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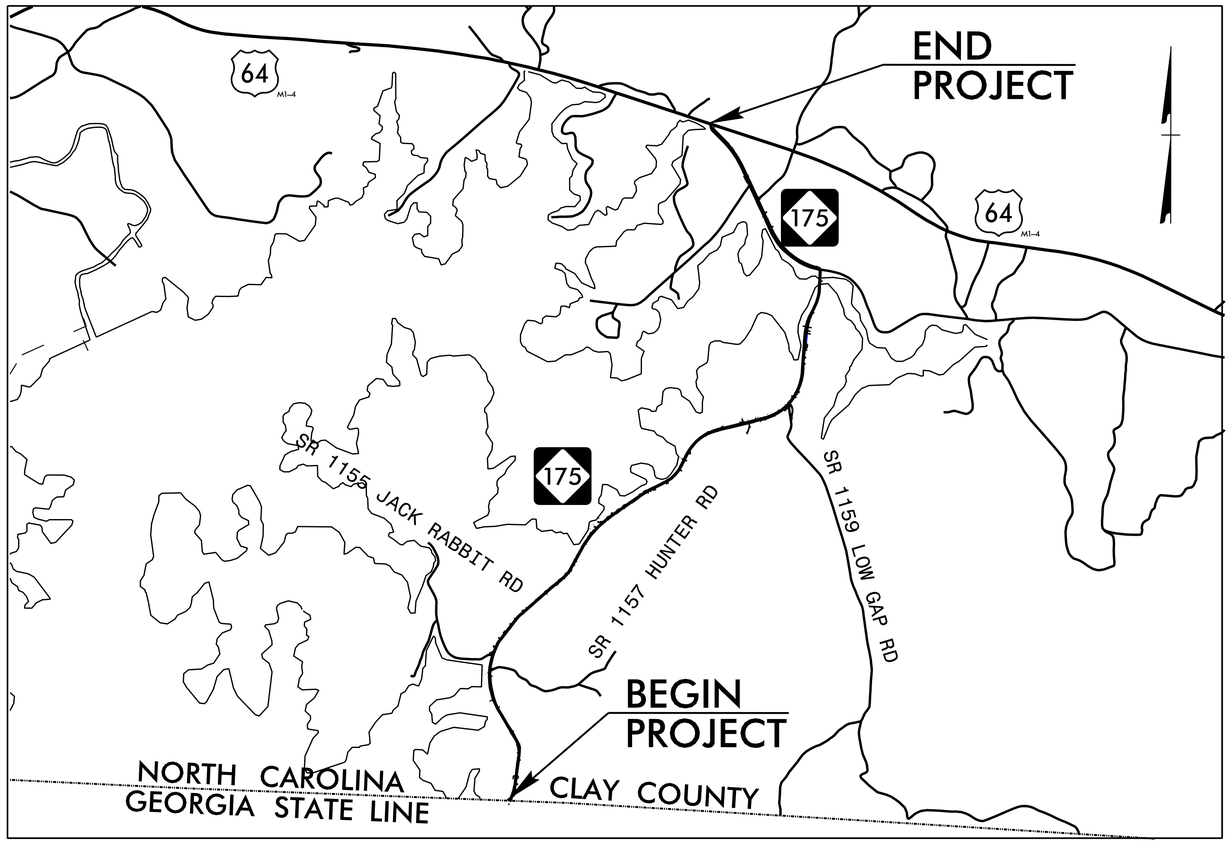
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CLAY COUNTY

LOCATION: NC 175 FROM GEORGIA STATE LINE TO US 64



INDEX OF SHEETS

SHEET NO.
TMP-1

R-5742

TIP PROJECT:

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

PLANS PREPARED BY:

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TRANSPORTATION PROJECT MANAGER

M. A. COLE
TRANSPORTATION SENIOR DESIGNER

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

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PLANS PREPARED BY :

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DATE: 12/13/2018

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12/13/2018
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R-5742	TMP-1A

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
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
- TEMPORARY PAVEMENT

SIGNALS

EXISTING PROPOSED TEMP TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
	PAINT
P2	WHITE STOPBAR (24")
P8	2 FT.-6 FT./SP WHITE MINISKIP (4")
PA	WHITE EDGELINE (4")
PI	YELLOW DOUBLE CENTER LINE (4")
	MARKERS
MH	TEMPORARY RAISED, YELLOW/YELLOW

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ROADWAY STANDARD DRAWINGS & LEGEND

12/13/2018
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R-5742	TMP-1B

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.

LANE AND SHOULDER CLOSURE REQUIREMENTS

A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.

B) WHEN PERSONNEL OR EQUIPMENT ARE WORKING WITHIN 15 FT. OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING RDWY. STD. 1101.04 SHEET 1 OF 1 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL, OR A LANE CLOSURE IS INSTALLED.

C) WHEN PERSONNEL 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 LAND USING RDWY. STD. 1101.02 SHEET 1 OF 14 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

D) WHEN PERSONNEL OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED 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 EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT. ON BOTH SIDES OF AN OPEN TRAVEL WAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP-OFF REQUIREMENTS

F) 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.

G) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL WARNING "UNEVEN LANES" SIGNS (W8-11) 500' IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

I) 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.

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

K) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) OR "BUMP" SIGNS (W8-1) 500' IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

L) 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.

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TRANSPORTATION OPERATIONS PLAN

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GENERAL NOTES, CONTINUED

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 (35 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.

M) 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 SHEET 2 OF 2)

POSTED SPEED LIMIT (mph)	MINIMUM OFFSET (ft.)
< 40	15
45 - 50	20
55	25
> 60	30

TRAFFIC CONTROL DEVICES

N) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREA 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 TRAVEL WAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTION 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

O) PLACE TYPE III BARRICADES WITH “ROAD CLOSED” SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE THE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
NC 175	PAINT	TEMPORARY RAISED
-Y- LINES	PAINT	NONE

Q) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

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

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

T) TRACE THE MONOLITHIC ISLAND LOCATIONS WITH THE PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY REMOVED MONOLITHIC ISLANDS.

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TRANSPORTATION OPERATIONS PLAN

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R-5742	TMP-2

TRAFFIC CONTROL PHASING

PHASE I

STEP 1:
ERECT ADVANCED WORK ZONE SIGNS ON -L- NC 175, -Y1- COLD BRANCH RD, -Y2- ELF SCHOOL RD, -Y3- HUNTER RD, -Y4- JACK RABBIT RD, -Y5- LOW GAP RD AND US 64 IN ACCORDANCE WITH RDWY STD 1101.01 SHEET 3 OF 3.

STEP 2:
USING RDWY STD 1101.02 SHEET 1 OF 14, CONSTRUCT AS FOLLOWS:

- SET PORTABLE CONCRETE BARRIER ADJACENT TO SOUTHBOUND NC 175 FROM -L- STA 32+60± TO STA 36+67±. BARRIER MUST BE IN PLACE PRIOR TO BEGINNING CONSTRUCTION OF STAGE 1 PROPOSED CULVERT. (SEE TMP-4 AND 5)
- -L- STA 107+11± TO STA 129+19± NB WIDENING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT. (SEE SHEETS TMP-9 AND TMP-10)

USING RDWY STD 1101.02 SHEET 1 OF 14, BEGIN CONSTRUCTION AS FOLLOWS: (SEE SHEETS TMP-3 THROUGH TMP-16):

- -L- STA 10+75± TO STA 21+13± NB WIDENING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT
- -L- STA 10+75± TO STA 59+90± SB WIDENING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT AND -Y4- JACK RABBIT RD.
- -L- STA 38+89± TO -L- STA 68+50± NB WIDENING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT INCLUDING -Y3- HUNTER RD CONSTRUCTION.
- -L- STA 68+50± TO STA 74+50± CONSTRUCT RIGHT OF CENTERLINE AND 9’ OF TEMPORARY PAVEMENT EXCLUDING THE FINAL LAYER OF SURFACE COURSE.
- -L- STA 74+50± TO STA 107+11± NB WIDENING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT.
- -L- STA 76+31± TO STA 107+11± SB WIDENING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT.
- -L- STA 129+19± TO STA 133+50± NB WIDENING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT.
- -L- STA 129+19± TO STA 132+30± SB WIDENING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT.
- -DET- STA 10+31± TO -DET- STA 28+03±
- SET PORTABLE CONCRETE BARRIER AND CONSTRUCT -L- STA 150+29± TO -L- STA 172+00± SB WIDENING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT.
- INSTALL TEMPORARY GUARDRAIL AND -L- STA 148+56± TO -L- STA 172+00± NB WIDENING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT AND -Y5- SR 1159 (LOW GAP RD)
- -L- STA 183+76 TO STA 229+66± NB AND SB WIDENING UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT INCLUDING -Y1- COLD BRANCH RD, AND -Y2- ELF SCHOOL RD.

DRIVEWAYS WITHIN THE STATION RANGES INDICATED SHALL ALSO BE CONSTRUCTED SUCH THAT ACCESS TO PROPERTIES IS MAINTAINED.

STEP 3:
IN A CONTINUOUS OPERATION USING RDWY STD 1101.02 SHEET 1 OF 14, APPLY PAVEMENT MARKINGS AND SHIFT TRAFFIC ONTO THE NORTHBOUND WIDENING. SET PORTABLE CONCRETE BARRIER AFTER TRAFFIC HAS BEEN SHIFTED USING RDWY STD 1101.02 SHEET 1 OF 14. (SEE TMP-9 AND TMP-10)

STEP 4:
BEHIND BARRIER AND USING RDWY STD 1101.02 SHEET 1 OF 14, CONSTRUCT PROPOSED RETAINING WALLS ADJACENT TO SOUTHBOUND NC 175 AND SOUTHBOUND WIDENING UP TO THE EDGE AND ELEVATION OF THE EXISTING PAVEMENT FROM -L- STA 114+59± TO STA 129+19±. (SEE TMP-9 AND TMP-10)

INSTALL TEMPORARY TRAFFIC SIGNALS TO ACCOMMODATE A ONE LANE, TWO WAY PATTERN FROM -L- STA 107+03± TO STA 120+29±. (SEE TMP-16A)

STEP 5:
IN A CONTINUOUS OPERATION USING RDWY STD 1101.02 SHEET 1 OF 14, APPLY PAVEMENT MARKINGS, DIRECT TRAFFIC INTO A ONE LANE, TWO WAY PATTERN ON NORTHBOUND NC 175, AND ACTIVATE THE TEMPORARY TRAFFIC SIGNALS. ONCE TRAFFIC HAS BEEN SHIFTED, SET PORTABLE CONCRETE BARRIER. (SEE TMP-16A)

STEP 6:
BEHIND BARRIER AND USING RDWY STD 1101.02 SHEET 1 OF 14, CONSTRUCT PROPOSED RETAINING WALL ADJACENT TO SOUTHBOUND NC 175 AND SOUTHBOUND WIDENING UP TO THE EDGE AND ELEVATION OF THE EXISTING PAVEMENT FROM -L- STA 107+03± TO STA 114+59±. REMOVE PORTABLE CONCRETE BARRIER AND REPLACE WITH DRUMS AFTER RETAINING WALL AND WIDENING ARE COMPLETE. (SEE TMP-16A)

STEP 7:
IN A CONTINUOUS OPERATION USING RDWY STD 1101.02 SHEET 1 OF 14, APPLY PAVEMENT MARKINGS, DIRECT TRAFFIC INTO A ONE LANE, TWO WAY PATTERN ON SOUTHBOUND NC 175, AND REVISE THE TEMPORARY TRAFFIC SIGNALS AS NEEDED. ONCE TRAFFIC HAS BEEN SHIFTED, SET PORTABLE CONCRETE BARRIER. (SEE TMP-16B)

STEP 8:
BEHIND BARRIER, CONSTRUCT PROPOSED RETAINING WALL ADJACENT TO NORTHBOUND NC 175. (SEE TMP-16B)

STEP 9:
USING RDWY STD 1101.02 SHEET 1 OF 14, REMOVE PORTABLE CONCRETE BARRIER APPLY PAVEMENT MARKINGS IN THE ORIGINAL TRAFFIC PATTERN FROM -L- STA 107+03± TO STA 129+29±, REMOVE THE TEMPORARY SIGNALS, AND SHIFT TRAFFIC INTO A TWO LANE, TWO WAY PATTERN.

COMPLETE CONSTRUCTION AS BEGUN IN PHASE I STEP 2.

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TRAFFIC CONTROL PHASING

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R-5742	TMP-2A

TRAFFIC CONTROL PHASING, CONTINUED

PHASE II

NOTE:
COMPLETE THE WORK REQUIRED IN PHASE II, STEPS 1A AND 1B IN A CONTINUOUS OPERATION ONCE EACH STEP HAS BEGUN. STEPS 1A AND 1B DO NOT HAVE TO BE PERFORMED ON THE SAME WORKDAY.

STEP 1A:
USING RDWY STD 1101.02 SHEET 1 OF 14 (ALTERNATING LANE CLOSURES) AND 1101.03 SHEET 3 OF 9, TIE-IN -L- NC 175 TO EXISTING PAVEMENT EXCLUDING THE FINAL LAYER OF SURFACE COURSE, APPLY PAVEMENT MARKINGS, AND DIRECT TRAFFIC INTO THE PATTERN SHOWN. (SEE TMP-17 AND TMP-18)

STEP 1B:
USING RDWY STD 1101.02 SHEET 1 OF 14 (ALTERNATING LANE CLOSURES) AND 1101.03 SHEET 3 OF 9, TIE IN -Y5- SR 1159 (LOW GAP RD), APPLY PAVEMENT MARKINGS AND DIRECT NC 175 TRAFFIC ONTO -DET-. (SEE TMP-19 THROUGH TMP-21)

STEP 2:
USING RDWY STD 1101.02 SHEET 1 OF 14, CONSTRUCT -L- NC 175 FROM -L- STA 68+50± TO STA 74+50± LEFT OF CENTERLINE EXCLUDING THE FINAL LAYER OF SURFACE COURSE. (SEE TMP-22)

USING RDWY STD 1101.02 SHEET 1 OF 14, CONSTRUCT -L- NC 175 FROM -L- STA 132+00± TO STA 148+08± EXCLUDING THE FINAL LAYER OF SURFACE COURSE. (SEE TMP-23 AND TMP-24)

PHASE III

NOTE:
COMPLETE THE WORK REQUIRED IN PHASE III, STEPS 1A, 1B, AND 1C IN A CONTINUOUS OPERATION ONCE EACH STEP HAS BEGUN. STEPS 1A, 1B, AND 1C DO NOT HAVE TO BE PERFORMED ON THE SAME WORKDAY.

STEP 1A:
USING RDWY STD 1101.02 SHEET 1 OF 14 (ALTERNATING LANE CLOSURES), TIE-IN -L- NC 175 EXCLUDING THE FINAL LAYER OF SURFACE COURSE, APPLY PAVEMENT MARKINGS, AND DIRECT TRAFFIC INTO THE PATTERN SHOWN. (SEE TMP-25 THROUGH TMP-27)

STEP 1B:
USING RDWY STD 1101.02 SHEET 1 OF 14 (ALTERNATING LANE CLOSURES), TIE-IN -L- NC 175 EXCLUDING THE FINAL LAYER OF SURFACE COURSE, APPLY PAVEMENT MARKINGS, AND DIRECT TRAFFIC INTO THE PATTERN SHOWN. (SEE TMP-28 THROUGH TMP-30)

STEP 1C:
USING RDWY STD 1101.02 SHEET 1 OF 14 (ALTERNATING LANE CLOSURES), TIE-IN -L- NC 175 EXCLUDING THE FINAL LAYER OF SURFACE COURSE, APPLY PAVEMENT MARKINGS, AND DIRECT TRAFFIC INTO THE PATTERN SHOWN. (SEE TMP-31 THROUGH TMP-33)

STEP 2:
USING RDWY STD 1101.02 SHEET 1 OF 14, REMOVE EXISTING ROADWAY PAVEMENT AND TEMPORARY PAVEMENT PER THE ROADWAY PLAN.

STEP 3: (NOT ILLUSTRATED)
USING RDWY STD 1101.02 SHEET 1 OF 14 (ALTERNATING LANE CLOSURES), PAVE -L- NC 175 EXCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS:

- -L- STA 10+75± TO STA 18+59±
- -L- STA 40+41± TO STA 58+24±
- -L- STA 78+50± TO STA 132+00±
- -L- STA 150+29± TO STA 172+00±
- -L- STA 183+76± TO STA 229+66±

DRIVEWAYS AND -Y- LINES WITHIN THE STATION RANGES INDICATED SHALL ALSO BE PAVED IN CONJUNCTION WITH THE MAINLINE PAVING.

STEP 4: (NOT ILLUSTRATED)
USING RDWY STD 1101.02 SHEET 1 OF 14 (ALTERNATING LANE CLOSURES), PLACE THE FINAL LAYER OF SURFACE COURSE, FINAL PAVEMENT MARKINGS AND MARKERS ON -L- NC 175 AS FOLLOWS, (AS DETAILED IN THE PAVEMENT MARKING PLANS):

- -L- STA 10+75± TO -L- STA 172+00,
- -L- STA. 183+76± TO -L- STA 229+66±

DRIVEWAYS AND -Y- LINES WITHIN THE STATION RANGES INDICATED SHALL ALSO BE PAVED IN CONJUNCTION WITH THE MAINLINE PAVING.

STEP 5:
REMOVE TRAFFIC CONTROL DEVICES.

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NORTH CAROLINA PROFESSIONAL SEAL 21047 ENGINEER KEVIN W. BISBY

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TRAFFIC CONTROL PHASING

12/13/2018
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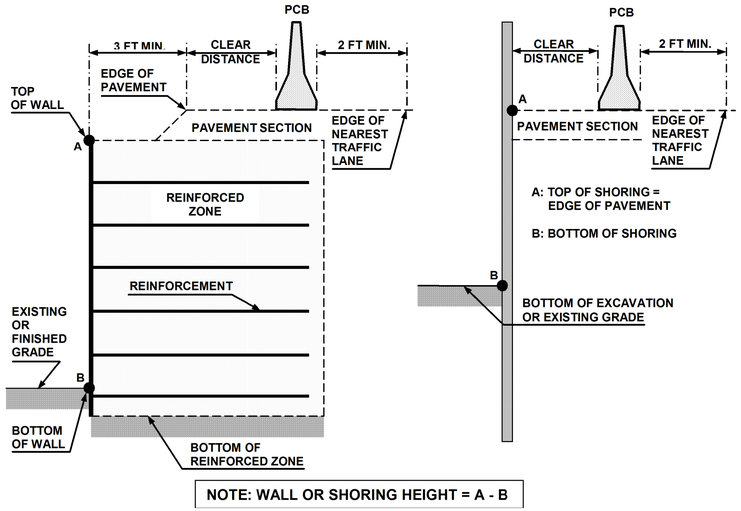

FIGURE A

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.

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PROJ. REFERENCE NO.	SHEET NO.
R-5742	TMP-2B

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

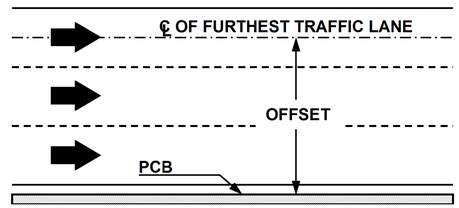

FIGURE B

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DATE: _____

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WORK ZONE TRAFFIC CONTROL

PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS

SHORING I.D.	BEGIN/OFFSET		END/OFFSET		MAX. SHORING HEIGHT
1	-L- STA 33+96±	5.0' LT	-L- STA 34+49±	5.4' LT	8.6'
2	-L- STA 33+92±	16.3' LT	-L- STA 34+53±	14.3' LT	10.4'
3	-L- STA 115+91±	11.1' LT	-L- STA 117+20±	11.1' LT	12.6'
4	-L- STA 118+80±	11.1' LT	-L- STA 126+25±	11.4' LT	10.0'
5	-L- STA 159+80±	4.6' LT	-L- STA 160+70±	6.7' LT	4.4'

R-5742 TMP Temporary Shoring Notes

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

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

3. AT THE CONTRACTOR'S OPTION AND AS APPLICABLE, USE STANDARD TEMPORARY SHORING FOR THE TEMPORARY SHORING LOCATIONS LISTED IN THE TABLE. SEE STANDARD DRAWING NO. 1801.01 (ROADWAY PLAN SHEET 2G-4) FOR STANDARD TEMPORARY SHORING.

4. WHERE THE STANDARD TEMPORARY SHORING DETAILS DO NOT APPLY, DESIGN TEMPORARY SHORING 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: VARIES, ASSUME ELEVATION EQUIVALENT TO BOTTOM OF SHORING ELEVATION

5. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION. THE SUBSURFACE INFORMATION THAT IS AVAILABLE CAN BE FOUND IN THE ROADWAY SUBSURFACE INVENTORY REPORT.

6. DRIVEN PILING FOR TEMPORARY SHORING LOCATIONS NOS. 1, 2 AND 3 MAY NOT PENETRATE BELOW THE REQUIRED MINIMUM TIP ELEVATION DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, WEATHERED ROCK OR HARD ROCK.

7. DO NOT USE A TEMPORARY WALL FOR THE TEMPORARY SHORING LOCATIONS LISTED IN THE TABLE.

8. IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING LOCATIONS LISTED IN THE TABLE. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

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APPROVED: DocuSigned by: Matthew Snyder 0622EB64E80842E...

DATE: 12/13/2018

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NORTH CAROLINA PROFESSIONAL SEAL 44566 ENGINEER MATTHEW R. SNYDER

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TEMPORARY SHORING INFORMATION

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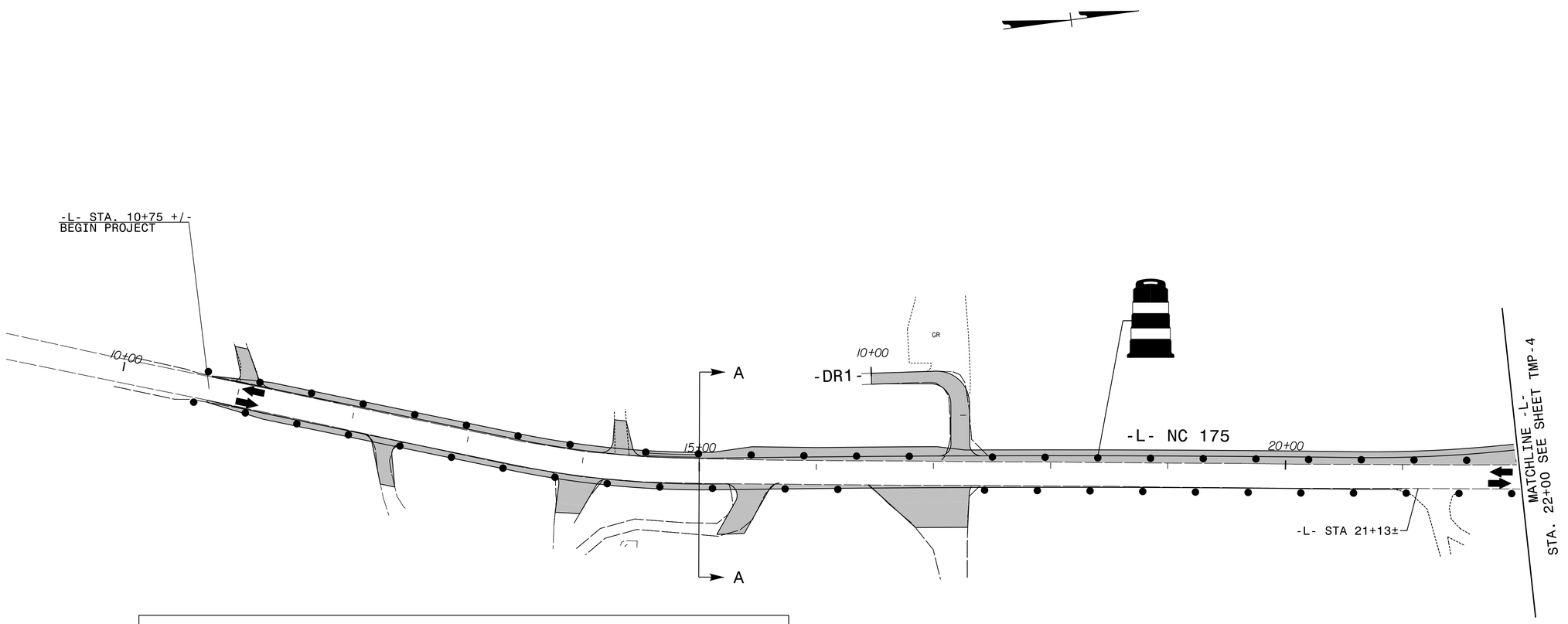
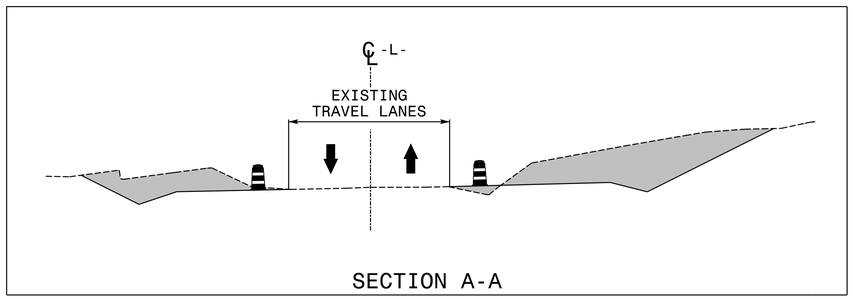
PROJ. REFERENCE NO.	SHEET NO.
R-5742	TMP-3





SECTION A-A

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PHASE I - STEP 2

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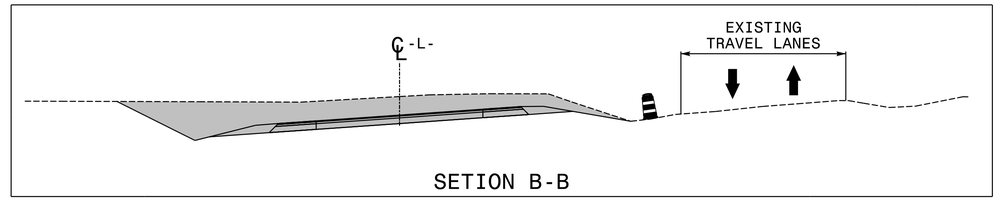
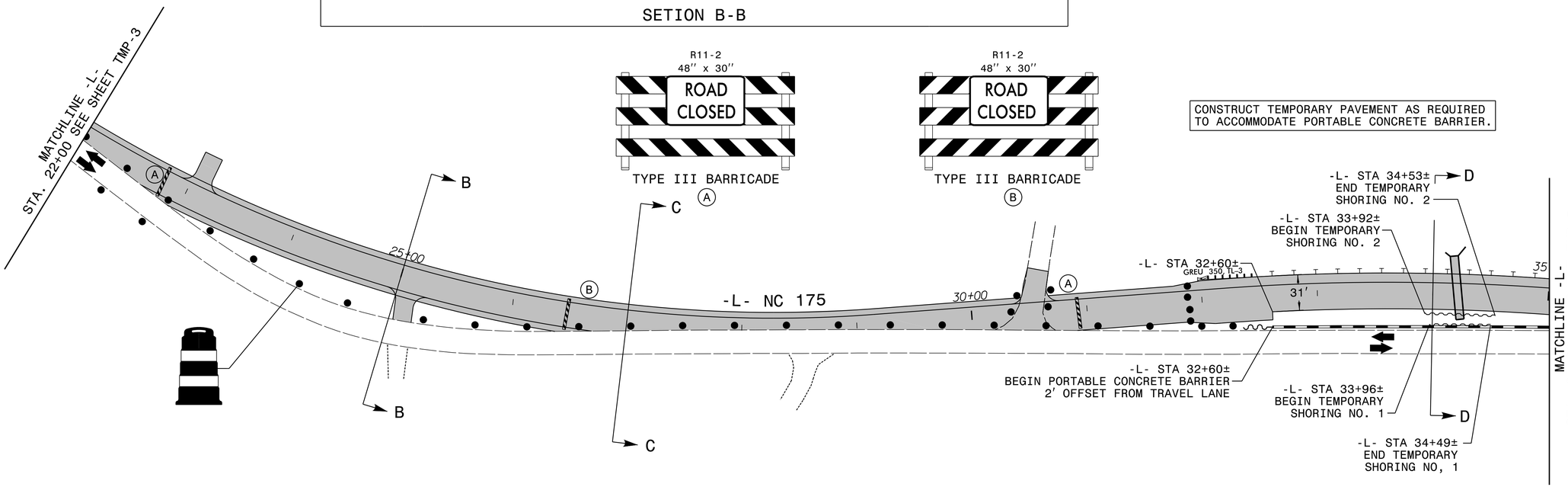
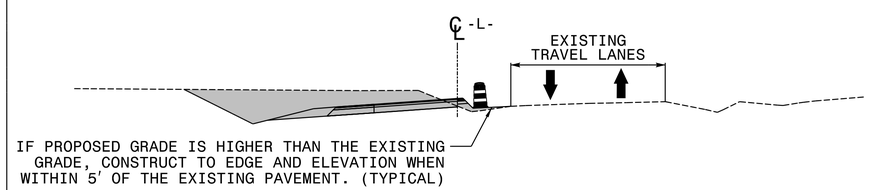
PROJ. REFERENCE NO.	SHEET NO.
R-5742	TMP-4

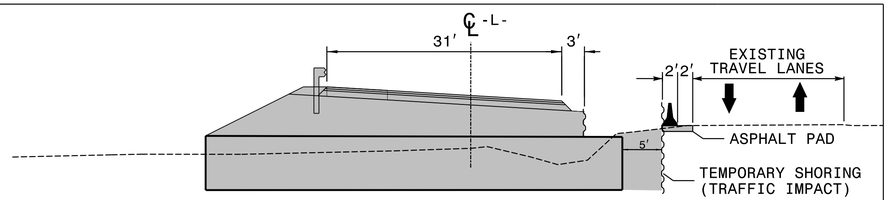


SETION B-B





SECTION C-C



SECTION D-D

SHORING I.D.	BEGIN/OFFSET		END/OFFSET		MAX. SHORING HEIGHT (ft)	AREA (sf)
1	-L- STA 33+96±	5.0' LT	-L- STA 34+49±	5.4' LT	8.6	455.8
2	-L- STA 33+92±	16.3' LT	-L- STA 34+53±	14.3' LT	10.4	634.4

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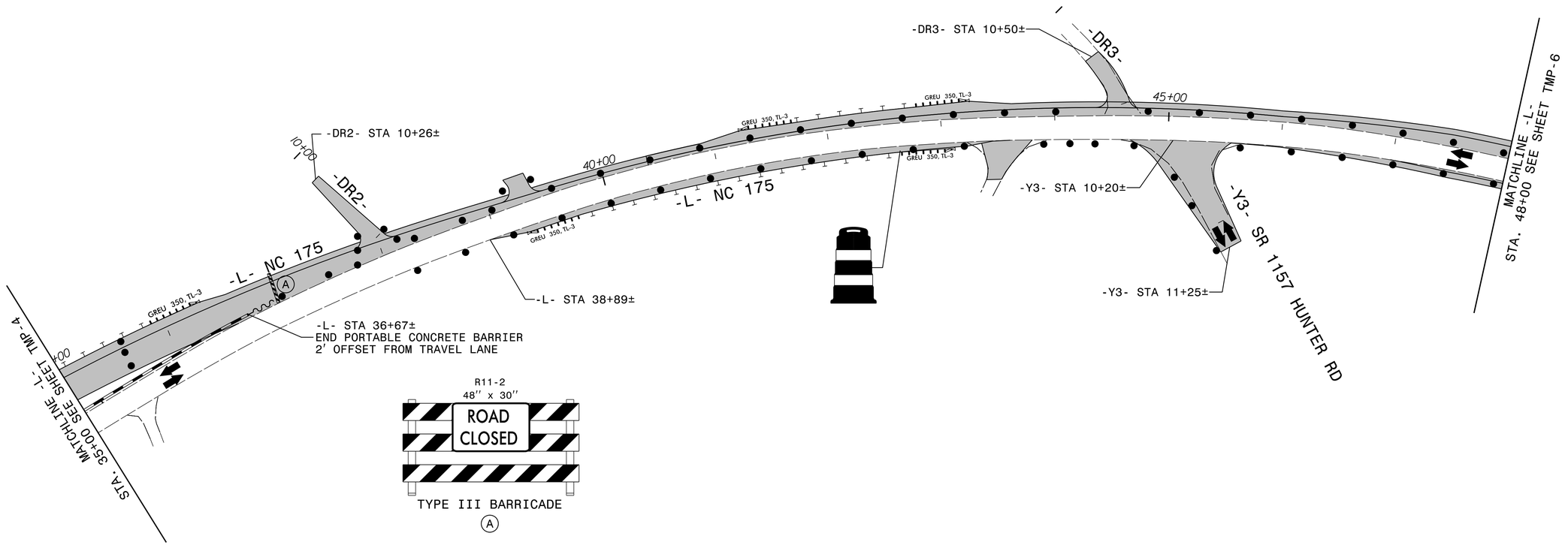

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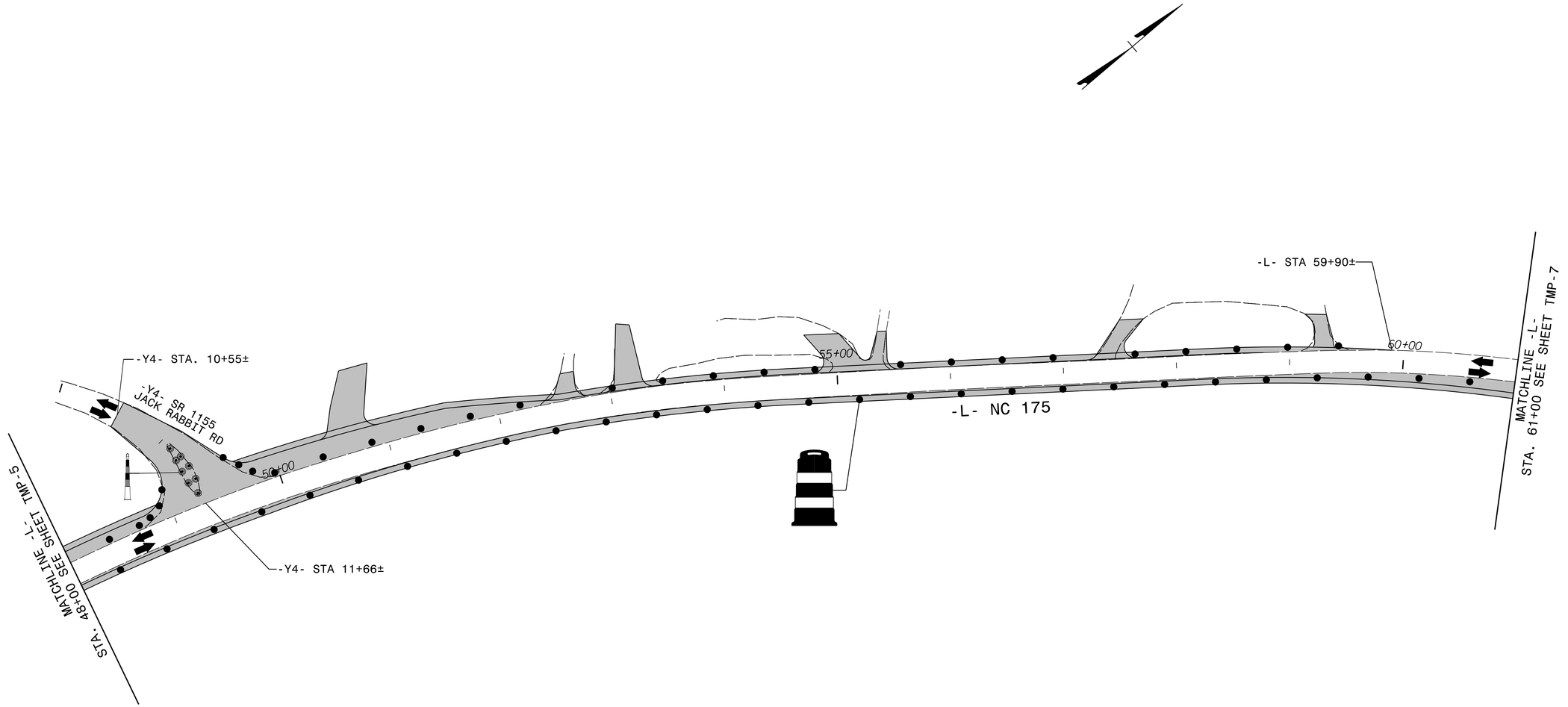

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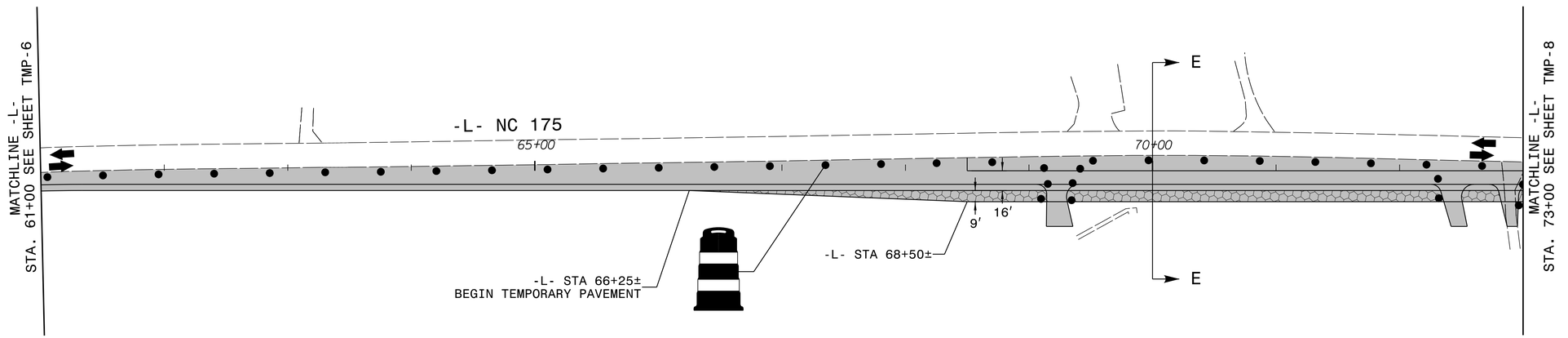

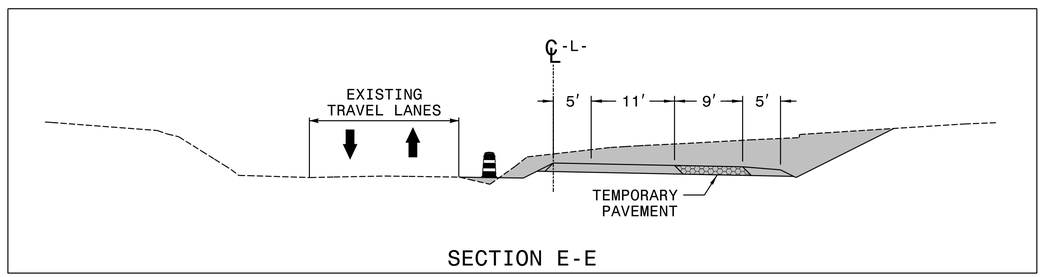

SECTION E-E

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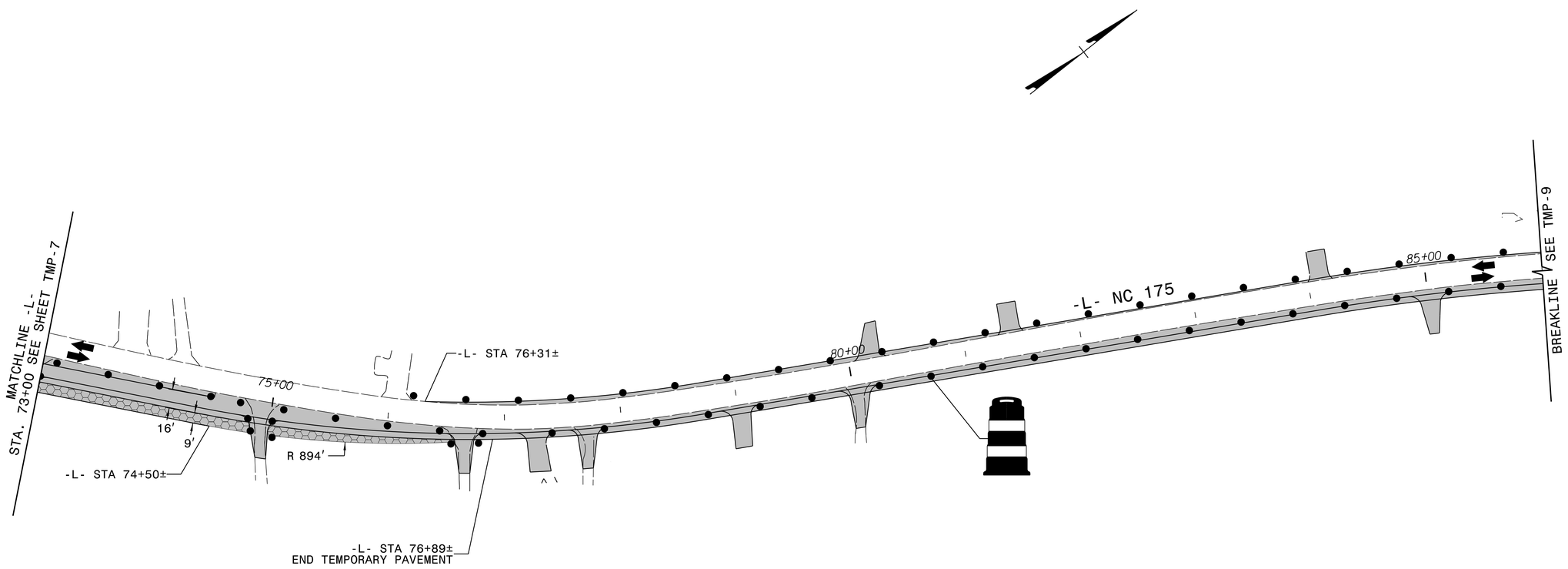

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PROJ. REFERENCE NO.	SHEET NO.
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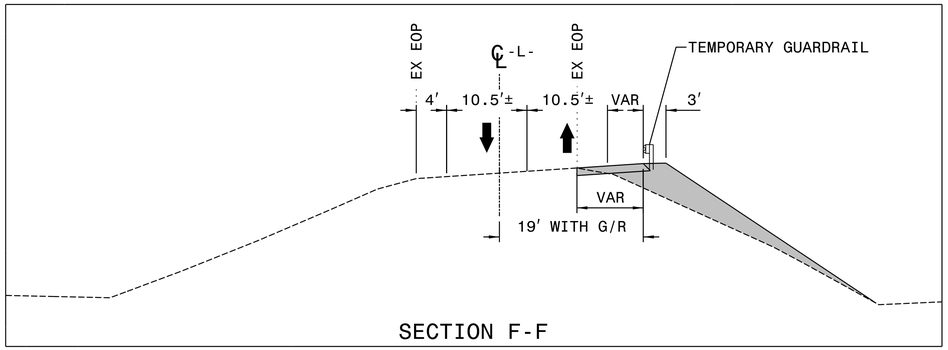
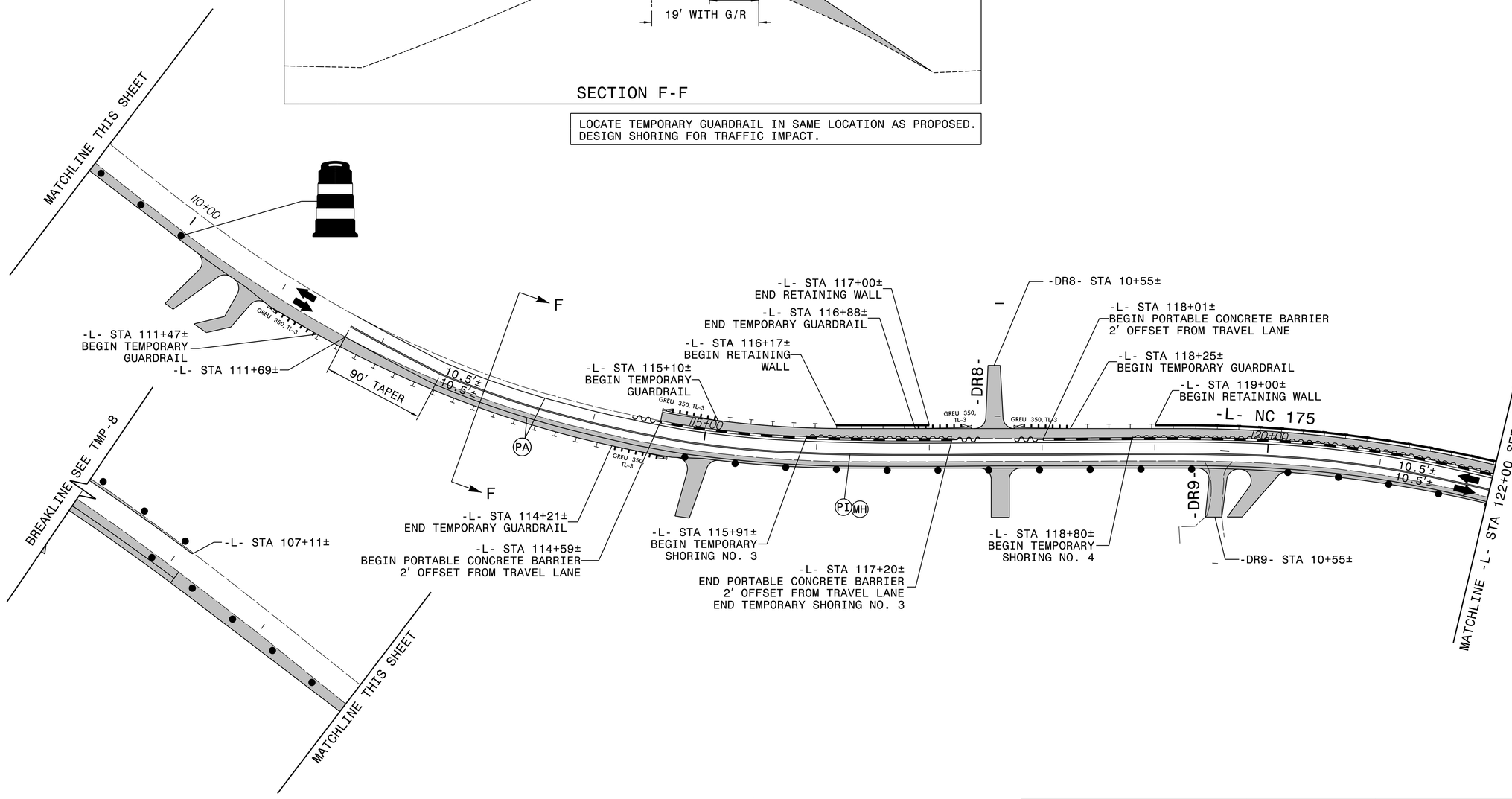


SECTION F-F

LOCATE TEMPORARY GUARDRAIL IN SAME LOCATION AS PROPOSED.
DESIGN SHORING FOR TRAFFIC IMPACT.



SHORING I.D.	BEGIN/OFFSET		END/OFFSET		MAX. SHORING HEIGHT (ft)	AREA (sf)
3	-L- STA 115+91±	11.1' LT	-L- STA 117+20±	11.1' LT	12.6	1625.4
4	-L- STA 118+80±	11.1' LT	-L- STA 126+25±	11.4' LT	10	7450

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PHASE I
STEPS 2, 3 and 4

12/21/2018
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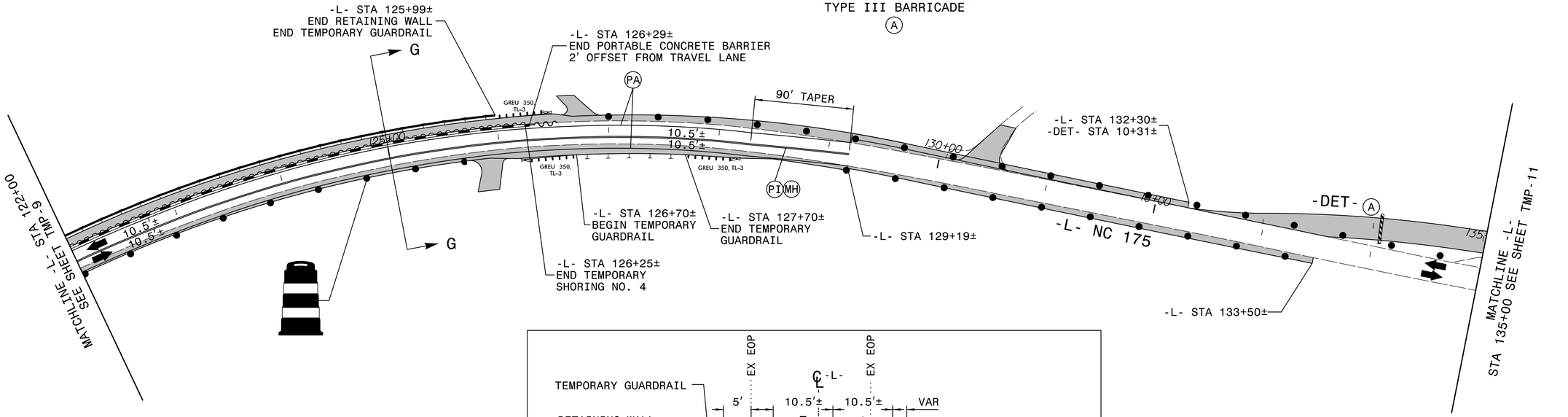
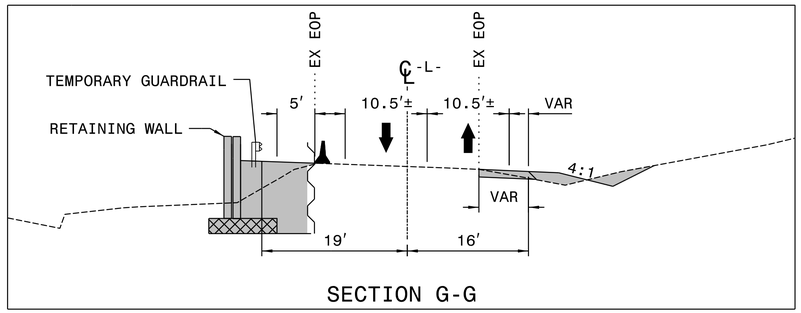
PROJ. REFERENCE NO.	SHEET NO.
R-5742	TMP-10

LOCATE TEMPORARY GUARDRAIL IN SAME LOCATION AS PROPOSED.
DESIGN SHORING FOR TRAFFIC IMPACT.

R11-2
48'' x 30''
ROAD CLOSED

TYPE III BARRICADE
(A)





SECTION G-G

SHORING I.D.	BEGIN/OFFSET		END/OFFSET		MAX. SHORING HEIGHT (ft)	AREA (sf)
4	-L- STA 118+80±	11.1' LT	-L- STA 126+25±	11.4' LT	10	7450

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PHASE I
STEPS 2, 3 and 4

12/21/2018
R5742_TMP_tmp10.dgn
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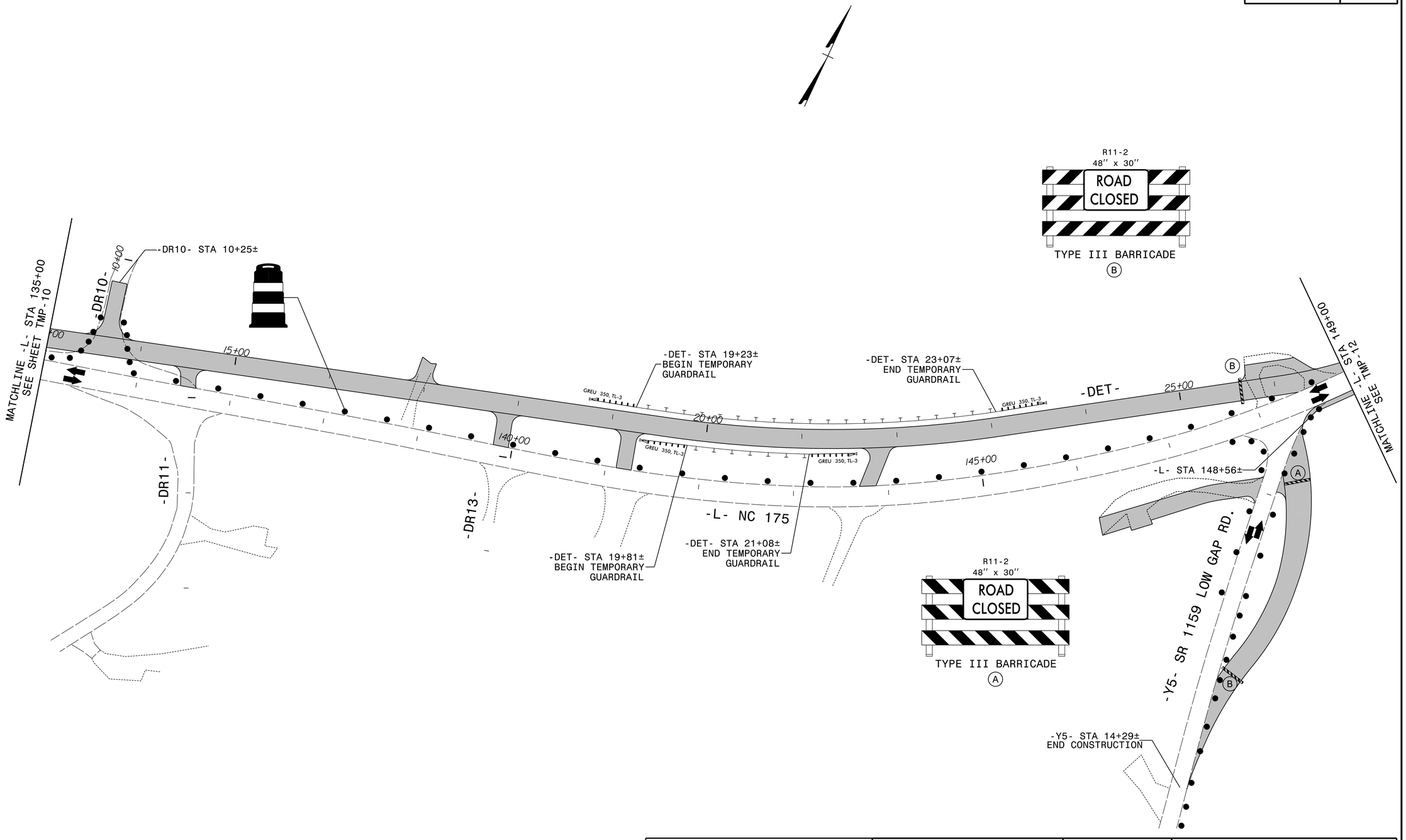
PROJ. REFERENCE NO.	SHEET NO.
R-5742	TMP-11



PLANS PREPARED BY :

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PHASE I - STEP 2

12/13/2018
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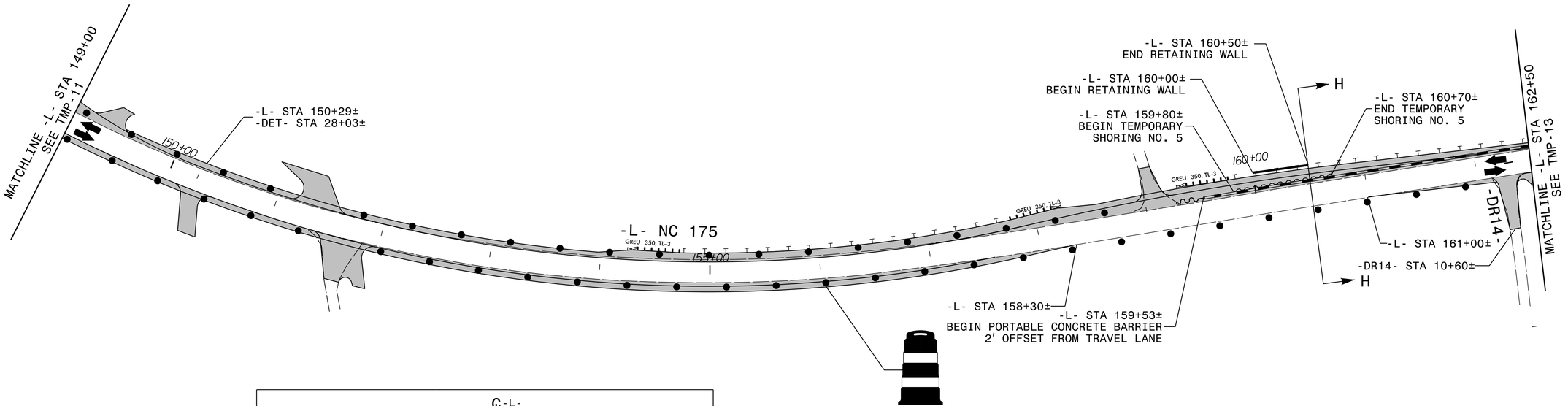
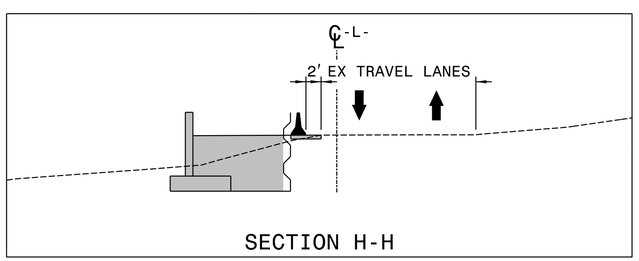
PROJ. REFERENCE NO.	SHEET NO.
R-5742	TMP-12

DESIGN SHORING FOR TRAFFIC IMPACT





SECTION H-H

SHORING I.D.	BEGIN/OFFSET		END/OFFSET		MAX. SHORING HEIGHT (ft)	AREA (sf)
5	-L- STA 159+80±	4.6' LT	-L- STA 160+70±	6.7' LT	4.4	396

PLANS PREPARED BY :

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PHASE I - STEP 2

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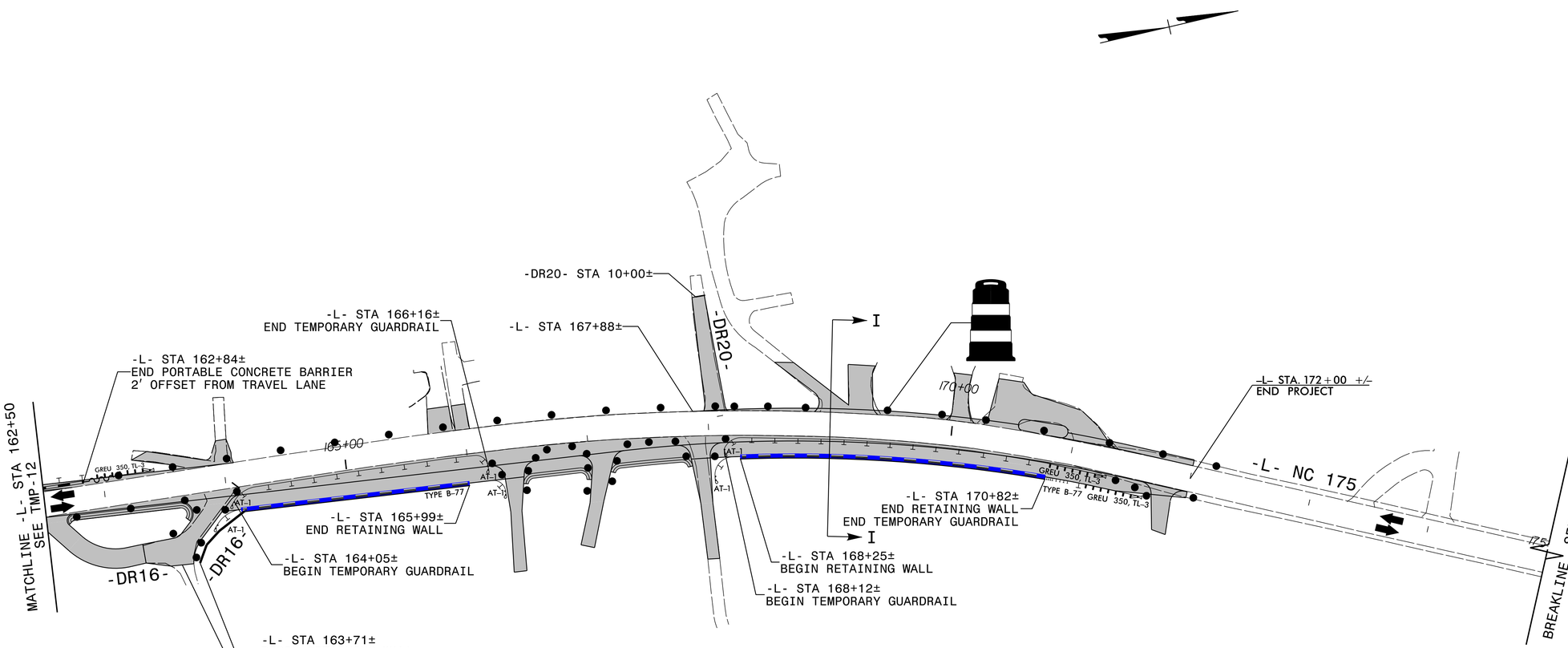
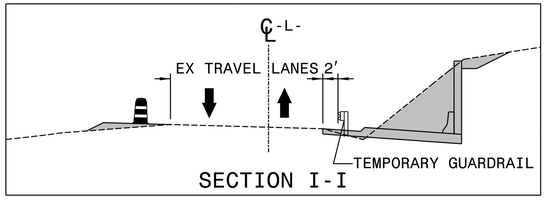
PROJ. REFERENCE NO.	SHEET NO.
R-5742	TMP-13





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PHASE I - STEP 2

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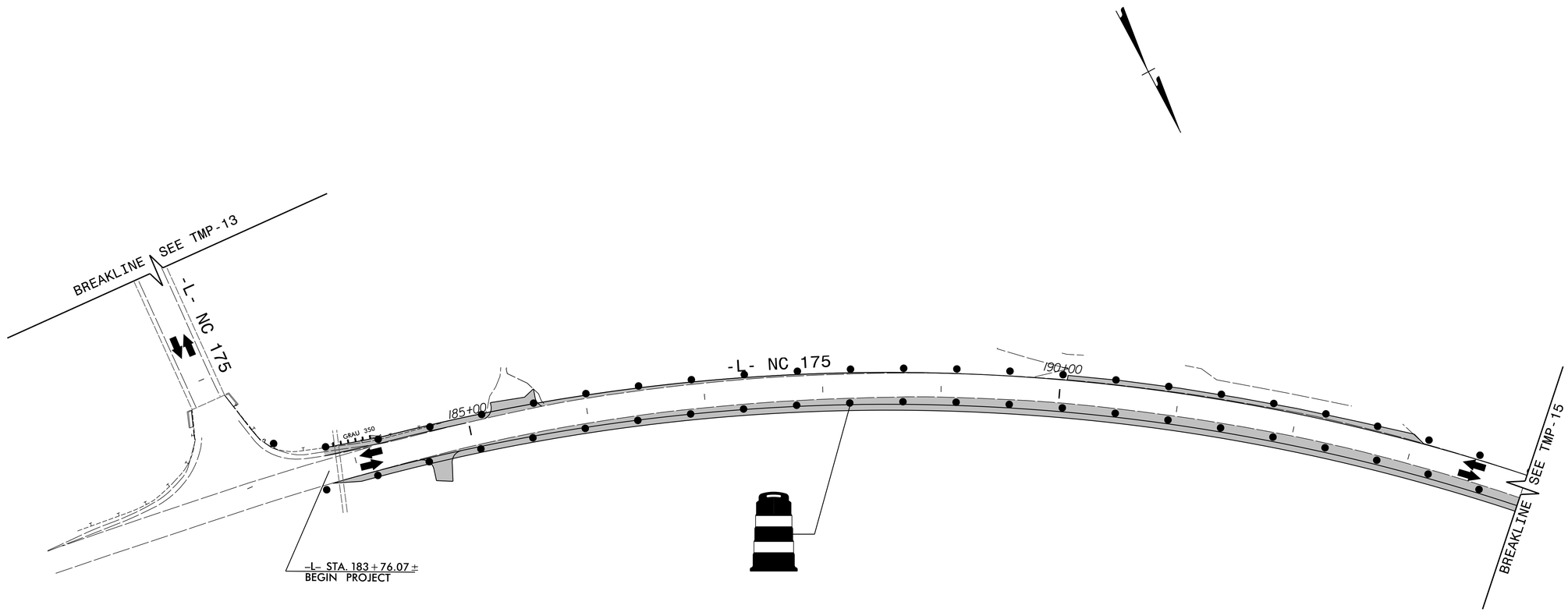

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PHASE I - STEP 2

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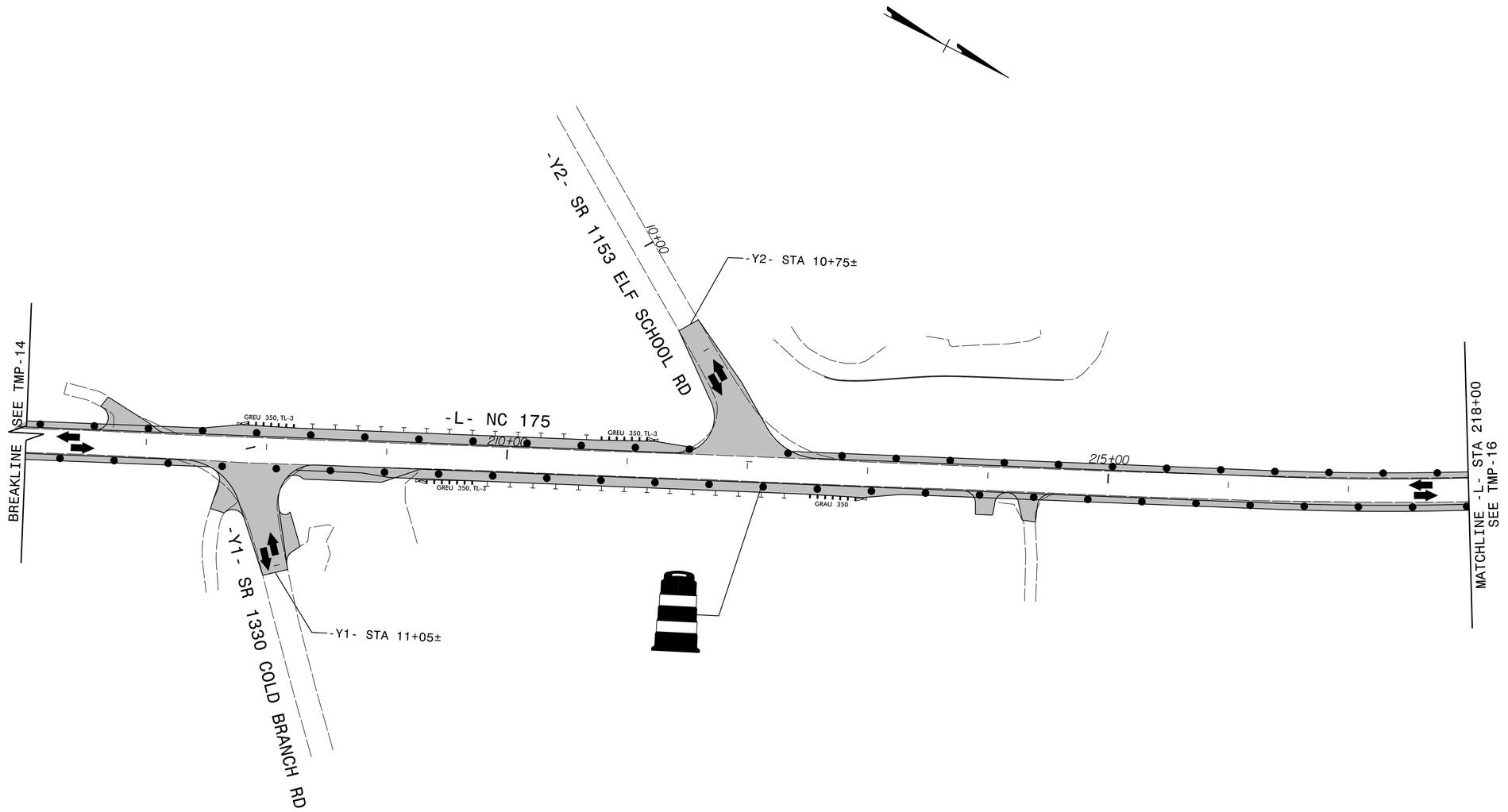

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PHASE I - STEP 2

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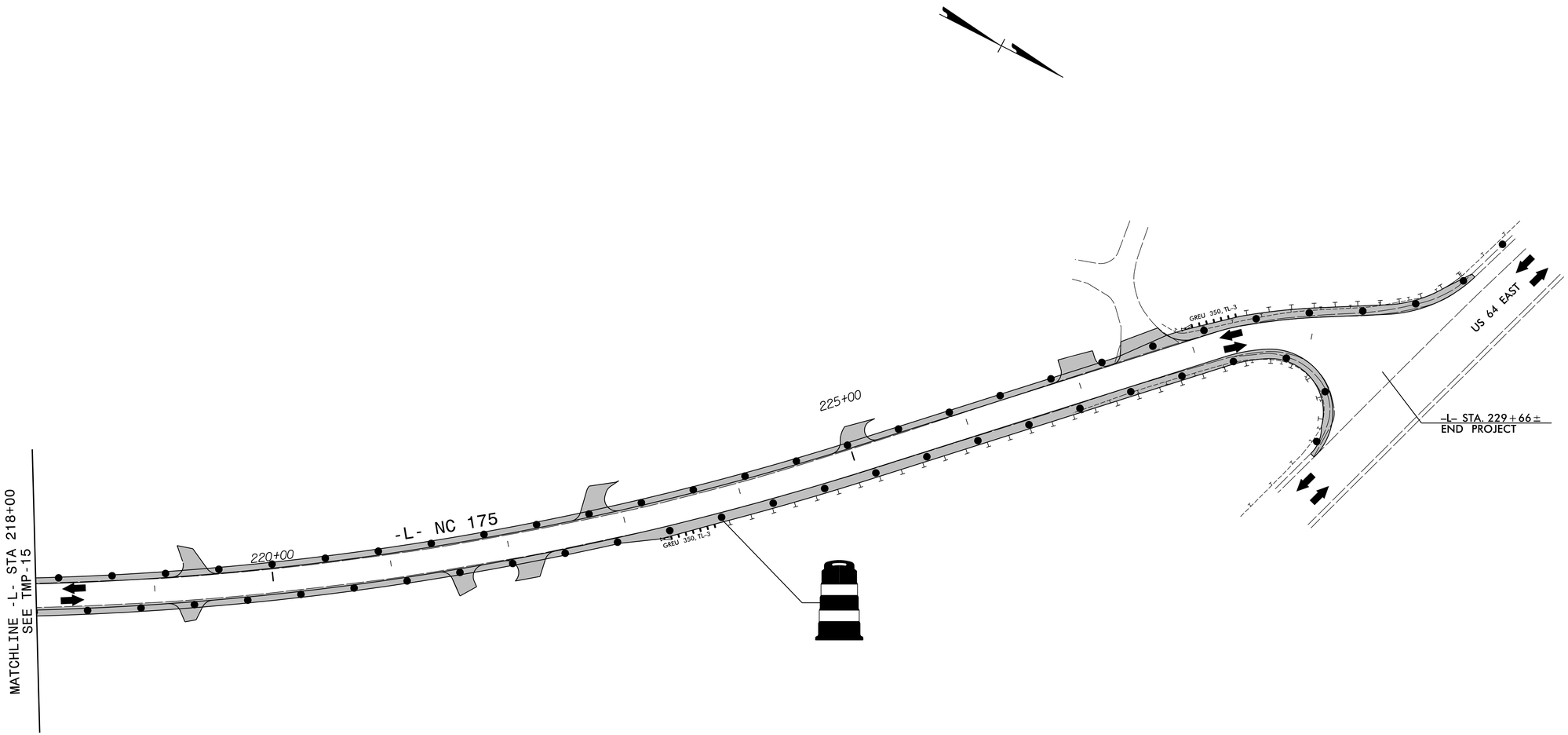

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PHASE I - STEP 2

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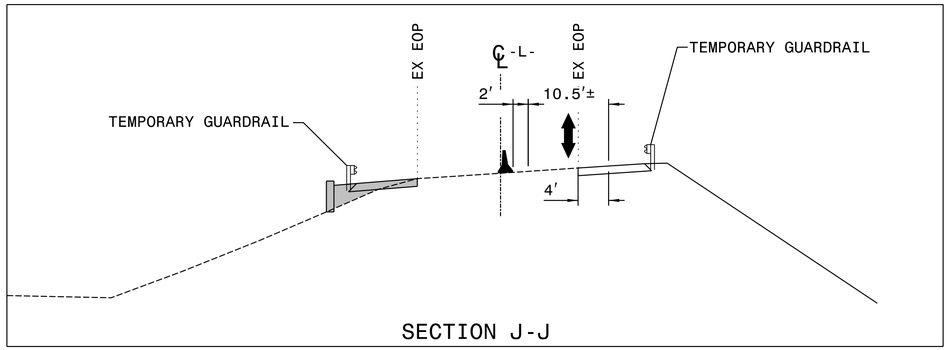

SECTION J-J

LOCATE TEMPORARY GUARDRAIL IN SAME LOCATION AS PROPOSED.

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PHASE I - STEPS 5 and 6

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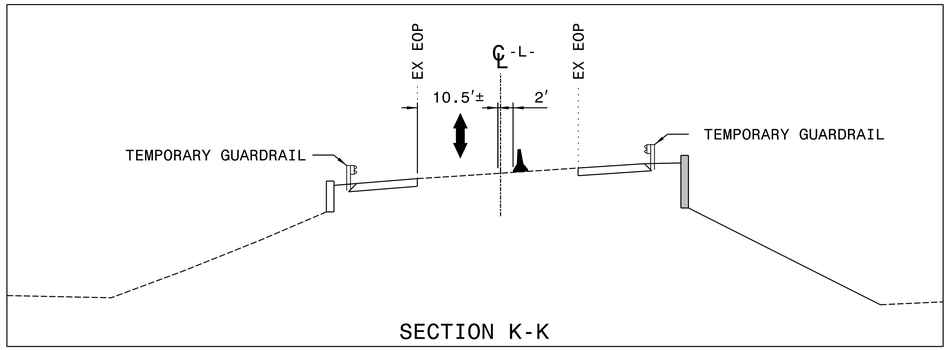

SECTION K-K

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PHASE I - STEPS 7 and 8

12/13/2018
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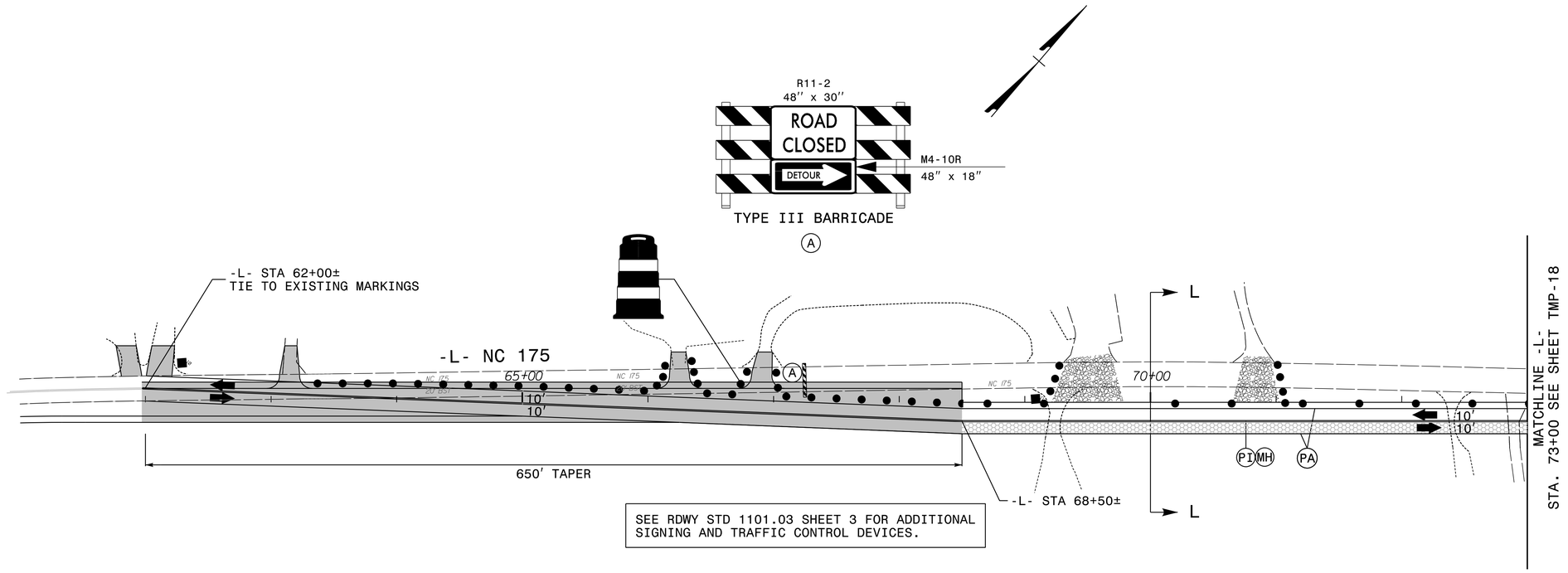
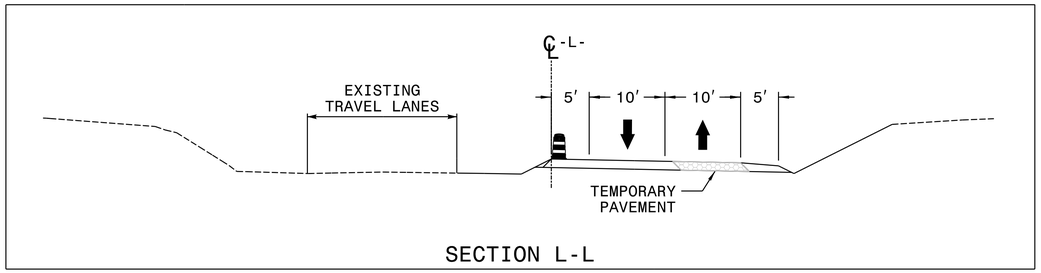


SEE RDWY STD 1101.03 SHEET 3 FOR ADDITIONAL SIGNING AND TRAFFIC CONTROL DEVICES.



SECTION L-L

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PHASE II - STEP 1A

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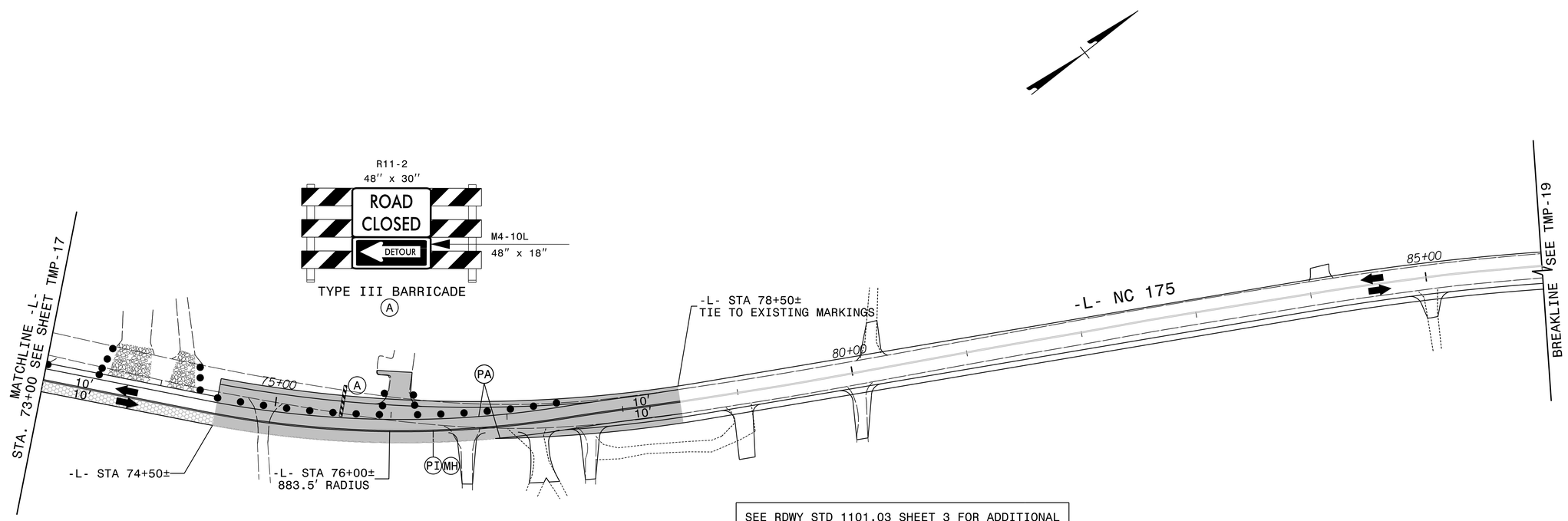

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PHASE II - STEP 1A

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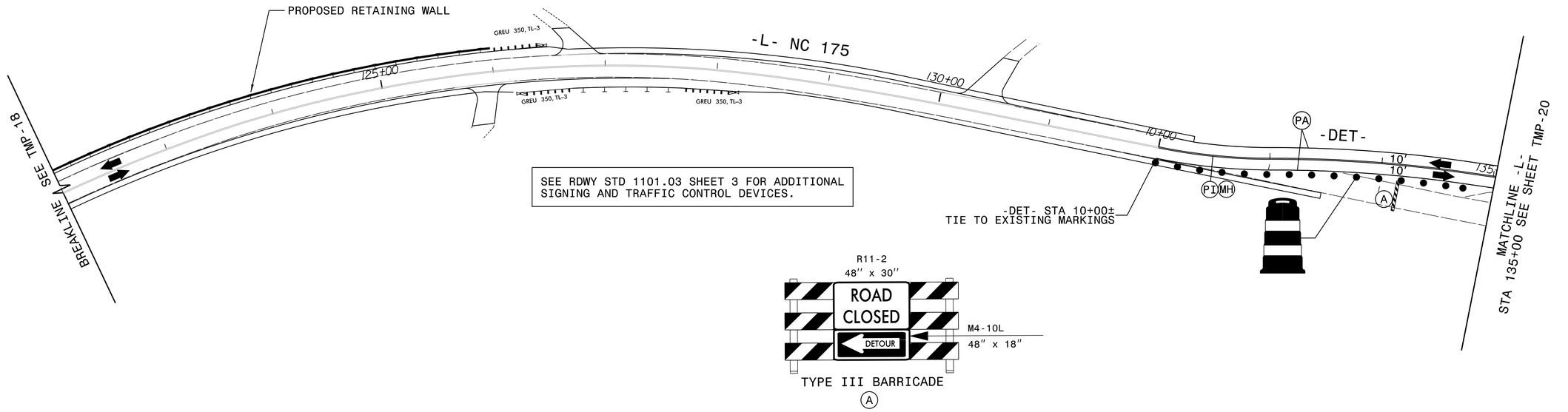

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PHASE II - STEP 1B

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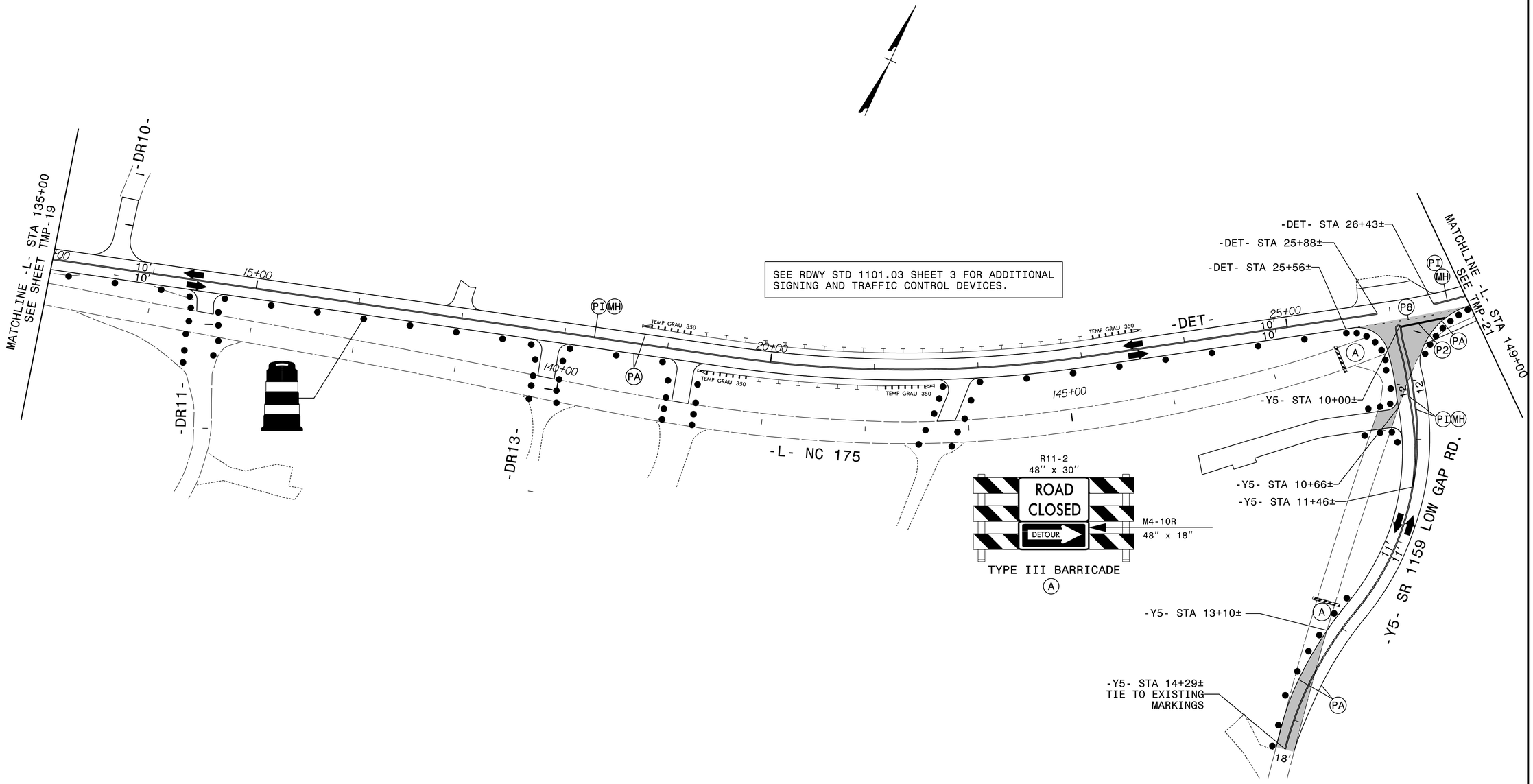

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PHASE II - STEP 1B

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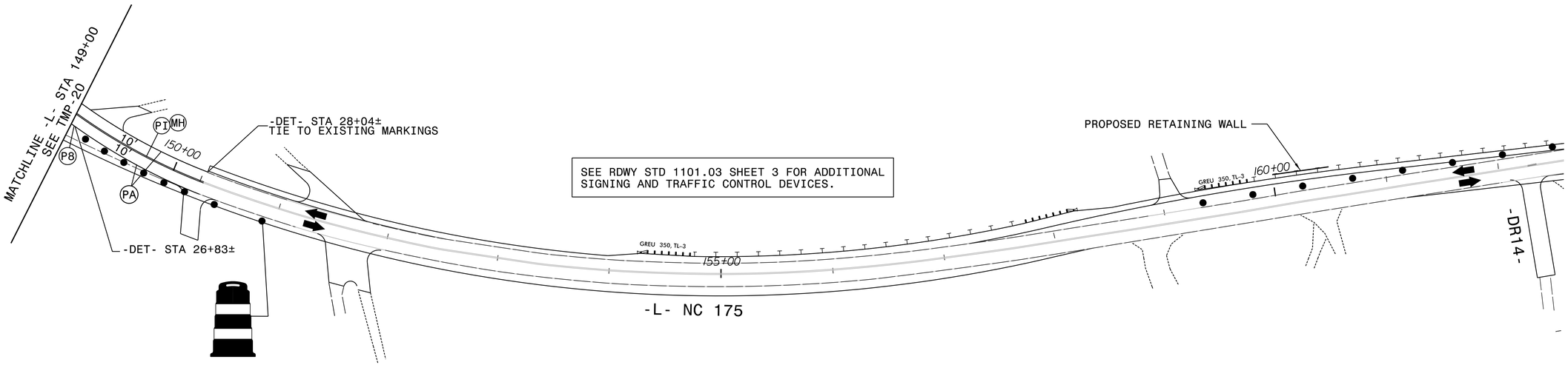

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PHASE II - STEP 1B

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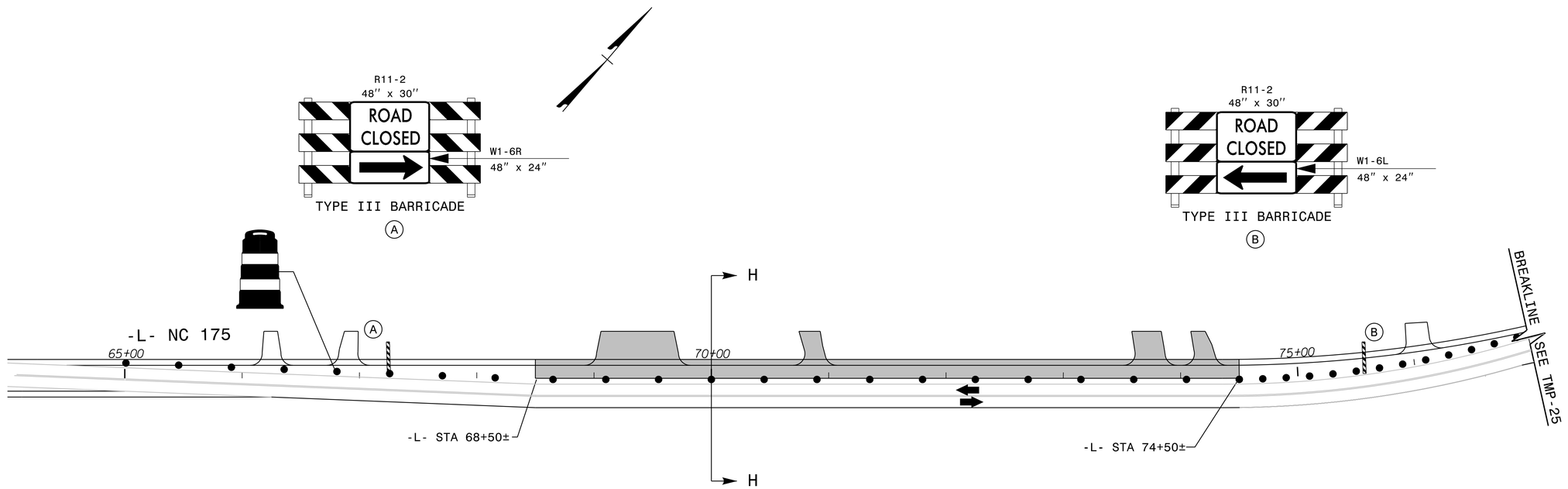

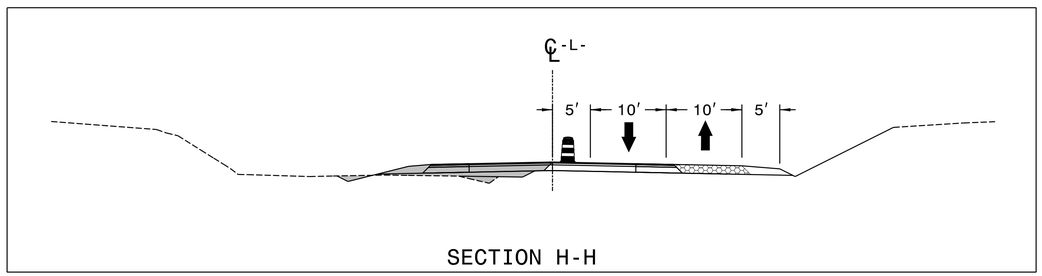

SECTION H-H

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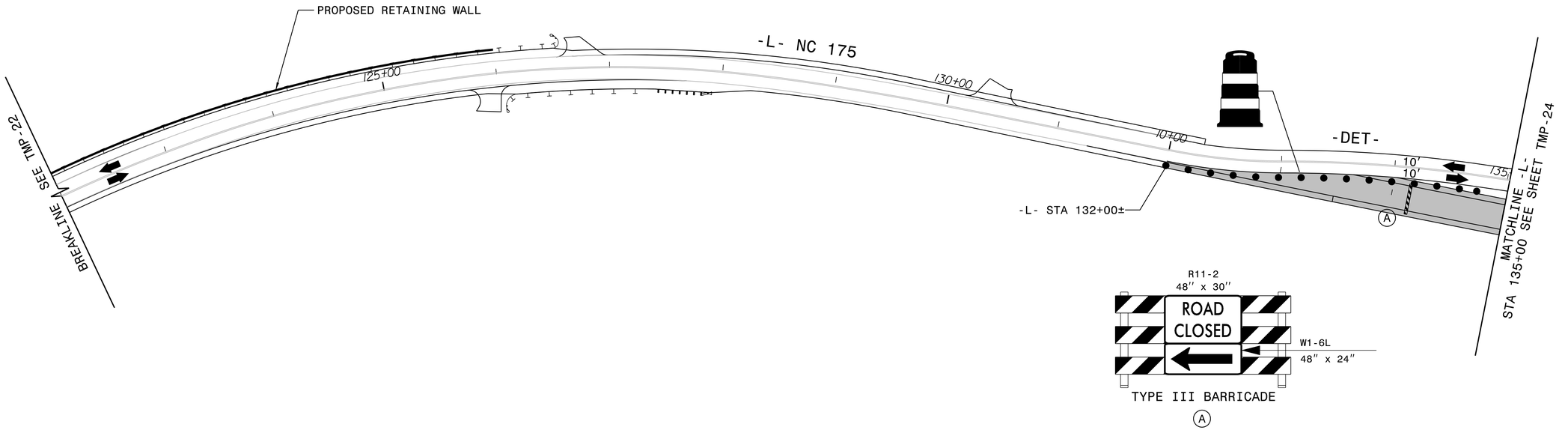

TYPE III BARRICADE

A

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PHASE II - STEP 2

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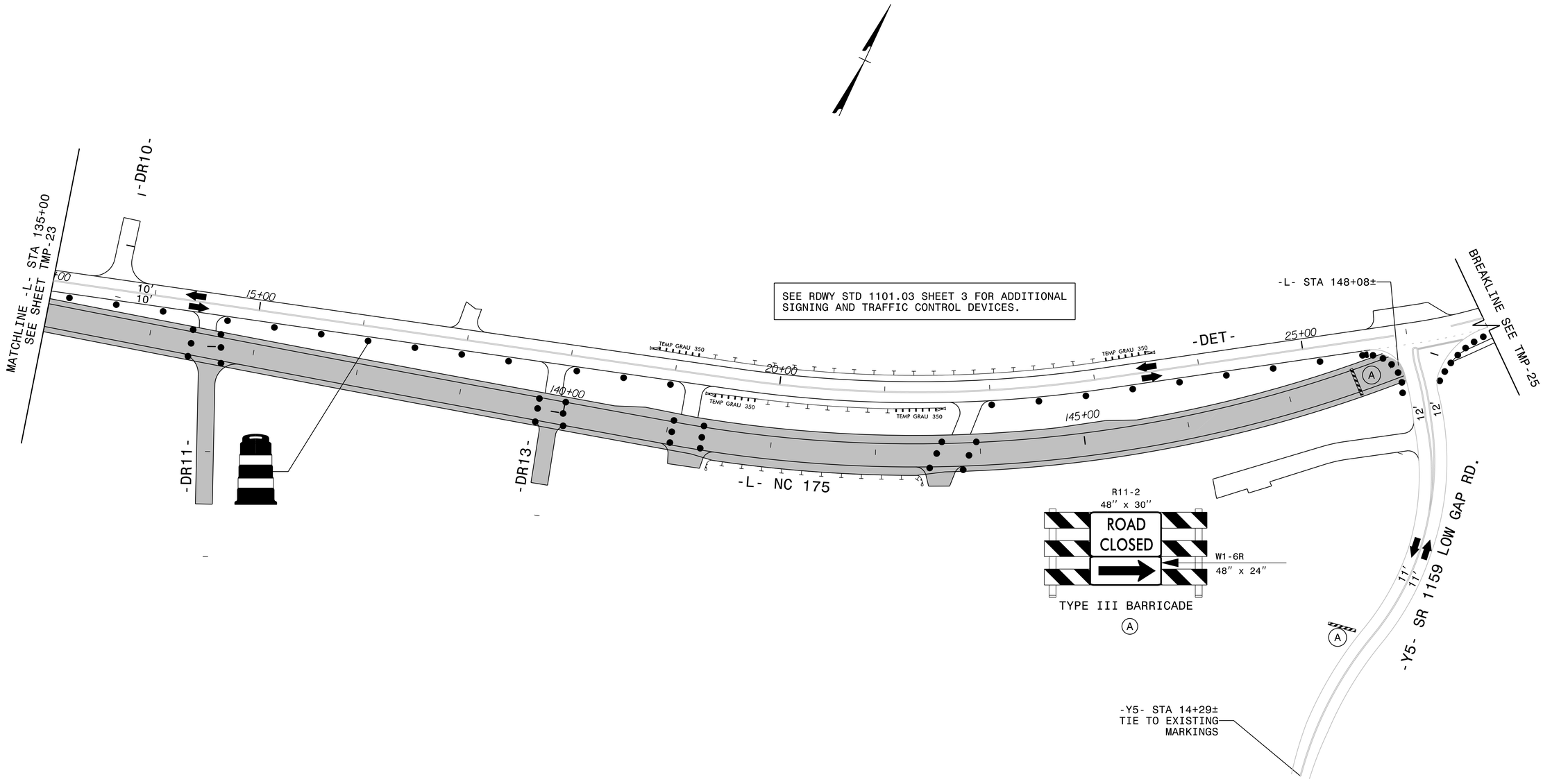

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PHASE II - STEP 2

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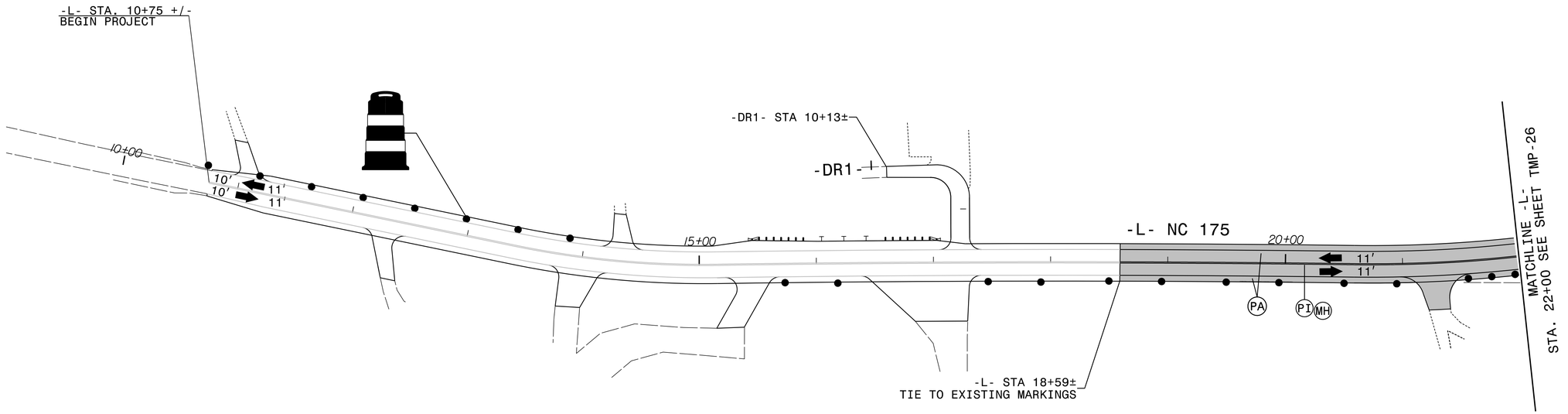

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PHASE III - STEP 1A

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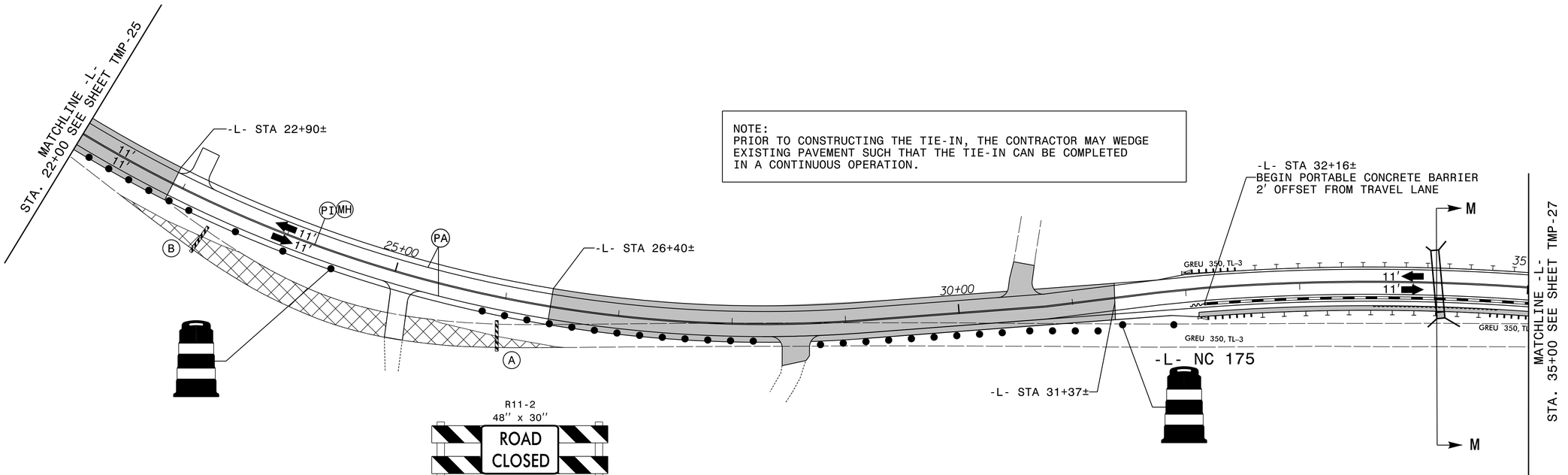
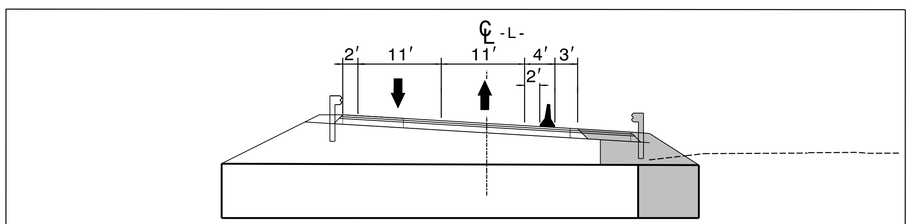


NOTE:
PRIOR TO CONSTRUCTING THE TIE-IN, THE CONTRACTOR MAY WEDGE EXISTING PAVEMENT SUCH THAT THE TIE-IN CAN BE COMPLETED IN A CONTINUOUS OPERATION.

TYPE III BARRICADE
(A)

TYPE III BARRICADE
(B)



SETION M-M

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PHASE III - STEP 1A

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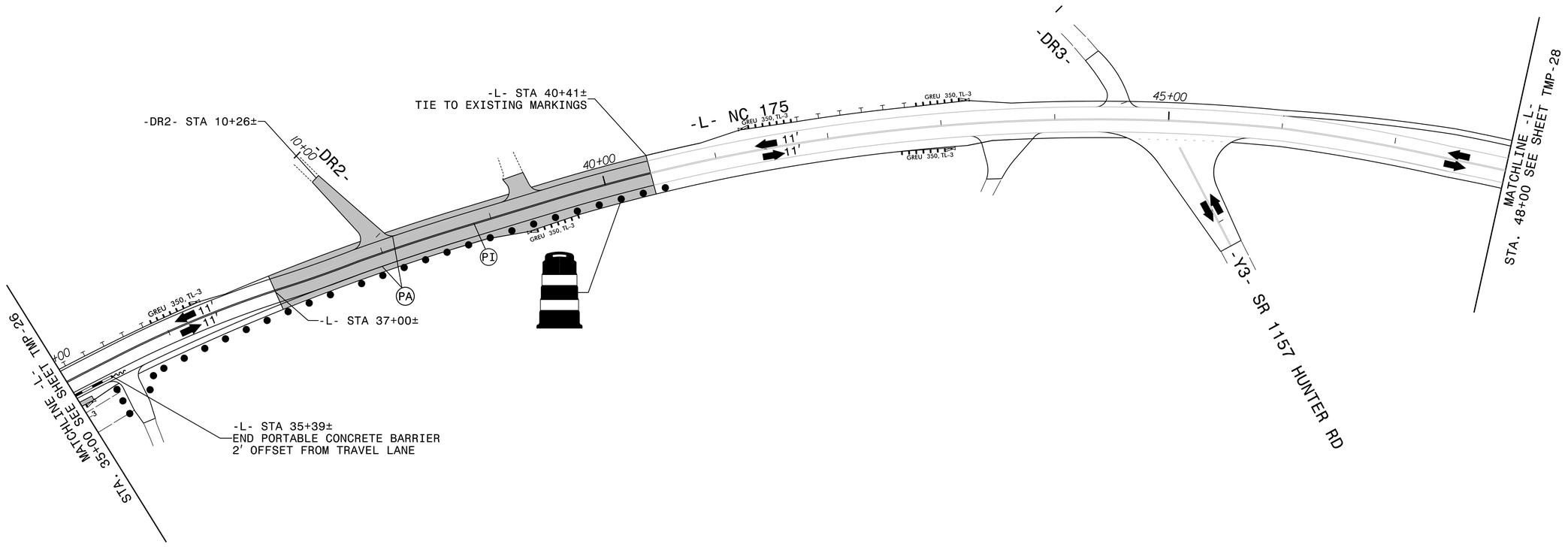

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PHASE III - STEP 1A

12/13/2018
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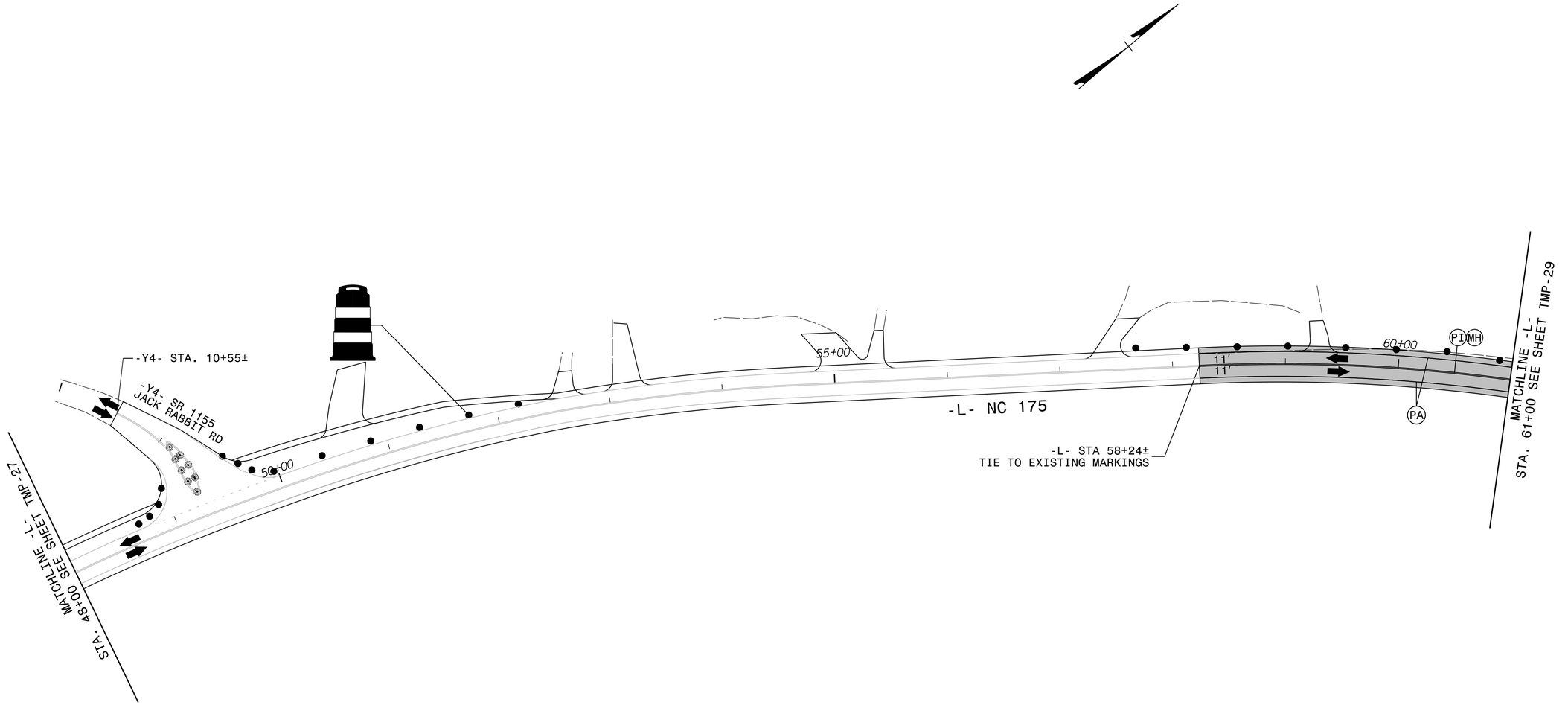

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PHASE III - STEP 1B

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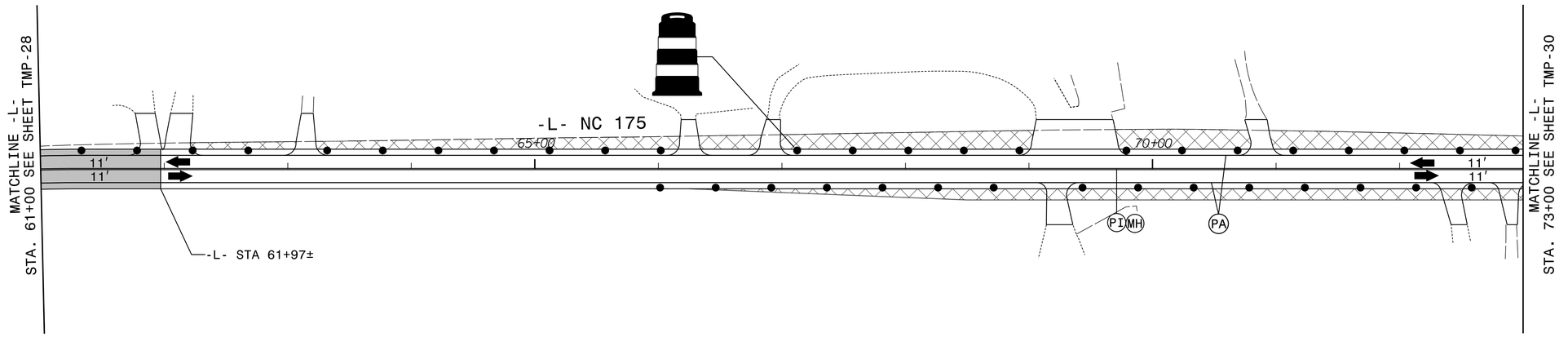

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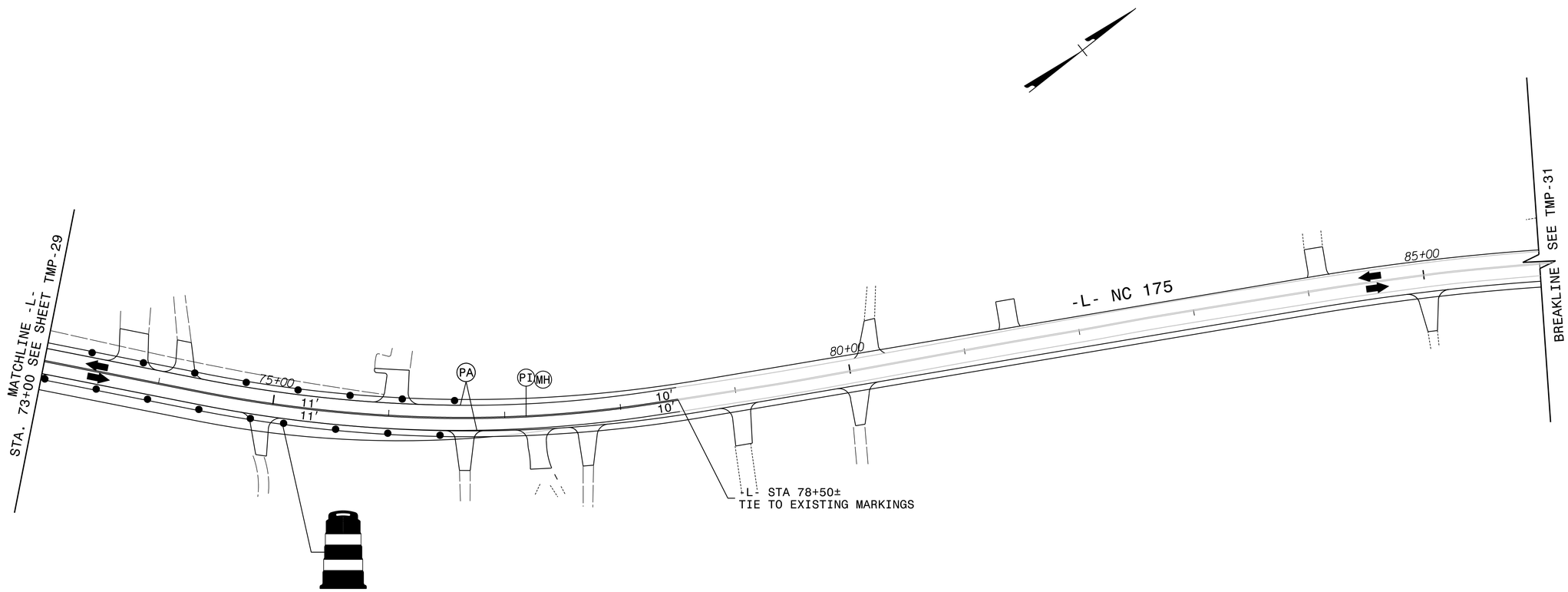

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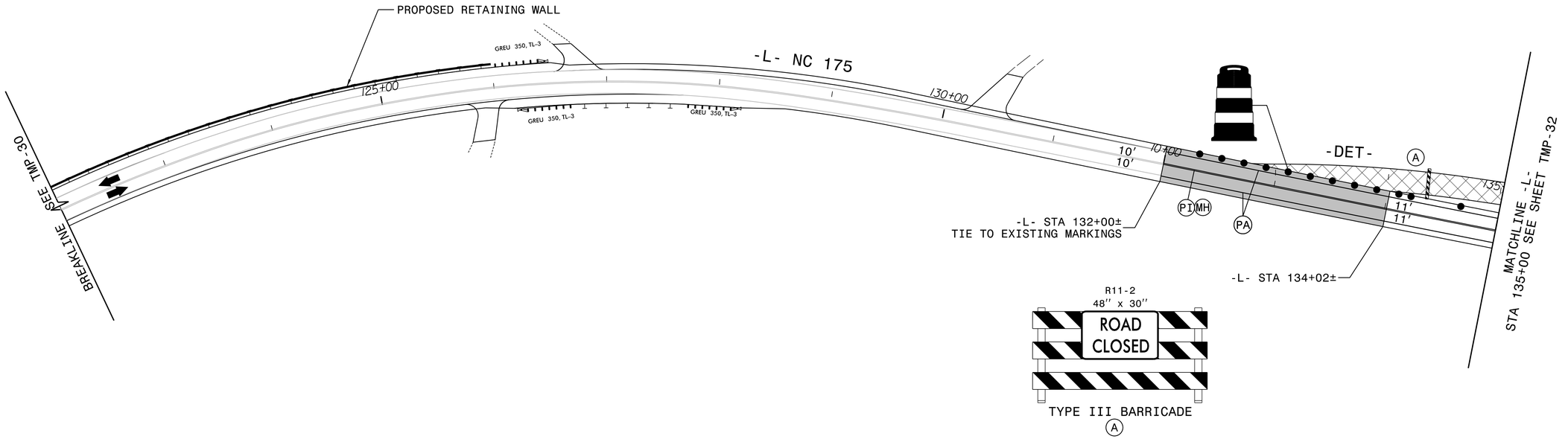

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PROJ. REFERENCE NO.	SHEET NO.
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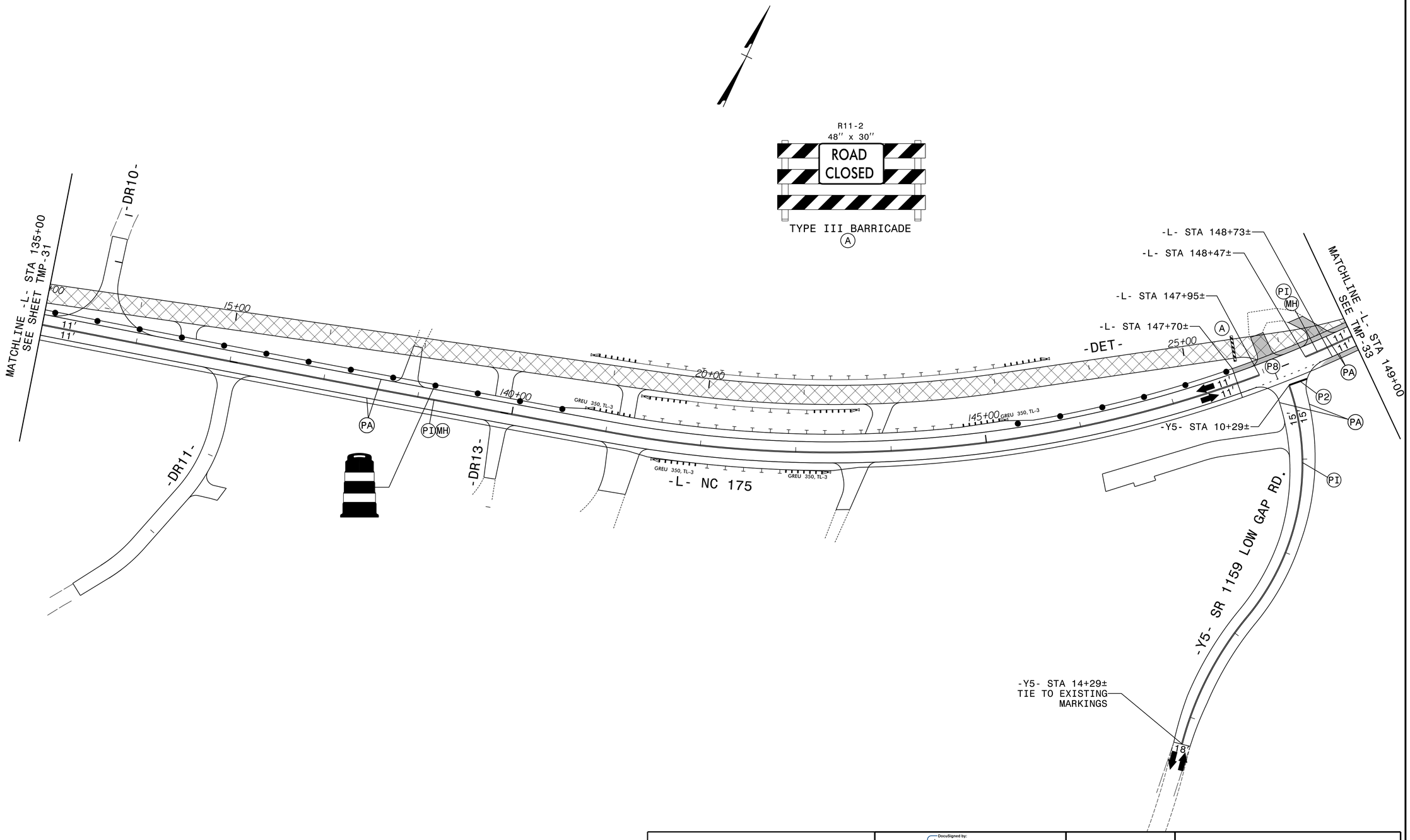

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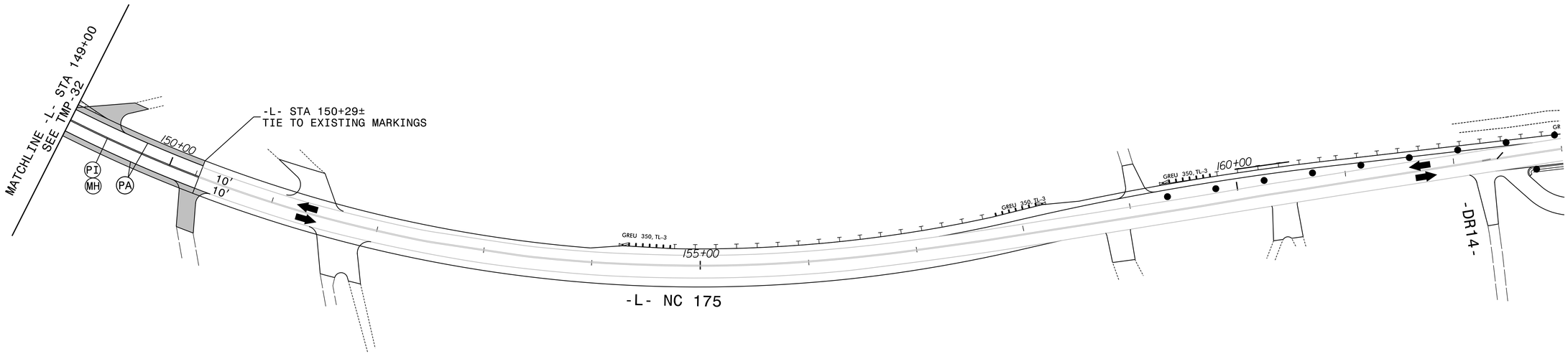

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