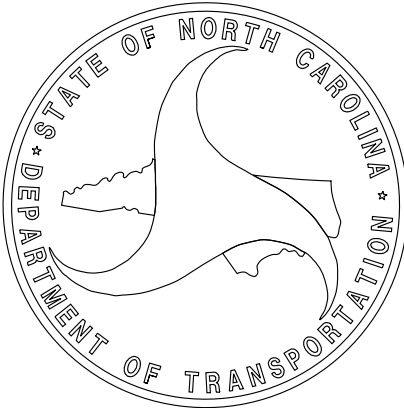
DESIGN DATA
ADT (2026) = 600
ADT (2046) = 1011
T = 7 %
V = 35 MPH
FUNC CLASS=LOCAL RURAL
SUB-REGIONAL TIER

PROJECT LENGTH
LENGTH ROADWAY TIP PROJECT B-5929 = 0.097 MI.
LENGTH STRUCTURE TIP PROJECT B-5929 = 0.013 MI.
TOTAL LENGTH TIP PROJECT B-5929 = 0.11 MI.

 Prepared in the Office of: JOHNSON, MIRMIRAN, & THOMPSON, INC. 108 Asheville Commerce Parkway, Candler NC, 28715	
2024 STANDARD SPECIFICATIONS	HARDY L. WILLIS, P.E., S.E. PROJECT ENGINEER
RIGHT OF WAY DATE: NOVEMBER 1, 2017	REECE M. SCHULER, P.E., P.L.S. PROJECT DESIGN ENGINEER
LETTING DATE: OCTOBER 13, 2026	JARED BOND, P.E. DIVISION 14 PROJECT MANAGER NCDOT CONTACT

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UNLESS ALL SIGNATURES COMPLETED

HYDRAULICS ENGINEER	ROADWAY DESIGN ENGINEER
 DocuSigned by: Bradley S. Thompson SIGNATURE: _____ P.E.	 DocuSigned by: Reece M. Schuler SIGNATURE: _____ P.E.



PROJECT REFERENCE NO.

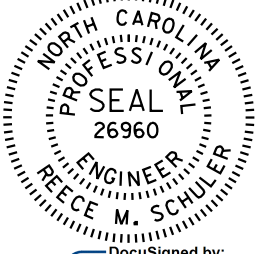
B-5929

SHEET NO.

1A

ROADWAY DESIGN
ENGINEER

8/13/2026 | 10:48:19 AM PDT



Rebecca M. Schuler

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SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1 THRU 2C-2	DETAIL OF METHOD OF PIPE INSTALLATION
2C-3	DETAIL OF CONCRETE SIDEWALK
2C-4 THRU 2C-5	DETAIL OF CURB RAMPS
2C-6 THRU 2C-9	DETAIL OF GUARDRAIL PLACEMENT
2C-10	DETAIL OF GUARDRAIL INSTALLATION
2C-11 THRU 2C-12	DETAIL OF STRUCTURE ANCHOR UNITS
3B-1	ROADWAY SUMMARIES
3D-1	DRAINAGE SUMMARY
3G-1	GEOTECHNICAL SHEET
4	PLAN & PROFILE SHEET
1C-1	SURVEY CONTROL SHEET
TMP-1 THRU TMP-3	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLAN
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAILS
UC-1 THRU UC-4A	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY
X-2 THRU X-7	CROSS-SECTIONS
S-1 THRU S-25	STRUCTURE PLANS
SN	STRUCTURE GENERAL NOTES

GENERAL NOTES:

2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
REVISED:

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

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

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

GUARDRAIL:

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

TEMPORARY SHORING:

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

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

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 DUKE ENERGY, AT&T, OPTIMUM AND HENDERSONVILLE WATER AND SEWER

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

RIGHT OF WAY MARKERS

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

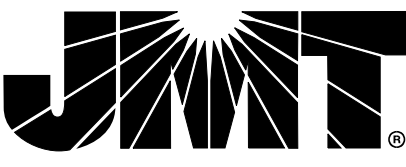
CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.06.

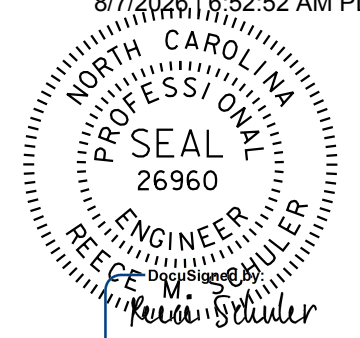
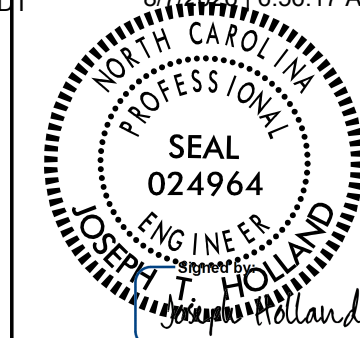
2024 ROADWAY ENGLISH STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - 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
DIVISION 2 - EARTHWORK	
200.02	METHOD OF CLEARING - METHOD 11
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
225.04	METHOD OF OBTAINING SUPERELEVATION - TWO LANE PAVEMENT
DIVISION 3 - PIPE CULVERTS	
300.01	METHOD OF PIPE INSTALLATION (USE DETAIL IN LIEU OF STANDARDS FOR SHEETS 1 AND 2 OF 2)
310.10	DRIVEWAY PIPE CONSTRUCTION
DIVISION 4 - MAJOR STRUCTURES	
423.01	BRIDGE APPROACH FILLS - TYPE I 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
840.01	BRICK CATCH BASIN - 12" THRU 54" PIPE
840.02	CONCRETE CATCH BASIN - 12" THRU 54" PIPE
840.03	FRAME, GRATES AND HOOD - FOR USE ON STANDARD CATCH BASIN
840.18	CONCRETE GRATED DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.25	ANCHORAGE FOR FRAMES - BRICK OR CONCRETE OR PRECAST
840.27	BRICK GRATED DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.29	FRAME WITH TWO GRATES
840.45	PRECAST DRAINAGE STRUCTURE
840.66	DRAINAGE STRUCTURE STEPS
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER
848.01	CONCRETE SIDEWALK (USE DETAIL IN LIEU OF STANDARDS FOR SHEET 1 OF 1)
848.03	DRIVEWAY TURNOUT- DROP CURB TYPE
848.06	CURB RAMP (USE DETAIL IN LIEU OF STANDARDS FOR SHEETS 9 AND 10 OF 13)
862.01	GUARDRAIL PLACEMENT (USE DETAIL IN LIEU OF STANDARDS FOR SHEETS 4, 6, 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)
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS
876.04	DRAINAGE DITCHES WITH CLASS 'B' RIP RAP

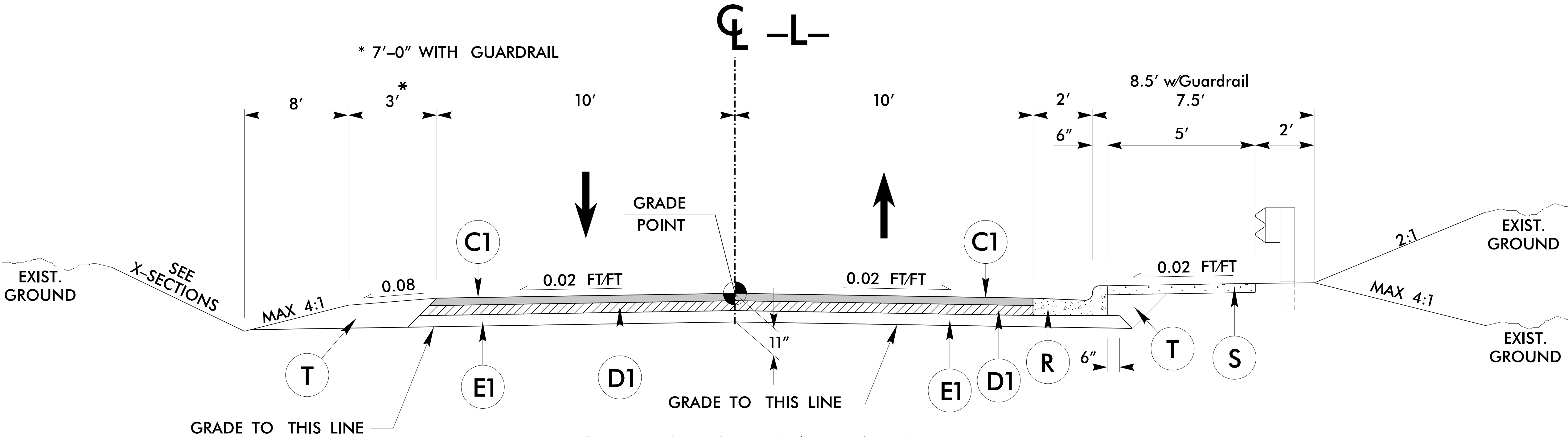


Johnson, Mirmiran, & Thompson Inc.
108 Asheville Commerce Parkway,
Candler, NC, 28715
License No: C-3097

PROJECT REFERENCE NO. <i>B-5929</i>		SHEET NO. <i>2A-1</i>
ROADWAY DESIGN ENGINEER 8/7/2006 16:52:52 AM PDT 	PAVEMENT DESIGN ENGINEER 8/7/2006 16:56:17 AM PDT 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1' OR GREATER THAN 1.5" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
R	2'-6" CONCRETE CURB & GUTTER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL

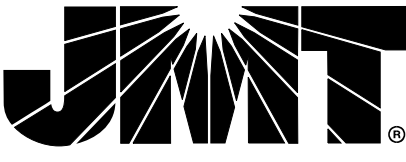
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



TYPICAL SECTION NO. 1

-L- STA. 11+35.00 TO -L- STA. 13+11.96 (BEG. BRIDGE)
-L- STA. 13+79.56 (END BRIDGE) TO -L- STA. 17+15.00

7/22/2006 5:00:52 PM
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JMT



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108 Asheville Commerce Parkway,
Candler, NC, 28715
License No: C-3097

PROJECT REFERENCE NO.

B-5929

SHEET NO.

2A-2

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

8/7/2026 10:52:52 AM PDT

8/7/2026 10:56:17 AM PDT

SEAL 26960

SEAL 024964

KEVIN SCHULER

JOSEPH HOLLAND

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33'-0" (OUT-TO-OUT)

24'-9" (CLEAR ROADWAY)

1'-9"

1'-4 1/2"

2'-9"

10'-0"

10'-0"

2'-0"

5'-1 1/2"

SIDEWALK

GUTTERLINE

GRADE POINT

3 1/2" CONSTANT DEPTH ASPHALT OVERLAY

0.02 FT/FT

0.02 FT/FT

0.02 FT/FT

0.02 FT/FT

C2

C2

OREGON RAIL

3-BAR METAL RAIL

3'-0" (TYP.)

TYPICAL SECTION NO. 2

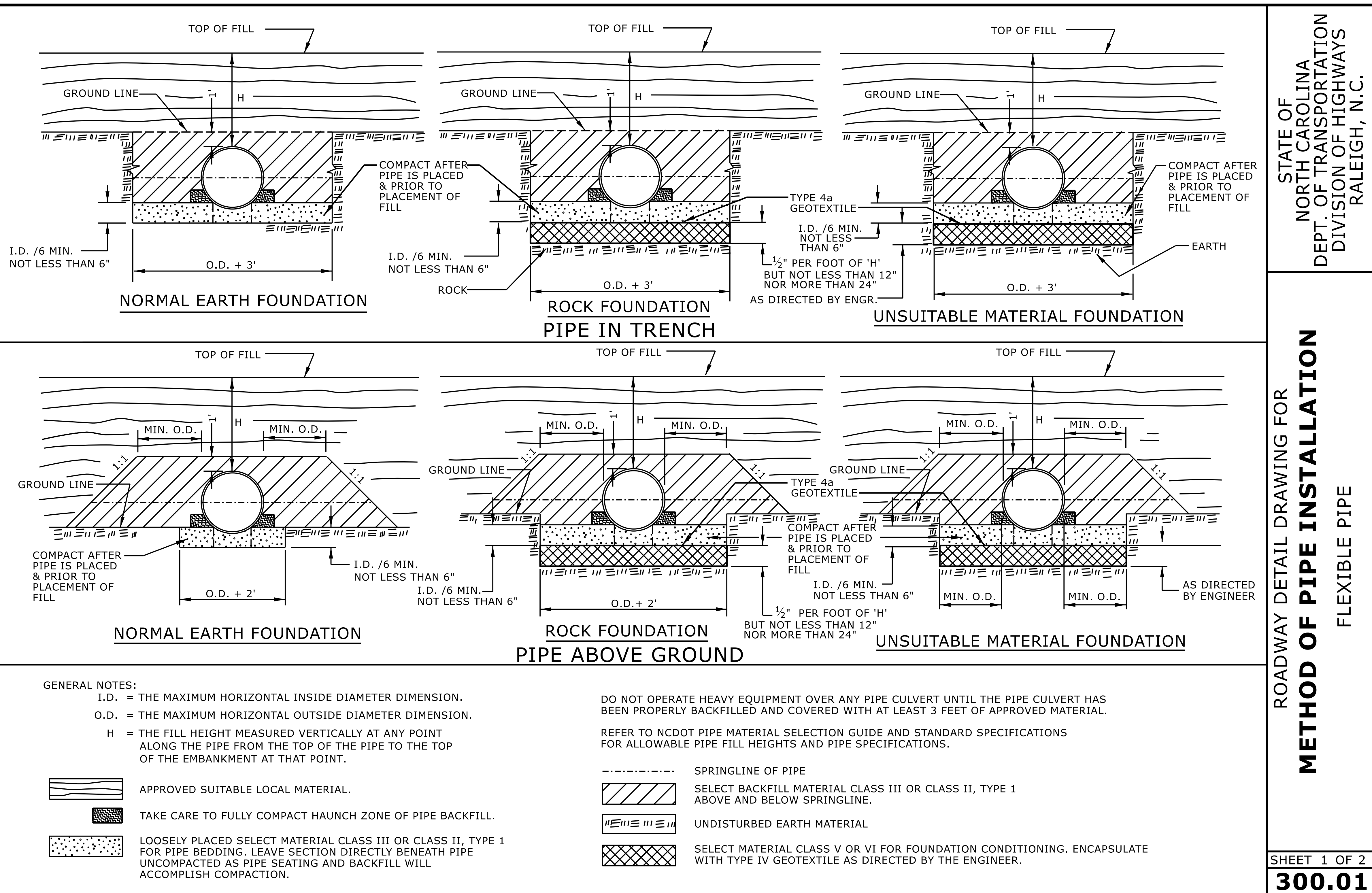
-L- STA. 13+11.96 (BEG. BRIDGE) TO -L- STA. 13+79.56 (END BRIDGE)

NOTE:SEE STRUCTURE PLANS FOR
STRUCTURE CONSTRUCTION DETAILS

PAVEMENT SCHEDULE

C1	3" S9.5B
C2	VAR. DEPTH S9.5B
E1	4" B25.0C
D1	4" I19.0C
R	2' 6" CURB AND GUTTER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL

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JMT



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**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
919-707-6950 FAX 919-250-4

SEE TITLE BLOCK

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 CHECKED BY: _____ DATE: _____
 FILE SPEC.: _____

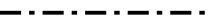


ROADWAY DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION RIGID PIPE

RIGID PIPE

SHEET 2 OF 2

300.01

	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.

8/7/2026 | 6:58:18 AM PDT



Signed by:
Nicole M. Hackler
5884323D34164C5...

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AND DEVELOPMENT UNIT**
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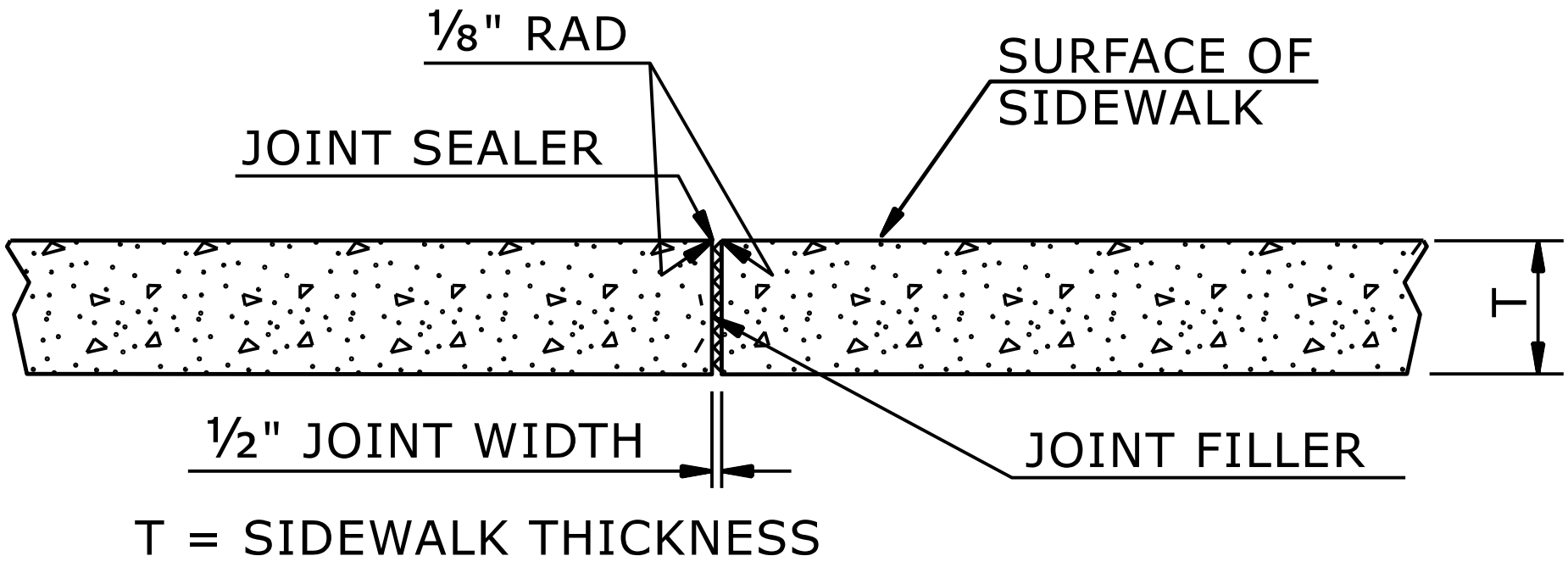
PROJECT REFERENCE NO.	SHEET NO.
B-5929	2C-3

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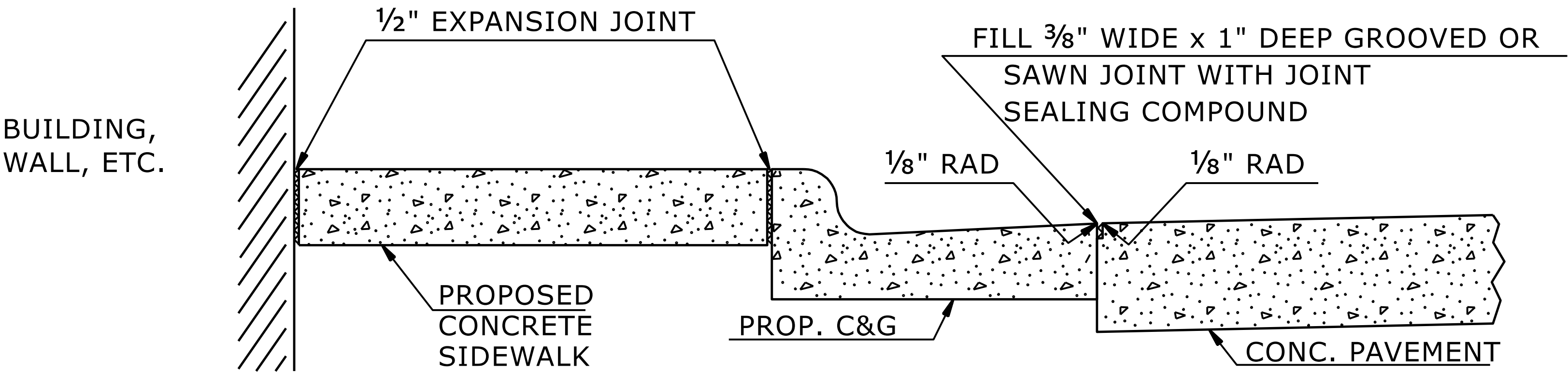
CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.

SEE STD. DWG. 848.06 FOR CURB RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



TRANSVERSE EXPANSION JOINT
IN SIDEWALK



DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

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

ROADWAY DETAIL DRAWING FOR
CONCRETE SIDEWALK

SHEET 1 OF 1
848D01

8/7/2026 | 6:58:18 AM PDT



Signed by:
Nicole M. Hacker
588432034164CS...

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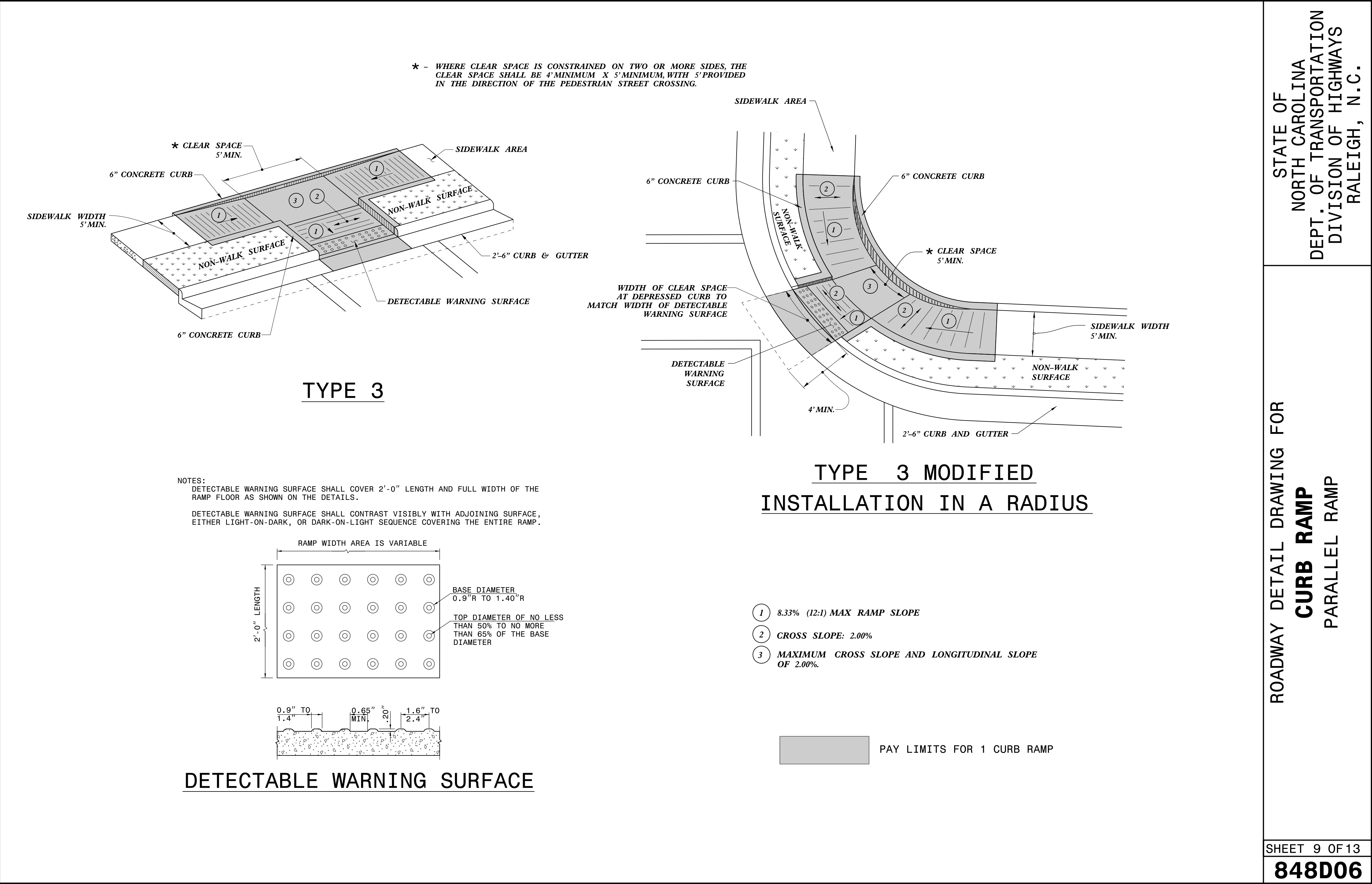
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

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

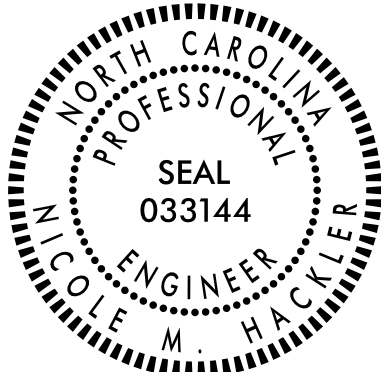
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FILE SPEC.: DATE:

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B-5929	2C-4



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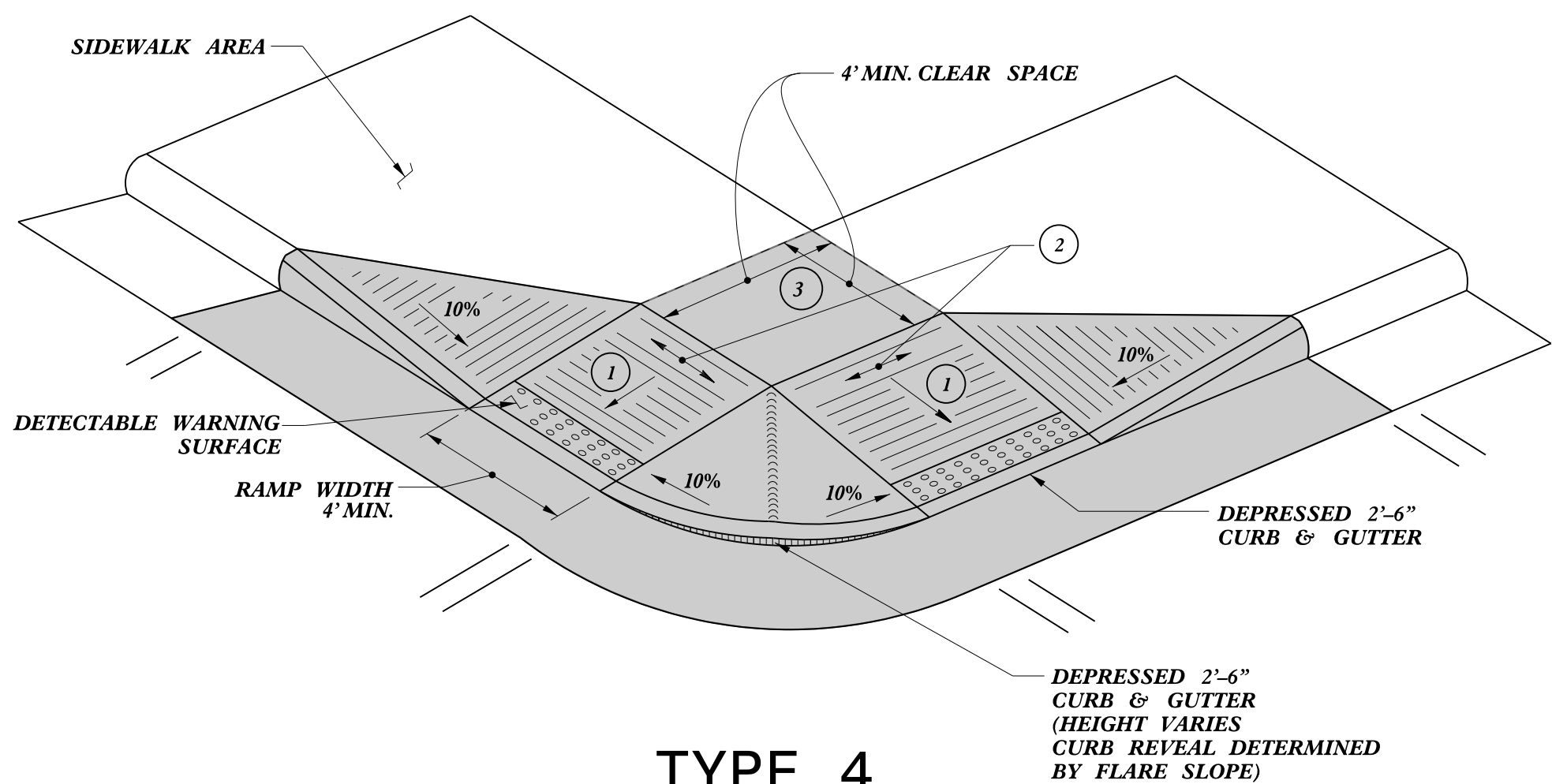
Signed by:
Nicole M. Hickler
5584320334164CS

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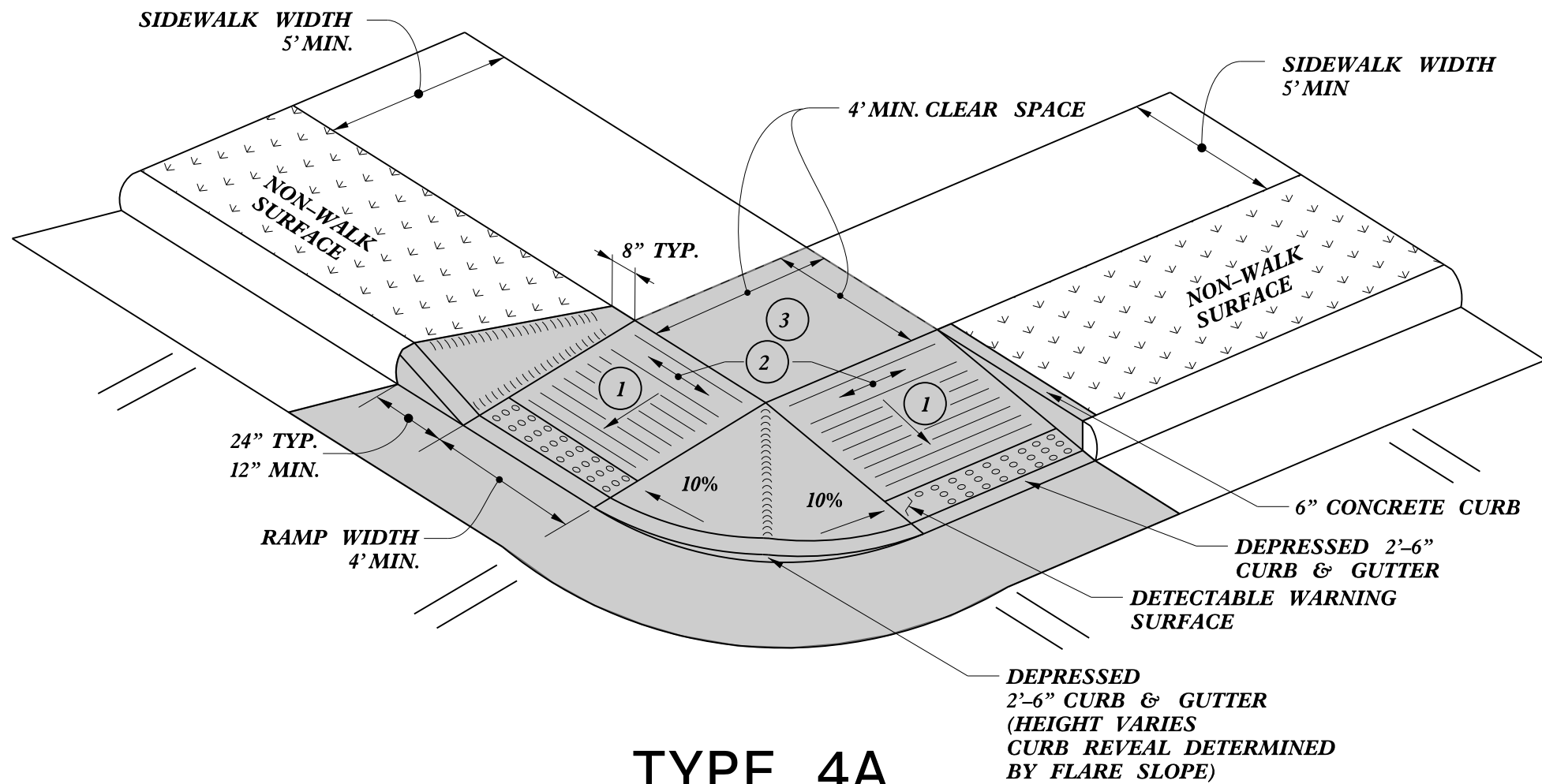
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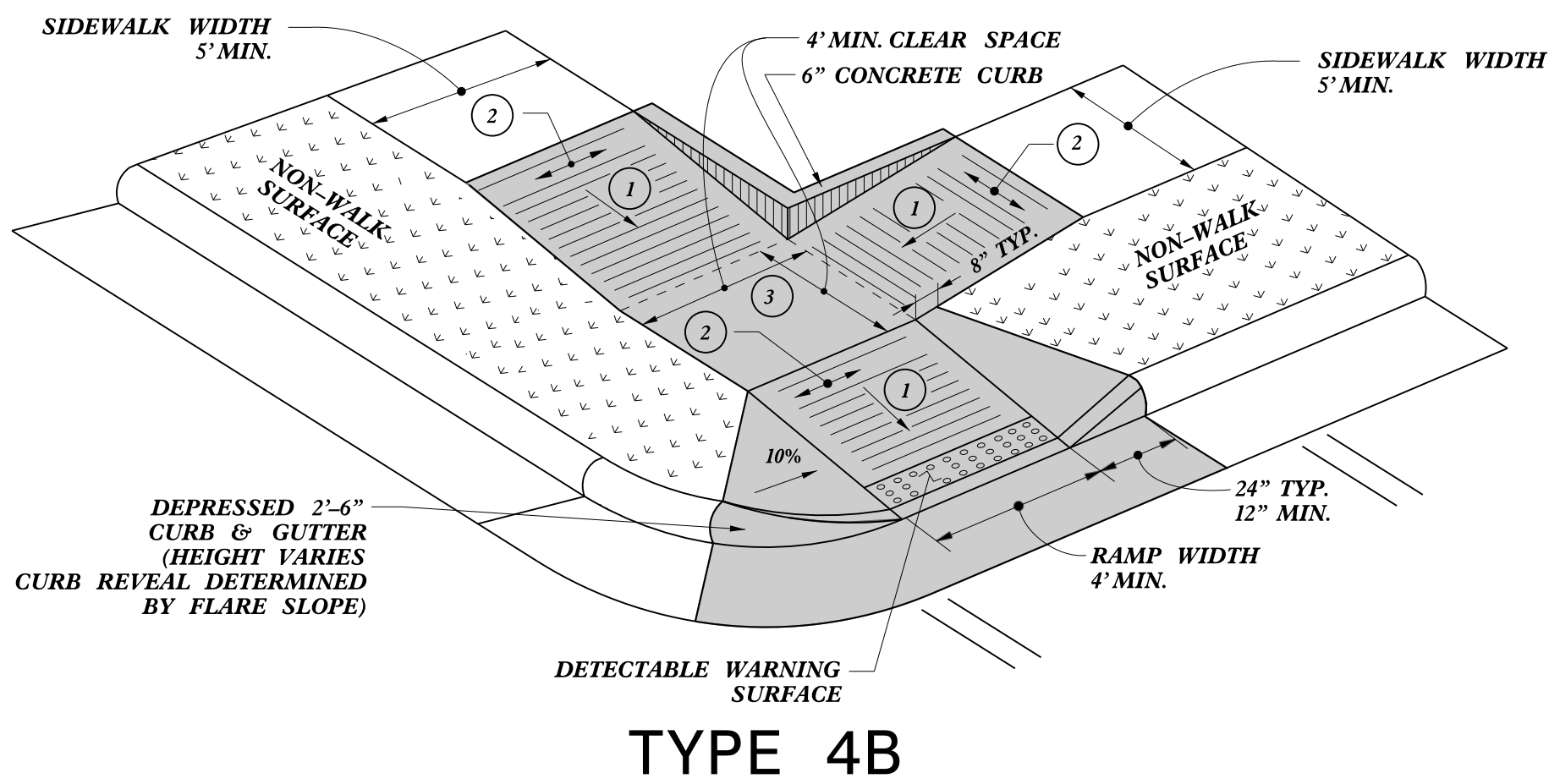
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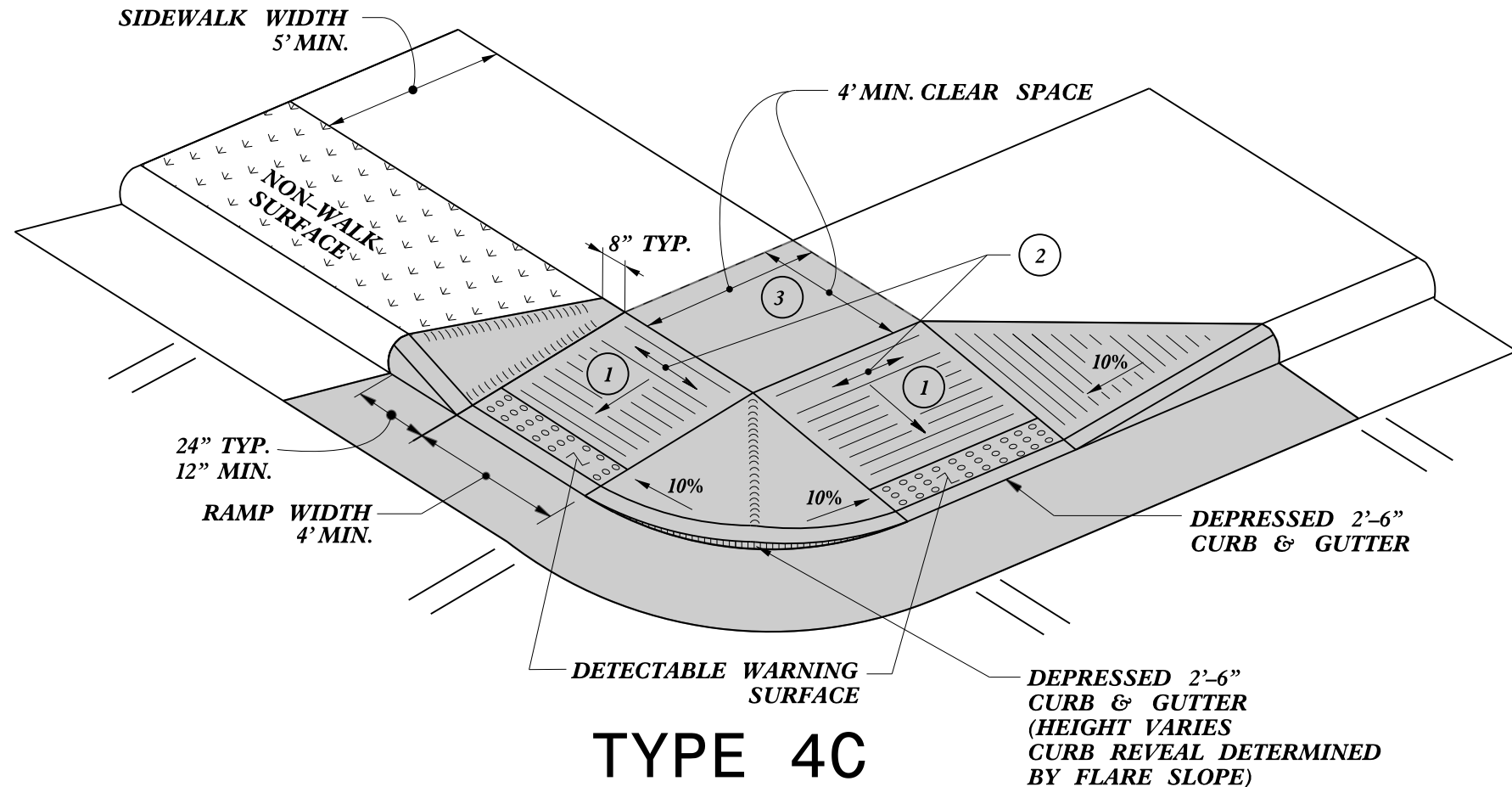
TYPE 4



TYPE 4A

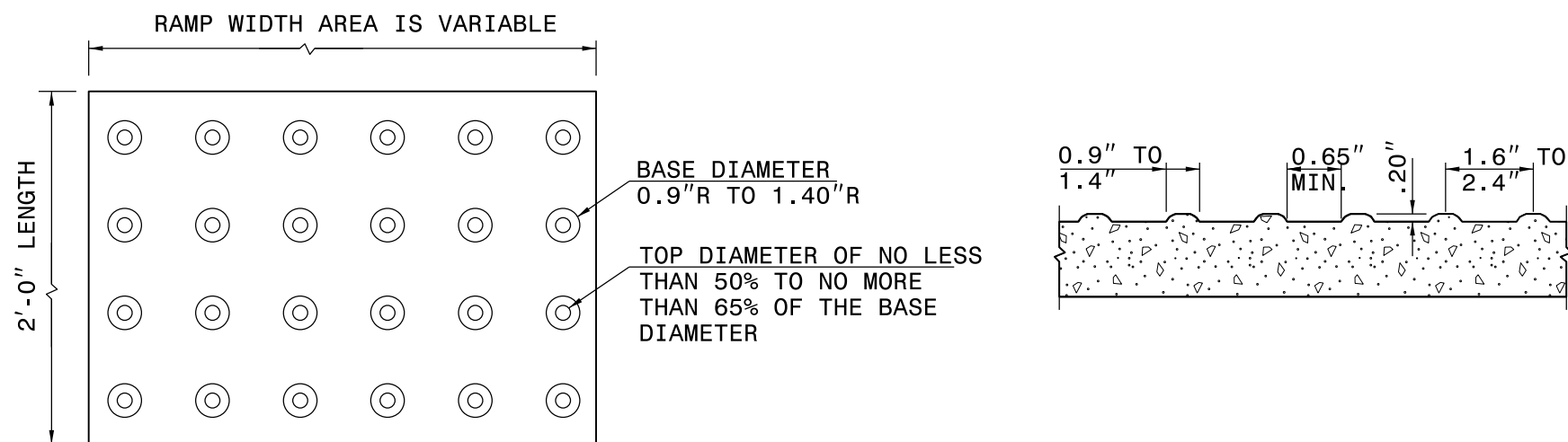


TYPE 4B



TYPE 4C

NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING SURFACE

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%

PAY LIMITS FOR 1 OR 2 CURB RAMPS
(CALCULATE BASED ON NUMBER OF SETS OF DETECTABLE WARNING SURFACES)

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

ROADWAY DETAIL DRAWING FOR
CURB RAMP
SHARED LANDING

SHEET 10 OF 13
848D06

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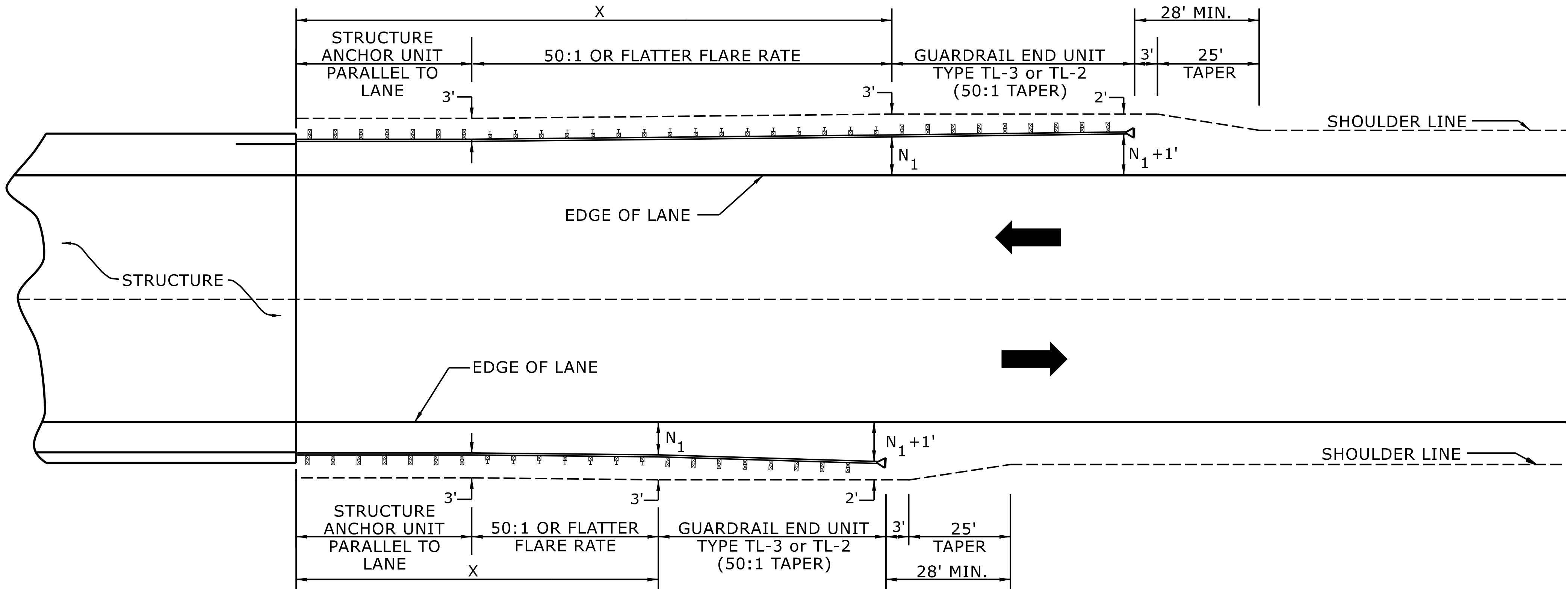
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CONTRACTS STANDARDS
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PROJECT REFERENCE NO.	SHEET NO.
B-5929	2C-6



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

SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

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

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

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

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 4 OF 15

862D01



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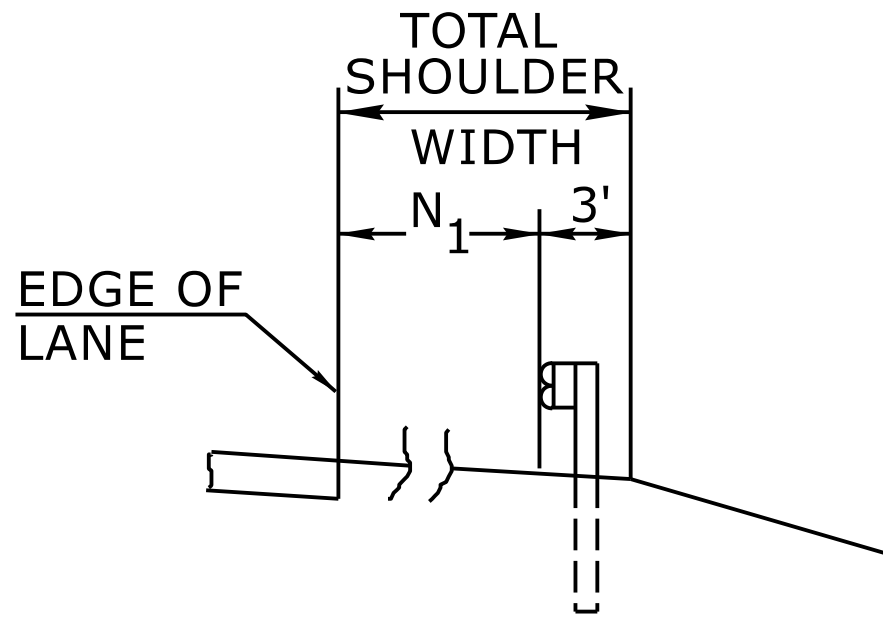
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

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

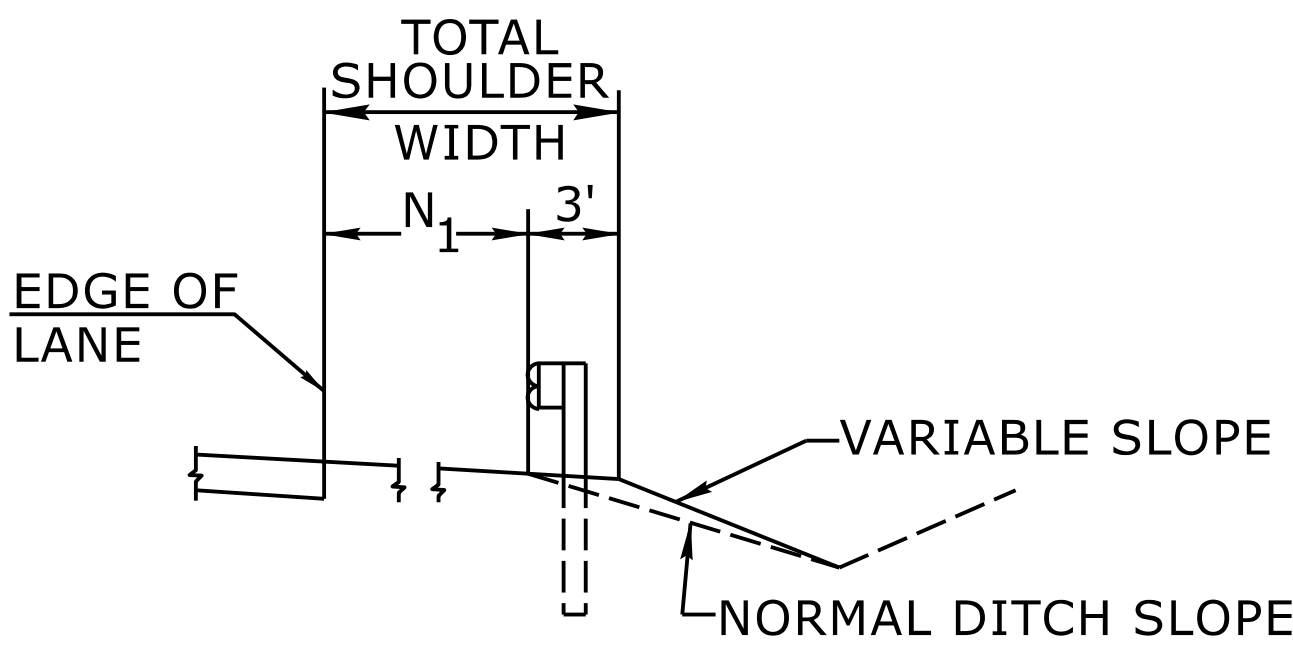
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FILE SPEC.:

PROJECT REFERENCE NO.	SHEET NO.
B-5929	2C-7

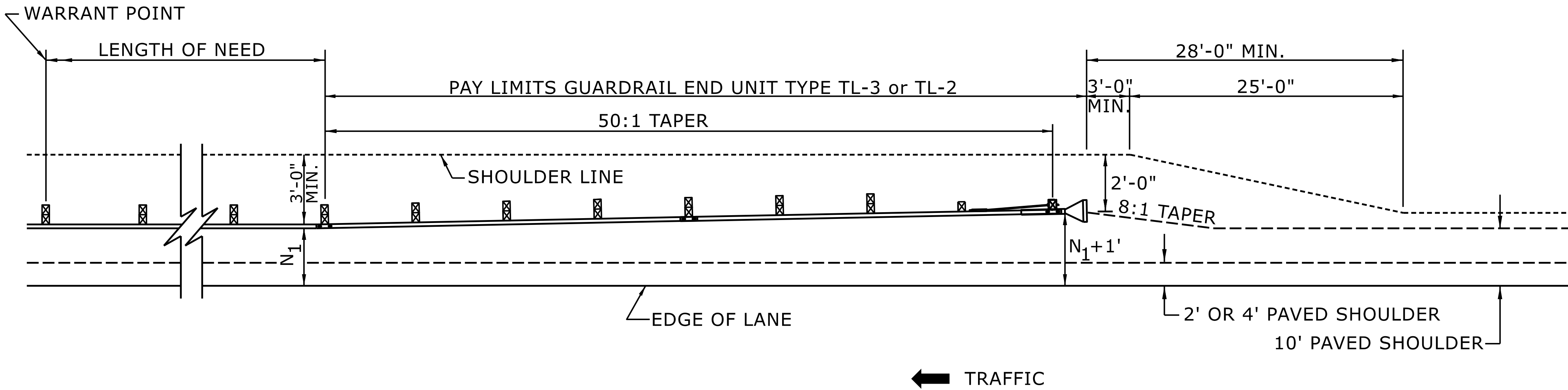


FILL SECTION



CUT SECTION

"N₁"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.



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

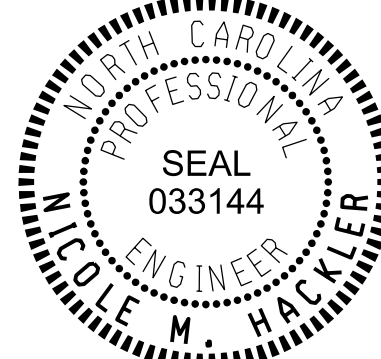
DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 6 OF 15
862D01

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

8/7/2026 | 6:58:18 AM PDT



Signed by:
Nicole M. Hackler
588432034164CS...

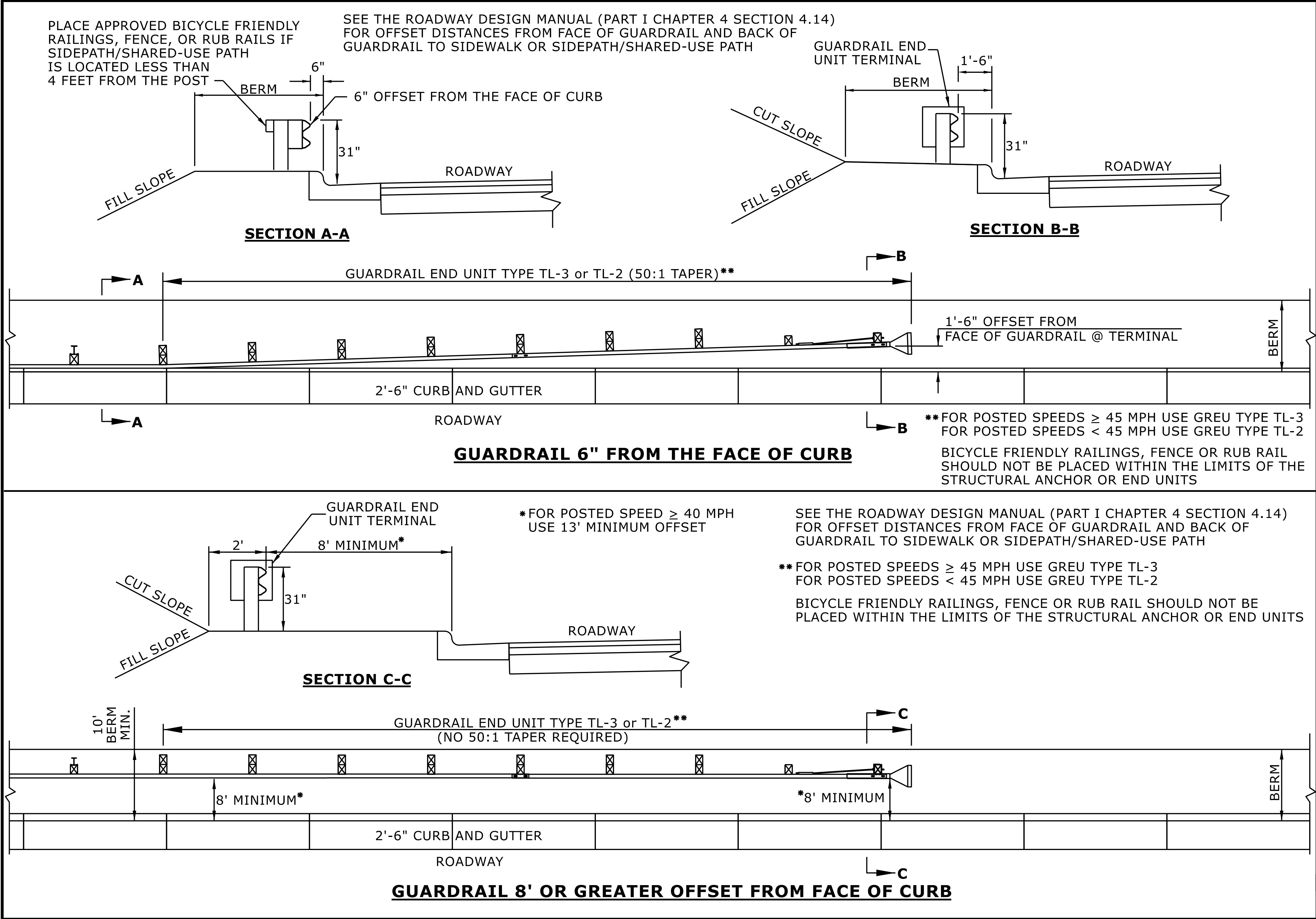
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

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

SEE TITLE BLOCK

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



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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT
GUARDRAIL TREATMENT AT CURB AND GUTTER

SHEET 12 OF 15
862D01

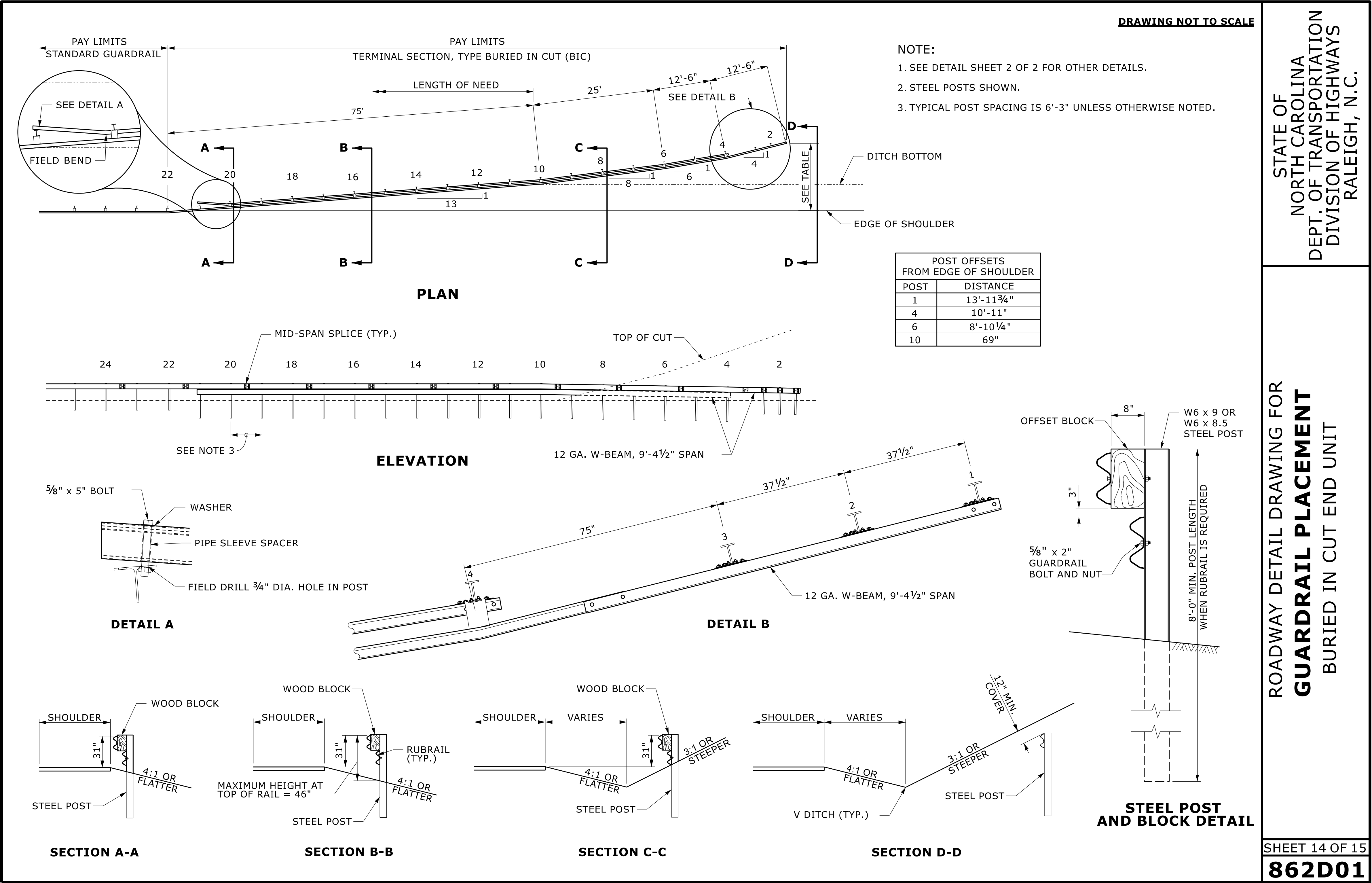


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

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



8/7/2026 | 6:58:18 AM PDT



Signed by:
Nicole M. Hackler
588432034164C5

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**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

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

SEE TITLE BLOCK

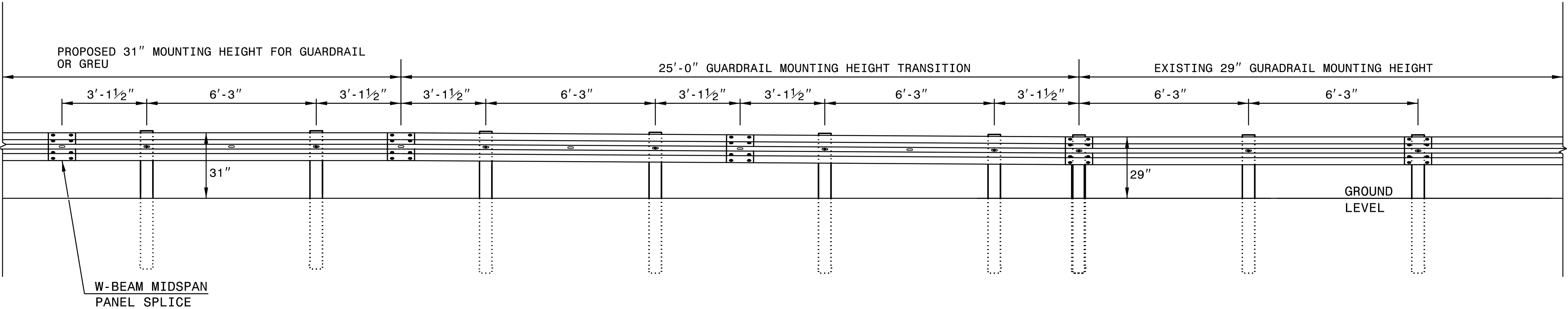
ORIGINAL BY: S.CALHOUN	DATE: 7-25-2024
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	

PROJECT REFERENCE NO.	SHEET NO.
B-5929	2C-10

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

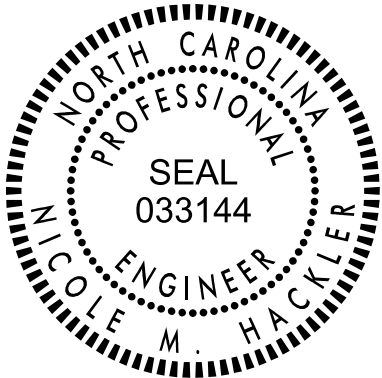
SHEET 5 OF 9
862D02



ELEVATION VIEW

TRANSITION FROM 29" TO 31" W-BEAM GUARDRAIL MOUNTING HEIGHT

8/7/2026 | 6:58:18 AM PDT



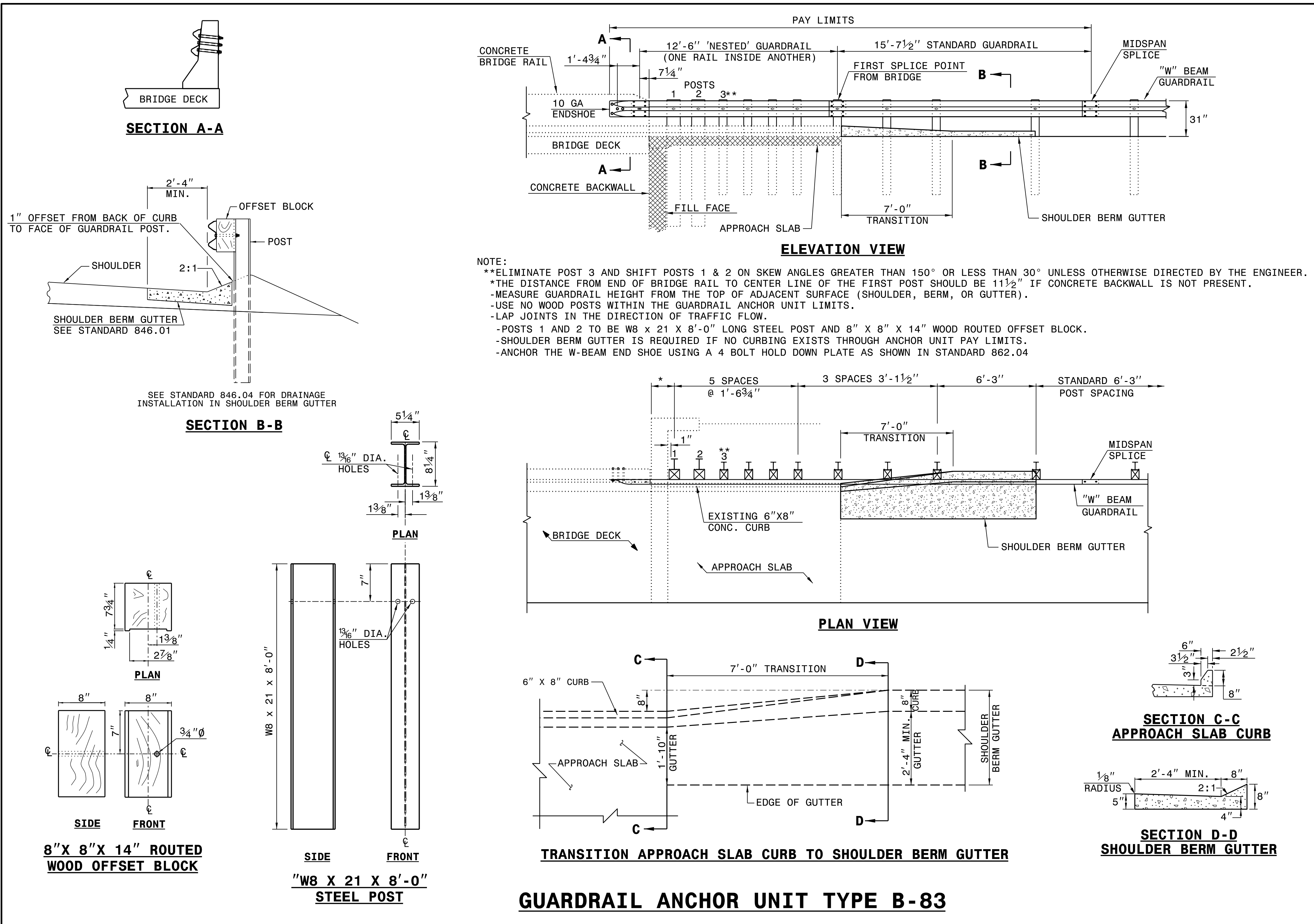
Signed by:
Nicole M. Hackler
5884323D34164C5

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: K. Aldridge DATE: 02-25
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

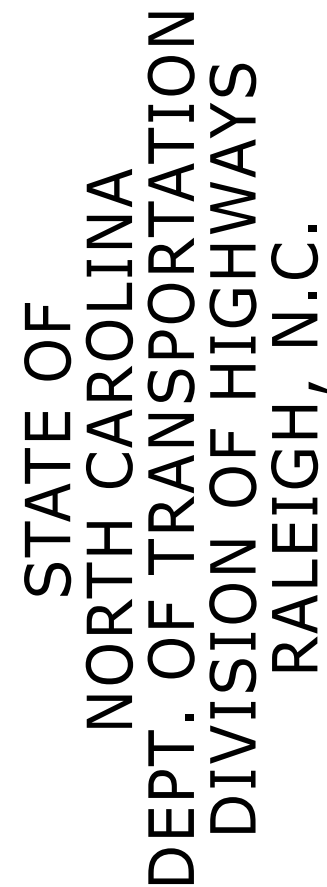


**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

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

SEE TITLE BLOCK

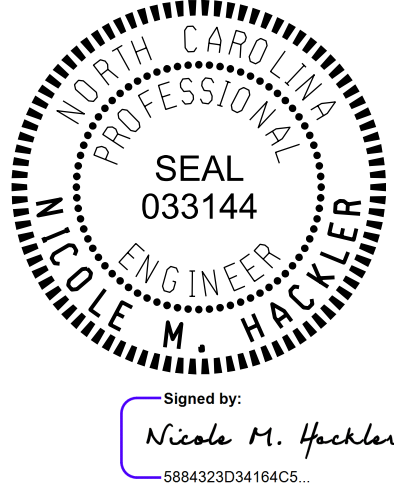
ORIGINAL BY:	K. Aldridge	DATE:	06-02-2025
MODIFIED BY:		DATE:	
CHECKED BY:		DATE:	
FILE SPEC.:			



ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS TEMPORARY ANCHOR UNIT TYPE THRIE-BEAM

SHEET 8 OF 9
862D03

8/7/2026 | 6:58:18 AM PDT



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

CONTRACTS STANDARDS AND DEVELOPMENT UNIT

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

SEE TITLE BLOCK

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

12/06/07

COMPUTED BY: KTB	DATE: 09/10/2025
CHECKED BY: JCL	DATE: 09/17/2025

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-5929	3B-1
 Johnson, Mirmiran, & Thompson Inc. 108 Asheville Commerce Parkway, Candler, NC, 28715 License No: C-3097	

SUMMARY OF QUANTITIES

SUMMARY OF EARTHWORK

LOCATION	UNCLASSIFIED EXCAVATION	EMBT + %	BORROW	WASTE
-L- 11+35.00 TO 13+11.96 (BEG. BRIDGE)	178	35	0	143
SUBTOTAL	178	35	0	143
-L- 13+79.56 (END BRIDGE) TO 17+15.00	267	24	0	243
SUBTOTAL	267	24	0	243
TOTAL	445	59	0	386
MATERIAL FOR SHOULDER CONSTRUCTION				
LOSS DUE TO CLEARING & GRUBBING				
ADDITIONAL UNDERCUT				
ROCK WASTE TO REPLACE BORROW				
ADJUST FOR ROCK WASTE				
WASTE IN LIEU OF BORROW				
PROJECT TOTAL	445	59	0	386
GRAND TOTAL	445		0	386
SAY	450			

CONTINGENCY ITEMS:
UNDERCUT EXCAVATION = 225 CY
SELECT GRANULAR MATERIAL = 200 CY
GEOTEXTILE FOR SOIL STABILIZATION = 200 SY
SHALLOW UNDERCUT EXCAV = 50 CY
CL IV SUBGRADE STABILIZATION = 100 TONS
GEOTEXTILE FOR SUBGRADE STABILIZATION=150 SY

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

Earthwork quantities are calculated by JMT Engineering. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

DRAINAGE DITCH EXCAVATION SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	CU YD
-L-	13+38	13+95	RT	25
			TOTAL:	25
			SAY:	25

2'-6" CURB & GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LOCATION	LENGTH
-L-	11+80.00	12+94.00	RT	114'
-L-	13+83.00	17+15.00	RT	332'
			TOTAL:	446'
			SAY:	450'

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	SY
-L-	11+35	13+33	CL	332.02
-L-	13+74	17+15	CL	763.64
			TOTAL:	1,095.66
			SAY:	1,100

4" CONCRETE SIDEWALK

SURVEY LINE	STATION	STATION	LOCATION	LENGTH	WIDTH	SY
-L-	11+71.87	12+94.04	RT	122.17	5	67.87
-L-	13+80.16	16+93.50	RT	313.34	5	170.5
					TOTAL:	238.34
					SAY:	240

6" CONCRETE DRIVEWAY

SURVEY LINE	STATION	LOCATION	WIDTH	SY
-L-	11+56	RT	40	24.306
-L-	11+56	Area behind 40' driveway		42.000
			TOTAL:	66.306
			SAY:	70

GUARDRAIL SUMMARY

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350			SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GREU TL-2	M-350	XIII	CAT-1	AT-1	VI MOD	III	PERMITTED							
																								NO.	G	NG					
-L-	12 + 47.89	13 + 01.86	RT	56.25'				13 + 01.86	7.5'	8.5'	25'		0.5'					1					1								
-L-	13 + 86.92	14 + 22.28	LT	18.75'	19.25'			13 + 86.92		3'	VAR.		25'	0.5'							1		1								
-L-	12 + 63.10	13 + 19.35	LT	56.25'				12 + 63.10		7.5'	8.5'	25'		0.5'				1					1								
-L-	13 + 69.46	14 + 30.25	RT	56.25'					7.5'	8.5'		25'	0.5'					1					1								
SUBTOTALS				187.50'	19.25'													3				1		4							
	LESS ANCHOR DEDUCTIONS																														
		GREU TL-2 3@25' =		-75.00'																											
		AT-1 1@6.75' =			-6.75'																										
		TYPE III 4@18.75' =		-75.00'																											
			TOTAL	37.5'	12.5'													3				1		4							
			SAY	75.0'	25'			ADDITIONAL GUARDRAIL POSTS	5 EA									3				1		4							

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COMPUTED BY: BSR DATE: 3/19/17
CHECKED BY: RMS DATE: 3/21/17

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-5929	3D-1

SUB-REGIONAL
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

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

[illegible]

COMPUTED BY: DC ELLIOTT, PG DATE: 02/13/2026
CHECKED BY: SC CLARK, PE DATE: 02/16/2026

(9-17-24)

PROJECT NO.
B-5929 50150.1.1

SHEET NO.
3G-1

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	100
				TOTAL LF:	100

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

SUMMARY OF GEOTEXTILE
FOR SUBGRADE STABILIZATION

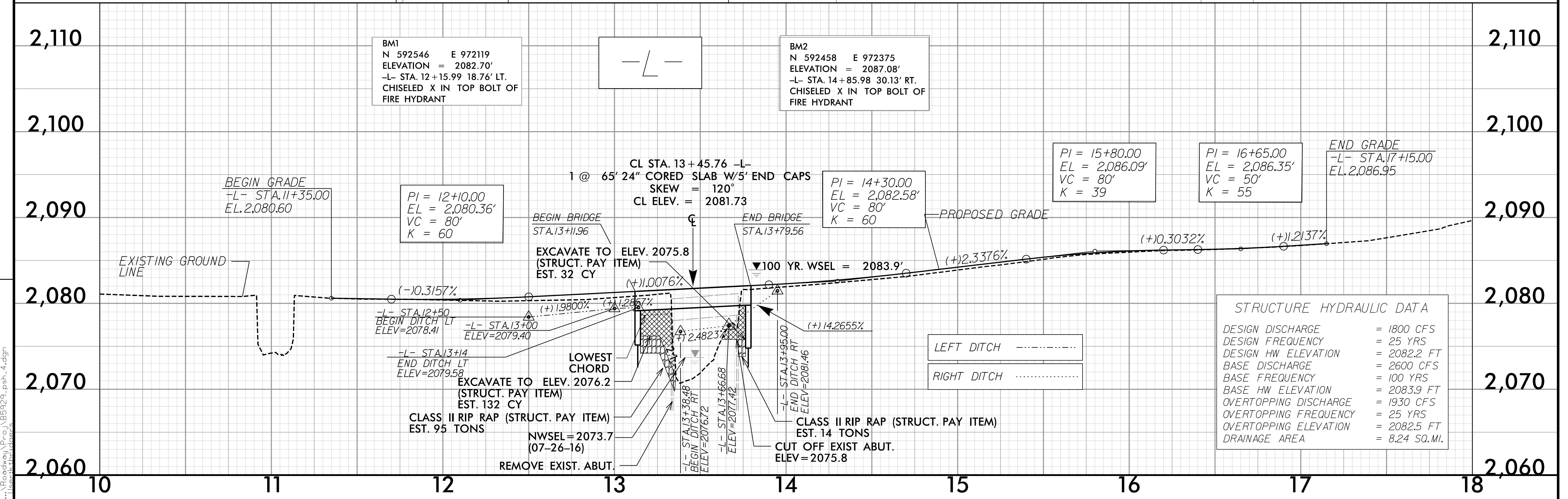
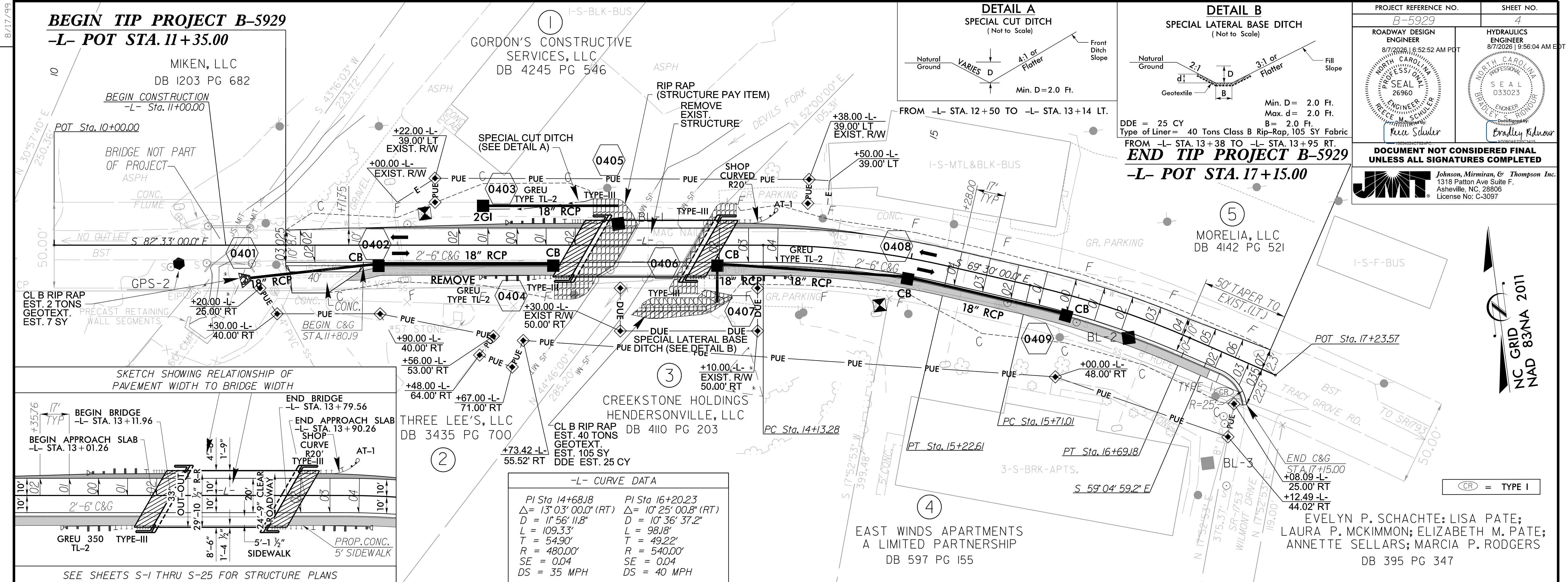
LINE	Station	Station	Geotextile for Subgrade Stabilization SY
CONTINGENCY			
		TOTAL SY:	0*

*Total square yards of "Geotextile for Subgrade Stabilization" is only the estimated quantity for subgrades and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.

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			ASU-1		50	100	150		
			TOTAL CY/TONS/SY:		50	100**	150**	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.



6/2/99

13-AUG-2026 09:40 C:\Users\jg\OneDrive\Documents\LS-346121\LS-346121.dgn

SURVEY CONTROL SHEET 44-0350

-FINAL-

PROJECT REFERENCE NO.	SHEET NO.
B-5929	1C-1
Location and Surveys	

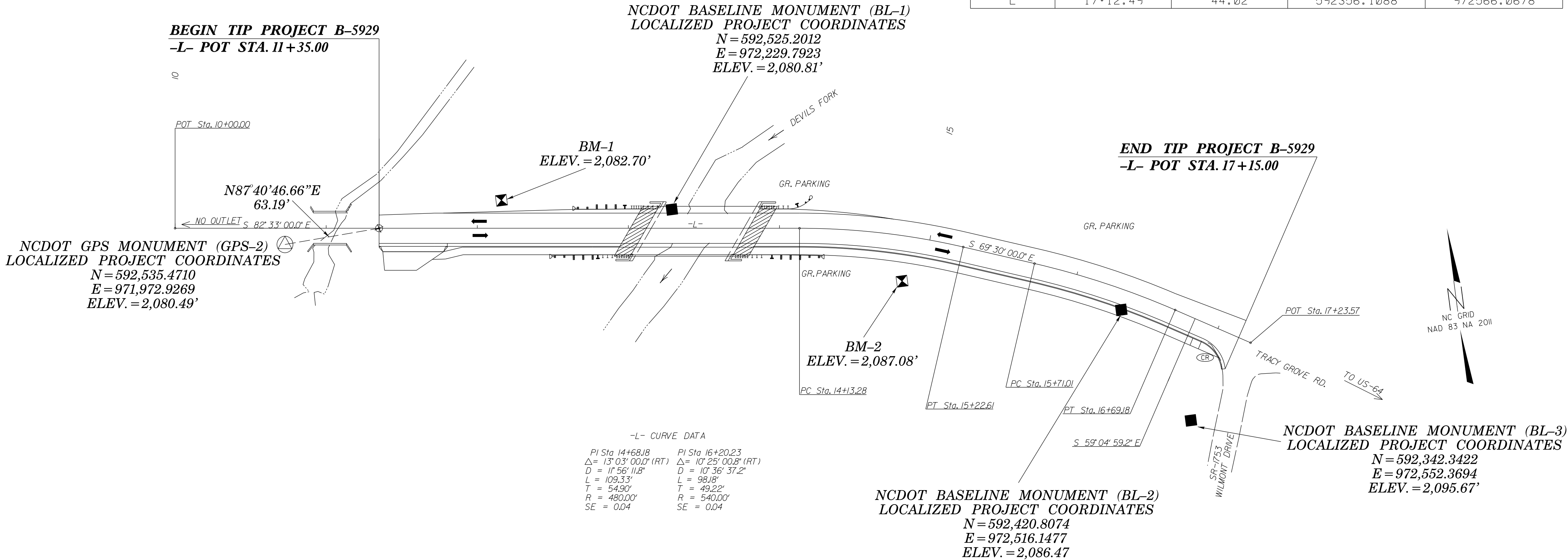
BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1		592525.2012	972229.7923	2080.81	13+28.75	12.40 LT
2	BL-2		592420.8074	972516.1477	2086.47	16+35.58	13.14 RT
3	BL-3		592342.3422	972552.3694	2095.67	17+07.81	62.87 RT

BMT1 ELEVATION = 2082.70'
N 592546.13 E 972118.80
L STATION 12+15.99 18.76 LT.
CHISELED X IN TOP BOLT OF FIRE HYDRANT

BMT2 ELEVATION = 2087.08'
N 592458.16 E 972374.72
L STATION 14+85.98 30.13 RT.
CHISELED X IN TOP BOLT OF FIRE HYDRANT

-FINAL- ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	11+20.00	25.00	592515.1855	972017.9532
L	11+30.00	40.00	592499.0155	972025.9239
L	11+90.00	40.00	592491.2358	972085.4174
L	12+22.00	-25.00	592551.5380	972125.5752
L	12+22.00	-39.00	592565.4198	972127.3904
L	12+48.00	64.00	592459.9181	972139.8159
L	12+56.00	53.00	592469.7880	972149.1746
L	12+67.00	71.00	592450.5136	972157.7479
L	12+73.42	55.52	592465.0270	972166.1193
L	13+30.00	25.00	592487.9567	972226.1804
L	13+30.00	50.00	592463.1677	972222.9389
L	14+10.00	50.00	592452.7948	972302.2636
L	14+10.00	25.00	592477.5838	972305.5051
L	14+38.00	-25.01	592522.7132	972340.9323
L	14+38.00	-39.00	592536.4718	972343.4577
L	16+00.00	48.00	592403.7811	972470.8684
L	17+08.09	25.00	592374.6869	972572.0617
L	17+12.49	44.02	592356.1088	972566.0678



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS-2" WITH NAD 83/NSRS 2011 STATE PLANE GRID COORDINATES OF NORTHING: 592535.4710(+) EASTING: 971972.9269(+) ELEVATION: 2080.49(+) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .99977834114 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-2" TO -L- STATION 11+35.00 IS N 87°40'46.66" E 63.19' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

-L- FINAL			
TYPE	STATION	NORTH	EAST
POT	10+00.00	592555.5337	971902.2077
PC	14+13.28	592501.9476	972311.9980
PT	15+22.61	592475.6022	972417.8603
PC	15+71.01	592458.6525	972463.1943
PT	16+69.18	592416.1229	972551.5311
PC	17+23.57	592388.1762	972598.1953
POT	18+18.11	592337.9680	972678.2831

GEOID MODEL - G12NC
NOTE: DRAWING NOT TO SCALE

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)

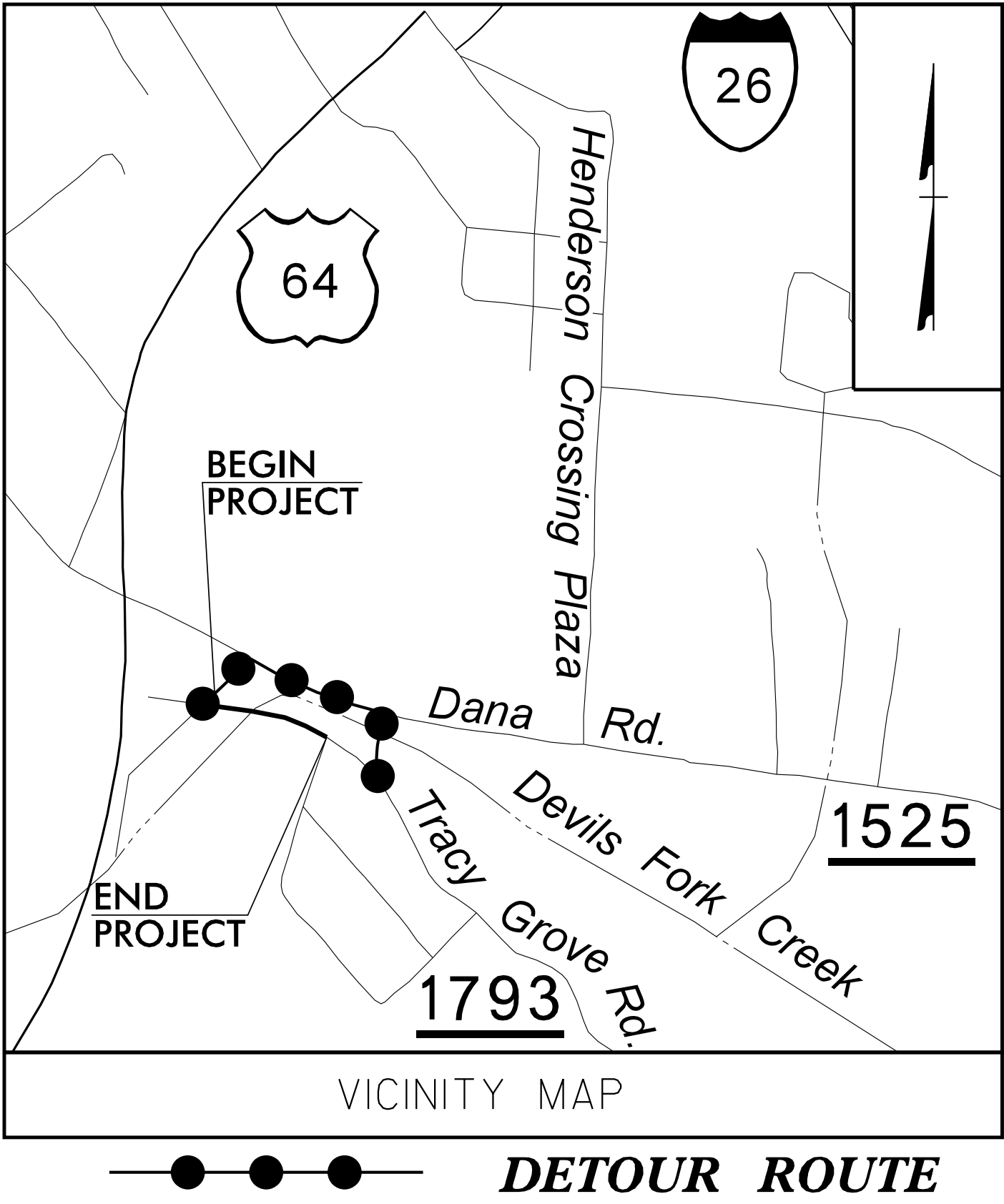
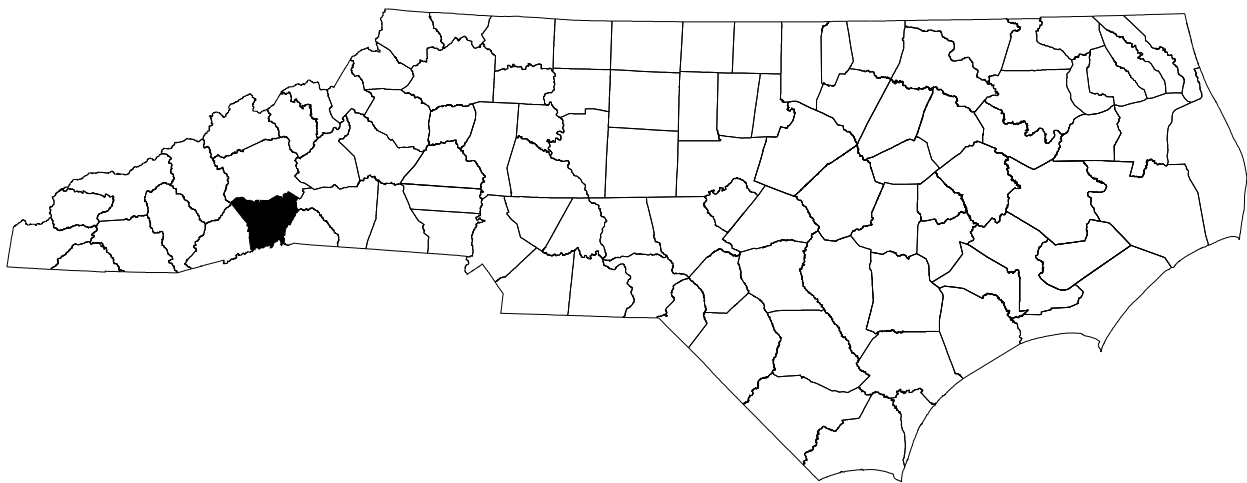
THE FILES TO BE FOUND ARE AS FOLLOWS:
440350_LS_CONTROL.TXT

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER CONTROL INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

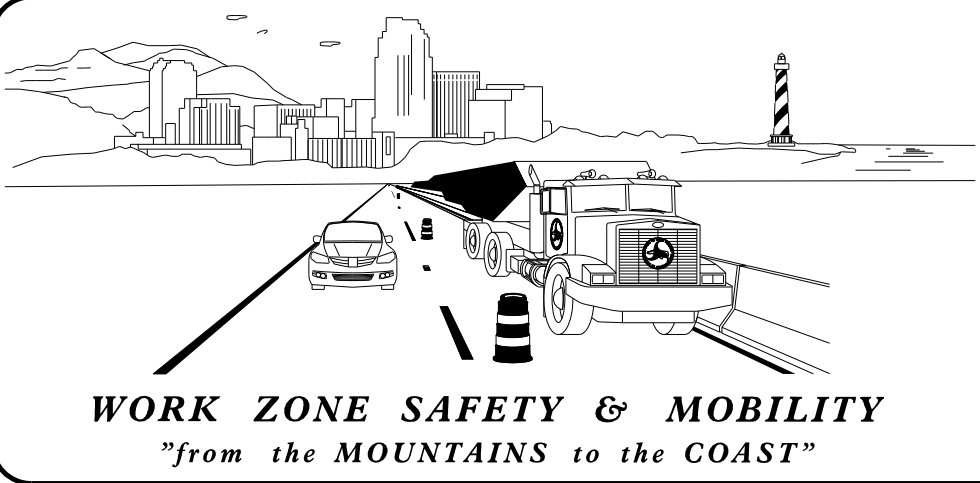
⊕ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN
HENDERSON COUNTY

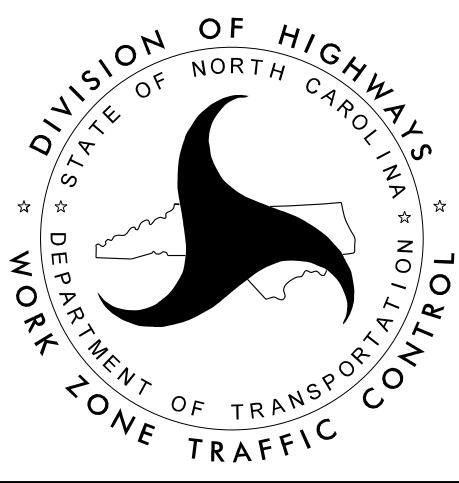


LOCATION: BRIDGE NO. 440350 OVER DEVILS FORK CREEK
ON TRACY GROVE ROAD



PLANS PREPARED BY:
COLTON M. RIDDLE, PE
PROJECT ENGINEER
DANE FREDDE
PROJECT DESIGN ENGINEER

NCDOT CONTACTS:
JARED BOND, P.E.
NCDOT PROJECT MANAGER

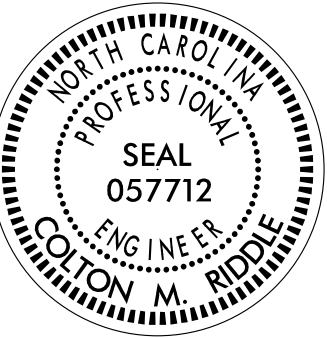


JOHNSON, MIRMIRAN, & THOMPSON, INC.
108 Asheville Commerce Parkway,
Candler NC, 28715
License No. C-3097

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UNLESS ALL SIGNATURES COMPLETED

APPROVED: 
DATE: 8/13/2026

SEAL



SHEET NO.
TMP-1
TIP PROJECT: B-5929 CONTRACT: DN01162

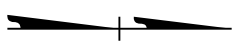
ROADWAY STANDARD DRAWINGS

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
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS

LEGEND

GENERAL

 NORTH ARROW

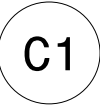
TRAFFIC CONTROL DEVICES

 BARRICADE (TYPE III)

TEMPORARY SIGNING

 STATIONARY SIGN

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
	WHITE EDGETYPE (4", TAPE)
	YELLOW DOUBLE CENTER (4", TAPE)
	WHITE STOPBAR (24", TAPE)

PHASING NOTES

- STEP 1: - ERECT WORK ZONE ADVANCED WARNING SIGNS USING ROADWAY STANDARD DRAWING NO. (RSD) 1101.01, SHEET 3 OF 3.
- STEP 2: - USING RSD 1101.02, SHEET 1 OF 19, INSTALL REMOVABLE PAVEMENT MARKING TAPE AND OFF SITE DETOUR ROUTE SIGN ASSEMBLIES FOR THE CLOSING OF TRACY GROVE ROAD (SEE SHEETS TMP-3 & TMP-4).
- USING RSD 1101.03, SHEET 1 OF 9, CLOSE TRACY GROVE ROAD TO THRU TRAFFIC (SEE SHEETS TMP-3 & TMP-4).
- STEP 3: - REMOVE THE EXISTING STRUCTURE.
- CONSTRUCT THE PROPOSED STRUCTURE AND ROADWAY UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE ROADWAY PLANS).
- STEP 4: - PLACE FINAL PAVEMENT MARKINGS ON TRACY GROVE ROAD (SEE PMP PLANS).
- STEP 5: - REMOVE ALL TRAFFIC CONTROL DEVICES, SIGNING, AND DETOUR ROUTE SIGNING.
- OPEN TRACY GROVE ROAD TO FINAL TRAFFIC PATTERN.

GENERAL NOTES

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

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

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

- C) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

AND

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

- D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

AND

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

TRAFFIC CONTROL DEVICES

- F) PLACE TYPE III BARRICADES WITH "ROAD CLOSED" SIGN R-11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- G) 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. REVER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES), AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
SHELL STATION	TAPE	NONE

MANAGEMENT STRATEGIES

CONSTRUCTION

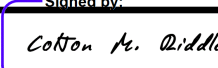
REMOVE AND REPLACE EXISTING STRUCTURE AND APPROACHES ALONG THE EXISTING ROADWAY ALIGNMENT AS SHOWN IN THE CONSTRUCTION PLANS.

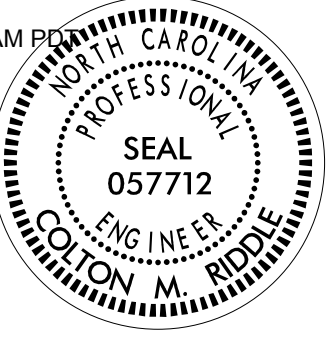
TMP DESIGN PARAMETERS

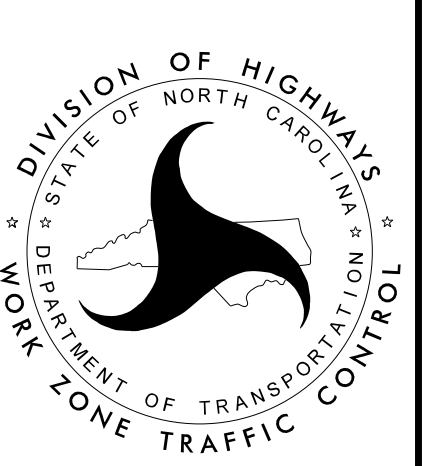
TRAFFIC WILL BE DETOURED OFF SITE DURING THE CONSTRUCTION PERIOD.

THE OFF SITE DETOUR WILL INCLUDE SR 1793 (TRACY GROVE ROAD), SR 1525 (DANA ROAD), AND A PRIVATE DRIVEWAY (SHELL GAS STATION).

MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES.

APPROVED: 
DATE: 8/10/2026 | 7:06:33 AM PM
SEAL





ROADWAY STANDARD
DRAWINGS, LEGEND,
GENERAL/LOCAL NOTES,
MANAGEMENT STRATEGIES
AND PHASING NOTES

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SIGN NUMBER:SP-1

TYPE: D

QUANTITY: SEE PLANS

SIGN WIDTH: 4'-0"

HEIGHT: 2'-0"

TOTAL AREA: 9.0 Sq.Ft.

BORDER TYPE: INSET

RECESS: 0.47"

WIDTH: 0.63"

RADII: 1.5"

NO. Z BARS:

LENGTH:

BACKG COLOR: Fluorescent Orange

COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

DESIGN BY: DAF

CHECKED BY: JQR

Nov 3, 2025

PROJECT ID: B-5929

DIV: 14

48"

24"

6.5"

4"

3"

4"

6.5"

TRACY GROVE ROAD

BORDER

R=1.5"

TH=0.63"

IN=0.47"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

																									Series/Size		
																									Text Length		
		T	R	A	C	Y		G	R	O	V	E															D 2000
	5.4	3.1	3	3.9	3.2	3.4	4	3.6	3.3	3.4	3.6	2.5	5.3														47.1
		R	O	A	D																						D 2000
	18.9	3.3	3.4	4	2.7	15.7																					13.4

NORTH CAROLINA D.O.T. SIGN DETAIL

8/6/2026 8:37:54 AM
Va\Asheville\structures\3640-05 Hendersonville B-5929\Traffic\TCP\B5929_TMP-2.dgn
User:dfredde

APPROVED:

Signed by:

Cotton M. Ripdel

704897AEB1EB2557

DATE: 8/10/2026 | 7:06:33 AM PM

SEAL

DOCUMENT NOT CONSIDERED FINAL

UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

WORK ZONE TRAFFIC CONTROL

SEAL

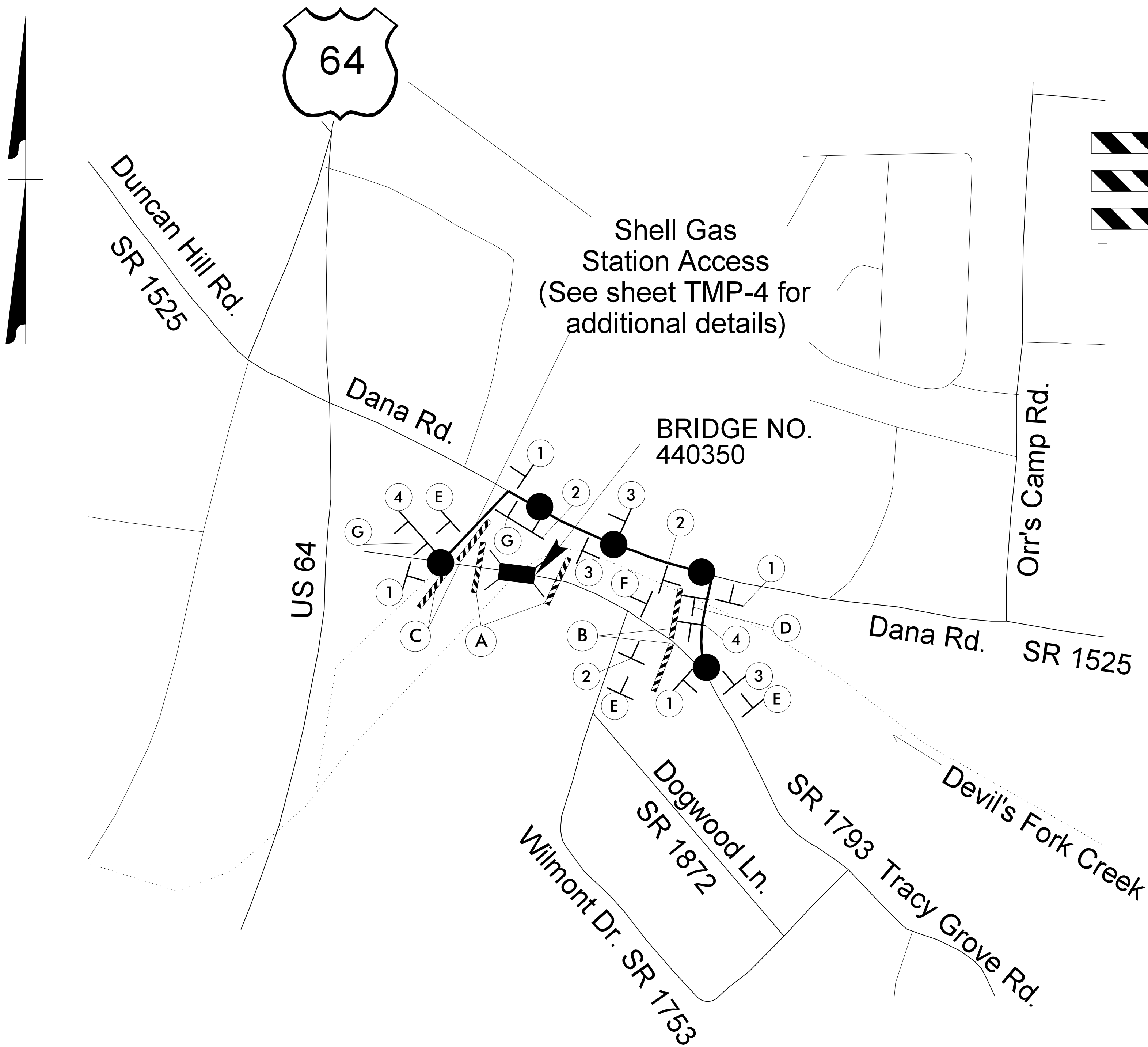
057712

ENGINEER

COTTON M. RIPDEL

SPECIAL SIGN DESIGN

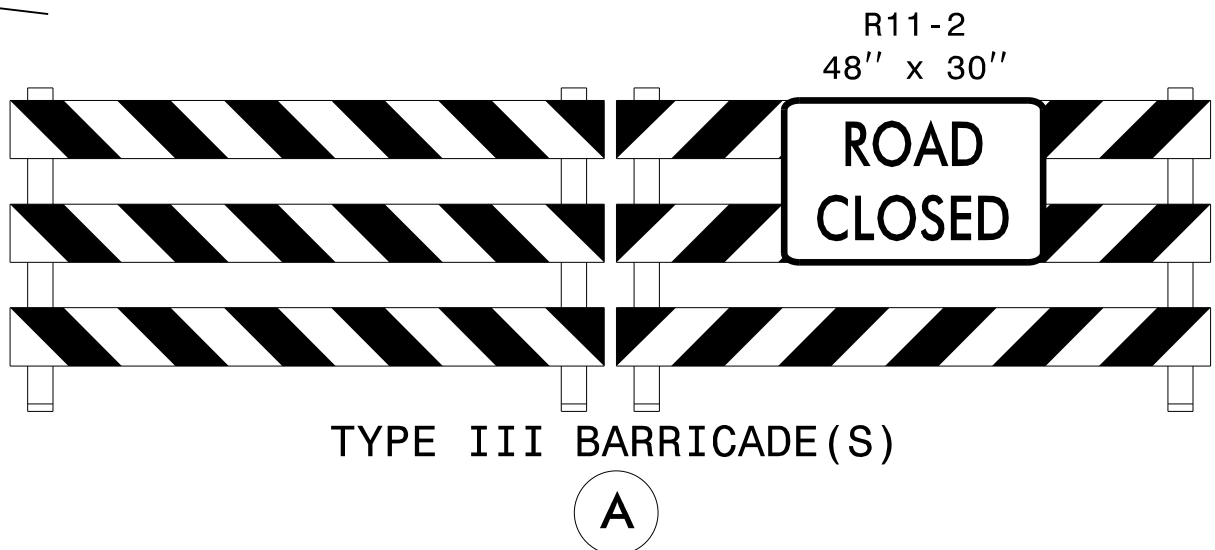
8/6/2026 8:37:55 AM
Va\Asheville\structures\31640-05 Hender-sonville B-5929\Traffic\TCP\B5929_TMP-3.dgn
User:dfredde



● ● ● DETOUR ROUTE (0.25 mi +/-)

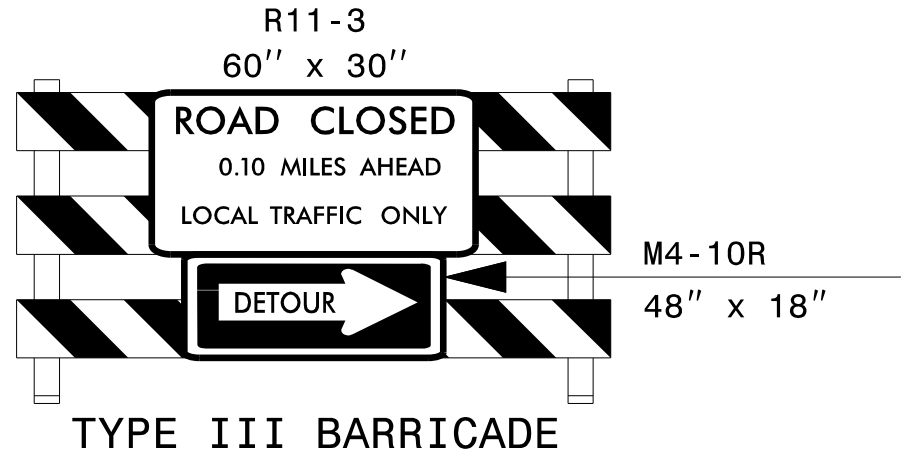
NOTES:

- ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.
- ALL DETOUR SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE NOTED.
- TRAFFIC CONTROL DEVICES (A) THROUGH (F) SHALL BE INSTALLED ACCORDING TO ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9.
- TRAFFIC CONTROL DEVICES (1) THROUGH (4) SHALL BE INSTALLED AS PER ENGINEER'S INSTRUCTIONS, AND AS SHOWN HEREON.
- SEE ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9, FOR ADDITIONAL WORK ZONE SIGNS.
- SEE ACCESS AGREEMENT BETWEEN PROPERTY OWNER AND THE CITY.



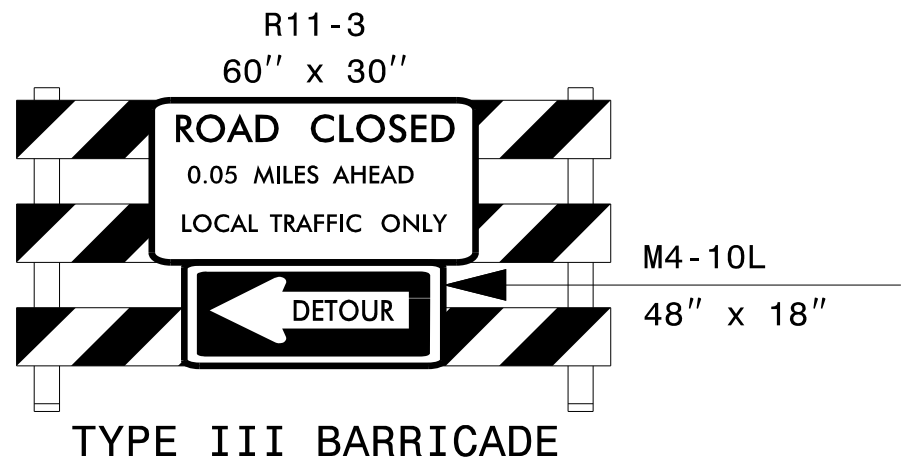
TYPE III BARRICADE(S)

(A)



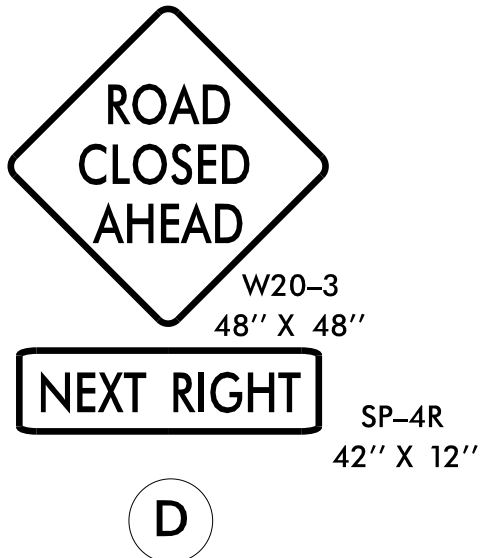
TYPE III BARRICADE

(B)

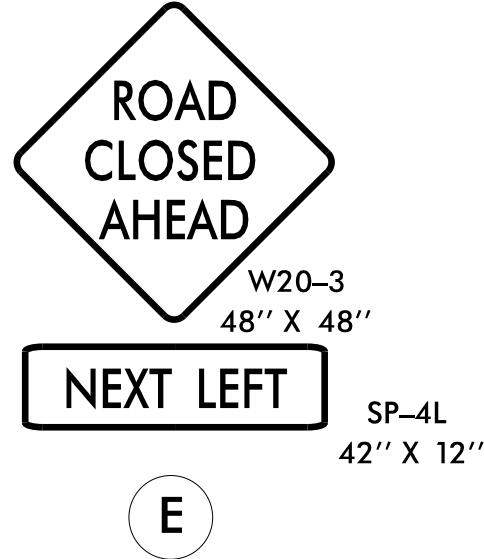


TYPE III BARRICADE

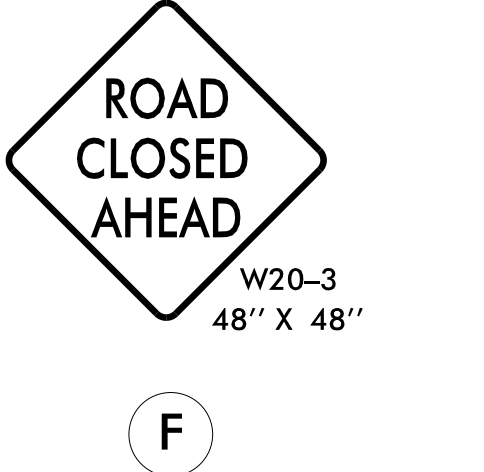
(C)



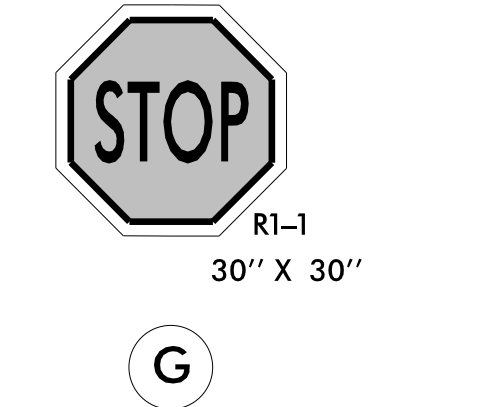
(D)



(E)



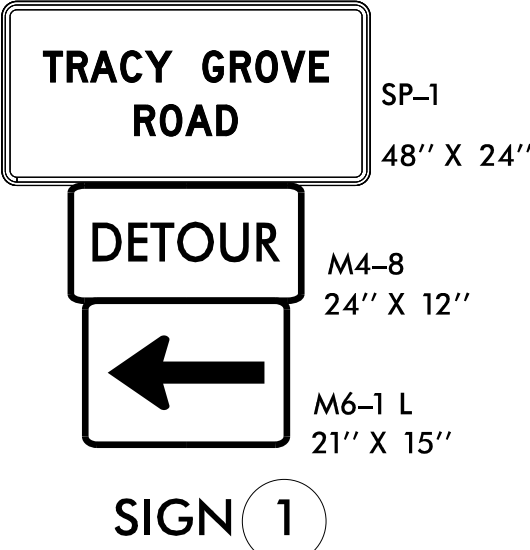
(F)



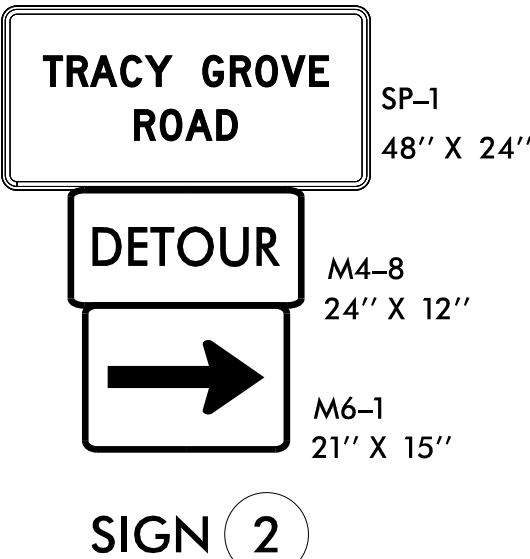
(G)

PROJ. REFERENCE NO.	SHEET NO.
B-5929	TMP-3

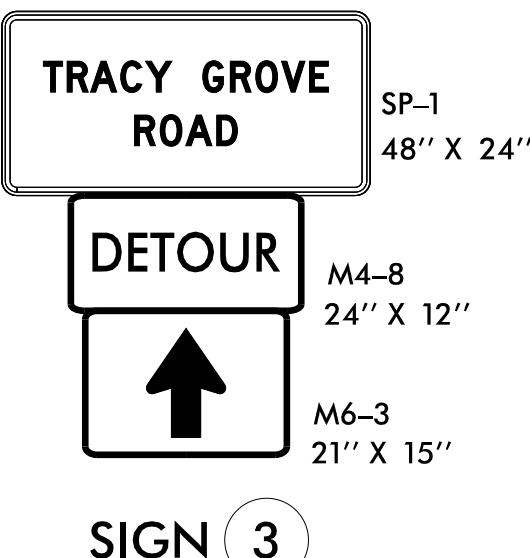
JMT Johnson, Mirman, & Thompson Inc.
105 Asheville Commerce Parkway,
Candler, NC, 28715
License No: C-3097



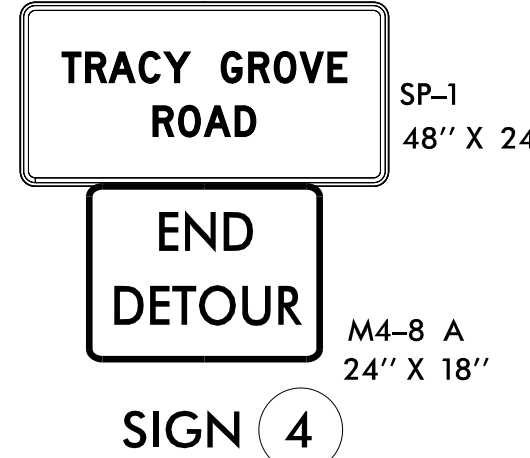
SIGN (1)



SIGN (2)



SIGN (3)

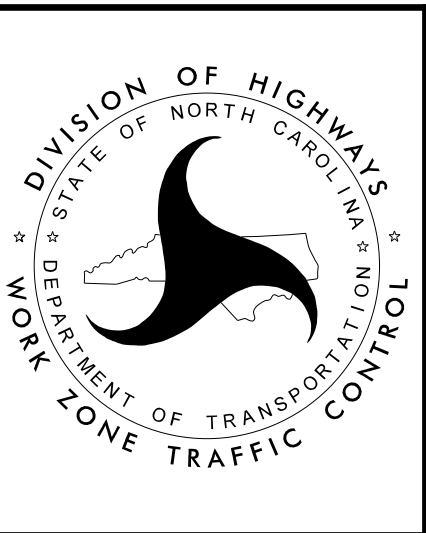


SIGN (4)

APPROVED: _____
DATE: 8/10/2026 | 7:06:33 AM PM
SEAL
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

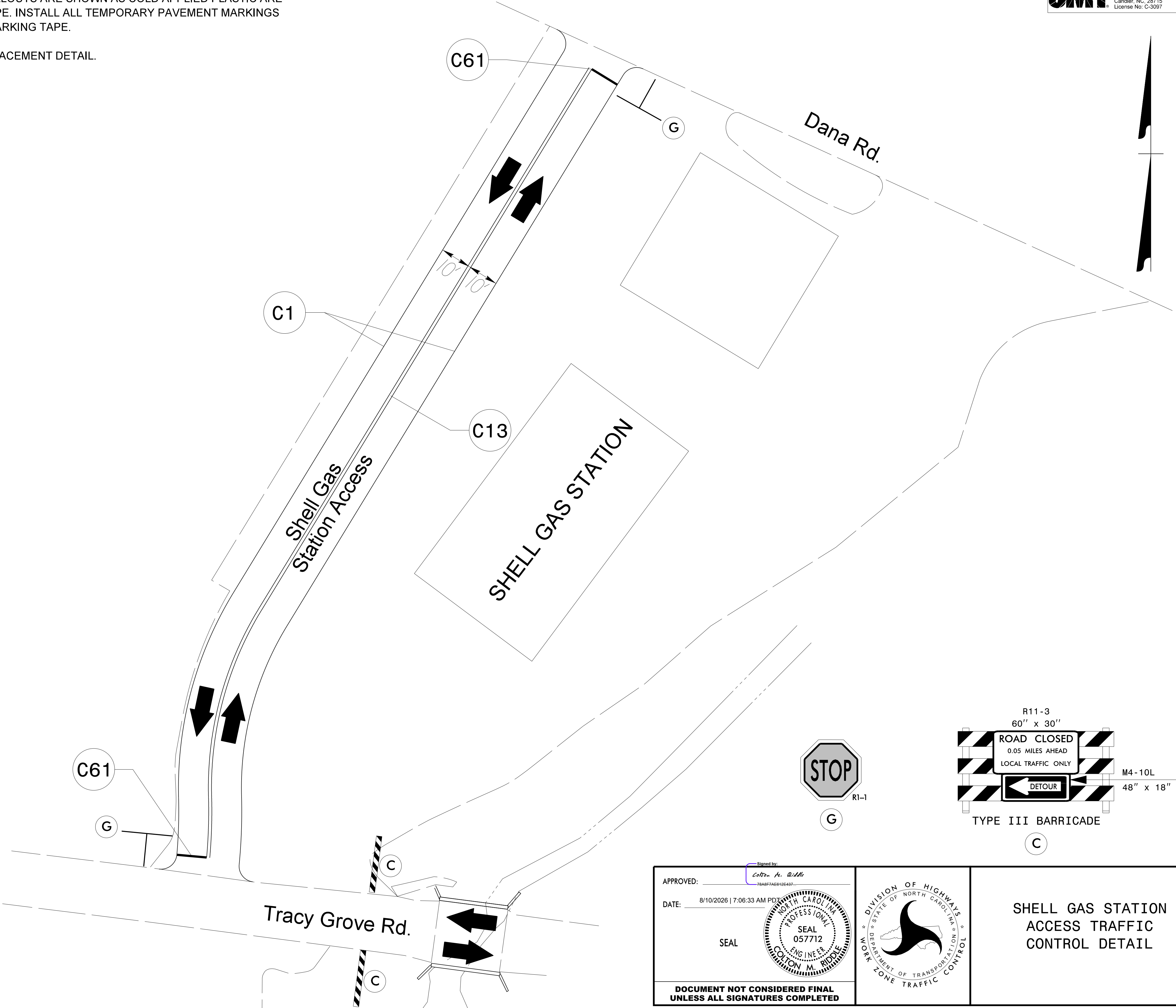
Signed by:
Cotton M. Biddle
7848E7A6815E437...

PROFESSIONAL
SEAL
057712
ENGINEER
COTTON M. BIDDLE



TEMPORARY TRAFFIC
CONTROL DETAIL

- NOTES:
- PAVEMENT MARKING SYMBOL CALLOUTS ARE SHOWN AS COLD APPLIED PLASTIC ARE INTENDED TO BE TEMPORARY TAPE. INSTALL ALL TEMPORARY PAVEMENT MARKINGS USING REMOVABLE PAVEMENT MARKING TAPE.
 - SEE TMP-3 FOR FURTHER SIGN PLACEMENT DETAIL.



TIP PROJECT: B-5929

CONTRACT: DN01162

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SIGNING & DELINEATION PLAN
HENDERSON COUNTY
LOCATION : BRIDGE NO. 440350 OVER DEVILS FORK CREEK
ON TRACY GROVE ROAD

PROJECT REFERENCE NO.
B-5929

SHEET NO.
SD-1

8/18/2026 | 8:15:38 AM PDT

SEAL
057712
ENGINEER
COLTON M. RIDDLE

Signed by:
Colton M. Riddle
TRANSPORTATION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

ROADWAY STANDARD DRAWING

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

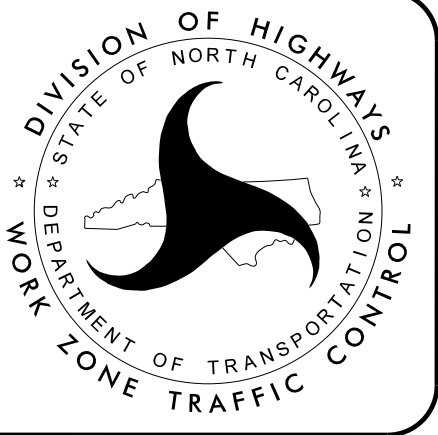
STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL SUPPORTS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE & MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES & MOUNTING
1262.01	GUARDRAIL END DELINEATION

INDEX

SHEET NO.	DESCRIPTION
SD-1	SIGNING AND DELINEATION PLAN TITLE SHEET
SD-1A	LINE TYPES AND OFFSETS DETAIL SHEET
SD-2	SIGNING AND DELINEATION DETAIL AND SCHEDULE

PLANS REVIEWED BY: N.C.D.O.T HIGHWAY DIVISION 14

JARED BOND, P.E. PROJECT MANAGER



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.

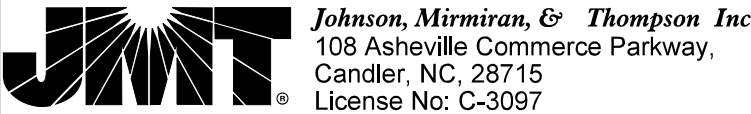
- A) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE
- ROAD NAME: TRACY GROVE ROAD MARKING PAINT
- B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- E) SIGNS FURNISHED BY CONTRACTOR.
- F) WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- G) THE BACKGROUND FOR TYPE 'E' AND 'F' SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4025000000	901	CONTRACTOR FURNISHED, TYPE E SIGN	7	S.F.
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	13	L.F.
4102000000	904	SIGN ERECTION, TYPE E	1	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	2	EA.

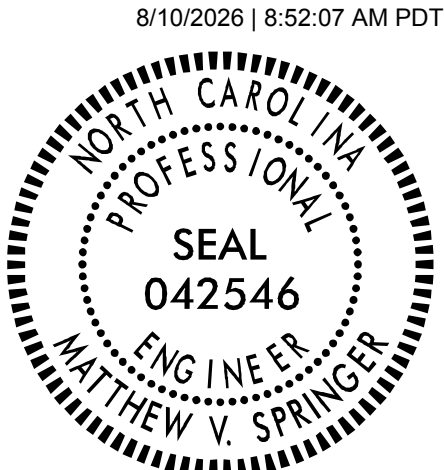
PLAN PREPARED BY: Johnson, Mirmiran, & Thompson Inc.

COLTON M. RIDDLE, P.E. SENIOR ENGINEER
DANE FREDDE DESIGN ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
B-5929	SD-1A

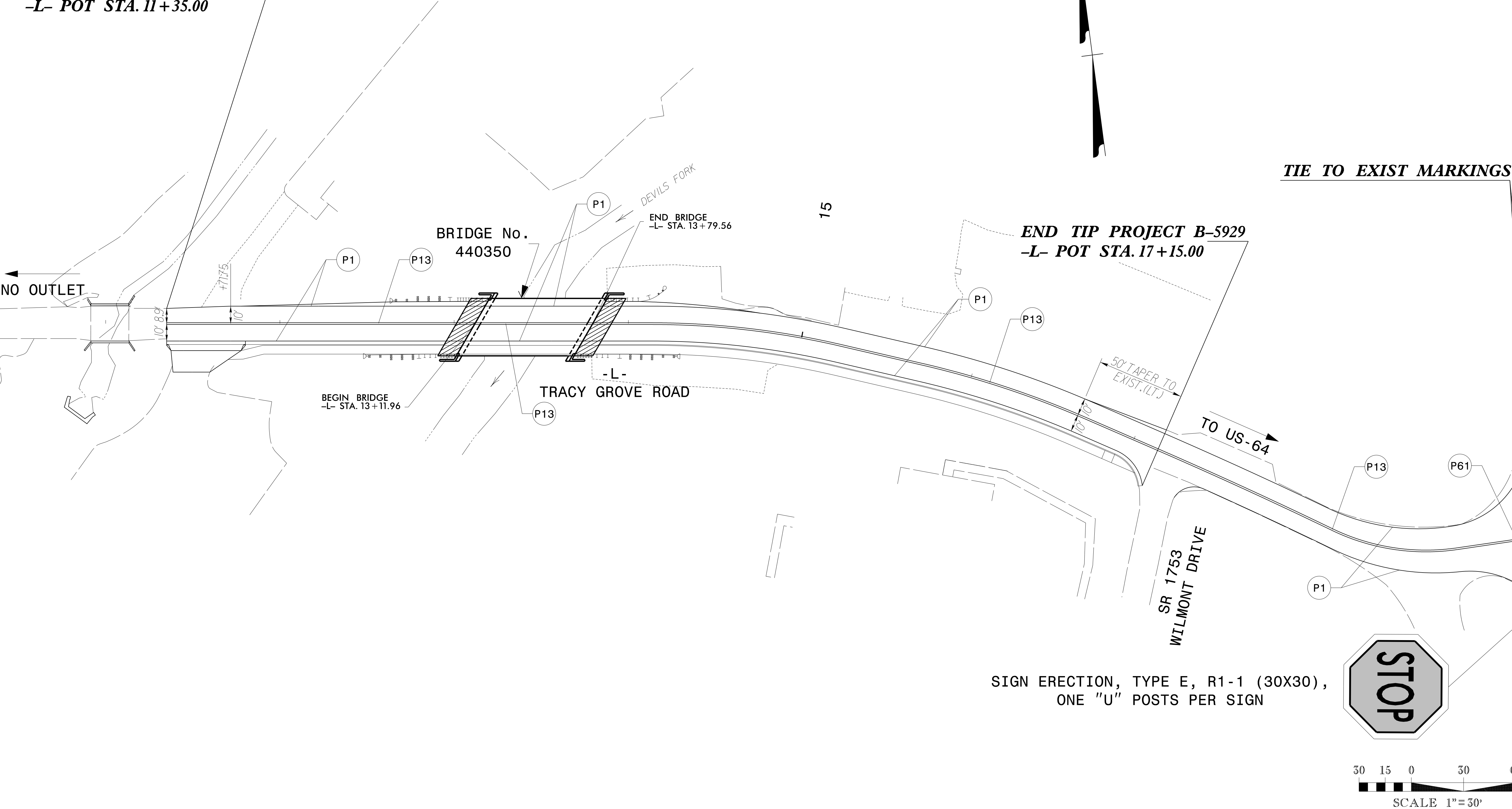
CONTINUOUS LINES EDGE LINE YELLOW OR WHITE 4" / 6" LANE LINE WHITE 4" / 6" CENTER LINE YELLOW 4" / 6" GORE LINE WHITE 8" / 12" DIAGONAL LINE YELLOW OR WHITE 12" 45 MPH OR HIGHER 8" LESS THAN 45 MPH 4"-6" FOR BICYCLE FACILITIES CROSSWALK LINE WHITE 8" TRANSVERSE 24" LONGITUDINAL RxR LINE WHITE 16" STOP 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	



Signed by:
Matthew V. Springer, P.E.
DCS070E8B884403...

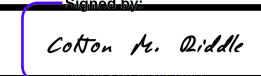
CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-8950	FAX 919-250-4119
SEE TITLE BLOCK	
ORIGINAL BY: M.V. SPRINGER	DATE: 2-15-24
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	

BEGIN TIP PROJECT B-5929
-L- POT STA. 11 + 35.00



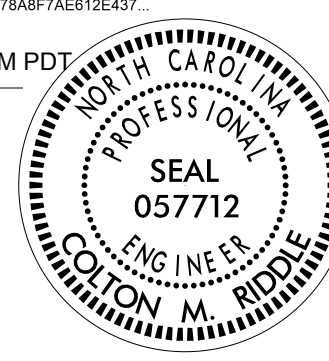
FINAL PAVEMENT
MARKING SCHEDULE

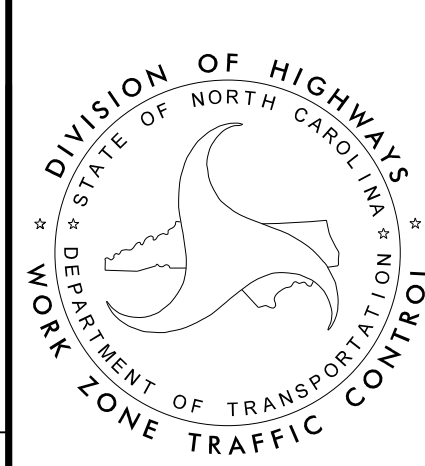
SYMBOL	DESCRIPTION	QUANTITY BREAKDOWN	PAY ITEM	TOTAL QUANTITY
P1	WHITE SOLID EDGE LINE (4") - PAINT	1,658 FT	4810000000-E	3,316 FT
P13	YELLOW DOUBLE CENTER LINE (4") - PAINT	1,596 FT	4810000000-E	3,192 FT
P61	WHITE STOPBAR (24") - PAINT	28 FT	4835000000-E	56 FT

APPROVED: 

DATE: 8/10/2026 | 7:06:33 AM PDT

SEAL





SIGNING
AND
DELINEATION
DETAIL AND SCHEDULE

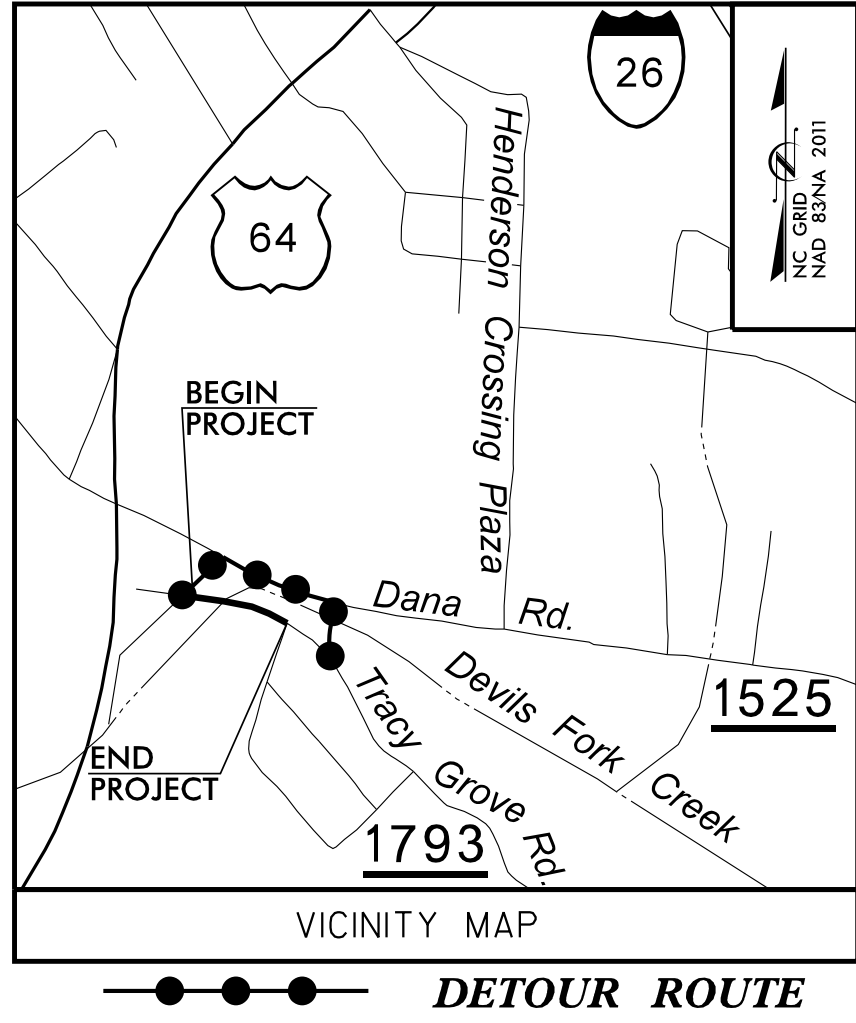
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UNLESS ALL SIGNATURES COMPLETED

09.08/25

6/16/2026 4:27:46 PM
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User:traynor

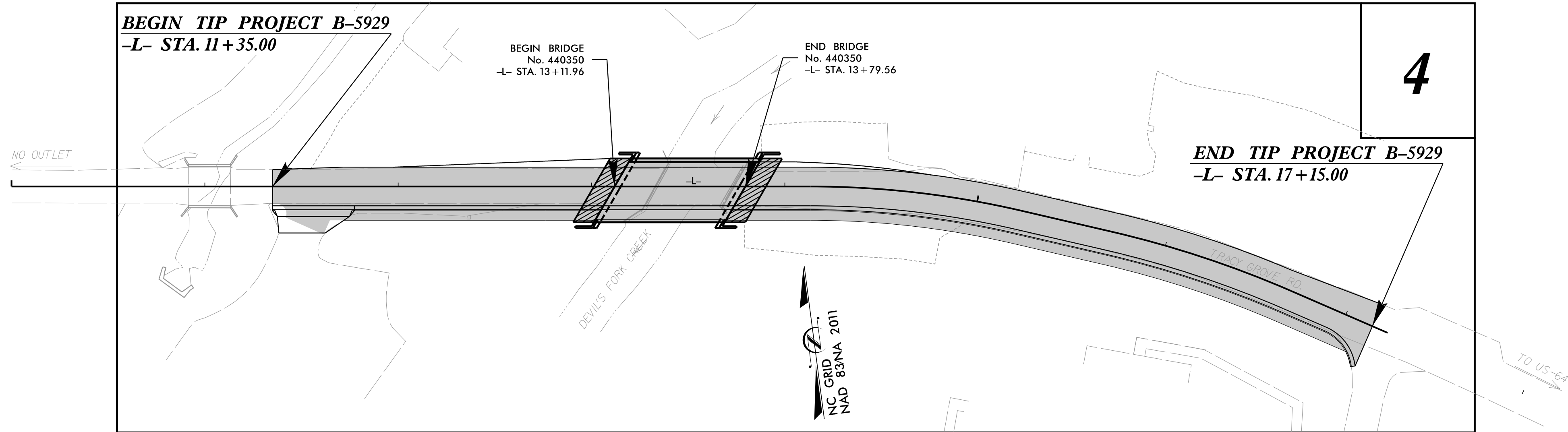
TIP PROJECT: B-5929

CONTRACT:



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

LOCATION: BRIDGE NO. 440350 OVER DEVILS FORK CREEK
ON TRACY GROVE ROAD
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURES



NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

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

GRAPHIC SCALES



THESE EROSION AND SEDIMENT CONTROL
PLANS COMPLY WITH THE APPLICABLE 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.



Johnson, Mirmiran, & Thompson Inc.
2550 West Tyvola Road, Suite 120,
Charlotte, NC, 28217
License No: C-3097

Prepared in the Office of:

Johnson, Mirmiran, & Thompson Inc.
2550 West Tyvola Road, #120, Charlotte, NC, 28217
PHONE (704)-357-0488

Designed by:

OLIVIA SMITH
NAME

4687
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.
B-5929	EC-2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

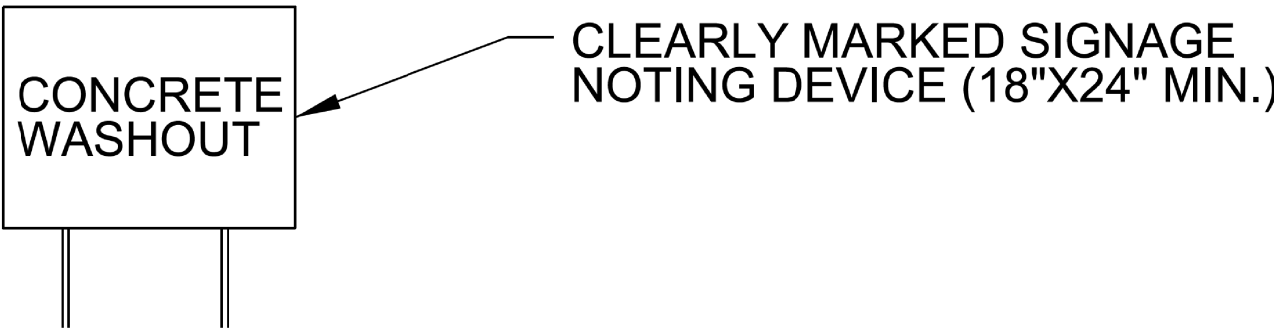
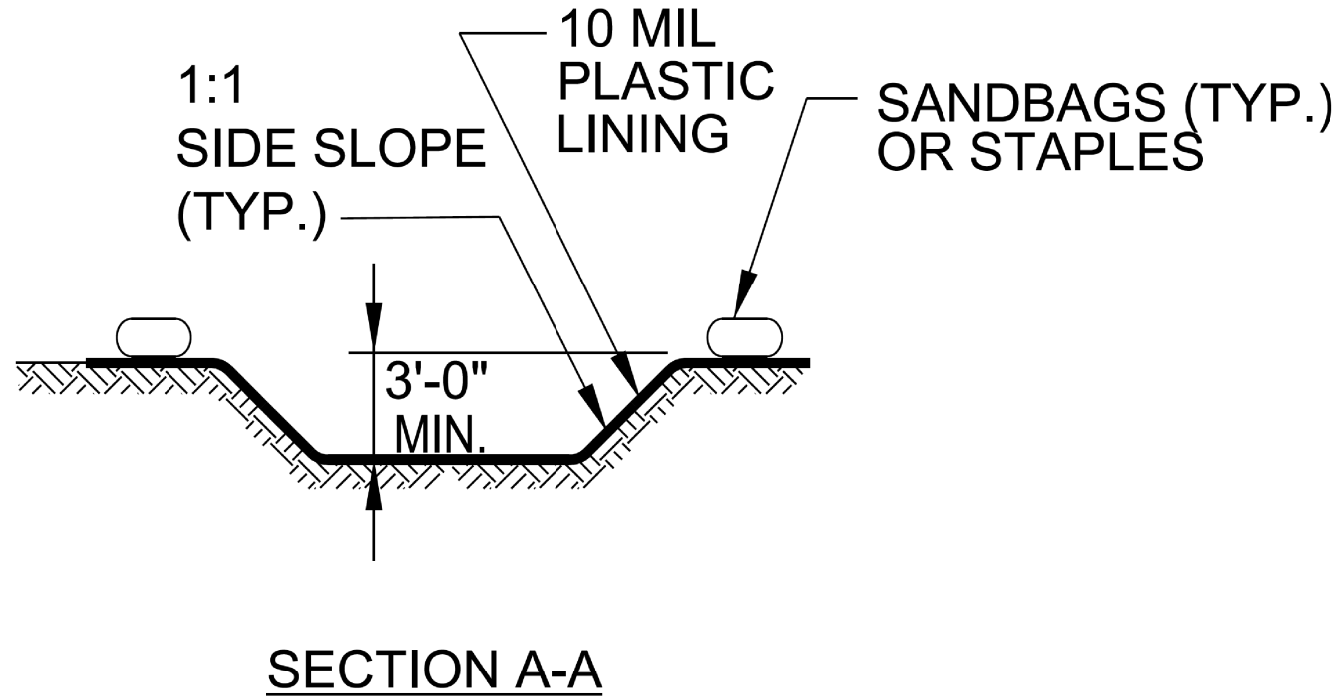
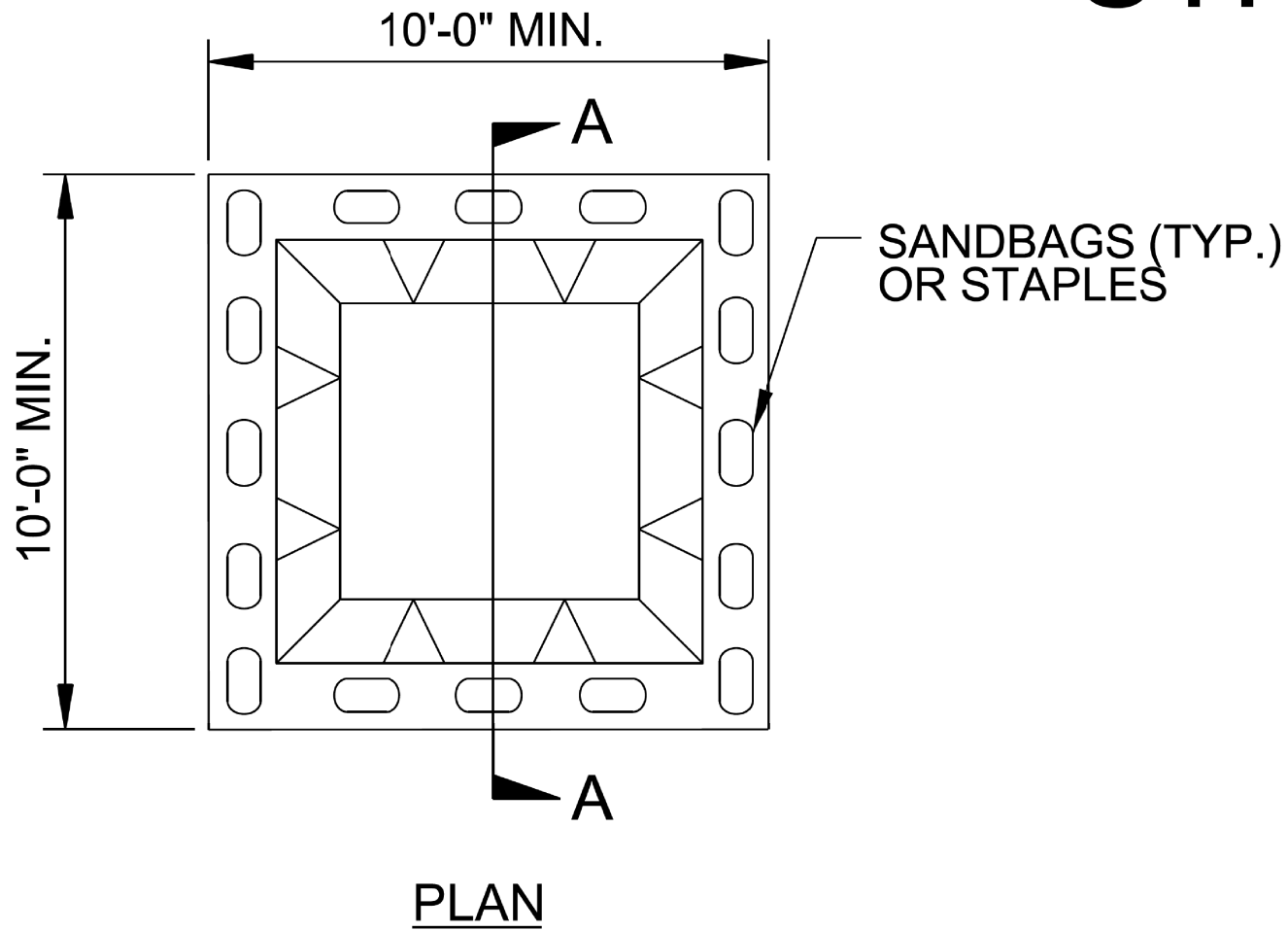
EROSION & SEDIMENT CONTROL LEGEND

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

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

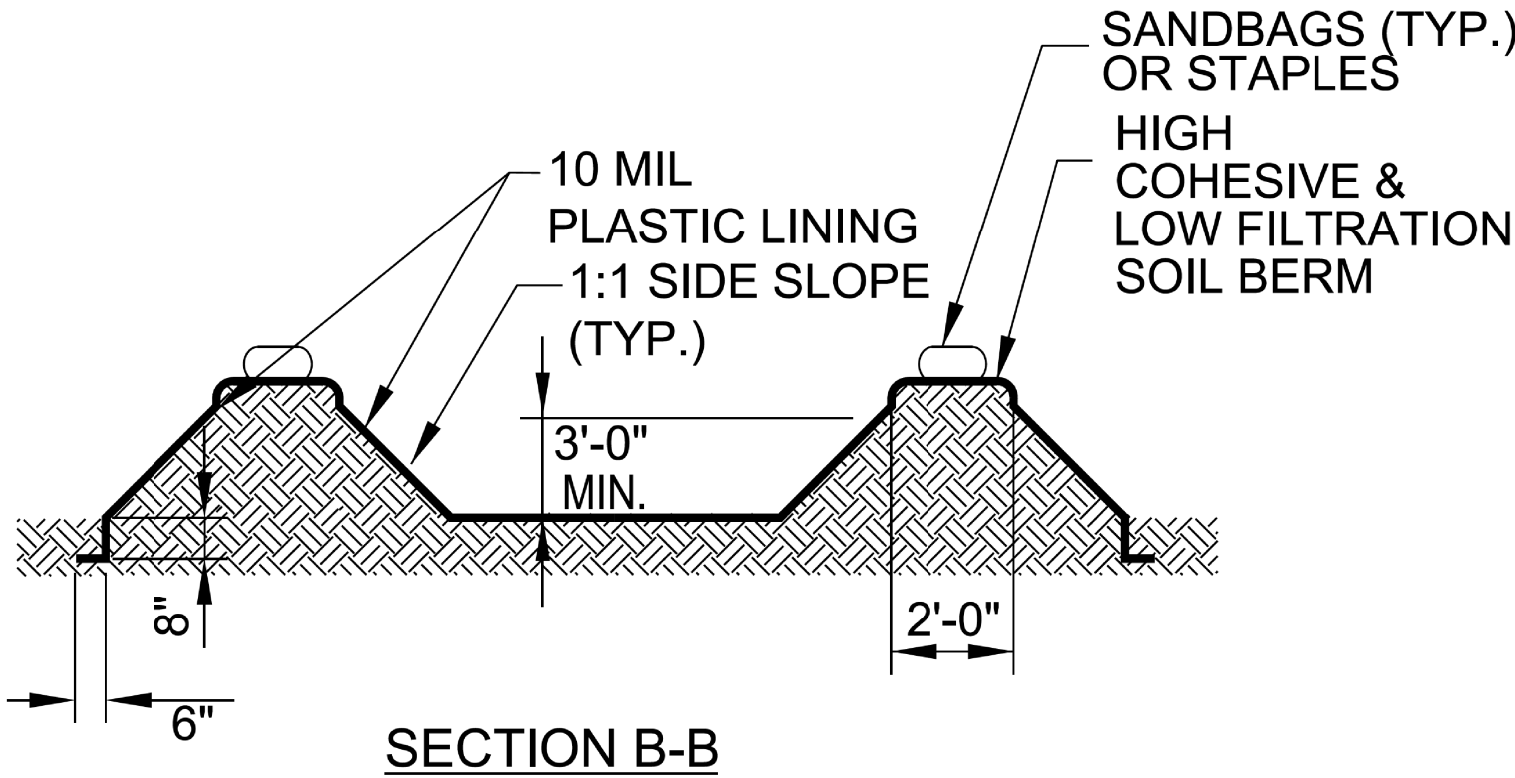
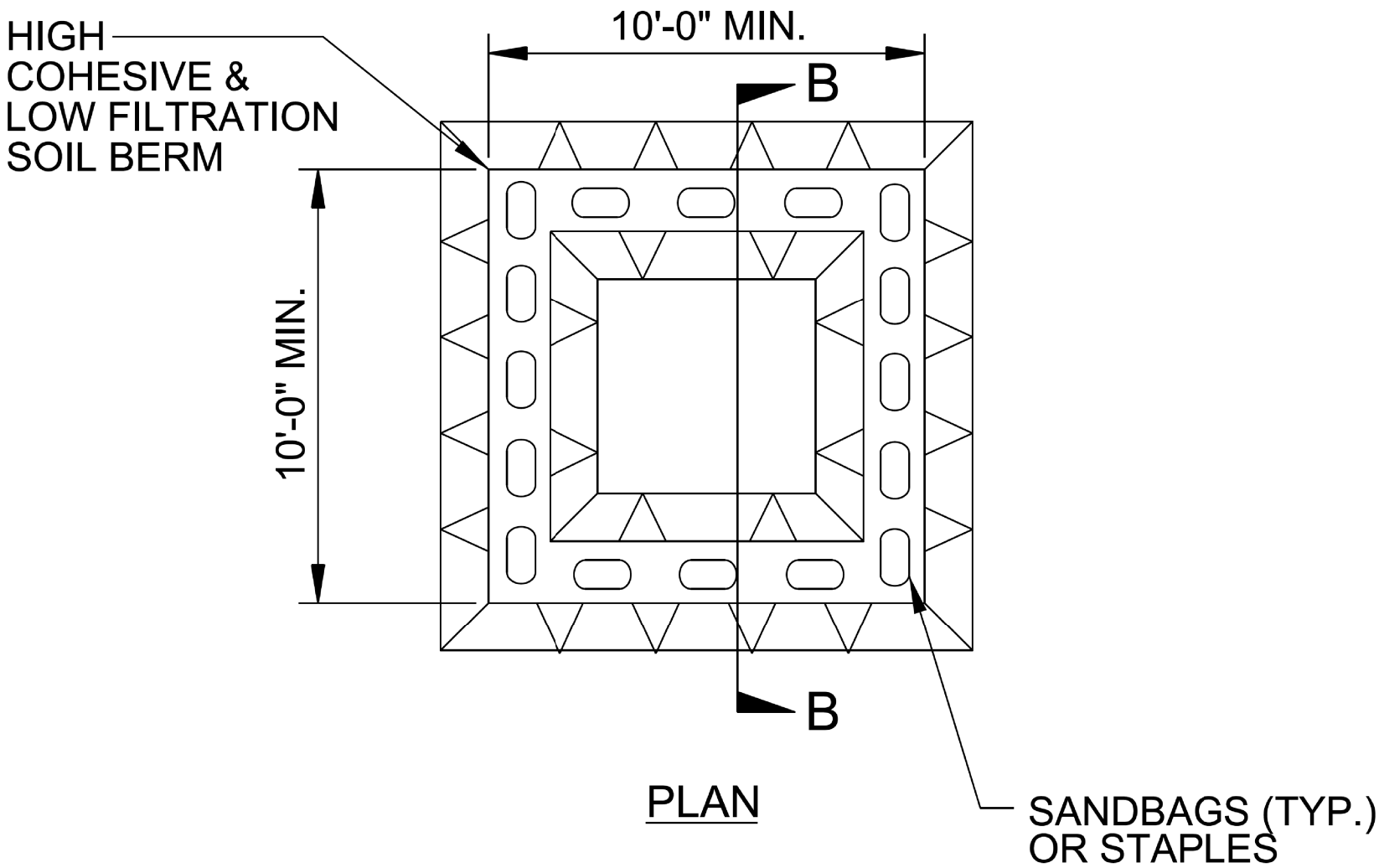
PROJECT REFERENCE NO.	SHEET NO.
B-5929	EC-2A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



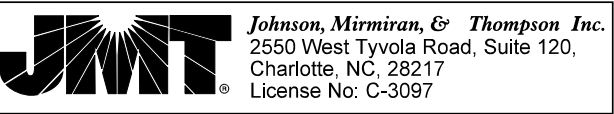
BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- 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.



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 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

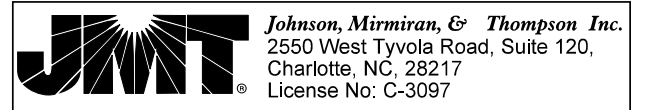
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.

B-5929

SHEET NO.

EC-3A



SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

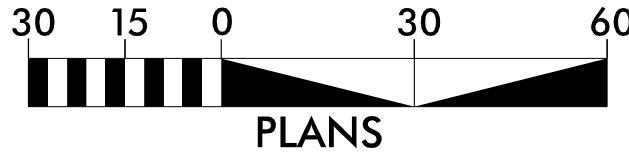
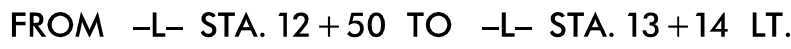
[illegible]

COIR FIBER MATTING

[illegible]



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Charlotte, NC, 28217
License No: C-3097



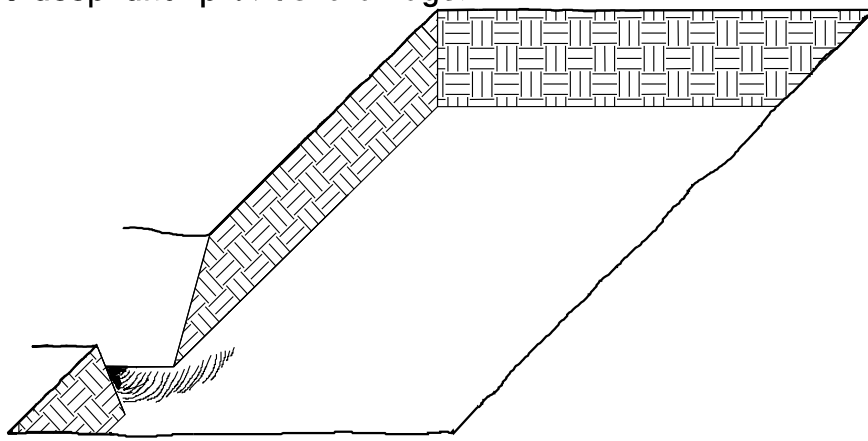
NOTE: UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

PLANTING DETAILS

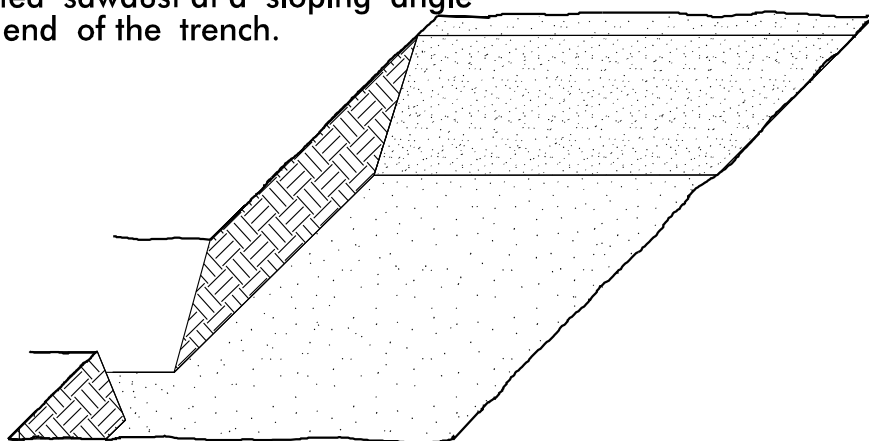
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

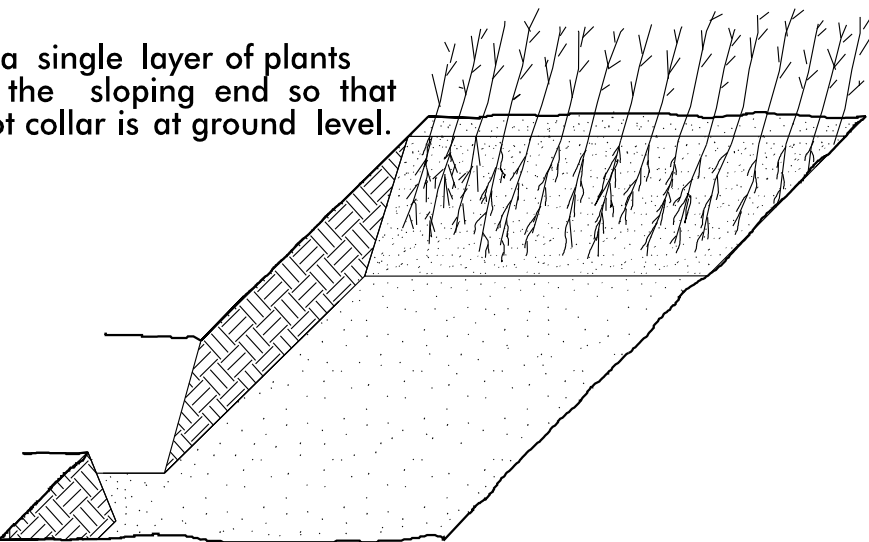
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



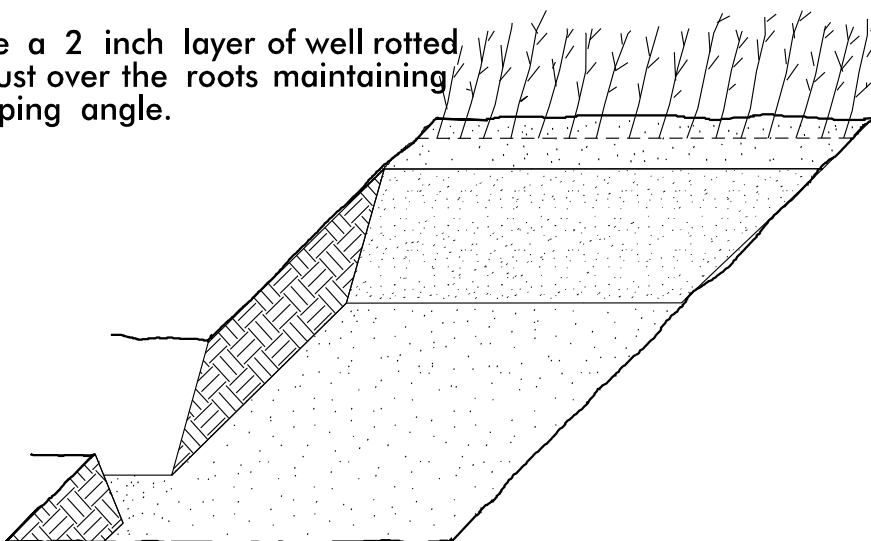
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

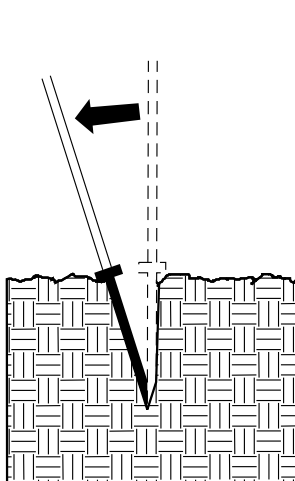


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

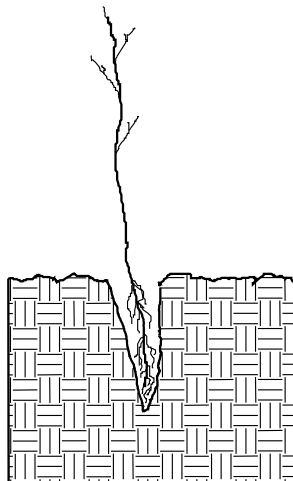


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

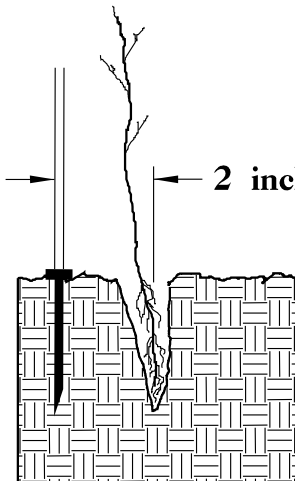
DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



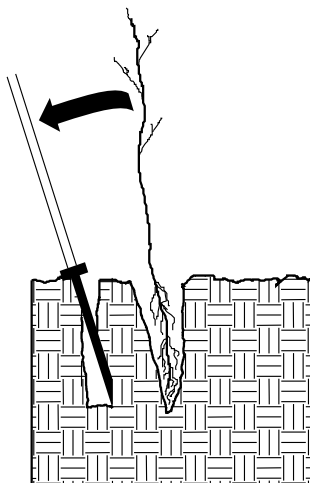
1. Insert planting bar as shown and pull handle toward planter.



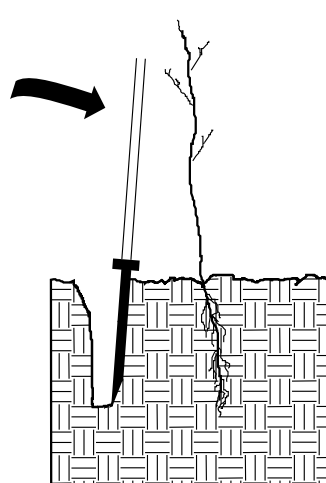
2. Remove planting bar and place seedling at correct depth.



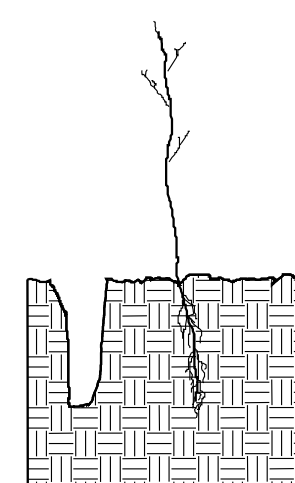
3. Insert planting bar 2 inches toward planter from seedling.



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



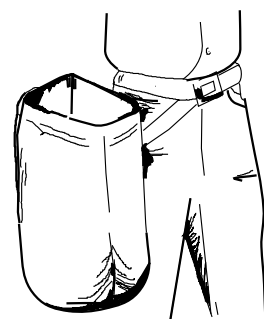
5. Push handle forward firming soil at top.



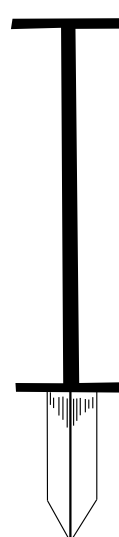
6. Leave compaction hole open. Water thoroughly.

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% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in – 18 in BR
25% BETULA NIGRA	RIVER BIRCH	12 in – 18 in BR

REFORESTATION DETAIL SHEET

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