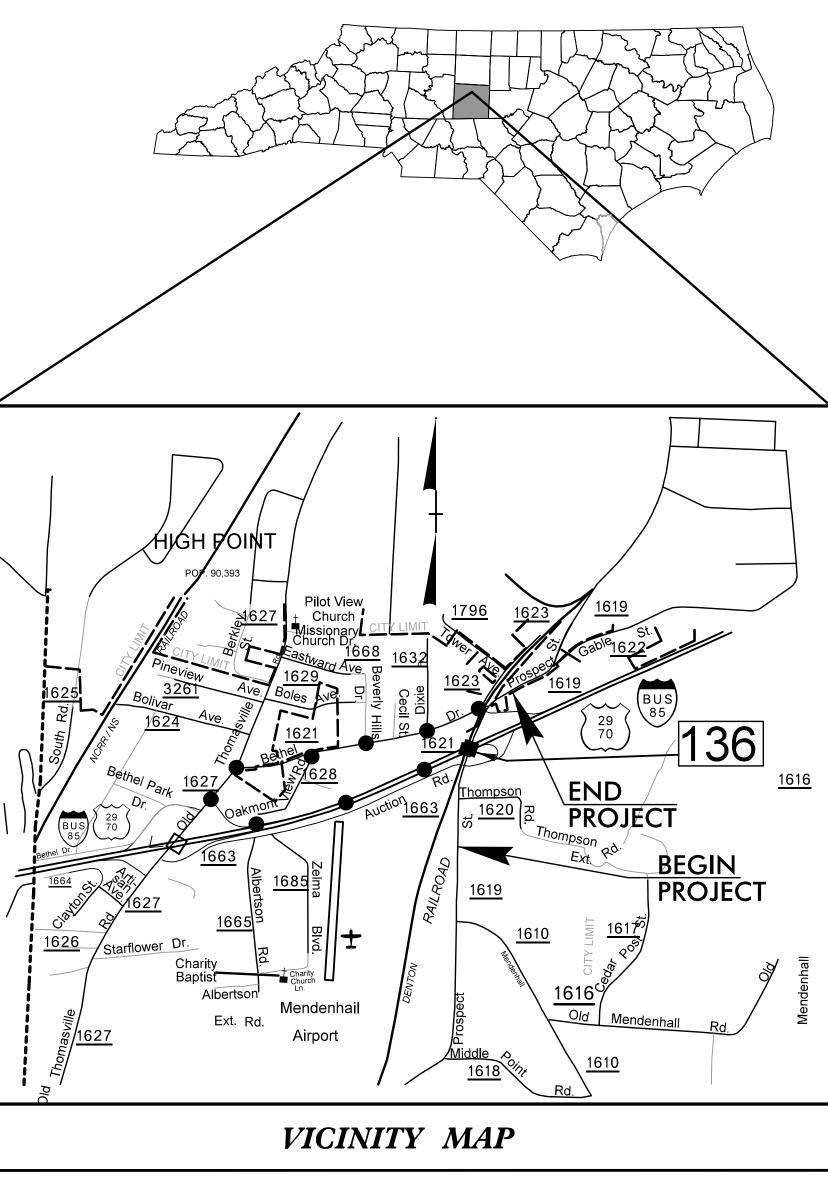
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# TRANSPORTATION MANAGEMENT PLAN

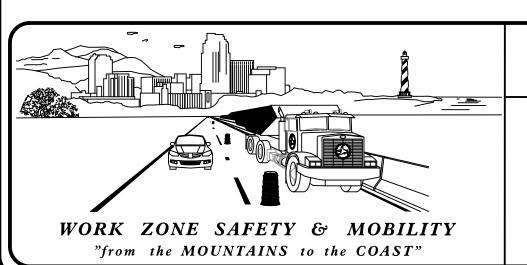
# RANDOLPH COUNTY



A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF HIGH POINT.

LOCATION: BRIDGE 136 OVER US 29-70/I-85 BUSINESS ON SR 1619 (PROSPECT STREET) IN HIGH POINT

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE AND SIGNALS



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL

1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561

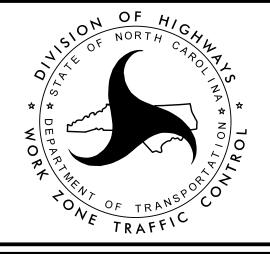
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)

PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER

D.W. BISSETTE, P.E. TRAFFIC CONTROL PROJECT ENGINEER

M. STEELMAN TRAFFIC CONTROL PROJECT DESIGN ENGINEER



# INDEX OF SHEETS

SHEET NO.	<u>TITLE</u>
TMP - 1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, AND TEMPORARY PAVEMENT MARKING
TMP-1B & 1C	TRANSPORTATION OPERATIONS PLAN: GENERAL NOTES & MANAGEMENT STRATEGIES
TMP-2	OFF-SITE DETOUR (-L- / PROSPECT ST AT BRIDGE)
TMP-2A	OFF-SITE DETOUR (-RP1- LOOP)
TMP-2B	OFF-SITE DETOUR (-RP2- RAMP & LOOP)
TMP-2C	OFF-SITE DETOUR (-L- PROSPECT ST AT 15+00+/-)
TMP-2D	SPECIAL SIGN DESIGN
TMP-3	PHASING & LOCAL NOTES
TMP - 4	PHASE I OVERVIEW (STEP2)
TMP-5	PHASE I DETAIL (STEP 2)
TMP-6 & 7	PHASE I OVERVIEWS (STEP 3)
TMP-8	PHASE II OVERVIEW (STEPS 3 & 4)
TMP-9	PHASE II OVERVIEW (STEPS 4 & 5)
TMP - 10	PHASE II OVERVIEW (STEPS 7-9)
TMP - 11	PHASE II DETAIL (STEPS 7-9)
TMP-12	PHASE III OVERVIEW (STEP 1)
TMP-13	PHASE III OVERVIEW (STEPS 2-7)
TMP - 14	PHASE III DETAIL (STEPS 2-7)
TMP-15	PHASE III OVERVIEW (STEPS 11-14)
TMP - 16	PHASE III DETAIL (STEPS 11-14)
TMP - 17	PHASE IV OVERVIEW
TMP-18 & 19	CUT SECTIONS

HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609 NC License No: C-1554

R. B. EARLY, PE TRAFFIC CONTROL PROJECT ENGINEER

R. B. EARLY, PE TRAFFIC CONTROL PROJECT DESIGN ENGINEER J. A. PHILLIPS TRAFFIC CONTROL DESIGN ENGINEER

> APPROVED: Rhonda Early DATE: 2/19/2015 AC6BF48A. SEAL

SHEET NO. PROJ. REFERENCE NO. TMP-1A B-5114

# 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 JANAUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

#### TITLE STD. NO.

1101.01	WORK ZONE ADVANCE 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	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 AND OFFSETS	
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS	
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS	
1205.04	PAVEMENT MARKINGS - INTERSECTIONS	
1205.05	PAVEMENT MARKINGS - TURN LANES	
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES	
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS	
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS	
1205.12	PAVEMENT MARKINGS - BRIDGES	
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING	
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY	
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING	
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING	
1262.01	GUARDRAIL END DELINEATION	

# **LEGEND**

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

TEMPORARY CRASH CUSHION

CHANGEABLE MESSAGE SIGN

TRUCK MOUNTED ATTENUATOR (TMA)

FLASHING ARROW BOARD

LAW ENFORCEMENT

STATIONARY OR PORTABLE SIGN

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

FLAGGER

TEMPORARY SIGNING

PORTABLE SIGN

STATIONARY SIGN

PAVEMENT MARKERS

CRYSTAL/CRYSTAL

YELLOW/YELLOW

CRYSTAL/RED

DRUM SKINNY DRUM O TUBULAR MARKER

# **GENERAL**

DIRECTION OF TRAFFIC FLOW

DIRECTION OF PEDESTRIAN TRAFFIC FLOW

---- EXIST. PVMT.

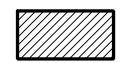
NORTH ARROW

PROPOSED PVMT.

TEMP. SHORING (LOCATION PURPOSES ONLY)

WORK AREA

REMOVAL

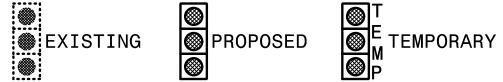


WEDGE / WIDEN

# SIGNALS







# PAVEMENT MARKINGS

——EXISTING LINES ----TEMPORARY LINES

# TEMPORARY PAVEMENT MARKING

SYMBOL DESCRIPTION

PAY ITEM

# PAVEMENT MARKING LINES

COLD APPLIED PLASTIC (4") TYPE 4 - REMOVABLE TAPE

YELLOW EDGELINE

WHITE MINISKIP

PAINT (4'')

WHITE EDGELINE

YELLOW EDGELINE

3FT - 9FT/SP WHITE MINISKIP

WHITE LANE LINE

DOUBLE YELLOW CENTERLINE

PAINT (8") WHITE GORE LINEWHITE STOP BAR

PAINT (24")

SEAL

#### PAVEMENT MARKERS

P2

TEMPORARY RAISED

YELLOW & YELLOW

CRYSTAL & CRYSTAL

APPROVED: Rhonda Early DATE2/19/2015 SEAL 023521

TRANSPORTATION MANAGEMENT PLAN

ROADWAY STANDARD DRAWINGS & LEGENDS

...\TCP\B-5114\_te\_TMP\_01A.dgr

# GENERAL NOTES

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

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

#### TIME RESTRICTIONS

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

ROAD NAME

DAY AND TIME RESTRICTIONS

US 29/US 70/I-85 BUS.

MONDAY THRU FRIDAY 8:00 AM - 7:00 PM

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

#### ROAD NAME

US 29 / US 70 / I-85 BUSINESS

#### 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 8:00 A.M. DECEMBER 31ST TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 8:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 8:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 8:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 8:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY.

- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 8:00 A.M. FRIDAY TO 7:00 P.M.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 8:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 8:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- 9. FOR SEMI-ANNUAL FURNITURE MARKET WEEK, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF THE FURNITURE MARKET AND 9:00 P.M. THE FOLLOWING SUNDAY AFTER THE FURNITURE MARKET WEEK. APPROACHING MARKET DATES:

2015 2016 2017 APR 18-23 MAR 16-21 MAR 22-27 OCT 17-22 OCT 15-20 OCT 14-19

10. FOR WYNDHAM PGA TOURNAMENT, BETWEEN THE HOURS OF 8:00 A.M. THE MONDAY BEFORE THE WEEK OF THE TOURNAMENT AND 7:00 P.M. THE FOLLOWING MONDAY AFTER THE TOURNAMENT. (TOURNAMENT DATES OCCUR IN MID AUGUST.)

C) DO NOT CLOSE ROADS AS FOLLOWS:

POAD NAME

ROAD NAME

-RP1- & -RP2
MONDAY - SUNDAY:
6:00 AM - 9:00 PM

USE OF MEDIAN CROSS-OVERS

D) DO NOT USE MEDIAN CROSS-OVERS AS FOLLOWS:

DAY AND TIME
RESTRICTIONS

US 29 / US 70 / I-85 BUS

MONDAY - SUNDAY:
6:00 AM - 9:00 PM

OPERATION(S)

OVERHEAD
STRUCTURE WORK

#### LANE 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 REMAINS 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.
- ) DO NOT INSTALL MORE THAN ONE (1) SIMULTANEOUS LANE CLOSURE IN ANY ONE DIRECTION ON PROSECT ST.
- K) DO NOT INSTALL MORE THAN ONE (1) SIMULTANEOUS LANE CLOSURE IN ANY ONE DIRECTION ON I-85 BUS.

#### PAVEMENT EDGE DROP OFF REQUIREMENTS

L) 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.

M) 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' IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

# TRAFFIC PATTERN ALTERATIONS

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

## SIGNING

- O) 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.
- P) 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.

OVER 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.

- R) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- S) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500' IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

### TRAFFIC BARRIER

T) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORATION 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.

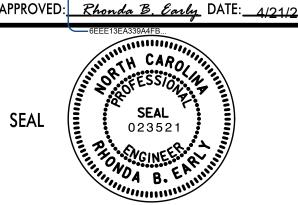
U) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

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

- V) 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 OPENED TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.
- W) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- X) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES (DRUMS)
  PERPENDICULAR TO THE EDGE OF THE TRAVELWAY ON 500 FT CENTERS WHEN
  UNOPENED LANES ARE CLOSED TO TRAFFIC.





TRANSPORTATION
MANAGEMENT PLAN
TRANSPORTATION
OPERATIONS

PLAN
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PROJ. REFERENCE NO.
B-5114

SHEET NO.

# GENERAL NOTES

## PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME

MARKING

PAINT

MARKER

ALL ROADS

TEMPORARY RAISED

- Z) 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.
- AA) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- BB) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- CC) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS BEFORE INSTALLATION.

#### MISCELLANEOUS

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

# MANAGEMENT STRATEGIES

THE OBJECTIVE OF THIS PROJECT IS TO REPLACE THE PROSPECT ST BRIDGE OVER I-85 BUSINESS BY CLOSING PROSPECT ST TO TRAFFIC AND REMOVING THE EXISTING BRIDGE AND CONSTRUCTING THE PROPOSED BRIDGE.

CONSTRUCT I-85 BUSINESS SHOULDER IMPROVEMENTS AND MEDIAN CROSS-OVERS USING LANE CLOSURES. USING MEDIAN CROSSOVERS AND TEMPORARY DETOURS, REMOVE THE EXISITNG PROSPECT STREET BRIDGE AND CONSTRUCT THE NEW BRIDGE. DURING THAT TIME, FLAGGERS AND OFF-SITE DETOURS ARE USED TO COMPLETE IMPROVEMENTS TO PROSPECT STREET AND RAMPS.

CONCLUDE THE WORK BY PLACING THE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS / MARKERS.

APPROVED:

Rhonda B. Early DATE:3/31/2015

OEEE INDEASONALITY

OR OF ESSION

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NOA B. EARLING



TRANSPORTATION
MANAGEMENT PLAN
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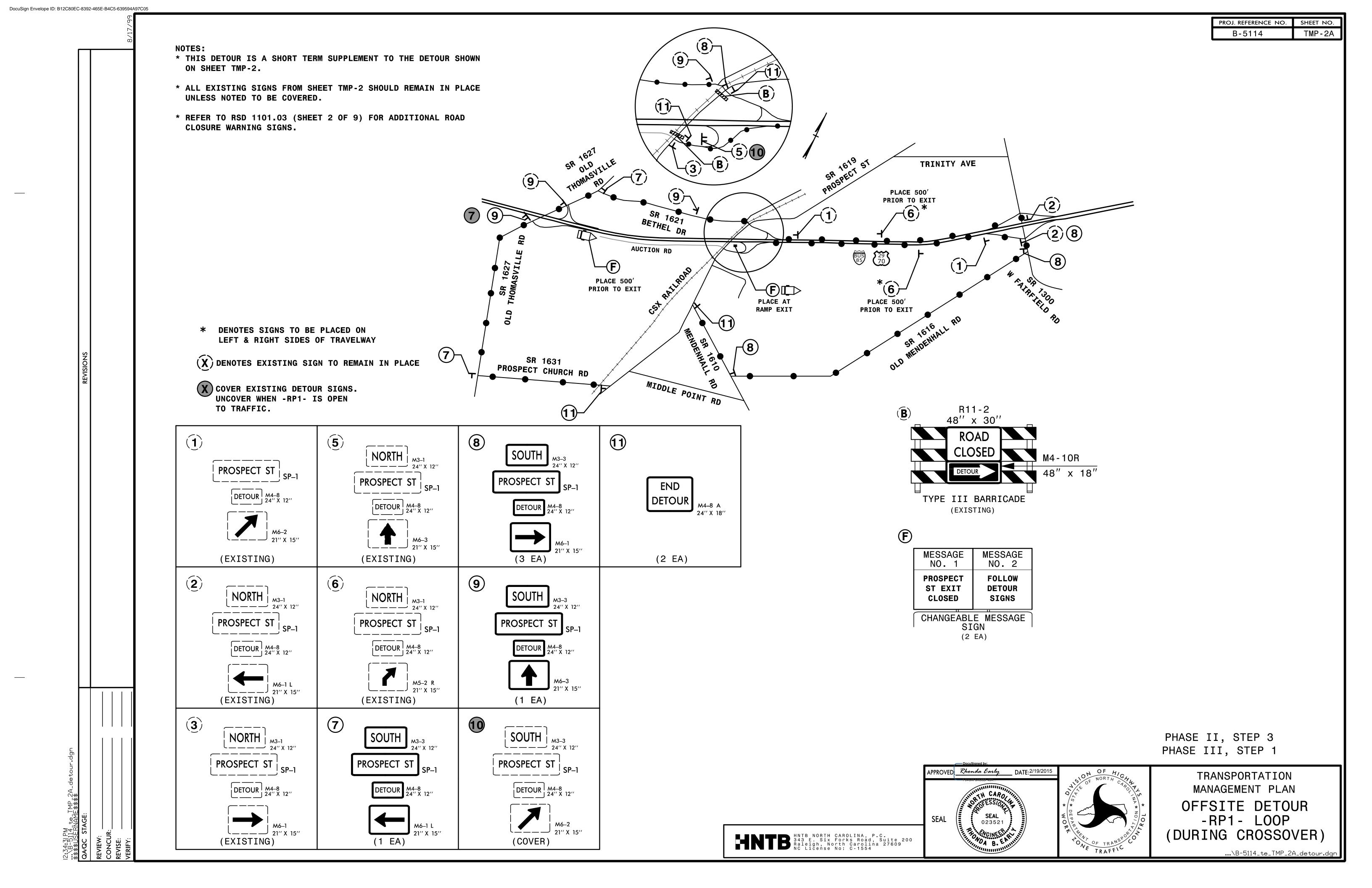
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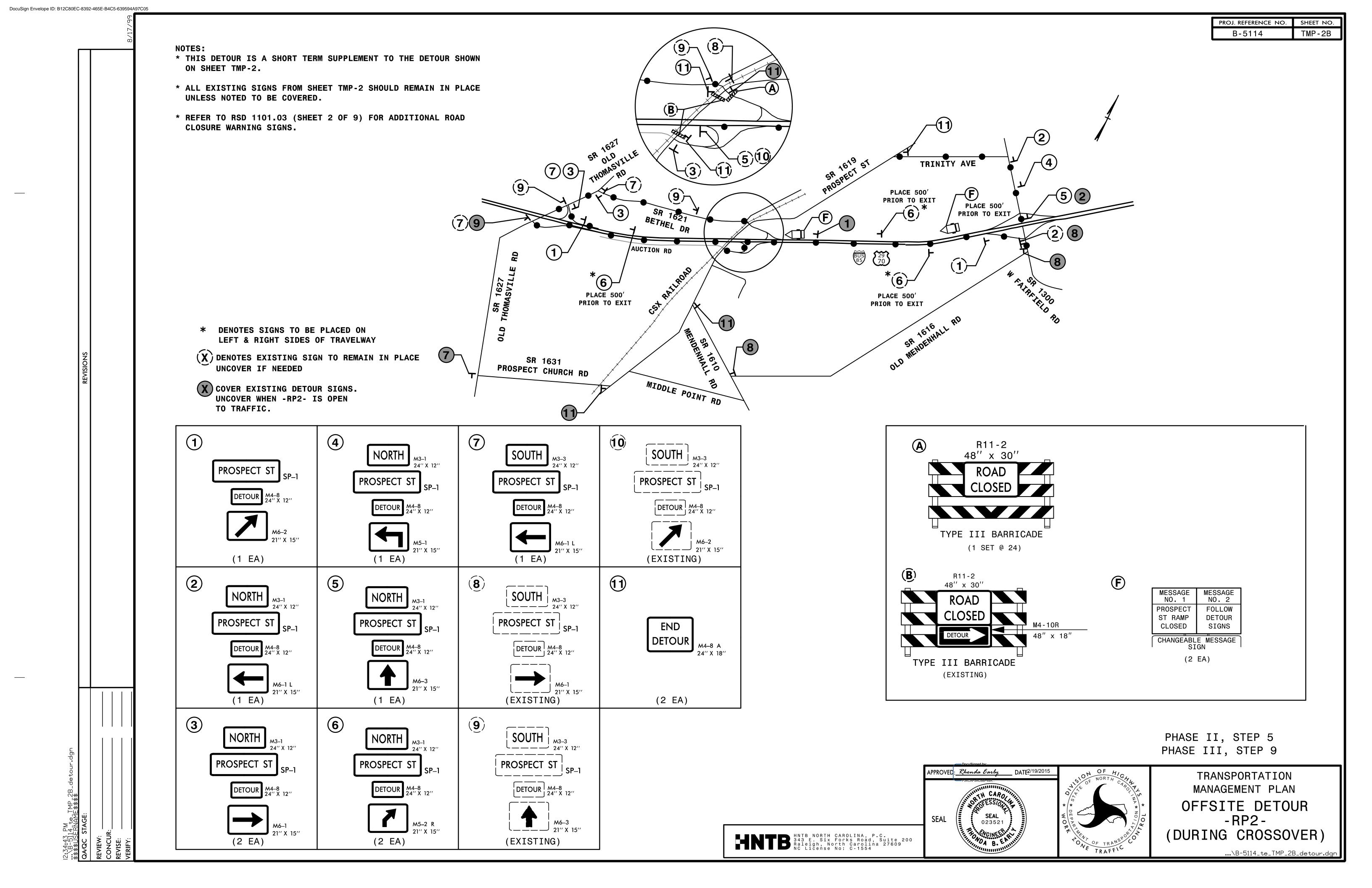
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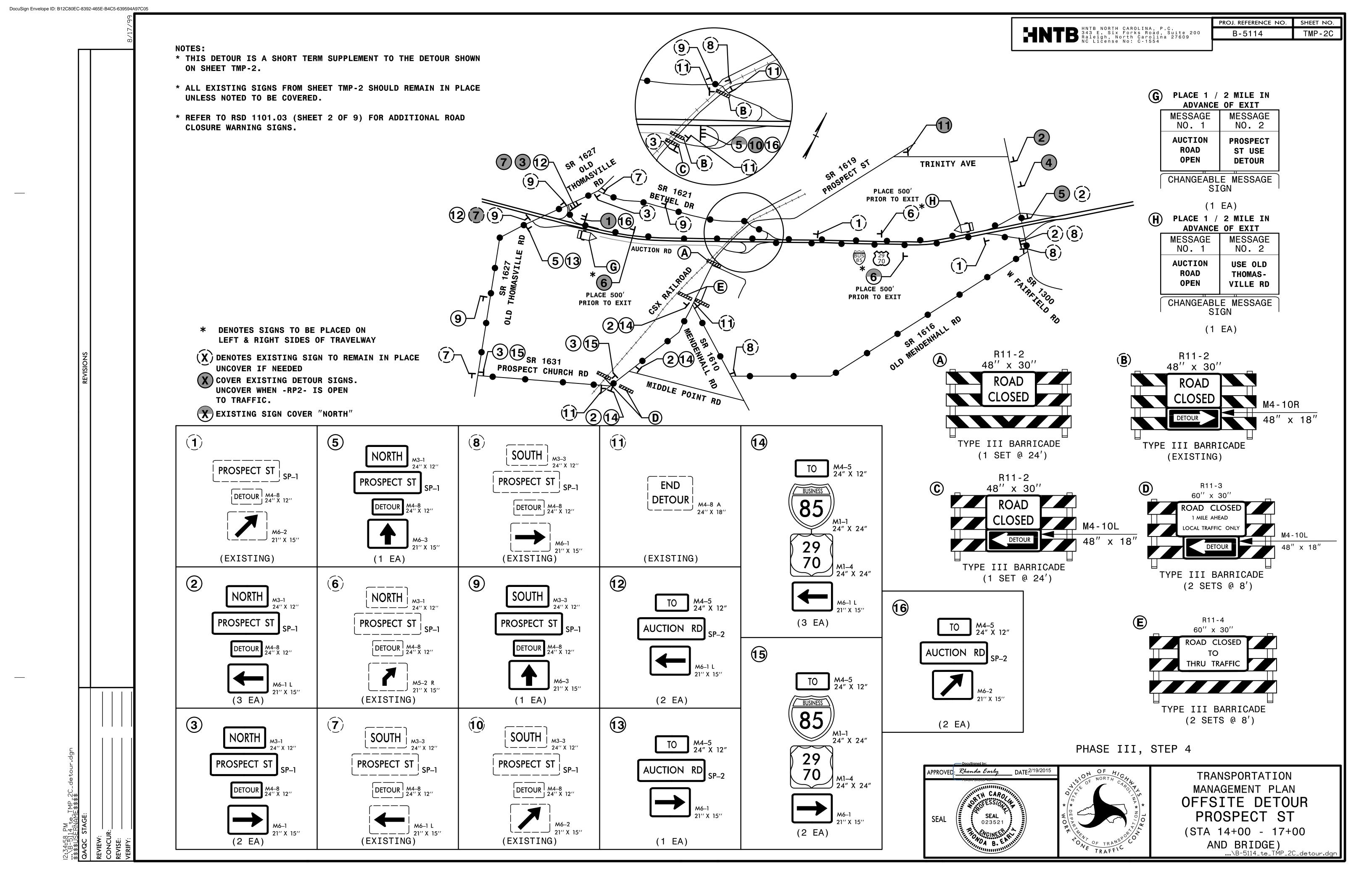
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PROJ. REFERENCE NO. SHEET NO. B-5114 TMP-2 7 GREEN SR 1619 ST PROSPECT **B**-PLACE 500' PRIOR TO EXIT SR 1621 BETHEL DR 510 Auction Rd **\_2** \*6-PLACE 500' PRIOR TO EXIT 6 1 10 3 8 NORTH M3-1 24" X 12" SOUTH M3-3
24" X 12" SOUTH M3-3 24" X 12" NORTH M3-1 24" X 12" PROSPECT ST PROSPECT ST SP-1 ROAD PROSPECT ST SP-1 PROSPECT ST SP-1 PROSPECT ST SP-1 CLOSED DETOUR M4-8 24" X 12" M5–2 R 21" X 15" M6–2 21" X 15" TYPE III BARRICADE M6–1 21'' X 15'' M6–1 21'' X 15'' (2 SETS @ 36') (1 EA) (4 EA) (1 EA) (1 EA) (2 EA) 11 **5** 7 9 2 NORTH M3-1 24" X 12" NORTH M3-1 24" X 12" SOUTH M3-3 24" X 12" SOUTH M3-3 24" X 12" PROSPECT ST SP-1 PROSPECT ST SP-1 PROSPECT ST SP-1 PROSPECT ST SP-1 REFER TO RSD 1101.03 (SHEET 2 OF 9) FOR END ADDITIONAL ROAD CLOSURE WARNING SIGNS. DETOUR M4-8 A 24" X 18" DETOUR M4-8 24" X 12" DETOUR M4-8 24" X 12" DETOUR M4-8 24" X 12" PHASE II, STEP 1 THRU PHASE III STEP 14 M6–3 21" X 15" M6–1 L 21'' X 15'' M6–1 L 21" X 15" (2 EA) (1 EA) (2 EA) (3 EA) (2 EA) APPROVED: Rhonda Early DATE:2/19/2015 TRANSPORTATION MANAGEMENT PLAN OFF-SITE DETOUR DENOTES SIGNS TO BE PLACED ON LEFT & RIGHT SIDES OF TRAVELWAY SEAL 023521 SEAL -L- PROSPECT ST AT BRIDGE HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609 NC License No: C-1554 ...\TCP\B-5114\_te\_TMP\_2\_detour.dgn

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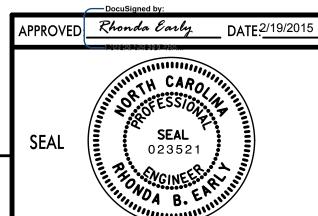


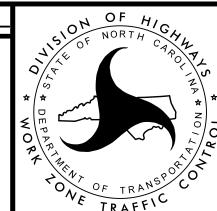


DocuSign Envelope ID: B12C80EC-8392-465E-B4C5-639594A97C05 PROJ. REFERENCE NO.

> SIGN NUMBER: SP-1 BACKG COLOR: Fluorescent Orange DESIGN BY: ADK CHECKED BY: TRT/CAJ COPY COLOR: Black TYPE: STATIONARY PROJECT ID: B-5114 DIV: 08 DATE: Oct 2014 QUANTITY: 1 SIGN WIDTH: 4'-0" HEIGHT: 1'-0" TOTAL AREA: 4.0 Sq.Ft. BORDER TYPE: INSET 4'-0" **RECESS:** 0.75" WIDTH: 0.75" **RADII:** 1.5" MAT'L: 0.125" ALUMINUM NO. Z BARS: N/A LENGTH: N/A Legend and border shall be direct applied Grade C reflective sheeting.
>  Background shall be Grade C reflective sheeting. **BORDER** R=1.5" TH=0.75" IN=0.75" Spacing Factor is 1 unless specified otherwise LETTER POSITIONS Series/Size Letter spacings are to start of next letter Text Length P R O S P E C T S T C 2000 4.7 3.8 3.5 3.7 3.6 3.8 3.3 3.4 2.6 5 3.3 2.6 4.7 38.6

SIGN NUMBER: SP-2 BACKG COLOR: Fluorescent Orange DESIGN BY: ADK CHECKED BY: TRT/CAJ COPY COLOR: Black TYPE: STATIONARY DATE: Oct 2014 PROJECT ID: B-5114 DIV: 08 X Y WID HT QUANTITY: 1 SIGN WIDTH: 4'-0" HEIGHT: 1'-0" TOTAL AREA: 4.0 Sq.Ft. BORDER TYPE: INSET **RECESS:** 0.75" 4'-0" WIDTH: 0.75" RADII: 1.5" MAT'L: 0.125" ALUMINUM NO. Z BARS: N/A LENGTH: N/A Legend and border should be direct applied, black, non-reflective sheeting.
 Background shall be Grade B, fluorescent orange, retroreflective sheeting.
 To be mounted with Detour signing. **BORDER** 34.3" 6.85" R=1.5" TH=0.75" IN=0.75" Spacing Factor is 1 unless specified otherwise LETTER POSITIONS Series/Size Letter spacings are to start of next letter Text Length | A | U | C | T | I | O | N | C 2000 6.9 3.9 3.8 3.4 3.2 1.7 3.9 2.8 5 3.6 2.8 6.9 34.3





TRANSPORTATION MANAGEMENT PLAN

SPECIAL SIGN DESIGNS

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SHEET NO.

TMP-2D

B-5114

# PHASING

PROJ. REFERENCE NO. SHEET NO. TMP-3 B-5114

#### 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.

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, AND TEMPORARY MEDIAN AND OUTSIDE DITCHES.

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

THE TERM RSD DENOTES "ROADWAY STANDARD DRAWING".

#### PHASE I

(SEE TMP-4 THRU 7)

- STEP 1: INSTALL WORK ZONE ADVANCE WARNING SIGNS ON -L- (SR 1619), -Y1-(SR 1663), -Y4- (I-85 BUS), BELMAR ST (SR 1623), BETHEL DR (SR 1621) & THOMPSON RD (SR 1620) ACCORDING TO RSD 1101.01.
- STEP 2: USING RSD 1101.02 (SHEETS 3, 9 & 10 OF 15), COMPLETE THE FOLLOWING:
  - \* CLOSE THE -Y4- NB OUTSIDE LANE, CONSTRUCT OUTSIDE SHOULDER ALONG NBL FROM STA 8+50+/- TO STA 34+00+/-, AND INSTALL PCB FROM STA 20+00+/- TO STA 22+75+/-. (LN-1)
  - \* CLOSE THE -Y4- SB OUTSIDE LANE, CONSTRUCT OUTSIDE SHOULDER ALONG SBL FROM STA 8+50+/- TO STA 34+00+/-, AND INSTALL PCB FROM STA 21+25+/- TO STA 23+75+/-. (LN-1)
- STEP 3: USING RSD 1101.02 (SHEET 3 OF 15), CLOSE THE -Y4- NB & SB MEDIAN LANES AND CONSTRUCT TEMPORARY MEDIAN CROSSOVERS ON -Y4- IN THE FOLLOWING LOCATIONS:
  - \* -Y4- FROM STA 8+50+/- TO STA 12+80+/- (SEE TMP-6) \* -Y4- FROM STA 29+70+/- TO STA 34+00+/- (SEE TMP-7)

INSTALL AND COVER DETOUR SIGNS AS SHOWN ON SHEET TMP-2. INSTALL AND COVER DETOUR SIGNS AS SHOWN ON SHEET TMP-2A. INSTALL AND COVER DETOUR SIGNS AS SHOWN ON SHEET TMP-2B.

#### PHASE II

(SEE TMP-8 THRU 11)

- STEP 1: USING OFF-SITE DETOUR, UNCOVER DETOUR SIGNS AND CLOSE -L- (PROSPECT ST) AS SHOWN ON SHEET TMP-2.
- STEP 2: AWAY FROM TRAFFIC, COMPLETE AS MUCH AS POSSIBLE OF BRIDGE REMOVAL PREPARATION AND PROCESS. PLACE WFB AS SHOWN ON TMP-8.
- STEP 3: UNCOVER DETOUR SIGNS AS SHOWN ON SHEET TMP-2A (NO ACCESS TO -RP1- LOOP) AND USING RSD 1101.03 (SHEET 6 OF 9), SHIFT -Y4- NB TRAFFIC TO SB INSIDE LANE USING TEMPORARY MEDIAN CROSSOVERS. USE DRUMS TO CHANNELIZE -RP1- RAMP TRAFFIC ACCESSING NB LANE. AWAY FROM TRAFFIC, REMOVE EXISTING BRIDGE OVER -Y4- NBL. (LN-4,5) (SEE SHEET TMP-8.) (REFER TO GENERAL NOTES C, D & Q.)
- STEP 4: AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF -L- FROM STA 18+35+/- TO STA 19+01+/- INCLUDING PROPOSED END BENT.
- STEP 5: UNCOVER DETOUR SIGNS AS SHOWN ON SHEET TMP-2B AND CLOSE -RP2- RAMP & LOOP TO TRAFFIC AND USING RSD 1101.03 (SHEET 6 OF 9), SHIFT -Y4-SB TRAFFIC TO NB INSIDE LANE USING TEMPORARY MEDIAN CROSSOVERS. AWAY FROM TRAFFIC, REMOVE EXISTING BRIDGE OVER -Y4- SBL. (LN-4,5) (SEE SHEET TMP-9.) (REFER TO GENERAL NOTES C, D & Q.)
- STEP 6: AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF -L- FROM STA 21+00+/- TO STA 23+50+/- INCLUDING PROPOSED END BENT. (SEE TMP-11)

COMPLETE THE REQUIREMENTS OF PHASE II, STEPS 7 THRU 11 IN 100 CONSECUTIVE CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

- STEP 7: INSTALL TEMPORARY (TAPE) PAVEMENT MARKING ON -Y4- NBL & SBL AND USING RSD 1101.02 (SHEET 3 OF 15), COMPLETE THE FOLLOWING: (SEE SHEETS TMP-10 AND TMP-11.)
  - \* CLOSE MEDIAN LANE ON NB -Y4- AND INSTALL PCB FROM STA 19+50+/-TO STA 25+00+/- (LN-6)
  - \* CLOSE MEDIAN LANE ON SB -Y4- AND INSTALL PCB FROM STA 20+00+/-TO STA 25+25+/- (LN-6)

# PHASE II (CONTINUED)

(SEE TMP-8 THRU 11)

- STEP 8: AWAY FROM TRAFFIC AND BEHIND BARRIER, CONSTRUCT CENTER BENT. REFER TO STRUCTURE PLANS FOR REMOVAL OF EXISTING FOOTING. (SEE SHEETS TMP-10 & TMP-11.)
- STEP 9: AWAY FROM TRAFFIC BEHIND BARRIER OR DRUMS. COMPLETE MEDIAN SHOULDER CONSTRUCTION.
- STEP 10: AWAY FROM TRAFFIC COMPLETE END BENTS BEGUN IN PHASE II, STEPS 4 & 6 AND PREPARE SITE TO HANG GIRDERS.
- STEP 11: AWAY FROM TRAFFIC AND BEHIND BARRIER, INSTALL GUARDRAIL WITH TEMPORARY ANCHORS ALONG INSIDE SHOULDER OF -Y4- NB & SB LANES FROM STA 20+75+/- TO STA 24+30+/-. (SEE TMP-12 & TMP-14.) REMOVE PCB, TEMPORARY (TAPE) PAVEMENT MARKING AND DRUMS PLACED IN PHASE II. STEP 7.

#### PHASE III

(SEE TMP-12 THRU 16)

- STEP 1: UNCOVER DETOUR SIGNS AS SHOWN ON SHEET TMP-2A (NO ACCESS TO -RP1- LOOP) AND USING RSD 1101.03 (SHEET 6 OF 9), SHIFT -Y4- NB TRAFFIC TO SB INSIDE LANE USING TEMPORARY MEDIAN CROSSOVERS. USE DRUMS TO CHANNELIZE -RP1- RAMP TRAFFIC ACCESSING NB LANE. AWAY FROM TRAFFIC, INSTALL PROPOSED GIRDERS AND BEGIN BRIDGE OVER -Y4-NBL. (LN-4,5) (SEE SHEET TMP-12.) (REFER TO GENERAL NOTES C, D & Q.)
- STEP 2: USING RSD 1101.02 (SHEET 1 OF 15), BEGIN WEDGING AND WIDENING OF THE FOLLOWING, PLACE TEMPORARY PAVEMENT MARKING IN FINAL PATTERN AND PLACE DEVICES AS SHOWN ON TMP-14.: \* WEDGE AND WIDEN -L- FROM STA 12+50+/- TO STA 14+00+/- (LN-2,3) \* WEDGE AND WIDEN -L- FROM STA 17+00+/- TO STA 18+35+/- (LN-2,3) \* WEDGE AND WIDEN -RP1- FROM -L- TO STA 12+25+/- (LN-2,3)
- STEP 3: BEGIN INSTALLATION OF PROPOSED SIGNAL AT INTERSECTION OF -L- AND
  - REMOVE WATER FILLED BARRIER (WFB) PLACED IN PHASE 2, STEP, 2.
  - INSTALL AND COVER SUPPLEMENTAL DETOUR SIGNING AS SHOWN ON SHEET TMP-2C.

COMPLETE THE REQUIREMENTS OF PHASE III, STEPS 4 THRU 7 IN 10 CONSECUTIVE CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

- STEP 4: UNCOVER DETOUR SIGNING PLACED IN PHASE III, STEP 3 AND CLOSE -L-TO TRAFFIC AT STA 14+00+/- AND AT STA 17+00+/-. (SEE SHEETS TMP-13 & TMP-14.)
- STEP 5: AWAY FROM TRAFFIC, CONSTRUCT -L- FROM STA 14+00+/- TO STA 17+00+/-.
- STEP 6: COMPLETE WORK BEGUN IN PHASE III, STEP 2.
- STEP 7: PLACE TEMPORARY PAVEMENT MARKING ON -L- AND -RP1- IN FINAL PATTERN. OPEN -L- TO TRAFFIC FROM STA 14+00+/- TO STA 17+00+/-AND COVER DETOUR SIGNING PLACED IN PHASE III, STEP 3. (LN-3,4,5)
- STEP 8: USING RSD 1101.02 (SHEET 1 OF 15), BEGIN CONSTRUCTION OF -L- FROM STA 23+50+/- TO STA 28+20+/-. (LN-2) (SEE SHEETS TMP-15 & TMP-16.)
  - BEGIN INSTALLATION OF PROPOSED SIGNAL AT INTERSECTION OF -L- AND
- STEP 9: UNCOVER DETOUR SIGNS AS SHOWN ON SHEET TMP-2B AND CLOSE -RP2- RAMP & LOOP TO TRAFFIC AND USING RSD 1101.03 (SHEET 6 OF 9), SHIFT -Y4-SB TRAFFIC TO NB INSIDE LANE USING TEMPORARY MEDIAN CROSSOVERS. AWAY FROM TRAFFIC, INSTALL PROPOSED GIRDERS AND BEGIN BRIDGE OVER -Y4- SBL. (LN-4,5) (SEE SHEETS TMP-15 & TMP-16.) (REFER TO GENERAL NOTES C, D & Q.)

COMPLETE THE REQUIREMENTS OF PHASE III, STEPS 10 THRU 12 IN 7 CONSECUTIVE CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

- STEP 10: IF NOT ALREADY IN USE, UNCOVER DETOUR SIGNS AS SHOWN ON SHEET TMP-2B AND CLOSE -RP2- RAMP & LOOP TO TRAFFIC.
- STEP 11: AWAY FROM TRAFFIC BEGIN CONSTRUCTION OF -RP2- FROM -L- TO STA 12+05+/-. (SEE SHEETS TMP-15 & TMP-16.)
- STEP 12: COMPLETE CONSTRUCTION OF -RP2- BEGUN IN PHASE III, STEP 10, PLACE TEMPORARY PAVEMENT MARKING IN FINAL PATTERN AND OPEN -RP2- TO TRAFFIC. COVER DETOUR SIGNS WHEN NOT IN USE. (LN-4,5)
- STEP 13: COMPLETE CONSTRUCTION OF -L- FROM STA 23+50+/- TO STA 28+20+/-BEGUN IN PHASE III, STEP 8. PLACE TEMPORARY MARKING IN FINAL PATTERN. (LN-3)

# PHASE III (CONTINUED)

(SEE TMP-12 THRU 16)

STEP 14: COMPLETE PHASE 2, STEP 4 AND PHASE 2, STEP 6.

COMPLETE CONSTRUCTION OF PROPOSED BRIDGE OVER -Y4- BEGUN IN PHASE III, STEPS 1 & 9.

> COMPLETE INSTALLATION OF PROPOSED SIGNALS BEGUN IN PHASE III, STEPS 3 & 8.

STEP 15: PLACE TEMPORARY PAVEMENT MARKING IN FINAL PATTERN ON -L-FROM STA 18+35+/- TO STA 23+50+/-, ACTIVATE SIGNALS AND OPEN -L- TO TRAFFIC AS SHOWN IN PHASE IV. COVER AND REMOVE ALL DETOUR SIGNS. REMOVE EXISTING RAILROAD CROSSING SYMBOL ON AUCTION ROAD. (LN-3)

# PHASE IV

(SEE TMP-17)

- STEP 1: USING RSD 1101.02 (SHEET 3 OF 15) AS NEEDED, INSTALL PROPOSED BARRIER AND GUARDRAIL ALONG -Y4- OUTSIDE SHOULDER AND REMOVE PCB PLACED IN PHASE I, STEP 2.
- STEP 2: USING RSD 1101.02 (SHEET 3 OF 15) TO CLOSE THE -Y4- MEDIAN NB & SB LANES AS NEEDED, COMPLETE THE FOLLOWING: \* REMOVE TEMPORARY MEDIAN CROSS-OVERS
  - \* REMOVE TEMPORARY ANCHOR UNITS (MEDIAN) AND COMPLETE MEDIAN GUARDRAIL INSTALLATION.
- STEP 3: USING RSD 1101.02 (SHEETS 1 & 3 OF 15) AS NEEDED, MILL -Y4-, PLACE FINAL LAYER OF SURFACE COURSE, INSTALL RUMBLE STRIPS (ACCORDING TO ROADWAY PLANS AND TYPICALS), AND PLACE FINAL PAVEMENT MARKING & MARKERS AS SHOWN IN FINAL PAVEMENT MARKING
- STEP 4: REMOVE ALL WORK ZONE TRAFFIC CONTROL DEVICES.

# LOCAL NOTES

- LN-1 PCB ALONG -Y4- (US 29 / US 70 / I-85 BUS):
  - \* MUST HAVE A MINIMUM OF 30 INCHES BETWEEN BARRIER AND HAZARD / DROP OFF OR BE ANCHORED BARRIER;
  - \* LENGTH OF NEED BASED USING A RUN OUT LENGTH OF 345':
  - \* FLARE RATE OF 16:1 ON APPROACH END.
- LN-2 PROVIDE SMOOTH TRANSITION TO EXISTING PAVEMENT FOR ALL SITES THAT WILL BE OPEN TO TRAFFIC.
- LN-3 REFER TO FINAL PAVEMENT MARKING PLANS.
- SECURELY COVER DETOUR SIGNS WHEN NOT IN USE. SAME SIGNS WILL BE NEEDED IN MULTIPLE PHASES.
- LN-5 RECOVER DETOUR SIGNS AND RETURN TO SIGN LAYOUT SHOWN ON SHEET TMP-2.
- LN-6 NOTIFY JOY WIGGINS (919-733-4740) IN THE OVERSIZE / OVER-WEIGHT PERMIT DEPARTMENT AT LEAST TWO-WEEKS PRIOR TO PLACING PCB IN THE MEDIAN LANES. PROVIDE DATES THAT PCB WILL BE PLACED AND REMOVED.

APPROVED: Rhonda B. Early DATE: 4/27/201





TRANSPORTATION MANAGEMENT PLAN

PHASING & LOCAL NOTES

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