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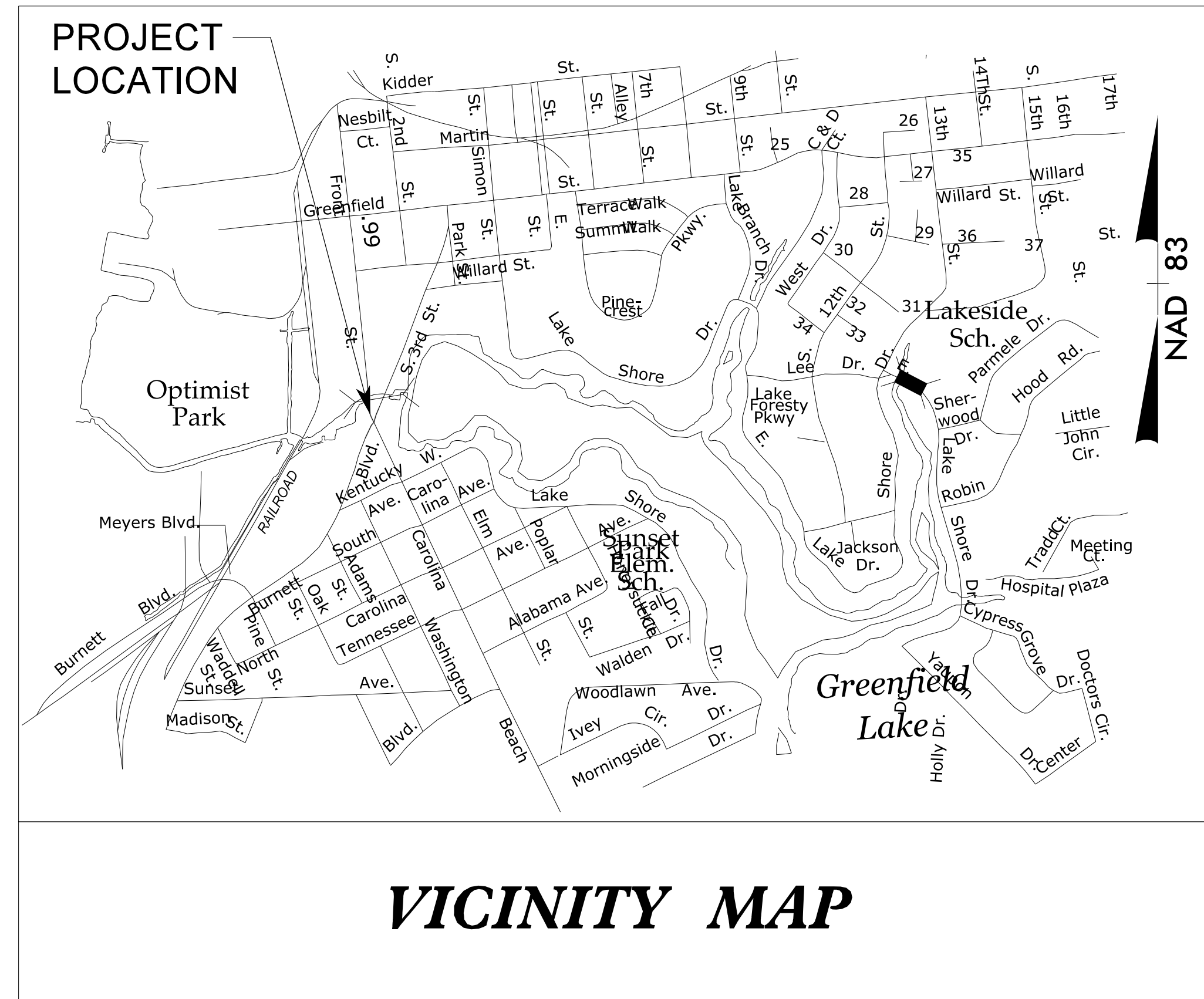
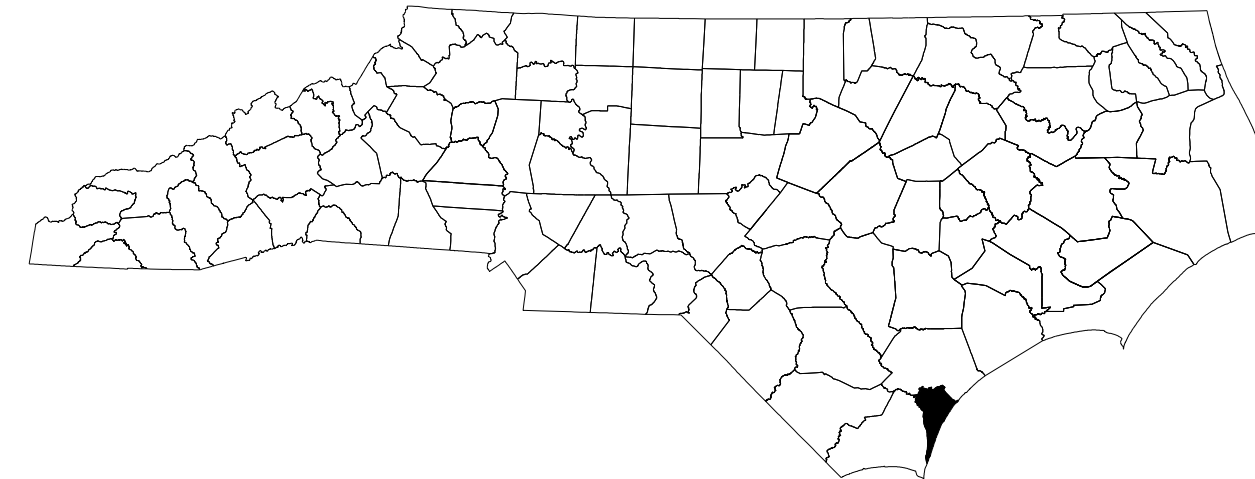
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

NEW HANOVER COUNTY



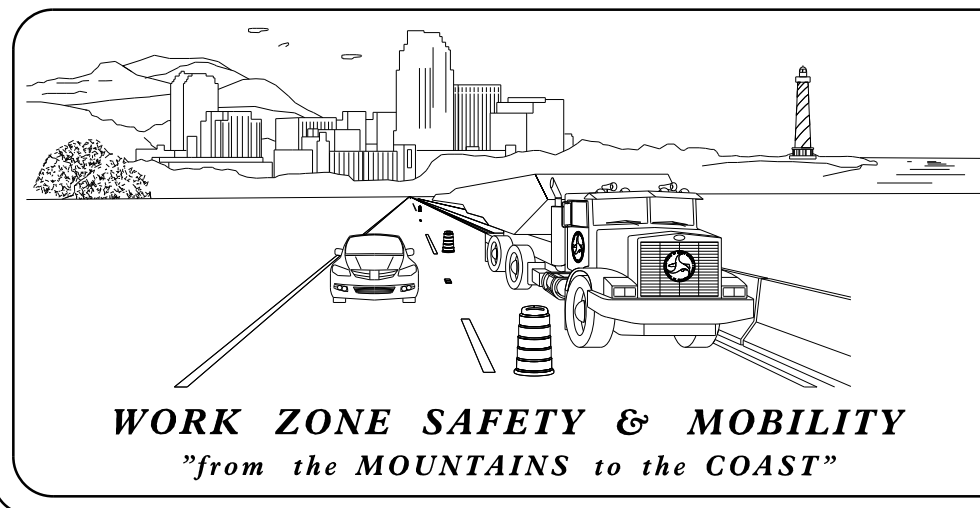
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SHEET NO.
TMP-1

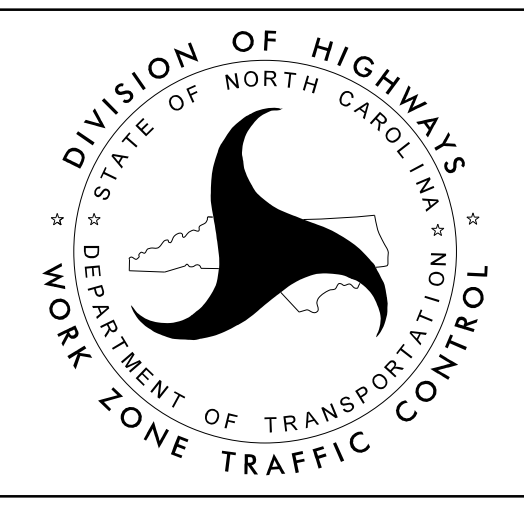
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PLAN PREPARED FOR N.C.D.O.T. BY:
ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBES #F-0326



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2145

S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER
S. KITE, P.E. TRAFFIC CONTROL PROJECT ENGINEER
D. PARKER TRAFFIC CONTROL PROJECT DESIGN ENGINEER
D. RICHARDSON TRAFFIC CONTROL DESIGN ENGINEER



J. TODD BROOKS, P.E.
TRAFFIC CONTROL
PROJECT ENGINEER

APPROVED:
DATE: 10/11/2016

SEAL

TIP PROJECT: 17BP.3.R.28

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
904.20	SECONDARY SIGN MOUNTING
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	POSITIVE PROTECTION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE & MULTI-LANE ROADWAYS
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
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

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.

- WORK AREA
- REMOVAL
- WEDGING/OVERLAY OF EXIST
- ONGOING CONSTRUCTION
- TEMPORARY PAVEMENT

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD (TYPE C)
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- PORTABLE CHANGEABLE MESSAGE SIGN
- PORTABLE CONCRETE BARRIER (P.C.B.)
- WATER FILLED BARRIER (W.F.B.)
- ORANGE CONSTRUCTION FENCING

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

LEGEND

TEMPORARY PAVEMENT MARKING

PA	WHITE EDGE LINE	PAINT (4")	LF
PB	YELLOW EDGE LINE	PAINT (4")	LF
PC	10 FT. WHITE SKIP	PAINT (4")	LF
PD	3 FT. WHITE MINISKIP	PAINT (4")	LF
PE	WHITE LANE LINE	PAINT (4")	LF
PF	10 FT. YELLOW SKIP	PAINT (4")	LF
PH	YELLOW CENTER LINE	PAINT (4")	LF
PI	YELLOW DOUBLE CENTER LINE	PAINT (4")	LF
PN	WHITE GORELINE	PAINT (8")	LF
PO	WHITE DIAGONAL	PAINT (8")	LF
PP	YELLOW DIAGONAL	PAINT (8")	LF
PQ	WHITE CROSSWALK LINE	PAINT (8")	LF
PR	WHITE LANE LINE	PAINT (8")	LF
PS	WHITE GORELINE	PAINT (12")	LF
P2	WHITE STOP BAR	PAINT (24")	LF
P9	2 FT. YELLOW MINISKIP	PAINT (4")	LF
P13	3 FT. WHITE MINISKIP	PAINT (8")	LF
QA	LEFT TURN ARROW MARKING SYMBOLS	PAINT	EA
QB	RIGHT TURN ARROW MARKING SYMBOLS	PAINT	EA
QC	STRAIGHT ARROW MARKING SYMBOLS	PAINT	EA
QD	COMBO. STRT / LT ARROW MARKING SYMBOLS	PAINT	EA
QE	COMBO. STRT / RT ARROW MARKING SYMBOLS	PAINT	EA
QF	COMBO. LT / RT ARROW MARKING SYMBOLS	PAINT	EA
QG	LEFT/RIGHT/STRAIGHT/ MARKING SYMBOLS	PAINT	EA
QI	ALPHANUMERIC CHARACTERS	PAINT CHARACTER	EA
MH	YELLOW & YELLOW, TEMPORARY RAISED PAVEMENT MARKER		EA
MI	CRYSTAL & RED, TEMPORARY RAISED PAVEMENT MARKER		EA

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ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
 RALEIGH, NORTH CAROLINA 27609
 (919) 876-6888 NCBEES #F-0326

APPROVED: DATE: 10/11/2016			ROADWAY STANDARD DRAWINGS & LEGEND
SEAL			

GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
17BP.3.R.28	TMP-1B

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

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

TIME RESTRICTIONS

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

ROAD NAME	DAY AND TIME RESTRICTIONS
FRONT ST, CAROLINA BEACH RD, BURNETT BLVD - NORTHEAST OF CAROLINA BEACH RD, 3RD ST - SOUTH OF DAWSON ST	MONDAY - FRIDAY 7:00 A.M. - 9:00 A.M. AND 4:00 P.M. - 6:00 P.M.
DAWSON ST, WOOSTER ST, 17TH ST, SHIPYARD BLVD	MONDAY - THURSDAY 7:00 A.M. - 9:00 A.M. AND 4:00 P.M. - 6:00 P.M. FROM 7:00 A.M. ON FRIDAY THROUGH 9:00 P.M. ON SUNDAY
3RD ST - NORTH OF DAWSON ST	MONDAY - SUNDAY 7:00 A.M. - 6:00 P.M.

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

ROAD NAME

FRONT ST
CAROLINA BEACH RD
BURNETT BLVD - NORTHEAST OF CAROLINA BEACH RD
3RD ST - SOUTH OF DAWSON ST
DAWSON ST
WOOSTER ST
17TH ST
SHIPYARD BLVD

HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 A.M. DECEMBER 31st TO 6:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 P.M. THE FOLLOWING TUESDAY.

- FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 6:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 6:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

- FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 6:00 P.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY AND 6:00 P.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- FOR ANY SPECIAL EVENT OCCURING BETWEEN 3 HOURS BEFORE THE START AND 3 HOURS AFTER THE END OF THE SPECIAL EVENT, AS DIRECTED BY THE ENGINEER.
- FOR THE WEEK OF THE ANNUAL NORTH CAROLINA AZALEA FESTIVAL IN APRIL, DO NOT PERFORM ANY WORK BETWEEN THE HOURS OF 7:00 AM THURSDAY THROUGH 9:00 AM MONDAY AFTER THE FESTIVAL WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND THE CITY OF WILMINGTON TRAFFIC ENGINEER. CALL (910) 794-4650 OR VISIT THE FESTIVAL'S WEBSITE AT WWW.NCAZALEAFESTIVAL.ORG TO CONFIRM THE DATES OF THE FESTIVAL.
- FOR THE WEEKEND OF THE ANNUAL WILMINGTON RIVERFEST IN OCTOBER, DO NOT PERFORM ANY WORK BETWEEN THE HOURS OF 7:00 AM FRIDAY THROUGH 9:00 AM MONDAY AFTER THE RIVERFEST EVENT WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND THE CITY OF WILMINGTON TRAFFIC ENGINEER. CALL (910) 452-6862 OR VISIT THE FESTIVAL'S WEBSITE AT WWW.WILMINGTONRIVERFEST.COM TO CONFIRM THE DATES OF THE FESTIVAL.
- FOR THE WEEKEND OF THE ANNUAL BATTLESHIP NORTH CAROLINA HALF MARATHON IN NOVEMBER, DO NOT PERFORM ANY WORK BETWEEN THE HOURS OF 7:00 AM FRIDAY THROUGH 9:00 AM MONDAY AFTER THE BATTLESHIP NORTH CAROLINA HALF MARATHON WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND THE CITY OF WILMINGTON TRAFFIC ENGINEER. CALL (910) 398-5539 OR VISIT THE HALF MARATHON'S WEBSITE AT WWW.BATTLESHIPHALFMARATHON.ACTIVE.COM TO CONFIRM THE DATES OF THE HALF MARATHON.
- FOR THE WEEKEND OF THE ANNUAL BEACH2BATTLESHIP TRIATHLON IN OCTOBER, DO NOT PERFORM ANY WORK BETWEEN THE HOURS OF 7:00 AM FRIDAY THROUGH 9:00 AM MONDAY AFTER THE BEACH2 BATTLESHIP TRIATHLON WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND THE CITY OF WILMINGTON TRAFFIC ENGINEER. VISIT THE TRIATHLON'S WEBSITE AT WWW.BEACH2BATTLESHIP.COM TO CONFIRM THE DATES OF THE TRIATHLON.

ROAD NAME

3RD ST - NORTH OF DAWSON ST

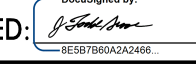
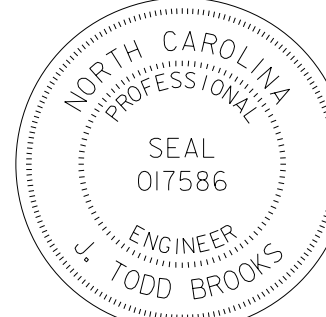
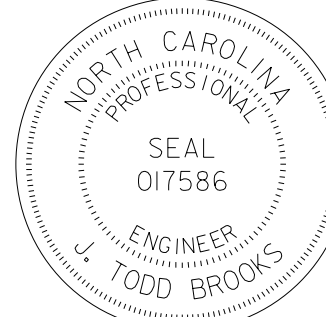
HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 A.M. DECEMBER 31st TO 6:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 P.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 6:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 6:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 6:00 P.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY AND 6:00 P.M. MONDAY.
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- FOR ANY SPECIAL EVENT OCCURING BETWEEN 3 HOURS BEFORE THE START AND 3 HOURS AFTER THE END OF THE SPECIAL EVENT, AS DIRECTED BY THE ENGINEER.
- FOR THE WEEK OF THE ANNUAL NORTH CAROLINA AZALEA FESTIVAL IN APRIL, DO NOT PERFORM ANY WORK BETWEEN THE HOURS OF 7:00 AM THURSDAY THROUGH 6:00 PM MONDAY AFTER THE FESTIVAL WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND THE CITY OF WILMINGTON TRAFFIC ENGINEER. CALL (910) 794-4650 OR VISIT THE FESTIVAL'S WEBSITE AT WWW.NCAZALEAFESTIVAL.ORG TO CONFIRM THE DATES OF THE FESTIVAL.

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ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-8888 NCBEES #F-0326

APPROVED:  DATE: 9/28/2016		<p>TRANSPORTATION OPERATIONS PLAN</p>
		

GENERAL NOTES CONTINUED

- 11. FOR THE WEEKEND OF THE ANNUAL WILMINGTON RIVERFEST IN OCTOBER, DO NOT PERFORM ANY WORK BETWEEN THE HOURS OF 7:00 AM FRIDAY THROUGH 6:00 PM MONDAY AFTER THE RIVERFEST EVENT WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND THE CITY OF WILMINGTON TRAFFIC ENGINEER. CALL (910) 452-6862 OR VISIT THE FESTIVAL'S WEBSITE AT WWW.WILMINGTONRIVERFEST.COM TO CONFIRM THE DATES OF THE FESTIVAL.
- 12. FOR THE WEEKEND OF THE ANNUAL BATTLESHIP NORTH CAROLINA HALF MARATHON IN NOVEMBER, DO NOT PERFORM ANY WORK BETWEEN THE HOURS OF 7:00 AM FRIDAY THROUGH 6:00 PM MONDAY AFTER THE BATTLESHIP NORTH CAROLINA HALF MARATHON WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND THE CITY OF WILMINGTON TRAFFIC ENGINEER. CALL (910) 398-5539 OR VISIT THE HALF MARATHON'S WEBSITE AT WWW.BATTLESHIPHALFMARATHON.ACTIVE.COM TO CONFIRM THE DATES OF THE HALF MARATHON.
- 13. FOR THE WEEKEND OF THE ANNUAL BEACH2BATTLESHIP TRIATHLON IN OCTOBER, DO NOT PERFORM ANY WORK BETWEEN THE HOURS OF 7:00 AM FRIDAY THROUGH 6:00 PM MONDAY AFTER THE BEACH2 BATTLESHIP TRIATHLON WITHOUT THE PRIOR APPROVAL OF THE ENGINEER AND THE CITY OF WILMINGTON TRAFFIC ENGINEER. VISIT THE TRIATHLON'S WEBSITE AT WWW.BEACH2BATTLESHIP.COM TO CONFIRM THE DATES OF THE TRIATHLON.

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
ANY ROAD	MONDAY - SUNDAY 5:00 A.M. - 11:00 P.M.	20 MINUTES INSTALLATION OF PAVEMENT MARKINGS

LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) 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.
- E) 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.
- F) 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.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRANSPORTATION MANAGEMENT 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.
- H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

I) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON ANY ROAD.

PAVEMENT EDGE DROP OFF REQUIREMENTS

J) 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.

K) 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) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

L) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

M) 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.

N) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRANSPORTATION MANAGEMENT PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRANSPORTATION MANAGEMENT PLANS.

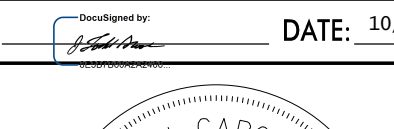

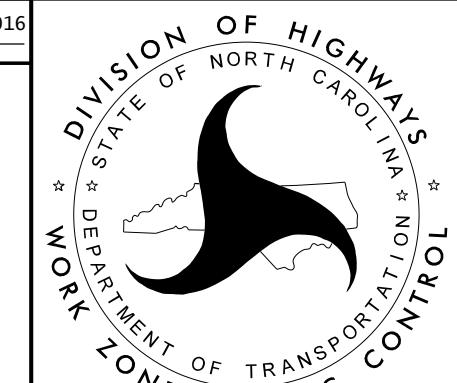
O) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

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

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

Q) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

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APPROVED:  DATE: 10/11/2016 		TRANSPORTATION OPERATIONS PLAN
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GENERAL NOTES CONTINUED

TRAFFIC BARRIER

R) 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.

S) 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

T) 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.

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

V) 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

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	TEMPORARY RAISED

INSTALL TEMPORARY RAISED MARKERS FOR INTERMEDIATE TRAFFIC PATTERNS IN ACCORDANCE WITH RSD 1250.01 AND 1251.01 UNLESS DETAILED OTHERWISE IN THE TMP.

X) 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.

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

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

AA) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS/SKINNY DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS BEFORE INSTALLATION.

MISCELLANEOUS

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

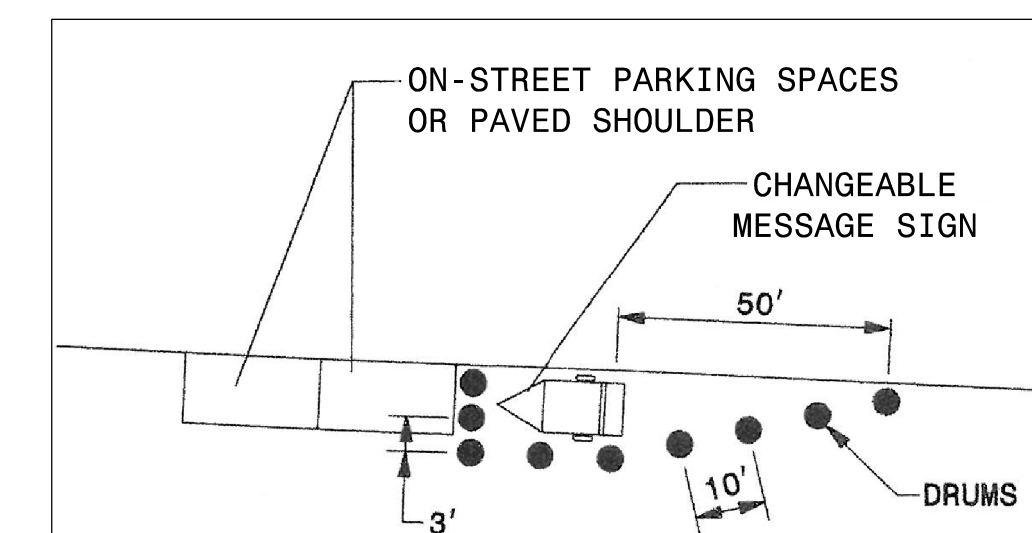
CC) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

DD) CONTRACTOR SHALL MAINTAIN SIDEWALK ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALK (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).

LOCAL NOTES

LN-1 CONSTRUCT TEMPORARY/PERMANENT LATERAL WEDGING BETWEEN NEWLY CONSTRUCTED PAVEMENT AND EXISTING PAVEMENT TO MAINTAIN POSITIVE DRAINAGE OF EXISTING PAVEMENT (I.E., PREVENT PONDING OF WATER) AND PREVENT DROP-OFF BETWEEN NEW AND EXISTING PAVEMENT AS DIRECTED BY THE ENGINEER.

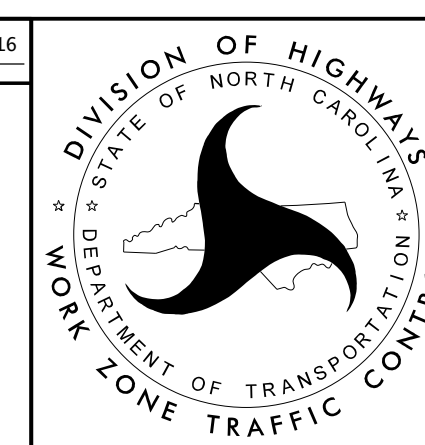
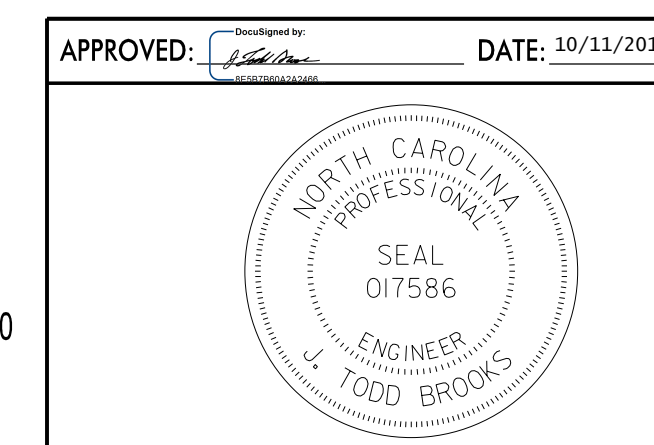
LN-2 WHEN PLACING CMS ON PAVED SHOULDER OR IN PARKING LANE ADJACENT TO OPEN TRAVEL LANE, USE TYPICAL SHOWN BELOW FOR DEVICES TO DELINEATE CMS.



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TRANSPORTATION OPERATIONS PLAN

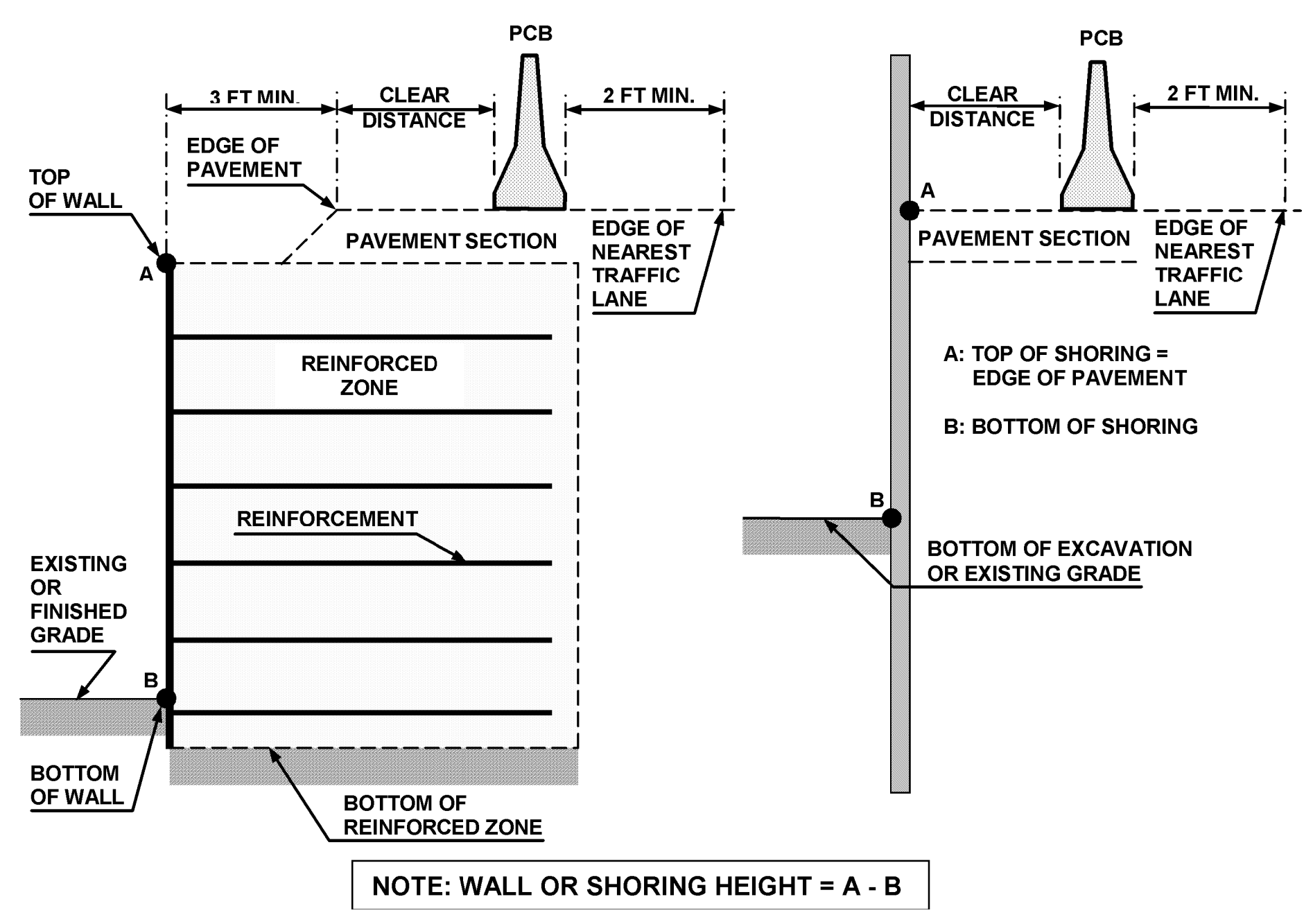


FIGURE A

NOTES

- 1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- 2- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- 3- PCB IS REQUIRED IF TEMPORARY SHORING IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT UNIT FOR APPLICABLE PAVEMENT DESIGN).
- 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 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- PCB REQUIREMENTS FOR TEMPORARY WALLS APPLY TO TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS AND TEMPORARY SOIL NAIL WALLS.
- 8- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS AND OR AS APPROVED BY THE ENGINEER.
- 9- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THESE MINIMUM REQUIRED DISTANCES ARE NOT AVAILABLE, CONTACT THE ENGINEER.
- 10- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES, RUNS OF BARRIER LESS THAN 200 FT IN LENGTH AND WET OR DRY PAVEMENT.

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

* See Figure Below

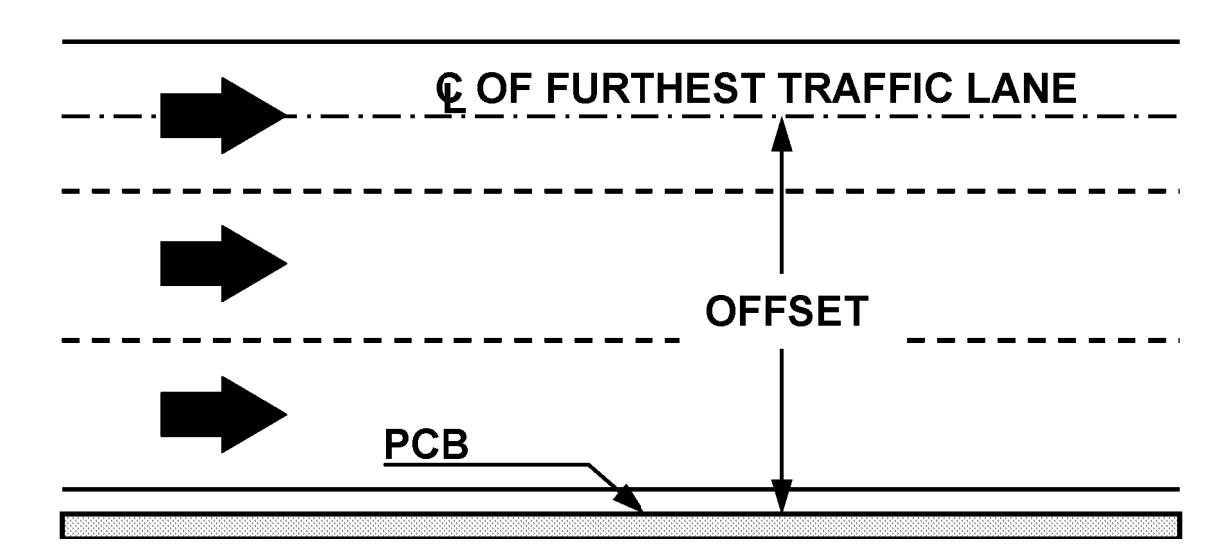


FIGURE B

APPROVED: _____ DATE: 10/11/2016 		PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
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TEMPORARY SHORING DATA

SHORING LOCATION NO. 1

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

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

USE CONTRACTOR DESIGNED TEMPORARY SHORING FROM STATION -L- 14+42±, 16 FT RIGHT, TO STATION -L- 14+62±, 16 FT RIGHT.

DESIGN TEMPORARY SHORING FROM STATION -L- 14+42 ±, 16.0 FT RIGHT, TO STATION -L- 14+62 ±, 16.0 FT RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

SOIL PARAMETERS				
	UNIT WEIGHT (PCF)	SUBMERGED UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)
GROUND SURFACE TO EL. -3 FT	120	60	30	0
EL. -3 FT TO EL. -28 FT	80	20	11	150
BELOW EL. -28 FT	120	60	0	1000

ASSUME WATER TABLE ELEVATION = 0 FT
ASSUME EXCAVATION WILL BE DEWATERED DOWN TO BOTTOM OF EXCAVATION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L- 14+42±, 16 FT RIGHT, TO STATION -L- 14+62±, 16 FT RIGHT, MAY NOT PENETRATE BELOW ELEVATION -35 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 14+42±, 16 FT RIGHT, TO STATION -L- 14+62±, 16 FT RIGHT.

SHORING LOCATION NO. 2

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

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

USE CONTRACTOR DESIGNED TEMPORARY SHORING FROM STATION -L- 14+29±, 25 FT RIGHT, TO STATION -L- 14+72±, 25 FT RIGHT.

DESIGN TEMPORARY SHORING FROM STATION -L- 14+29±, 25 FT RIGHT, TO STATION -L- 14+72±, 25 FT RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

SOIL PARAMETERS				
	UNIT WEIGHT (PCF)	SUBMERGED UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)
GROUND SURFACE TO EL. -3 FT	120	60	30	0
EL. -3 FT TO EL. -28 FT	80	20	11	150
BELOW EL. -28 FT	120	60	0	1000

ASSUME WATER TABLE ELEVATION = 0 FT
ASSUME EXCAVATION WILL BE DEWATERED DOWN TO BOTTOM OF EXCAVATION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L- 14+29±, 25 FT RIGHT, TO STATION -L- 14+72±, 25 FT RIGHT, MAY NOT PENETRATE BELOW ELEVATION -35 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

SHORING LOCATION NO. 3

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

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

USE CONTRACTOR DESIGNED TEMPORARY SHORING FROM STATION -L- 14+85±, 25 FT RIGHT, TO STATION -L- 15+07±, 25 FT RIGHT.

DESIGN TEMPORARY SHORING FROM STATION -L- 14+85±, 25 FT RIGHT, TO STATION -L- 15+07±, 25 FT RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

SOIL PARAMETERS				
	UNIT WEIGHT (PCF)	SUBMERGED UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)
GROUND SURFACE TO EL. -3 FT	120	60	30	0
EL. -3 FT TO EL. -28 FT	80	20	11	150
BELOW EL. -28 FT	120	60	0	1000

ASSUME WATER TABLE ELEVATION = 0 FT
ASSUME EXCAVATION WILL BE DEWATERED DOWN TO BOTTOM OF EXCAVATION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L- 14+85±, 25 FT RIGHT, TO STATION -L- 15+07±, 25 FT RIGHT, MAY NOT PENETRATE BELOW ELEVATION -35 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 14+85±, 25 FT RIGHT, TO STATION -L- 15+07±, 25 FT RIGHT.

SHORING LOCATION NO. 4

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

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

USE CONTRACTOR DESIGNED TEMPORARY SHORING FROM STATION -L- 14+85±, 16 FT RIGHT, TO STATION -L- 15+07±, 16 FT RIGHT.

DESIGN TEMPORARY SHORING FROM STATION -L- 14+85±, 16 FT RIGHT, TO STATION -L- 15+07±, 16 FT RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

SOIL PARAMETERS				
	UNIT WEIGHT (PCF)	SUBMERGED UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)
GROUND SURFACE TO EL. -3 FT	120	60	30	0
EL. -3 FT TO EL. -28 FT	80	20	11	150
BELOW EL. -28 FT	120	60	0	1000

ASSUME WATER TABLE ELEVATION = 0 FT
ASSUME EXCAVATION WILL BE DEWATERED DOWN TO BOTTOM OF EXCAVATION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L- 14+85±, 16 FT RIGHT, TO STATION -L- 15+07±, 16 FT RIGHT, MAY NOT PENETRATE BELOW ELEVATION -35 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

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THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH SEALED DOCUMENTS FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENTS WERE SUBMITTED TO THE WZTC SECTION ON FEBRUARY 12, 2013 AND FEBRUARY 21, 2013 AND SEALED BY PROFESSIONAL ENGINEER, JINYOUNG PARK, P.E., LICENSE # 32171.

APPROVED: DATE: 10/11/2016			<h2 style="margin: 0;">TEMPORARY SHORING NOTES</h2>
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PHASING

PROJ. REFERENCE NO.	SHEET NO.
17BP.3.R.28	TMP-3

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING DRIVEWAYS AS DIRECTED BY THE ENGINEER.

PHASE I

STEP 1 - USING RSD 1101.01, INSTALL WORK ZONE ADVANCE WARNING SIGNS.

STEP 2 - CLOSE -Y- (BURNETT BLVD) NORTH OF -L- (CAROLINA BEACH RD / FRONT ST) AND DETOUR US 421 SOUTH THROUGH TRAFFIC AS FOLLOWS:

* USING RSD 1101.02, SHEETS 3 AND 10 OF 15 TO TEMPORARILY CLOSE RIGHT LANE, INSTALL TEMPORARY OVERLAYS ON EXISTING OVERHEAD GUIDE SIGNS AND INSTALL GROUND MOUNTED DETOUR SIGNS ON EASTBOUND US 76 (DAWSON ST) AS SHOWN ON TMP-9.

* INSTALL TEMPORARY OVERLAY ON EXISTING OVERHEAD SIGN ON SOUTHBOUND 3rd STREET BETWEEN WOOSTER STREET AND DAWSON STREET AS FOLLOWS:

- USE LAW ENFORCEMENT TO DIRECT TRAFFIC AT THE WOOSTER STREET / 3rd STREET INTERSECTION.

- TEMPORARILY CLOSE THE TWO SOUTHBOUND THROUGH LANES ON 3rd STREET BETWEEN WOOSTER STREET AND DAWSON WITH DRUMS SPACED 10 FT CENTER-TO-CENTER

- USING FLAGGERS, DIVERT SOUTHBOUND THROUGH TRAFFIC AROUND THE OVERHEAD SIGN WORK AREA USING THE SOUTHBOUND LEFT TURN LANE, RETURNING THEM TO THE THROUGH LANES DOWNSTREAM OF THE OVERHEAD SIGN.

* INSTALL TRAFFIC CONTROL DEVICES AS SHOWN ON TMP-4 AND DETOUR TRAFFIC AS SHOWN ON TMP-8 THROUGH TMP-11.

* REVISE SIGNAL AT THE INTERSECTION OF -Y- AND -L-.

STEP 3 - AWAY FROM TRAFFIC AND USING RSD 1101.02 AS NECESSARY, PERFORM WORK AS SHOWN ON TMP-4 IN THE FOLLOWING SEQUENCE:

- A. REMOVE EXISTING CONCRETE ISLANDS #1 AND #2
- B. INSTALL TEMP. PAVEMENT MARKINGS AND SHIFT TRAFFIC AS NECESSARY.
- C. INSTALL PCB.
- D. INSTALL TEMP. SHORING #1.
- E. CONSTRUCT SOUTHERNMOST PORTION OF BOX CULVERT SHOWN ON PLANS. BEGIN CONSTRUCTION OF DETOUR -D1-. BEGIN REMOVAL OF EXISTING CONCRETE ISLAND #3.

STEP 4 - AWAY FROM TRAFFIC AND USING RSD 1101.02 AS NECESSARY, PERFORM WORK AS SHOWN ON TMP-4 IN THE FOLLOWING SEQUENCE:

- A. INSTALL TEMP. SHORING #2 AS SHOWN ON TMP-5.
- B. COMPLETE -D1- AND TIE TO -L- (FRONT STREET). COMPLETE REMOVAL OF EXISTING ISLANDS. INSTALL PHASE II TEMP. PAVEMENT MARKINGS ON -D1- (AWAY FROM TRAFFIC) (SEE TMP-5 FOR PHASE II TEMP. MARKINGS).

STEP 5 - WORKING IN A CONTINUOUS MANNER TO COMPLETE IN A SINGLE WORK PERIOD, SHIFT THE FRONT STREET TRAFFIC IN THE FOLLOWING SEQUENCE:

- A. USING RSD 1101.02, FLAGGERS, PILOT VEHICLE AND LAW ENFORCEMENT, PLACE TRAFFIC IN 1L, 2W PATTERN IN EXISTING SB LANE.
- B. WITH TRAFFIC IN EXISTING SB LANE, INSTALL A DOUBLE YELLOW CENTERLINE AND EDGLINE FOR NB LANE AS SHOWN ON TMP-5. REMOVE EXISTING CONCRETE ISLAND #4 AND PLACE MARKINGS AND MARKERS ON -Y- AS SHOWN ON TMP-5.
- C. USING LAW ENFORCEMENT, FLAGGERS AND PILOT VEHICLE DIRECT TRAFFIC TO NEWLY CONSTRUCTED -D1- IN A 1L, 2W PATTERN IN THE NB LANE OF NEW -D1-.
- D. WITH ALL TRAFFIC IN NB LANE, PLACE PCB AND REMAINING MARKINGS AND MARKERS AS SHOWN ON TMP-5.
- E. REVISE TRAFFIC SIGNAL FOR UPCOMING TRAFFIC PATTERN.
- F. ENSURE ALL TRAFFIC CONTROL DEVICES AND SIGNING ON FRONT STREET/US 421 ARE CORRECT AND OPEN SB LANES TO TWO WAY TRAFFIC PATTERN AS SHOWN ON TMP-5.

PHASE II




STEP 1 - AWAY FROM TRAFFIC AND USING RSD 1101.02 AS NECESSARY, PERFORM WORK AS SHOWN ON TMP-5 IN THE FOLLOWING SEQUENCE:

- A. BEGIN CONSTRUCTION OF FRONT STREET (-L-) AND BURNETT BOULEVARD (-Y-) UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AND NOT INCLUDING THE CURB ON THE RIGHT SIDE OF (-L-) FROM (-L-) STA. 14+85 +/- TO (-L-) STA. 15+15+/-.
- B. INSTALL PROPOSED GATE VALVES IN EXISTING WATER LINE NORTH AND SOUTH OF BOX CULVERT.
- C. CONSTRUCT SOUTHERNMOST SEGMENT OF PROPOSED WATER LINE ENCASUREMENT PIPE BEFORE CONSTRUCTING REMAINDER OF SOUTHERNMOST BARREL OF RCBC BEGUN IN PHASE 1
- D. CONSTRUCT REMAINDER OF SOUTHERNMOST RCBC BEGUN IN PHASE I.
- E. DIVERT WATER FROM EXISTING CULVERT TO NEWLY COMPLETED BARREL OF PROPOSED CULVERT.
- F. INSTALL TEMP. SHORING #3.
- G. DEMOLISH WESTERN PORTION OF EXISTING CULVERT.
- H. CONSTRUCT REMAINDER OF PROPOSED WATER LINE ENCASUREMENT PIPE BEFORE CONSTRUCTING MIDDLE AND NORTHERN BARRELS OF NEW RCBC
- I. CONSTRUCT PORTION SHOWN ON TMP-5 OF REMAINING 2 BARRELS OF PROPOSED RCBC.
- J. INSTALL NEW WATER LINE INSIDE ENCASUREMENT PIPE

(PHASE II CONTINUED ON TMP-3A)

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PHASING

PROJ. REFERENCE NO. 17BP.3.R.28	SHEET NO. TMP-3A
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PHASE II CONTINUED

- K. COMPLETE CONSTRUCTION OF FRONT STREET (-L-) AND BURNETT BOULEVARD (-Y-) UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AND NOT INCLUDING THE CURB ON THE RIGHT SIDE OF (-L-) FROM (-L-) STA. 14+85 +/- TO (-L-) STA. 15+15 +/- . RESET P.C.B. AND CRASH CUSHION SO THAT P.C.B. BEGINS AT -D1- STA. 13+09+/- TO COMPLETE THIS CONSTRUCTION.
- L. INSTALL PHASE III TEMP. MARKING ON -L- AS MUCH AS POSSIBLE AWAY FROM TRAFFIC. (SEE TMP-6 FOR PHASE III TEMP. MARKINGS)
- M. INSTALL SHORING #4 AS SHOWN ON TMP-6.

STEP 2 - WORKING IN A CONTINUOUS MANNER TO COMPLETE IN A SINGLE WORK PERIOD, SHIFT THE FRONT STREET TRAFFIC IN THE FOLLOWING SEQUENCE:

- A. USING RSD 1101.02, FLAGGERS, PILOT VEHICLE AND LAW ENFORCEMENT, PLACE TRAFFIC IN 1L, 2W PATTERN IN EXISTING NB LANE OF -D1- .
- B. WITH TRAFFIC IN EXISTING NB LANE, INSTALL A DOUBLE YELLOW CENTERLINE AND EDGLINE FOR SB LANE AS SHOWN ON TMP-6.
- C. USING LAW ENFORCEMENT, FLAGGERS AND PILOT VEHICLE DIRECT TRAFFIC TO NEWLY CONSTRUCTED -L- IN A 1L, 2W PATTERN IN THE SB LANE OF -L- .
- D. WITH ALL TRAFFIC IN SB LANE, PLACE REMAINING MARKINGS AND MARKERS AS SHOWN ON TMP-6.
- E. REVISE TRAFFIC SIGNAL FOR UPCOMING TRAFFIC PATTERN.
- F. ENSURE ALL TRAFFIC CONTROL DEVICES AND SIGNING ON FRONT STREET/US 421 ARE CORRECT AND OPEN NB LANE TO 2L TRAFFIC PATTERN AS SHOWN ON TMP-6.

PHASE III

STEP 1 - AWAY FROM TRAFFIC AND USING RSD 1101.02 AND LAW ENFORCEMENT AS NECESSARY, PERFORM WORK AS SHOWN ON TMP-6 IN THE FOLLOWING SEQUENCE:

- A. CONSTRUCT REMAINDER OF TWO BARRELS OF RCBC BEGUN IN PHASE II.
- B. CONSTRUCT US 421 (-Y-) AND CAROLINA BEACH ROAD (- L-) UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
- C. CONSTRUCT CURB ON RIGHT SIDE OF FRONT STREET (-L-) FROM (-L-) STA. 14+85+/- TO (-L-) STA. 15+15 +/- .
- D. COMPLETE CONSTRUCTION OF ALL CONCRETE TRAFFIC ISLANDS.
- E. UPON COMPLETION OF A, B, C AND D REMOVE ALL ROAD CLOSURE AND DETOUR SIGNING, INCLUDING TEMPORARY OVERLAYS OF EXISTING OVERHEAD GUIDE SIGNS ON DAWSON STREET AND 3rd STREET, REMOVE ALL ROAD CLOSURE BARRICADES, AND OPEN ALL LANES TO PROPOSED TRAFFIC PATTERN.

STEP 2 - AWAY FROM TRAFFIC AND USING RSD 1101.02 AND LAW ENFORCEMENT AS NECESSARY, PERFORM WORK AS SHOWN ON TMP-6 IN THE FOLLOWING SEQUENCE:

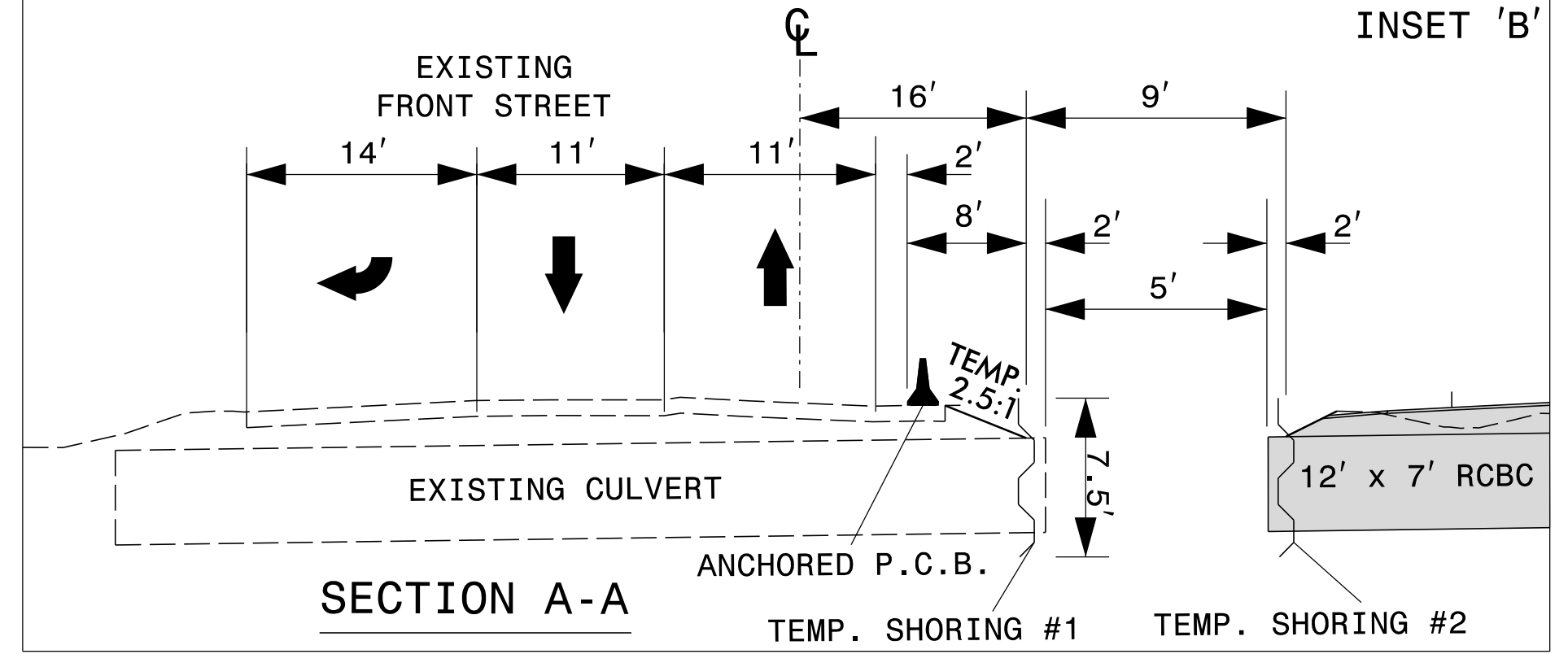
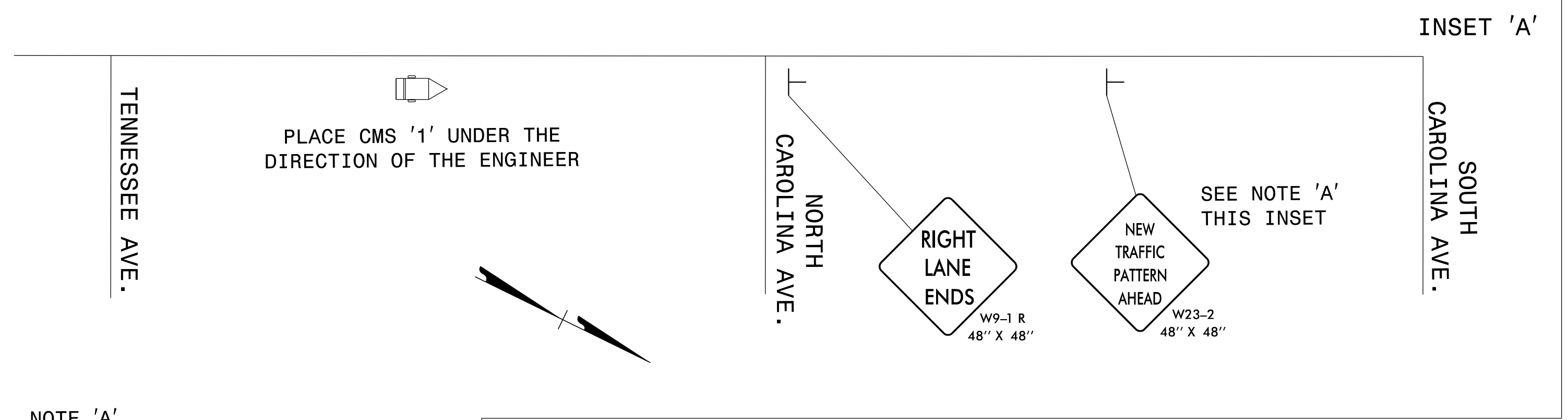
- A. PLACE FINAL LAYER OF SURFACE COURSE ON ALL LANES.
- B. PLACE FINAL PAVEMENT MARKINGS AND MARKERS.
- C. USING LAW ENFORCEMENT, INSTALL FINAL SIGNAL

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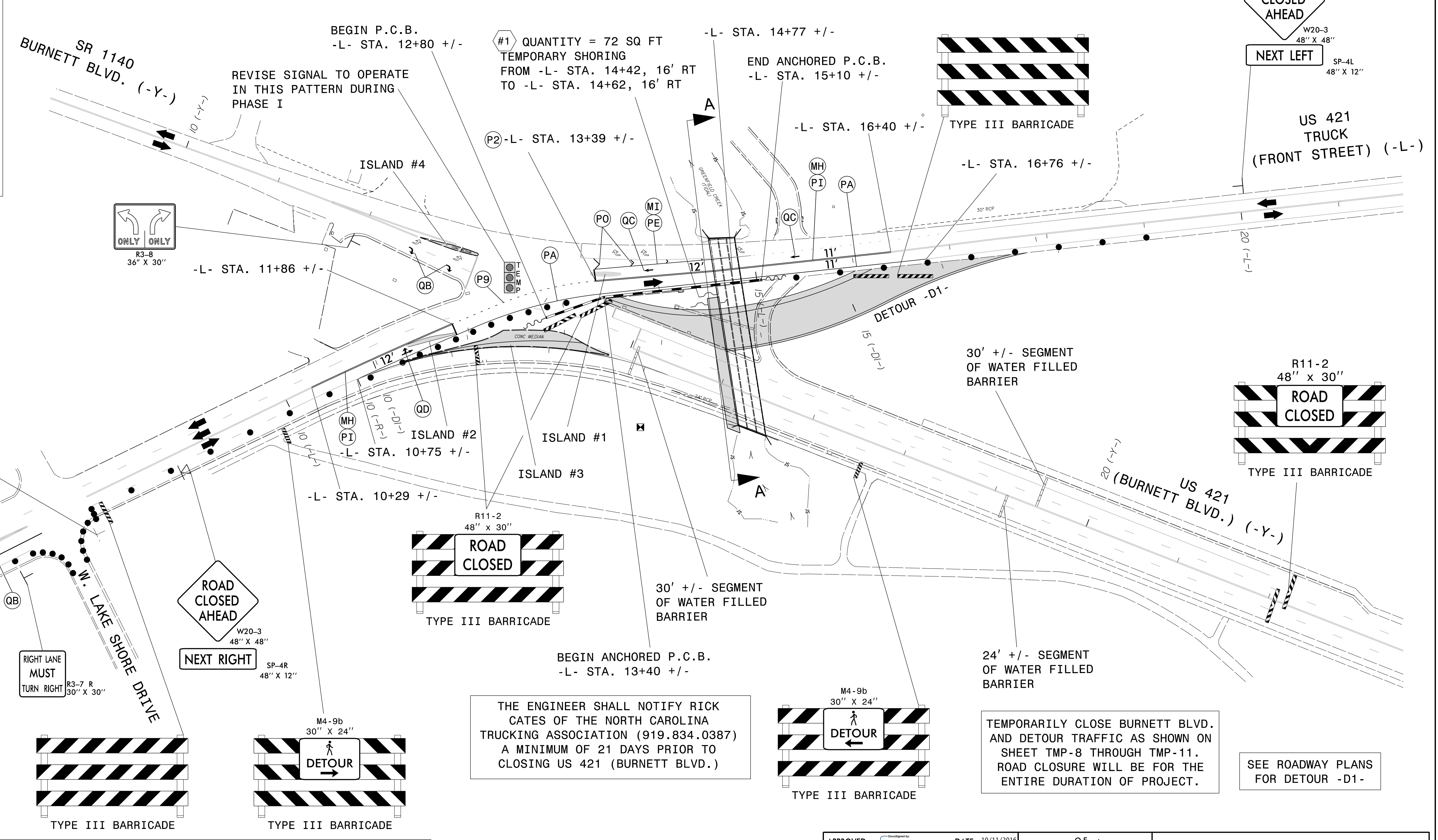
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RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

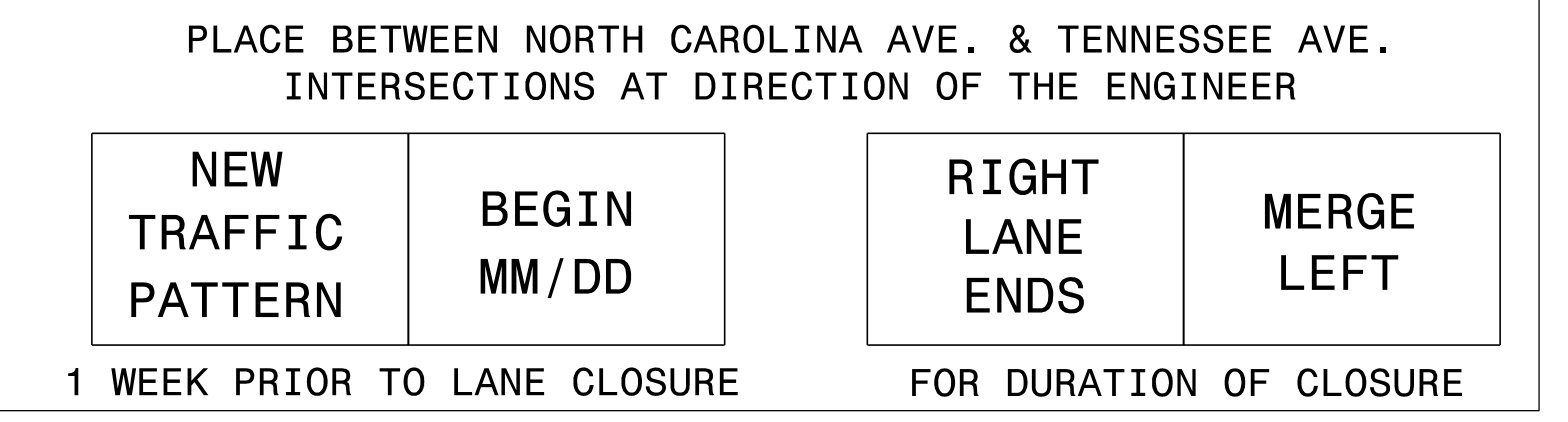
APPROVED: DATE: 10/13/2016			PHASING
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NOTE 'A'
PLACE W23-2 MIDBLOCK BETWEEN NORTH CAROLINA AVENUE AND SOUTH CAROLINA AVENUE UNDER THE DIRECTION OF THE ENGINEER. DO NOT BLOCK EXISTING I-40 TRAILBLAZING SIGN OR CAUSE SIGHT DISTANCE PROBLEMS FOR VEHICLES EXITING THE EXISTING BUSINESS DRIVEWAY ON THE EAST SIDE OF US 421 BETWEEN NORTH CAROLINA AVENUE AND SOUTH CAROLINA AVENUE.



SEE INSET 'A' THIS SHEET FOR ADDITIONAL WARNING SIGN AND CMS PLACEMENT SOUTH OF SOUTH CAROLINA AVENUE



THE ENGINEER SHALL NOTIFY RICK CATES OF THE NORTH CAROLINA TRUCKING ASSOCIATION (919.834.0387) A MINIMUM OF 21 DAYS PRIOR TO CLOSING US 421 (BURNETT BLVD.)

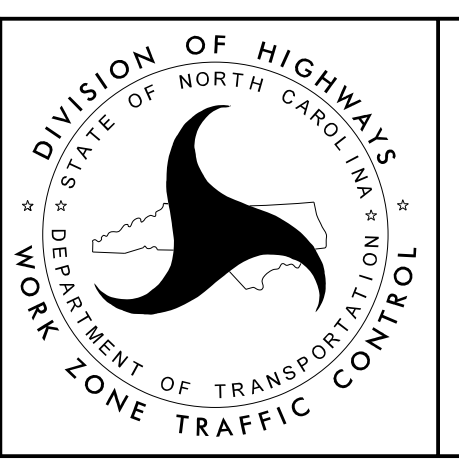
TEMPORARILY CLOSE BURNETT BLVD. AND DETOUR TRAFFIC AS SHOWN ON SHEET TMP-8 THROUGH TMP-11. ROAD CLOSURE WILL BE FOR THE ENTIRE DURATION OF PROJECT.

SEE ROADWAY PLANS FOR DETOUR -D1-

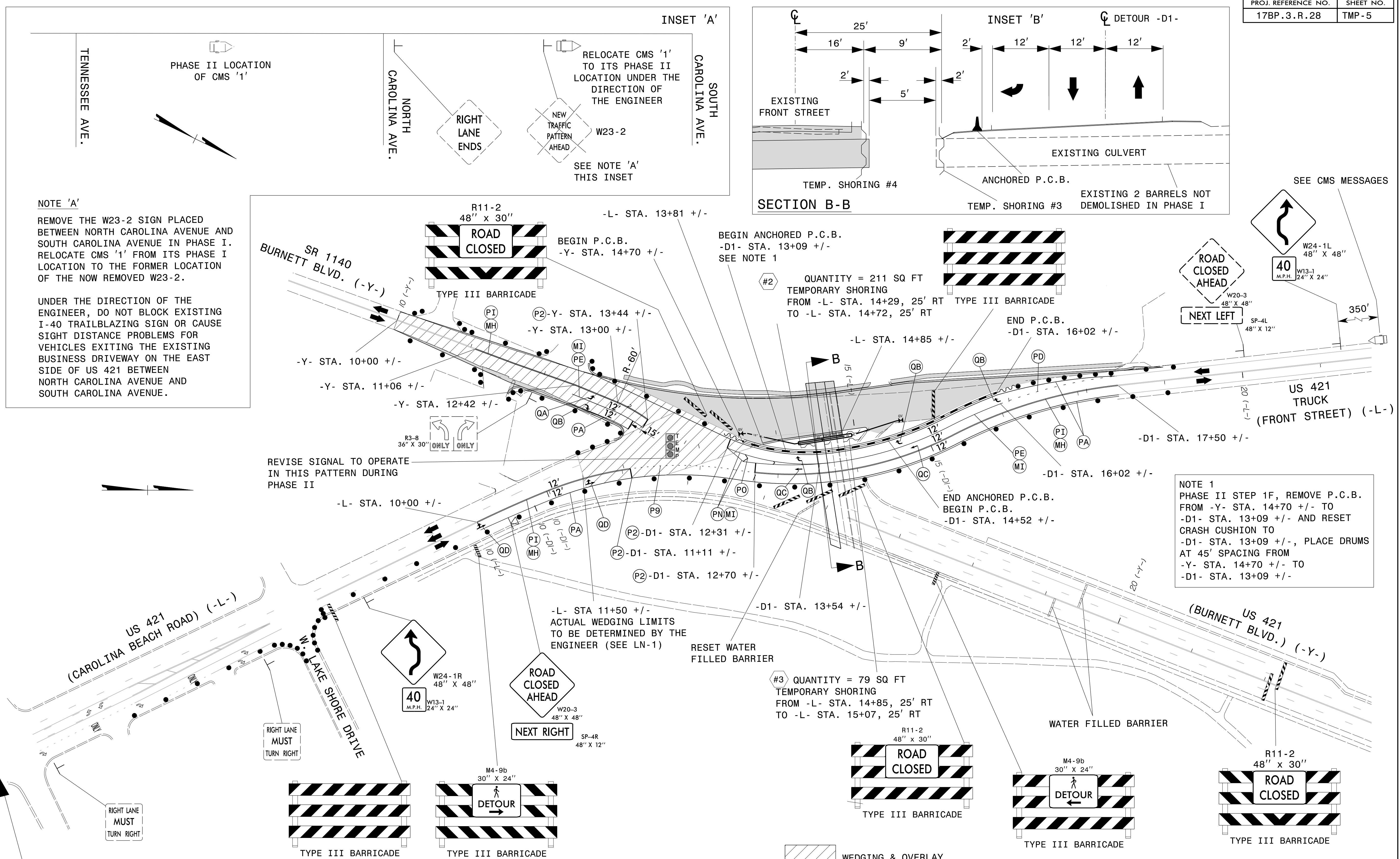
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ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

APPROVED: DATE: 10/11/2016



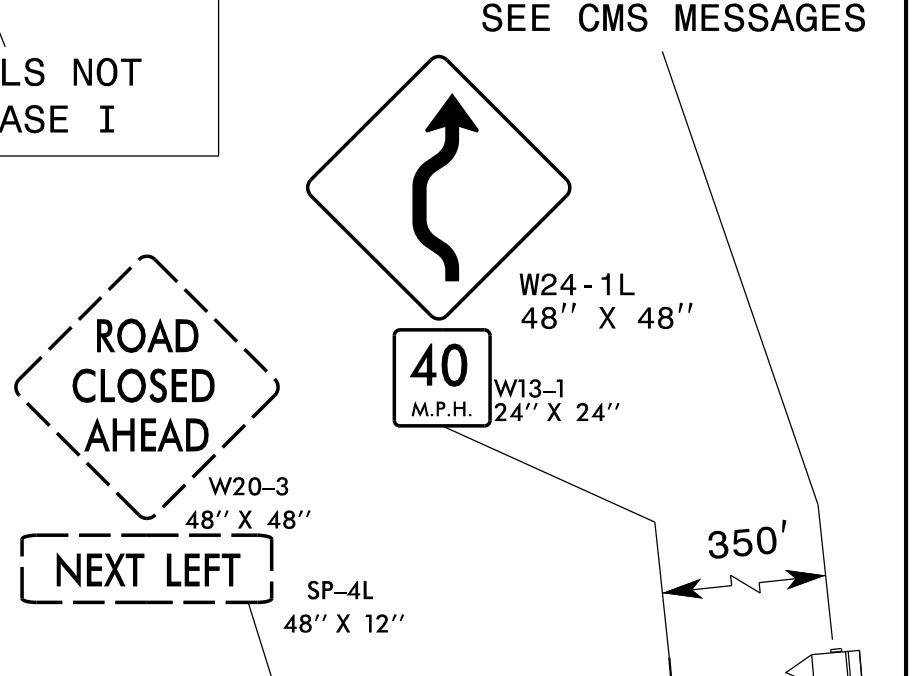
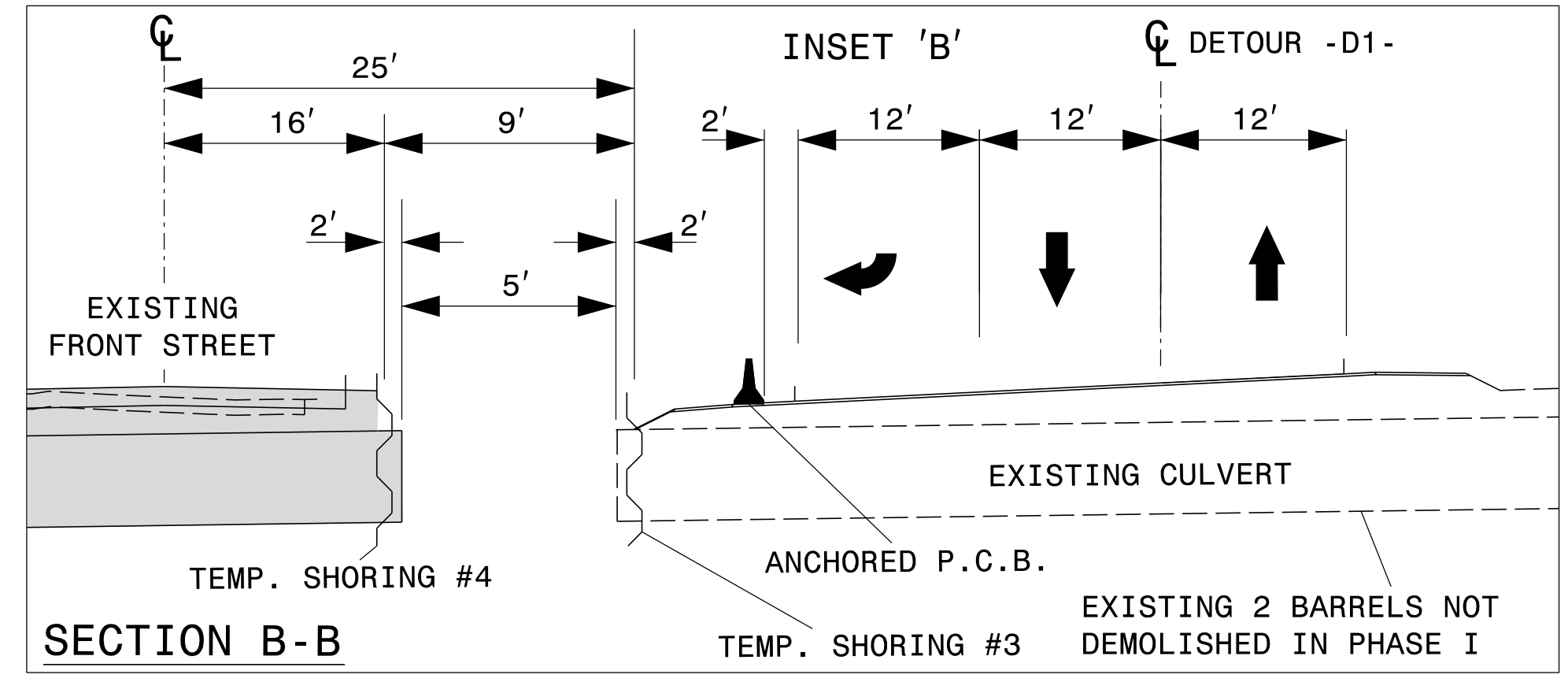
PHASE I DETAIL
-L- FRONT ST., DETOUR -D1- & -Y- BURNETT AVE.



NOTE 'A'

REMOVE THE W23-2 SIGN PLACED BETWEEN NORTH CAROLINA AVENUE AND SOUTH CAROLINA AVENUE IN PHASE I. RELOCATE CMS '1' FROM ITS PHASE I LOCATION TO THE FORMER LOCATION OF THE NOW REMOVED W23-2.

UNDER THE DIRECTION OF THE ENGINEER, DO NOT BLOCK EXISTING I-40 TRAILBLAZING SIGN OR CAUSE SIGHT DISTANCE PROBLEMS FOR VEHICLES EXITING THE EXISTING BUSINESS DRIVEWAY ON THE EAST SIDE OF US 421 BETWEEN NORTH CAROLINA AVENUE AND SOUTH CAROLINA AVENUE.



NOTE 1

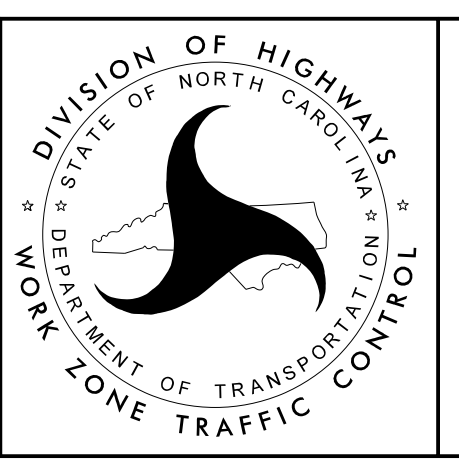
PHASE II STEP 1F, REMOVE P.C.B. FROM -Y- STA. 14+70 +/- TO -D1- STA. 13+09 +/- AND RESET CRASH CUSHION TO -D1- STA. 13+09 +/-, PLACE DRUMS AT 45' SPACING FROM -Y- STA. 14+70 +/- TO -D1- STA. 13+09 +/-

2 WEEKS PRIOR TO TRAFFIC SHIFT		FOLLOWING THE TRAFFIC SHIFT BEGINNING MORNING OF SHIFT	
NEW TRAFFIC PATTERN	BEGIN MM/DD	TRAFFIC SHIFT 850 FT	ADVISORY SPEED 40 MPH

SEE INSET 'A' THIS SHEET FOR ADDITIONAL WARNING SIGN AND CMS PLACEMENT SOUTH OF SOUTH CAROLINA AVENUE

APPROVED: DATE: 10/11/2016

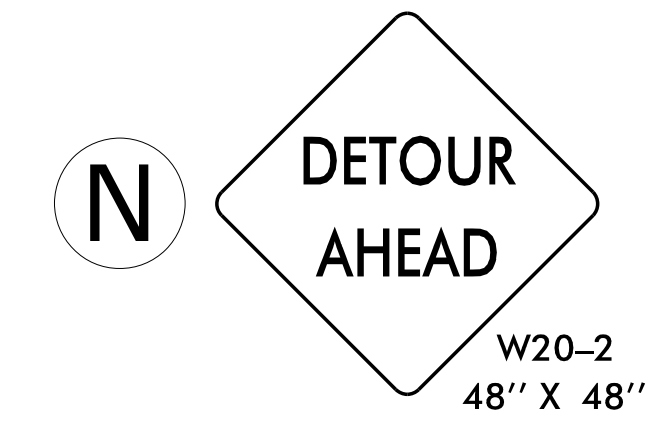
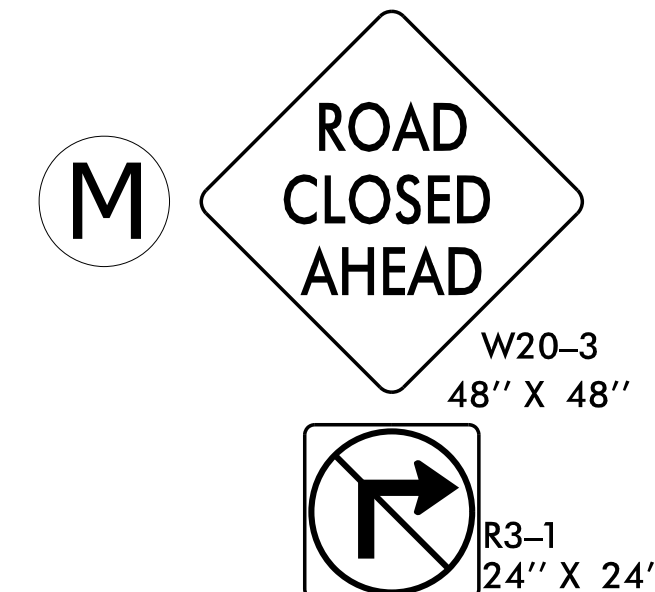
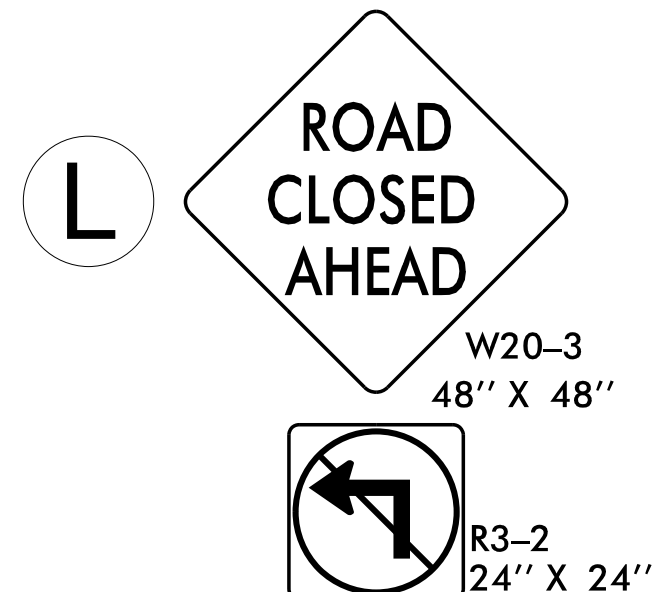
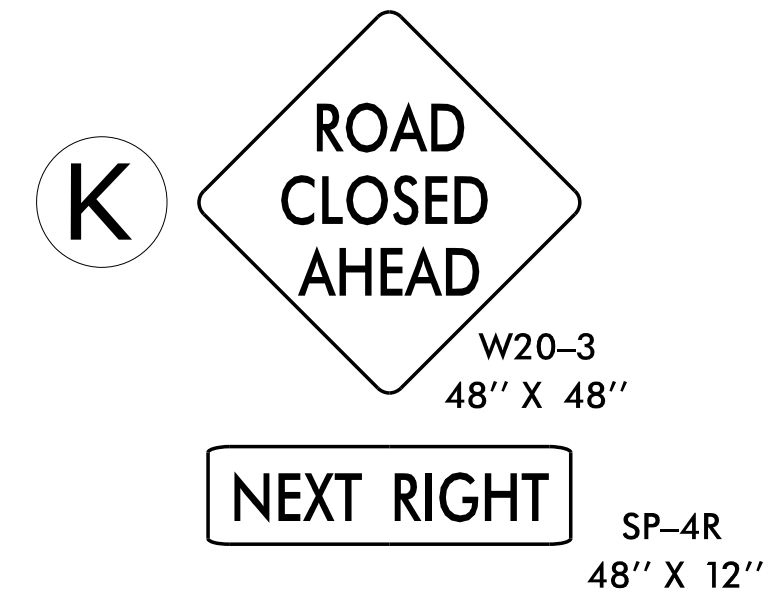
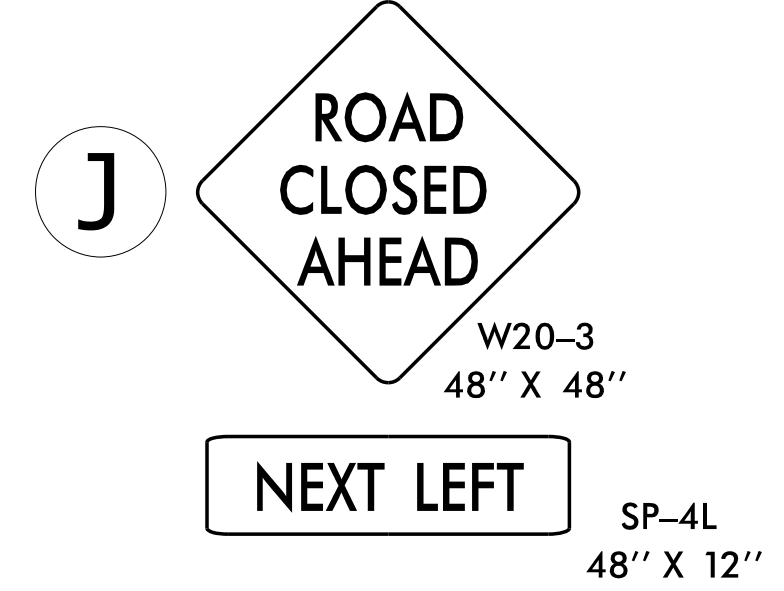
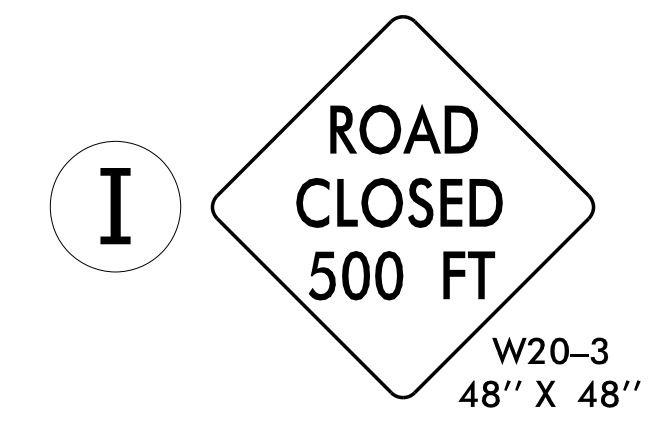
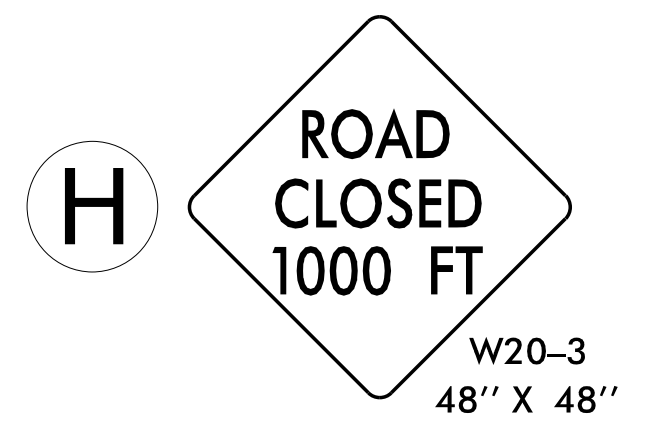
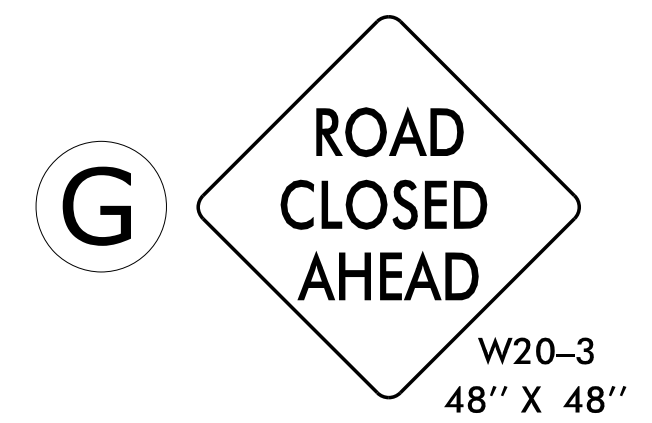
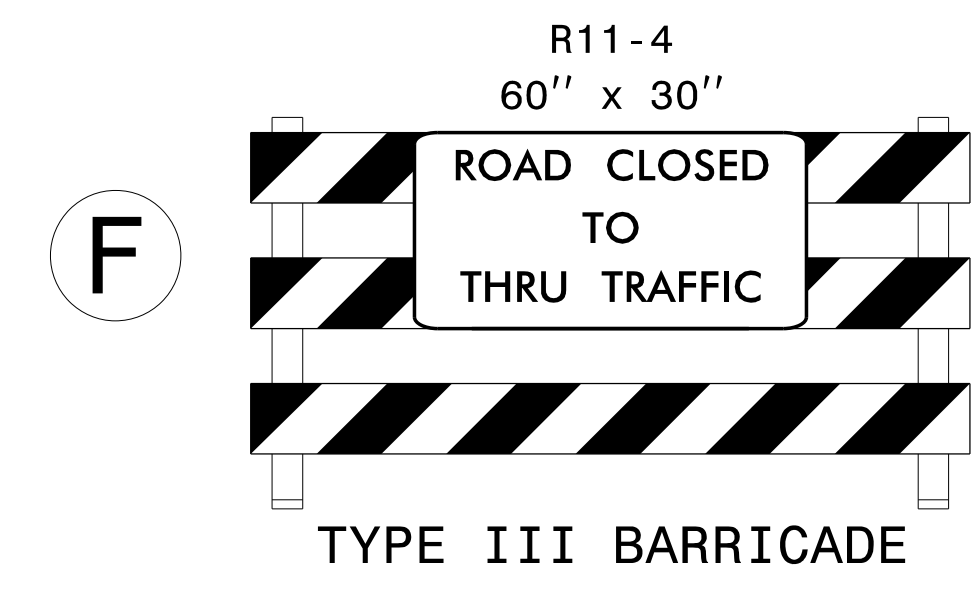
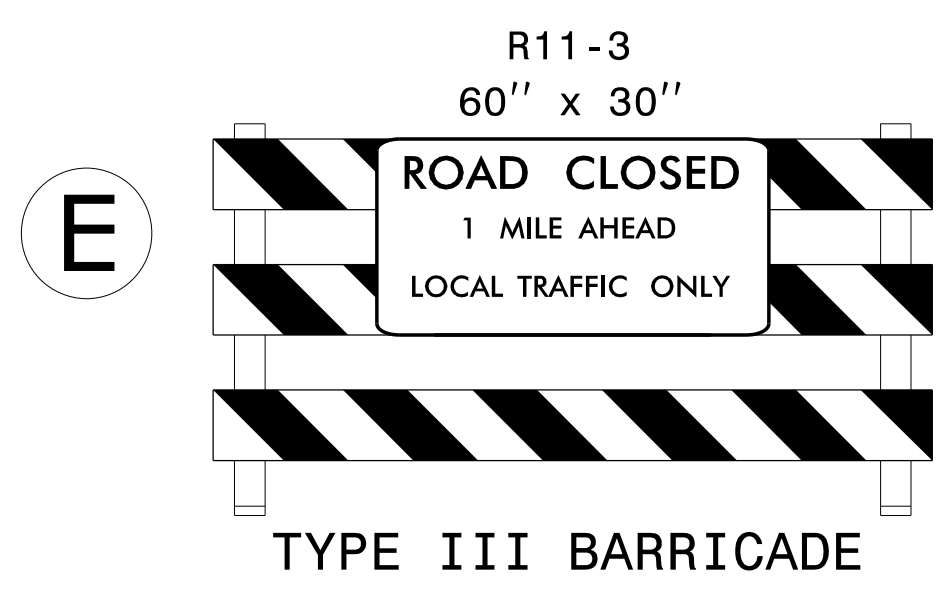
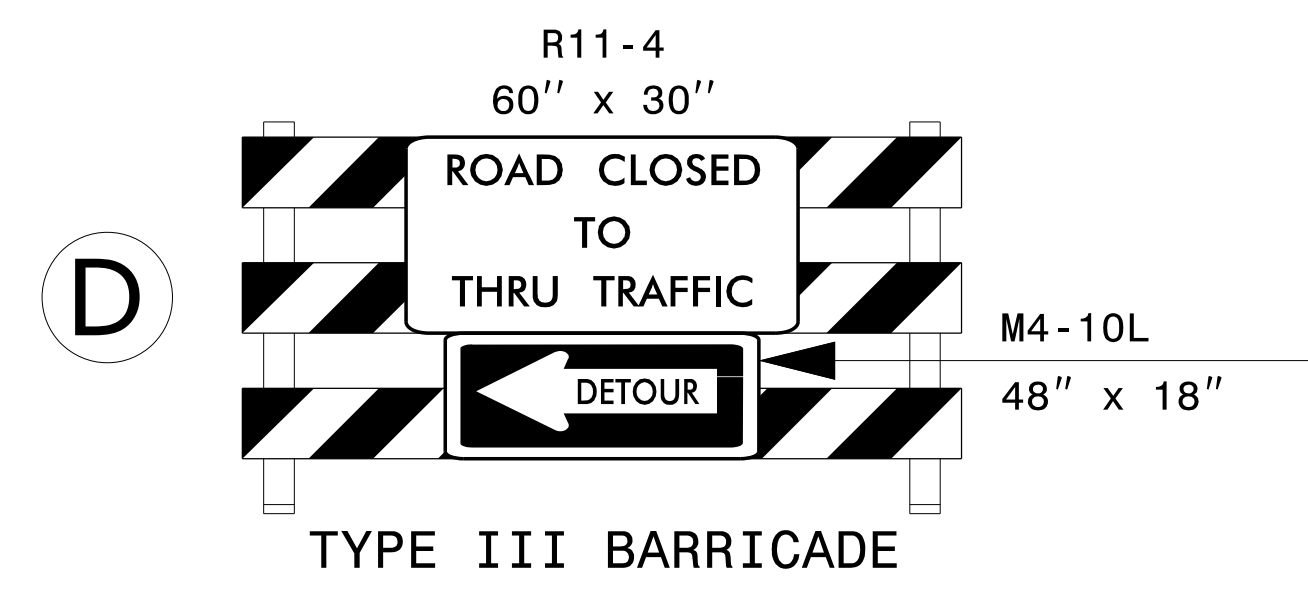
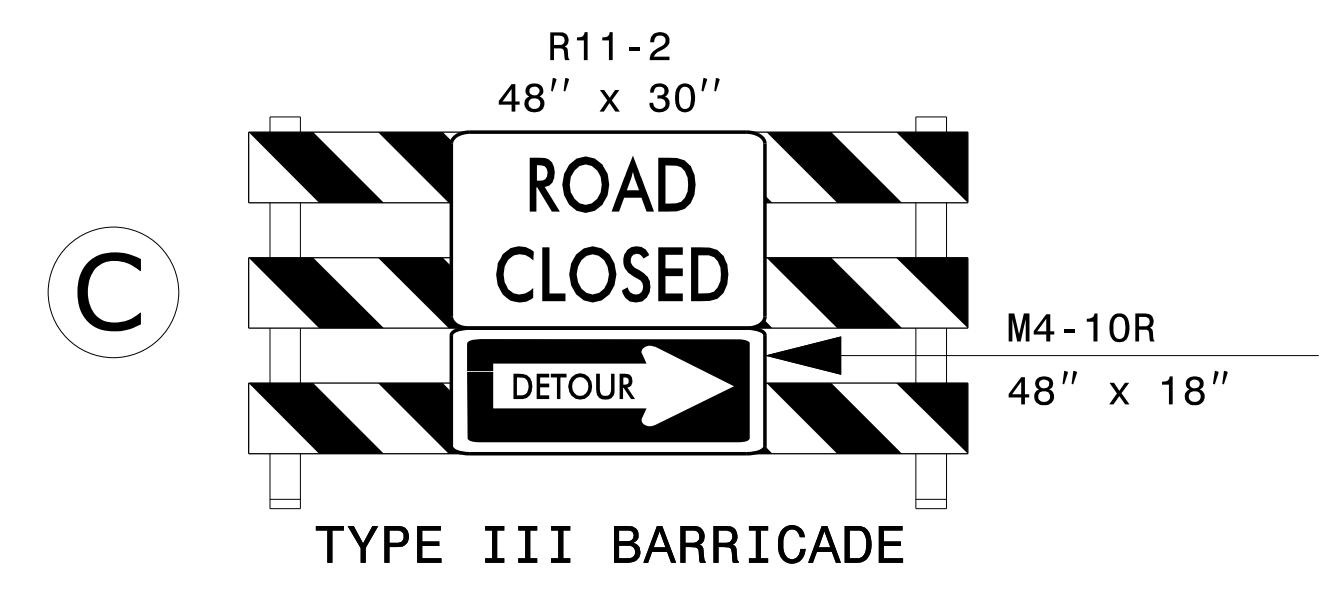
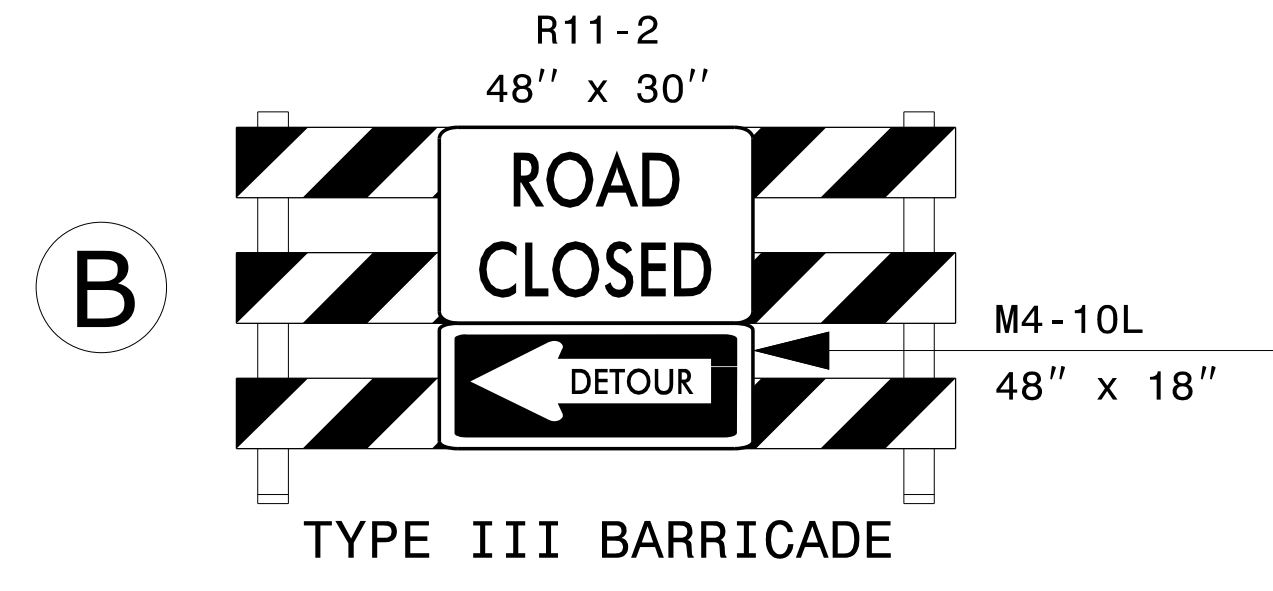
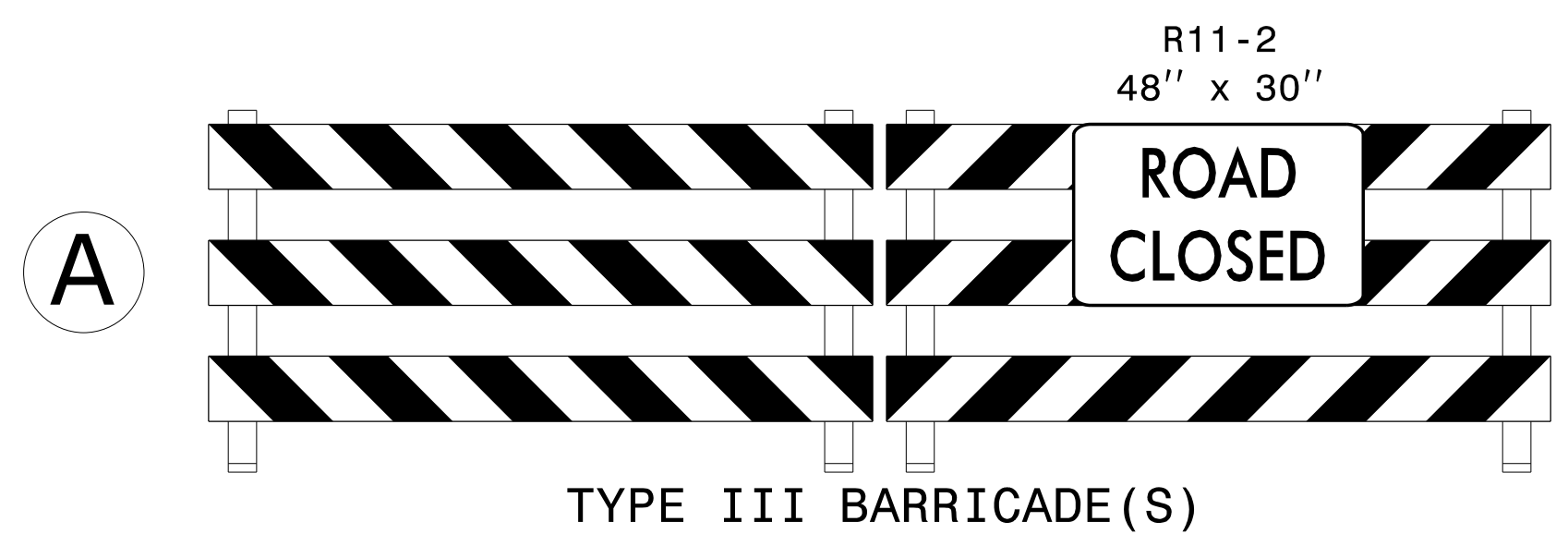
NORTH CAROLINA PROFESSIONAL SEAL
 SEAL 017586
 ENGINEER
 J. TODD BROOKS



PHASE II DETAIL
 -L- FRONT ST., DETOUR -D1- &
 -Y- BURNETT AVE.

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
 RALEIGH, NORTH CAROLINA 27609
 (919) 876-8888 NCBEES #F-0326

12-SEP-2016 17:56
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APPROVED: _____ DATE: 10/11/2016

**OFF SITE DETOUR ROUTES
 SIGNS AND BARRICADES**

O

DETOUR M4-8
24" X 12"

SOUTH M3-3
24" X 12"

421 M1-4
30" X 24"

CAROLINA & KURE BEACHES SIGN #: T302
48" X 36"

↑ M6-3
21" X 15"

P

DETOUR M4-8
24" X 12"

AQUARIUM FT FISHER SIGN #: T301
48" X 24"

↑ M6-3
21" X 15"

Q

DETOUR M4-8
24" X 12"

CAROLINA & KURE BEACHES SIGN #: T302
48" X 36"

AQUARIUM FT FISHER SIGN #: T301
48" X 24"

→ M6-1
21" X 15"

R

END DETOUR M4-8 A
24" X 18"

CAROLINA & KURE BEACHES SIGN #: T302
48" X 36"

AQUARIUM FT FISHER SIGN #: T301
48" X 24"

← M6-1 L
21" X 15"

S

DETOUR M4-8
24" X 12"

SOUTH M3-3
24" X 12"

421 M1-4
30" X 24"

→ M6-1
21" X 15"

T

END DETOUR M4-8 A
24" X 18"

SOUTH

421

←

U

JCT

421

END DETOUR M4-8 A
24" X 18"

V

DETOUR M4-8
24" X 12"

SOUTH M3-3
24" X 12"

421 M1-4
30" X 24"

← M6-1 L
21" X 15"

VV

DETOUR M4-8
24" X 12"

NORTH M3-1
24" X 12"

421 M1-4
30" X 24"

← M6-1 L
21" X 15"

W

DETOUR M4-8
24" X 12"

SOUTH M3-3
24" X 12"

421 M1-4
30" X 24"

↑ M6-3
21" X 15"

WW

DETOUR M4-8
24" X 12"

NORTH M3-1
24" X 12"

421 M1-4
30" X 24"

↑ M6-3
21" X 15"

X

DETOUR M4-8
24" X 12"

SOUTH M3-3
24" X 12"

421 M1-4
30" X 24"

↗ M5-1 R
21" X 15"

XX

DETOUR M4-8
24" X 12"

NORTH M3-1
24" X 12"

421 M1-4
30" X 24"

↗ M5-1 R
21" X 15"

Y

DETOUR M4-8
24" X 12"

SOUTH M3-3
24" X 12"

421 M1-4
30" X 24"

← M6-1 L
21" X 15"

YY

DETOUR M4-8
24" X 12"

NORTH M3-1
24" X 12"

421 M1-4
30" X 24"

→ M6-1
21" X 15"

Z

DETOUR M4-8
24" X 12"

SOUTH M3-3
24" X 12"

421 M1-4
30" X 24"

↙ M5-1 L
21" X 15"

ZZ

DETOUR M4-8
24" X 12"

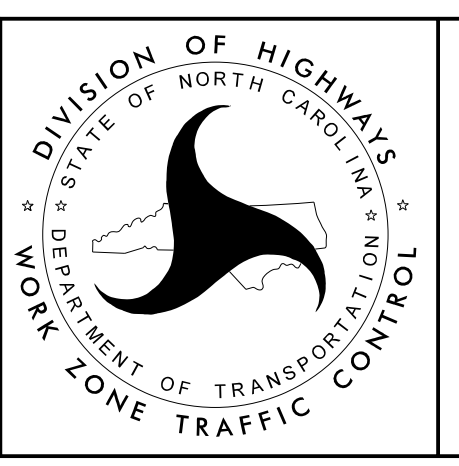
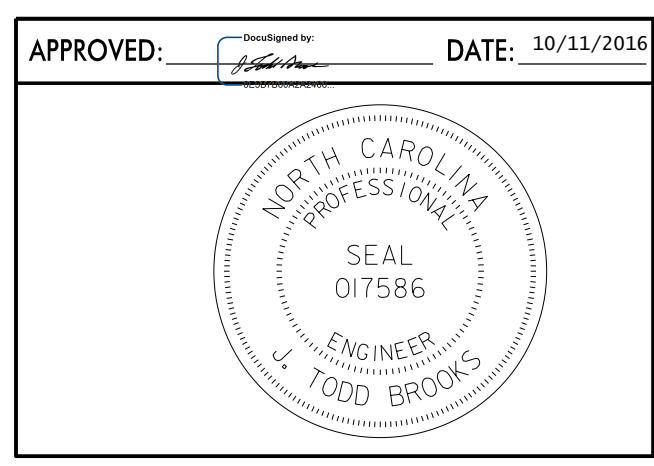
NORTH M3-1
24" X 12"

421 M1-4
30" X 24"

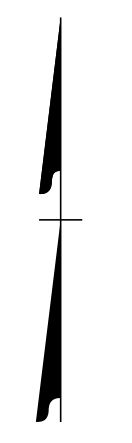
↙ M5-1 L
21" X 15"

12-SEP-2016 17:56
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BEND05820 AT LUS290293

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-8888 NCBEES #F-0326



**OFF SITE DETOUR ROUTES
SIGNS AND BARRICADES**



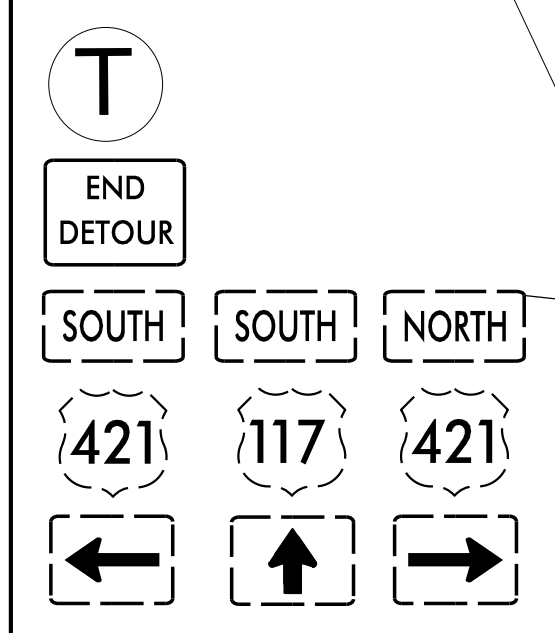
SEE TMP-7 FOR BARRICADE
LEGEND AND TMP-7A FOR
DETOUR SIGN LEGEND

INSET 1
SEE TMP-9

INSET 2
SEE TMP-10

PROJECT
LOCATION

INSET 3
SEE TMP-11

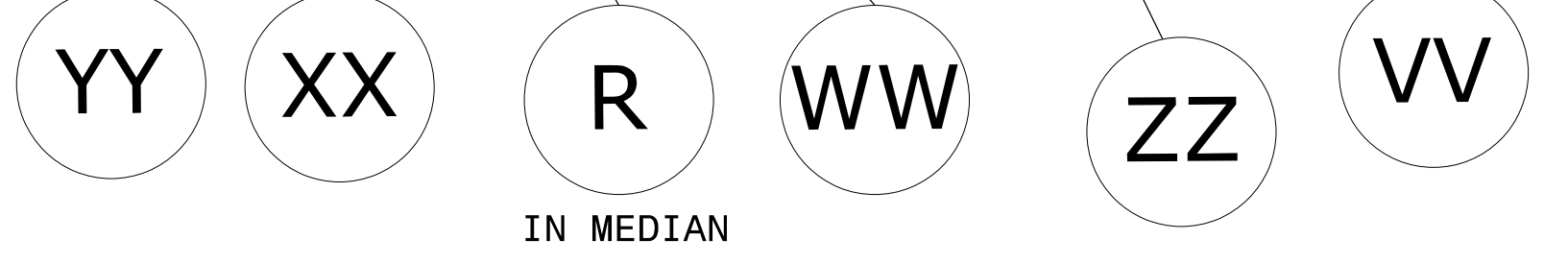


MESSAGE NO. 1	MESSAGE NO. 2
US 421 CLOSED AT 3RD	DETOUR NEXT RIGHT

CHANGEABLE MESSAGE SIGN

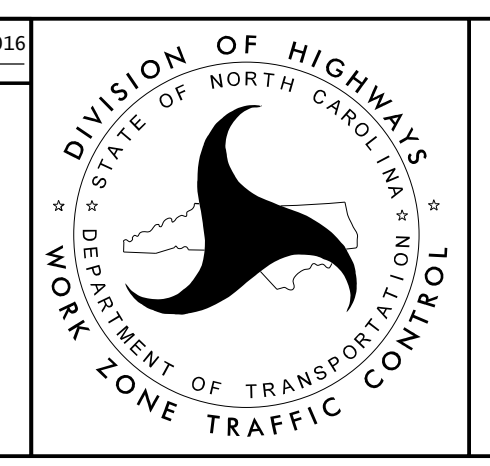
MESSAGE NO. 1	MESSAGE NO. 2
US 421 CLOSED AT 3RD	DETOUR NEXT RIGHT

CHANGEABLE MESSAGE SIGN



ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

APPROVED: DATE: 10/11/2016



OFF SITE DETOUR ROUTES

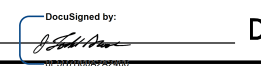
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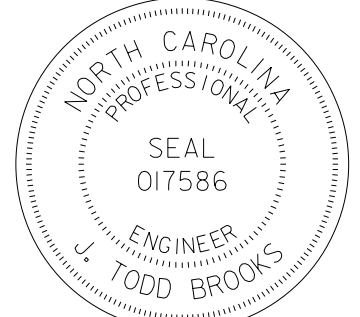
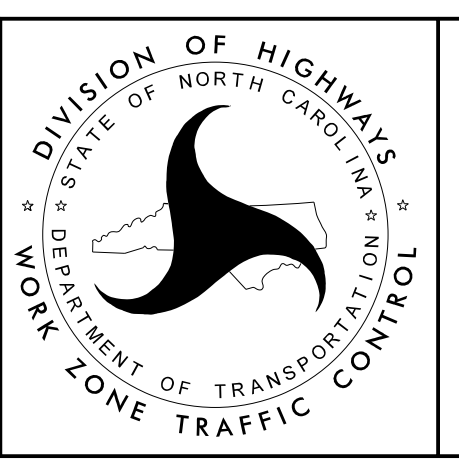


SEE TMP-7A FOR
DETOUR SIGN LEGEND

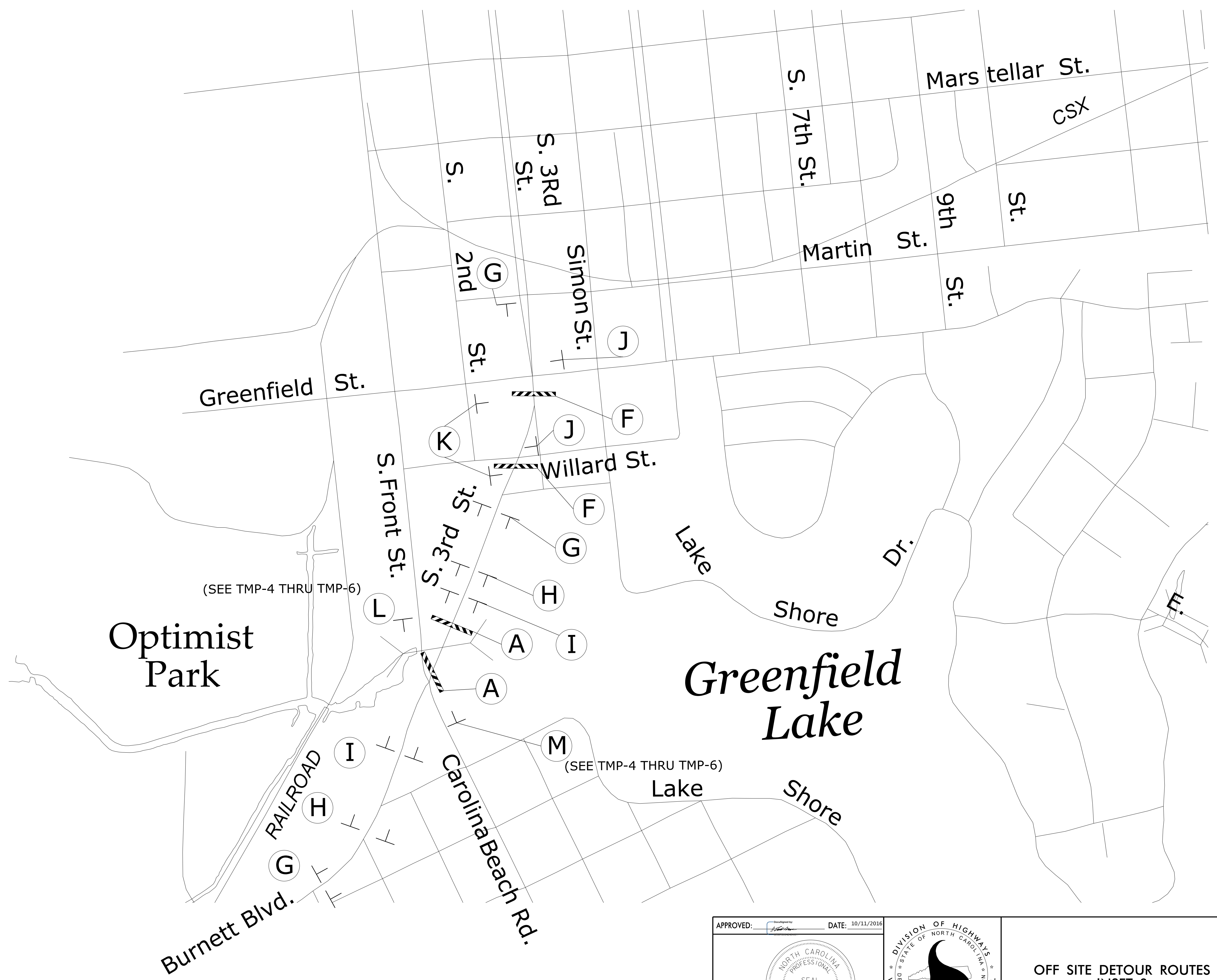
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ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
 RALEIGH, NORTH CAROLINA 27609
 (919) 876-6888 NCBEES #F-0326

APPROVED:  DATE: 10/11/2016

**OFF SITE DETOUR ROUTES
INSET 2**



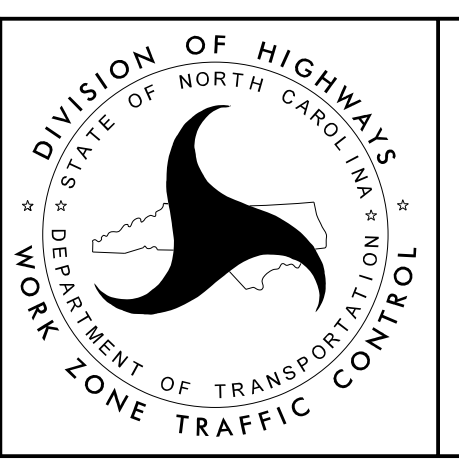
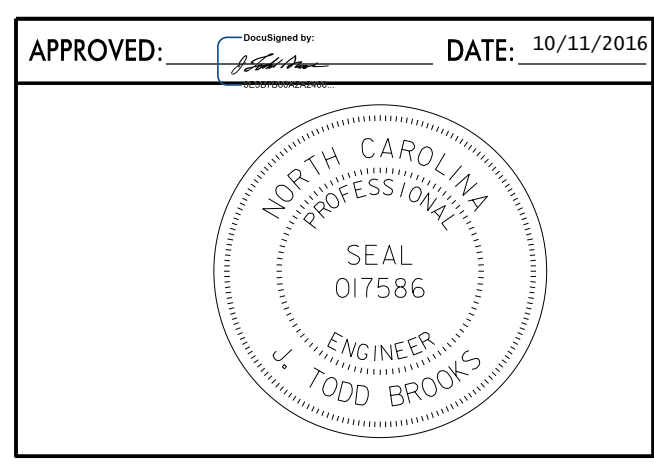
(SEE TMP-4 THRU TMP-6)

(SEE TMP-4 THRU TMP-6)

SEE TMP-7 FOR
BARRICADE AND
SIGN LEGEND

12-SEP-2016 17:57
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 BE005630 AT LUS290293

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
 RALEIGH, NORTH CAROLINA 27609
 (919) 876-6888 NCBEES #F-0326



OFF SITE DETOUR ROUTES
INSET 3

SIGN NUMBER: T1 TYPE: STATIONARY QUANTITY: 3 SIGN WIDTH: 3'-0" HEIGHT: 2'-0" TOTAL AREA: 6.0 Sq.Ft. BORDER TYPE: INSET 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: 0.080" (2.0 mm) ALUMINUM	DESIGN BY: LM Moon PROJECT ID: ID CHECKED BY: JT Brooks DIV: 03 DATE: Jun 17, 2014
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Panel Style: Traffic Control.ssi
M.U.T.C.D.: 2009 Edition

Spacing Factor is 1 unless specified otherwise

Letter locations are panel edge to lower left corner										Series/Size
D	E	T	O	U	R					B 2000
2.6	8.4	12.9	17.5	23.7	29.7					31.4

FILENAME: Guidesign_English_8-2-13 NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: T301 TYPE: STATIONARY QUANTITY: 4 SIGN WIDTH: 4'-0" HEIGHT: 2'-0" TOTAL AREA: 8.0 Sq.Ft. BORDER TYPE: INSET 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: 0.080" (2.0 mm) ALUMINUM	DESIGN BY: LM Moon PROJECT ID: ID CHECKED BY: JT Brooks DIV: 03 DATE: Jun 17, 2014
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Panel Style: Traffic Control.ssi
M.U.T.C.D.: 2009 Edition

Spacing Factor is 1 unless specified otherwise

Letter locations are panel edge to lower left corner										Series/Size
A	Q	U	A	R	I	U	M			C 2000
7.3	11.9	16.6	20.8	25.5	29.9	32	36.7			33.4
F	T	F	I	S	H	E	R			C 2000
6.6	10.1	13.1	19.1	23	24.9	29.3	33.9	38		34.7

FILENAME: Guidesign_English_8-2-13 NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: T302 TYPE: STATIONARY QUANTITY: 4 SIGN WIDTH: 4'-0" HEIGHT: 3'-0" TOTAL AREA: 12.0 Sq.Ft. BORDER TYPE: INSET 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: 0.080" (2.0 mm) ALUMINUM	DESIGN BY: LM Moon PROJECT ID: ID CHECKED BY: JT Brooks DIV: 03 DATE: Jun 17, 2014
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Panel Style: Traffic Control.ssi
M.U.T.C.D.: 2009 Edition

Spacing Factor is 1 unless specified otherwise

Letter locations are panel edge to lower left corner										Series/Size
C	A	R	O	L	I	N	A			D 2000
4.7	9.6	15.6	20.6	26.2	30.8	33.2	38.2			38.5
A	K	U	R	E						D 2000
8.1	13.4	19.4	24.7	30.2	35.3					30.9
B	E	A	C	H	E	S				D 2000
6.3	11.4	15.6	21.5	26.9	32.4	36.7				34.5

FILENAME: Guidesign_English_8-2-13 NORTH CAROLINA D.O.T. SIGN DETAIL

12-SEP-2016 17:57
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AT LUS90293

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-8888 NCBEES #F-0326

APPROVED: DATE: 10/11/2016 		SIGN DESIGNS
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