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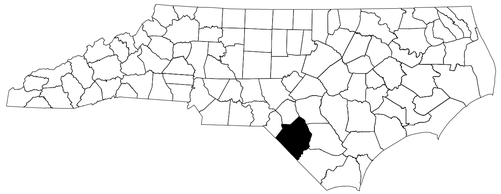
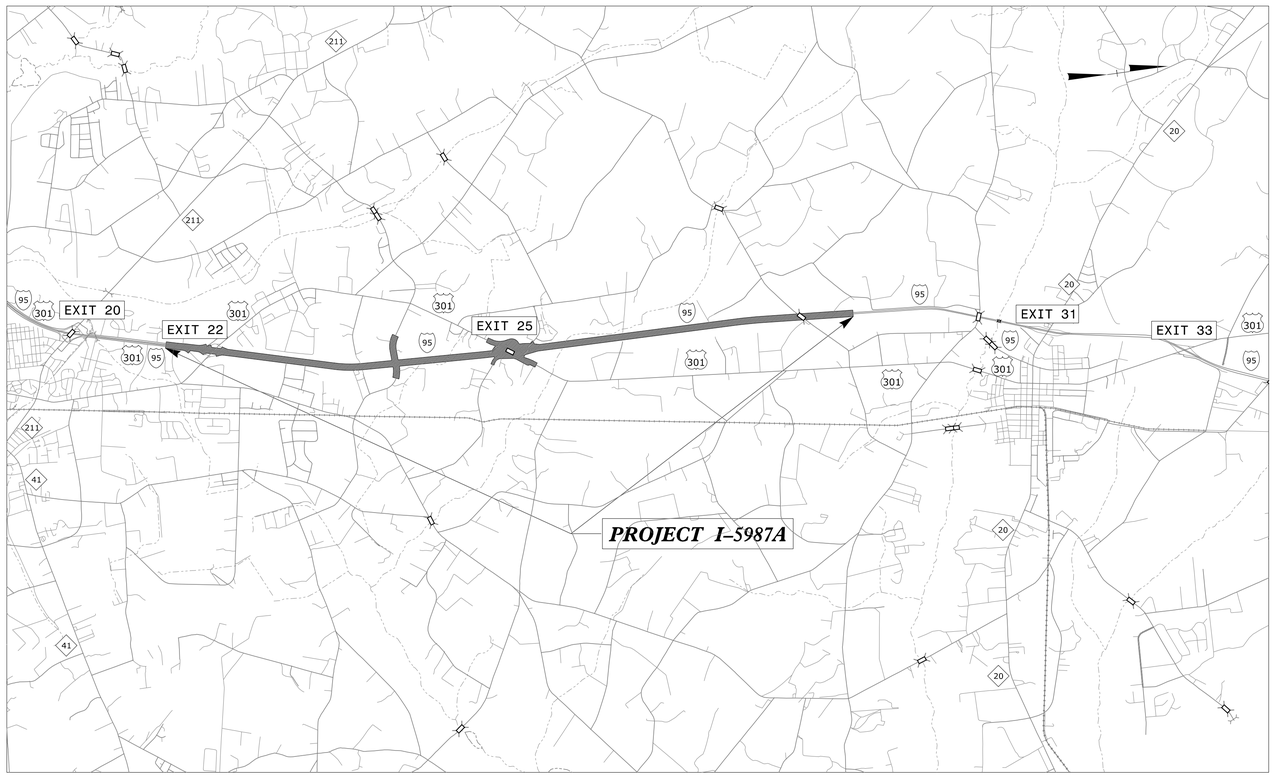
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ROBESON COUNTY





VICINITY MAP

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WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

PLANS PREPARED BY:

J. TOWNSEND, PE (VHB)

D. SHINBARA, PE (AMT)

NCDOT CONTACTS:

CRAIG A. FREEMAN, JR, PE
PROJECT ENGINEER

WILLIAM R. MARSH, PE
DIVISION CONSTRUCTION ENGINEER

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

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5/18/2022

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND
5/18/2022

SHEET NO.
TMP-1

I-5987A

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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
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
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 MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
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
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- WEDGING
- 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
- 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

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
	PAINT (4")
P1	WHITE EDGELINE
P2	WHITE SOLID LANE LINE
P3	10 FT. WHITE SKIP
P4	3 FT.- 9 FT./SP WHITE MINISKIP
P5	2 FT. - 6 FT./SP WHITE MINISKIP
P10	YELLOW EDGELINE
P11	YELLOW SINGLE CENTER
P12	10 FT. YELLOW SKIP
P13	YELLOW DOUBLE CENTER
P14	2 FT. - 6 FT./SP YELLOW MINISKIP
	PAINT (6")
P20	WHITE EDGELINE
P21	WHITE SOLID LANE LINE
P22	10 FT. WHITE SKIP
P23	3 FT.- 9 FT./SP WHITE MINISKIP
P30	YELLOW EDGELINE
	PAINT (12")
P50	WHITE GORELINE
P51	WHITE DIAGONAL
P52	YELLOW DIAGONAL
P53	WHITE SOLID LANE LINE
P54	3 FT. - 9 FT./SP WHITE MINISKIP
P55	3 FT. - 3 FT./SP WHITE MINISKIP

SYMBOL	DESCRIPTION
	PAINT (12")
P50	WHITE GORELINE
P52	YELLLOW DIAGONAL
P54	3 FT. - 9 FT./SP WHITE MINISKIP
	PAINT (24")
P61	WHITE STOPBAR
	PAINT PAVEMENT MARKING SYMBOL
P70	LEFT TURN ARROW
P71	RIGHT TURN ARROW
P72	STRAIGHT ARROW
P73	COMBO. STRAIGHT/LEFT
P74	COMBO. STRAIGHT/RIGHT
P75	COMBO. LEFT/RIGHT ARROW
P79	MERGE ARROW
P103	24" YIELD TRIANGLE
	PAINT PAVEMENT MARKING CHARACTER
P100	ALPHANUMERIC CHAR.

SYMBOL	DESCRIPTION
	PERFORMANCE (6")
Z21	WHITE SOLID LINE
Z22	10 FT. WHITE SKIP
Z23	3 FT.- 9 FT./SP WHITE MINISKIP
Z31	YELLOW SOLID LINE
	PERFORMANCE (12")
Z50	WHITE GORELINE
Z54	3 FT.- 9 FT./SP WHITE MINISKIP
	COLD APPLIED (6")
C1	WHITE EDGELINE
C10	YELLOW EDGELINE
C13	YELLOW DOUBLE CENTER

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5/18/2022

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND
5/18/2022

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ROADWAY STANDARD DRAWINGS & LEGEND

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MANAGEMENT STRATEGIES

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

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:

- FULL ROADWAY CLOSURES
- ROLLING ROADBLOCK
- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- ONE-LANE, TWO WAY OPERATION (SIGNALIZED)
- TWO-WAY TRAFFIC ON ONE SIDE OF DIVIDED FACILITY (CROSSOVER)
- REVERSIBLE LANES
- RAMP CLOSURES / RELOCATION
- NIGHT WORK
- WEEKEND WORK
- WORK HOUR RESTRICTIONS FOR PEAK TRAVEL
- PEDESTRIAN / BICYCLE ACCOMMODATIONS
- BUSINESS ACCESS IMPROVEMENTS
- OFF-SITE DETOURS / USE OF ALTERNATIVE ROUTES
- ON-SITE DETOURS
- HIGH VISIBILITY DEVICES
- CONNECTED LANE CLOSURE DEVICES
- TYPICAL MEDIAN ACCESS AREAS
- TRAFFIC CONTROL SUPERVISOR

WORK ZONE SAFETY & MOBILITY STRATEGIES:

- SPEED LIMIT REDUCTION
- TEMPORARY TRAFFIC SIGNALS
- DIGITAL SPEED LIMIT SIGNS / VARIABLE SPEED LIMITS
- SEQUENTIAL LIGHTING
- PRESENCE LIGHTING
- WORK ZONE PERFORMANCE PAVEMENT MARKINGS

CORRIDOR / NETWORK MANAGEMENT STRATEGIES:

- COORDINATION WITH ADJACENT CONSTRUCTION SITE(S)

TRAFFIC / INCIDENT MANAGEMENT & SPEED ENFORCEMENT STRATEGIES:

- ITS FOR TRAFFIC MONITORING / MANAGEMENT (SMART WORKZONE)
- COORDINATION WITH STATE TRAFFIC OPERATIONS CENTER (STOC)
- COORDINATION WITH MEDIA
- LOCAL DETOUR ROUTES
- DEDICATED (PAID) LAW ENFORCEMENT
- COOPERATIVE LAW ENFORCEMENT (HAWKS)
- INCREASED PENALTIES FOR WORK ZONE VIOLATIONS

CONTRACTING & INNOVATIVE CONTRUCTION STRATEGIES:

- INTERMEDIATE CONTRACT TIMES / LIQUIDATED DAMAGES

MAINTENANCE OF DRAINAGE STRATEGIES:

- PERFORM WORK IN A MANNER THAT MAINTAINS POSITIVE DRAINAGE DURING CONSTRUCTION. IMPLEMENT A COMBINATION OF PHASED CONSTRUCTION OF PROPOSED PIPE NETWORKS, MAINTAINING EXISITING DRAINAGE NETWORKS, AND TEMPORARY PIPES, STEEL PLATES AND DRAINAGE STRUCTURES AS REQUIRED, AS DIRECTED BY THE ENGINEER, AND AS DETAILED IN THE TMP.
- PROVIDE WEDGING AS REQUIRED TO PROMOTE POSITIVE DRAINAGE AND SMOOTH TRANSTIONS. IN CONDITIONS WHERE WEDGING IS REQUIRED ACROSS PCB IN ORDER TO UNIFORMLY BUILD PAVEMENT UP, UTILIZE TEMPORARY LANE CLOSURES AS REQUIRED TO TEMPORARILY RESET PCB.
- PRELIMINARY HYDRAULIC ANALYSIS OF THE TEMPORARY CONDITIONS INDICATE HYDROPLANING MAY OCCUR ON TRAVEL LANES WHERE SHEET FLOW DRAINAGE WIDTHS EXCEED 60' IN THE LOCATIONS LISTED BELOW. THE 60' WIDTH IS IDENTIFIED FROM THE TEMPORARY CROWN POINT TO THE FARTHEST EDGE OF TRAVEL OF THE TEMPORARY TRAFFIC PATTERN. THE CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE MEASURES WITHIN THE WORK AREA AND BEHIND BARRIER AS REQUIRED AS TO NOT CONTRIBUTE TO SHEET FLOW DRAINAGE ACROSS THE TEMPORARY TRAVEL LANES.

PHASE 2/2A/2B, STA 159+00 TO 178+00 LT
PHASE 2/2A/2B, STA 156+00 TO 179+00 RT
PHASE 2/2A/2B, STA 216+00 TO 252+00 LT
PHASE 2/2A/2B, STA 215+00 TO 259+00 RT
PHASE 2B, STA 482+00 TO 495+00 LT
PHASE 2B, STA 491+00 TO 495+00 RT

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.

CONSTRUCTION OPERATIONS REQUIRING A LANE CLOSURE ON A RAMP / LOOP SECTION WITH A SINGLE LANE SHALL BE DEFINED AS A ROAD CLOSURE AND SHALL BE SUBJECT TO THE INTERMEDIATE CONTRACT TIMES FOR ROAD CLOSURES FOUND IN GENERAL NOTE C.

TIME RESTRICTIONS

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

ROAD NAME	DAY AND TIME RESTRICTIONS
I-95	6:00 A.M. TO 7:00 P.M., MON. THRU THU.
	6:00 A.M. TO 9:00 P.M., FRI. THRU SUN.
FAYETTEVILLE RD	7:00 A.M. TO 9:00 A.M. & 4:00 P.M. TO 6:00 P.M., MON. THRU FRI.
US 301	7:00 A.M. TO 9:00 A.M. & 4:00 P.M. TO 6:00 P.M., MON. THRU FRI.

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

ROAD NAME
I-95, FAYETTEVILLE RD, US 301

HOLIDAY
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 A.M. DECEMBER 31st TO 9:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 8:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 9:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 9:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 9:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 9:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 8:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I-95	6:00 A.M. TO 11:00 P.M., MON. THRU SUN.

D) DO NOT CONDUCT MULTI-VEHICLE HAULING AS FOLLOWS; INGRESS AND EGRESS FROM RAMPS WILL NOT BE ALLOWED:

ROAD NAME	DAY AND TIME RESTRICTIONS
I-95	6:00 A.M. TO 6:00 P.M. MON. THRU THU.
	6:00 A.M. TO 7:00 P.M. FRI. THRU SUN.

E) 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

F) 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.

G) 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.

H) 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.

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

TEMPORARY TRAFFIC CONTROL MANAGEMENT STRATEGIES AND GENERAL NOTES

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GENERAL NOTES (CONTINUED)

I) 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.

J) 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.

K) DO NOT INSTALL MORE THAN TWO MILES OF LANE CLOSURE ON I-95 MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

L) PROVIDE A MINIMUM OF 2 MILES BETWEEN LANE CLOSURES, MEASURED FROM THE END OF ONE CLOSURE TO THE MERGE TAPER OF THE NEXT LANE CLOSURE.

M) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

N) 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.

O) 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) 1,000 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

Q) 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.

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

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

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

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

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

U) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 1,000 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

V) 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.

W) 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

X) 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.

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

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
I-95 AND RAMPS	PERFORMANCE	TEMPORARY RAISED
US 301	PAINT	TEMPORARY RAISED
CONCRETE BRIDGE DECKS	COLD APPLIED	NONE
ALL OTHER ROADS	PAINT	NONE

BB) 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.

CC) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

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

EE) TRACE THE EXISTING AND PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO REMOVAL AND INSTALLATION.

PLACE SKINNY DRUMS TO DELINEATE ANY EXISTING AND PROPOSED MONOLITHIC ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION.

MISCELLANEOUS

FF) LAW ENFORCEMENT SHALL BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

GG) 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. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE ''PAVEMENT ENDS'' SIGNS (W8-3) 350 FT AND 700 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

HH) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

A. MORTON THOMAS AND ASSOCIATES, INC.
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WWW.AMTENGINEERING.COM

vhb
940 Main Campus Drive, Suite 500 Raleigh, NC 27606
NC License No. C-3705

APPROVED: _____ DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 040269 ENGINEER DAVID A. SHINBARA — 5/18/2022

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND — 5/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TEMPORARY TRAFFIC CONTROL MANAGEMENT STRATEGIES AND GENERAL NOTES

4/28/2022
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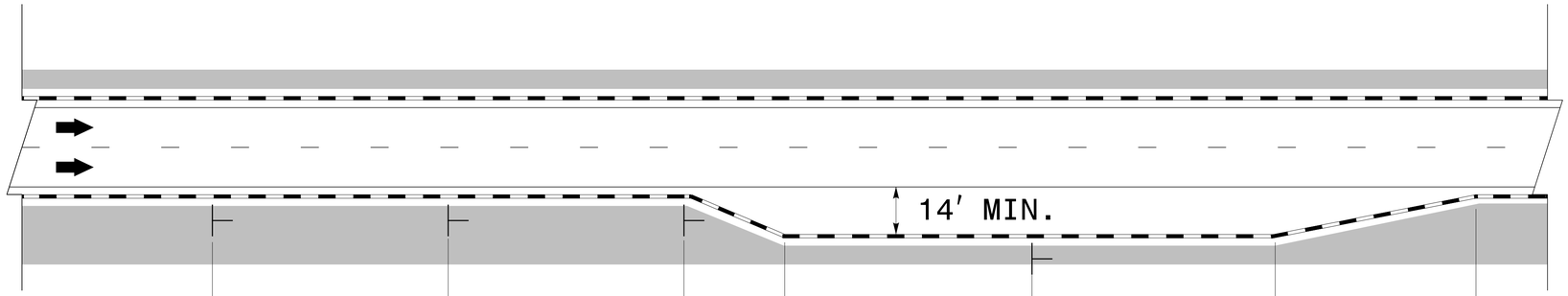
User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2



FENDER BENDER
MOVE VEHICLES FROM TRAVEL LANES

R16-4
84″ X 42″

*USE ONLY AT FIRST PULL-OFF AREA AND EVERY OTHER PULL-OFF AREA FOLLOWING

PULL – OFF AREA
¼ MILE

SPECIAL
54″ X 36″
(SEE NOTE 6)

PULL – OFF AREA

EMERGENCY ONLY

SPECIAL
84″ X 60″
(SEE NOTE 6)

EMERGENCY STOPPING ONLY

R8-7
30″ X 24″

GENERAL NOTES FOR MOTORIST PULL-OFF AREAS

1. PULL-OFF AREAS SHALL BE PROVIDED IN WORK ZONES ALONG HIGHWAYS WITH SPEED LIMITS GREATER THAN OR EQUAL TO 55 MPH WHERE INSUFFICIENT SHOULDERS EXIST FOR TWO MILES OR GREATER. INSUFFICIENT SHOULDERS EXIST WHEN 10′ OF PAVED RIGHT SHOULDER IS NOT CONSISTENTLY AVAILABLE FOR MOTORIST USE.

2. THE SPACING OF PULL-OFF AREAS SHALL BE AS FOLLOWS:
   - FOR AREAS WITH INSUFFICIENT SHOULDERS UP TO 3.0 MILES IN LENGTH, ONE PULL-OFF AREA APPROXIMATELY CENTERED IN THE WORK ZONE.
   - FOR AREAS WITH INSUFFICIENT SHOULDERS GREATER THAN 3.0 MILES IN LENGTH, ONE PULL-OFF AREA EVERY MILE.

3. PULL-OFF AREAS SHALL BE A MINIMUM OF 1000′ LONG. THE WIDTH OF PULL-OFF AREAS SHALL BE 14′ AND SHALL CONSIST OF A PAVED SURFACE.

4. PULL-OFF AREAS MAY BE ON EITHER THE LEFT OR RIGHT SIDE OF THE TRAVEL LANES.

5. PORTABLE CONCRETE BARRIER SHALL ONLY BE USED IF WARRANTED BY FIELD CONDITIONS.

6. REFER TO TMP-2SSD3 FOR SPECIAL SIGN DESIGNS.

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NC License No. C-3705

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NORTH CAROLINA PROFESSIONAL SEAL 046269 ENGINEER DAVID A. SHINBARA
5/18/2022

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND
5/18/2022

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

MOTORIST
PULL-OFF
AREA DETAIL

4/26/2022
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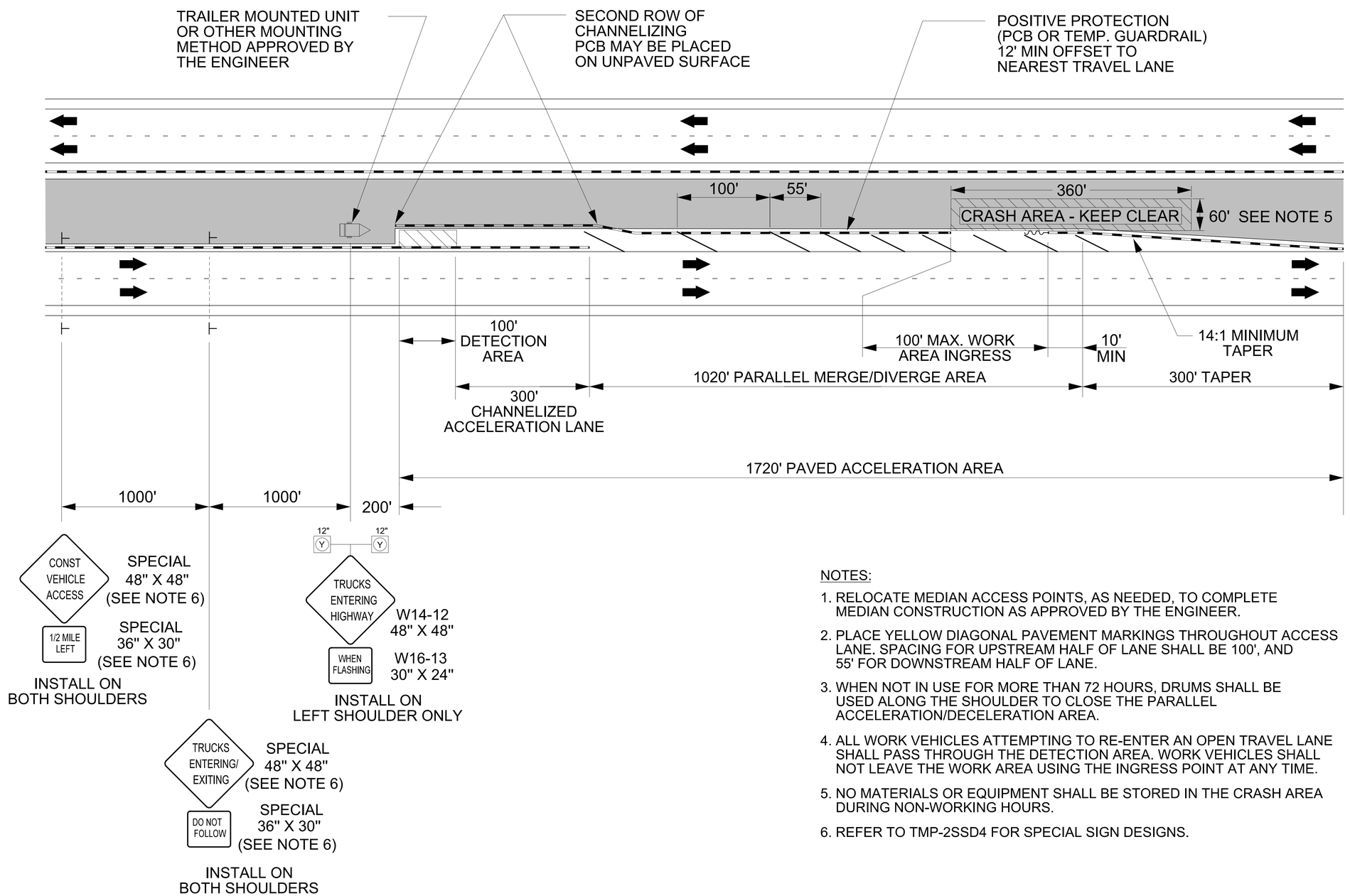
PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2A



NOTES:

1. RELOCATE MEDIAN ACCESS POINTS, AS NEEDED, TO COMPLETE MEDIAN CONSTRUCTION AS APPROVED BY THE ENGINEER.
2. PLACE YELLOW DIAGONAL PAVEMENT MARKINGS THROUGHOUT ACCESS LANE. SPACING FOR UPSTREAM HALF OF LANE SHALL BE 100', AND 55' FOR DOWNSTREAM HALF OF LANE.
3. WHEN NOT IN USE FOR MORE THAN 72 HOURS, DRUMS SHALL BE USED ALONG THE SHOULDER TO CLOSE THE PARALLEL ACCELERATION/DECELERATION AREA.
4. ALL WORK VEHICLES ATTEMPTING TO RE-ENTER AN OPEN TRAVEL LANE SHALL PASS THROUGH THE DETECTION AREA. WORK VEHICLES SHALL NOT LEAVE THE WORK AREA USING THE INGRESS POINT AT ANY TIME.
5. NO MATERIALS OR EQUIPMENT SHALL BE STORED IN THE CRASH AREA DURING NON-WORKING HOURS.
6. REFER TO TMP-2SSD4 FOR SPECIAL SIGN DESIGNS.

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NORTH CAROLINA PROFESSIONAL SEAL 046269 ENGINEER DAVID A. SHINBARA — 5/18/2022

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND — 5/18/2022

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

TYPICAL MEDIAN ACCESS DETAIL

4/26/2022
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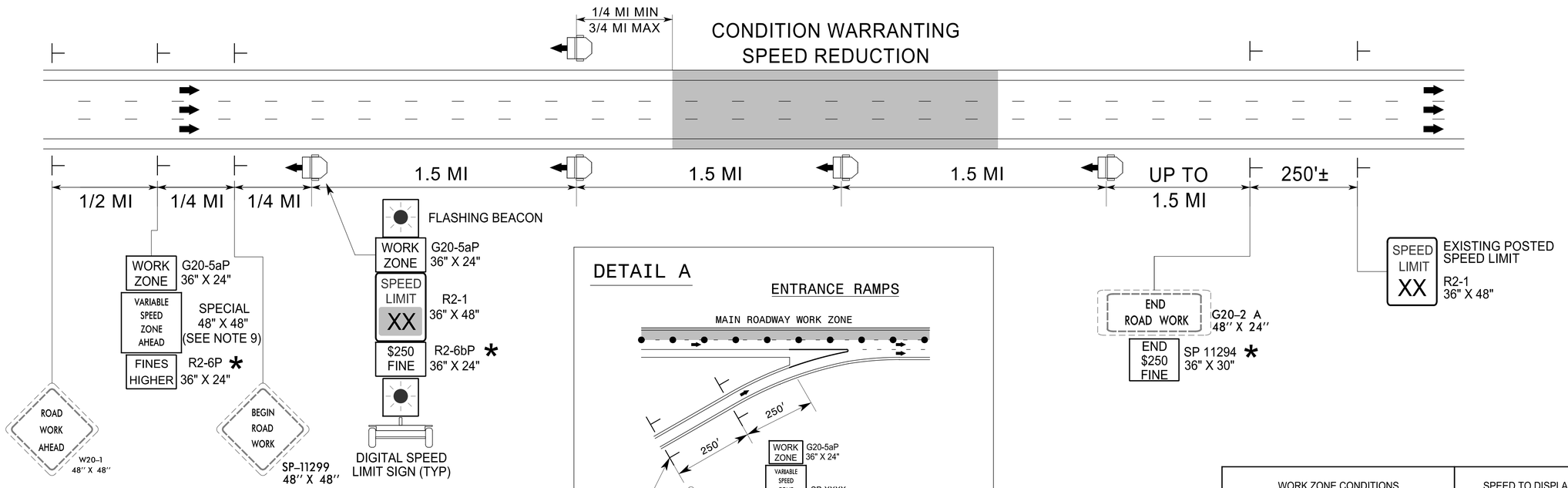
User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2B



DETAIL A

ENTRANCE RAMPS

* USE ONLY IF ORDINANCED. SEE NOTE 5 BELOW.

NOTES

1. THE DIGITAL SPEED LIMITS SIGNS WILL BE INSTALLED (TRAILER MOUNTED OR STATIONARY MOUNTED) IN ADVANCE OF AND SPACED APPROXIMATELY 1.5 MILES THROUGHOUT THE THE PROJECT LIMITS, UNLESS DIRECTED OTHERWISE.
2. WITHIN ¼ TO ¾ MILE UPSTREAM OF CONDITION WARRANTING A SPEED REDUCTION, PLACE A DIGITAL SPEED LIMIT SIGN ON BOTH THE INSIDE AND OUTSIDE SHOULDERS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER. AT ALL OTHER LOCATIONS DOWNSTREAM, PLACE A SINGLE DIGITAL SPEED LIMIT SIGN ON THE OUTSIDE SHOULDER.

   IF SIGNS ARE NOT HIGHLY VISIBLE TO ALL MOTORISTS, SUPPLEMENTAL DIGITAL SPEED LIMIT SIGNS ARE PERMITTED ON THE MEDIAN SHOULDER.
3. THE DIGITAL SPEED LIMIT SIGNS TAKE PRECEDENCE OVER EXISTING SPEED LIMIT SIGNS AND SHOULD REMAIN UPRIGHT AND VISIBLE AT ALL TIMES. ALL EXISTING SPEED LIMIT SIGNS SHALL BE COVERED OR REMOVED FOR DURATION OF THE PROJECT.
4. NCDOT HAS SOLE AUTHORITY OF THE SPEED LIMITS DISPLAYED ON THE DIGITAL SPEED LIMIT SIGNS.
5. THE WORK ZONE VARIABLE SPEED LIMIT AND THE $250 SPEEDING PENALTY ARE SEPARATE ORDINANCES THAT MUST BE SIGNED BY THE STATE TRAFFIC ENGINEER TO BE VALID AND ENFORCEABLE. WITHOUT SIGNED ORDINANCES, THE SPEED LIMIT ON A FACILITY SHALL REMAIN UNCHANGED AND/OR HIGHER FINES SIGNS SHALL NOT BE USED.
6. THE REDUCED SPEED SHALL BE DISPLAYED A MINIMUM OF ¼ MILE AND A MAXIMUM OF ¾ MILE IN ADVANCE OF AND THROUGHOUT THE AREA MEETING CONDITIONS LISTED IN THE CHART. THE EXISTING SPEED LIMIT SHALL BE DISPLAYED ON ALL OTHER DIGITAL SPEED LIMIT SIGNS.
7. THE SPEED DISPLAYED SHALL BE THE LOWER OF THE EXISTING SPEED LIMIT OR THE SPEED IN THE WORK ZONE CONDITION CHART.
8. THE BEACONS ON THE DIGITAL SPEED LIMIT SIGNS SHALL ONLY FLASH DURING TIMES THE SPEED IS REDUCED, AND REMAIN OFF AT ALL OTHER TIMES.
9. REFER TO TMP-2SSD5 FOR SPECIAL SIGN DESIGNS.

	WORK ZONE CONDITIONS	SPEED TO DISPLAY (SEE NOTE 6 & 7)
LANE CLOSURES	2 LANES REDUCED TO 1 LANE	55
	3 LANES REDUCED TO 1 LANE	55
	3 LANES REDUCED TO 2 LANES	60
	4 LANES REDUCED TO 1 LANE	55
	4 LANES REDUCED TO 2 LANES	60
	4 LANES REDUCED TO 3 LANES	65
CONTINUOUS BARRIER (LENGTH OF BARRIER GREATER THAN 1 MILE)	1 OPEN LANE WITH CONTINUOUS BARRIER ON BOTH SHOULDERS	55
	1 OPEN LANE WITH CONTINUOUS BARRIER ON 1 SHOULDER	60
	3 OR 2 OPEN LANES WITH CONTINUOUS BARRIER ON BOTH SHOULDERS	60
	3 OR 2 OPEN LANES WITH CONTINUOUS BARRIER ON 1 SHOULDER	65
	4 OPEN LANES WITH BARRIER CONTINUOUS ON BOTH SHOULDERS	65
	4 OPEN LANES WITH BARRIER CONTINUOUS ON 1 SHOULDER	EXISTING
	UNEVEN LANES	60

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

WORK ZONE VARIABLE SPEED LIMIT REDUCTION

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User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET1

SEE RSD 1101.03 SHEET 7 OF 9 FOR TRAFFIC CONTROL MEASURES ON I-95

SEE RSD 1101.03 SHEET 7 OF 9 FOR TRAFFIC CONTROL MEASURES ON I-95

OVERHEAD WORK AREA ON I-95

EXIT 22

EXIT 25

DETOUR ROUTE ● ● ● ● ● ● ● ● ● ●

COORDINATE WITH I-5987 SEGEMENTS A2, B1 AND B2

SEE SHEET TMP-2DET1A FOR DETOUR SIGNS

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NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G TOWNSEND
5/18/2022

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

DETOUR ROUTE CLOSURE OF I-95 BETWEEN EXIT 22 AND EXIT 25

SHEET 1 OF 2

4/26/2022
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User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET1A

W20-3
48″ x 48″

SP-4R
42″ X 12″

A

W20-3
48″ x 48″

SP-4L
42″ X 12″

B

M4-8A
24″ X 18″

C

M4-8
24″X12″

M3-3
24″X12″

M1-1
36″ x 36″

M6-3
21″X15″

D

M4-8
24″X12″

M3-3
24″X12″

M1-1
36″ x 36″

M6-1
21″X15″

E

M4-8
24″X12″

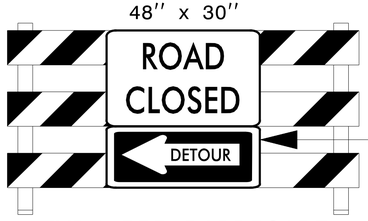
M3-3
24″X12″

M1-1
36″ x 36″

M6-1
21″X15″

F

R11-2
48″ x 30″

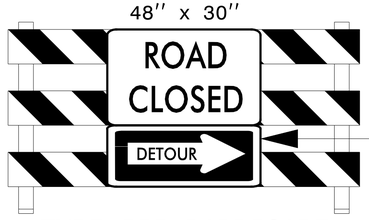


M4-10L
48″ x 18″

TYPE III BARRICADE

1

R11-2
48″ x 30″



M4-10R
48″ x 18″

TYPE III BARRICADE

2

M4-8
24″X12″

M3-1
24″X12″

M1-1
36″ x 36″

M6-3
21″X15″

G

M4-8
24″X12″

M3-1
24″X12″

M1-1
36″ x 36″

M6-1
21″X15″

H

DURING ROAD CLOSURE	MESSAGE NO. 1	MESSAGE NO. 2
	I 95 S ON RAMP CLOSED	FOLLOW DETOUR ROUTE

CHANGEABLE MESSAGE SIGN

AA

DURING ROAD CLOSURE	MESSAGE NO. 1	MESSAGE NO. 2
	I 95 N ON RAMP CLOSED	FOLLOW DETOUR ROUTE

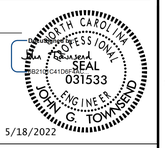
CHANGEABLE MESSAGE SIGN

BB

SEE SHEET TMP-2DET1
FOR DETOUR

APPROVED: _____

DATE: _____



5/18/2022

DocuSigned by:
[redacted]
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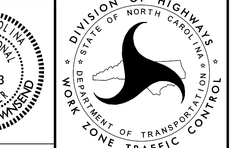
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DETOUR ROUTE
CLOSURE OF I-95 BETWEEN
EXIT 22 AND EXIT 25

SHEET 2 OF 2

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PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET2

MATCH LINE - SEE BELOW

MATCH LINE - SEE ABOVE

EXIT 25

EXIT 31

EXIT 33

95 301

AA BB B H 1 2 A D F BB

G I C D

Cedar Grove Church Rd · Fisher Rd · Old Stage Rd · N Old Stage Rd · S Old Stage Rd · Hyatt Rd · Bell Rd · Russ Rd · Sun Rd · Native Rd · Porter Dr · Bucket Rd · Ransom Rd · Wellington Rd · Decker Rd · White's Dr · Pear Tree Ln · Razor Sliding Rd · Baxley Rd · Hahn Rd · Allen Rd · King Tuck Rd · Ribbon Rd · Hinson Rd · Berkley Rd · Oakland Rd · Evans Rd · McCall Page Plz · N Railroad St · Piper Rd · Robin Rd · Veterans Rd · Tina Anna S Rd · G M Dr · E Great Marsh Ch Rd · Fisher Rd · Fisher Crossing Rd · S Odom Rd · S Wilson Rd · W Wilson Dr · N Wilkinson Dr · N Ballance St · S 5th St · S 4th St · N 4th St · S 3rd St · 3rd St · S 2nd St · N 2nd St · N 1st St · W Shaw St · W Britt St · W Cutlar St · W Armfield St · W Blue St · W McLean St · W Townsend St · W Clark St · W Fisher St · S Dean St · S Bridges St · S Pate St · S Butler St · S Blount St · S Sylvia St · N Sanford St · N Northop St · Armory St · Athena Dr · W Pool St · Dowless Rd · Duncan Cir · McEachern Cir · Cantham Dr

1760 1759 1758 1788 1789 1764 1767 1809 1943 1935 1936 1938 1941 1760 1759 1759 1788 1006 2046 1939 1006 1742 1741 1732 1826 1734 1740 1736 1734 1794 1994 1918 1912 1739 1726 1980 2023 1734

DETOUR ROUTE (TO US 301)

DETOUR ROUTE (TO I-95 NB)

COORDINATE WITH I-5987 SEGEMENTS A2, B1 AND B2

SEE SHEET TMP-2DET2A
FOR DETOUR SIGNS

APPROVED: _____

DATE: _____

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031533 JOHN G. TOWNSEND 5/18/2022

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DETOUR ROUTE CLOSURE OF I-95 NB RAMPS AT EXIT 25

SHEET 1 OF 2

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4/26/2022
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User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET2A

W20-3
48″ x 48″

SP-4R
42″ X 12″

A

W20-3
48″ x 48″

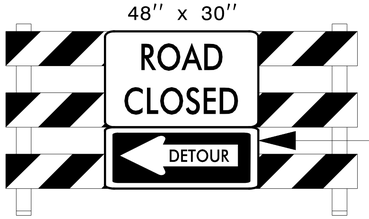
SP-4L
42″ X 12″

B

M4-8A
24″ X 18″

C

R11-2
48″ x 30″

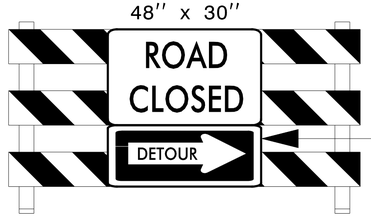


M4-10L
48″ x 18″

TYPE III BARRICADE

1

R11-2
48″ x 30″



M4-10R
48″ x 18″

TYPE III BARRICADE

2

M4-8
24″X12″

M3-1
24″X12″

M1-1
36″ x 36″

M6-3
21″X15″

D

M4-8
24″X12″

M3-1
24″X12″

M1-1
36″ x 36″

M6-1
21″X15″

E

M4-8
24″X12″

M3-1
24″X12″

M1-1
36″ x 36″

M6-1
21″X15″

F

M4-8
24″X12″

M1-4
45″ x 36″

M6-2
21″X15″

G

M4-8
24″X12″

M1-4
45″ x 36″

M6-3
21″X15″

H

M4-8
24″X12″

M1-4
45″ x 36″

M6-1
21″X15″

I

BEGINNING 6 DAYS PRIOR TO ROAD CLOSURE	MESSAGE NO. 1	MESSAGE NO. 2
	US 301 OFF RAMP TO CLOSE	(DAY) AT MIDNIGHT

CHANGEABLE MESSAGE SIGN

DURING ROAD CLOSURE	MESSAGE NO. 1	MESSAGE NO. 2
	US 301 OFF RAMP CLOSED	FOLLOW DETOUR ROUTE

CHANGEABLE MESSAGE SIGN

AA

BEGINNING 6 DAYS PRIOR TO ROAD CLOSURE	MESSAGE NO. 1	MESSAGE NO. 2
	I 95 N ON RAMP TO CLOSE	(DAY) AT MIDNIGHT

CHANGEABLE MESSAGE SIGN

DURING ROAD CLOSURE	MESSAGE NO. 1	MESSAGE NO. 2
	I 95 N ON RAMP CLOSED	FOLLOW DETOUR ROUTE

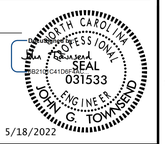
CHANGEABLE MESSAGE SIGN

BB

SEE SHEET TMP-2DET2
FOR DETOUR

APPROVED: _____

DATE: _____



5/18/2022

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DETOUR ROUTE
CLOSURE OF
I-95 NB RAMPS
AT EXIT 25

SHEET 2 OF 2

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4/26/2022
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User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET3

DETOUR ROUTE ● ● ● ● ● ● ● ● ● ●

COORDINATE WITH I-5987 SEGEMENTS A2, B1 AND B2

SEE SHEET TMP-2DET3A
FOR DETOUR SIGNS

APPROVED: _____

DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G TOWNSEND

5/18/2022

DOCUSIGNED BY: [illegible]
[illegible]

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

DETOUR ROUTE CLOSURE OF POWERSVILLE RD. (Y2) AT I-95

SHEET 1 OF 2

4/28/2022
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User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET3A

W20-3
48″ x 48″

A

W20-3
48″ x 48″

B

W20-3
48″ x 48″

C

W20-3
48″ x 48″

NEXT RIGHT

SP-4R
42″ X 12″

D

W20-3
48″ x 48″

NEXT LEFT

SP-4L
42″ X 12″

E

W20-2
48″ x 48″

F

M4-8A
24″ X 18″

G

M4-8
24″X12″

SP-1

M6-1
21″X15″

H

M4-8
24″X12″

SP-1

M6-1
21″X15″

I

M4-8
24″X12″

SP-1

M6-3
21″X15″

J

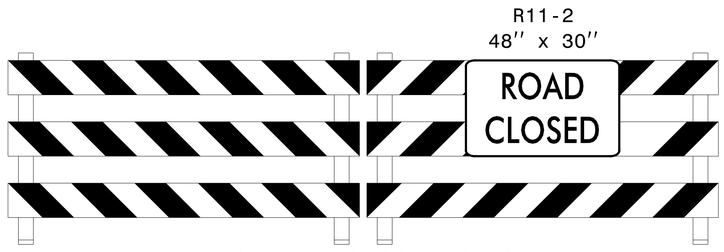
BEGINNING 6 DAYS PRIOR TO ROAD CLOSURE	MESSAGE NO. 1	MESSAGE NO. 2
	PWRVL RD TO CLOSE AT I 95	(DAY) AT MIDNIGHT

CHANGEABLE MESSAGE SIGN

DURING ROAD CLOSURE	MESSAGE NO. 1	MESSAGE NO. 2
	PWRVL RD CLOSED AT I 95	FOLLOW DETOUR ROUTE

CHANGEABLE MESSAGE SIGN

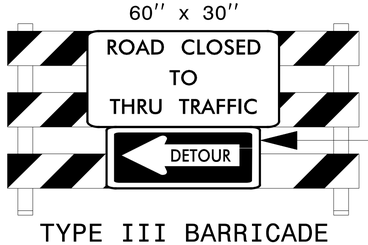
AA



R11-2
48″ x 30″

TYPE III BARRICADE(S)

1

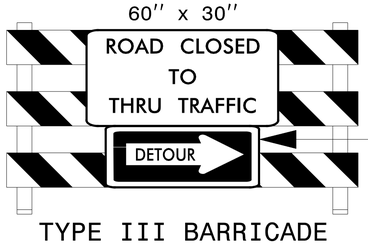


R11-4
60″ x 30″

M4-10L
48″ x 18″

TYPE III BARRICADE

2



R11-4
60″ x 30″

M4-10R
48″ x 18″

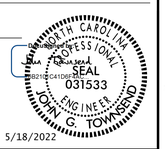
TYPE III BARRICADE

3

SEE SHEET TMP-2DET3
FOR DETOUR

APPROVED: _____

DATE: _____



5/18/2022

DOCUMENT NOT CONSIDERED FINAL
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DETOUR ROUTE
CLOSURE OF
POWERSVILLE RD. (Y2)
AT I-95

SHEET 2 OF 2

vhb
940 Main Campus Drive, Suite 500 Raleigh, NC 27606
NC License No. C-3705

4/26/2022
R:\Traffic\TrafficControl\TCP\I5987a_tcp-secal_psh02det3a.dgn
User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET4

EXIT 22

EXIT 25

DETOUR ROUTE ● ● ● ● ● ● ● ● ● ●

COORDINATE WITH I-5987 SEGEMENTS A2, B1 AND B2

SEE SHEET TMP-2DET4A
FOR DETOUR SIGNS

vhb
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NC License No. C-3705

APPROVED: _____

DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND
5/18/2022

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

DETOUR ROUTE CLOSURE OF RUSS RD. (SR2) AT US 301

SHEET 1 OF 2

4/28/2022
R:\Traffic\TrafficControl\TCP\I5987a_tcp_secal_psh02det4.dgn
User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET4A

W20-3
48″ x 48″

A

W20-3
48″ x 48″

B

W20-3
48″ x 48″

C

W20-3
48″ x 48″

NEXT RIGHT

SP-4R
42″ X 12″

D

W20-3
48″ x 48″

NEXT LEFT

SP-4L
42″ X 12″

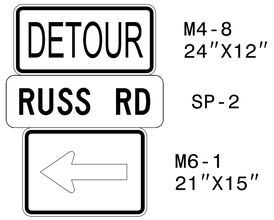
E

W20-2
48″ x 48″

F

M4-8A
24″ X 18″

G

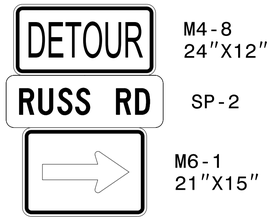


M4-8
24″X12″

SP-2

M6-1
21″X15″

H

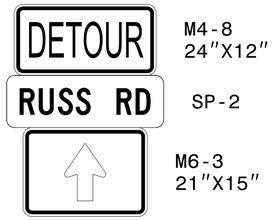


M4-8
24″X12″

SP-2

M6-1
21″X15″

I



M4-8
24″X12″

SP-2

M6-3
21″X15″

J

BEGINNING 6 DAYS PRIOR TO ROAD CLOSURE

MESSAGE NO. 1	MESSAGE NO. 2
RUSS RD TO CLOSE AT US 301	(DAY) AT MIDNIGHT

CHANGEABLE MESSAGE SIGN

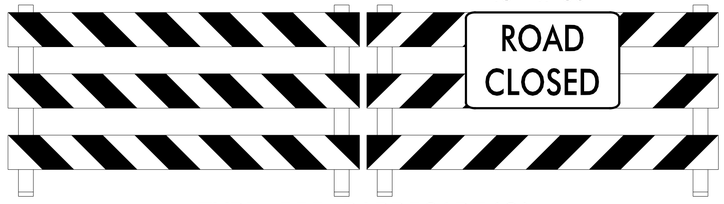
DURING ROAD CLOSURE

MESSAGE NO. 1	MESSAGE NO. 2
RUSS RD CLOSED AT US 301	FOLLOW DETOUR ROUTE

CHANGEABLE MESSAGE SIGN

AA

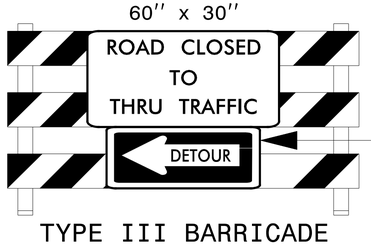
R11-2
48″ x 30″



TYPE III BARRICADE(S)

1

R11-4
60″ x 30″

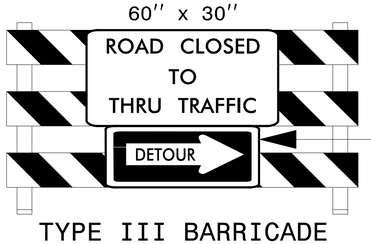


M4-10L
48″ x 18″

TYPE III BARRICADE

2

R11-4
60″ x 30″



M4-10R
48″ x 18″

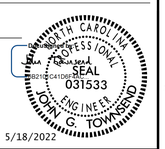
TYPE III BARRICADE

3

SEE SHEET TMP-2DET4
FOR DETOUR

APPROVED: _____

DATE: _____



5/18/2022

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DETOUR ROUTE
CLOSURE OF
RUSS RD. (SR2)
AT US 301

SHEET 2 OF 2

vhb
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NC License No. C-3705

4/26/2022
R:\Traffic\TrafficControl\TCP\I5987a_tcp_secal_psh02det4a.dgn
User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET5

SEE RSD 1101.03 SHEET 7 OF 9 FOR TRAFFIC CONTROL MEASURES ON I-95

OVERHEAD WORK AREA ON I-95

EXIT 22

EXIT 25

EXIT 31

EXIT 33

MATCH LINE - SEE BELOW

MATCH LINE - SEE ABOVE

DETOUR ROUTE ● ● ● ● ● ● ● ● ● ●

COORDINATE WITH I-5987 SEGEMENTS A2, B1 AND B2

SEE SHEET TMP-2DET5A FOR DETOUR SIGNS

APPROVED: _____

DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND

5/18/2022

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

DETOUR ROUTE CLOSURE OF I-95 BETWEEN EXIT 22 AND EXIT 31

SHEET 1 OF 2

4/26/2022
R:\Traffic\TrafficControl\TCP\I5987a_tcp_secal_psh02de#5.dgn
User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET5A

W20-3
48″ x 48″

SP-4R
42″ X 12″

A

W20-3
48″ x 48″

SP-4L
42″ X 12″

B

M4-8A
24″ X 18″

C

M4-8
24″X12″

M3-3
24″X12″

M1-1
36″ x 36″

M6-3
21″X15″

D

M4-8
24″X12″

M3-3
24″X12″

M1-1
36″ x 36″

M6-1
21″X15″

E

M4-8
24″X12″

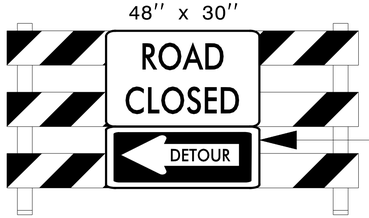
M3-3
24″X12″

M1-1
36″ x 36″

M6-1
21″X15″

F

R11-2
48″ x 30″

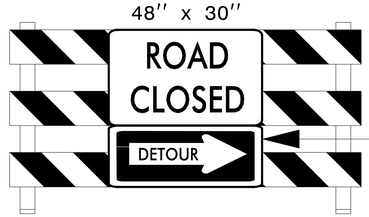


M4-10L
48″ x 18″

TYPE III BARRICADE

1

R11-2
48″ x 30″



M4-10R
48″ x 18″

TYPE III BARRICADE

2

M4-8
24″X12″

M3-1
24″X12″

M1-1
36″ x 36″

M6-3
21″X15″

G

M4-8
24″X12″

M3-1
24″X12″

M1-1
36″ x 36″

M6-1
21″X15″

H

M4-8
24″X12″

M3-1
24″X12″

M1-1
36″ x 36″

M6-1
21″X15″

I

DURING ROAD CLOSURE	MESSAGE NO. 1	MESSAGE NO. 2
	I 95 S ON RAMP CLOSED	FOLLOW DETOUR ROUTE

CHANGEABLE MESSAGE SIGN

AA

DURING ROAD CLOSURE	MESSAGE NO. 1	MESSAGE NO. 2
	I 95 N ON RAMP CLOSED	FOLLOW DETOUR ROUTE

CHANGEABLE MESSAGE SIGN

BB

SEE SHEET TMP-2DET5
FOR DETOUR

vhb
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NC License No. C-3705

APPROVED: _____

DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND
5/18/2022

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

DETOUR ROUTE
CLOSURE OF
I-95 BETWEEN
EXIT 22 AND EXIT 31

SHEET 2 OF 2

4/26/2022
R:\Traffic\TrafficControl\TCP\I5987a_tcp_seqal_psh02det5a.dgn
User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET6

WATT'S DAIRY RD.

CEDAR GROVE CHURCH RD.

GREAT MARSH CHURCH RD.

McDUFFIE CROSSING RD.

95

301

<1000

CLOSE AND DEMO EXIST. BRIDGE

LEGEND

- WORK ZONE
- McDUFFIE CROSSING RD. DETOUR ROUTE
- STATIONARY SIGN

APPROVED: _____

DATE: 04/12/2022

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 046269 DAVID A. SHINBARA

5/18/2022

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

DETOUR
-Y3- CLOSURE

4/12/2022
X:\Raleigh\20-0629.001 - I-5987A TCP Sec II\05-CADD\I-5987A\TrafficControl\TCP\PSH\I-5987A_TMP_psh_02DET6.dgn
JAdorno

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET6A

W20–3
48'' X 48''

Ⓐ

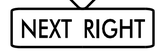
W20–2
48'' X 48''

Ⓑ

W20–3
48'' X 48''

Ⓒ

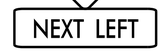
W20–3
48'' X 48''



SP–4R
42'' X 12''

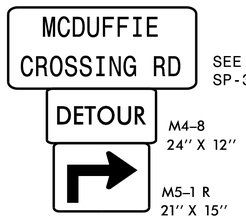
Ⓓ

W20–3
48'' X 48''



SP–4L
42'' X 12''

Ⓔ

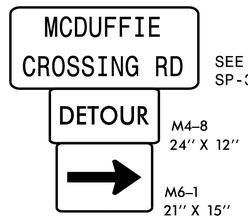


SEE SHEET
SP-3

M4–8
24'' X 12''

M5–1 R
21'' X 15''

Ⓕ

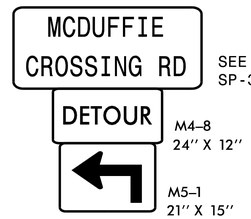


SEE SHEET
SP-3

M4–8
24'' X 12''

M6–1
21'' X 15''

Ⓖ

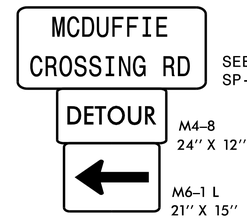


SEE SHEET
SP-3

M4–8
24'' X 12''

M5–1
21'' X 15''

Ⓗ

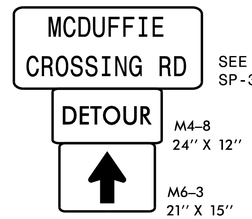


SEE SHEET
SP-3

M4–8
24'' X 12''

M6–1 L
21'' X 15''

Ⓘ

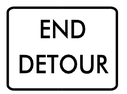


SEE SHEET
SP-3

M4–8
24'' X 12''

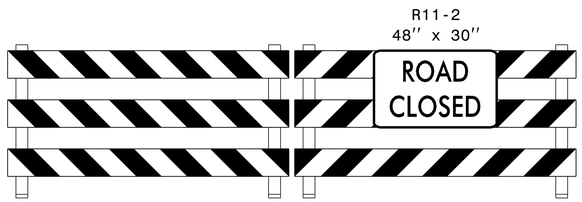
M6–3
21'' X 15''

Ⓙ



M4–8 A
24'' X 18''

Ⓚ



TYPE III BARRICADE(S)

①

4/12/2022
X:\Raleigh\20-0629.00I - I-5987A TCP Sec II\05-CAD\I-5987A\Traffic\TrafficControl\TCP\PSHX\I-5987A_TMP_psh_02DET6.dgn
JAdorno

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(919) 855-9989 • NC LICENSE NO. F-1049
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APPROVED: _____

DATE: 04/12/2022

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 046269 DAVID A. SHINBAUM
5/18/2022

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

DETOUR -Y3- CLOSURE TEMPORARY TRAFFIC CONTROL DEVICES

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET7

LEGEND

- WORK ZONE
- McDUFFIE CROSSING RD. DETOUR ROUTE
- STATIONARY SIGN

EMMA JANE RD.

WATT'S DAIRY RD.

<1000

CLOSE AND DEMO EXIST. BRIDGE

CEDAR GROVE CHURCH RD.

McDUFFIE CROSSING RD.

95

301

GREAT MARSH CHURCH RD.

APPROVED: _____

DATE: 04/12/2022

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040269 DAVID A. SHINBARA

5/18/2022

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

ALTERNATIVE DETOUR -Y3- CLOSURE

4/12/2022
X:\Raleigh\20-0629.001 - I-5987A TCP Sec II\05-CAD\I-5987A\Traffic\TrafficControl\TCP\PSHN\I-5987A_TMP_psh_02DET7.dgn
JAdorno

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET7A

W20–3
48'' X 48''

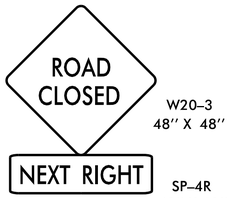
Ⓐ

W20–2
48'' X 48''

Ⓑ

W20–3
48'' X 48''

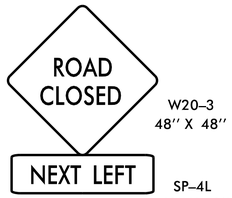
Ⓒ



W20–3
48'' X 48''

SP–4R
42'' X 12''

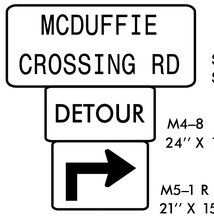
Ⓓ



W20–3
48'' X 48''

SP–4L
42'' X 12''

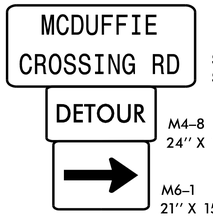
Ⓔ



SEE SHEET
SP-3

M4–8
24'' X 12''

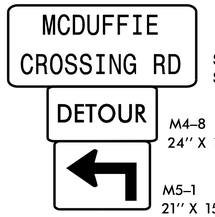
M5–1 R
21'' X 15''



SEE SHEET
SP-3

M4–8
24'' X 12''

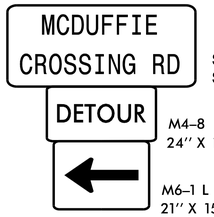
M6–1
21'' X 15''



SEE SHEET
SP-3

M4–8
24'' X 12''

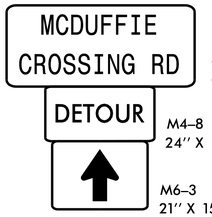
M5–1
21'' X 15''



SEE SHEET
SP-3

M4–8
24'' X 12''

M6–1 L
21'' X 15''



SEE SHEET
SP-3

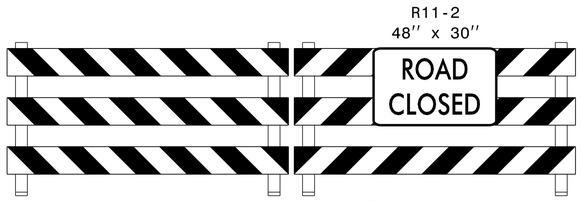
M4–8
24'' X 12''

M6–3
21'' X 15''

Ⓕ

M4–8 A
24'' X 18''

Ⓖ Ⓗ Ⓘ Ⓙ



TYPE III BARRICADE(S)

Ⓚ Ⓛ

A. MORTON THOMAS AND ASSOCIATES, INC.
6131 FALLS OF NEUSE ROAD, SUITE 101 • RALEIGH, NC 27609
(919) 855-9989 • NC LICENSE NO. F-1049
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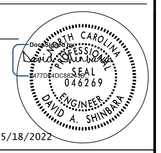
APPROVED: _____

DATE: 04/12/2022

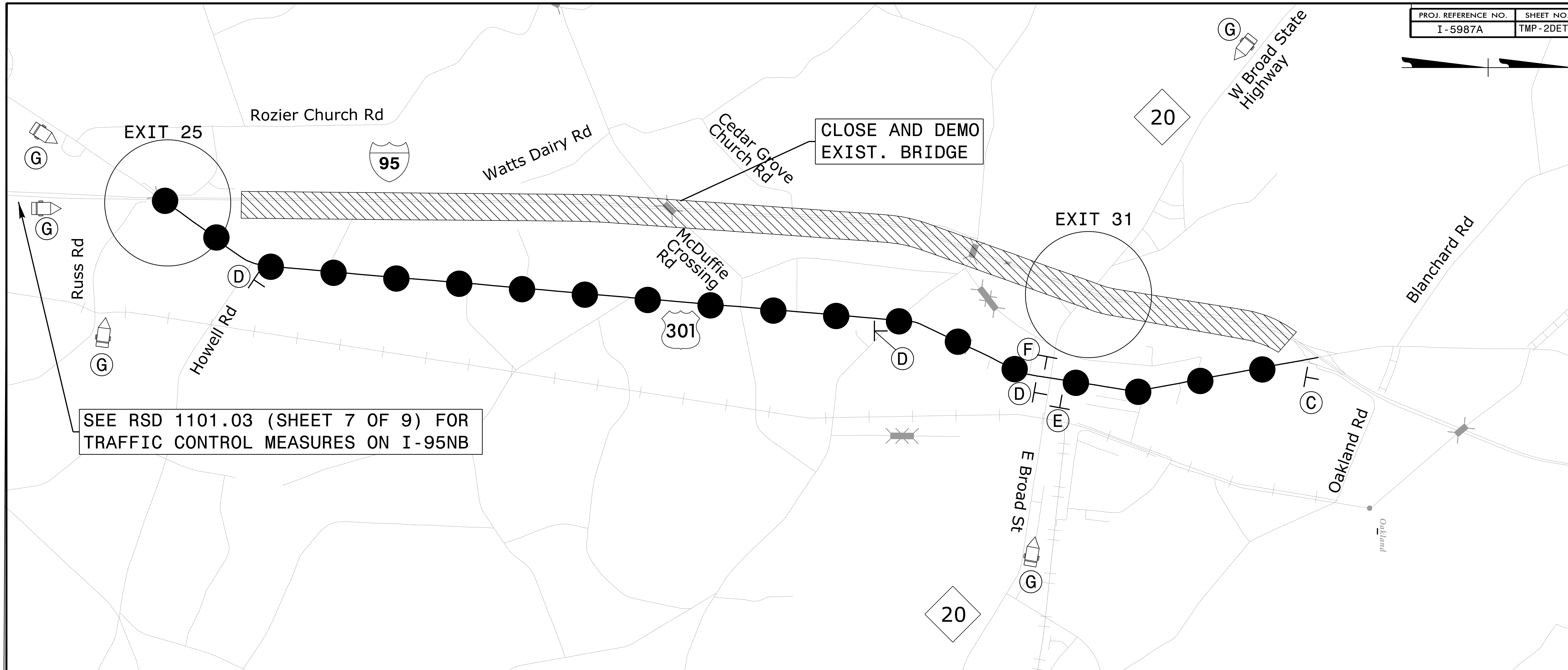


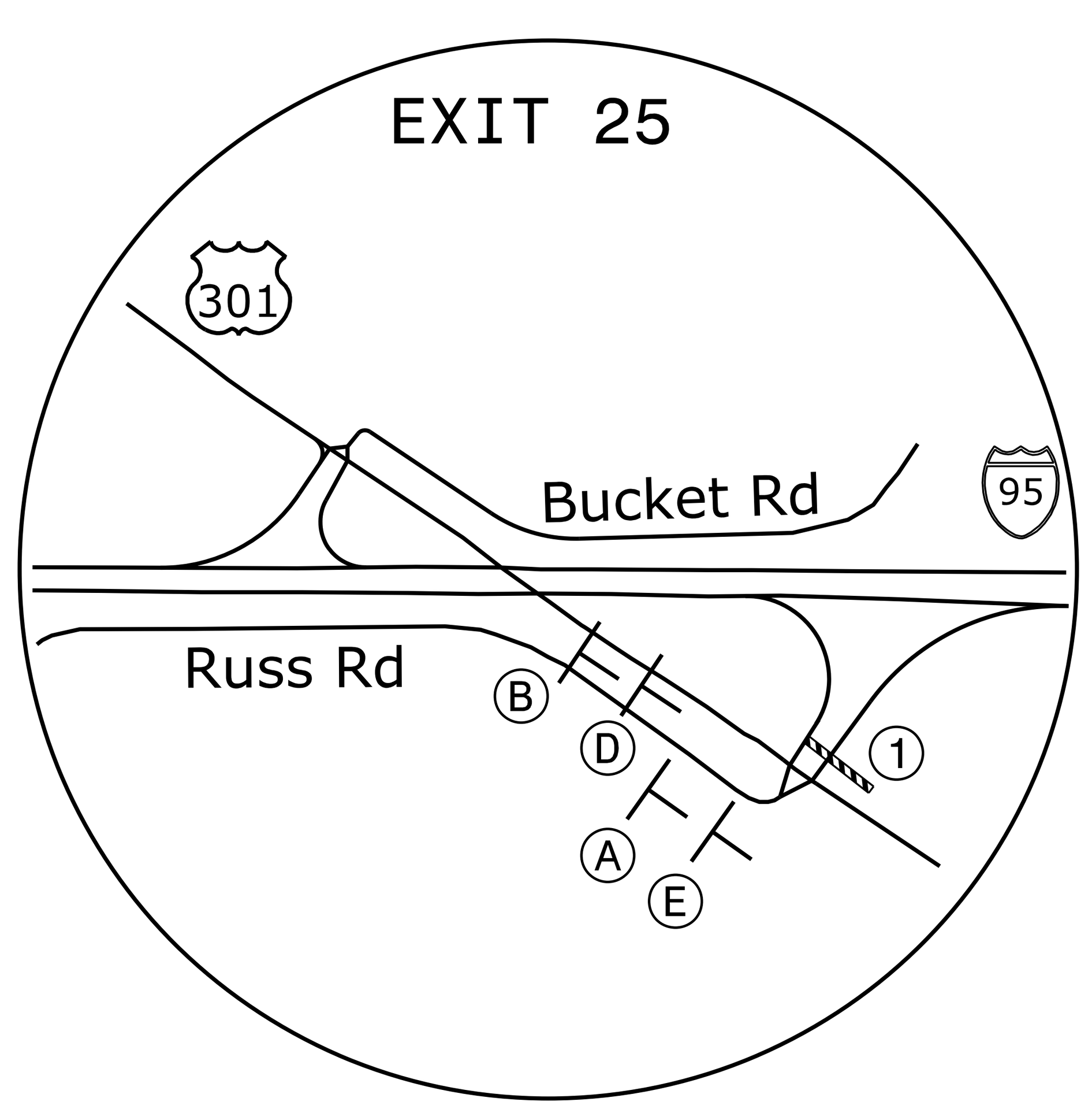
5/18/2022

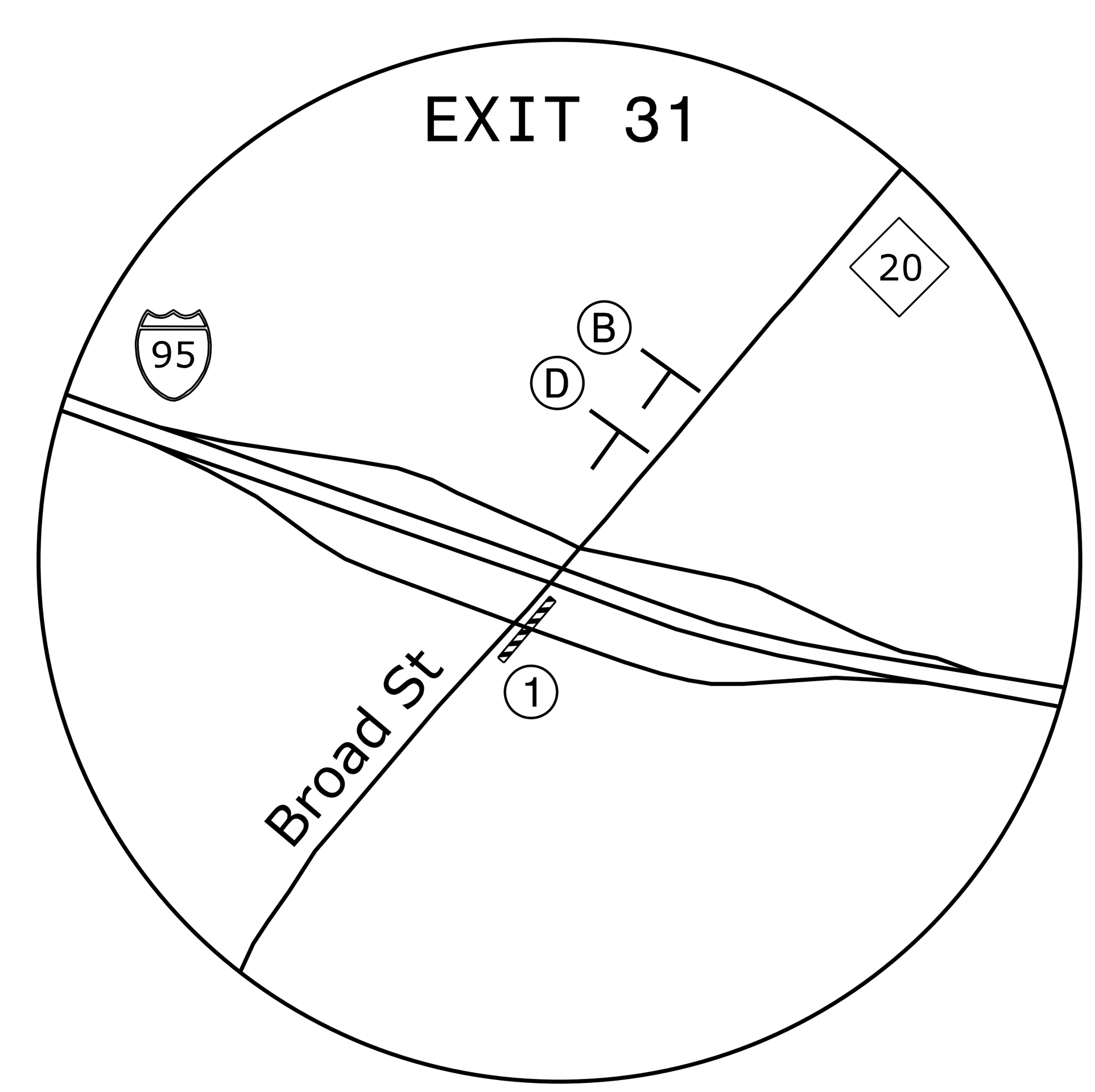
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ALTERNATIVE DETOUR -Y3- CLOSURE TEMPORARY TRAFFIC CONTROL DEVICES

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET8







LEGEND

WORK ZONE

DETOUR ROUTE

STATIONARY SIGN

CHANGEABLE MESSAGE SIGN

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APPROVED:

DATE: 04/12/2022

NORTH CAROLINA PROFESSIONAL SEAL 046269 ENGINEER DAVID A. SHINBARA

5/18/2022

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

DETOUR
I-95 NB
NIGHTLY CLOSURE

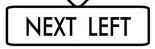
4/12/2022
X:\Raleigh\20-0629.001 - I-5987A TCP Sec II\05-CADD\I-5987A\Traffic\TrafficControl\TCP\PSH\I-5987A_TMP_psh_02DET8.dgn
JAdorno

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET8A

W20-3
48" X 48"

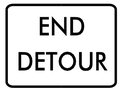
Ⓐ

W20-3
48" X 48"



SP-4L
42" X 12"

Ⓑ



M4-8 A
24" X 18"

Ⓒ

M4-8
24" X 12"

M3-1
24" X 12"

M1-1
24" X 24"

M6-3
21" X 15"

Ⓓ

M4-8
24" X 12"

M3-1
24" X 12"

M1-1
24" X 24"

M6-1
21" X 15"

Ⓔ

M4-8
24" X 12"

M3-1
24" X 12"

M1-1
24" X 24"

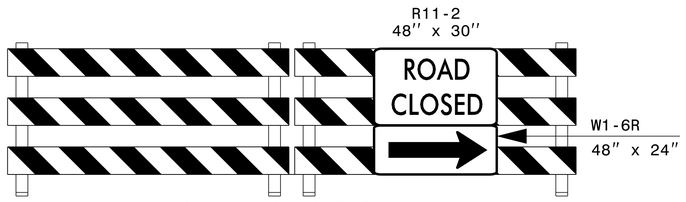
M6-1 L
21" X 15"

Ⓕ

MESSAGE NO. 1	MESSAGE NO. 2
I-95 NORTH CLOSED	FOLLOW DETOUR ROUTE

CHANGEABLE MESSAGE SIGN

Ⓖ



TYPE III BARRICADE(S)

①

4/12/2022
X:\Raleigh\20-0629.001 - I-5987A TCP Sec II\05-CAD\I-5987A\Traffic\TrafficControl\TCP\PSH\I-5987A_TMP_psh_02DET8.dgn
JAdorno

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APPROVED: _____

DATE: 04/12/2022

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 046269 ENGINEER DAVID A. SHINDARA
5/18/2022

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

DETOUR
I-95 NB CLOSURE
TEMPORARY TRAFFIC CONTROL DEVICES

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET9

CLOSE AND DEMO
EXIST. BRIDGE

Rozier Church Rd

Watts Dairy Rd

Cedar Grove Church Rd

Russ Rd

McDuffie Crossing Rd

95

301

20

W Broad State Highway

E Broad St

EXIT 31

EXIT 33

B

D

C

F

E

C

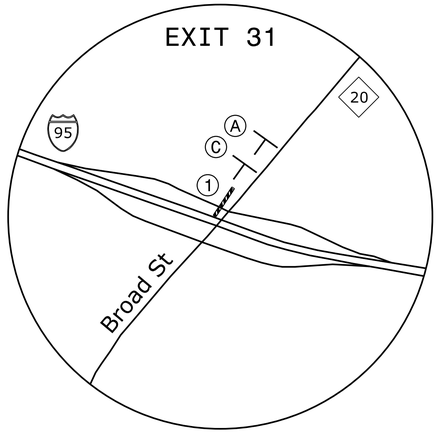
G

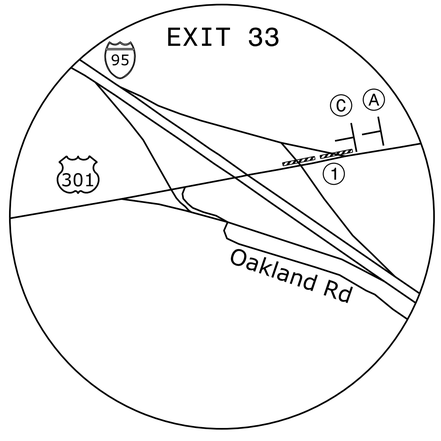
G

G

G

SEE RSD 1101.03 (SHEET 7 OF 9) FOR
TRAFFIC CONTROL MEASURES ON I-95SB





LEGEND

- WORK ZONE
- DETOUR ROUTE
- STATIONARY SIGN
- CHANGEABLE MESSAGE SIGN

APPROVED: _____

DATE: 04/12/2022

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 046269 DAVID A. SHINBARA
Digitally signed by DAVID A. SHINBARA
5/18/2022

DOCUMENT NOT CONSIDERED FINAL
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DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

DETOUR
I-95 SB
NIGHTLY CLOSURE

AMT
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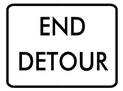
4/12/2022
X:\Raleigh\20-0629.001 - I-5987A TCP Sec II\05-CAD\I-5987A\Traffic\TrafficControl\TCP\PSH\I-5987A_TMP_psh_02DET9.dgn
JAdorno

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2DET9A

W20–3
48″ X 48″

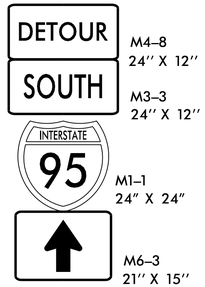
SP–4R
42″ X 12″

Ⓐ



M4–8 A
24″ X 18″

Ⓑ



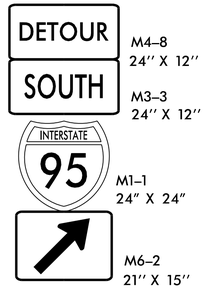
M4–8
24″ X 12″

M3–3
24″ X 12″

M1–1
24″ X 24″

M6–3
21″ X 15″

Ⓒ



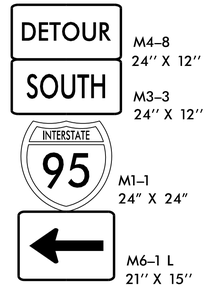
M4–8
24″ X 12″

M3–3
24″ X 12″

M1–1
24″ X 24″

M6–2
21″ X 15″

Ⓓ



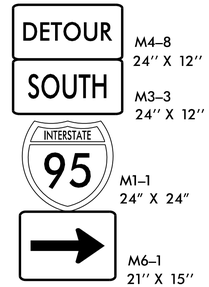
M4–8
24″ X 12″

M3–3
24″ X 12″

M1–1
24″ X 24″

M6–1 L
21″ X 15″

Ⓔ



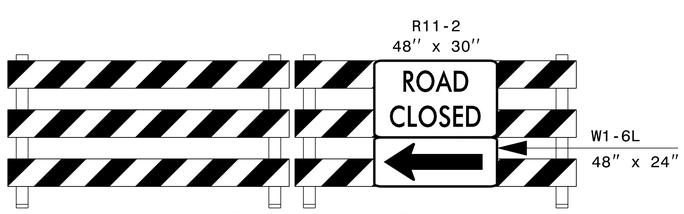
M4–8
24″ X 12″

M3–3
24″ X 12″

M1–1
24″ X 24″

M6–1
21″ X 15″

Ⓕ



TYPE III BARRICADE(S)

①

MESSAGE NO. 1	MESSAGE NO. 2
I-95 SOUTH CLOSED	FOLLOW DETOUR ROUTE

CHANGEABLE MESSAGE SIGN

Ⓖ

4/12/2022
X:\Raleigh\20-0629.001 - I-5987A TCP Sec II\05-CADD\I-5987A\Traffic\TrafficControl\TCP\PSHT\I-5987A_TMP_psh_02DET9.dgn
JAdorno

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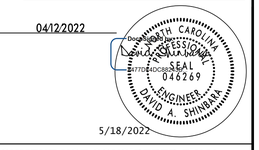
DATE: 04/12/2022



5/18/2022

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DETOUR
I-95 SB
NIGHTLY CLOSURE
TEMPORARY TRAFFIC CONTROL DEVICES

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2SSD1

SIGN NUMBER: SP-1
TYPE: D
QUANTITY: 1

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

SIGN WIDTH: 4′-0″
HEIGHT: 2′-0″
TOTAL AREA: 8.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0.38″
WIDTH: 0.63″
RADII: 1.5″

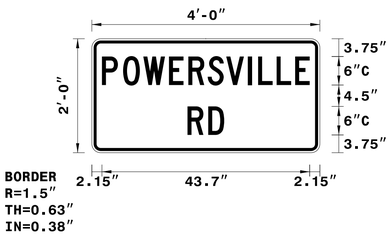
NO. Z BARS:
LENGTH:

MAT′L: 0.125″ (3.2 mm) ALUMINUM

DESIGN BY: VHB
PROJECT ID: I-5987A

CHECKED BY:
LOCATION:

Dec 11, 2021
DIV: 06



Spacing Factor is 1 unless specified otherwise

USE NOTES:

1. Legend and border shall be direct applied non-reflective sheeting.
2. Background shall be Grade B, fluorescent orange reflective sheeting.
3. To be mounted with detour signing.

LETTER POSITIONS

Letter spacings are to start of next letter

																											Series/Size Text Length
		P	O	W	E	R	S	V	I	L	L	E															C 2000
	2.1	4.4	4.3	5.4	4.1	4.1	3.9	4.6	2.2	3.9	3.9	3.1	2.1														43.7
		R	D																								C 2000
	20.1	4.4	3.4	20.1																							7.7

FILENAME: I5987a_tcp_sp-1

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP-2
TYPE: D
QUANTITY: 1

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

SIGN WIDTH: 3′-0″
HEIGHT: 1′-0″
TOTAL AREA: 3.0 Sq.Ft.

BORDER TYPE: RECESSED
RECESS: 0.38″
WIDTH: 0.63″
RADII: 1.5″

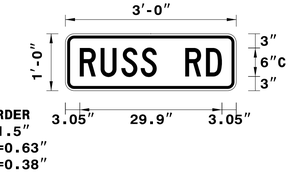
NO. Z BARS:
LENGTH:

MAT′L: 0.125″ (3.2 mm) ALUMINUM

DESIGN BY: VHB
PROJECT ID: I-5987A

CHECKED BY:
LOCATION:

Mar 10, 2021
DIV: 06



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																											Series/Size Text Length
		R	U	S	S		R	D																			C 2000
	3	4.4	4.4	4.1	3.4	6	4.4	3.4	3																		29.9

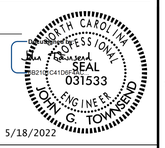
FILENAME: I5987a_tcp_sp-2

NORTH CAROLINA D.O.T. SIGN DETAIL

vhb
940 Main Campus Drive, Suite 500 Raleigh, NC 27606
NC License No. C-3705

APPROVED: _____

DATE: _____



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SPECIAL SIGN DESIGNS

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2SSD2

SIGN NUMBER: SP-3
TYPE: D
QUANTITY: 1

SIGN WIDTH: 4′-0″
HEIGHT: 2′-0″
TOTAL AREA: 8.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0.38″
WIDTH: 0.63″
RADII: 1.5″

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

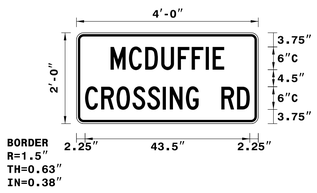
SYMBOL	X	Y	WID	HT

MAT'L: 0.125″ (3.2 mm) ALUMINUM

USE NOTES:

1. Legend and border shall be direct applied non-reflective sheeting.
2. Background shall be Grade B, fluorescent orange reflective sheeting.
3. To be mounted with detour signing.

DESIGN BY: AMT
PROJECT ID: I-5987A
CHECKED BY:
LOCATION:
Dec 11, 2021
DIV: 06



Spacing Factor is 0.75 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																										Series/Size Text Length
		M	C	D	U	F	F	I	E																	C 2000
	9	4.9	4.3	4.3	4.3	3.7	3.7	1.8	3.1	9																30
		C	R	O	S	S	I	N	G		R	D														C 2000
	2.3	4.3	4	4.2	3.9	4.1	1.8	4.3	3.4	6	4.1	3.4	2.3													43.5

FILENAME: I5987a_tcp_sp-3

NORTH CAROLINA D.O.T. SIGN DETAIL

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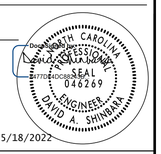
WWW.AMTENGINEERING.COM

APPROVED: _____

DATE: 04/12/2022



5/18/2022

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TEMPORARY TRAFFIC CONTROL
SPECIAL SIGN DESIGN

4/12/2022
X:\Raleigh\20-0629.001 - I-5987A TCP Sec II\05-CADD\I-5987A\Traffic\TrafficControl\TCP\PSH\I5987a_tcp_sec2_sp-3.dgn
JAdorno

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2SSD3

SIGN NUMBER: SP18267
TYPE: D
QUANTITY: 1

SIGN WIDTH: 4′-6″
HEIGHT: 3′-0″
TOTAL AREA: 13.5 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0″
WIDTH: 1.25″
RADII: 3″

NO. Z BARS: N/A
LENGTH: N/A

BACKG COLOR: Orange
COPY COLOR: Black

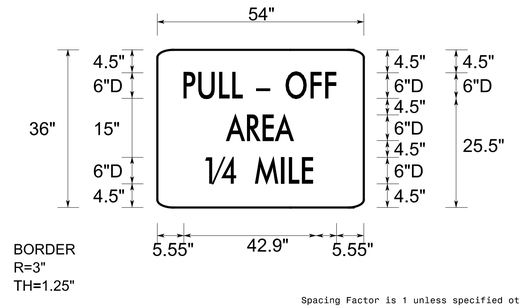
SYMBOL	X	Y	WID	HT

MAT'L: 0.125″ (3.2 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border (except those that are colored black) shall be direct applied Grade B sheeting.
2. Background shall be Grade B reflective sheeting.

DESIGN BY: W. Johnson
PROJECT ID:
CHECKED BY: AIA
DATE: Oct 30, 2018
DIV: 5



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																														Series/Size Text Length
		P	U	L	L		-		O	F	F																			D 2000
	5.6	5	5.5	4.6	3.7	4	2.1	4	5.6	4.6	3.7	5.6																		42.9
		A	R	E	A																									D 2000
	16.8	6	5.1	4.2	5.1	16.8																								20.4
		1/4		M	I	L	E																							D 2000
	11.6	7.9	6	6.1	2.4	4.6	3.7	11.6																						30.8

FILENAME: Full_Off

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP18266
TYPE: A
QUANTITY: 1

SIGN WIDTH: 7′-0″
HEIGHT: 5′-0″
TOTAL AREA: 35.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0″
WIDTH: 1.25″
RADII: 3″

NO. Z BARS: 2
LENGTH: 76.0

BACKG COLOR: Orange-Top/White-Bottom
COPY COLOR: Black

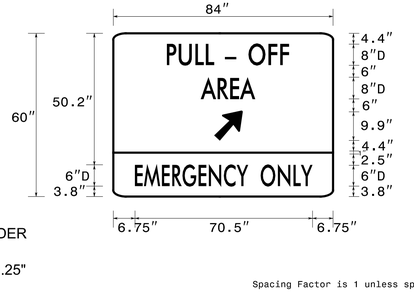
SYMBOL	X	Y	WID	HT
AR_Type A	37	17.7	8	12.6

MAT'L: 0.125″ (3.2 mm) ALUMINUM

USE NOTES: 1,2,3

1. Legend and border (except those that are colored black) shall be direct applied Grade B sheeting.
2. Background shall be Grade B reflective sheeting.
3. Shields: A, B, and C type arrows shall be on 0.032″ (0.8mm) aluminum and demountable.

DESIGN BY: W. Johnson
PROJECT ID:
CHECKED BY: AIA
DATE: Oct 30, 2018
DIV: 5



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																														Series/Size Text Length
		P	U	L	L		-		O	F	F																			D 2000
	10.8	6.6	7.4	6.2	5	8	2.8	8	7.4	6.2	5	10.8																		62.5
		A	R	E	A																									D 2000
	28.4	8	6.8	5.6	6.8	28.4																								27.2
		E	M	E	R	G	E	N	C	Y		O	N	L	Y															D 2000
	6.8	4.7	6.1	4.7	5	5.4	4.7	5.4	4.9	5.2	4	5.6	5.5	4.1	5.2	6.8														70.5

FILENAME: Full_Off

NORTH CAROLINA D.O.T. SIGN DETAIL

AMT
A. MORTON THOMAS AND ASSOCIATES, INC.
625 HILLSBOROUGH BLVD, SUITE 102 GREENSBORO, NC 27409
PHONE: 336-854-0309
WWW.AMTENGINEERING.COM

vhb
940 Main Campus Drive, Suite 500 Raleigh, NC 27606
NC License No. C-3705

APPROVED: _____ DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 046269 ENGINEER DAVID A. SHINBARA
5477FC4C-C36C-4... 5/18/2022

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND
E0D7C41D-3... 5/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SPECIAL SIGN DESIGNS

4/26/2022
R:\Traffic\TrafficControl\TCP\I5987a_tcp_psh02ssd3.dgn
User:jtownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2SSD4

SIGN NUMBER: WZTC
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 5′-6″
HEIGHT: 5′-6″
TOTAL AREA: 30.3 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0″
WIDTH: 0″
RADII: 0″

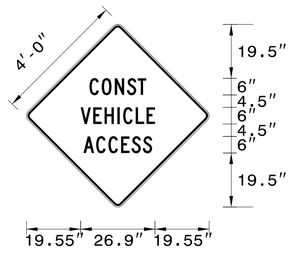
NO. Z BARS: 2
LENGTH: 58.0

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L: 0.080″ (2.0 mm) ALUMINUM

DESIGN BY: J.Navarrete
PROJECT ID: I5922
CHECKED BY:
LOCATION:
Mar 14, 2018
DIV:WZTC



Spacing Factor is 1 unless specified otherwise

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

LETTER POSITIONS

Letter spacings are to start of next letter

																															Series/Size Text Length
		C	O	N	S	T																									C 2000
	22.7	4.4	4.7	4.4	3.9	3.1	22.7																								20.5
		V	E	H	I	C	L	E																								C 2000
	19.6	4.6	4.1	4.7	2	4.6	3.9	3.1	19.6																						26.9
		A	C	C	E	S	S																								C 2000
	20.6	4.6	4.4	4.6	3.8	4.1	3.4	20.6																							24.8

FILENAME: I5922 Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: WZTC
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 3′-0″
HEIGHT: 2′-6″
TOTAL AREA: 7.5 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.47″
WIDTH: 0.63″
RADII: 1.5″

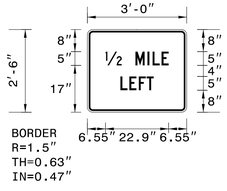
NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L: 0.080″ (2.0 mm) ALUMINUM

DESIGN BY: J.Navarrete
PROJECT ID: I5922
CHECKED BY:
LOCATION:
Mar 14, 2018
DIV:WZTC



Spacing Factor is 1 unless specified otherwise

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

LETTER POSITIONS

Letter spacings are to start of next letter

																															Series/Size Text Length
		1/2		M	I	L	E																								C 2000
	6.6	5.9	5	4.4	1.8	3.3	2.6	6.6																							22.9
		L	E	F	T																										C 2000
	12	3.3	3.4	2.8	2.6	12																									12.1

FILENAME: I5922 Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: WZTC
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 5′-6″
HEIGHT: 5′-6″
TOTAL AREA: 30.3 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0″
WIDTH: 0″
RADII: 0″

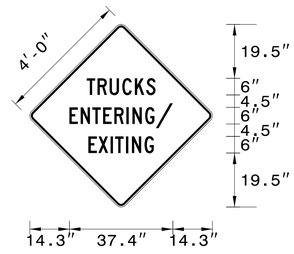
NO. Z BARS: 2
LENGTH: 58.0

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L: 0.080″ (2.0 mm) ALUMINUM

DESIGN BY: J.Navarrete
PROJECT ID: I5922
CHECKED BY:
LOCATION:
Mar 14, 2018
DIV: DIV



Spacing Factor is 1 unless specified otherwise

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

LETTER POSITIONS

Letter spacings are to start of next letter

																															Series/Size Text Length
		T	R	U	C	K	S																								C 2000
	20.6	3.9	4.4	4.6	4.6	4.1	3.4	20.6																							24.8
		E	N	T	E	R	I	N	G	/																					C 2000
	14.3	4.1	4.2	3.9	4.1	4.4	2.2	4.6	3.9	6.1	14.3																				37.4
		E	X	I	T	I	N	G																							C 2000
	21.2	3.6	4.4	1.7	3.9	2.2	4.6	3.4	21.2																						23.6

FILENAME: I5922 Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: WZTC
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 3′-0″
HEIGHT: 2′-6″
TOTAL AREA: 7.5 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.47″
WIDTH: 0.63″
RADII: 1.5″

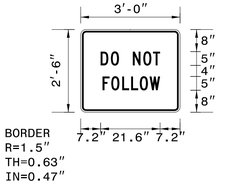
NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L: 0.080″ (2.0 mm) ALUMINUM

DESIGN BY: J.Navarrete
PROJECT ID: I5922
CHECKED BY:
LOCATION:
Mar 14, 2018
DIV:WZTC



Spacing Factor is 1 unless specified otherwise

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

LETTER POSITIONS

Letter spacings are to start of next letter

																															Series/Size Text Length
		D	O		N	O	T																								C 2000
	7.2	3.7	3	5	3.8	3.6	2.6	7.2																							21.6
		F	O	L	L	O	W																								C 2000
	7.9	3.1	3.9	3.3	3.2	3.6	3.8	7.2																							20.9

FILENAME: I5922 Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

AMT
A. MORTON THOMAS AND ASSOCIATES, INC.
123 TRYON ESTATE ROAD, SUITE 100, RALEIGH, NC 27603
(919) 851-6984 NC LICENSE NO. C-2345
WWW.AMTSIGNDESIGNS.COM

vhb
940 Main Campus Drive, Suite 500 Raleigh, NC 27606
NC License No. C-3705

APPROVED: _____ DATE: _____

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 046269 DAVID A. SHINBARA
5/18/2022

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031533 JOHN G. TOWNSEND
5/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SPECIAL SIGN DESIGNS

4/26/2022
R:\Traffic\TrafficControl\TCP\I5987a_tcp_psh02ssd4.dgn
User:ftownsend

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2SSD5

SIGN NUMBER: WZTC
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 4'-0"
HEIGHT: 4'-0"
TOTAL AREA: 16.0 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"

NO. Z BARS: 2
LENGTH: 40.0

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

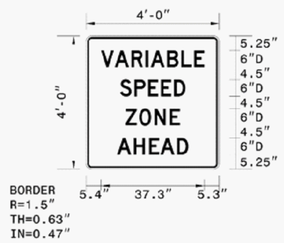
DESIGN BY: J.Navarrete
PROJECT ID:

CHECKED BY:
LOCATION:

May 13, 2019
DIV: DIV

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.



Spacing Factor is 1 unless specified otherwise

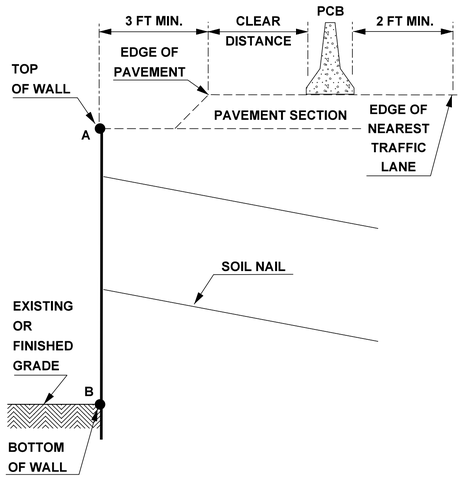
LETTER POSITIONS

Letter spacings are to start of next letter

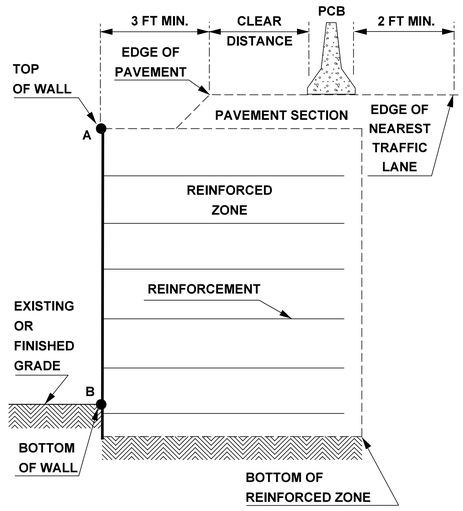
| | | | |

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2TS1

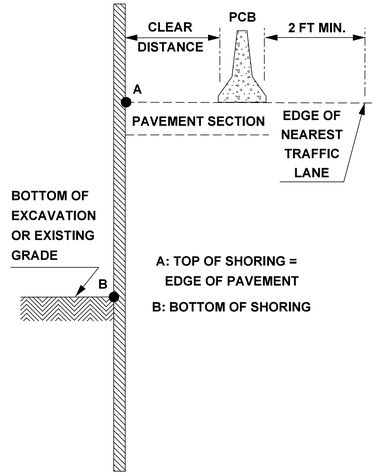
TEMPORARY SOIL NAIL WALL



TEMPORARY MSE WALL



TEMPORARY SHORING



NOTE: WALL OR SHORING HEIGHT = A-B

FIGURE A

NOTES

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	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

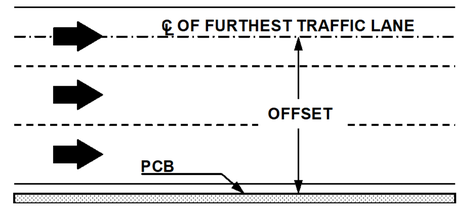


FIGURE B

AMT
A. MORTON THOMAS AND ASSOCIATES, INC.
vhb
940 Main Campus Drive, Suite 500 Raleigh, NC 27606
NC License No. C-3705

APPROVED: _____ DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 046269 ENGINEER DAVID A SHINBARA — 5/18/2022

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G TOWNSEND — 5/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2TS2

NOTES FOR TEMPORARY SHORING NO. A1-1

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 -L- 209+16.34±, 109.58 FT RT, TO STATION -Y2- 31+48.63±, 29.13 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 144 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 209+16.34±, 109.58 FT RT, TO STATION -Y2- 31+48.63±, 29.13 FT RT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 209+16.34±, 109.58 FT RT, TO STATION -Y2- 31+48.63±, 29.13 FT RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A1-2

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 -L- 208+80±, 80 FT RT, TO STATION -L- 211+35±, 80 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 144 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 208+80±, 80 FT RT, TO STATION -L- 211+35±, 80 FT RT FT RT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 208+80±, 80 FT RT, TO STATION -L- 211+35±, 80 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A1-3

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 -Y2- 30+62.79±, 22.41 FT RT, TO STATION -Y2- 34+00.00±, 20.95 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 140 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -Y2- 30+62.79±, 22.41 FT RT, TO STATION -Y2- 34+00.00±, 20.95 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -Y2- 30+62.79±, 22.41 FT RT, TO STATION -Y2- 34+00.00±, 20.95 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

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

NOTES FOR TEMPORARY SHORING NO. A1-4

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 -L- 208+99.81±, 109.63 FT LT, TO STATION -Y2- 28+10.16±, 28.93 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 144 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 208+99.81±, 109.63 FT LT, TO STATION -Y2- 28+10.16±, 28.93 FT RT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 208+99.81±, 109.63 FT LT, TO STATION -Y2- 28+10.16±, 28.93 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A1-5

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 -L- 208+75.00±, 80.00 FT LT, TO STATION -L- 211+30.00±, 80.00 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 144 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 208+75.00±, 80.00 FT LT, TO STATION -L- 211+30.00±, 80.00 FT LT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 208+75.00±, 80.00 FT LT, TO STATION -L- 211+30.00±, 80.00 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A1-6

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 -Y2- 17+50.00±, 20.64 FT RT, TO STATION -Y2- 28+84.86±, 22.43 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 140 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -Y2- 17+50.00±, 20.64 FT RT, TO STATION -Y2- 28+84.86±, 22.43 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -Y2- 17+50.00±, 20.64 FT RT, TO STATION -Y2- 28+84.86±, 22.43 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

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

NOTES FOR TEMPORARY SHORING NO. A1-7

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 -L- 285+55.84±, 67.93 FT LT, TO STATION -L- 287+60.01±, 68.60 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 146 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 285+55.84±, 67.93 FT LT, TO STATION -L- 287+60.01±, 68.60 FT LT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION --L- 285+55.84±, 67.93 FT LT, TO STATION -L- 287+60.01±, 68.60 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A1-8

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 -L- 110+75.00±, 41.00 FT LT, TO STATION -L- 111+50.00±, 41.00 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 140 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 110+75.00±, 41.00 FT LT, TO STATION -L- 111+50.00±, 41.00 FT LT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 110+75.00±, 41.00 FT LT, TO STATION -L- 111+50.00±, 41.00 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO DIVISION 6 ON FEBRUARY 22, 2022, AND SEALED BY A PROFESSIONAL ENGINEER, THEIN TUN ZAN, LICENSE #030943.

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APPROVED: _____

DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND
5/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TEMPORARY SHORING NOTES

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2TS3

NOTES FOR TEMPORARY SHORING NO. A1-9

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 -L- 110+75.00±, 36.00 FT LT, TO STATION -L- 111+50.00±, 36.00 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 140 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 110+75.00±, 36.00 FT LT, TO STATION -L- 111+50.00±, 36.00 FT LT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 110+75.00±, 36.00 FT LT, TO STATION -L- 111+50.00±, 36.00 FT LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A1-10

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 -L- 111+35.00±, 45.00 FT RT, TO STATION -L- 112+05.00±, 45.00 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 128 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 111+35.00±, 45.00 FT RT, TO STATION -L- 112+05.00±, 45.00 FT RT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 111+35.00±, 45.00 FT RT, TO STATION -L- 112+05.00±, 45.00 FT RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A1-11

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 -L- 111+35.00±, 50.00 FT RT, TO STATION -L- 112+05.00±, 50.00 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 128 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 111+35.00±, 50.00 FT RT, TO STATION -L- 112+05.00±, 50.00 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 111+35.00±, 50.00 FT RT, TO STATION -L- 112+05.00±, 50.00 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A1-12

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 -L- 242+50.00±, 58.12 FT LT, TO STATION -L- 243+75.00±, 57.38 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 143 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 242+50.00±, 58.12 FT LT, TO STATION -L- 243+75.00±, 57.38 FT LT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 242+50.00±, 58.12 FT LT, TO STATION -L- 243+75.00±, 57.38 FT LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A1-13

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 -L- 242+50.00±, 53.12 FT LT, TO STATION -L- 243+75.00±, 52.38 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 143 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 242+50.00±, 53.12 FT LT, TO STATION -L- 243+75.00±, 52.38 FT LT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 242+50.00±, 53.12 FT LT, TO STATION -L- 243+75.00±, 52.38 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A1-14

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 -L- 242+00.00±, 69.15 FT RT, TO STATION -L- 243+00.00±, 70.04 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 143 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 242+00.00±, 69.15 FT RT, TO STATION -L- 243+00.00±, 70.04 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 242+00.00±, 69.15 FT RT, TO STATION -L- 243+00.00±, 70.04 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A1-15

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 -L- 242+00.00±, 74.15 FT RT, TO STATION -L- 243+00.00±, 75.04 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 143 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 242+00.00±, 74.15 FT RT, TO STATION -L- 243+00.00±, 75.04 FT RT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 242+00.00±, 74.15 FT RT, TO STATION -L- 243+00.00±, 75.04 FT RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A1-16

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 -L- 285+85.00±, 68.05 FT RT, TO STATION -L- 287+21.23±, 68.00 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 146 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 285+85.00±, 68.05 FT RT, TO STATION -L- 287+21.23±, 68.00 FT RT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 285+85.00±, 68.05 FT RT, TO STATION -L- 287+21.23±, 68.00 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO DIVISION 6 ON FEBRUARY 22, 2022, AND SEALED BY A PROFESSIONAL ENGINEER, THEIN TUN ZAN, LICENSE #030943.

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APPROVED: _____

DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND

5/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TEMPORARY SHORING NOTES

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2TS4

NOTES FOR TEMPORARY SHORING NO. A1-17

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 -L- 286+22.71±, 14.43 FT LT, TO STATION -L- 287+22.21±, 14.39 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 146 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 286+22.71±, 14.43 FT LT, TO STATION -L- 287+22.21±, 14.39 FT LT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 286+22.71±, 14.43 FT LT, TO STATION -L- 287+22.21±, 14.39 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A1-18

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 -L- 286+26.83±, 8.97 FT RT, TO STATION -L- 287+26.33±, 8.97 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 145 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 286+26.83±, 8.97 FT RT, TO STATION -L- 287+26.33±, 8.97 FT RT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 286+26.83±, 8.97 FT RT, TO STATION -L- 287+26.33±, 8.97 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A1-19

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 -L- 310+00.00±, 41.00 FT RT, TO STATION -L- 311+00.00±, 41.00 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 135 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 310+00.00±, 41.00 FT RT, TO STATION -L- 311+00.00±, 41.00 FT RT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 310+00.00±, 41.00 FT RT, TO STATION -L- 311+00.00±, 41.00 FT RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A1-20

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 310+00.00±, 46.00 FT RT, TO STATION -L- 311+00.00±, 46.00 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 135 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION 310+00.00±, 46.00 FT RT, TO STATION -L- 311+00.00±, 46.00 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 310+00.00±, 46.00 FT RT, TO STATION -L- 311+00.00±, 46.00 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A1-21

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 -L- 310+00.00±, 14.68 FT LT, TO STATION -L- 311+00.00±, 14.55 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 135 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 310+00.00±, 14.68 FT LT, TO STATION -L- 311+00.00±, 14.55 FT LT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 310+00.00±, 14.68 FT LT, TO STATION -L- 311+00.00±, 14.55 FT LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A1-22

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 310+00.00±, 9.68 FT LT, TO STATION -L- 311+00.00±, 9.55 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 135 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION 310+00.00±, 9.68 FT LT, TO STATION -L- 311+00.00±, 9.55 FT LT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 310+00.00±, 9.68 FT LT, TO STATION -L- 311+00.00±, 9.55 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO DIVISION 6 ON FEBRUARY 22, 2022, AND SEALED BY A PROFESSIONAL ENGINEER, THEIN TUN ZAN, LICENSE #030943.

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NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND

5/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TEMPORARY SHORING NOTES

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2TS5

NOTES FOR TEMPORARY SHORING NO. A2-1

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 -L- Sta. 347+00±, 39.0 FT RT, TO STATION -L- 362+00±, 39 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 146 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- Sta. 347+00±, 39.0 FT RT, TO STATION -L- 362+00±, 39 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- Sta. 347+00±, 39.0 FT RT, TO STATION -L- 362+00±, 39 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-2

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 -L- 353+69±, 34 FT RT, TO STATION -L- 354+53±, 34 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 146 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 353+69±, 34 FT RT, TO STATION -L- 354+53±, 34 FT RT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 353+69±, 34 FT RT, TO STATION -L- 354+53±, 34 FT RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A2-3

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 -L- 365+66±, 34 FT RT, TO STATION -L- 366+77±, 34 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 146 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 365+66±, 34 FT RT, TO STATION -L- 366+77±, 34 FT RT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 365+66±, 34 FT RT, TO STATION -L- 366+77±, 34 FT RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A2-4

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 -L- 365+66±, 39 FT RT, TO STATION -L- 366+77±, 39 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 146 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 365+66±, 39 FT RT, TO STATION -L- 366+77±, 39 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 365+66±, 39 FT RT, TO STATION -L- 366+77±, 39 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-5

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE REMOVAL FROM STATION -L- 385+35±, 34 FT RT, TO STATION -L- 385+96±, 34 FT RT.

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 -L- 385+35±, 34 FT RT, TO STATION -L- 385+96±, 34 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 151 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 385+35±, 34 FT RT, TO STATION -L- 385+96±, 34 FT RT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 385+35±, 34 FT RT, TO STATION -L- 385+96±, 34 FT RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A2-6

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE REMOVAL FROM STATION -L- 385+35±, 39 FT RT, TO STATION -L- 385+96±, 39 FT RT.
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 -L- 385+35±, 39 FT RT, TO STATION -L- 385+96±, 39 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 151 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 385+35±, 39 FT RT, TO STATION -L- 385+96±, 39 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 385+35±, 39 FT RT, TO STATION -L- 385+96±, 39 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-7

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE INSTALLATION FROM STATION -L- 414+68±, 34 FT RT, TO STATION -L- 415+22±, 34 FT RT.

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 -L- 414+68±, 34 FT RT, TO STATION -L- 415+22±, 34 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 159 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 414+68±, 34 FT RT, TO STATION -L- 415+22±, 34 FT RT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 414+68±, 34 FT RT, TO STATION -L- 415+22±, 34 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A2-8

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE INSTALLATION FROM STATION -L- 414+68±, 39 FT RT, TO STATION -L- 415+22±, 39 FT RT.

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 -L- 414+68±, 39 FT RT, TO STATION -L- 415+22±, 39 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 159 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 414+68±, 39 FT RT, TO STATION -L- 415+22±, 39 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 414+68±, 39 FT RT, TO STATION -L- 415+22±, 39 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO DIVISION 6 ON FEBRUARY 22, 2022, AND SEALED BY A PROFESSIONAL ENGINEER, THEIN TUN ZAN, LICENSE #030943.

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APPROVED: _____

DATE: 04/12/2022

NORTH CAROLINA PROFESSIONAL SEAL 046269 ENGINEER DAVID A SHINBARA
5/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TEMPORARY SHORING NOTES

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2TS6

NOTES FOR TEMPORARY SHORING NO. A2-9

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE INSTALLATION FROM STATION -L- 419+29±, 34 FT RT, TO STATION -L- 419+81±, 34 FT RT.

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 -L- 419+29±, 34 FT RT, TO STATION -L- 419+81±, 34 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 159 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 419+29±, 34 FT RT, TO STATION -L- 419+81±, 34 FT RT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 419+29±, 34 FT RT, TO STATION -L- 419+81±, 34 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A2-10

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE INSTALLATION FROM STATION - L- 419+29±, 39 FT RT, TO STATION -L- 419+81±, 39 FT RT.

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 -L- 419+29±, 39 FT RT, TO STATION -L- 419+81±, 39 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 159 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 419+29±, 39 FT RT, TO STATION -L- 419+81±, 39 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 419+29±, 39 FT RT, TO STATION -L- 419+81±, 39 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-11

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE INSTALLATION FROM STATION -L- 437+43±, 34 FT RT, TO STATION -L- 437+98±, 34 FT RT.

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 -L- 437+43±, 34 FT RT, TO STATION -L- 437+98±, 34 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 162 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 437+43±, 34 FT RT, TO STATION -L- 437+98±, 34 FT RT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 437+43±, 34 FT RT, TO STATION -L- 437+98±, 34 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A2-12

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE INSTALLATION FROM STATION -L- 437+43±, 39 FT RT, TO STATION -L- 437+98±, 39 FT RT.

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 -L- 437+43±, 39 FT RT, TO STATION -L- 437+98±, 39 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 162 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 437+43±, 39 FT RT, TO STATION -L- 437+98±, 39 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 437+43±, 39 FT RT, TO STATION -L- 437+98±, 39 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-13

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 -L- 454+26±, 34 FT RT, TO STATION -L- 455+10±, 34 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 163 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 454+26±, 34 FT RT, TO STATION -L- 455+10±, 34 FT RT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 454+26±, 34 FT RT, TO STATION -L- 455+10±, 34 FT RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A2-14

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 -L- 454+26±, 39 FT RT, TO STATION -L- 455+10±, 39 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 163 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 454+26±, 39 FT RT, TO STATION -L- 455+10±, 39 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 454+26±, 39 FT RT, TO STATION -L- 455+10±, 39 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-15

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 -L- 347+00±, 9 FT LT, TO STATION -L- 362+00±, 9 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 146 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 347+00±, 9 FT LT, TO STATION -L- 362+00±, 9 FT LT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 347+00±, 9 FT LT, TO STATION -L- 362+00±, 9 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A2-16

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 -L- 353+48±, 4 FT LT, TO STATION -L- 354+28±, 4 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 140 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 353+48±, 4 FT LT, TO STATION -L- 354+28±, 4 FT LT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 353+48±, 4 FT LT, TO STATION -L- 354+28±, 4 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO DIVISION 6 ON FEBRUARY 22, 2022, AND SEALED BY A PROFESSIONAL ENGINEER, THEIN TUN ZAN, LICENSE #030943.

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APPROVED: _____

DATE: 04/12/2022

NORTH CAROLINA PROFESSIONAL SEAL 042269 ENGINEER DAVID A. SHINBARA

5/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TEMPORARY SHORING NOTES

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2TS7

NOTES FOR TEMPORARY SHORING NO. A2-17

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 -L- 365+81±, 4 FT LT, TO STATION -L- 366+71±, 4 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 149 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 365+81±, 4 FT LT, TO STATION -L- 366+71±, 4 FT LT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 365+81±, 4 FT LT, TO STATION -L- 366+71±, 4 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-18

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 -L- 365+81±, 9 FT LT, TO STATION -L- 366+71±, 9 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 149 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 365+81±, 9 FT LT, TO STATION -L- 366+71±, 9 FT LT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 365+81±, 9 FT LT, TO STATION -L- 366+71±, 9 FT LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A2-19

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE REMOVAL FROM STATION -L- 385+34±, 4 FT LT, TO STATION -L- 385+95±, 4 FT LT.

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 -L- 385+34±, 4 FT LT, TO STATION -L- 385+95±, 4 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 152 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 385+34±, 4 FT LT, TO STATION -L- 385+95±, 4 FT LT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 385+34±, 4 FT LT, TO STATION -L- 385+95±, 4 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-20

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE INSTALLATION FROM STATION -L- 385+34±, 9 FT LT, TO STATION -L- 385+95±, 9 FT LT.

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 -L- 385+34±, 9 FT LT, TO STATION -L- 385+95±, 9 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 152 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 385+34±, 9 FT LT, TO STATION -L- 385+95±, 9 FT LT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 385+34±, 9 FT LT, TO STATION -L- 385+95±, 9 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A2-21

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE INSTALLATION FROM STATION -L- 414+81±, 4 FT LT, TO STATION -L- 415+36±, 4 FT LT.

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 -L- 414+81±, 4 FT LT, TO STATION -L- 415+36±, 4 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 159 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 414+81±, 4 FT LT, TO STATION -L- 415+36±, 4 FT LT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 414+81±, 4 FT LT, TO STATION -L- 415+36±, 4 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-22

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE REMOVAL FROM STATION -L- 414+81±, 9 FT LT, TO STATION -L- 415+36±, 9 FT LT.

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 -L- 414+81±, 9 FT LT, TO STATION -L- 415+36±, 9 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 159 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 414+81±, 9 FT LT, TO STATION -L- 415+36±, 9 FT LT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 414+81±, 9 FT LT, TO STATION -L- 415+36±, 9 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

NOTES FOR TEMPORARY SHORING NO. A2-23

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE INSTALLATION FROM STATION -L- 419+29±, 4 FT LT, TO STATION -L- 419+81±, 4 FT LT.

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 -L- 419+29±, 4 FT LT, TO STATION -L- 419+81±, 4 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 159 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 419+29±, 4 FT LT, TO STATION -L- 419+81±, 4 FT LT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 419+29±, 4 FT LT, TO STATION -L- 419+81±, 4 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-24

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

TEMPORARY SHORING IS REQUIRED FOR THE PIPE REMOVAL FROM STATION -L- 419+29±, 9 FT LT, TO STATION -L- 419+81±, 9 FT LT.

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 -L- 419+29±, 9 FT LT, TO STATION -L- 419+81±, 9 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 PCF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 159 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 419+29±, 9 FT LT, TO STATION -L- 419+81±, 9 FT LT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 419+29±, 9 FT LT, TO STATION -L- 419+81±, 9 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO DIVISION 6 ON FEBRUARY 22, 2022, AND SEALED BY A PROFESSIONAL ENGINEER, THEIN TUN ZAN, LICENSE #030943.

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APPROVED: _____

DATE: 04/12/2022

NORTH CAROLINA PROFESSIONAL SEAL 040269 ENGINEER DAVID A SHINBARA

5/18/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TEMPORARY SHORING NOTES

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-2TS8

NOTES FOR TEMPORARY SHORING NO. A2-25

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 -L- 454+74±, 4 FT LT, TO STATION -L- 455+47±, 4 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 163 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 454+74±, 4 FT LT, TO STATION -L- 455+47±, 4 FT LT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 454+74±, 4 FT LT, TO STATION -L- 455+47±, 4 FT LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-26

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 -L- 454+74±, 9 FT LT, TO STATION -L- 455+47±, 9 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 163 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 454+74±, 9 FT LT, TO STATION -L- 455+47±, 9 FT LT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 454+74±, 9 FT LT, TO STATION -L- 455+47±, 9 FT LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A2-27

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 -Y3- 23+15±, 27 FT RT, TO STATION -Y3- 27+00±, 27 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 165 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -Y3- 23+15±, 27 FT RT, TO STATION -Y3- 27+00±, 27 FT RT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -Y3- 23+15±, 27 FT RT, TO STATION -Y3- 27+00±, 27 FT RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A2-28

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 -Y3- 24+45±, 19.5 FT RT, TO STATION -Y3- 25+27±, 19.5 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER RLEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 159 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -Y3- 24+45±, 19.5 FT RT, TO STATION -Y3- 25+27±, 19.5 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -Y3- 24+45±, 19.5 FT RT, TO STATION -Y3- 25+27±, 19.5 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

NOTES FOR TEMPORARY SHORING NO. A2-29

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 -Y3- 30+29±, 22 FT RT, TO STATION -Y3- 37+66±, 27 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 156 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -Y3- 30+29±, 22 FT RT, TO STATION -Y3- 37+66±, 27 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -Y3- 30+29±, 22 FT RT, TO STATION -Y3- 37+66±, 27 FT RT. SEE GEOTECHNICAL 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.

NOTES FOR TEMPORARY SHORING NO. A2-30

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 -Y3- 28+04±, 27 FT RT, TO STATION -Y3- 28+52±, 27 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 165 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -Y3- 28+04±, 27 FT RT, TO STATION -Y3- 28+52±, 27 FT RT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -Y3- 28+04±, 27 FT RT, TO STATION -Y3- 28+52±, 27 FT RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

NOTES FOR TEMPORARY SHORING NO. A2-31

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 -Y3- 28+04±, 22 FT RT, TO STATION -Y3- 28+52±, 22 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 156 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -Y3- 28+04±, 22 FT RT, TO STATION -Y3- 28+52±, 22 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -Y3- 28+04±, 22 FT RT, TO STATION -Y3- 28+52±, 22 FT RT. SEE GEOTECHNICAL 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.

NOTES FOR TEMPORARY SHORING NO. A2-32

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 -Y3- 30+29±, 27 FT RT, TO STATION -Y3- 31+27±, 27 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = 165 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -Y3- 30+92±, 27 FT RT, TO STATION -Y3- 31+27±, 27 FT RT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -Y3- 30+92±, 27 FT RT, TO STATION -Y3- 31+27±, 27 FT RT. 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 ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO DIVISION 6 ON FEBRUARY 22, 2022, AND SEALED BY A PROFESSIONAL ENGINEER, THEIN TUN ZAN, LICENSE #030943.

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APPROVED: _____

DATE: 04/12/2022

NORTH CAROLINA PROFESSIONAL SEAL 040269 ENGINEER DAVID A SHINBARA

5/18/2022

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TEMPORARY SHORING NOTES

PHASING

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-3

NOTES:

REPLACE MARKINGS AND RETURN TO THE CURRENT TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES DURING THE LIFE OF THE CONTRACT UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

COMPLETE ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE. THIS MAY REQUIRE A COMBINATION OF INSTALLATION OF PROPOSED PIPES, TEMPORARY PIPES, STEEL PLATES, TEMPORARY MEDIAN, AND OUTSIDE DITCHES. PROVIDE WEDGING AS REQUIRED TO PROMOTE POSITIVE DRAINAGE AND SMOOTH TRANSTIONS. IN CONDITIONS WHERE WEDGING IS REQUIRED ACROSS PCB IN ORDER TO UNIFORMLY BUILD PAVEMENT UP, UTILIZE TEMPORARY LANE CLOSURES AS REQUIRED TO TEMPORARILY RESET PCB.

PAVE PROPOSED CONSTRUCTION UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, IN ALL PHASES UNTIL STATED TO INSTALL FINAL LAYER IN PHASING OR DIRECTED BY THE ENGINEER.

UPON COMPLETION OF SUFFICIENT TEMPORARY PAVEMENT FOR ACCELERATION/DECELERATION LENGTHS, INSTALL BREAKS IN PCB FOR CONSTRUCTION ACCESS IN THE MEDIAN AS REQUIRED AND IN ACCORDANCE WITH NCDOT TYPICAL MEDIAN ACCESS DETAIL.

THE TERM RSD REFERS TO ROADWAY STANDARD DRAWINGS.

PHASE I

SECTION A1 -L- STA 67+00 TO STA 340+00, -Y1-, -Y1A-, -Y2-, -SR2-, -SR6-, -SR7-, AND -SR8-

PHASE I (SEE SHEETS TMP-4 THRU TMP-29)

STEP 1: USING RSD 1101.01 (SHEETS 1, 2 AND 3 OF 3), INSTALL ADVANCE WARNING SIGNS ON -L- (I-95), -Y1- (FAYETTEVILLE RD), -Y2- (POWERSVILLE RD), -Y1A- (US 301), -SR2- (RUSS RD), -SR6- (DAWN DR), -SR7- (JACKSON CT), -SR8- (KAHN DR), BUCKET RD.

NOTE: STEPS 2, 3, 4, 5, AND 6 OF PHASE I CAN OCCUR SIMULTANEOUSLY AND IN ANY ORDER.

STEP 2A: RECONSTRUCT THE EXISTING SHOULDERS AND CONSTRUCT ADDITIONAL TEMPORARY PAVEMENT ON -L- (I-95) AS SHOWN ON SHEETS TMP-4 THRU TMP-29. COMPLETE THIS WORK IN MANAGEABLE SECTIONS AND PROGRESSING ALONG THE CORRIDOR. USING RSD 1101.02 (SHEET 4 OF 14), COMPLETE THE FIRST EIGHT FEET OF PAVEMENT AND INSTALL PORTABLE CONCRETE BARRIER AND CRASH CUSHIONS TO CLOSE THE SHOULDER IN ACCORDARANCE WITH RSD 1101.04 (SHEET 1 OF 1) AND COMPLETE THE REMAINING PAVEMENT AWAY FROM TRAFFIC AND BEHIND PORTABLE CONCRETE BARRIER.

STEP 2B: USING RSD 1101.02 (SHEET 10 OF 14), CONSTRUCT TEMPORARY PAVEMENT ON -Y1RPA- AS SHOWN ON SHEETS TMP-6 AND TMP-7.

COMPLETE THE REQUIREMENTS OF PHASE I, STEP 2C IN 30 (THIRTY) CONSECUTIVE DAYS (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

STEP 2C: USING RSD 1101.02 (SHEET 4 OF 14), ADJUST AND INSTALL ADDITIONAL PORTABLE CONCRETE BARRIER AND CRASH CUSHIONS TO CLOSE THE SHOULDER AND WEIGH STATION ON -L- (I-95) AT STA. 232+00 AS SHOWN ON SHEETS TMP-14 THRU TMP-17. CONSTRUCT TEMPORARY PAVEMENT ON -WSRPA-, -WSRPB-, -WSRPC-, -WSRPD- AND THE ADJOINING SECTIONS OF -L- (I-95). UPON COMPLETION, REMOVE PORTABLE CONCRETE BARRIER AND CRASH CUSHIONS AND REOPEN THE WEIGH STATION.

STEP 3: USING RSD 1101.02 (SHEETS 1 AND 2 OF 14), REMOVE ANY CONFLICTING MARKINGS, INSTALL TEMPORARY PAVEMENT MARKINGS AND SHIFT TRAFFIC ON -SR6- (DAWN DR) INTO NEW PATTERN AS SHOWN ON SHEETS TMP-4 THRU TMP-6. BEGIN CONSTRUCTION OF THE LEFT SIDE OF -SR6- (DAWN DR) AS SHOWN ON SHEETS TMP-4 THRU TMP-6.

STEP 4A: USING RSD 1101.02 (SHEET 1 OF 14), CONSTRUCT TEMPORARY PAVEMENT ON -Y2- (POWERSVILLE RD) AS SHOWN ON SHEETS TMP-14 AND TMP-24.

STEP 4B: USING RSD 1101.02 (SHEET 1 OF 14), INSTALL PORTABLE CONCRETE BARRIER AND TEMPORARY CRASH CUSHIONS ON -Y2- (POWERSVILLE RD) AS SHOWN ON SHEETS TMP-14, 24 AND 25.

STEP 4C: AWAY FROM TRAFFIC AND BEHIND PORTABLE CONCRETE BARRIER, INSTALL TEMPORARY SHORING ON THE LEFT AND RIGHT SIDES OF -L- (I-95) AT -Y2- (POWERSVILLE RD) AND BEGIN CONSTRUCTION OF -Y2- AND THE END BENTS AND RETAINING WALLS OF THE -Y2- STRUCTURE OVER I-95 AND THE INSTALLATION OF TEMPORARY SHORING ON THE LEFT SIDE OF -Y2- (POWERSVILLE RD) AS SHOWN ON SHEETS TMP-14, 24 AND 25.

STEP 5: AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF -SR2- (RUSS RD) AS SHOWN ON SHEETS TMP-19 AND 29.

STEP 6A: CLOSE EXISTING BUCKET RD AT EXISITING US 301 AND JUST SOUTH OF NATIVE RD AS SHOWN ON SHEETS TMP-19 AND TMP-20 AND CONSTRUCT CUL-DE-SAC.

STEP 6B: AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF -Y1A-, -Y1ARPB-, -Y1ARPA-, AND -Y1ARAB1- AND INSTALL TEMPORARY SHORING ON THE LEFT SIDE OF -L- (I-95) AT -Y1A-. BEGIN CONSTRUCTION OF THE WESTERN END BENT AND RETAINING WALL FOR THE -Y1A- STRUCTURE OVER I-95 AS SHOWN ON SHEETS TMP-19, 20, 21, 26 AND 27.

SECTION A2 -L- STA 340+00 TO STA 495+00 AND -Y3-

PHASE I (SEE SHEETS TMP-143 THRU TMP-156)

STEP 1: USING RSD 1101.01 (SHEETS 1 AND 3 OF 3), INSTALL ADVANCE WARNING SIGNS ON -L- (I-95) AND -Y3- (MCDUFFIE CROSSING RD).

STEP 2: WHILE MAINTAINING TRAFFIC USING RSD 1101.02 (SHEETS 1 AND 4 OF 14), PERFORM THE FOLLOWING AS SHOWN ON SHEETS TMP-143 THRU TMP-156:

- BEGIN RECONSTRUCTION OF APPROXIMATELY THE FIRST 8’ OF EXISTING INSIDE SHOULDERS ALONG NB LANES OF -L- I-95 IN ORDER TO PROVIDE SUFFICIENT WIDTH FOR PLACING PCB
- PLACE TEMPORARY PAVEMENT ALONG THE EXISTING INSIDE SHOULDER OF SB -L- I-95, AND EXISTING -Y3- MCDUFFIE CROSSING ROAD IN ORDER TO PROVIDE MINIMUM DEPTH AND SUFFICIENT WIDTH FOR PCB PLACEMENT AND DEFLECTION
- UPON COMPLETION, INSTALL PCB ON -L- I-95 AND -Y3-

STEP 3: AWAY FROM TRAFFIC AND BEHIND BARRIER PERFORM THE FOLLOWING:

- BEGIN CONSTRUCTION OF NEW -Y3- MCDUFFIE CROSSING RD BRIDGE, APPROACHES, AND MSE WALL
- BEGIN TRENCHLESS INSTALLATION OF SPECIFIED PROPOSED DRAINAGE CROSS PIPES
- COMPLETE RECONSTRUCTION OF THE EXISTING INSIDE SHOULDERS AND CONSTRUCT TEMPORARY PAVEMENT ON -L- (I-95)
- INSTALL TEMPORARY INLETS AND GRADE MEDIAN AREA TO DRAIN AS REQUIRED.
- INSTALL TEMPORARY SHORING, BEGIN NEW ROADWAY CONSTRUCTION, AND STAGE 1 CULVERT CONSTRUCTION ON -Y3- MCDUFFIE CROSSING. REFER TO EROSION CONTROL PLANS FOR ADDITIONAL CULVERT SEQUENCING INFORMATION.
- INSTALL PROPOSED DMS-3. WORK MAY CONTINUE IN SUBSEQUENT PHASES

STEP 4: IN ACCORDANCE WITH THE TIME RESTRICTIONS ON SHEET TMP-1C, IMPLEMENT OFFSITE DETOUR ALONG US 301 AS SHOWN ON TMP-2DET8 and 9, AND TEMPORARILY CLOSE I-95 BETWEEN EXITS 25 AND 33 FOR THE REMOVAL OF EXISTING OVERHEAD DMS ON -L- I-95 AT APPROX STATION 385+30. REFER TO ITS PLANS

STEP 5: IN ACCORDANCE WITH THE TIME RESTRICTIONS ON SHEET TMP-1C, IMPLEMENT OFFSITE DETOUR ALONG US 301 AS SHOWN ON TMP-2DET8 AND 9, AND TEMPORARILY CLOSE I-95 BETWEEN EXITS 25 AND 33 FOR THE GIRDER INSTALLATION OF NEW -Y3- MCDUFFIE CROSSING RD BRIDGE

COMPLETE THE REQUIREMENTS OF PHASE 1, STEP 6 IN 30 (THIRTY) CONSECUTIVE DAYS (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

STEP 6: IMPLEMENT OFFSITE DETOUR SHOWN ON TMP-2DET6, AND TMP-2DET7 AND CLOSE -Y3- MCDUFFIE CROSSING ROAD. WHILE ROAD IS CLOSED PERFORM THE FOLLOWING:

- COMPLETE CONSTRUCTION OF NEW -Y3- MCDUFFIE CROSSING RD BRIDGE.

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APPROVED: _____ DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 046269 ENGINEER DAVID A. SHINBARA — 5/18/2022

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND — 5/18/2022

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TEMPORARY TRAFFIC CONTROL PHASING PHASE I

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PHASING (CONTINUED)

PROJ. REFERENCE NO.	SHEET NO.
I-5987A	TMP-3A

- COMPLETE THE TIE IN OF PROPOSED -Y3-.

- OPEN NEW -Y3- MCDUFFIE CROSSING ROAD AND BRIDGE TO TRAFFIC.

STEP 7: IMPLEMENT OFFSITE DETOUR ALONG US 301 AS SHOWN ON TMP-2DET8 AND 9, AND TEMPORARILY CLOSE I-95 BETWEEN EXITS 25 AND 33 FOR THE OVERHEAD BRIDGE DEMOLITION OF EXISTING -Y3- MCDUFFIE CROSSING RD BRIDGE

STEP 8: BEHIND BARRIER, COMPLETE THE PORTION OF EXISTING SHOULDER RECONSTRUCTION AND TEMPORARY PAVEMENT WIDENING ALONG -L- I-95 SB FROM STATION -L- 462+00 TO 464+00 (APPROX). COMPLETE REMAINING BRIDGE DEMOLITION OF EXISTING -Y3- MCDUFFIE CROSSING RD BRIDGE AND REMOVE OLD -Y3- ROADWAY.

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APPROVED: _____ DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 046269 ENGINEER DAVID A. SHINBARA
5/18/2022

NORTH CAROLINA PROFESSIONAL SEAL 031533 ENGINEER JOHN G. TOWNSEND
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TEMPORARY TRAFFIC CONTROL PHASING PHASE I

4/28/2022
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