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## 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 UNDESIRE 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 LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
BRYAN BLVD. (-L-)	MONDAY-SUNDAY 6:00AM to 8:00PM

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

ROAD NAME
BRYAN BLVD. (-L-)

### HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 8:00 P.M. JANUARY 2ND.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 8:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 8:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 8:00 P.M. THE DAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 8:00 P.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 8:00 P.M. MONDAY.
- 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.

### SPECIAL EVENTS

- FOR FURNITURE MARKET, BETWEEN THE HOURS OF 6:00 A.M. SATURDAY OCTOBER 17th TO 8:00 P.M. THURSDAY OCTOBER 22nd, 2015. BETWEEN THE HOURS OF 6:00 A.M. SATURDAY APRIL 16th TO 8:00 P.M. THURSDAY APRIL 21st, 2016. ALSO, BETWEEN THE HOURS OF 6:00 A.M. SATURDAY OCTOBER 15th TO 8:00 P.M. THURSDAY OCTOBER 20th, 2016.
- FOR WYNDHAM GOLF CHAMPIONSHIP, BETWEEN THE HOURS OF 6:00 A.M. MONDAY AUGUST 17th TO 8:00 P.M. SUNDAY AUGUST 23rd, 2015. ALSO, BETWEEN THE HOURS OF 6:00 A.M. MONDAY AUGUST 15th TO 8:00 P.M. SUNDAY AUGUST 21st, 2016.

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
BRYAN BLVD. (-L-)	MONDAY-SUNDAY 5:00AM-12:00AM(MIDNIGHT)	30 MINUTES FOR GIRDER INSTALL & BRIDGE DEMO OVERHEAD SIGN REMOVAL/INSTALL
(-RPCA-)	MONDAY-SUNDAY 5:00AM-12:00AM(MIDNIGHT)	5 HOURS FOR PCB PLACEMENT/REMOVAL

D) 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

E) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

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.

H) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC 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.

I) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

J) BACKFILL AT 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) 350 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 TRAFFIC CONTROL PLANS.

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

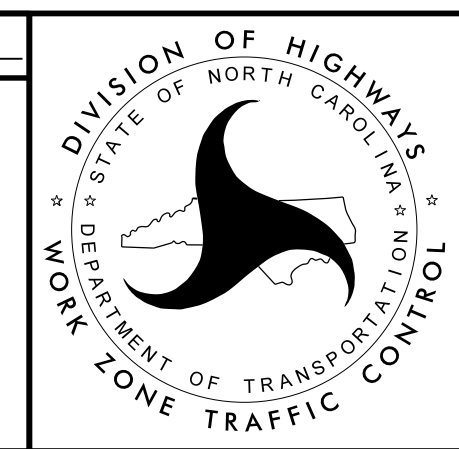
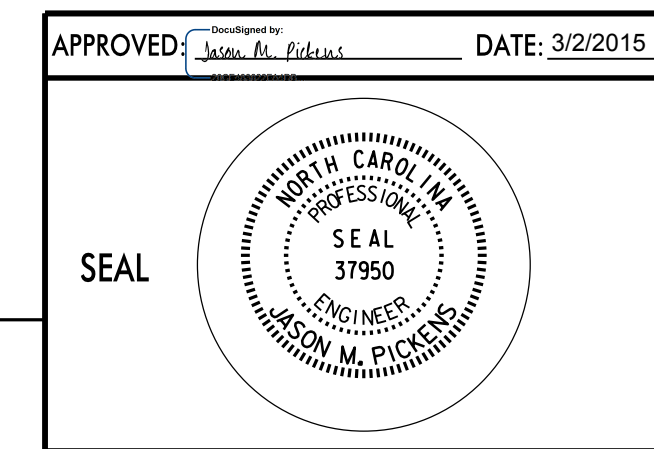
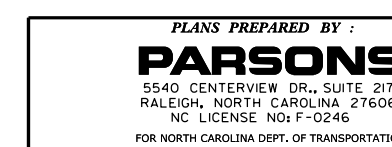
O) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

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) 350 ft IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

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TRANSPORTATION  
MANAGEMENT PLAN  
  
**GENERAL NOTES**



## GENERAL NOTES (continued)

### TRAFFIC BARRIER

- R) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL 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 TRAFFIC CONTROL 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 TRAFFIC CONTROL 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 IMPACT 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:

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

### PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	TEMPORARY

- W) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- X) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- Y) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

### MISCELLANEOUS

- Z) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- AA) 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) 250' AND 500' RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

## LOCAL NOTES

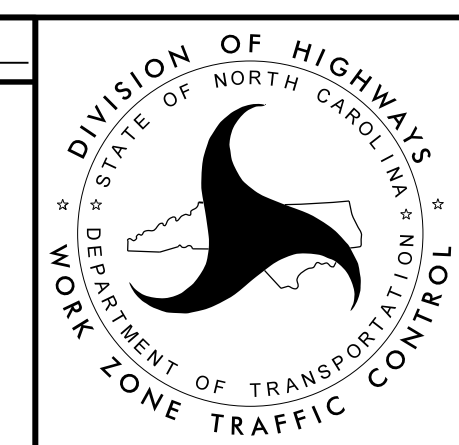
- LN-1 CONTRACTOR TO COORDINATE WITH CONTRACTORS ON PROJECT I-5110, U-2524C, AND ANY OTHER PROJECT IN THE AREA TO COORDINATE TRAFFIC CONTROL ACTIVITIES.

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PLANS PREPARED BY  
**PARSONS**  
 5540 CENTERVIEW DRIVE, SUITE 201  
 RALEIGH, NORTH CAROLINA 27606  
 NC LICENSE NO. P-12248  
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

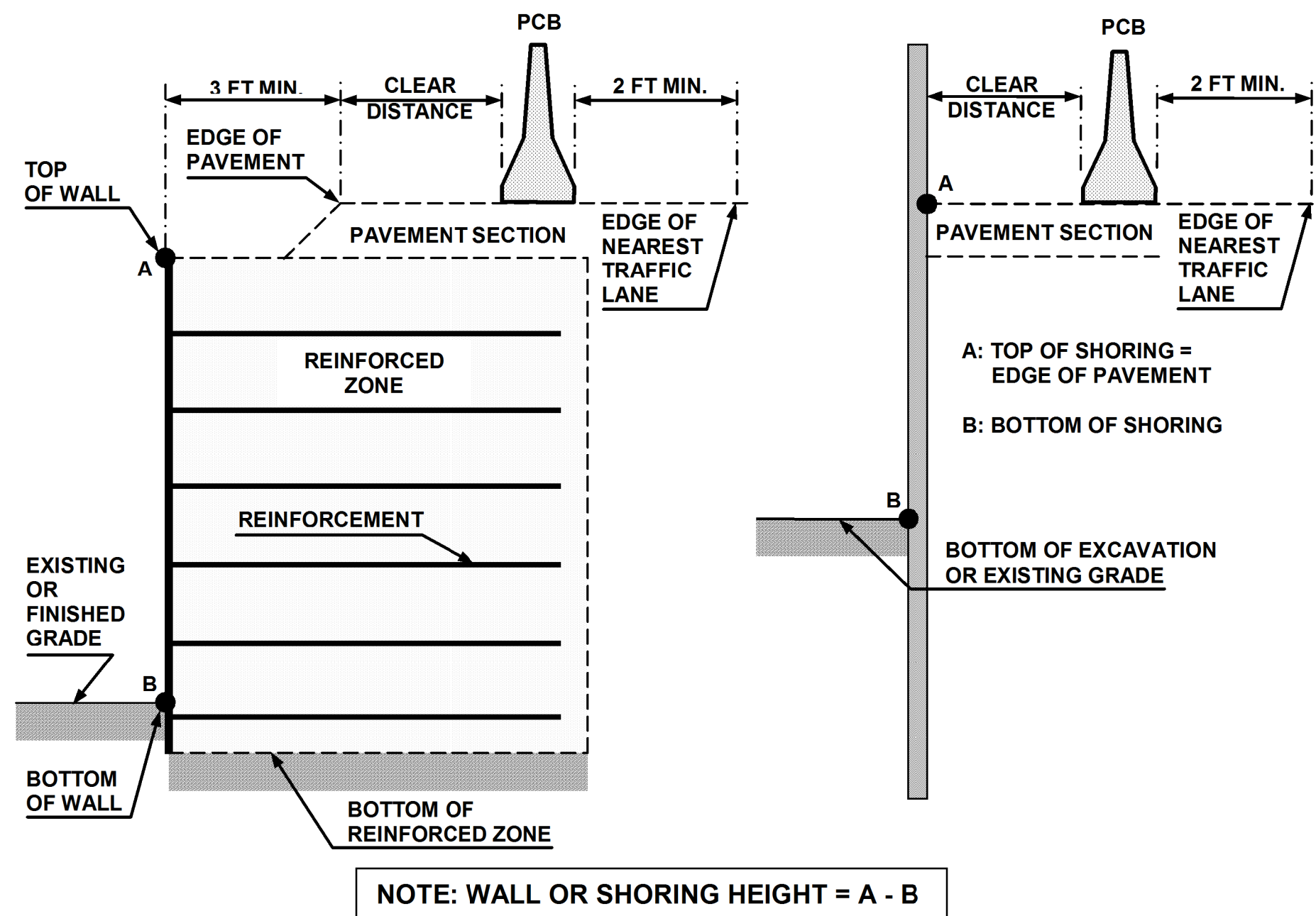
APPROVED: Jason M. Pickett DATE: 3/2/2015

SEAL



TRANSPORTATION  
MANAGEMENT PLAN

**GENERAL NOTES**



# FIGURE A

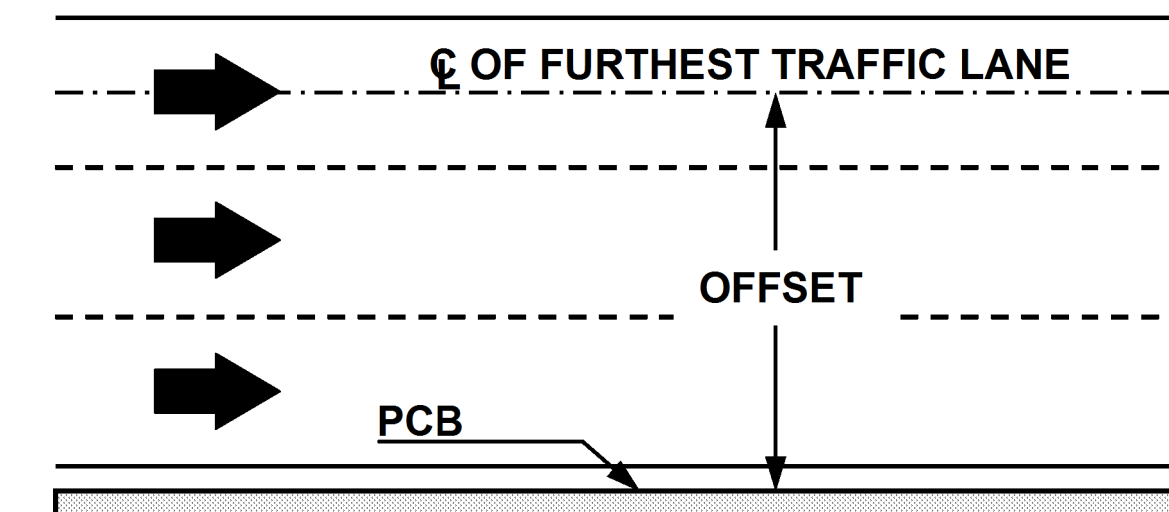
## NOTES

- 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: <i>Jesse M. Pickens</i> DATE: 3/2/2015			PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
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### NOTES FOR TEMPORARY SHORING NO. 1

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

DESIGN TEMPORARY SHORING FROM STATION 27+00 +/- -L- TO 27+80 +/- -L-, 7 FT. LT TO 13 FT. LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS:  
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE,  $\gamma = 120$  PCF  
 UNIT WEIGHT OF SOIL BELOW WATER TABLE,  $\gamma' = 60$  PCF  
 FRICTION ANGLE,  $\phi = 30$  DEGREES  
 COHESION,  $c = 0$  PSF  
 GROUNDWATER ELEVATION = 863 FT. +/-

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

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FORM STATION 27+00 +/- -L- TO 27+80 +/- -L-, 7 FT. LT TO 13 FT. LT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTORS OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 27+00 +/- -L- TO 27+80 +/-, 7 FT. LT TO 13 FT. LT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

### NOTES FOR TEMPORARY SHORING NO. 2

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

DESIGN TEMPORARY SHORING FROM STATION 27+00 +/- -L- TO 27+80 +/- -L-, 7 FT. RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS:  
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE,  $\gamma = 120$  PCF  
 UNIT WEIGHT OF SOIL BELOW WATER TABLE,  $\gamma' = 60$  PCF  
 FRICTION ANGLE,  $\phi = 30$  DEGREES  
 COHESION,  $c = 0$  PSF  
 GROUNDWATER ELEVATION = 863 FT. +/-

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

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FORM STATION 27+00 +/- -L- TO 27+80 +/- -L-, 7 FT. RT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTORS OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 27+00 +/- -L- TO 27+80 +/-, 7 FT. RT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

### NOTES FOR TEMPORARY SHORING NO. 3

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

DESIGN TEMPORARY SHORING FROM STATION 27+00 +/- -L- TO 27+90 +/- -L-, 67 FT. LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS:  
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE,  $\gamma = 120$  PCF  
 UNIT WEIGHT OF SOIL BELOW WATER TABLE,  $\gamma' = 60$  PCF  
 FRICTION ANGLE,  $\phi = 30$  DEGREES  
 COHESION,  $c = 0$  PSF  
 GROUNDWATER ELEVATION = 863 FT. +/-

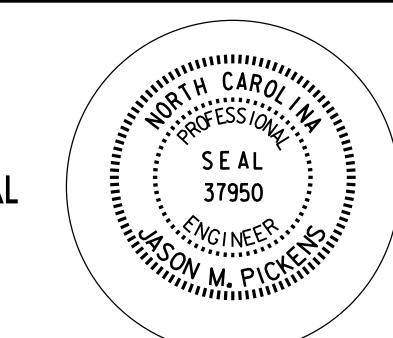

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FORM STATION 27+00 +/- -L- TO 27+90 +/- -L-, 67 FT. LT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTORS OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 27+00 +/- -L- TO 27+90 +/-, 67 FT. LT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

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 23, 2015 AND SEALED BY PROFESSIONAL ENGINEER, DAVID TEAGUE, P.E., LICENSE #027869.

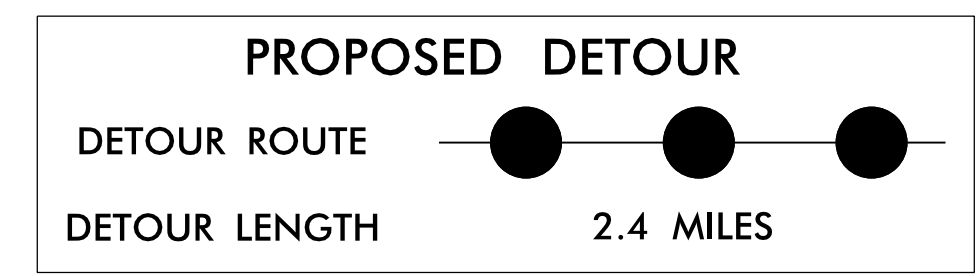
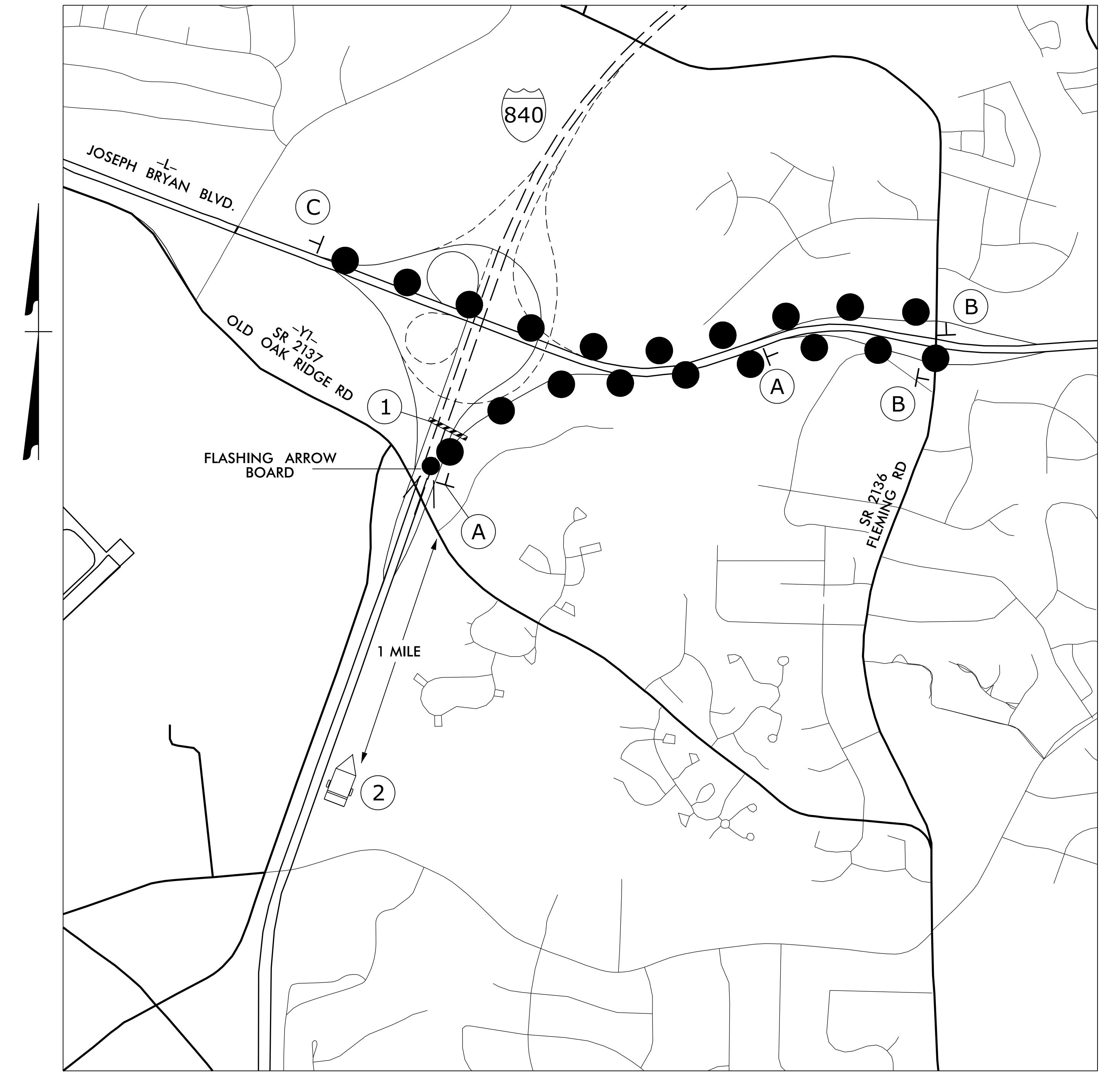
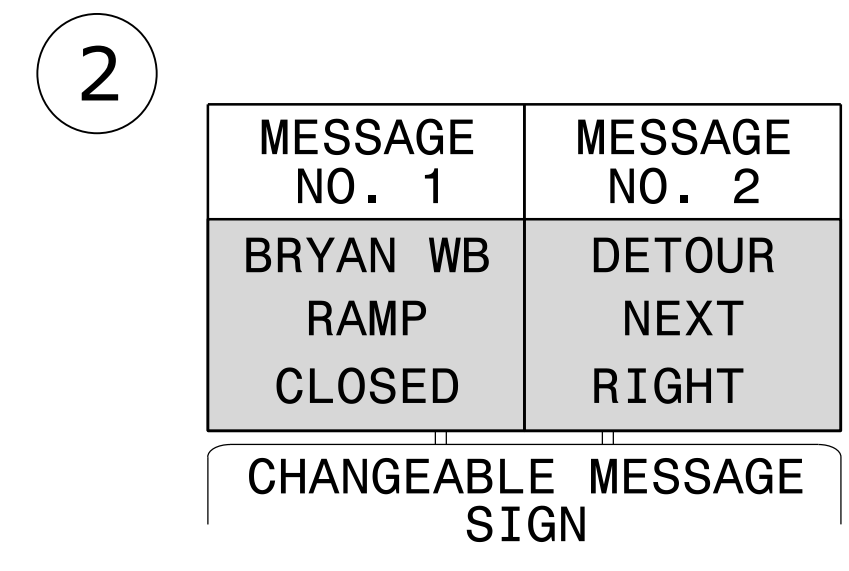
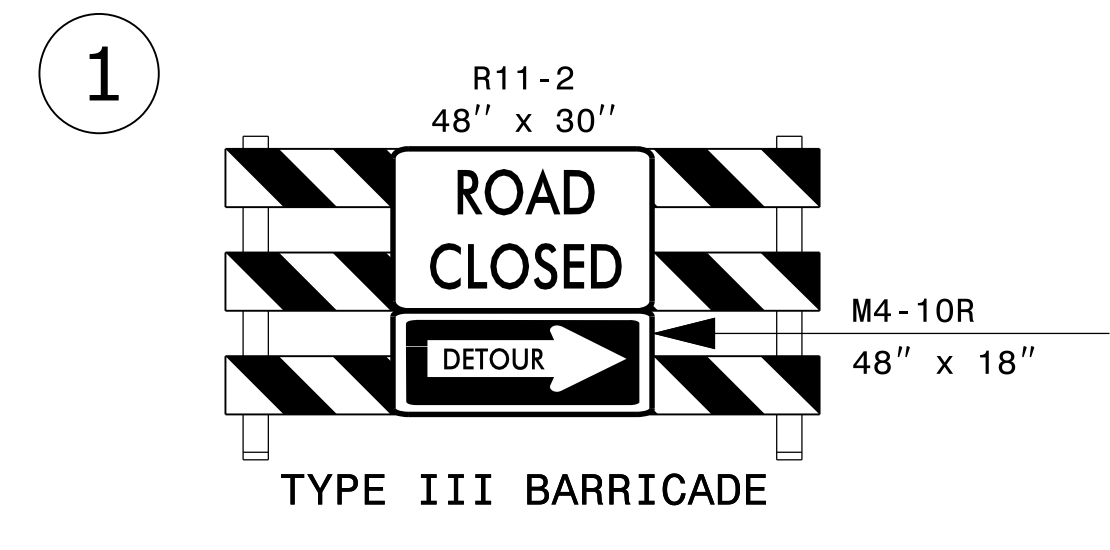
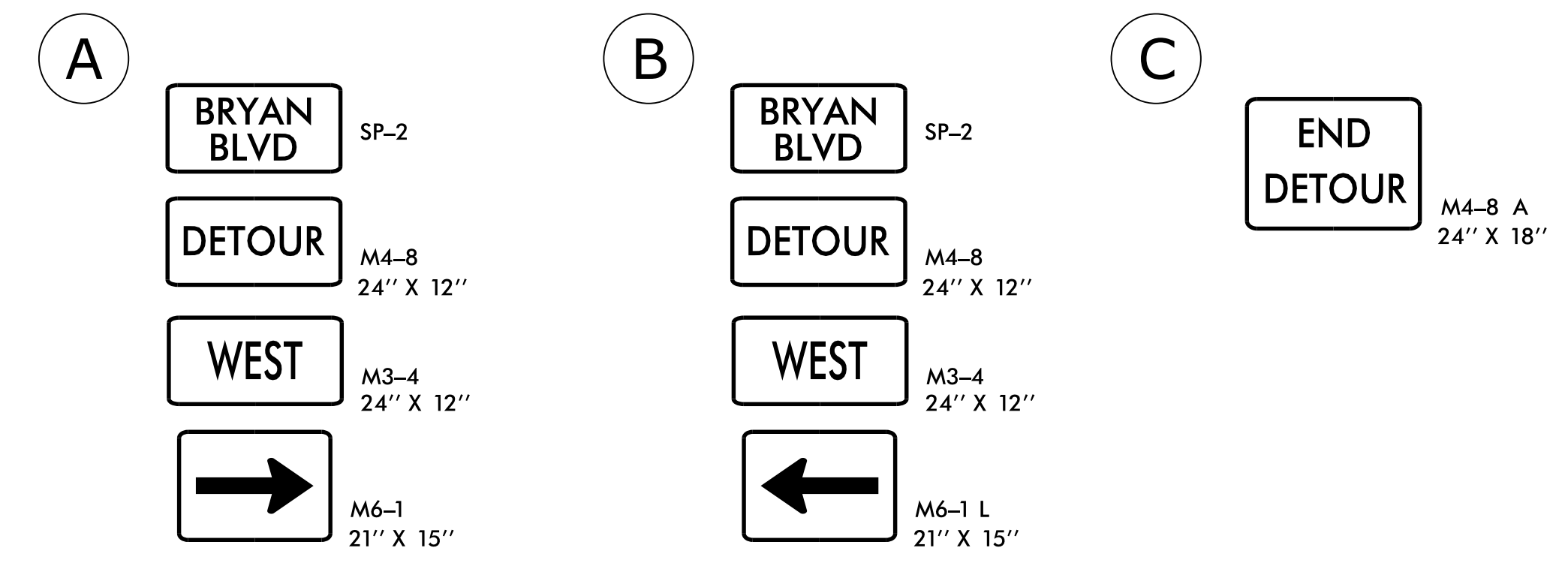
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 \$\$\$\$(USER)NAME\$\$\$\$

APPROVED: <u>David M. Pickett</u> DATE: 3/2/2015 SEAL 		TRANSPORTATION MANAGEMENT PLAN  <b>TEMPORARY                  SHORING NOTES</b>
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PLANS PREPARED BY:  
**PARSONS**  
5540 CENTERVIEW DRIVE, SUITE 201  
 RALEIGH, NORTH CAROLINA 27606  
 NC LICENSE NO. F-02468  
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION



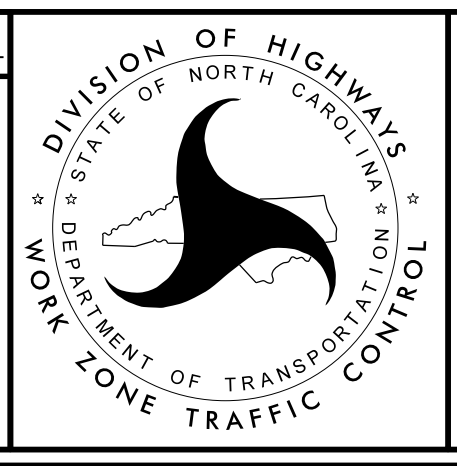




NOTES:  
 1. SEE SHEET TMP-2D FOR THE SPECIAL SIGN DESIGN.  
 2. ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.

PLANS PREPARED BY:  
**PARSONS**  
 2540 CENTERVIEW DR., SUITE 207  
 RALEIGH, NORTH CAROLINA 27606  
 NC LICENSE NO. F-0246  
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

APPROVED: *James M. Pickens* DATE: 3/2/2015  
 SEAL



TRANSPORTATION  
 MANAGEMENT PLAN  
**WB BRYAN BOULEVARD  
 ON-RAMP (-RPCA-)  
 VEHICLE DETOUR**

02-MAR-2015 11:21 J:\U-2524BC\TrafficControl\TCP\U2524BC.TC\_TMP\_02C.dgn \$\$\$USERNAME\$\$\$

SIGN NUMBER: SP-1 TYPE: D QUANTITY: SEE PLANS SIGN WIDTH: 3'-0" HEIGHT: 2'-0" TOTAL AREA: 6.0 Sq.Ft. BORDER TYPE: RECESSED RECESS: 0.38" WIDTH: 0.38" RADII: 1.5" NO. Z BARS: LENGTH:	BACKG COLOR: Fluorescent Orange COPY COLOR: Black	DESIGN BY: JMP PROJECT ID: U-2524BC	CHECKED BY: TDG DIV: 7	DATE: JANUARY 2015																																																	
	<table border="1"> <thead> <tr> <th>SYMBOL</th> <th>X</th> <th>Y</th> <th>WID</th> <th>HT</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> MAT'L: 0.125" (3.2 mm) ALUMINUM	SYMBOL	X	Y	WID	HT																																															
SYMBOL	X	Y	WID	HT																																																	

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

BORDER  
 R=1.5"  
 TH=0.38"  
 IN=0.38"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

	I	N	M	A	N							Series/Size
	8.2	2.1	4.7	4.8	4.7	3.3	8.2					C 2000
												19.6
	R	O	A	D								C 2000
	9.7	4.3	4.2	4.7	3.4	9.7						16.6

SIGN NUMBER: SP-2 TYPE: D QUANTITY: SEE PLANS SIGN WIDTH: 3'-0" HEIGHT: 2'-0" TOTAL AREA: 6.0 Sq.Ft. BORDER TYPE: RECESSED RECESS: 0.38" WIDTH: 0.38" RADII: 1.5" NO. Z BARS: LENGTH:	BACKG COLOR: Fluorescent Orange COPY COLOR: Black	DESIGN BY: JMP PROJECT ID: U-2524BC	CHECKED BY: TDG DIV: 7	DATE: FEBRUARY 2015																																																	
	<table border="1"> <thead> <tr> <th>SYMBOL</th> <th>X</th> <th>Y</th> <th>WID</th> <th>HT</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> MAT'L: 0.125" (3.2 mm) ALUMINUM	SYMBOL	X	Y	WID	HT																																															
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BORDER  
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 TH=0.38"  
 IN=0.38"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

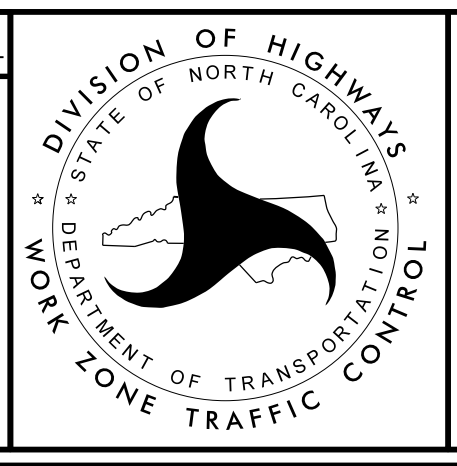
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												20.5
	B	L	V	D								C 2000
	10.1	4.4	3.4	4.6	3.3	10.1						15.7

02-MAR-2015 11:12 J:\U-2524BC\TrafficControl\TCP\U2524BC.TC\_TMP\_02D.dgn \$\$\$USERNAME\$\$\$

PLANS PREPARED BY:  
**PARSONS**  
 2540 CENTERVIEW DR., SUITE 207  
 RALEIGH, NORTH CAROLINA 27606  
 NC LICENSE NO. F-0246  
 FOR NORTH CAROLINA STATE OF TRANSPORTATION

APPROVED: Janet M. Pickett DATE: 3/2/2015

SEAL



TRANSPORTATION  
 MANAGEMENT PLAN  
**SPECIAL SIGN  
 DESIGNS**



# PHASING

PROJ. REFERENCE NO.	SHEET NO.
U-2524BC	TMP-3

**NOTES:**

REPLACE MARKINGS AND RETURN TRAFFIC TO THE CURRENT TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD 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 PROPOSED PIPES, TEMPORARY PIPES, STEEL PLATES, AND TEMPORARY DITCHES.

THE TERM RSD DENOTES ROADWAY STANDARD DRAWINGS.

## PHASE 1

STEP 1: - INSTALL ADVANCE WORK ZONE WARNING SIGNS ACCORDING TO RSD 1101.01 (SHEET 2 OF 3) FOR -L- AND -RPCA-.

- MAY BEGIN INSTALLATION OF ROAD CLOSURE AND DETOUR SIGNS FOR -Y- (INMAN RD.) & -RPCA- OFF-SITE DETOUR AS SHOWN ON SHEETS TMP-2B & TMP-2C. MAY BEGIN INSTALLATION OF ROAD CLOSURE SIGNS USING RSD 1101.03 (SHEET 7 OF 9) FOR -RPCA- COVER SIGNS.

STEP 2: - PLACE TEMPORARY PAVEMENT MARKINGS ON -L- (BRYAN BLVD.) AND -RPCA- USING RSD 1101.02 (SHEET 3 OF 15) AND REMOVE CONFLICTING MARKINGS. INSTALL PORTABLE CONCRETE BARRIER ON -L- AS SHOWN ON TMP-4, TMP-5 AND TMP-7 USING RSD 1101.02 (SHEET 3 OF 15). REMOVE EXISTING MEDIAN GUARDRAIL AND INSTALL TEMPORARY GUARDRAIL ANCHOR UNITS AS SHOWN ON TMP-5.

- INSTALL/UNCOVER DETOUR AND ROAD CLOSURE SIGNS SHOWN ON TMP-2C AND CLOSE -RPCA- TO TRAFFIC USING OFF-SITE DETOUR (SEE GENERAL NOTE C). INSTALL PORTABLE CONCRETE BARRIER ON -RPCA- AS SHOWN ON TMP-6 AND TMP-7 USING LAW ENFORCEMENT (IF NEEDED). COVER -RPCA- DETOUR SIGNS AND OPEN TO TRAFFIC.

STEP 3: A: INSTALL/UNCOVER DETOUR AND ROAD CLOSURE SIGNS AND CLOSE -Y- (INMAN RD.) TO TRAFFIC USING OFF-SITE DETOUR SHOWN ON TMP-2B AND RSD 1101.03 (SHEET 1 OF 9).

B: USING RSD 1101.03 (SHEET 9 OF 9) AS NEEDED, REMOVE EXISTING -Y- (INMAN RD.) BRIDGE OVER -L- (BRYAN BLVD.).

STEP 4: - AWAY FROM TRAFFIC CONSTRUCT/INSTALL THE FOLLOWING:

A: INSTALL TEMPORARY SHORING AS SHOWN ON TMP-5.

B: REMOVE EXISTING -Y- (INMAN RD.) BRIDGE BENTS AS SHOWN ON TMP-5.

C: CONSTRUCT PROPOSED -Y- APPROACHES AND SUBSTRUCTURE AND REMOVE TEMPORARY SHORING.

- AWAY FROM TRAFFIC COMPLETE CONSTRUCTION ON THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE:

\* -L- FROM STA. 13+73 +/- TO -RPCA- STA. 27+50 +/-.

\* -L- FROM STA. 57+12 +/- TO STA. 62+00 +/-.

- AWAY FROM TRAFFIC WORK CAN BEGIN ON THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE:

\* -L- FROM STA. 22+73 +/- TO -L- STA. 31+49 +/- MEDIAN SHOULDER/GUARDRAIL WORK

\* -L- FROM STA. 26+79 +/- TO -L- STA. 27+73 +/- EASTBOUND RT OUTSIDE SHOULDER

- USING RSD 1101.03 (SHEET 9 OF 9) AS NEEDED, INSTALL GIRDERS, COMPLETE CONSTRUCTION ON -Y- (INMAN RD.) PAVEMENT FROM STA. 11+00 +/- TO STA. 22+00 +/- AND BRIDGE OVER -L- (BRYAN BLVD.) AND PLACE FINAL PAVEMENT MARKINGS ON -Y-. UPON APPROVAL OF ENGINEER, REMOVE DETOUR/ROAD CLOSURE SIGNS AND OPEN -Y- TO TRAFFIC.

STEP 5: - USING RSD 1101.02 (SHEET 3 OF 15) REMOVE PORTABLE CONCRETE BARRIER ON -L- AND REPLACE PORTABLE CONCRETE BARRIER WITH DRUMS. USE RSD 1101.02 (SHEET 3 OF 15) TO COMPLETE MEDIAN SHOULDER/GUARDRAIL WORK AND EASTBOUND RT OUTSIDE SHOULDER. REMOVE TEMPORARY GUARDRAIL ANCHOR UNITS AND TIE PROPOSED GUARDRAIL WITH EXISTING GUARDRAIL.

- UNCOVER DETOUR AND ROAD CLOSURE SIGNS AND CLOSE -RPCA- TO TRAFFIC USING OFF-SITE DETOUR (SEE GENERAL NOTE C). REMOVE PORTABLE CONCRETE BARRIER ON -RPCA- AS SHOWN ON TMP-6 AND TMP-7 USING LAW ENFORCEMENT (IF NEEDED). REMOVE -RPCA- DETOUR SIGNS AND OPEN TO TRAFFIC.

- USING RSD 1101.02 (SHEET 3 OF 15) COMPLETE MILLING OPERATIONS, PLACE THE FINAL LAYER OF SURFACE COURSE, AND PLACE THE TEMPORARY PAVEMENT MARKINGS AND MARKERS IN THE EXISTING 12' LANE TRAVEL PATTERN (AS NEEDED) IN THE FOLLOWING LOCATIONS:

\* -L- FROM STA. 12+13 +/- TO STA. 64+12 +/- LT (WESTBOUND LANES).

\* -L- FROM STA. 22+73 +/- TO STA. 31+49 +/- RT (EASTBOUND LANES).

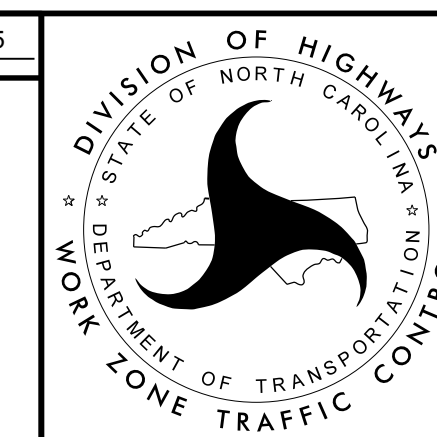
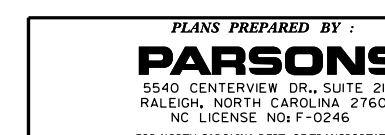
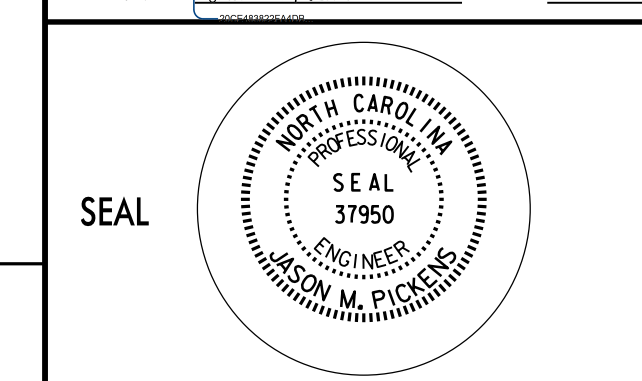
\* -RPCA- FROM STA. 10+00 +/- TO STA. 35+20 +/-.

STEP 6: - PLACE FINAL PAVEMENT MARKINGS ON -L- AND -RPCA- USING RSD 1101.02 (SHEET 13 OF 15) AS SHOWN IN THE FINAL PAVEMENT MARKING PLANS.

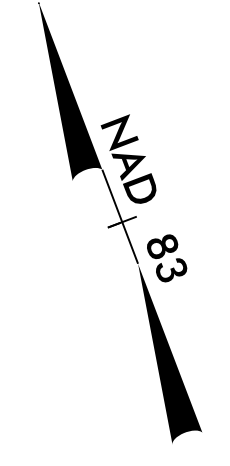
STEP 7: - REMOVE ALL REMAINING TEMPORARY TRAFFIC CONTROL DEVICES AND OPEN ALL ROADS AND ALL LANES TO TRAFFIC.

03-MAR-2015 12:43  
C:\Users\jzhang\Documents\TrafficControl\TCP\U2524BC-TC-TMP-03.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$

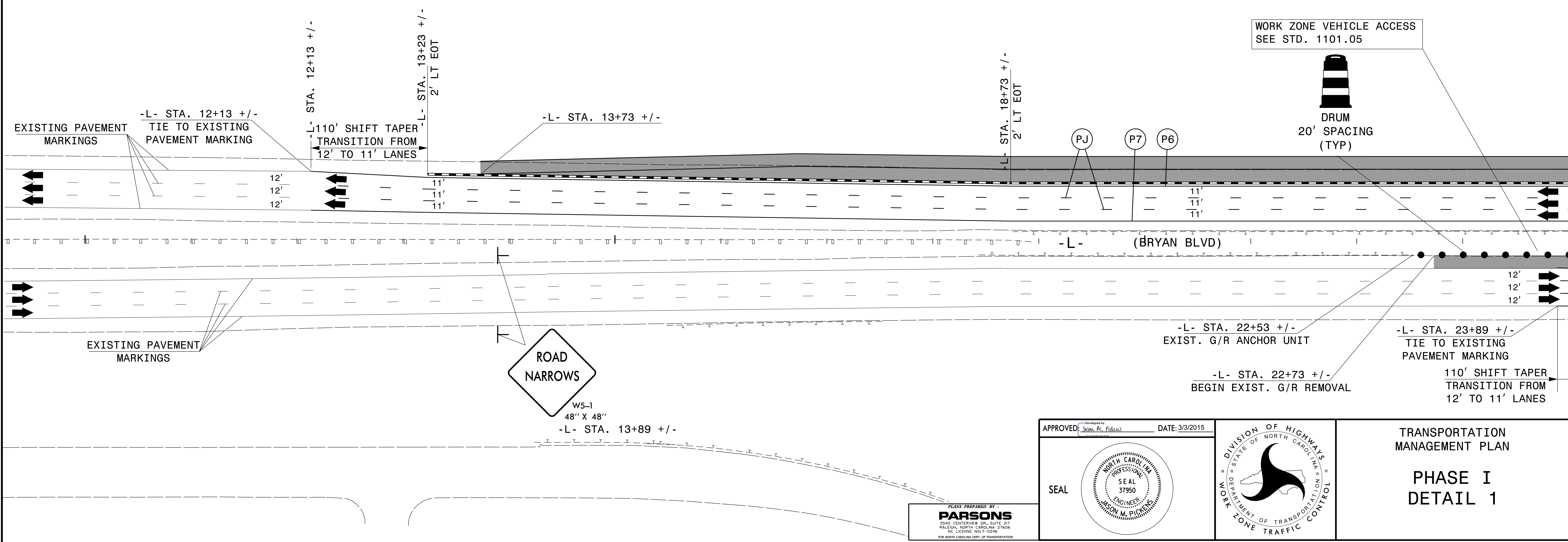
APPROVED: Jason M. Pickett DATE: 3/3/2015



TRANSPORTATION  
MANAGEMENT PLAN  
  
PHASING



NOTE: BARRIER OFFSETS ARE MEASURED FROM EDGE OF BARRIER TO TEMPORARY EDGE OF TRAVEL

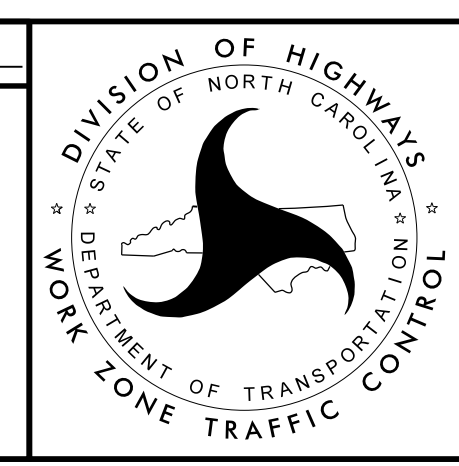


MATCH LINE -L- STA 24+00 SEE SHEET TMP-5

03 MAR 2015 13:16 C:\Users\jmc\Documents\TrafficControl\U2524BC\_TC\_TMP\_04.dgn

APPROVED: DATE: 3/3/2015

SEAL



TRANSPORTATION MANAGEMENT PLAN

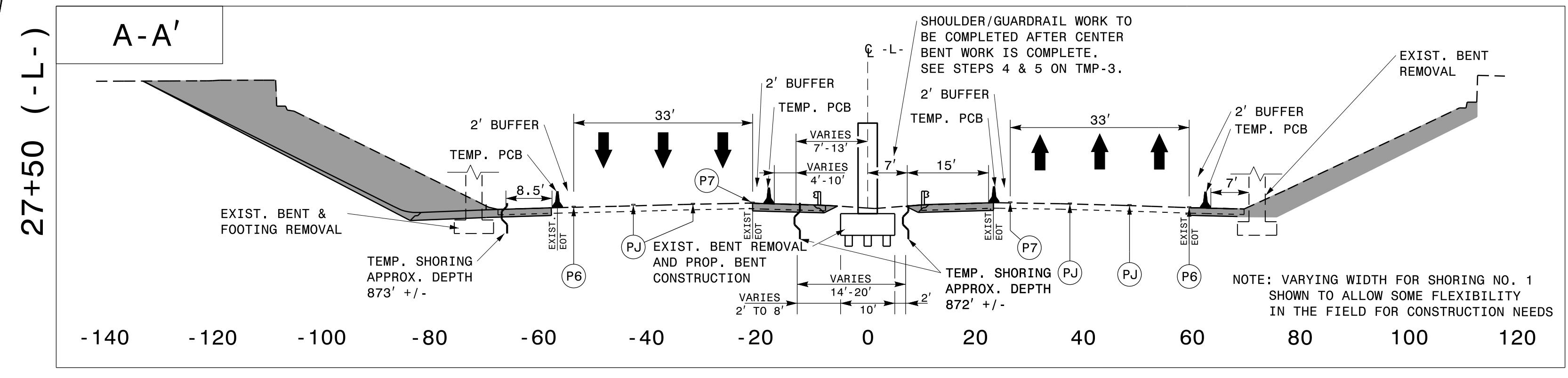
**PHASE I  
DETAIL 1**

PLANS PREPARED BY:  
**PARSONS**  
5540 CENTERVIEW DRIVE, SUITE 201  
RALEIGH, NORTH CAROLINA 27606  
NC LICENSE NO. P-20248  
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION



- SHORING NOTES:**
- TEMPORARY SHORING: EST 520 SF FROM STA. 27+00 +/- 7' TO 13' LT OF -L- TO STA. 27+80 +/- 7' TO 13' LT OF -L-. (SEE TEMPORARY SHORING DATA SHEET TMP-2A)
  - TEMPORARY SHORING: EST 480 SF FROM STA. 27+00 +/- 7' RT OF -L- TO STA. 27+80 +/- 7' RT OF -L-. (SEE TEMPORARY SHORING DATA SHEET TMP-2A)
  - TEMPORARY SHORING: EST 405 SF FROM STA. 27+00 +/- 67' LT OF -L- TO STA. 27+90 +/- 67' LT OF -L-. (SEE TEMPORARY SHORING DATA SHEET TMP-2A)

SEE SHEET TMP-2B & TMP-2D FOR -Y- DETOUR AND ROAD CLOSURE SIGNING



WORK ZONE VEHICLE ACCESS  
SEE STD. 1101.05

TEMPORARY SHORING REQUIRED FOR EXISTING -Y- BRIDGE BENT REMOVAL AND PROPOSED BENT CONSTRUCTION

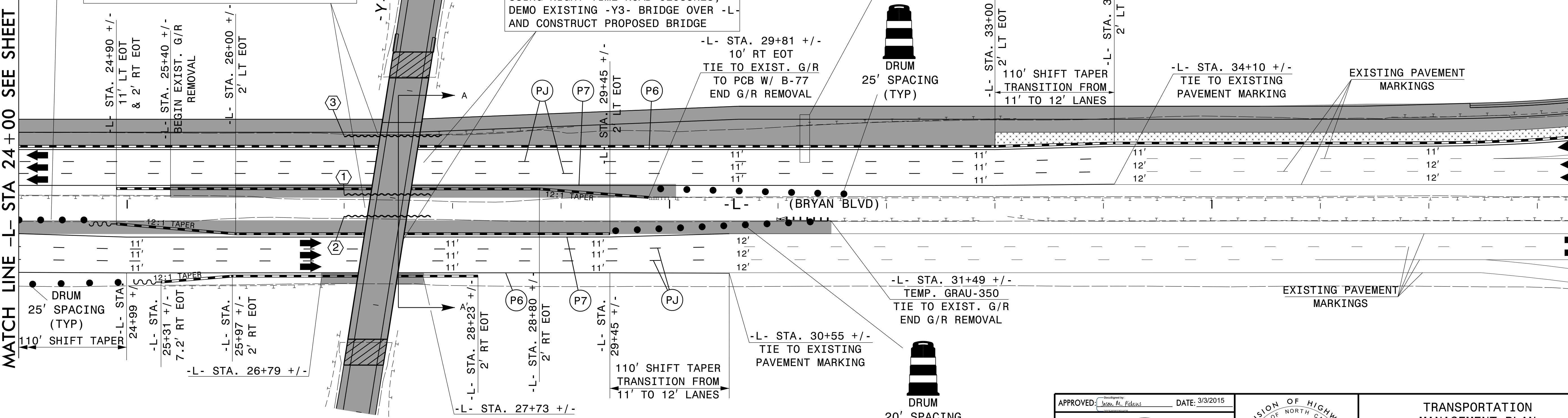
USING NIGHT TIME ROAD CLOSURES, DEMO EXISTING -Y3- BRIDGE OVER -L- AND CONSTRUCT PROPOSED BRIDGE

USING NIGHT TIME ROAD CLOSURES, REMOVE EXISTING OVERHEAD SIGN OVER -L- AT STA. 31+30 +/- AND INSTALL PROPOSED OVERHEAD SIGN AT STA. 33+00 +/-

NOTE: BARRIER OFFSETS ARE MEASURED FROM EDGE OF BARRIER TO TEMPORARY EDGE OF TRAVEL

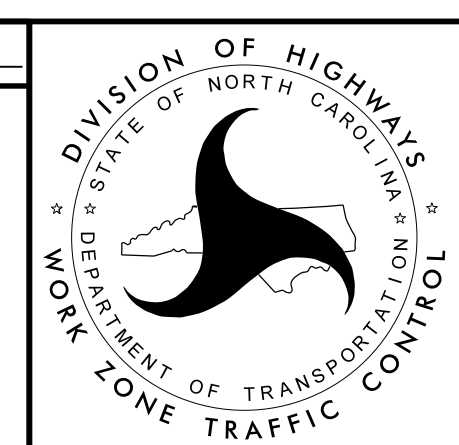
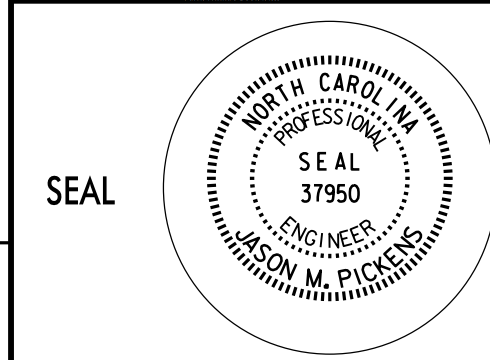
MATCH LINE -L- STA 24+00 SEE SHEET TMP-4

MATCH LINE -RPCA- STA 12+00 SEE SHEET TMP-6



DRUM 20' SPACING (TYP)  
WORK ZONE VEHICLE EXIT  
SEE STD. 1101.05

APPROVED: *Wesley M. Pickett* DATE: 3/3/2015

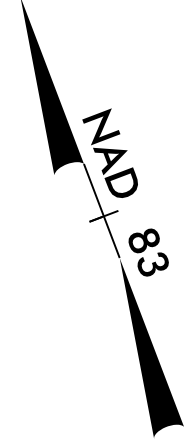
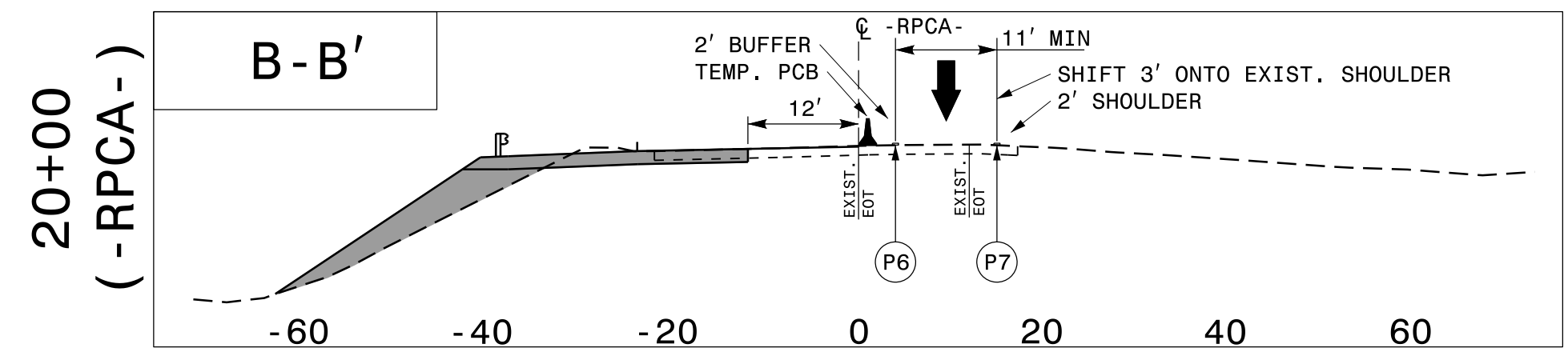


TRANSPORTATION  
MANAGEMENT PLAN  
  
PHASE I  
DETAIL 2

PLANS PREPARED BY  
**PARSONS**  
5540 CENTERVIEW DRIVE, SUITE 200  
RALEIGH, NORTH CAROLINA 27606  
NO LICENSE NO. F-5248  
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

03 MAR 2015 12:43  
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\$\$\$\$\$USERNAME\$\$\$\$\$





RAMP NOT OPENED  
 -RPA- STA. 13+20 +/-  
 STAGE PORTABLE CONCRETE BARRIER ON RPA, OUTSIDE OF CLEAR ZONE, BEFORE PLACEMENT ON RPCA

PLACE TEMP MARKINGS AND SHIFT RAMP TRAFFIC. THEN INSTALL PORTABLE CONCRETE BARRIER TO RPCA CENTERLINE USING NIGHT TIME ROAD CLOSURES WITH OFF-SITE DETOUR. SEE SHEET TMP-2C & TMP-2D FOR -RPCA- DETOUR AND ROAD CLOSURE SIGNING

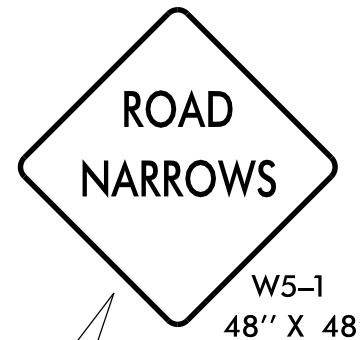
3' SHIFT ONTO SHOULDER

MATCH LINE -RPCA- STA 12+00 SEE SHEET TMP-5  
 MATCH LINE -L- STA 38+50 SEE SHEET TMP-5

MATCH LINE -RPCA- STA 26+00 SEE SHEET TMP-7

MATCH LINE -L- STA 52+50 SEE SHEET TMP-7

-RPCA- (BRYAN BLVD ON RAMP)  
 -RPCA- STA. 18+77 +/-  
 TIE TO EXISTING PAVEMENT MARKING



-L- STA. 44+10 +/-

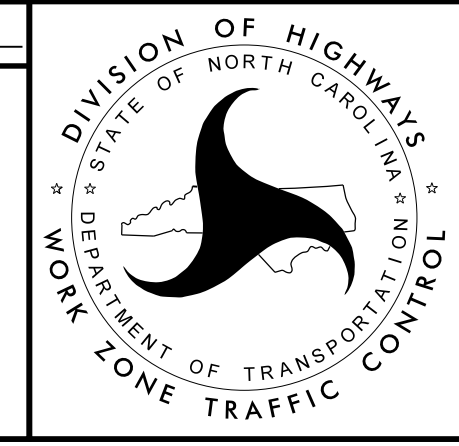
EXISTING PAVEMENT MARKINGS

EXISTING PAVEMENT MARKING

-L- (BRYAN BLVD)

APPROVED: *Jason M. Pickett* DATE: 3/2/2015

SEAL



TRANSPORTATION MANAGEMENT PLAN

PHASE I  
 DETAIL 3

PLANS PREPARED BY  
**PARSONS**  
 5540 CENTERVIEW DR. SUITE 210  
 RALEIGH, NORTH CAROLINA 27606  
 NC LICENSE NO. P-10248  
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

02-MAR-2015 14:13  
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 \$\$\$USERNAME\$\$\$



