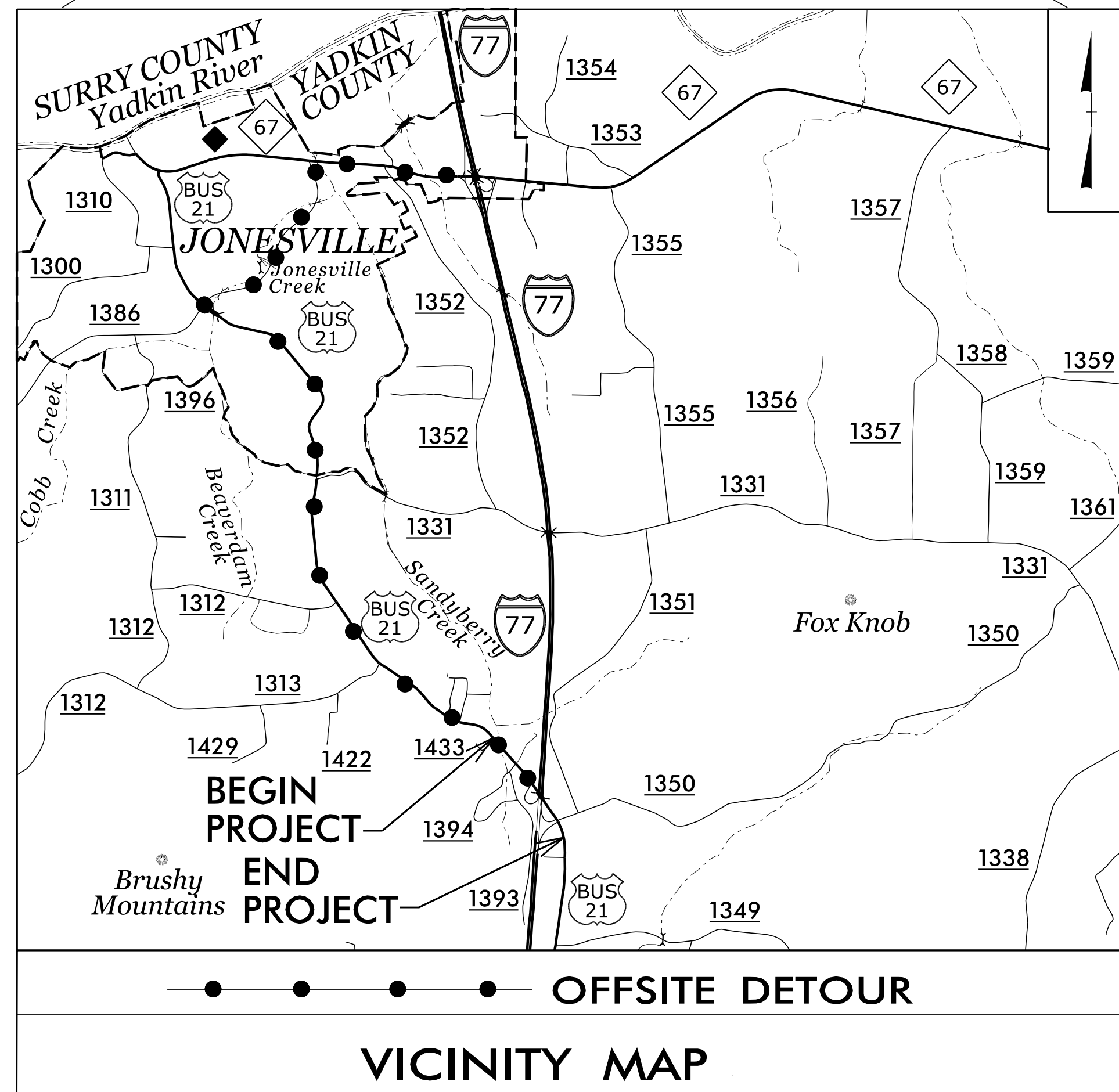
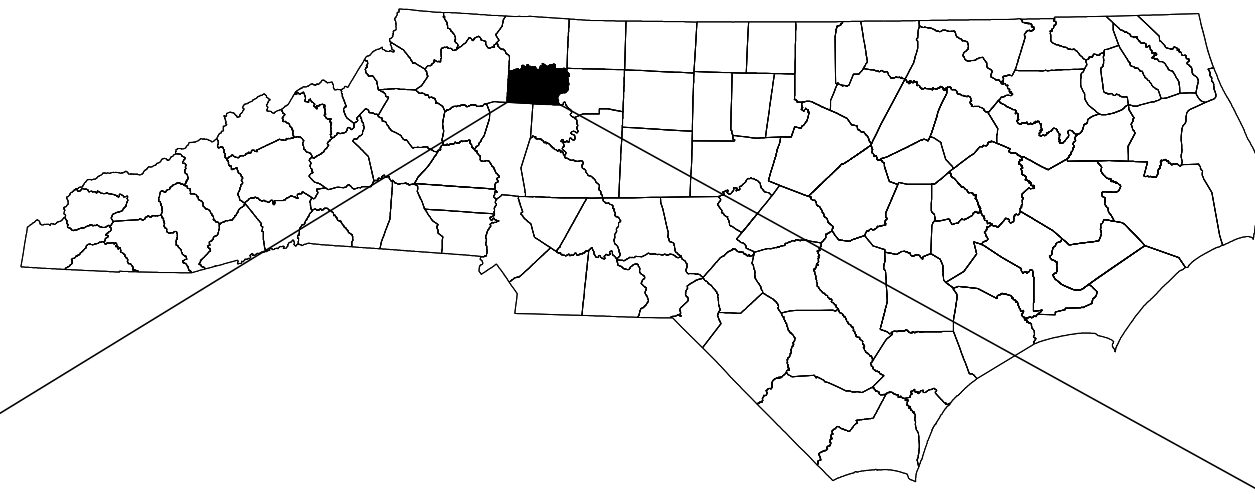


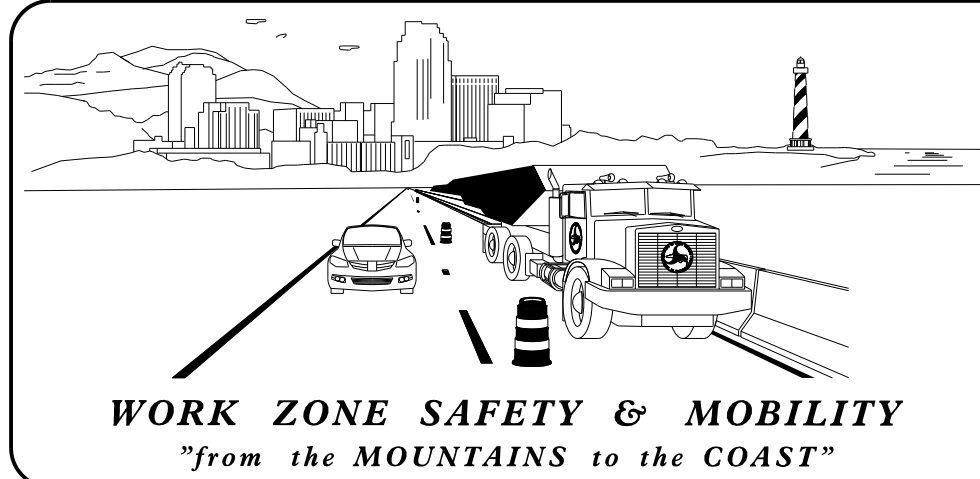
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

YADKIN COUNTY



LOCATION: BRIDGE NO. 29 OVER I-77 ON US 21 BUS
TYPE OF WORK: GRADING, DRAINAGE, PAVING,
RETAINING WALLS, AND STRUCTURE

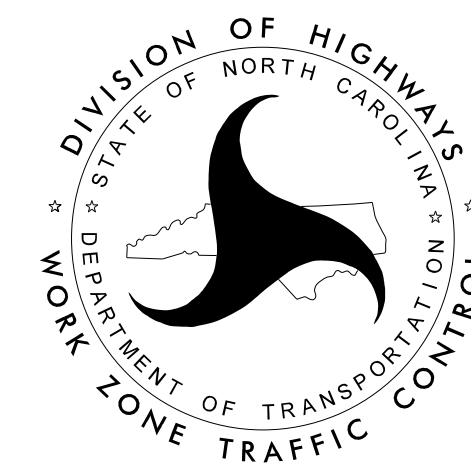


PLANS PREPARED BY:

NCDOT CONTACTS:

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PROJECT ENGINEER

REED DUDLEY, E.I.
PROJECT DESIGN ENGINEER



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UNLESS ALL SIGNATURES COMPLETED**

APPROVED: *Zachary T. Clark*
SC404717FD420

DATE: 03/05/2026

SEAL



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B & 1C	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)
TMP-2	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
TMP-2A	TEMPORARY SHORING DATA
TMP-3 & 3A	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4 THRU TMP-6	PHASE I DETAILS
TMP-7 THRU TMP-9	PHASE II DETAILS
TMP-10 THRU TMP-12	PHASE III DETAILS
TMP-13 THRU TMP-15	OFFSITE DETOUR ROUTES

SHEET NO.
TMP-1

B-5833

TIP PROJECT:

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ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE 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	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMP
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1205.15	PAVEMENT MARKINGS - REDUCED CONFLICT INTERSECTIONS
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
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)

- WORK AREA
- REMOVAL
- WEDGING AREA
- ONGOING CONSTRUCTION
- TEMPORARY PAVEMENT

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY
- PORTABLE

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TEMPORARY PAVEMENT MARKING

- C1 - WHITE EDGELINE (COLD APPLIED PLASTIC) - 4"
- C13- YELLOW DOUBLE CENTER (COLD APPLIED PLASTIC) - 4"
- P1 - WHITE EDGELINE (PAINT) - 4"
- P10- YELLOW EDGELINE - 4"
- P13- YELLOW DOUBLE CENTER - 4"
- P21- WHITE SOLID LANE LINE - 6"
- P22- 10FT. WHITE SKIP - 6"
- P23- 3FT. -9FT./SP WHITE MINISKIP - 6"
- P30- YELLOW EDGELINE - 6"
- P42- YELLOW DIAGONAL - 8"
- P50- WHITE GORELINE - 12"
- P61- WHITE STOPBAR - 24"
- P79- MERGE ARROW

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

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APPROVED: DATE: 04/02/2026 SEAL			ROADWAY STANDARD DRAWINGS & LEGEND
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MANAGEMENT STRATEGIES

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:

- FULL ROADWAY CLOSURES
- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- ONE-LANE, TWO WAY OPERATION (SIGNALIZED)
- RAMP CLOSURES / RELOCATION
- NIGHT WORK
- WEEKEND WORK
- WORK HOUR RESTRICTIONS FOR PEAK TRAVEL
- OFF-SITE DETOURS / USE OF ALTERNATIVE ROUTES
- ON-SITE DETOURS

GENERAL NOTES /LOCAL 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
(EXCEPT AS ALLOWED BY PHASE I, STEPS 1A THRU 1C)

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

ROAD NAME	DAY AND TIME RESTRICTIONS
I-77 INCLUDING ALL RAMP AND LOOPS	MONDAY THRU THURSDAY 6:00 AM - 9:00 PM
	FROM FRIDAY AT 6:00 AM TO SUNDAY AT 9:00 PM
US 21/US 21 BUS.	MONDAY THRU FRIDAY 7:00 AM - 8:30 AM

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

ROAD NAME

I-77 INCLUDING ALL RAMP AND LOOPS
US 21/US 21 BUS.

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 9:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 9:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 9:00 P.M. TUESDAY.

5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 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 9:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 9:00 P.M. TUESDAY.

7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 9:00 P.M. MONDAY.

8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

9. FOR CHARLOTTE MOTOR SPEEDWAY EVENTS, FROM 24 HOURS BEFORE THE EVENT FOR I-77 TO 24 HOURS AFTER THE EVENT FOR I-77.

ROAD NAME

US 21/US 21 BUS.

1. FOR HWY 21 ROAD MARKET EVENT, FROM 6:00 A.M. THE FRIDAY THE EVENT STARTS TO 6:00 A.M. THE FOLLOWING MONDAY.

C) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME DAY AND TIME RESTRICTIONS

I-77 AND MONDAY THRU THURSDAY 5:00 AM - 12:00 AM
ALL RAMP 5:00 AM FRIDAY TO 11:59 PM SUNDAY

LANE AND SHOULDER CLOSURE REQUIREMENTS

D) 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.

E) 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.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 5 FT OF AN OPEN TRAVEL LANE ON AN UNDIVIDED FACILITY, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 10 FT OF AN OPEN TRAVEL LANE ON A DIVIDED FACILITY, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

H) 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.

I) NOTIFY THE NCDOT STATEWIDE TRANSPORTATION OPERATIONS CENTER (STOC) AT 877-627-7862 APPROXIMATELY 30 MINUTES PRIOR TO INSTALLING AND WITHIN 15 MINUTES AFTER REMOVING LANE/RAMP CLOSURES ON INTERSTATES, FREEWAYS, CONTROLLED ACCESS FACILITIES, AND US ROUTES.

PAVEMENT EDGE DROP OFF REQUIREMENTS

J) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

K) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

L) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

M) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

N) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

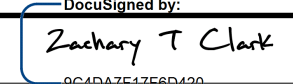
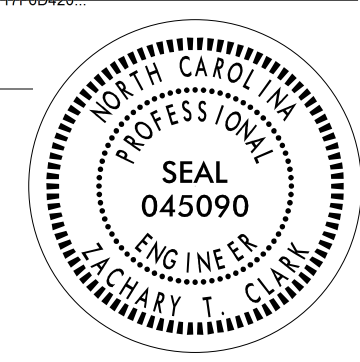

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

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

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

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**GENERAL NOTES /
LOCAL NOTES
CONTINUED**

TRAFFIC BARRIER

Q) 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.

R) 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

TRAFFIC CONTROL DEVICES

S) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
US 21/US 21 BUSINESS	PAINT	TEMPORARY RAISED (YELLOW/YELLOW)
I-77 INCLUDING ALL RAMP AND LOOPS	PAINT	CRYSTAL/CRYSTAL
BRIDGE DECK	COLD APPLIED PLASTIC (TYPE IV)	

V) 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.

W) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.


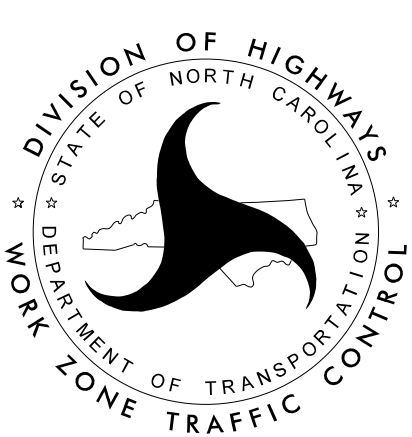
X) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

Y) TRACE THE EXISTING AND PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO REMOVAL AND INSTALLATION. PLACE DRUMS TO DELINEATE ANY EXISTING AND PROPOSED MONOLITHIC ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION.

MISCELLANEOUS

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

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<p>APPROVED: <u>Zachary T Clark</u> DATE: 03/05/2026</p> <p align="center">SEAL</p> 		<p align="center">TRANSPORTATION OPERATIONS PLAN</p>
<p align="center">DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>		

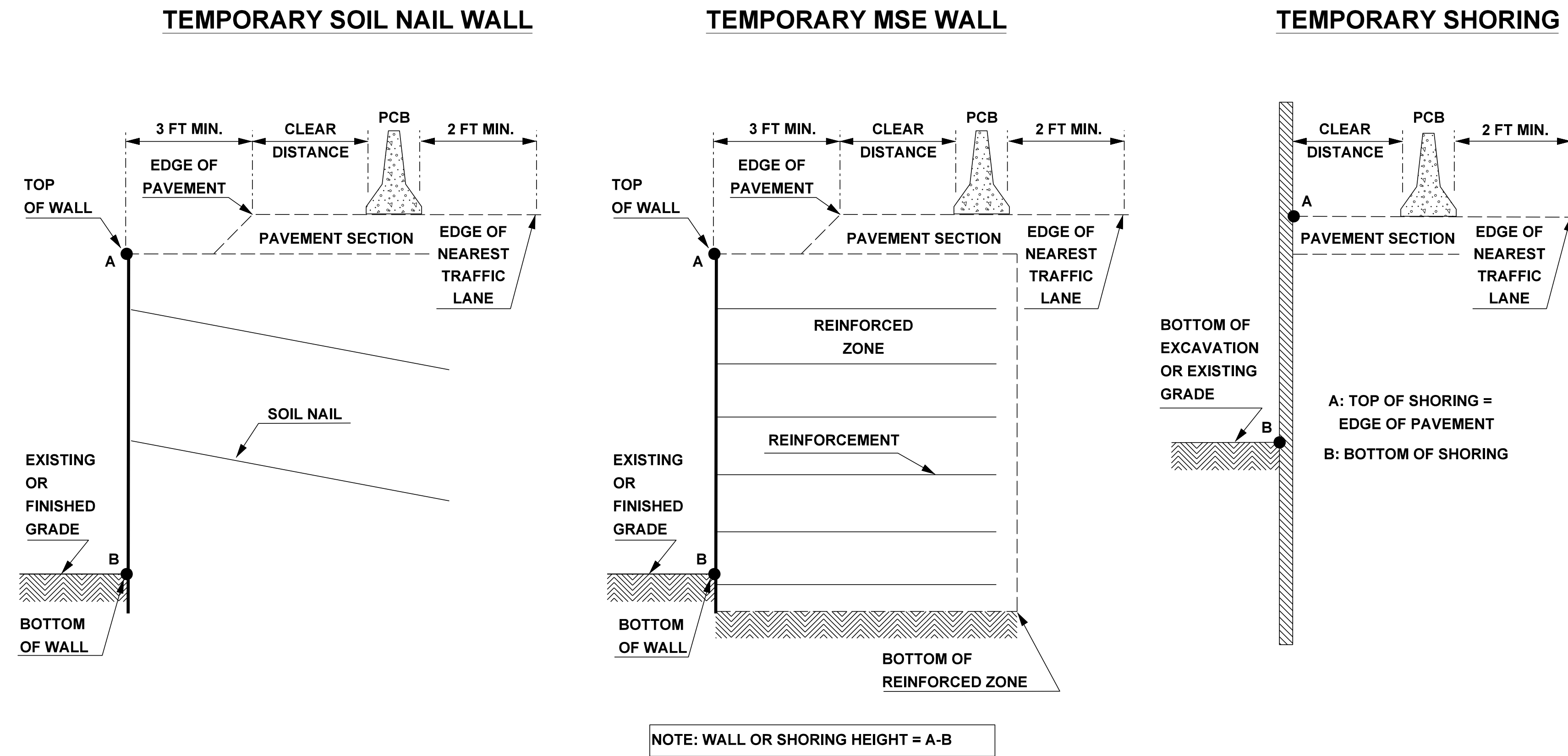


FIGURE A

NOTES

- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- REFER TO THE "TEMPORARY SHORING" STANDARD PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- PCB IS REQUIRED IF TEMPORARY SHORING/WALL 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 FOR APPLICABLE PAVEMENT DESIGN).
- 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.
- 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/WALLS EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 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 OR APPROVED BY THE ENGINEER.
- 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 THIS MINIMUM REQUIRED DISTANCE IS NOT AVAILABLE, CONTACT THE ENGINEER.
- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS.

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
	Concrete	44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
		>56	32	36	42	45	47	51
		<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
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds					
		Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds				

* See Figure Below

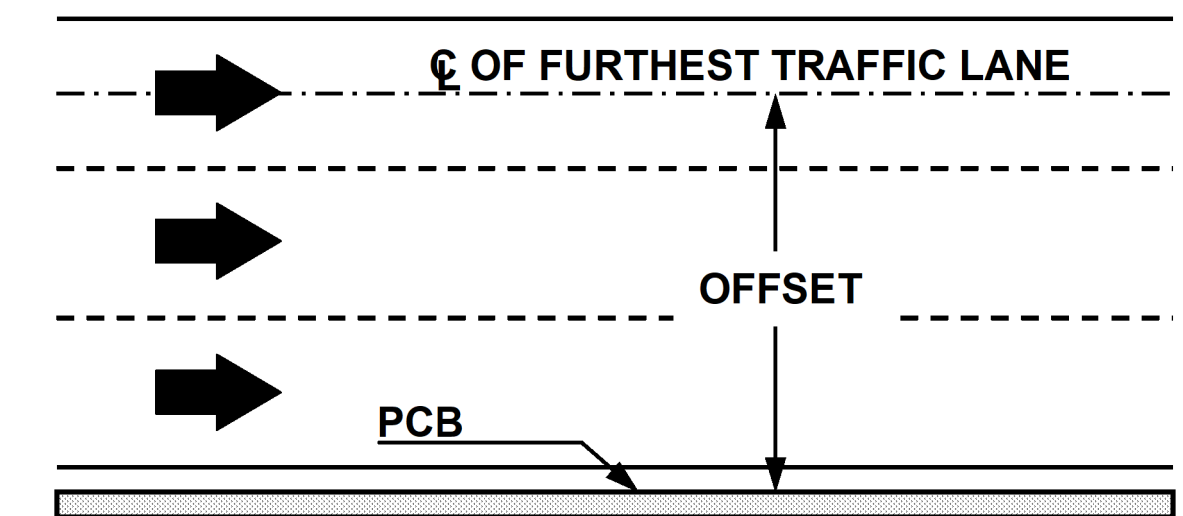


FIGURE B

APPROVED: <i>Zachary T. Clark</i> <small>NC4047/F7760420</small> DATE: 03/05/2026 SEAL			PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

SHORING LOCATION NO. 1

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

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

DESIGN TEMPORARY SHORING FROM STATION -L- STA 12+66, 6' LT, TO STATION -L- STA 13+03, 6' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 115 PCF
 FRICTION ANGLE (ϕ) = 27 DEGREES
 COHESION (C) = 0 PSF
 GROUNDWATER ELEVATION = 1,060 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L- STA 12+66, 6' LT, TO STATION -L- STA 13+03, 6' LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L- STA 12+66, 6' LT, TO STATION -L- STA 13+03, 6' LT WILL NOT PENETRATE BELOW ELEVATION 1,060 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- STA 12+66, 6' LT, TO STATION -L- STA 13+03, 6' LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SHORING LOCATION NO. 2

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

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

DESIGN TEMPORARY SHORING FROM STATION -L- STA 12+59, 10' LT, TO STATION -L- STA 12+96, 10' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (C) = 0 PSF
 GROUNDWATER ELEVATION = 1,060 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L- STA 12+59, 10' LT, TO STATION -L- STA 12+96, 10' LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- STA 12+59, 10' LT, TO STATION -L- STA 12+96, 10' LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

SHORING LOCATION NO. 3

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

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

DESIGN TEMPORARY SHORING FROM STATION -L- STA 26+16, 27.5' RT, TO STATION -L- STA 26+93, 27.5' RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (C) = 0 PSF
 GROUNDWATER ELEVATION = N/A FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L- STA 26+16, 27.5' RT, TO STATION -L- STA 26+93, 27.5' RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- STA 26+16, 27.5' RT, TO STATION -L- STA 26+93, 27.5' RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SHORING LOCATION NO. 4

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

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

DESIGN TEMPORARY SHORING FROM STATION -L- STA 26+11, 24.5' RT, TO STATION -L- STA 26+93, 24.5' RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (C) = 0 PSF
 GROUNDWATER ELEVATION = N/A FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L- STA 26+11, 24.5' RT, TO STATION -L- STA 26+93, 24.5' RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- STA 26+11, 24.5' RT, TO STATION -L- STA 26+93, 24.5' RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

SHORING LOCATION NO. 5

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

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

DESIGN TEMPORARY SHORING FROM STATION -L- STA 29+23, 27.5' RT, TO STATION -L- STA 30+07, 27.5' RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (C) = 0 PSF
 GROUNDWATER ELEVATION = N/A FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L- STA 29+23 27.5' RT, TO STATION -L- STA 30+07, 27.5' RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- STA 29+23 27.5' RT, TO STATION -L- STA 30+07, 27.5' RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SHORING LOCATION NO. 6

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

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

DESIGN TEMPORARY SHORING FROM STATION -L- STA 29+23, 24.5' RT, TO STATION -L- STA 30+26, 24.5' RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (C) = 0 PSF
 GROUNDWATER ELEVATION = N/A FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L- STA 29+23 24.5' RT, TO STATION -L- STA 30+26, 24.5' RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

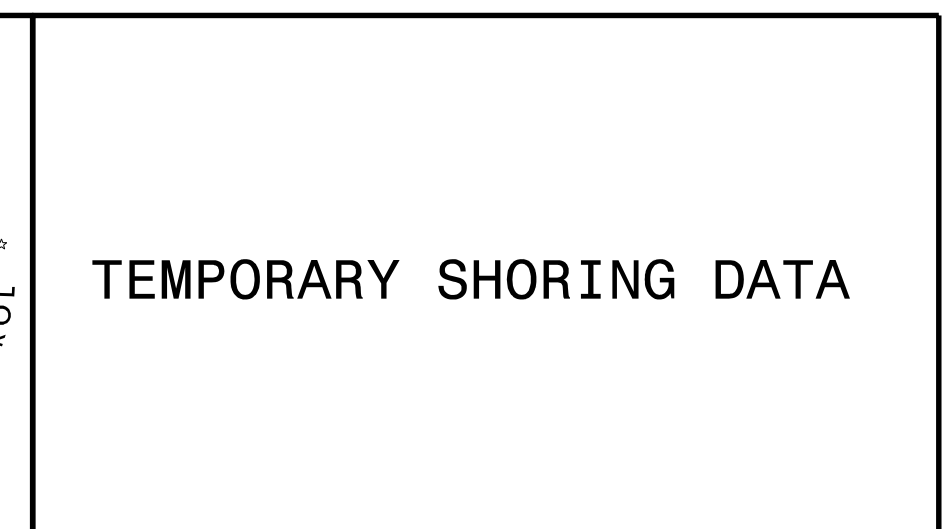
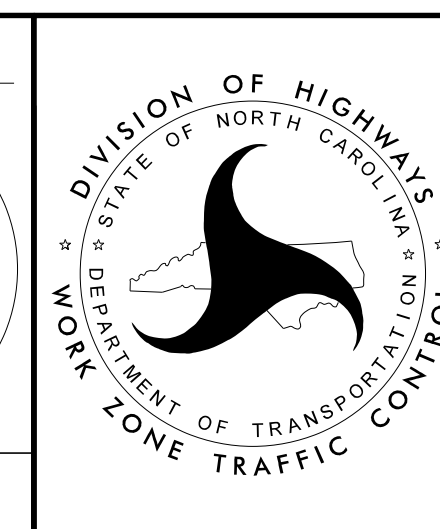
AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- STA 29+23 24.5' RT, TO STATION -L- STA 30+26, 24.5' RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

* 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 WZTCU ON FEBRUARY 27, 2026 AND SEALED BY A PROFESSIONAL ENGINEER, MICHAEL H. STEPHENS, P.E., LICENSE # (028893)*.

APPROVED: Zachary T Clark
 DATE: 03/05/2026

SEAL

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



PHASING

PROJ. REFERENCE NO.	SHEET NO.
B-5833	TMP-3

PHASE I

NOTES:

- INSTALL ADVANCED WORK ZONE WARNING SIGNS ON -L- US 21 BUS. AND ALL -Y- LINES PRIOR TO BEGINNING ANY WORK.
- WORK REQUIRED IN STEPS 1A, 1B, & 1C SHALL BE COMPLETED IN A CONTINUOUS MANNER.
- WORK REQUIRED IN STEPS 1A, 1B, & 1C AND STEP 2 CAN BE PERFORMED SIMULTANEOUSLY.

THE CONTRACTOR SHALL COMPLETE THE WORK REQUIRED ON PHASE I, STEPS 1A THRU 1C IN ONE HUNDRED EIGHTY (180) CONSECUTIVE CALENDAR DAYS.

STEP 1A:

USING LANE CLOSURE, SHEET TMP-4, RSD 1101.02 SHEET 17, AND ROADWAY PLANS, PERFORM THE FOLLOWING:

- INSTALL TEMPORARY/PORTABLE SIGNALS ON -L- LINE US 21 BUS.
- REMOVE CONFLICTING PAVEMENT MARKINGS, INSTALL TEMPORARY PAVEMENT MARKINGS FOR ONE LANE OPERATION, ACTIVATE THE PORTABLE SIGNALS, AND SHIFT TRAFFIC TO A 1L-2W TRAFFIC PATTERN.
- INSTALL ANCHORED PCB AND CRASH CUSHION FROM -L- STA. 11+38 +/- TO -L- STA. 13+78 +/-.
- BEHIND PCB INSTALL TEMPORARY SHORING #1 (6' LEFT OF -L-) FROM -L- STA. 12+66 +/- TO -L- STA. 13+03 +/-, AND TEMPORARY SHORING #2 (10' LEFT OF -L-) FROM -L- STA. 12+59 +/- TO -L- STA. 12+96 +/-.
- CONSTRUCT STAGE ONE OF PROPOSED CULVERT.
- CONSTRUCT ONSITE DETOUR UP TO EDGE AND ELEVATION OF EXISTING FROM -DET- STA. 10+73 +/- TO -DET- STA. 14+30 +/-.

STEP 1B:

USING RSD 1101.02 SHEET 17 AND SHEET TMP-4A, PERFORM THE FOLLOWING:

- REMOVE TEMPORARY SHORING #1 INSTALLED IN PHASE I, STEP 1A.
- INSTALL ANCHORED PCB AND CRASH CUSHIONS ON THE ON-SITE DETOUR AT THE FOLLOWING LOCATIONS:
 - * INSIDE SHOULDER FROM -LDET- STA. 11+70 +/- TO -LDET- STA. 13+30 +/-.
 - * OUTSIDE SHOULDER FROM -LDET- STA. 10+50 +/- TO -LDET- STA. 12+90 +/-.
- REMOVE CONFLICTING PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKINGS ON THE ON-SITE DETOUR.
- SHIFT US 21 BUS TRAFFIC TO A 1L-2W TRAFFIC PATTERN ON THE ON-SITE DETOUR.
- COMPLETE STAGE 2 CULVERT INSTALLATION.

STEP 1C:

USING LANE CLOSURE AS NEEDED AND TMP-4B, PERFORM THE FOLLOWING:

- REMOVE PCB AND TEMPORARY SHORING #2 INSTALLED IN PHASE I, STEP 1A.
- COMPLETE ROADWAY CONSTRUCTION OF -L- UP TO EDGE AND ELEVATION OF EXISTING ROADWAY FROM -L- STA. 10+50 +/- TO -L- STA. 15+00 +/-, INCLUDING REMOVAL OF ON-SITE DETOUR.
- REMOVE ANY CONFLICTING PAVEMENT MARKINGS AND INSTALL TEMPORARY PAVEMENT MARKINGS ON EXISTING US 21 BUS. FROM -L- STA. 9+65 +/- TO -L- STA. 16+00 +/- TO RETURN TRAFFIC TO THE ORIGINAL 2L-2W TRAFFIC PATTERN.
- REMOVE TEMPORARY SIGNALS INSTALLED IN STEP 1 AND ALL SIGNING RELATED TO IT.
- COMPLETE WIDENING ON US 21 BUS. FROM -L- STA. 14+50 +/- TO -L- STA. 19+50 +/-, AS WELL AS MUCH PROPOSED DRAINAGE AS POSSIBLE

STEP 2:

USING LANE CLOSURE, ROADWAY PLANS, AND SHEETS TMP-4B, 5 & 6, PERFORM THE FOLLOWING:

- CONSTRUCT UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE, PROPOSED GUARDRAIL AND AS MUCH DRAINAGE AS POSSIBLE IN THE FOLLOWING LOCATIONS:
 - * PROPOSED RAMPD FROM -RAMPD- STA. 12+00 +/- TO -RAMPD- STA. 16+00 +/-.
 - * PROPOSED LOOPD FROM -LOOPD- STA. 12+50 +/- TO -LOOPD- STA. 14+00 +/-.
 - * PROPOSED -DRW1- FROM -DRW1- STA. 11+80 +/- TO -DRW1- STA. 15+30 +/-.
- SHIFT TRAFFIC ON I-77 TO THE OUTSIDE SHOULDER ON BOTH DIRECTIONS AS FOLLOWS: SEE SHEET TMP-5.
 - * REMOVE EXISTING PAVEMENT MARKINGS AND INSTALL TEMPORARY PAVEMENT MARKINGS (TIE TO EXISTING) ON SB I-77 FROM -Y3- STA. 11+05 +/- TO -Y3- STA. 18+00 +/-.
 - * REMOVE EXISTING PAVEMENT MARKINGS AND INSTALL TEMPORARY PAVEMENT MARKINGS (TIE TO EXISTING) ON NB I-77 FROM -Y3- STA. 11+05 +/- TO -Y3- STA. 19+60 +/-.
- REMOVE EXISTING GUARDRAIL AS FOLLOWS:
 - * SB OUTSIDE FROM -Y3- STA. 11+00 +/- TO -Y3- STA. 15+00 +/-.
 - * SB INSIDE FROM -Y3- STA. 15+05 +/- TO -Y3- STA. 15+75 +/-.
 - * NB OUTSIDE FROM -Y3- STA. 17+37 +/- TO -Y3- STA. 18+90 +/-.
 - * NB INSIDE FROM -Y3- STA. 15+05 +/- TO -Y3- STA. 16+00 +/-.
- INSTALL ANCHORED PCB ON I-77 AS FOLLOWS:
 - * SB OUTSIDE FROM -Y3- STA. 11+00 +/- TO -Y3- STA. 16+55 +/-.
 - * SB INSIDE FROM -Y3- STA. 13+00 +/- (WITH CRASH CUSHION) TO -Y3- STA. 18+00 +/-.
 - * NB OUTSIDE FROM -Y3- STA. 15+00 +/- TO -Y3- STA. 19+00 +/- (WITH CRASH CUSHION).
 - * NB INSIDE FROM -Y3- STA. 14+50 +/- TO -Y3- STA. 18+40 +/- (WITH CRASH CUSHION).

PHASE III

THE CONTRACTOR SHALL COMPLETE THE WORK REQUIRED ON PHASE III STEP 1 IN FIFTY (50) CONSECUTIVE CALENDAR DAYS.

STEP 1:

USING LANE CLOSURE, ROADWAY PLANS, AND SHEETS TMP-10, 11, 12, & 14, PERFORM THE FOLLOWING:

- INSTALL ALL DETOUR SIGNS, COVER EXISTING/CONFLICTING ROUTE SIGNS, AND CLOSE -RAMPA- & -LOOPA- TO TRAFFIC.
- ADJUST TEMPORARY PAVEMENT MARKINGS ON I-77 NB (TIE TO EXISTING), REMOVE ANCHORED PCB INSTALLED ON I-77 NB OUTSIDE AND INSTALL UNANCHORED PCB ON I-77 NB OUTSIDE TOWARDS THE OPEN TRAVEL LANES AS SHOWN ON TMP-11.
- AWAY FROM TRAFFIC, COMPLETE CONSTRUCTION, INCLUDING DRAINAGE, AND PLACE TEMPORARY PAVEMENT MARKINGS IN THE FINAL TRAFFIC PATTERN ON THE FOLLOWING LOCATIONS:
 - * PROPOSED -RAMPA- FROM -RAMPA- STA. 10+00 +/- TO -RAMPA- STA. 16+80 +/-.
 - * PROPOSED -LOOPA- FROM -LOOPA- STA. 10+00 +/- TO -LOOPA- STA. 15+19 +/-.
- BEHIND PCB, PERFORM THE FOLLOWING:
 - * CONSTRUCT PROPOSED SHOULDER WIDENING ON I-77 NB.
 - * WEDGE TO PROPOSED, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
 - * INSTALL PROPOSED GUARDRAIL ON I-77 NB OUTSIDE.
- REMOVE PCB FROM I-77 NB, OPEN I-77 -RAMPA- & -LOOPA- TO TRAFFIC AND REMOVE DETOUR SIGNAGE.
- USING LANE CLOSURES AS NEEDED, REMOVE CONFLICTING PAVEMENT MARKINGS AND INSTALL TEMPORARY PAVEMENT MARKINGS IN THE FINAL PATTERN AS SHOWN ON THE PAVEMENT MARKING PLANS.

STEP 2:

USING LANE CLOSURE, ROADWAY PLANS, AND SHEETS TMP-10, 11 & 12, PERFORM THE FOLLOWING:

- REMOVE EXISTING BRIDGE AND APPROACHES ON US 21 BUS.
- USE OVERNIGHT CLOSURES FOR I-77 FROM 12:00 AM TO 5:00 AM, RSD 1101.03 (7 OF 9), AND TMP-15 DURING OVERHEAD BRIDGE WORK.
- REMOVE EXISTING -RAMP A-, -LOOP A-, AND -LOOP D-.
- REMOVE ANY REMAINING TEMPORARY SHORING.
- RETURN TRAFFIC TO THE ORIGINAL TRAFFIC PATTERN ON I-77.

STEP 3:

USING LANE CLOSURE OR ROAD CLOSURE, MOVING OPERATION CARAVAN, ROADWAY PLANS, AND FINAL PAVEMENT MARKING PLANS, PERFORM THE FOLLOWING:

- PLACE FINAL LAYER OF SURFACE COURSE, FINAL PAVEMENT MARKINGS ON ALL ROADS WITHIN THE PROJECT LIMITS.
- REMOVE REMAINING TRAFFIC CONTROL DEVICES AND OPEN ALL ROAD TO PROPOSED TRAFFIC PATTERNS.

STEP 2 (CONT.):

- BEHIND EXISTING GUARDRAIL, INSTALL TEMPORARY SHORING ON US 21 BUS AS FOLLOWS:
 - * SHORING #3: (27.5'RT) FROM -L- STA. 26+16 +/- TO -L- STA. 26+93 +/-
 - * SHORING #4: (24.5'RT) FROM -L- STA. 26+11 +/- TO -L- STA. 26+93 +/-
 - * SHORING #5: (27.5'RT) FROM -L- STA. 29+23 +/- TO -L- STA. 30+07 +/-
 - * SHORING #6: (24.5'RT) FROM -L- STA. 29+23 +/- TO -L- STA. 30+26 +/-
- ON I-77 SB, CONSTRUCT AS MUCH DRAINAGE AS POSSIBLE, INCLUDING (AT A MINIMUM) DRAINAGE STRUCTURES 0539, 0540, 0541, 0542, 0550, & CONNECTING PIPES.
- ON I-77 NB, CONSTRUCT AS MUCH DRAINAGE AS POSSIBLE, INCLUDING (AT A MINIMUM) DRAINAGE STRUCTURES 0546, 0547, 0548, 0552, & CONNECTING PIPES.
- CONSTRUCT RETAINING WALLS & ONE FACE PROPOSED BARRIER ON I-77 (-Y3-).
- CONSTRUCT FOOTING AND PROPOSED MEDIAN GUARDRAIL AT -Y3- STA. 15+50.

STEP 3:

- AWAY FROM TRAFFIC, CONSTRUCT -L- FROM -L- STA. 19+50 +/- TO -L- STA. 36+00 +/- UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE AS WELL AS PROPOSED GUARDRAIL AND DRAINAGE.
- CONSTRUCT PROPOSED BRIDGE, USE OVERNIGHT CLOSURES FOR I-77 FROM 12:00 AM TO 5:00 AM, RSD 1101.03 (7 OF 9), AND TMP-16 DURING OVERHEAD BRIDGE WORK.

PHASE II

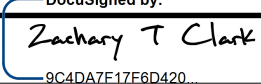
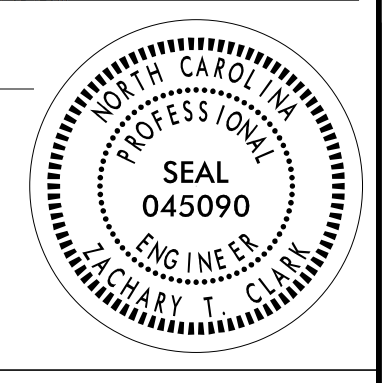

THE CONTRACTOR SHALL COMPLETE THE WORK REQUIRED ON PHASE II STEP 1 IN EIGHTY-FIVE (85) CONSECUTIVE CALENDAR DAYS.

STEP 1:

USING LANE CLOSURE, ROADWAY PLANS, SHEETS TMP-7, 8, 9, & 13, PERFORM THE FOLLOWING:

- INSTALL ALL DETOUR SIGNS, COVER EXISTING/CONFLICTING ROUTE SIGNS, AND CLOSE -RAMPD- AND -LOOPD- TO TRAFFIC.
- ADJUST TEMPORARY PAVEMENT MARKINGS (TIE TO EXISTING) AND REMOVE ANCHORED PCB INSTALLED ON I-77 SB OUTSIDE AND INSTALL UNANCHORED PCB TOWARDS THE OPEN TRAVEL LANES AS SHOWN ON TMP-8.
- PLACE TEMPORARY PAVEMENT MARKING FROM -L- STA. 19+50 +/- TO -L- STA. 36+00 +/-.
- INSTALL ALL SIGNING FOR THE NEW TRAFFIC PATTERN ON -L-.
- SHIFT US 21 BUS. (-L-) TRAFFIC TO THE NEW CONSTRUCTED ALIGNMENT.
- INSTALL PROPOSED GUARDRAIL ON -L- AS SHOWN ON TMP-7.
- USING LANE CLOSURES AND FLAGGERS AS NEEDED, WEDGE UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE AND PLACE TEMPORARY PAVEMENT MARKINGS (TIE TO EXISTING) IN THE FOLLOWING LOCATIONS:
 - * -L- FROM -L- STA. 10+50 +/- TO -L- STA. 19+50 +/-, AND FROM -L- STA. 36+00 +/- TO -L- STA. 41+50 +/-.
 - * -Y1- BENTON RD.
 - * -Y2- WILKINS RD.
- AWAY FROM TRAFFIC, COMPLETE CONSTRUCTION AND PLACE TEMPORARY PAVEMENT MARKINGS IN THE FINAL TRAFFIC PATTERN ON THE FOLLOWING LOCATIONS:
 - * PROPOSED -RAMPD- FROM -RAMPD- STA. 10+00 +/- TO -RAMPD- STA. 22+39 +/-.
 - * PROPOSED -LOOPD- FROM -LOOPD- STA. 10+00 +/- TO -LOOPD- STA. 19+40 +/-.
- BEHIND PCB, PERFORM THE FOLLOWING ON I-77:
 - * CONSTRUCT REMAINING PROPOSED DRAINAGE ON I-77 SB & I-77 NB.
 - * CONSTRUCT PROPOSED SHOULDER WIDENING ON I-77 SB.
 - * WEDGE TO PROPOSED, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
 - * REPLACE PREVIOUSLY REMOVED GUARDRAIL FROM -Y3- STA. 11+00 +/- TO -Y3- STA. 11+93 +/- AND INSTALL PROPOSED GUARDRAIL FROM -Y3- STA. 11+93 +/- TO -Y3- STA. 15+00 +/-.
- REMOVE PCB FROM I-77 SB, OPEN I-77 -RAMPD- & -LOOPD- TO TRAFFIC AND REMOVE DETOUR SIGNAGE.
- USING LANE CLOSURES AS NEEDED, REMOVE CONFLICTING PAVEMENT MARKINGS AND INSTALL TEMPORARY PAVEMENT MARKINGS IN THE FINAL PATTERN AS SHOWN ON THE PAVEMENT MARKING PLANS.

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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

PHASING (CONT.)

PROJ. REFERENCE NO.	SHEET NO.
B-5833	TMP-3A

NOTES:

BEFORE BEGINNING ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS AND TRAFFIC CONTROL DEVICES. FIELD VERIFY LOCATIONS WITH THE RESIDENT ENGINEER PRIOR TO INSTALLATION.

MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES DURING THE LIFE OF THE CONTRACT, UNLESS OTHERWISE NOTED IN THE PHASING PLANS OR DIRECTED BY THE RESIDENT ENGINEER.

COMPLETE ANY PROPOSED OR TEMPORARY WIDENING IN SUCH A MANNER THAT NO PONDING OF WATER WILL OCCUR WITHIN THE TRAVEL LANE.

WHEN USING LANE CLOSURE (1101.02), RETURN TRAFFIC TO EXISTING AND/OR TEMPORARY TRAFFIC PATTERN UPON ACTIVITIES COMPLETION, UNLESS OTHERWISE NOTED IN THE PHASING PLANS.

WHEN PHASING STATES TO USE LANE CLOSURES, REFER TO THE FOLLOWING FOR ALL EXISTING AND PROPOSED ROADS:

- ALL TWO-LANE/TWO-WAY FACILITIES SEE RSD 1101.02 SHEET 1 OF 19.
- ALL 3-LANE ROADWAYS SEE RSD 1101.02 SHEET 2 OF 19.
- ALL MULTI-LANE FACILITIES SEE RSD 1101.02 SHEETS 3 & 4 OF 19.
- ALL ENTRANCE AND EXIT RAMPS SEE RSD 1101.02 SHEETS 10 & 11 OF 19.

FOR ANY OPERATION DURING THE CONSTRUCTION OF PROPOSED BRIDGE REQUIRES STOPPING TRAFFIC ON I-77, USE RSD 1101.03 SHEET 7 OF 9 FOR ALL EXIT CONDITION AND SHEET TMP-16 FOR OFFSITE DETOUR ROUTE and SIGNING.

COMPLETE PAVING UP TO, BUT NOT INCLUDING, THE FINAL LAYER OF SURFACE COURSE UNTIL STATED TO PLACE FINAL LAYER IN THE PHASING PLANS.

WHEN WEDGING OVER EXISTING PAVEMENT, WEDGE TO PROPOSED ELEVATION (LESS THE FINAL LAYER OF SURFACE COURSE), OR WEDGE AS NEEDED TO MAINTAIN TRAFFIC AND MAINTAIN POSITIVE DRAINAGE.

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.

FOR ALL SHOULDER CLOSURES, SEE RSD 1101.04. WHEN PORTABLE CONCRETE BARRIER (PCB) IS PRESENT ON SHOULDERS, PLACE SHOULDER CLOSURE SIGNS & DEVICES IN ADVANCE OF PCB.

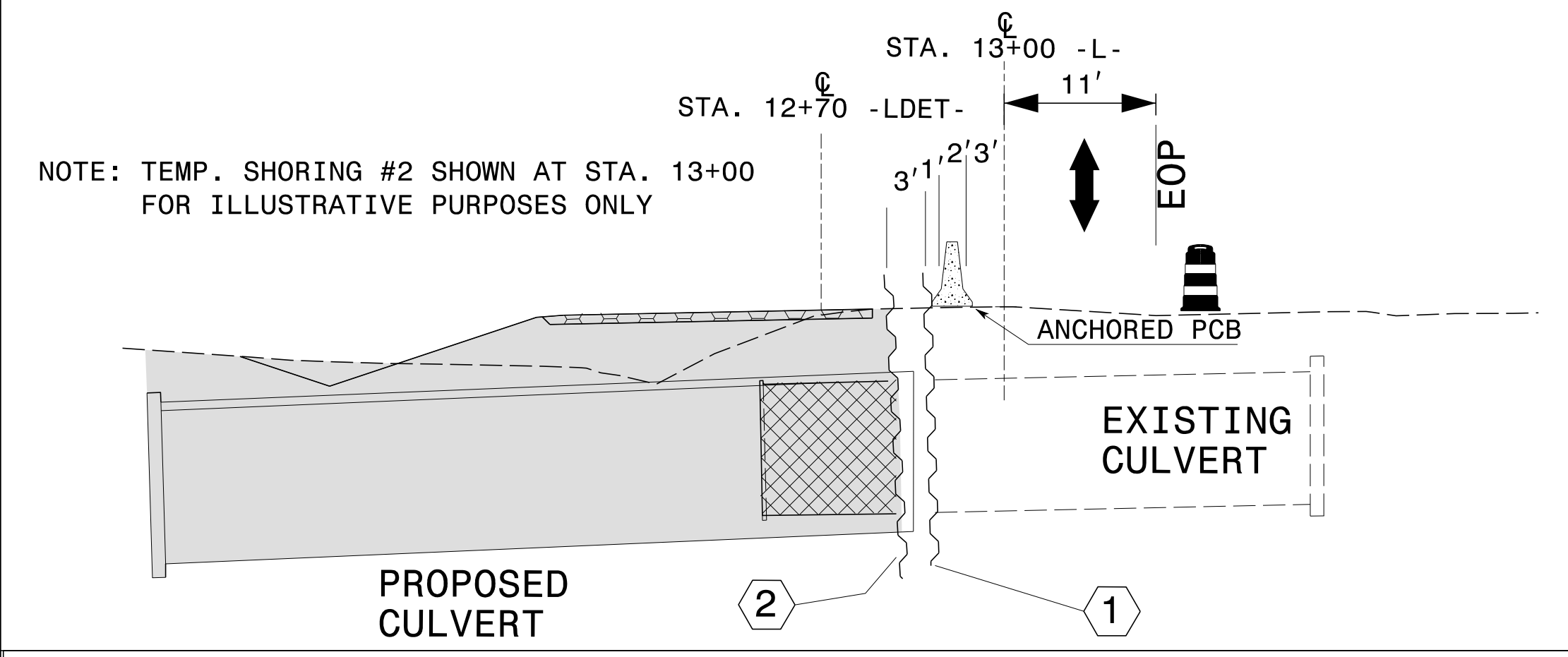
UTILIZE SLOTTED PORTABLE CONCRETE BARRIER (PCB) TO FACILITATE TEMPORARY DRAINAGE.

USE SEQUENTIAL FLASHING WARNING LIGHTS ON DRUMS USED FOR THE MERGING TAPERS OF NIGHTTIME LANE CLOSURES ON I-77 IN ACCORDANCE WITH SECTION 1140 IN THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

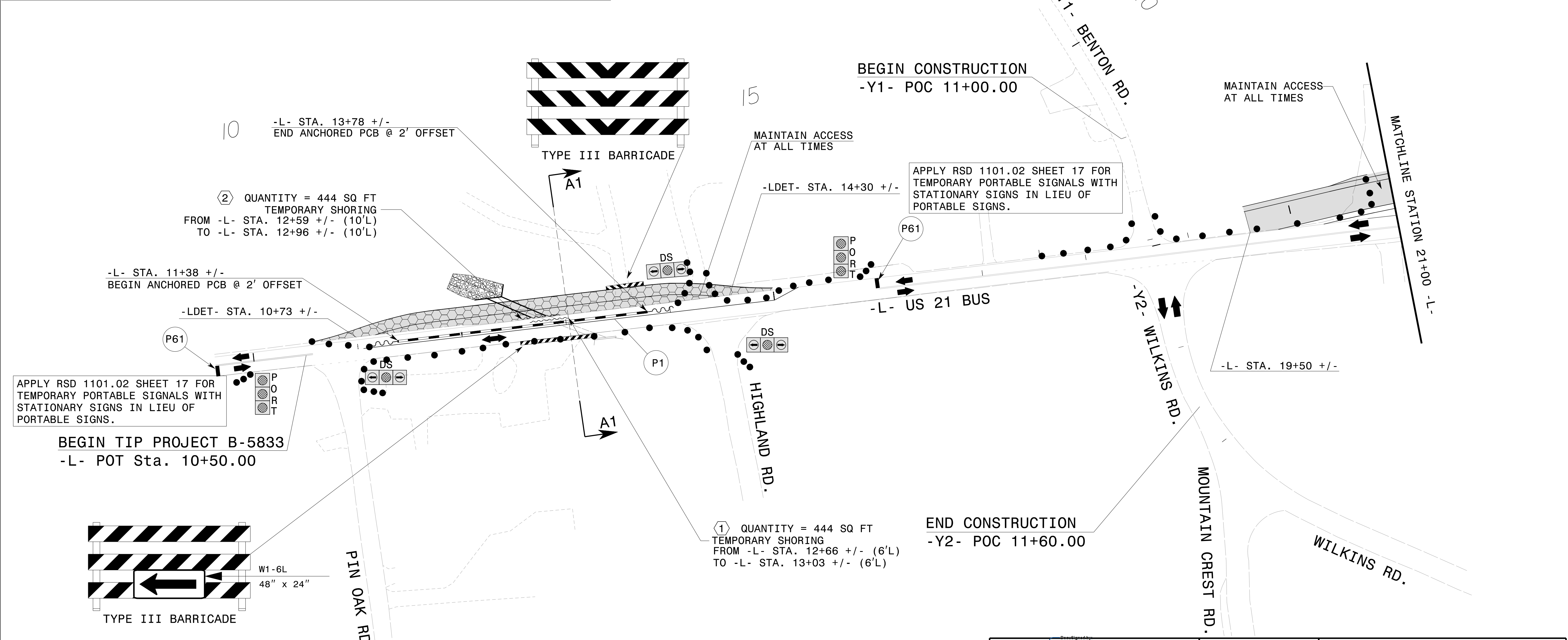
USE THE CONNECTED LANE CLOSURE SYSTEM FOR ALL LANE CLOSURES ON I-77. SEE PROJECT SPECIAL PROVISIONS.

3/3/2026
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User: drudley

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SEAL			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

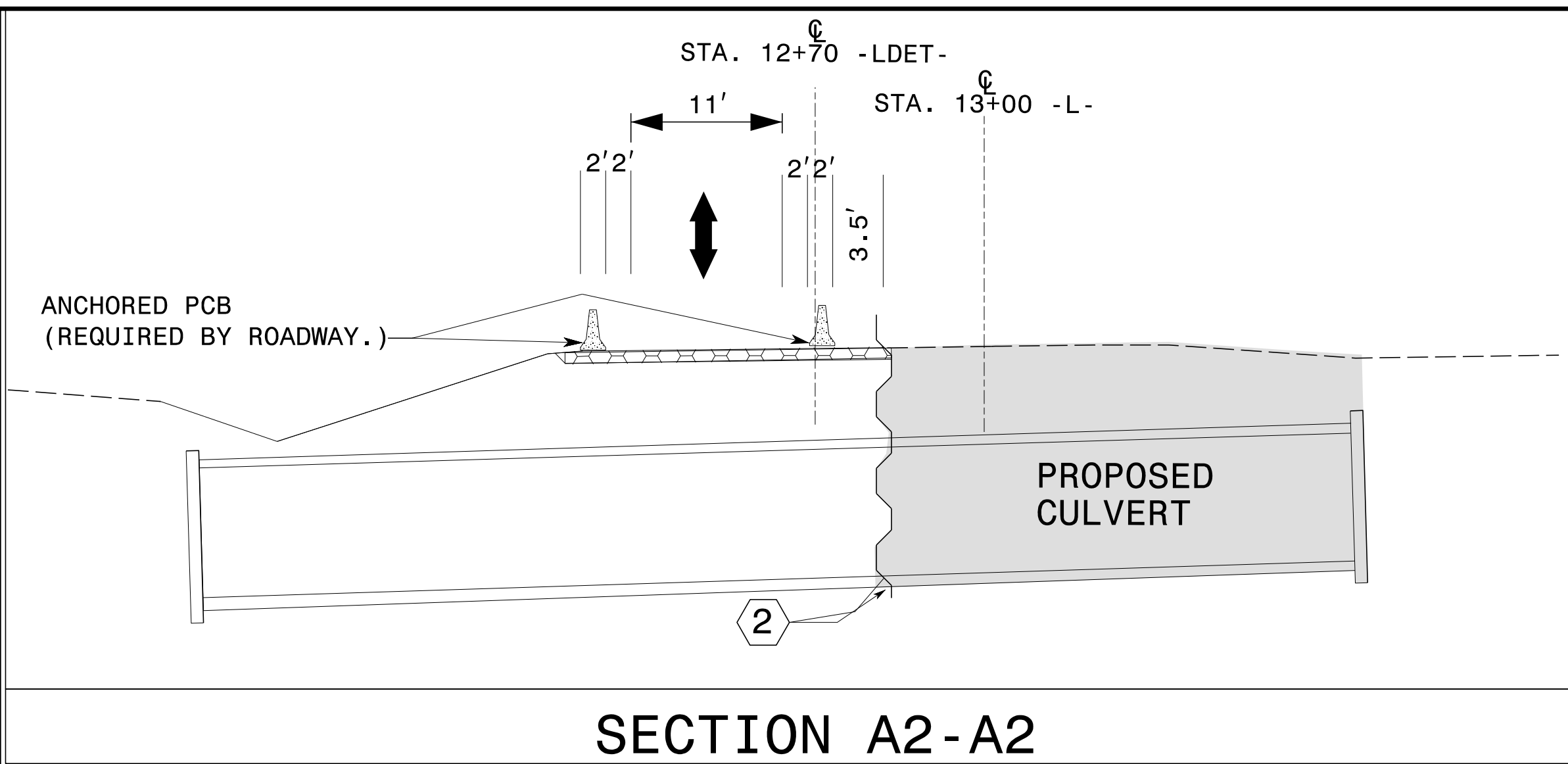


SECTION A1-A1 (PHASE I)

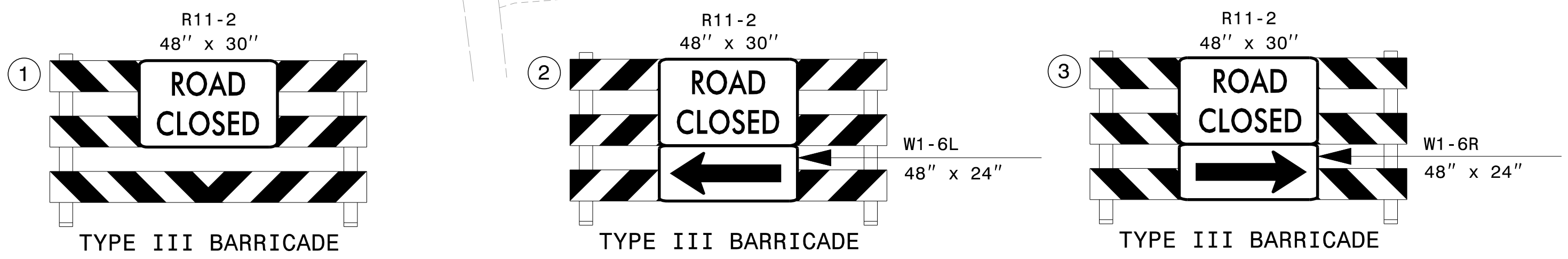
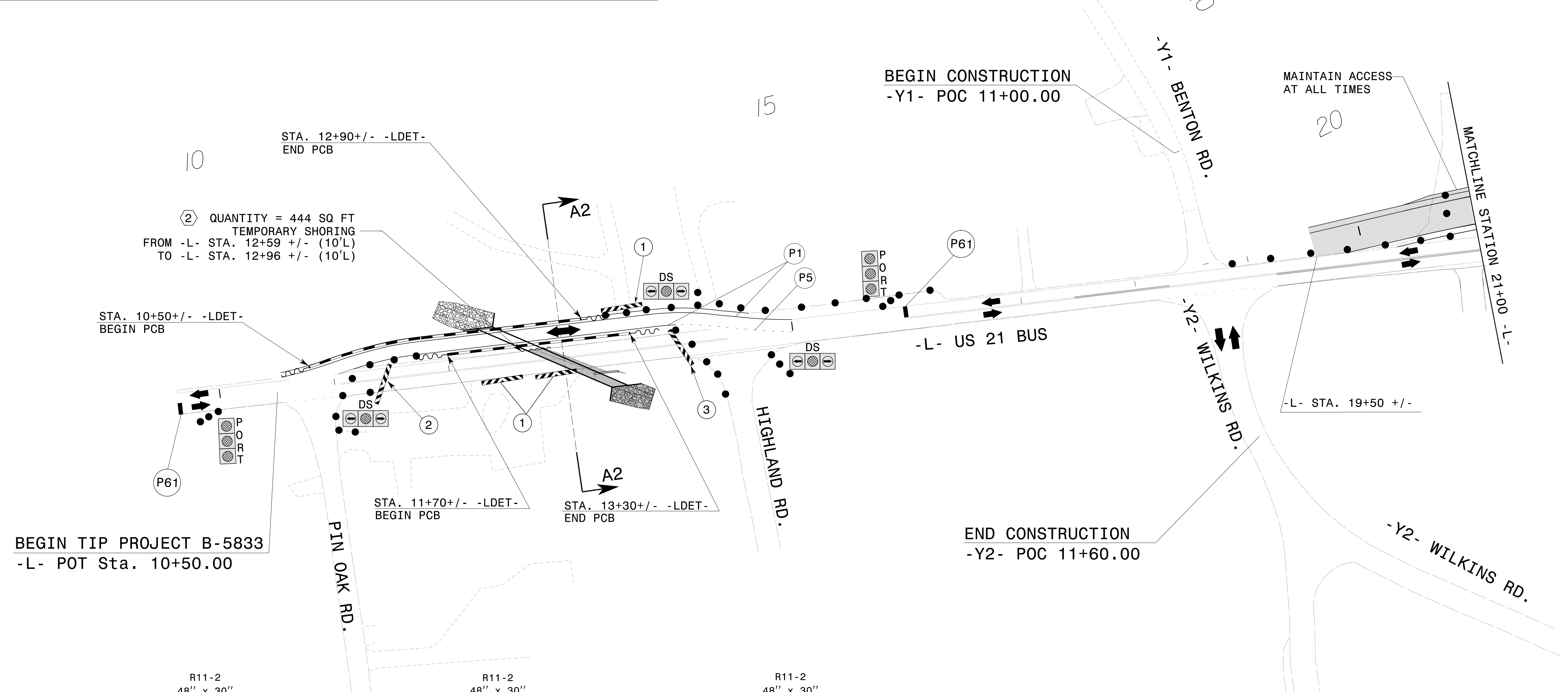


3/2/2026
 P:\TIP\Projects-B\B5833\TrafficControl\TCP\01d\B-5833_TC_TMP_04.dgn
 User:rdudley

APPROVED: <i>Zachary T. Clark</i> <small>9C4DA7F7F60420...</small> DATE: 03/05/2026 SEAL			PHASE I STEP 1A DETAILS
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



SECTION A2-A2

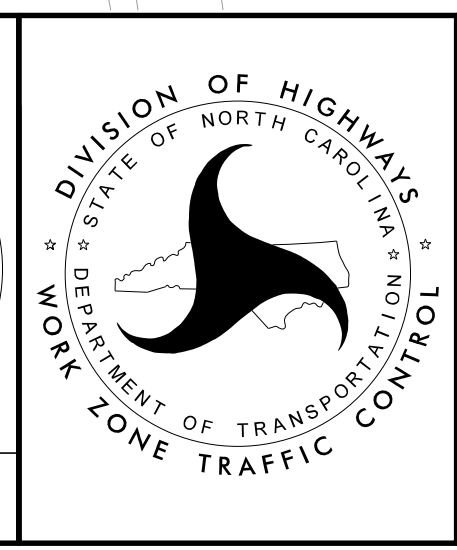


APPROVED: *Zachary T. Clark*
SC4047/17/FG0420

DATE: 03/05/2026

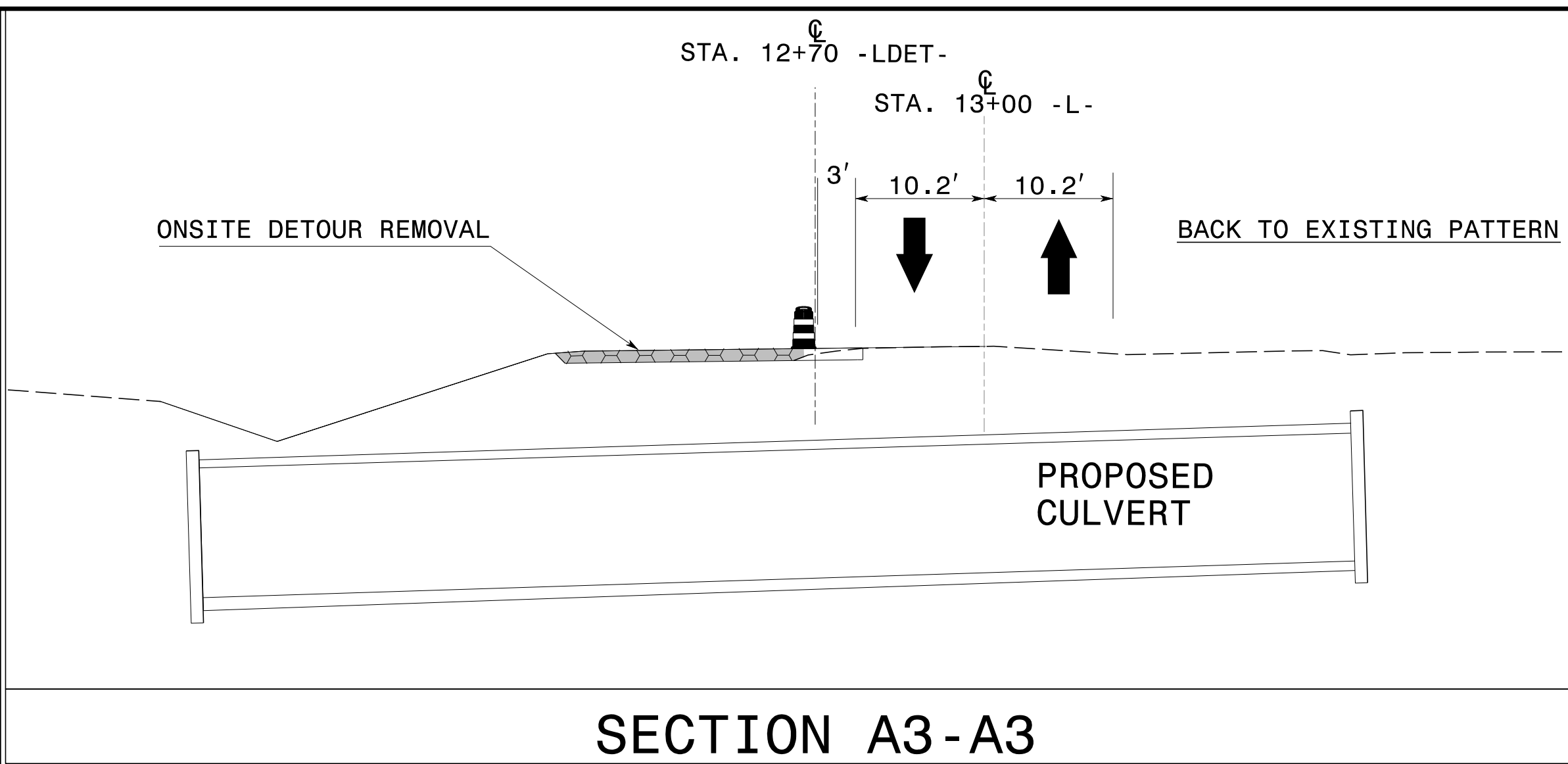
SEAL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

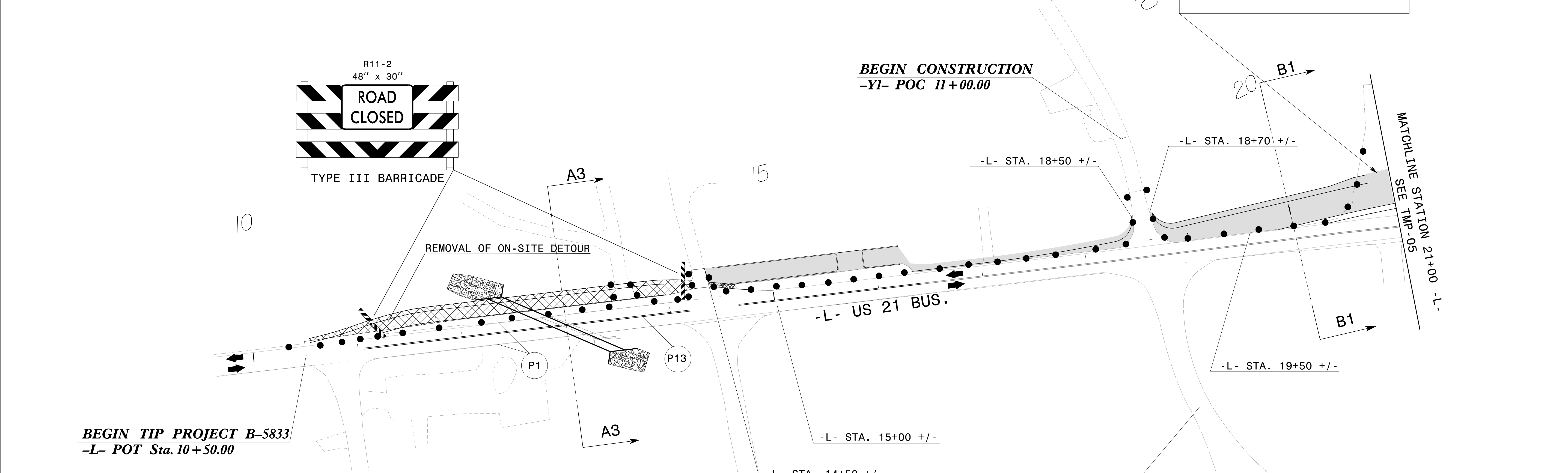


PHASE I STEP 1B
DETAILS

3/2/2026
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 User: drudley

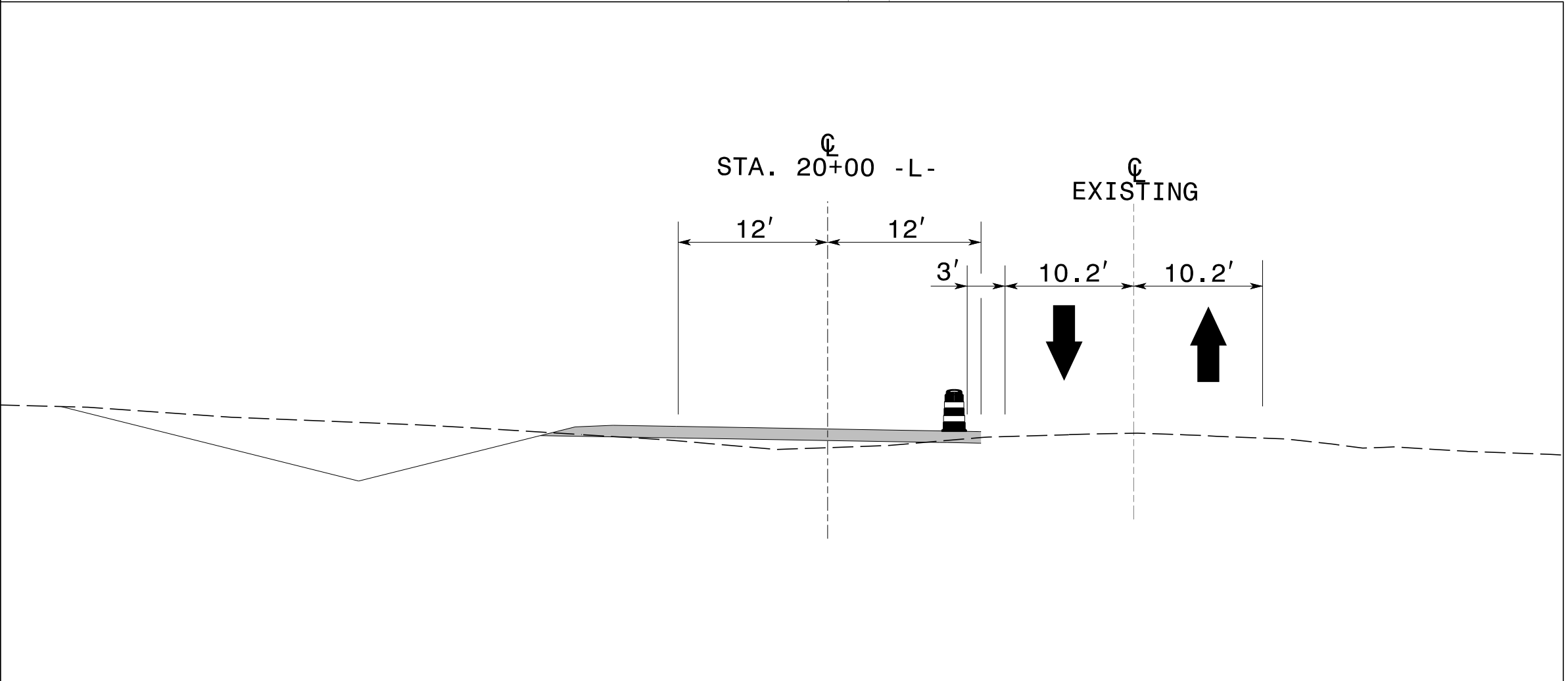


SECTION A3-A3



BEGIN TIP PROJECT B-5833
-L- POT Sta. 10+50.00

END CONSTRUCTION
-Y2- POC 11+60.00



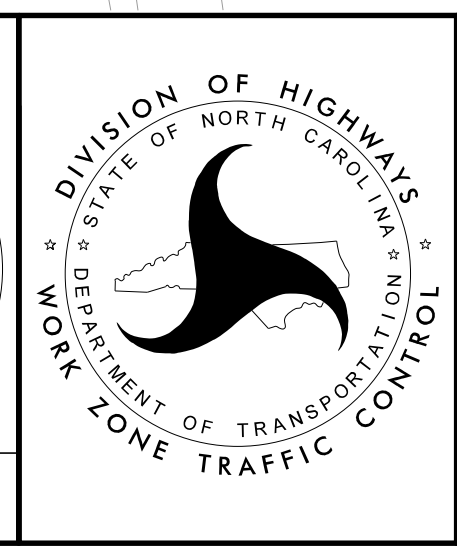
SECTION B1-B1

3/2/2026
 P:\TIP\Projects-B\B5833\TrafficControl\TCP\01d\B-5833_1C_TMP_04B.dgn
 User:drudley

APPROVED: *Zachary T. Clark*
SC4047/F7760420
 DATE: 03/05/2026

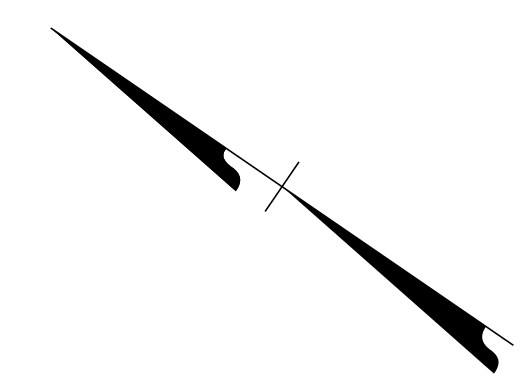
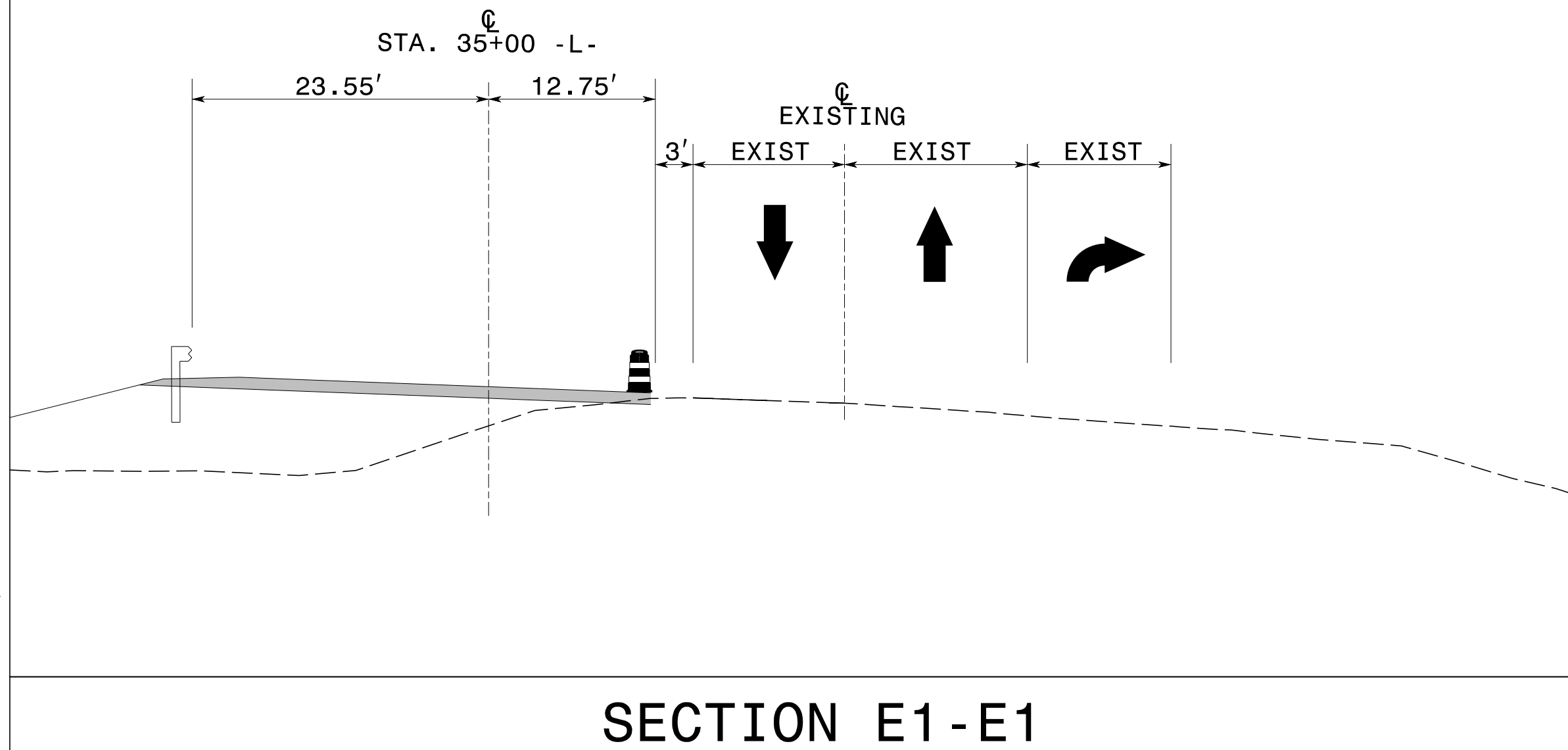
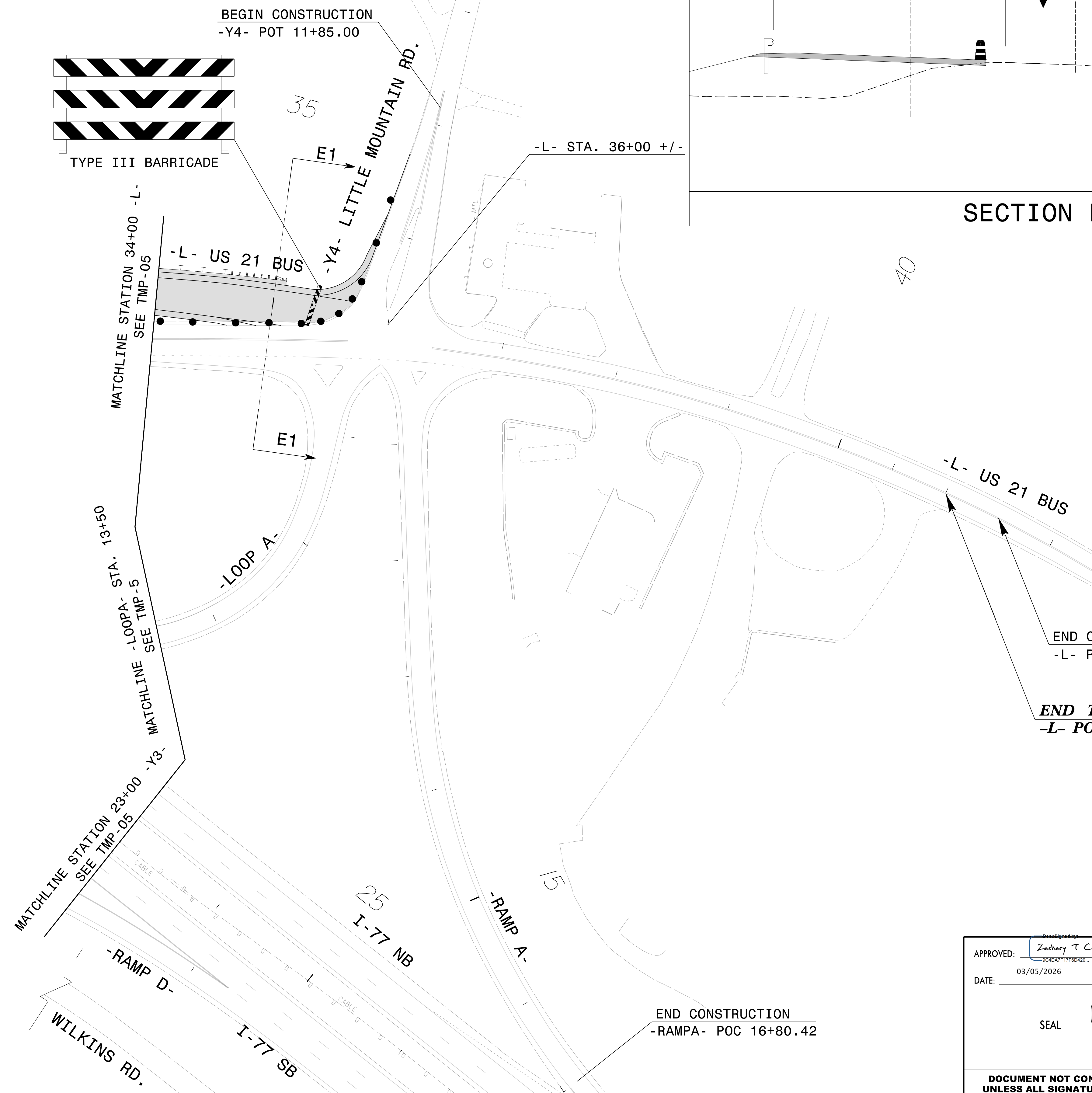
SEAL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



PHASE I STEP 1C
DETAILS

PROJ. REFERENCE NO.	SHEET NO.
B-5833	TMP-6



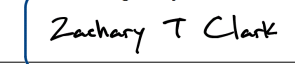
SECTION E1-E1

END CONSTRUCTION
-L- POC 41+50.00


END TIP PROJECT B-5833
-L- POC Sta. 41+00.00

END CONSTRUCTION
-RAMP A- POC 16+80.42

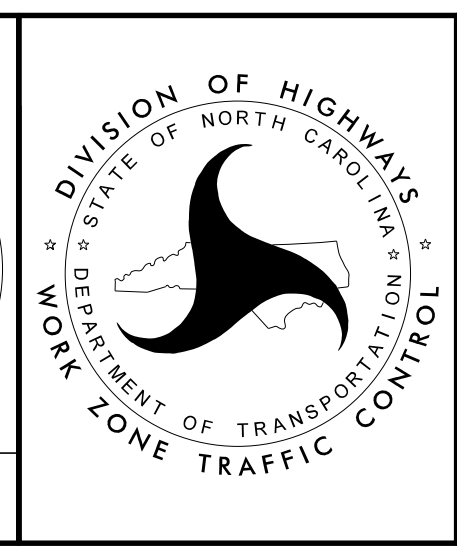
10/2/2024
P:\TIP\Projects-B\B5833\TrafficControl\TCP\01d\B-5833_TC_TMP_06.dgn
User: rfdudley

APPROVED: 
DATE: 03/05/2026

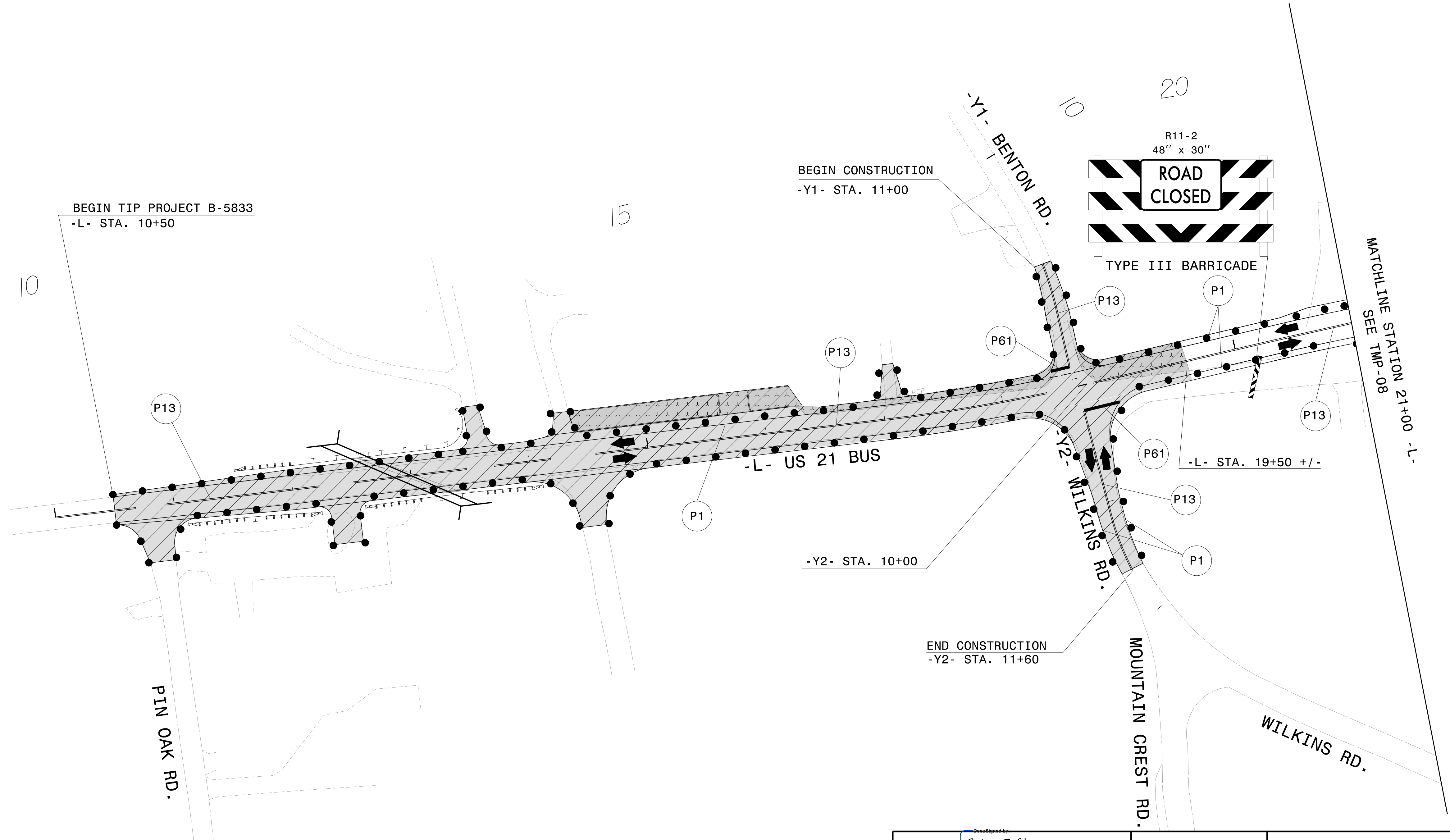
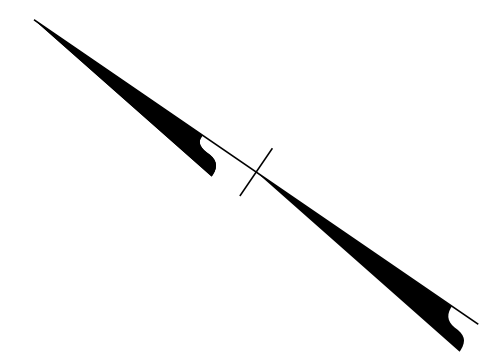
SEAL



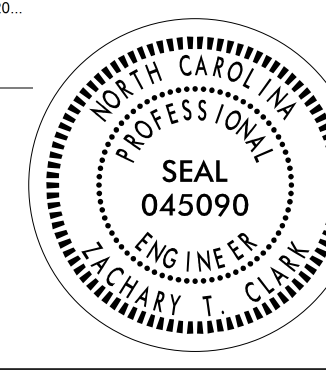
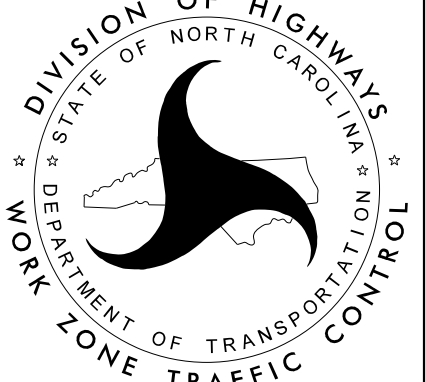
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



**PHASE I STEP 2
DETAILS**

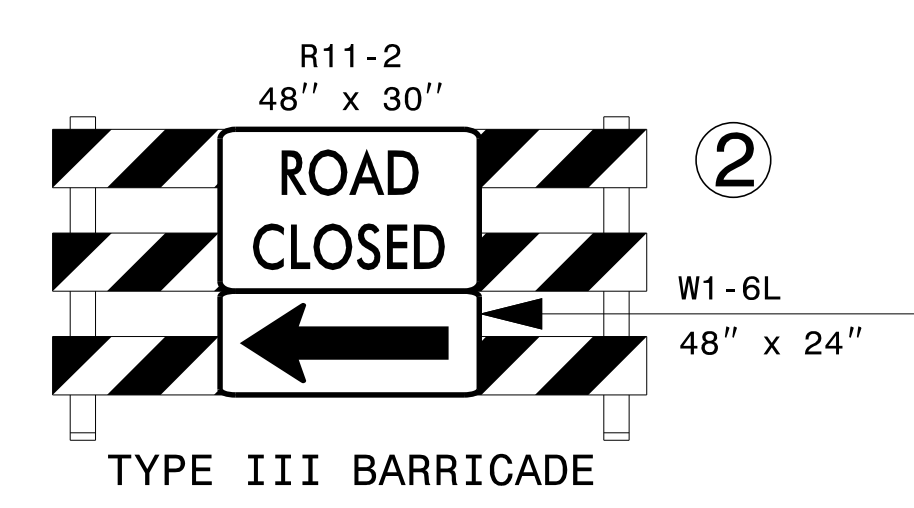
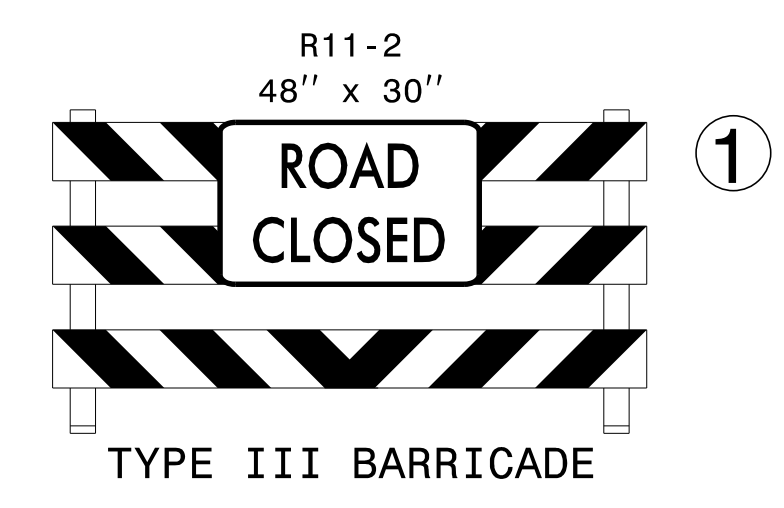
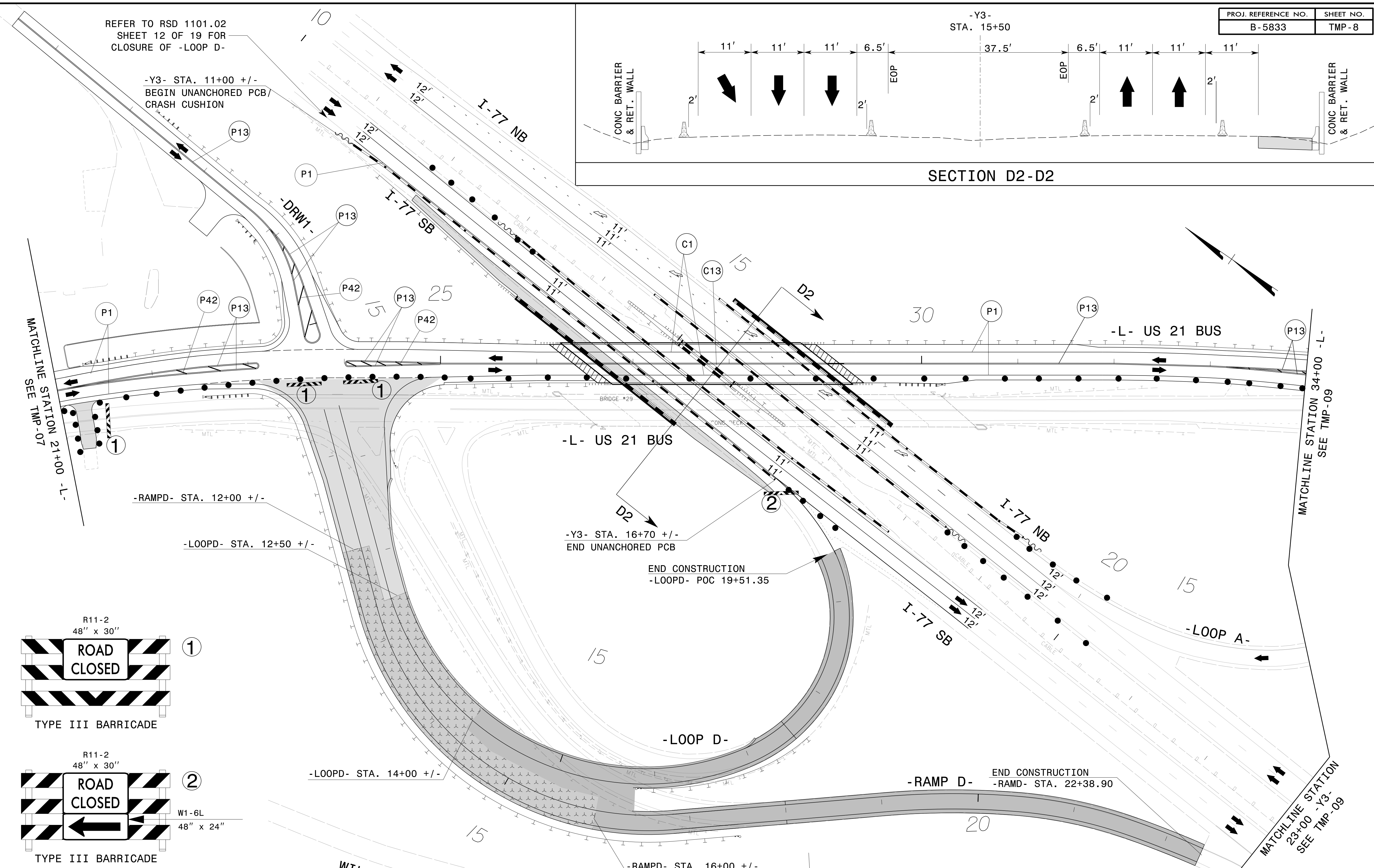
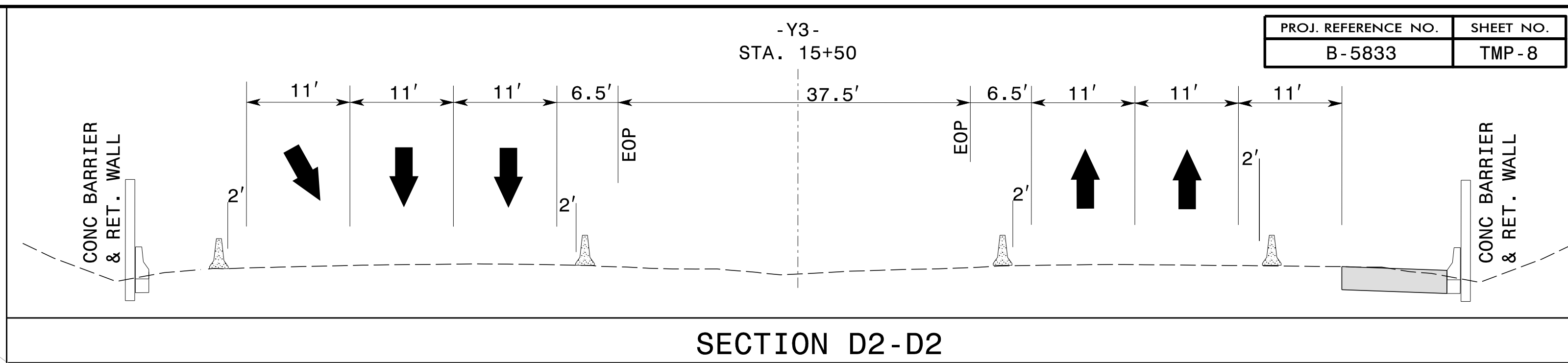


10/2/2024
 P:\TIP\Projects-B\B5833\TrafficControl\TCP\01d\B-5833_TC_TMP_07.dgn
 User: drudley

APPROVED: <i>Zachary T. Clark</i> <small>SC40477766020</small> DATE: 03/05/2026 SEAL 		PHASE II STEP 1 DETAILS
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

REFER TO RSD 1101.02
SHEET 12 OF 19 FOR
CLOSURE OF -LOOP D-

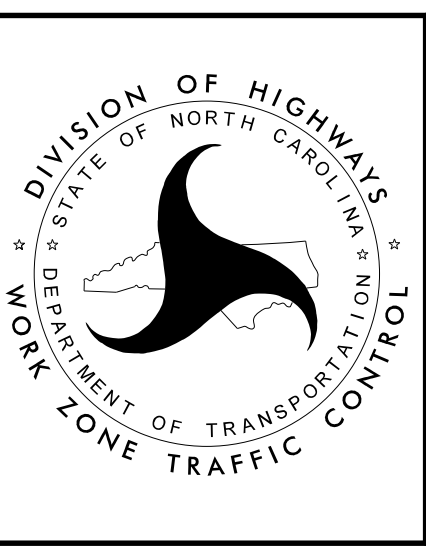
-Y3- STA. 11+00 +/-
BEGIN UNANCHORED PCB/
CRASH CUSHION



SEE SHEET TMP-14 FOR -RAMPD- AND -LOOPD- OFF-SITE DETOUR.

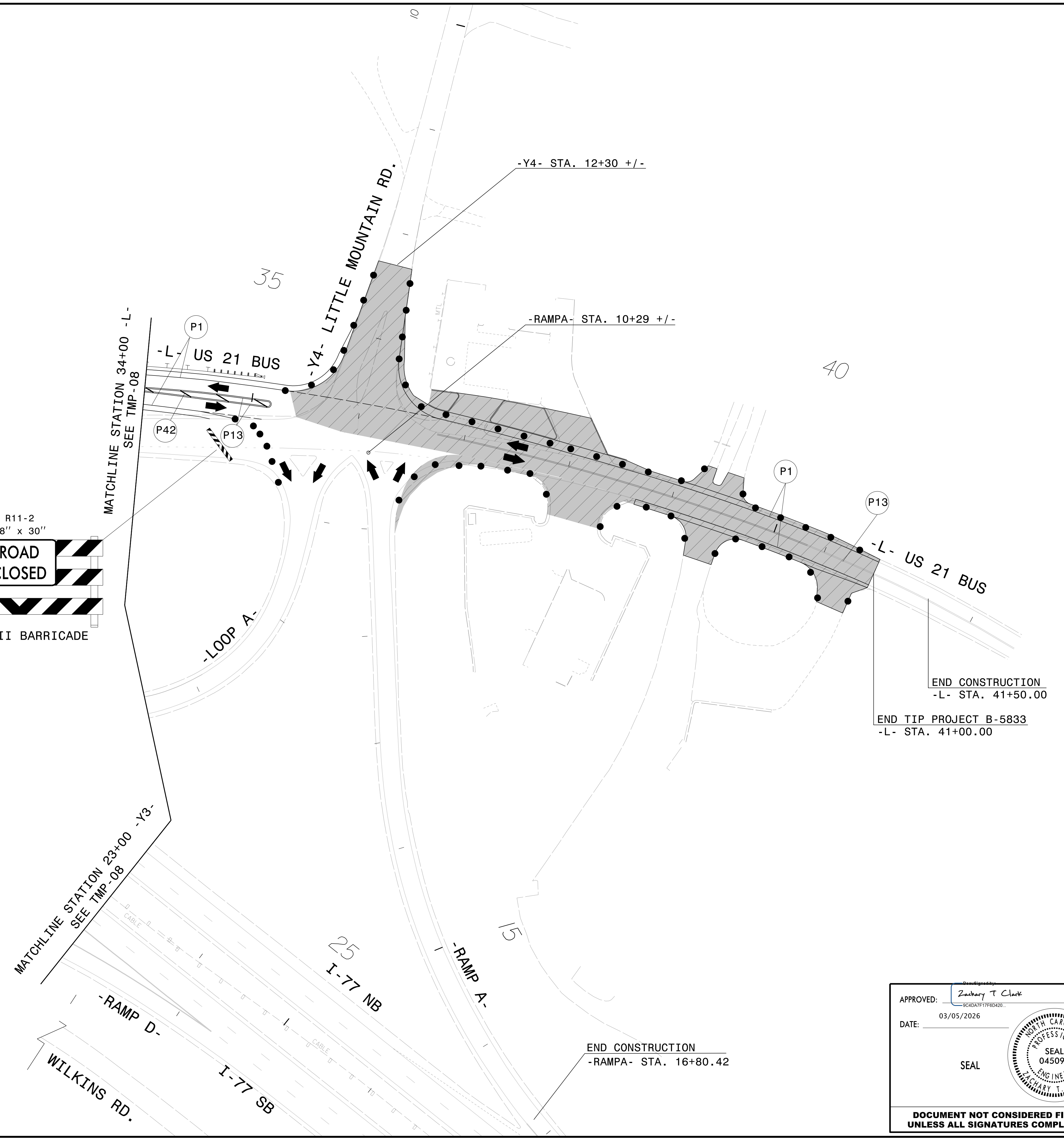
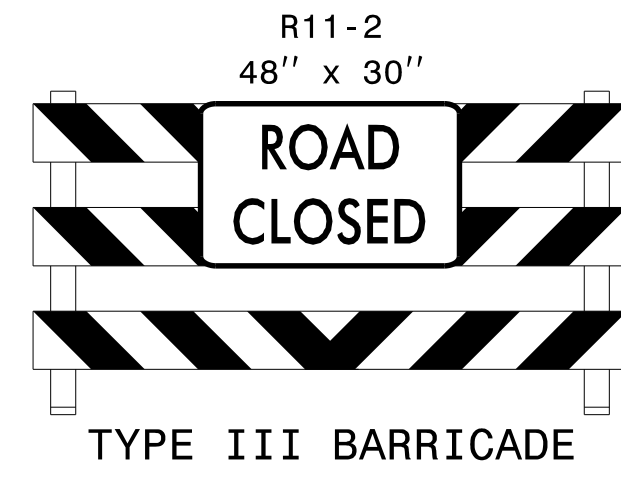
APPROVED: *Zachary T. Clark*
DATE: 03/05/2026

SEAL



PHASE II
DETAILS

3/4/2026
 P:\TIP\Projects-B\B5833\TrafficControl\TCP\01d\B-5833_TC_TMP_08.dgn
 User:rdudley



END CONSTRUCTION
-L- STA. 41+50.00
END TIP PROJECT B-5833
-L- STA. 41+00.00

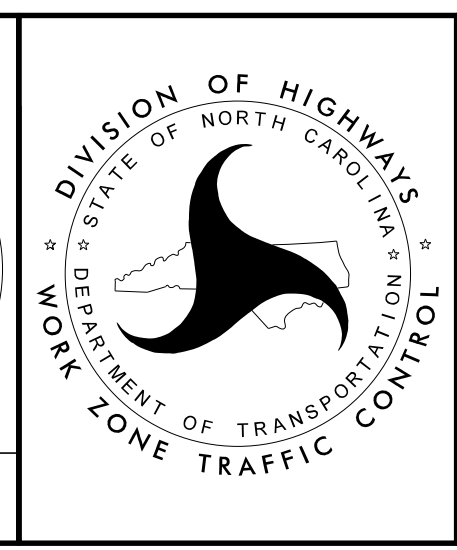
END CONSTRUCTION
-RAMPA- STA. 16+80.42

3/4/2026
 P:\TIP\Projects-B\B5833\TrafficControl\TCP\01d\B-5833_TC_TMP_09.dgn
 User:drudley

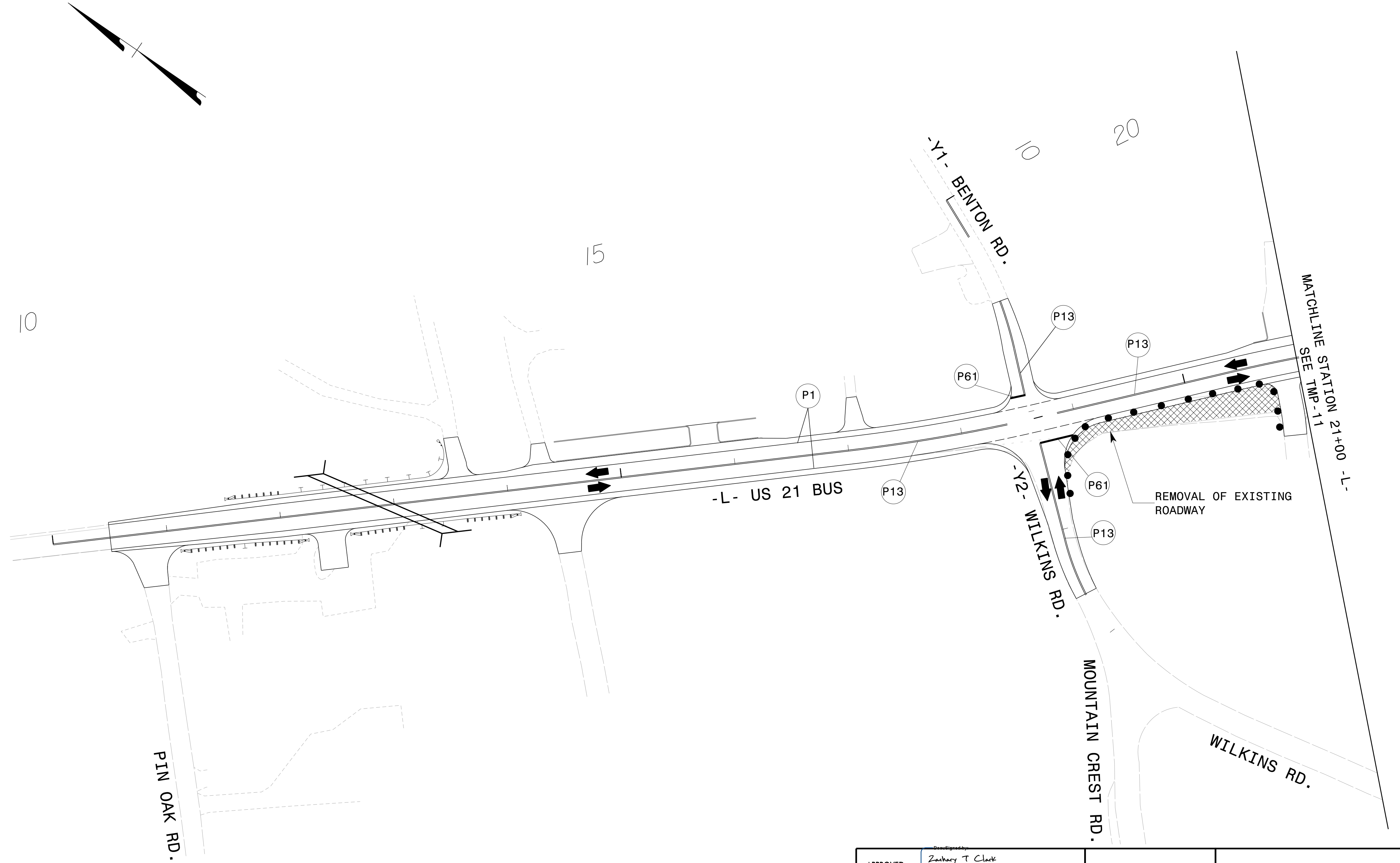
APPROVED: Zachary T. Clark
SC40A717F60420...
 DATE: 03/05/2026

SEAL

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



**PHASE II
DETAILS**

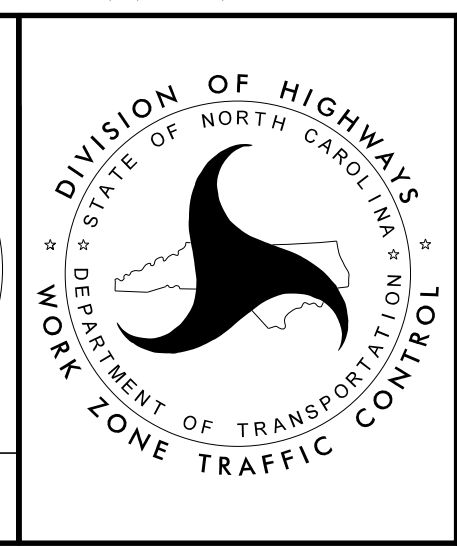


8/28/2024
 P:\TIP\Projects-B\B5833\TrafficControl\TCP\01d\B-5833_TC_TMP_10.dgn
 User: drudley

APPROVED: *Zachary T. Clark*
SC40477760420

DATE: 03/05/2026

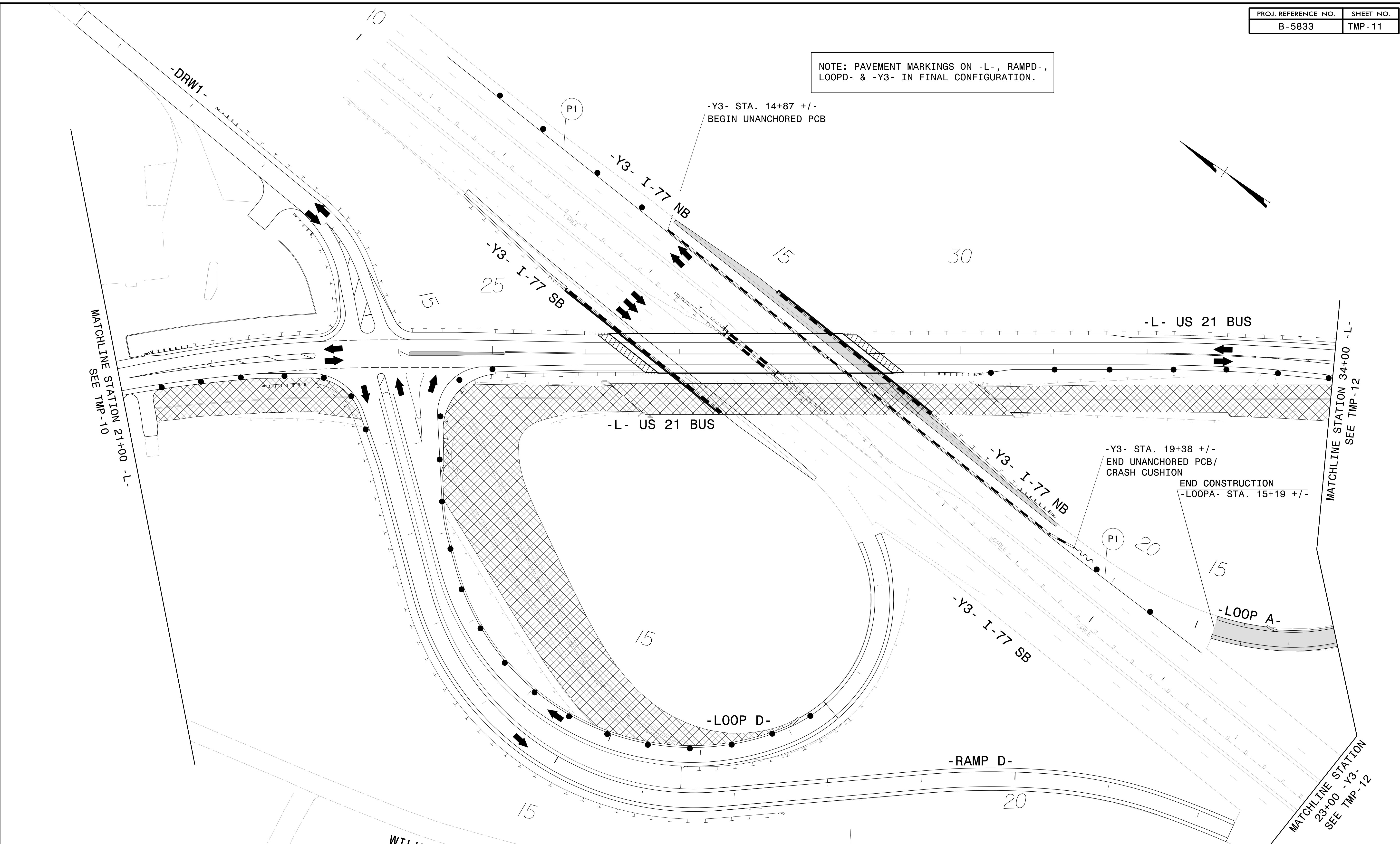
SEAL



**PHASE III
DETAILS**

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

NOTE: PAVEMENT MARKINGS ON -L-, RAMPD-, LOOPD- & -Y3- IN FINAL CONFIGURATION.



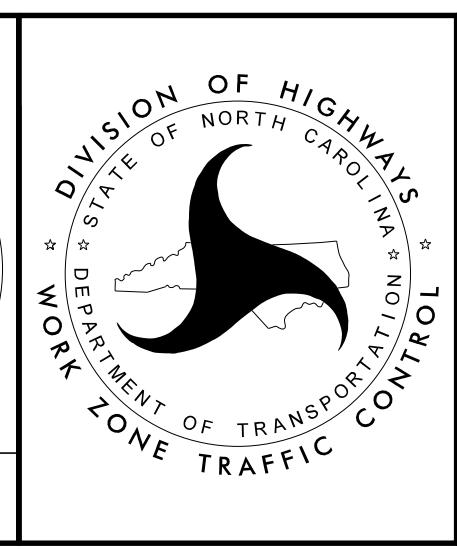
USE SHEET TMP-14 FOR -LOOPD- OFFSITE DETOUR.
 USE SHEET TMP-15 FOR -LOOPA- OFFSITE DETOUR.

APPROVED: *Zachary T. Clark*
SC40477760420

DATE: 03/05/2026

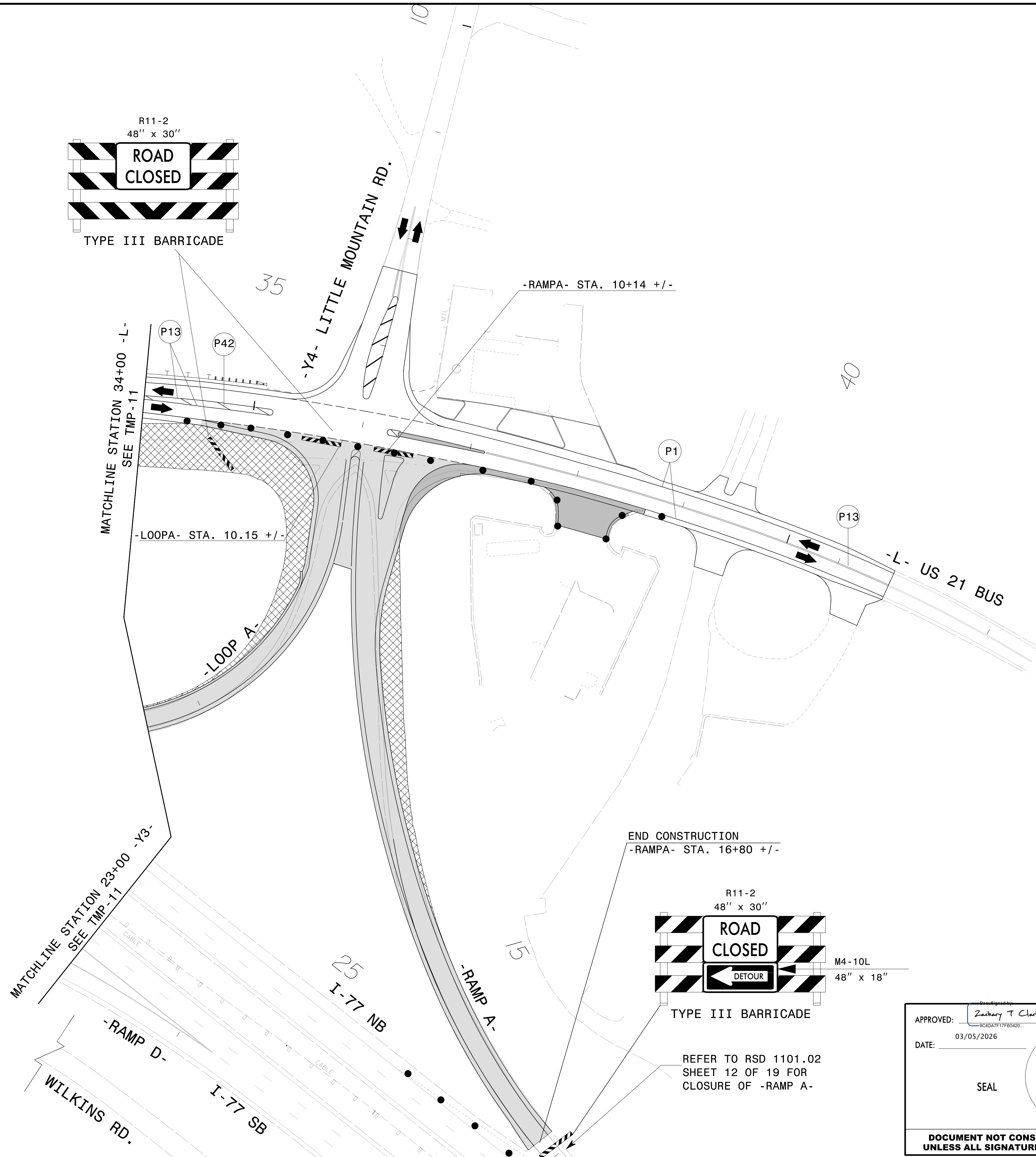
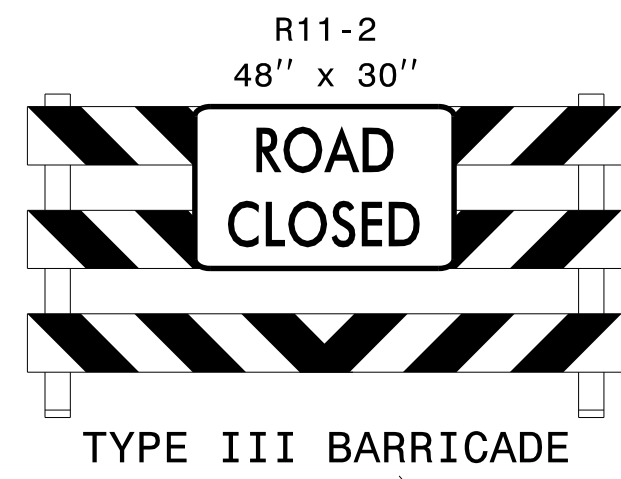
SEAL

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

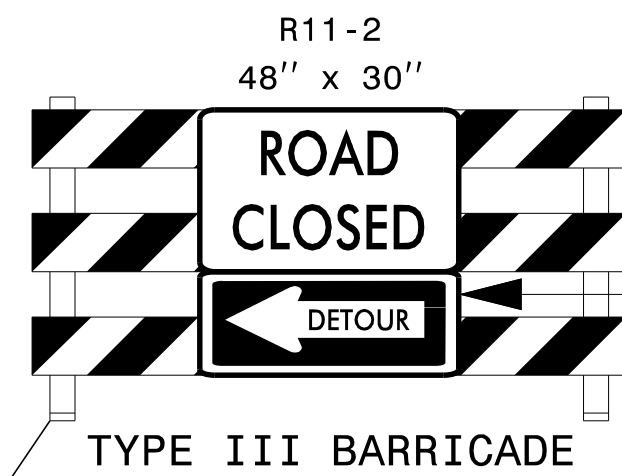


**PHASE III STEPS 1 & 2
 DETAILS**

3/3/2026
 P:\TIP\Projects-B\B5833\TrafficControl\TCP\01d\B-5833_TC_TMP.dgn
 User:drudley



END CONSTRUCTION
-RAMPA- STA. 16+80 +/-



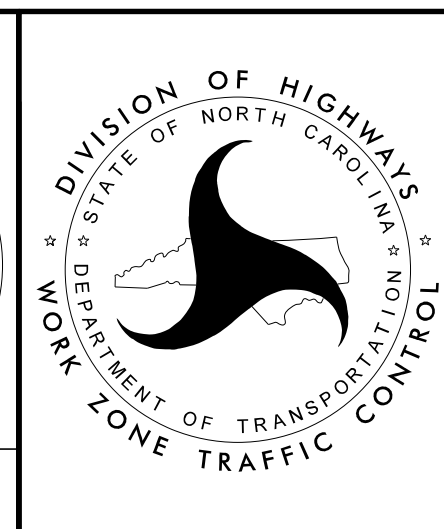
REFER TO RSD 1101.02
SHEET 12 OF 19 FOR
CLOSURE OF -RAMP A-

APPROVED: Zachary T Clark
SC404717760420...

DATE: 03/05/2026

SEAL

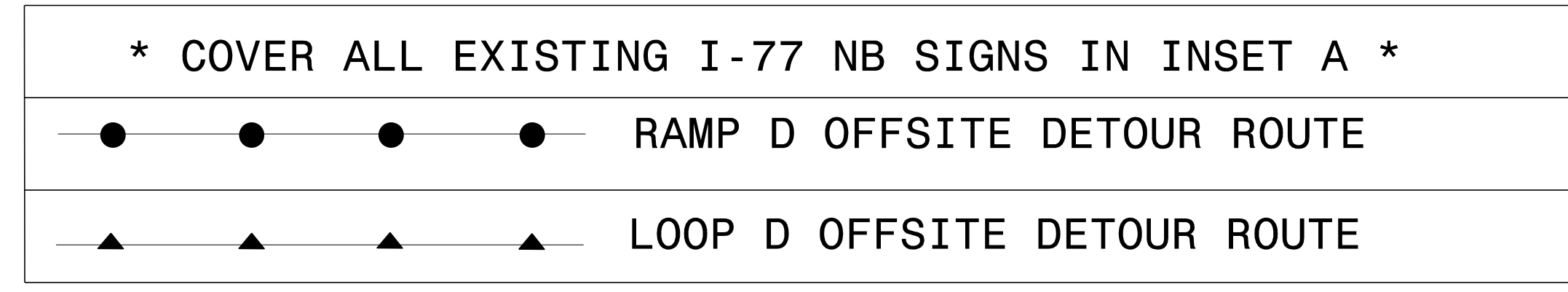
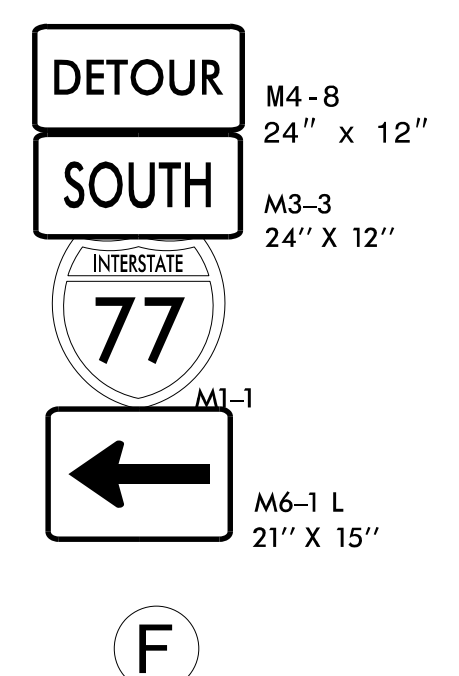
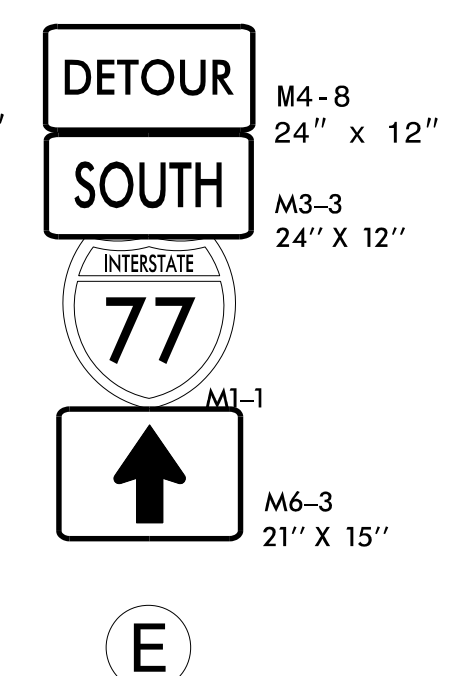
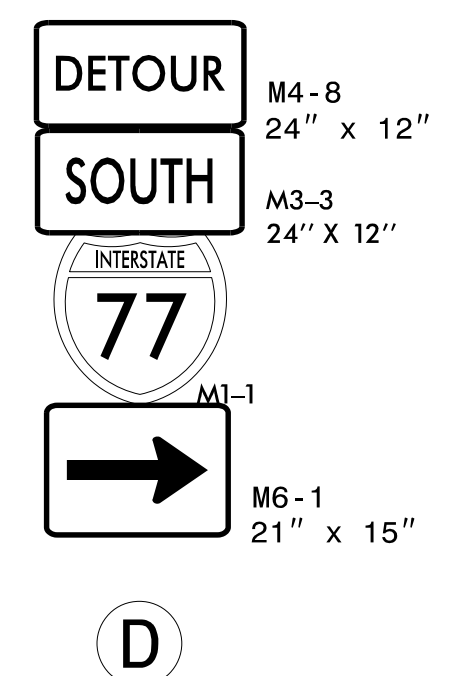
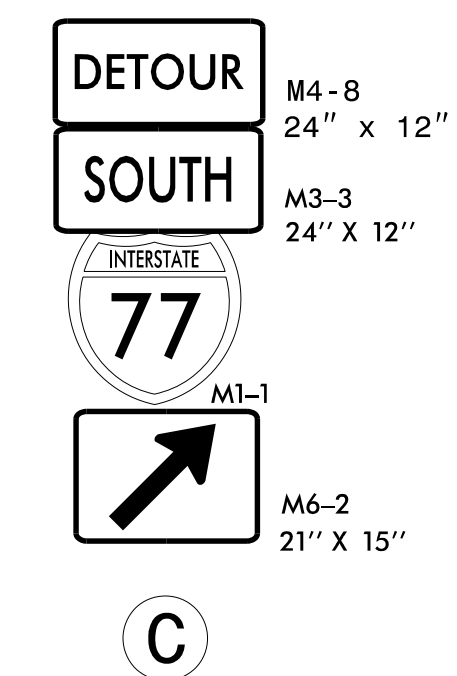
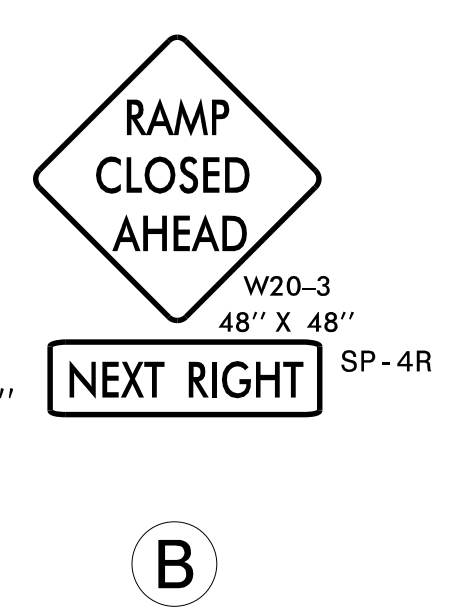
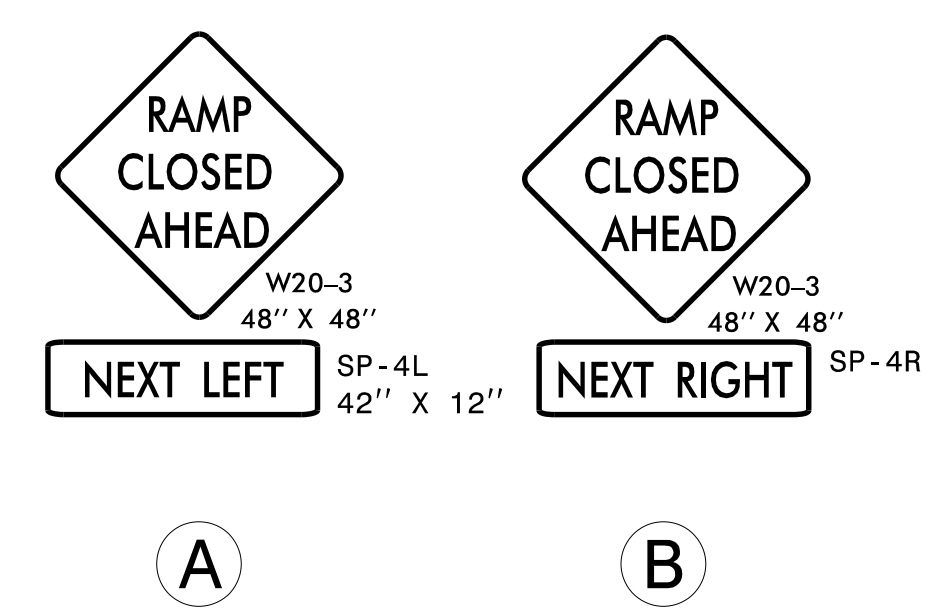
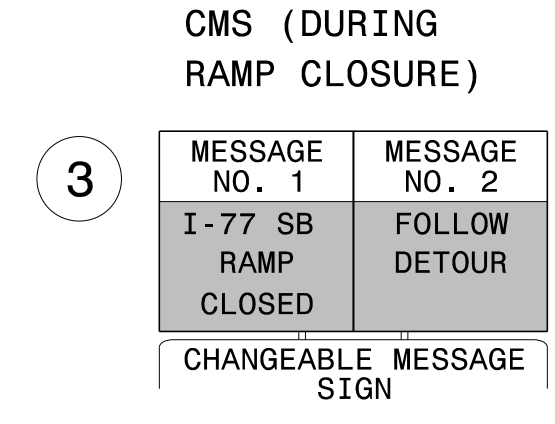
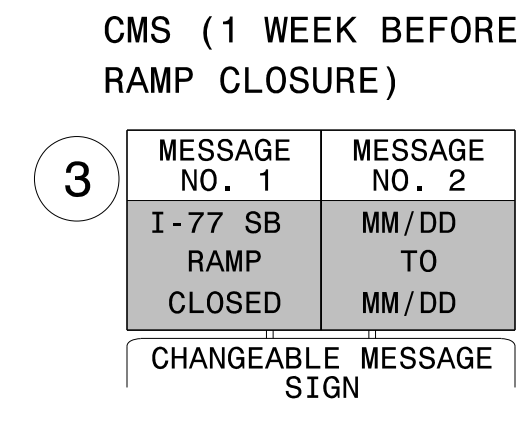
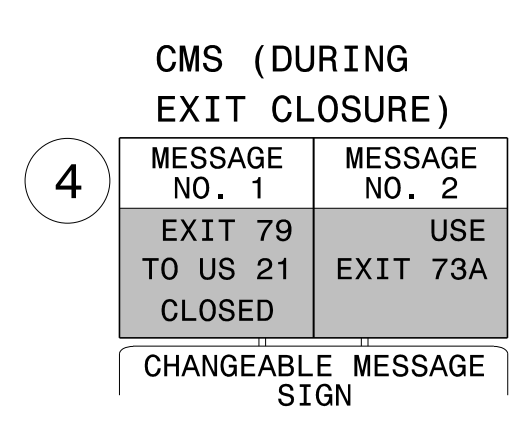
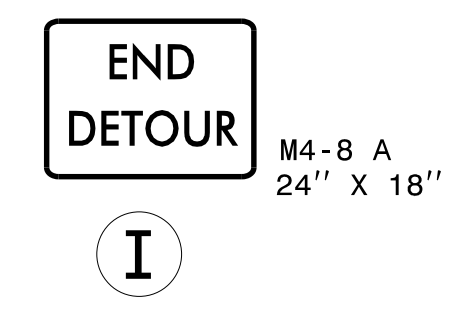
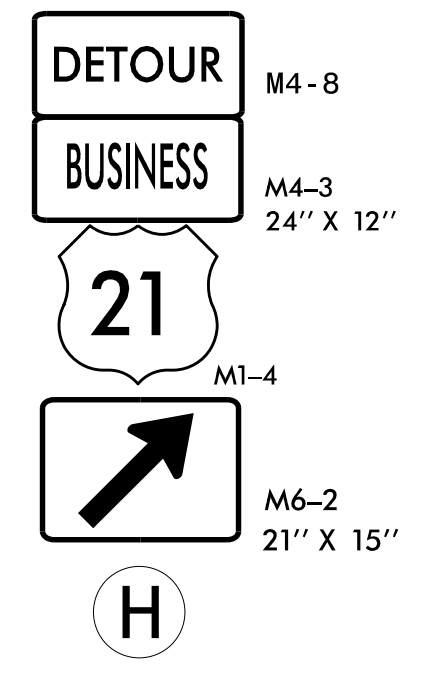
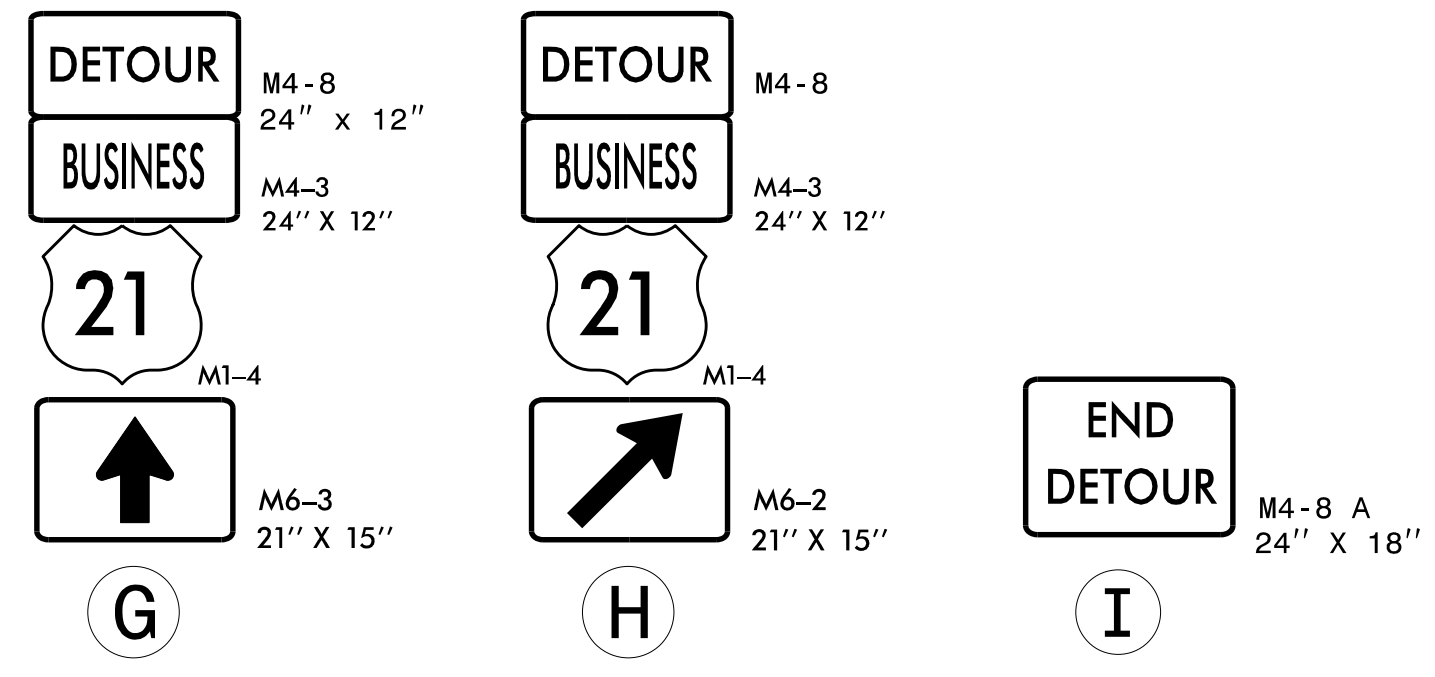
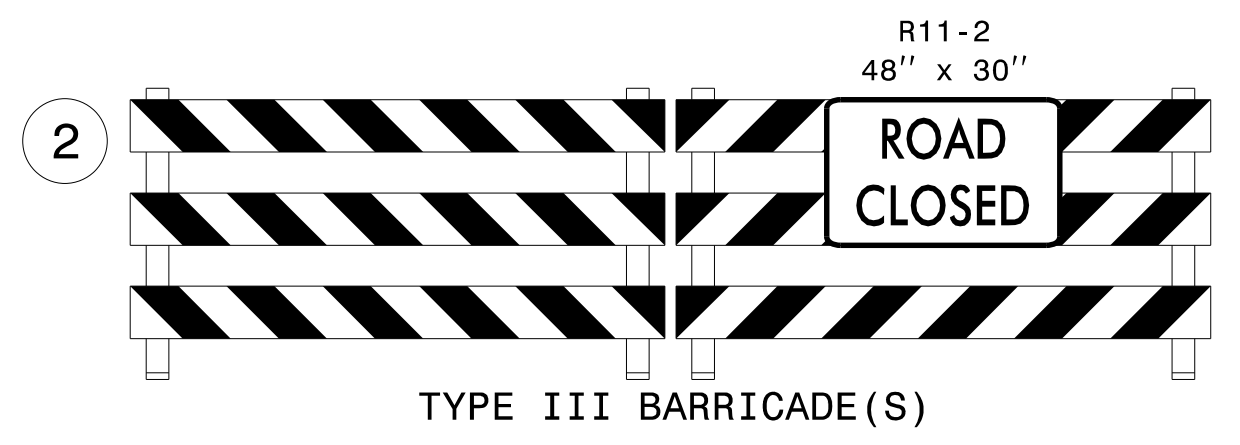
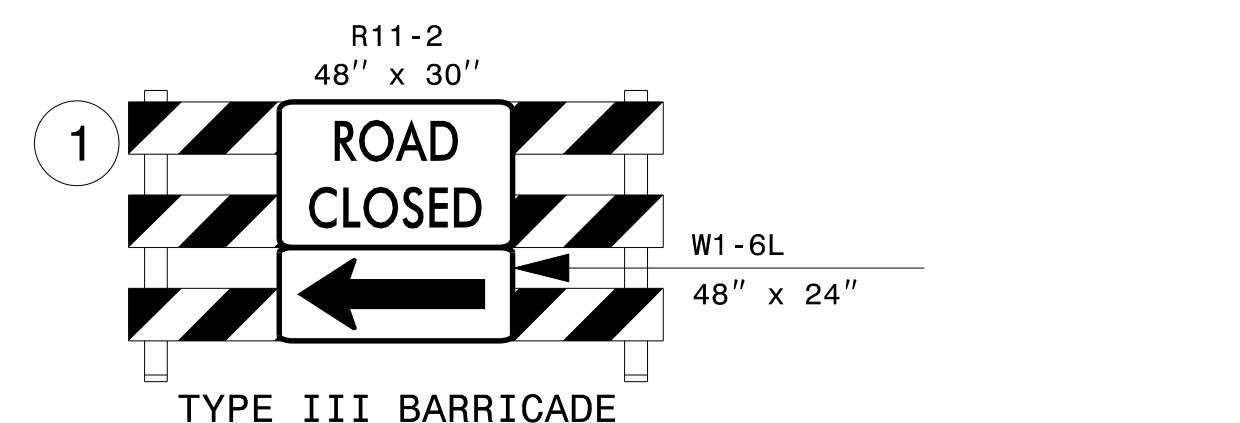
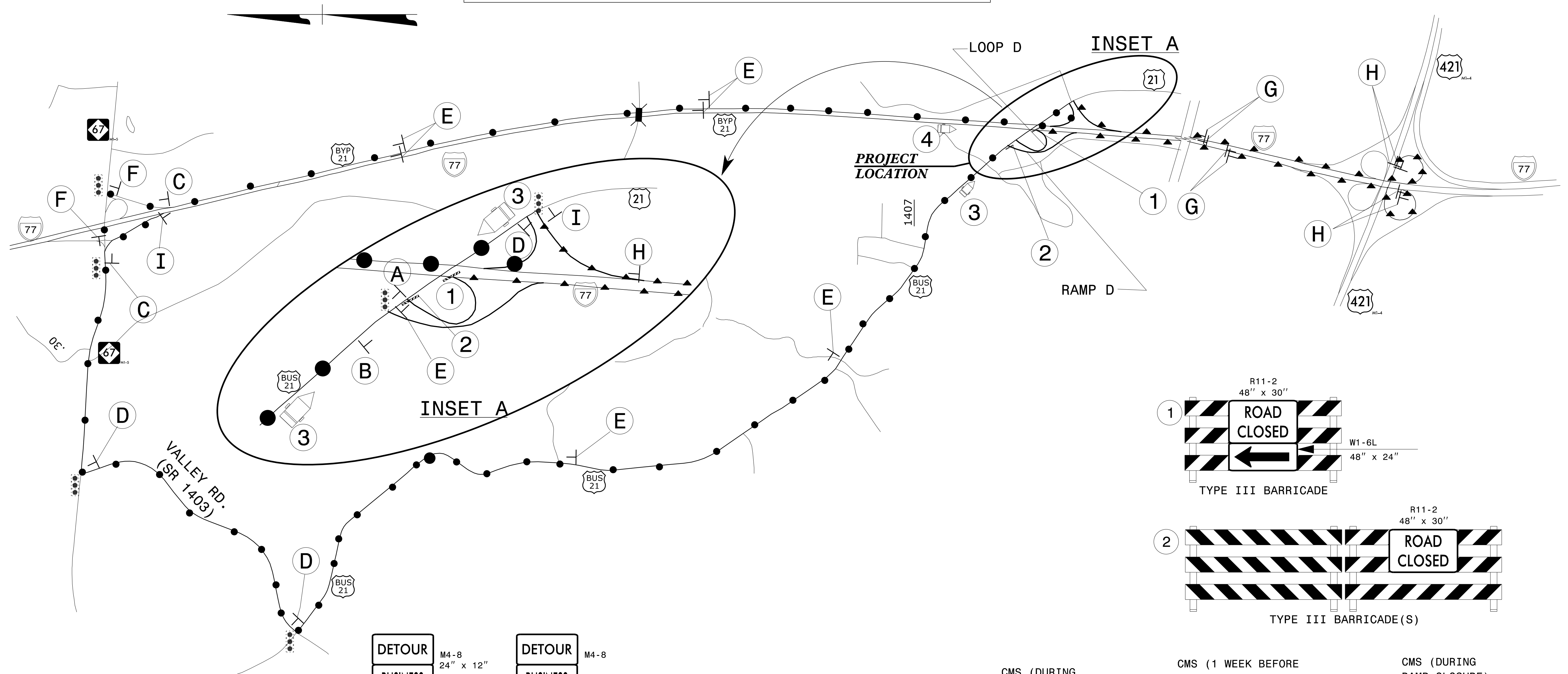
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



PHASE III, STEPS 1 & 2
DETAILS

10/3/2024
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 User: drudley

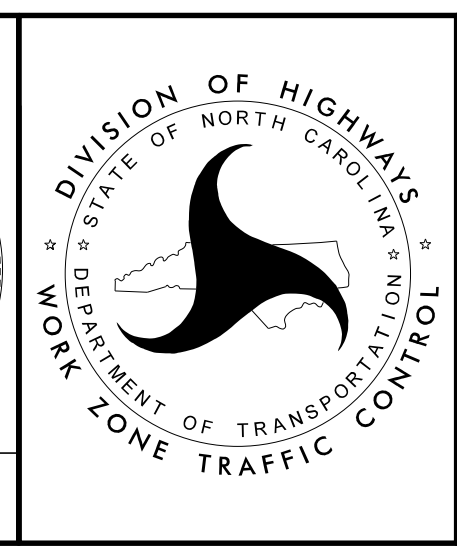
MODIFY ALL EXISTING SIGNAL TIMING WHEN OFFSITE DETOUR IS OPERATED AS DIRECTED BY THE ENGINEER.



APPROVED: *Zachary T. Clark*
 DATE: 03/05/2026

SEAL

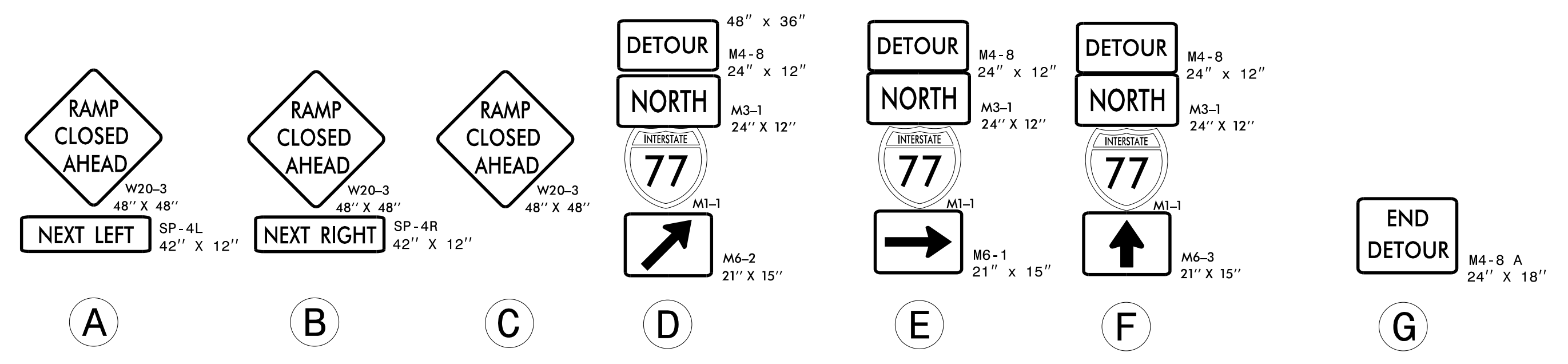
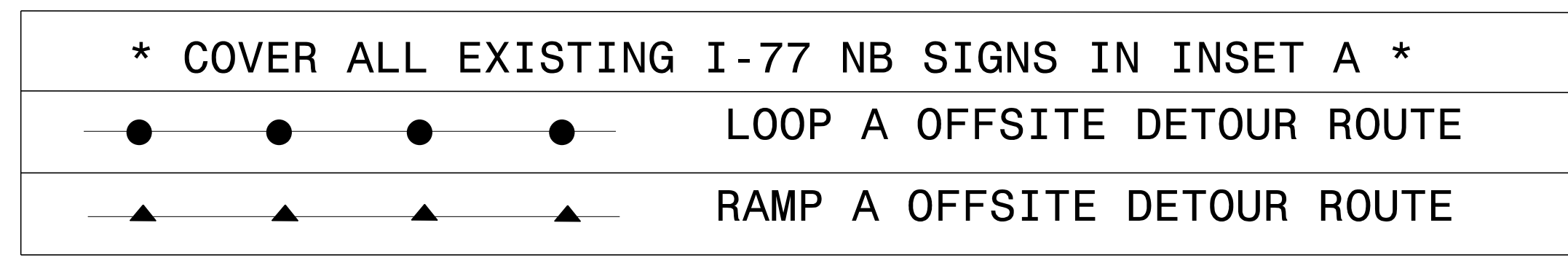
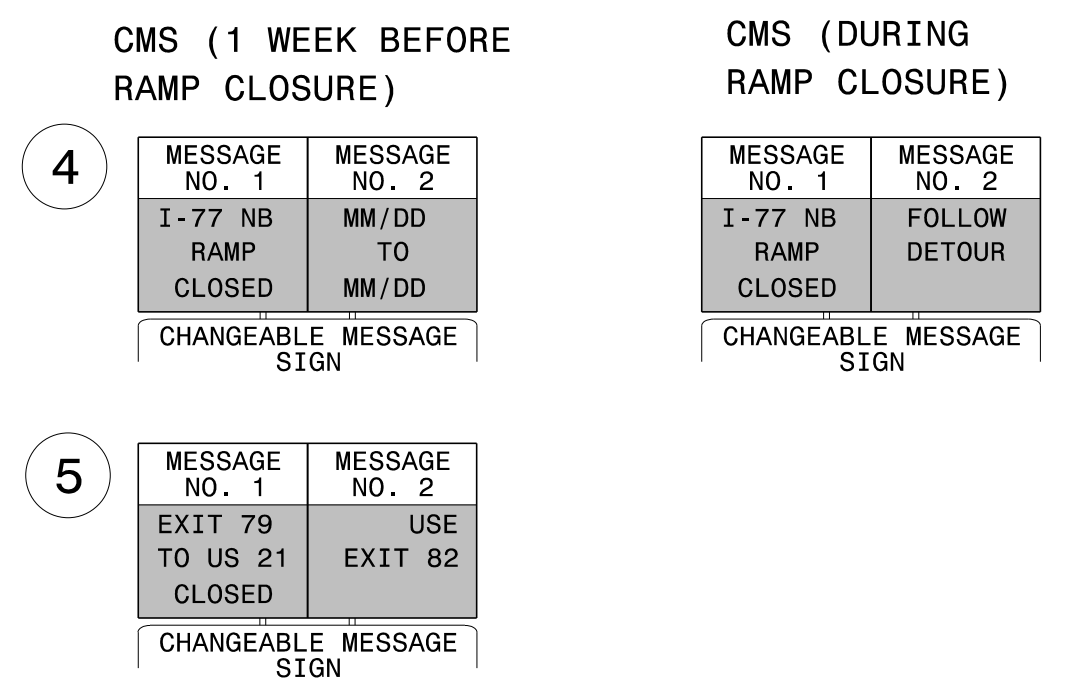
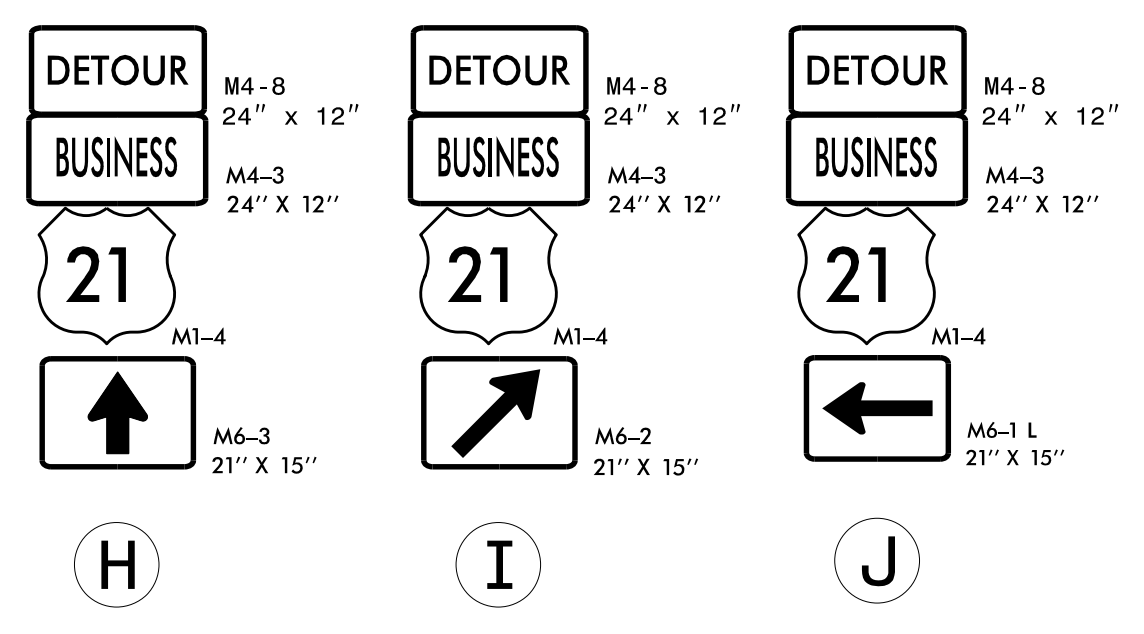
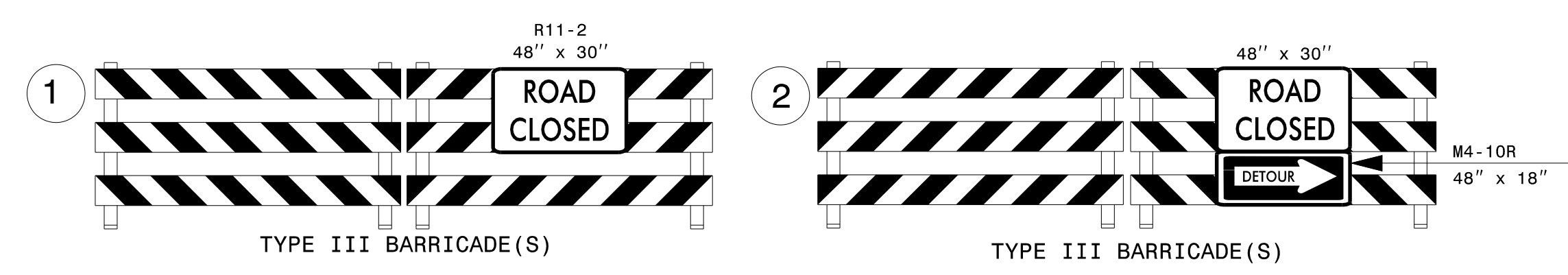
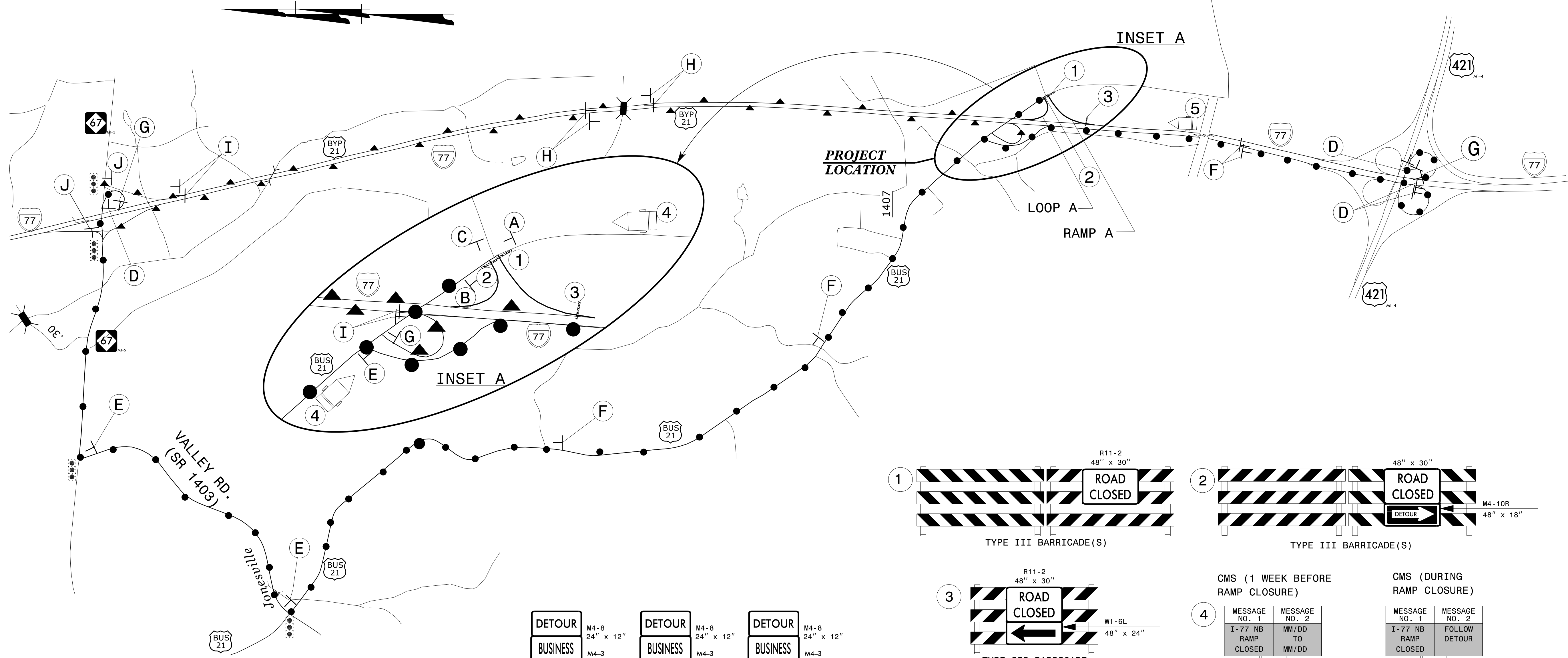
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



RAMP D & LOOP D OFFSITE DETOUR DETAILS

3/3/2026
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 User:drudley

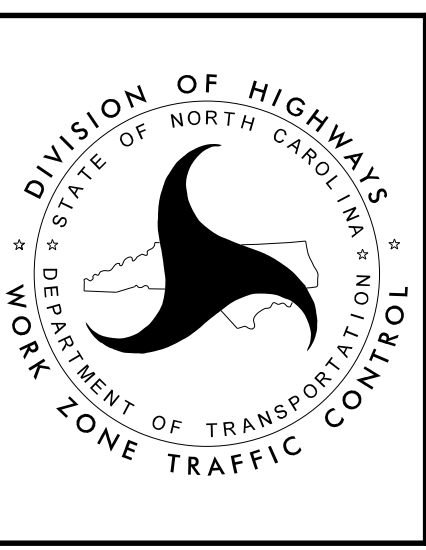
MODIFY ALL EXISTING SIGNAL TIMING WHEN OFFSITE DETOUR IS OPERATED AS DIRECTED BY THE ENGINEER.



APPROVED: *Zachary T. Clark*
 DATE: 03/05/2026

SEAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



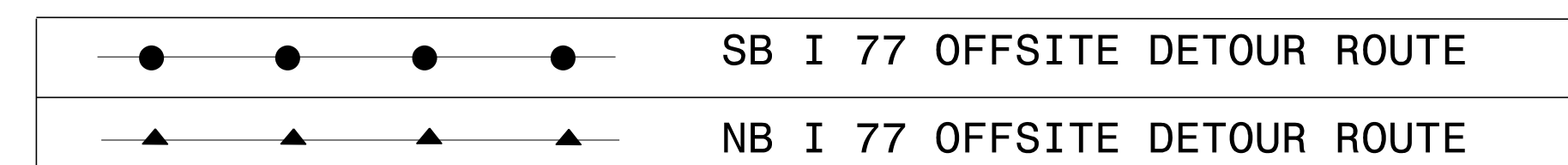
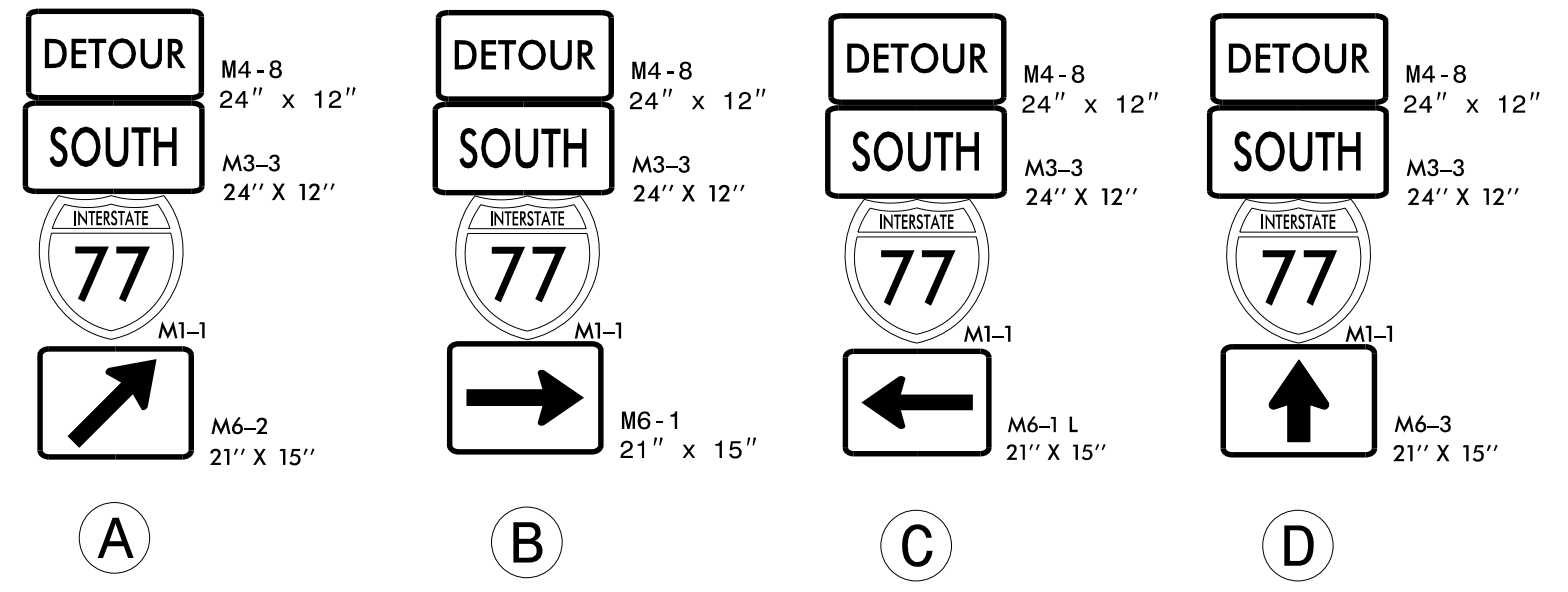
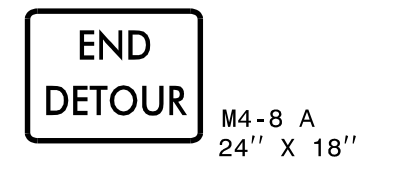
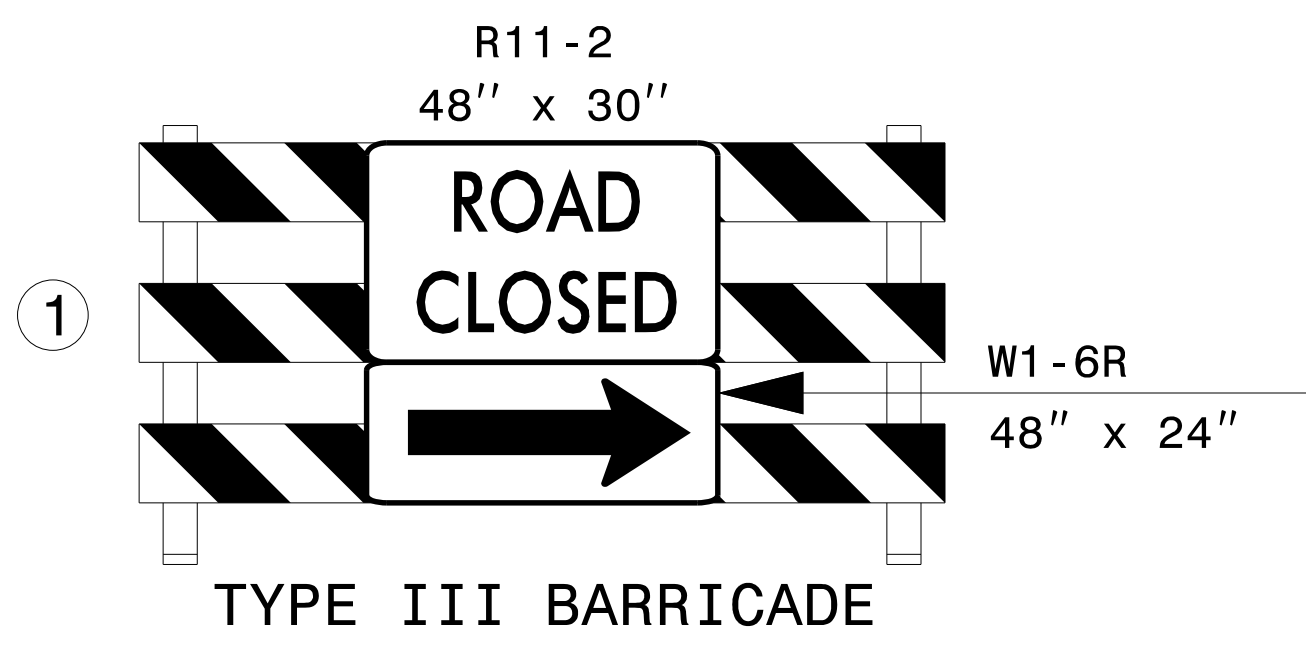
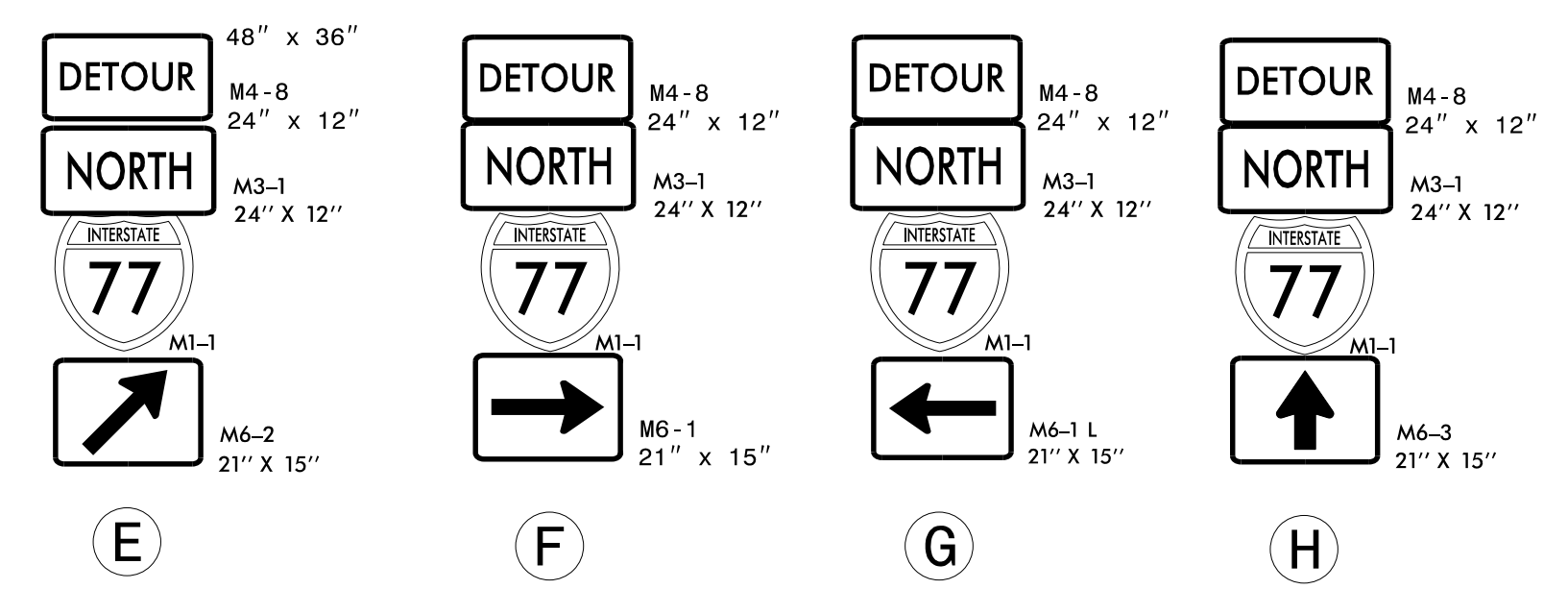
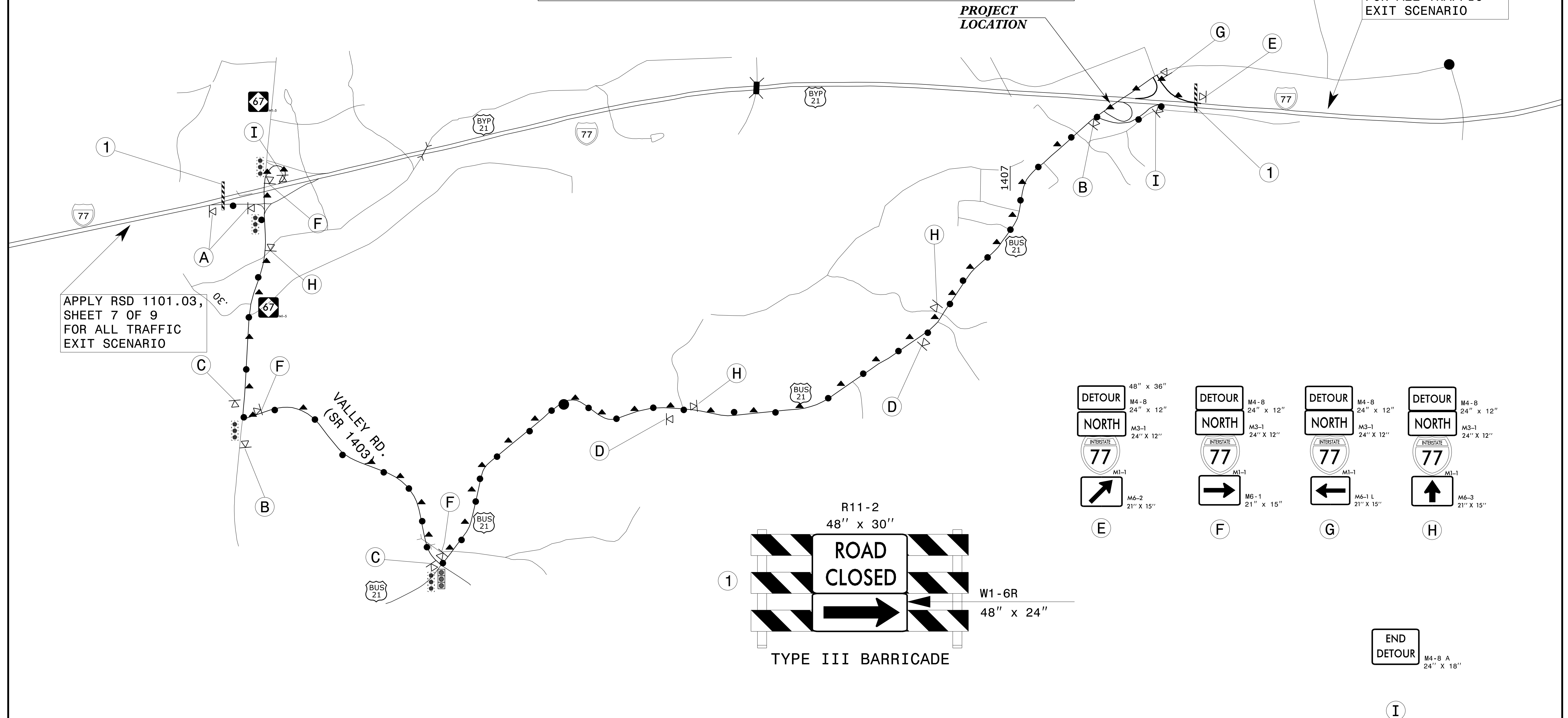
LOOP A & RAMP A OFFSITE DETOUR DETAILS

3/3/2026
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 User: drudley

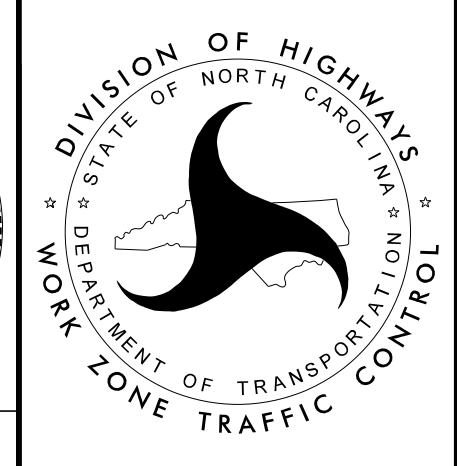
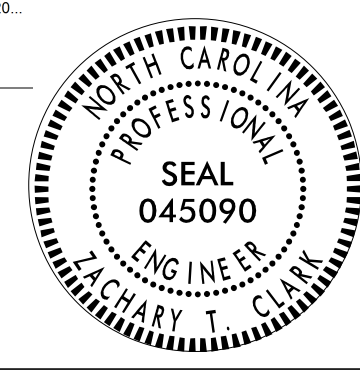
MODIFY ALL EXISTING SIGNAL TIMING OR MODIFY SIGNAL SETTING TO FLASH MODE, FREE- OR ISO-MODE OR ANY OTHER PLAN AS DIRECTED BY THE ENGINEER.

APPLY RSD 1101.03, SHEET 7 OF 9 FOR ALL TRAFFIC EXIT SCENARIO

APPLY RSD 1101.03, SHEET 7 OF 9 FOR ALL TRAFFIC EXIT SCENARIO



APPROVED: *Zachary T. Clark*
 DATE: 03/05/2026
 SEAL



I 77 NB & SB
 OFFSITE DETOUR
 DETAILS

3/3/2026
 P:\TIP\Projects-B\58333\TrafficControl\TCP\01d\B-58333_TC_TMP_16.dgn
 User:rdudley