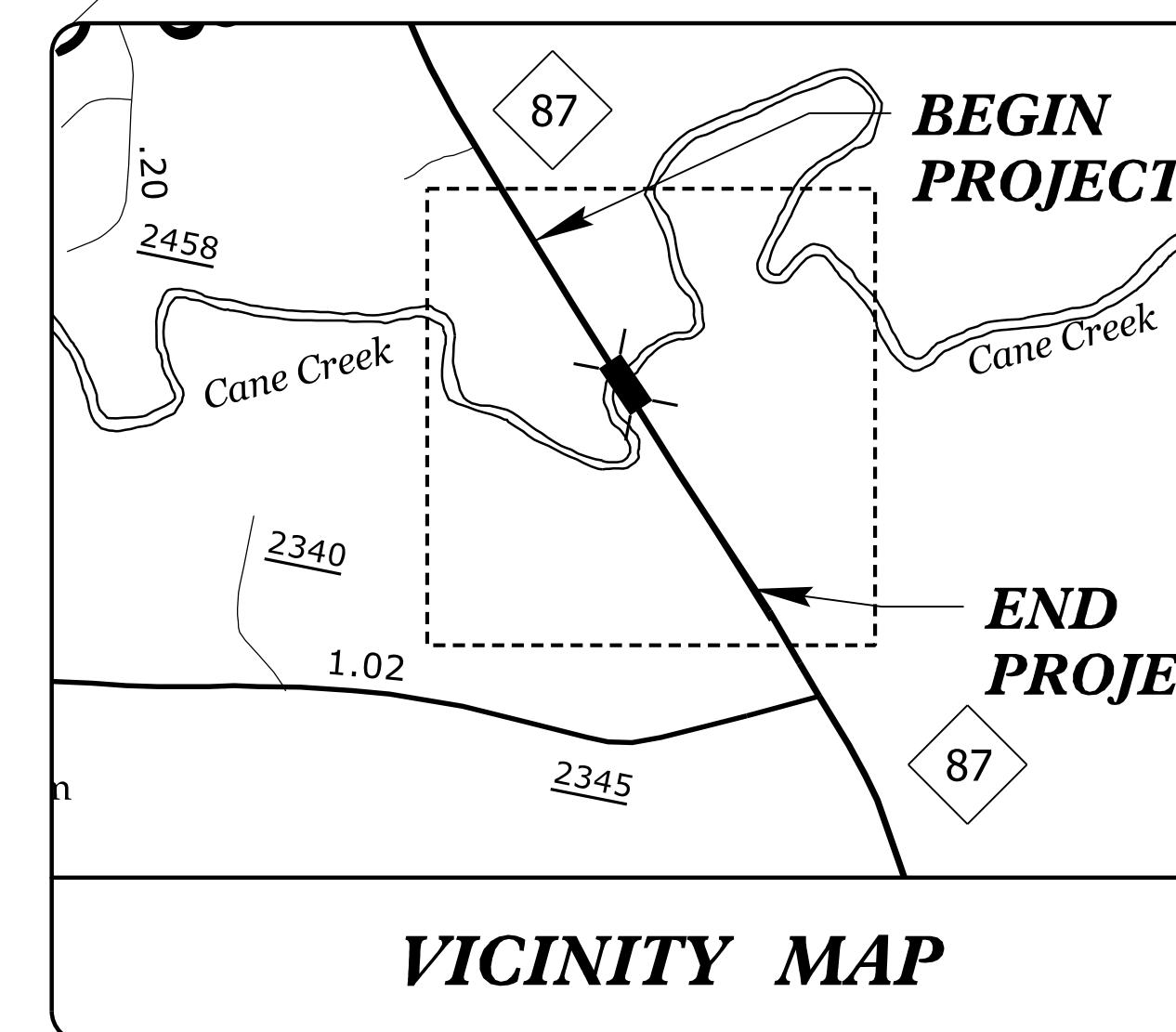
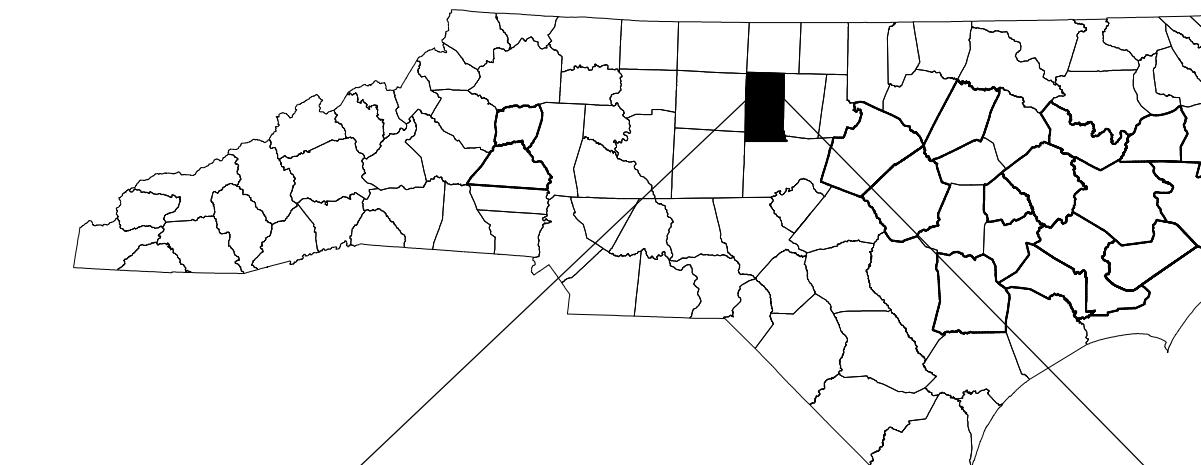


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

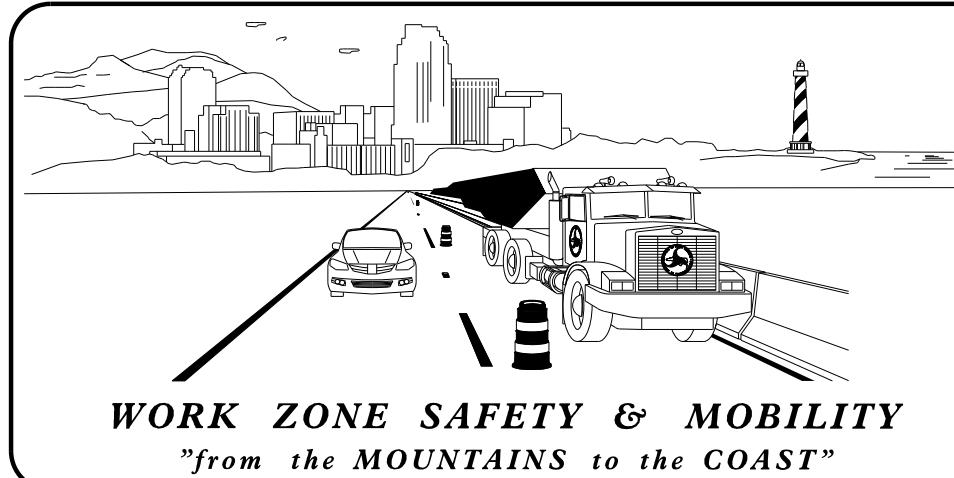
TRANSPORTATION MANAGEMENT PLAN

ALAMANCE COUNTY

LOCATION: BRIDGE NO. 14 OVER CANE CREEK ON NC 87



II/25/2025
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PLANS PREPARED BY:
moffatt & nichol
4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
(919) 781-4626 VOICE (919) 781-4869 FAX
NC License No.: F-0105

NC DOT CONTACTS:
DAVID STUTTS, PE
PROJECT MANAGER



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND TRAFFIC MANAGEMENT STRATEGY
TMP-1B	GENERAL NOTES AND LOCAL NOTES
TMP-2	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATION
TMP-2A	TEMPORARY SHORING NOTES
TMP-3	TRAFFIC CONTROL PHASING
TMP-4 THRU TMP-7	PHASE 1 DETAILS
TMP-8 THRU TMP-11	PHASE 2 DETAILS
TMP-12 THRU TMP-13	PHASE 3 DETAILS

TIP PROJECT:

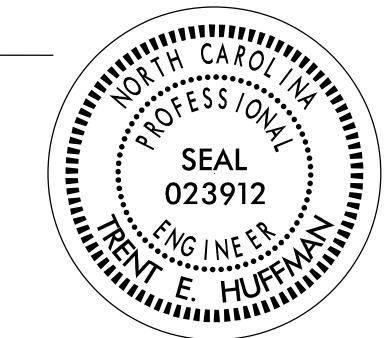
SHEET NO.
TMP-1

BR-0060

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DocuSigned by:
APPROVED: *Trout E. Huffman*
85004677017049...

DATE: 11/26/2025



ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED 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 ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1145.01	BARRICADES
1150.01	FLAGGERS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

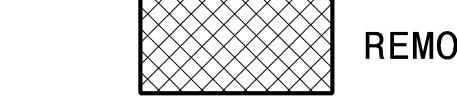
- ◀ DIRECTION OF TRAFFIC FLOW
- EXIST. PVMT.
- +— NORTH ARROW
- PROPOSED PVMT.



WORK AREA



PAVEMENT WEDGING



REMOVAL

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- DRUM

TEMPORARY SIGNING

- ▢ PORTABLE SIGN
- STATIONARY SIGN

PAVEMENT MARKERS

- ◆ YELLOW/YELLOW

TEMPORARY PAVEMENT MARKING

P1	WHITE EDGE LINE	(PAINT 4")
P13	YELLOW DOUBLE CENTER	(PAINT 4")
MH	TEMPORARY RAISED MARKER	(YELLOW & YELLOW)

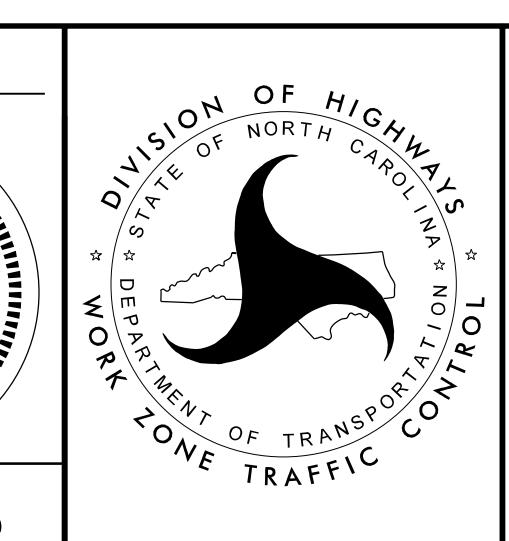
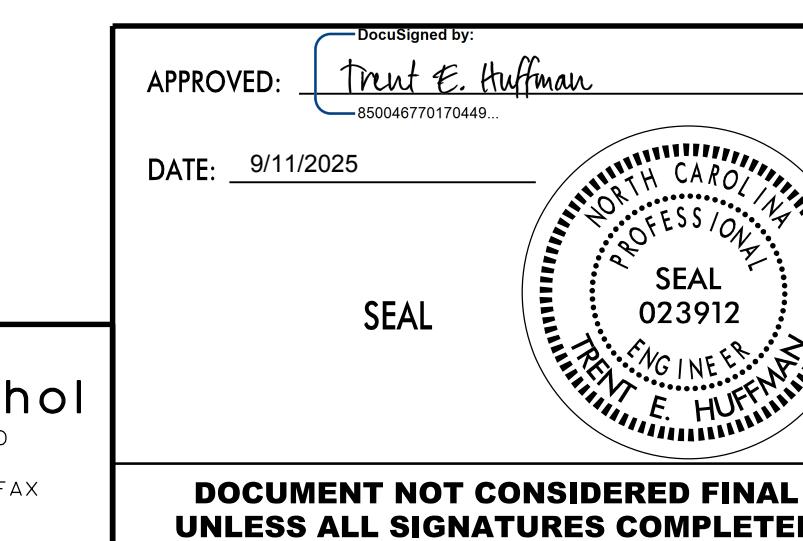
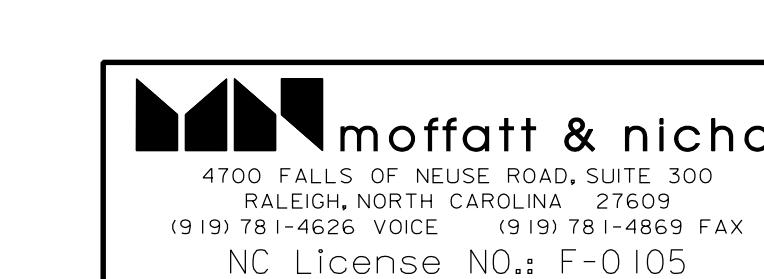
TRAFFIC MANAGEMENT STRATEGY

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

RECOMMENDED STRATEGIES:

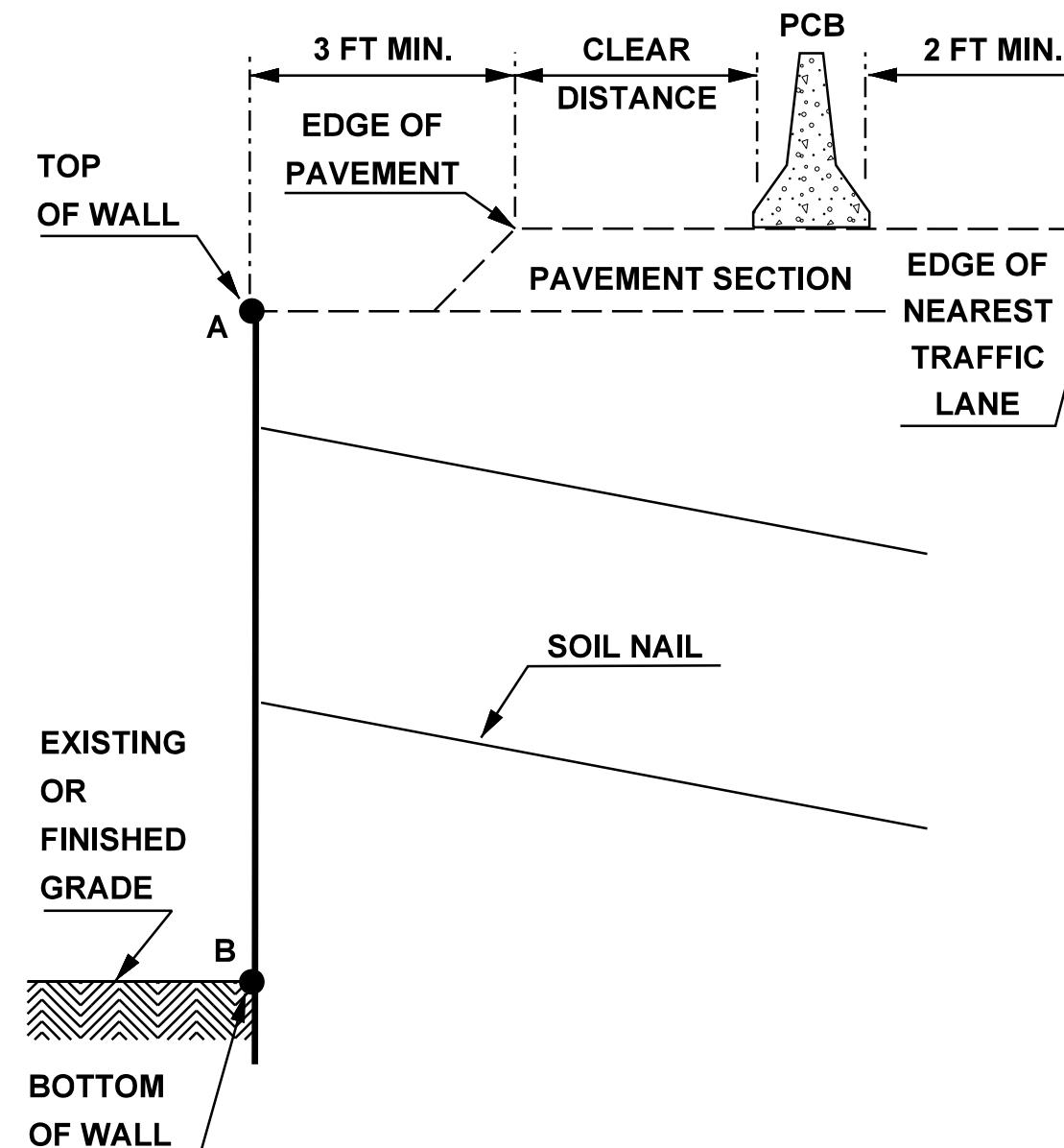
TRAFFIC MANAGEMENT STRATEGIES:
LANE SHIFTS OR CLOSURES
SHOULDER CLOSURES
ON-SITE DETOURS

WORK ZONE SAFETY & MOBILITY STRATEGIES:
SPEED LIMIT REDUCTION

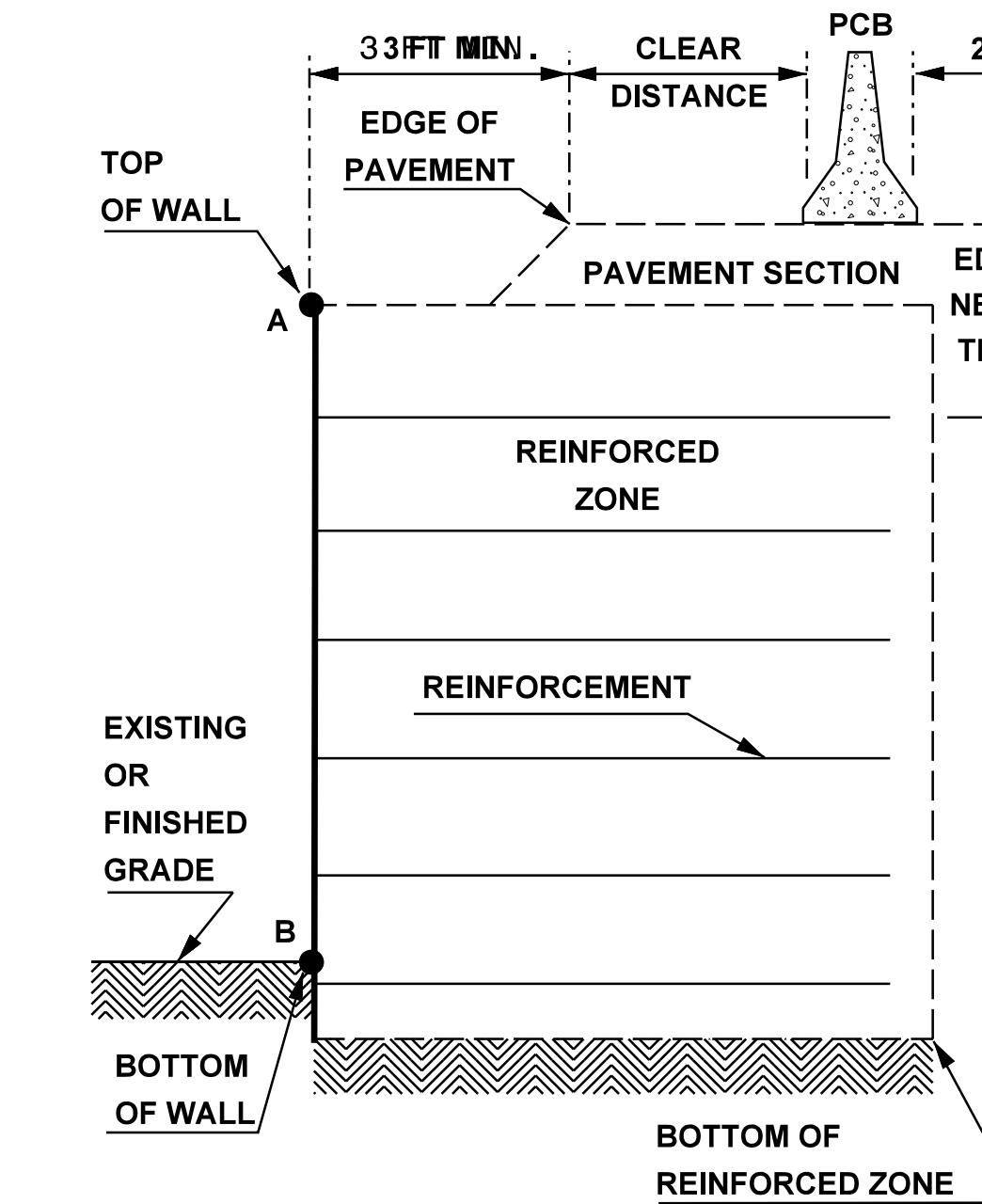


ROADWAY STANDARD
DRAWINGS, LEGEND &
TRAFFIC MANAGEMENT
STRATEGY

TEMPORARY SOIL NAIL WALL



TEMPORARY MSE WA



TEMPORARY SHORING

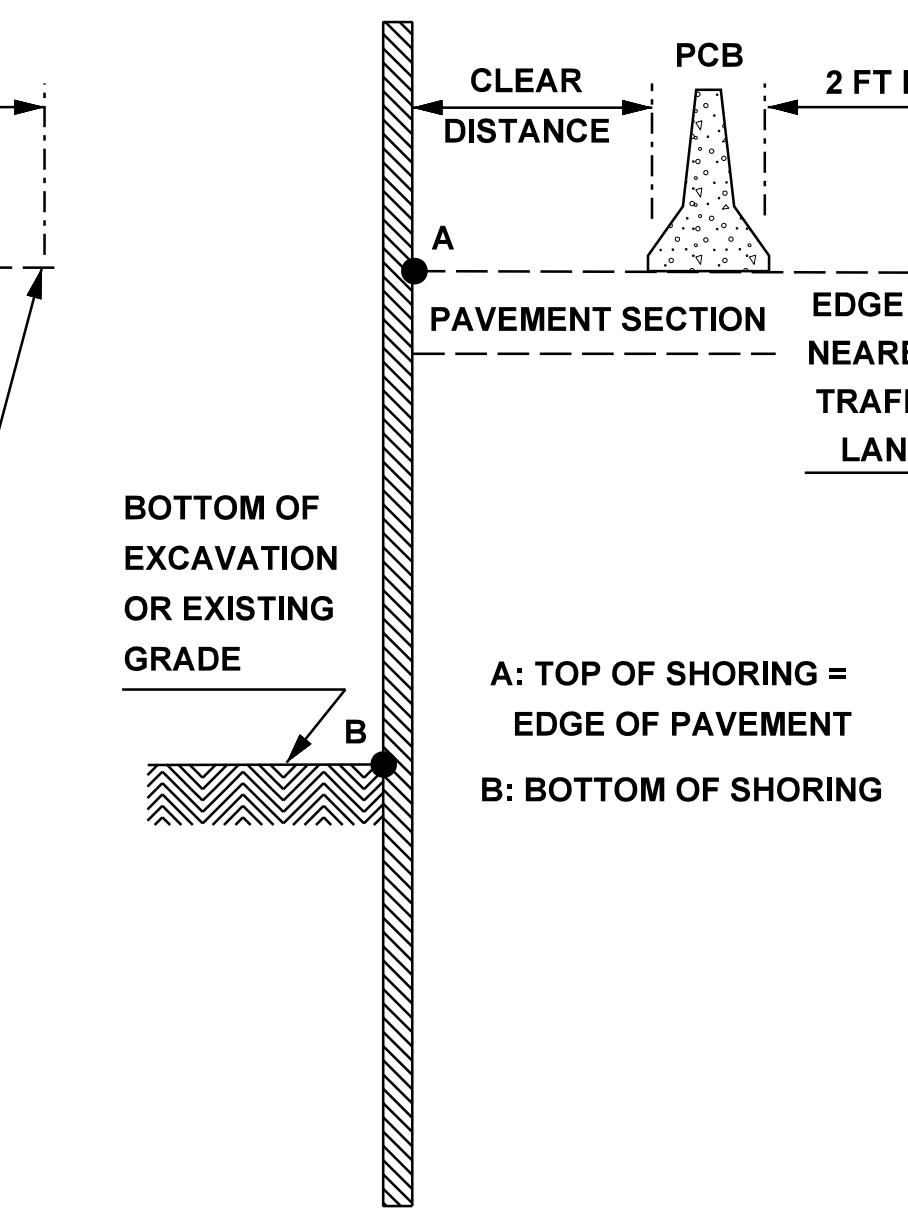


FIGURE A

NOTE

- 1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- 2- REFER TO THE "TEMPORARY SHORING" STANDARD PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- 3- PCB IS REQUIRED IF TEMPORARY SHORING/WALL IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT FOR APPLICABLE PAVEMENT DESIGN).
- 4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- 5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING/WALLS EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- 6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 7- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS OR APPROVED BY THE ENGINEER.
- 8- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THIS MINIMUM REQUIRED DISTANCE IS NOT AVAILABLE, CONTACT THE ENGINEER.
- 9- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS.

MINIMUM REQUIRED CLEAR DISTANCE, inches							
Barrier Type	Pavement Type	Offset * ft	Design Speed, mph				
			<30	31-40	41-50	51-60	61-70
Unanchored PCB	Asphalt	<8	24	26	29	32	36
		8-14	26	28	31	35	38
		14-20	27	29	34	36	39
		20-26	28	31	35	38	40
		26-32	29	32	36	39	42
		32-38	30	34	38	41	43
		38-44	31	34	41	43	45
		44-50	31	35	41	43	46
		50-56	32	36	42	44	47
		>56	32	36	42	45	47
Unanchored PCB	Concrete	<8	17	18	21	22	25
		8-14	19	20	23	25	26
		14-20	22	22	24	26	28
		20-26	23	24	26	27	30
		26-32	24	25	27	28	32
		32-38	24	26	27	30	33
		38-44	25	26	28	30	34
		44-50	26	26	28	32	35
		50-56	26	26	28	32	35
		>56	26	27	29	32	36
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds				
			24 for All Design Speeds				
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds				
			12 for All Design Speeds				

* See Figure Below

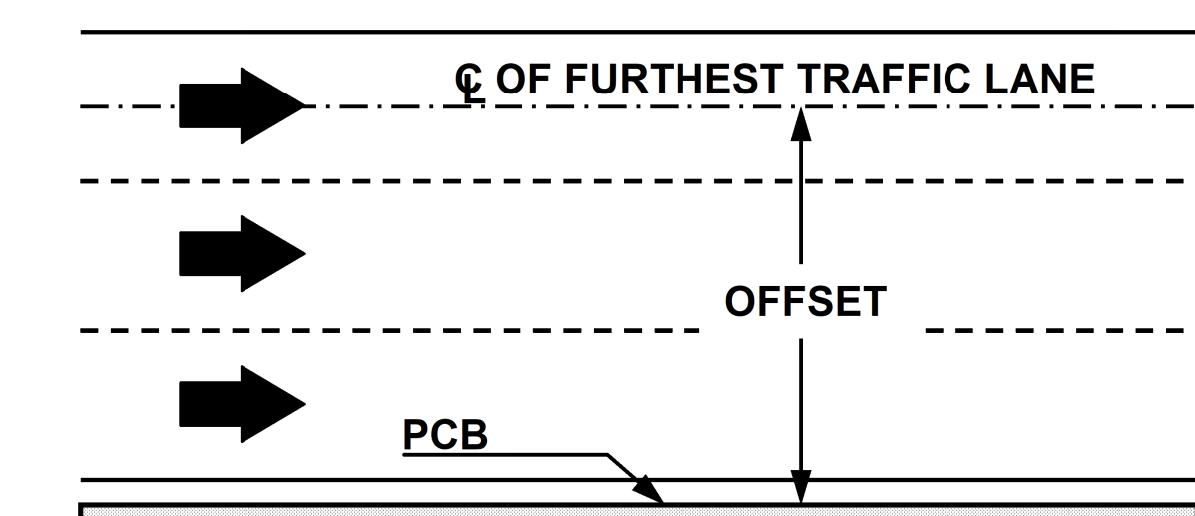
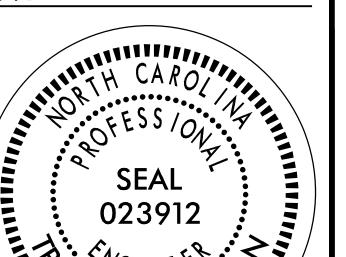


FIGURE B

<p>DocuSigned by: APPROVED: <u>Trent E. Huffman</u> 850046770170449...</p> <p>DATE: <u>9/11/2025</u></p> <p>SEAL</p>  <p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	 <p>PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS</p>
--	---

SHORING NOTES

Shoring Location No. 1

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

DESIGN TEMPORARY SHORING FROM STATION 20+07 +/- -LDET-, 23 FT. RT. TO STATION 20+65 +/- -LDET-, 23 FT. RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT OF SOIL ABOVE WATER TABLE,
 $\gamma = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE,
 $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi_f = 0$
 COHESION, $c = 500$ PSF
 GROUNDWATER ELEVATION = 429 FT.

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

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 20+07 +/- -LDET-, 23 FT. RT. TO STATION 20+65 +/- -LDET-, 23 FT. RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

Shoring Location No. 2

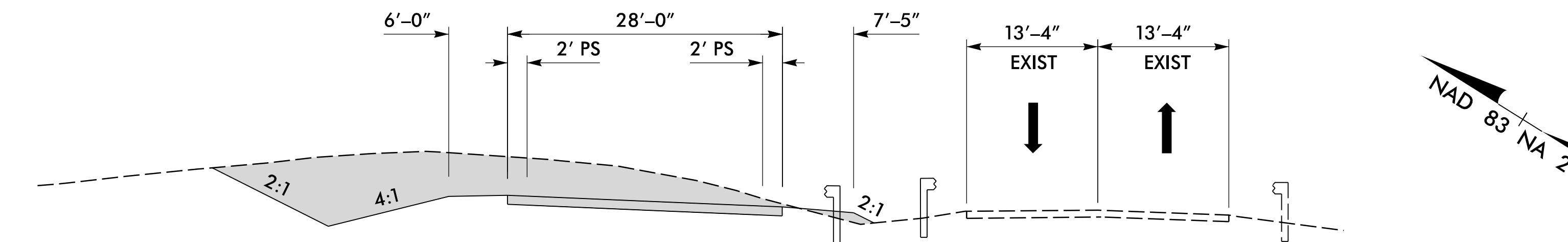
FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

DESIGN TEMPORARY SHORING FROM STATION 22+37 +/- -LDET-, 23 FT. RT. TO STATION 22+57 +/- -LDET-, 23 FT. RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

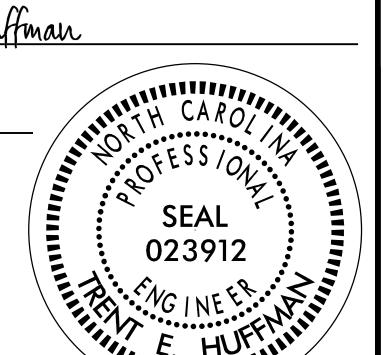
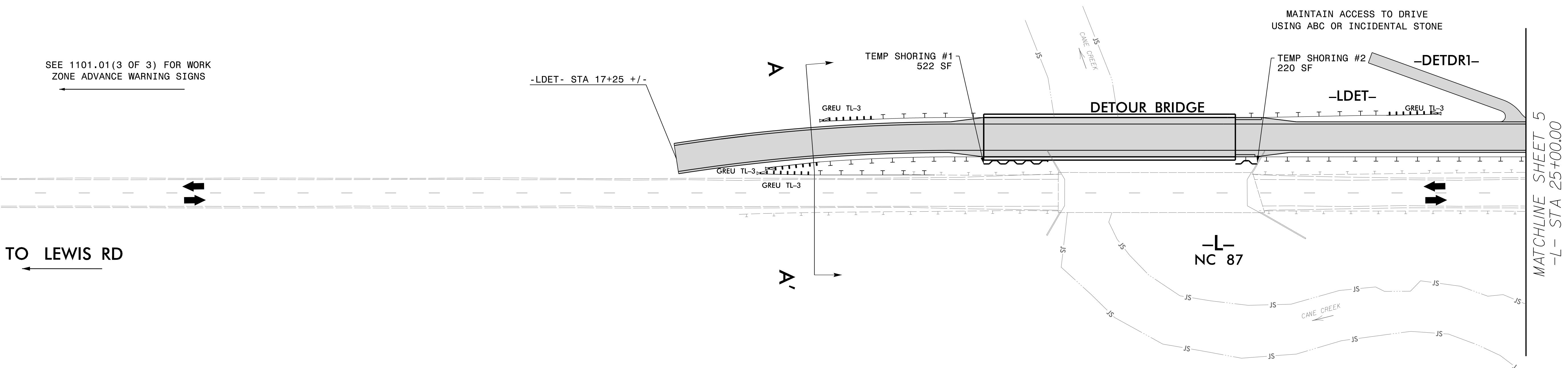
UNIT WEIGHT OF SOIL ABOVE WATER TABLE,
 $\gamma = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE,
 $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi_f = 0$
 COHESION, $c = 800$ PSF
 GROUNDWATER ELEVATION = 417 FT.

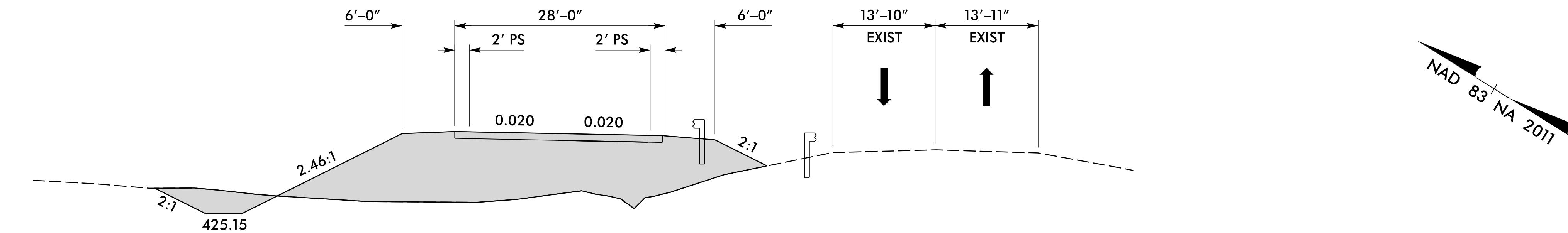
BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 22+37 +/- -LDET-, 23 FT. RT. TO STATION 22+57 +/- -LDET-, 23 FT. RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

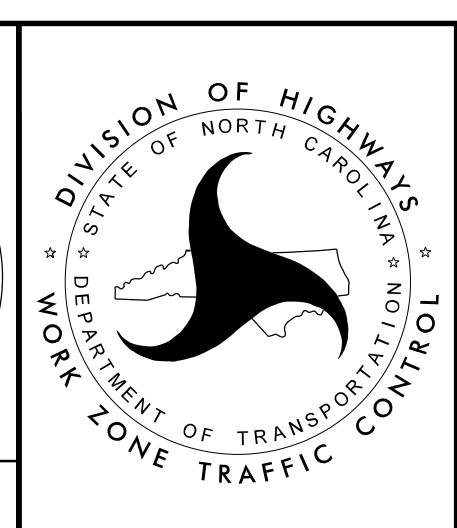
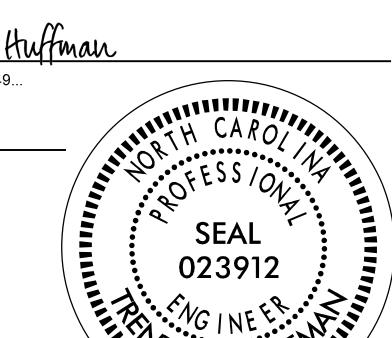
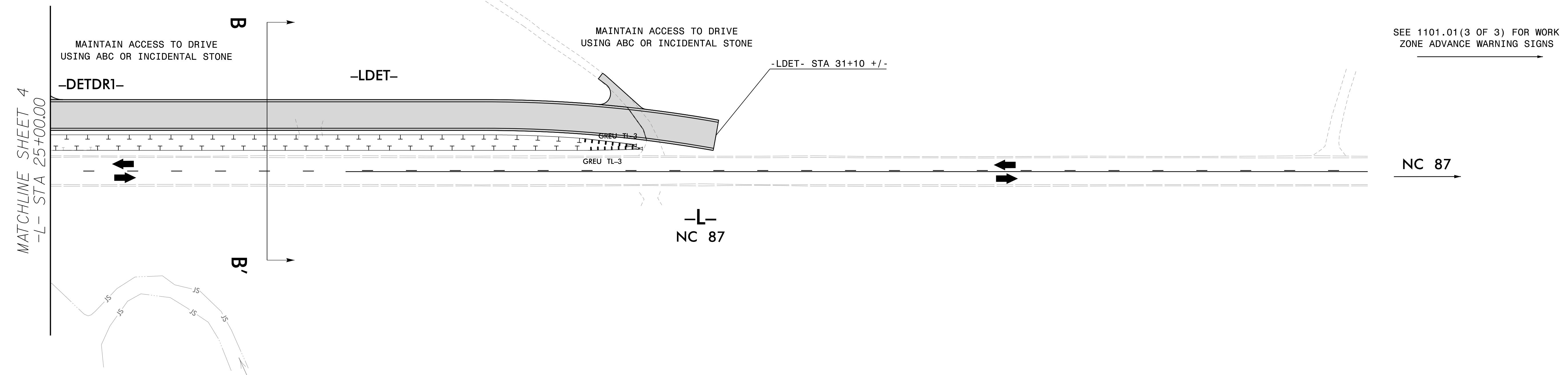


A-A' -LDET- STA. 18 + 50.00





B-B' -LDET- STA. 27 +00



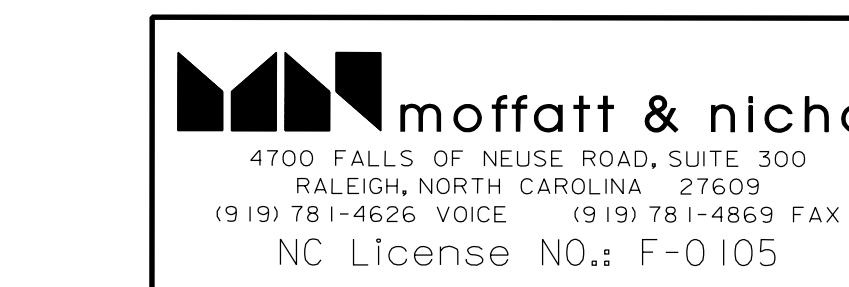
PHASE 1 STEP 1

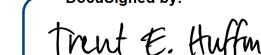
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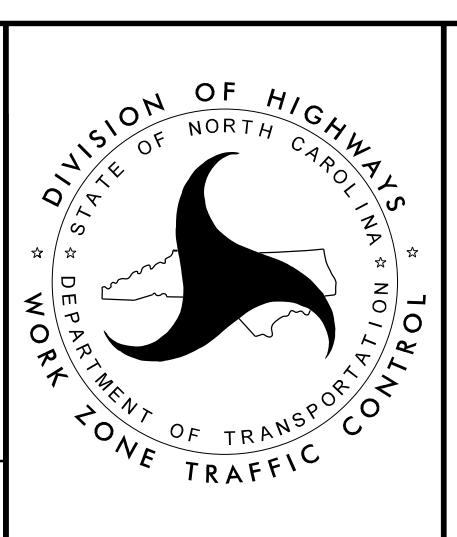
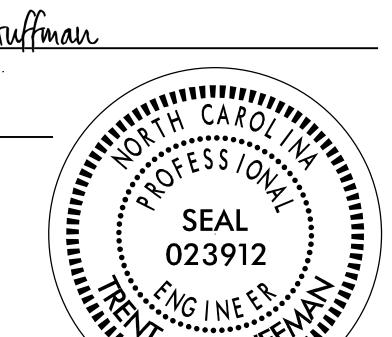
NAD 83 NA 2003

MATCHLINE SHEET 7
-L - STA 25+00.00

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11/25/2025

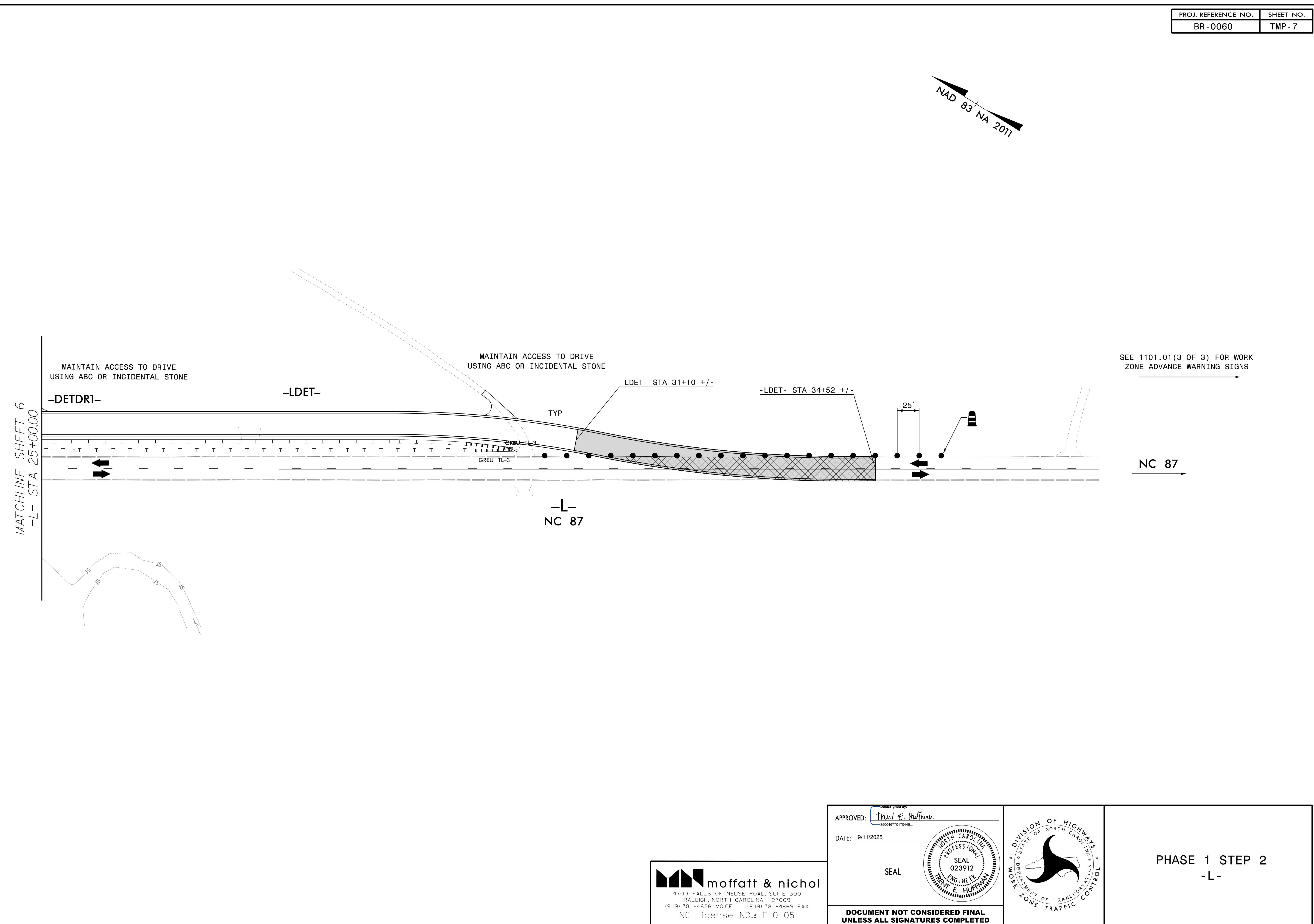


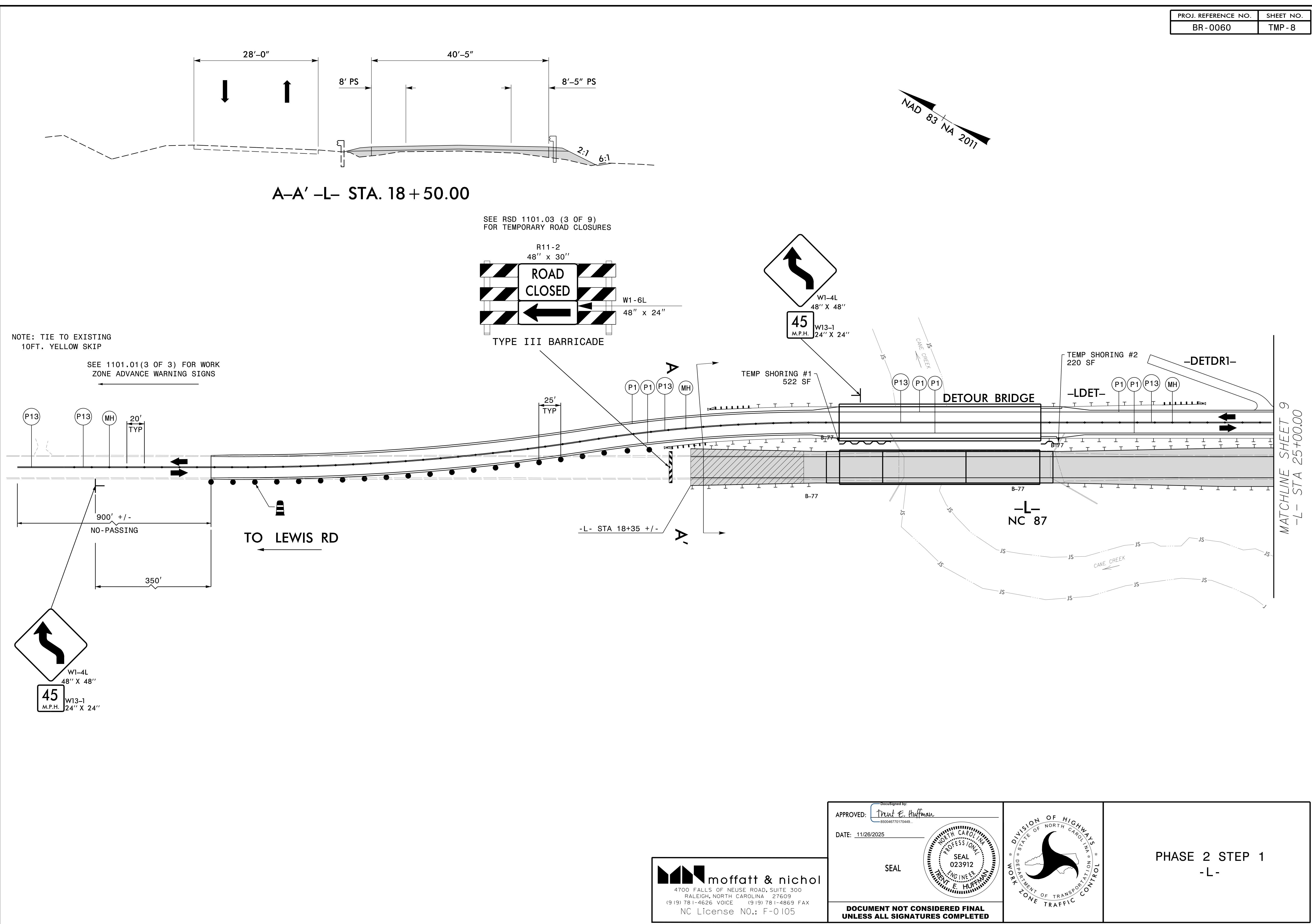
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DATE:	11/26/2025
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 TRENT E. HUFFMAN	
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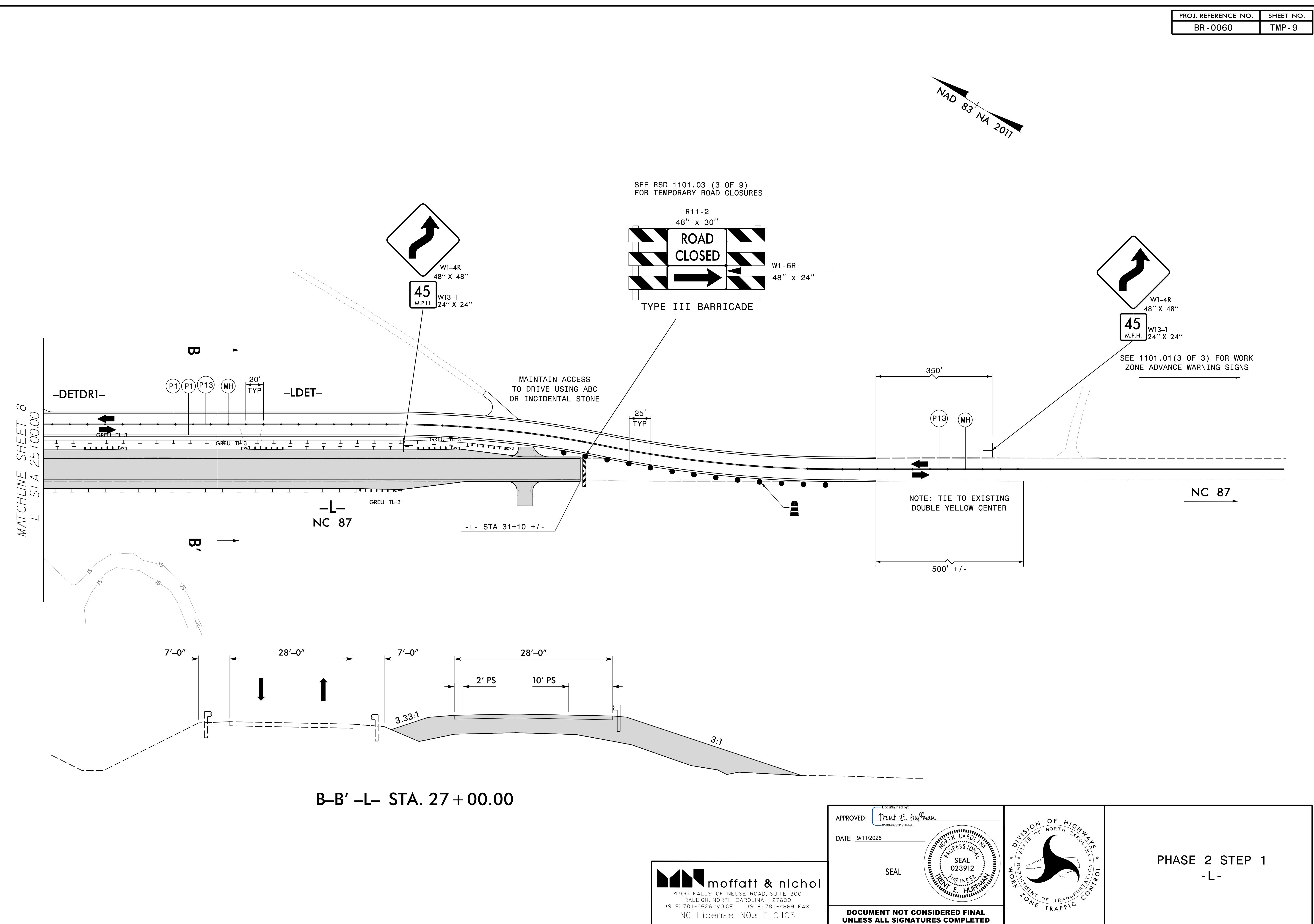


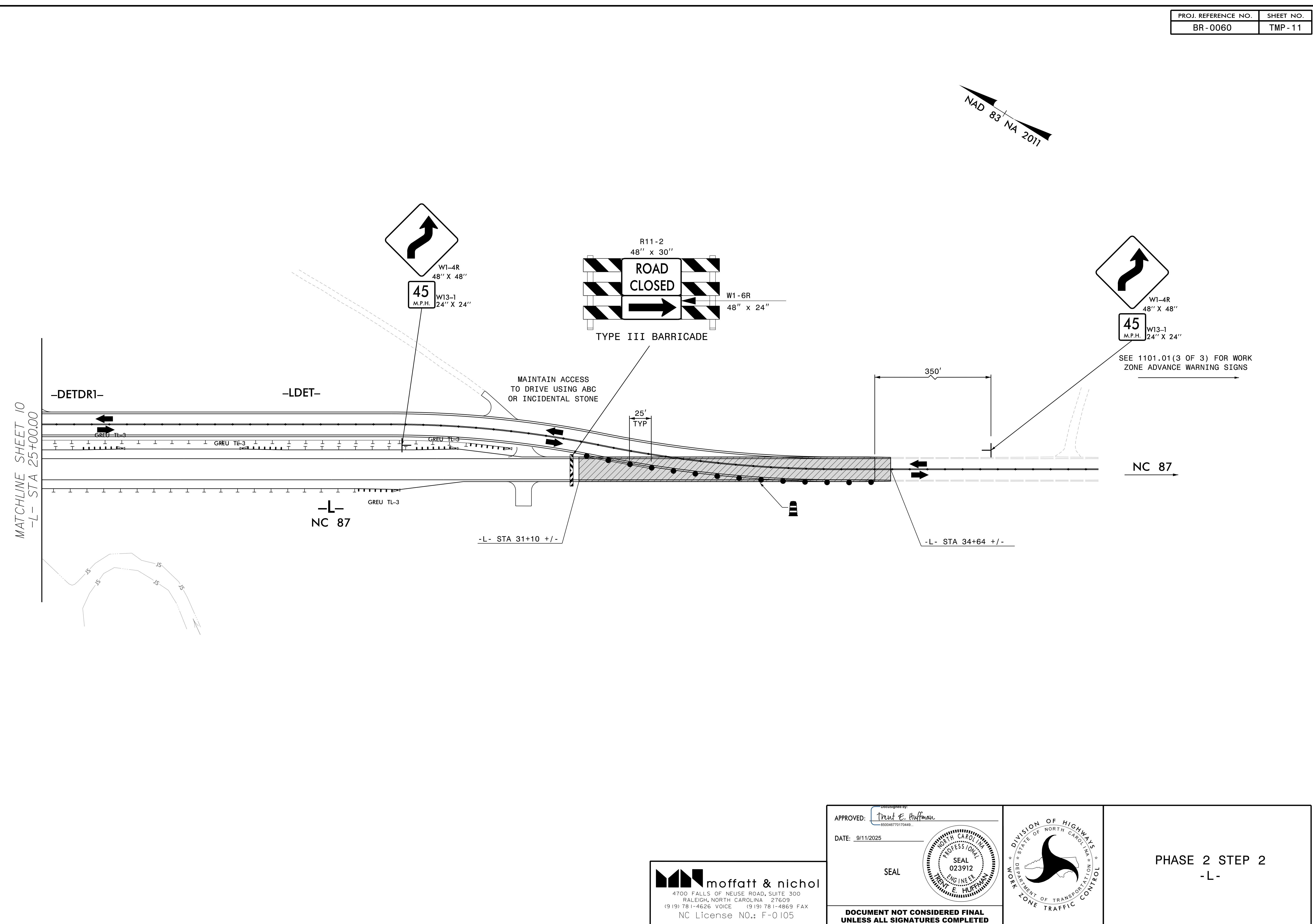
PHASE 1 STEP 2

- L -









NAD 83 NA 2003

SEE RSD 1101.04
FOR ADVANCED WARNING S

TEMP

DETOUR BRIDG

TEMP SHORING #2 220 SF  -DETDR1-

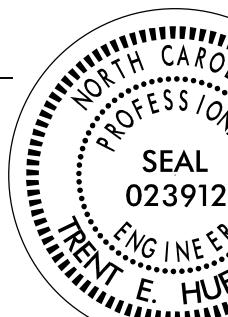
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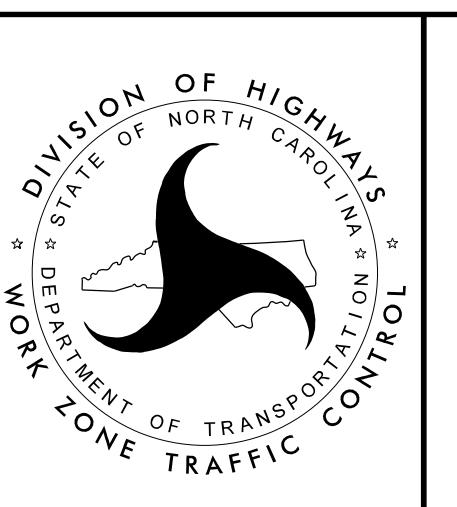
—L—
NC 87

MATCHLINE SHEET 13
-L - STA 25400.00

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||/25/2025



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DATE:	11/26/2025
SEAL	
	
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PHASE 3

- L -

A diagram showing a diagonal line with two arrows pointing away from each other. The text 'NAD 83' is on the left arrow, and 'NA 2011' is on the right arrow, indicating a coordinate shift between the two systems.

SEE RSD 1101.04
FOR ADVANCED WARNING SIGNS

-DR1-

-LDET-

GREU TL-3

GREU TL-3

GREU TL-3

NC 87

NC 87

MATCHLINE SHEET 1/2

STA 25+00.00

25' TYP

- LDET - STA 34+00 +/-

GREU TL-3

JS

JS

JS

JS

SEE RSD 1101.04
FOR ADVANCED WARNING SIGNS

-DR1-

-LDET-

GREU TL-3

GREU TL-3

GREU TL-3

NC 87

NC 87

MATCHLINE SHEET 1/2

STA 25+00.00

25' TYP

- LDET - STA 34+00 +/-

GREU TL-3

JS

JS

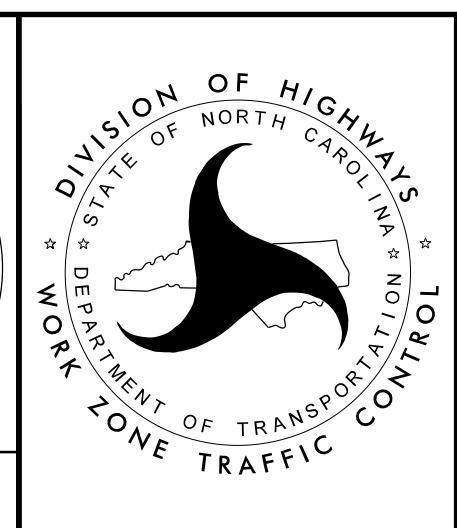
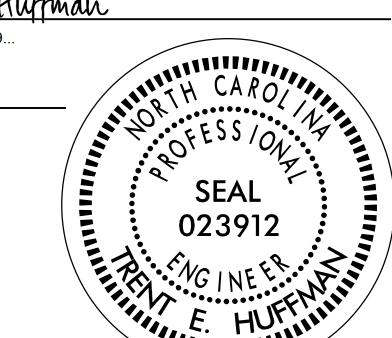
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JS

9/11/2025
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APPROVED:	<p>DocuSigned by: <u>Trent E. Huffman</u> 850046770170449...</p>
DATE:	<u>9/11/2025</u>
SEAL	
 A circular seal for a professional engineer. The outer ring contains the text "NORTH CAROLINA" at the top and "PROFESSIONAL" at the bottom, separated by a dotted line. The inner circle contains "SEAL" at the top and "02391" at the bottom, also separated by a dotted line. The bottom half of the inner circle contains "TRENT E. HUFFMAN" and "ENGINEER" in a stacked, dotted font.	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED</p>	



PHASE 3
