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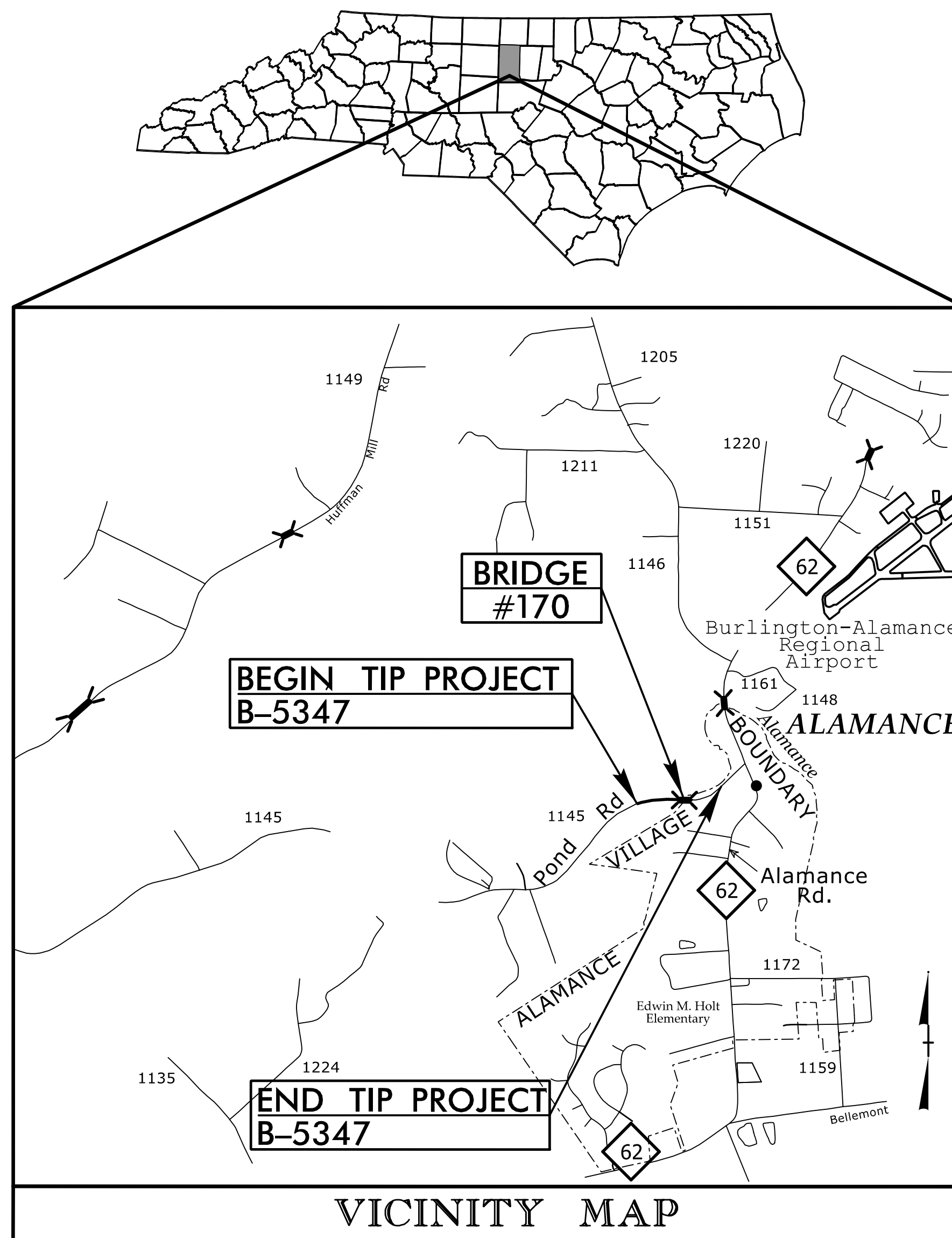
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ALAMANCE COUNTY



**LOCATION: BRIDGE NO.170 OVER A PRONG OF BIG ALAMANCE CREEK
ON SR 1145 (POND RD)**

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND CULVERT

INDEX OF SHEETS

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TMP-2	PHASING
TMP-2A	CUT SECTIONS
TMP-3	PHASE I DETAIL
TMP-4	PHASE II DETAIL
TMP-5	PHASE III DETAIL

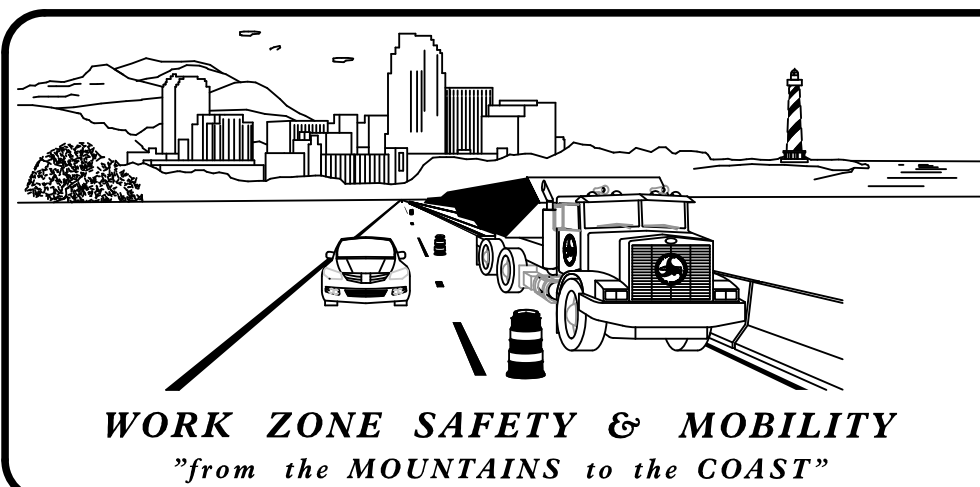
SHEET NO.
TMP-1

B-5347

TIP PROJECT:

R. B. EARLY, P.E. TRAFFIC CONTROL PROJECT ENGINEER
H. SHYU, P.E. QUALITY CONTROL ENGINEER
S. N. GREEN TRAFFIC CONTROL DESIGN ENGINEER

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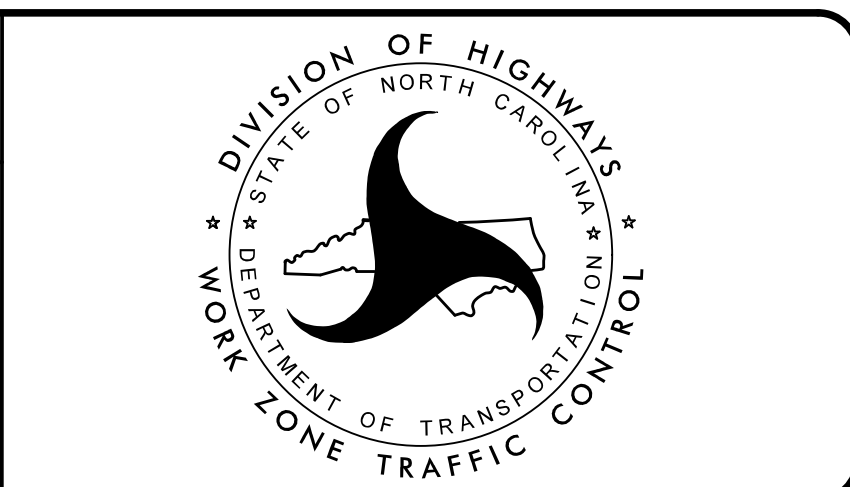


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DATE: 8/21/2017

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

STD. NO.	TITLE
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
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
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
1205.12	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

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA (AWAY FROM TRAFFIC)
- REMOVAL
- PROPOSED CONSTRUCTION (USING LANE CLOSURES AND/OR FLAGGERS)

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY
- TEMPORARY/PORTABLE

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

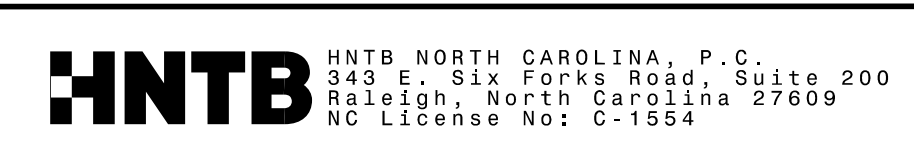
SYMBOL	DESCRIPTION	PAY ITEM
	<u>PAVEMENT MARKING LINES</u>	
PA	WHITE EDGELINE	PAINT (4")
PI	YELLOW DOUBLE CENTER LINE	
P2	WHITE STOP BAR	PAINT (24")

PAVEMENT MARKERS

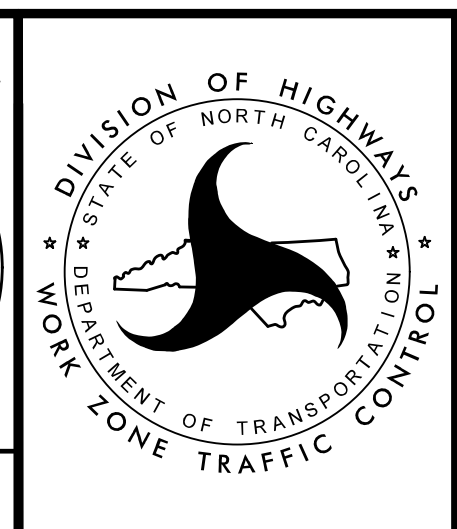
MM	CRYSTAL & CRYSTAL	TEMPORARY RAISED
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NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, REFER TO GENERAL NOTE (M) FOR NUMBER OF APPLICATIONS.

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TRANSPORTATION
MANAGEMENT PLAN

**ROADWAY STANDARD
DRAWINGS, LEGEND &
TEMPORARY PAVEMENT
MARKING SCHEDULE**

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MANAGEMENT STRATEGIES

MAINTENANCE OF TRAFFIC FOR THIS PROJECT HAS BEEN DIVIDED INTO THREE PHASES CONSTRUCTING AS MUCH AS POSSIBLE AWAY FROM TRAFFIC (AS WELL AS TIE-INS), SHIFT TRAFFIC TO DETOUR TO CONSTRUCT PROPOSED, AND THEN SHIFT TRAFFIC TO FINAL PATTERN.

DURING PHASE I, START CONSTRUCTION OF CULVERT, TEMPORARY DRAINAGE AND TEMPORARY ON-SITE DETOUR. REFER TO ROADWAY PLANS FOR SHORING REQUIREMENTS.

DURING PHASE II, SHIFT TRAFFIC TO TEMPORARY PATTERN. TRAFFIC WILL BE IN A ONE LANE-TWO WAY PATTERN ON DETOUR WITH THE USE OF TEMPORARY PORTABLE TRAFFIC SIGNALS WHILE PROPOSED ROADWAY AND REMAINDER OF CULVERT IS CONSTRUCTED.

DURING PHASE III, TRAFFIC IS SHIFTED TO FINAL PATTERN AND ALL REMAINING CONSTRUCTION WILL BE PERFORMED, INCLUDING THE REMOVAL OF TEMPORARY ON-SITE DETOUR.

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 UNDESIRABLE 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.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) 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.
- B) 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.
- C) 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.

- D) 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.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- E) 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.

- F) 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 IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- H) 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.

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

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
-L- (SR 1145 POND RD.)	PAINT	TEMPORARY RAISED

- M) 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.
- N) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- O) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

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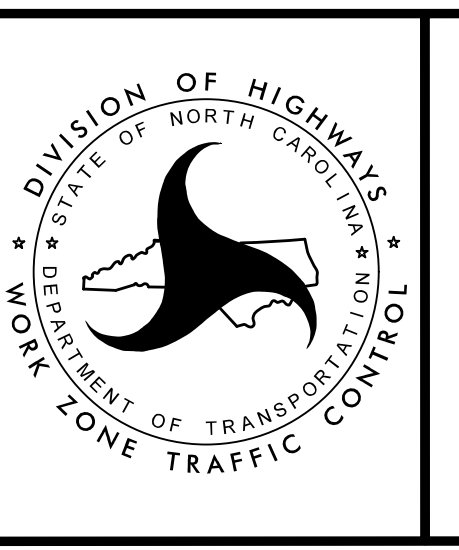


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TRANSPORTATION MANAGEMENT PLAN

MANAGEMENT STRATEGIES & GENERAL NOTES

PHASING

NOTE:
COMPLETE ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE.

PHASE I

STEP 1:
USING ROADWAY STANDARD DRAWING NO. 1101.01 (SHEET 3 OF 3),
INSTALL ALL ADVANCED WORK ZONE WARNING SIGNS.

STEP 2:
AWAY FROM TRAFFIC, CONSTRUCT PARTIAL CULVERT (AS MUCH AS POSSIBLE), TEMPORARY SHORING, TEMPORARY DRAINAGE AND TEMPORARY DETOUR (-DET-), FROM -DET- STA 11+00+/- TO STA 14+00+/- . (SEE EROSION CONTROL PLANS FOR CULVERT CONSTRUCTION SEQUENCE PLAN AND ROADWAY PLANS FOR TEMPORARY SHORING DETAILS).

USING ROADWAY STANDARD DRAWING NO. 1101.02 (SHEET 1 OF 15),
TRANSITION GRADE AS NEEDED TO PROVIDE TEMPORARY DETOUR TIES FROM -DET- STA 10+25+/- TO STA 11+00+/- AND FROM -DET- STA 14+00+/- TO STA 14+75+/- , UP TO THE EDGE AND ELEVATION OF EXISTING.

NOTE: TMA MAY BE REQUIRED IN THE EVENT TEMPORARY GUARDRAIL INSTALLATION IS NOT COMPLETE PRIOR TO SHIFTING TRAFFIC.

PHASE II

STEP 1:
INSTALL TEMPORARY PORTABLE TRAFFIC SIGNALS AND SIGNS AT EACH END OF THE PROJECT (AS SHOWN ON SHEET TMP-4.). (SEE SPECIAL PROVISION FOR TEMPORARY PORTABLE TRAFFIC SIGNAL SYSTEM).

USING ROADWAY STANDARD DRAWING NO. 1101.02 (SHEET 1 OF 15),
PLACE TEMPORARY PAVEMENT MARKINGS AND TEMPORARY RAISED PAVEMENT MARKERS, SHIFT TRAFFIC TO DETOUR AND ACTIVATE SIGNALS.

STEP 2:
AWAY FROM TRAFFIC, REMOVE EXISTING BRIDGE, CONSTRUCT AND/OR WEDGE PROPOSED ROADWAY AND REMAINDER OF CULVERT ON -L- (SR 1145, POND RD.) FROM -L- STA 12+76+/- TO STA 15+50+/- , UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

USING ROADWAY STANDARD DRAWING NO. 1101.02 (SHEET 1 OF 15)
AND FLAGGING, WEDGE AND/OR CONSTRUCT -L- (SR 1145, POND RD.) FROM -L- STA 11+80+/- TO STA 12+76+/- AND FROM -L- STA 15+50+/- TO STA 17+25+/- , UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

PHASE III


STEP 1:
USING ROADWAY STANDARD DRAWING NO. 1101.02 (SHEET 1 OF 15), PLACE TEMPORARY PAVEMENT MARKINGS AND TEMPORARY RAISED PAVEMENT MARKERS ON PROPOSED -L- (SR 1145, POND RD.), AND SHIFT TRAFFIC TO FINAL PATTERN.

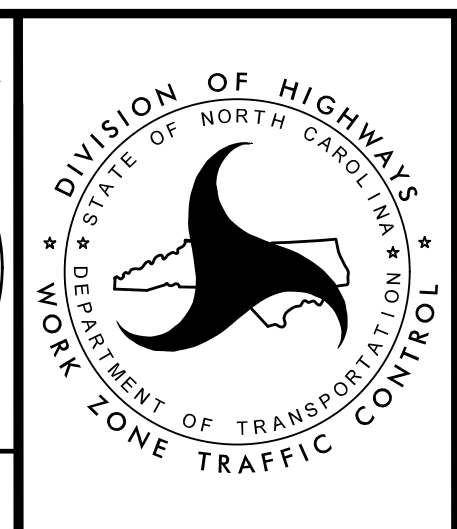
STEP 2:
USING ROADWAY STANDARD DRAWING NO. 1101.02 (SHEET 1 OF 15), REMOVE TEMPORARY DETOUR PAVEMENT, TEMPORARY PIPES AND TEMPORARY SHORING, AND COMPLETE ANY REMAINING CONSTRUCTION OF -L- (SR 1145, POND RD.) TO INCLUDE PROPOSED CULVERT WING WALLS.

STEP 3:
USING ROADWAY STANDARD DRAWING NO. 1101.02 (SHEET 1 OF 15), PLACE THE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS ON -L- FROM STA 11+25+/- TO STA 17+25+/- .

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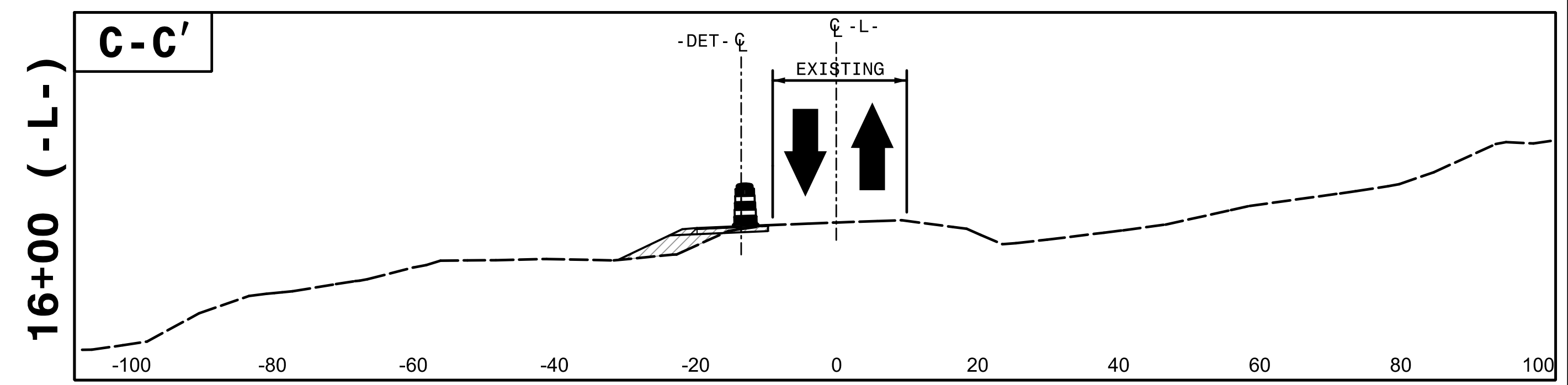
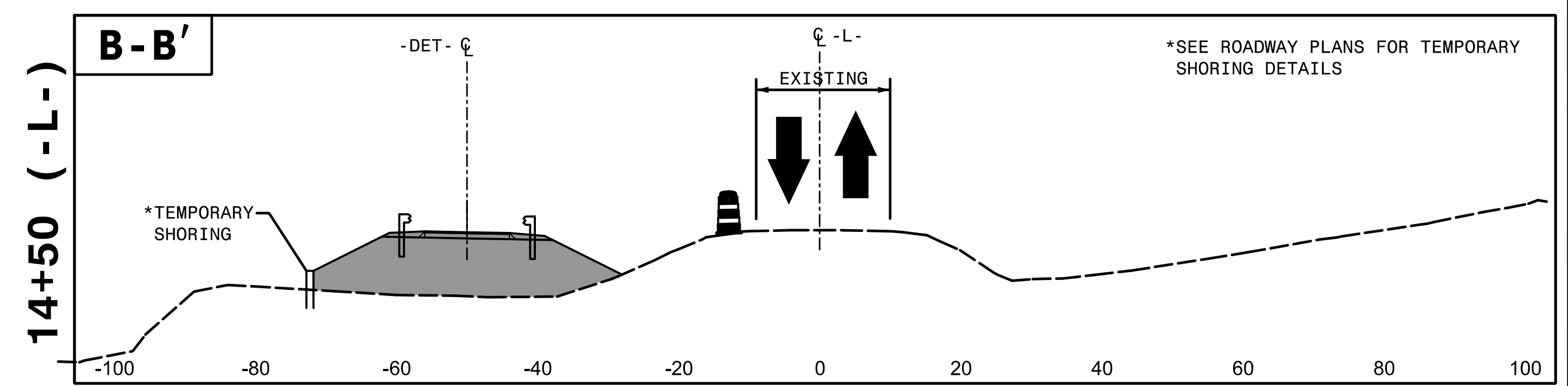
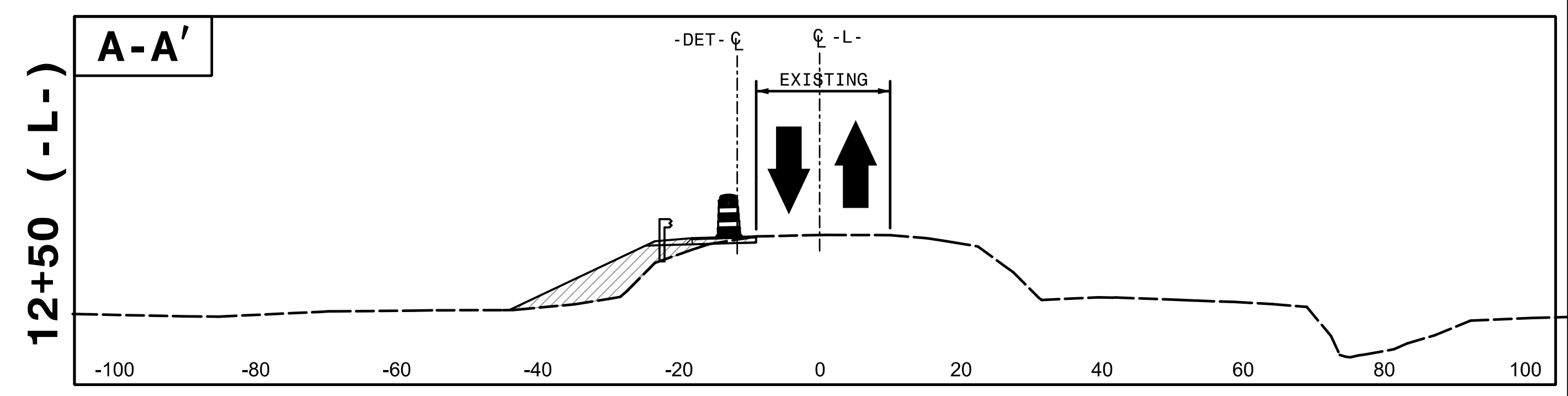
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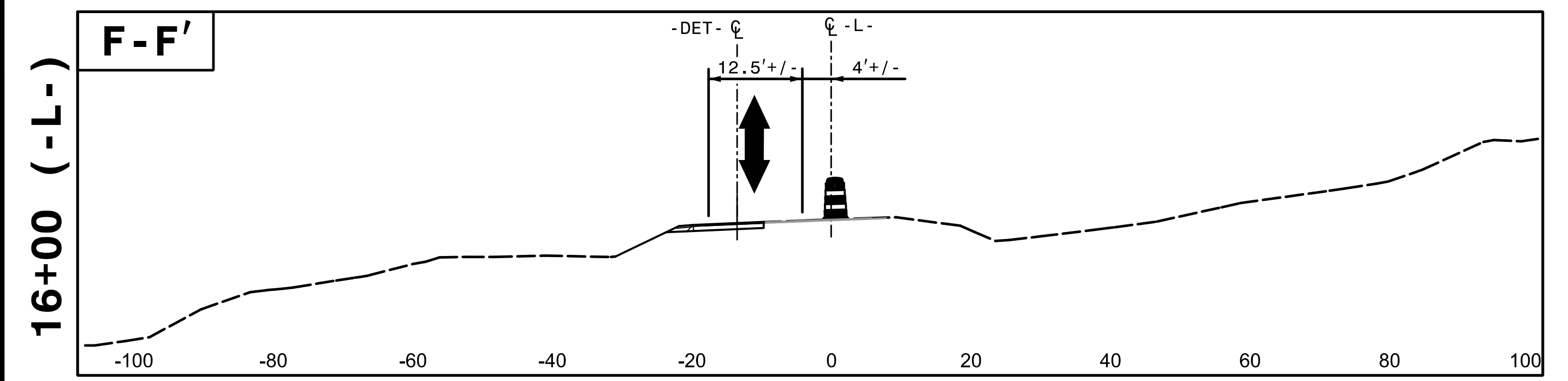
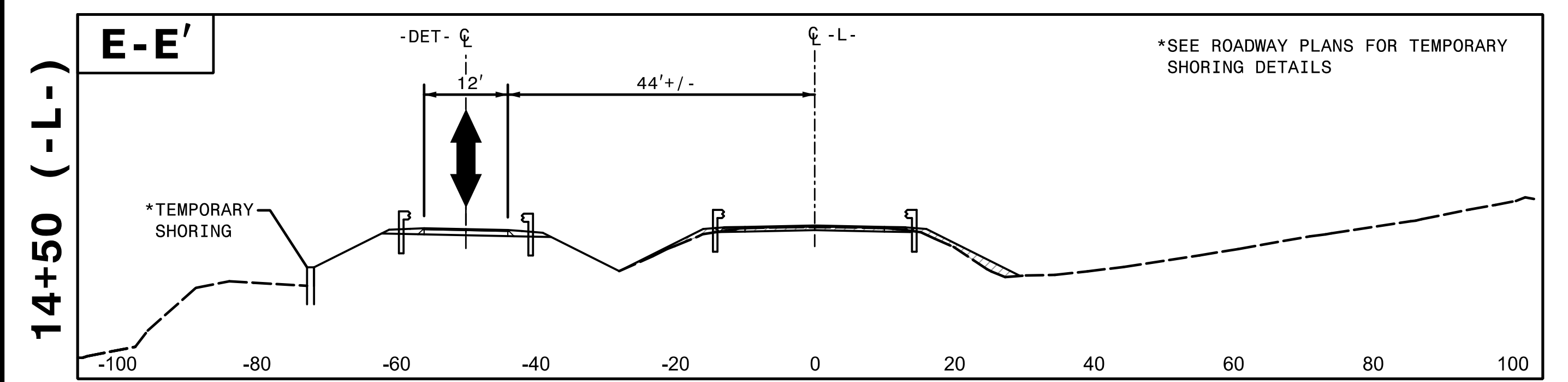
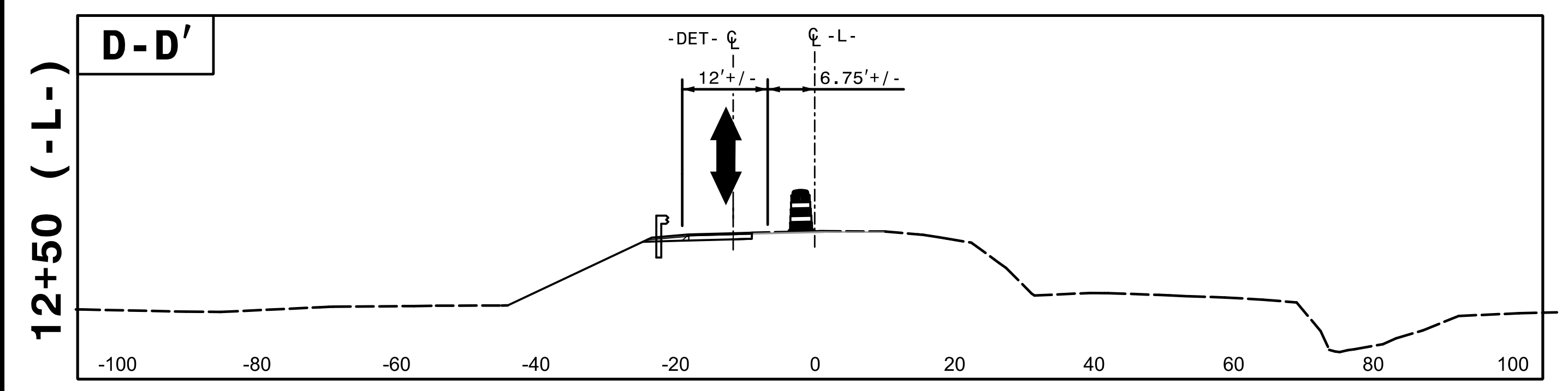


TRANSPORTATION MANAGEMENT PLAN
PHASING

PHASE I



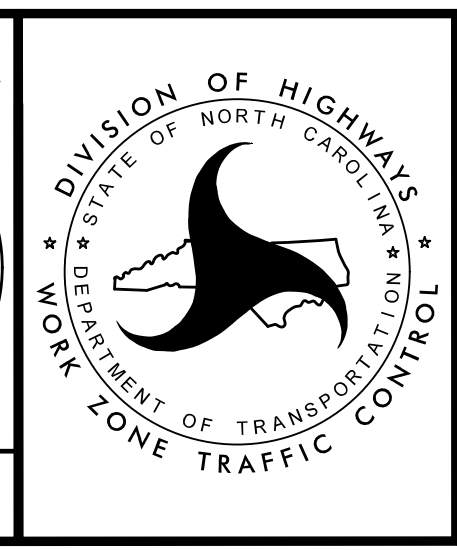
PHASE II



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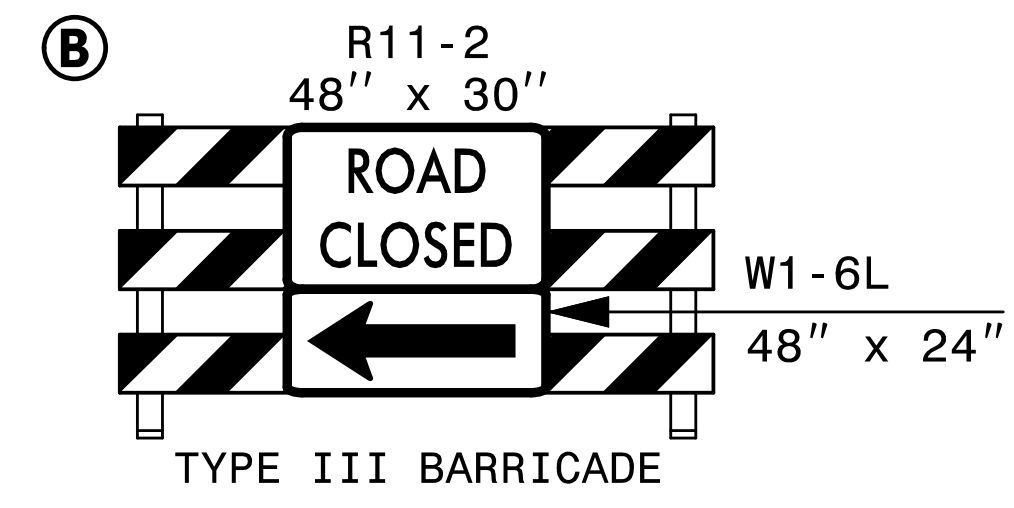
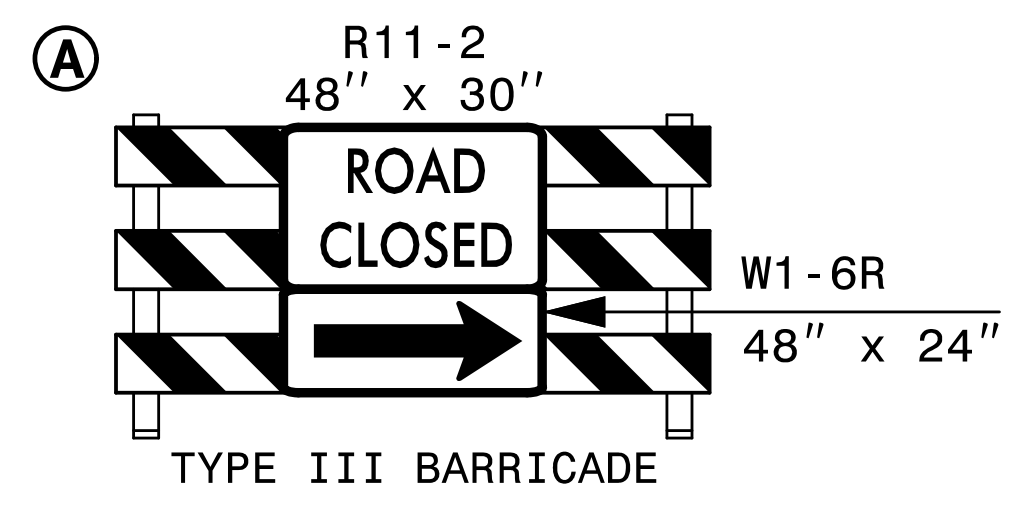
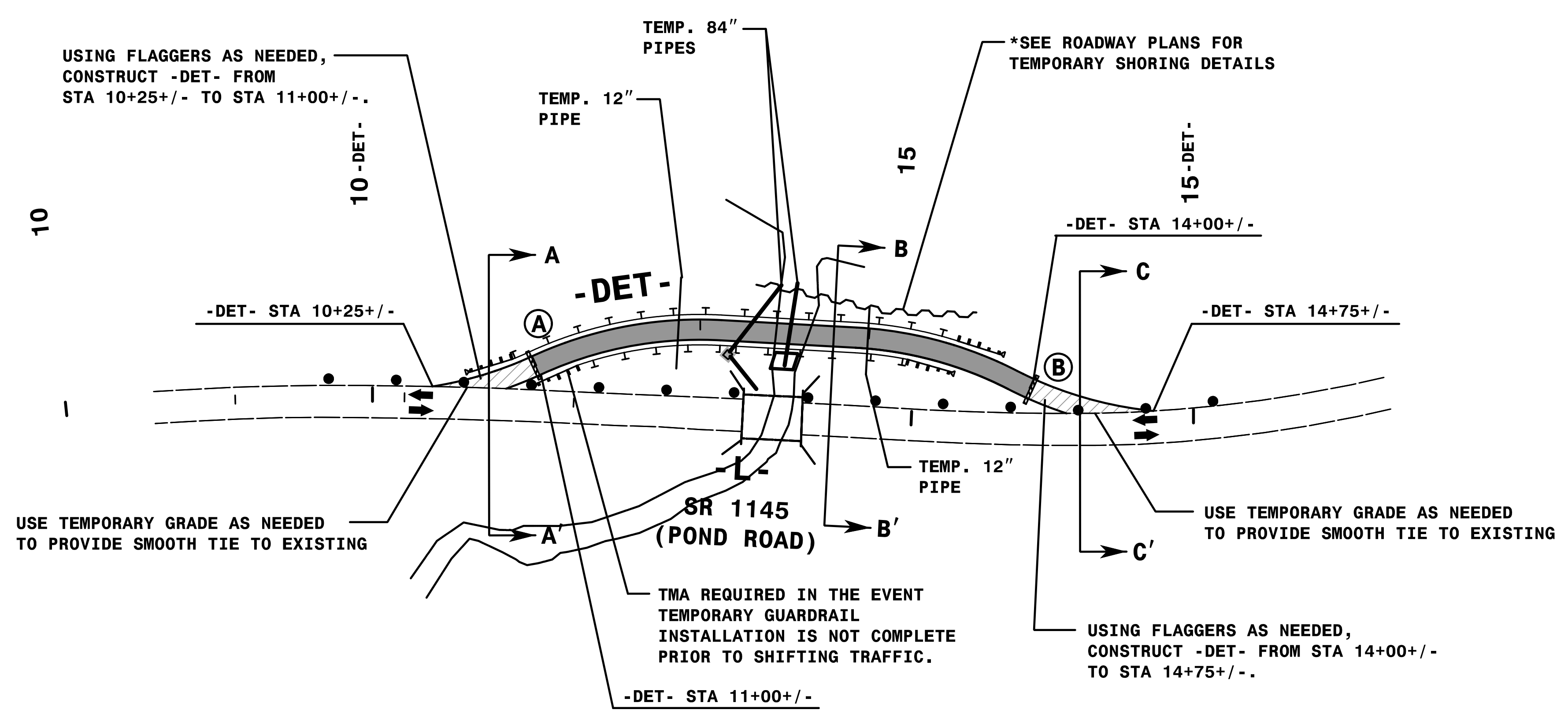
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TRANSPORTATION
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CUT SECTIONS

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- REMOVE CONFLICTING PAVEMENT MARKING.
- REFER TO SHEET TMP-2A FOR CUT SECTION(S).
- REFER TO ROADWAY PLANS FOR SHORING INFORMATION.

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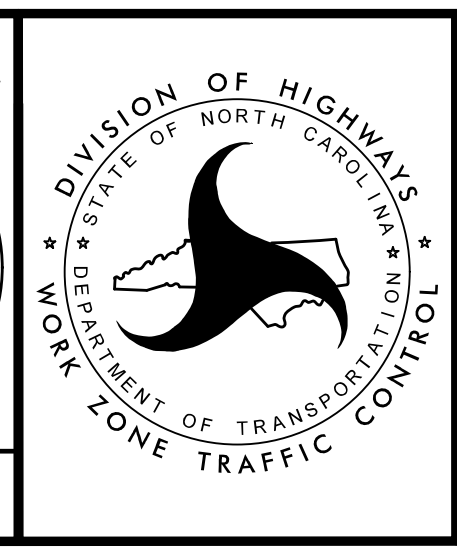


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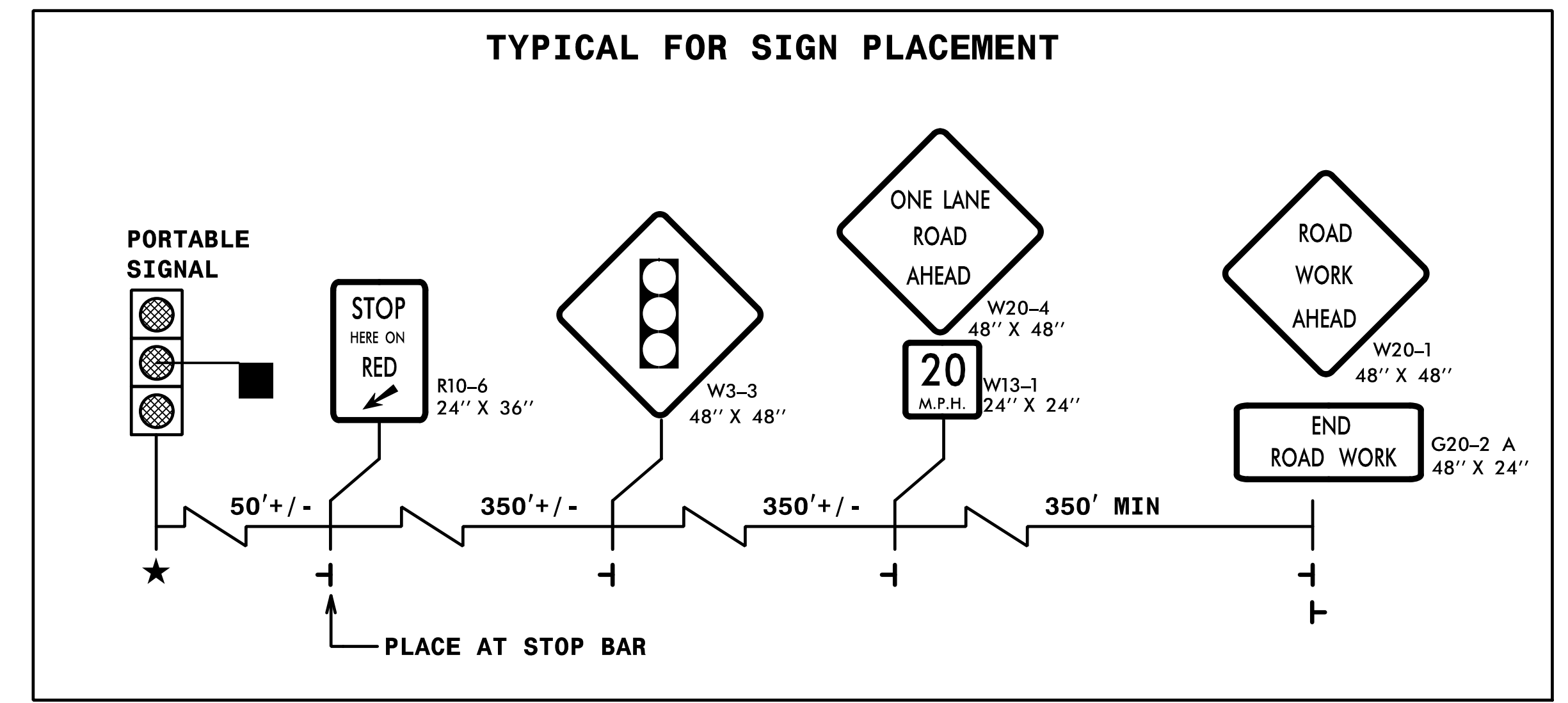
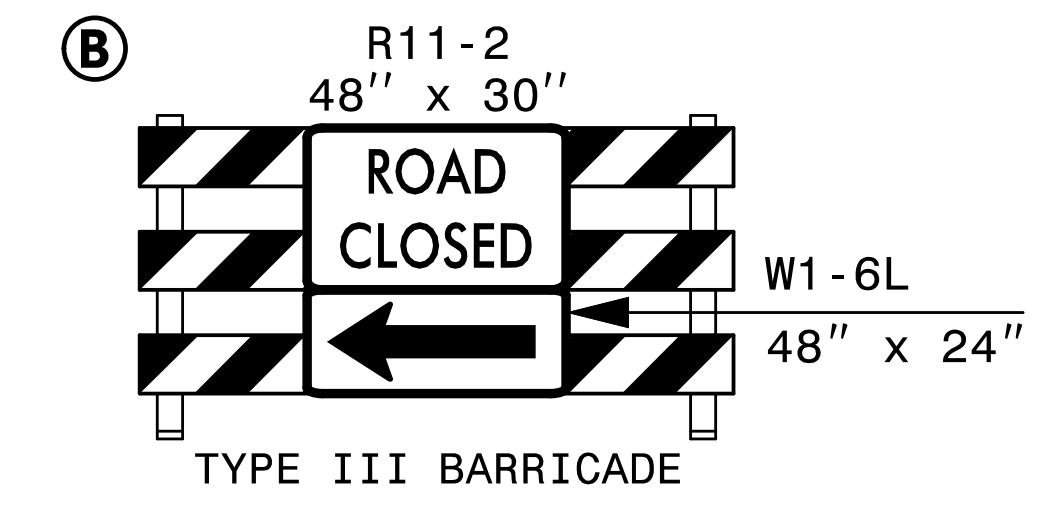
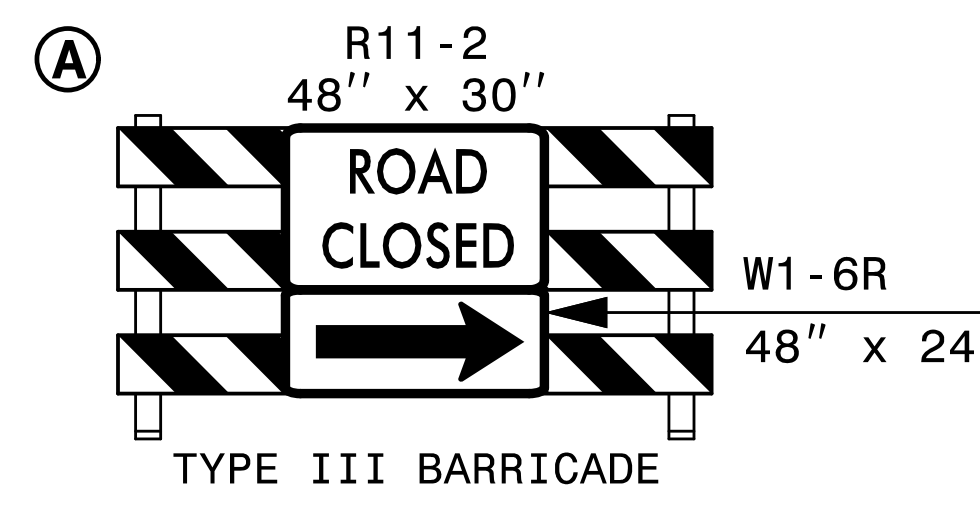
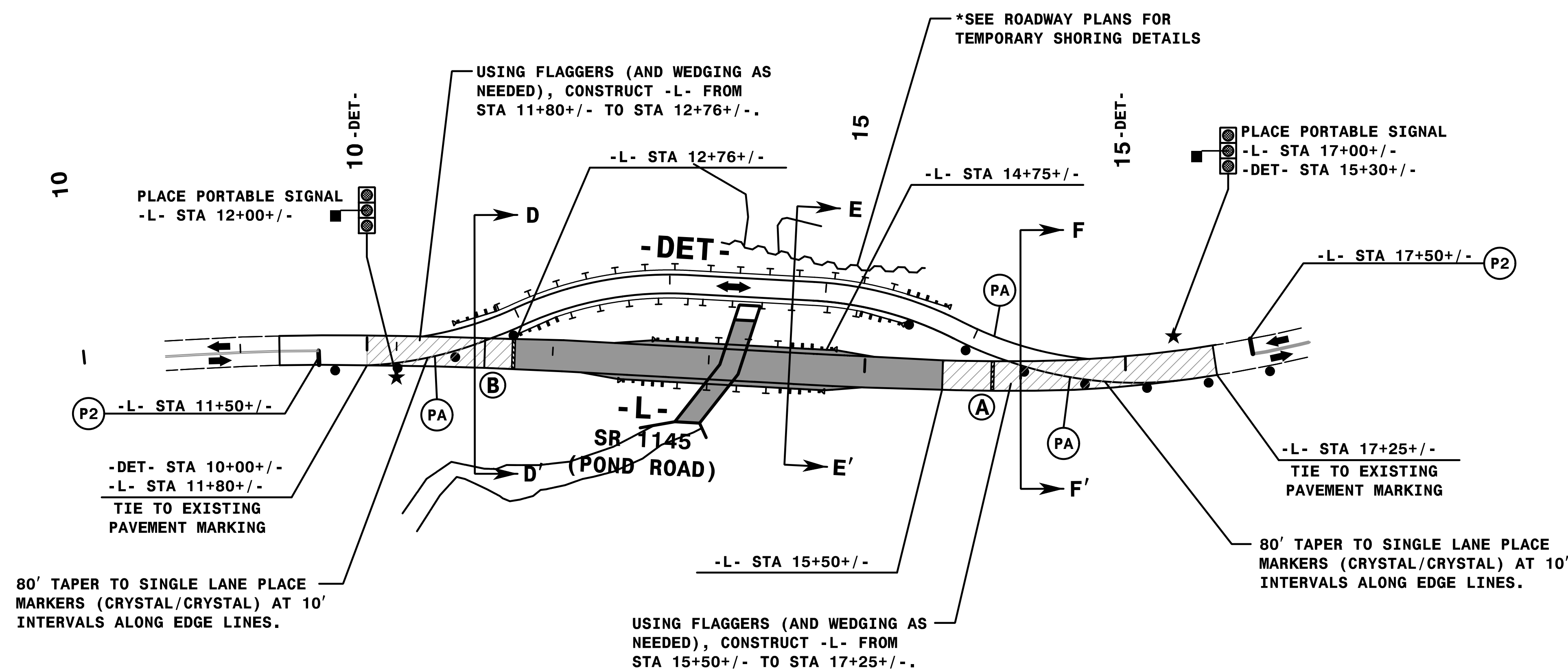
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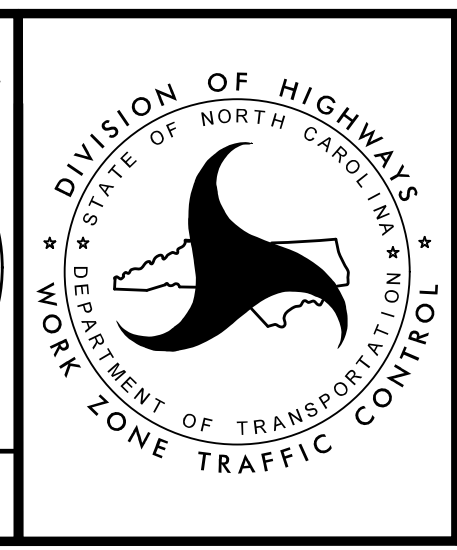
PHASE I
DETAIL



- REMOVE CONFLICTING PAVEMENT MARKING.
- REFER TO SHEET TMP-2A FOR CUT SECTION(S).
- REFER TO ROADWAY PLANS FOR SHORING INFORMATION.



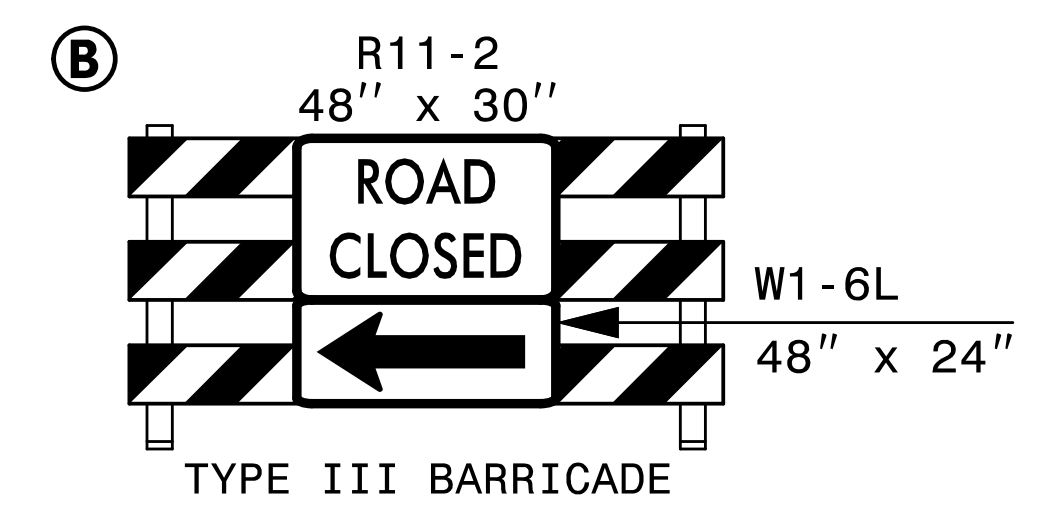
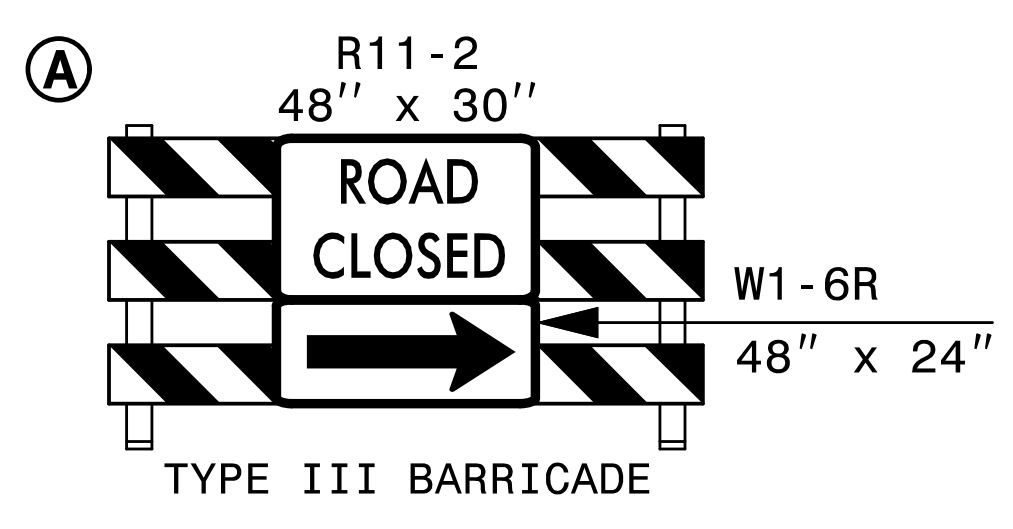
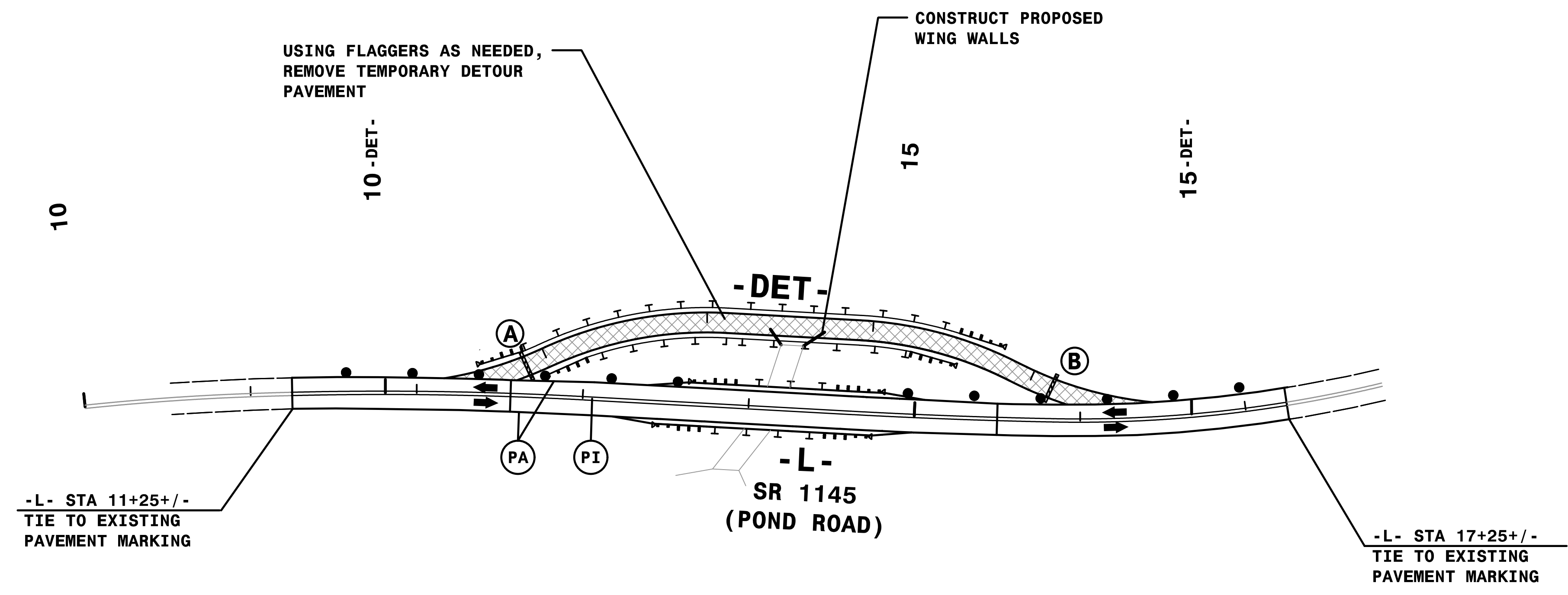
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TRANSPORTATION MANAGEMENT PLAN

PHASE II
DETAIL

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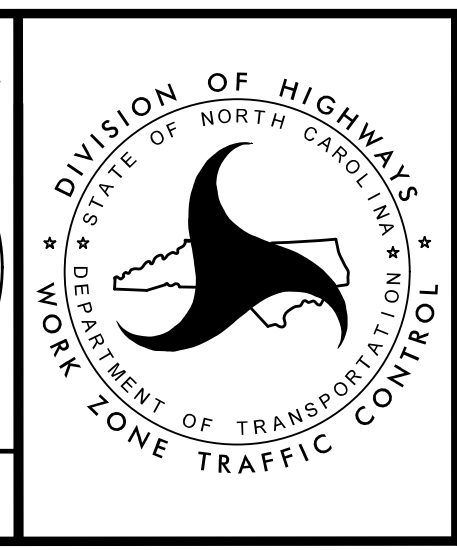


REMOVE CONFLICTING PAVEMENT MARKING.

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TRANSPORTATION
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PHASE III
DETAIL

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