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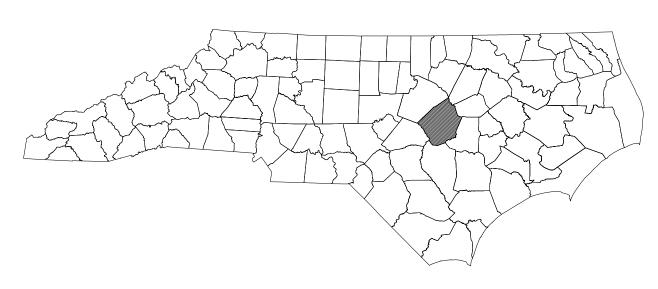
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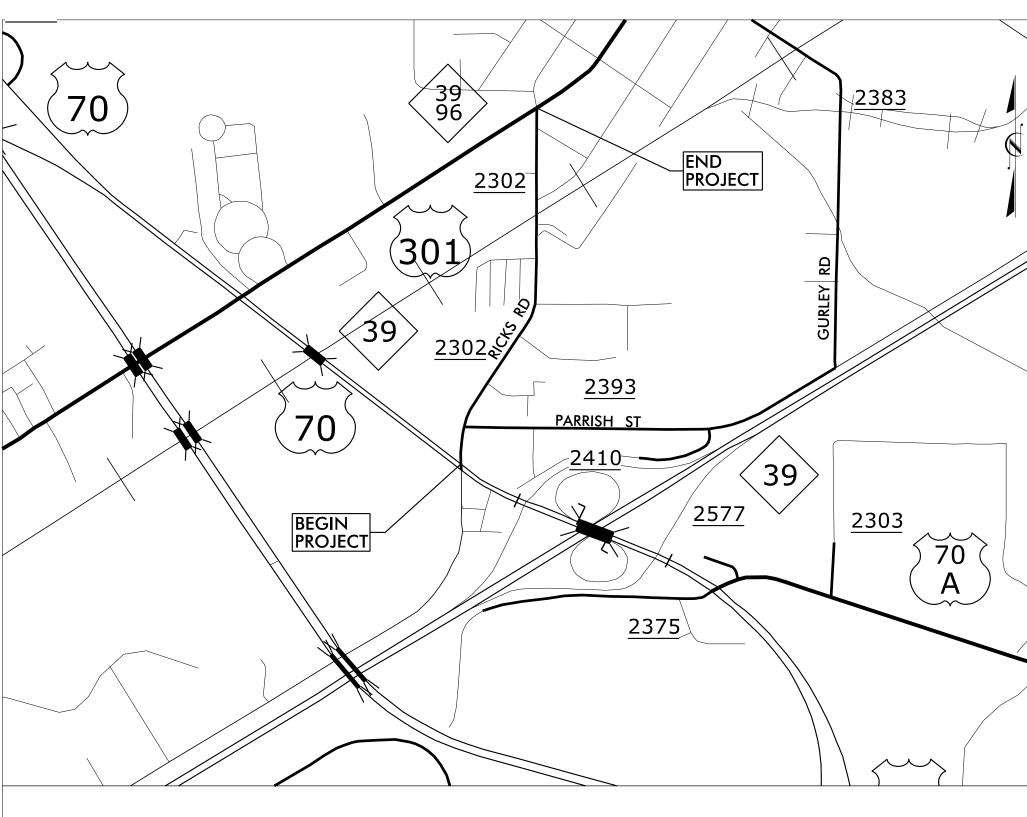
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# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

# TRANSPORTATION MANAGEMENT PLAN

# JOHNSTON COUNTY





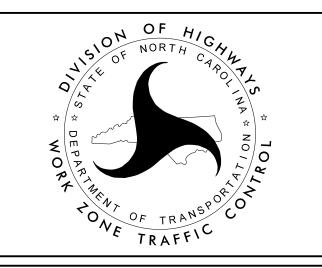
VICINITY MAP

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL 1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561

JOSEPH HUMMER, P.E. MATT CLARKE, P.E.

RUSSELL BROADWELL, P.E.

STATE TRAFFIC MANAGEMENT ENGINEER TRAFFIC CONTROL PROJECT DESIGN ENGINEER



# INDEX OF SHEETS

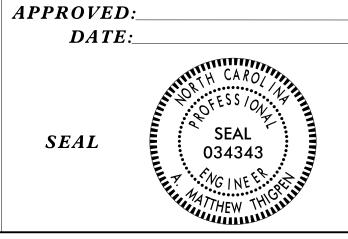
SHEET NO. TITLE TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS TMP - 1 LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND TMP-1A TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES AND LOCAL NOTES) TMP-2A-2B TMP-3 TEMPORARY TRAFFIC CONTROL PHASING TEMPORARY TRAFFIC CONTROL PHASE I DETAIL TMP-4-6

TEMPORARY TRAFFIC CONTROL PHASE II DETAIL

TMP-1

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

A. MATTHEW THIGPEN, PE TRAFFIC CONTROL PROJECT ENGINEER



750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

TRAFFIC CONTROL PROJECT ENGINEER

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

TRAFFIC CONTROL DESIGN ENGINEER

TMP-7-9

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" -PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

#### TITLE STD. NO.

1101.01	WORK ZONE ADVANCE WARNING SIGNS		
1101.02	TEMPORARY LANE 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	FLAGGERS		
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION		
1180.01	SKINNY-DRUM		
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS		
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS		
1205.04	PAVEMENT MARKINGS - INTERSECTIONS		
1205.05	PAVEMENT MARKINGS - TURN LANES		
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS		
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES		
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS		
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS		
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING		
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY		

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U-5795	TMP-1A

# **LEGEND**

# **GENERAL**

DIRECTION OF TRAFFIC FLOW

DIRECTION OF PEDESTRIAN TRAFFIC FLOW

----- EXIST. PVMT.

NORTH ARROW

—— PROPOSED PVMT.

TEMP. SHORING (LOCATION PURPOSES ONLY)

WORK AREA

REMOVAL

# SIGNALS



# PAVEMENT MARKINGS

——EXISTING LINES ——TEMPORARY LINES

# TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

DRUM SKINNY DRUM O TUBULAR MARKER

TEMPORARY CRASH CUSHION

FLASHING ARROW BOARD

LAW ENFORCEMENT

FLAGGER

TRUCK MOUNTED ATTENUATOR (TMA)

CHANGEABLE MESSAGE SIGN

# TEMPORARY SIGNING

O PORTABLE SIGN

STATIONARY SIGN

STATIONARY OR PORTABLE SIGN

# PAVEMENT MARKERS

CRYSTAL/CRYSTAL

CRYSTAL/RED

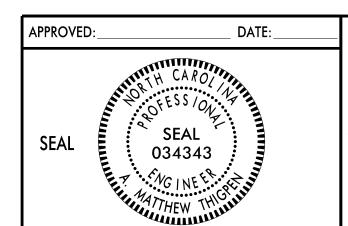
◆ YELLOW/YELLOW

# PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

# TEMPORARY PAVEMENT MARKING

PA	WHITE EDGELINE	PAINT	(4")
PB	YELLOW EDGELINE	PAINT	(4")
PD	3FT9FT./SP WHITE MINISKIP	PAINT	(4")
PE	WHITE SOLID LANE LINE	PAINT	(4")
PI	YELLOW DOUBLE CENTER LINE	PAINT	(4")
QA	LEFT TURN ARROW	PAINT	
QB	RIGHT TURN ARROW	PAINT	
QC	STRAIGHT ARROW	PAINT	





ROADWAY STANDARD DRAWINGS & LEGEND

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

(-L-) SR 2302 MONDAY THRU SUNDAY

6:00 A.M. TO 8:30 A.M. AND

4:00 P.M. TO 7:00 P.M.

(-Y1-) US 70 & MONDAY THRU SUNDAY (-Y7-) US 301 6:00 A.M. TO 9:00 P.M.

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

ROAD NAME ALL ROADS

#### HOLIDAY

- 1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- 2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M.
  DECEMBER 31st TO 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 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 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 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE
DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY AND 7:00 P.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

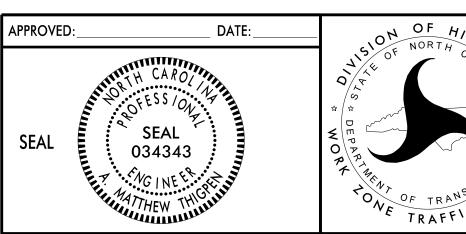
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LANE AND SHOULDER CLOSURE REQUIREMENTS

- C) 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.
- D) 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.
- E) 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.

- F) 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.
- G) 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.
- H) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON RICKS ROAD.
- I) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.



# GENERAL NOTES CONTINUED

## 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) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- O) 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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#### TRAFFIC CONTROL DEVICES

- P) 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.
- Q) 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

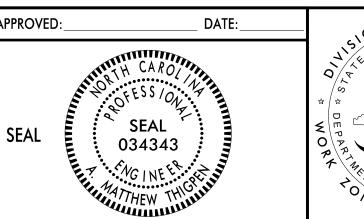
R) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	TEMPORARY RAISED

- S) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS, PLACE
  A SECOND APPLICATION OF PAINT SIX MONTHS AFTER THE INITIAL APPLICATION
  AND EVERY 6 MONTHS AS DIRECTED BY THE ENGINEER.
- T) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- U) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

# MISCELLANEOUS

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





# PHASING

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

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.

WEDGE EXISTING PAVEMENT IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANES.

COMPLETE WEDGING AND WIDENING SIMULTANEOUSLY SO THAT CURRENT TRAFFIC PATTERNS, DROP-OFF REQUIREMENTS AND POSITIVE DRAINAGE ARE MAINTAINED.

SEE RAILROAD PROVISIONS FOR WORK INSIDE THE RAILROAD RIGHT OF WAY

#### PHASE I

STEP 1

INSTALL WORK ZONE ADVANCE WARNING SIGNS

STEP 2

WHILE MAINTAINING TRAFFIC IN EXISTING PATTERN AND USING RSD 1101.02 (SHEETS 1 AND 3 OF 14), BEGIN CONSTRUCTION AS MUCH AS POSSIBLE OF THE FOLLOWING PROPOSED OUTSIDE WIDENING AND PROPOSED CURB & GUTTER (SEE SHEET TMP-4 THRU TMP-6). COMPLETE MILLING OF EXISTING PAVEMENT AFTER COMPLETION OF INTERMEDIATE COURSE.

-L- FROM STA 11+00 +/- TO 41+50 +/-

CONSTRUCT PROPOSED DRAINAGE CROSS PIPES ACROSS -L- AS FOLLOWS:

USE LANE CLOSURES (RSD NO. 1101.02, SHEETS 1, 2 AND 3 OF 14) AND LAW ENFORCEMENT AS NECESSARY DURING SUCCESSIVE OVERNIGHT PERIODS.

PATCH PAVEMENT AND RESTORE TRAFFIC TO ITS PRIOR PATTERN BY THE END OF THE WORK PERIOD.

WHILE MAINTAINING TRAFFIC IN EXISTING PATTERN AND USING RSD 1101.02 (SHEETS 1, 2 AND 3 OF 14), BEGIN SIGNAL REVISIONS AT THE FOLLOWING INTERSECTIONS:

-RICKS ROAD AND US 70

-RICKS ROAD AND S. POLLOCK STREET

STEP 3

WHILE MAINTAINING TRAFFIC IN EXISTING PATTERN AND USING RSD 1101.02 (SHEETS 1 AND 3 OF 14), COMPLETE CONSTRUCTION OF THE FOLLOWING PROPOSED OUTSIDE WIDENING AND PROPOSED CURB & GUTTER UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE SHEET TMP-4 THRU TMP-6).

-L- (LEFT) FROM STA 11+00 +/- TO 26+30 +/-

PHASE II

WORK IN A CONTINOUS MANNER TO COMPLETE THE WORK REQUIRED IN PHASE II STEP 1 AND SHIFT TRAFFIC TO PHASE II PATTERN IN A SINGLE WORK PERIOD. (SEE TMP-7 THRU TMP-9)

STEP 1

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 1 OF 14) AND LAW ENFORCEMENT, PLACE TEMPORARY PAVEMENT MARKINGS, TRAFFIC CONTROL DEVICES AND SIGNING FOR THE PHASE II PATTERN AND SHIFT TRAFFIC TO NEW PATTERN FOR:

-L- FROM -Y1- TO STA 26+75 +/- (SEE TMP-7 AND TMP-8)

STEP 2

USING RSD 1101.02 (SHEETS 1 AND 3 OF 14), COMPLETE CONSTRUCTION OF THE FOLLOWING PROPOSED OUTSIDE WIDENING AND PROPOSED CURB & GUTTER (SEE SHEET TMP-7 THRU TMP-9).

-L- FROM STA 11+00 +/- TO 41+50 +/-

PHASE III

WORK IN A CONTINOUS MANNER TO COMPLETE THE WORK REQUIRED IN PHASE III STEP 1 AND SHIFT TRAFFIC TO PHASE III PATTERN IN A SINGLE WORK PERIOD.

STEP 1

REMOVE EXISTING CONCRETE ISLAND FROM -L- STA 10+60 +/- TO STA 11+90 +/-, PLACE TEMPORARY PAVEMENT MARKINGS & MARKERS IN THE FINAL PATTERN (INCLUDING SOLID YELLOW EDGE LINE MARKINGS OUTLINING SHAPE OF PROPOSED MEDIANS), COMPLETE SIGNAL REVISIONS, SHIFT TRAFFIC TO THE FINAL PATTERN, PLACE SKINNY DRUMS WITHIN OUTLINES OF PROPOSED RAISED MEDIANS AND INSTALL REMAINING TRAFFIC CONTROL DEVICES. ACTIVATE ALL FINAL SIGNALS AND OPEN TO THE FINAL TRAFFIC PATTERN.

STEP 2

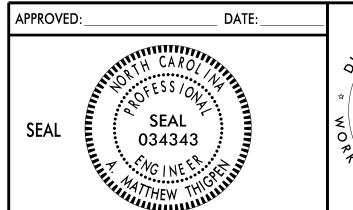
USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 2 OF 14), COMPLETE CONSTRUCTION OF MEDIAN DRAINAGE AND MONOLITHIC ISLANDS ON -L-.

STEP 3

USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 2 OF 14), PLACE THE FINAL LAYER OF SURFACE COURSE AND INSTALL PAVEMENT MARKINGS AND MARKERS IN THE FINAL TRAFFIC PATTERN AS SHOWN IN THE FINAL PAVEMENT MARKING PLANS.

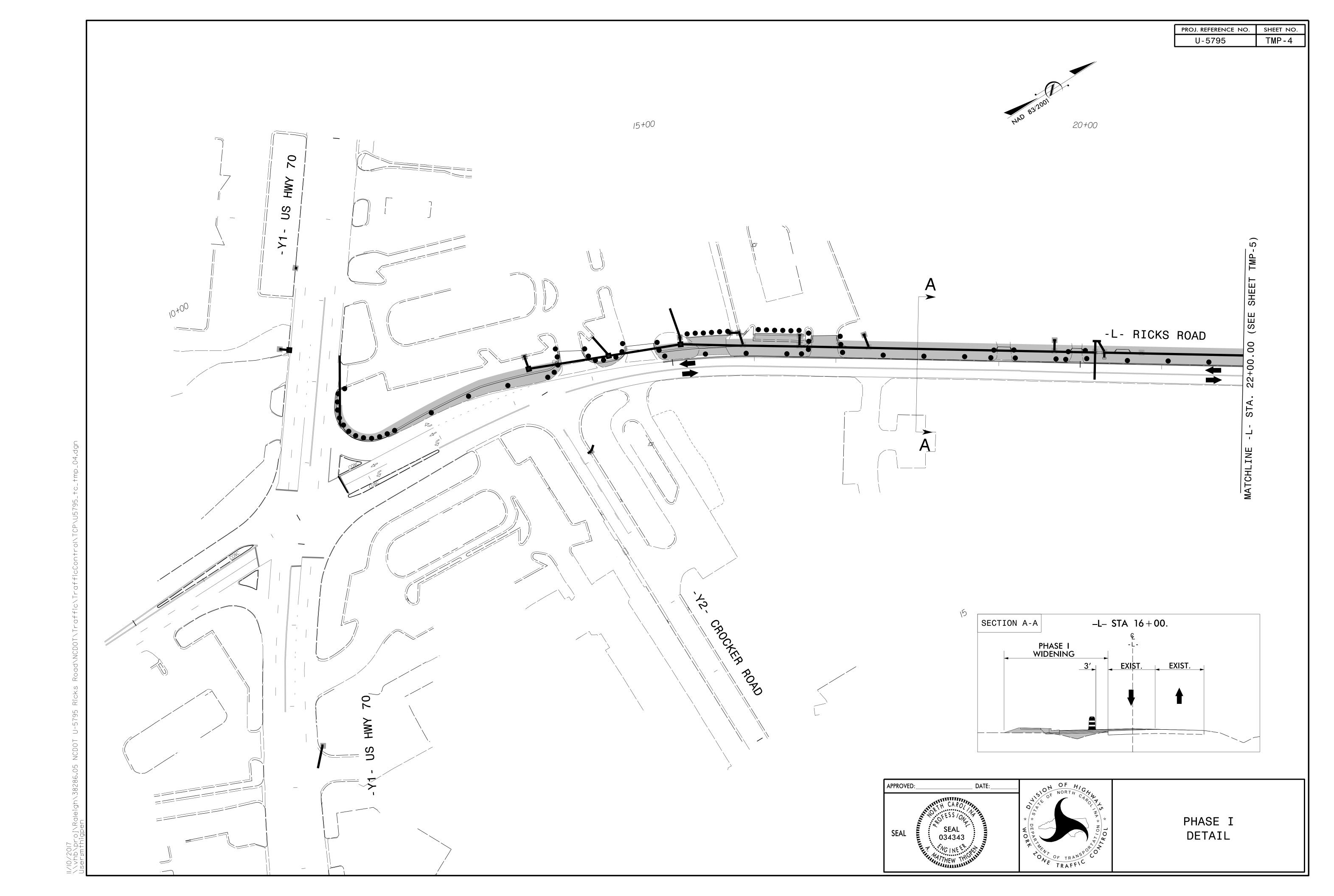
STEP 4

REMOVE ALL REMAINING TRAFFIC CONTROL DEVICES.





**PHASING** 



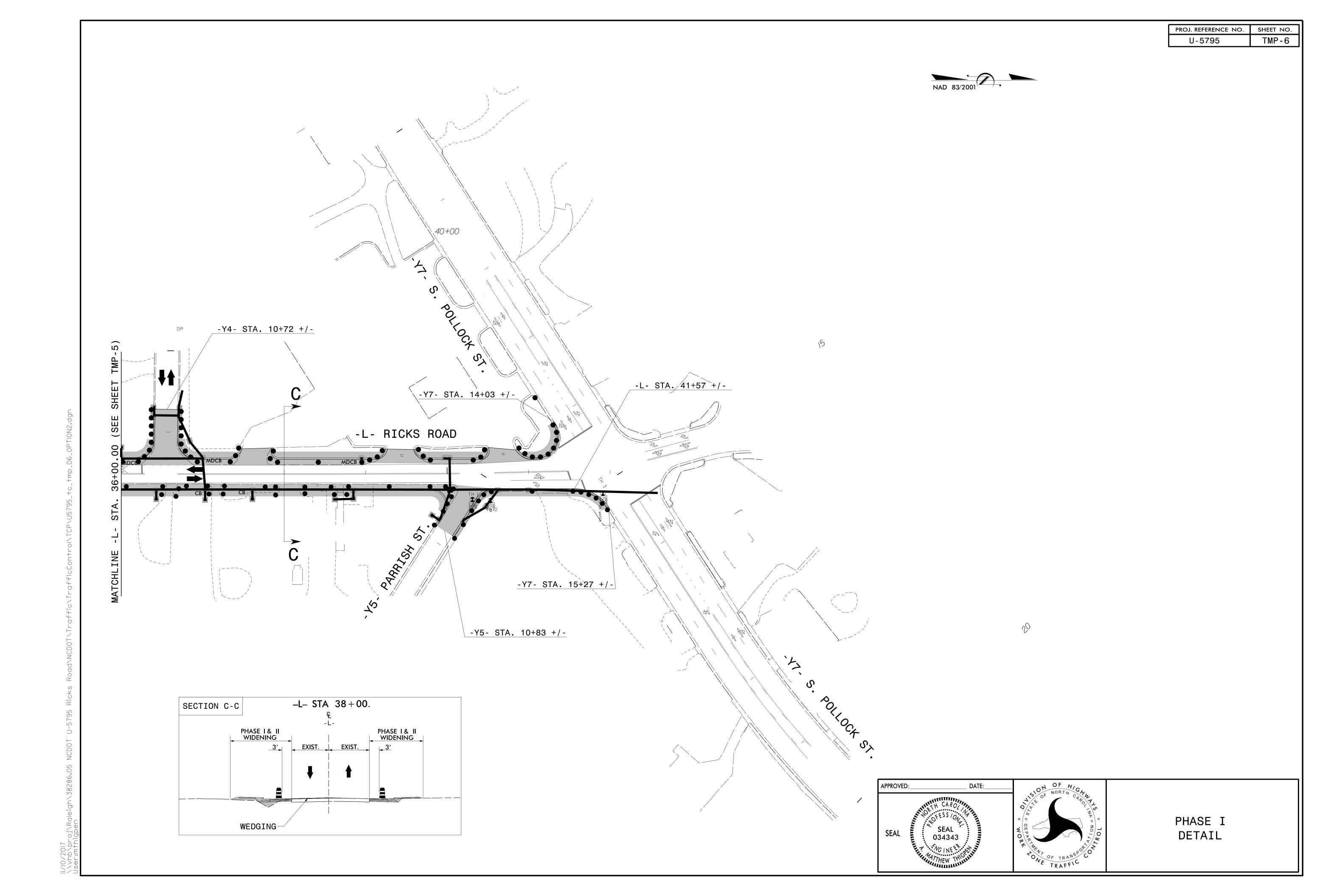
PROJ. REFERENCE NO. TMP-5 U-5795 25+00 30+00 *35+00* -L- RICKS ROAD /-Y3- STA. 11+05 +/-\_L\_ STA 32 + 00. SECTION B-B PHASE I & II

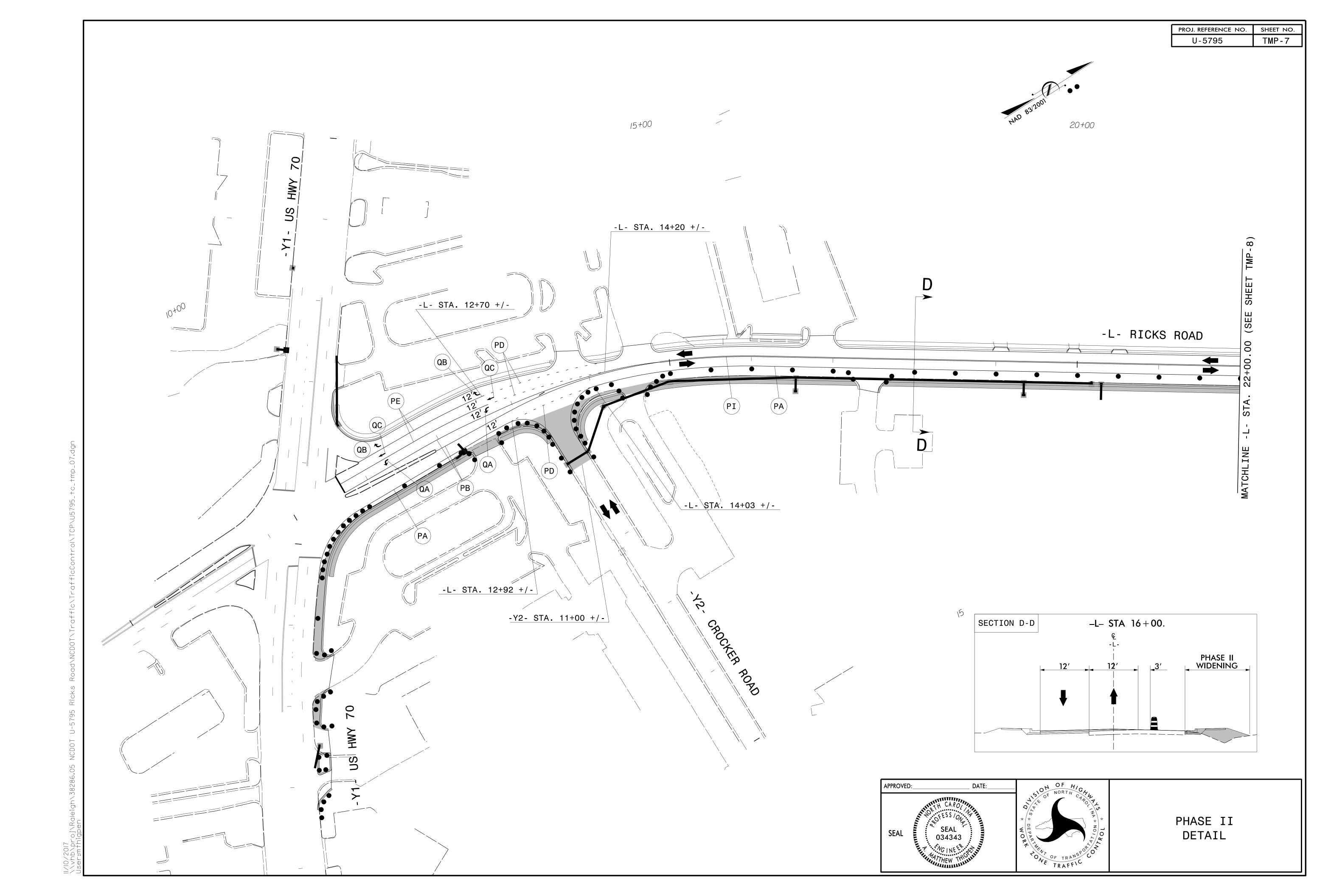
WIDENING

SYNCE

EXIST. EXIST.

A PHASE I DETAIL WEDGING-





PROJ. REFERENCE NO. U-5795 TMP-8 25+00 30+00 *35+00* TI -L- RICKS ROAD -L- STA. 26+75 +/-TIE TO EXISTING MARKINGS /-Y3- STA. 11+05 +/--L- STA 32+00. SECTION E-E PHASE I & II WIDENING PHASE I & II WIDENING 3' EXIST. EXIST. APPROVED:\_ PHASE II ີ SEAL ໌ 034343 SEAL WEDGING-DETAIL

