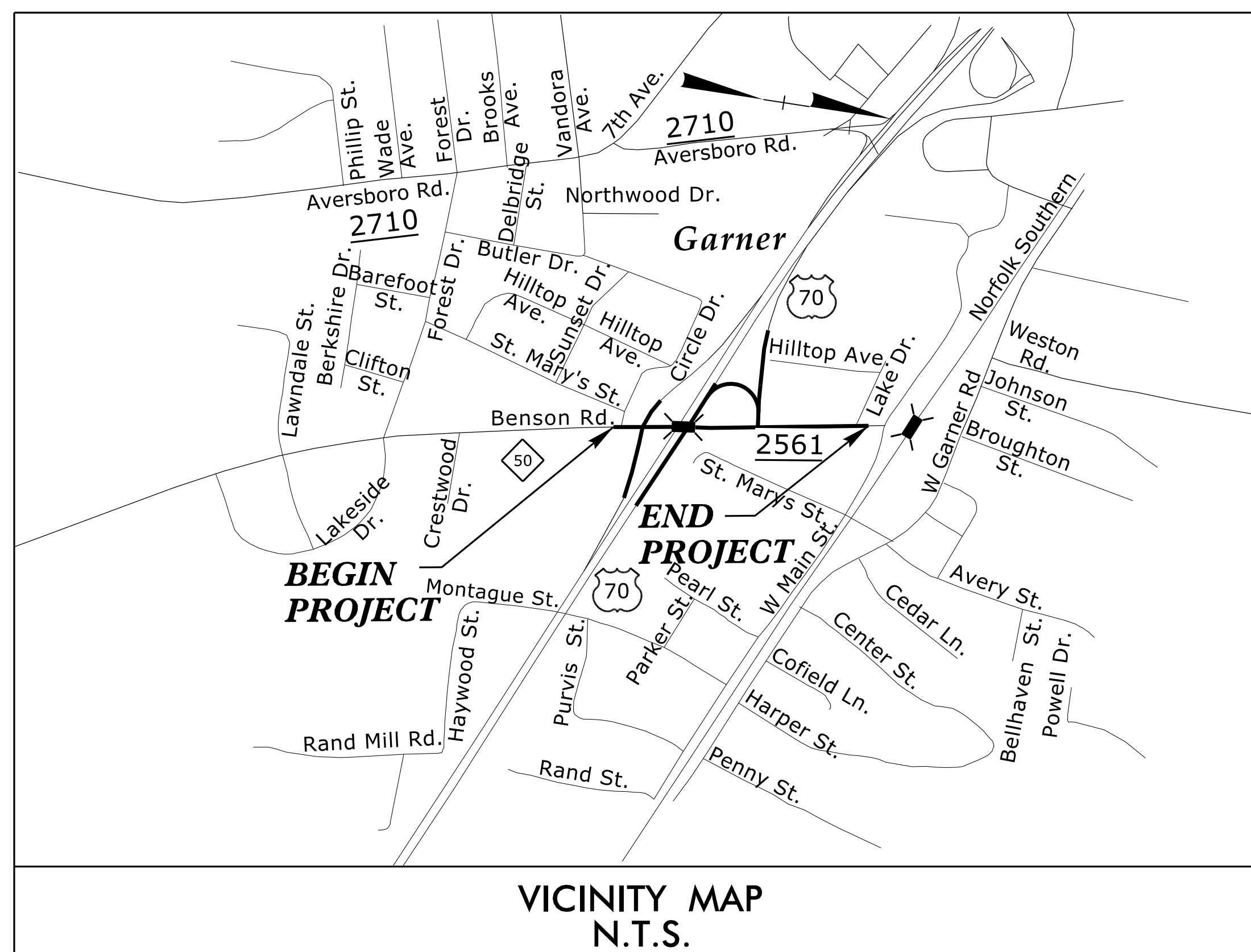
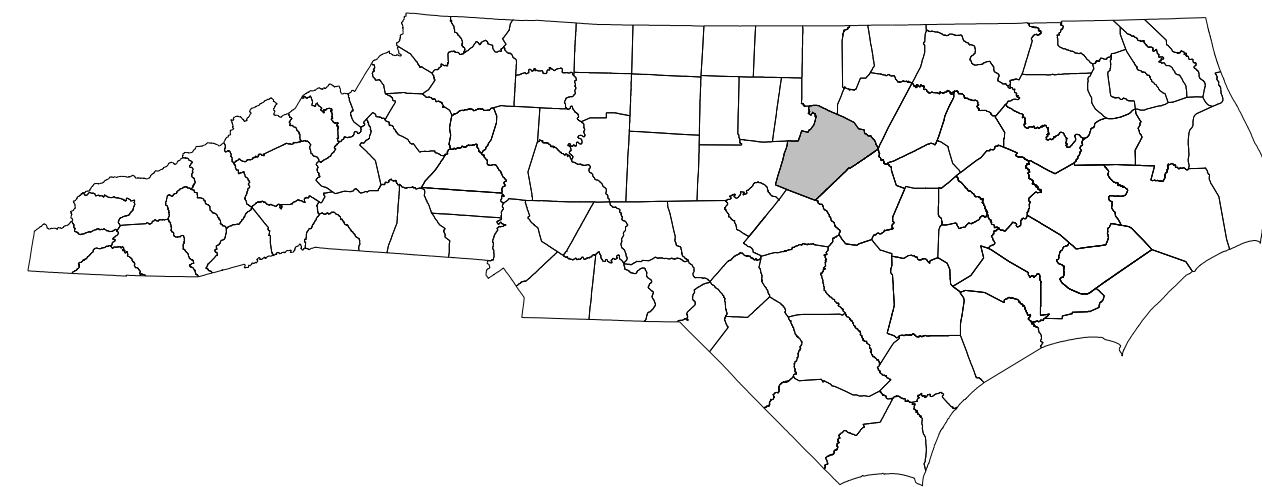


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

TRANSPORTATION MANAGEMENT PLAN



LOCATION: REPLACE BRIDGE 69 OVER US 70 ON NC 50 (BENSON ROAD)
TYPE OF WORK: TRAFFIC CONTROL

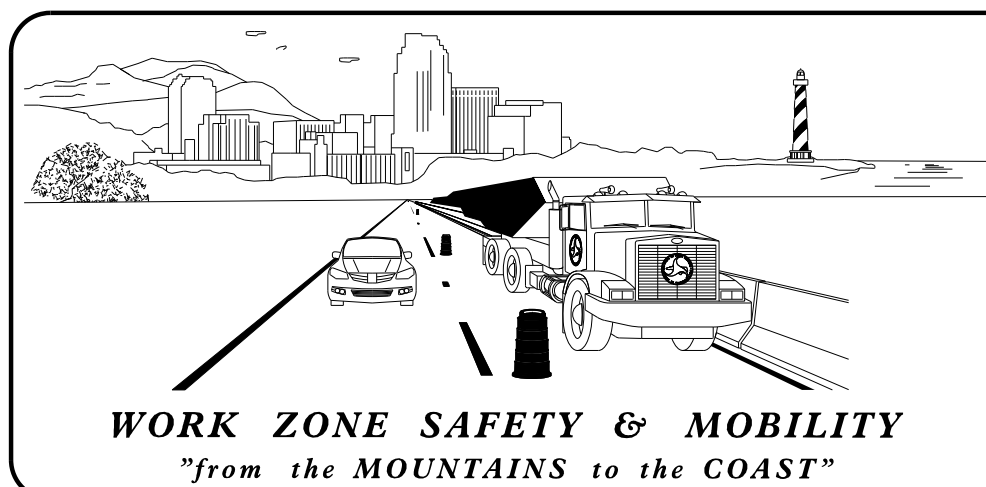
INDEX OF SHEETS

<u>SHEET NO.</u>	<u>TITLE</u>
TMP-01	TITLE SHEET AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, INDEX OF SHEETS, TEMPORARY PAVEMENT MARKING SCHEDULE
TMP-2	GENERAL NOTES & PROJECT NOTES
TMP-2A THRU TMP-2B	TEMPORARY SHORING NOTES
TMP-2C	PCB AT TEMP. SHORING LOCATIONS
TMP-2D	SIGN DETAIL
TMP-03 THRU TMP-03A	PROJECT PHASING
TMP-04 THRU TMP-05, TMP-05A THRU TMP-07	PHASE I DETAILS
TMP-08 THRU TMP-11	PHASE II DETAILS
TMP-12, TMP-12A THRU TMP-14	PHASE III DETAILS
TMP-15	PHASE IV DETAILS

SHEET NO.
TMP-01

CONTRACT: C204410 TIP PROJECT: B-4654

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N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

JOSEPH E. HUMMER STATE TRAFFIC MANAGEMENT ENGINEER
KENNETH THORNEWELL, PE TRAFFIC CONTROL PROJECT ENGINEER
MICHAEL STEELMAN TRAFFIC CONTROL PROJECT DESIGN ENGINEER
TRAFFIC CONTROL DESIGNER



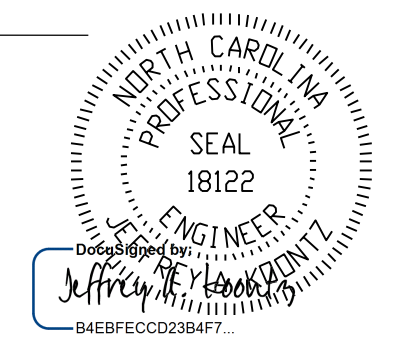
Prepared in the Office of:
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KASEY McCOY, EI TMP DESIGNER
DESIGN TECH

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APPROVED: _____
DATE: 1/11/2024

SEAL








ROADWAY STANDARD DRAWINGS

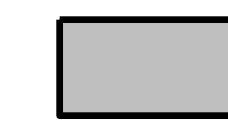
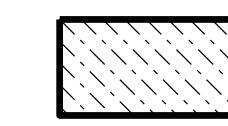
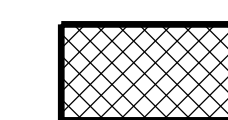
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
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	FLAGGING DEVICES
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 RAMPS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING










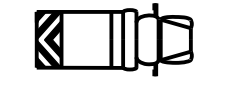

LEGEND

GENERAL




-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.

-  FULL DEPTH CONSTRUCTION
-  TEMPORARY PAVEMENT
-  PAVEMENT / BRIDGE REMOVAL

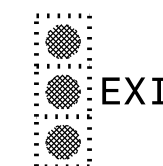

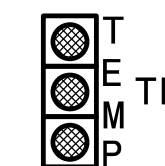
TRAFFIC CONTROL DEVICES

-  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 MARKERS

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

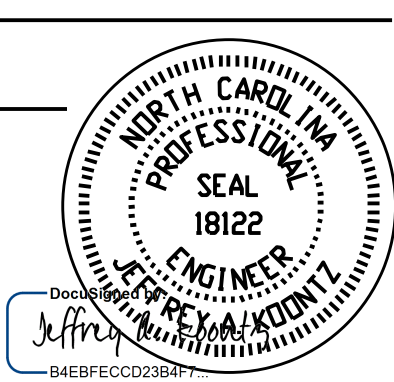

PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

TEMPORARY PAVEMENT MARKING COLD APPLIED PLASTIC (TYPE IV)	
CA	WHITE EDGE LINE (4")
CI	YELLOW DOUBLE CENTERLINE (4")
TEMPORARY PAVEMENT MARKING (PAINT)	
PA	WHITE EDGE LINE (4")
PB	YELLOW EDGE LINE (4")
PD	2' WHITE MINI SKIP (4")
PE	WHITE SOLID LANE LINE (4")
PI	YELLOW DOUBLE CENTERLINE (4")
PN	WHITE GORELINE (8")
P2	WHITE STOP BAR (24")
QB	RIGHT TURN ARROW
QC	STRAIGHT ARROW

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APPROVED: _____ DATE: 2/12/2024		 AECOM <small>NC FIRM LICENSE No: F-3042 5438 Wade Park Blvd., Ste 200 Raleigh, NC 27607 919.854.6200</small>	<h2 style="margin: 0;">STANDARD DRAWINGS AND LEGEND</h2>
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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
NC 50	MONDAY-FRIDAY 6:00 AM-9:00 AM & 3:00 PM-6:00 PM
US 70	MONDAY-FRIDAY 6:00 AM-9:00 AM & 3:00 PM-6:00 PM
ALL OTHERS	MONDAY-FRIDAY 6:00 AM-9:00 AM & 3:00 PM-6:00 PM

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

ROAD NAME
NC 50
US 70
ALL OTHERS

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 6:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 P.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 6:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 6:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 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 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

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

C) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
US 70	MONDAY THROUGH SUNDAY 6:00 AM - 10:00 PM

D) DO NOT CONDUCT MULTI-VEHICLE HAULING AS FOLLOWS; INGRESS AND EGRESS FROM RAMPS WILL NOT BE ALLOWED:

ROAD NAME	DAY AND TIME RESTRICTIONS
NC 50	MONDAY-FRIDAY 6:00 AM-9:00 AM & 3:00 PM-6:00 PM
US 70	MONDAY-FRIDAY 6:00 AM-9:00 AM & 3:00 PM-6:00 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.

LANE AND SHOULDER CLOSURE REQUIREMENTS

F) 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.

G) 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.

H) 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.

I) 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.

J) 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.

K) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

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

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) 350 FT 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

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 OPEN 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 PERPENDICULAR TO THE EDGE OF 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:

ROADNAME	MARKING	MARKER
NC 50 & US 70	PAINT	TEMPORARY RAISED
NC 50 BRIDGE	COLD APPLIED PLASTIC (TYPE IV)	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 PLACE TO DELINEATE ANY 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.

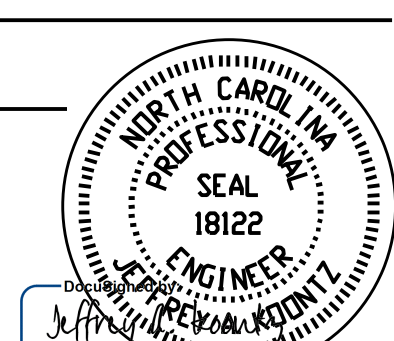

EE) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 200 AND 400 RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. 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.

PROJECT NOTES

1) ALL FIBER SPLICING SHALL BE COMPLETED WITHIN 4 HOURS OF BEGINNING WORK (SEE INTERMEDIATE CONTRACT TIMES AND LIQUIDATED DAMAGES).

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APPROVED: _____ DATE: 2/12/2024		 AECOM <small>NC FIRM LICENSE No: F-3042 5438 Wade Park Blvd., Ste 200 Raleigh, NC 27607 919.854.6200</small>	<h1>GENERAL NOTES</h1> <h2>PROJECT NOTES</h2>
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

TEMPORARY SHORING & WALL NOTES

TEMPORARY SHORING NO. 1A (SEE SHEET TMP-05 AND TMP-05A)

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- 21+46±, 19.0 FT. RIGHT, TO STATION -L- 21+80±, 19.0 FT. RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 335.0 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 21+46±, 19.0 FT. RIGHT, TO STATION -L- 21+80±, 19.0 FT. RIGHT.

AT THE CONTRACTOR*S OPTION, USE STANDARD SHORING, GEOTECHNICAL STANDARD DETAIL NO. 1801.01, FOR TEMPORARY SHORING FROM STATION -L- 21+46±, 19.0 FT. RIGHT, TO STATION -L- 21+80±, 19.0 FT. RIGHT EXCEPT FOR TEMPORARY SHORING HEIGHTS ABOVE 12 FEET. ENGINEERED CANTILEVERED SHORING WILL BE REQUIRED FOR SHORING HEIGHTS EXCEEDING 12 FEET.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 21+46±, 19.0 FT. RIGHT, TO STATION -L- 21+80±, 19.0 FT. RIGHT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

TEMPORARY WALL NO. 1B (SEE SHEET TMP-05 AND TMP-05A)

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

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

DESIGN TEMPORARY WALL FROM STATION -L- 21+33±, 19.0 FT. RIGHT, TO STATION -L- 21+80±, 19.0 FT. RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 335.0 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY WALL FROM STATION -L- 21+33±, 19.0 FT. RIGHT, TO STATION -L- 21+80±, 19.0 FT. RIGHT.

WHEN BACKFILL FOR RETAINING WALLS AND BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR RETAINING WALLS AND BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

AT THE CONTRACTOR*S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 21+33±, 19.0 FT. RIGHT, TO STATION -L- 21+80±, 19.0 FT. RIGHT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

WHEN BACKFILL FOR RETAINING WALLS AND BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR RETAINING WALLS AND BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

TEMPORARY SHORING NO. 2A (SEE SHEET TMP-05 AND TMP-05A)

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- 23+27±, 19.0 FT. RIGHT, TO STATION -L- 23+82±, 19.0 FT. RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

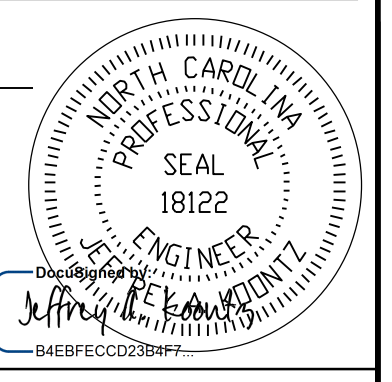
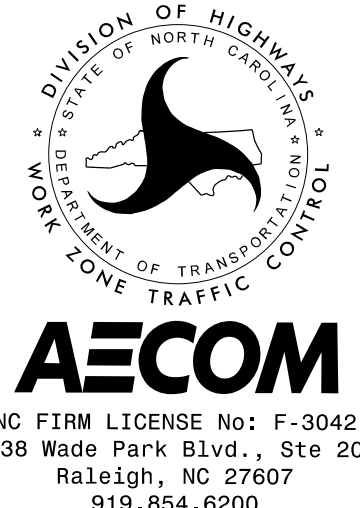
UNIT WEIGHT (γ) = 120 LB/CF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 341.0 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 23+27±, 19.0 FT. RIGHT, TO STATION -L- 23+82±, 19.0 FT. RIGHT.

AT THE CONTRACTOR*S OPTION, USE STANDARD SHORING, GEOTECHNICAL STANDARD DETAIL NO. 1801.01, FOR TEMPORARY SHORING FROM STATION -L- 23+27±, 19.0 FT. RIGHT, TO STATION -L- 23+82±, 19.0 FT. RIGHT EXCEPT FOR TEMPORARY SHORING HEIGHTS ABOVE 12 FEET. ENGINEERED CANTILEVERED SHORING WILL BE REQUIRED FOR SHORING HEIGHTS EXCEEDING 12 FEET.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 23+27±, 19.0 FT. RIGHT, TO STATION -L- 23+82±, 19.0 FT. RIGHT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

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APPROVED: _____ DATE: 1/11/2024		 <p>NC FIRM LICENSE No: F-3042 5438 Wade Park Blvd., Ste 200 Raleigh, NC 27607 919.854.6200</p>	<h2>TEMPORARY SHORING NOTES</h2>
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TEMPORARY SHORING & WALL NOTES

TEMPORARY WALL NO. 2B (SEE SHEET TMP-05 AND TMP-05A)

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

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

DESIGN TEMPORARY WALL FROM STATION -L- 23+43±, 19.0 FT. RIGHT, TO STATION -L- 23+82±, 19.0 FT. RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 LB/CF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 LB/SF
- GROUNDWATER ELEVATION = 341.0 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY WALL FROM STATION -L- 23+43±, 19.0 FT. RIGHT, TO STATION -L- 23+82±, 19.0 FT. RIGHT.

WHEN BACKFILL FOR RETAINING WALLS AND BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR RETAINING WALLS AND BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

AT THE CONTRACTOR*S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY WALL FROM STATION -L- 23+43±, 19.0 FT. RIGHT, TO STATION -L- 23+82±, 19.0 FT. RIGHT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

WHEN BACKFILL FOR RETAINING WALLS AND BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR RETAINING WALLS AND BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

TEMPORARY SHORING NO. 3 (SEE SHEET TMP-05 AND TMP-05A)

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 -Y1- 26+76±, 6.5 FT. LEFT, TO STATION -Y1- 27+64±, 6.5 FT. LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) 120 LB/CF
- FRICTION ANGLE (ϕ) =30 DEGREES
- COHESION (c) = 0 LB/SF
- GROUNDWATER ELEVATION = 340.0 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -Y1- 26+76±, 6.5 FT. LEFT, TO STATION -Y1- 27+64±, 6.5 FT. LEFT.

AT THE CONTRACTOR*S OPTION, USE STANDARD SHORING FOR TEMPORARY SHORING FROM STATION -Y1- 26+76±, 6.5 FT. LEFT, TO STATION -Y1- 27+64±, 6.5 FT. LEFT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. 4 (SEE SHEET TMP-05 AND TMP-05A)

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.

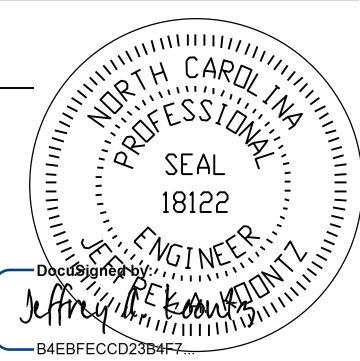

DESIGN TEMPORARY SHORING FROM STATION -Y1- 26+76±, 6.5 FT. RIGHT, TO STATION -Y1- 27+64±, 6.5 FT. RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 LB/CF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 LB/SF
- GROUNDWATER ELEVATION = 340.0 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -Y1- 26+76±, 6.5 FT. RIGHT, TO STATION -Y1- 27+64±, 6.5 FT. RIGHT.

AT THE CONTRACTOR*S OPTION, USE STANDARD SHORING FOR TEMPORARY SHORING FROM STATION -Y1- 26+76±, 6.5 FT. RIGHT, TO STATION -Y1- 27+64±, 6.5 FT. RIGHT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

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APPROVED: _____ DATE: 1/11/2024		 AECOM <small>NC FIRM LICENSE No: F-3042 5438 Wade Park Blvd., Ste 200 Raleigh, NC 27607 919.854.6200</small>	<h2 style="margin: 0;">TEMPORARY SHORING NOTES</h2>
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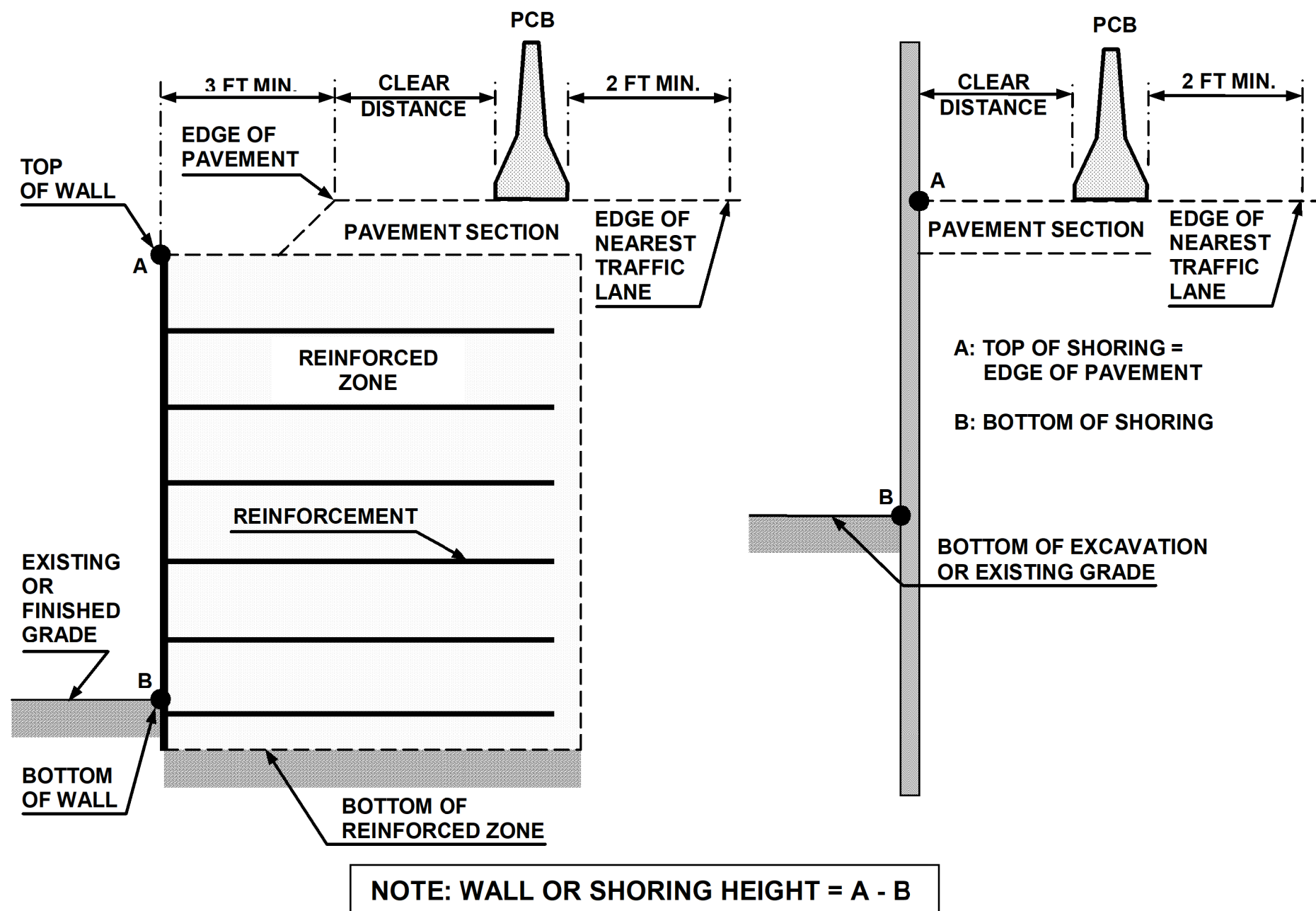


FIGURE A

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

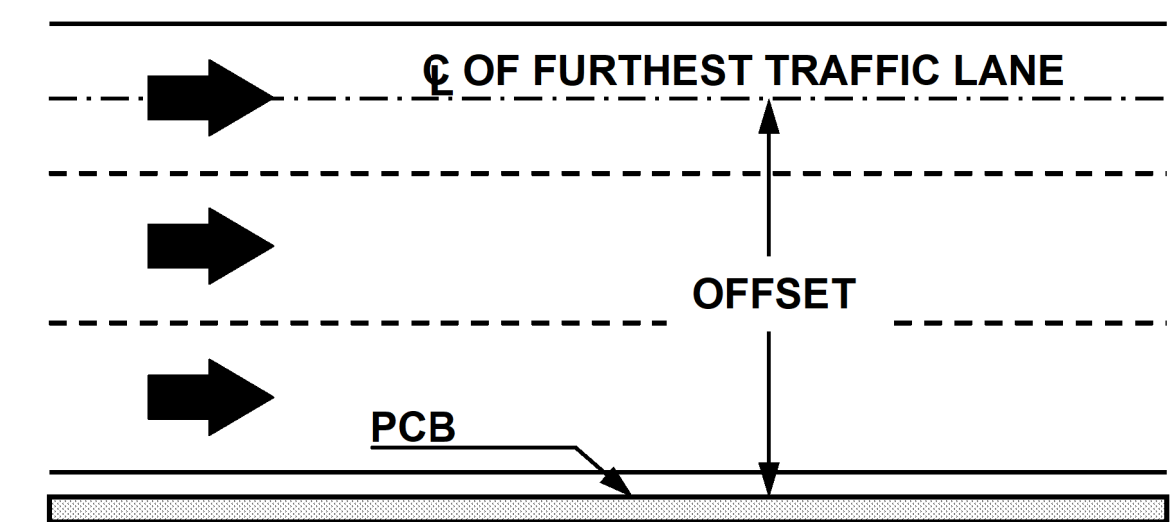
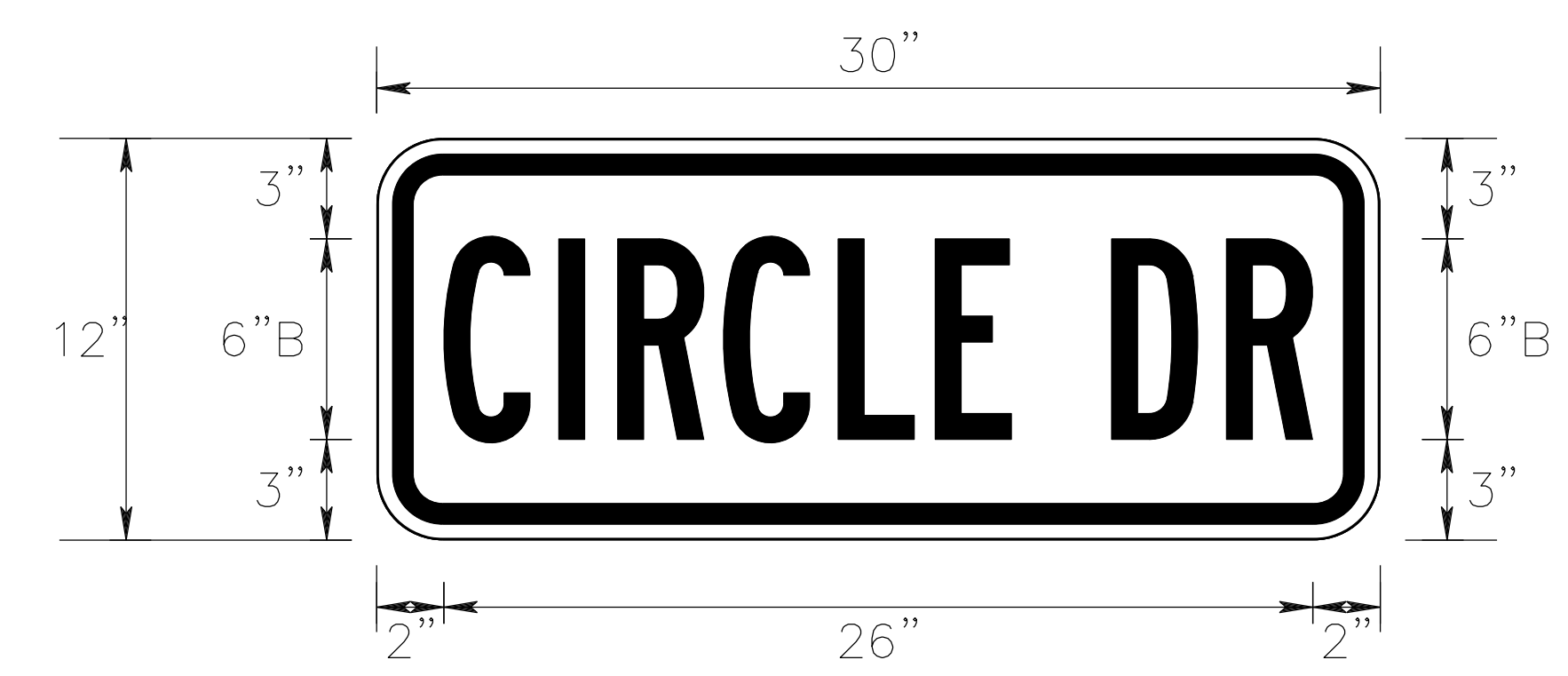


FIGURE B

APPROVED: _____ DATE: 1/11/2024 	 NC FIRM LICENSE No: F-3042 5438 Wade Park Blvd., Ste 200 Raleigh, NC 27607 919.854.6200	<p style="text-align: center;">PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS</p>
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SIGN DETAIL
1: 10



SIGN NUMBER	name
WIDTH x HGHT.	2' -6" x 1' -0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND/BORDER	TYPE: Reflective
	COLOR: Black/Black

SYMBOL	ROT	X	Y	WID	HT

Panel Style construction_guide.ssi
Dimensions are inches, tenths

Letter locations are panel edge to Lower left corner

LETTER POSITIONS (X)								LENGTH	SERIES/SIZE
C	I	R	C	L	E	D	R		B 2000
2	5.4	7.2	10.4	13.8	16.7	22	25.4	26	6

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 5438 Wade Park Blvd., Ste 200
 Raleigh, NC 27607
 919.854.6200

SIGN DESIGN

PROJ. REFERENCE NO.	SHEET NO.
B-4654	TMP-03

PHASE I

STEP 1) PRIOR TO ANY CONSTRUCTION ACTIVITY, INSTALL WORK ZONE ADVANCE WARNING SIGNS ON ALL ROADS INVOLVED (NC 50/BENSON ROAD, US 70, CIRCLE DRIVE, UMSTEAD LANE, LAKE DRIVE) ACCORDING TO THE ROADWAY STANDARD DRAWINGS.

STEP 2) NOT REQUIRED.

STEP 3) USING RSD 1101.02 (SHEET 3 OF 19) FOR TEMPOARY LANE CLOSURES OF US 70 (-Y1-) CONSTRUCT THE MEDIAN WIDENING UP TO EXISTING EDGE AND ELEVATION ACCORDING TO THE FOLLOWING STATIONS (SEE TMP-04):

- Y1- STA. 20+00 +/- TO STA. 33+00 +/- (WB MEDIAN)
- Y1- STA. 25+80 +/- TO STA. 28+90 +/- (EB MEDIAN)

STEP 4) USING RSD 1101.02 (SHEET 3 OF 19) FOR TEMPOARY LANE CLOSURES OF US 70 (-Y1-) AND USING RSD 1205.01 AND 1205.02, PLACE TEMPORARY PAVEMENT MARKING (PAINT), PAVEMENT MARKERS (TEMPORARY RAISED), AND ADVANCED WARNING SIGNS FOR TEMPORARY TRAFFIC PATTERN ON US 70 (-Y1-) ACCORDING TO THE FOLLOWING STATIONS (SEE TMP-04A):

- Y1- STA. 18+50 +/- TO STA. 34+50 +/- (WB LANES)
- Y1- STA. 24+00 +/- TO STA. 30+50 +/- (EB LANES)

AND SHIFT US 70 TRAFFIC INTO TEMPORARY PATTERN.

USING RSD 1101.02 (SHEET 3 OF 19) FOR TEMPOARY LANE CLOSURES OF US 70 (-Y1-) PLACE TEMPORARY BARRIERS (PCB AND ANCHORED PCB) ALONG THE INSIDE AND OUTSIDE SHOULDERS ACCORDING TO THE FOLLOWING STATIONS (SEE TMP-04A):

- Y1- STA. 25+65 +/- TO STA. 31+24 +/- (WB OUTSIDE LANE)
- Y1- STA. 26+45 +/- TO STA. 28+80 +/- (WB INSIDE LANE)

- Y1- STA. 26+16 +/- TO STA. 28+80 +/- (EB OUTSIDE LANE)
- Y1- STA. 26+16 +/- TO STA. 28+80 +/- (EB INSIDE LANE)

STEP 5) WORKING AWAY FROM TRAFFIC, BEHIND PCB, OR USING RSD 1101.02 (SHEET 1 OF 19) WITH FLAGGERS, CONSTRUCT NC 50 (-L-), UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT, DRAINAGE (PERMANENT AND TEMPORARY), AND STAGE 1 OF BRIDGE OVER US 70 (WITH TEMPORARY SHORING) AND RETAINING WALLS ACCORDING TO THE FOLLOWING STATIONS: (SEE STRUCTURE PLANS AND DETAILS ON TMP-05 AND TMP-05A):

- L- STA. 15+21 +/- TO STA. 18+02 +/- (LEFT)
- L- STA. 18+47 +/- TO STA. 20+25 +/- (LEFT)
- L- STA. 20+33 +/- TO STA. 27+08 +/- (LEFT)
- Y1- STA. 26+64 +/- TO STA. 27+36 +/- (MEDIAN)
- Y1- STA. 26+64 +/- TO STA. 27+85 +/- (EBL)
- Y1- STA. 25+90 +/- TO STA. 26+95 +/- (WBL)

AND INSTALL AND COVER TEMPORARY TRAFFIC SIGNAL AT THE NC 50 INTESECTION WITH RAMP C / RAMP D.

STEP 6) INSTALL AND COVER EASTBOUND AND WESTBOUND BRIDGE DETOUR SIGNS ACCORDING TO THE DETAIL ON TMP-06.

USE RSD 1101.02 (SHEET 3 OF 19) FOR TEMPORARY LANE CLOSURE ON US 70 (-Y1-) FOR BRIDGE AND WALL CONSTRUCTION THAT DOES NOT REQUIRE ROAD CLOSURES.

NC 50 GIRDER INSTALLATION OVER EASTBOUND US 70

WORKING ON CONSECUTIVE NIGHTS, INSTALL GIRDERS OVER EASTBOUND US 70 (-Y1-) AS FOLLOWS:

UNCOVER BRIDGE DETOUR SIGNS FOR EASTBOUND US 70 AND USING POLICE, SHIFT TRAFFIC TO THE OFF-SITE DETOUR, AND PLACE BARRICADES TO CLOSE EASTBOUND US 70 AT US 50 INTERCHANGE.

SET ALL NC 50 (-L-) BRIDGE GIRDERS OVER THE EASTBOUND LANES OF US 70 (-Y1-).

AT THE END OF EACH NIGHT, OPEN EASTBOUND LANES OF US 70 TO TRAFFIC, REMOVE BARRICADES, AND COVER EASTBOUND OFF-SITE DETOUR SIGNS.

NC 50 GIRDER INSTALLATION OVER WESTBOUND US 70

WORKING ON CONSECUTIVE NIGHTS, INSTALL GIRDERS OVER WESTBOUND US 70 (-Y1-) AS FOLLOWS:

UNCOVER BRIDGE DETOUR SIGNS FOR WESTBOUND US 70 AND USING POLICE, SHIFT TRAFFIC TO THE OFF-SITE DETOUR, AND PLACE BARRICADES TO CLOSE WESTBOUND US 70 AT NEW RAND ROAD, CARROLL DRIVE AND MONTAGUE STREET.

SET ALL NC 50 (-L-) BRIDGE GIRDERS OVER THE WESTBOUND LANES OF US 70 (-Y1-).

AT THE END OF EACH NIGHT, OPEN WESTBOUND LANES OF US 70, CARROLL DRIVE AND MONTAGUE STREET TO TRAFFIC, REMOVE BARRICADES, AND COVER WESTBOUND OFF-SITE DETOUR SIGNS.

STEP 7) INSTALL CIRCLE DRIVE DETOUR SIGNS AND DEVICES TO CLOSE ROAD TO TRAFFIC AT NC 50 (SEE TMP-07).

INTERMEDIATE CONTRACT TIME

COMPLETE THE FOLLOWING WORK OF PHASE I, STEP 8 FOR -Y2- CIRCLE DRIVE IN ACCORDANCE WITH THE INTERMEDIATE CONTRACT TIME OF 10 CONSECUTIVE DAYS (SEE SPECIAL PROVISIONS).

STEP 8) WORKING IN A CONTINOUS MANNER AND USING RSD 1101.02 (SHEET 1 OF 19) WITH FLAGGERS, CONSTRUCT CIRCLE DRIVE (-Y2-), UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE ACCORDING TO THE FOLLOWING STATIONS: (SEE TMP-07):

- Y2- STA. 11+45 +/- TO STA. 12+99 +/-

USING RSD 1205.01 AND 1205.02, PLACE PAVEMENT MARKING (PAINT) IN TEMPORARY PATTERN TO TIE TO EXISTING NC 50, REMOVE DETOUR SIGNS AND OPEN CIRCLE DRIVE TO TRAFFIC (SEE TMP-07).

PHASE II

STEP 1) INSTALL OFF-SITE DETOUR SIGNS AND BARRICADES AT UMSTEAD LANE AND HILLTOP AVENUE FOR LOOP B AND RAMP B CLOSURE (SEE TMP-08 AND TMP-09).

STEP 2) USING RSD 1101.02 (SHEET 3 OF 19) AS NEEDED FOR TEMPORARY LANE CLOSURE OF OUTSIDE LANE OF WESTBOUND US 70 AND RSD 1101.02 (SHEET 1 OF 19) WITH FLAGGERS FOR TEMPORARY/PARTIAL CLOSURE OF RAMP B FOR DRAINAGE CROSSING, INSTALL DRAINAGE PIPE BETWEEN THE FOLLOWING STATIONS: (SEE TMP-08):

- Y1- STA. 18+30 +/- TO STA. 23+20 +/- LEFT

INTERMEDIATE CONTRACT TIME

COMPLETE THE FOLLOWING WORK OF PHASE II, STEPS 3 AND 4 FOR LOOP B AND RAMP B IN ACCORDANCE WITH THE INTERMEDIATE CONTRACT TIME OF 60 CONSECUTIVE DAYS (SEE SPECIAL PROVISIONS).

STEP 3) USING RSD 1101.02 (SHEET 3 OF 19) FOR TEMPORARY LANE CLOSURE, RESET AND PLACE TEMPORARY BARRIERS (PCB) ALONG THE OUTSIDE WESTBOUND US 70 LANE TO CLOSE EXIT LOOP (-LPB-) ACCORDING TO THE FOLLOWING STATIONS (SEE TMP-08 FOR DETAILS):

- Y1- STA. 21+72 +/- TO STA. 25+64 +/- (INSTALL PCB)
- Y1- STA. 25+64 +/- TO STA. 28+26 +/- (RESET PCB)

USING RSD 1205.01 AND 1205.02, PLACE TEMPORARY PAVEMENT MARKING (PAINT) ON THE US 70 WESTBOUND LANE ACCORDING TO THE FOLLOWING STATIONS (SEE TMP-08 FOR DETAILS):

- Y1- STA. 24+90 +/- TO STA. 25+64 +/- (WESTBOUND)

STEP 4) USING RSD 1101.02 (SHEET 3 OF 19) AND FLAGGERS FOR TEMPORARY INSIDE LANE CLOSURE OF WESTBOUND US 70, CONSTRUCT Y1 UP TO, BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE, AND LOOP B (-LPB-) AND RAMP B (-RPB-) ACCORDING TO THE FOLLOWING STATIONS (SEE DETAIL ON TMP-08):

- Y1- STA. 22+04 +/- TO STA. 25+90 +/- (WESTBOUND)
- LPB- STA. 10+00 +/- TO STA. 16+11 +/-
- RPB- STA. 10+30 +/- TO STA. 15+22 +/-

USING RSD 1205.01, 1205.02, AND 1205.03, PLACE TEMPORARY PAVEMENT MARKING (PAINT) ON US 70 (-Y1-), LOOP B (-LPB-), AND RAMP B (-RPB-) ACCORDING TO THE FOLLOWING STATIONS (SEE DETAIL ON TMP-12):

- Y1- STA. 23+93 +/- TO STA. 25+91 +/- (WESTBOUND)
- LPB- STA. 10+00 +/- TO STA. 16+11 +/-
- RPB- STA. 10+30 +/- TO STA. 15+22 +/-

REMOVE BARRICADES AND USING RSD 1101.02 (SHEET 3 OF 19) FOR TEMPORARY LANE CLOSURE, REMOVE TEMPORARY BARRIERS (PCB) ALONG THE OUTSIDE WESTBOUND US 70 LANE ACCORDING TO THE FOLLOWING STATIONS (SEE DETAILS ON TMP-12):

- Y1- STA. 21+72 +/- TO STA. 26+08 +/- (WESTBOUND)

AND OPEN LOOP B AND RAMP B TO TRAFFIC.

STEP 5) CONSTRUCT CUL DE SAC ON HILLTOP AVENUE (-Y3-) ACCORDING TO THE FOLLOWING STATIONS (SEE DETAIL ON TMP-08):

- Y3- STA. 10+50 +/- TO STA. 11+50 +/-

STEP 6) INSTALL THE RAMP C OFF-SITE DETOUR SIGNS AS SHOWN IN THE DETAIL ON TMP-11.

INTERMEDIATE CONTRACT TIME

COMPLETE THE FOLLOWING WORK OF PHASE II, STEP 6 FOR RAMP C IN ACCORDANCE WITH THE INTERMEDIATE CONTRACT TIME OF 21 CONSECUTIVE DAYS (SEE SPECIAL PROVISIONS). SCHEDULE COMPLETION OF THIS WORK WITH THE COMPLETION OF PHASE I CONSTRUCTION OF -L-.

PLACE BARRICADES, DRUMS AND DEVICES TO CLOSE RAMP C (EASTBOUND EXIT RAMP TO NC 50) AND CONSTRUCT NC 50 (-L-) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, AND RAMP C ACCORDING TO THE FOLLOWING STATIONS: (SEE DETAILS ON TMP-10):

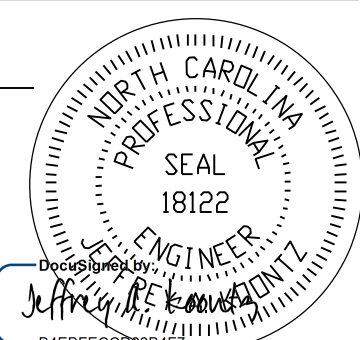
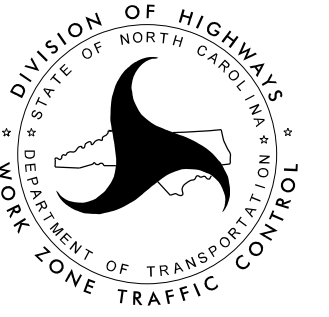

- L- STA. 19+44 +/- TO STA. 20+46 +/- (LEFT)
- RPC- STA. 11+60 +/- TO STA. 14+26 +/-

USING RSD 1101.02 (SHEETS 1 AND 2 OF 19) AND FLAGGERS FOR TEMPORARY LANE CLOSURES AND RSD 1205.01 1205.02, AND 1250.01 PLACE PAVEMENT MARKING (PAINT) AND PAVEMENT MARKERS (TEMPORARY) AND DEVICES FOR NEW TRAFFIC PATTERN ON NC 50 (-L-) ACCORDING TO THE FOLLOWING STATIONS (SEE DETAILS ON TMP-12 THRU TMP-13):

- L- STA. 11+50 +/- TO STA. 29+40 +/-
- RPC- STA. 11+60 +/- TO STA. 14+26 +/-

UNCOVER TEMPORARY SIGNAL AT RAMP C/RAMP D INTERSECTION AND SHIFT NC 50 TRAFFIC INTO TEMPORARY PATTERN. OPEN RAMP C TO TRAFFIC AND REMOVE OFF-SITE DETOUR.

1/11/2024 L:\Legacy\Projects\60436695-B-4654\900_CAD\70_CAD\70_Work\910_CAD\70_NGD01_TIP\TrafficControl\TC\Current_files\B4654_TC_TMP_03_Phasing.dgn patrick.mcpherson

APPROVED: _____ DATE: 1/11/2024		 DIVISION OF HIGHWAYS NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL	<h1 style="margin: 0;">PROJECT PHASING</h1>
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PROJ. REFERENCE NO.	SHEET NO.
B-4654	TMP-03A

PHASE III

STEP 1) WORKING AWAY FROM TRAFFIC OR WITH RSD 1101.02 (SHEET 1 OF 19) AND FLAGGERS FOR TEMPORARY LANE CLOSURES, CONSTRUCT NC 50 (-L-) UP TO THE EDGE AND ELEVATION OF PHASE I PAVEMENT, AND CONSTRUCT STAGE 2 OF BRIDGE OVER US 70 AND RETAINING WALLS ACCORDING TO THE FOLLOWING STATIONS (SEE TMP-12, TMP-12A, AND TMP-13):

- L- STA. 14+30 +/- TO STA. 18+20 +/- (WEDGE & WIDEN RIGHT)
- L- STA. 20+60 +/- TO STA. 34+94 +/- (RIGHT)
- L- STA. 28+55 +/- TO STA. 35+39 +/- (LEFT)
- DR1- STA. 10+35 +/- TO STA. 10+95 +/-

USE RSD 1101.02 (SHEET 3 OF 19) FOR TEMPORARY LANE CLOSURE ON US 70 (-Y1-) FOR STAGE 2 BRIDGE AND WALL CONSTRUCTION THAT DOES NOT REQUIRE ROAD CLOSURES. USE DETOUR ON TMP-06 FOR CONSTRUCTION REQUIRING OFF-SITE DETOURS ACCORDING TO THE FOLLOWING STATIONS (SEE TMP-12):

- Y1- STA. 27+36 +/- TO STA. 27+76 +/- (MEDIAN)
- Y1- STA. 27+86 +/- TO STA. 28+58 +/- (EBL)
- Y1- STA. 26+95 +/- TO STA. 31+00 +/- (WBL)

NC 50 GIRDER INSTALLATION AND EXISTING GIRDER/DECK REMOVAL OVER EASTBOUND US 70

WORKING ON CONSECUTIVE NIGHTS, INSTALL GIRDERS ON NEW BRIDGE AND REMOVE GIRDERS ON OLD BRIDGE OVER EASTBOUND US 70 (-Y1-) AS FOLLOWS:

UNCOVER BRIDGE DETOUR SIGNS FOR EASTBOUND US 70 AND USING POLICE, SHIFT TRAFFIC TO THE OFF-SITE DETOUR, AND PLACE BARRICADES TO CLOSE EASTBOUND US 70 AT US 50 INTERCHANGE.

REMOVE DECK AND ALL NC 50 (-L-) GIRDERS FROM EXISTING BRIDGE AND SET ALL PROPOSED BRIDGE GIRDERS OVER THE EASTBOUND LANES OF US 70 (Y1).

AT THE END OF EACH NIGHT, OPEN EASTBOUND LANES OF US 70 TO TRAFFIC, REMOVE BARRICADES, AND COVER EASTBOUND OFF-SITE DETOUR SIGNS.

NC 50 GIRDER INSTALLATION AND EXISTING GIRDER/DECK REMOVAL OVER WESTBOUND US 70

WORKING ON CONSECUTIVE NIGHTS, INSTALL GIRDERS OVER WESTBOUND US 70 (-Y1-) AS FOLLOWS:

UNCOVER BRIDGE DETOUR SIGNS FOR WESTBOUND US 70 AND USING POLICE, SHIFT TRAFFIC TO THE OFF-SITE DETOUR, AND PLACE BARRICADES TO CLOSE WESTBOUND US 70 AT NEW RAND ROAD, CARROLL DRIVE AND MONTAGUE STREET.

REMOVE DECK AND ALL NC 50 (-L-) GIRDERS FROM EXISTING BRIDGE AND SET ALL PROPOSED BRIDGE GIRDERS OVER THE WESTBOUND LANES OF US 70 (-Y1-).

AT THE END OF EACH NIGHT, OPEN WESTBOUND LANES OF US 70, CARROLL DRIVE AND MONTAGUE STREET TO TRAFFIC, REMOVE BARRICADES, AND COVER WESTBOUND OFF-SITE DETOUR SIGNS.

STEP 2) INSTALL OFF-SITE DETOUR SIGNS AND PLACE BARRICADES AND DEVICES TO CLOSE RAMP D (-RPD-) TO TRAFFIC (SEE TMP-14).

INTERMEDIATE CONTRACT TIME
 COMPLETE THE FOLLOWING WORK OF PHASE III, STEP 3 FOR RAMP D AND NC 50 BENSON ROAD IN ACCORDANCE WITH THE INTERMEDIATE CONTRACT TIME OF 14 CONSECUTIVE DAYS (SEE SPECIAL PROVISIONS).

STEP 3) WORKING IN A CONTINUOUS MANNER, CONSTRUCT NC 50 (-L-) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, AND RAMP D (-RPD-) ACCORDING TO THE FOLLOWING STATIONS (SEE DETAILS ON TMP-12):

- L- STA. 18+20 +/- TO -L- STA. 20+60 +/-
- RPD- STA. 11+20 +/- TO STA. 13+15 +/-

USING RSD 1205.01, 1205.02, 1205.03, AND 1250.01 PLACE TEMPORARY PAVEMENT MARKING (PAINT) AND PAVEMENT MARKERS (TEMPORARY) ON NC 50 (-L-) AND RAMP D (-RPD-) ACCORDING TO THE FOLLOWING STATIONS (SEE DETAIL ON TMP-13):

- L- STA. 17+53 +/- TO -L- STA. 20+27 +/-
- RPD- STA. 11+20 +/- TO STA. 13+15 +/-

MODIFY TRAFFIC SIGNAL AT RAMP C/RAMP D, REMOVE BARRICADES, RESET DEVICES AND OPEN RAMP D TO TRAFFIC.

PHASE IV

STEP 1) USING RSD 1101.02 (SHEETS 1 AND 2 OF 19) AND FLAGGERS, INSTALL AND COVER PERMANENT TRAFFIC SIGNALS AND DETECTION LOOPS ON NC 50 (-L-) AT LOOP B AND AT RAMPS C AND D AS SHOWN IN THE SIGNAL PLANS.

USING RSD 1101.02 (SHEET 1 AND 2 OF 19) AND FLAGGERS FOR TEMPORARY LANE CLOSURES WHILE MAINTAINING TRAFFIC IN THE EXISTING PATTERN, WEDGE PAVEMENT OF NC 50 (-L-) UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, ACCORDING TO THE FOLLOWING STATIONS (SEE TMP-15):

- L- STA. 14+30 +/- TO STA. 18+20 +/-
- L- STA. 26+50 +/- TO STA. 35+17 +/-

STEP 2) UPON COMPLETION OF BRIDGE DECK, USE RSD 1101.02 (SHEETS 1 AND 2 OF 19) WITH FLAGGERS AND REMOVE THE TEMPORARY BARRIER (PCB) FROM NC 50 AND REPLACE TEMPORARY EXPANSION JOINT SEAL WITH FINAL EXPANSION JOINT SEAL.

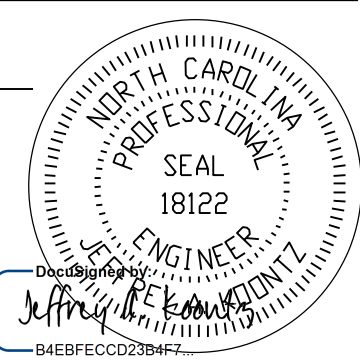
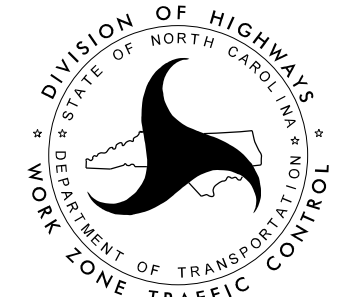
STEP 3) USING RSD 1101.02 (SHEETS 1, 2 AND 3 OF 19) AND FLAGGERS FOR TEMPORARY LANE CLOSURES, REMOVE TEMPORARY BARRIERS (PCB) FROM US 70 AND PLACE OVERLAY OR FINAL LAYER OF SURFACE COURSE ON NC 50 (-L-), US 70 (-Y1-), AND CIRCLE ROAD (-Y2-), AND USING RSD 1205.01 THRU 1205.05, 1205.07, 1205.08 AND 1205.12, RSD 1250.01, AND RSD 1251.01, PLACE PERMANENT PAVEMENT MARKING (THERMOPLASTIC OR POLYUREA) IN FINAL PATTERN ACCORDING TO THE PAVEMENT MARKING PLANS FOR -L-, -Y-LINES, LOOPS, AND RAMPS ACCORDING TO THE FOLLOWING STATIONS:

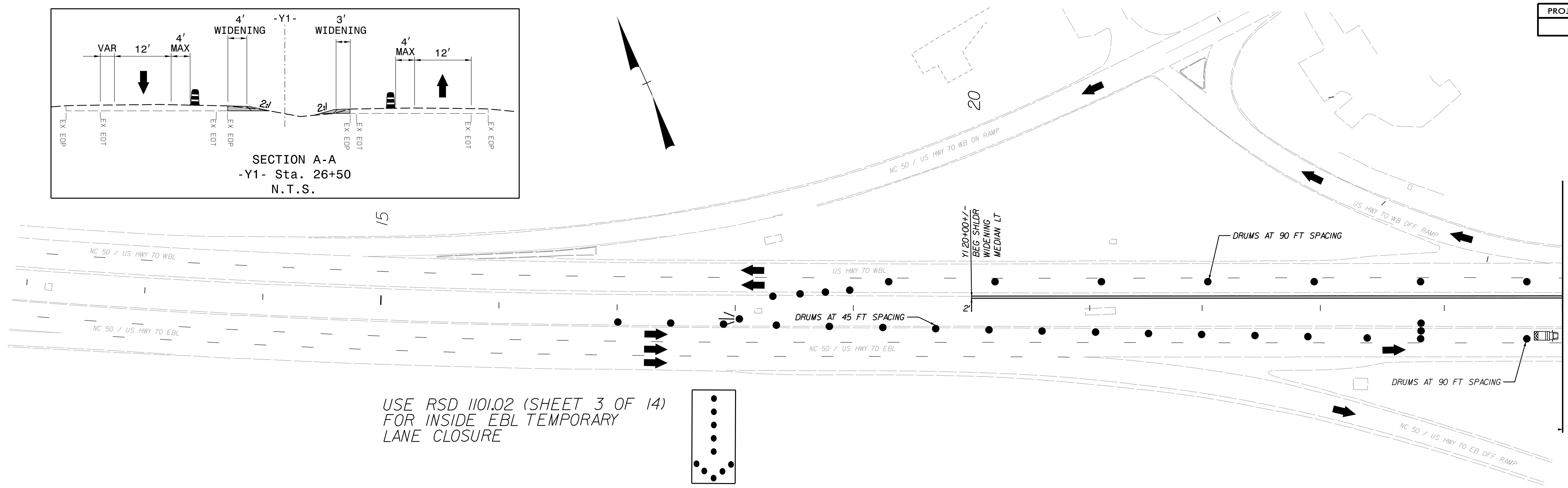
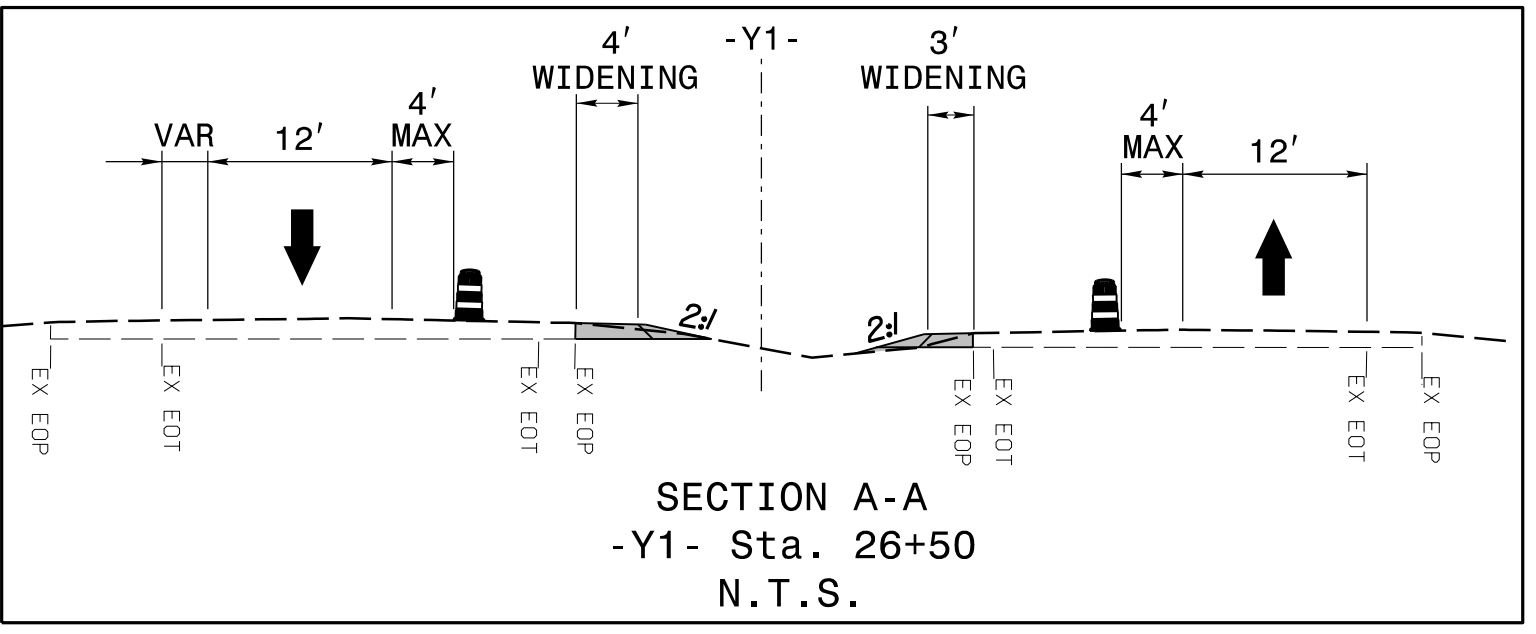
- L- STA. 14+30 +/- TO STA. 21+83 +/-
- L- STA. 21+83 +/- TO STA. 23+66 +/- (POLYUREA)
- L- STA. 23+66 +/- TO STA. 35+17 +/-
- Y1- STA. 25+54 +/- TO STA. 31+00 +/- (WESTBOUND)
- Y1- STA. 26+65 +/- TO STA. 28+58 +/- (EASTBOUND)
- Y2- STA. 12+47 +/- TO STA. 12+77 +/-
- RPB- STA. 10+30 +/- TO STA. 14+81 +/- (PAVEMENT MARKING ONLY)
- LPB- STA. 10+00 +/- TO STA. 15+86 +/- (PAVEMENT MARKING ONLY)
- RPC- STA. 11+60 +/- TO STA. 13+69 +/- (PAVEMENT MARKING ONLY)
- RPD- STA. 11+20 +/- TO STA. 14+06 +/- (PAVEMENT MARKING ONLY)

USE RSD 1101.02 (SHEETS 1 OF 19) AND FLAGGERS TO UNCOVER PERMANENT TRAFFIC SIGNALS ON NC 50 WHEN FINAL PAVEMENT MARKING IS PLACED AT THESE INTERSECTIONS.

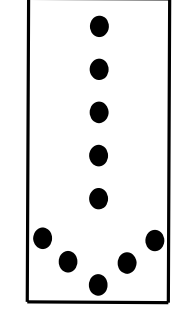
OPEN PROJECT FULLY TO TRAFFIC.

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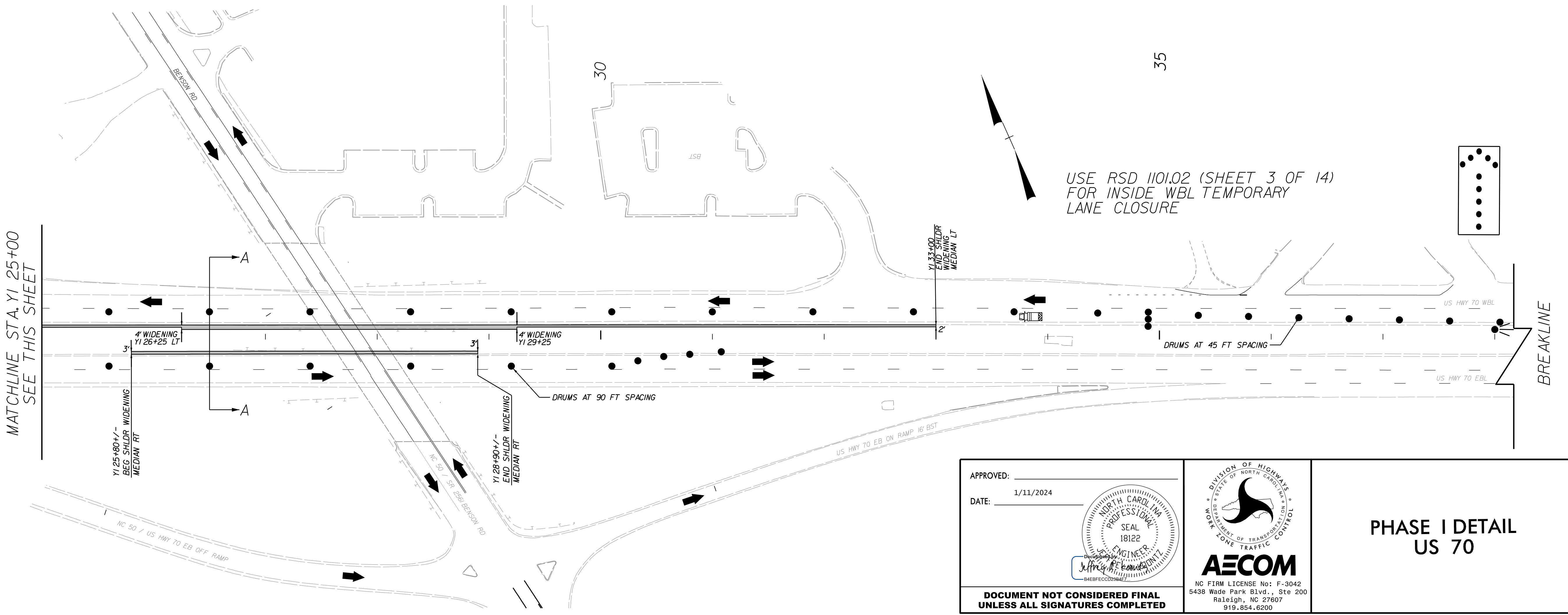
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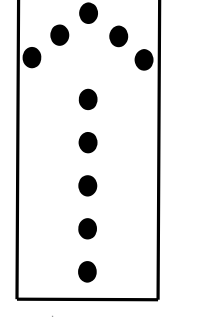
USE RSD 1101.02 (SHEET 3 OF 14)
FOR INSIDE EBL TEMPORARY
LANE CLOSURE



MATCHLINE STA. Y1 25+00
SEE THIS SHEET



USE RSD 1101.02 (SHEET 3 OF 14)
FOR INSIDE WBL TEMPORARY
LANE CLOSURE



MATCHLINE STA. Y1 25+00
SEE THIS SHEET

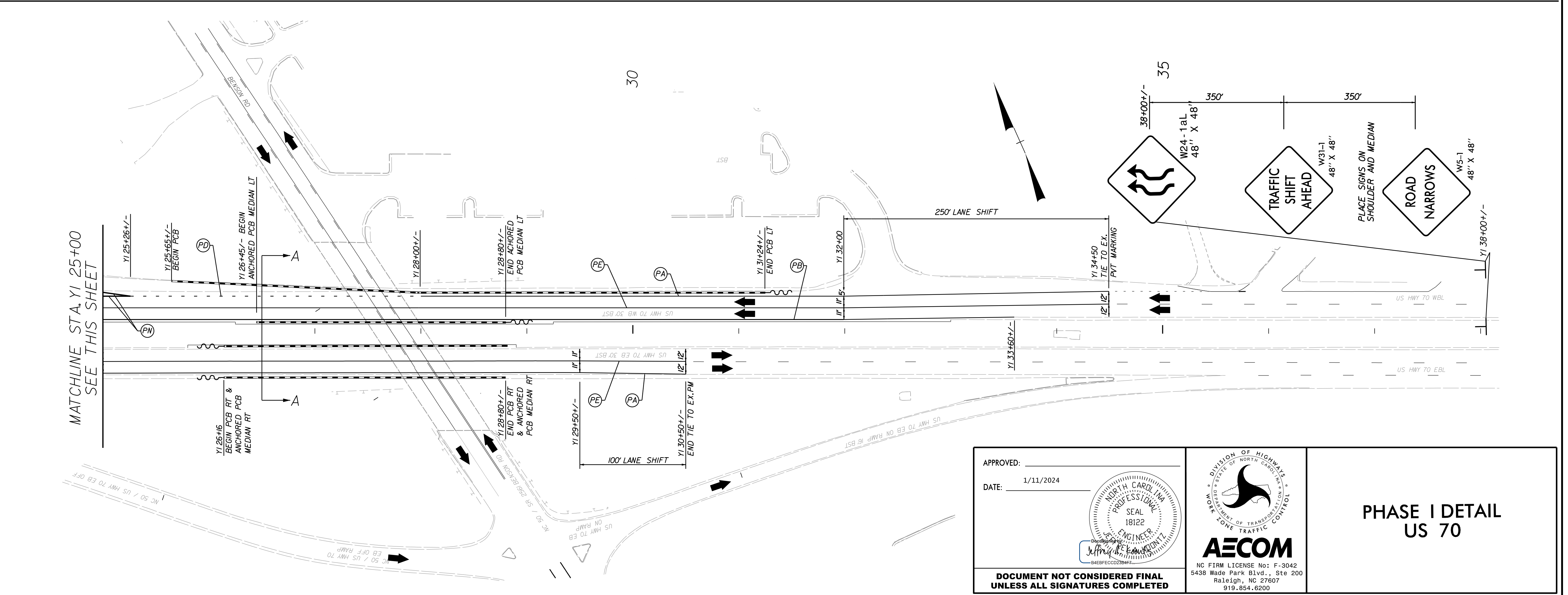
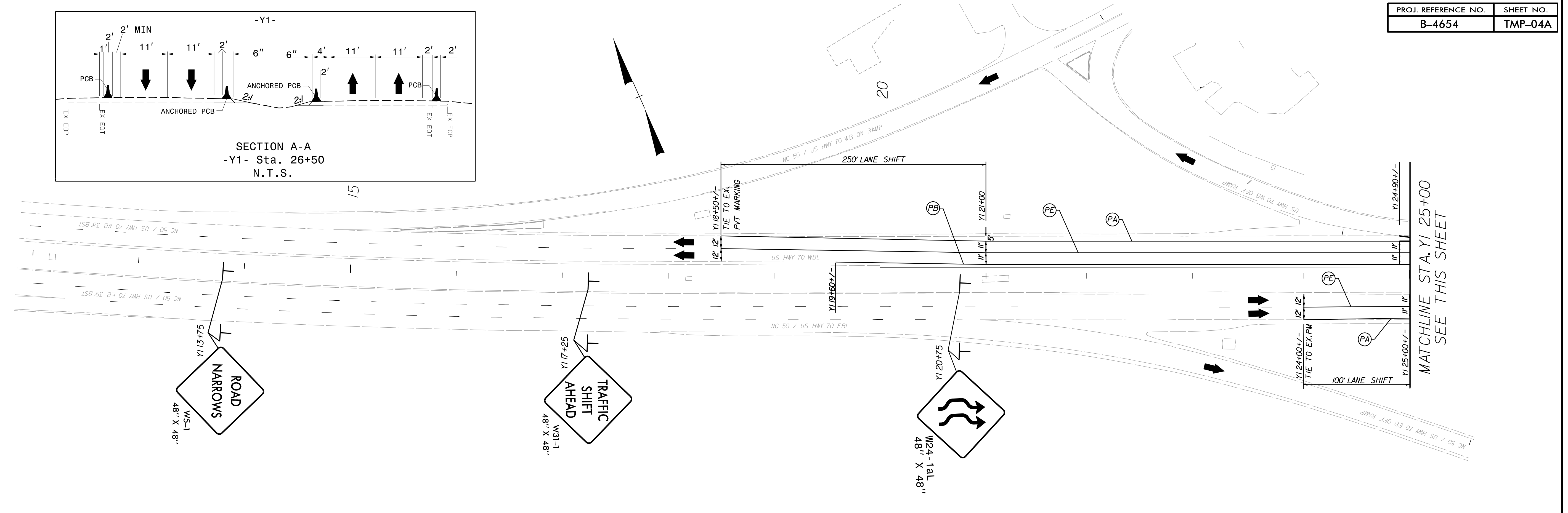
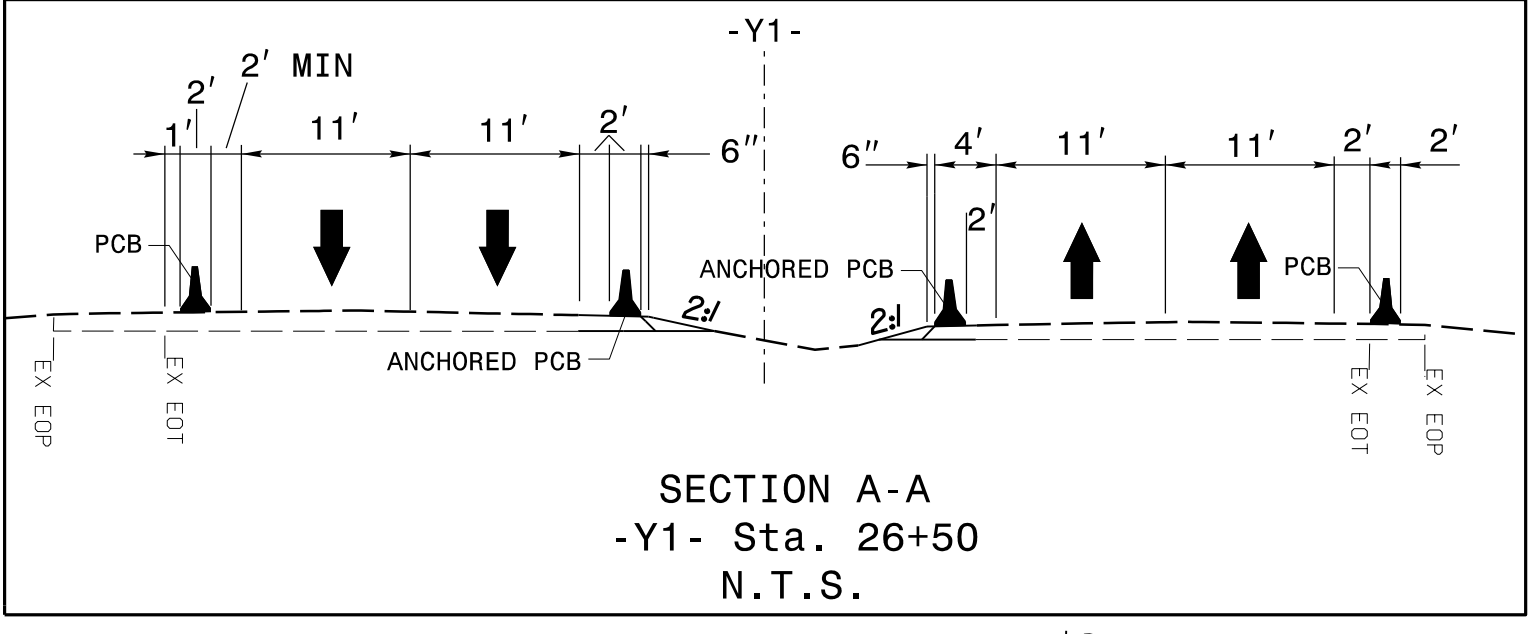
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**PHASE I DETAIL
US 70**

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 patrick.mcpherson



1/11/2024
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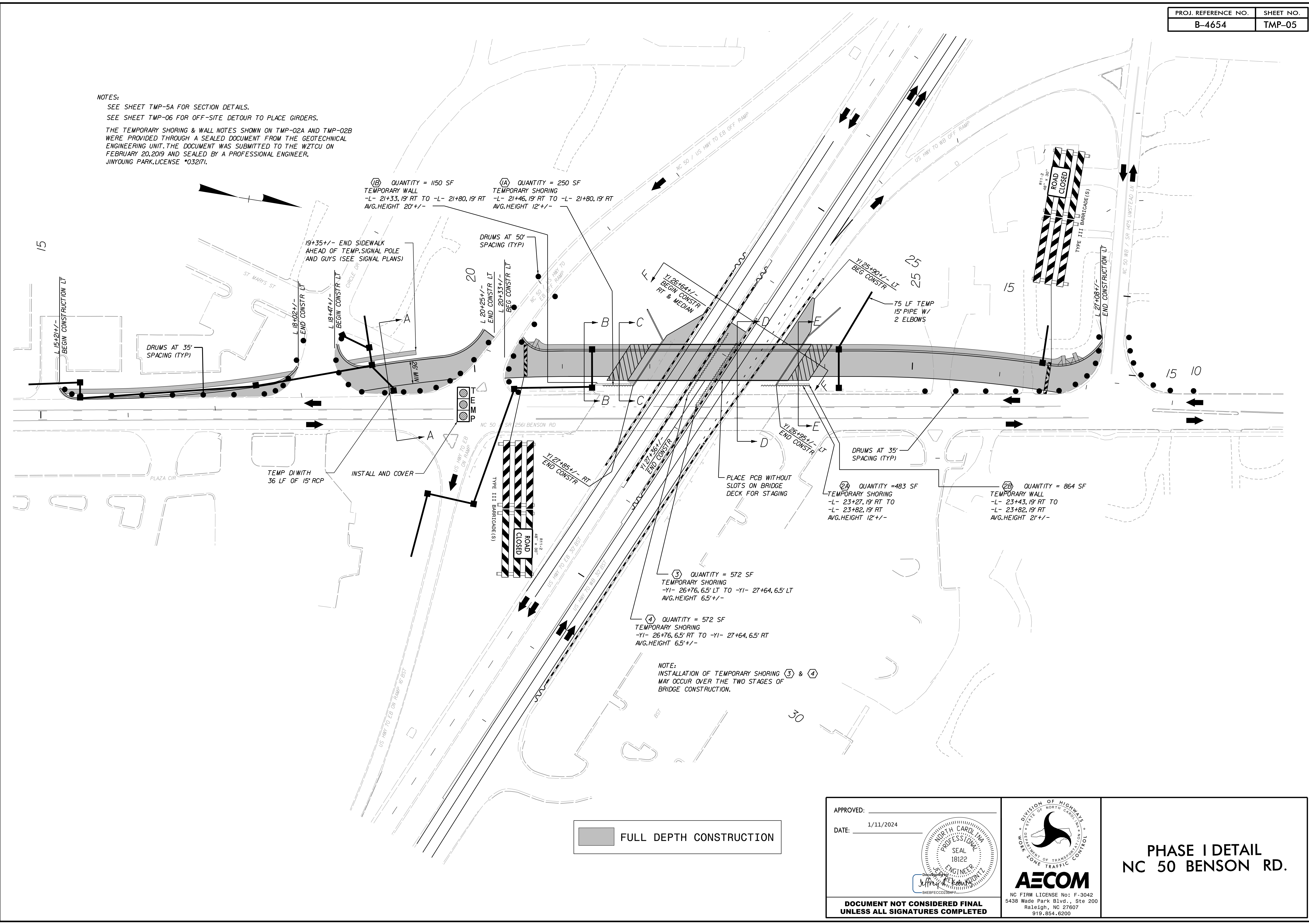
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**PHASE I DETAIL
US 70**

NOTES:
 SEE SHEET TMP-5A FOR SECTION DETAILS.
 SEE SHEET TMP-06 FOR OFF-SITE DETOUR TO PLACE GIRDERS.
 THE TEMPORARY SHORING & WALL NOTES SHOWN ON TMP-02A AND TMP-02B WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO THE WZTCU ON FEBRUARY 20, 2019 AND SEALED BY A PROFESSIONAL ENGINEER, JINYOUNG PARK, LICENSE #032171.



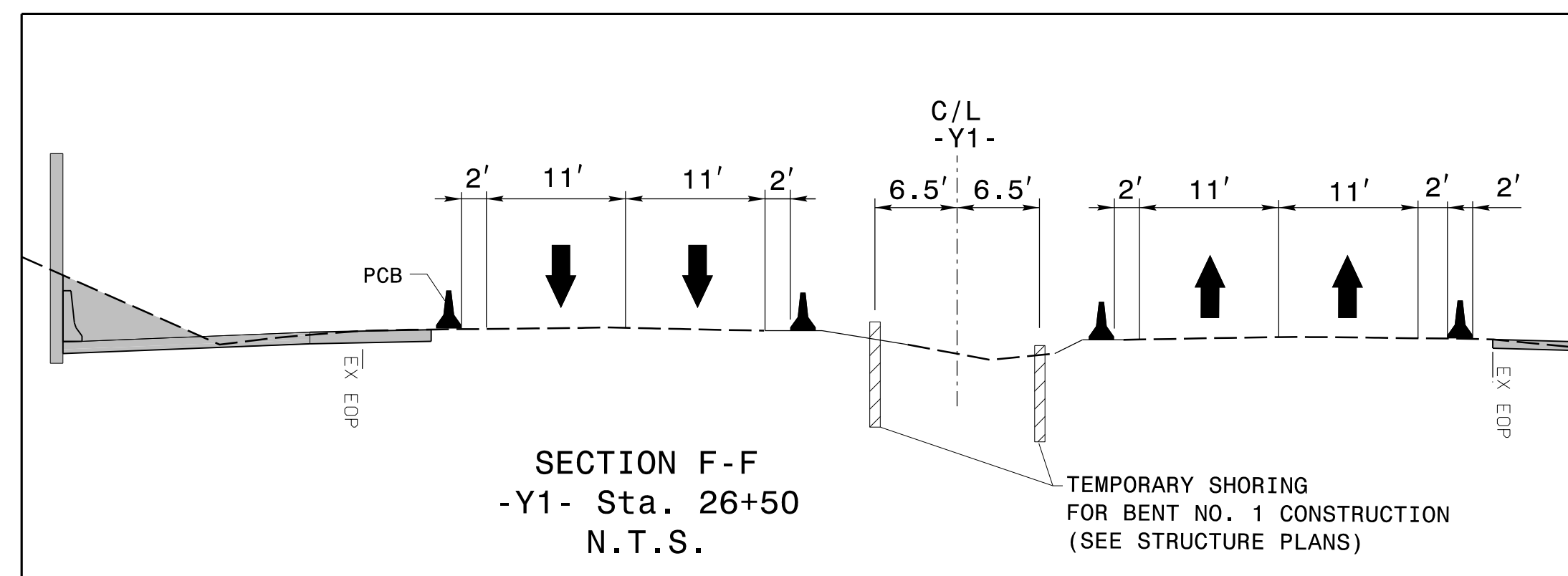
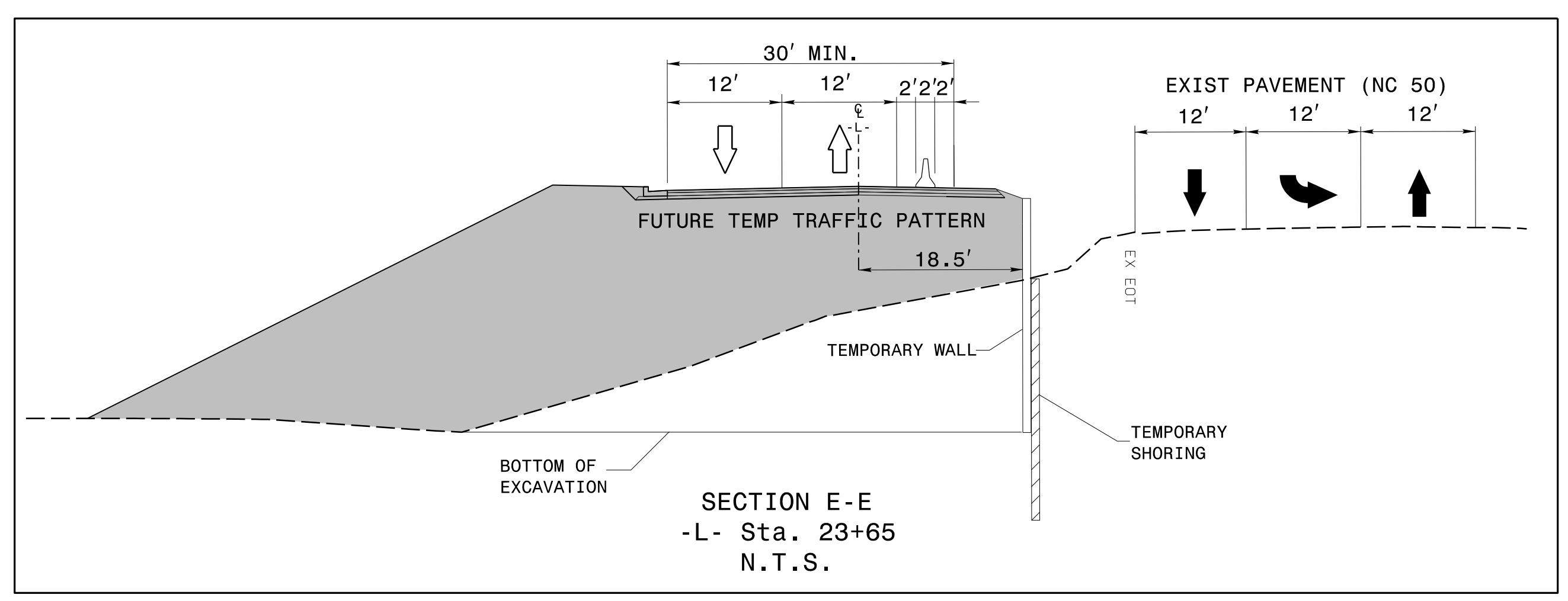
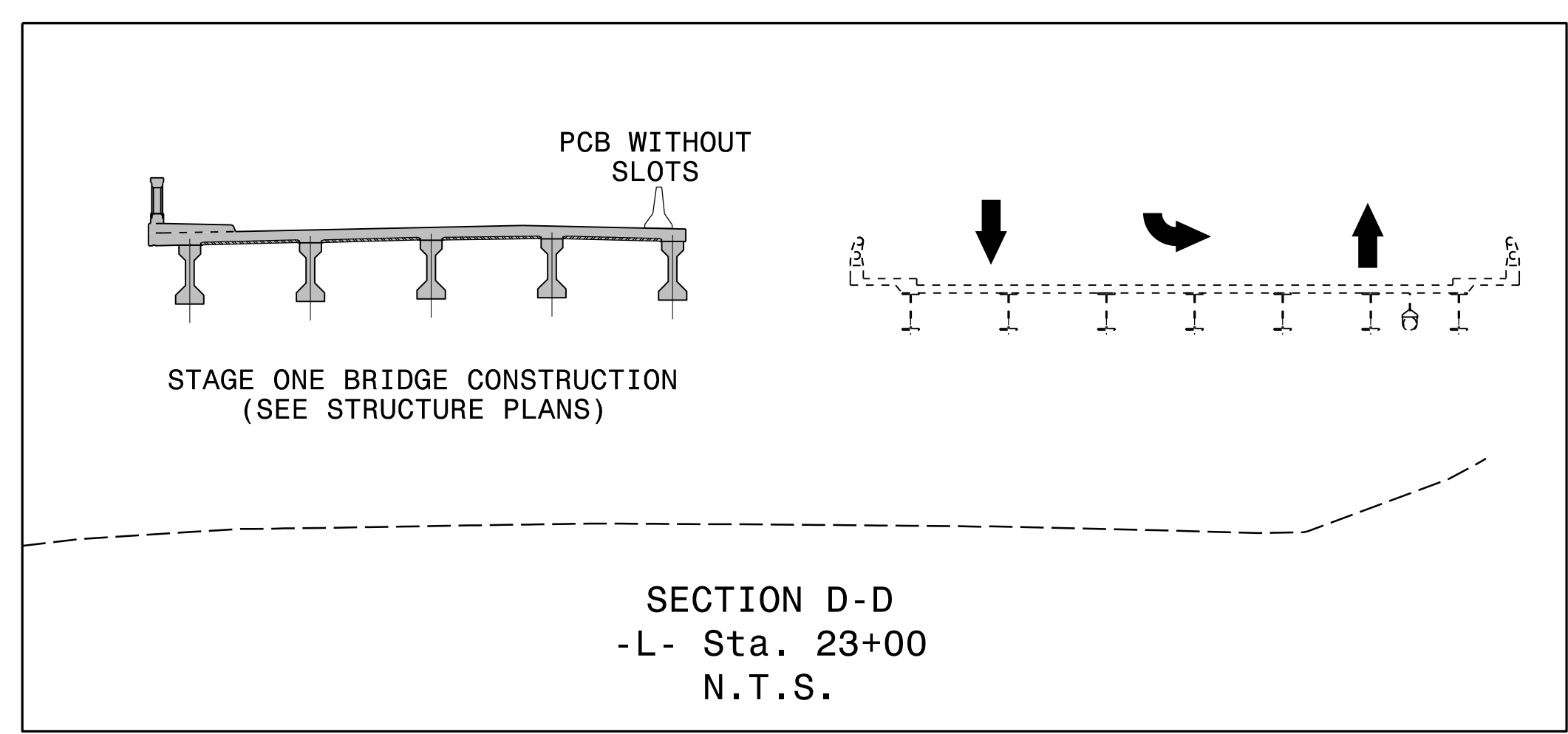
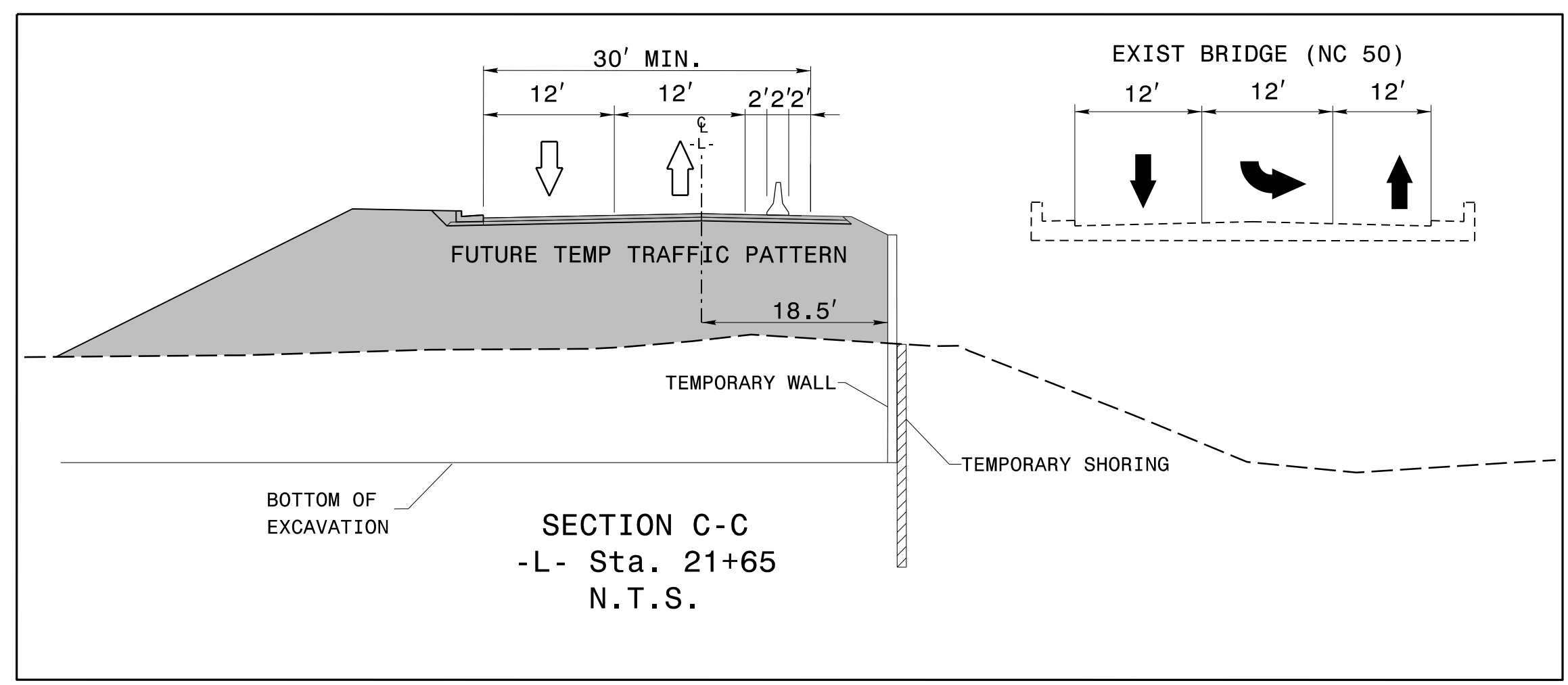
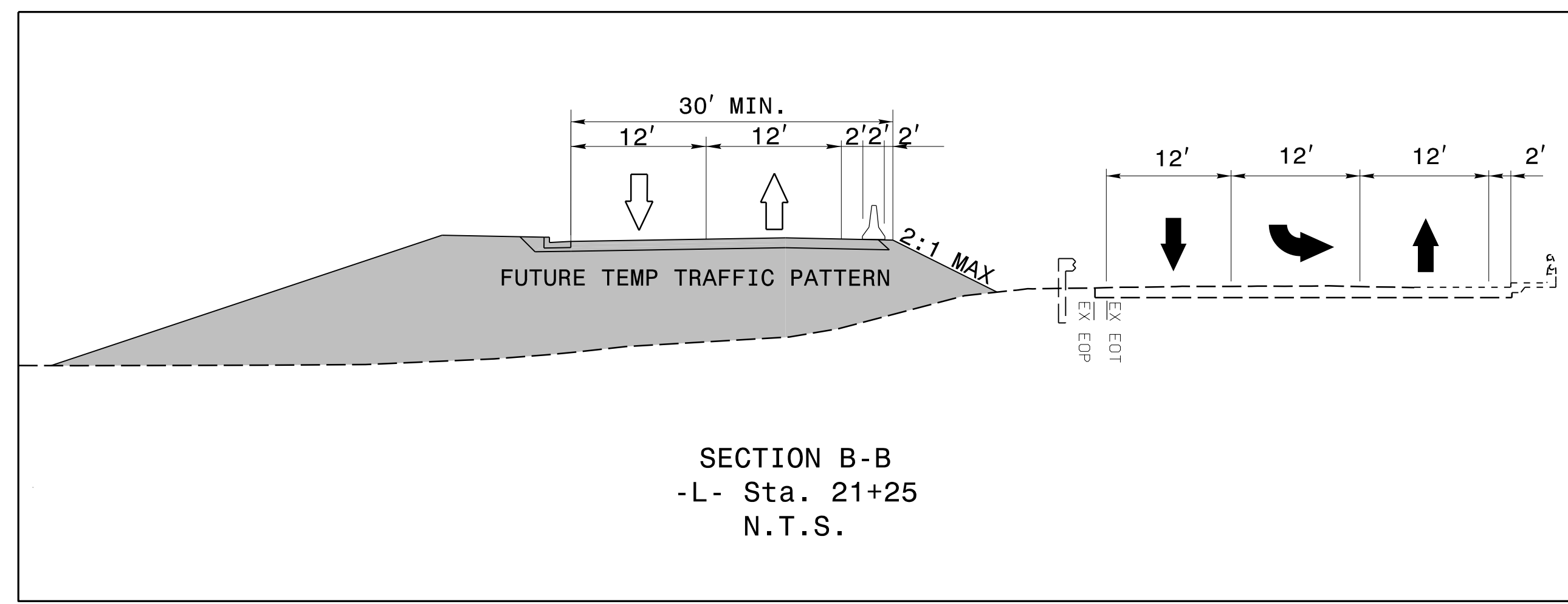
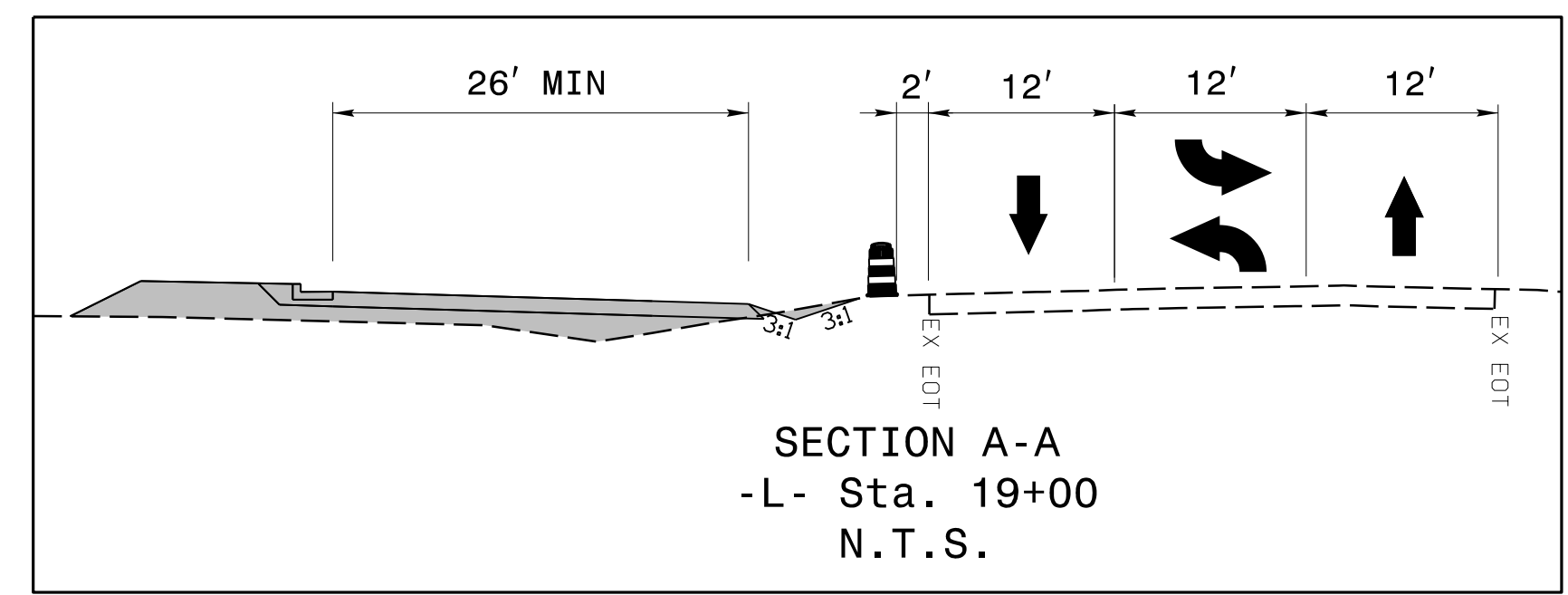
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**PHASE I DETAIL
 NC 50 BENSON RD.**



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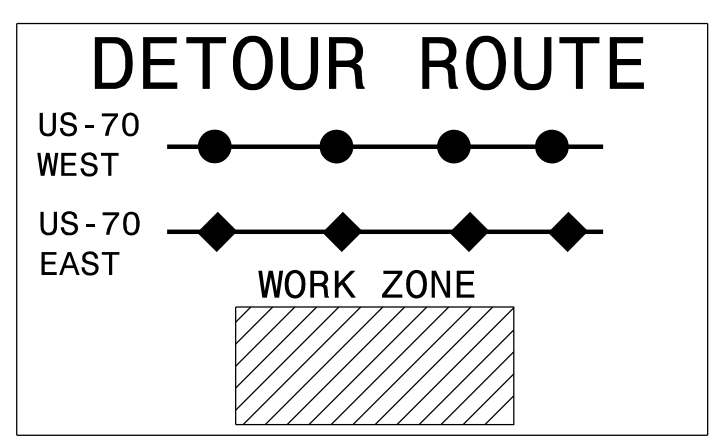
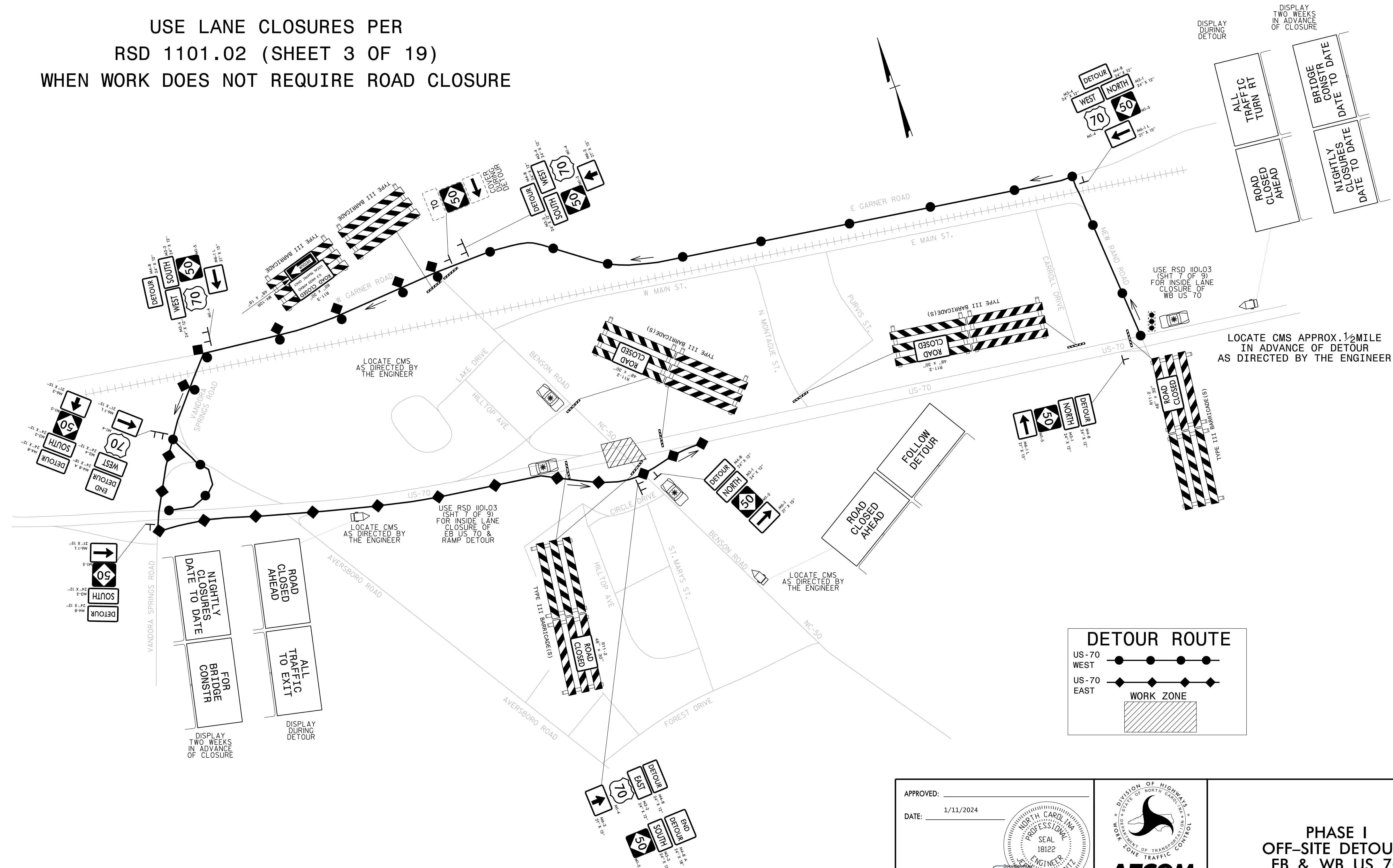
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**PHASE I DETAIL
NC 50 BENSON RD.**

OFF-SITE DETOURS FOR REMOVAL OF EXISTING BRIDGE GIRDERS AND INSTALLATION OF PROPOSED GIRDERS

USE LANE CLOSURES PER
RSD 1101.02 (SHEET 3 OF 19)
WHEN WORK DOES NOT REQUIRE ROAD CLOSURE



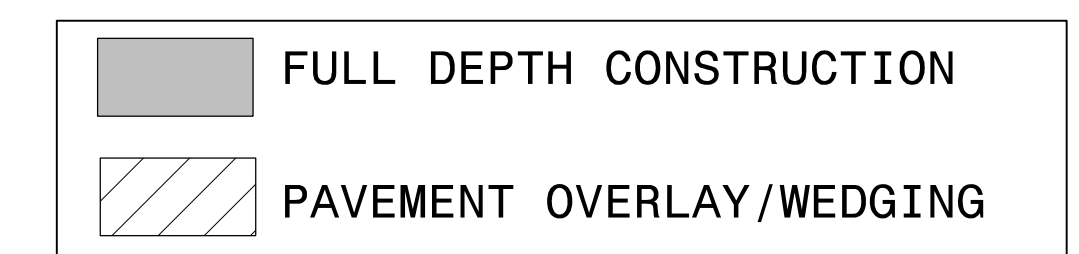
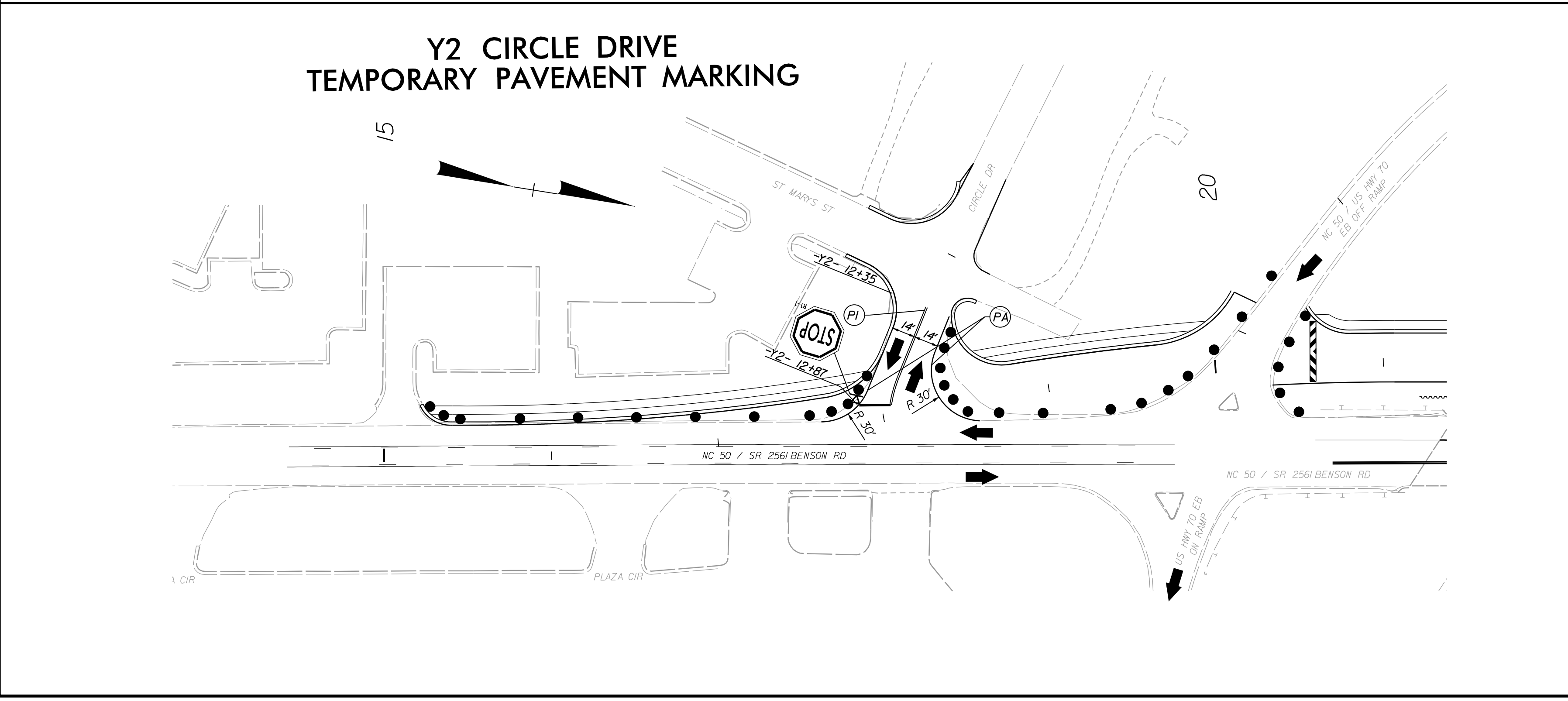
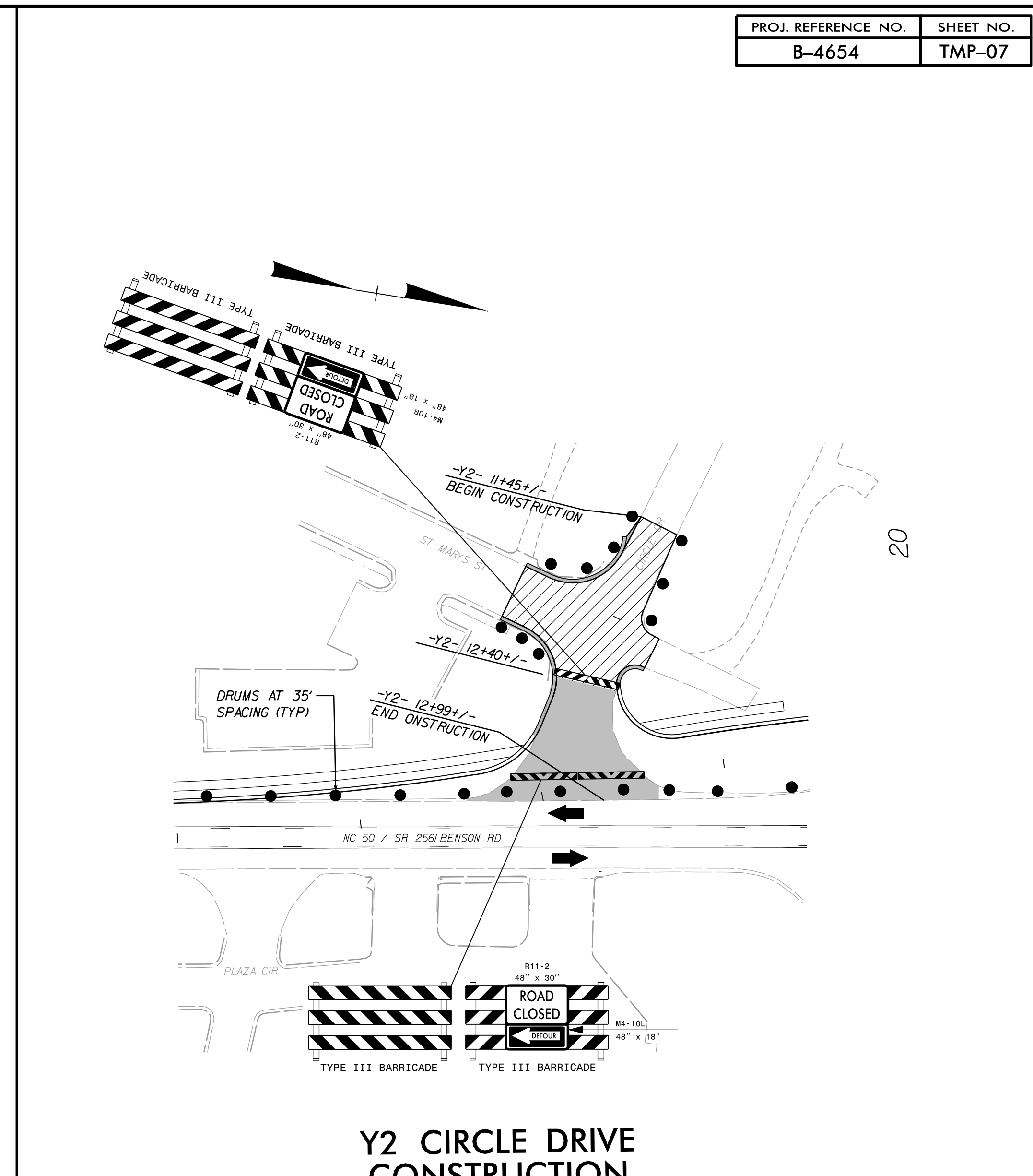
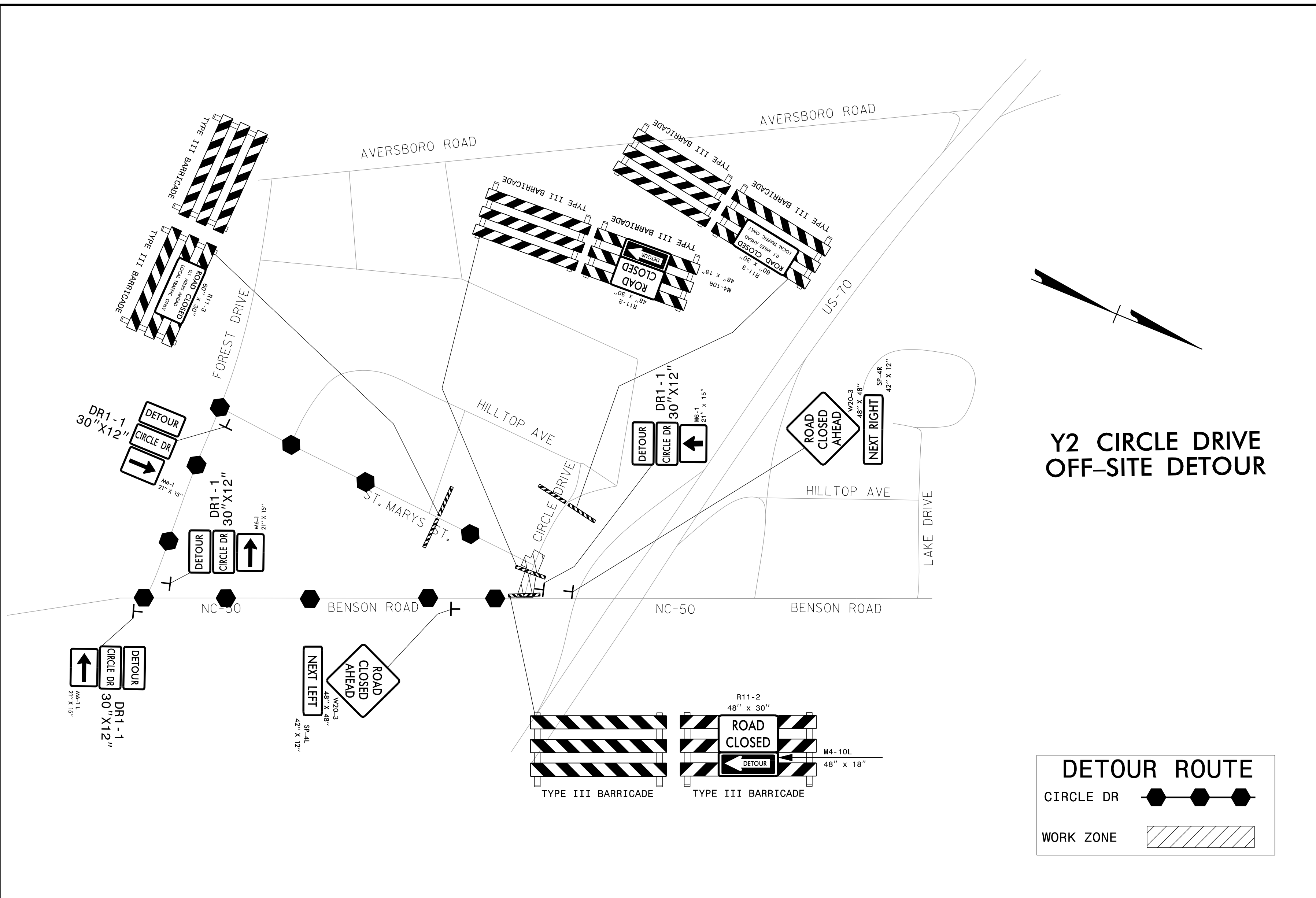
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**PHASE I
OFF-SITE DETOURS
EB & WB US 70**






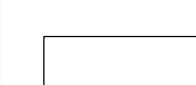
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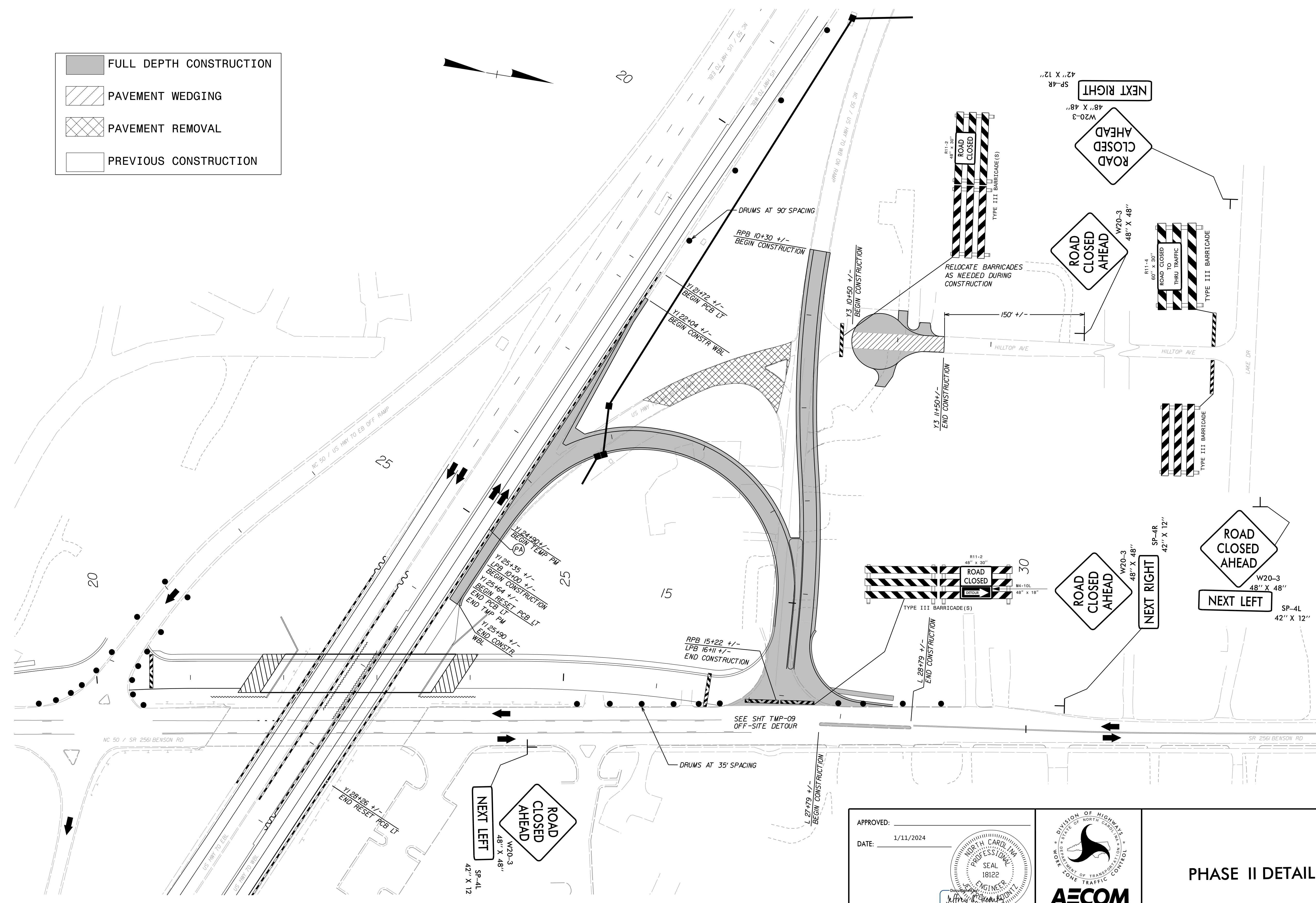
JEFFREY E. KENNEDY
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 18122
 BAEFECCD284F

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**PHASE I DETAILS
 Y2 CIRCLE DRIVE**

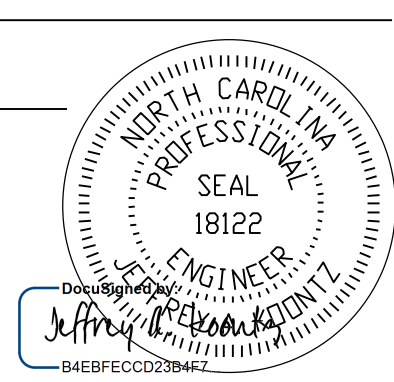
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 PATRIK.mcpherson

	FULL DEPTH CONSTRUCTION
	PAVEMENT WEDGING
	PAVEMENT REMOVAL
	PREVIOUS CONSTRUCTION




1/11/2024
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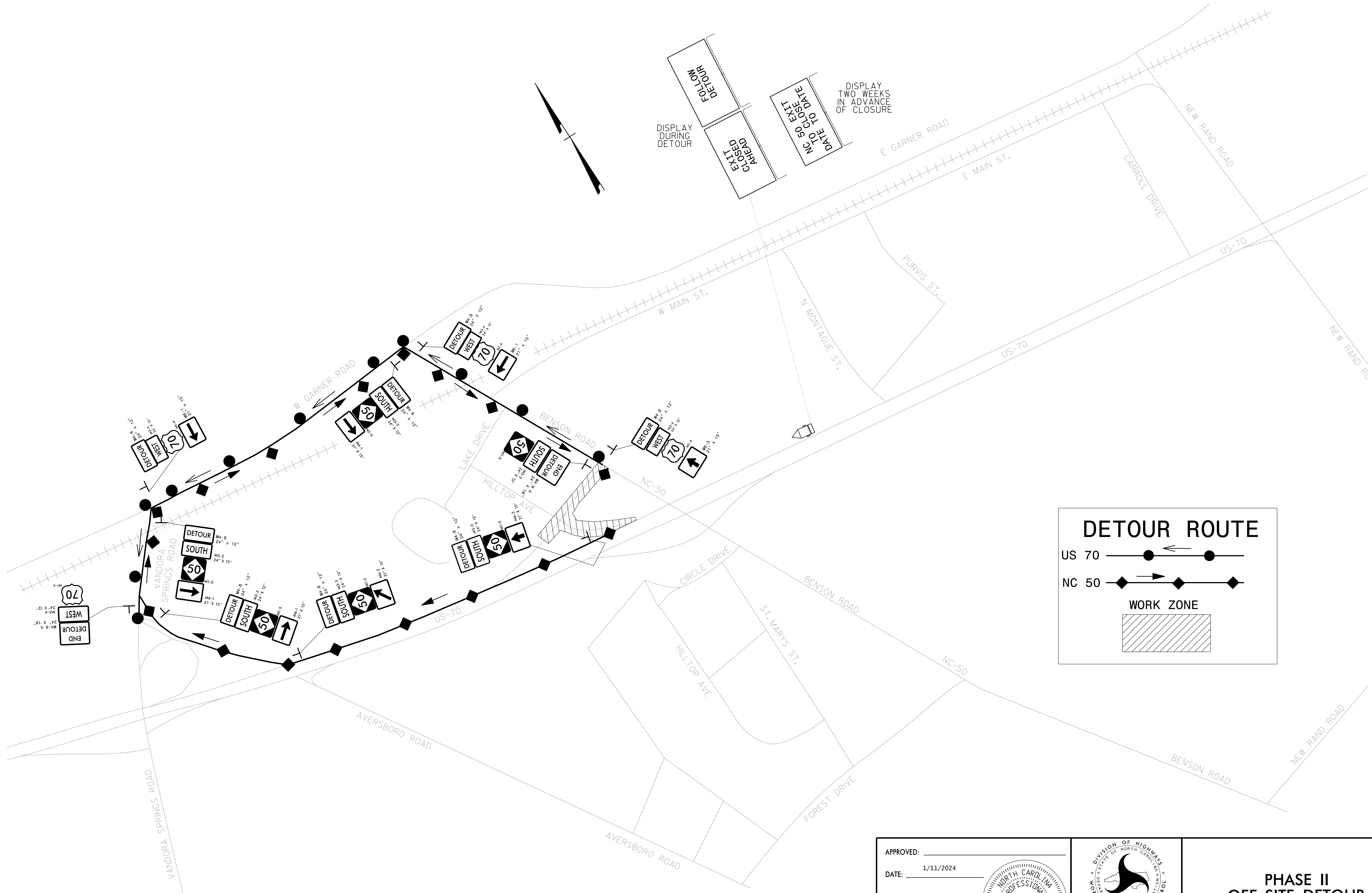


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PHASE II DETAIL



DISPLAY DURING
DETOUR

EXIT
AHEAD

DATE TO CLOSE
NG 50 EXIT

DISPLAY
TWO WEEKS
IN ADVANCE
OF CLOSURE

DETOUR ROUTE

US 70

NC 50

WORK ZONE

1/11/2024
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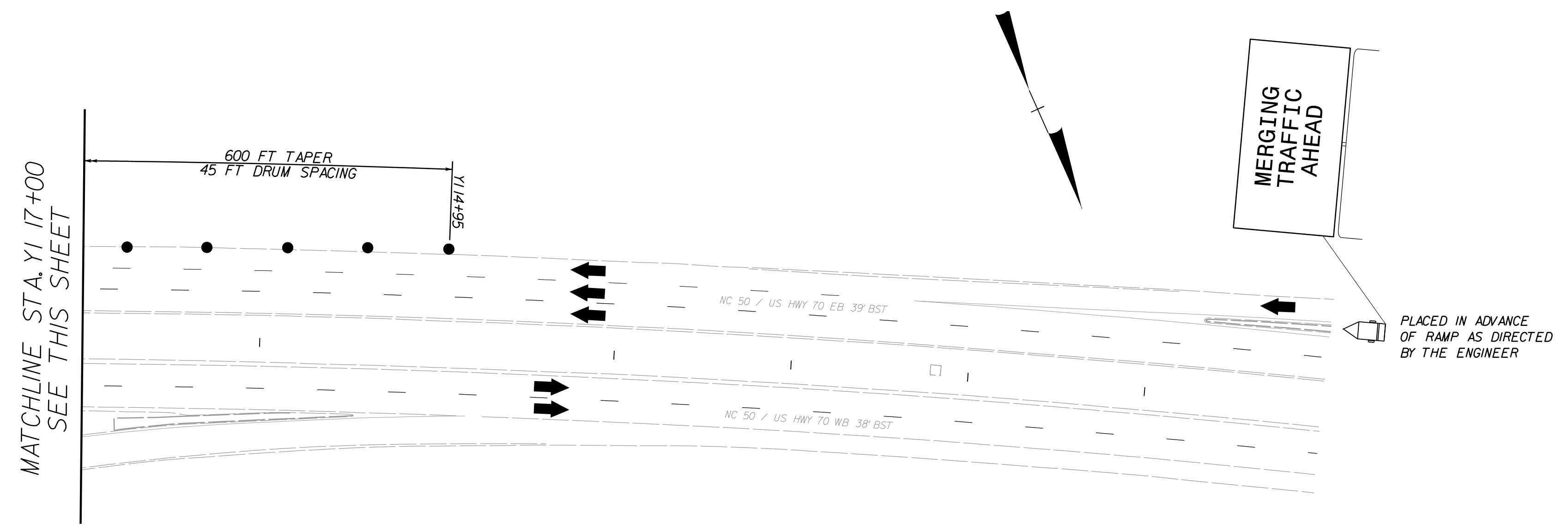
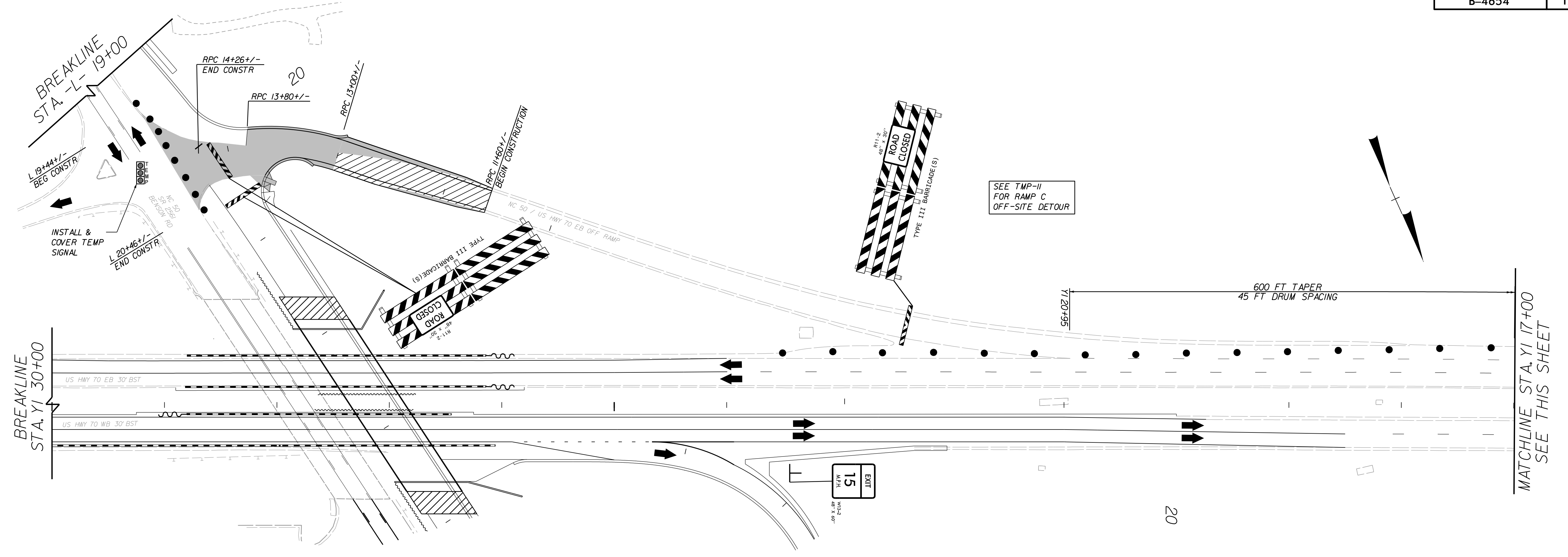
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**PHASE II
OFF-SITE DETOUR
FOR LOOP B AND RAMP B
CONSTRUCTION**



	FULL DEPTH CONSTRUCTION
	PAVEMENT WEDGING
	PREVIOUS CONSTRUCTION

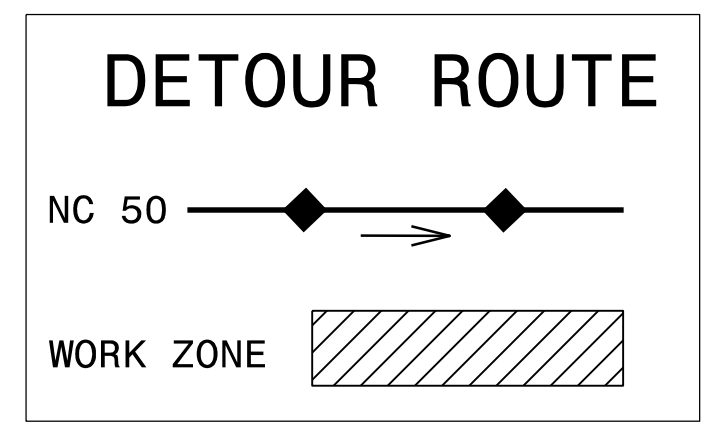
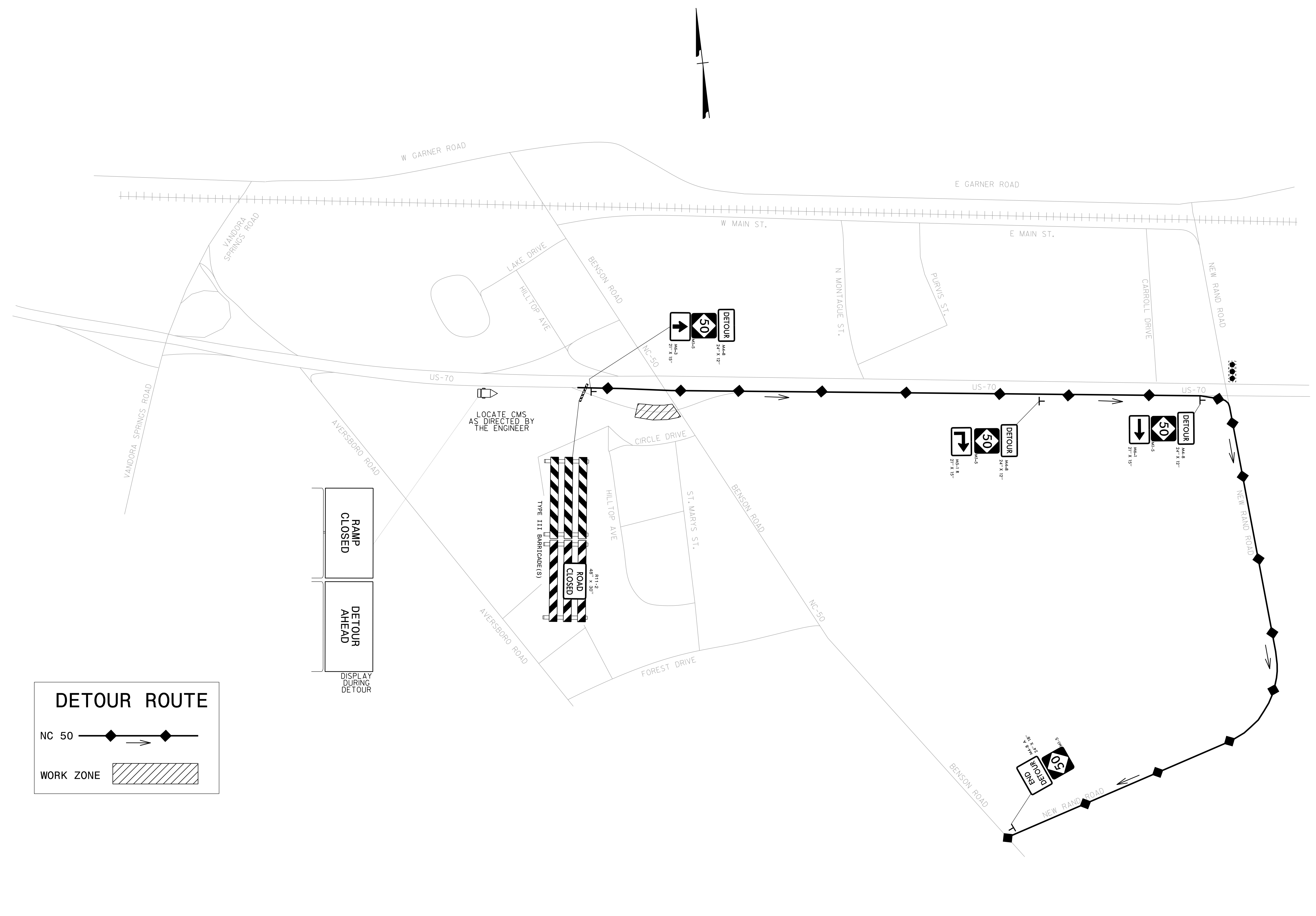
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**PHASE II DETAIL
RAMP C**

1/11/2024
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 PATRICK MCPHERSON



RAMP
CLOSED

DETOUR
AHEAD

DISPLAY
DURING
DETOUR

LOCATE CMS
AS DIRECTED BY
THE ENGINEER

TYPE III Barricade(S)

ROAD
CLOSED

48' x 30'

48' x 30'

APPROVED: _____

DATE: 1/11/2024

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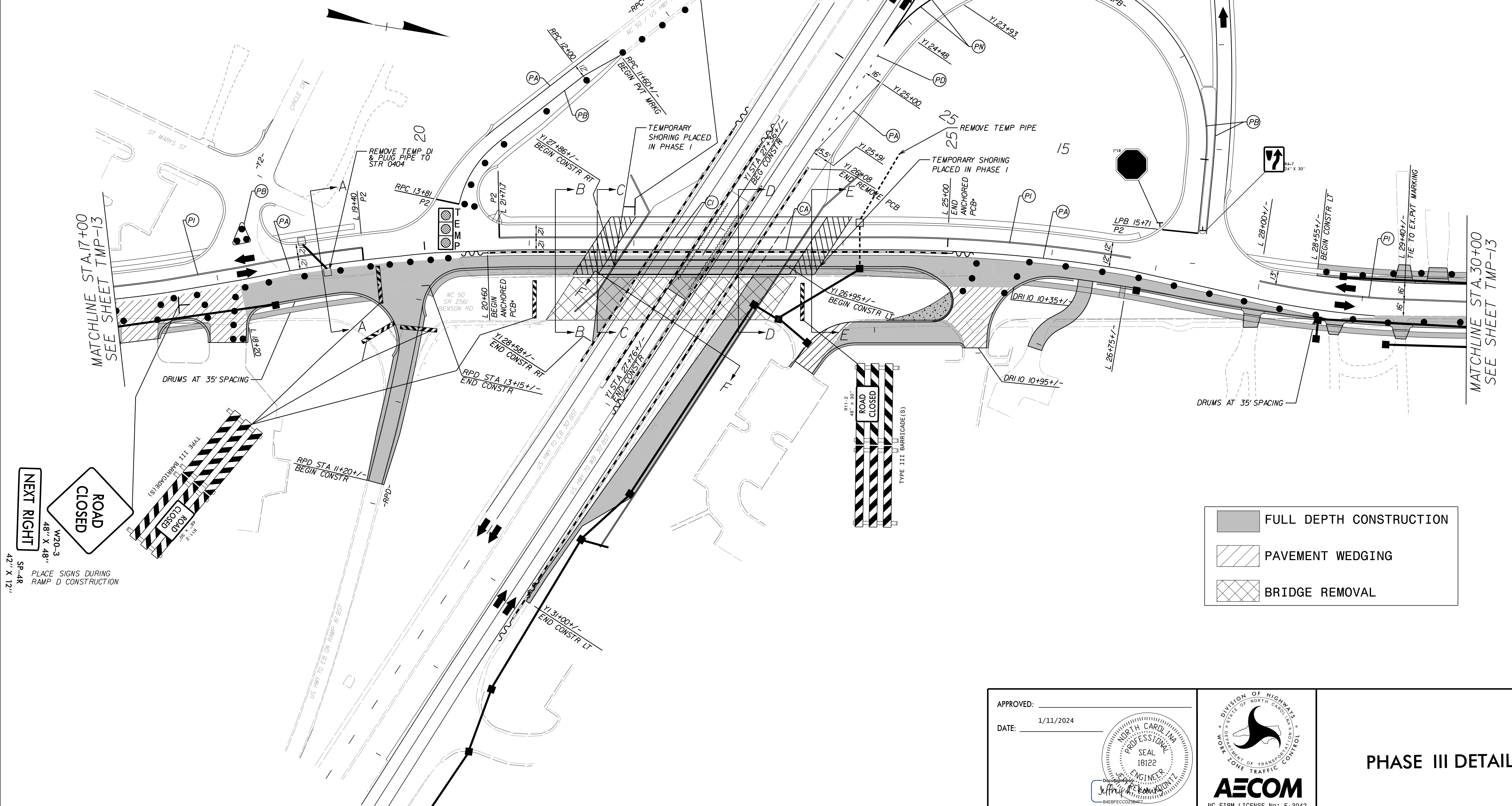
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**PHASE II DETAIL
RAMP C DETOUR**

1/11/2024
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 pattrick.mcpherson

SEE TMP-06 FOR OFF-SITE DETOUR TO PLACE GIRDERS AND REMOVE EXISTING BRIDGE
 SEE TMP-12A FOR SECTION DETAILS.
 SEE TMP-14 FOR OFF-SITE DETOUR FOR RAMP D CLOSURE

* PLACE PCB WITHOUT DRAINAGE SLOTS ON BRIDGE FROM STA. 21+56 TO 23+88



	FULL DEPTH CONSTRUCTION
	PAVEMENT WEDGING
	BRIDGE REMOVAL

NEXT RIGHT
 W20-3
 48" X 48"
 SF-4R
 42" X 12"
 PLACE SIGNS DURING RAMP D CONSTRUCTION

ROAD CLOSED
 W20-3
 48" X 48"
 SF-4L
 42" X 12"
 PLACE SIGNS DURING RAMP D CONSTRUCTION

1/11/2024
 L:\Legacy\Projects\60436695-B-4654\900_CAD\70_NGD01_TIP\TrafficControl\CP\Current_files\B4654_TC_TMP_12_PhaseIII.dgn
 pattrick.mcpherson

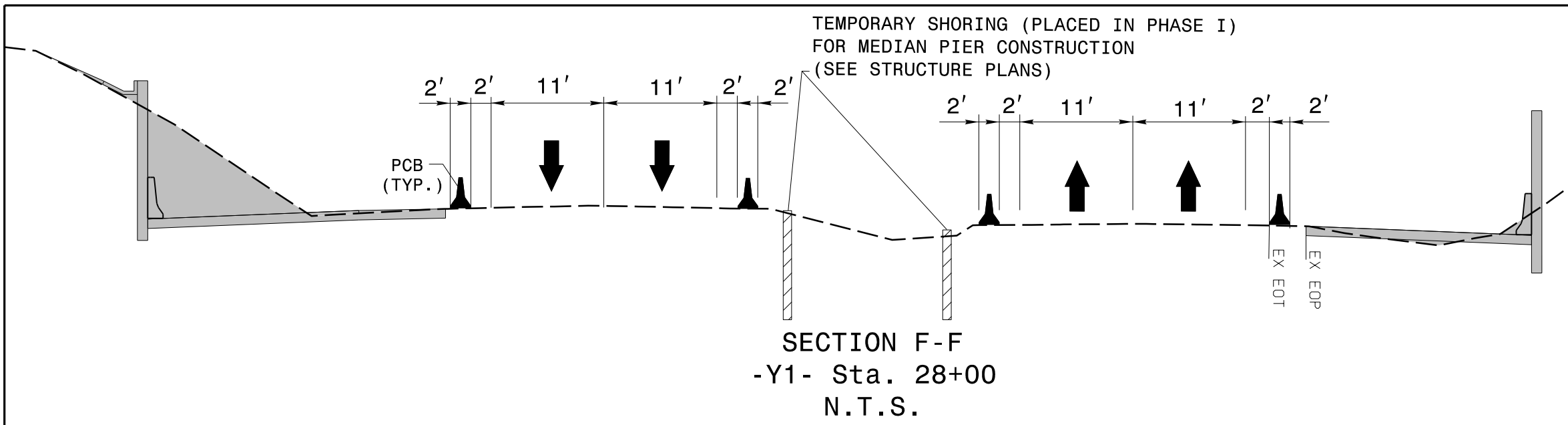
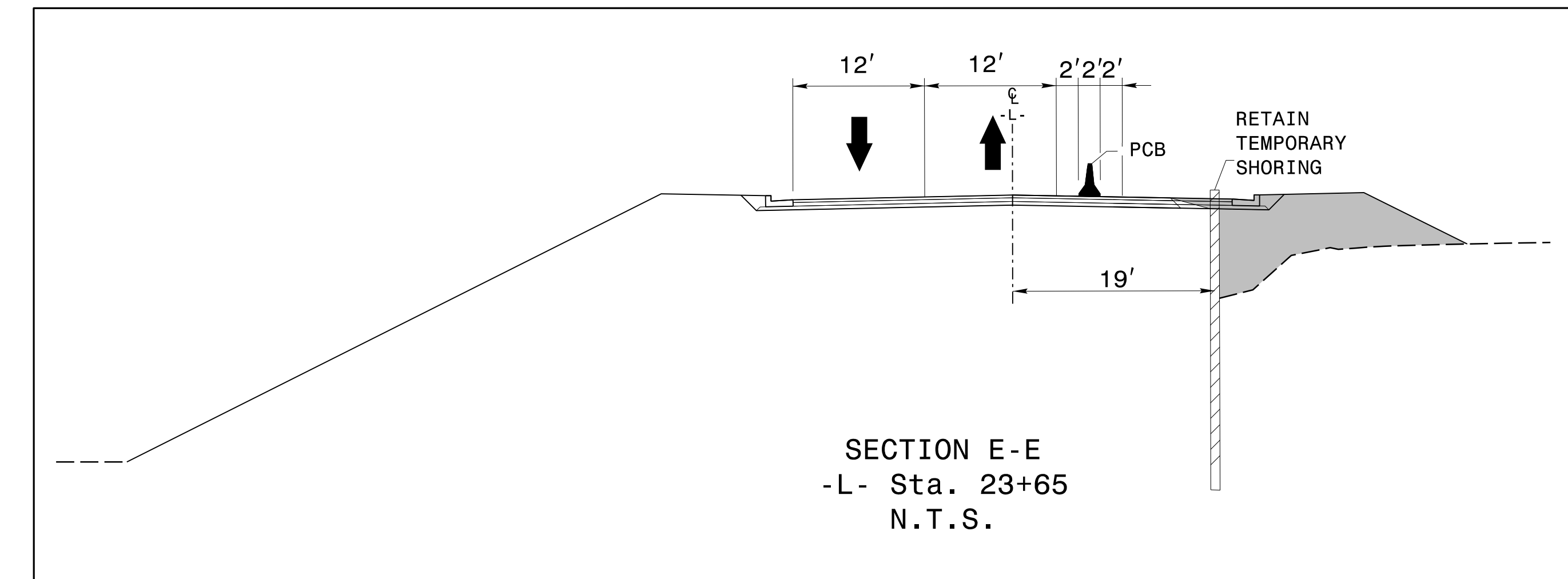
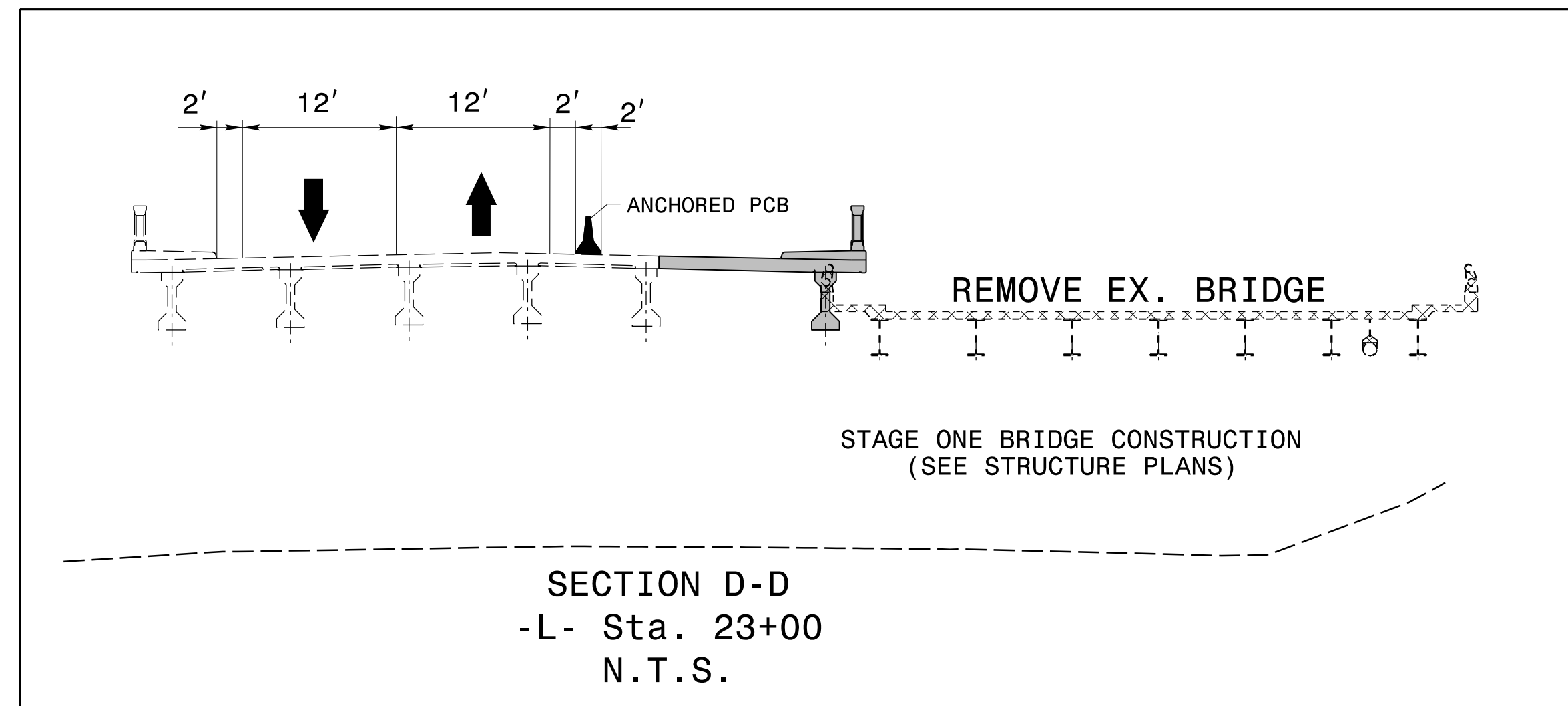
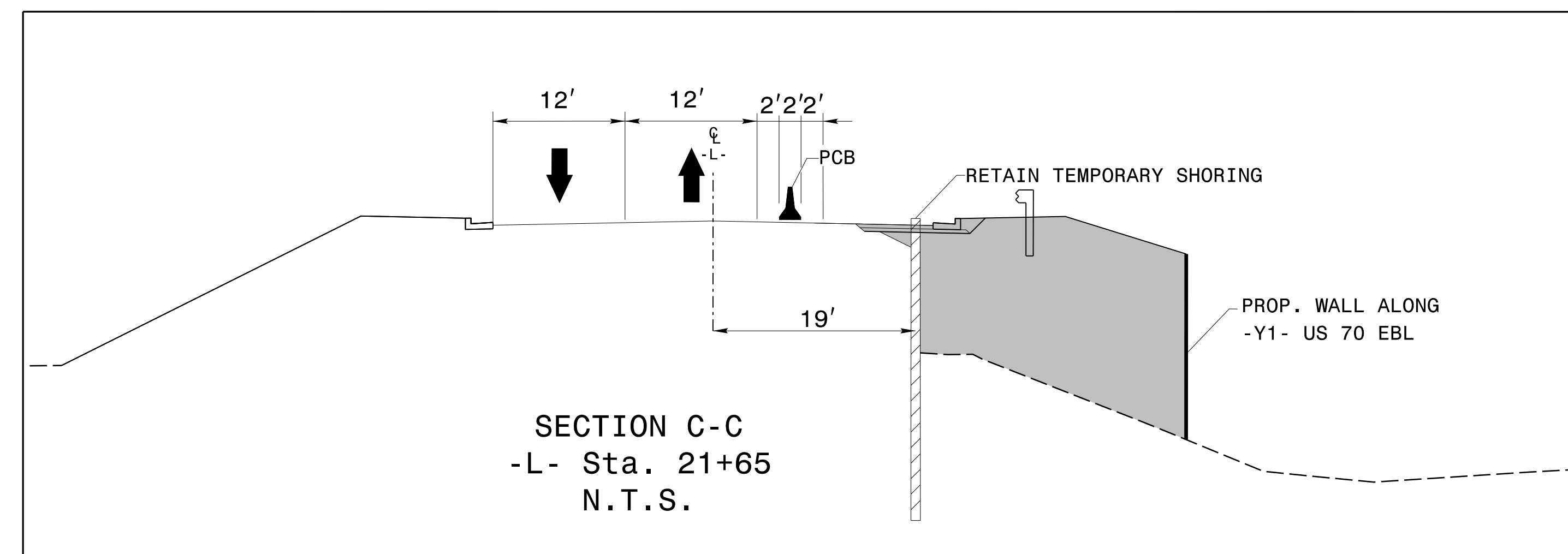
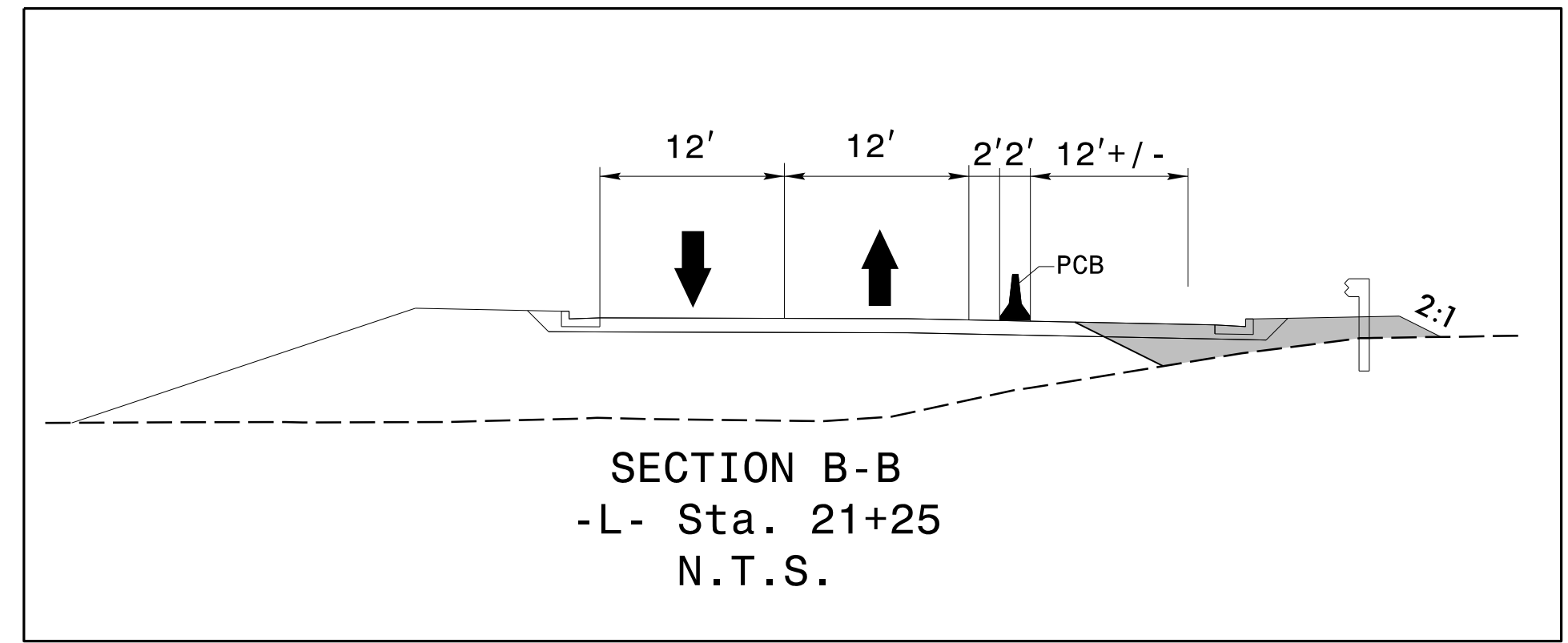
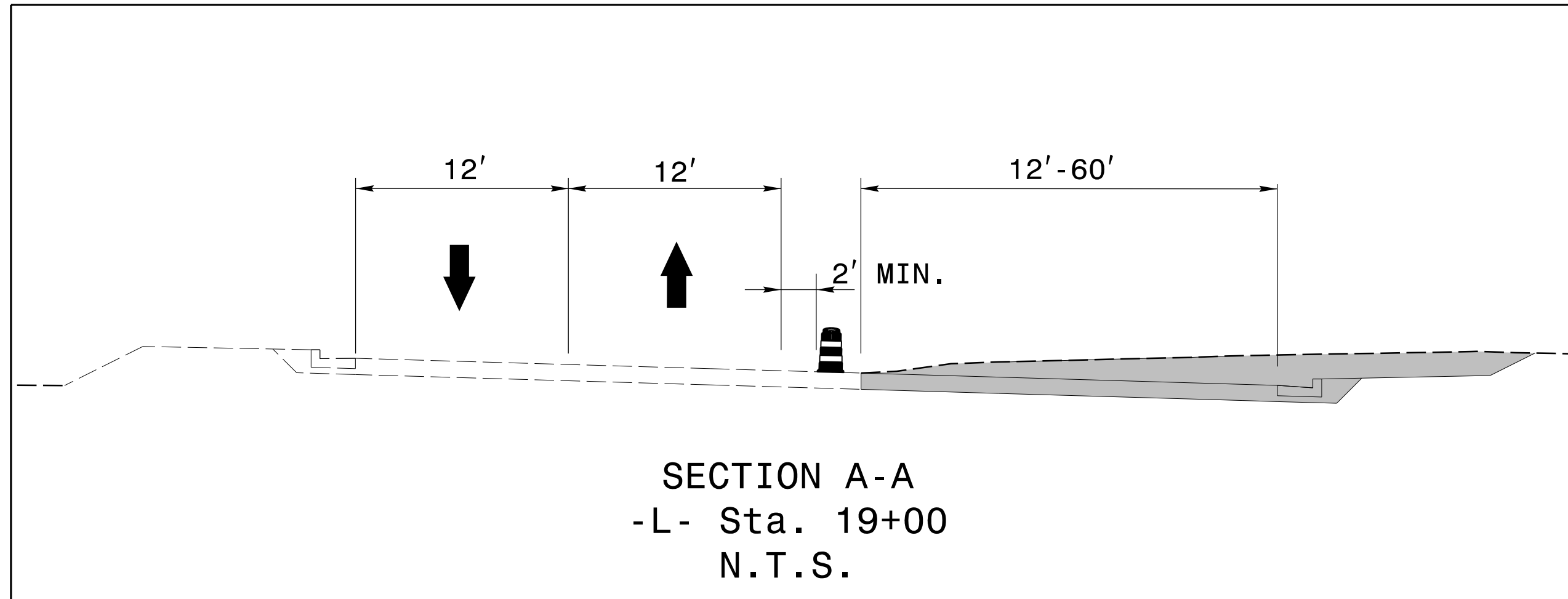
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 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 WORK ZONE TRAFFIC CONTROL

AECOM
 NC FIRM LICENSE No: F-3042
 5438 Wade Park Blvd., Ste 200
 Raleigh, NC 27607
 919.854.6200

PHASE III DETAIL



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pattick.mcpherson

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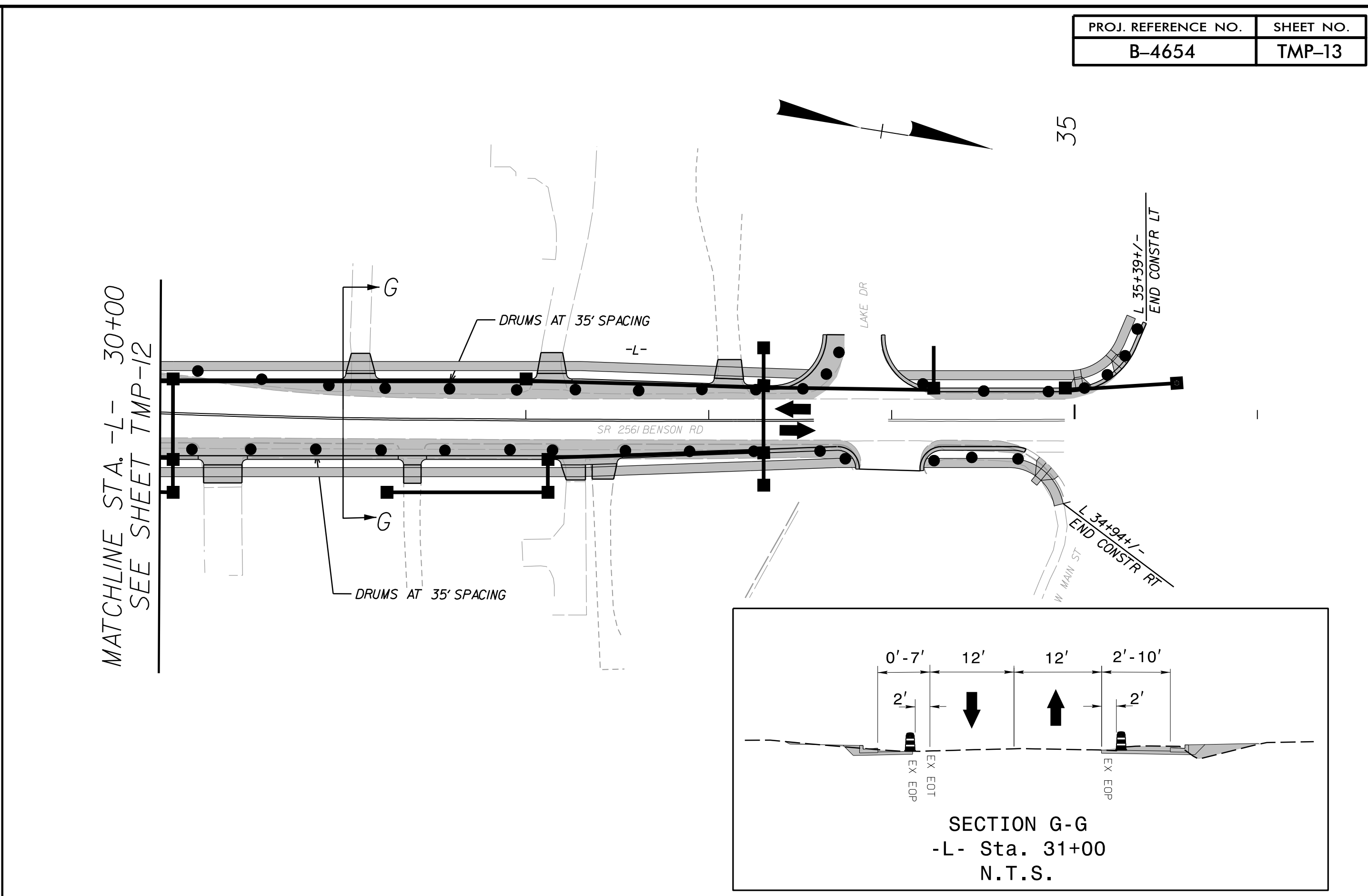
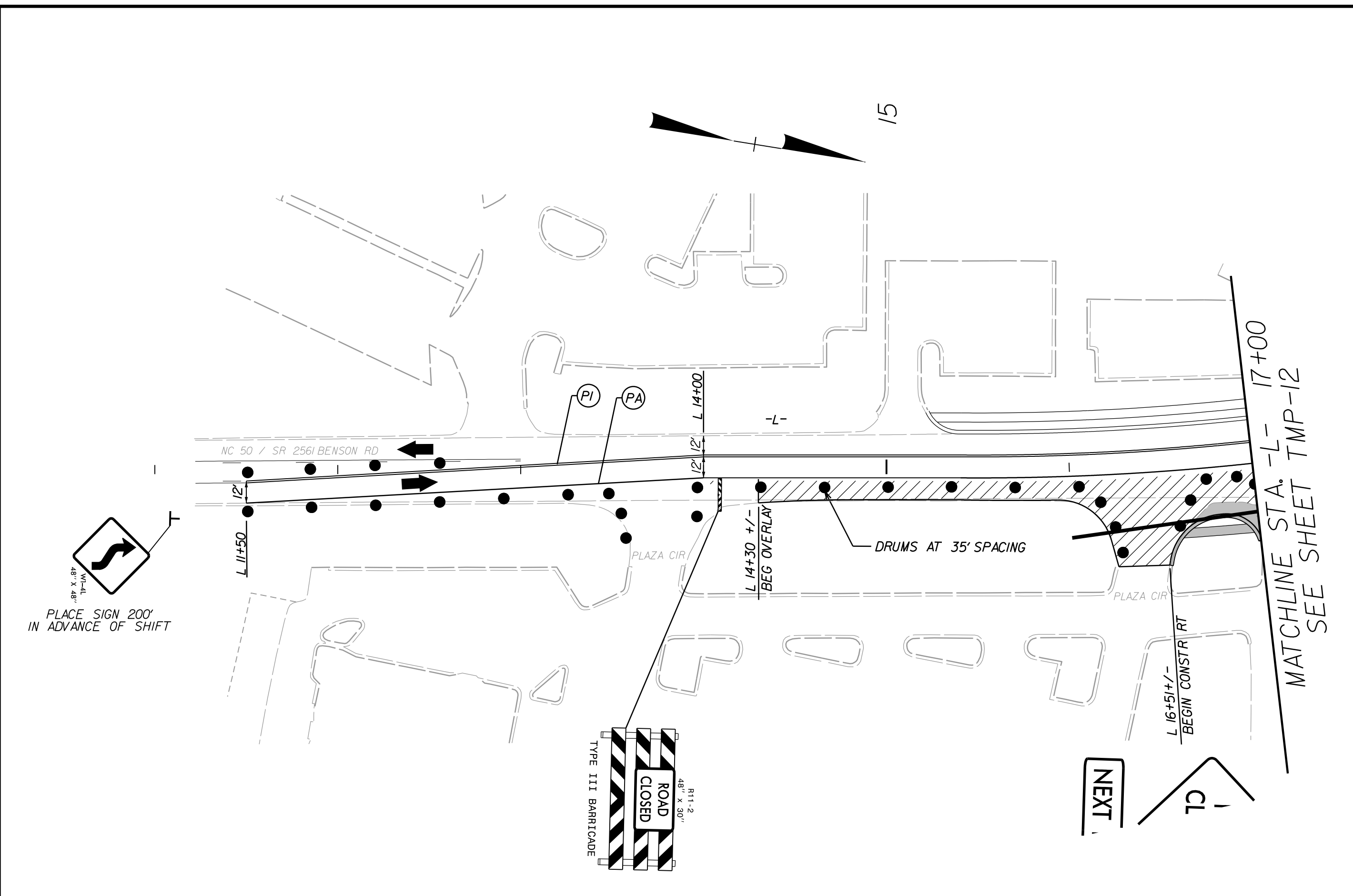
JEFFREY R. KENNEDY
NORTH CAROLINA
PROFESSIONAL
SEAL
18122
CIVIL ENGINEER
BA8BFECC0294E2

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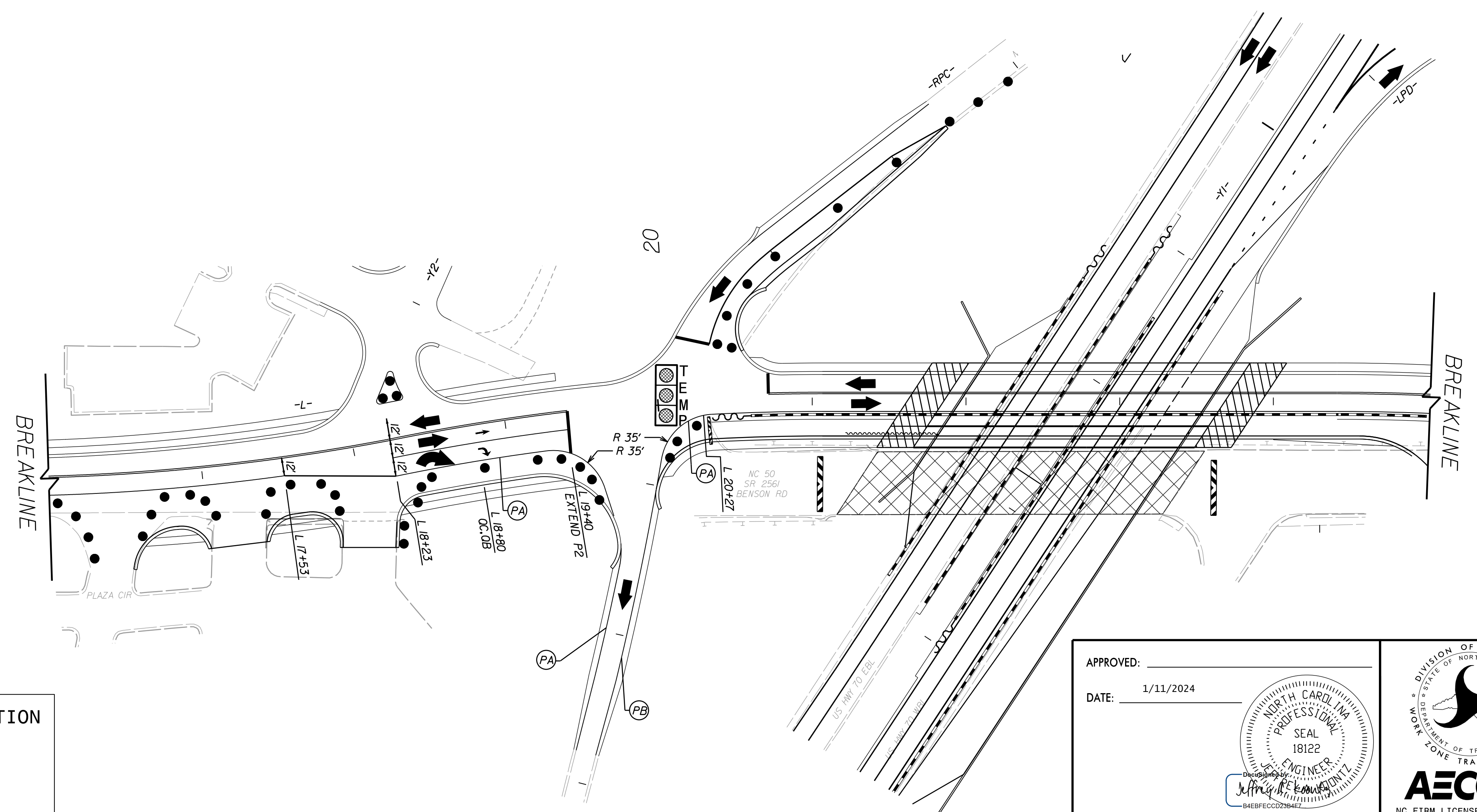
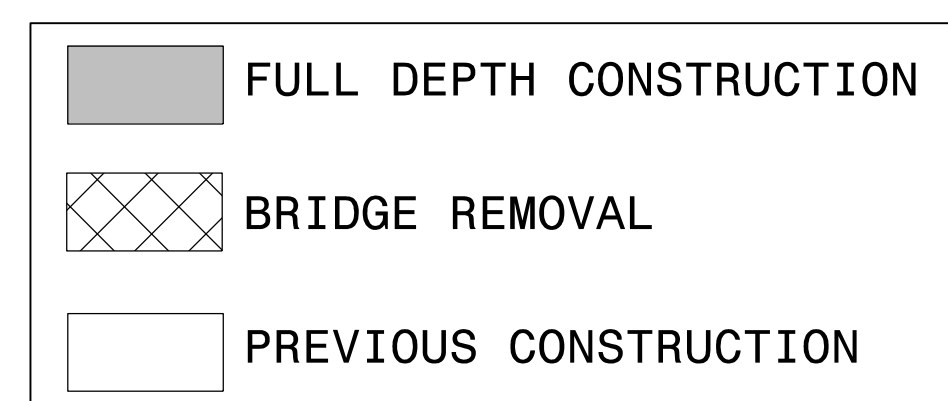
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**PHASE III DETAIL
NC 50 BENSON RD.**



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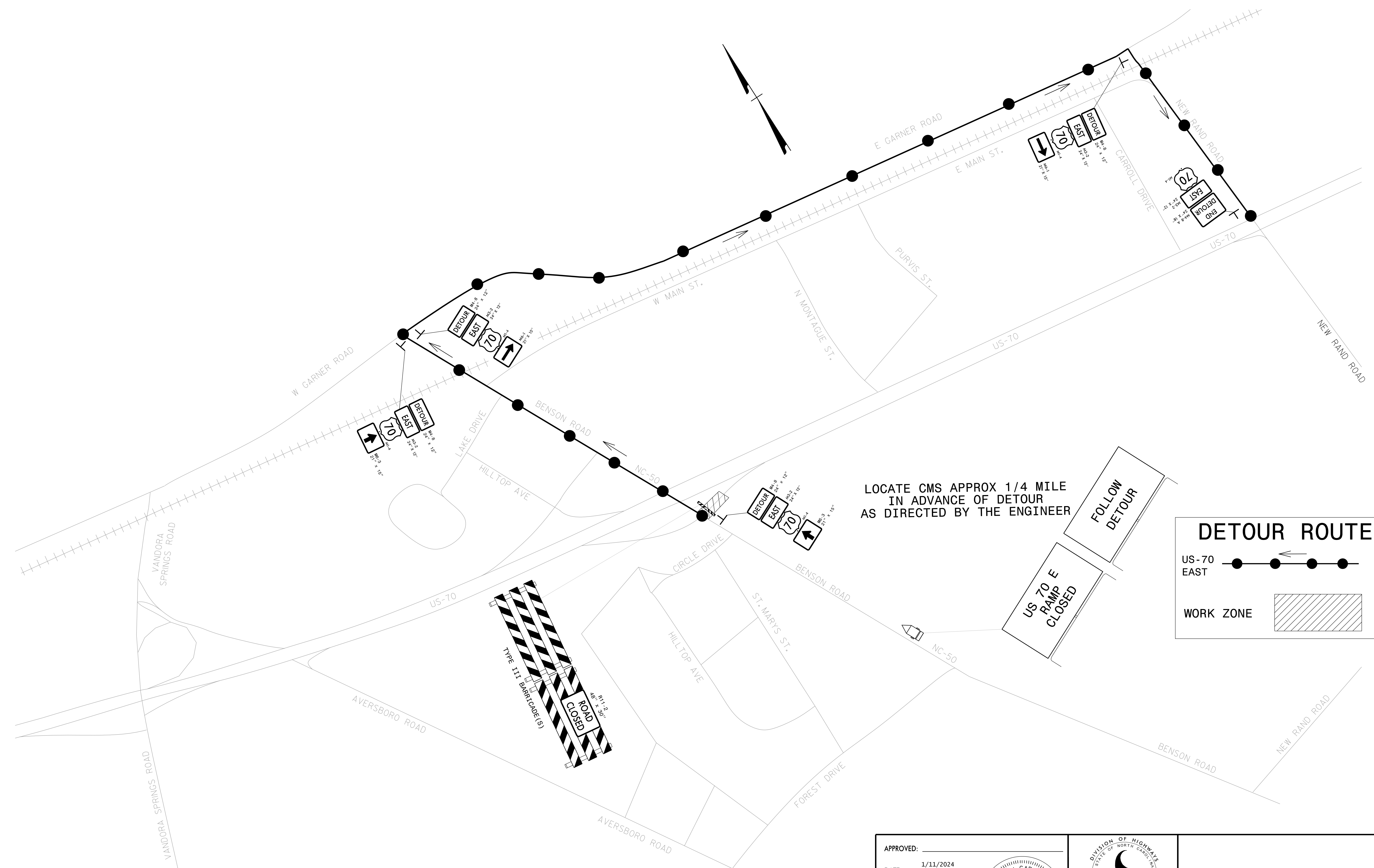


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PHASE III DETAIL



DETOUR ROUTE

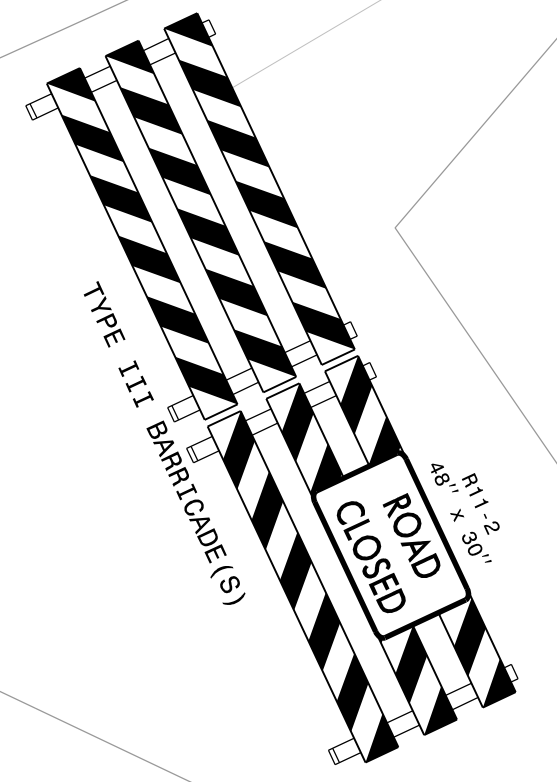
US-70 EAST

WORK ZONE

LOCATE CMS APPROX 1/4 MILE
IN ADVANCE OF DETOUR
AS DIRECTED BY THE ENGINEER

**US 70 E
RAMP
CLOSED**

**FOLLOW
DETOUR**



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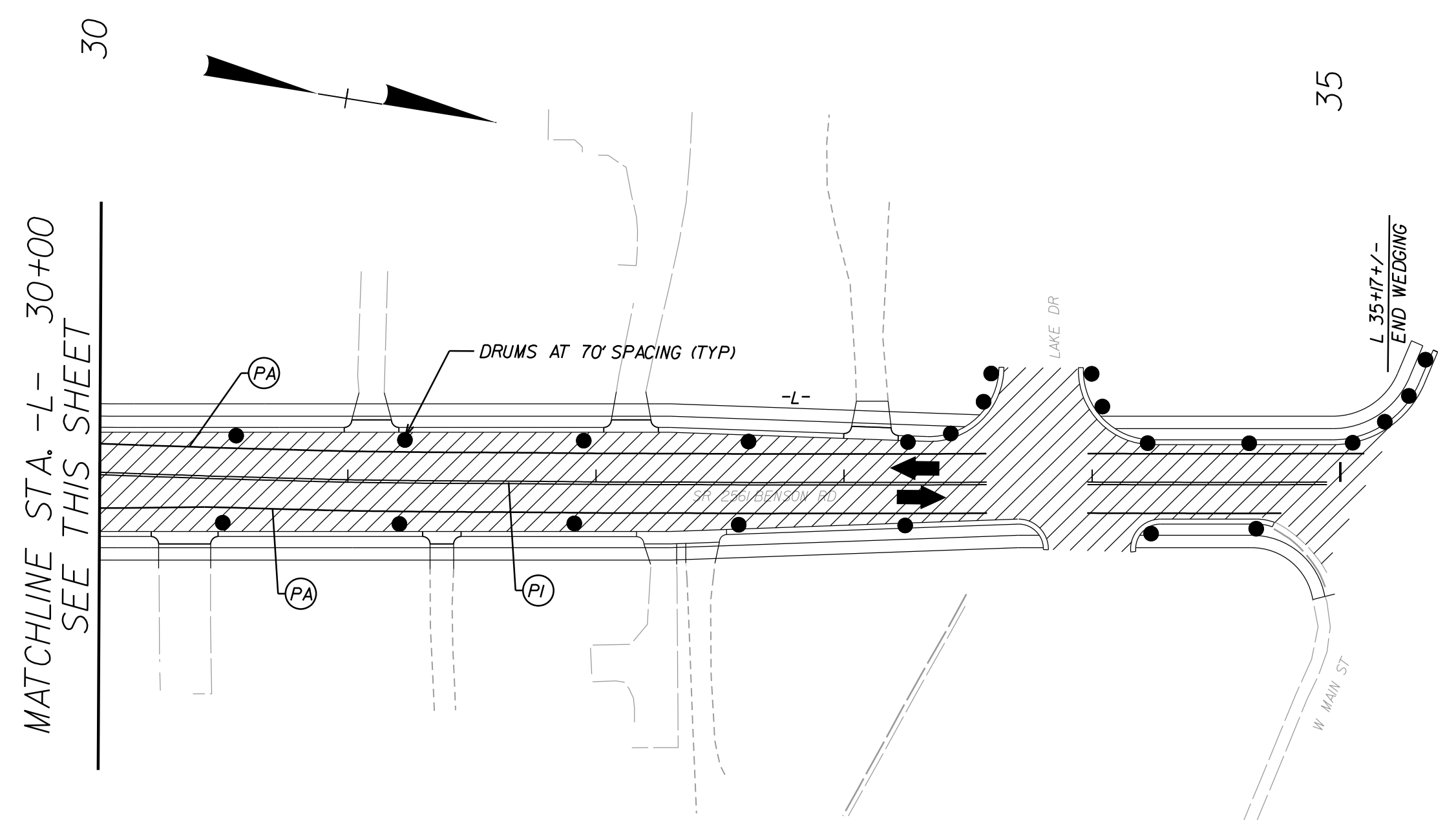
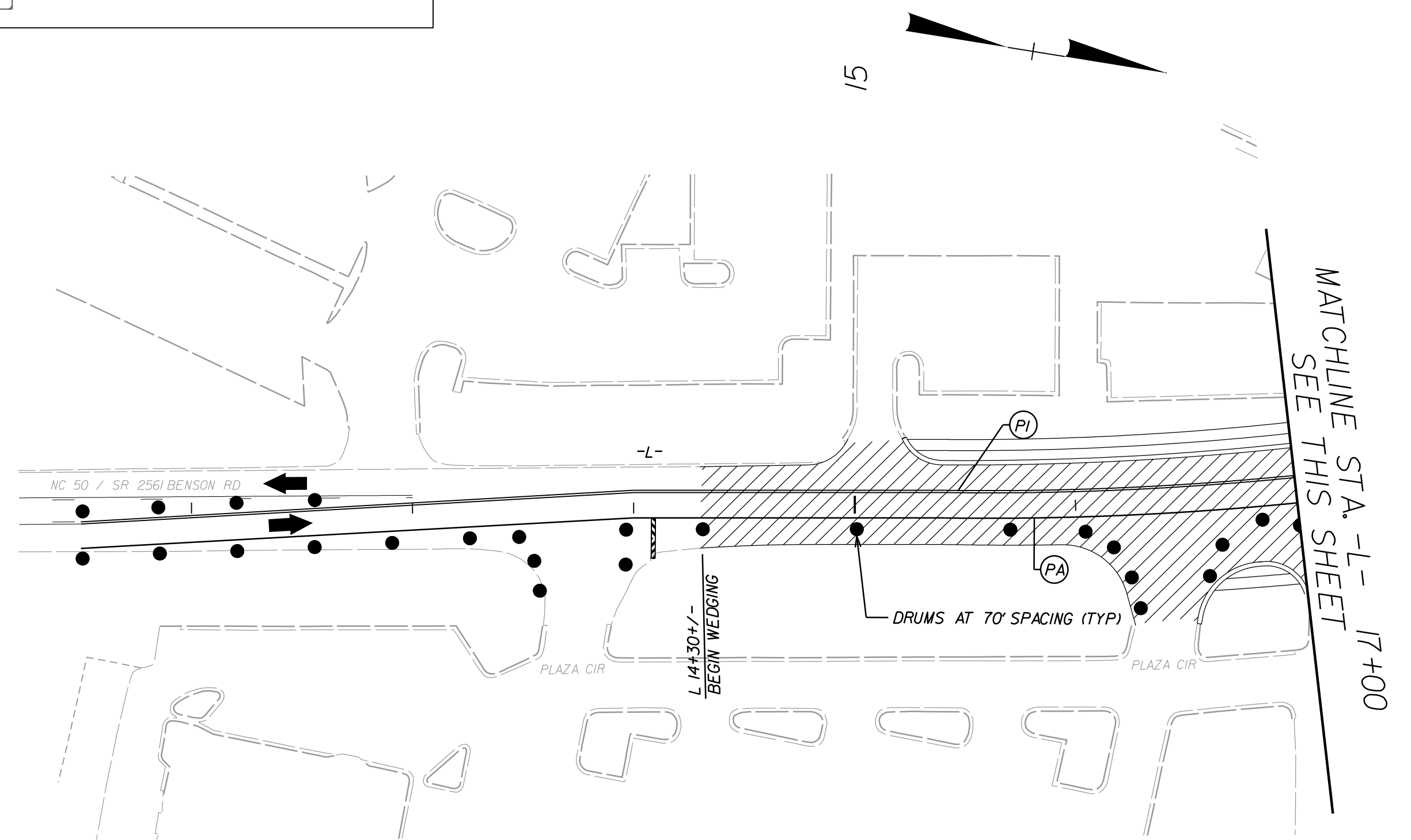
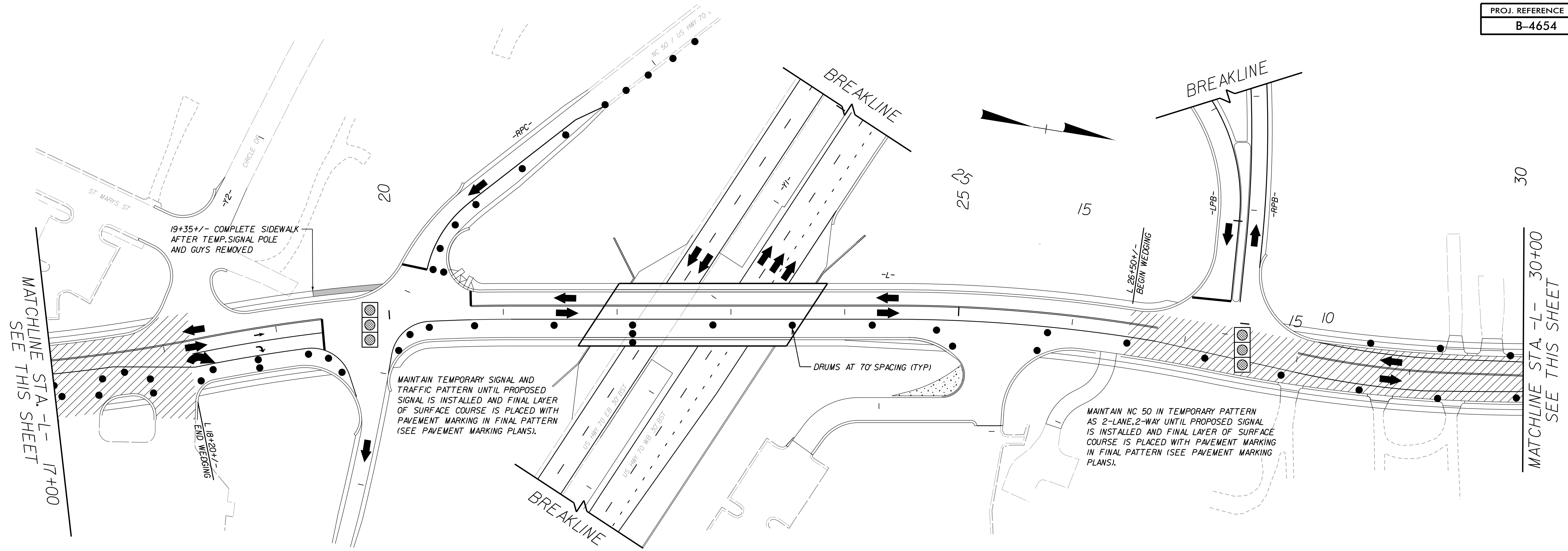
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**PHASE III
OFF-SITE DETOUR
FOR RAMP D
CONSTRUCTION**

1/11/2024
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 PATRICK MCPHERSON



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PHASE IV DETAIL