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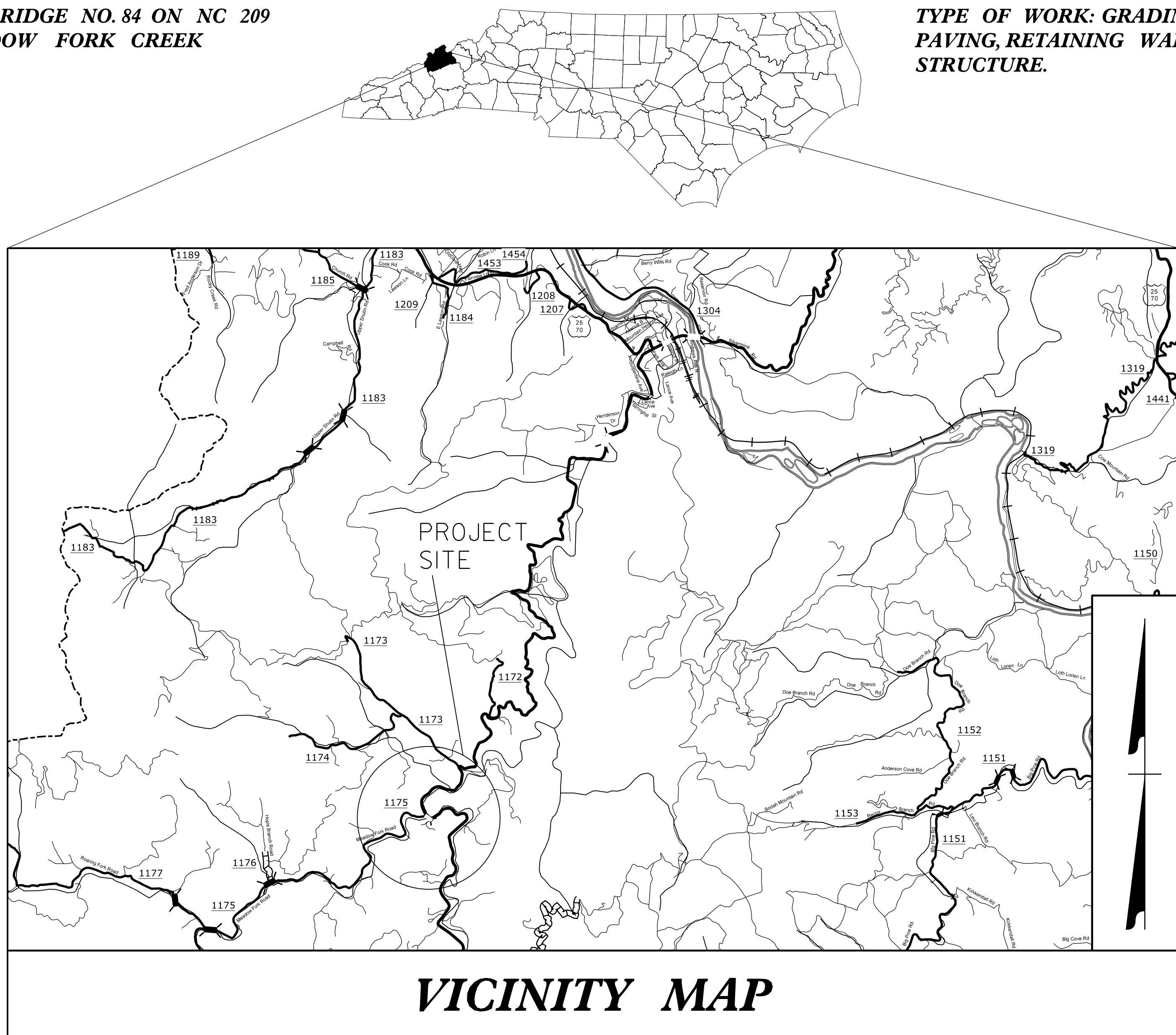
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

MADISON COUNTY

LOCATION: BRIDGE NO. 84 ON NC 209
OVER MEADOW FORK CREEK

TYPE OF WORK: GRADING, DRAINAGE,
PAVING, RETAINING WALL, AND
STRUCTURE.



VICINITY MAP

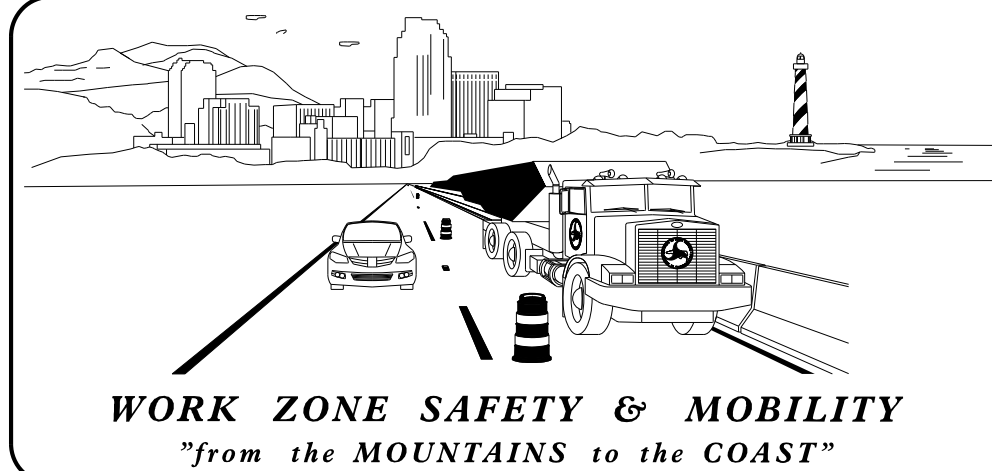
INDEX OF SHEETS

SHEET NO.	TITLE
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TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)
TMP-2	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
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SHEET NO.
TMP-1

CONTRACT: C204484 TIP PROJECT: BR-0032

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



PLANS PREPARED BY:

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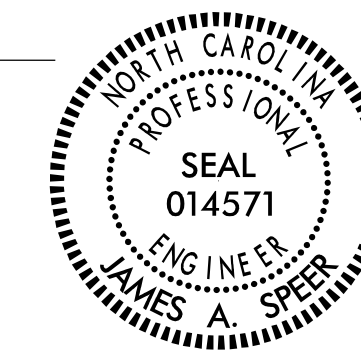


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APPROVED: James A. Speer

DATE: 3/9/2022

SEAL



ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - 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 WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGING DEVICES
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
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

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
- PORTABLE

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION	QUANTITY
PAINT (4")		
P1	WHITE EDGE LINE	2895 LF
P5	2'-6" WHITE MINI-SKIP	44 LF
PLASTIC (24")		
C61	WHITE STOPBAR	30 LF
	TEMPORARY RAISED MARKERS	150 EA

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APPROVED: DATE: 3/9/2022			ROADWAY STANDARD DRAWINGS & LEGEND
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MANAGEMENT STRATEGIES

TRAFFIC WILL BE MAINTAINED IN A ONE-LANE TWO-WAY TRAFFIC PATTERN DURING PHASES I AND II SO THAT THE PROPOSED BRIDGE CAN BE STAGE CONSTRUCTED IN PLACE. TRAFFIC WILL BE CONTROLLED USING THREE (3) TEMPORARY PORTABLE TRAFFIC SIGNALS, ONE AT EACH APPROACH TO THE BRIDGE. EACH SIGNAL WILL HAVE A COUNTDOWN DISPLAY TO INDICATE REMAINING TIME UNTIL GREEN. THE SIGNALS WILL ALSO BE ACTUATED AND NOT PRE-TIMED SO VEHICLES ARE PROCESSED MORE EFFICIENTLY DURING PERIODS OF LIGHT TRAFFIC DEMAND. IN PHASE III THE TRAFFIC WILL BE PLACED IN THE FINAL TWO-LANE TWO-WAY TRAFFIC PATTERN WHERE THE FINAL SURFACE COURSE AND PAVEMENT MARKING WILL BE PLACED.

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.

- A) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- B) 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.
- C) 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.
- D) 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.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 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.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- F) 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.
- G) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON NC 209.

PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- K) 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.
- L) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- N) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 350 ft IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

- O) 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 THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

- P) PROTECT THE APPROACH END OF MOVABLE/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 MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING 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

TRAFFIC CONTROL DEVICES

- Q) 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.

- R) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

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

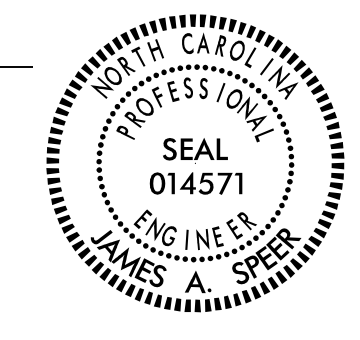

ROAD NAME	MARKING	MARKER
NC 209	PAINT	TEMPORARY RAISED
SR 1175	PAINT	TEMPORARY RAISED

- T) 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.

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

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

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<p>APPROVED: <u>James A. Speer</u> DATE: 3/9/2022</p> <p style="text-align: center;">SEAL</p> 		<h2 style="margin: 0;">TRANSPORTATION OPERATIONS PLAN</h2>
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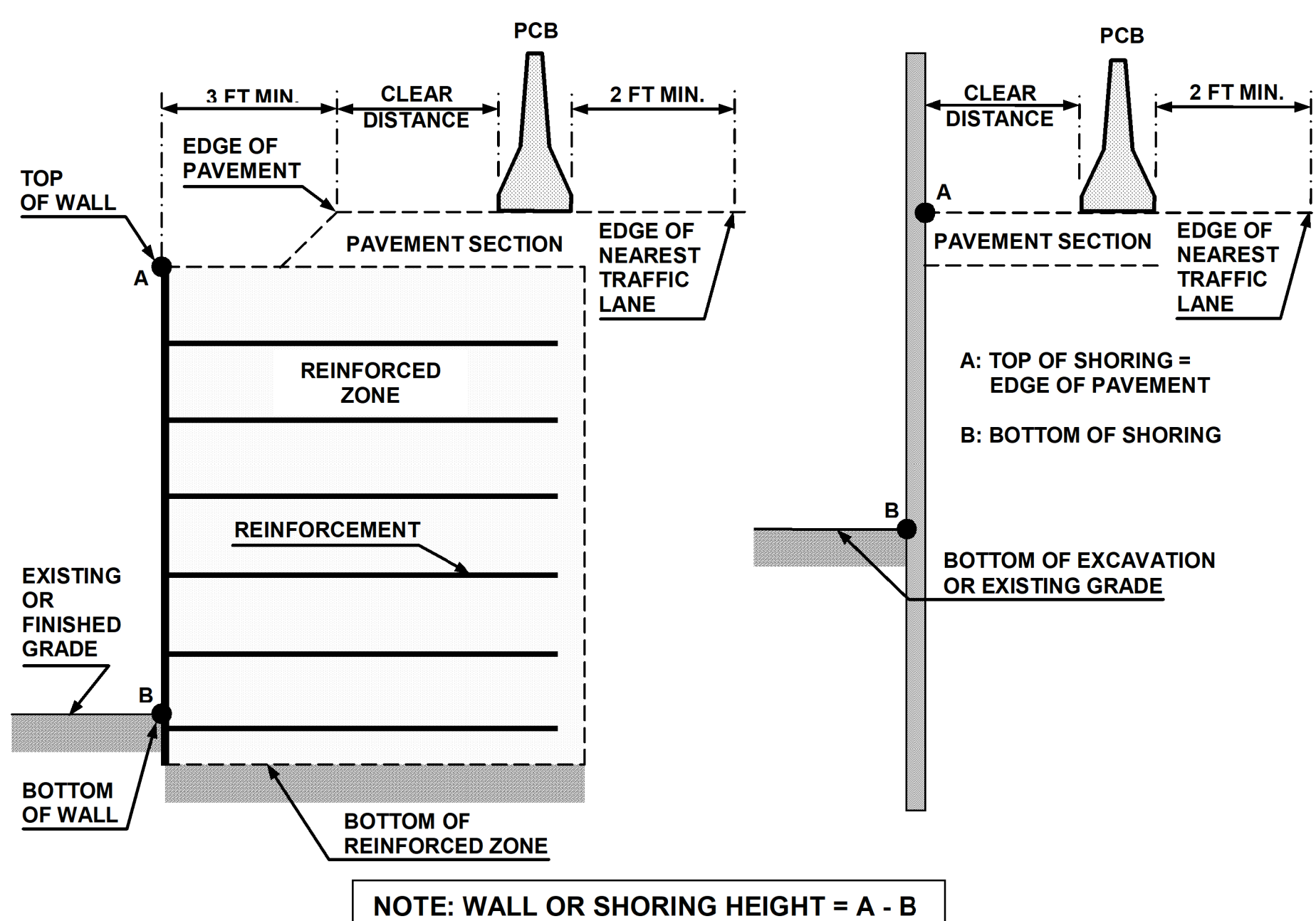


FIGURE A

NOTES

- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- PCB IS REQUIRED IF TEMPORARY SHORING 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 UNIT 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 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.
- PCB REQUIREMENTS FOR TEMPORARY WALLS APPLY TO TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS AND TEMPORARY SOIL NAIL WALLS.
- 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 AND OR AS 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 THESE MINIMUM REQUIRED DISTANCES ARE 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. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES, RUNS OF BARRIER LESS THAN 200 FT IN LENGTH AND WET OR DRY PAVEMENT.

MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier Type	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	
	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

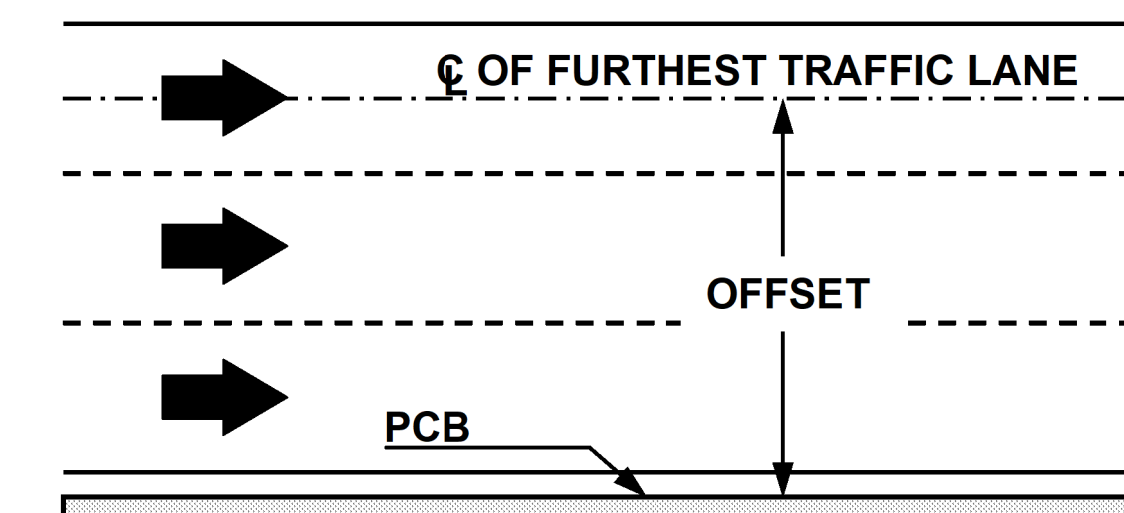
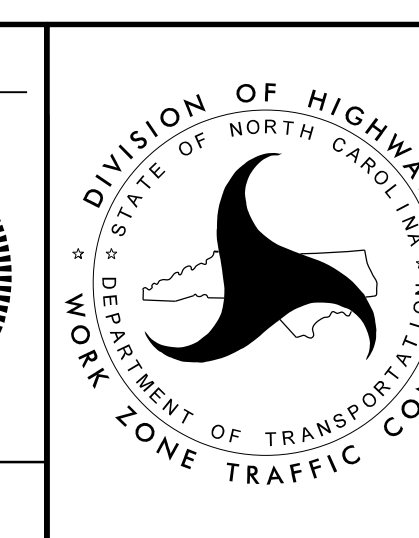


FIGURE B

APPROVED: *James A. Speer*
 DATE: 3/9/2022
 SEAL



PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS

SHORING LOCATION #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 12+50, 3 FT RIGHT, TO STATION 13+04, 5.5 FT RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 120 LB/CF

FRICTION ANGLE = 30 DEGREES

COHESION (c) = 0 LBSF

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 12+20, 3 FT RIGHT, TO STATION 13+04, 5.5 FT RIGHT. SEE STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

WHEN BACKFILL FOR BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

SHORING LOCATION #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 13+04, 5.5 FT RIGHT, TO STATION 13+47, 5.75 FT RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 120 LB/CF

FRICTION ANGLE = 30 DEGREES

COHESION (c) = 0 LBSF

GROUNDWATER ELEVATION = 1853 FT

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 13+04, 5.5 FT RIGHT, TO STATION 13+47, 5.75 FT RIGHT MAY NOT PENETRATE BELOW ELEVATION 1843 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION 13+04, 5.5 FT RIGHT, TO STATION 13+47, 5.75 FT RIGHT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SHORING LOCATION #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 13+66, 5.5 FT RIGHT, TO STATION 14+20, 7.5 FT RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 120 LB/CF

FRICTION ANGLE = 30 DEGREES

COHESION (c) = 0 LBSF

GROUNDWATER ELEVATION = 1846 FT

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 13+66, 5.5 FT RIGHT, TO STATION 14+20, 7.5 FT RIGHT MAY NOT PENETRATE BELOW ELEVATION 1862 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION 13+66, 5.5 FT RIGHT, TO STATION 14+20, 7.5 FT RIGHT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SHORING LOCATION #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 14+20, 7.5 FT RIGHT, TO STATION 14+75, 2.25 FT RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 120 LB/CF

FRICTION ANGLE = 30 DEGREES

COHESION (c) = 0 LBSF

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 14+20, 7.5 FT RIGHT, TO STATION 14+75, 2.25 FT RIGHT. SEE STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

WHEN BACKFILL FOR BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

SHORING LOCATION #5

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 10+00, 3.0 FT LEFT, TO STATION 11+75, 3.00 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT = 120 LB/CF

FRICTION ANGLE = 30 DEGREES

COHESION (c) = 0 LBSF

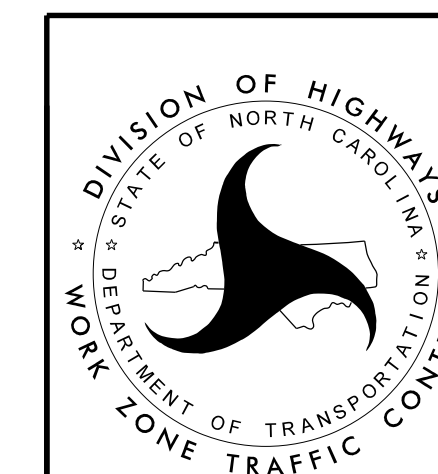
GROUNDWATER ELEVATION = 1867 FT

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION L-10+00, 3.0* FT LEFT, TO STATION -L- 11+75, 3.0* FT LEFT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 10+00, 3.0 FT LEFT, TO STATION 11+75, 3.0 FT LEFT MAY NOT PENETRATE BELOW ELEVATION 1867 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION 10+00, 3.0 FT LEFT, TO STATION 11+75, 3.0 FT LEFT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEER. THE DOCUMENT WAS SUBMITTED TO WZTC ON OCTOBER 20, 2021 AND SEALED BY A PROFESSIONAL ENGINEER, SHANE C. CLARKE, LICENSE #29869



TEMPORARY SHORING NOTES

PHASING

PROJ. REFERENCE NO.	SHEET NO.
BR-0032	TMP-3

PHASE I:

STEP 1:

USING ROADWAY STANDARD DRAWING NO. 1101.01 (SHEET 3 OF 3), INSTALL ALL ADVANCED WORK ZONE WARNING SIGNS.

STEP 2:

USING FLAGGER ACCORDING TO RSD 1101.02 (SHEET 1 OF 14), CONSTRUCT TEMPORARY PAVEMENT WIDENING AND SHOULDER WORK FROM RT. OF -L- STA. 12+60 +/- TO STA. 13+25 +/- (BEGIN EXIST. BRIDGE) AND FROM RT. -L- STA. 13+75 +/- (END EXIST. BRIDGE) TO STA. 15+30 +/- AS SHOWN ON TMP-4. PLACE PORTABLE TRAFFIC SIGNALS, INSTALL TRAFFIC CONTROL DEVICES AND ANY TEMPORARY PAVEMENT MARKING, AND MARKERS NEEDED TO SET UP ONE-LANE, TWO-WAY STAGE I TRAFFIC ON THE EASTBOUND LANE AS SHOWN ON TMP-4. ACTIVATE PORTABLE SIGNALS ON -L- AND -Y- AND USING RSD 1101.02 (SHEET 14 OF 14), SHIFT TRAFFIC TO A ONE-LANE, TWO-WAY PATTERN IN THE EASTBOUND LANE AS SHOWN ON TMP-4.

WHILE IN A ONE-LANE TRAFFIC PATTERN, PLACE PORTABLE CONCRETE BARRIER FROM -L- STA. 12+50.00 TO 14+75.00 AND INSTALL TEMPORARY CRASH CUSHIONS.

STEP 3

REMOVE A PORTION OF THE EXISTING BRIDGE AS SHOWN IN STAGE I OF THE STRUCTURE PLANS. CONSTRUCT -L- FROM STA. 09+75 +/- TO STA. 16+75 +/- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE INCLUDING STAGE I OF THE PROPOSED STRUCTURE PLANS, RETAINING WALL, AND TEMPORARY SHORING AS SHOWN ON TMP-4.

ONCE STEP 3 IS COMPLETED, USING RSD 1101.02 (SHEET 14 OF 14) PLACE PORTABLE CONCRETE BARRIER FROM -L- STA. 12+50.00 TO 14+75.00 AND RESET TEMPORARY CRASH CUSHIONS ON BOTH ENDS OF BARRIER FOR THE WESTBOUND ONE-LANE, TWO-WAY TRAFFIC PATTERN CONFIGURATION AS SHOWN ON TMP-5.

PHASE II:

STEP 1:

USING PORTABLE SIGNALS AND ROADWAY STANDARD DRAWING NO. 1101.02 (SHEET 14 OF 14), PLACE TRAFFIC CONTROL DEVICES, TEMPORARY PAVEMENT MARKING, AND MARKERS NEEDED TO SET-UP A ONE-LANE, TWO WAY STAGE II TRAFFIC PATTERN ON NEWLY CONSTRUCTED WESTBOUND LANES AS SHOWN ON TMP-5. SHIFT TRAFFIC TO A ONE-LANE, TWO-WAY PATTERN IN THE WESTBOUND LANE OF -L- AND -Y- AS SHOWN ON TMP-5.

STEP 2:

REMOVE THE REMAINDER OF THE EXISTING BRIDGE AS SHOWN IN STAGE II OF THE STRUCTURE PLANS. CONSTRUCT -L- FROM STA. 09+75 +/- TO STA. 16+75 +/- UP TO, BUT NOT INCLUDING THE FINAL SURFACE COURSE INCLUDING STAGE II OF THE PROPOSED STRUCTURE AS SHOWN ON TMP-5.

PHASE II (CONT.):

STEP 3:

USING THE PORTABLE SIGNALS AND RSD 1101.02 (SHEET 14 OF 14), REMOVE PORTABLE CONCRETE BARRIER AND TEMPORARY CRASH CUSHIONS AND COMPLETE ANY REMAINING PROPOSED ROADWAY CONSTRUCTION AND PROPOSED STRUCTURE AS SHOWN IN STAGE II UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

PHASE III:

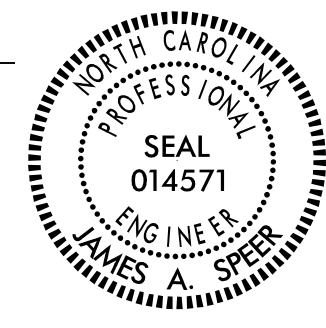

STEP 1:

USING FLAGGERS ACCORDING TO RSD 1101.02 (SHEET 1 OF 14), PLACE FINAL SURFACE COURSE AND FINAL PAVEMENT MARKING, AND MARKERS AS SHOWN ON TMP-6.

STEP 2:

REMOVE ALL TRAFFIC CONTROL DEVICES INCLUDING PORTABLE SIGNALS AND PLACE TRAFFIC IN FINAL TRAFFIC PATTERN.

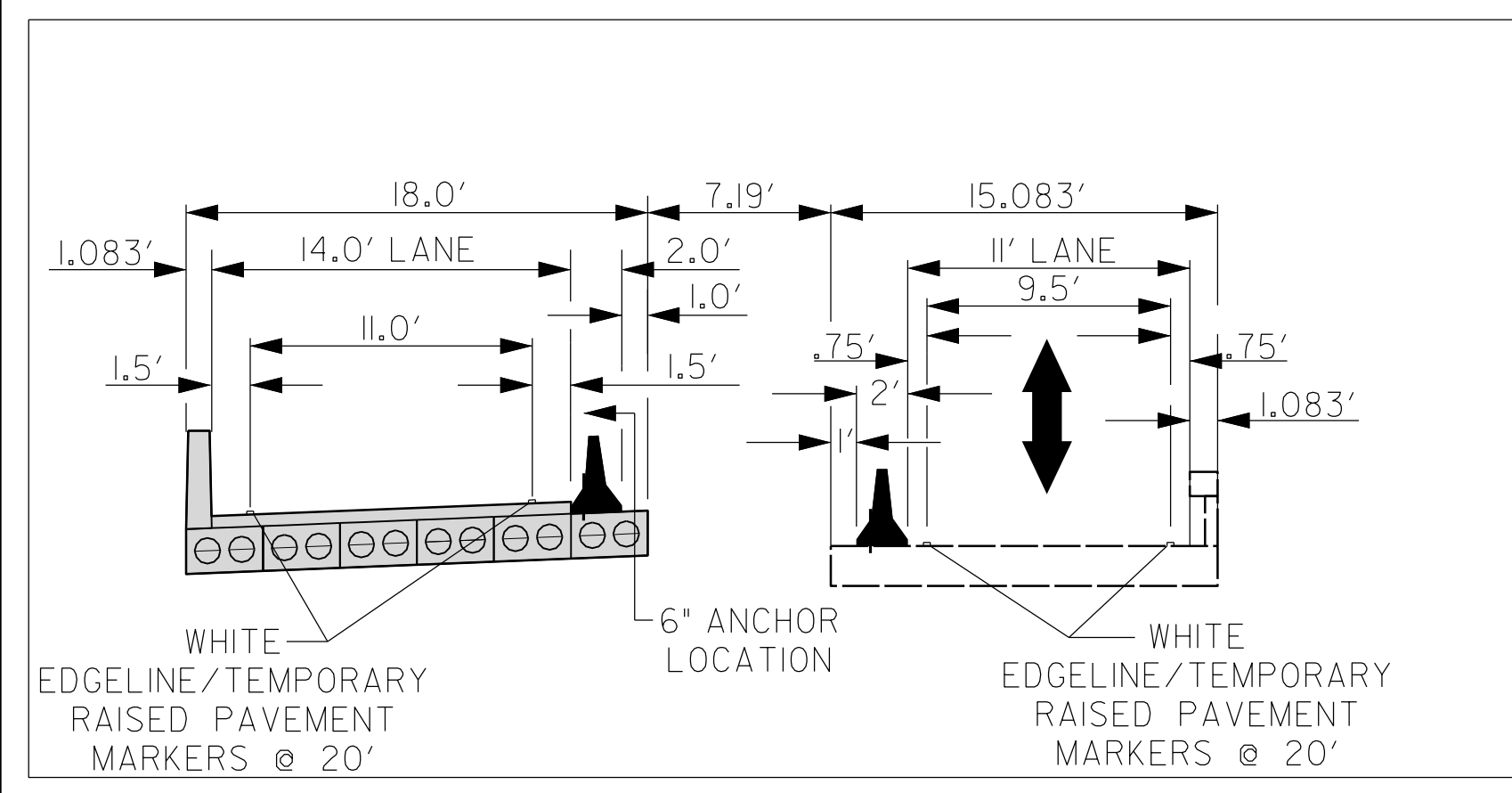
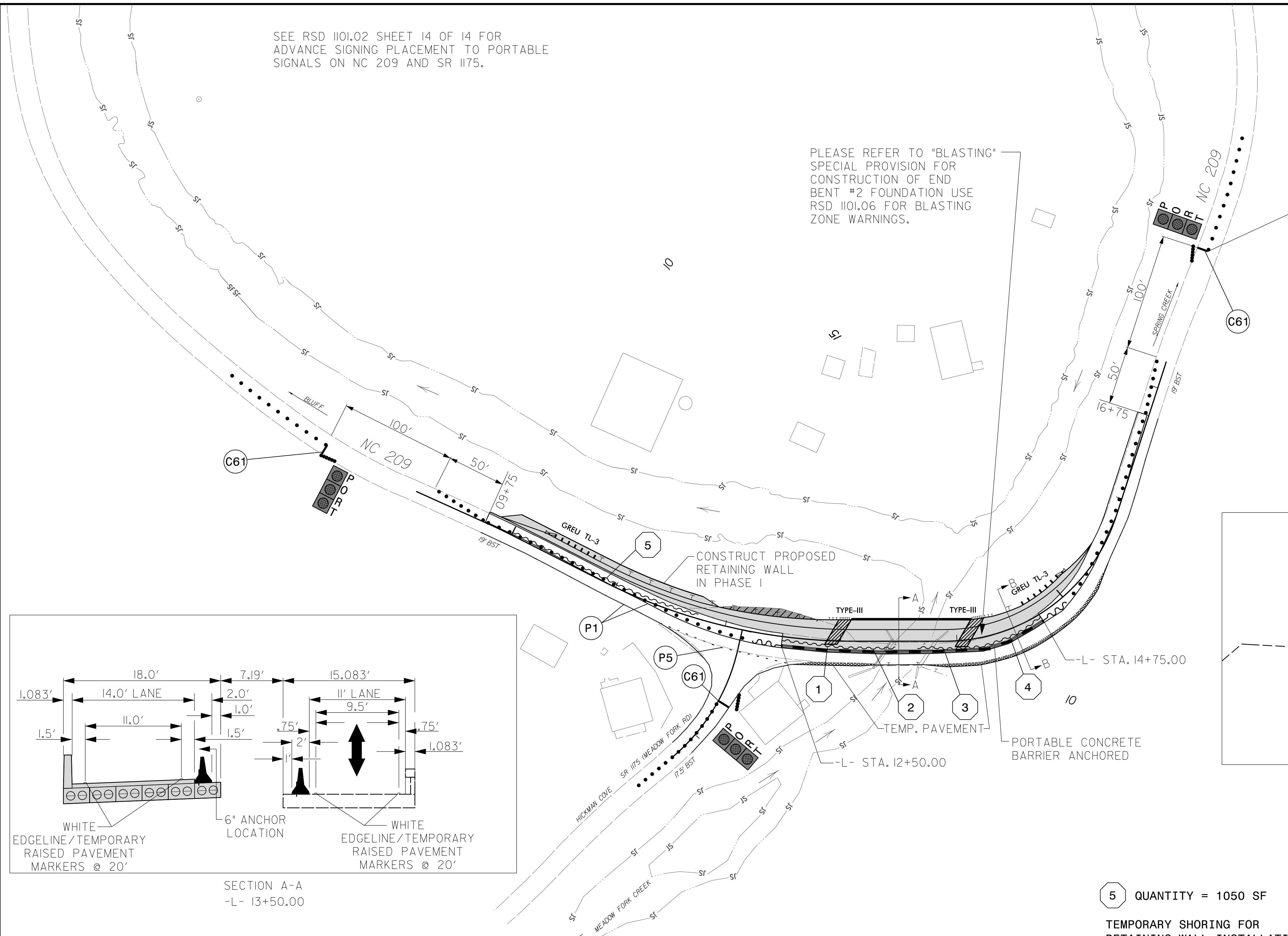
09-MAR-2022 10:56
BR-0032-TC-TMP-3.dgn
Josh.Terrigan

<p>APPROVED: <i>James A. Speer</i> DATE: 3/9/2022</p> <p style="text-align: center;">SEAL</p> 		<p>PHASING</p>
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>		

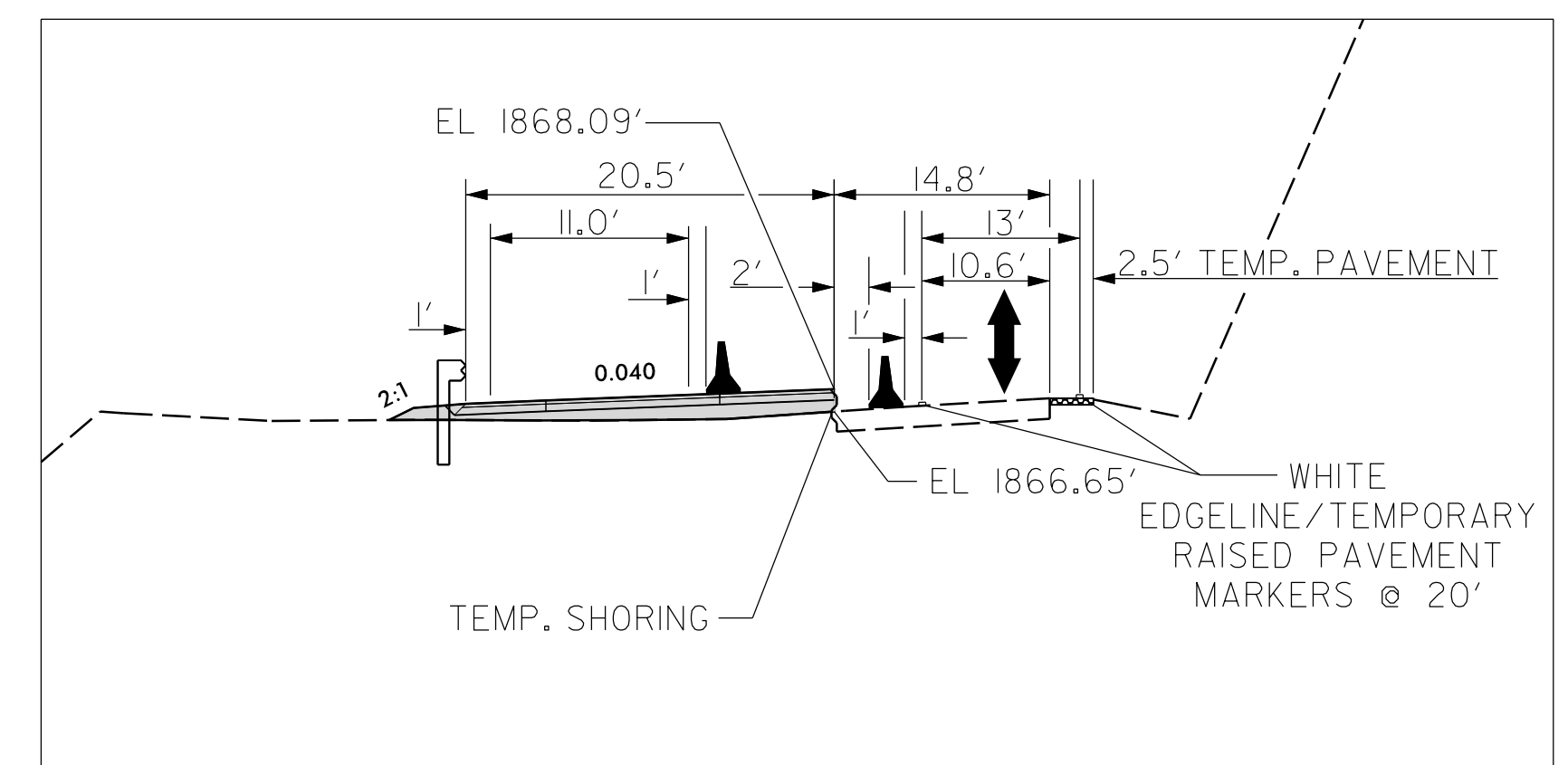
SEE RSD 101.02 SHEET 14 OF 14 FOR ADVANCE SIGNING PLACEMENT TO PORTABLE SIGNALS ON NC 209 AND SR 1175.

PLEASE REFER TO "BLASTING" SPECIAL PROVISION FOR CONSTRUCTION OF END BENT #2 FOUNDATION USE RSD 101.06 FOR BLASTING ZONE WARNINGS.

SEE RSD 101.02 SHEET 14 OF 14 FOR TEMPORARY SIGNAL PLACEMENT AND ADVANCED SIGNING



SECTION A-A
-L- 13+50.00



SECTION B-B
-L- 14+50.00

1 QUANTITY = 81 SF
 TEMPORARY SHORING FOR GRADE SEPERATION
 FROM STA. -L- 12+50.00, 3' RT TO STA. -L- 13+04.00, 5.5' RT
 (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)

2 QUANTITY = 1032 SF
 TEMPORARY SHORING FOR REMOVAL OF EXISTING ABUTMENT AND CONSTRUCTION OF PROPOSED END BENT
 FROM STA. -L- 13+04.00, 5.5' RT TO STA. -L- 13+47.00, 5.75' RT
 (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)

3 QUANTITY = 1296 SF
 TEMPORARY SHORING FOR REMOVAL OF EXISTING ABUTMENT AND CONSTRUCTION OF PROPOSED END BENT
 FROM STA. -L- 13+66.00, 5.5' RT TO STA. -L- 14+20.00, 7.5' RT
 (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)

4 QUANTITY = 99 SF
 TEMPORARY SHORING FOR GRADE SEPERATION
 FROM STA. -L- 14+20.00, 7.5' RT TO STA. -L- 14+75.00, 2.25' RT
 (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)

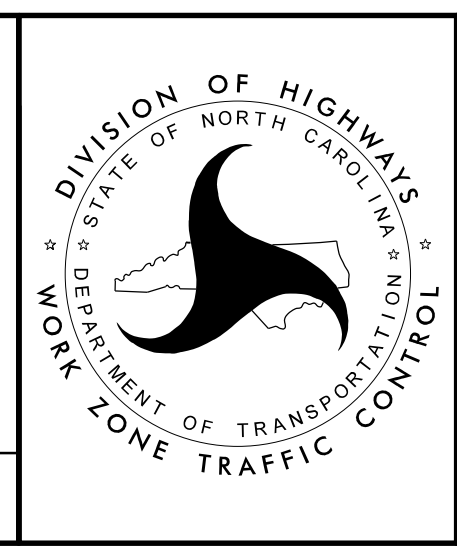
5 QUANTITY = 1050 SF

TEMPORARY SHORING FOR RETAINING WALL INSTALLATION
 FROM STA. -L- 10+00.00, 3.0' LT TO STA. -L- 11+75.00, 3.0' LT
 (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)

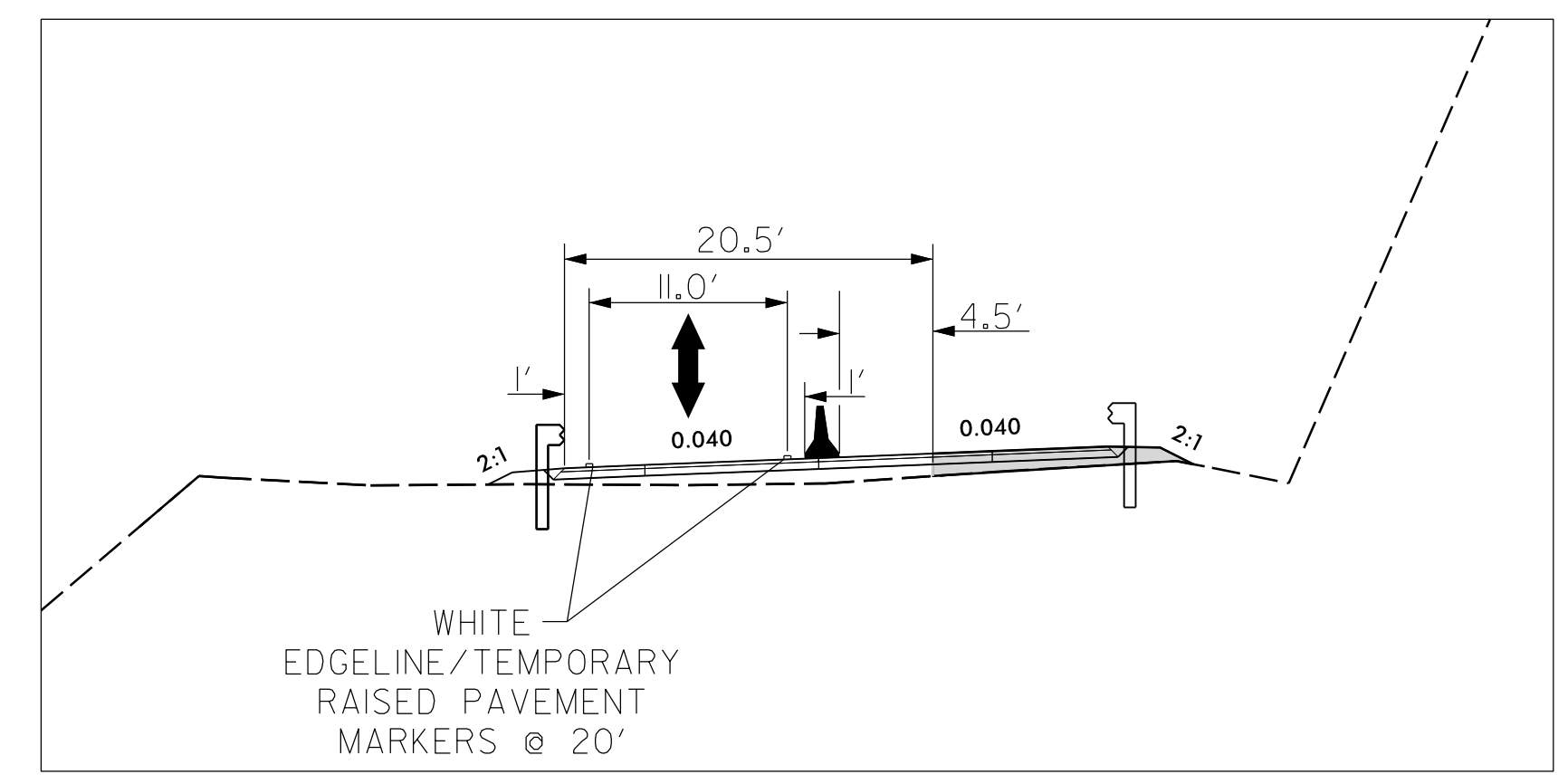
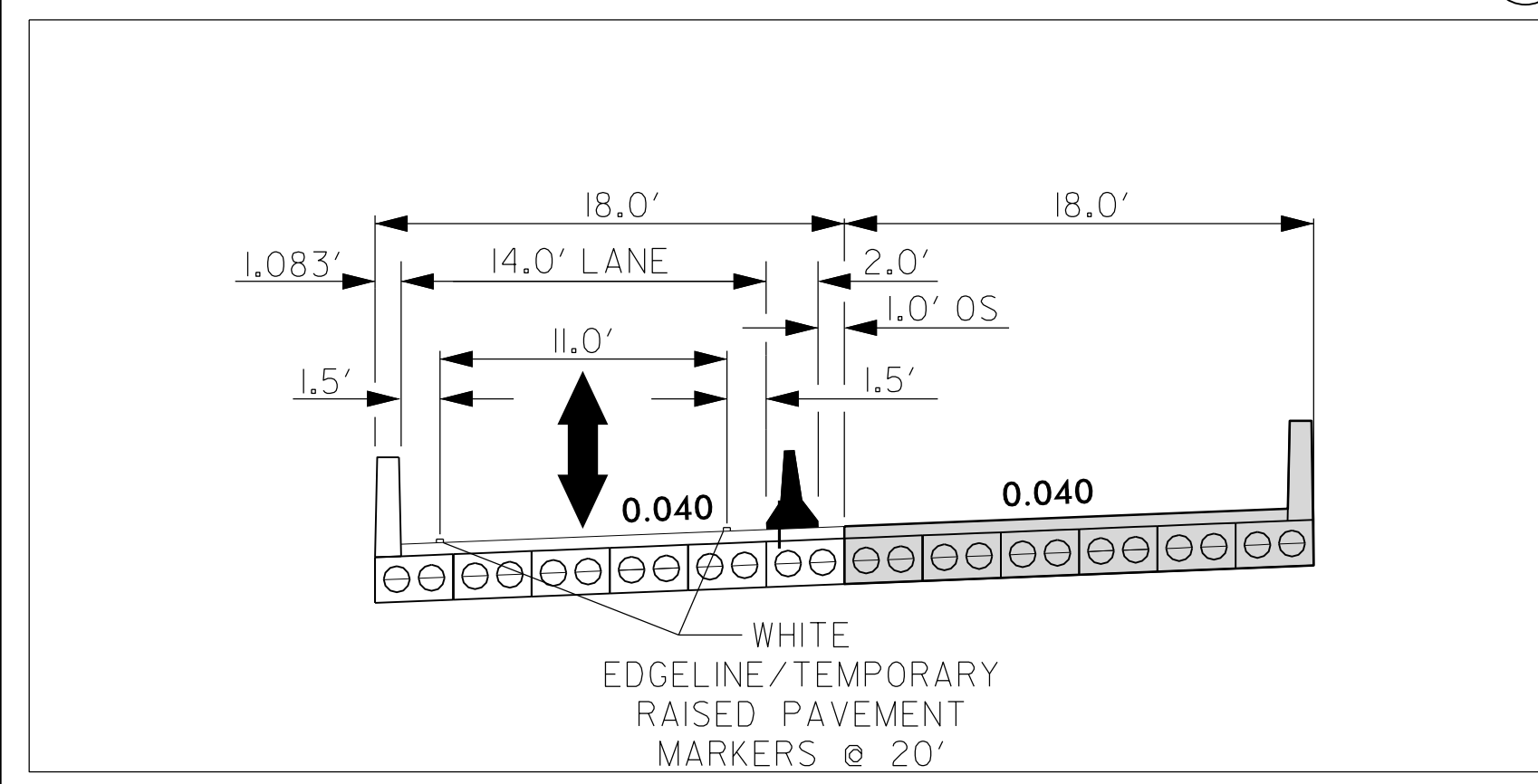
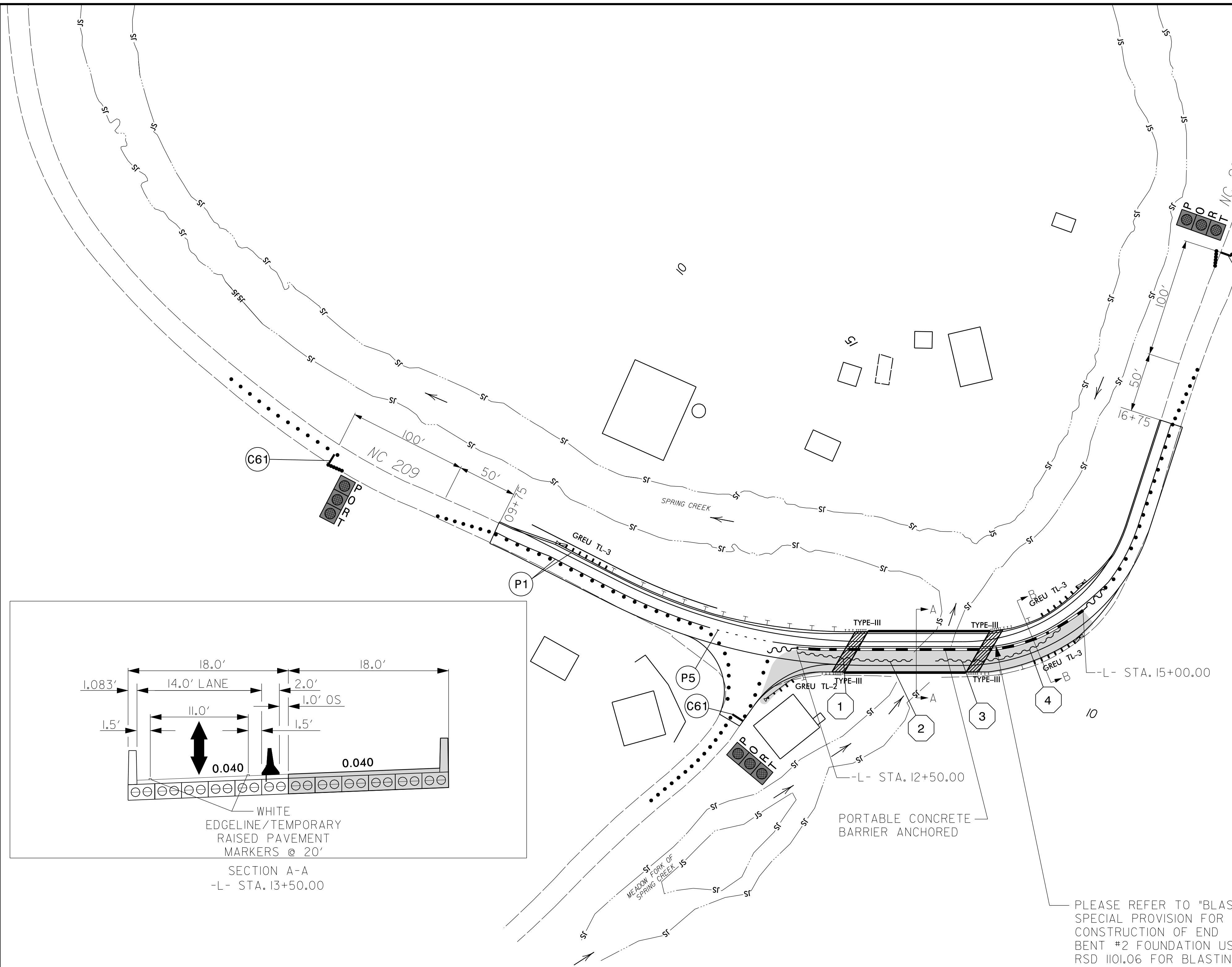
- CONSTRUCTION
- PAVEMENT REMOVAL
- TEMPORARY PAVEMENT

09-MAR-2022 10:56 BR-0032-TC-TMP-4.dgn Josh.Terrigan

APPROVED: *James A. Speer*
 DATE: 3/9/2022
 SEAL
 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PHASE I



PLEASE REFER TO "BLASTING" SPECIAL PROVISION FOR CONSTRUCTION OF END BENT #2 FOUNDATION USE RSD 110.06 FOR BLASTING ZONE WARNINGS.

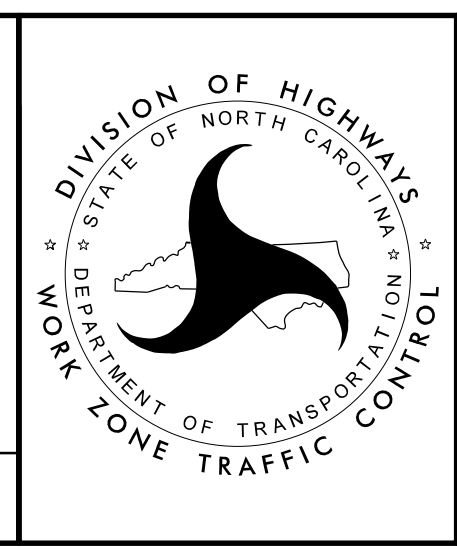
CONSTRUCTION

- 1** QUANTITY = 81 SF
 TEMPORARY SHORING FOR GRADE SEPERATION
 FROM STA. -L- 12+50.00, 3' RT TO STA. -L- 13+04.00, 5.5' RT
 (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)
- 2** QUANTITY = 1032 SF
 TEMPORARY SHORING FOR REMOVAL OF EXISTING ABUTMENT AND CONSTRUCTION OF PROPOSED END BENT
 FROM STA. -L- 13+04.00, 5.5' RT TO STA. -L- 13+47.00, 5.75' RT
 (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)
- 3** QUANTITY = 1296 SF
 TEMPORARY SHORING FOR REMOVAL OF EXISTING ABUTMENT AND CONSTRUCTION OF PROPOSED END BENT
 FROM STA. -L- 13+66.00, 5.5' RT TO STA. -L- 14+20.00, 7.5' RT
 (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)
- 4** QUANTITY = 99 SF
 TEMPORARY SHORING FOR GRADE SEPERATION
 FROM STA. -L- 14+20.00, 7.5' RT TO STA. -L- 14+75.00, 2.25' RT
 (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)

APPROVED: *James A. Speer*
 DATE: 3/9/2022

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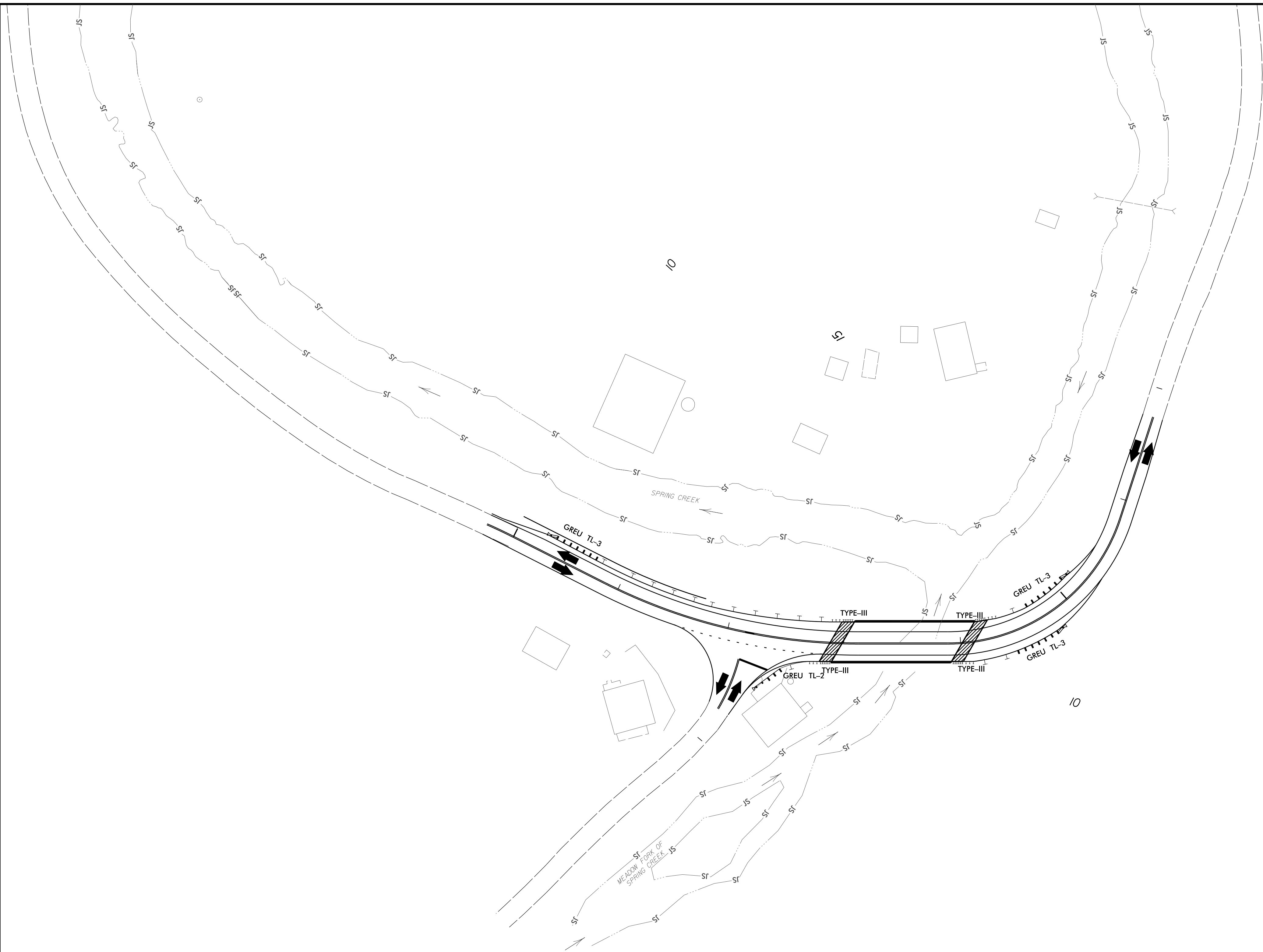
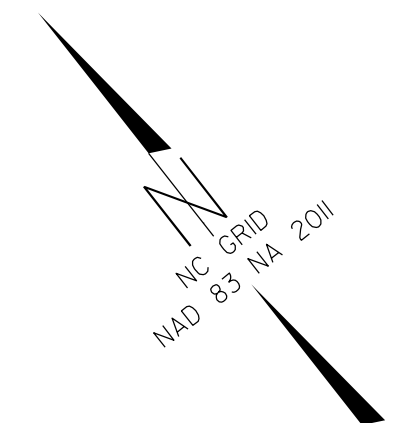
PHASE II

DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 WORK ZONE TRAFFIC CONTROL

09-MAR-2022 10:56
 BR-0032-TC-TMP-5.dgn
 Josh.Terrigan

PROJ. REFERENCE NO.	SHEET NO.
BR-0032	TMP-6

NOTES:
 REFERENCE PMP SHEET PMP-2 FOR FINAL PAVEMENT MARKING DESIGN AND DIMENSIONS TO BE IMPLEMENTED IN TMP PHASE III.
 REFERENCE SIGNING SHEET SIGN-3 FOR FINAL SIGN DESIGN AND LOCATIONS TO BE IMPLEMENTED IN TMP PHASE III.



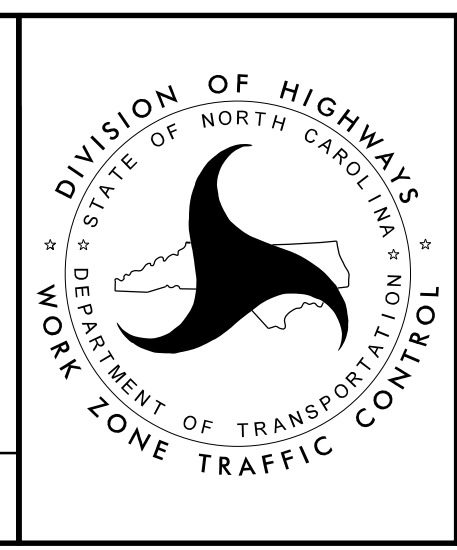
09-MAR-2022 10:56
 BR-0032-TC-TMP-6.dgn
 josh.fernigan

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DATE: 3/9/2022

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PHASE III