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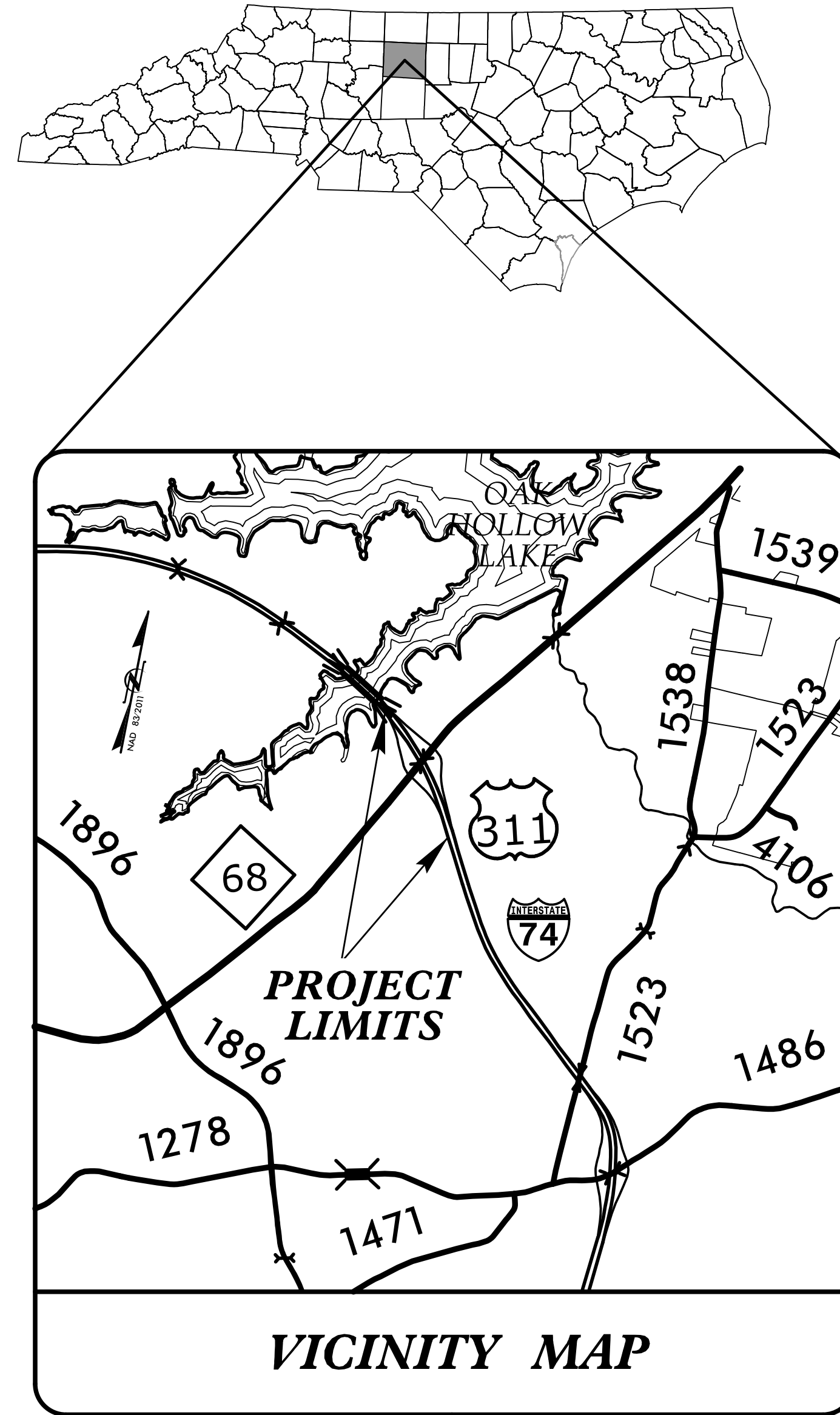
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GUILFORD COUNTY



LOCATION: I-74/US311 AND NC 68 (EASTCHESTER DRIVE)
INTERCHANGE RAMP REPLACEMENT

INDEX OF SHEETS

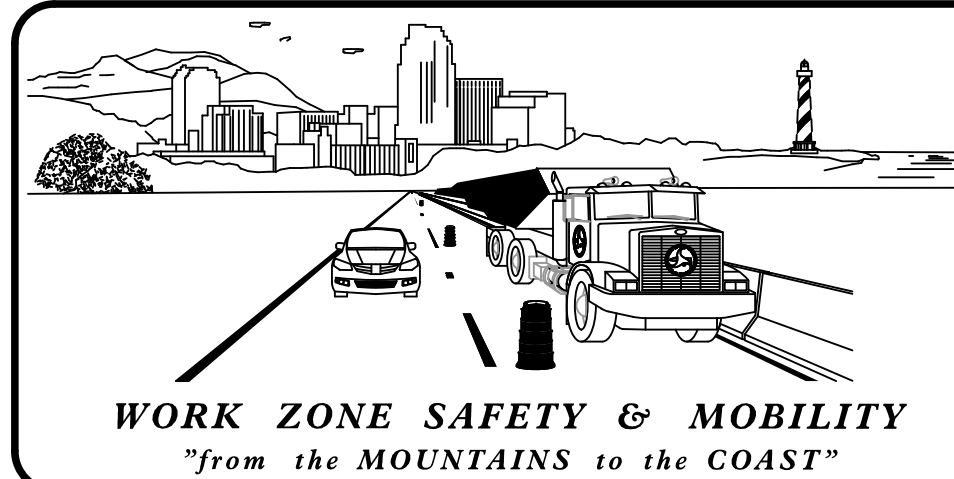
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SHEET NO.

TMP-1

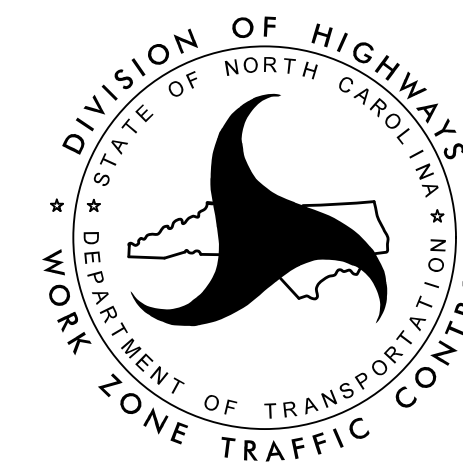
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TIP PROJECT:



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 DATE: 4/5/2018



SEAL

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 2018 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
1101.06	WARNING SIGNS FOR BLASTING ZONES
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
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA
- REMOVAL
- WEDGE / WIDEN (USING FLAGGERS)
- TEMPORARY PAVEMENT

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

PAVEMENT MARKERS

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

LEGEND

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION	PAY ITEM
<u>PAVEMENT MARKING LINES</u>		
		COLD APPLIED PLASTIC (TYPE 4) (4")
CA	WHITE EDGELINE	
CC	10' FT. WHITE SKIP	
CI	YELLOW DOUBLE CENTER LINE	
		COLD APPLIED PLASTIC (TYPE 4) (6")
C7	YELLOW EDGELINE	
CJ	10 FT. WHITE SKIP	
CK	3FT - 9FT/SP WHITE MINISKIP	PAINT (4")
P8	2 FT - 6 FT/SP WHITE MINISKIP	
PA	WHITE EDGELINE	
PB	YELLOW EDGELINE	
PC	10FT. WHITE SKIP	
PD	3FT - 9FT/SP WHITE MINISKIP	
PE	WHITE SOLID LANE LINE	
PF	10 FT. YELLOW SKIP	
PH	YELLOW SINGLE CENTER	
PI	YELLOW DOUBLE CENTER LINE	PAINT (6")
P6	WHITE EDGELINE	
P7	YELLOW EDGELINE	
PJ	10 FT. WHITE SKIP	
PK	3FT - 9FT/SP WHITE MINISKIP	
PL	WHITE SOLID LANE LINE	PAINT (8")
P17	3 FT - 3FT/SP WHITE MINISKIP	
PN	WHITE GORELINE	PAINT (12")
P14	3FT - 9FT/SP WHITE MINISKIP	
PS	WHITE GORELINE	
PT	WHITE SOLID LANE LINE	
PU	WHITE DIAGONAL	PAINT (24")
P2	WHITE STOP BAR	

PAVEMENT MARKING SYMBOLS & CHARACTERS

SYMBOL	DESCRIPTION	PAY ITEM
QA	LEFT TURN ARROW	PAINT SYMBOL
QB	RIGHT TURN ARROW	
QC	STRAIGHT ARROW	
QD	COMBO LEFT/STRAIGHT	
QE	COMBO STRAIGHT/RIGHT	
QN	YIELD LINE TRIANGLE (24")	
QP	MERGE ARROW	
QT	U-TURN ARROW	

NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, REFER TO GENERAL NOTES FOR NUMBER OF APPLICATIONS.

PAVEMENT MARKERS

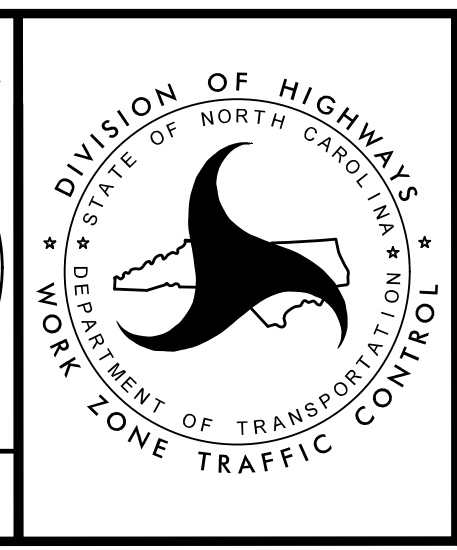
SYMBOL	DESCRIPTION	PAY ITEM
MH	YELLOW & YELLOW	TEMPORARY RAISED
MI	CRYSTAL & RED	

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SEAL



TRANSPORTATION
MANAGEMENT PLAN
ROADWAY STANDARD
DRAWINGS & LEGENDS

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MANAGEMENT STRATEGIES

THE OBJECTIVE OF THIS PROJECT IS COMPLTE I-74 INTERCHANGE IMPROVEMENTS AT NC 68 INCLUDING THE REPLACEMENT OF THE STRUCTURE OVER I-74 ON NC 68. THE FINAL LAYER OF SURFACE COURSE PLACED ALONG THE ENTIRE PROJECT IN THE FINAL STEPS.

PHASE I BEGINS BY CONSTRUCTING TEMPORARY PAVEMENT AT THE EXISTING RAMPS, SHIFTING TRAFFIC AND BEGINNING THE CONSTRUCTION OF THE PROPOSED RAMPS. USING TEMPORARY PAVEMENT MARKINGS, PHASE 1 SHIFTS TRAFFIC AWAY FROM THE MEDIAN TO ALLOW FOR THE WIDENING OF THE I-74 MEDIAN AND THE CONSTRUCTION OF CENTER FOUNDATION AND BENT FOR THE STRUCTURE ON NC 68. WEDGING OF I-74 LANES IS COMPLETED PRIOR TO PHASE II.

PHASE II WORK SHIFTS TRAFFIC AWAY FROM THE OUTSIDE SHOULDERS OF I-74, TO CONSTRUCT OUTSIDE I-74 WIDENING AND RAMP AND LOOP TIE-INS. TRAFFIC ON THE EXISTING RAMPS IS SHIFTED TO THE NEWLY CONSTRUCTED RAMPS TO COMPLETE CONSTRUCTION OF I-74 RAMPS AND LOOPS. LOOPS WILL BE OPEN TO TRAFFIC AT THE COMPLETION OF PHASE II.

PHASE III COMPLETES THE WIDENING OF NC 68 AND THE BRIDGE DECK AND END BENT WIDENING USING TEMPORARY TRAFFIC SHIFTS. THE EXISTING BRIDGE DECK IS MILLED AND OVERLAYED USING TEMPORARY TRAFFIC SHIFTS.

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
I-74 (-L-) NC 68 (-Y-) I-74 RAMPS AND LOOPS	MONDAY THRU SUNDAY 6:00 AM - 8:00 PM
GORDON ROAD (-Y2-) CYPRESS LANE (-Y3-) HILTON COURT (-Y4-)	MONDAY THRU SUNDAY 6:00 AM - 9:00 AM

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

ROAD NAME
I-74 (-L-) NC 68 (-Y-) US 74 RAMPS AND LOOPS GORDON ROAD (-Y2-) CYPRESS LANE (-Y3-) HILTON COURT (-Y4-)

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. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN UNTIL 8:00 P.M. THE FOLLOWING TUESDAY.
- 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.

GENERAL NOTES

- 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.

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 8:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 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.
- FOR SEMI-ANNUAL FURNITURE MARKET WEEK, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF THE FURNITURE MARKET AND 8:00 P.M. THE FOLLOWING SUNDAY AFTER THE FURNITURE MARKET WEEK.
- FOR WYNDHAM PGA TOURNAMENT, BETWEEN THE HOURS OF 6:00 A.M. THE MONDAY BEFORE THE WEEK OF THE TOURNAMENT AND 8:00 P.M. THE FOLLOWING MONDAY AFTER THE TOURNAMENT. (TOURNAMENT DATES OCCUR IN MID AUGUST.)

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
I-74 (-L-) I-74 RAMPS	MONDAY THRU SUNDAY 6:00 AM - 8:00 PM	30 MINUTES BRIDGE DEMO, GIRDER INSTALL, & AND OVERHEAD SIGNS
I-74 (-L-) NC 68 (-Y-) I-74 RAMPS AND LOOPS	MONDAY THRU SUNDAY 6:00 AM - 8:00 PM	15 MINUTES FOR TRAFFIC SHIFTS

D) DO NOT CONDUCT SINGLE VEHICLE HAULING AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I-74 (-L-) NC 68 (-Y-)	MONDAY THRU SUNDAY 6:00 AM - 8:00 PM

DO NOT CONDUCT MULTI-VEHICLE HAULING AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I-74 (-L-) NC 68 (-Y-)	MONDAY THRU SUNDAY 6:00 AM - 8:00 PM

E) 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.

GENERAL NOTES

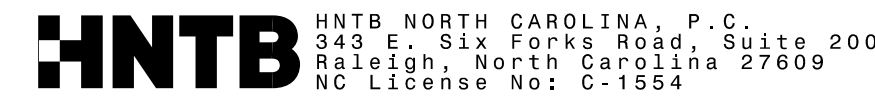
LANE CLOSURE REQUIREMENTS

- 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.
 - 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.
 - 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.
- 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.
 - 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 LANE CLOSURE IN ANY ONE DIRECTION ON -L- (I-74) OR -Y- (NC 68).

PAVEMENT EDGE DROP OFF REQUIREMENTS

- 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.
- 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.

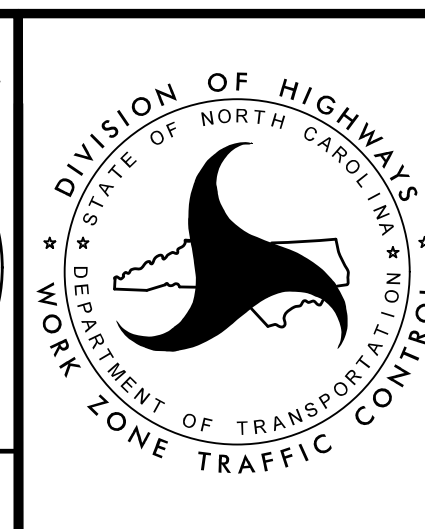
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TRANSPORTATION
MANAGEMENT PLAN
MANAGEMENT
STRATEGIES &
GENERAL NOTES

GENERAL NOTES (CONTINUED)

TRAFFIC PATTERN ALTERATIONS

N) NOTIFY THE ENGINEER THIRTY (30) 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 TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.
- Q) 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.
- 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 TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE / RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

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 ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

GENERAL NOTES

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.

PAVEMENT MARKINGS AND MARKERS

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

<u>ROAD NAME</u>	<u>MARKING</u>	<u>MARKER</u>
ASPHALT SURFACES	PAINT	TEMPORARY RAISED
PERMANENT CONCRETE	COLD APPLIED PLASTIC TYPE 4 - REMOVABLE TAPE	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 SHALL BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- EE) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAYS 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) 500 FT AND 1000 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.
- FF) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

4/5/2018
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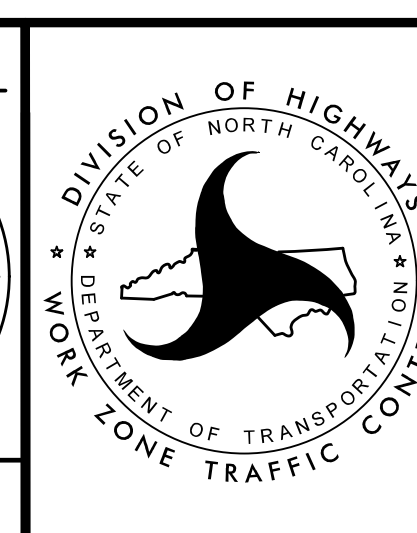
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**TRANSPORTATION
MANAGEMENT PLAN**

**MANAGEMENT
STRATEGIES &
GENERAL NOTES**

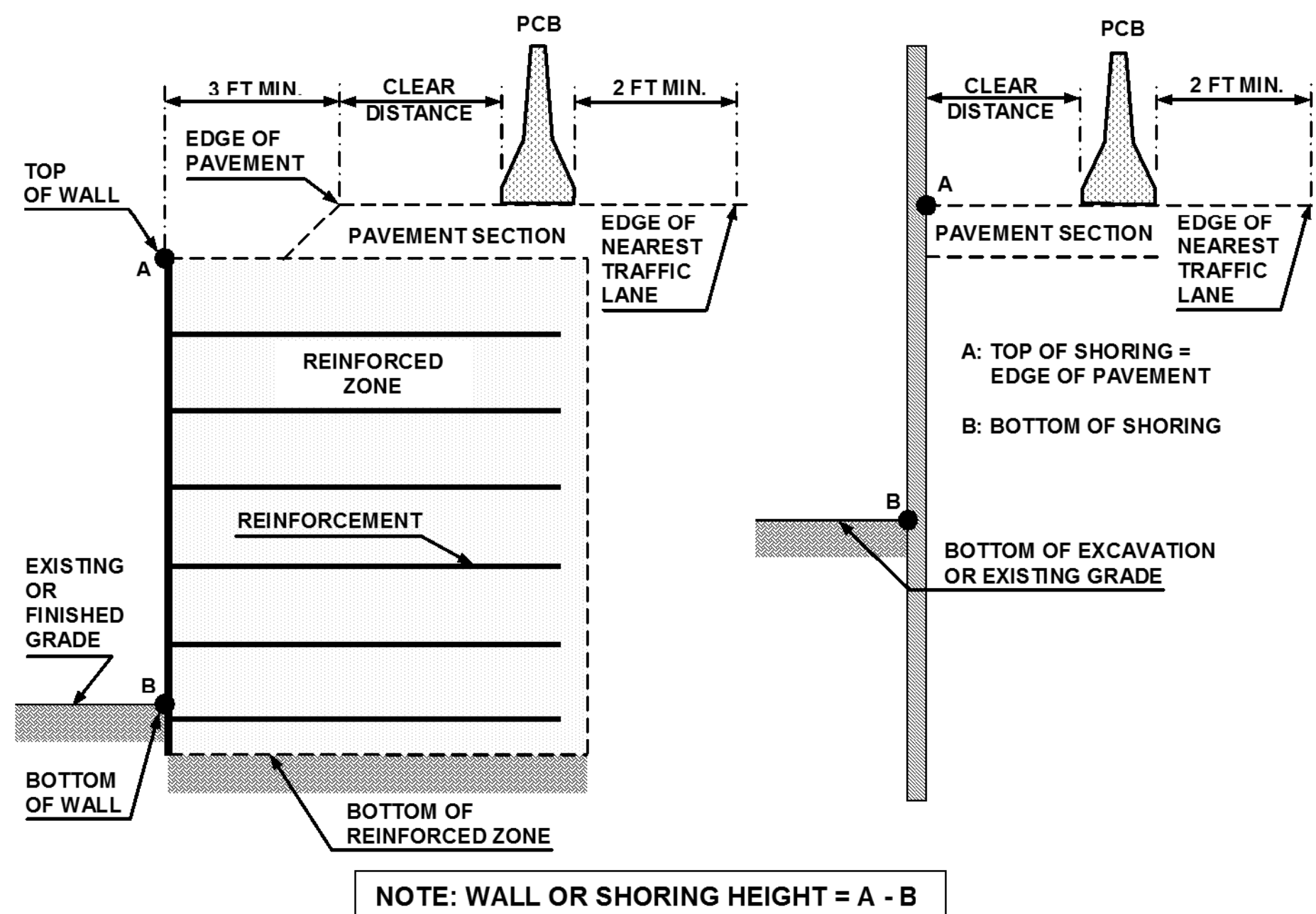


FIGURE A

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

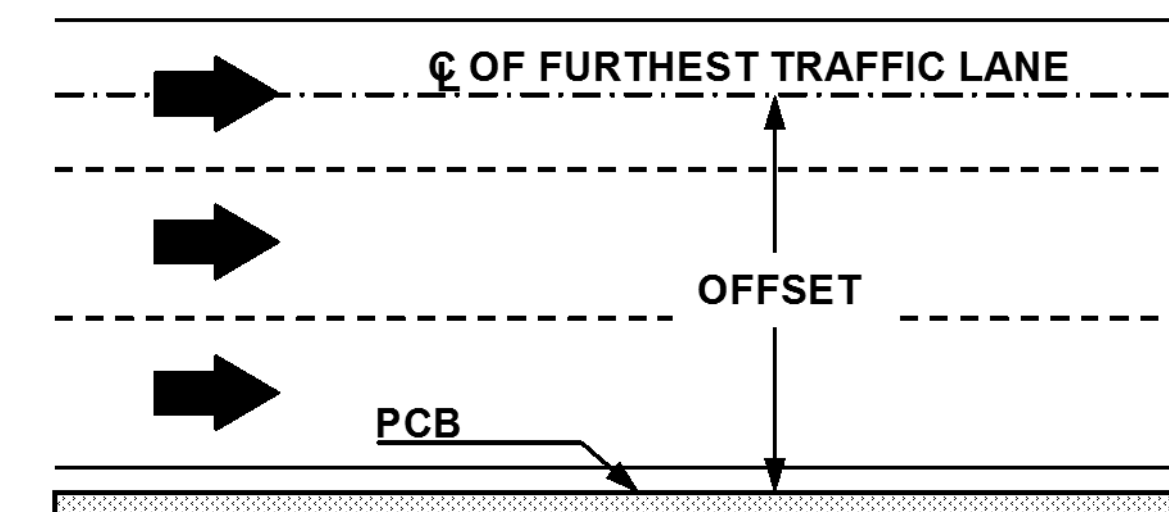


FIGURE B

4/5/2018
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HNBT

APPROVED: *Lori D. Stoucko, P.E.*
DATE: 4/5/2018

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PROFESSIONAL ENGINEER
SEAL
034437
LORI D. STOUCKO

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS

SHORING NOTES

TEMPORARY SHORING NO. ①

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

DESIGN TEMPORARY SHORING FROM STATION 24+26.0 +/- -LNB-, 58.5 FT. LT. TO STATION 24+52.5 +/- -LNB-, 58.5 FT. LT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, γ_s = 120 PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, γ' = 60 PCF
 FRICTION ANGLE, ϕ = 30
 COHESION, c = 0 PSF
 GROUNDWATER ELEVATION = 821 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 FROM STATION 24+26.0 +/- -LNB-, 58.5 FT. LT. TO STATION 24+52.5 +/- -LNB-, 58.5 FT. LT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 24+26.0 +/- -LNB-, 58.5 FT. LT. TO STATION 24+52.5 +/- -LNB-, 58.5 FT. LT. MAY NOT PENETRATE BELOW ELEVATION 806 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 24+26.0 +/- -LNB-, 58.5 FT. LT. TO STATION 24+52.5 +/- -LNB-, 58.5 FT. LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. ②

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

DESIGN TEMPORARY SHORING FROM STATION 24+26.0 +/- -LNB-, 58.5 FT. LT. TO STATION 24+26.0 +/- -LNB-, 47.0 FT. LT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, γ_s = 120 PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, γ' = 60 PCF
 FRICTION ANGLE, ϕ = 30
 COHESION, c = 0 PSF
 GROUNDWATER ELEVATION = 821 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 FROM STATION 24+26.0 +/- -LNB-, 58.5 FT. LT. TO STATION 24+26.0 +/- -LNB-, 47.0 FT. LT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 24+26.0 +/- -LNB-, 58.5 FT. LT. TO STATION 24+26.0 +/- -LNB-, 47.0 FT. LT. MAY NOT PENETRATE BELOW ELEVATION 806 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 24+26.0 +/- -LNB-, 58.5 FT. LT. TO STATION 24+26.0 +/- -LNB-, 47.0 FT. LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. ③

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

DESIGN TEMPORARY SHORING FROM STATION 24+26.0 +/- -LNB-, 47.0 FT. LT. TO STATION 24+43.6 +/- -LNB-, 47.0 FT. LT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, γ_s = 120 PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, γ' = 60 PCF
 FRICTION ANGLE, ϕ = 30
 COHESION, c = 0 PSF
 GROUNDWATER ELEVATION = 821 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 FROM STATION 24+26.0 +/- -LNB-, 47.0 FT. LT. TO STATION 24+43.6 +/- -LNB-, 47.0 FT. LT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 24+26.0 +/- -LNB-, 47.0 FT. LT. TO STATION 24+43.6 +/- -LNB-, 47.0 FT. LT. MAY NOT PENETRATE BELOW ELEVATION 806 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 24+26.0 +/- -LNB-, 47.0 FT. LT. TO STATION 24+43.6 +/- -LNB-, 47.0 FT. LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. ④

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

DESIGN TEMPORARY SHORING FROM STATION 23+16.8 +/- -LNB-, 59.2 FT. LT. TO STATION 23+52.5 +/- -LNB-, 58.7 FT. LT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, γ_s = 120 PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, γ' = 60 PCF
 FRICTION ANGLE, ϕ = 30
 COHESION, c = 0 PSF
 GROUNDWATER ELEVATION = 822 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 FROM STATION 23+16.8 +/- -LNB-, 59.2 FT. LT. TO STATION 23+52.5 +/- -LNB-, 58.7 FT. LT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 23+16.8 +/- -LNB-, 59.2 FT. LT. TO STATION 23+52.5 +/- -LNB-, 58.7 FT. LT. MAY NOT PENETRATE BELOW ELEVATION 806 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 23+16.8 +/- -LNB-, 59.2 FT. LT. TO STATION 23+52.5 +/- -LNB-, 58.7 FT. LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. ⑤

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

DESIGN TEMPORARY SHORING FROM STATION 23+52.5 +/- -LNB-, 58.7 FT. LT. TO STATION 23+52.3 +/- -LNB-, 47.3 FT. LT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, γ_s = 120 PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, γ' = 60 PCF
 FRICTION ANGLE, ϕ = 30
 COHESION, c = 0 PSF
 GROUNDWATER ELEVATION = 822 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 FROM STATION 23+52.5 +/- -LNB-, 58.7 FT. LT. TO STATION 23+52.3 +/- -LNB-, 47.3 FT. LT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 23+52.5 +/- -LNB-, 58.7 FT. LT. TO STATION 23+52.3 +/- -LNB-, 47.3 FT. LT. MAY NOT PENETRATE BELOW ELEVATION 806 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 23+52.5 +/- -LNB-, 58.7 FT. LT. TO STATION 23+52.3 +/- -LNB-, 47.3 FT. LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. ⑥

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

DESIGN TEMPORARY SHORING FROM STATION 23+22.2 +/- -LNB-, 47.6 FT. LT. TO STATION 23+52.3 +/- -LNB-, 47.3 FT. LT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, γ_s = 120 PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, γ' = 60 PCF
 FRICTION ANGLE, ϕ = 30
 COHESION, c = 0 PSF
 GROUNDWATER ELEVATION = 822 FT. +/-

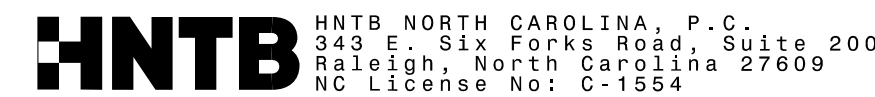
BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 23+22.2 +/- -LNB-, 47.6 FT. LT. TO STATION 23+52.3 +/- -LNB-, 47.3 FT. LT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 23+22.2 +/- -LNB-, 47.6 FT. LT. TO STATION 23+52.3 +/- -LNB-, 47.3 FT. LT. MAY NOT PENETRATE BELOW ELEVATION 806 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 23+22.2 +/- -LNB-, 47.6 FT. LT. TO STATION 23+52.3 +/- -LNB-, 47.3 FT. LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

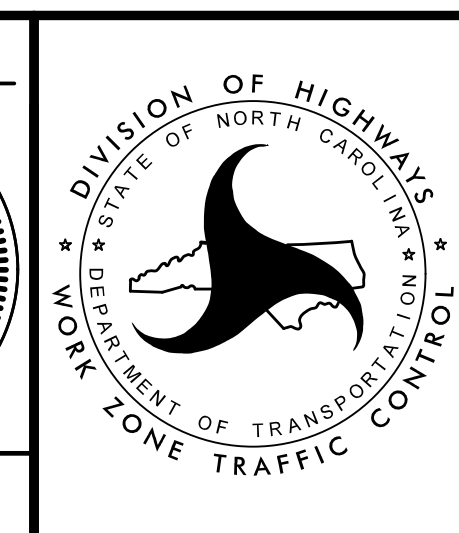
THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO THE WZTC SECTION ON 04/24/2018 AND SEALED BY A PROFESSIONAL ENGINEER, DAVID L. TEAGUE, P.E., LICENSE #027869.



APPROVED: *Lori D. Stoucho, P.E.*
A11EGAB83284E9
 DATE: 4/30/2018

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TRANSPORTATION
MANAGEMENT PLAN

SHORING NOTES

SHORING NOTES

TEMPORARY SHORING NO. 7

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

DESIGN TEMPORARY SHORING FROM STATION 23+61.1 +/- -LSB-, 60.2 FT. RT. TO STATION 23+98.1 +/- -LSB-, 60.2 FT. RT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma_s = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$
 COHESION, $c = 0$ PSF
 GROUNDWATER ELEVATION = 818 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 FROM STATION 23+61.1 +/- -LSB-, 60.2 FT. RT. TO STATION 23+98.1 +/- -LSB-, 60.2 FT. RT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 23+61.1 +/- -LSB-, 60.2 FT. RT. TO STATION 23+98.1 +/- -LSB-, 60.2 FT. RT. MAY NOT PENETRATE BELOW ELEVATION 826 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 23+61.1 +/- -LSB-, 60.2 FT. RT. TO STATION 23+98.1 +/- -LSB-, 60.2 FT. RT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. 8

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

DESIGN TEMPORARY SHORING FROM STATION 23+98.1 +/- -LSB-, 60.2 FT. RT. TO STATION 23+98.4 +/- -LSB-, 45.2 FT. RT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma_s = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$
 COHESION, $c = 0$ PSF
 GROUNDWATER ELEVATION = 818 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 FROM STATION 23+98.1 +/- -LSB-, 60.2 FT. RT. TO STATION 23+98.4 +/- -LSB-, 45.2 FT. RT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 23+98.1 +/- -LSB-, 60.2 FT. RT. TO STATION 23+98.4 +/- -LSB-, 45.2 FT. RT. MAY NOT PENETRATE BELOW ELEVATION 826 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 23+98.1 +/- -LSB-, 60.2 FT. RT. TO STATION 23+98.4 +/- -LSB-, 45.2 FT. RT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. 9

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

DESIGN TEMPORARY SHORING FROM STATION 23+66.4 +/- -LSB-, 45.2 FT. RT. TO STATION 23+98.4 +/- -LSB-, 45.2 FT. RT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma_s = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$
 COHESION, $c = 0$ PSF
 GROUNDWATER ELEVATION = 818 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 FROM STATION 23+66.4 +/- -LSB-, 45.2 FT. RT. TO STATION 23+98.4 +/- -LSB-, 45.2 FT. RT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 23+66.4 +/- -LSB-, 45.2 FT. RT. TO STATION 23+98.4 +/- -LSB-, 45.2 FT. RT. MAY NOT PENETRATE BELOW ELEVATION 826 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 23+66.4 +/- -LSB-, 45.2 FT. RT. TO STATION 23+98.4 +/- -LSB-, 45.2 FT. RT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. 10

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

DESIGN TEMPORARY SHORING FROM STATION 24+73.3 +/- -LSB-, 59.5 FT. RT. TO STATION 24+97.7 +/- -LSB-, 59.0 FT. RT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma_s = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$
 COHESION, $c = 0$ PSF
 GROUNDWATER ELEVATION = 823 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 FROM STATION 24+73.3 +/- -LSB-, 59.5 FT. RT. TO STATION 24+97.7 +/- -LSB-, 59.0 FT. RT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 24+73.3 +/- -LSB-, 59.5 FT. RT. TO STATION 24+97.7 +/- -LSB-, 59.0 FT. RT. MAY NOT PENETRATE BELOW ELEVATION 816 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 24+73.3 +/- -LSB-, 59.5 FT. RT. TO STATION 24+97.7 +/- -LSB-, 59.0 FT. RT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. 11

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

DESIGN TEMPORARY SHORING FROM STATION 24+73.3 +/- -LSB-, 44.5 FT. RT. TO STATION 24+73.3 +/- -LSB-, 59.5 FT. RT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma_s = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$
 COHESION, $c = 0$ PSF
 GROUNDWATER ELEVATION = 823 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 FROM STATION 24+73.3 +/- -LSB-, 44.5 FT. RT. TO STATION 24+73.3 +/- -LSB-, 59.5 FT. RT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 24+73.3 +/- -LSB-, 44.5 FT. RT. TO STATION 24+73.3 +/- -LSB-, 59.5 FT. RT. MAY NOT PENETRATE BELOW ELEVATION 816 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 24+73.3 +/- -LSB-, 44.5 FT. RT. TO STATION 24+73.3 +/- -LSB-, 59.5 FT. RT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. 12

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

DESIGN TEMPORARY SHORING FROM STATION 24+73.3 +/- -LSB-, 44.5 FT. RT. TO STATION 24+92.6 +/- -LSB-, 44.1 FT. RT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma_s = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$
 COHESION, $c = 0$ PSF
 GROUNDWATER ELEVATION = 823 FT. +/-

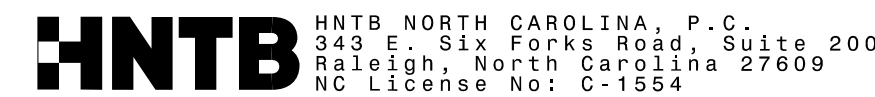
BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 24+73.3 +/- -LSB-, 44.5 FT. RT. TO STATION 24+92.6 +/- -LSB-, 44.1 FT. RT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 24+73.3 +/- -LSB-, 44.5 FT. RT. TO STATION 24+92.6 +/- -LSB-, 44.1 FT. RT. MAY NOT PENETRATE BELOW ELEVATION 816 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 24+73.3 +/- -LSB-, 44.5 FT. RT. TO STATION 24+92.6 +/- -LSB-, 44.1 FT. RT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

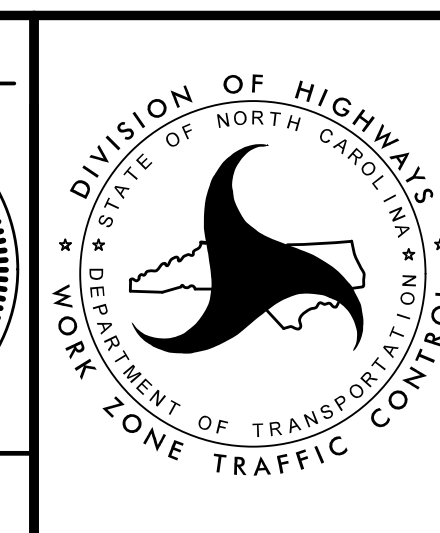
THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO THE WZTC SECTION ON 04/24/2018 AND SEALED BY A PROFESSIONAL ENGINEER, DAVID L. TEAGUE, P.E., LICENSE #027869.



APPROVED: *Lori D. Stoucho, P.E.*
A11EGAB32E84E9
 DATE: 4/30/2018

SEAL

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



TRANSPORTATION
MANAGEMENT PLAN

SHORING NOTES

SHORING NOTES

TEMPORARY SHORING NO. 13

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

DESIGN TEMPORARY SHORING FROM STATION 27+09.7 +/- -Y-, 33.0 FT. LT. TO STATION 27+26.0 +/- -Y-, 33 FT. LT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma_s = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$
 COHESION, $c = 0$ PSF
 GROUNDWATER ELEVATION = 823 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 FROM STATION 27+09.7 +/- -Y-, 33.0 FT. LT. TO STATION 27+26.0 +/- -Y-, 33 FT. LT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 27+09.7 +/- -Y-, 33.0 FT. LT. TO STATION 27+26.0 +/- -Y-, 33 FT. LT. MAY NOT PENETRATE BELOW ELEVATION 827 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 27+09.7 +/- -Y-, 33.0 FT. LT. TO STATION 27+26.0 +/- -Y-, 33 FT. LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. 14

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

DESIGN TEMPORARY SHORING FROM STATION 29+73.4 +/- -Y-, 33.0 FT. LT. TO STATION 29+89.7 +/- -Y-, 33 FT. LT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma_s = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$
 COHESION, $c = 0$ PSF
 GROUNDWATER ELEVATION = 823 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 FROM STATION 29+73.4 +/- -Y-, 33.0 FT. LT. TO STATION 29+89.7 +/- -Y-, 33 FT. LT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 29+73.4 +/- -Y-, 33.0 FT. LT. TO STATION 29+89.7 +/- -Y-, 33 FT. LT. MAY NOT PENETRATE BELOW ELEVATION 796 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 29+73.4 +/- -Y-, 33.0 FT. LT. TO STATION 29+89.7 +/- -Y-, 33 FT. LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. 15

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

DESIGN TEMPORARY SHORING FROM STATION 26+82.1 +/- -Y-, 33.0 FT. RT. TO STATION 26+98.5 +/- -Y-, 33 FT. RT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma_s = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$
 COHESION, $c = 0$ PSF
 GROUNDWATER ELEVATION = 823 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 FROM STATION 26+82.1 +/- -Y-, 33.0 FT. RT. TO STATION 26+98.5 +/- -Y-, 33 FT. RT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 26+82.1 +/- -Y-, 33.0 FT. RT. TO STATION 26+98.5 +/- -Y-, 33 FT. RT. MAY NOT PENETRATE BELOW ELEVATION 809 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 26+82.1 +/- -Y-, 33.0 FT. RT. TO STATION 26+98.5 +/- -Y-, 33 FT. RT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. 16

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

DESIGN TEMPORARY SHORING FROM STATION 29+46.7 +/- -Y-, 33.0 FT. RT. TO STATION 29+63.0 +/- -Y-, 33 FT. RT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma_s = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$
 COHESION, $c = 0$ PSF
 GROUNDWATER ELEVATION = 823 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 FROM STATION 29+46.7 +/- -Y-, 33.0 FT. RT. TO STATION 29+63.0 +/- -Y-, 33 FT. RT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

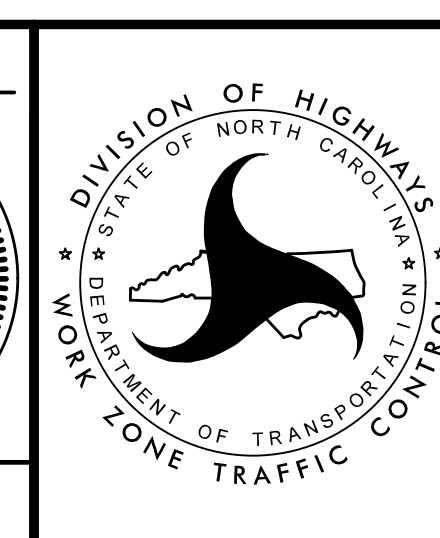
DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 29+46.7 +/- -Y-, 33.0 FT. RT. TO STATION 29+63.0 +/- -Y-, 33 FT. RT. MAY NOT PENETRATE BELOW ELEVATION 802 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED ROCK OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 29+46.7 +/- -Y-, 33.0 FT. RT. TO STATION 29+63.0 +/- -Y-, 33 FT. RT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO THE WZTC SECTION ON 04/24/2018 AND SEALED BY A PROFESSIONAL ENGINEER, DAVID L. TEAGUE, P.E., LICENSE #027869.



APPROVED: <i>Lori B. Stoucho, P.E.</i>	DESIGNED BY: <i>Lori B. Stoucho, P.E.</i>
DATE: 4/30/2018	
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



TRANSPORTATION
MANAGEMENT PLAN

SHORING NOTES

4/24/2018
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HNTB

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 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 FOR OVERVIEW)

STEP 1: INSTALL WORK ZONE ADVANCE WARNING SIGNS ON -L-, -Y-, -Y1-, -Y2-, -Y3-, AND ALL ROADS THAT INTERSECT -L-, -Y- AND -Y2- WITHIN THE PROJECT LIMITS ACCORDING TO RSD 1101.01.

NOTE: REFER TO SHEET TMP-8 FOR STEP 2 DETAIL.

STEP 2: AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF -Y1- AND -Y3-.

NOTE: REFER TO SHEETS TMP-6 THRU TMP-8 FOR STEP 3 DETAILS.

STEP 3: COMPLETE THE FOLLOWING:

USING RSD 1101.02 (SHEETS 3 OF 14) AS NEEDED, CONSTRUCT TEMPORARY PAVEMENT ON THE LEFT SIDE OF EXISTING -YRPA- FROM STA 27+49+/- TO STA 29+19+/- . (TMP-6)

USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, CONSTRUCT TEMPORARY PAVEMENT ON THE LEFT SIDE OF EXISTING -YRPC- FROM STA 23+25+/- TO STA 24+67+/- . (TMP-6)

USING RSD 1101.02 (SHEETS 4 & 10 OF 14) AS NEEDED, CONSTRUCT TEMPORARY PAVEMENT WITHIN THE EXISTING GORE OF -YRPA- AND -LNB- ON THE LEFT SIDE OF EXISTING -YRPA- FROM STA 17+82+/- TO STA 21+43+/- . (TMP-7)

USING RSD 1101.02 (SHEET 1 & 3 OF 14) AND FLAGGERS AS NEEDED, CONSTRUCT TEMPORARY PAVEMENT ON THE NORTH SIDE OF EXISTING -Y4- FROM -Y3- STA 16+58+/- TO -Y3- STA 17+94+/- . (TMP-8)

NOTE: REFER TO SHEETS TMP-5 THRU TMP-8 FOR STEP 4 DETAILS.

STEP 4: COMPLETE THE FOLLOWING:

4A: USING RSD 1101.02 (SHEET 3, 4, 9 AND 10 OF 14) AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS ON AND SHIFT TRAFFIC TO TEMPORARY PATTERN ON -LNB- & -LSB- AND EXISTING RAMPS -YRPA-, -YRPB-, AND -YRPC-. (TMP-5 THRU TMP-7)

USING RSD 1101.02 (SHEET 1 OF 14) AND FLAGGERS AS NEEDED, PLACE TEMPORARY PAVEMENT ON EXISTING -Y4-. PLACE TEMPORARY PAVEMENT MARKINGS AND SHIFT TRAFFIC TO TEMPORARY PATTERN ON EXISTING -Y4- AND TEMPORARY PAVEMENT. (TMP-8)

4B: USING RSD 1101.02 (SHEET 4 OF 14) AS NEEDED, PLACE ANCHORED TEMPORARY PORTABLE CONCRETE BARRIER ON THE MEDIAN SHOULDER OF -LSB- FROM STA 9+50+/- TO STA 38+00+/- AND THE MEDIAN SIDE SHOULDER OF -LNB- FROM STA 10+00+/- TO STA 44+20+/- . WHERE VEHICLE ACCESSES OR REMOVAL OF ANCHORED TEMPORARY PORTABLE CONCRETE BARRIER IS PERMISSABLE BY THE ENGINEER, MAINTAIN CONTINUOUS BARRIER ON -LSB- FROM STA 19+30+/- TO STA 27+30+/- AND ON -LNB- FROM STA 20+80+/- TO STA 29+30+/- UNTIL CONSTRUCTION OF PROPOSED MEDIAN FOOTINGS, MEDIAN COLUMNS, MEDIAN BENT WIDENING AND PROPOSED MEDIAN BARRIER IS COMPLETE. (TMP-5 THRU TMP-7)

USING RSD 1101.02 (SHEET 3 OF 14) AND SHIFTING TRAFFIC TO EXISTING RAMP SHOULDER AS NEEDED, PLACE TEMPORARY PORTABLE CONCRETE BARRIER ON EXISTING RAMP -YRPA- FROM STA 15+66+/- TO STA 28+96+/- AND ON EXISTING RAMP -YRPC- FROM STA 14+50+/- TO STA 23+53+/- . (TMP-5 THRU TMP-7)

PHASING

PHASE I (CONTINUED) (SEE TMP-4 FOR OVERVIEW)

NOTE: STEPS 5 & 6 MAY BE COMPLETED CONCURRENTLY.

NOTE: REFER TO SHEET TMP-8 FOR STEPS 5 DETAILS.

STEP 5: COMPLETE THE FOLLOWING:

BEHIND BARRIER, WIDEN MEDIAN SIDE OF -LNB- FROM STA 10+00+/- TO STA 43+70+/- AND WIDEN MEDIAN SIDE OF -LSB- FROM STA 10+00+/- TO STA 38+00+/- . (TMP-5 THRU TMP-7)

BEHIND BARRIER, CONSTRUCT PROPOSED MEDIAN FOOTINGS, MEDIAN COLUMNS, MEDIAN BENT WIDENING AND PROPOSED MEDIAN BARRIER. (TMP-6)

CONSTRUCT -YRPA- AS FOLLOWS:
 * BEHIND BARRIER, WIDEN AND WEDGE RIGHT SIDE FROM 17+11+/- TO STA 20+50+/- . (18' MIN) (TMP-7)
 * BEHIND BARRIER, FROM STA 20+50+/- TO 26+45+/- . (TMP-6 & TMP-7)
 * USING RSD 1101.02 (SHEET 3 OF 14) AS NECESSARY, RIGHT SIDE FROM STA 26+45+/- TO -Y-. (32' MIN) (TMP-6)

CONSTRUCT -YRPB- AS FOLLOWS:
 * WIDEN RIGHT SIDE FROM STA 14+80+/- TO STA 22+37+/- . CONSTRUCT A TEMPORARY WEDGE TRANSITION FROM THE PROPOSED SHOULDER TO THE EXISTING ROADWAY GRADE TO PROVIDE A SMOOTH SURFACE FOR THE PHASE II TEMPORARY TRAFFIC PATTERN. (TMP-5 & TMP-6)
 * TEMPORARY PAVEMENT FROM STA 22+37+/- TO STA 22+61+/- . (TMP-6)

CONSTRUCT -YRPC- AS FOLLOWS:
 * BEHIND BARRIER, WIDEN AND WEDGE RIGHT SIDE FROM STA 15+00+/- TO STA 16+75+/- . TEMP GRAU REQUIRED. (TMP-5)
 * BEHIND BARRIER FROM STA 16+75+/- TO STA 23+40+/- . (TMP-5 & TMP-6)
 * USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, CONSTRUCT RIGHT SIDE FROM STA 23+40+/- TO -Y-. (38' MIN) (TMP-6)
 * AWAY FROM TRAFFIC PLACE TEMPORARY PAVEMENT MARKINGS AS SHOWN IN PHASE II.

USING RSD 1101.02 (SHEET 1 AND 3 OF 14) AS NEEDED, COMPLETE -Y1- FROM -Y- TO -Y2-. (TMP-8)

USING RSD 1101.02 (SHEET 1 OF 14) AS NEEDED, WIDEN AND WEDGE -Y2- FROM STA 12+00+/- TO STA 16+50+/- . WHERE SHALLOW UNDERCUT IS REQUIRED, REMOVE ONLY AS MUCH AS CAN BE REPLACED IN ONE WORK PERIOD. (TMP-8)

NOTE: REFER TO SHEETS TMP-5 THRU TMP-7 FOR STEP 6 DETAILS.

STEP 6: COMPLETE THE FOLLOWING:

6A: AWAY FROM TRAFFIC, BEGIN -Y3- FROM STA 11+43+/- TO STA 15+70+/- .

6B: USING RSD 1101.02 (SHEET 1 OF 14) AND FLAGGERS AS NEEDED, CONSTRUCT THE FOLLOWING:
 * -Y3- FROM STA 15+70+/- TO STA 16+72+/- .
 * RIGHT SIDE OF -Y3- FROM STA 16+72+/- TO -L-.
 * -Y4- FROM STA 11+10+/- TO -Y3- USING INCIDENTAL STONE AS NEEDED TO MAINTAIN EXISTING DRIVES TO TRAFFIC.

6C: USING RSD 1101.02 (SHEET 1 OF 14) AND FLAGGERS AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS ON -Y4- AND ON -Y3- FROM STA 15+70+/- TO -L-. SHIFT TRAFFIC TO TEMPORARY PATTERN.

6D: USING RSD 1101.02 (SHEET 1 OF 14) AND FLAGGERS AS NEEDED, CONSTRUCT THE LEFT SIDE OF -Y3- FROM STA 16+72+/- TO -L-. COMPLETE DRIVEWAY AND REMOVE REMAINING EXISTING PAVEMENT OF EXISTING -Y4- .

6E: USING RSD 1101.02 (SHEET 1 OF 14) AND FLAGGERS AS NEEDED, WIDEN AND WEDGE LEFT SIDE OF -Y3- FROM STA 10+00+/- TO STA 11+43+/- , AND COMPLETE -Y3- FROM STA 11+43+/- TO STA 15+70+/- .

PHASE I (CONTINUED) (SEE TMP-4 FOR OVERVIEW)

NOTE: REFER TO SHEETS TMP-5 THRU TMP-7 FOR STEP 7 DETAILS.

STEP 7: COMPLETE THE FOLLOWING:

7A: USING RSD 1101.02 (SHEET 4 OF 14) AS NEEDED, REMOVE ANCHORED TEMPORARY PORTABLE CONCRETE BARRIER ON -LSB- FROM STA 9+50+/- TO STA 38+00+/- AND ON -LNB- FROM STA 10+00+/- TO 44+20+/- .

USING NARROW LANE, SHIFT TRAFFIC TRAFFIC AS NEEDED TO REMOVE TEMPORARY PORTABLE CONCRETE BARRIER ON -YRPC- FROM STA 14+50+/- TO STA 16+58+/- AND ON -YRPA- FROM STA 15+66+/- TO 20+00+/- . RESET CRASH CUSHIONS. USE DRUMS AND TYPE III BARRICADES TO MAINTAIN CLOSURE OF PROPOSED -YRPA- AND -YRPC-. (TMP-5 & TMP-7)

7B: USING RSD 1101.02 (SHEET 4 OF 14) AS NEEDED, CONSTRUCT TEMPORARY WEDGING ON THE MEDIAN SIDE OF -LNB- FROM STA 10+00+/- TO STA 43+70+/- AND THE MEDIAN SIDE OF -LSB- FROM STA 10+00+/- TO STA 38+00+/- TO PROVIDE A TEMPORARY TRANSITION FROM THE PROPOSED SHOULDER TO THE EXISTING ROADWAY GRADE THAT WILL PROVIDE A SMOOTH SURFACE FOR TEMPORARY TRAFFIC PATTERN.

PHASE II (SEE TMP-12 FOR OVERVIEW)

NOTE: REFER TO SHEET TMP-13 THRU TMP-15 FOR STEP 1 DETAILS.

STEP 1: USING RSD 1101.02 (SHEETS 3, 4, 9 AND 10 OF 14) AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS AND SHIFT TRAFFIC TO TEMPORARY PATTERN ON -LNB- & -LSB-, RAMPS -YRPA-, -YRPB-, AND EXISTING RAMP -YRPD-. USE DRUMS AND TYPE III BARRICADES TO CLOSE EXISTING -YRPA- TO TRAFFIC. (TMP-13 THRU TMP-15)

USING RSD 1101.02 (SHEET 3 OF 14) AND SHIFTING TRAFFIC AS NEEDED, WEDGE -YRPC- FROM STA 11+07+/- TO STA 13+93, PLACE TEMPORARY PAVEMENT MARKING, AND SHIFT TRAFFIC TO TEMPORARY PATTERN ON -YRPC-. USE DRUMS AND TYPE III BARRICADES TO CLOSE -YRPC- TO TRAFFIC. (TMP-13 & TMP-14)

NOTE: STEPS 2 AND 3 MAY BE COMPLETED CONCURRENTLY.

NOTE: REFER TO SHEET TMP-14 & TMP-16 FOR STEP 2 DETAILS.

STEP 2: COMPLETE THE FOLLOWING:

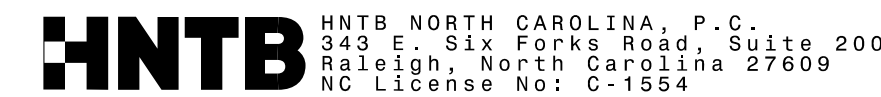
2A: USING RSD 1101.02 (SHEET 1 OF 14) AND FLAGGERS AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS ON -Y3- AND SHIFT TRAFFIC TO TEMPORARY PATTERN.

USING RSD 1101.02 (SHEET 1 OF 14) AND FLAGGERS AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS ON -Y1- AND -Y2-. USE DRUMS TO TEMPORARILY DELINEATE FUTURE MONOLITHIC ISLANDS AND SHIFT TRAFFIC TO TEMPORARY PATTERN ON -Y2- .

2B: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS ON -Y- AND OPEN TO TEMPORARY PATTERN.

USING LAW ENFORCEMENT AS NEEDED COMPLETE THE FOLLOWING:
 * OPEN -Y1- TO TRAFFIC
 * OPEN -Y3- TO TRAFFIC AND CLOSE EXISTING -Y3- BETWEEN -Y3- AND -Y- .
 * ACTIVATE TEMPORARY SIGNAL AT THE INTERSECTION OF -Y1- AND -Y3-
 * COVER/DEACTIVATE EXISTING SIGNAL AT THE INTERSECTION OF EXISTING -Y- AND -Y2-
 * CLOSE EXISTING -Y2- FROM STA 12+00+/- TO -Y- .

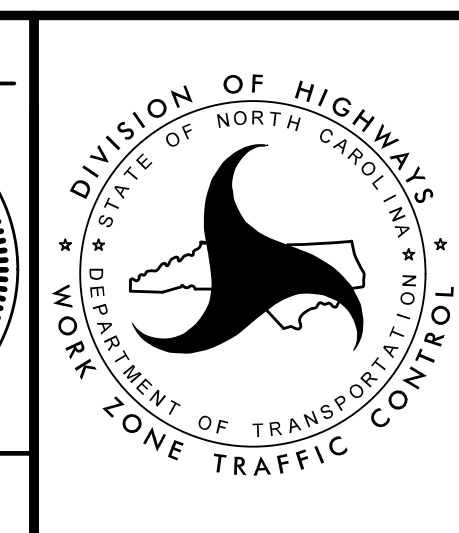
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APPROVED: *Lori D. Stoucho, P.E.*
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 DATE: 4/5/2018

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TRANSPORTATION MANAGEMENT PLAN

PHASING

PHASING

PHASE II (CONTINUED) (SEE TMP-12 FOR OVERVIEW)

- 2C: COMPLETE THE FOLLOWING:
- * USING RSD 1101.02 (SHEET 1 OF 14) AND FLAGGERS AS NEEDED, CONSTRUCT RIGHT SIDE OF -Y3- FROM STA 10+00+/- TO STA 11+43+/-.
 - * CONSTRUCT -Y2- FROM CULDESAC TO STA 12+00+/-
 - * USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, REMOVE EXISTING PAVEMENT OF EXISTING -Y3- BETWEEN -Y3- AND -Y-
 - * USING RSD 1101.02 (SHEETS 1 & 3 OF 14) AND FLAGGERS AS NEEDED, REMOVE EXISTING PAVEMENT OF -Y2- BETWEEN THE CULDESAC AND -Y--
 - * USING FLAGGERS, CONSTRUCT PROPOSED ISLANDS AT THE INTERSECTION OF -Y1- AND -Y2--.

NOTE: REFER TO SHEETS TMP-13 THRU TMP-15 FOR STEP 3 DETAILS.

STEP 3: COMPLETE THE FOLLOWING:

- 3A: USING RSD 1101.02 (SHEET 4 OF 14) AS NECESSARY, PLACE ANCHORED TEMPORARY PORTABLE CONCRETE BARRIER ON THE OUTSIDE SHOULDER OF -LNB- FROM STA 22+00+/- TO STA 36+75+/- . PLACE ANCHORED TEMPORARY PORTABLE CONCRETE BARRIER ON THE OUTSIDE SHOULDER OF -LSB- FROM STA 13+50+/- TO STA 26+00+/- . (TMP-13 THRU TMP-15)

- 3B: BEHIND BARRIER, CONSTRUCT PROPOSED FOOTINGS, COLUMNS AND BENT WIDENING ON THE LEFT SIDE OF -LNB- AND THE RIGHT SIDE OF -LSB- USING TEMPORARY SHORING 1 THRU 12 AS NEEDED. (TMP-14A)

BEHIND BARRIER, CONSTRUCT THE FOLLOWING:

- * WIDEN RIGHT SIDE OF -LSB- FROM STA 14+48+/- TO STA 26+00+/- .
- * WIDEN LEFT SIDE OF -LNB- FROM STA 22+00+/- TO STA 35+74+/- .

AWAY FROM TRAFFIC, CONSTRUCT THE FOLLOWING:

- * WIDEN RIGHT SIDE OF -LSB- FROM STA 26+00+/- TO STA 32+58+/- .
- * WIDEN LEFT SIDE OF -LNB- FROM STA 14+80+/- TO STA 22+00+/-

SHIFTING TRAFFIC AS NEEDED TO MAINTAIN EXISTING TRAFFIC ON -YRPA-, CONSTRUCT LEFT SIDE OF -YRPA- FROM STA 15+65+/- TO STA 20+50+/- . (TMP-15)

USING RSD 1101.02 (SHEET 4 & 9 OF 14) AND SHIFTING TRAFFIC AS NECESSARY, WIDEN LEFT SIDE OF -YRPB-, WEDGE FROM STA 9+50+/- TO -Y- AND NOISE WALL -NW4- FROM STA 10+00+/- TO STA 21+45+/- . (TMP-13 & 14)

SHIFTING TRAFFIC AS NEEDED TO MAINTAIN EXISTING TRAFFIC ON CONSTRUCT LEFT SIDE OF -YRPC- FROM STA 13+93+/- TO STA 16+78+/- . (TMP-13)

USING RSD 1101.02 (SHEET 3 OF 14) AS NECESSARY, CONSTRUCT THE FOLLOWING:

- * LEFT SIDE OF -YRPA- FROM STA 26+45+/- TO -Y- . (TMP-14)
- * LEFT SIDE OF -YRPC- FROM STA 23+40+/- TO -Y- . (TMP-14)
- * MONOLITHIC ISLAND BETWEEN -YRPC- AND -YLPC FROM STA 21+32+/- TO STA 23+40+/- . (TMP-14)
- * TEMPORARY PAVEMENT ON THE RIGHT SIDE OF EXISTING -YRPD- FROM STA 13+65+/- TO STA 20+54+/- . (TMP-14 & TMP-15)
- * LEFT SIDE OF -Y- FROM -YRPC- TO STA 27+18+/- . (TMP-14)
- * RIGHT SIDE OF -Y- FROM STA 29+60+/- TO STA 30+73+/- . (TMP-14)

AWAY FROM TRAFFIC, COMPLETE THE FOLLOWING:

- * -YLPC- FROM -LSB- TO -Y- INCLUDING TEMPORARY PAVEMENT ON THE RIGHT SHOULDER OF -YLPC- AT THE TIE TO -Y- . (TMP-14)
- * -YLPA- FROM -LNB- TO -Y- . (TMP-14)
- * REMOVE ABANDONED PAVEMENT OF EXISTING -LSB-, -LNB-, -YRPA- AND -YRPC-

NOTE: REFER TO SHEETS TMP-13 THRU TMP-15 FOR STEP 4 & 5 DETAILS.

STEP 4: USING 1101.02 (SHEETS 4, 9 & 10 OF 14) AS NECESSARY, REMOVE ANCHORED TEMPORARY PORTABLE CONCRETE BARRIER ON -LSB- FROM STA 13+50+/- TO STA 26+00+/- AND ON -LNB- FROM STA 22+00+/- TO STA 36+75+/- .

STEP 5: USING 1101.02 (SHEETS 4, 9 & 10 OF 14) AS NECESSARY, MILL AND WEDGE -LSB- FROM STA 10+00+/- TO STA 38+00+/- AND -LNB- FROM STA 10+00+/- TO STA 43+70+/- .

PHASE III (SEE TMP-20 FOR OVERVIEW)

NOTE: REFER TO SHEETS TMP-21 THRU TMP-26 FOR STEP 1 DETAILS.

STEP 1: USING RSD 1101.02 (SHEET 3, 4, 9 AND 10 OF 14) AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS ON -LNB-, -LSB-, RAMPS -YRPA-, -YRPB-, -YRPC-, AND -YRPD- AND SHIFT TRAFFIC TO TEMPORARY PATTERN.

USING LAW ENFORCEMENT AND RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS ON -Y- . SHIFT TRAFFIC TO TEMPORARY TRAFFIC PATTERN.

NOTE: REFER TO SHEETS TMP-22 & TMP-23 FOR STEP 2 DETAILS.

STEP 2: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, PLACE TEMPORARY PORTABLE CONCRETE BARRIER IN THE FOLLOWING LOCATIONS:
 * LEFT SIDE OF -Y- FROM STA 26+46+/- TO STA 31+35+/- . (TMP-22)
 * RIGHT SIDE OF -Y- FROM STA 25+44+/- TO STA 30+23+/- . (TMP-22)

USING RSD 1101.02 (SHEET 9 OF 14) AND SHIFTING TRAFFIC TO SHOULDER AS NEEDED, PLACE ANCHORED TEMPORARY PORTABLE CONCRETE BARRIER ON THE LEFT SIDE OF TEMPORARY PATTERN ON -YRPD- FROM STA 10+00+/- TO STA 19+98+/- AND FROM 36+27+/- TO STA 38+00+/- . (TMP-22 & TMP-23)

NOTE: REFER TO SHEETS TMP-21 THRU TMP-26 FOR STEP 3 DETAILS.

STEP 3: BEHIND BARRIER, CONSTRUCT LEFT SIDE OF -YRPD- FROM STA 10+00+/- TO -Y- AND RIGHT SIDE OF -LSB- STA FROM STA 36+27+/- TO 38+00+/- . (TMP-22 & TMP-23)

BEHIND BARRIER AND USING RSD 1101.02 (SHEETS 4 & 10 OF 14) AS NEEDED, CONSTRUCT NOISE WALL FROM STA 10+00+/- TO STA 29+95+/- . (TMP-22 & TMP-23)

USING RSD 1101.02 (SHEETS 4 & 10 OF 14) AS NEEDED, CONSTRUCT RIGHT SIDE OF -YRPA- FROM STA 10+00+/- TO STA 17+11+/- AND THE LEFT SIDE OF -LNB- FROM STA 40+37+/- TO STA 43+70+/- . WHERE SHALLOW UNDERCUT IS REQUIRED, REMOVE ONLY AS MUCH SOIL AS CAN BE REMOVED IN ONE WORK PERIOD. (TMP-23)

USING RSD 1101.02 (SHEETS 4 & 10 OF 14) AS NEEDED, CONSTRUCT THE RIGHT SIDE OF -YRPC- FROM STA 10+00+/- TO STA 15+00+/- AND LSB FROM STA 10+00+/- TO STA 10+50+/- . (TMP-21)

USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, CONSTRUCT WIDENING AND SIDEWALKS ON -Y- . WHERE SHALLOW UNDERCUT IS REQUIRED, REMOVE ONLY AS MUCH AS CAN BE REPLACED IN ONE WORK PERIOD. (TMP-22, TMP-24 THRU TMP-26)

BEHIND BARRIER, CONSTRUCT BRIDGE AND BENT WIDENING ON -Y- USING TEMPORARY SHORING 13 THRU 16 AS NEEDED. (TMP-22)

NOTE: REFER TO SHEETS TMP-27 & TMP-28 FOR STEP 4 & 5 DETAILS.

STEP 4: COMPLETE THE FOLLOWING:

4A: USING RSD 1101.02 (SHEETS 3, 4, 9 AND 10 OF 14) AND LAW ENFORCEMENT AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS, RESET AND ANCHOR TEMPORARY PORTABLE CONCRETE BARRIER FROM EXISTING -YRPD- TO PROPOSED -YRPD- FROM STA 13+46+/- TO STA 19+98+/- . SHIFT TRAFFIC TO TEMPORARY PATTERN ON -YRPD- .

4B: BEHIND BARRIER, CONSTRUCT RIGHT SIDE OF -YRPD- FROM STA 13+65+/- TO STA 20+61+/- AND TIE TO -Y- RT.

USING RSD 1101.02 (SHEETS 4 & 9 OF 14) AS NEEDED, CONSTRUCT REMAINING WEDGING EXISTING GORE OF -YRPD- AND -L- .

AWAY FROM -LSB- AND BEHIND BARRIER ON -YRPD-, REMOVE TEMPORARY PAVEMENT ON EXISTING -YRPD-

STEP 5: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, REMOVE TEMPORARY PORTABLE CONCRETE BARRIER FROM -Y- .

USING RSD 1101.02 (SHEETS 4 & 9 OF 14) AND SHIFTING TRAFFIC AS NEEDED, REMOVE ANCHORED TEMPORARY PORTABLE CONCRETE BARRIER ON -YRPD- .

PHASE III (CONTINUED) (SEE TMP-20 FOR OVERVIEW)

NOTE: REFER TO SHEETS TMP-22 & TMP-24 THRU TMP-26 FOR STEP 6 DETAILS.

STEP 6: USING LAW ENFORCEMENT AND RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, WEDGE -Y- FROM STA 14+00+/- TO STA 57+00+/- , PLACE TEMPORARY PAVEMENT MARKING ON -Y- AND SHIFT TRAFFIC TO TEMPORARY PATTERN AS SHOWN ON SHEETS TMP-29 AND TMP-31 THRU TMP-33.

NOTE: REFER TO SHEETS TMP-29 & TMP-30 FOR STEPS 7 & 8 DETAILS.

STEP 7: USING RSD 1101.02 (SHEETS 3, 4 AND 9 OF 14) PLACE TEMPORARY PAVEMENT MARKINGS ON -YRPD- AND SHIFT TRAFFIC TO NEW TEMPORARY PATTERN AS SHOWN ON SHEETS TMP-29 AND TMP-30.

STEP 8: WHILE MAINTAINING TRAFFIC IN A 4-LANE, 2-WAY PATTERN, MILL AND OVERLAY BRIDGE DECK ON THE LEFT SIDE OF -Y- . (TMP-29)

USING FLAGGERS AS NEEDED, CONSTRUCT CURB AND GUTTER ON -YRPD- FROM STA 19+19+/- TO STA 19+67+/- . (TMP-29)

NOTE: REFER TO SHEETS TMP-34 THRU TMP-36 FOR STEP 9 & 10 DETAILS.

STEP 9: USING LAW ENFORCEMENT AND RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS ON -Y- AND SHIFT TRAFFIC TO TEMPORARY PATTERN.

STEP 10: WHILE MAINTAINING TRAFFIC IN A 4-LANE, 2-WAY PATTERN, MILL AND OVERLAY BRIDGE DECK ON THE RIGHT SIDE OF -Y- .

USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, CONSTRUCT -YLPC- FROM STA 16+96+/- TO STA 17+54+/- AND REMOVE REMAINING TEMPORARY PAVEMENT.

NOTE: REFER TO SHEETS TMP-37 THRU TMP-39 FOR STEP 11 & 12 DETAILS.

STEP 11: USING LAW ENFORCEMENT AND RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, PLACE TEMPORARY PAVEMENT MARKINGS ON -Y- . SHIFT TRAFFIC TO TEMPORARY PATTERN.

STEP 12: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, CONSTRUCT MONOLITHIC ISLANDS ON -Y- .

WHILE MAINTAINING TRAFFIC IN A 4-LANE, 2-WAY PATTERN, MILL AND OVERLAY REMAINING BRIDGE DECK IN THE CENTER OF -Y- .

NOTE: NO DETAIL SHEETS SHOWN FOR STEP 13 & 14.

STEP 13: USING RSD 1101.02 (SHEETS 1, 3, 4, 9, 10, 11 & 12 OF 14), PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS. PLACE TRAFFIC INTO FINAL PATTERN.

STEP 14: REMOVE TEMPORARY TRAFFIC CONTROL DEVICES.

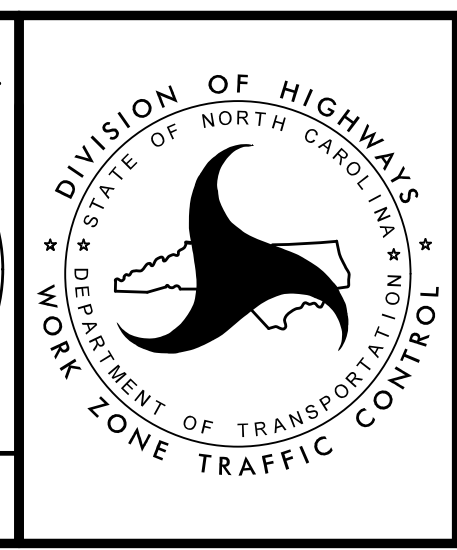
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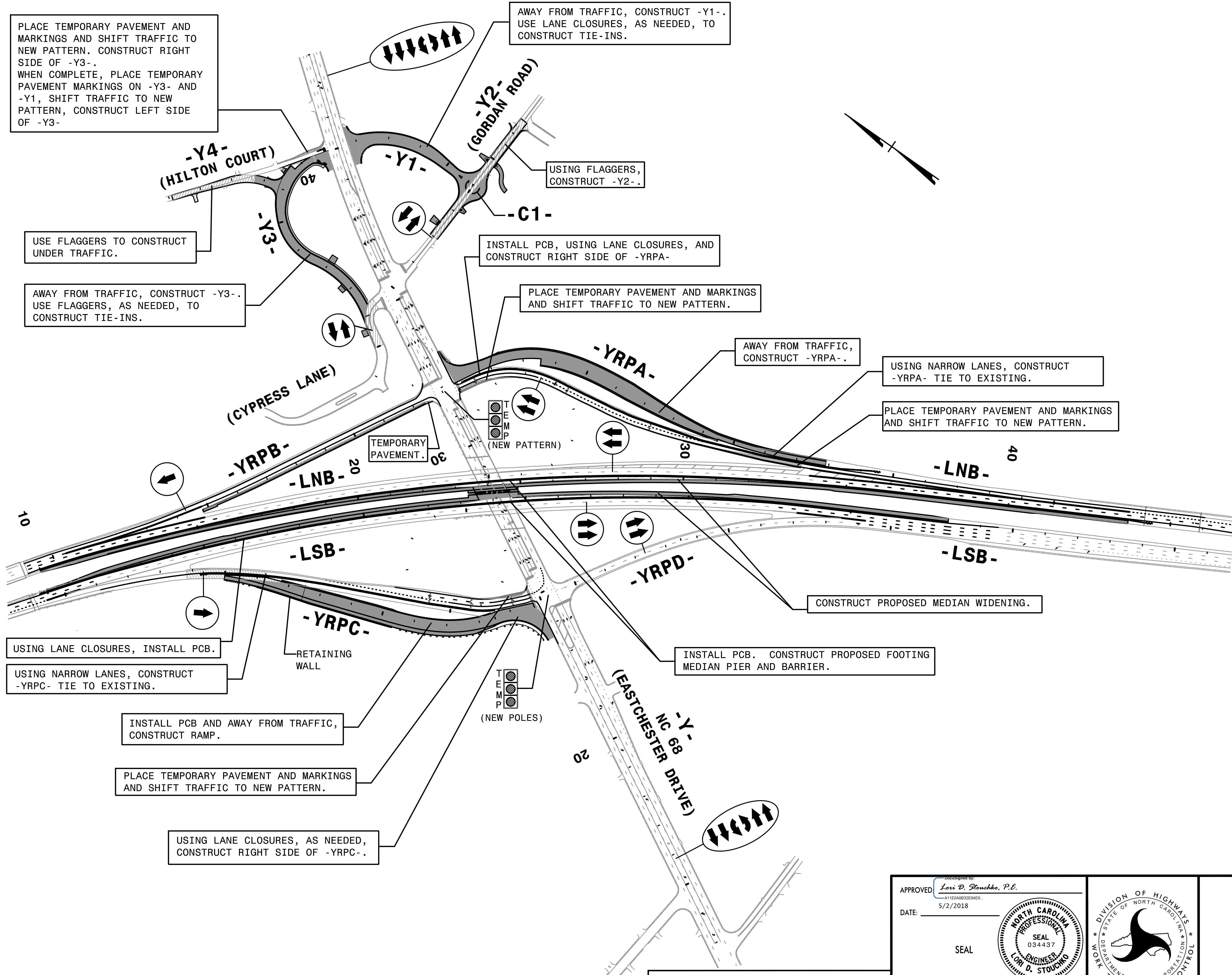
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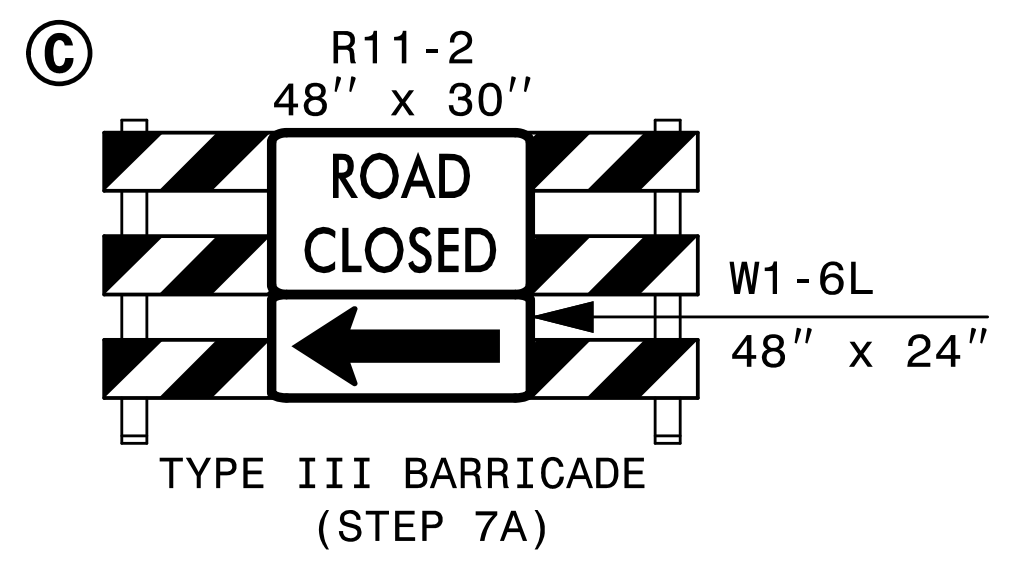
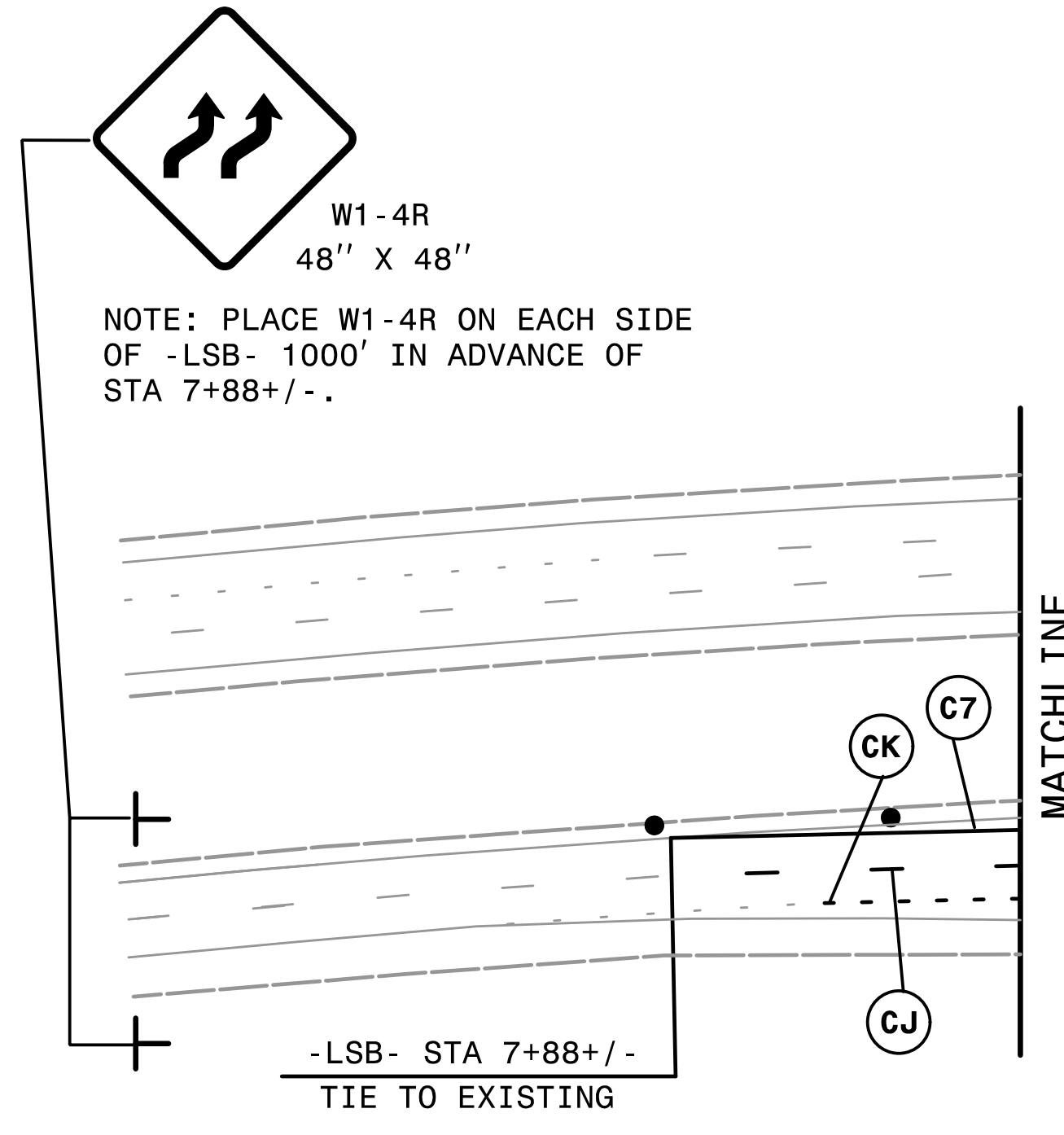
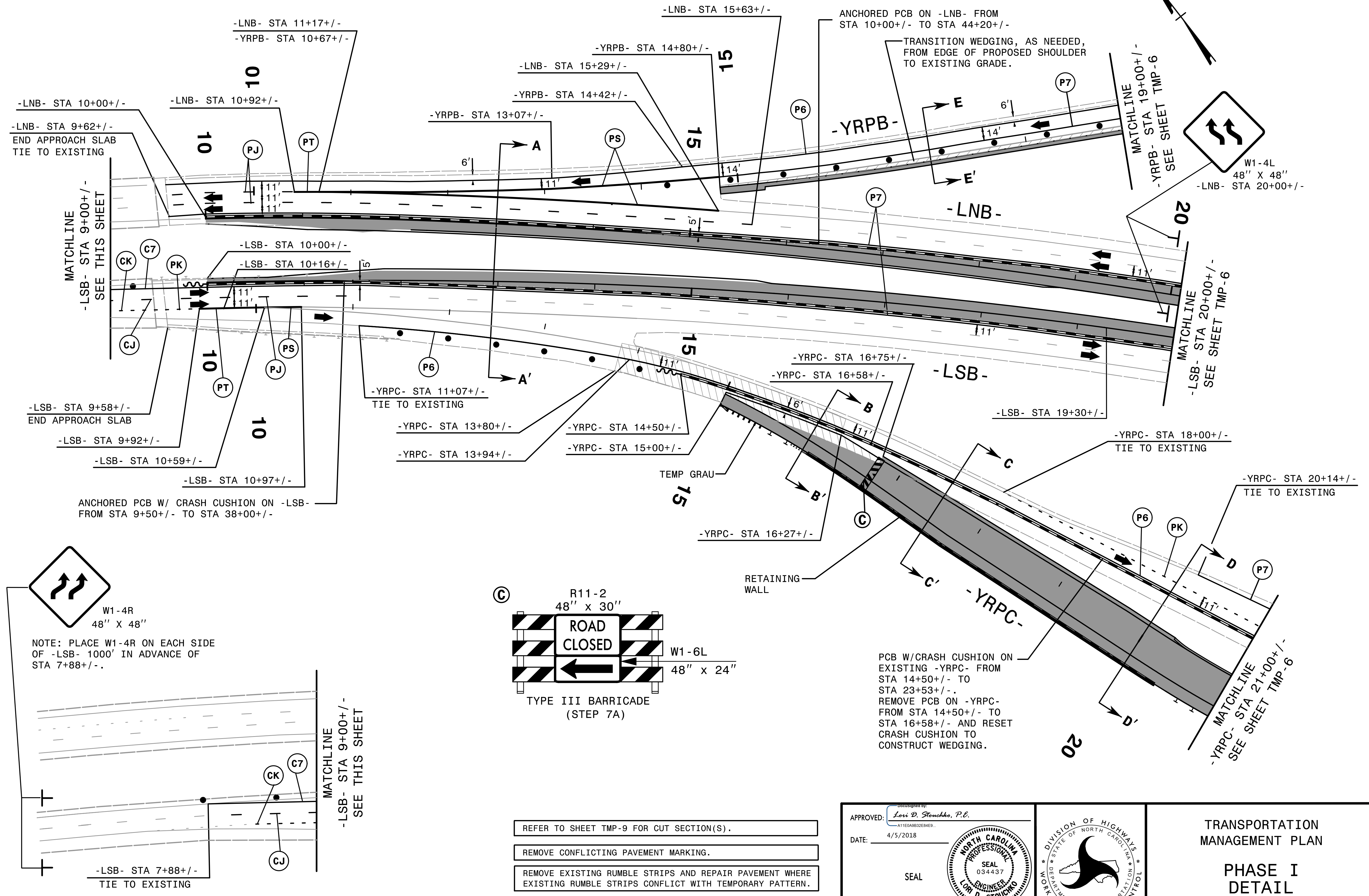
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 SEAL 034437
 LORI D. STOUCHO



TRANSPORTATION MANAGEMENT PLAN
 PHASE I OVERVIEW

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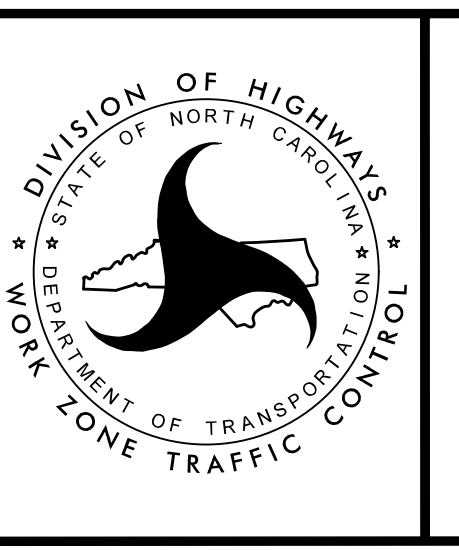


- REFER TO SHEET TMP-9 FOR CUT SECTION(S).
- REMOVE CONFLICTING PAVEMENT MARKING.
- REMOVE EXISTING RUMBLE STRIPS AND REPAIR PAVEMENT WHERE EXISTING RUMBLE STRIPS CONFLICT WITH TEMPORARY PATTERN.

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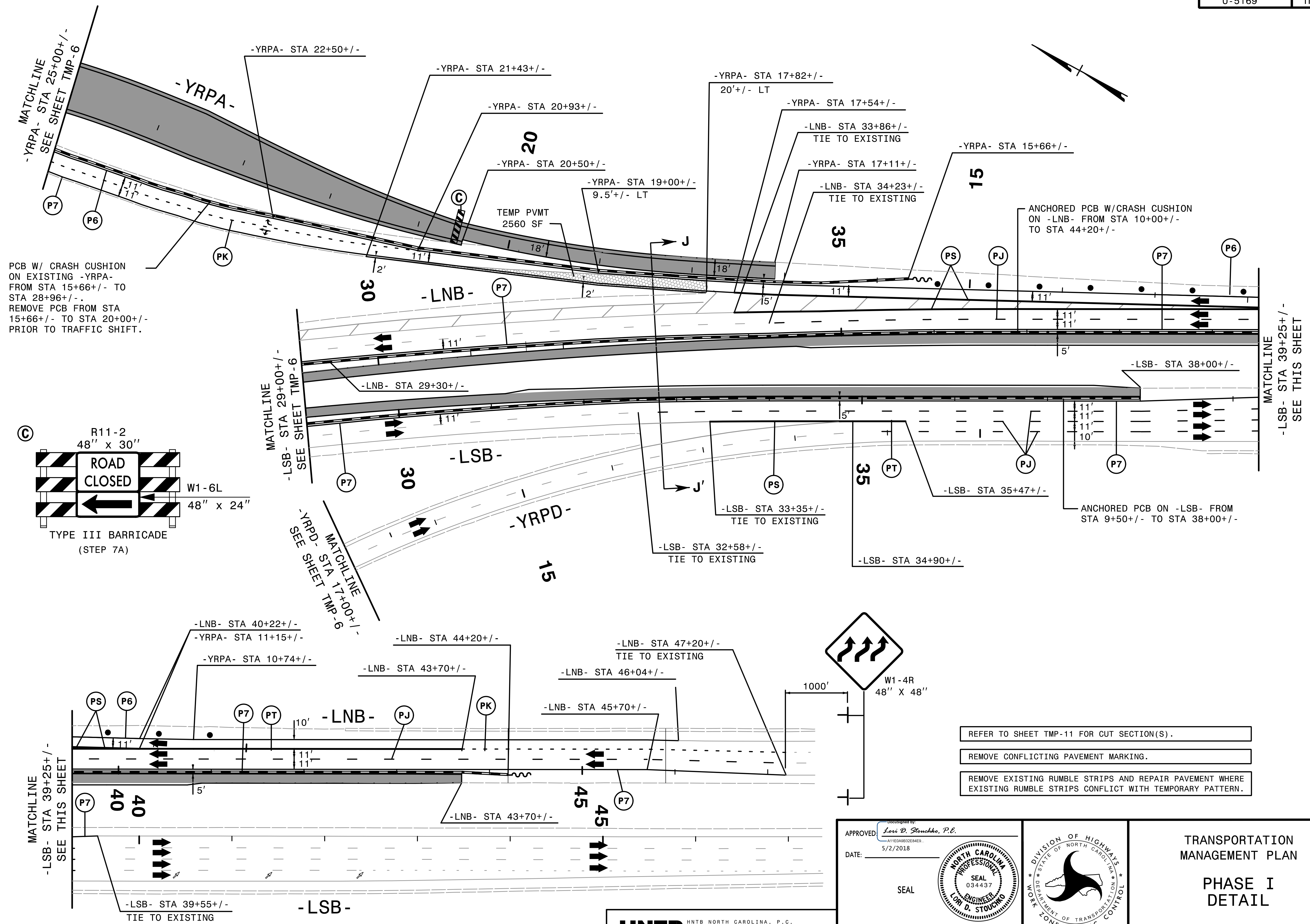
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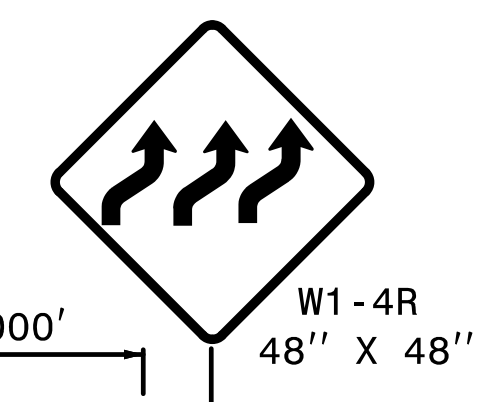
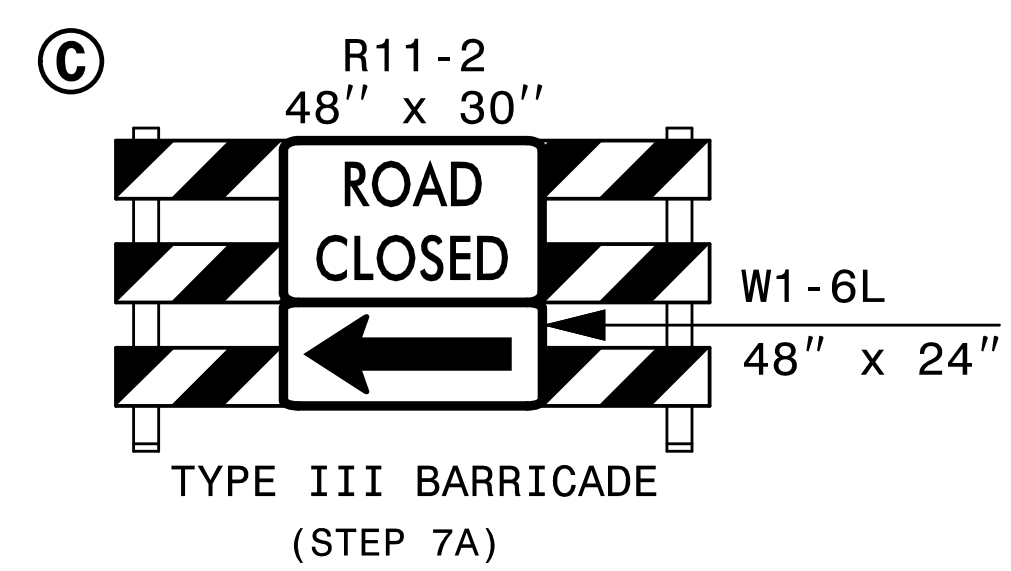
TRANSPORTATION MANAGEMENT PLAN

PHASE I
DETAIL

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PCB W/ CRASH CUSHION ON EXISTING -YRPA- FROM STA 15+66+/- TO STA 28+96+/- . REMOVE PCB FROM STA 15+66+/- TO STA 20+00+/- PRIOR TO TRAFFIC SHIFT.

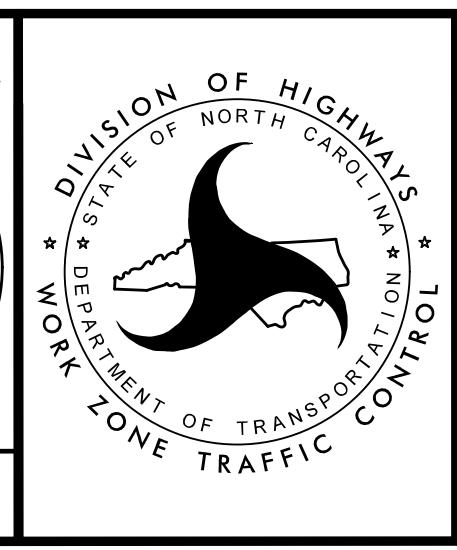


- REFER TO SHEET TMP-11 FOR CUT SECTION(S).
- REMOVE CONFLICTING PAVEMENT MARKING.
- REMOVE EXISTING RUMBLE STRIPS AND REPAIR PAVEMENT WHERE EXISTING RUMBLE STRIPS CONFLICT WITH TEMPORARY PATTERN.

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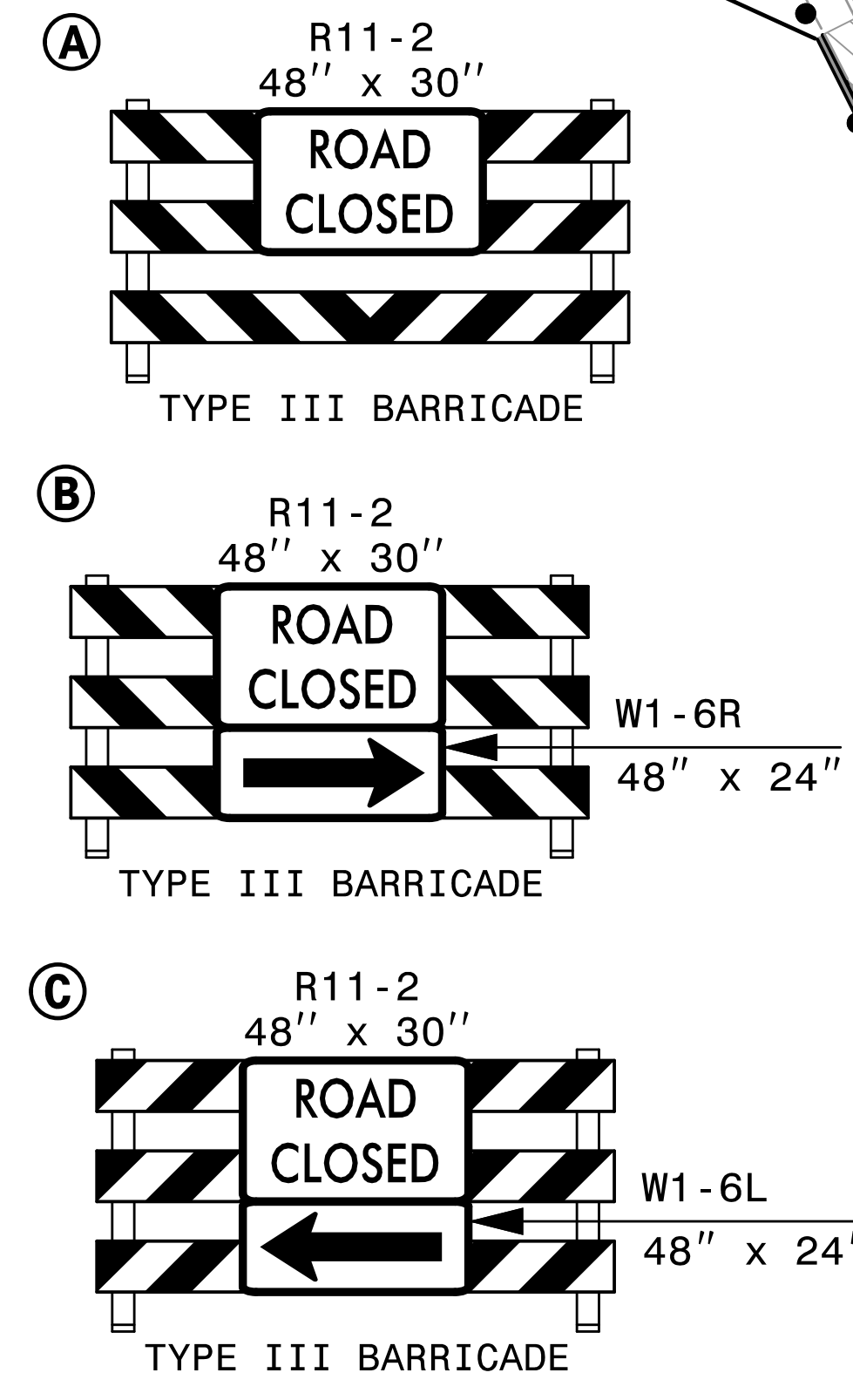
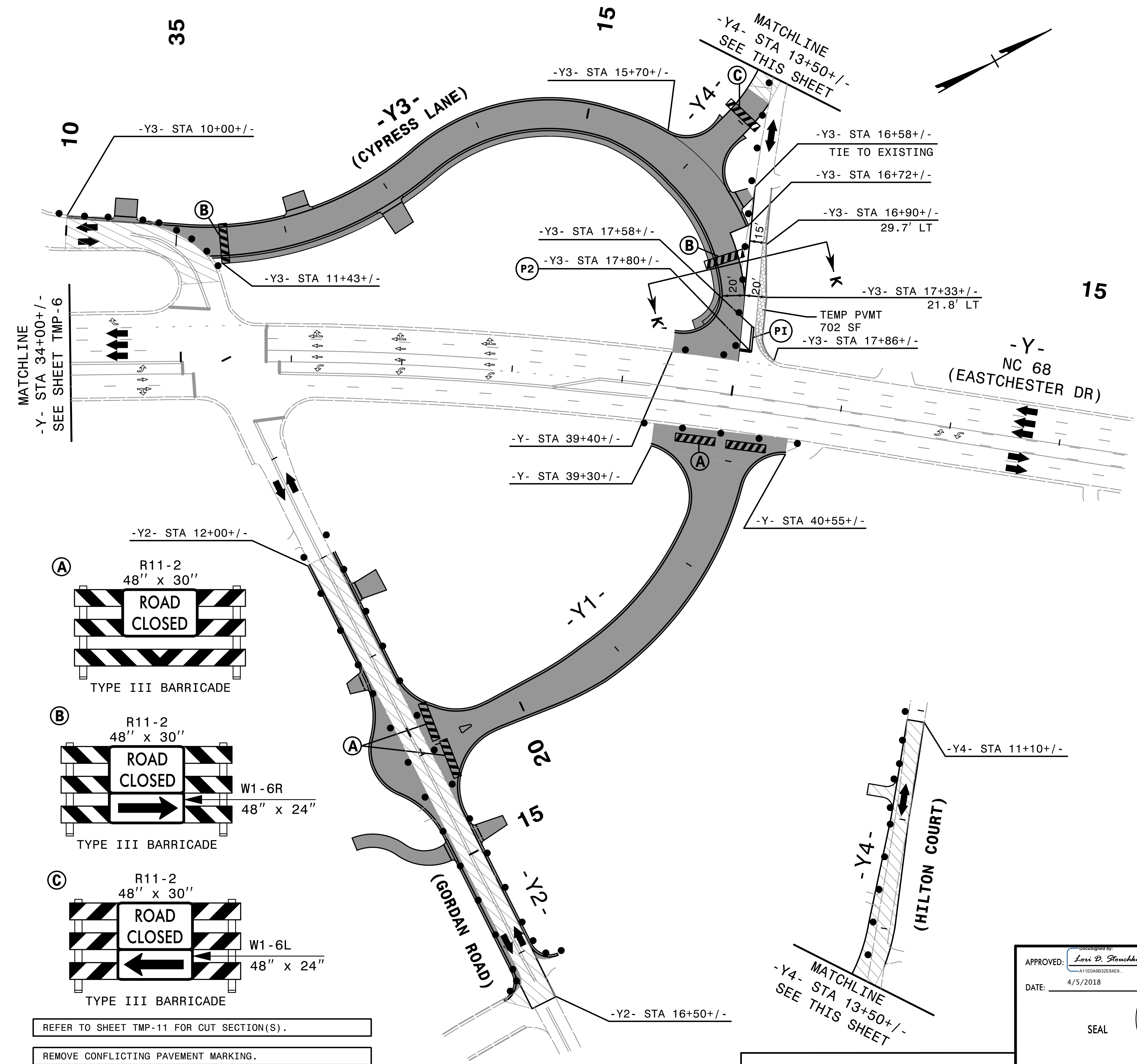
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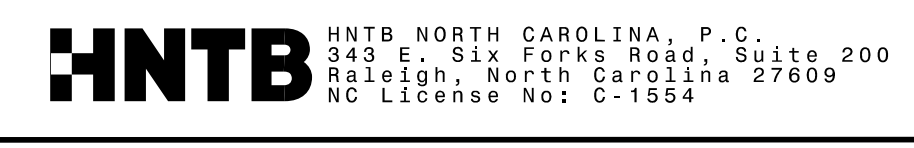
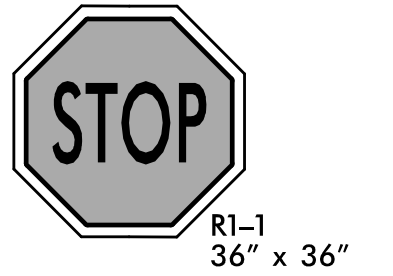
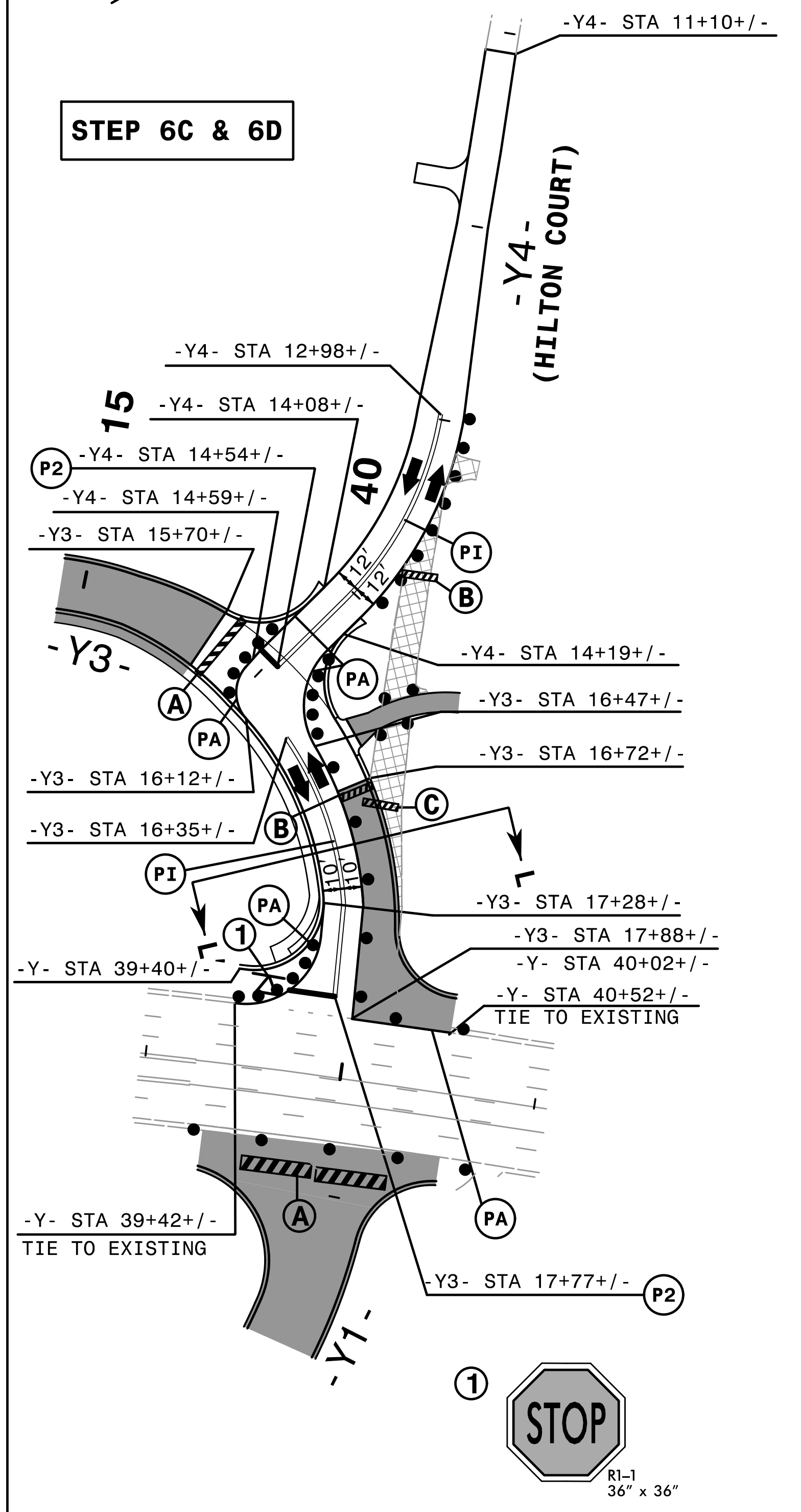
TRANSPORTATION MANAGEMENT PLAN
 PHASE I
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REFER TO SHEET TMP-11 FOR CUT SECTION(S).

REMOVE CONFLICTING PAVEMENT MARKING.



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 034437

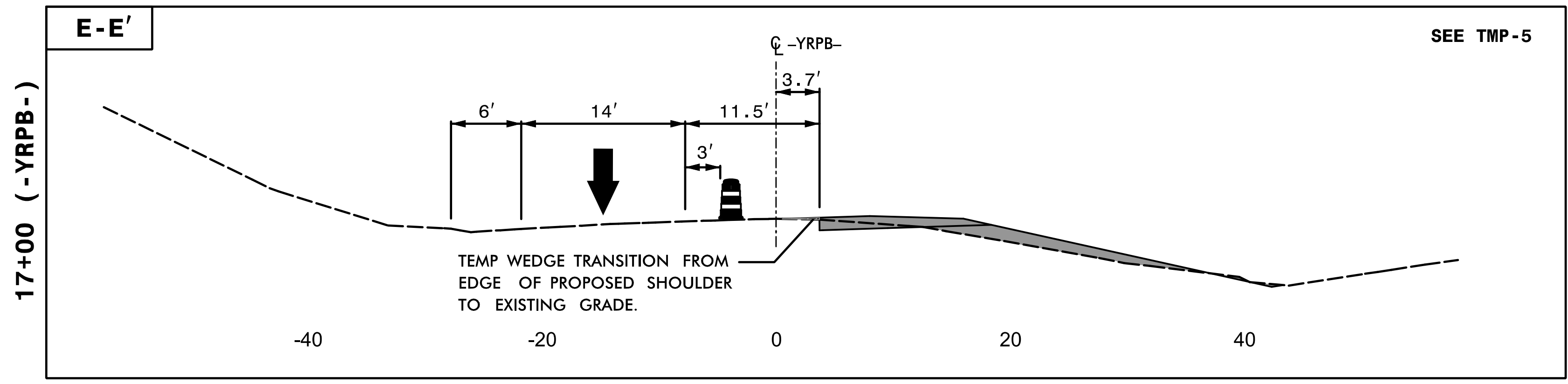
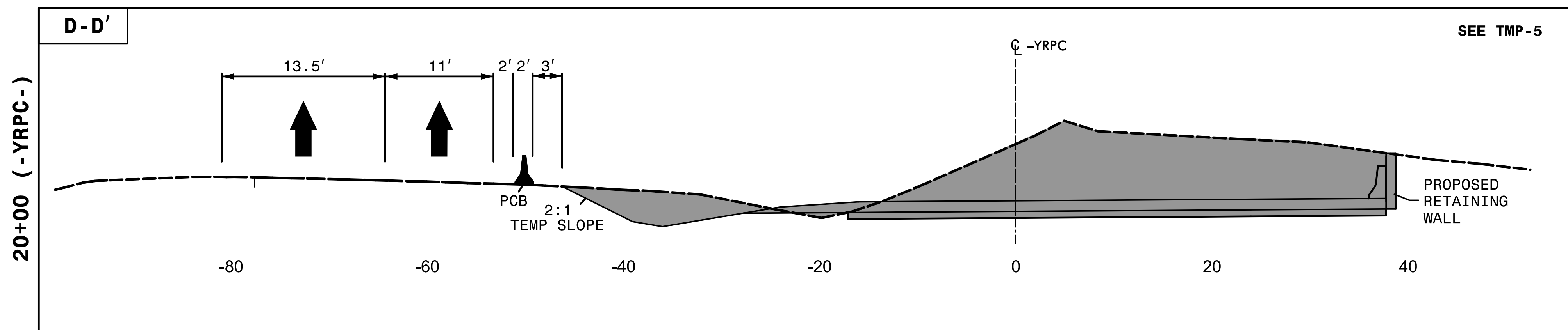
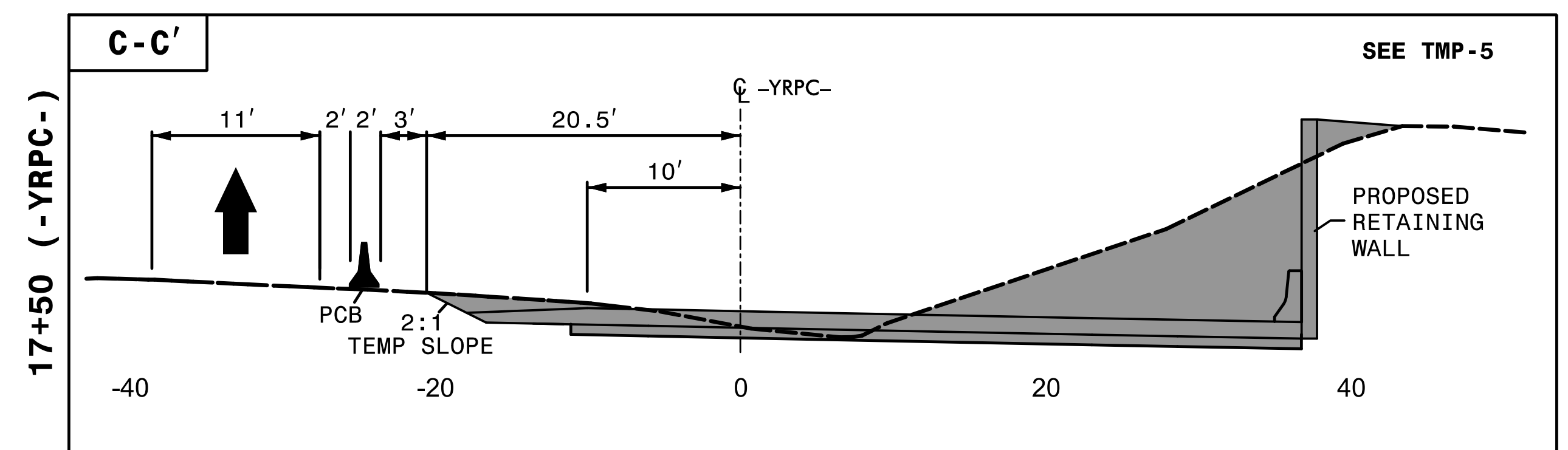
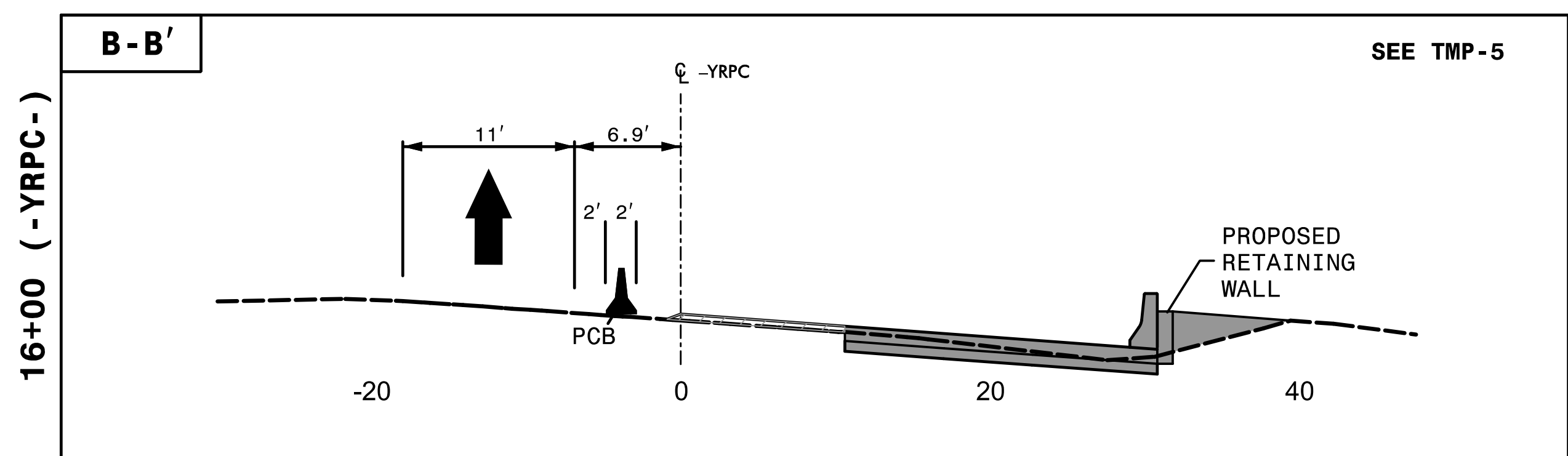
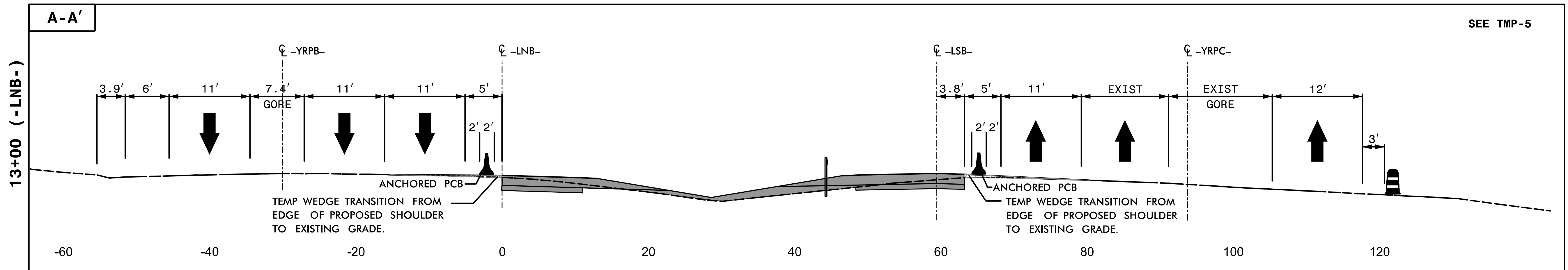
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TRANSPORTATION MANAGEMENT PLAN

PHASE I
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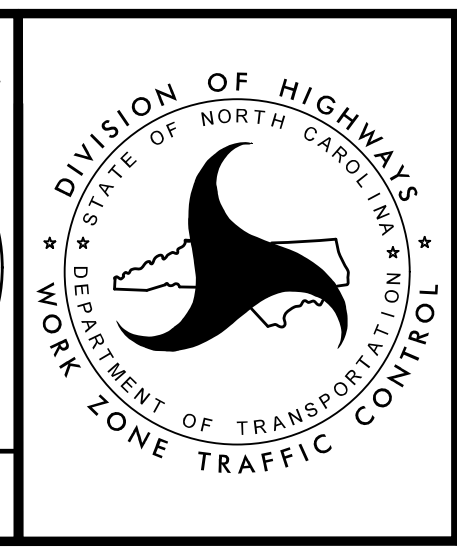
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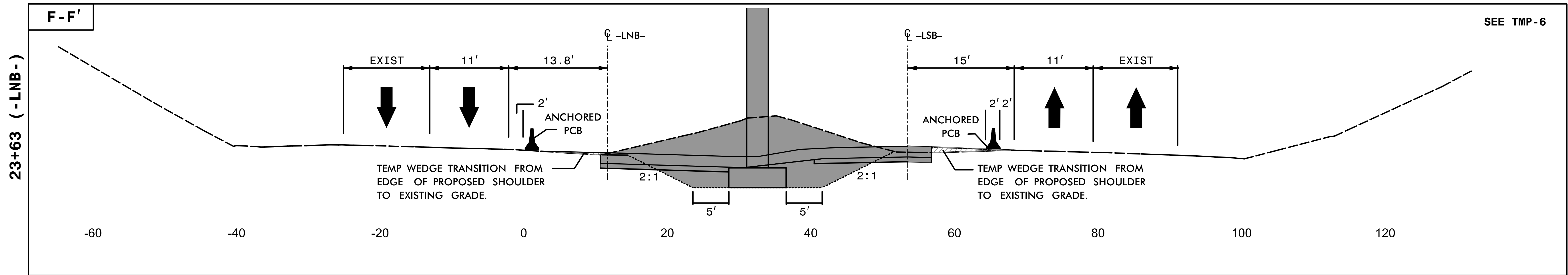


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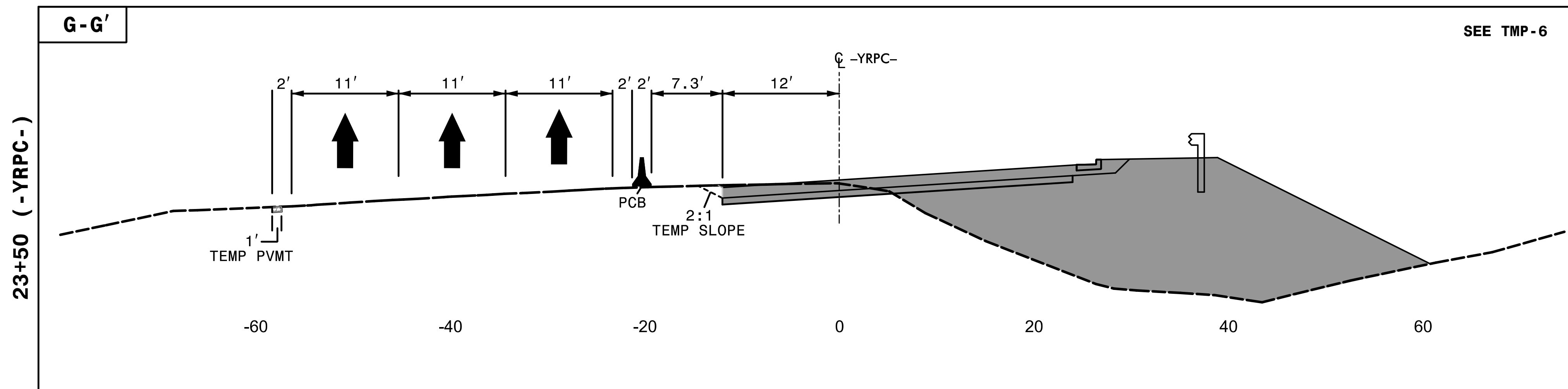


TRANSPORTATION MANAGEMENT PLAN
 PHASE I SECTION CUT DETAILS

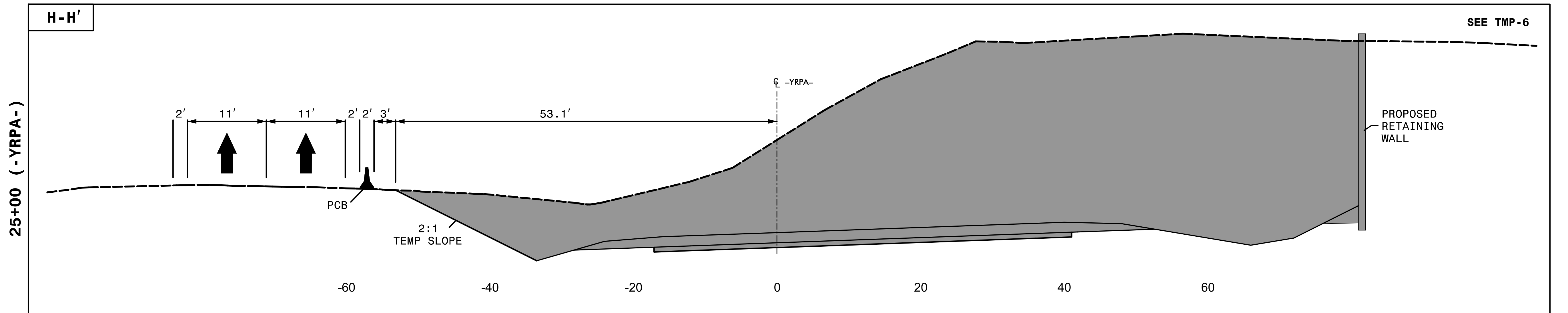
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SEE TMP-6



SEE TMP-6



SEE TMP-6

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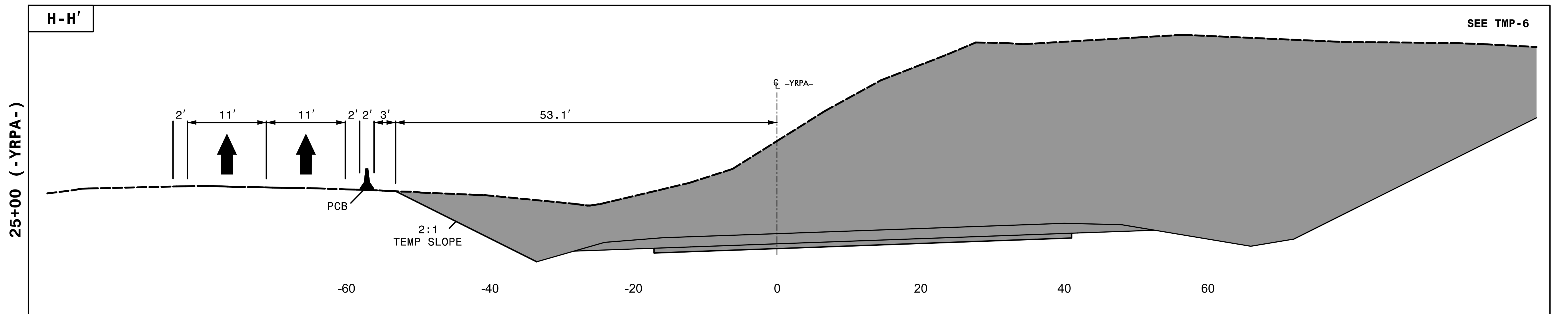
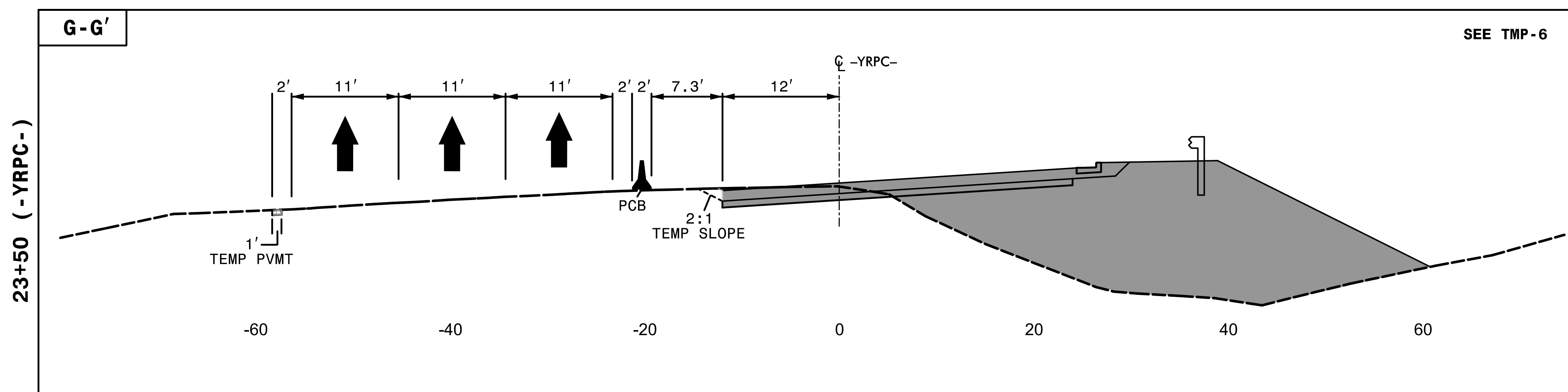
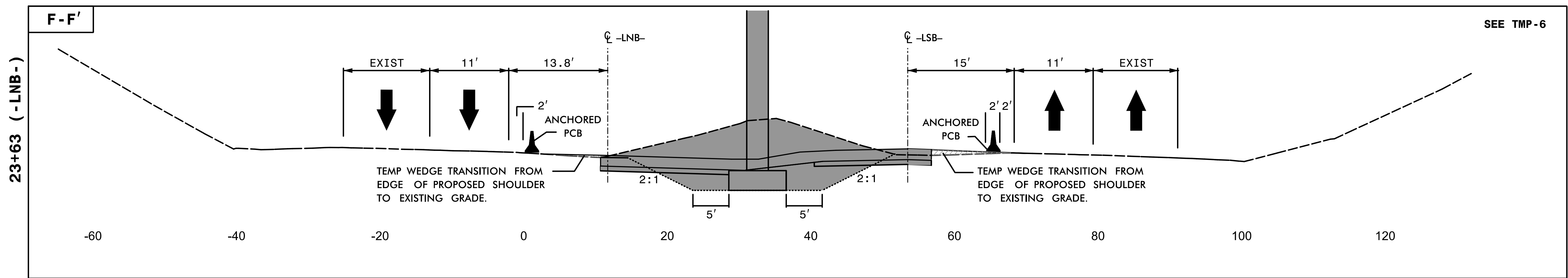
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TRANSPORTATION
 MANAGEMENT PLAN

PHASE I
 SECTION CUT
 DETAILS



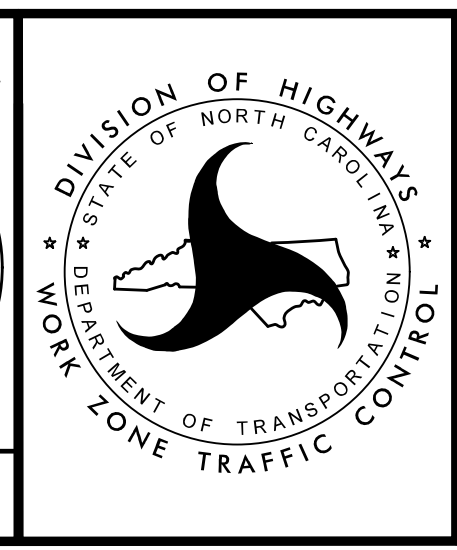
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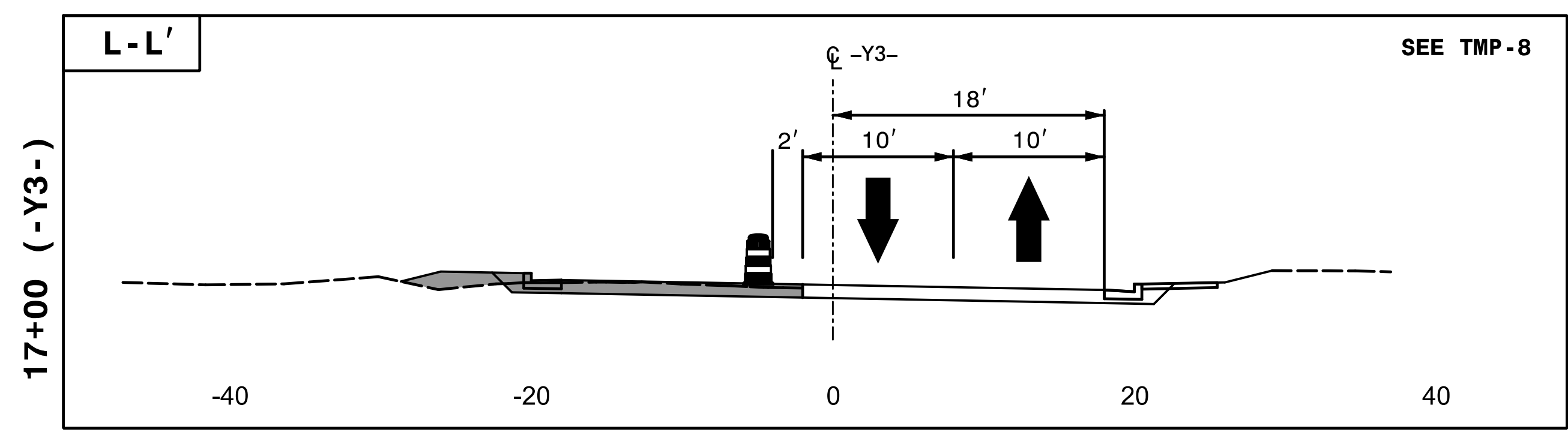
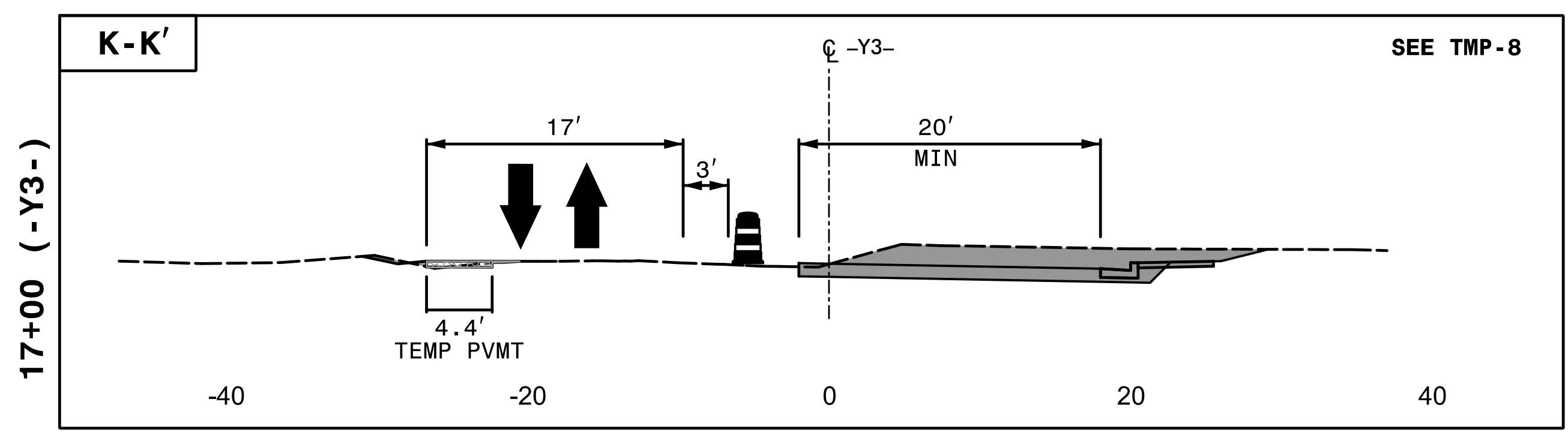
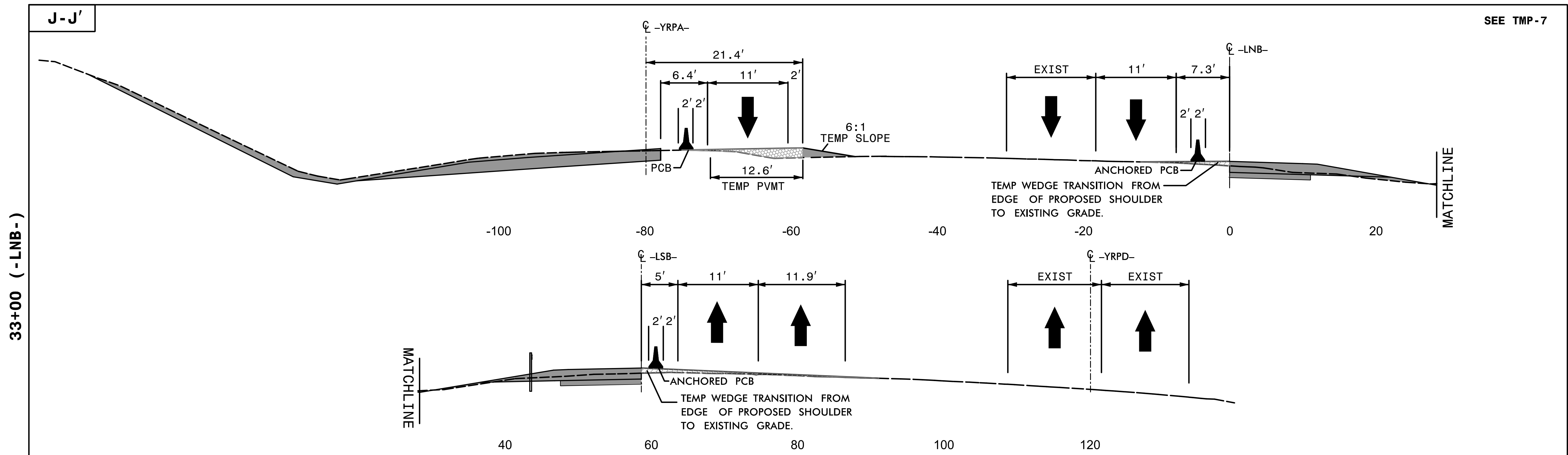
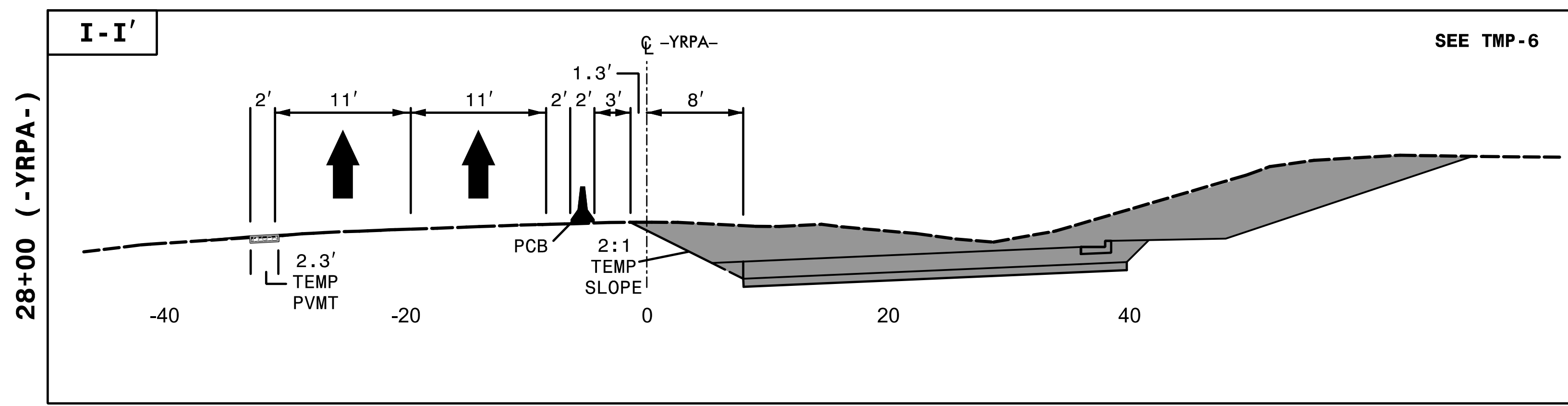
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TRANSPORTATION
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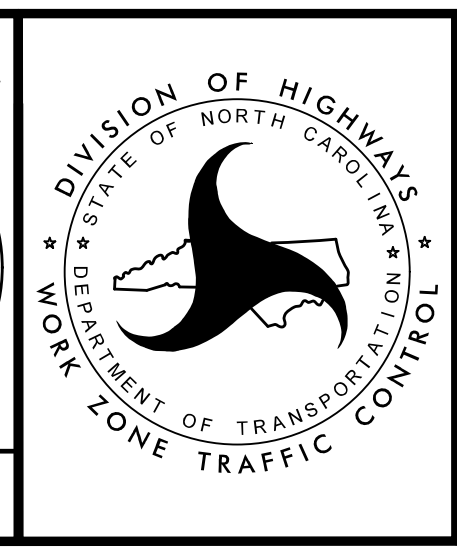
PHASE I
SECTION CUT
DETAILS



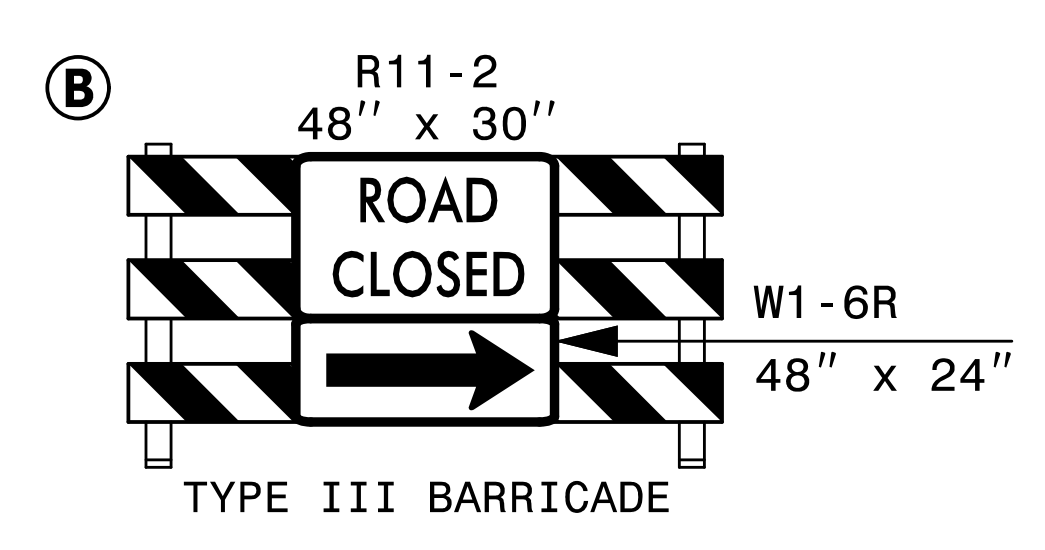
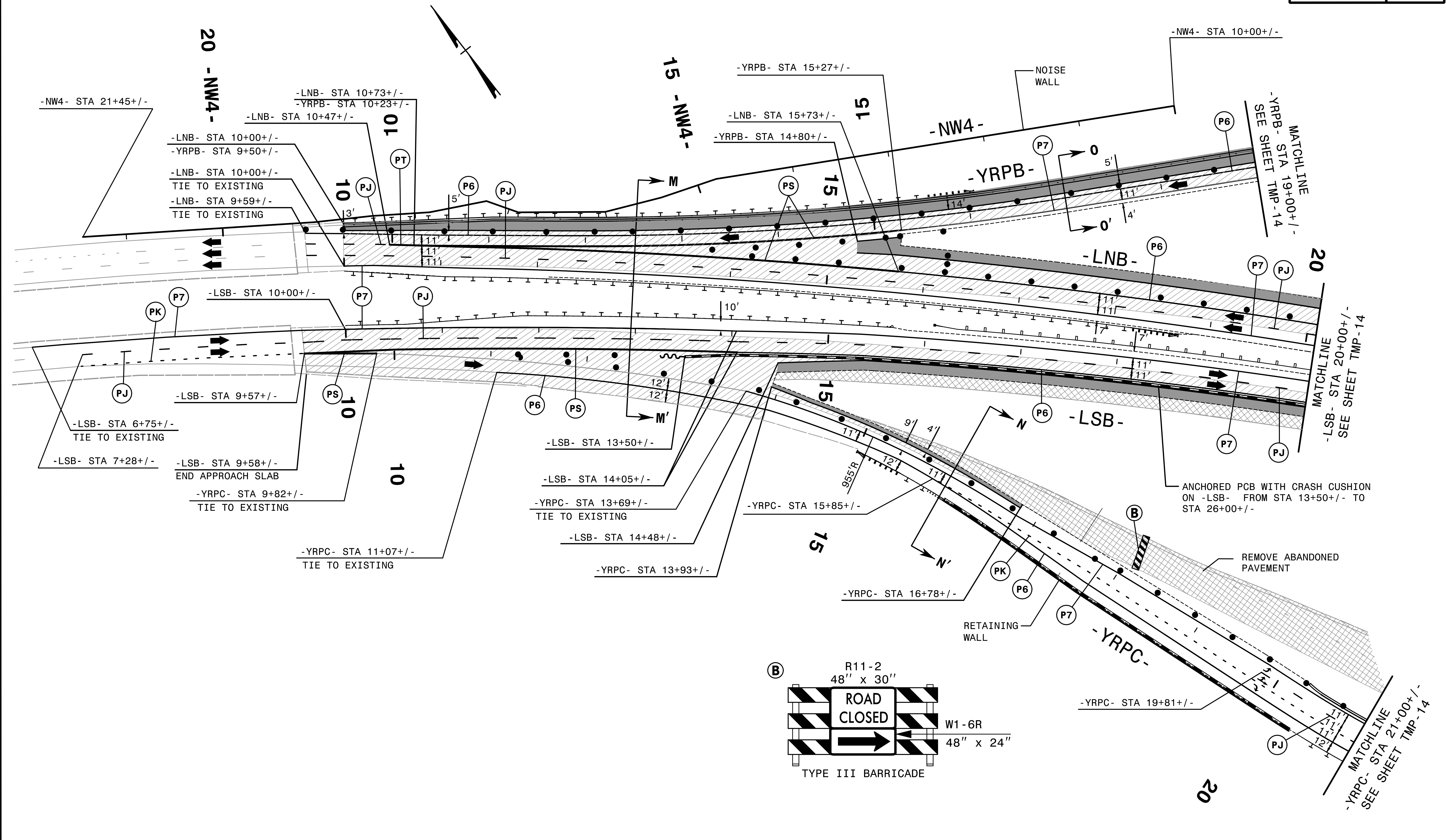
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 DEPARTMENT OF TRANSPORTATION
 WORK ZONE TRAFFIC CONTROL
 TRANSPORTATION
 MANAGEMENT PLAN
 PHASE I
 SECTION CUT
 DETAILS



REFER TO SHEET TMP-17 FOR CUT SECTION(S).

REMOVE CONFLICTING PAVEMENT MARKING.



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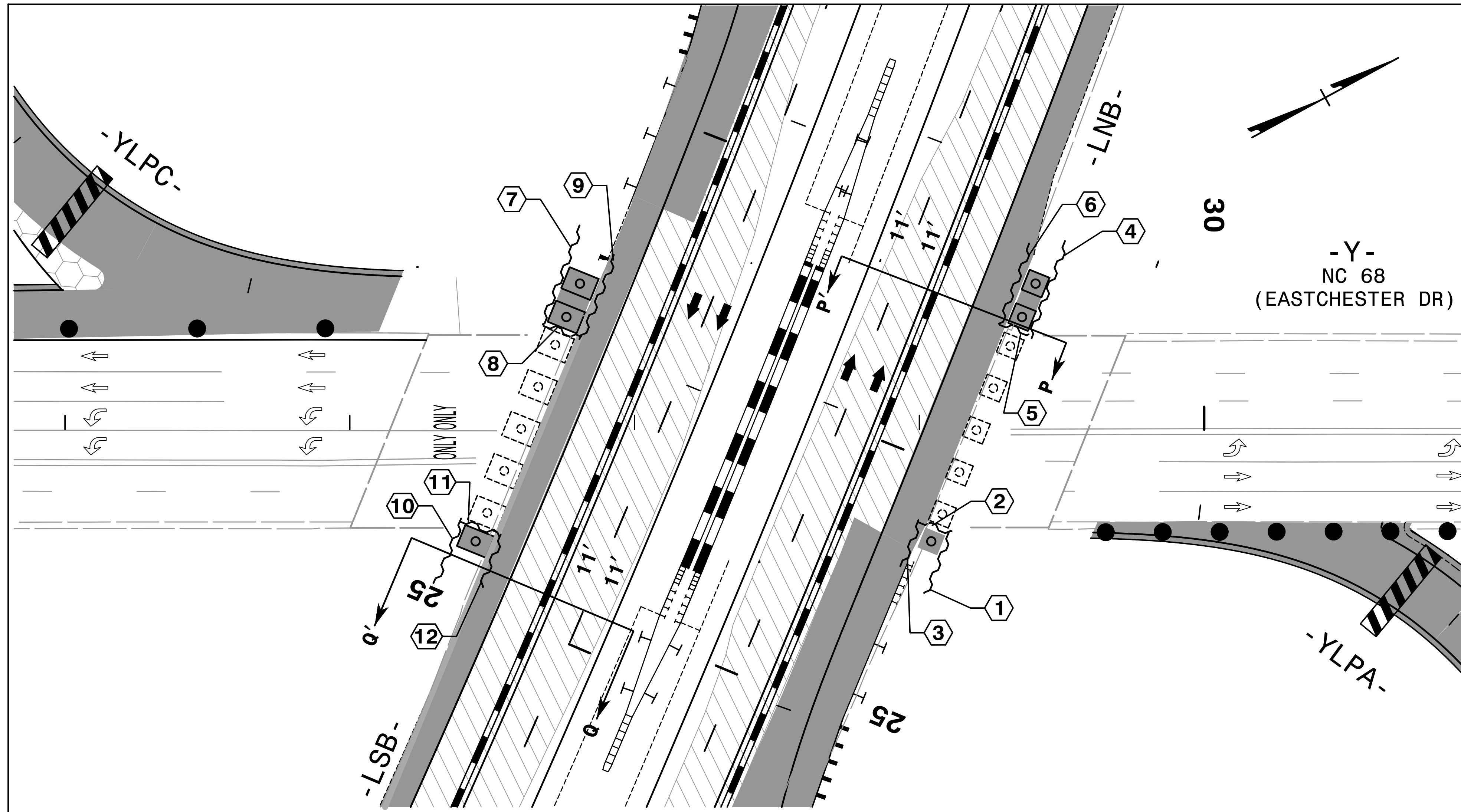
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TRANSPORTATION
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PHASE II
 DETAIL

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1 EST QUANTITY = 149 SF
 TEMPORARY SHORING
 FROM -LNB- STA 24+26.0+/-, 58.5' LT
 TO -LNB- STA 24+52.5+/-, 58.5' LT

2 EST QUANTITY = 86 SF
 TEMPORARY SHORING
 FROM -LNB- STA 24+26.0+/-, 58.5' LT
 TO -LNB- STA 24+26.0+/-, 47.0' LT

3 EST QUANTITY = 76 SF
 TEMPORARY SHORING
 FROM -LNB- STA 24+26.0+/-, 47.0' LT
 TO -LNB- STA 24+43.6+/-, 47.0' LT

4 EST QUANTITY = 267 SF
 TEMPORARY SHORING
 FROM -LNB- STA 23+16.8+/-, 59.2' LT
 TO -LNB- STA 23+52.5+/-, 58.7' LT

5 EST QUANTITY = 86 SF
 TEMPORARY SHORING
 FROM -LNB- STA 23+52.5+/-, 58.7' LT
 TO -LNB- STA 23+52.3+/-, 47.3' LT

6 EST QUANTITY = 145 SF
 TEMPORARY SHORING
 FROM -LNB- STA 23+22.2+/-, 47.6' LT
 TO -LNB- STA 23+52.3+/-, 47.3' LT

7 EST QUANTITY = 293 SF
 TEMPORARY SHORING
 FROM -LSB- STA 23+61.1+/-, 60.2' RT
 TO -LSB- STA 23+98.1+/-, 60.2' RT

8 EST QUANTITY = 123 SF
 TEMPORARY SHORING
 FROM -LSB- STA 23+98.1+/-, 60.2' RT
 TO -LSB- STA 23+98.4+/-, 45.2' RT

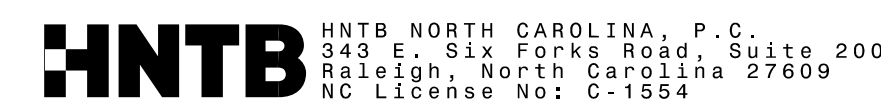
9 EST QUANTITY = 176 SF
 TEMPORARY SHORING
 FROM -LSB- STA 23+66.4+/-, 45.2' RT
 TO -LSB- STA 23+98.4+/-, 45.2' RT

10 EST QUANTITY = 168 SF
 TEMPORARY SHORING
 FROM -LSB- STA 24+73.3+/-, 59.5' RT
 TO -LSB- STA 24+97.7+/-, 59.0' RT

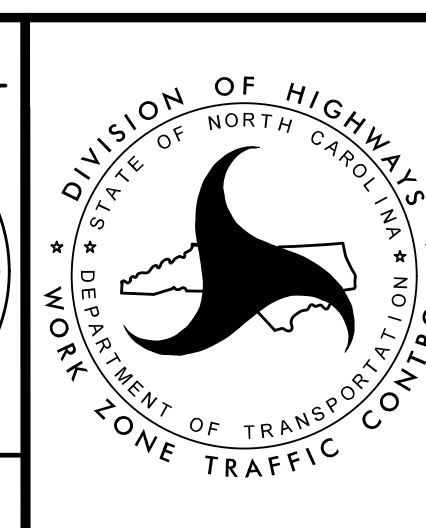
11 EST QUANTITY = 123 SF
 TEMPORARY SHORING
 FROM -LSB- STA 24+73.3+/-, 44.5' RT
 TO -LSB- STA 24+73.3+/-, 59.5' RT

12 EST QUANTITY = 94 SF
 TEMPORARY SHORING
 FROM -LSB- STA 24+73.3+/-, 44.5' RT
 TO -LSB- STA 24+92.6+/-, 44.1' RT

(SEE SHEETS TMP-2A THRU 2C
 FOR TEMPORARY SHORING NOTES)

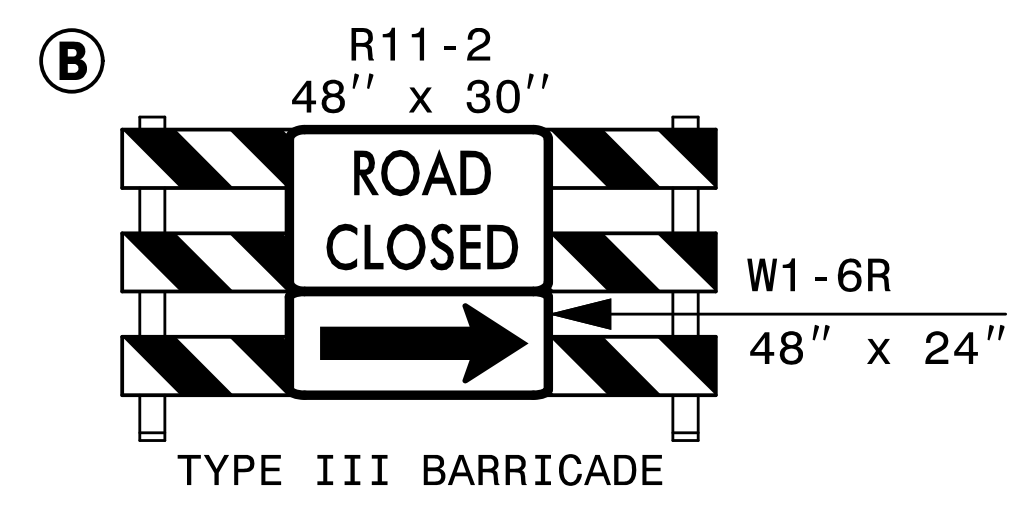
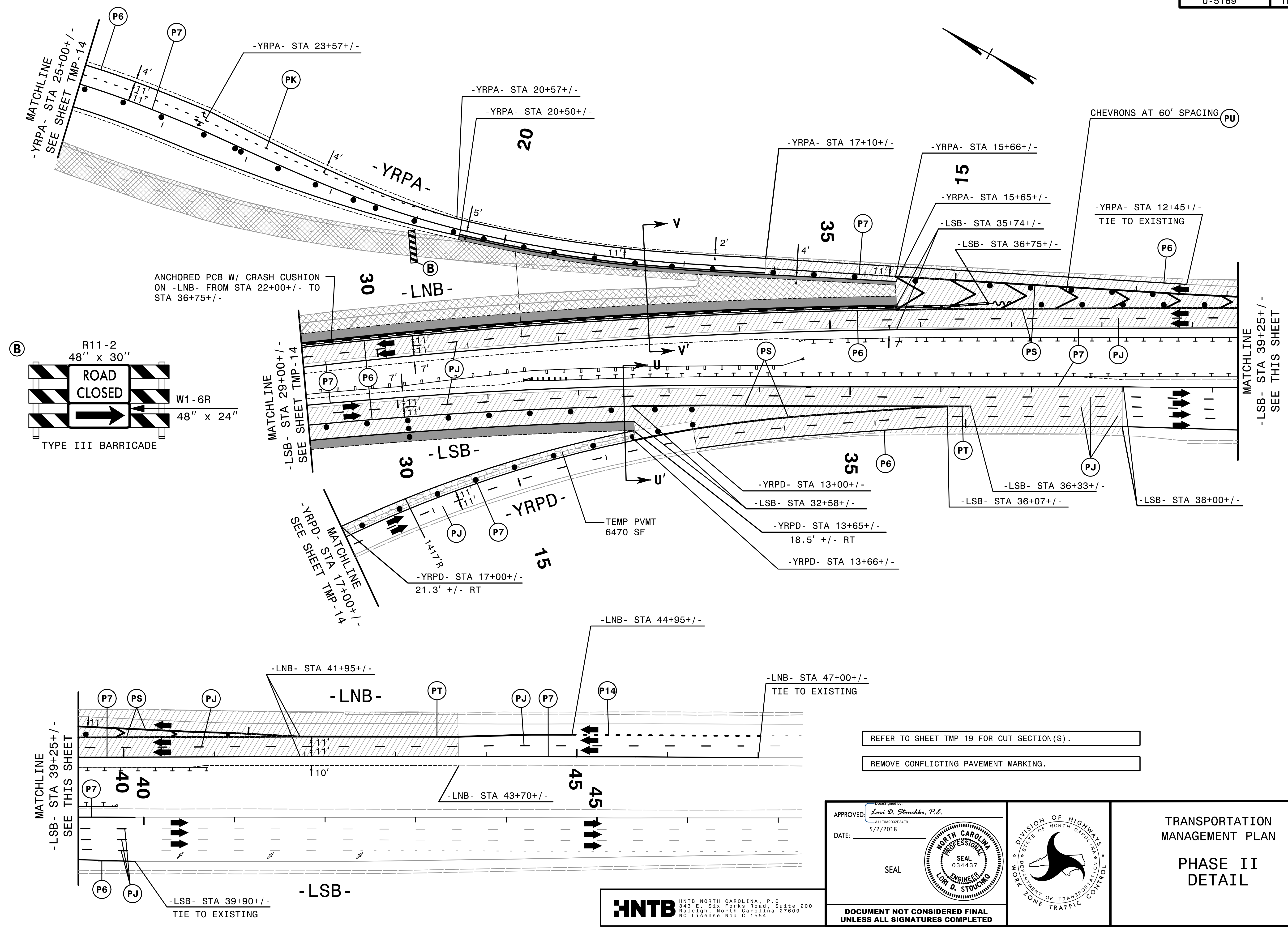


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TRANSPORTATION
 MANAGEMENT PLAN
 PHASE II
 DETAIL

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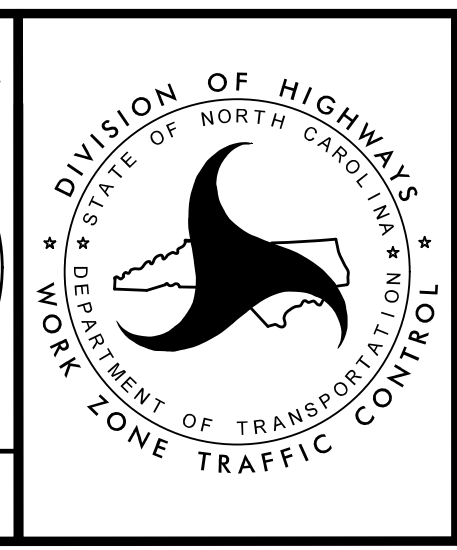


REFER TO SHEET TMP-19 FOR CUT SECTION(S).
 REMOVE CONFLICTING PAVEMENT MARKING.

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 HNTB

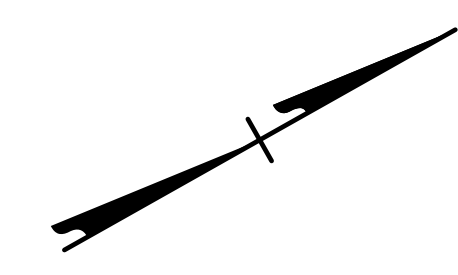
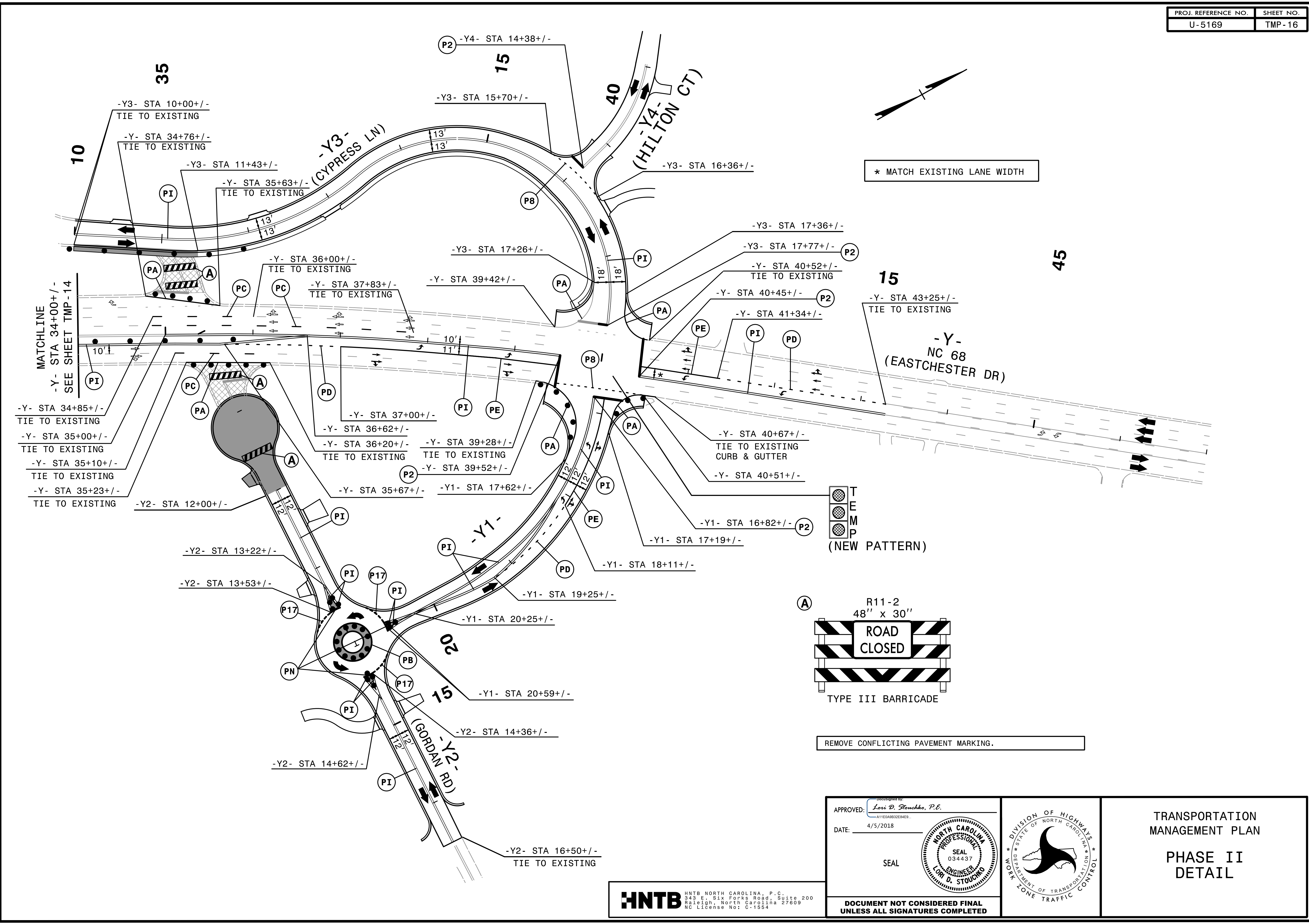
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 NC License No: C-1554

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 PHASE II
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* MATCH EXISTING LANE WIDTH

MATCHLINE
-Y- STA 34+00+/-
SEE SHEET TMP-14

-Y- STA 34+85+/-
TIE TO EXISTING
-Y- STA 35+00+/-
TIE TO EXISTING
-Y- STA 35+10+/-
TIE TO EXISTING
-Y- STA 35+23+/-
TIE TO EXISTING

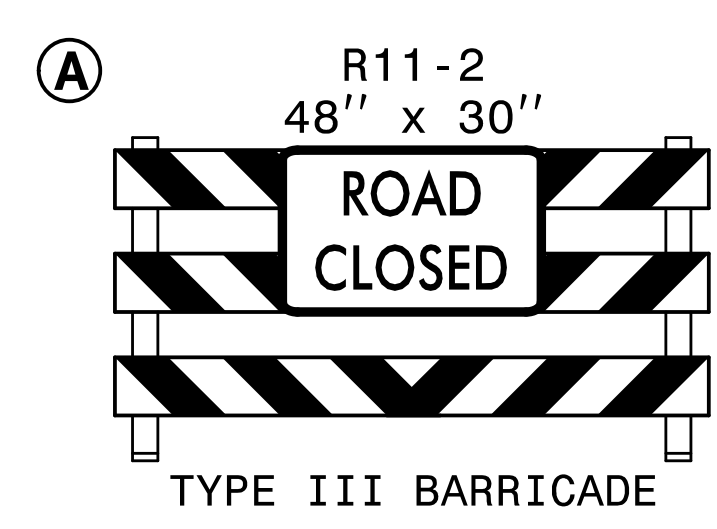
-Y2- STA 12+00+/-
-Y2- STA 13+22+/-
-Y2- STA 13+53+/-

-Y2- STA 14+62+/-
-Y2- STA 14+36+/-
-Y2- STA 16+50+/-
TIE TO EXISTING

-Y- STA 36+00+/-
TIE TO EXISTING
-Y- STA 37+83+/-
TIE TO EXISTING
-Y- STA 36+62+/-
-Y- STA 36+20+/-
TIE TO EXISTING
-Y- STA 39+28+/-
TIE TO EXISTING
-Y- STA 39+52+/-
-Y- STA 35+67+/-
-Y1- STA 17+62+/-

-Y4- STA 14+38+/-
-Y3- STA 15+70+/-
-Y3- STA 17+26+/-
-Y3- STA 17+36+/-
-Y3- STA 17+77+/-
-Y- STA 40+52+/-
TIE TO EXISTING
-Y- STA 40+45+/-
-Y- STA 41+34+/-
-Y- STA 40+67+/-
TIE TO EXISTING
CURB & GUTTER
-Y- STA 40+51+/-
-Y1- STA 16+82+/-
-Y1- STA 17+19+/-
-Y1- STA 18+11+/-
-Y1- STA 19+25+/-
-Y1- STA 20+25+/-
-Y1- STA 20+59+/-
-Y2- STA 14+36+/-

T
E
M
P
(NEW PATTERN)

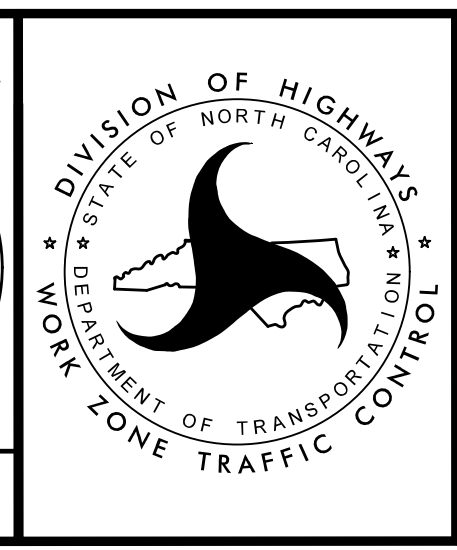


REMOVE CONFLICTING PAVEMENT MARKING.

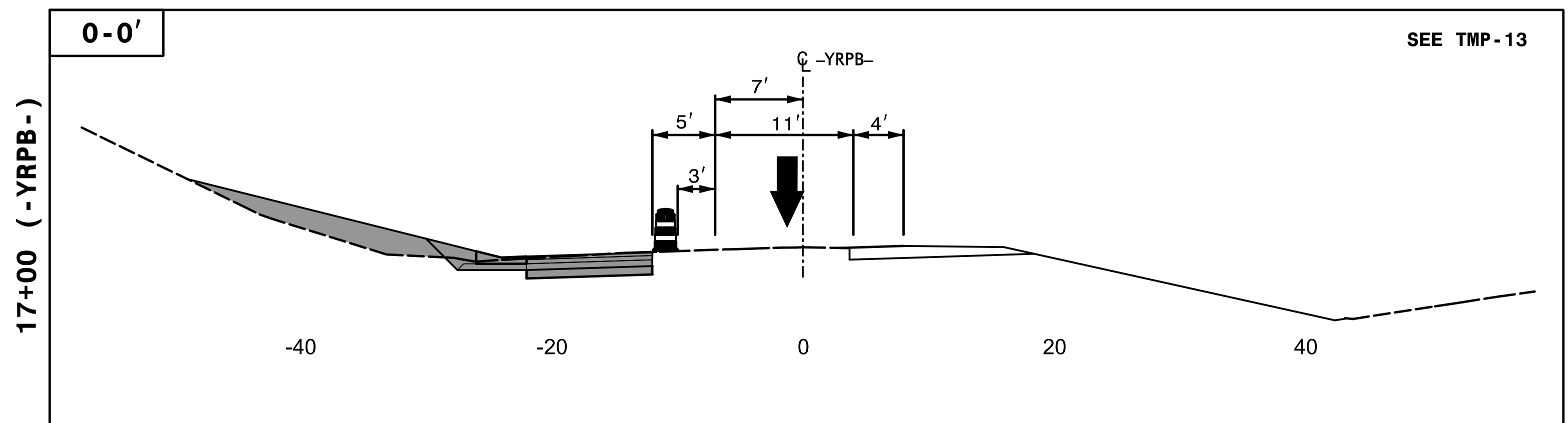
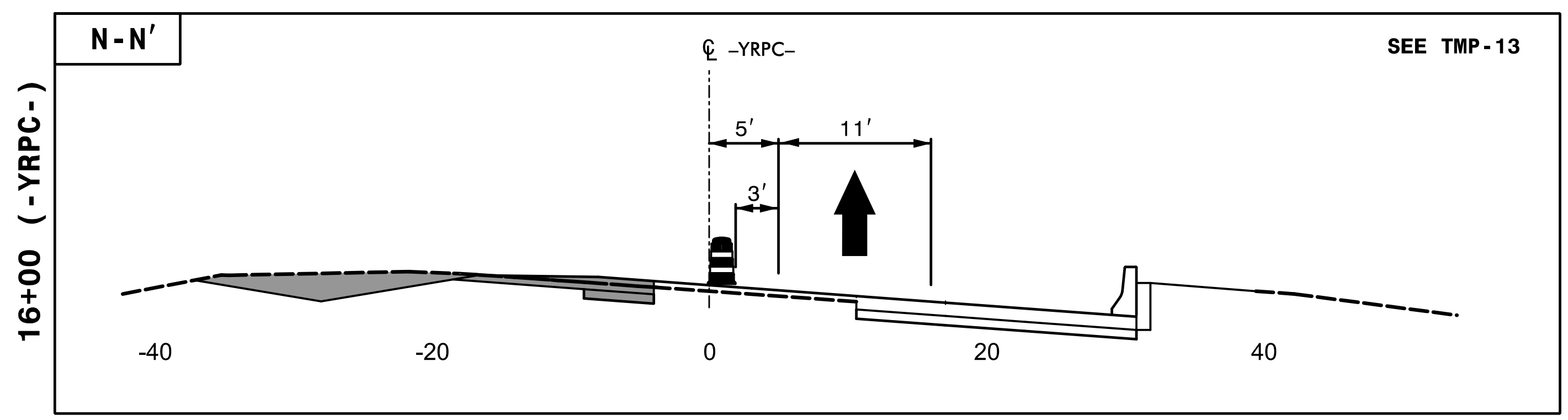
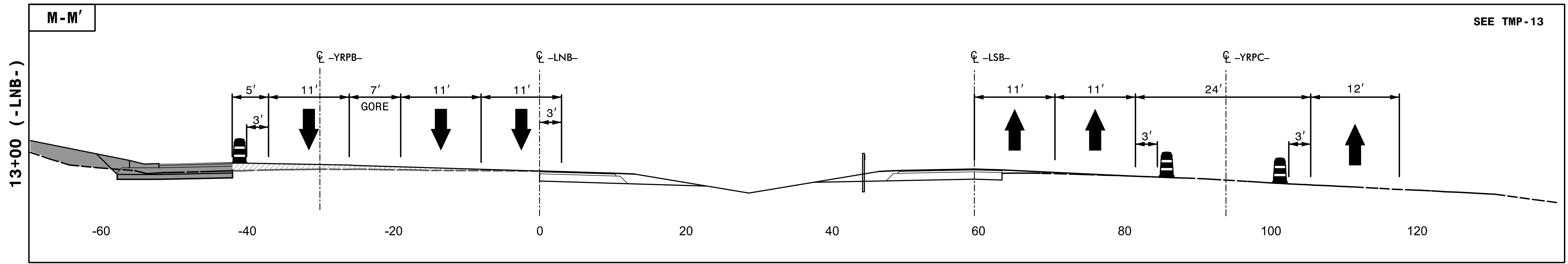
4/5/2018
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PHASE II DETAIL



-80

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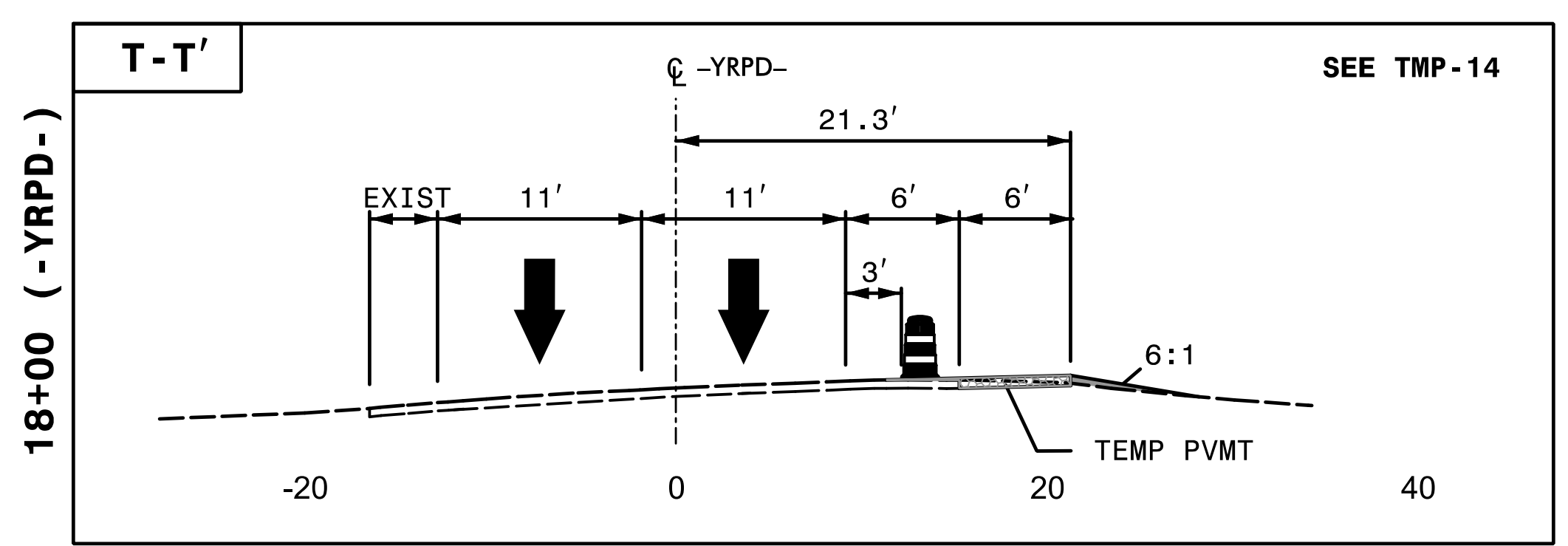
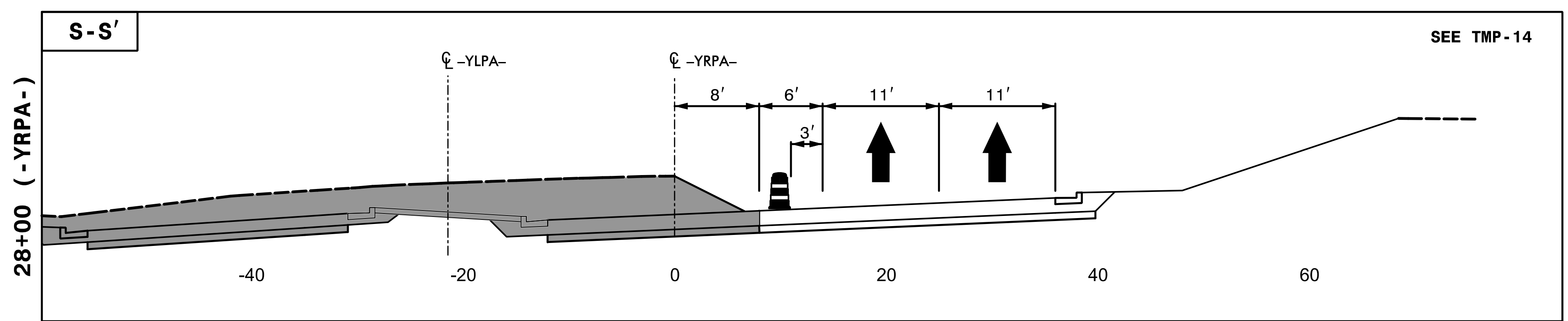
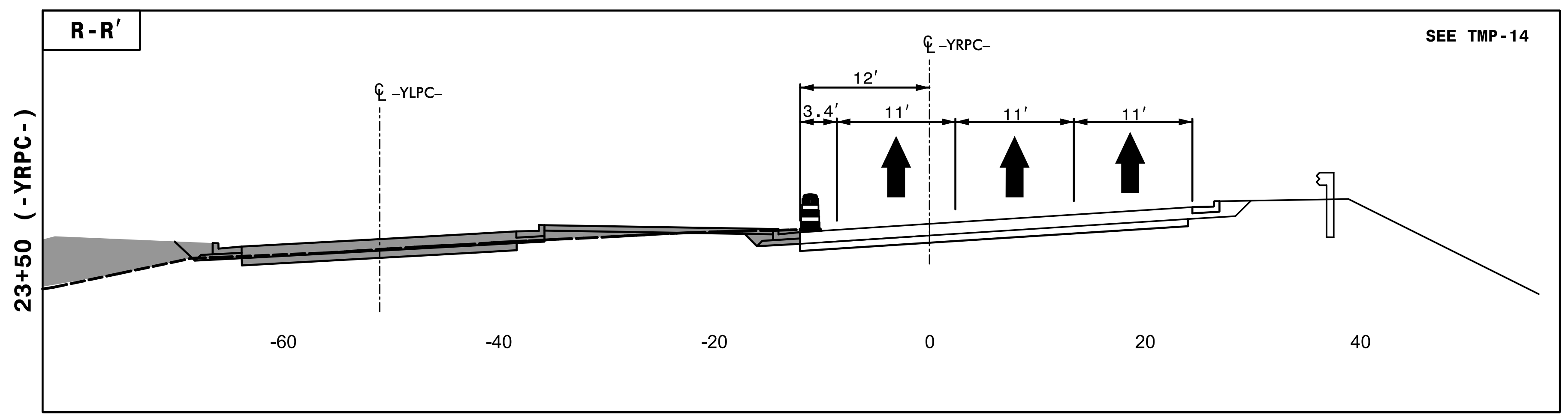
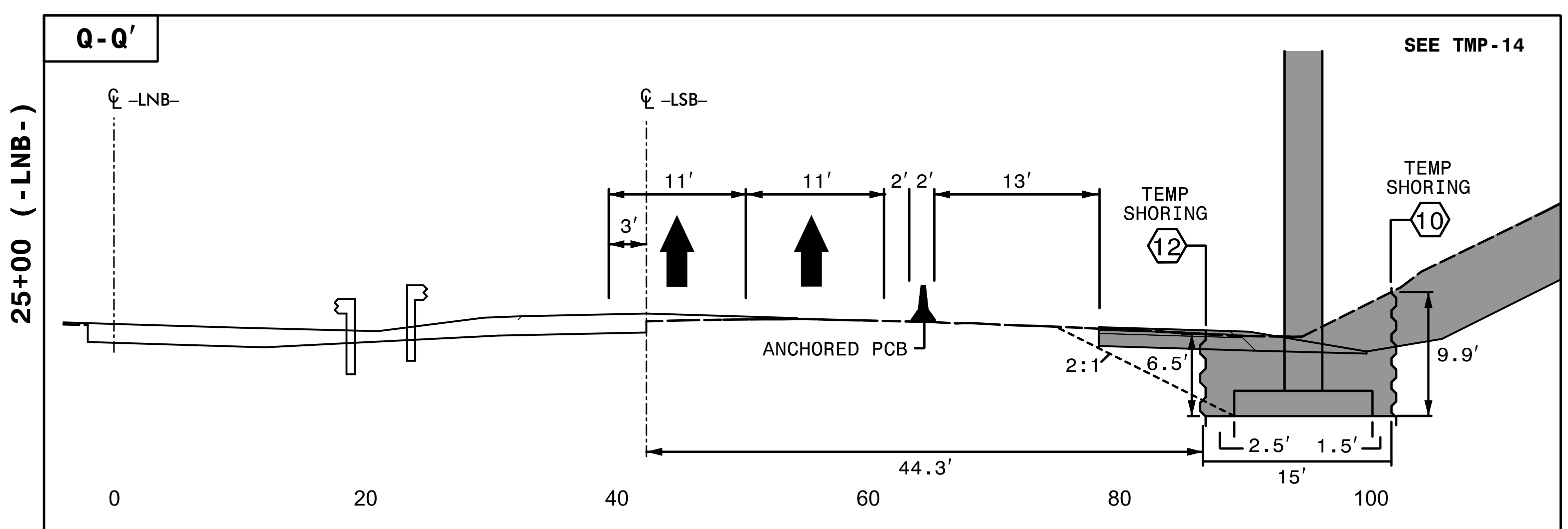
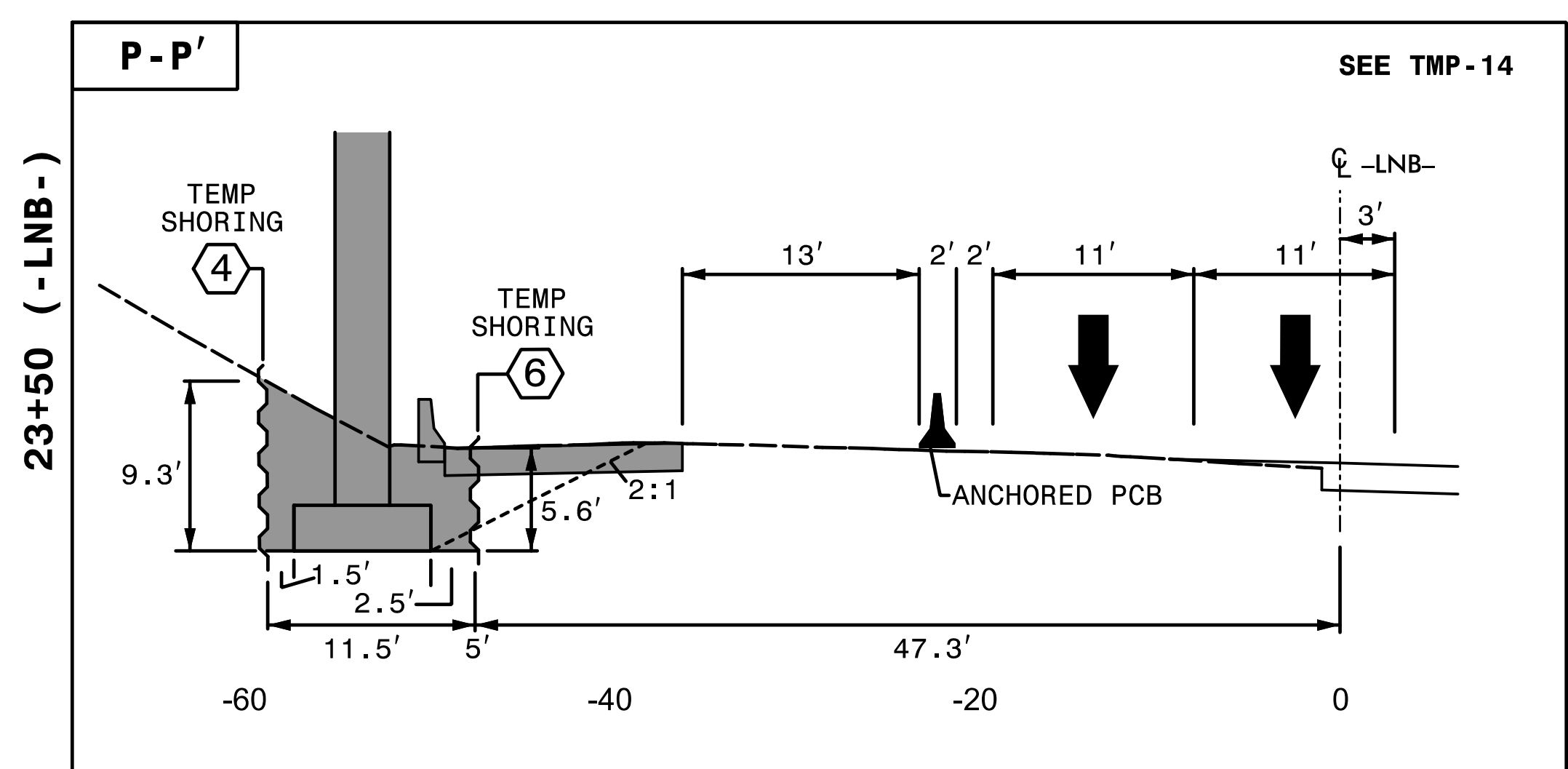
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TRANSPORTATION
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PHASE II
SECTION CUT
DETAILS



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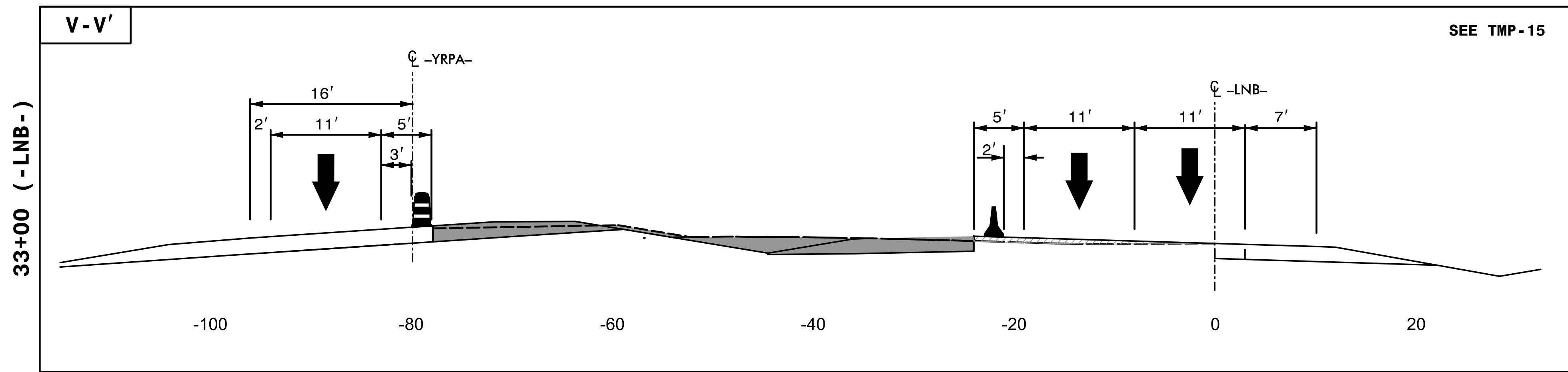
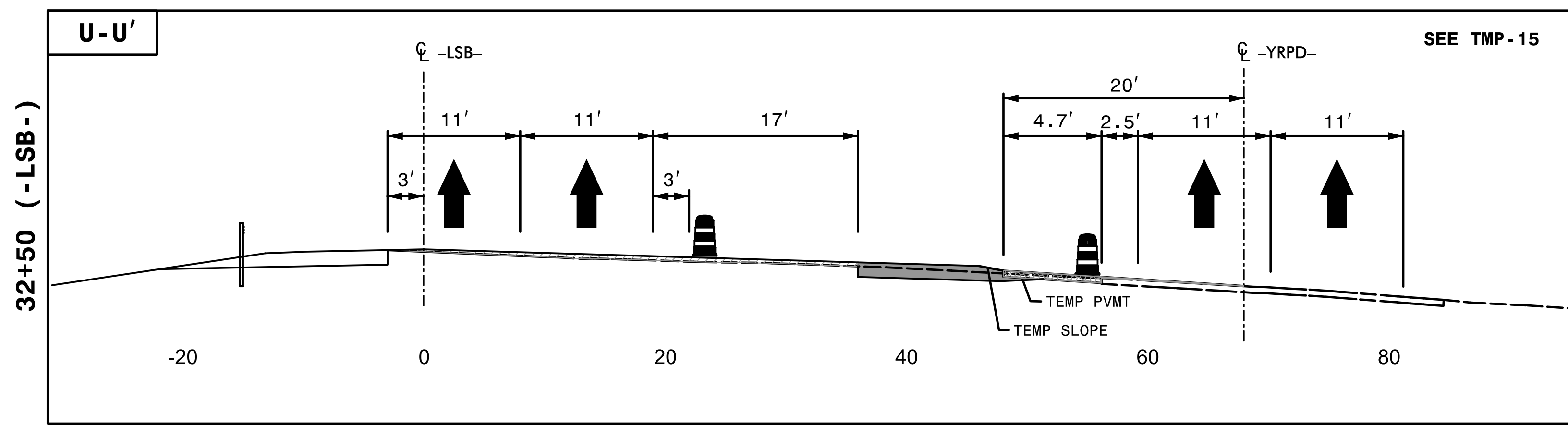
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PHASE II
SECTION CUT
DETAILS



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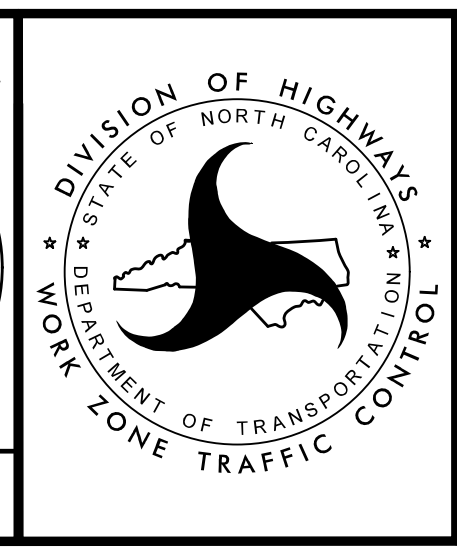


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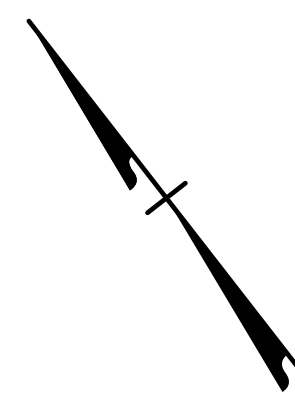
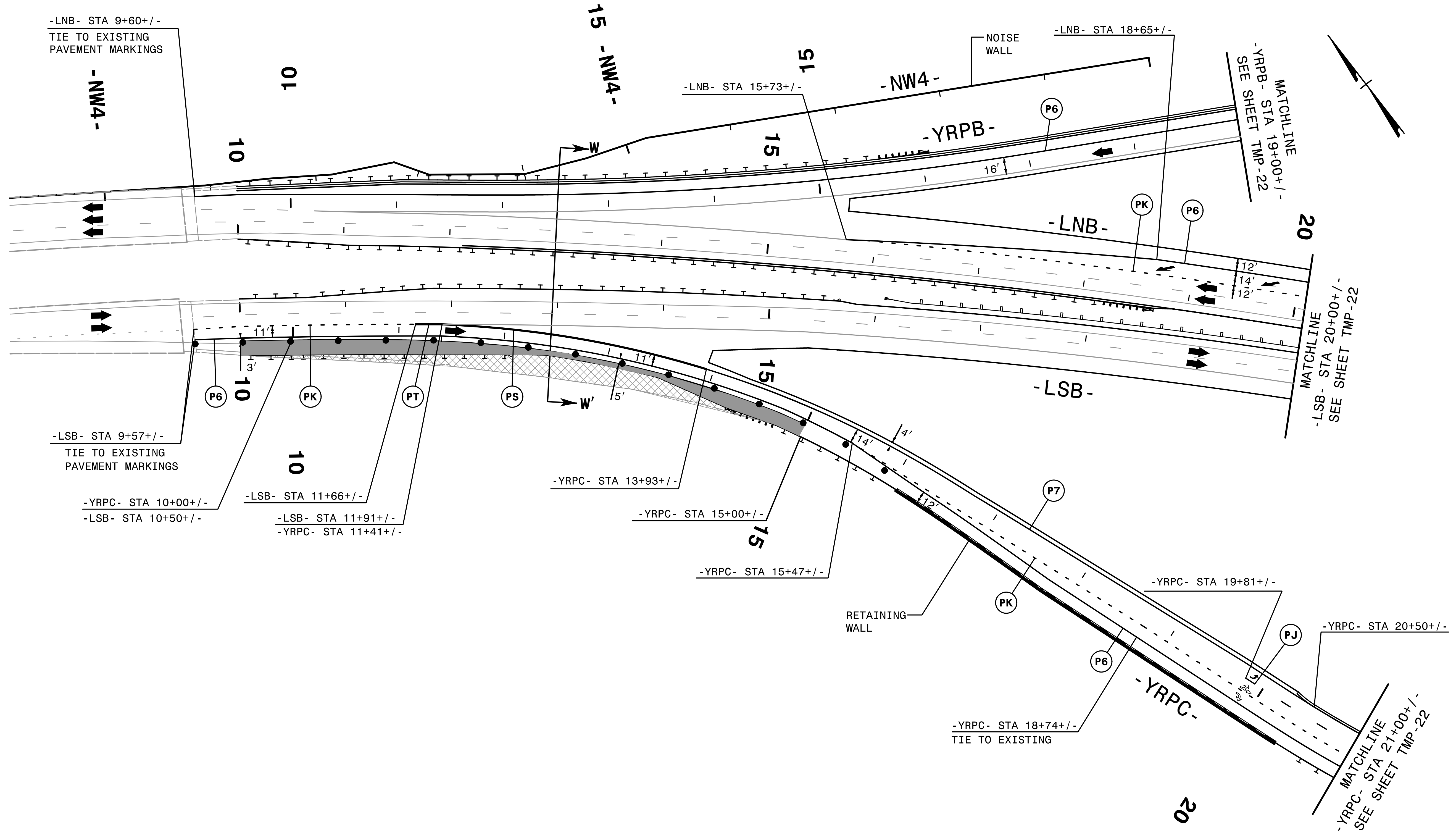
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TRANSPORTATION
MANAGEMENT PLAN

PHASE II
SECTION CUT
DETAILS



REFER TO SHEET TMP-40 FOR CUT SECTION(S).

REMOVE CONFLICTING PAVEMENT MARKING.

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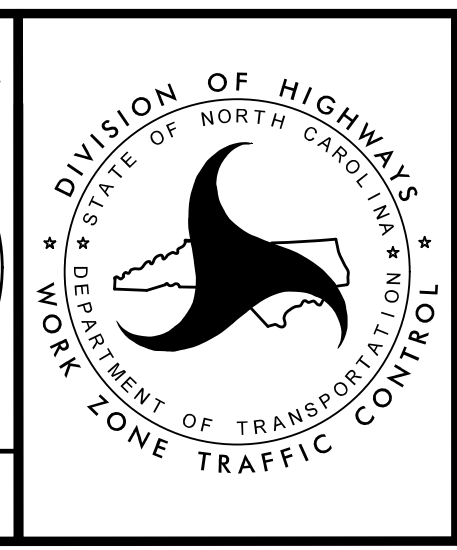
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DATE: 4/5/2018

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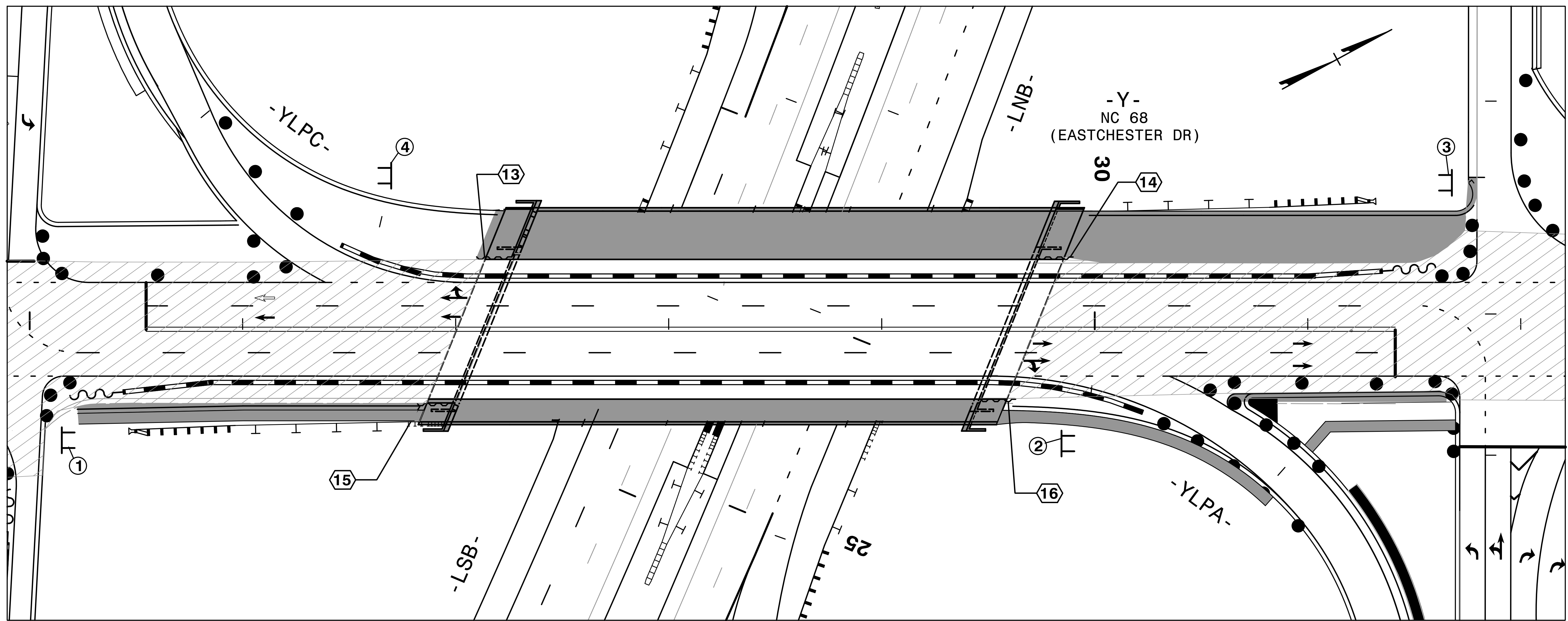
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 SEAL
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 ENGINEER
 LORI D. STOUCHO

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PHASE III
 DETAIL

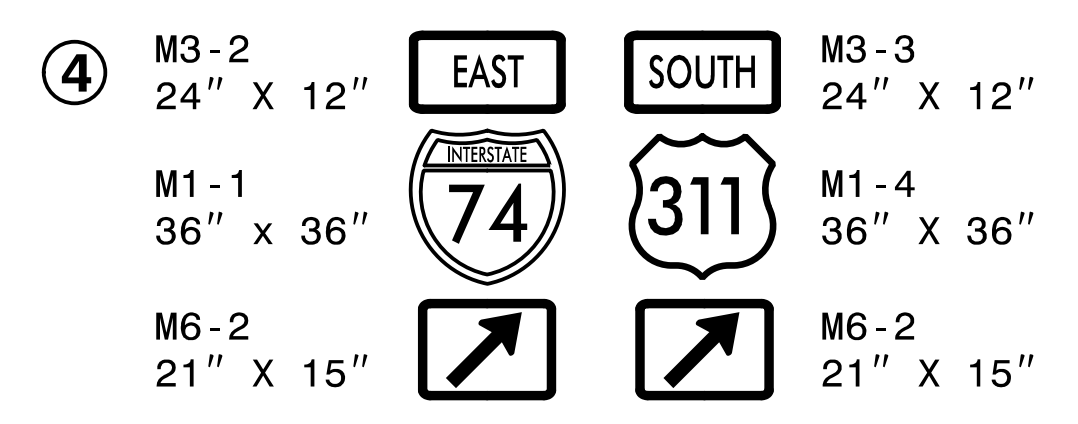
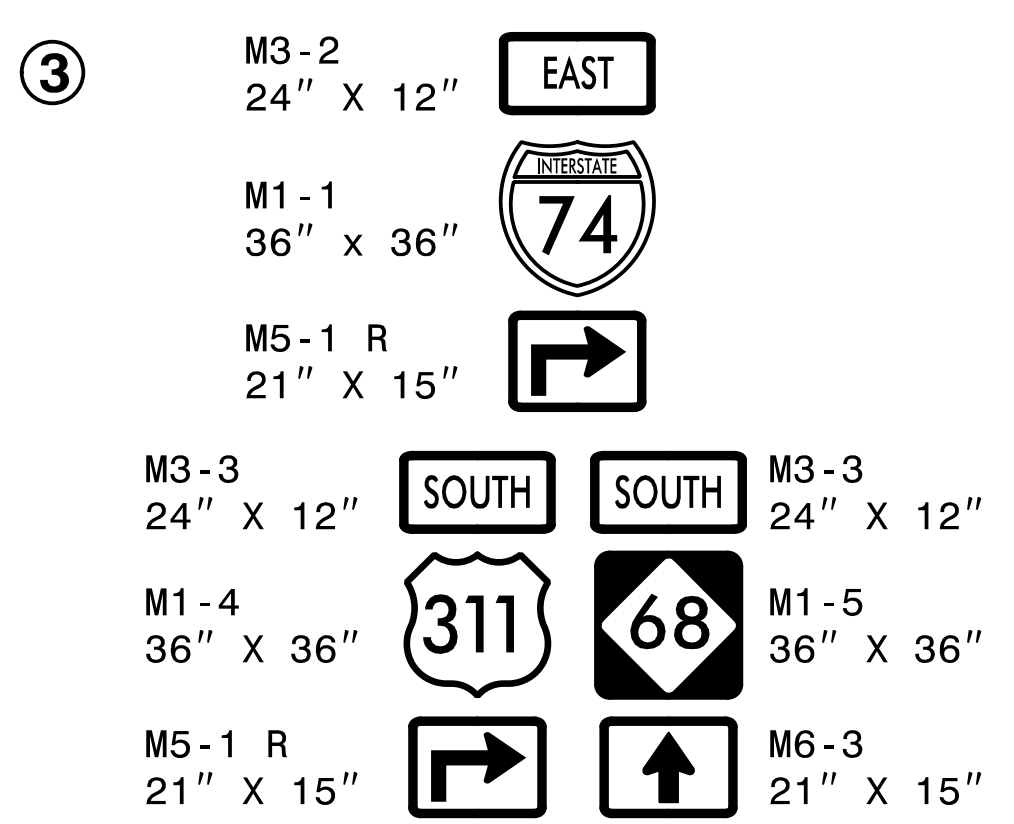
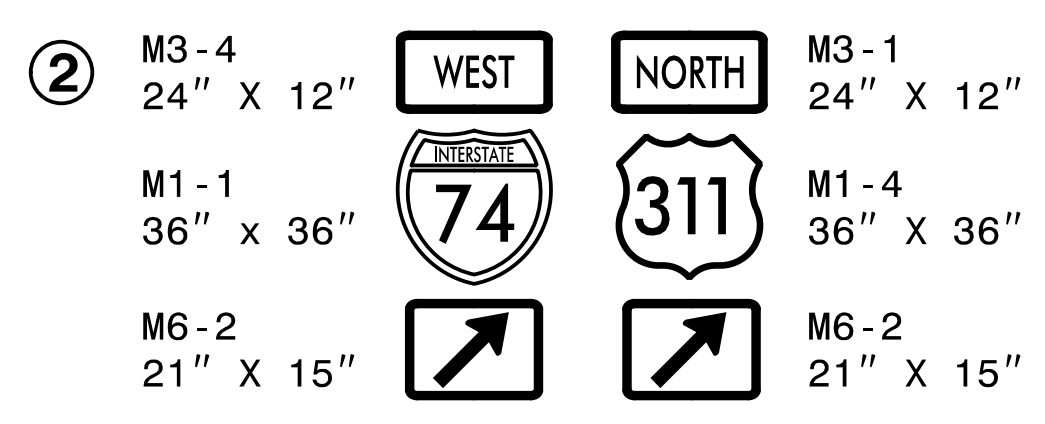
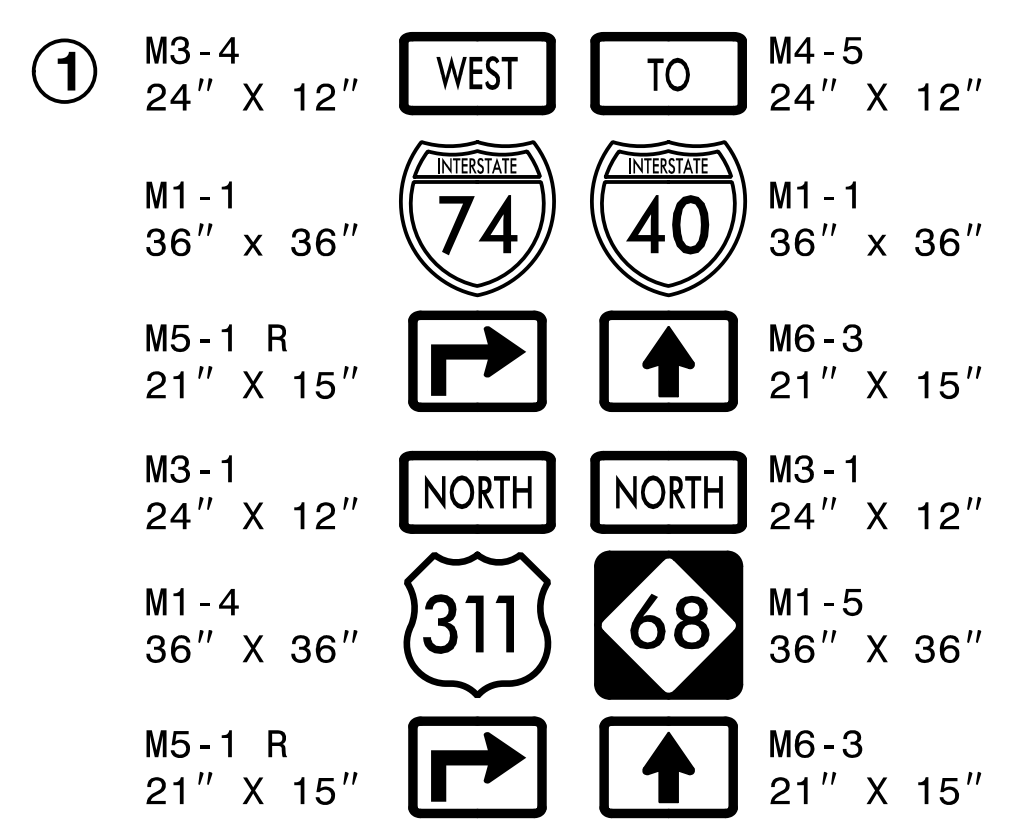


13 EST QUANTITY = 43 SF
 TEMPORARY SHORING
 FROM -Y- STA 27+09.7+/-, 33' LT
 TO -Y- STA 27+26.0+/-, 33' LT

14 EST QUANTITY = 41 SF
 TEMPORARY SHORING
 FROM -Y- STA 29+73.4+/-, 33' LT
 TO -Y- STA 29+89.7+/-, 33' LT

15 EST QUANTITY = 45 SF
 TEMPORARY SHORING
 FROM -Y- STA 26+82.1+/-, 33' RT
 TO -Y- STA 26+98.5+/-, 33' RT

16 EST QUANTITY = 41 SF
 TEMPORARY SHORING
 FROM -Y- STA 29+46.7+/-, 33' RT
 TO -Y- STA 29+63.0+/-, 33' RT
 (SEE SHEET TMP-2A THRU TMP-2C FOR
 TEMPORARY SHORING NOTES)



4/5/2018
 T:\CP\U5169_t.c.22B.p2d2.dgn
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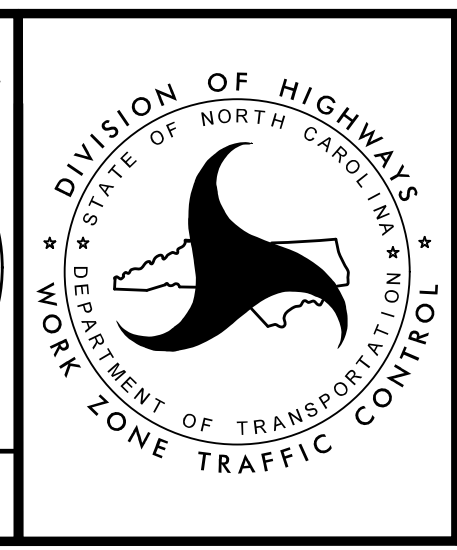


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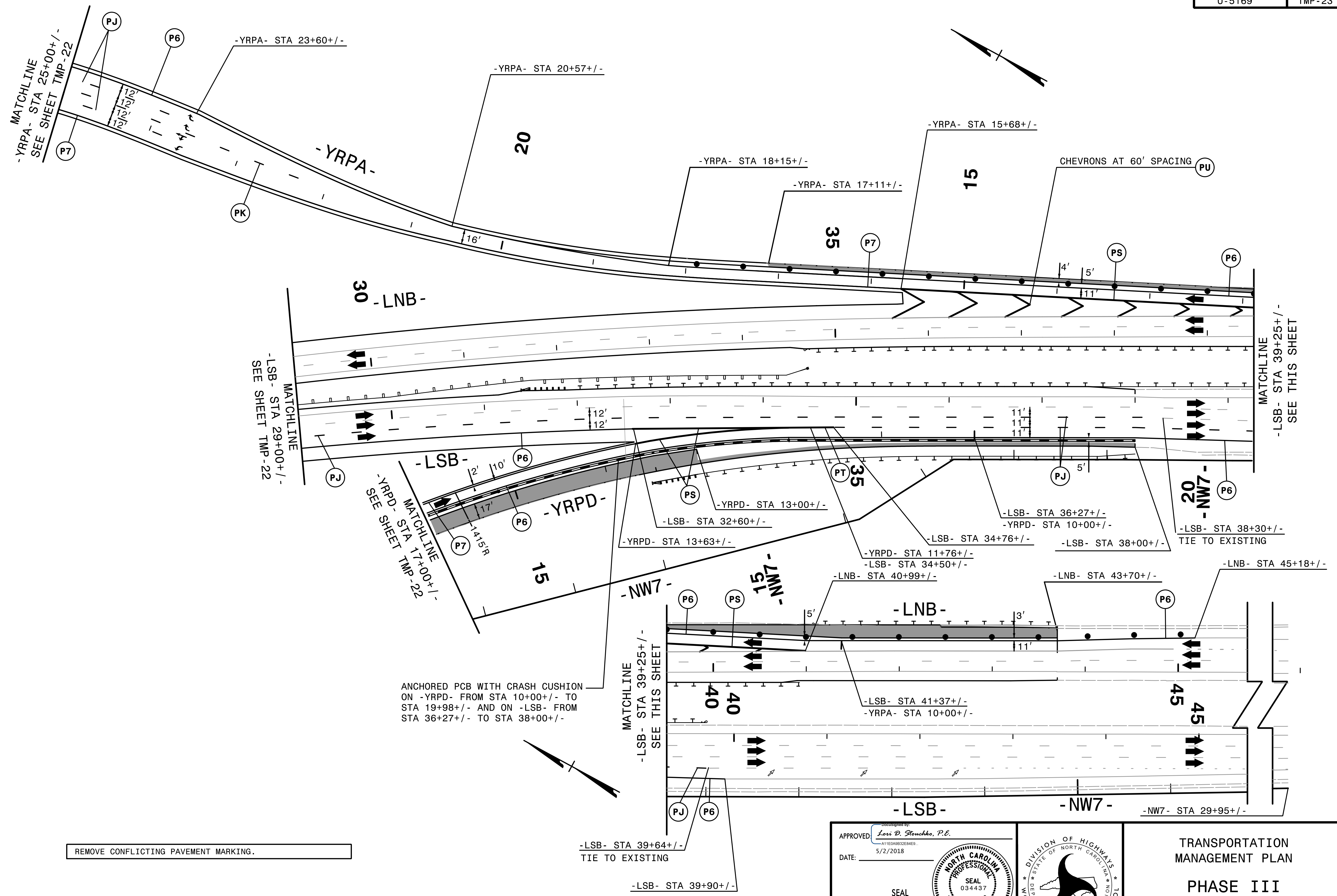
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TRANSPORTATION
 MANAGEMENT PLAN

PHASE II
 DETAIL

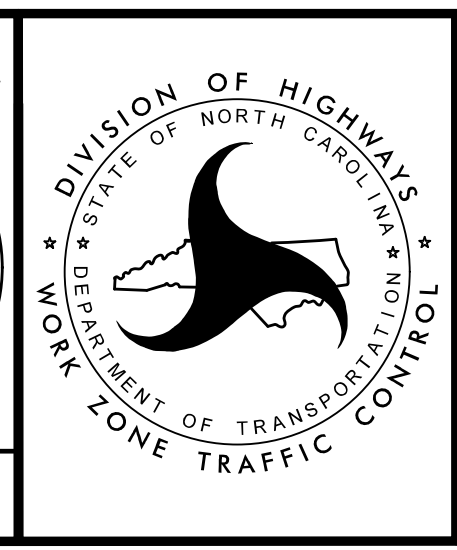


REMOVE CONFLICTING PAVEMENT MARKING.

ANCHORED PCB WITH CRASH CUSHION ON -YRPD- FROM STA 10+00+/- TO STA 19+98+/- AND ON -LSB- FROM STA 36+27+/- TO STA 38+00+/-

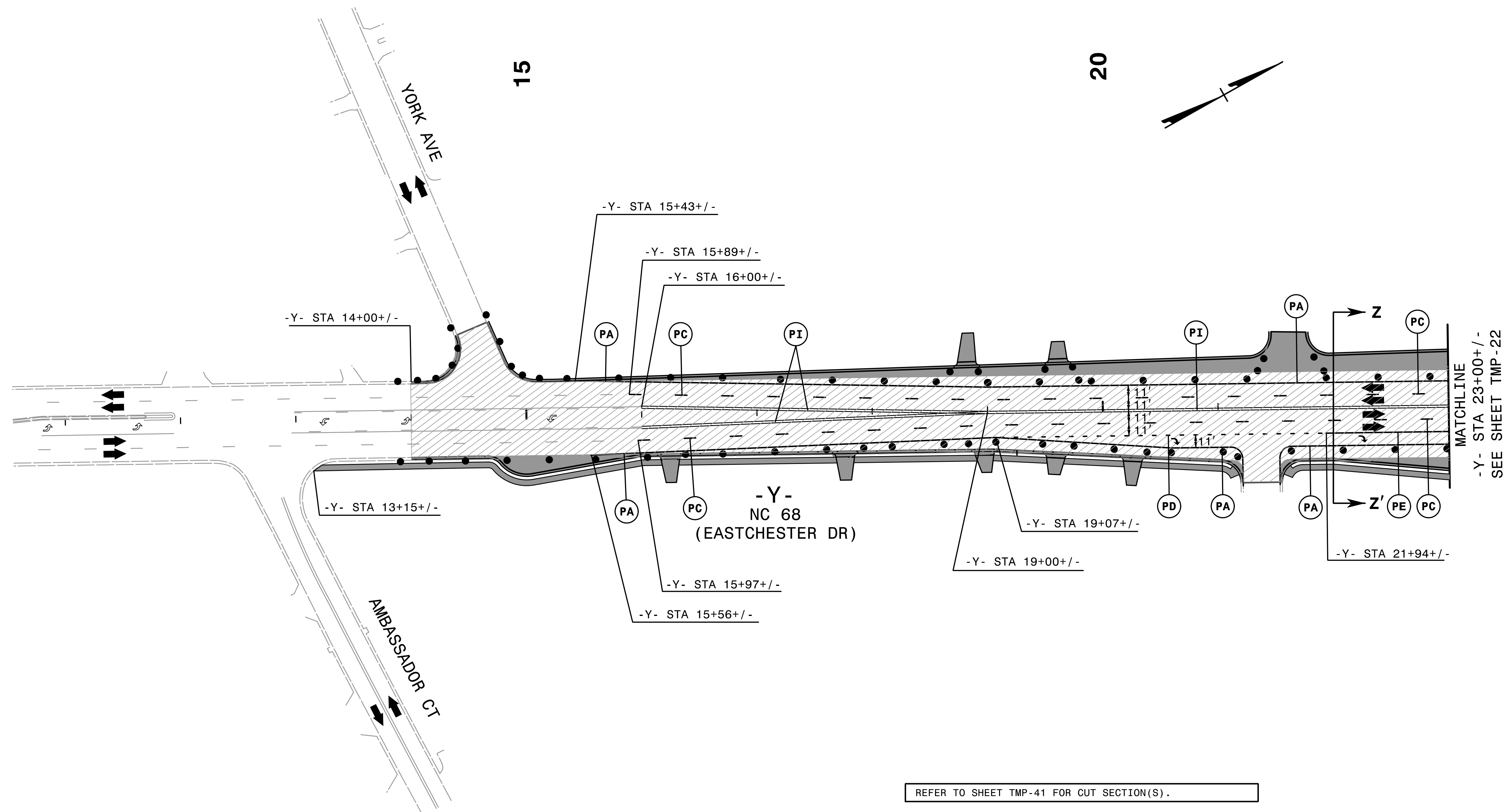


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 PHASE III
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ICP\U5169_t.c.23.p3ad3.dgn
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REFER TO SHEET TMP-41 FOR CUT SECTION(S).

REMOVE CONFLICTING PAVEMENT MARKING.

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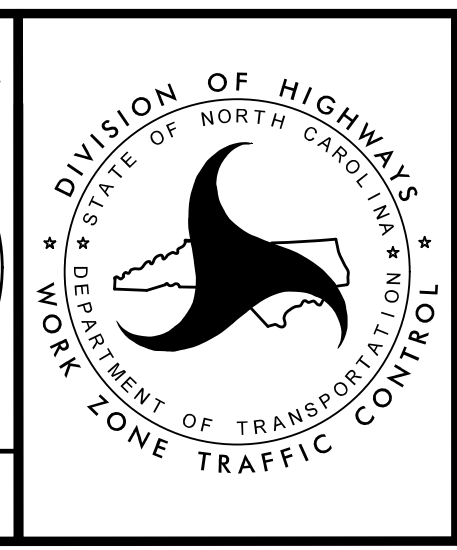
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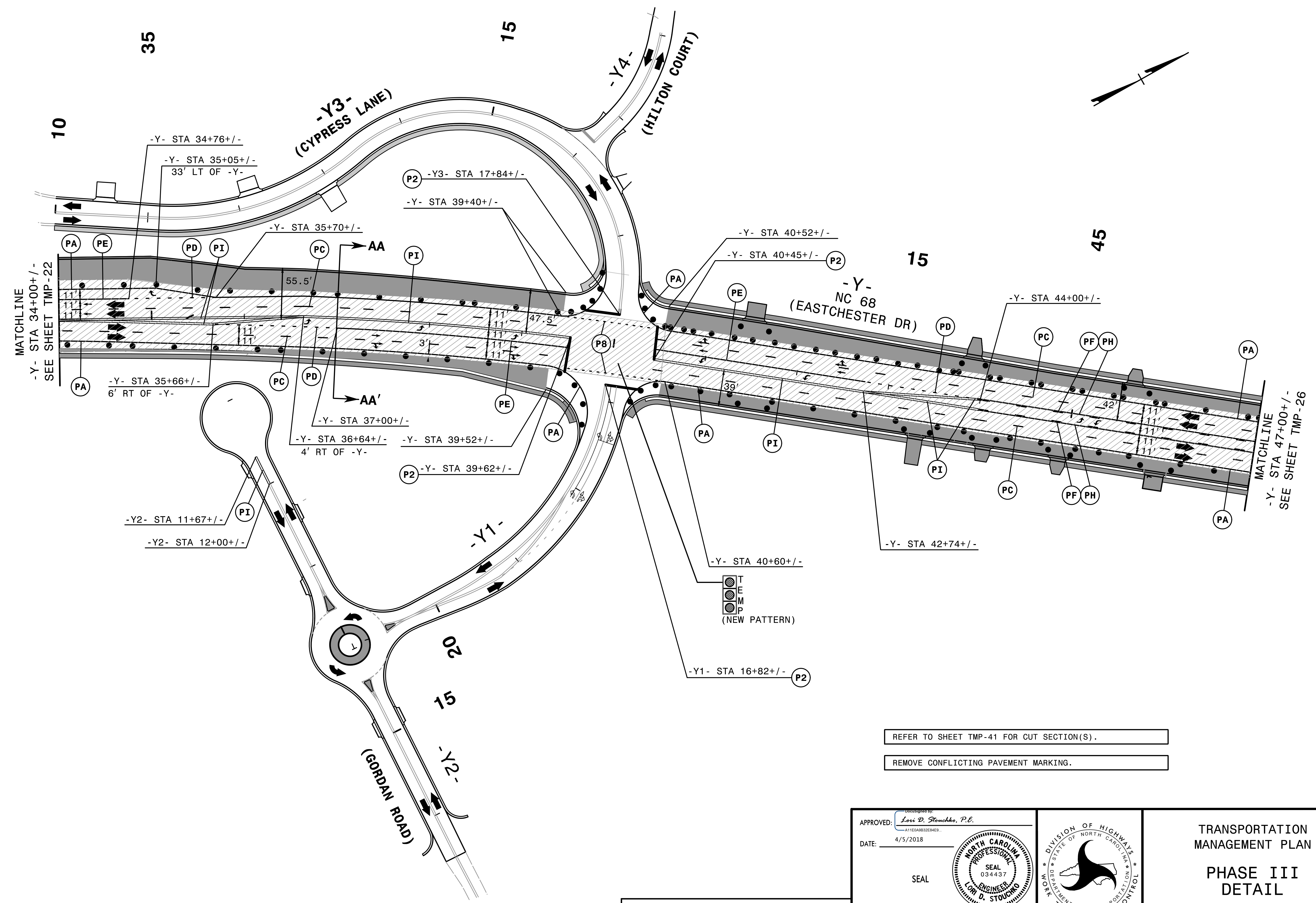
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ENGINEER



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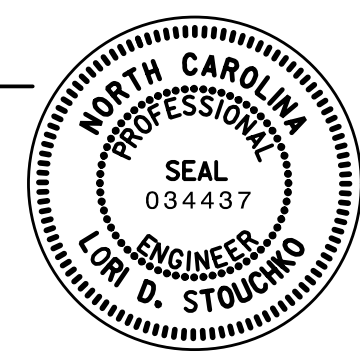


REFER TO SHEET TMP-41 FOR CUT SECTION(S).

REMOVE CONFLICTING PAVEMENT MARKING.

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4:\CP\U5169_1.c.25_p3ad5.dgn
HNTB

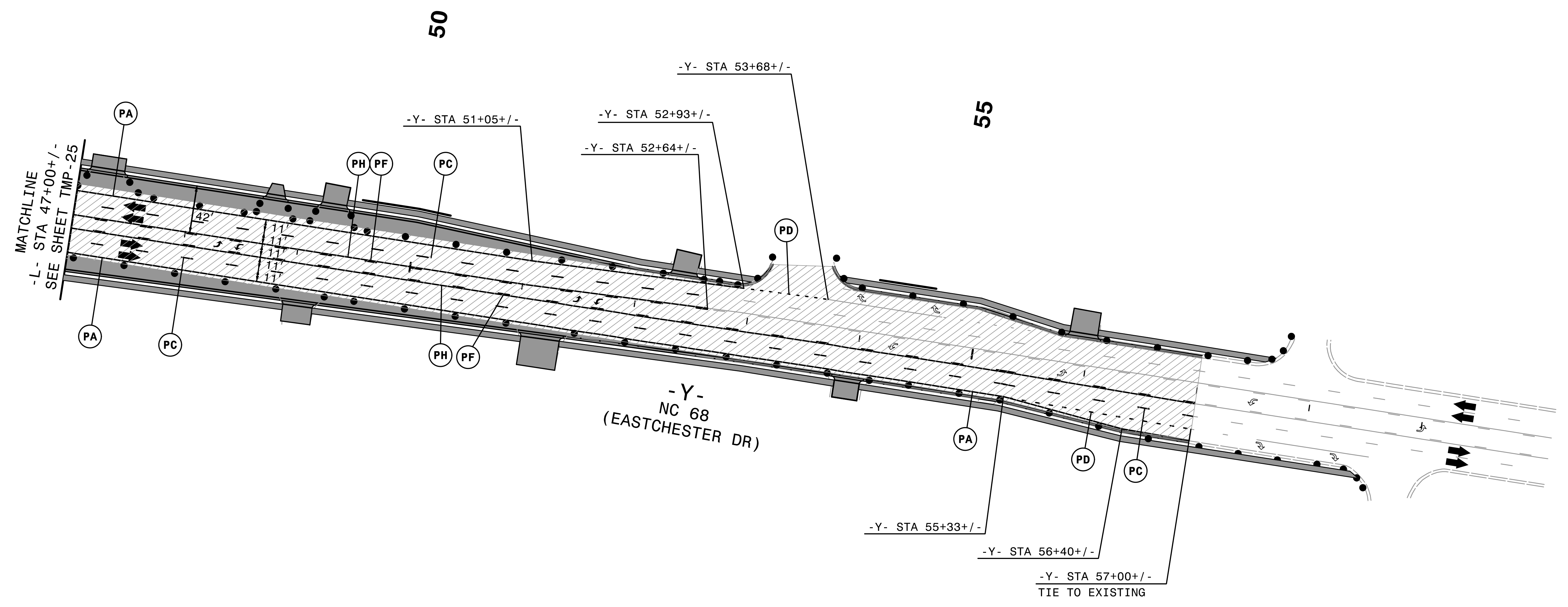
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 PHASE III
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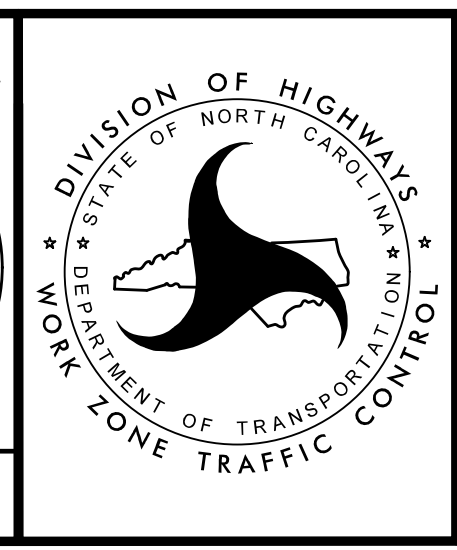
4/5/2018
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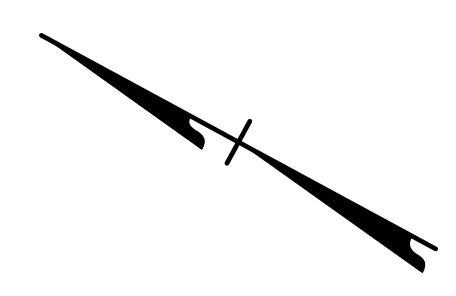
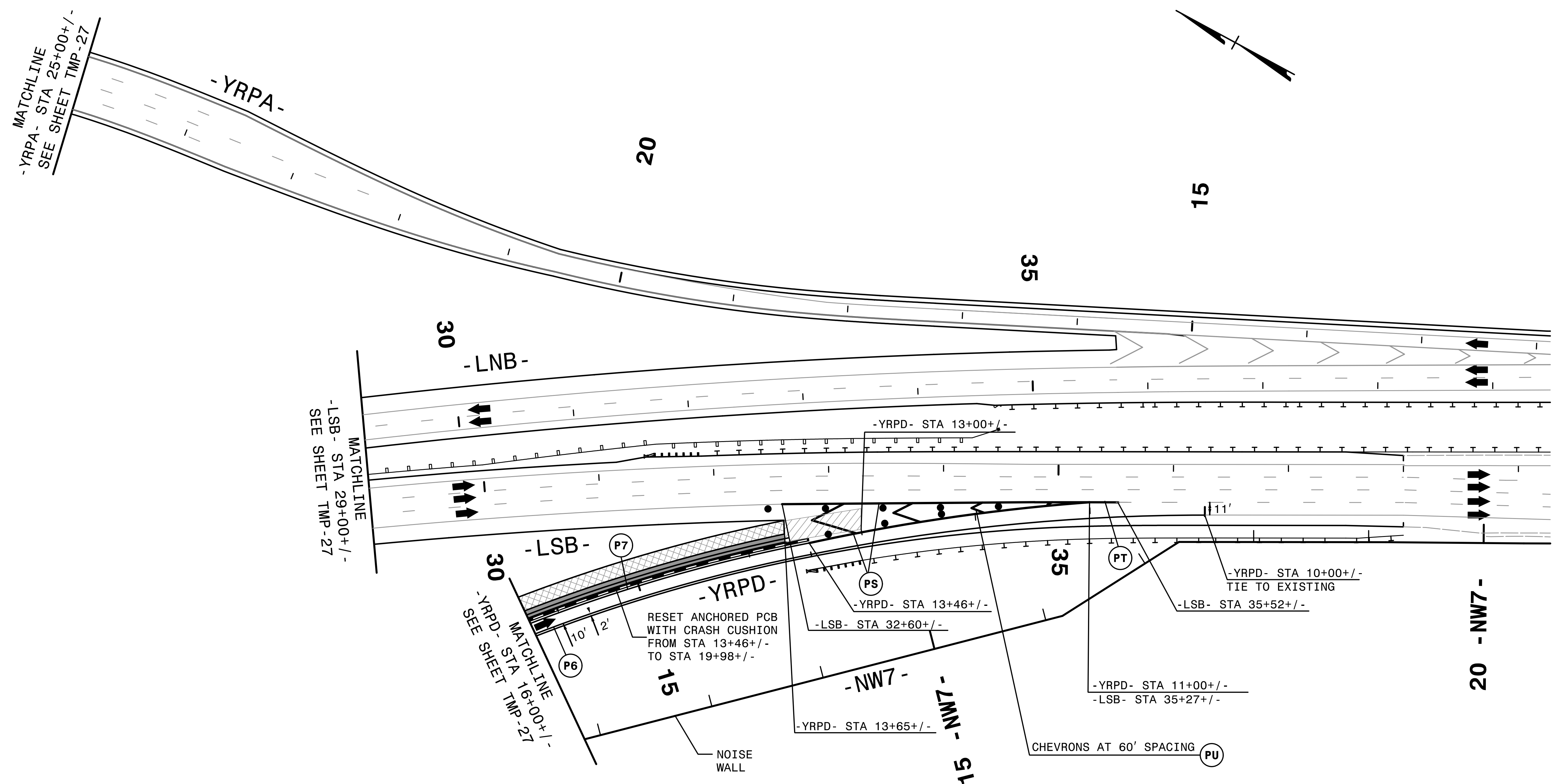
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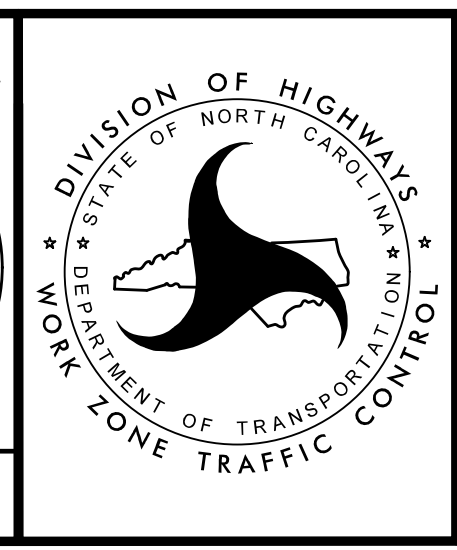
REMOVE CONFLICTING PAVEMENT MARKING.



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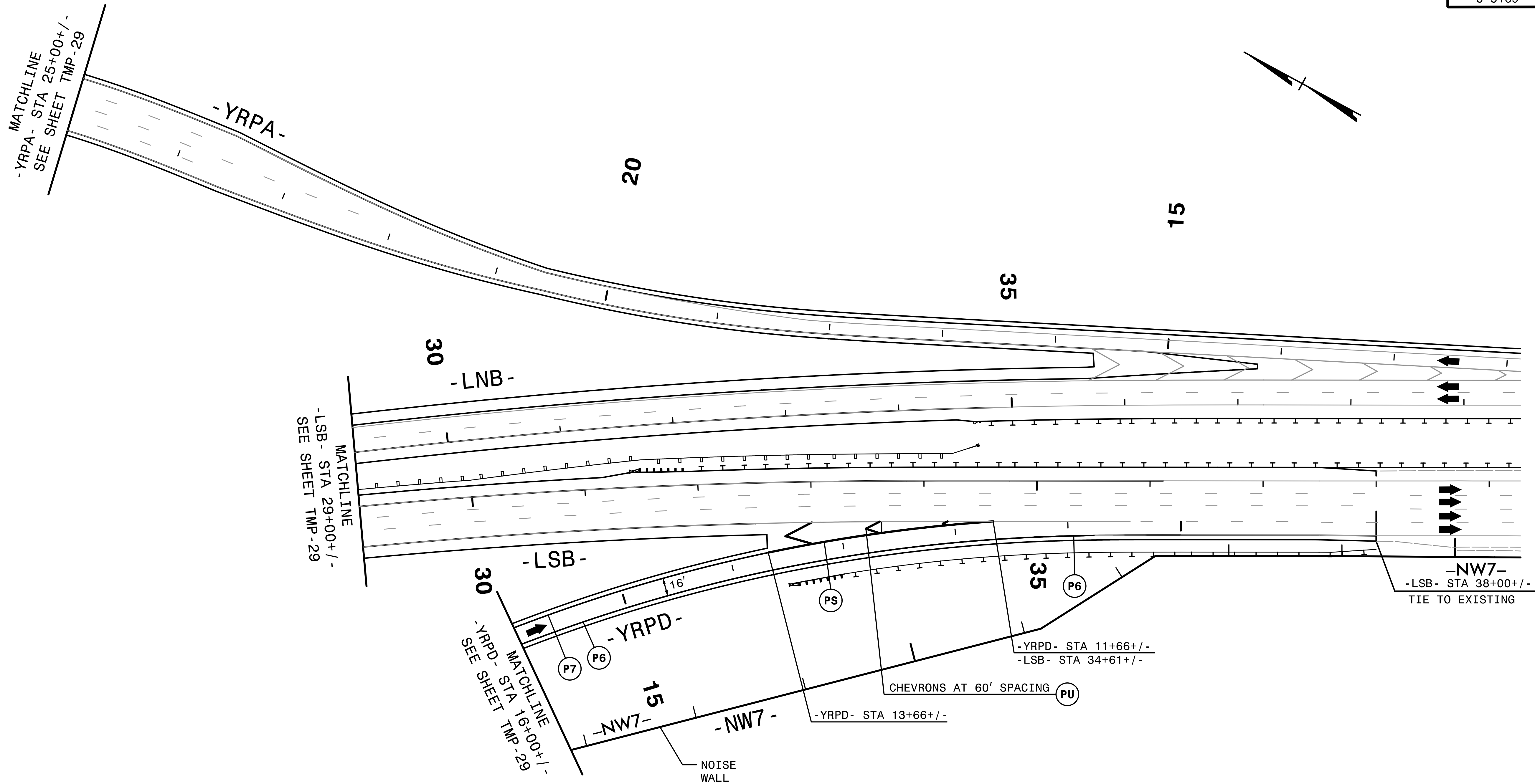
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 ICP\U5169_tc_28_p3bd3.dgn
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REMOVE CONFLICTING PAVEMENT MARKING.

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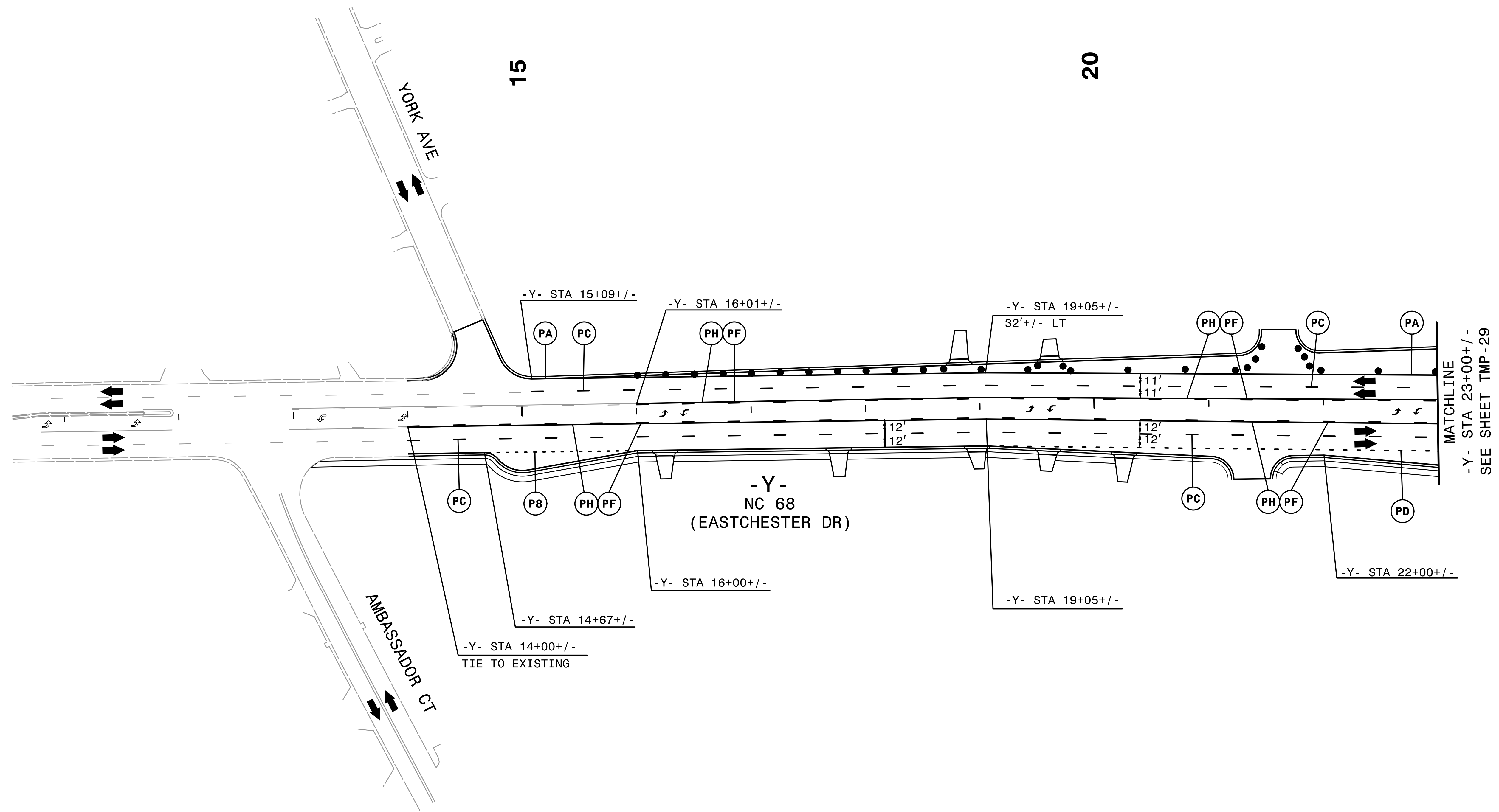
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PHASE III
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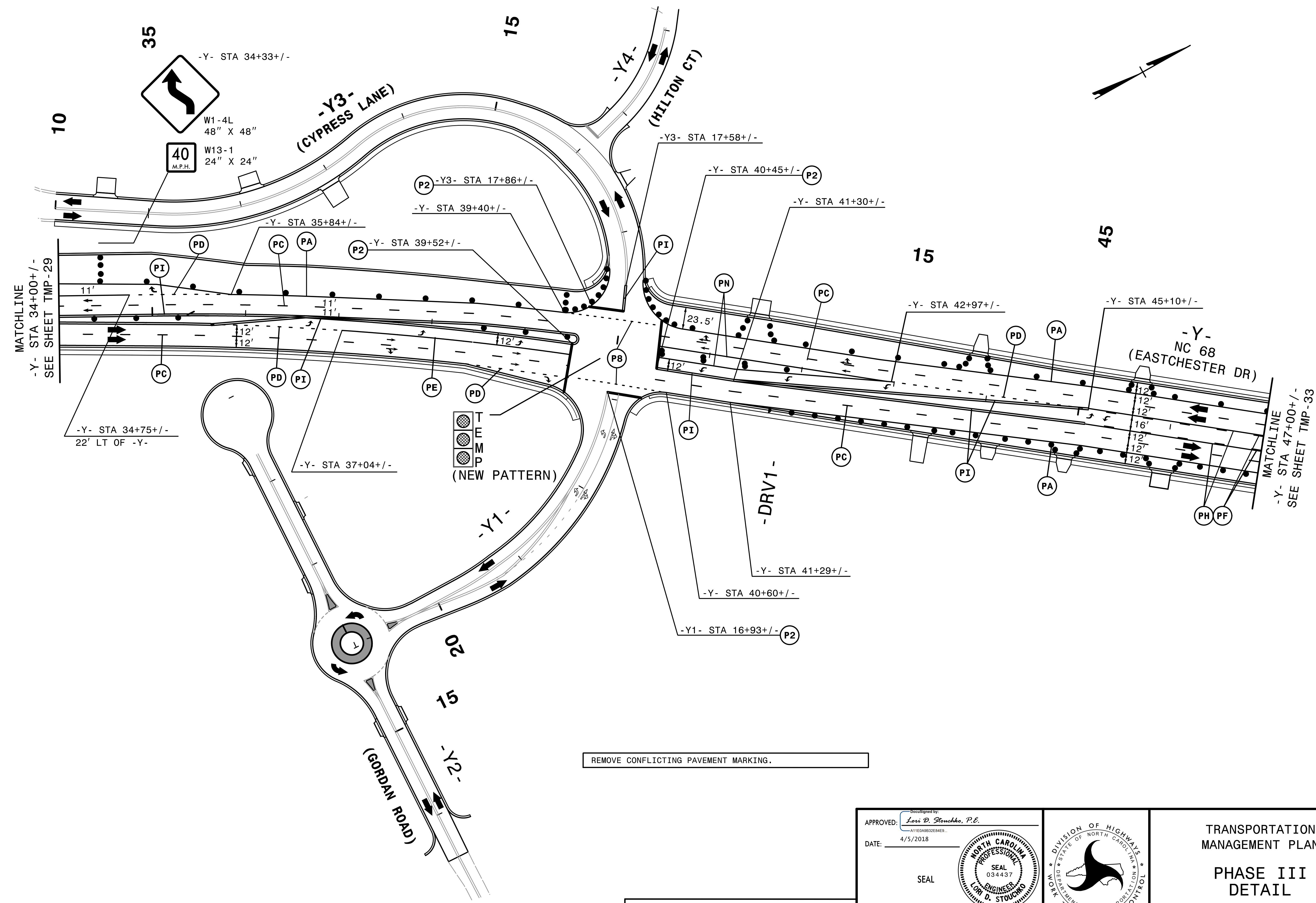
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PHASE III
DETAIL

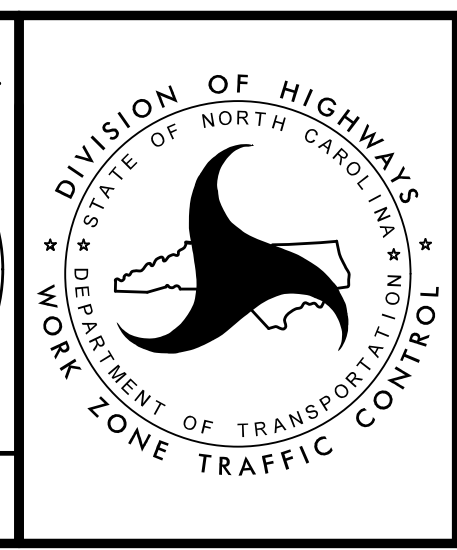
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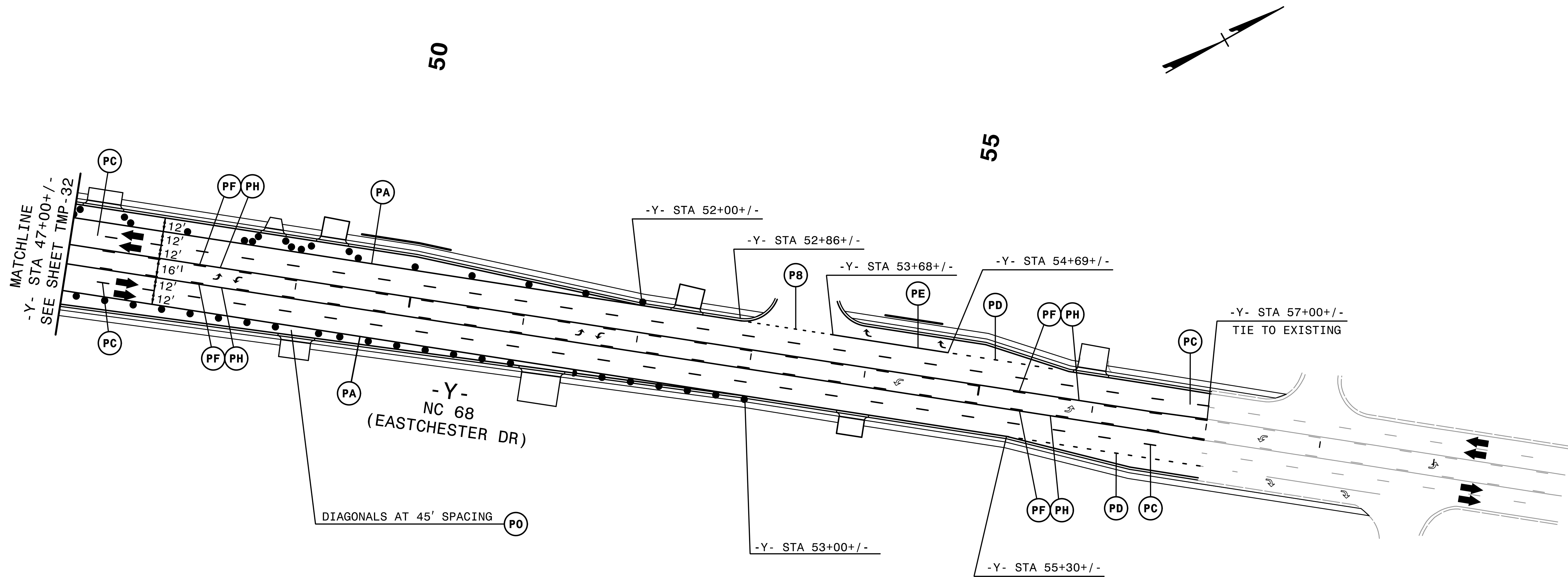
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 RALEIGH, NORTH CAROLINA 27609
 NC LICENSE NO: C-1554

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 SEAL 034437
 LORI D. STOUCHO



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 PHASE III
 DETAIL

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50

55

MATCHLINE
 -Y- STA 47+00+/-
 SEE SHEET TMP-32

-Y- STA 57+00+/-
 TIE TO EXISTING

-Y- NC 68
 (EASTCHESTER DR)

DIAGONALS AT 45' SPACING PO

REMOVE CONFLICTING PAVEMENT MARKING.

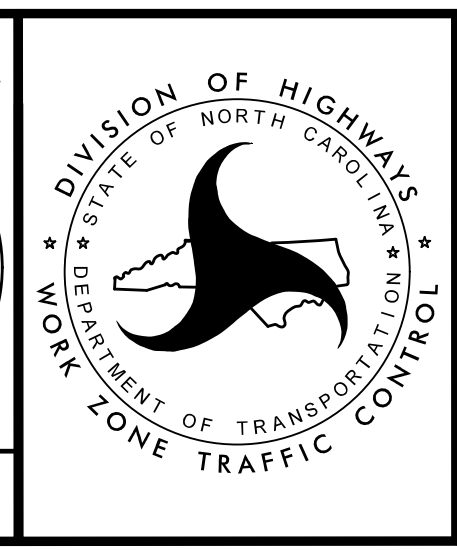
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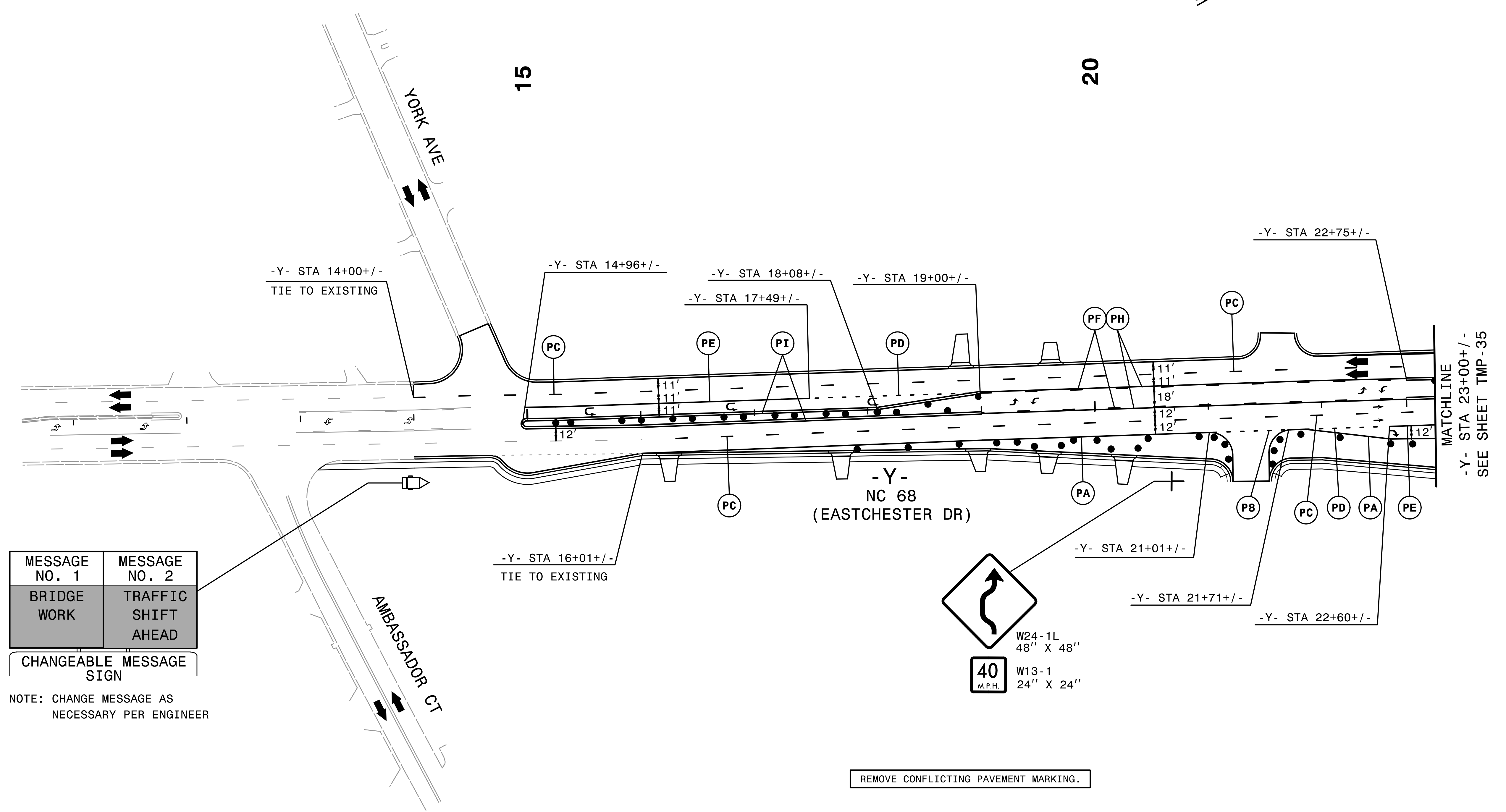
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TRANSPORTATION
 MANAGEMENT PLAN

PHASE III
 DETAIL



MESSAGE NO. 1	MESSAGE NO. 2
BRIDGE WORK	TRAFFIC SHIFT AHEAD
CHANGEABLE MESSAGE SIGN	

NOTE: CHANGE MESSAGE AS NECESSARY PER ENGINEER

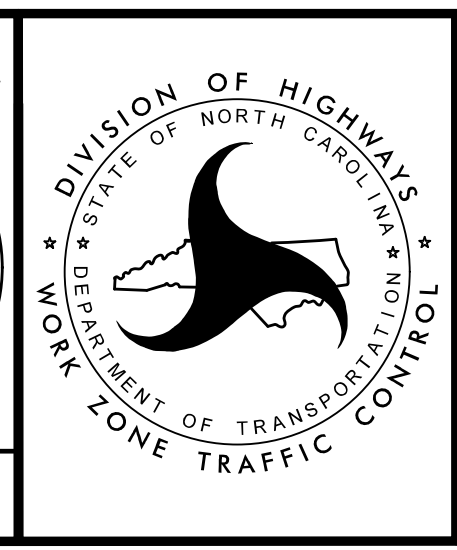
4/5/2018
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 DATE: 4/5/2018

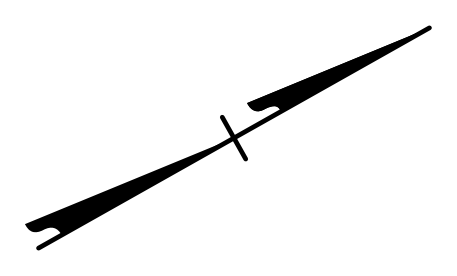
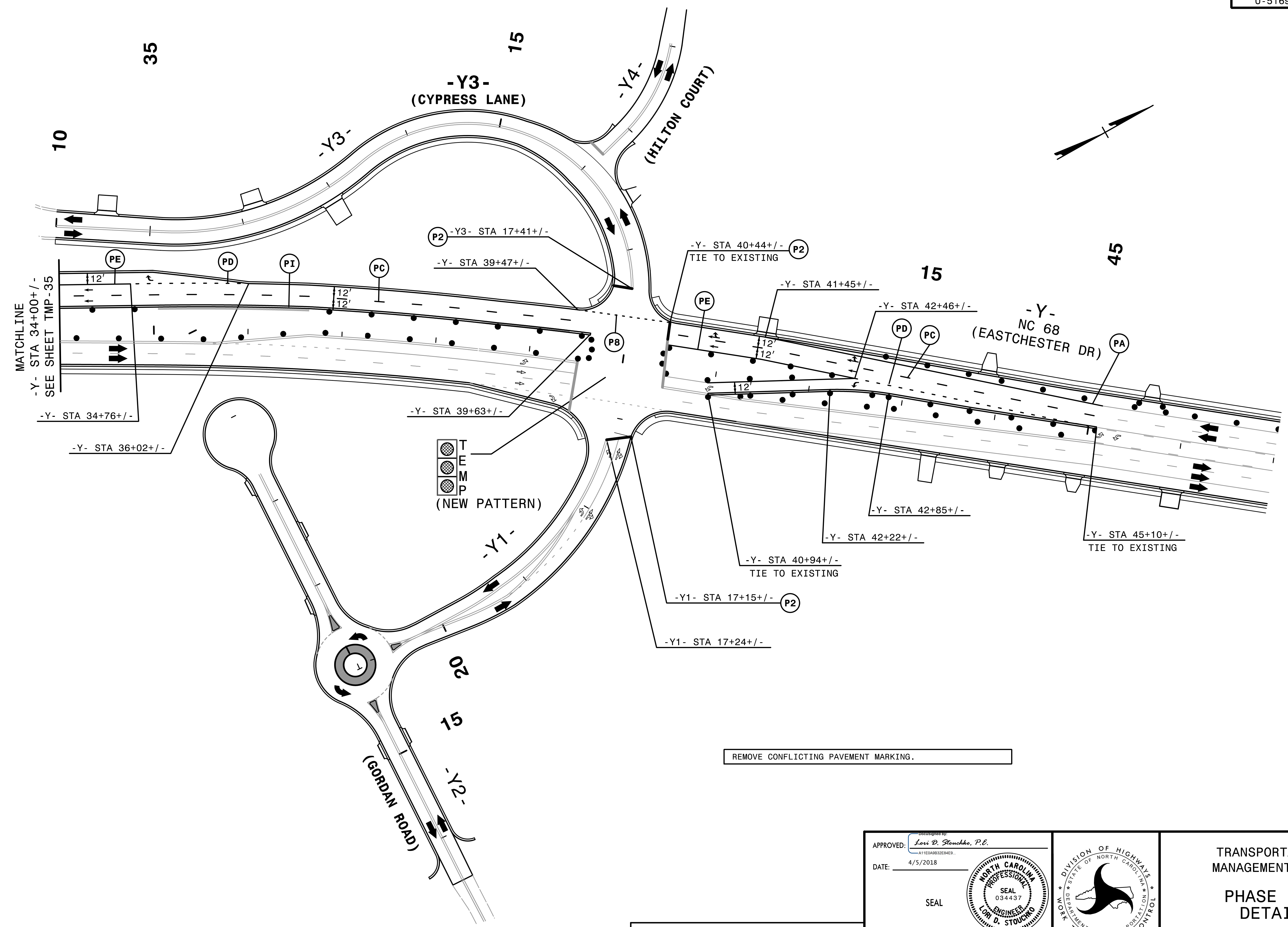
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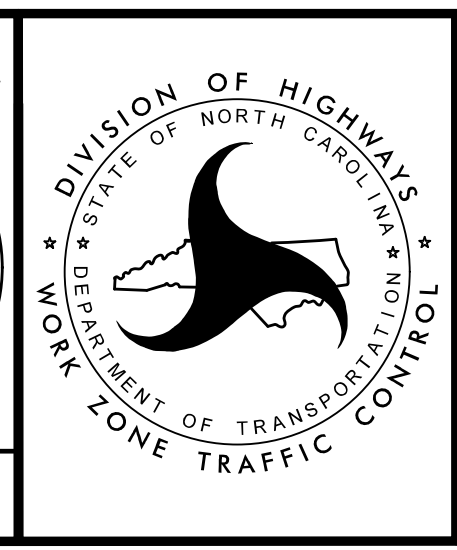
PHASE III DETAIL



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 HNTB NORTH CAROLINA, P.C.
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 Raleigh, North Carolina 27609
 NC License No: C-1554

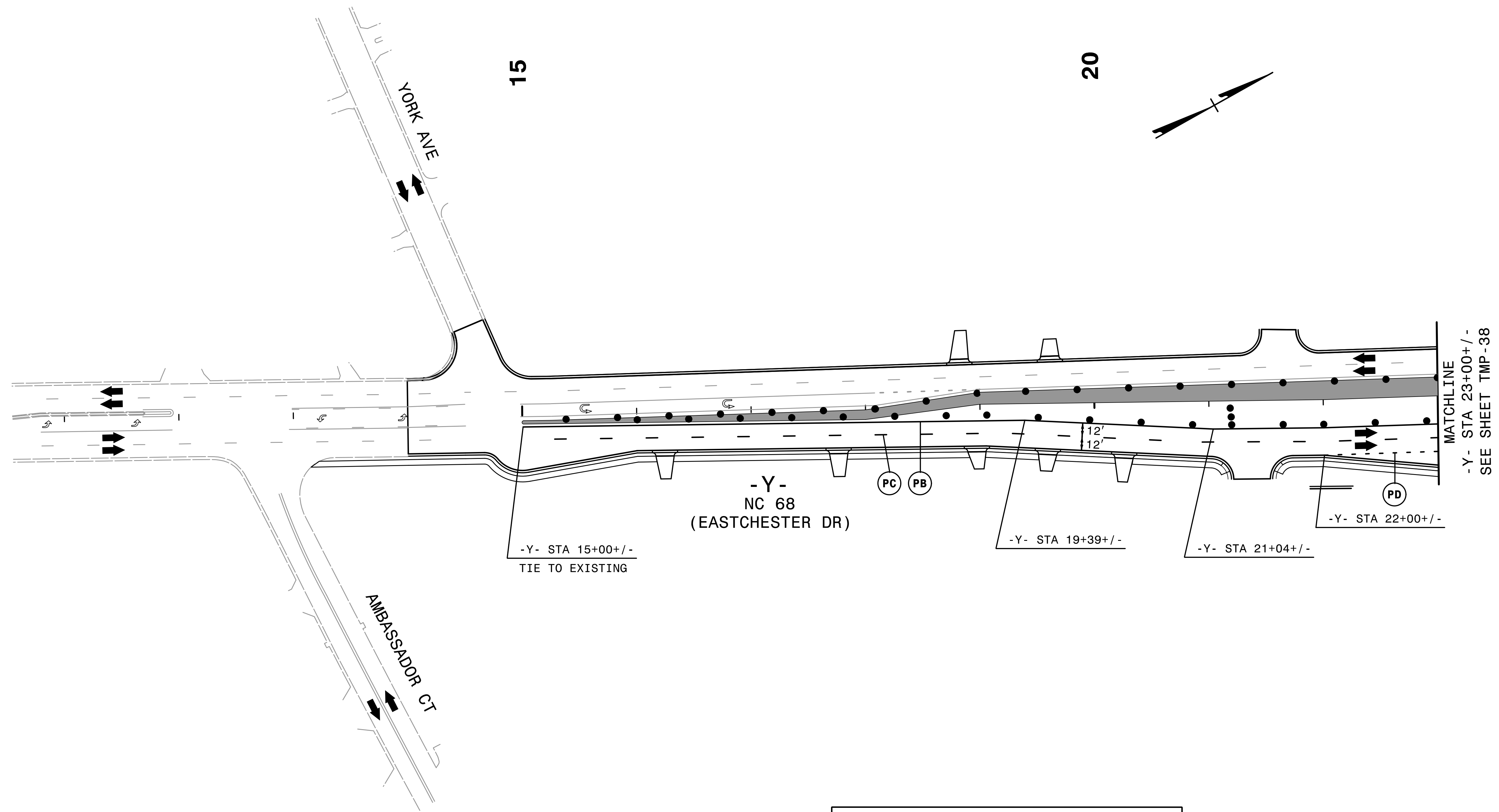
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 PHASE III
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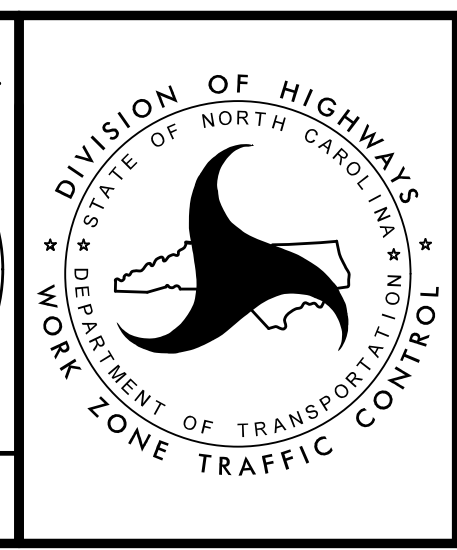
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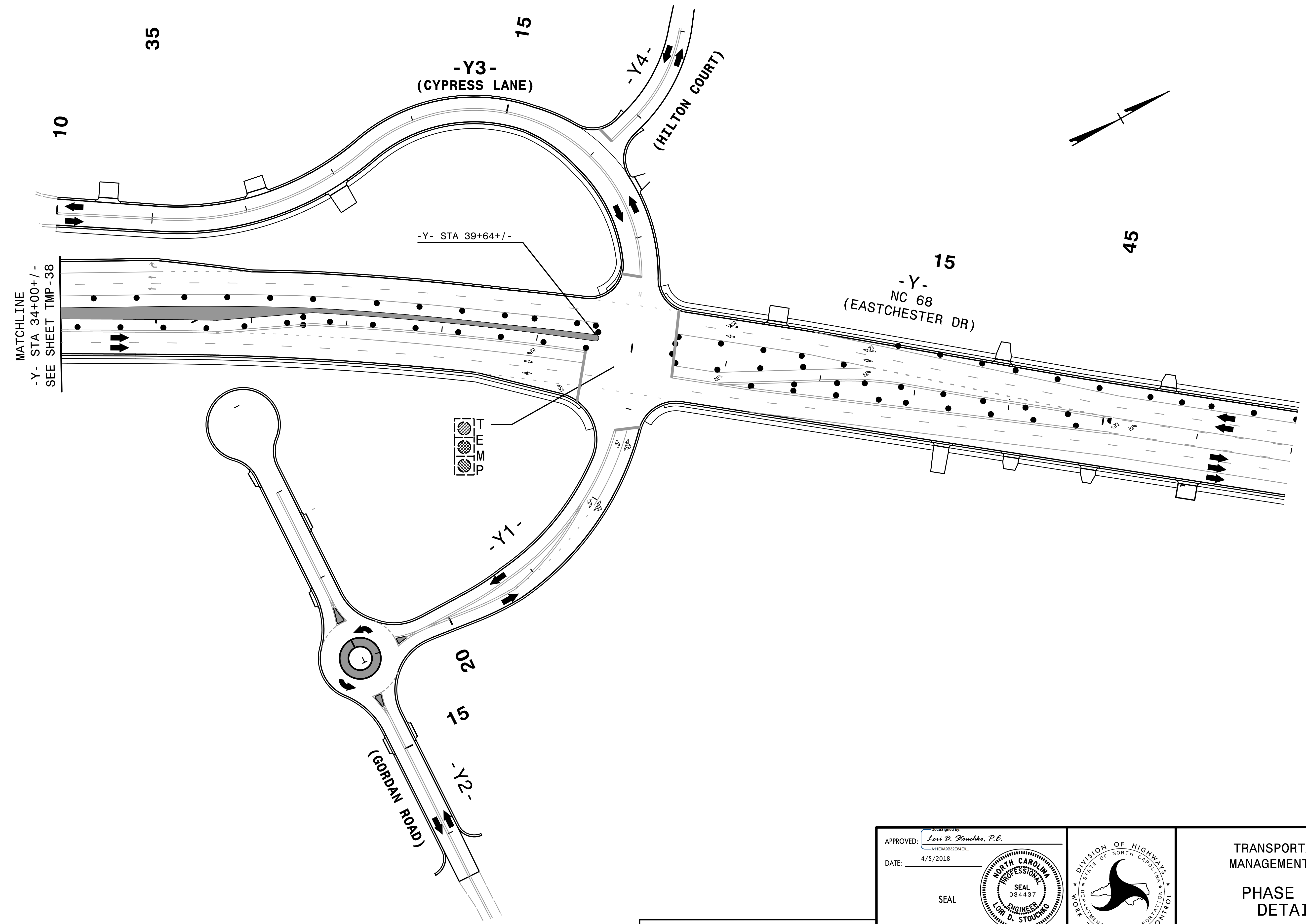
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 PROFESSIONAL
 ENGINEER
 LORI D. STOUCHO

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 MANAGEMENT PLAN

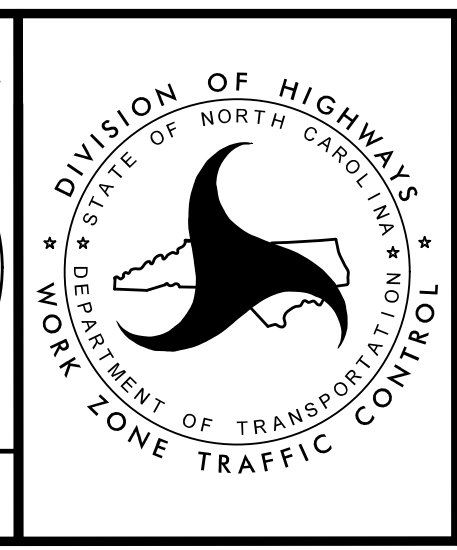
PHASE III
 DETAIL



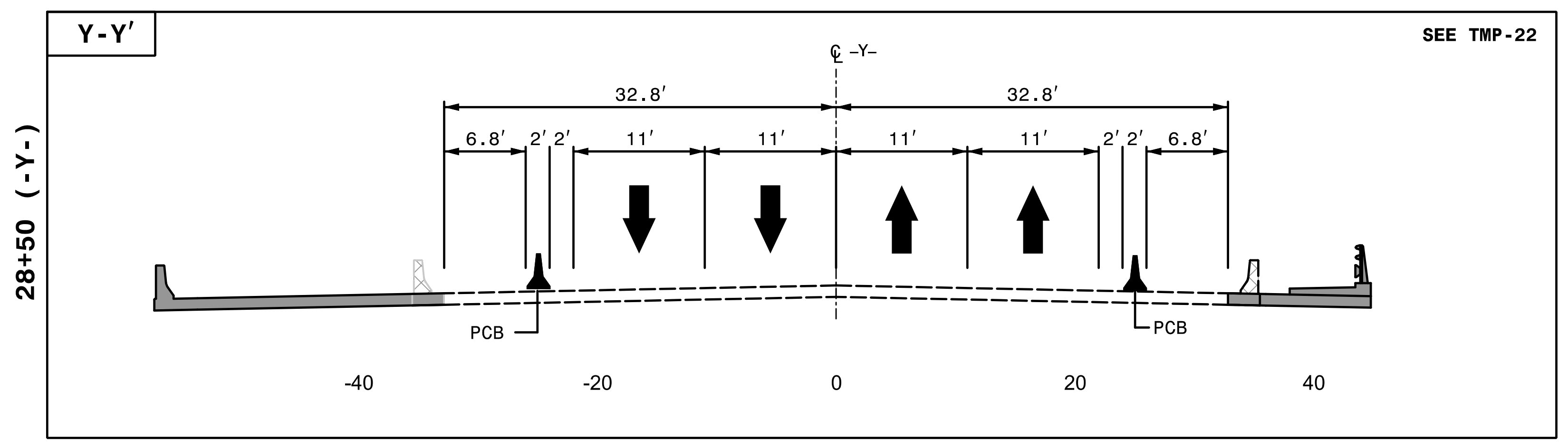
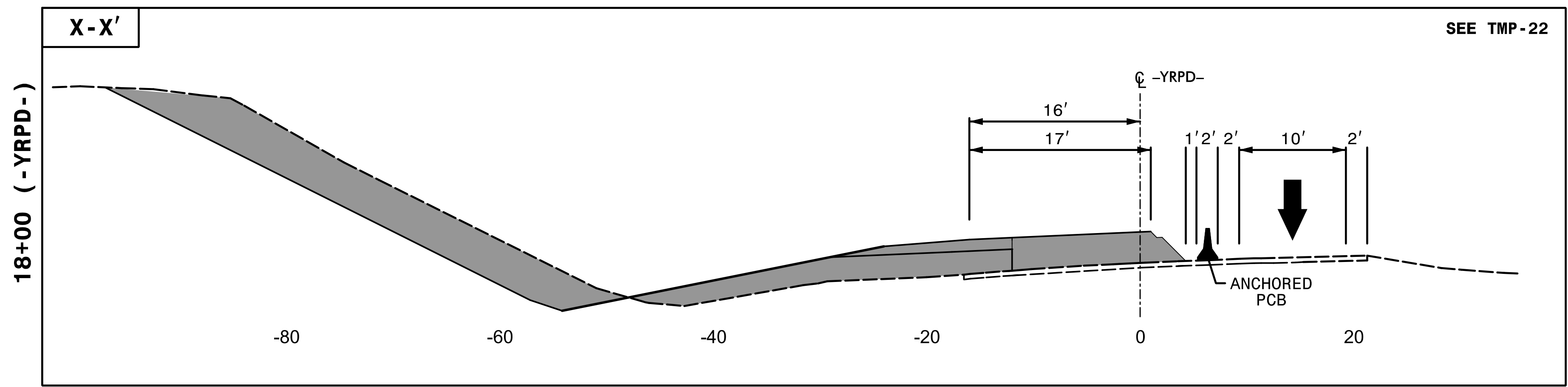
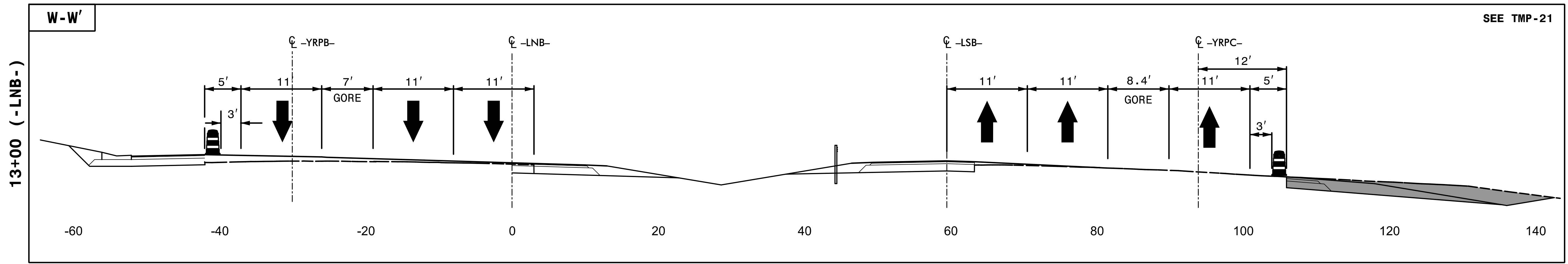
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**TRANSPORTATION
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**PHASE III
 DETAIL**



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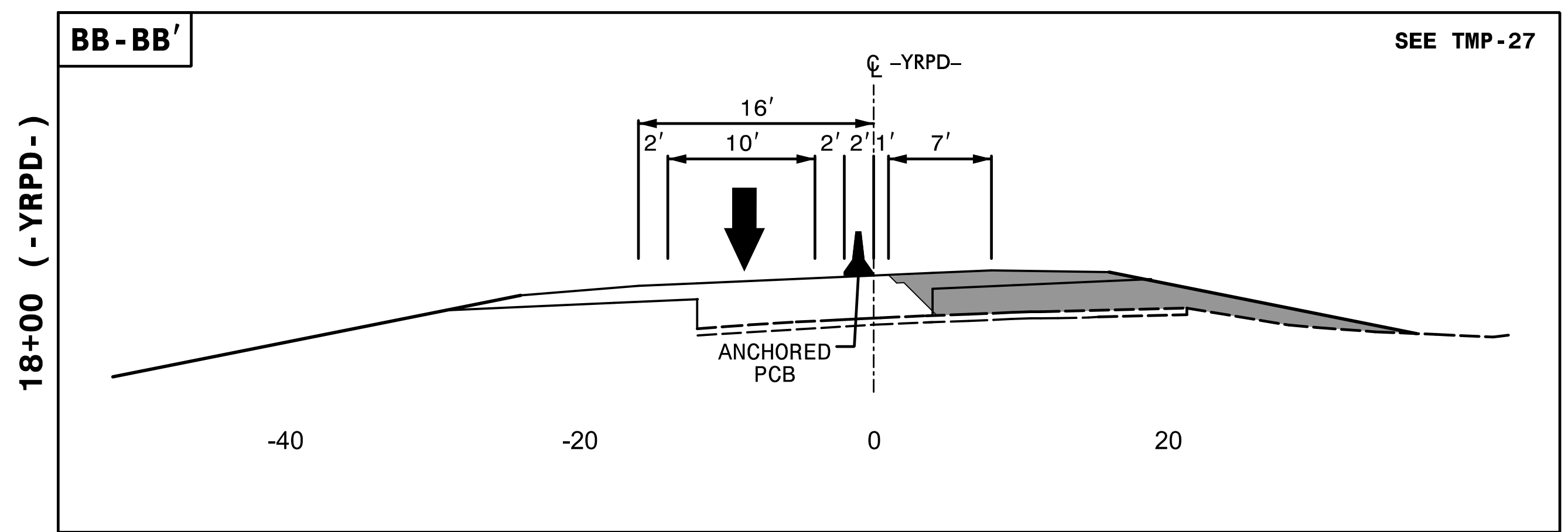
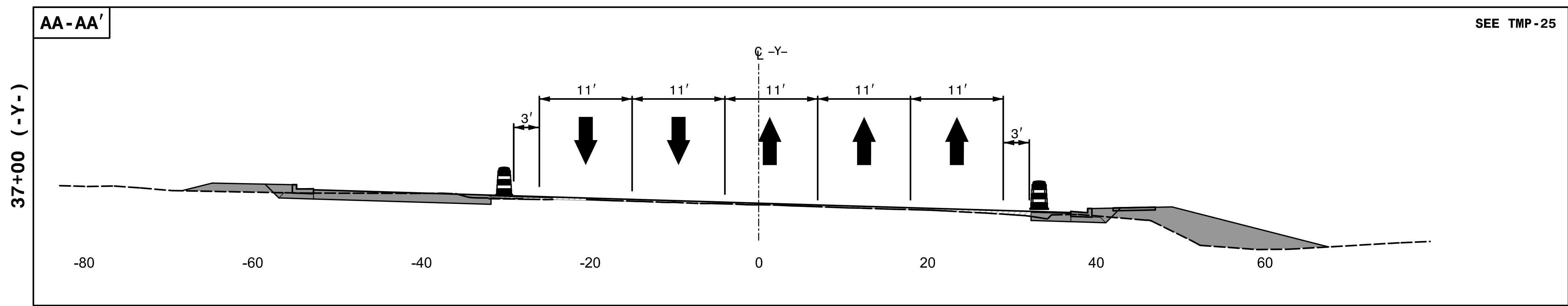
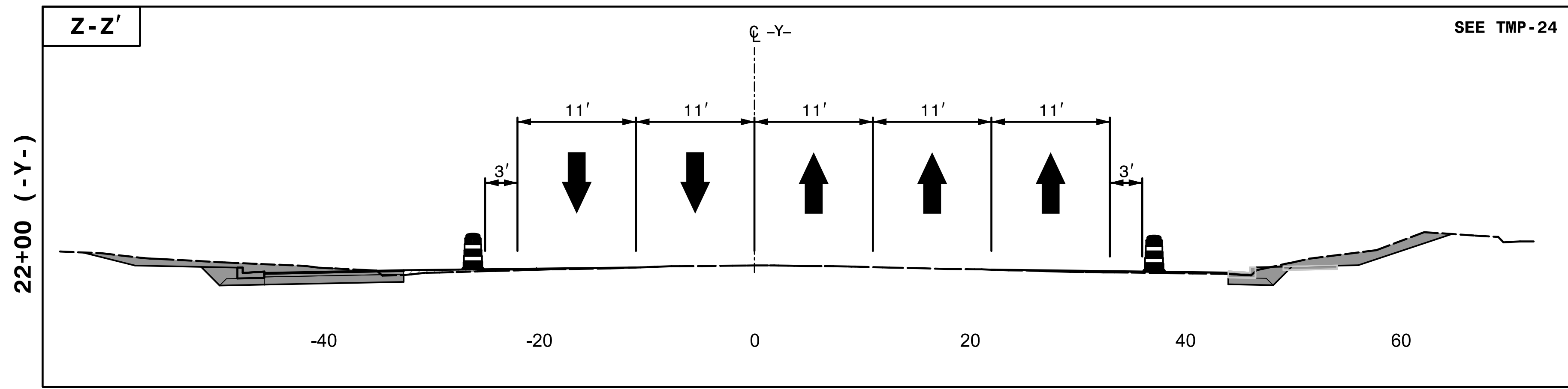
PROFESSIONAL ENGINEER
NORTH CAROLINA
SEAL
034437
LORI D. STOUCHO

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MANAGEMENT PLAN

PHASE III
SECTION CUT
DETAILS



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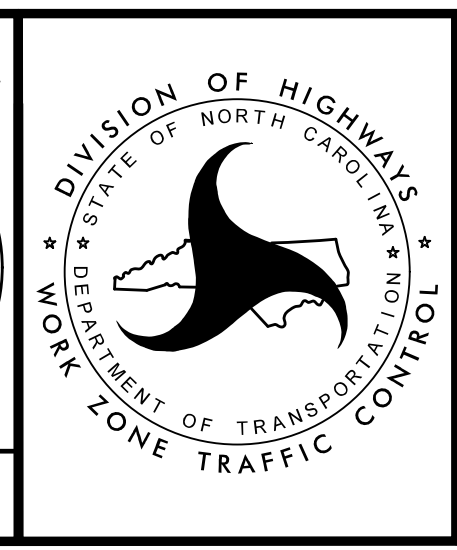
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TRANSPORTATION MANAGEMENT PLAN
PHASE III
SECTION CUT
DETAILS

