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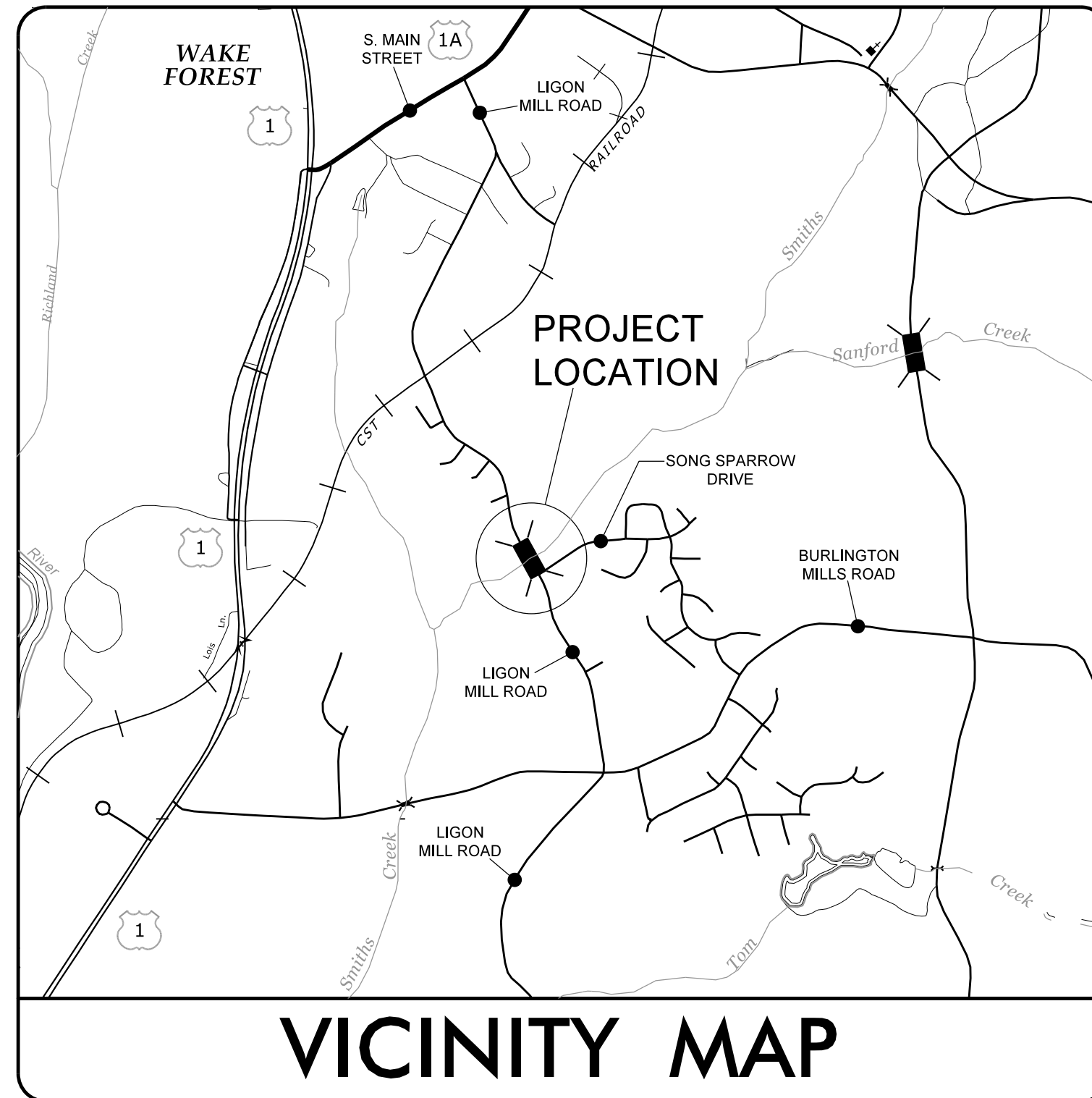
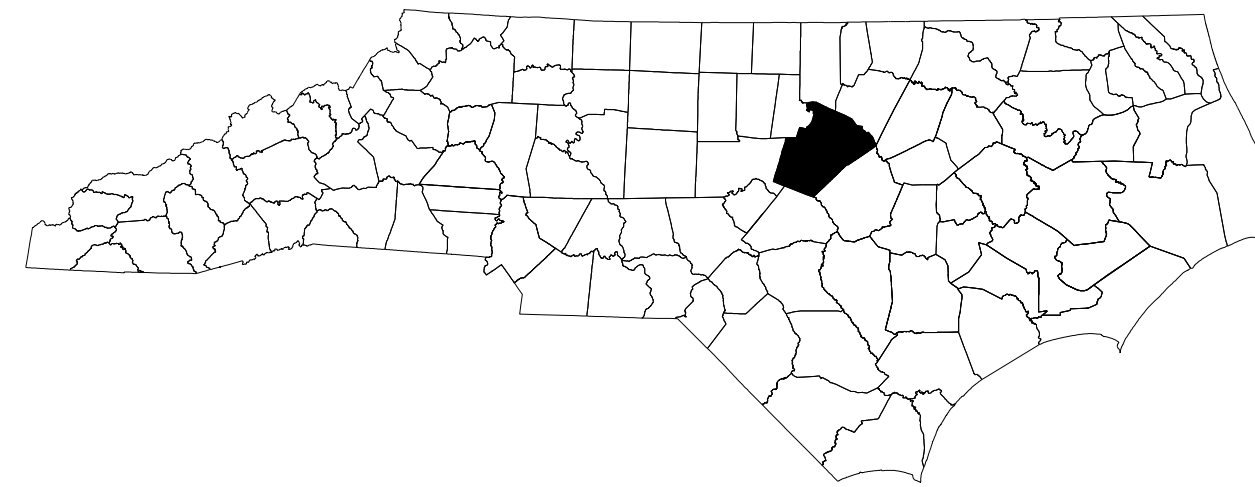
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

WAKE COUNTY

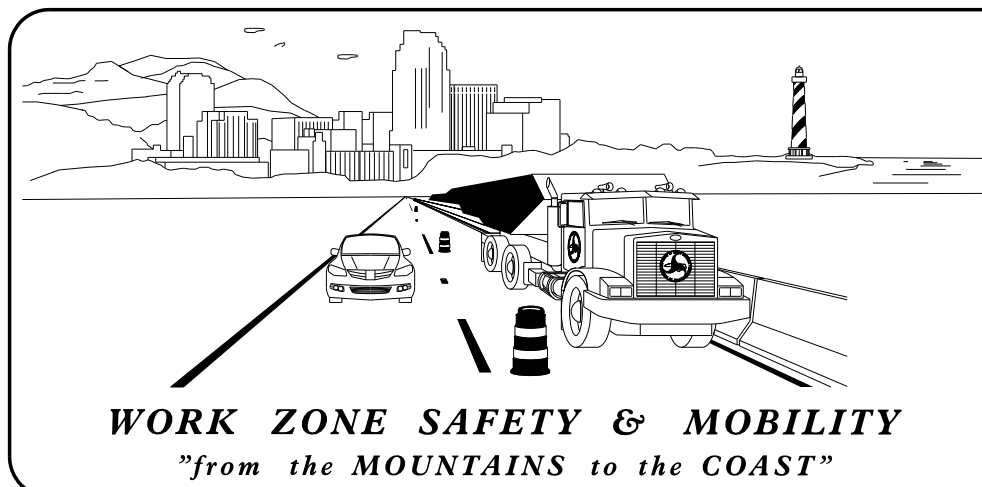


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SHEET NO.
TMP-1

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PLANS PREPARED BY:

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PLAN PREPARED FOR N.C.D.O.T. BY:

Dewberry

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: *J. Todd Brooks*

DATE: 8/29/2022

SEAL

PROJECT: B-5318

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 2018 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
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES - TYPE III
1150.01	FLAGGERS
1160.01	TEMPORARY CRASH CUSHION - REFLECTIVE END TREATMENT
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205D04	REVISED PAVEMENT MARKING ROADWAY STANDARD DRAWING - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205D12	REVISED PAVEMENT MARKING ROADWAY STANDARD DRAWING - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

LEGEND

GENERAL

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

WORK AREA

REMOVAL

TEMPORARY PAVEMENT

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
- PORTABLE CONCRETE BARRIER (P.C.B.)
- 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

PAVEMENT MARKING LINES

- | | | |
|-----|---------------------------|---|
| C1 | WHITE EDGELINE | COLD APPLIED PLASTIC - TYPE 4 REMOVABLE TAPE (4") |
| C13 | YELLOW DOUBLE CENTER | COLD APPLIED PLASTIC - TYPE 4 REMOVABLE TAPE (4") |
| P1 | WHITE EDGELINE | PAINT (4") |
| P2 | WHITE SOLID LANE LINE | PAINT (4") |
| P4 | 3' - 9' SP WHITE MINISKIP | PAINT (4") |
| P5 | 2' - 6' SP WHITE MINISKIP | PAINT (4") |
| P13 | YELLOW DOUBLE CENTER | PAINT (4") |

PAVEMENT MARKING SYMBOLS AND CHARACTERS

- | | | |
|-----|-----------------|-------|
| P70 | LEFT TURN ARROW | PAINT |
|-----|-----------------|-------|

PAVEMENT MARKERS

- | | | |
|----|-------------------|--------------|
| MH | YELLOW AND YELLOW | TEMP. RAISED |
| MI | CRYSTAL AND RED | TEMP. RAISED |

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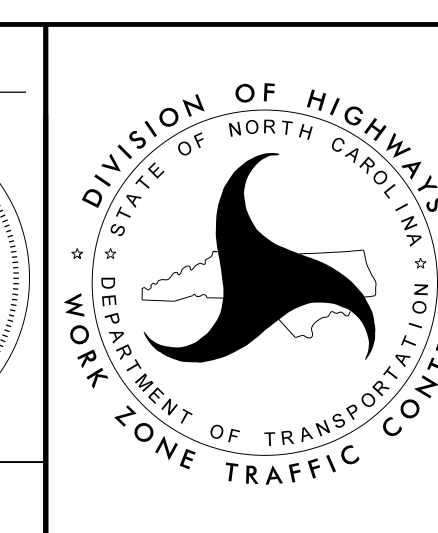


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ROADWAY STANDARD DRAWINGS & LEGEND

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MANAGEMENT STRATEGIES

THE PURPOSE OF THIS PROJECT IS TO REPLACE THE EXISTING SR 2044 (LIGON MILL RD.) BRIDGE OVER SMITH CREEK. TRAFFIC WILL BE MAINTAINED ON LIGON MILL ROAD DURING PHASES I & II USING TEMPORARY WIDENING AND SHORING. OFFSITE DETOURS WILL BE EMPLOYED WHEN SR 4428 (SONG SPARROW DRIVE) IS CLOSED AT THE BEGINNING OF PHASE II AND WHEN LIGON MILL ROAD IS CLOSED AT THE BEGINNING OF PHASE III.

PHASE I OF THIS TRANSPORTATION MANAGEMENT PLAN CONSISTS OF:

1-BORING AND JACKING PROPOSED SANITARY SEWER LINES UNDER LIGON MILL ROAD BETWEEN SMITH CREEK AND WOODROSE LANE/MARGOT'S AVENUE.

2-CONSTRUCTING THE WEST SIDE TEMPORARY WIDENING (-DET-) NEEDED TO MAINTAIN TWO-LANE, TWO-WAY TRAFFIC ON LIGON MILL ROAD DURING CONSTRUCTION OF PROPOSED LIGON MILL ROAD AND ITS NEW BRIDGE ON THE EAST SIDE OF EXISTING ROADWAY.

LIGON MILL ROAD TRAFFIC WILL THEN BE SHIFTED TO THIS TEMPORARY WIDENING IN PHASE II TO CONSTRUCT AS MUCH OF THE PROPOSED ROADWAY AND NEW BRIDGE AS POSSIBLE USING TEMPORARY SHORING WHILE MAINTAINING TRAFFIC ON EXISTING LIGON MILL ROAD.

NEAR THE BEGINNING OF PHASE II, SONG SPARROW DRIVE WILL BE CLOSED AND TRAFFIC DETOURED OFFSITE TO CONSTRUCT TIE-IN TO PROPOSED LIGON MILL ROAD. SONG SPARROW WILL REOPEN ONCE LIGON MILL ROAD TRAFFIC IS SHIFTED TO NEW ALIGNMENT EAST OF EXISTING IN PHASE III.

DURING PHASE III, LIGON MILL ROAD WILL BE CLOSED TEMPORARILY AND TRAFFIC DETOURED OFFSITE IN ORDER TO COMPLETE THE TIE-INS BETWEEN EXISTING AND PROPOSED LIGON MILL ROAD AT THE NORTH AND SOUTH ENDS OF THE PROJECT UNDER INTERMEDIATE CONTRACT TIME.

PHASE III OF THIS TRANSPORTATION MANAGEMENT PLAN CONSISTS OF SHIFTING LIGON MILL ROAD TRAFFIC TO THE NEW ALIGNMENT AND BRIDGE. ONCE THE TRAFFIC IS SHIFTED, DEMOLISH EXISTING BRIDGE AND ROADWAY AND COMPLETE ALL REMAINING CONSTRUCTION ALONG WEST SIDE OF LIGON MILL ROAD AWAY FROM TRAFFIC WHENEVER POSSIBLE BUT USING TEMPORARY LANE CLOSURES WHEN NECESSARY.

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B-5318	TMP-2

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.

TIME RESTRICTIONS

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

<u>ROAD NAME</u>	<u>DAY AND TIME RESTRICTIONS</u>
SR 2044 (LIGON MILL ROAD)	MONDAY THROUGH FRIDAY
SR 4428 (SONG SPARROW DRIVE)	6:00 AM TO 9:00 AM & 4:00 PM TO 6:00 PM

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

ROAD NAME

SR 2044 (LIGON MILL ROAD)
SR 4428 (SONG SPARROW DRIVE)

HOLIDAY AND HOLIDAY WEEKEND

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 AM DECEMBER 31ST TO 6:00 PM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 PM THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 AM THURSDAY AND 6:00 PM MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY TO 6:00 PM TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 AM THE DAY BEFORE INDEPENDENCE DAY AND 6:00 PM THE DAY AFTER INDEPENDENCE DAY.
6. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 PM THE TUESDAY AFTER INDEPENDENCE DAY.
7. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY AND 6:00 PM TUESDAY.
8. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 AM TUESDAY TO 6:00 PM MONDAY.
9. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

(CONTINUED ON TMP-2A)



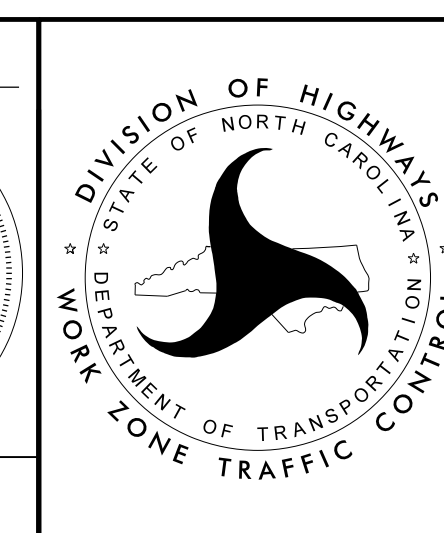
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17586

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TRANSPORTATION
OPERATIONS
PLAN

(CONTINUED FROM TMP-2)

TIME RESTRICTIONS - CONTINUED

C) DO NOT CONDUCT SINGLE VEHICLE HAULING AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
SR 2044 (LIGON MILL ROAD)	MONDAY THROUGH FRIDAY 6:00 AM TO 9:00 AM & 4:00 PM TO 6:00 PM

D) DO NOT CONDUCT MULTI-VEHICLE HAULING AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
SR 2044 (LIGON MILL ROAD)	MONDAY THROUGH FRIDAY 6:00 AM TO 9:00 AM & 4:00 PM TO 6:00 PM

LANE AND SHOULDER CLOSED REQUIREMENTS

- E) 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.
- F) 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.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- H) 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 MANAGEMENT PLANS, ROADWAYS STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- I) 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

- J) BACKFILL AT 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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- M) THE CONTRACTOR SHALL INSTALL SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO ROADWAY STANDARD DRAWINGS AND TMP.
- N) THE CONTRACTOR SHALL COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION. THE CONTRACTOR SHALL COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- O) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERNS.
- P) INSTALL BLACK ON ORANGE 'DIP' SIGNS (W8-2) AND/OR BUMP SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

Q) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

R) PROTECT THE APPROACH END OF MOVEABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVEABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45-50	20 FT
55	25 FT
60 MPH OR HIGHER	30 FT

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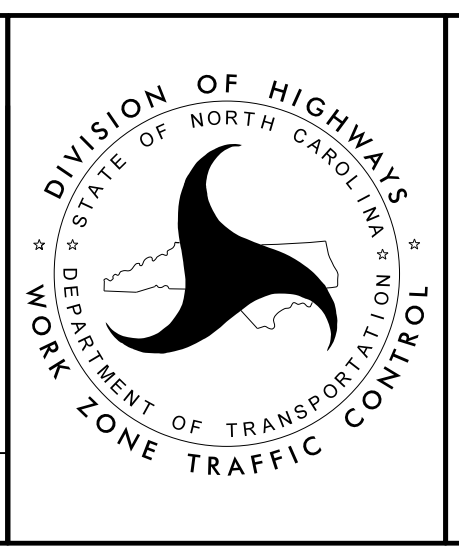
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TRANSPORTATION OPERATIONS PLAN

(CONTINUED FROM TMP-2A)

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

- U) THE CONTRACTOR SHALL INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE. SEE SIGNING AND DELINEATION PLAN.
- V) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

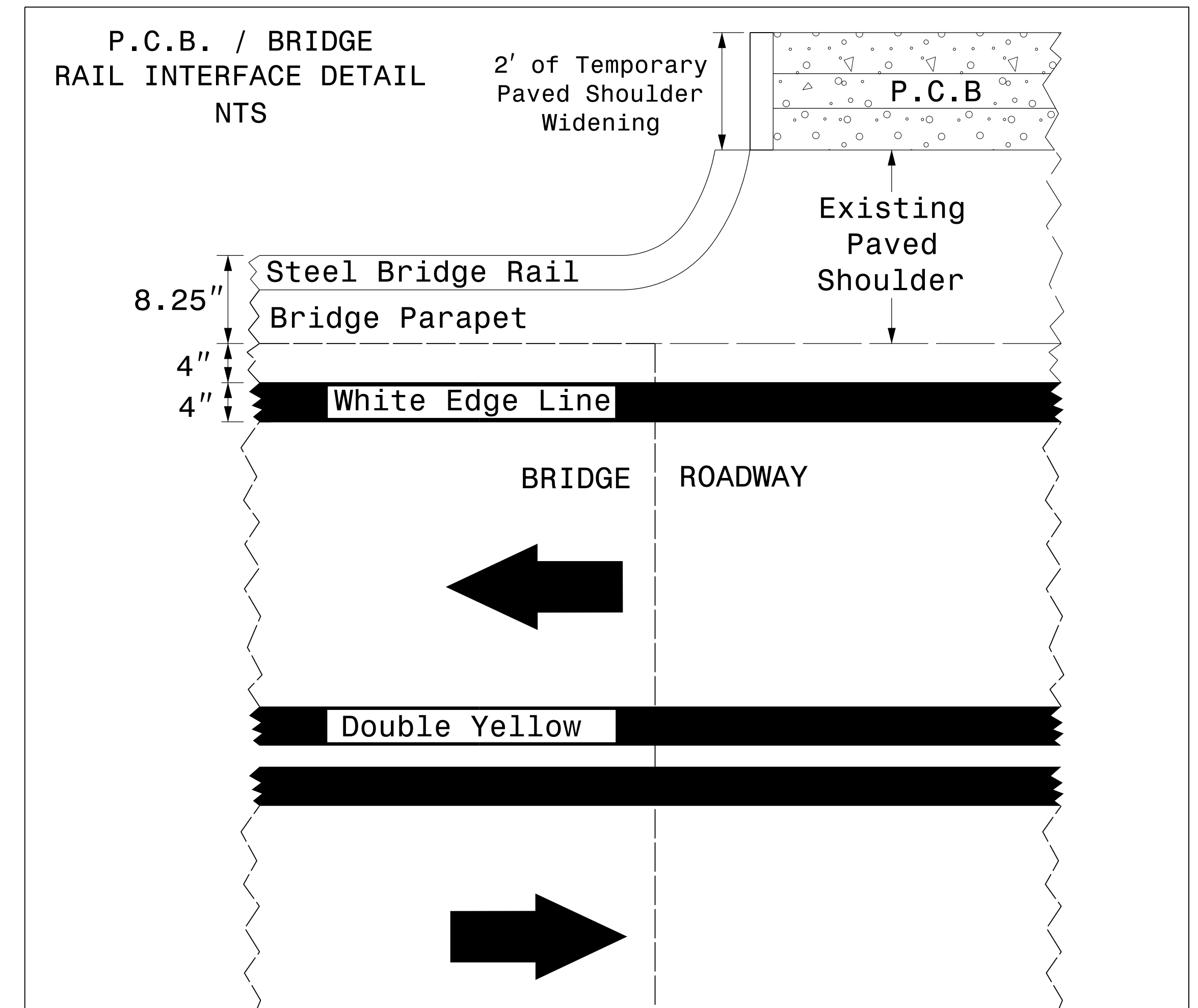
ROAD NAME	MARKERS	MARKINGS/SYMBOLS
SR 2044 (LIGON MILL ROAD)	TEMPORARY RAISED	PAINT
SR 2044 BRIDGE OVER SMITH CREEK	TEMPORARY RAISED	TYPE 4 REMOVABLE TAPE
SR 4428 (SONG SPARROW DRIVE)	NONE	NONE
- W) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- X) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- Y) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATIONS.

MISCELLANEOUS

- Z) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER.

LOCAL NOTES

- LN-1) INSTALL P.C.B. SO THAT EXPOSED END IS ALIGNED BEHIND THE CURVED END OF EXISTING GUARDRAIL ON EXISTING BRIDGE BUT DO NOT ATTACH P.C.B. TO GUARDRAIL. SEE P.C.B. / BRIDGE RAIL INTERFACE DETAIL BELOW.
- LN-2) COORDINATE WITH THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT (CORPUD) TO MAINTAIN SANITARY SEWER EASEMENT ACCESS DURING CONSTRUCTION, USING MEASURES APPROVED BY THE ENGINEER.



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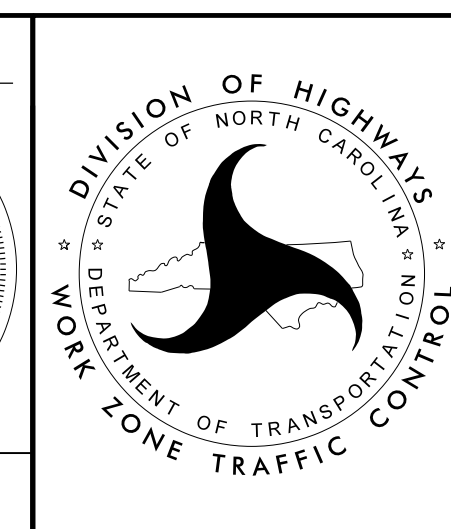


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**TRANSPORTATION
 OPERATIONS
 PLAN**

PROJ. REFERENCE NO.	SHEET NO.
B-5318	TMP-2C

SHORING LOCATION NO. 1

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

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

DESIGN TEMPORARY SHORING FROM STATION -DET- 18+58 +/-, 18' LT, TO STATION -DET- 19+48 +/-, 18' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 197.0 FT +/-

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -DET- 18+58 +/-, 18' LT, TO STATION -DET- 19+48 +/-, 18' LT.

AT THE CONTRACTOR'S OPTION AND WHEN APPLICABLE, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -DET- 18+58 +/-, 18' LT, TO STATION -DET- 19+48 +/-, 18' LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

SEE SHEET TMP-6 FOR CORRESPONDING TRANSPORTATION MANAGEMENT PLAN SHEET

SHORING LOCATION NO. 2

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

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

DESIGN TEMPORARY SHORING FROM STATION -DET- 20+58 +/-, 18' LT, TO STATION -DET- 21+08 +/-, 18' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 197.0 FT +/-

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -DET- 20+58 +/-, 18' LT, TO STATION -DET- 21+08 +/-, 18' LT.

AT THE CONTRACTOR'S OPTION AND WHEN APPLICABLE, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -DET- 20+58 +/-, 18' LT, TO STATION -DET- 21+08 +/-, 18' LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

SEE SHEET TMP-6 FOR CORRESPONDING TRANSPORTATION MANAGEMENT PLAN SHEET

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO THE DIVISION ENGINEER ON DECEMBER 2, 2021 AND SEALED BY A PROFESSIONAL ENGINEER, JINYOUNG PARK, PhD., P.E., LICENSE # 032171.

SHORING LOCATION NO. 3

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

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

DESIGN TEMPORARY SHORING FROM STATION -DET- 14+00 +/-, 15' LT, TO STATION -DET- 18+58 +/-, 15' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 197.0 FT +/-

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -DET- 14+00 +/-, 15' LT, TO STATION -DET- 18+58 +/-, 15' LT.

AT THE CONTRACTOR'S OPTION AND WHEN APPLICABLE, USE STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -DET- 14+00 +/-, 15' LT, TO STATION -DET- 18+58 +/-, 15' LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

SEE SHEET TMP-7 FOR CORRESPONDING TRANSPORTATION MANAGEMENT PLAN SHEET

SHORING LOCATION NO. 4

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

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

DESIGN TEMPORARY SHORING FROM STATION -DET- 21+08 +/-, 15' LT, TO STATION -DET- 22+10 +/-, 15' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 197.0 FT +/-

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -DET- 21+08 +/-, 15' LT, TO STATION -DET- 22+10 +/-, 15' LT.

AT THE CONTRACTOR'S OPTION AND WHEN APPLICABLE, USE STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -DET- 21+08 +/-, 15' LT, TO STATION -DET- 22+10 +/-, 15' LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

SEE SHEETS TMP-7 AND TMP-8 FOR CORRESPONDING TRANSPORTATION MANAGEMENT PLAN SHEETS

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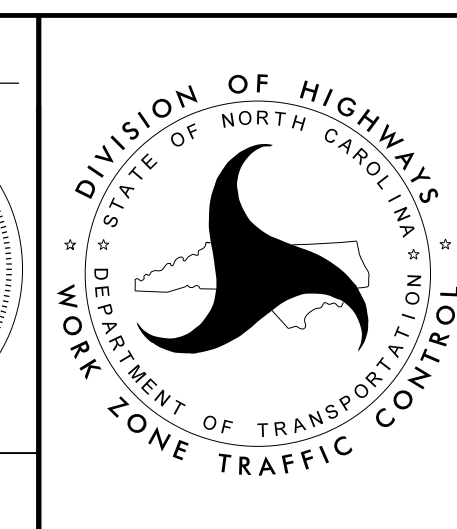
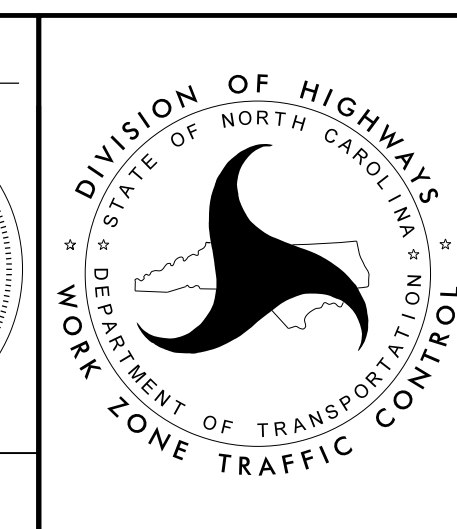


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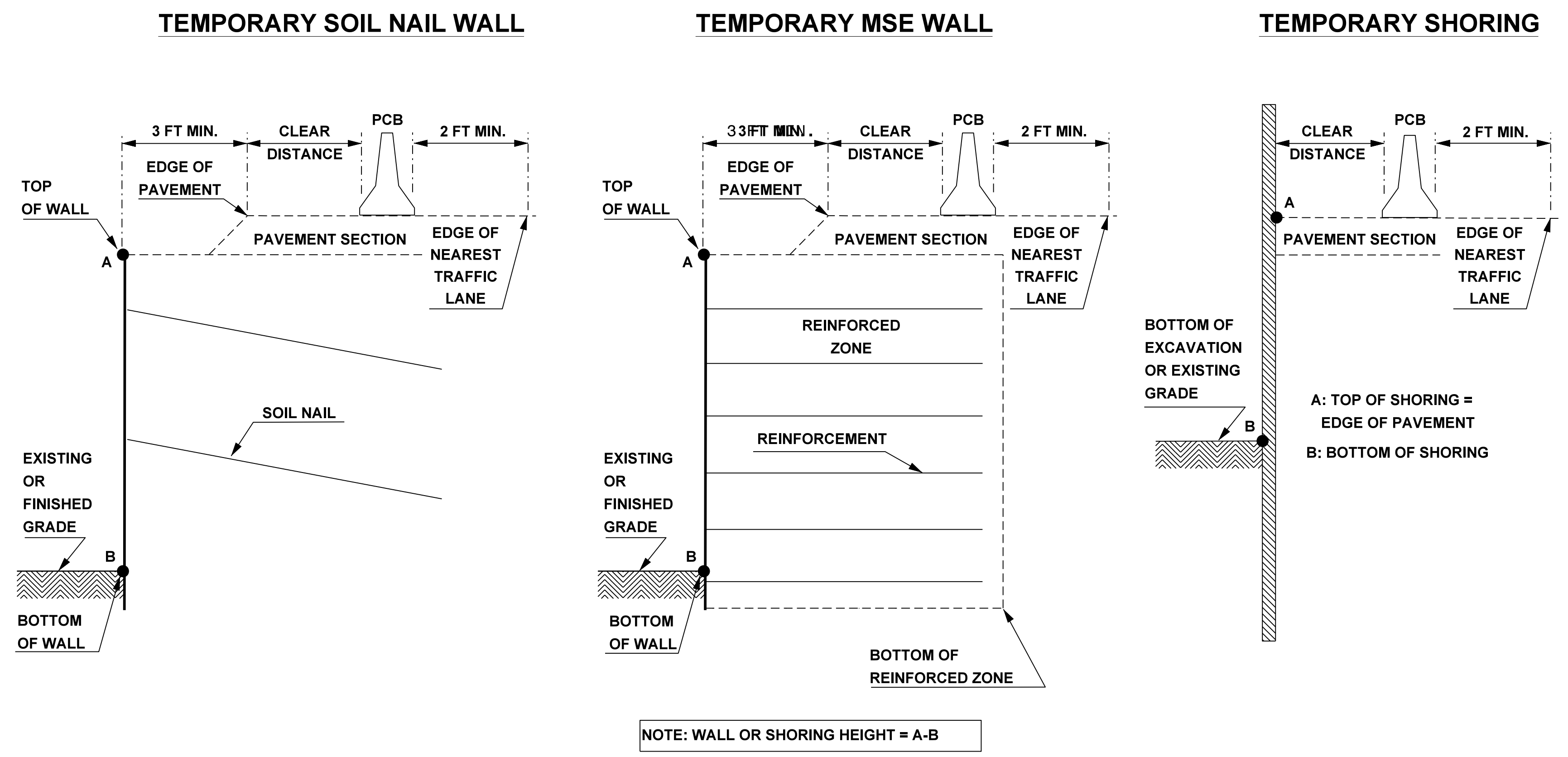
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TEMPORARY SHORING NOTES



NOTE: WALL OR SHORING HEIGHT = A-B

FIGURE A

NOTES

- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- REFER TO THE "TEMPORARY SHORING" STANDARD PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- 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).
- 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.
- 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.
- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 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.
- 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.
- 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

Pavement Type	Offset * ft	Design Speed, mph						
		<30	31-40	41-50	51-60	61-70	71-80	
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40
		8-14	26	28	31	35	38	42
		14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
		38-44	31	34	41	43	45	48
		44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
		>56	32	36	42	45	47	51
Unanchored PCB	Concrete	<8	17	18	21	22	25	26
		8-14	19	20	23	25	26	29
		14-20	22	22	24	26	28	31
		20-26	23	24	26	27	30	34
		26-32	24	25	27	28	32	35
		32-38	24	26	27	30	33	36
		38-44	25	26	28	30	34	37
		44-50	26	26	28	32	35	37
		50-56	26	26	28	32	35	38
		>56	26	27	29	32	36	38
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure Below

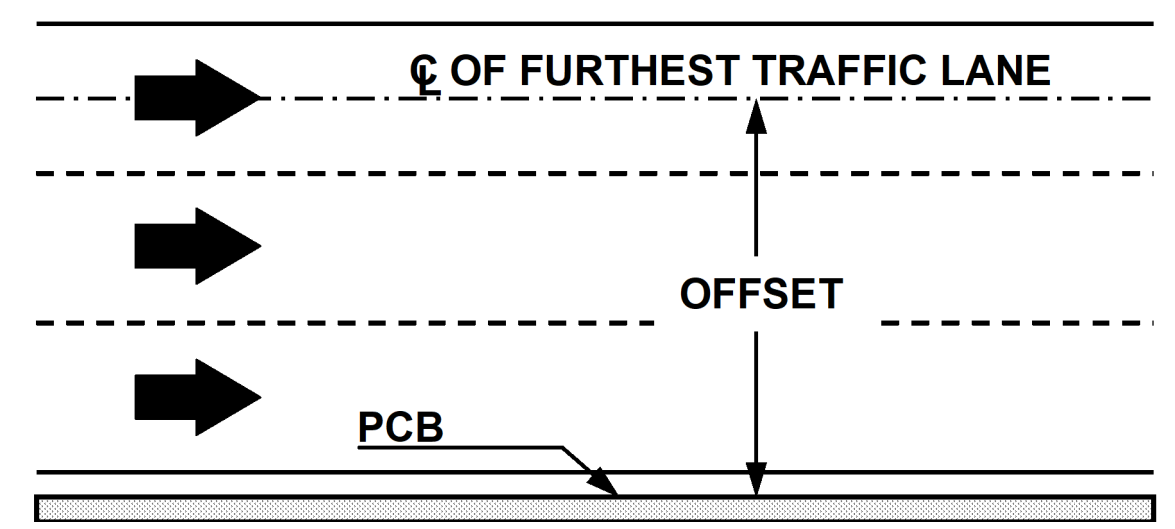


FIGURE B

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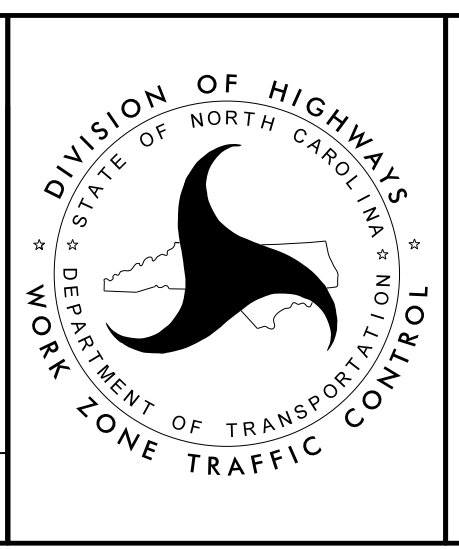


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DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 WORK ZONE TRAFFIC CONTROL

PORTABLE CONCRETE BARRIER
 AT
 TEMPORARY SHORING LOCATIONS

PHASING

PROJ. REFERENCE NO.	SHEET NO.
B-5318	TMP-3

PHASE I

- STEP 1: USING RSD NO. 1101, SHEET 3 OF 3, INSTALL WORK ZONE ADVANCE WARNING SIGNS ON -L- LIGON MILL ROAD (SR 2044), -Y1- SONG SPARROW DRIVE (SR 4428), MERRITT CAPITAL DRIVE AND MARGOT'S AVENUE/WOODROSE LANE (SR 3540).
- STEP 2: USING RSD NO. 1101.02, SHEET 1 OF 14, PERFORM THE FOLLOWING:
- CONSTRUCT 2' OF TEMPORARY PAVED SHOULDER WIDENING FOR PLACEMENT OF P.C.B. ON THE EAST SIDE OF SR 2044 FROM -DET- STA. 15+20 +/- TO -DET- STA. 19+48 +/- AND FROM -DET- STA. 20+69 +/- TO -L- STA. 22+70 +/- . SEE TMP-4 AND CUT SECTION A-A.
 - FROM -L- STA. 23+38 +/- TO -L- STA. 30+05 +/-, CONSTRUCT 2' +/- OF TEMPORARY EAST SIDE PAVED SHOULDER WIDENING. UNDER THE DIRECTION OF THE ENGINEER, CONSTRUCT ENOUGH TEMPORARY PAVEMENT TO ACCOMMODATE 2' OF P.C.B. WITH A 2' OFFSET FROM EXISTING EDGE OF TRAVEL. SEE TMP-4 AND TMP-5.
 - CONSTRUCT 2' OF TEMPORARY PAVED SHOULDER WIDENING FOR PLACEMENT OF P.C.B. ON THE WEST SIDE OF SR 2044 FROM -DET- STA.14+40 +/- TO -DET- STA. 19+48 +/- . SEE TMP-4.
 - REFRESH EXISTING WHITE EDGE LINES BY PLACING TEMPORARY WHITE EDGELINES ALONG AREAS ADJACENT TO THE NEWLY CONSTRUCTED TEMPORARY SHOULDER WIDENING AS SHOWN ON SHEETS TMP-4 AND TMP-5.
- STEP 3: USING RSD NO. 1101.02, SHEET 1 OF 14, INSTALL P.C.B. WITH CRASH CUSHIONS ON THE PREVIOUSLY CONSTRUCTED TEMPORARY SHOULDER WIDENING AS FOLLOWS:
- ANCHORED P.C.B. ON THE EAST SIDE OF SR 2044 FROM -DET- STA. 15+20 +/- TO -DET- STA. 17+00 +/- . SEE TMP-4.
 - UNANCHORED P.C.B. ON THE EAST SIDE OF SR 2044 FROM -DET- STA. 17+00 +/- TO -DET- STA. 19+48 +/- . SEE TMP-4.
 - UNANCHORED P.C.B. ON THE EAST SIDE OF SR 2044 FROM -DET- STA. 20+69 +/- TO -DET- STA. 21+50 +/- . SEE TMP-4.
 - ANCHORED P.C.B. ON THE ON THE WEST SIDE OF SR 2044 FROM -DET- STA. 14+40 +/- TO -DET- STA. 17+00 +/- . SEE TMP-4.
 - UNANCHORED P.C.B. ON THE ON THE WEST SIDE OF SR 2044 FROM -DET- STA. 17+00 +/- TO -DET- STA. 19+48 +/- . SEE TMP-4.

THE CONTRACTOR WILL BE PERMITTED TO BEGIN PROPOSED BRIDGE CONSTRUCTION IN PHASE I, STEP 6, CONCURRENT WITH WORK IN PHASE I, STEP 4, SUBJECT TO THE ENGINEER'S APPROVAL. THE CONTRACTOR SHALL NOT PERFORM ANY OTHER WORK IN PHASE I, STEP 6, OR CONSTRUCT -DET- IN PHASE I, STEP 6, UNTIL ALL WORK IN PHASE I, STEP 4 HAS BEEN COMPLETED.

STEP 4: PLACE PEDESTRIAN CHANNELIZING DEVICE TO TEMPORARILY CLOSE SIDEWALK ON THE EAST SIDE OF SR 2044 FROM SOUTH OF MARGOT'S AVENUE TO -L- STA 15+00 +/- . SEE TMP-4.

EXCAVATE BORE AND RECEIVING PITS. BORE AND JACK SEWER LINES CROSSING LIGON MILL ROAD NORTH OF THE PROPOSED BRIDGE AT -L- STA 15+70 +/- AND -L- STA 16+00 +/- . BEHIND PREVIOUSLY PLACED P.C.B. AND AWAY FROM TRAFFIC [SEE UTILITY PLANS].

STEP 5: PERFORM THE FOLLOWING USING RSD 1101.02, SHEET 1 OF 14:

- ON THE EAST SIDE OF SR 2044, REMOVE THE PORTION OF ANCHORED P.C.B. PLACED IN PHASE I, STEP 3 FROM -DET- STA. 15+20 +/- TO -DET- STA. 15+89 +/- . PLACE A CRASH CUSHION ON THE TRAILING END OF THIS RUN OF P.C.B. AT -DET- STA. 15+89 +/- . SEE TMP-6.
- ON THE WEST SIDE OF SR 2044, REMOVE THE P.C.B. AND CRASH CUSHION PLACED IN PHASE I, STEP 3 FROM -DET- STA. 12+00 +/- TO -DET- STA. 19+48 +/- AND REPLACE WITH DRUMS AT 35' C-C SPACING. SEE TMP-6.

STEP 6: PERFORM THE FOLLOWING:

WHILE WORKING BEHIND P.C.B. AND AWAY FROM TRAFFIC, INSTALL TEMPORARY BRIDGE SHORING ALONG THE EAST SIDE OF EXISTING LIGON MILL ROAD FROM -DET- STA. 18+58 +/- TO -DET- STA 19+48 +/- AND FROM -DET- STA. 20+58 +/- TO -DET- STA. 21+08 +/- . SEE TMP-6.

ONCE THE ABOVE BRIDGE SHORING IS IN PLACE, BEGIN CONSTRUCTION OF PROPOSED BRIDGE OVER SMITH CREEK AWAY FROM TRAFFIC. BEGIN CLEARING AND CONSTRUCTION OF FILL EMBANKMENT FOR PROPOSED LIGON MILL ROAD AWAY FROM TRAFFIC. SEE TMP-6.

USING RSD 1101.02, SHEET 1 OF 14, CONSTRUCT -DET- UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT ALONG WEST SIDE OF LIGON MILL ROAD FROM -DET- STA 11+00 +/- TO -DET- STA. 14+76 +/- AND CONSTRUCT 4 FT TEMPORARY PAVEMENT WIDENING IN SOUTHEAST RADIUS OF THE MERRITT CAPITAL DRIVE INTERSECTION WITH -DET- . SEE TMP-6 AND CUT SECTION B-B.

PHASE II

THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE PHASE II, STEP 1 DURING A SINGLE WORK PERIOD.

STEP 1: USING RSD NO. 1101.02, SHEET 1 OF 14, SHIFT -L- LIGON MILL ROAD INTO TEMPORARY TRAFFIC PATTERN ON -DET- CONSTRUCTED IN PHASE I AS FOLLOWS:

-INSTALL WATER-FILLED BARRIER (W.F.B.) ALONG THE WEST SIDE OF -DET- AND AROUND THE SOUTHWEST RADIUS OF THE MERRITT CAPITAL DRIVE INTERSECTION FROM -DET- STA. 13+72 +/- TO -DET- STA. 15+00 +/- AS SHOWN ON TMP-7.

-REVISE PAVEMENT MARKINGS ON -L- LIGON MILL ROAD TO TEMPORARY PATTERN BETWEEN WOODROSE LANE/MARGOT'S AVENUE AND THE EXISTING SMITH CREEK BRIDGE AS SHOWN ON TMP-7 [SEE CUT SECTIONS C-C AND D-D ON TMP-7]. REVISE SOUTHBOUND WHITE EDGE LINE AND DOUBLE YELLOW CENTERLINE TO SHIFT SOUTHBOUND TRAFFIC, THEN REVISE NORTHBOUND WHITE EDGE LINE AND SHIFT NORTHBOUND TRAFFIC.

CONTINUED ON SHEET TMP-3A

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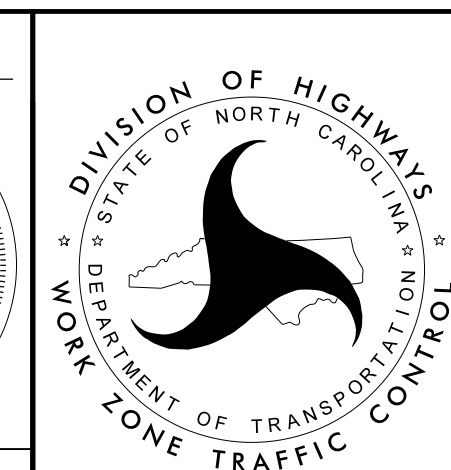
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ENGINEER
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17586

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PHASING

CONTINUED FROM SHEET TMP-3

PHASE II - CONT.

STEP 2: USING RSD NO. 1101.02, SHEET 1 OF 14, INSTALL:

- UNANCHORED P.C.B. ALONG EAST SIDE OF LIGON MILL ROAD FROM -DET- STA. 11+50 +/- TO -DET- STA. 15+20 +/- AND RESET CRASH CUSHION FROM -DET- STA. 15+20 +/- TO -DET- STA. 11+50 +/- . [SEE TMP-7 AND CUT SECTIONS C-C AND D-D].

THE CONTRACTOR SHALL INSTALL AND ACTIVATE CHANGEABLE MESSAGE SIGNS (CMS) AS SHOWN ON TMP-13 MINIMUM OF SEVEN (7) CALENDAR DAYS IN ADVANCE OF TEMPORARY CLOSURE AND DETOUR OF -Y1- SONG SPARROW DRIVE IN PHASE II, STEP 3.

STEP 3: INSTALL ROAD CLOSURE AND DETOUR SIGNING SHOWN ON TMP-13. TEMPORARILY CLOSE SONG SPARROW DRIVE (-Y1-) AND DETOUR TRAFFIC AS SHOWN ON SHEETS TMP-8 AND TMP-13. EXTEND THE PREVIOUSLY PLACED P.C.B. TO -L- STA. 26+00 +/- AS SHOWN ON SHEET TMP-8 AND RESET CRASH CUSHION. SEE CUT SECTIONS E-E AND F-F ON TMP-8.

STEP 4: WORKING BEHIND P.C.B. AND AWAY FROM TRAFFIC, PERFORM THE FOLLOWING:

- INSTALL TEMPORARY SHORING (ROADWAY SHORING) ALONG EAST SIDE OF EXISTING LIGON MILL ROAD FROM -DET- STA 14+00 +/- TO -DET- STA 18+58 +/- AND FROM -DET- STA. 21+08 +/- TO -DET- STA. 22+00 +/- . [SEE TMP-7 & CUT SECTION D-D AND TMP-8 & CUT SECTION E-E]

- CONSTRUCT PROPOSED -L- LIGON MILL ROAD AS MUCH AS POSSIBLE UP TO BUT NOT INCLUDING FINAL SURFACE LAYER BUT EXCLUDING TIE-INS TO EXISTING LIGON MILL ROAD -L- FROM STA 10+25 +/- TO NORTH END OF PROPOSED SMITH CREEK BRIDGE AS SHOWN ON SHEET TMP-7.

- CONSTRUCT PROPOSED LIGON MILL ROAD UP TO BUT NOT INCLUDING FINAL SURFACE LAYER FROM SOUTH END OF BRIDGE TO -L- STA 22+00 +/- AS SHOWN ON SHEETS TMP-7 AND TMP-8. SEE CUT SECTION E-E ON SHEET TMP-8.

- CONSTRUCT PROPOSED LIGON MILL ROAD FROM -L- STA 22+00 +/- TO -L- STA 27+50 +/- , AS MUCH AS POSSIBLE BUT EXCLUDING TIE-IN TO EXISTING LIGON MILL ROAD. [SEE CUT SECTIONS F-F AND G-G ON TMP-8]

- PROPOSED SONG SPARROW DRIVE (-Y1-) UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COUSE FROM -Y1- STA. 12+25 +/- TO THE INTERSECTION WITH -L-. SEE TMP-8.

COMPLETE CONSTRUCTION OF PROPOSED BRIDGE OVER SMITH CREEK BEGUN IN PHASE I, STEP 6.

THE CONTRACTOR SHALL INSTALL AND ACTIVATE CHANGEABLE MESSAGE SIGNS (CMS) AS SHOWN ON TMP-14 FOURTEEN (14) CALENDAR DAYS IN ADVANCE OF TEMPORARY CLOSURE AND DETOUR OF -L- LIGON MILL ROAD.

THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE PHASE III, STEP 1 THROUGH PHASE III, STEP 3 WITHIN TWENTY-ONE (21) CALENDAR DAYS [SEE INTERMEDIATE CONTRACT TIME- LIQUIDATED DAMAGES]

PHASE III

STEP 1: UNCOVER ROAD CLOSURE AND DETOUR SIGNING AND PLACE BARRICADES AS SHOWN ON TMP-9, TMP-10 AND TMP-14 TO TEMPORARILY CLOSE -L- LIGON MILL ROAD TO THROUGH TRAFFIC BETWEEN WOODROSE LANE/MARGOTS AVENUE AND SOUTH OF -Y1- SONG SPARROW DRIVE.

INSTALL ROAD CLOSED 500 FT SIGNS AND PLACE TYPE III BARRICADES TO CLOSE MERRITT CAPITAL DRIVE AT -L- LIGON MILL ROAD AS SHOWN ON TMP-9.

PHASE III - CONT.

STEP 2: BEHIND ROAD CLOSURE CONSTRUCT NORTH AND SOUTH TIE-INS BETWEEN EXISTING LIGON MILL ROAD AND PROPOSED -L- LIGON MILL ROAD SHOWN ON SHEETS TMP-9 AND TMP-10. CONSTRUCT A SUFFICIENT AMOUNT OF THE TIE-INS TO ACCOMMODATE THE NEXT TEMPORARY TRAFFIC PATTERN SHOWN ON TMP-11 AND TMP-12 AND FACILITATE THE REOPENING OF LIGON MILL ROAD WITHIN THE INTERMEDIATE CONTRACT TIME AS APPROVED BY THE ENGINEER.

PLACE TEMPORARY PAVEMENT MARKINGS IN TEMPORARY TWO-LANE, TWO-WAY PATTERN ON NEW -L- LIGON MILL ROAD ALIGNMENT AND ON -Y1- SONG SPARROW DRIVE AS SHOWN ON TMP-11 AND TMP-12.

INSTALL P.C.B. WITH CRASH CUSHIONS ON APPROACH ENDS ALONG WEST SIDE OF PROPOSED -L- LIGON MILL ROAD AS SHOWN ON TMP-11 AND TMP-12.

STEP 3: REMOVE ROAD CLOSURE BARRICADES, COVER/REMOVE DETOUR AND ROAD CLOSURE SIGNS AND REOPEN -L- LIGON MILL ROAD AND -Y1- SONG SPARROW DRIVE TO THROUGH TRAFFIC AS SHOWN ON TMP-11 AND TMP-12. MAINTAIN CLOSURE OF MERRITT CAPITAL DRIVE AT -L- LIGON MILL ROAD.

STEP 4: USING RSD NO. 1101.02, SHEET 1 OF 14:

- CONSTRUCT THE EAST SIDE PROPOSED CURB AND GUTTER FROM -L- STA. 25+00 +/- TO -L- STA. 29+00 +/- . SEE TMP-12.
- COMPLETE CONSTRUCTION OF WEST SIDE -L- LIGON MILL ROAD PROPOSED CURB & GUTTER FROM -L- STA. 10+25 +/- TO -L- STA. 15+46 +/- . [SEE TMP-11]

AWAY FROM TRAFFIC, DEMOLISH EXISTING LIGON MILL ROAD BRIDGE OVER SMITH CREEK AND EXISTING LIGON MILL ROAD PAVEMENT BETWEEN THE NEW ROADWAY AND EACH END OF THE EXISTING BRIDGE.

WORKING AWAY FROM TRAFFIC, COMPLETE ALL REMAINING CONSTRUCTION ON THE WEST SIDE OF -L- LIGON MILL ROAD UP TO BUT NOT INCLUDING FINAL SURFACE LAYER FROM -L- STA. 10+25 +/- TO NORTH END OF BRIDGE OVER SMITH CREEK AND FROM SOUTH END OF BRIDGE TO -L- STA. 29+38 +/- . CONSTRUCT PROPOSED DRIVEWAY -DRW1-. SEE TMP-11 AND TMP-12.

CONSTRUCT PROPOSED -MUT1- MULTI-USE PATH FOR FUTURE GREENWAY (BY OTHERS) BENEATH THE SMITH CREEK BRIDGE FROM -MUT1- STA 10+50 +/- TO -MUT1- STA 11+90 +/- . SEE TMP-11.

STEP 5: USING RSD NO. 1101.02, SHEETS 1 & 2 OF 14, PERFORM THE FOLLOWING:

- REMOVE P.C.B. AND CRASH CUSHIONS AND REPLACE WITH DRUMS SPACED 35 FT C-C.
- REMOVE TYPE III BARRICADES FROM MERRITT CAPITAL DRIVE.
- PLACE FINAL LAYER OF SURFACE COURSE ON -L- LIGON MILL ROAD AND -Y1- SONG SPARROW DRIVE.
- PLACE FINAL PAVEMENT MARKINGS AND MARKERS ON -L- LIGON MILL ROAD AND -Y1- SONG SPARROW DRIVE.

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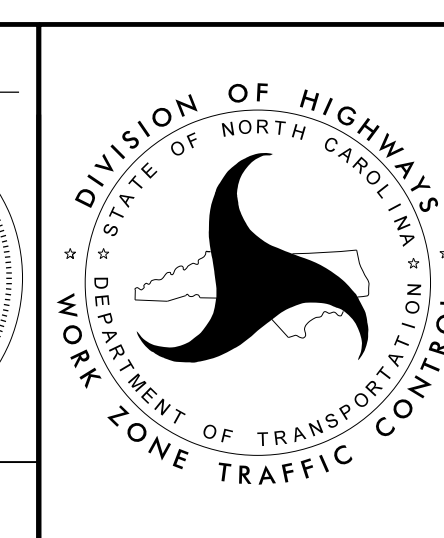
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APPROVED: *J. Todd Brooks*
DATE: 9/26/2022

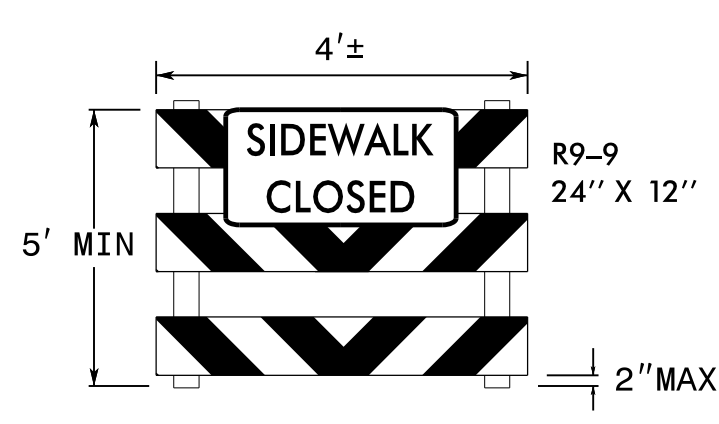
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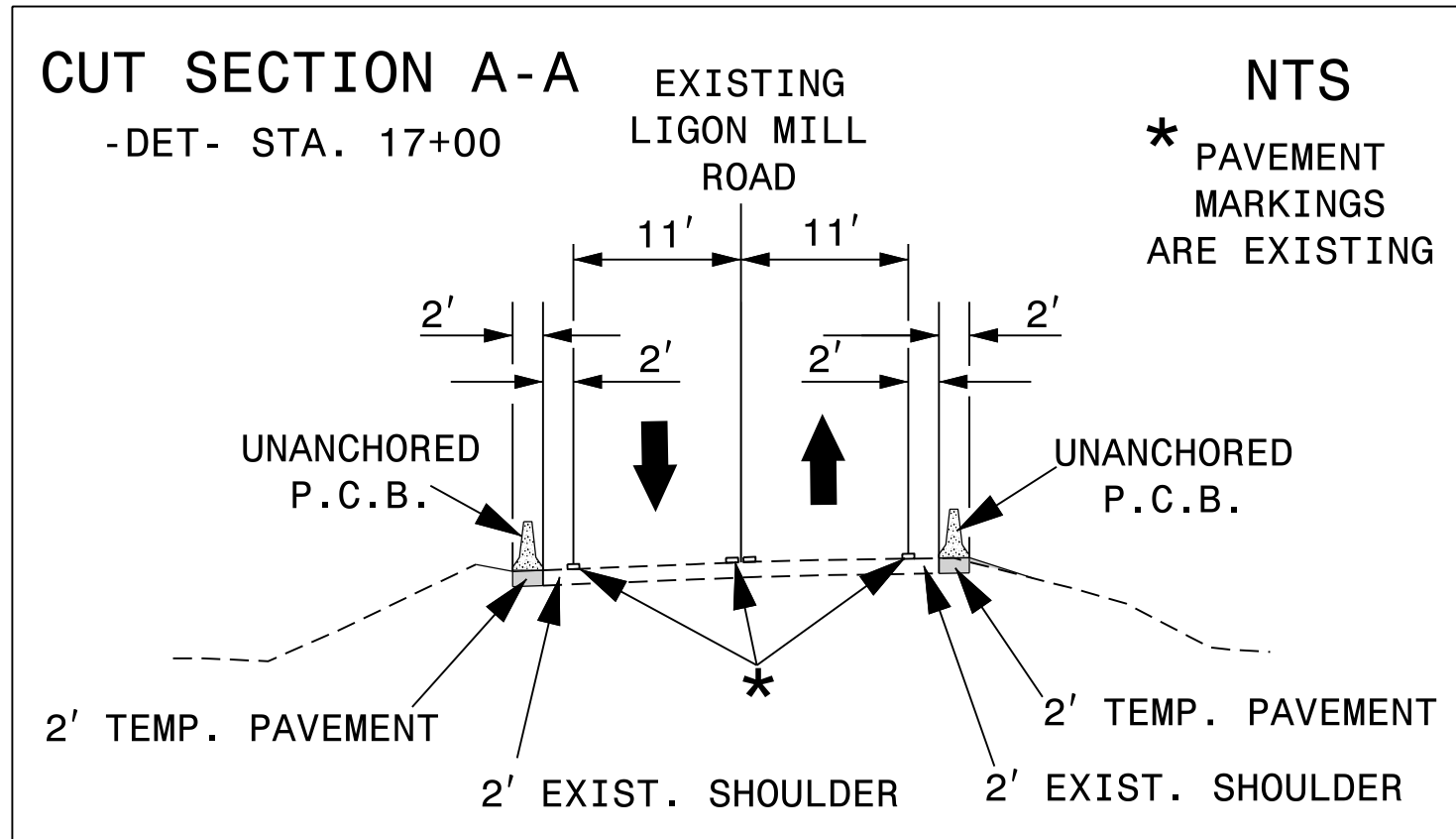
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PHASING



PEDESTRIAN BARRICADE
MUST BE ADA-COMPLIANT



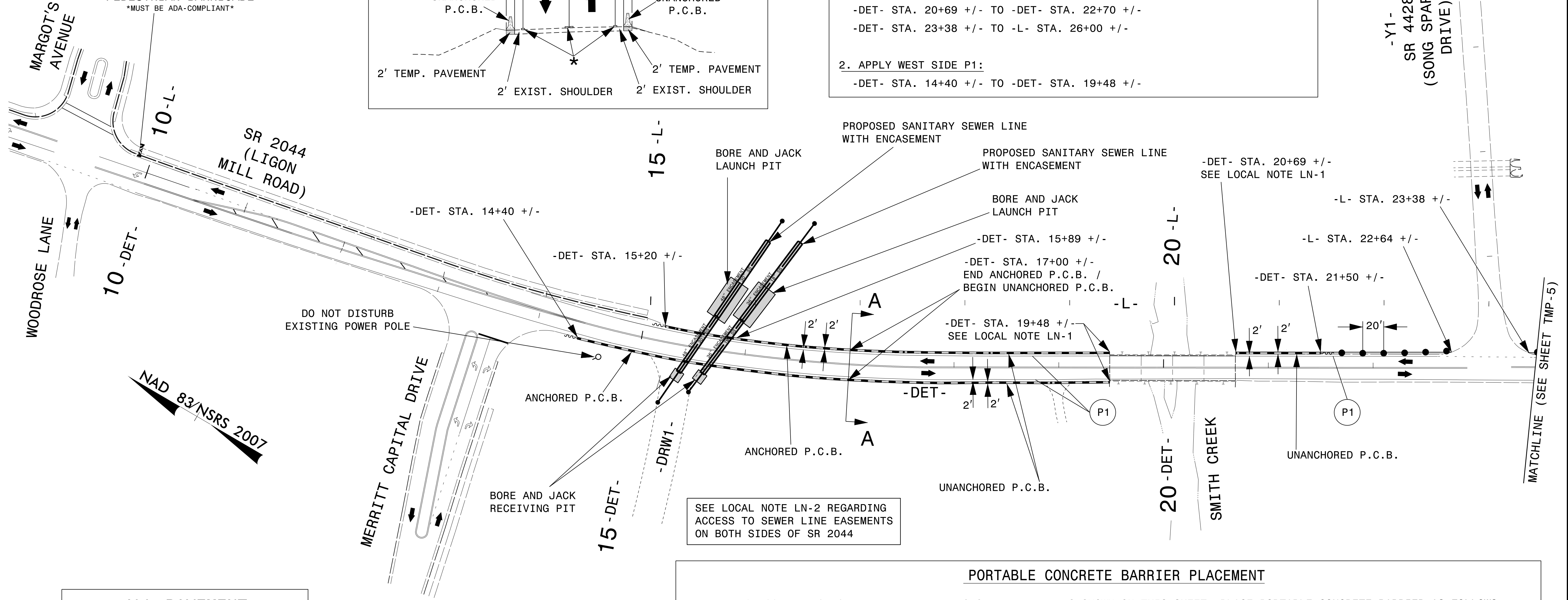
NTS
* PAVEMENT MARKINGS ARE EXISTING

TEMPORARY PAVEMENT MARKING

PAVEMENT MARKING LINES

(P1) WHITE EDGELINE PAINT (4")

- APPLY EAST SIDE P1:
-DET- STA. 15+20 +/- TO -DET- STA. 19+48 +/-
-DET- STA. 20+69 +/- TO -DET- STA. 22+70 +/-
-DET- STA. 23+38 +/- TO -L- STA. 26+00 +/-
- APPLY WEST SIDE P1:
-DET- STA. 14+40 +/- TO -DET- STA. 19+48 +/-



ALL PAVEMENT MARKINGS ARE EXISTING UNLESS OTHERWISE NOTED

TEMPORARY PAVED SHOULDER WIDENING FOR P.C.B. PLACEMENT

CONSTRUCT 2-FOOT WIDENING OF EXISTING PAVED SHOULDERS ALONG SR 2044 (LIGON MILL RD) FOR PLACEMENT OF PORTABLE CONCRETE BARRIER AS FOLLOWS:

EAST SIDE

- DET- STA. 15+20 +/- TO -DET- STA. 19+48 +/-
- DET- STA. 20+69 +/- TO -L- STA. 22+64 +/-
- L- STA. 23+38 +/- TO -L- STA. 26+00 +/-

WEST SIDE

- DET- STA. 14+40 +/- TO -DET- STA. 19+48 +/-

PORTABLE CONCRETE BARRIER PLACEMENT

UPON COMPLETION OF THE TEMP. PAVED SHOULDER WIDENING SHOWN ON THIS SHEET, PLACE PORTABLE CONCRETE BARRIER AS FOLLOWS:

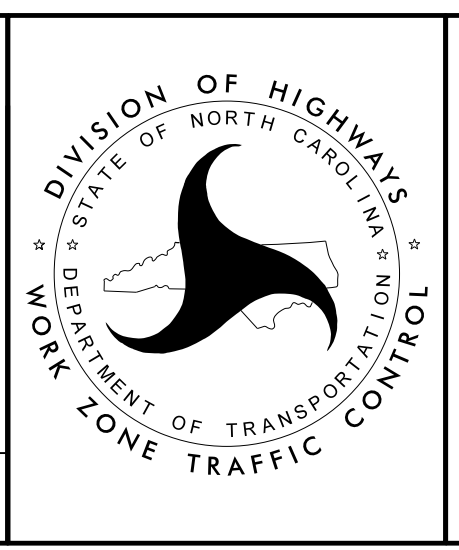
- DET- STA. 15+20 +/- TO -DET- STA. 17+00 +/- (EAST SIDE): INSTALL ANCHORED P.C.B.
- DET- STA. 17+00 +/- TO -DET- STA. 19+48 +/- (EAST SIDE): INSTALL UNANCHORED P.C.B. IN ORDER TO PROTECT TEMP. SHORING TO BE PLACED IN A LATER STEP. SEE LOCAL NOTE LN-1.
- DET- STA. 20+69 +/- TO -DET- STA. 21+50 +/- (EAST SIDE): INSTALL UNANCHORED P.C.B. IN ORDER TO PROTECT TEMP. SHORING TO BE PLACED IN A LATER STEP. SEE LOCAL NOTE LN-1.
- DET- STA. 14+40 +/- TO -DET- STA. 17+00 +/- (WEST SIDE): INSTALL ANCHORED P.C.B.
- DET- STA. 17+00 +/- TO -DET- STA. 19+48 +/- (WEST SIDE): INSTALL UNANCHORED P.C.B. SEE LOCAL NOTE LN-1.

29-AUG-2022 10:36 P:\50084265_50084274_B5318_PH2\CAD\Civil\B5318_TrafficControl\TCP\Plans\200_045_B5318_TC_TCP_04.dgn jwiles AT 130K8AV4

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: *J. Todd Brooks*
DATE: 8/29/2022

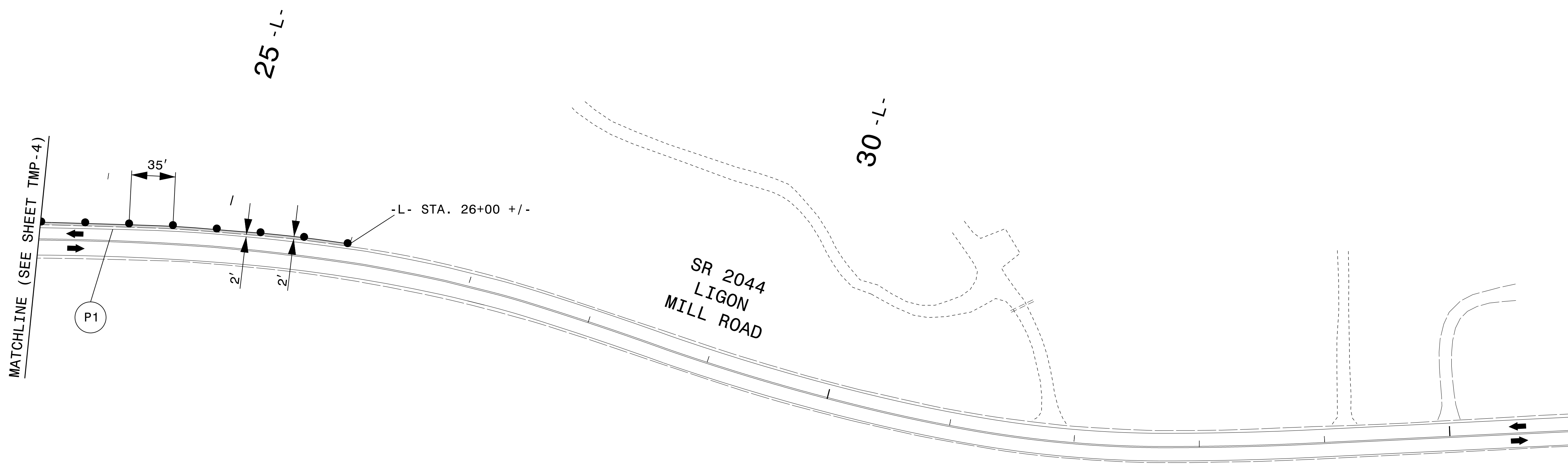
SEAL



**PHASE I,
STEPS 2 THRU 4
DETAIL**

NAD 83/NSRS 2007

TEMPORARY PAVEMENT MARKING	
PAVEMENT MARKING LINES	
(P1) WHITE EDGELINE	PAINT (4")
1. APPLY EAST SIDE P1: -DET- STA. 23+38 +/- TO -L- STA. 26+00 +/-	



TEMPORARY PAVED SHOULDER WIDENING FOR P.C.B. PLACEMENT

CONSTRUCT 2-FOOT WIDENING OF EXISTING PAVED SHOULDERS ALONG SR 2044 (LIGON MILL RD) FOR PLACEMENT OF PORTABLE CONCRETE BARRIER AS FOLLOWS:

EAST SIDE

-L- STA. 23+38 +/- TO -L- STA. 26+00 +/-

29-AUG-2022 10:36
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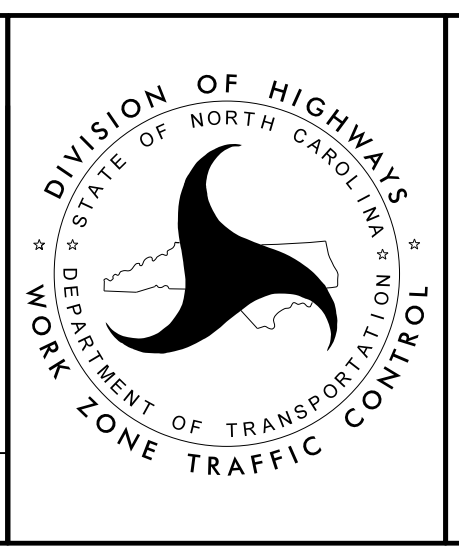


2610 WYCLIFF ROAD
 SUITE 410
 RALEIGH, NC 27607
 PHONE: 919.881.9939
 NC COA No. F-0929

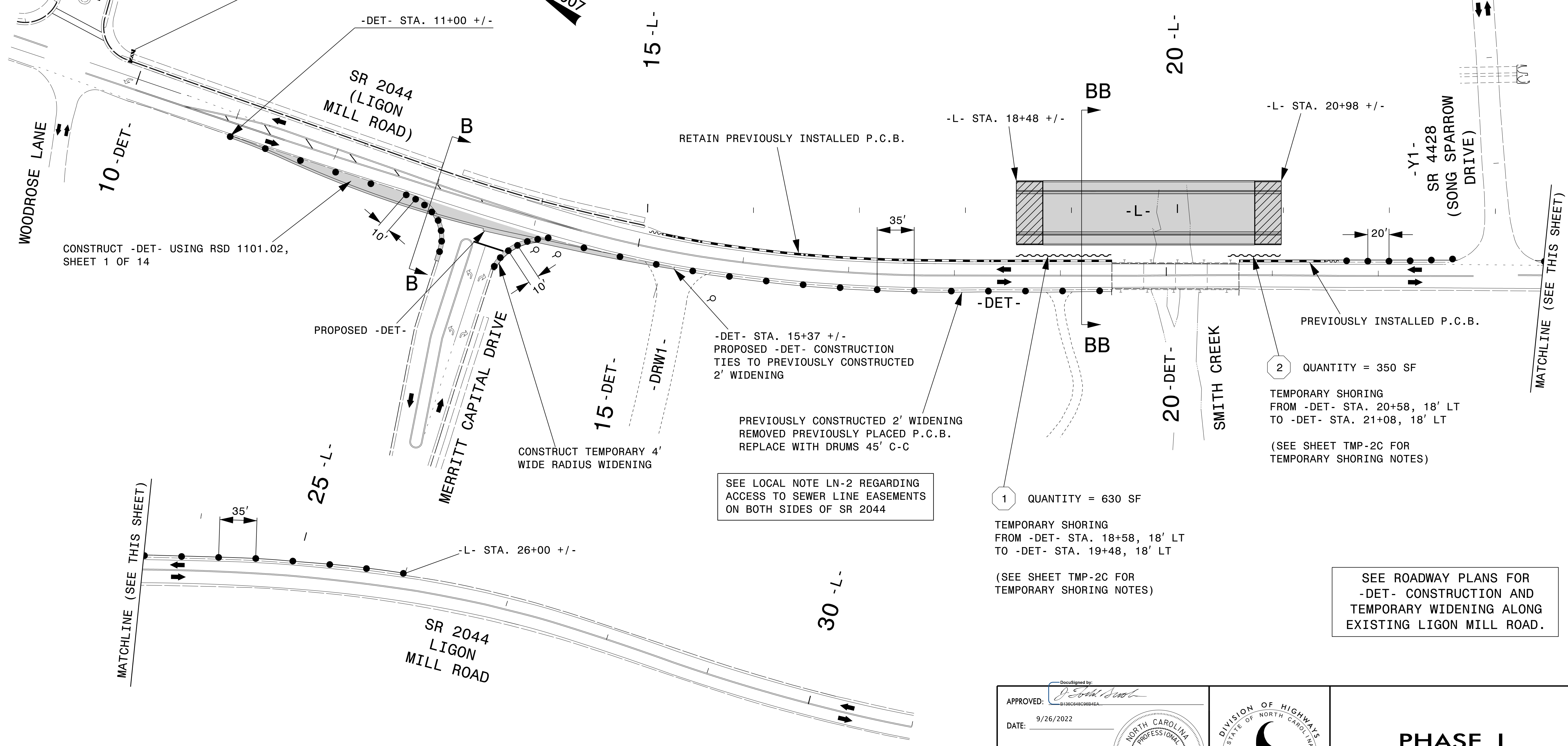
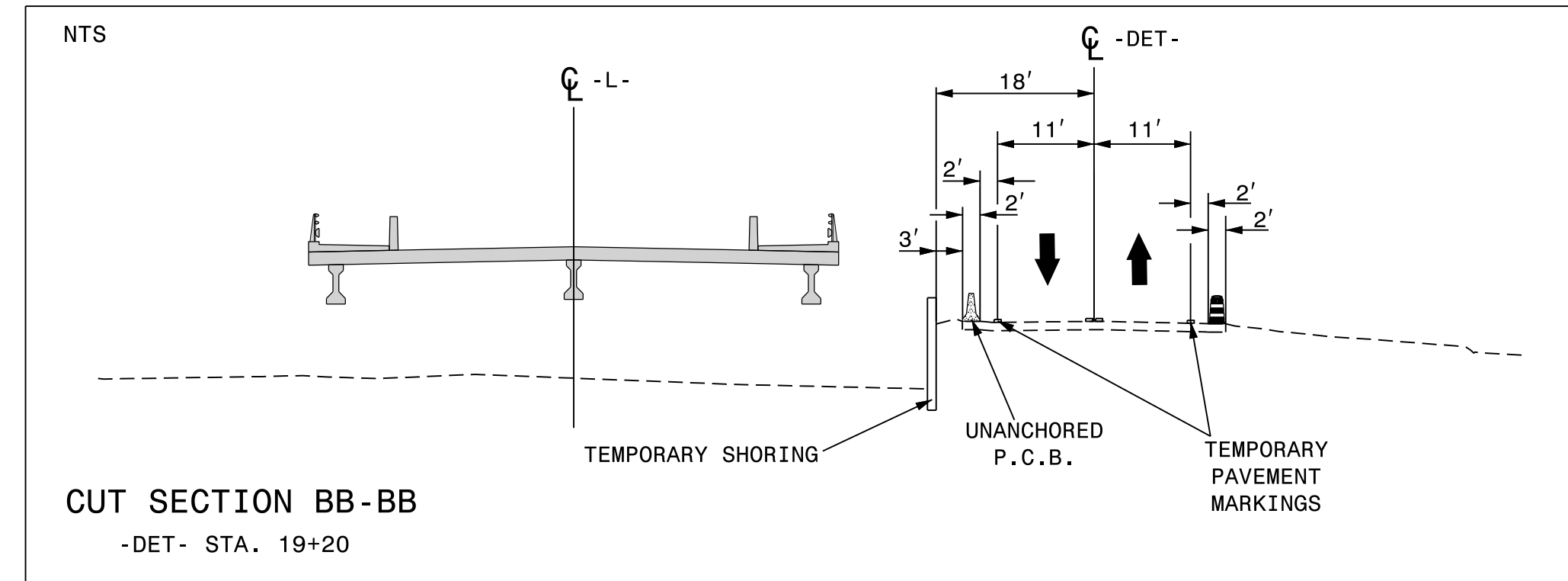
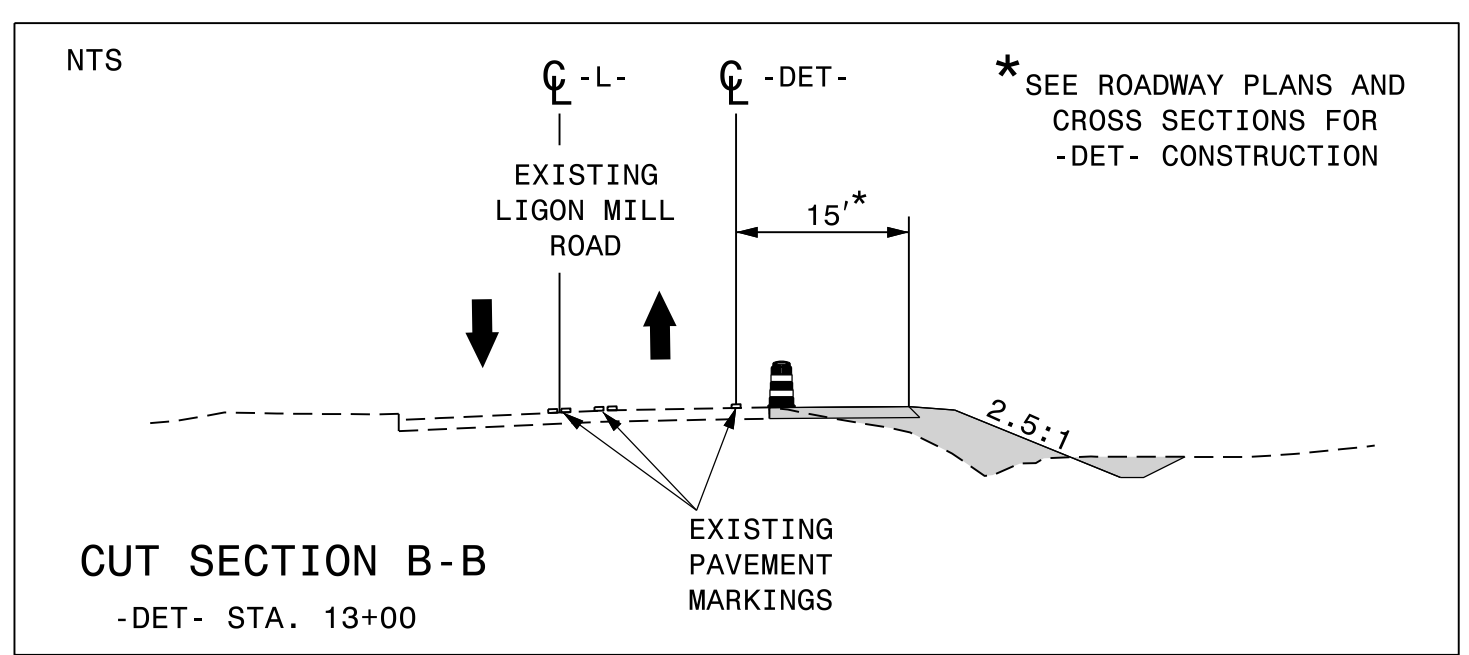
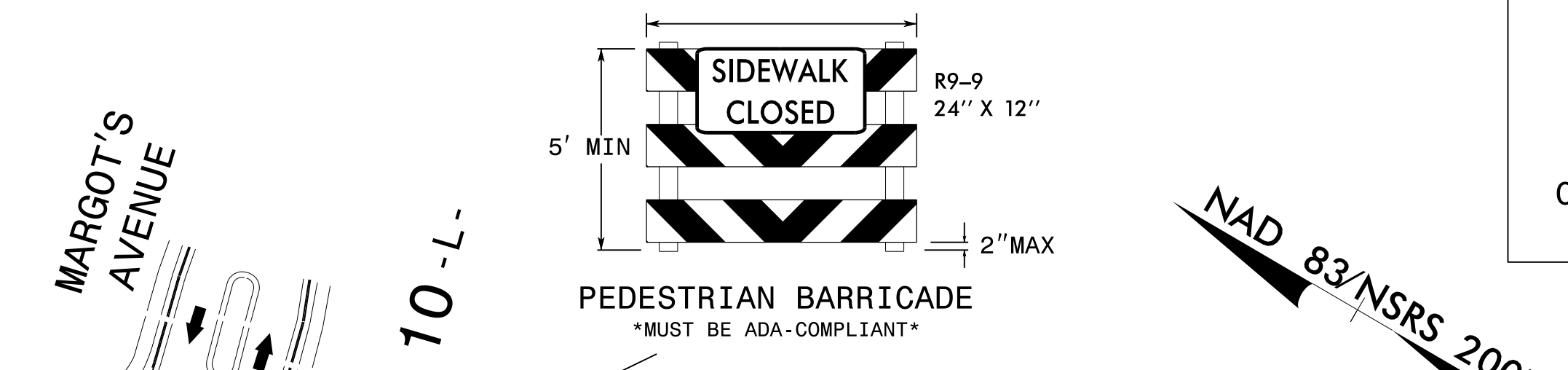
APPROVED: *J. Todd Brooks*
 DATE: 8/29/2022

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 UNLESS ALL SIGNATURES COMPLETED**



**PHASE I,
 STEPS 2 THRU 4
 DETAIL**



CONSTRUCT -DET- USING RSD 1101.02, SHEET 1 OF 14

PROPOSED -DET-

CONSTRUCT TEMPORARY 4' WIDE RADIUS WIDENING

-DET- STA. 15+37 +/- PROPOSED -DET- CONSTRUCTION TIES TO PREVIOUSLY CONSTRUCTED 2' WIDENING

PREVIOUSLY CONSTRUCTED 2' WIDENING REMOVED PREVIOUSLY PLACED P.C.B. REPLACE WITH DRUMS 45' C-C

SEE LOCAL NOTE LN-2 REGARDING ACCESS TO SEWER LINE EASEMENTS ON BOTH SIDES OF SR 2044

1 QUANTITY = 630 SF

TEMPORARY SHORING FROM -DET- STA. 18+58, 18' LT TO -DET- STA. 19+48, 18' LT

(SEE SHEET TMP-2C FOR TEMPORARY SHORING NOTES)

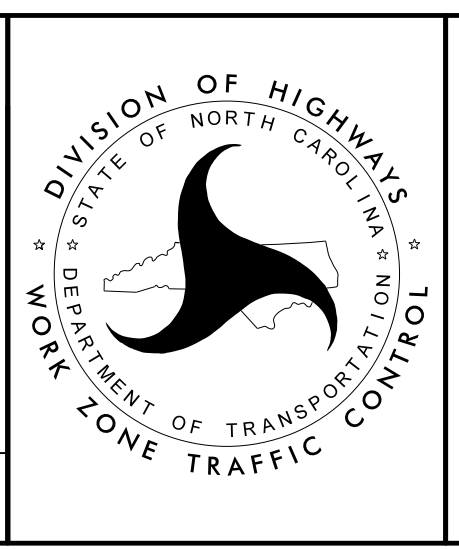
2 QUANTITY = 350 SF
TEMPORARY SHORING FROM -DET- STA. 20+58, 18' LT TO -DET- STA. 21+08, 18' LT
(SEE SHEET TMP-2C FOR TEMPORARY SHORING NOTES)

SEE ROADWAY PLANS FOR -DET- CONSTRUCTION AND TEMPORARY WIDENING ALONG EXISTING LIGON MILL ROAD.

26-SEP-2022 10:05 P:\50084265_50084274_B5318_PH2\CAD\Civil\B5318_TrafficControl\TCP\Plans\200_055_B5318_TC_TCP_06.dgn jwiles AT R30K8AV4

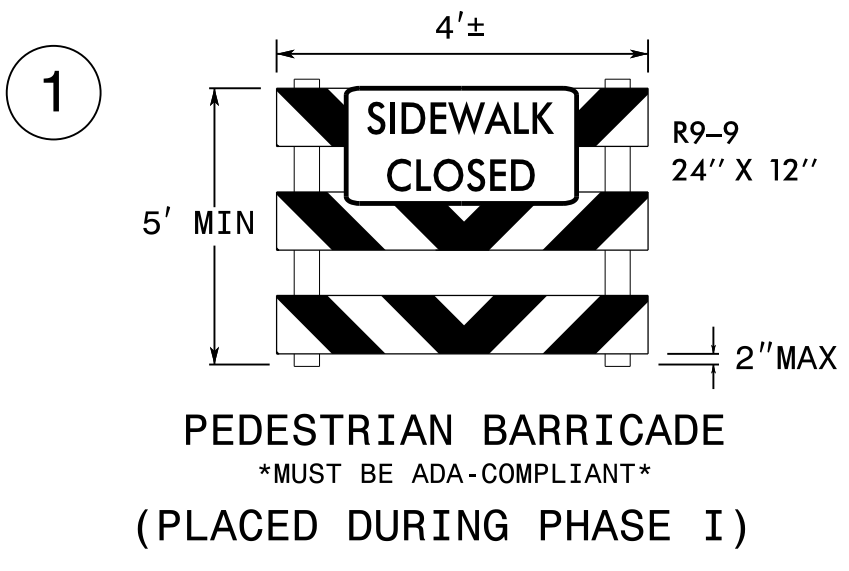
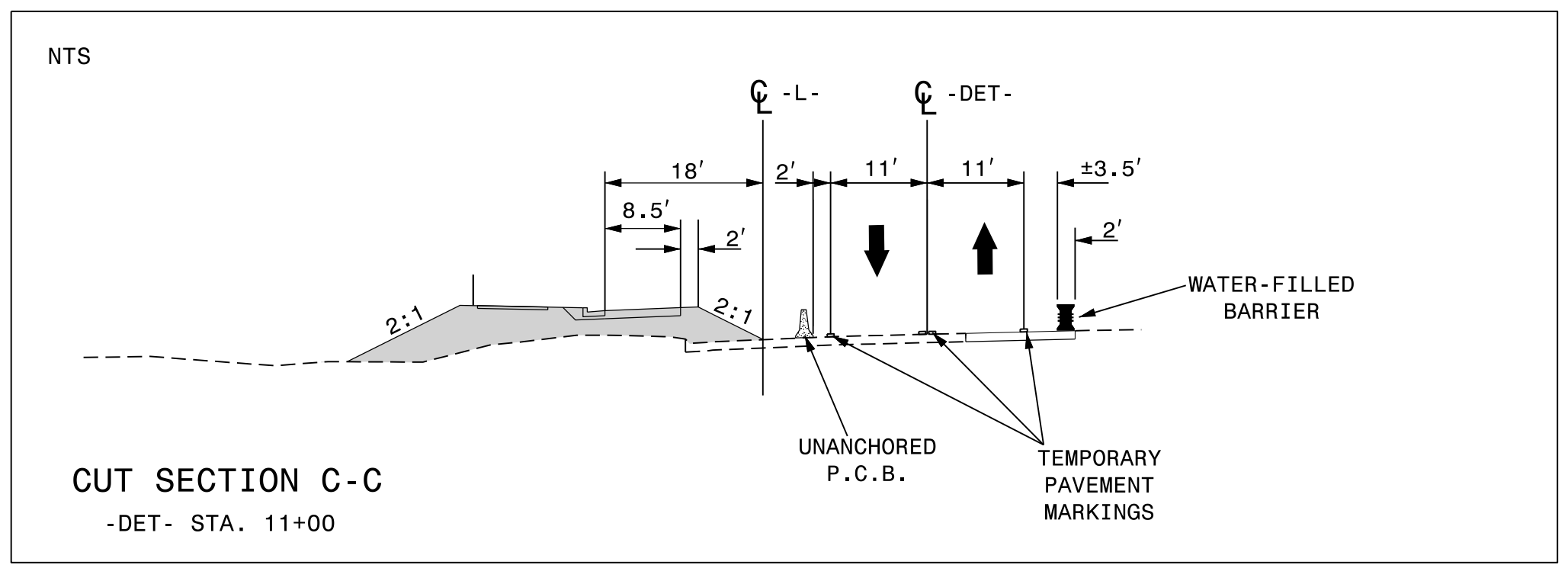
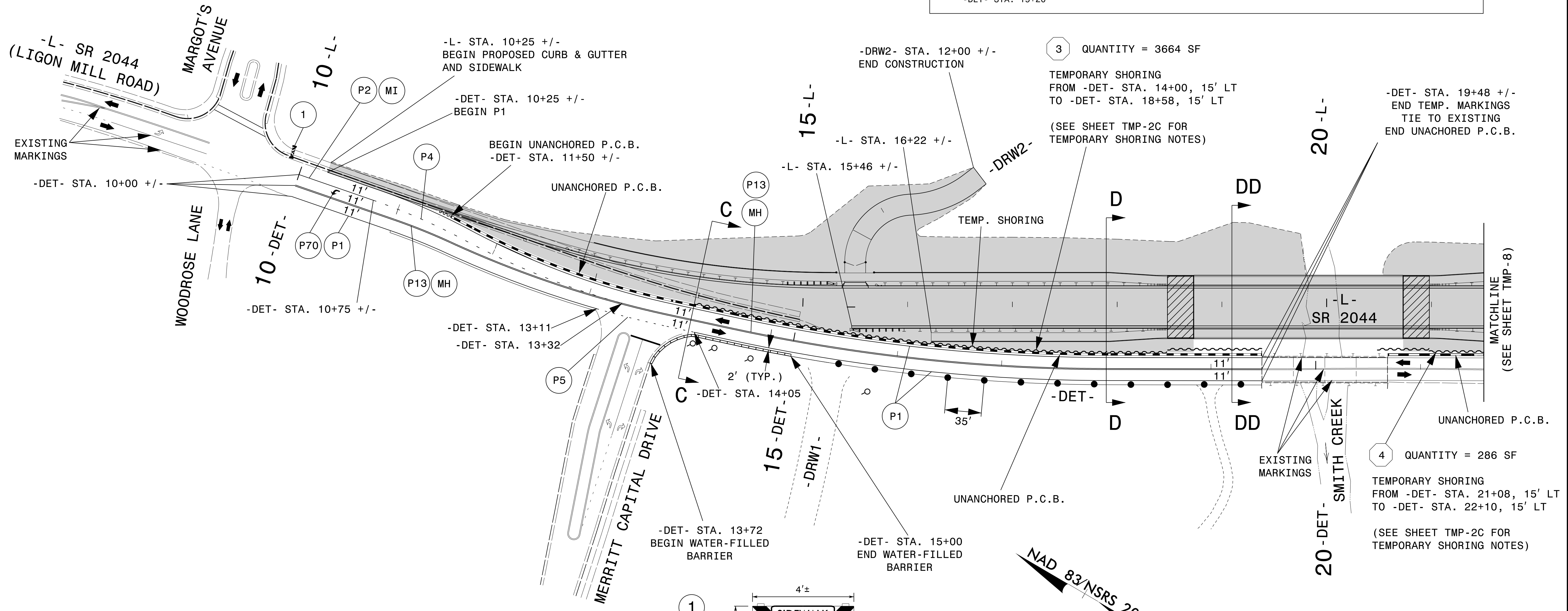
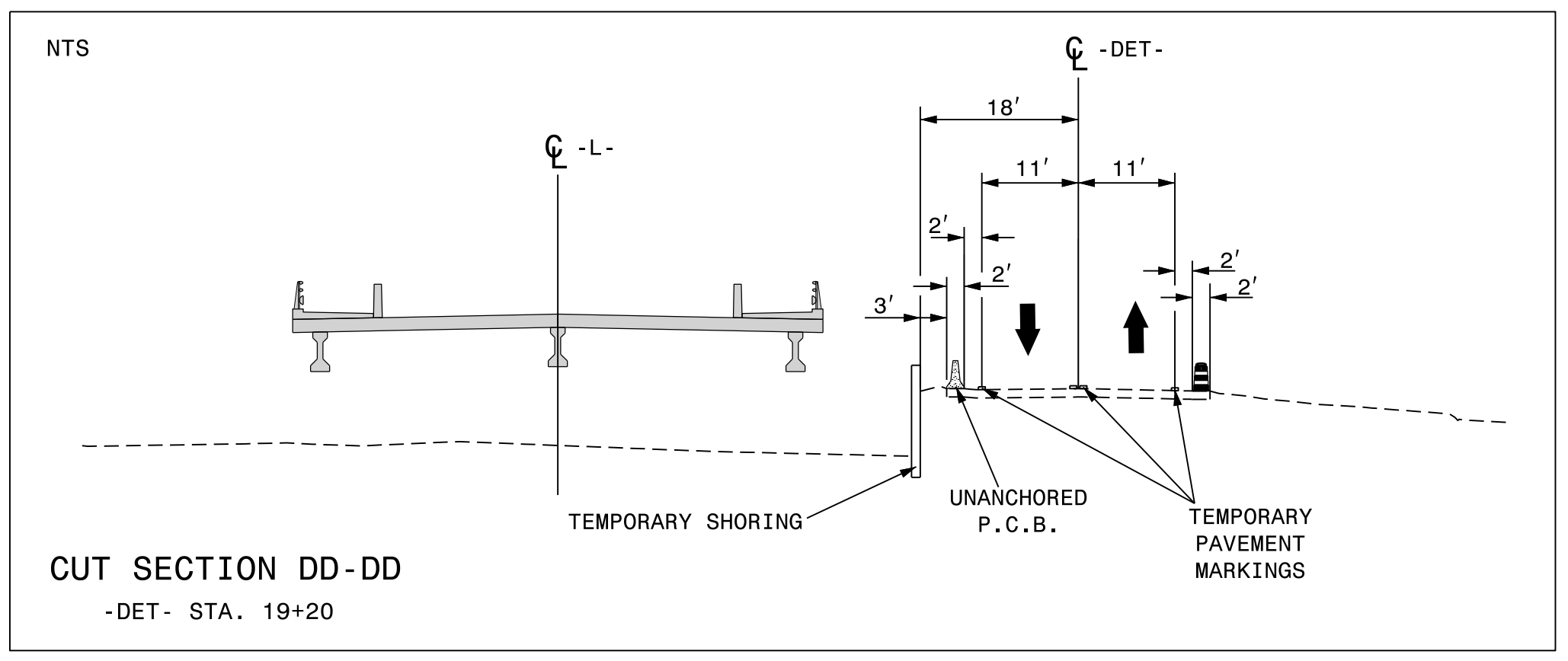
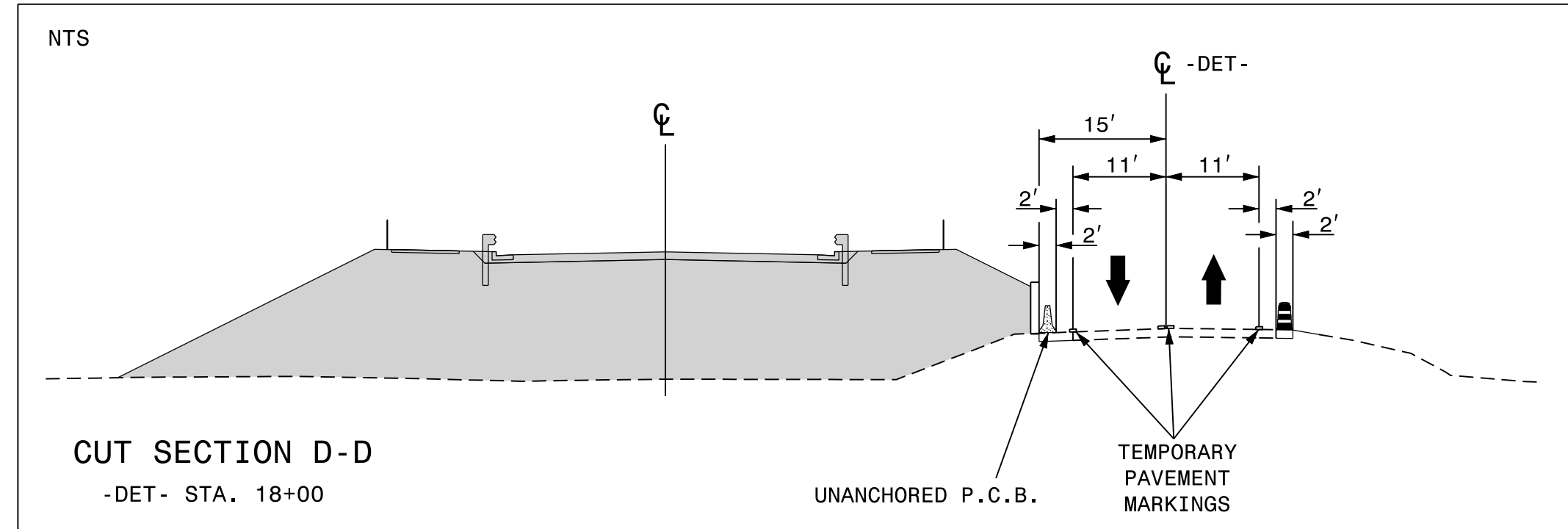
Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: *[Signature]*
DATE: 9/26/2022
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 17586
J. TODD BROOKS



**PHASE I,
STEPS 5 & 6
DETAIL**

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

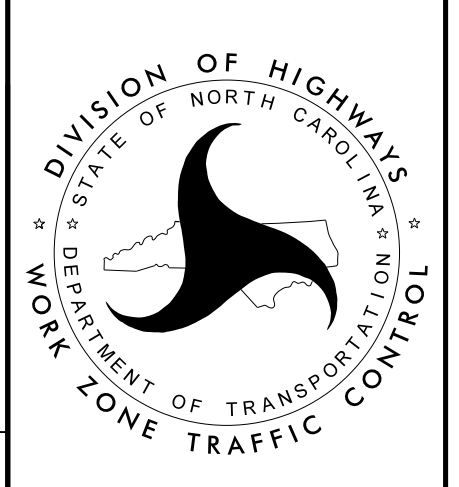


SEE LOCAL NOTE LN-2 REGARDING ACCESS TO SEWER LINE EASEMENTS ON BOTH SIDES OF SR 2044

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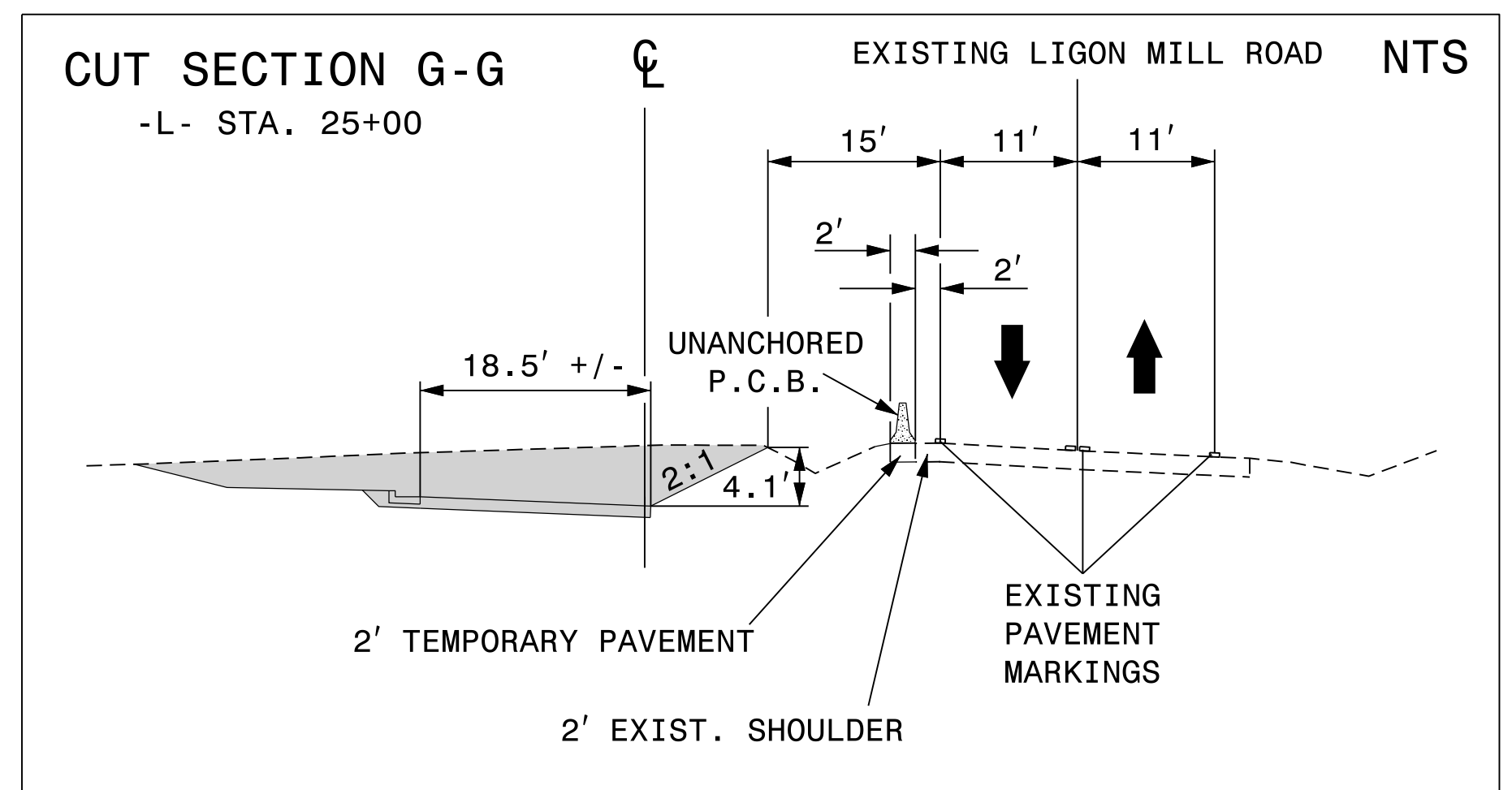
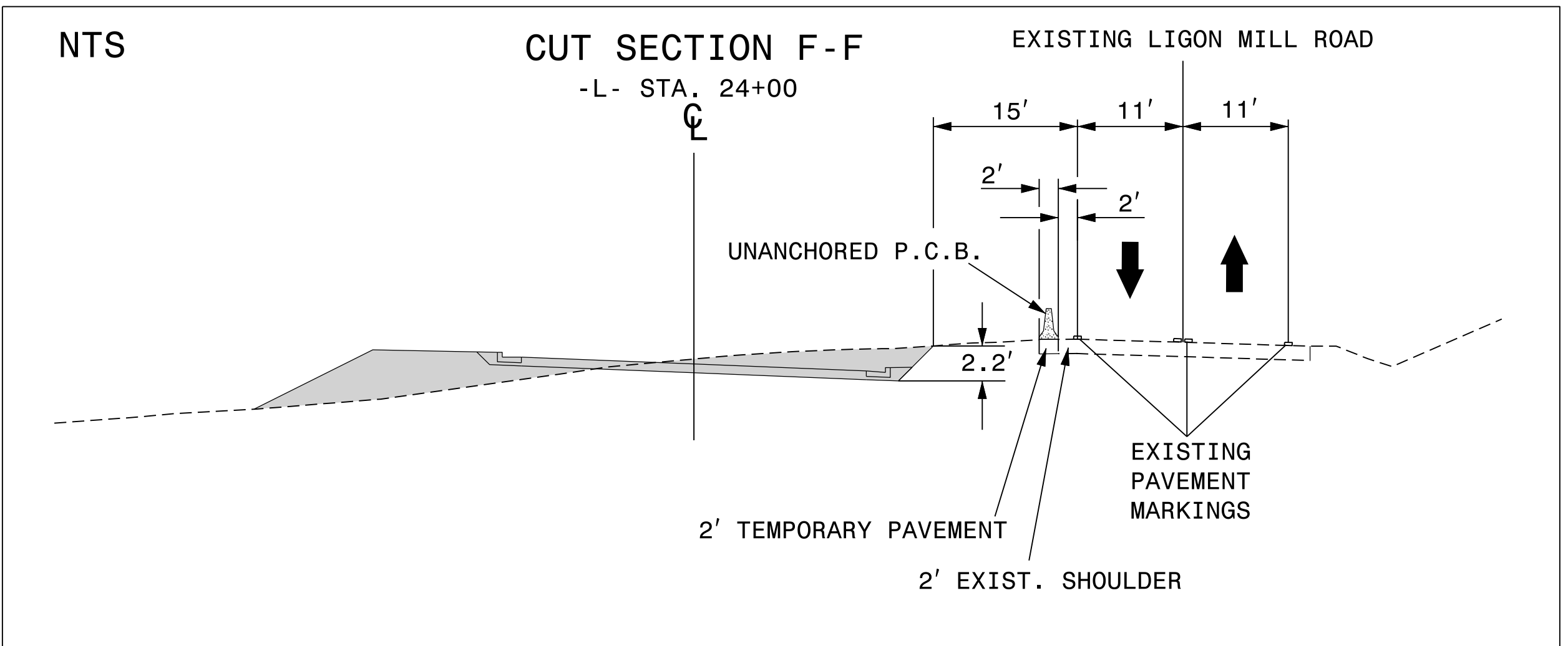
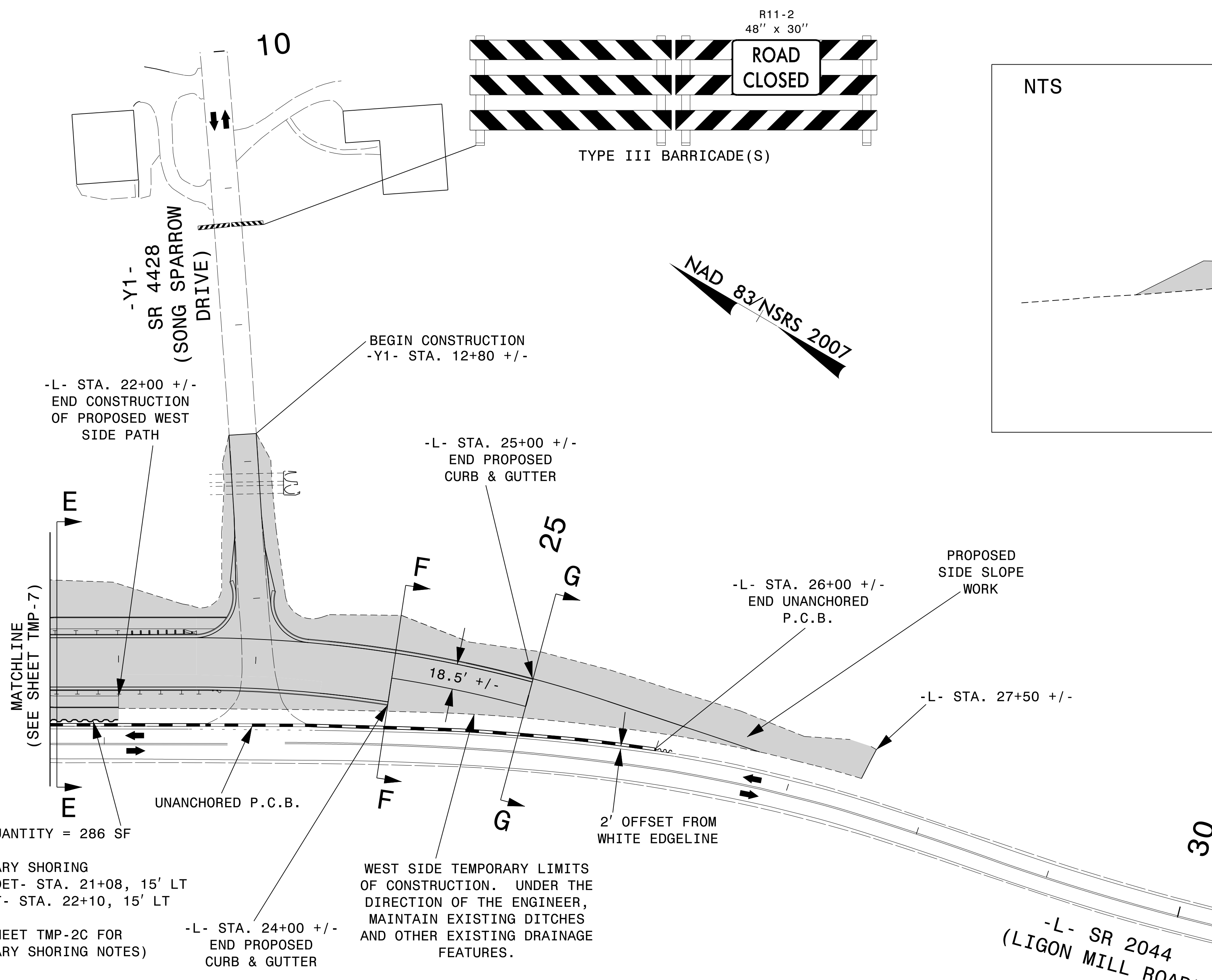
Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: *[Signature]*
DATE: 9/26/2022
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NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 17586
J. TODD BROOKS



**PHASE II,
STEPS 1 THRU 4
DETAIL**

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



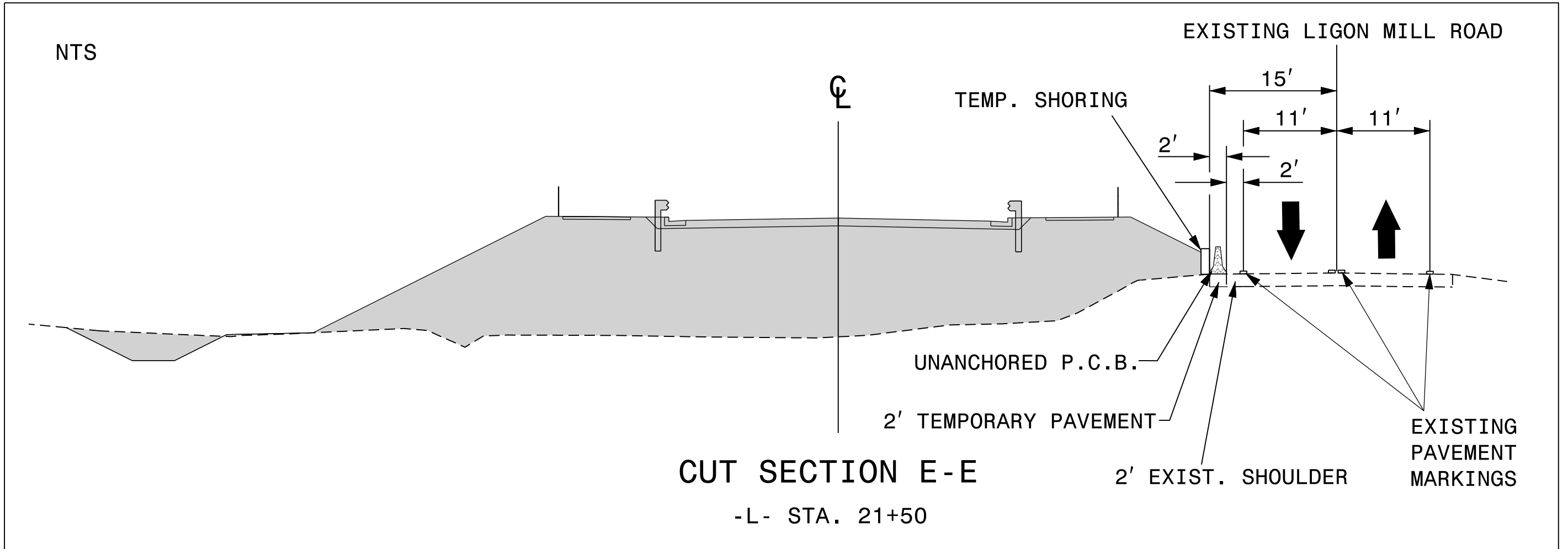
4 QUANTITY = 286 SF

TEMPORARY SHORING
FROM -DET- STA. 21+08, 15' LT
TO -DET- STA. 22+10, 15' LT

(SEE SHEET TMP-2C FOR
TEMPORARY SHORING NOTES)

-L- STA. 24+00 +/-
END PROPOSED CURB & GUTTER

WEST SIDE TEMPORARY LIMITS OF CONSTRUCTION. UNDER THE DIRECTION OF THE ENGINEER, MAINTAIN EXISTING DITCHES AND OTHER EXISTING DRAINAGE FEATURES.



ALL PAVEMENT MARKINGS ARE EXISTING

SEE SHEET TMP-13 FOR SONG SPARROW DRIVE DETOUR ROUTE

PHASE II, STEPS 1 THRU 4 DETAIL

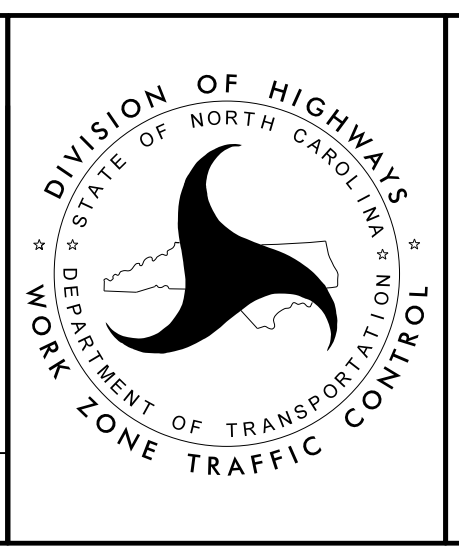
APPROVED: *[Signature]*

DATE: 8/29/2022

SEAL

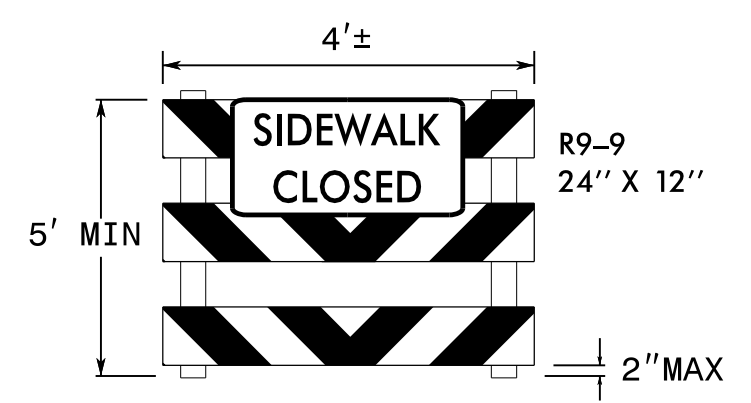
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 17586
J. TODD BROOKS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

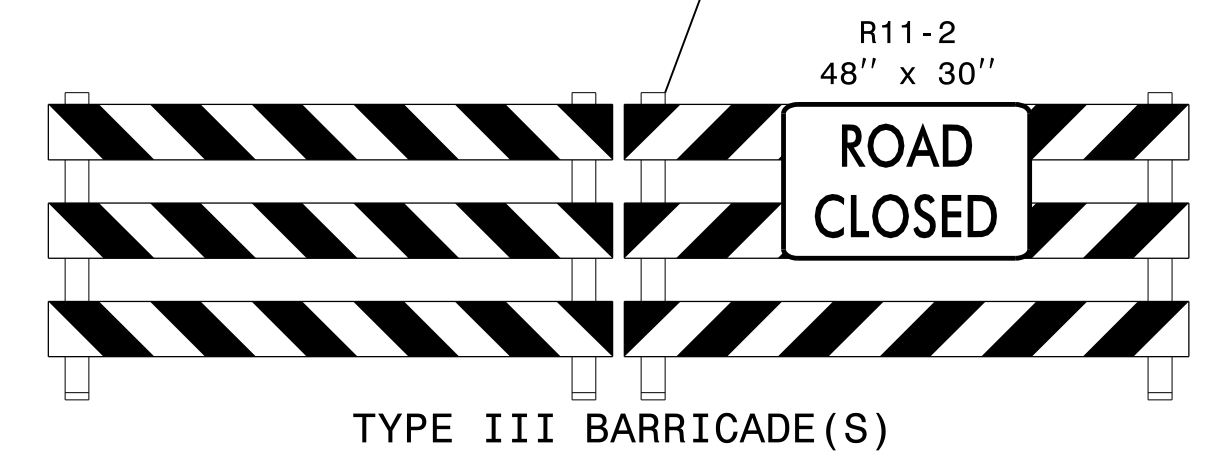


2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

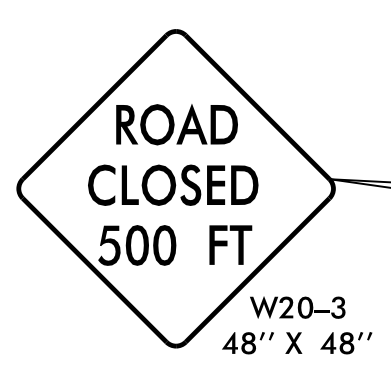
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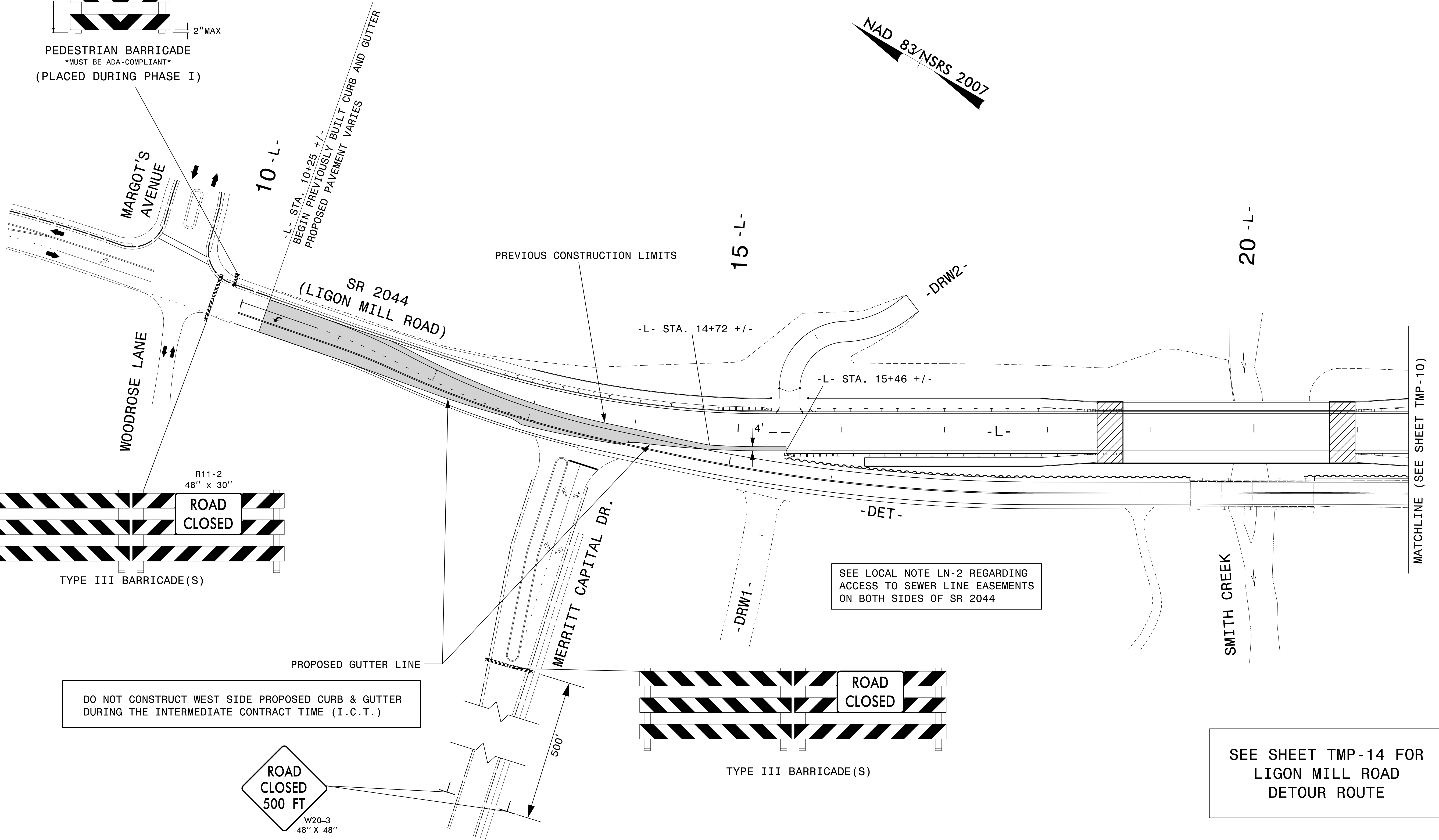
PEDESTRIAN BARRICADE
MUST BE ADA-COMPLIANT
(PLACED DURING PHASE I)



TYPE III BARRICADE(S)



DO NOT CONSTRUCT WEST SIDE PROPOSED CURB & GUTTER DURING THE INTERMEDIATE CONTRACT TIME (I.C.T.)



← NAD 83/NSRS 2007

MATCHLINE (SEE SHEET TMP-10)

SEE LOCAL NOTE LN-2 REGARDING ACCESS TO SEWER LINE EASEMENTS ON BOTH SIDES OF SR 2044

SEE SHEET TMP-14 FOR LIGON MILL ROAD DETOUR ROUTE

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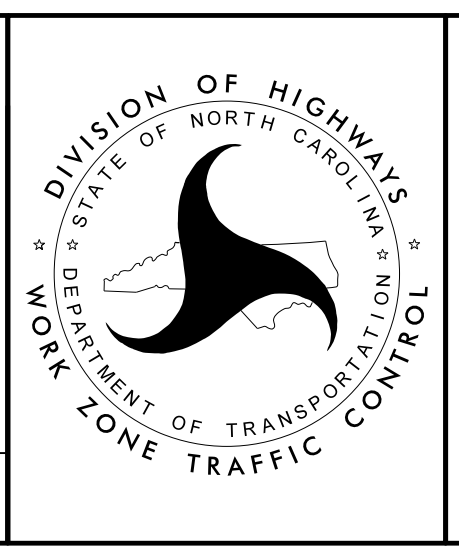
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: *J. Todd Brooks*
DATE: 9/26/2022

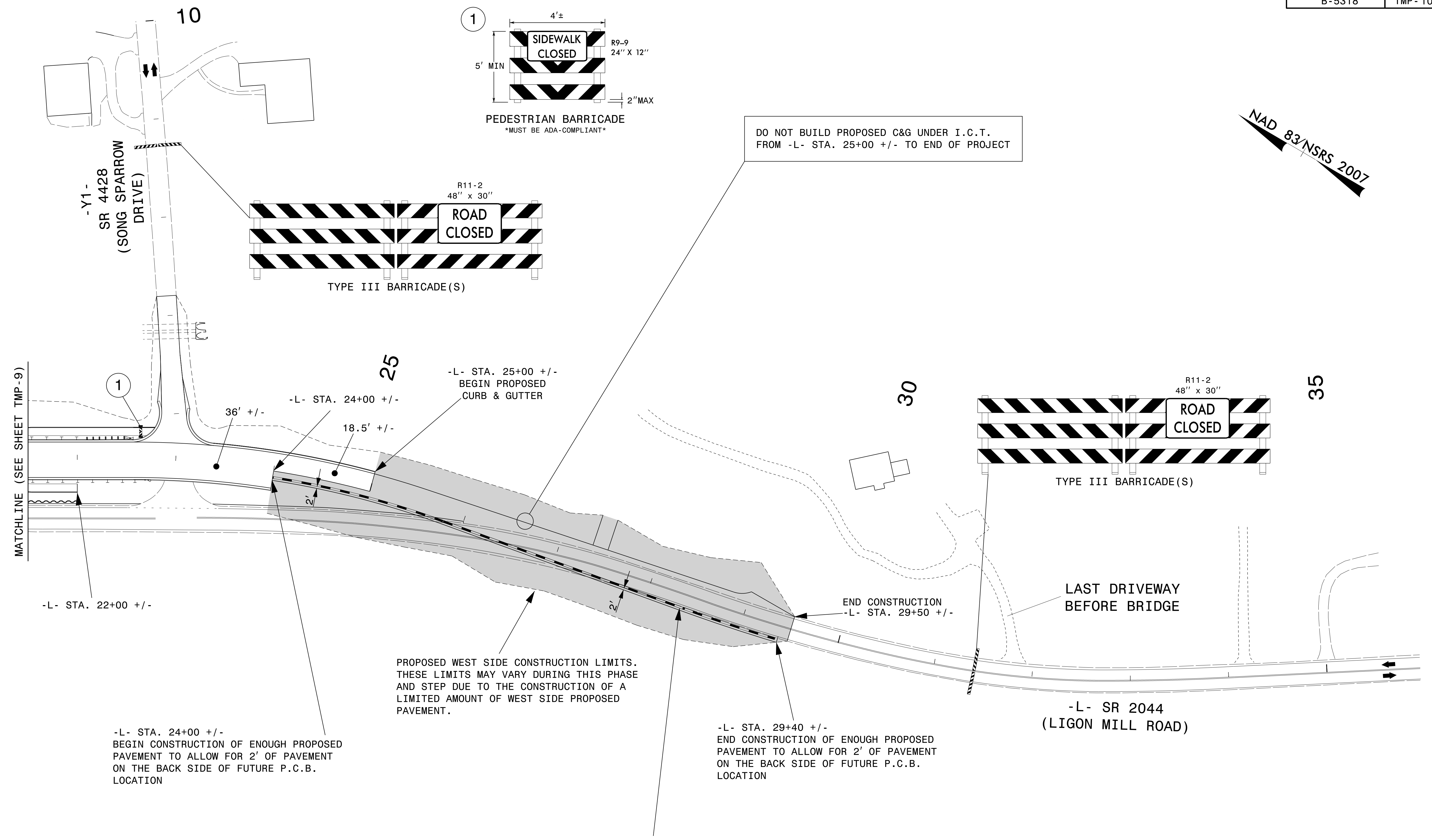
SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 17586
J. TODD BROOKS

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**PHASE III,
STEPS 1 & 2
DETAIL**



SEE SHEETS TMP-13 & TMP-14
FOR LIGON MILL ROAD
AND SONG SPARROW DRIVE
DETOUR ROUTES

PORTABLE CONCRETE BARRIER SHOWN HERE FOR REFERENCE.
REFER TO SHEET TMP-12 FOR FINAL PLACEMENT OF SAID
PORTABLE CONCRETE BARRIER. CONSTRUCT 2' OF PAVEMENT ON
THE BACK SIDE OF FUTURE P.C.B. LOCATION.

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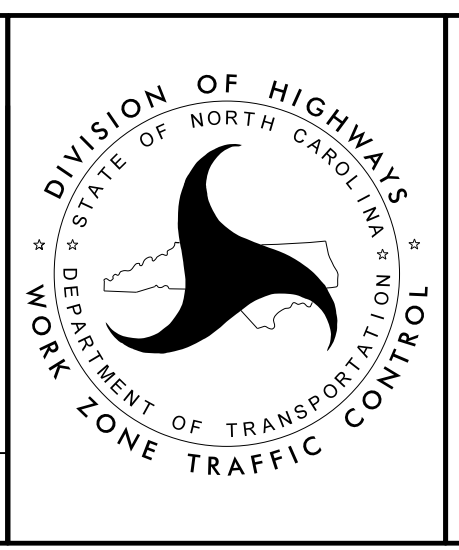
Dewberry
 2610 WYCLIFF ROAD
 SUITE 410
 RALEIGH, NC 27607
 PHONE: 919.881.9939
 NC COA No. F-0929

APPROVED: *[Signature]*
 DATE: 8/29/2022

SEAL

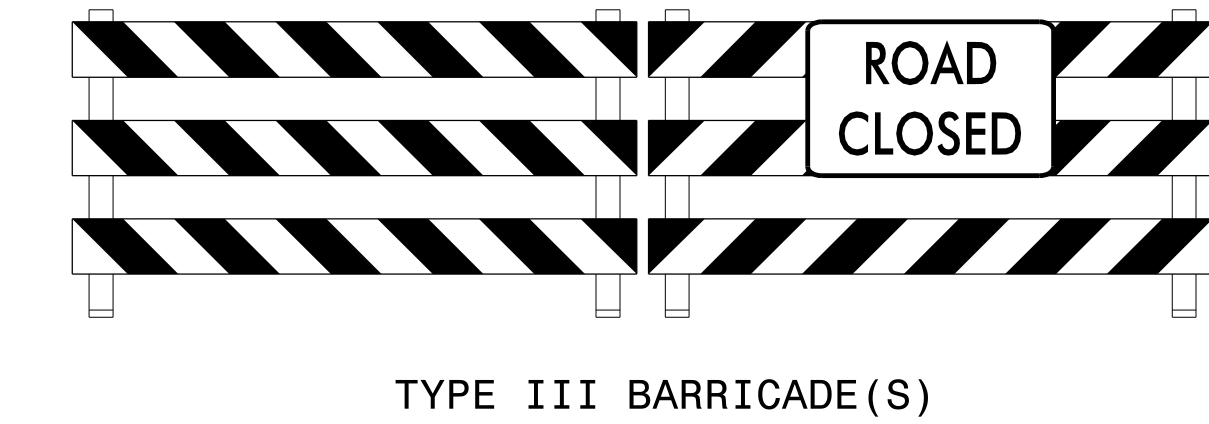
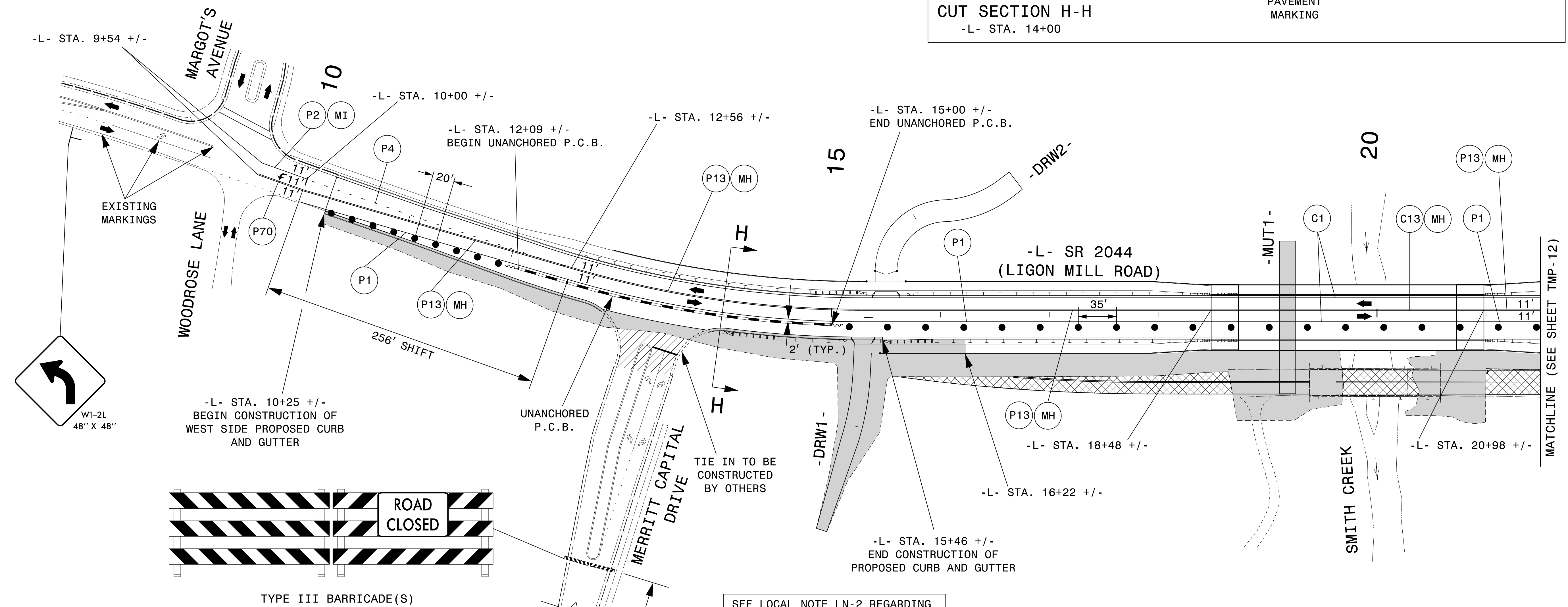
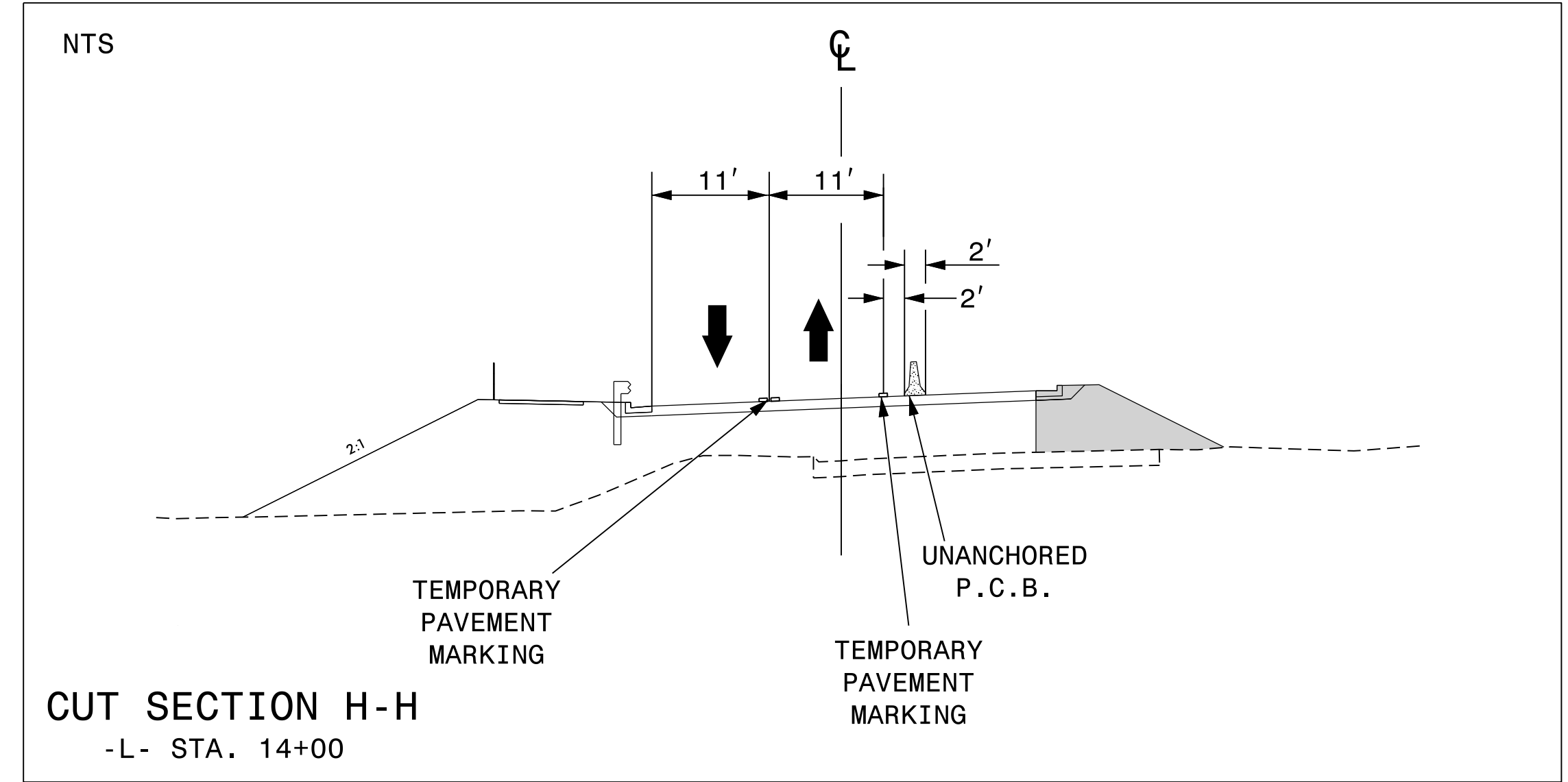
NORTH CAROLINA
 PROFESSIONAL
 SEAL
 17586
 ENGINEER
 J. TODD BROOKS

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



**PHASE III,
 STEPS 1 & 2
 DETAIL**

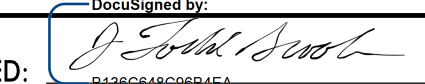
NAD 83/NSRS 2007

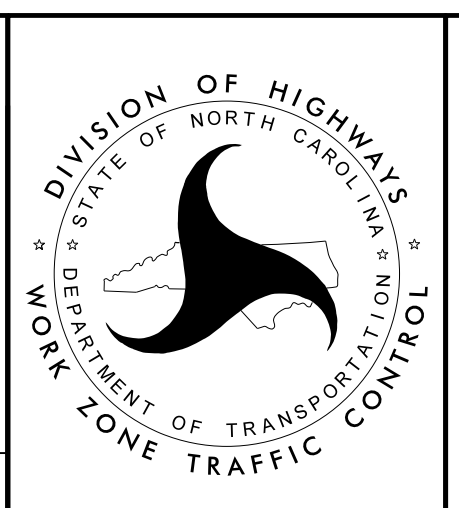


SEE LOCAL NOTE LN-2 REGARDING ACCESS TO SEWER LINE EASEMENTS ON BOTH SIDES OF SR 2044

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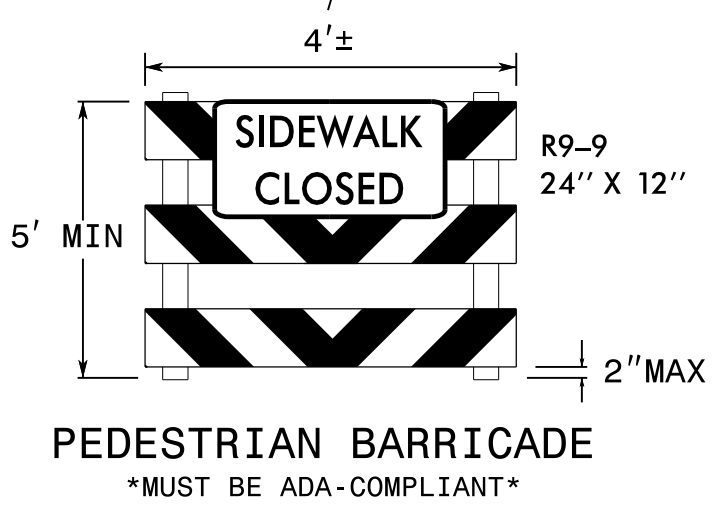
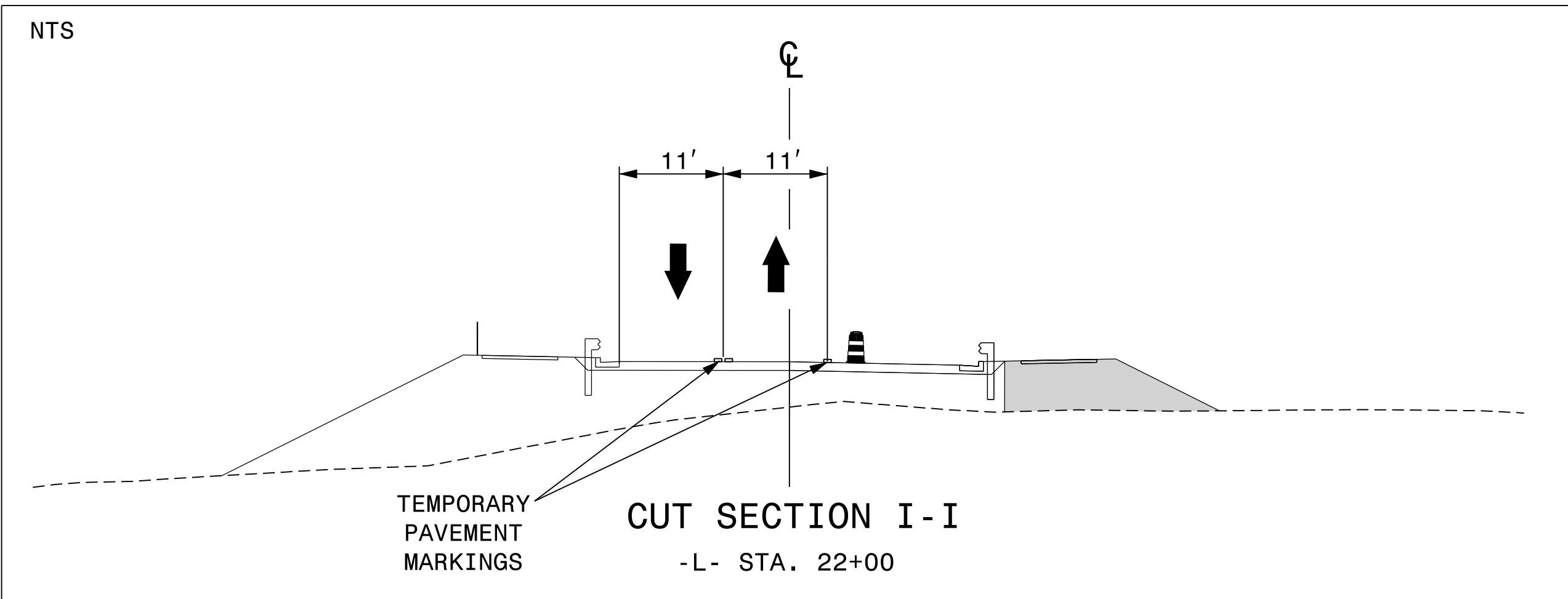
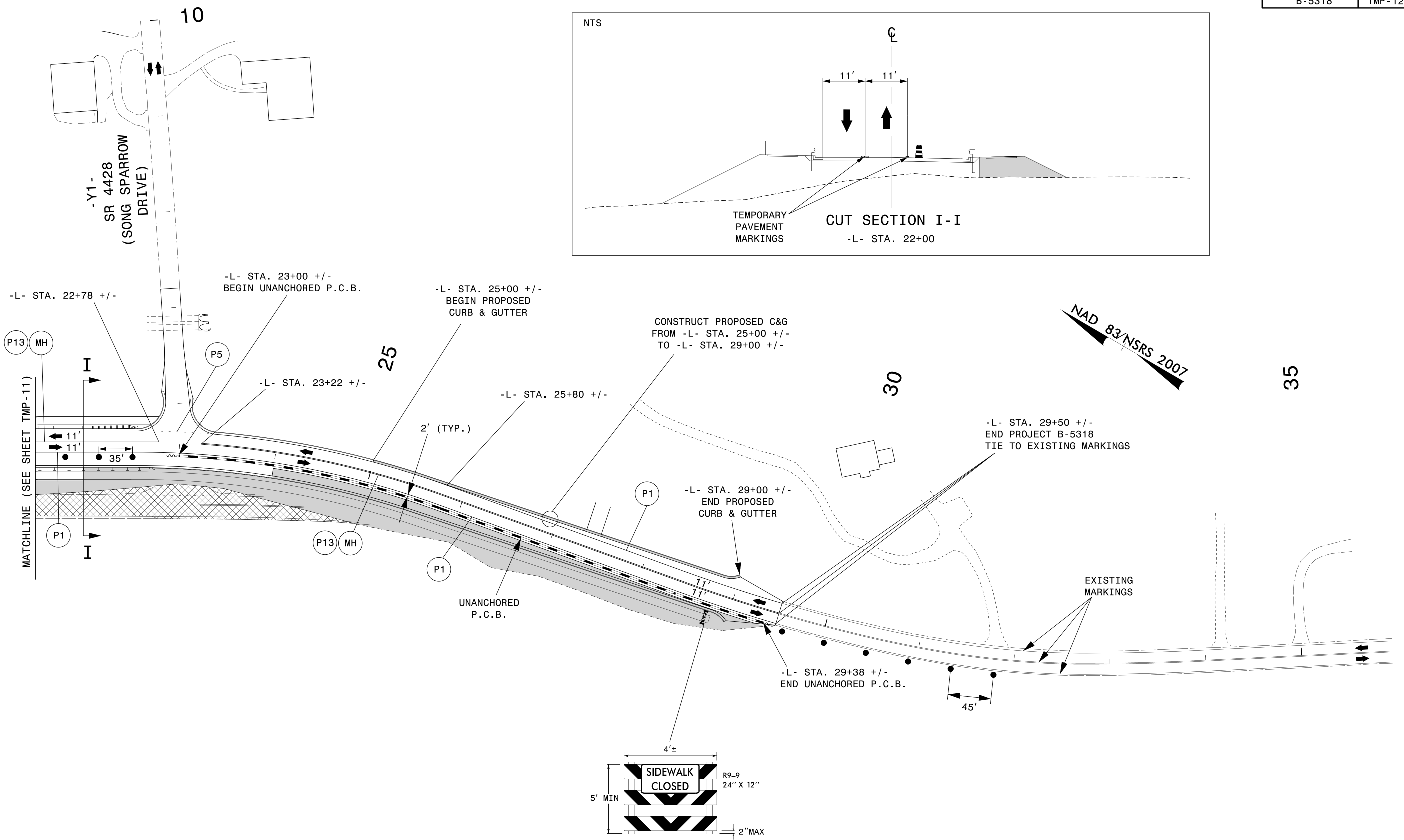
Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: 
DATE: 9/26/2022
SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17586 J. TODD BROOKS



PHASE III,
STEPS 2 THRU 4
DETAIL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



29-AUG-2022 10:37
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 jwiles AT R30K8AV4



2610 WYCLIFF ROAD
 SUITE 410
 RALEIGH, NC 27607
 PHONE: 919.881.9939
 NC COA No. F-0929

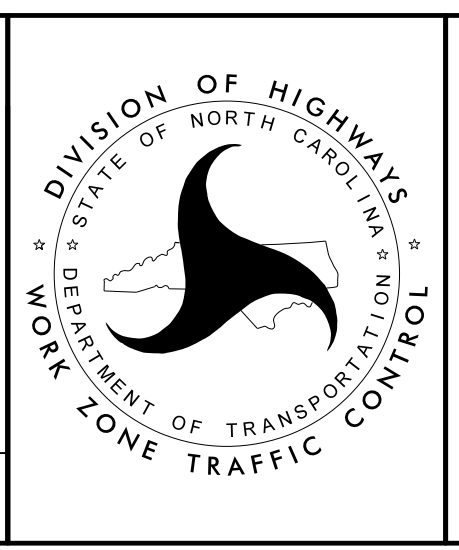
APPROVED: *J. Todd Brooks*

DATE: 8/29/2022

SEAL

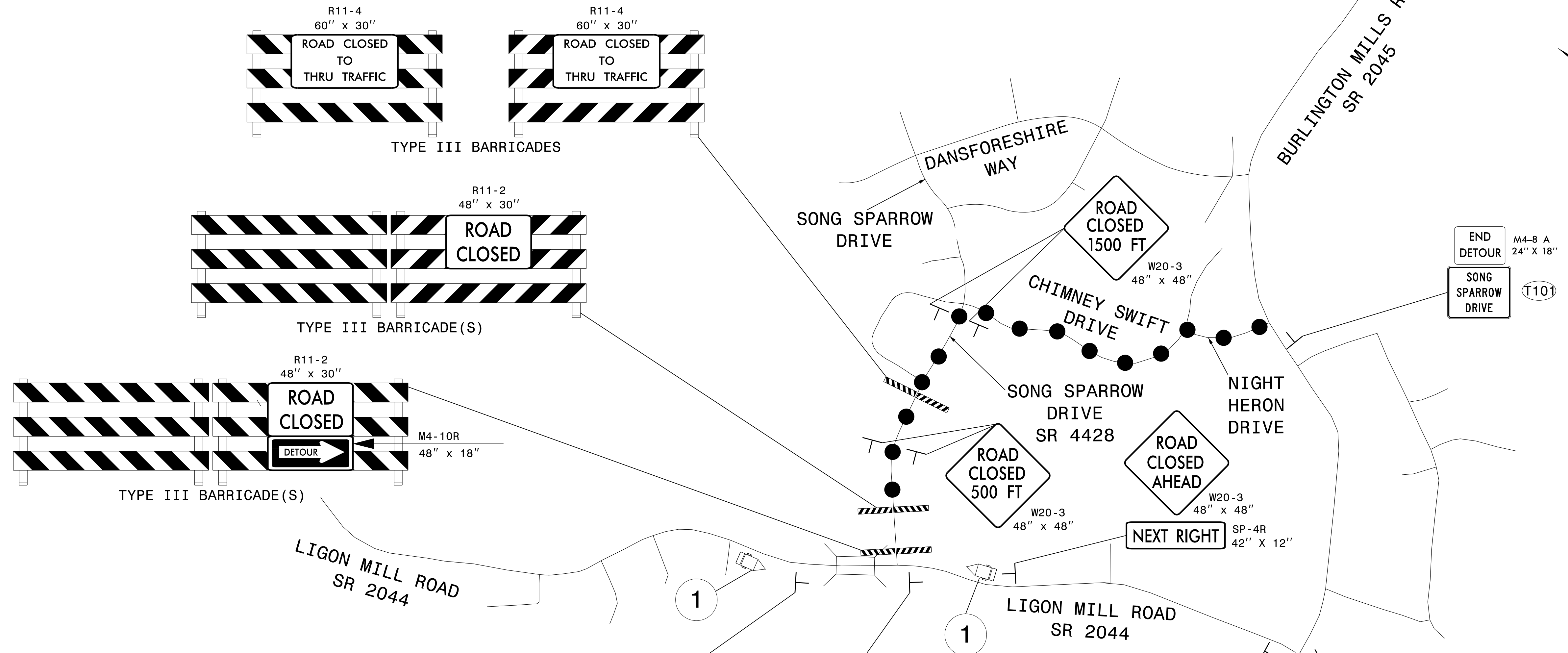
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17586 J. TODD BROOKS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



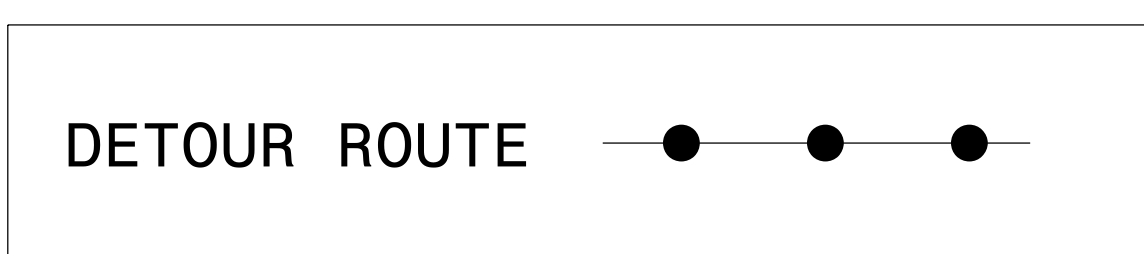
PHASE III,
 STEPS 2 THRU 4
 DETAIL

NAD 83/NSRS 2007



1	MESSAGE NO. 1	MESSAGE NO. 2
	SONG SPARROW TO CLOSE	DETOUR STARTS
		mmm dd
	CHANGEABLE MESSAGE SIGN	

DISPLAY ONE WEEK PRIOR TO CLOSURE. REMOVE AFTER CLOSURE.



REFER TO RSD 1101.03, SHEETS 1 & 2 OF 9 FOR ADDITIONAL INFORMATION

mmm = month abbeivation
 dd = numeric date
 xxxxDAY = day of week

29-AUG-2022 10:37
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2610 WYCLIFF ROAD
 SUITE 410
 RALEIGH, NC 27607
 PHONE: 919.881.9939
 NC COA No. F-0929

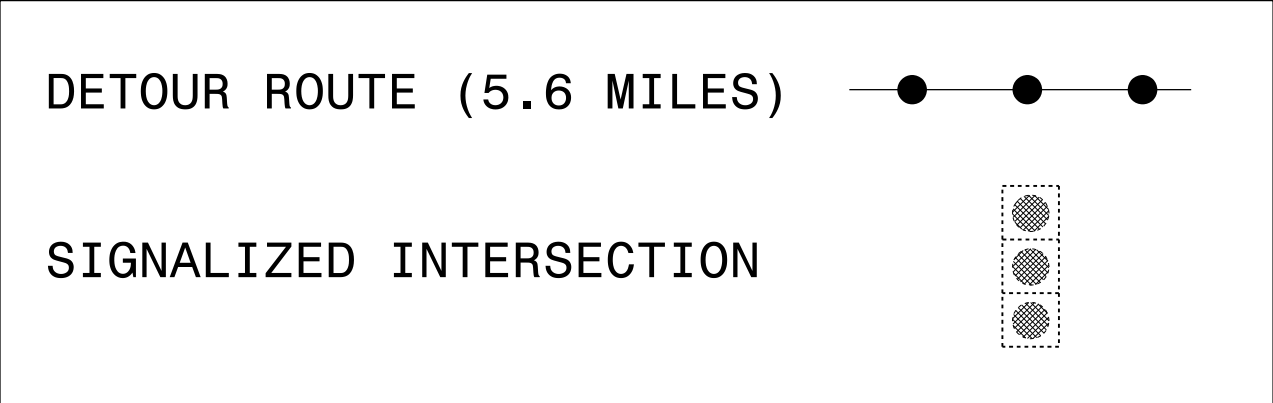
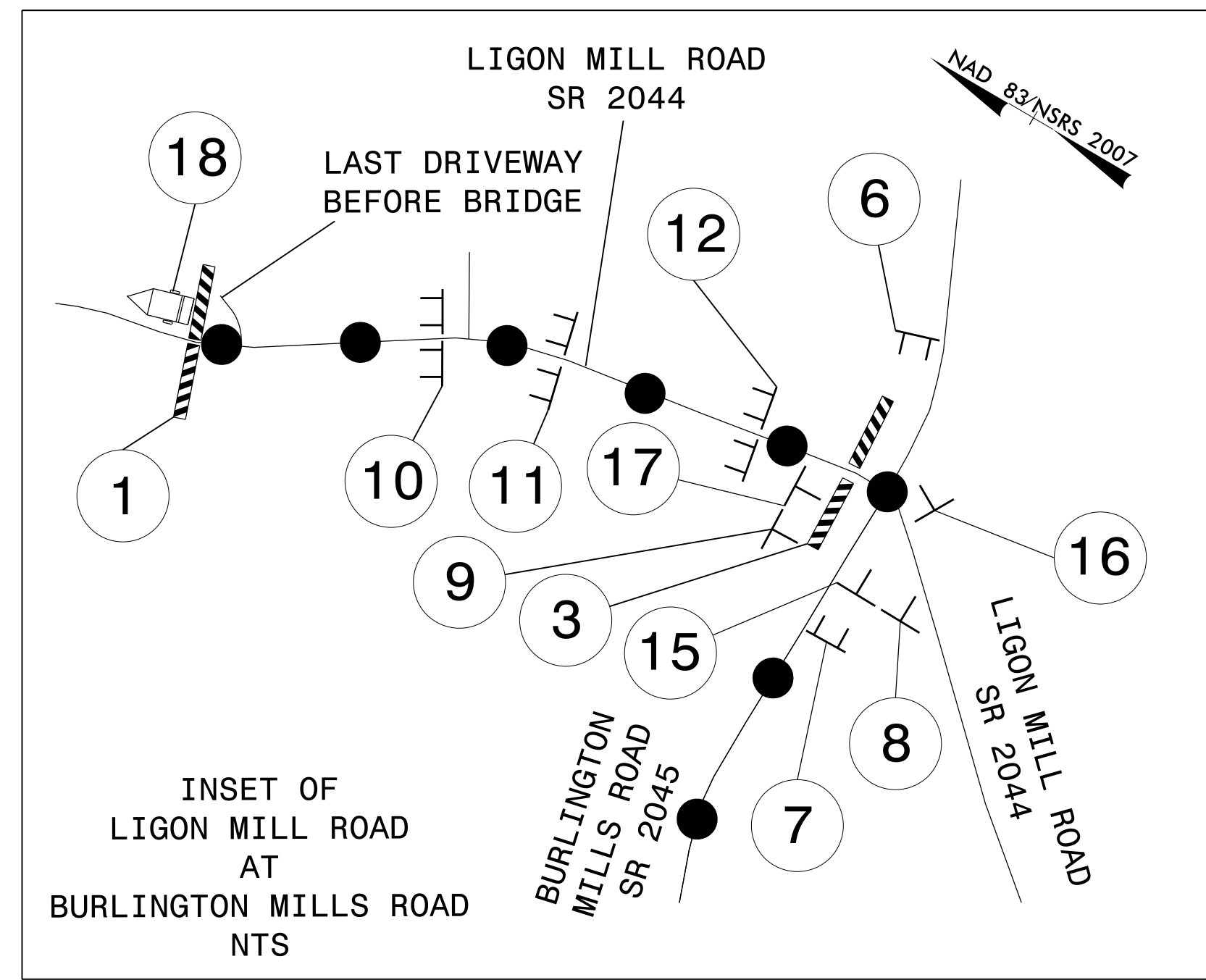
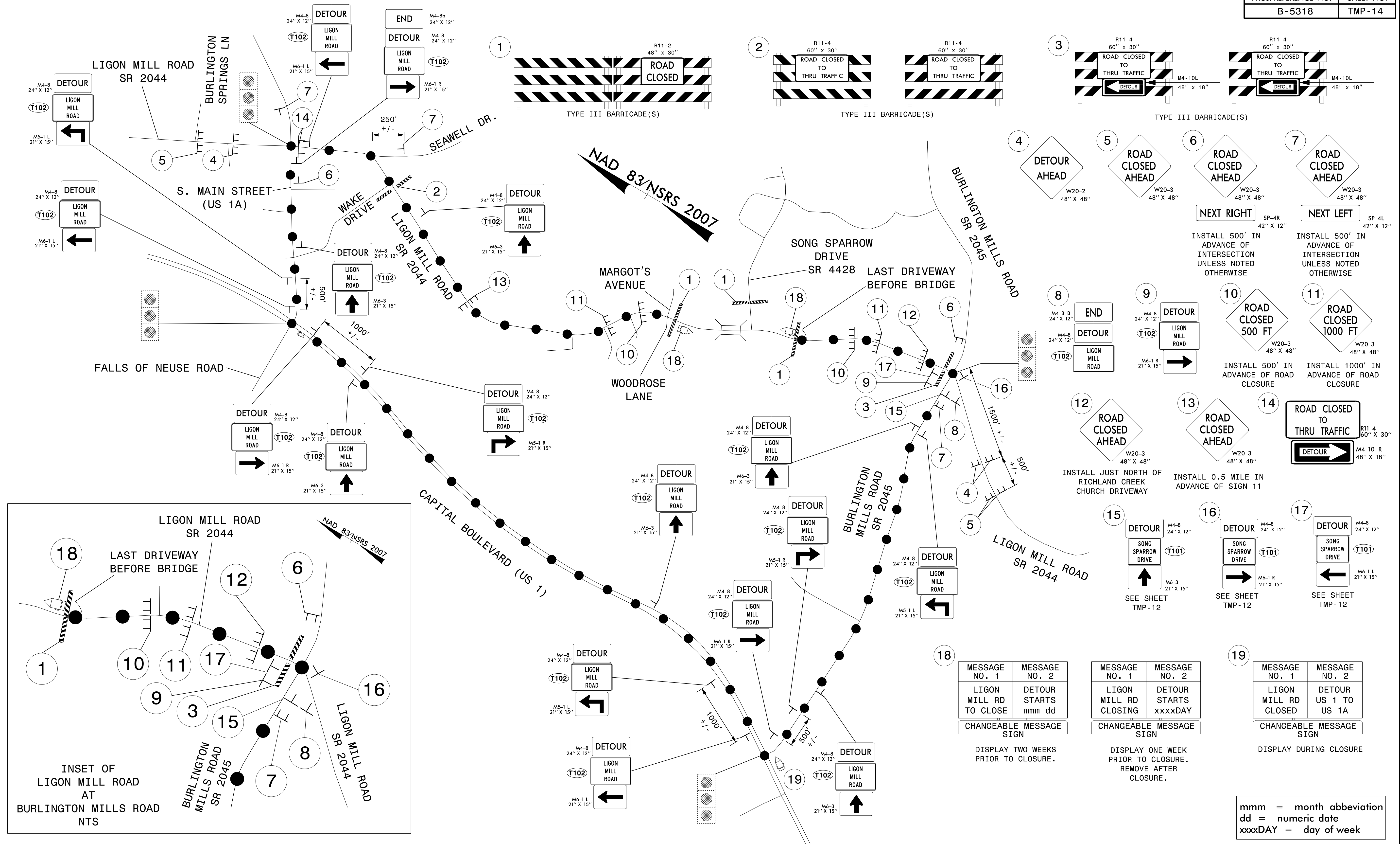
APPROVED:

DATE: 8/29/2022

SEAL

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

SONG SPARROW DRIVE DETOUR



REFER TO RSD 1101.03, SHEETS 1 & 2 OF 9 FOR ADDITIONAL INFORMATION



2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

MESSAGE NO. 1	MESSAGE NO. 2
LIGON MILL RD TO CLOSE	DETOUR STARTS mmm dd

CHANGEABLE MESSAGE SIGN
DISPLAY TWO WEEKS PRIOR TO CLOSURE.

MESSAGE NO. 1	MESSAGE NO. 2
LIGON MILL RD CLOSING	DETOUR STARTS xxxxDAY

CHANGEABLE MESSAGE SIGN
DISPLAY ONE WEEK PRIOR TO CLOSURE. REMOVE AFTER CLOSURE.

MESSAGE NO. 1	MESSAGE NO. 2
LIGON MILL RD CLOSED	DETOUR US 1 TO US 1A

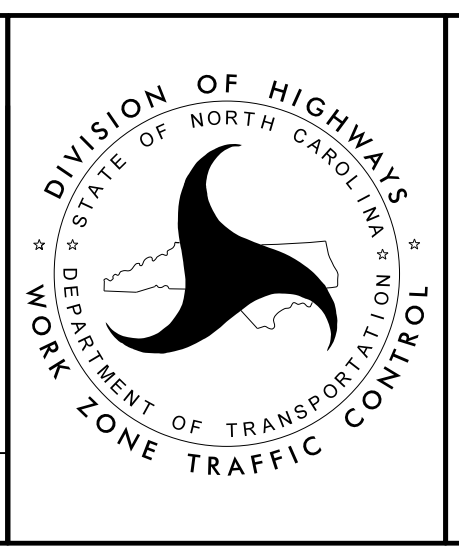
CHANGEABLE MESSAGE SIGN
DISPLAY DURING CLOSURE

mmm = month abbreviation
dd = numeric date
xxxxDAY = day of week

APPROVED: [Signature]
DATE: 8/29/2022

SEAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



LIGON MILL ROAD DETOUR

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

29-AUG-2022 10:37 P:\50084265\50084274 B5318 PH2\CAD\Civil\B5318\TrafficControl\TCP\Plans\200_095_B5318_TC_TCP_14.dgn
1Miles AT: R30K8AV4

<p>SIGN NUMBER: T101 TYPE: E QUANTITY: 5</p> <p>SIGN WIDTH: 3'-0" HEIGHT: 2'-6" TOTAL AREA: 7.5 Sq.Ft.</p> <p>BORDER TYPE: RECESSED RECESS: 0.47" WIDTH: 0.63" RADII: 1.5"</p> <p>NO. Z BARS: LENGTH:</p>	<p>BACKG COLOR: Orange COPY COLOR: Black</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>SYMBOL</th> <th>X</th> <th>Y</th> <th>WID</th> <th>HT</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p>MAT'L: 0.080" (2.0 mm) ALUMINUM</p>	SYMBOL	X	Y	WID	HT																																				<p>DESIGN BY: A. BESHEARS PROJECT ID: B-5318</p> <p>CHECKED BY: T. BROOKS DATE: Mar 22, 2021</p>	<p style="text-align: center;">Spacing Factor is 1 unless specified otherwise</p>																																																								
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<p>SIGN NUMBER: T102 TYPE: E QUANTITY: 19</p> <p>SIGN WIDTH: 2'-0" HEIGHT: 2'-6" TOTAL AREA: 5.0 Sq.Ft.</p> <p>BORDER TYPE: RECESSED RECESS: 0.47" WIDTH: 0.63" RADII: 1.5"</p> <p>NO. Z BARS: LENGTH:</p>	<p>BACKG COLOR: Orange COPY COLOR: Black</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>SYMBOL</th> <th>X</th> <th>Y</th> <th>WID</th> <th>HT</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p>MAT'L: 0.080" (2.0 mm) ALUMINUM</p>	SYMBOL	X	Y	WID	HT																																				<p>DESIGN BY: A. BESHEARS PROJECT ID: B-5318</p> <p>CHECKED BY: T. BROOKS DATE: Feb 09, 2021</p>	<p style="text-align: center;">Spacing Factor is 1 unless specified otherwise</p>																																																								
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SIGNS T101 & T102 MEASURED AND PAID FOR AS WORK ZONE SIGNS, STATIONARY

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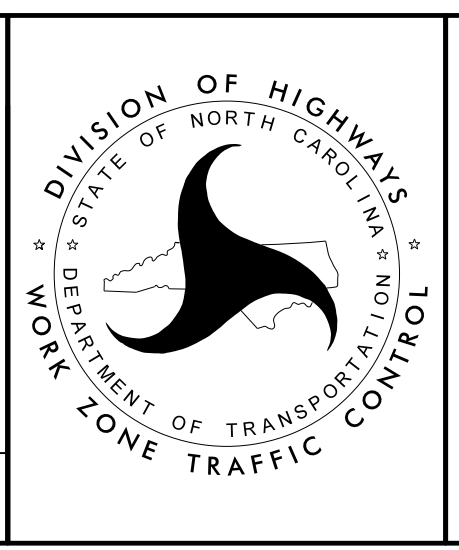


2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED:
DATE: 8/29/2022

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SIGN
DESIGNS