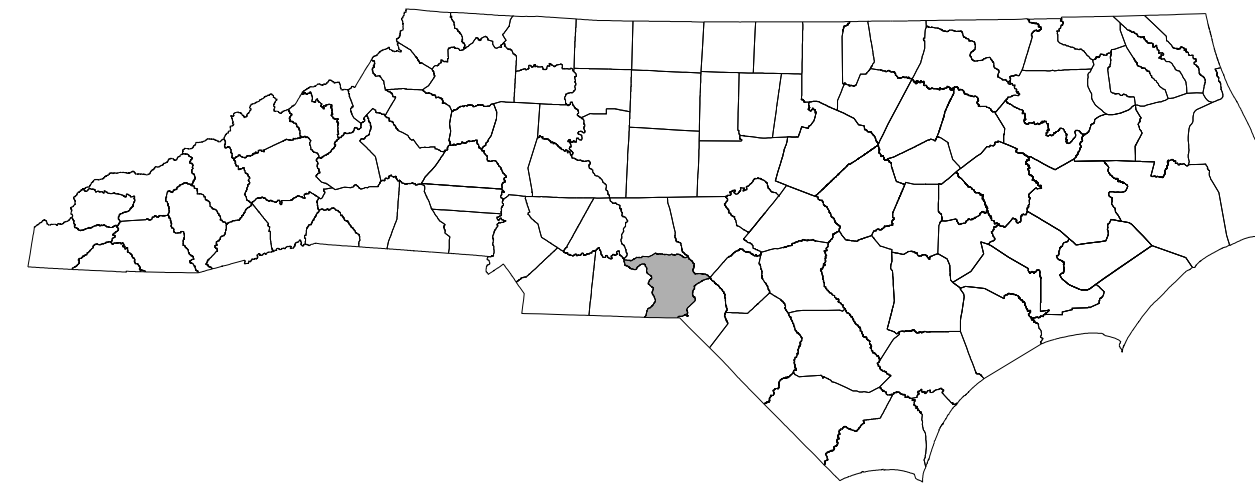


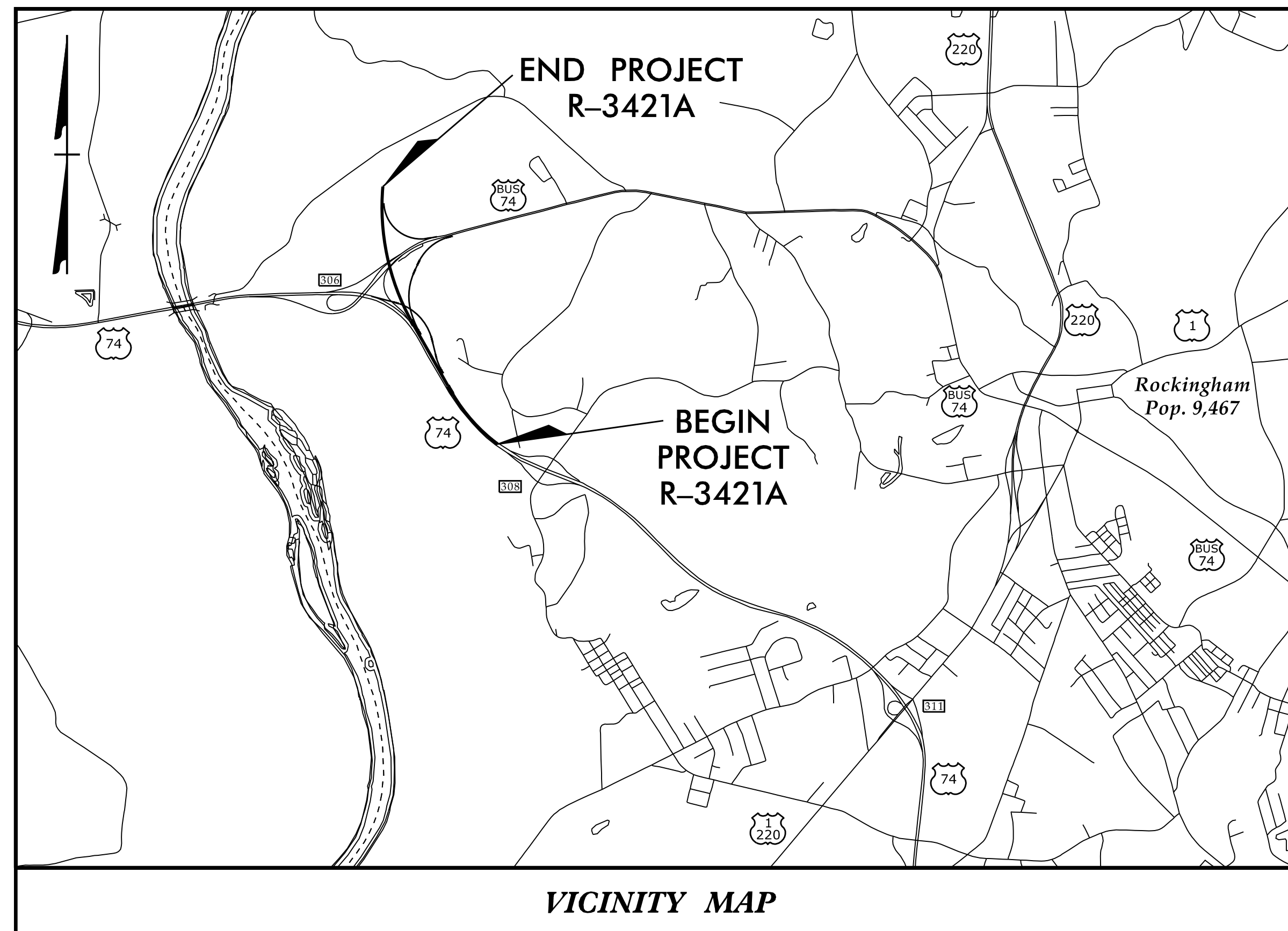
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**RICHMOND COUNTY**



**LOCATION: I-73\74 FROM US 74 WEST OF ROCKINGHAM AT  
SR 1109 (ZION CHURCH RD.) INTERCHANGE TO 0.3 MILES  
SOUTH OF SR 1140 (OLD CHARLOTTE HWY.)**



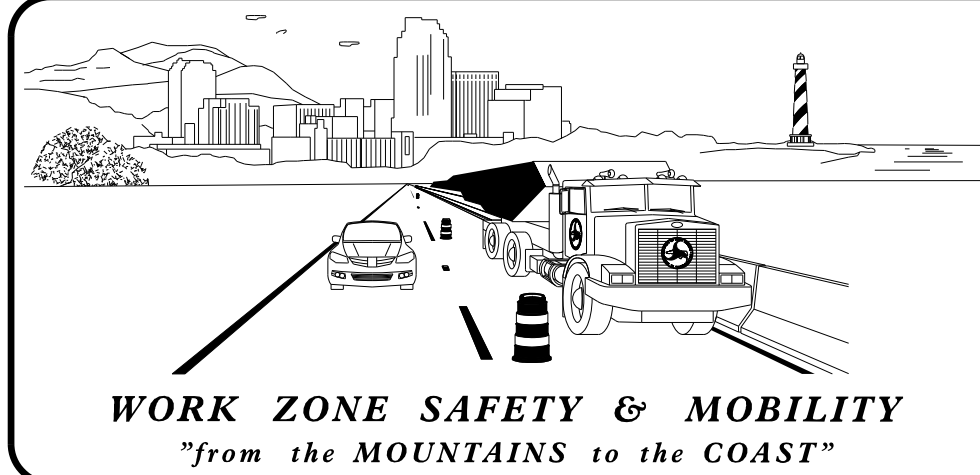
VICINITY MAP

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B AND TMP-1C	TRANSPORTATION OPERATIONS PLAN: MANAGEMENT STRATEGIES, GENERAL NOTES AND LOCAL NOTES
TMP-2	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
TMP-2A	TEMPORARY SHORING DATA
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4	PHASE 1 PROJECT LAYOUT
TMP-5 THRU TMP-22	PHASE 1 DETAILS
TMP-23	PHASE 2 PROJECT LAYOUT
TMP-24 THRU TMP-35	PHASE 2 DETAILS

SHEET NO.  
TMP-1

**R-3421A**

**TIP PROJECT:**



PLANS PREPARED BY:

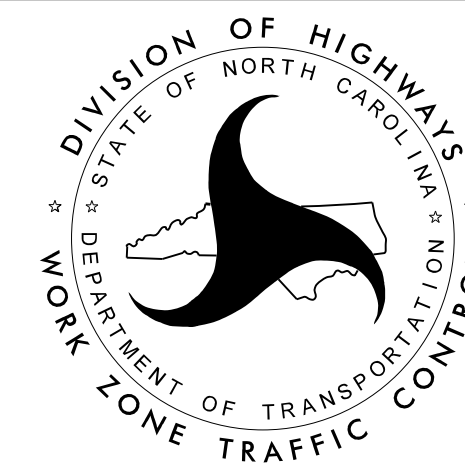
MICHELLE WARD, P.E.  
PROJECT ENGINEER

BRANDON SCOTT  
DESIGN ENGINEER

NCDOT CONTACTS:

KEN THORNEWELL, P.E.  
PROJECT ENGINEER

ALLA LYUDMIRSKAYA  
DESIGN ENGINEER



**HDR** HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116

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APPROVED: *Michelle Ward*

DATE: 7/3/2019

SEAL






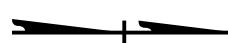


# ROADWAY STANDARD DRAWINGS


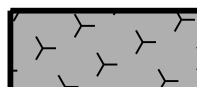



THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
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 MULTI-LANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION


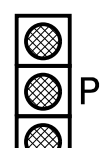

# LEGEND

## GENERAL

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

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












## SIGNALS

-  EXISTING
-  PROPOSED
-  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

## TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN







## PAVEMENT MARKERS

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

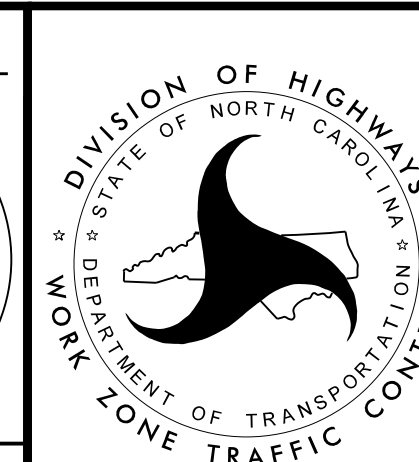
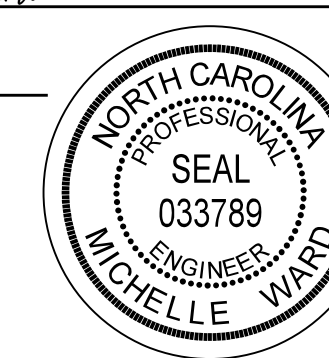
## PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS

## TEMPORARY PAVEMENT MARKING

-  P6 PAINT 6" WHITE EDGELINE
-  P7 PAINT 6" YELLOW EDGELINE
-  PJ PAINT 6" 10'-30'/SP. WHITE SKIP
-  PK PAINT 6" 3'-9'/SP. WHITE MINI-SKIP
-  PS PAINT 12" WHITE GORELINE
-  QP PAINT MERGE ARROW

APPROVED: *Michelle Ward*  
DATE: 7/3/2019




ROADWAY STANDARD  
DRAWINGS & LEGEND

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

# MANAGEMENT STRATEGIES

PROJ. REFERENCE NO. R-3421A	SHEET NO. TMP-1B
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HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116

IN PHASE 1, STEP 1 TRAFFIC WILL BE MAINTAINED IN THE EXISTING TRAFFIC PATTERN AND TRAVEL LANES, EXCEPT FOR THE FOLLOWING LOCATION:

ALONG US 74 BUS EB FROM -L2- STA. 29+00 +/- TO STA. 49+18 +/-, WHERE THE LEFT LANE WILL BE NARROWED TO 11' AND PCB PLACED TO BEGIN CONSTRUCTION OF -XOVER2- AND TO ACCOMMODATE THE TEMPORARY TRAFFIC PATTERN NEEDED IN PHASE 2, STEP 1 WHEN TRAFFIC WILL BE DRIVING ON -XOVER2-

THE FOLLOWING CONSTRUCTION WILL BEGIN IN PHASE 1, STEP 1:

I-73/74 FROM JUST NORTH OF EXISTING US 74 TO JUST SOUTH OF THE PROPOSED BRIDGES OVER US 74 BUS AND FROM JUST NORTH OF THOSE BRIDGES TO THE END OF THE PROJECT  
-RPA-, -RPD-, -LPB-, -LPC- AND -FLY- AS MUCH AS POSSIBLE WITHOUT INTERFERING WITH EXISTING TRAFFIC PATTERNS ON EXISTING US 74 WB RAMP TO US 74 BUS EB  
OUTSIDE OF US 74 (WB) FROM THE BEGINNING OF THE PROJECT TO -US 74- STA. 74+80.00  
OUTSIDE OF US 74 (EB) FROM THE BEGINNING OF THE PROJECT TO -US 74- STA. 74+80.00  
-RPC- AS MUCH AS POSSIBLE WITHOUT INTERFERING WITH US 74 WB TRAFFIC  
-L2- (ACCELERATION LANE FOR PROPOSED -RPC-)  
-XOVER1-  
CENTER BENTS ON DUAL STRUCTURES ON I-73 OVER US 74 BUS (PCB AND SHORING WILL BE REQUIRED WHEN CONSTRUCTING CENTER BENTS)

IN PHASE 1, STEP 1 THE FOLLOWING CONSTRUCTION WILL BE COMPLETED TO ACCOMMODATE THE PHASE 1, STEP 2 PATTERN:

-L2 RT- FROM THE BEGINNING TO THE EQUALITY WITH -L2 REV- AND CONTINUING TO -L2 REV- STA. 32+00 +/-

IN PHASE 1, STEP 2, THE OUTSIDE LANE OF US 74 WB WILL BE CLOSED AND A NEW TAPER EXIT CREATED ONTO THE EXISTING RAMP FROM US 74 WB TO US 74 BUS EB. ONCE TRAFFIC IS PLACED IN THE TEMPORARY PATTERN, WORK WILL BEGIN ON I-73 FROM STA. 74+80.44 TO THE BEGINNING OF THE -RPC- ALIGNMENT AND ON -RPC- FROM THE BEGINNING OF THE ALIGNMENT TO STA. 6+88 +/-, WHERE CONSTRUCTION BEGAN IN PHASE 1, STEP 1.

ALSO IN PHASE 1, STEP 2, US 74 BUS WB TRAFFIC TOWARDS US 74 EB IS SHIFTED TO THE NEW -L2 RT- ALIGNMENT, LEAVING US 74 BUS WB TOWARD CHARLOTTE ON THE EXISTING RAMP ALIGNMENT. ONCE TRAFFIC IS SHIFTED, -L2 CONN- IS CONSTRUCTED FROM THE BEGINNING OF THE ALIGNMENT TO WHERE IT TIES IN TO THE EXISTING RAMP FROM US 74 BUS WB TO US 74 WB.

AT THE END OF PHASE 1, STEP 2, THE FOLLOWING CONSTRUCTION WILL BE COMPLETED TO ACCOMMODATE THE PHASE 1, STEP 3 PATTERN:

OUTSIDE OF US 74 WB FROM JUST PAST THE -FLY- GORE TO -RPC- -RPC- IN ITS ENTIRETY (INCLUDING ACCELERATION LANE ALONG -L2-)

IN PHASE 1, STEP 3, THE OUTSIDE LANE ON US 74 WB REMAINS CLOSED AND THE EXISTING RAMP FROM US 74 WB TO US 74 BUS EB IS SHIFTED ONTO THE NEW -RPC- ALIGNMENT.

ALSO IN PHASE 1, STEP 3, THE EXISTING RAMP FROM US 74 BUS WB TOWARD CHARLOTTE (US 74 WB) IS SHIFTED ONTO THE NEW -L2 CONN- / -L2 RT- / -L2 REV- ALIGNMENTS.

IN PHASE 1, STEP 4, THE FOLLOWING WILL BEGIN CONSTRUCTION:

-LPB-, WHERE IT INTERFERED WITH THE EXISTING RAMP FROM US 74 WB TO US 74 BUS EB  
I-73 FROM JUST SOUTH OF THE BRIDGES OVER US 74 BUS TO JUST NORTH OF THE BRIDGES, INCLUDING BOTH NB AND SB BRIDGES

IN PHASE 1, STEP 4, THE FOLLOWING CONSTRUCTION WILL BE COMPLETED:

-FLY-, WHERE IT INTERFERED WITH THE EXISTING RAMP FROM US 74 WB TO US 74 BUS EB  
REMAINDER OF -FLY-, BEGUN IN PHASE 1, STEP 1  
-US 74- (WB) FROM THE BEGINNING OF THE PROJECT TO JUST PAST THE -FLY- GORE, BEGUN IN PHASE 1, STEP 1  
-XOVER1- AND -XOVER2-, BEGUN IN PHASE 1, STEP 1  
-US 74- (EB) FROM BEGINNING OF PROJECT TO -US 74- STA. 74+80.44, BEGUN IN PHASE 1, STEP 1

IN PHASE 1, STEP 5, US 74 WB TRAFFIC IS SHIFTED ONTO THE -FLY- ALIGNMENT AND ON US 74 EB TRAFFIC IS SHIFTED ONTO THE -XOVER1- ALIGNMENT. IN ADDITION, THE US 74 BUS WB TRAFFIC IS SHIFTED ONTO THE -XOVER2- ALIGNMENT IN A ONE LANE PATTERN.

IN PHASE 2, STEP 1, WITH TRAFFIC IN THE PATTERN DESCRIBED IN PHASE 1, STEP 5, CONSTRUCTION IS COMPLETED ON THE FOLLOWING:

-US 74 EBL- FROM STA. 74+80.44 TO THE END OF THE ALIGNMENT AND I-73 FROM 74+80.44 TO STA. 81+22 +/-  
REMAINDER OF -LPB-, -LPC-, -L2-, -RPA-, AND -L2 CONN-  
-US 74- (WB) FROM THE END OF -L2 CONN- ALIGNMENT TO THE END OF THE PROJECT

ALSO IN PHASE 2, STEP 1, THE REMAINDER OF -L2 REV-, -RPD- AND -DR1- WILL BEGIN CONSTRUCTION.

IN PHASE 2, STEP 2, US 74 EB IS SHIFTED ONTO PERMANENT PAVEMENT THEN CONSTRUCTION WILL BEGIN ON THE FOLLOWING: (NOTE: AT THIS TIME, -XOVER1- TEMPORARY ALIGNMENT WILL BE REMOVED.)

-US 74- FROM STA. 62+28 +/- TO STA. 74+80.44 (US 74 WB INSIDE SHOULDER WIDENING)  
REMAINDER OF I-73 TIE-IN TO EXISTING US 74

IN PHASE 2, STEP 3, ALL CONSTRUCTION ALREADY BEGUN WILL BE COMPLETED, THEN TEMPORARY MARKINGS PLACED IN THE FINAL PATTERN ON ALL ROADS OPEN TO THE FINAL PATTERN.

IN PHASE 2, STEP 4, THE FOLLOWING WILL BE CONDUCTED:

-XOVER2- TEMPORARY ALIGNMENT WILL BE REMOVED  
PLACEMENT OF FINAL LAYER OF SURFACE COURSE  
RESURFACING OF ALL ROADS AS SHOWN IN THE ROADWAY PLAN  
PLACEMENT OF FINAL MARKINGS AND MARKERS ON ALL ROADS

## GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRABLE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

### TIME RESTRICTIONS

A) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
-FLY- & US 74 BUS	MONDAY THRU SUNDAY 5:00 A.M. TO 10:00 P.M.	30 MINUTES FOR HANGING GIRDERS ON I-73
US 74 & US 74 BUS	MONDAY THRU SUNDAY 5:00 A.M. TO 10:00 P.M.	30 MINUTES FOR OVERHEAD SIGN INSTALLATIONS & REMOVAL OF EXISTING OVERHEAD SIGNS

B) 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

C) 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.

D) 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.

E) 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.

F) 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.

G) 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.

H) DO NOT INSTALL MORE THAN ONE MILE OF LANE CLOSURE ON US 74 AND US 74 BUSINESS MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

I) DO NOT INSTALL MORE THAN ONE LANE CLOSURE, IN ANY ONE DIRECTION, ON US 74 AND US 74 BUSINESS.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

K) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 1000 FT. IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

### TRAFFIC PATTERN ALTERATIONS

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

### SIGNING

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

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

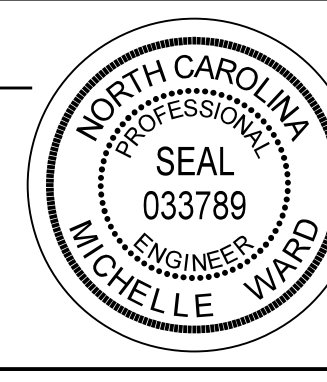

O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 1000 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

### TRAFFIC BARRIER

P) 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.

APPROVED: <i>Michelle Ward</i> DATE: 7/3/2019 SEAL 		TRANSPORTATION OPERATIONS PLAN: MANAGEMENT STRATEGIES, & GENERAL NOTES
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REVISIONS

**GENERAL NOTES, (CONT.)**

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.

- Q) 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

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

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

<u>ROAD NAME</u>	<u>MARKING</u>	<u>MARKER</u>
ALL ASPHALT ROADS	6" PAINT	TEMPORARY RAISED
ALL CONCRETE BRIDGES	6" COLD APPLIED PLASTIC, TYPE IV	TEMPORARY RAISED

- V) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- W) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- X) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- Y) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS BEFORE INSTALLATION.

**LOCAL NOTES**

- 1) NOTIFY THE ENGINEER 21 DAYS IN ADVANCE OF SHIFTING TRAFFIC TO THE ON-SITE DETOUR ALONG -L2-/L2 REV- TO ALLOW THE DIVISION TO PROVIDE PROPER NOTIFICATION TO THE OVERSIZE/OVERWEIGHT PERMIT UNIT. (NOTE: TEMPORARY DETOUR CLEAR WIDTH IS 17'.)

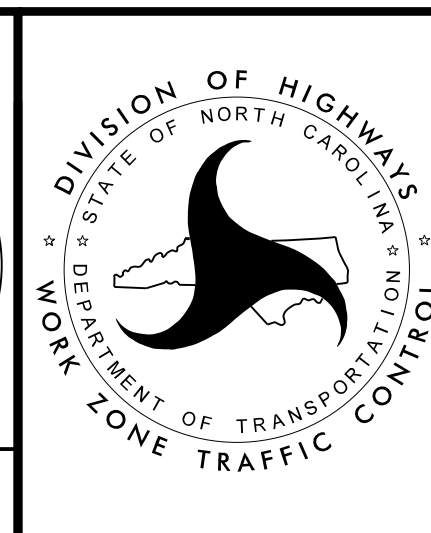
PROJ. REFERENCE NO.	SHEET NO.
R-3421A	TMP-1C



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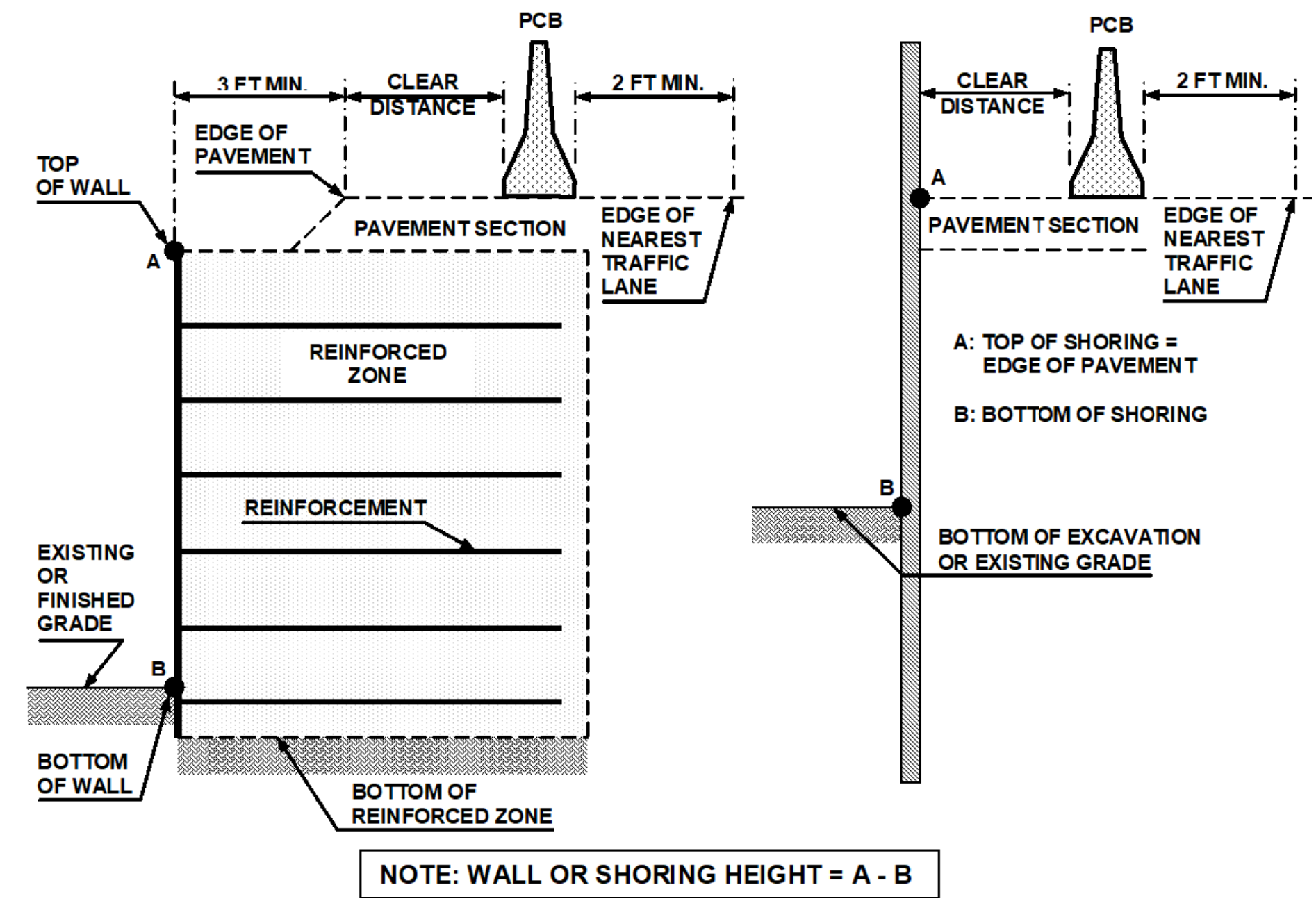
REVISIONS

APPROVED: *Michelle Ward*  
 DATE: 7/3/2019  
 SEAL



**TRANSPORTATION OPERATIONS PLAN: GENERAL NOTES & LOCAL NOTES**

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



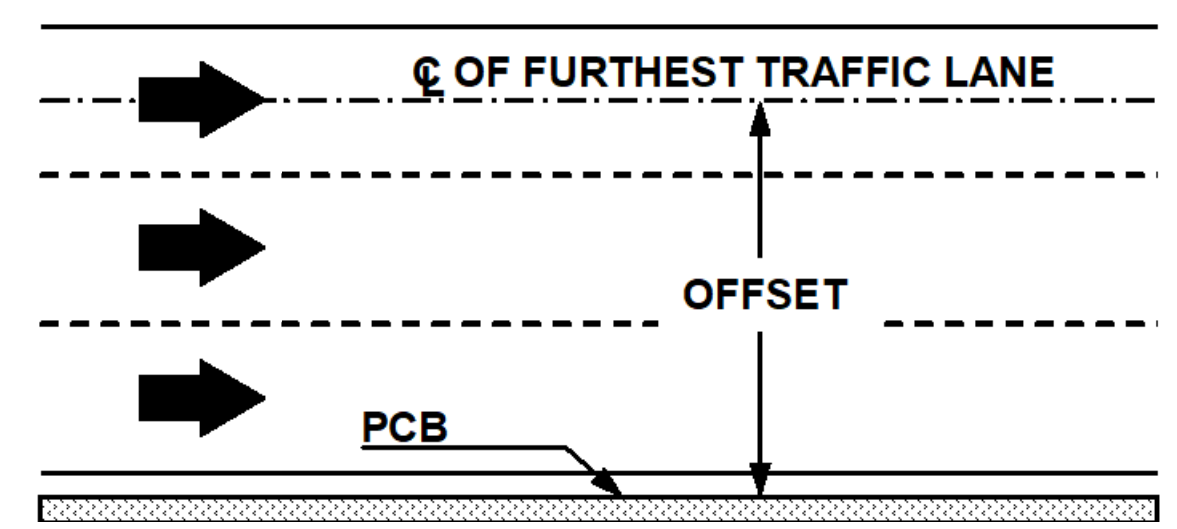
### FIGURE A

### NOTES

- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- 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).
- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- PCB REQUIREMENTS FOR TEMPORARY WALLS APPLY TO TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS AND TEMPORARY SOIL NAIL WALLS.
- 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.
- 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.
- 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.



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	
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds					
		All Offsets	12 for All Design Speeds					

\* See Figure Below



### FIGURE B

PLOT DRIVER: NCDOT\_pdf\_color\_eng\_50.pit  
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 TIME: 4:13:52 PM  
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APPROVED: <i>Michelle Ward</i> DATE: 7/3/2019 SEAL			<b>PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS</b>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			

# TEMPORARY SHORING DATA

PROJ. REFERENCE NO. R-3421A	SHEET NO. TMP-2A
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

**NOTES FOR TEMPORARY SHORING No. 1**

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

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

DESIGN TEMPORARY SHORING FROM STATION -L2- 20+15 +/-, 15.8 FT LT TO STATION -L2- 21+05 +/-, 23.4 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT ( $\gamma$ ) = 115 LB/CF
- FRICTION ANGLE ( $\phi$ ) = 0 DEGREES
- COHESION (c) = 800 LB/SF
- GROUNDWATER ELEVATION = 205 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L2- 21+05 +/-, 15.8 FT LT TO STATION -L2- 21+05 +/-, 23.4 FT LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L2- 21+05 +/-, 15.8 FT LT TO STATION -L2- 21+05 +/-, 23.4 FT LT MAY NOT PENETRATE BELOW ELEVATION 195 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L2- 21+05 +/-, 15.8 FT LT TO STATION -L2- 21+05 +/-, 23.4 FT LT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L2- 21+05 +/-, 15.8 FT LT TO STATION -L2- 21+05 +/-, 23.4 FT LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

**NOTES FOR TEMPORARY SHORING No. 2**

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

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

DESIGN TEMPORARY SHORING FROM STATION -L2- 21+33 +/-, 15.8 FT LT TO STATION -L2- 22+27 +/-, 23.4 FT LT FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT ( $\gamma$ ) = 115 LB/CF
- FRICTION ANGLE ( $\phi$ ) = 0 DEGREES
- COHESION (c) = 800 LB/SF
- GROUNDWATER ELEVATION = 205 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L2- 21+33 +/-, 15.8 FT LT TO STATION -L2- 22+27 +/-, 23.4 FT LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L2- 21+33 +/-, 15.8 FT LT TO STATION -L2- 22+27 +/-, 23.4 FT LT MAY NOT PENETRATE BELOW ELEVATION 195 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L2- 21+33 +/-, 15.8 FT LT TO STATION -L2- 22+27 +/-, 23.4 FT LT.

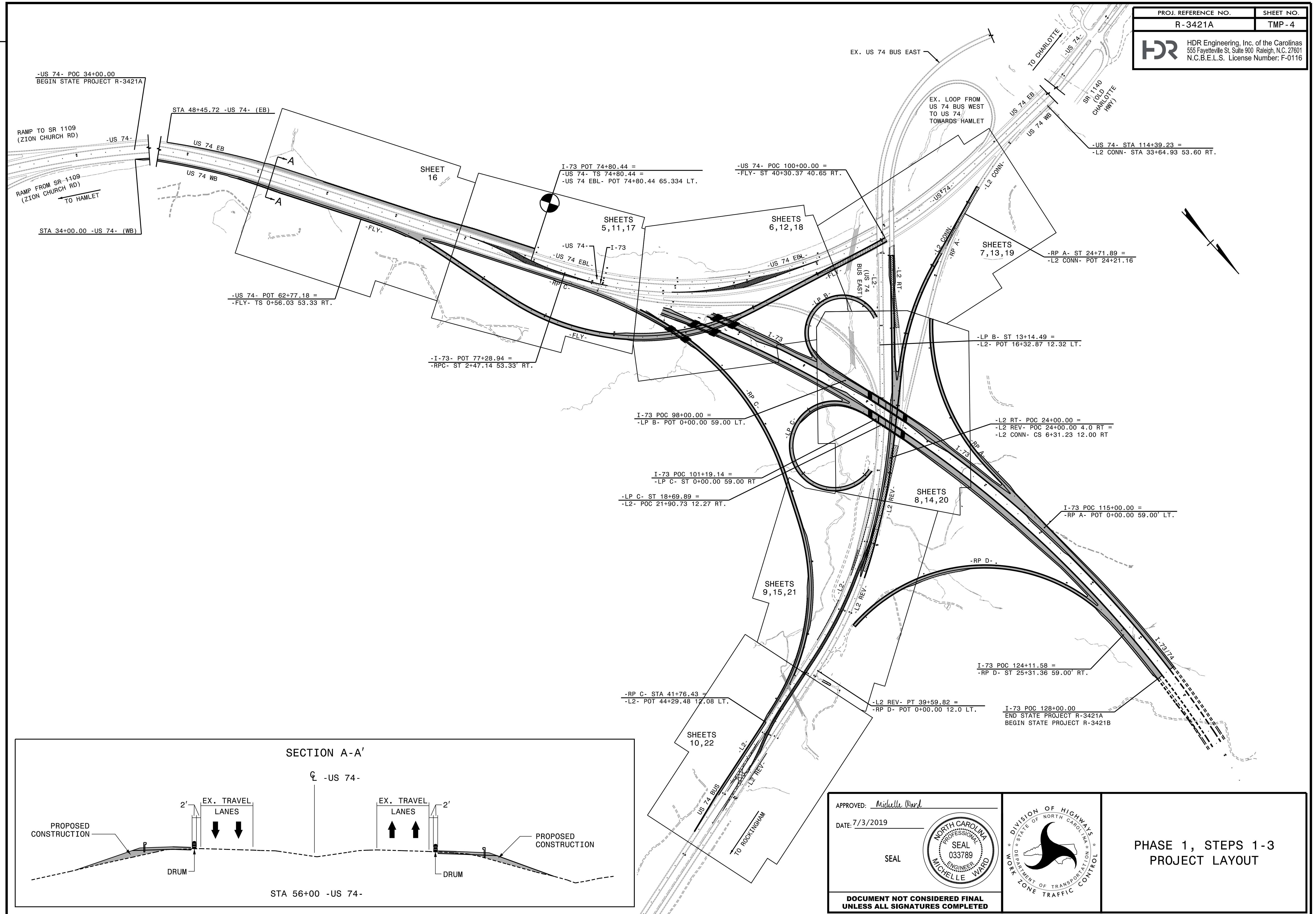
AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L2- 21+33 +/-, 15.8 FT LT TO STATION -L2- 22+27 +/-, 23.4 FT LT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

REVISIONS

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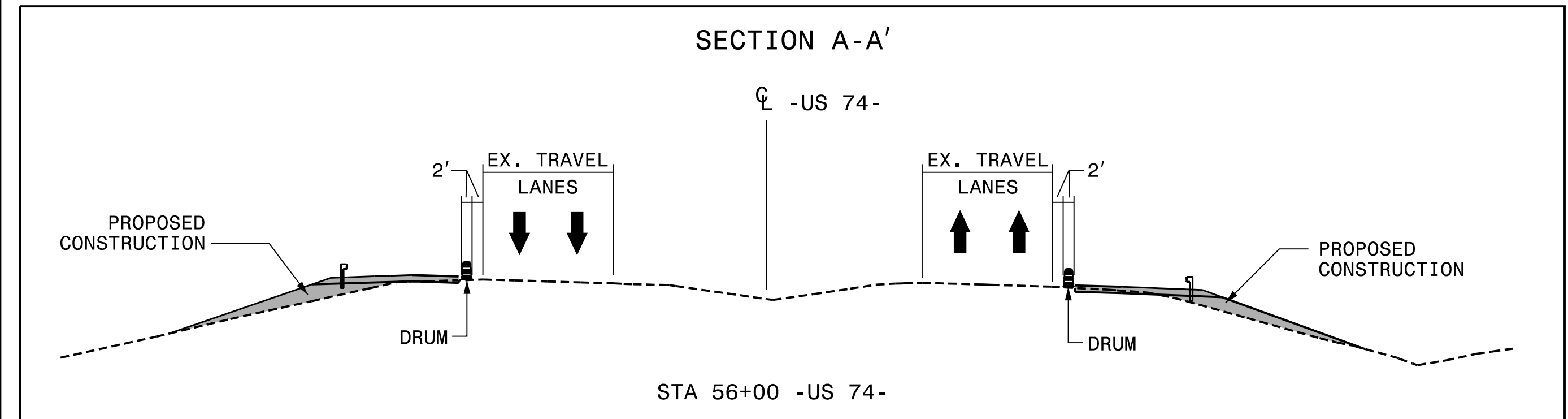
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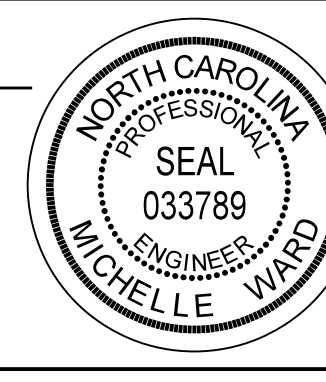
REVISITONS

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APPROVED: *Michelle Ward*  
 DATE: 7/3/2019

SEAL

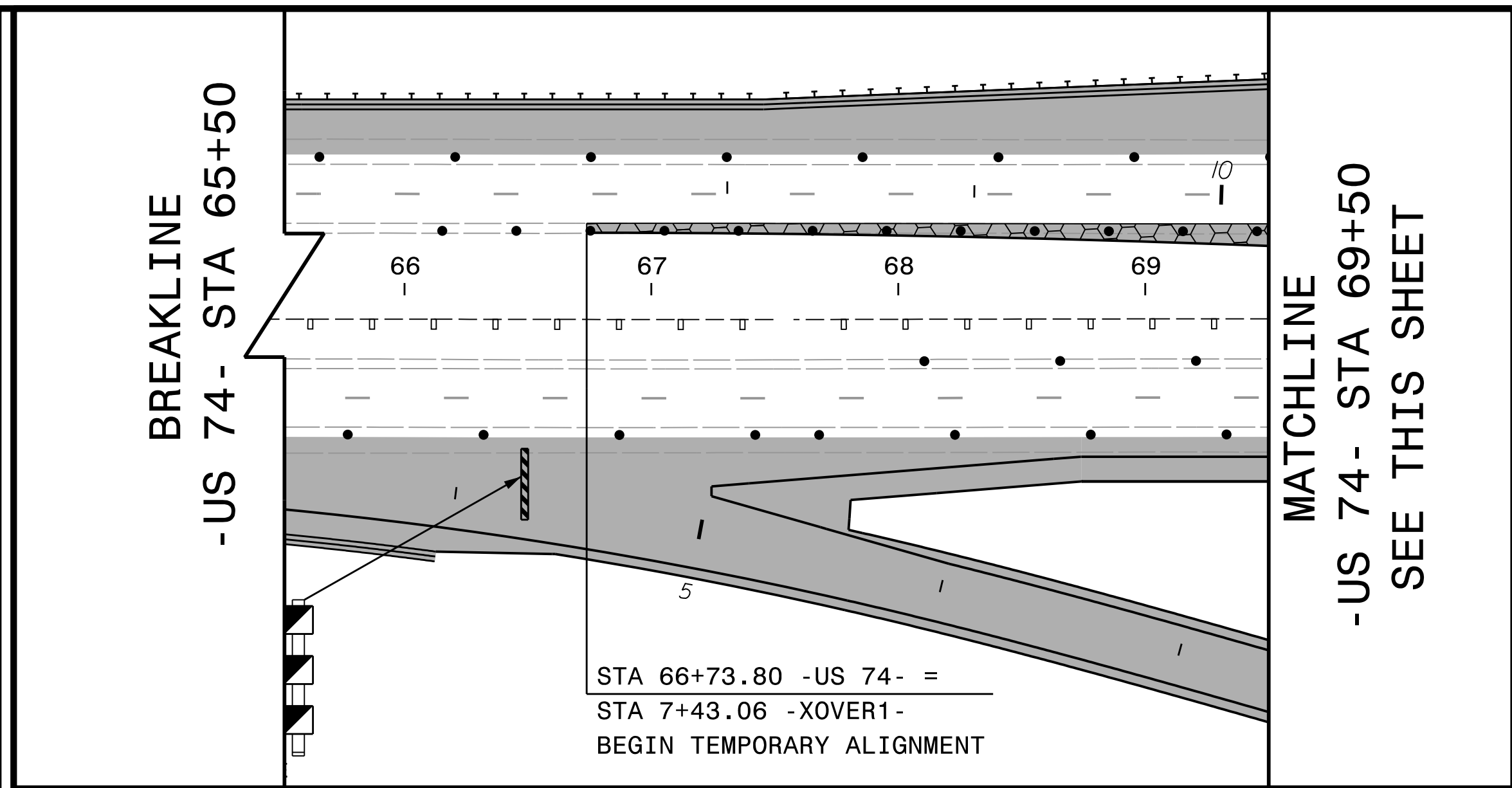


**DOCUMENT NOT CONSIDERED FINAL  
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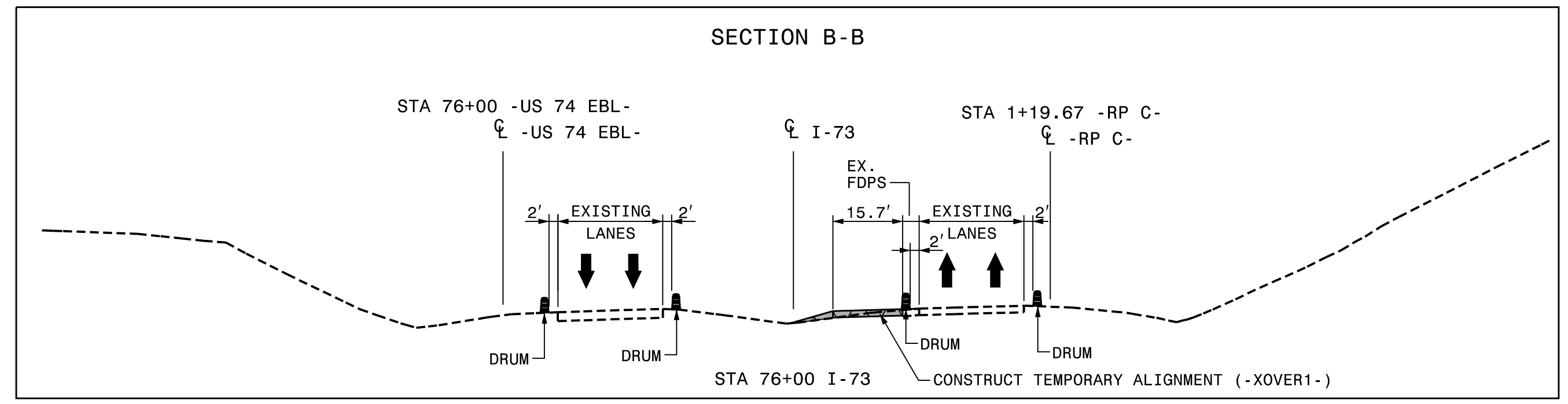
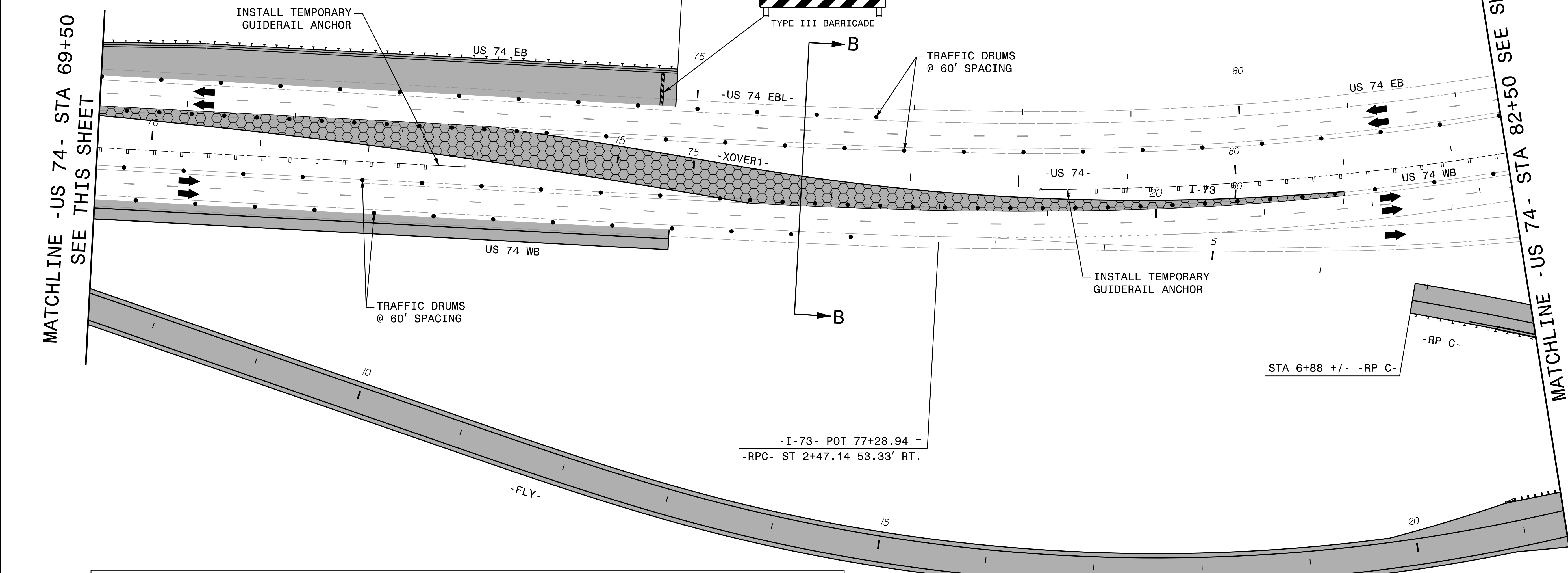


**PHASE 1, STEPS 1-3  
 PROJECT LAYOUT**



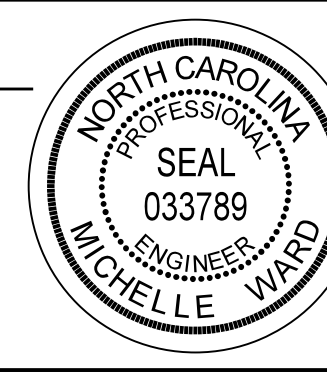


I-73 POT 74+80.44 =  
 -US 74- TS 74+80.44 =  
 -US 74 EBL- POT 74+80.44 65.334 LT.  
 END CONSTRUCTION

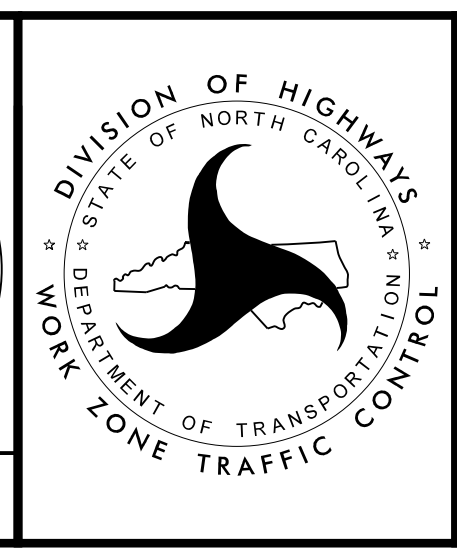


APPROVED: *Michelle Ward*  
 DATE: 7/3/2019

SEAL



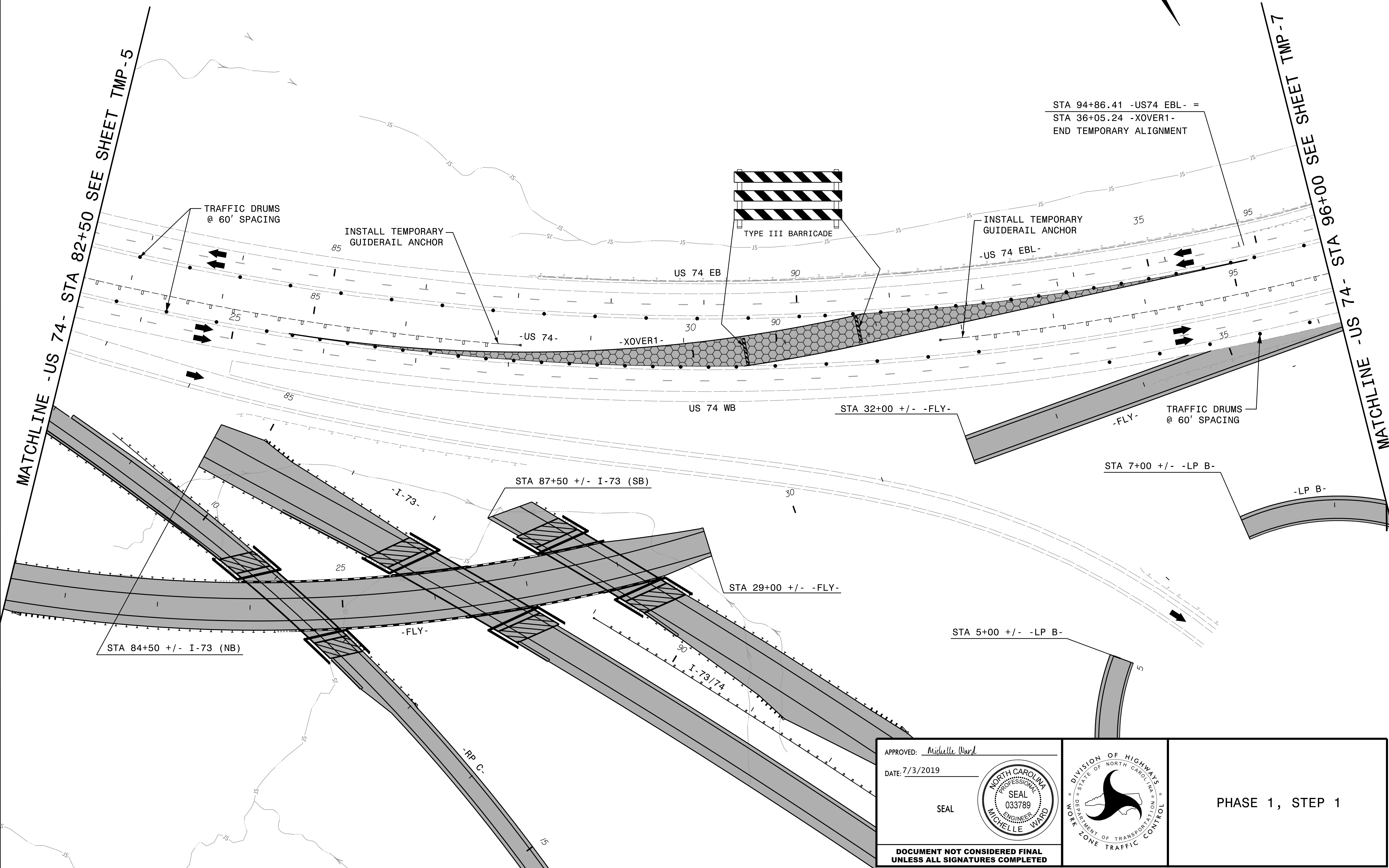
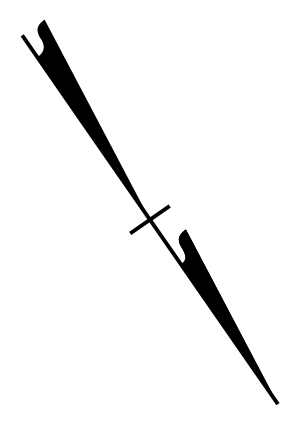
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 UNLESS ALL SIGNATURES COMPLETED**



PHASE 1, STEP 1

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REVISIONS

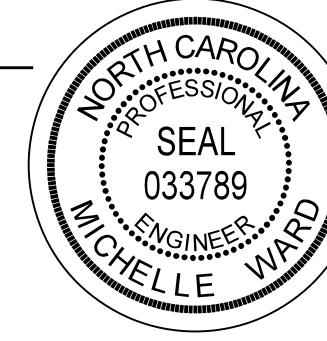


REVISIONS

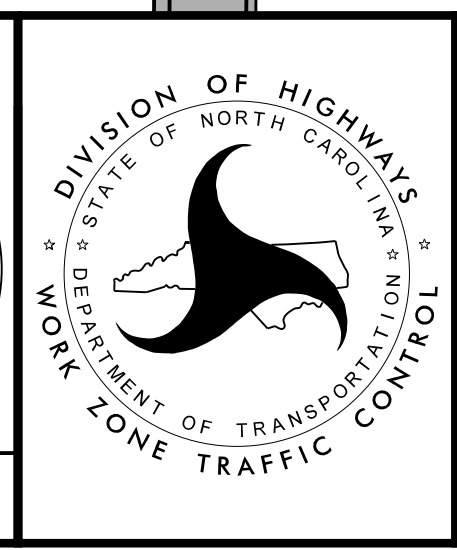
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APPROVED: *Michelle Ward*  
 DATE: 7/3/2019

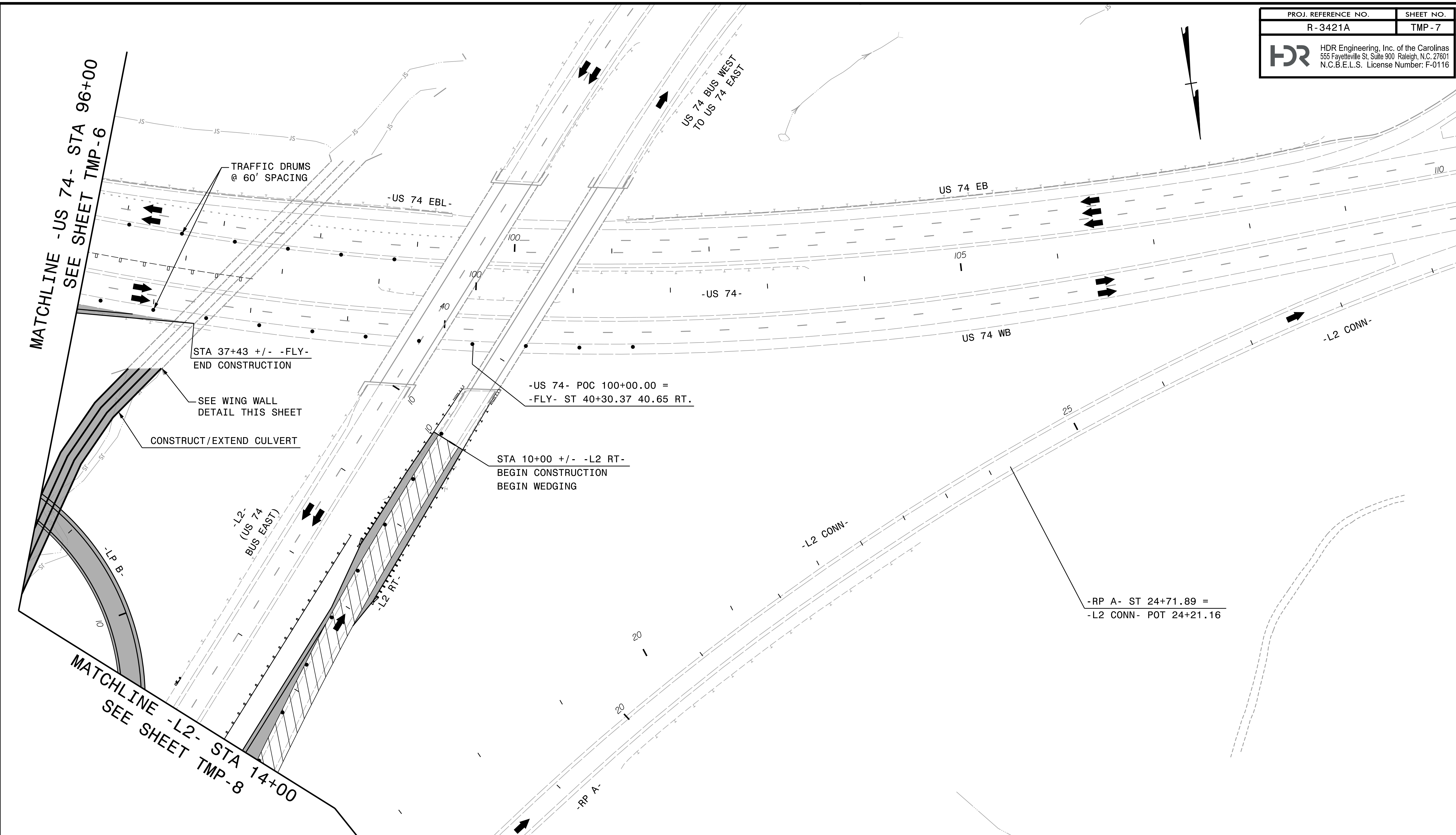
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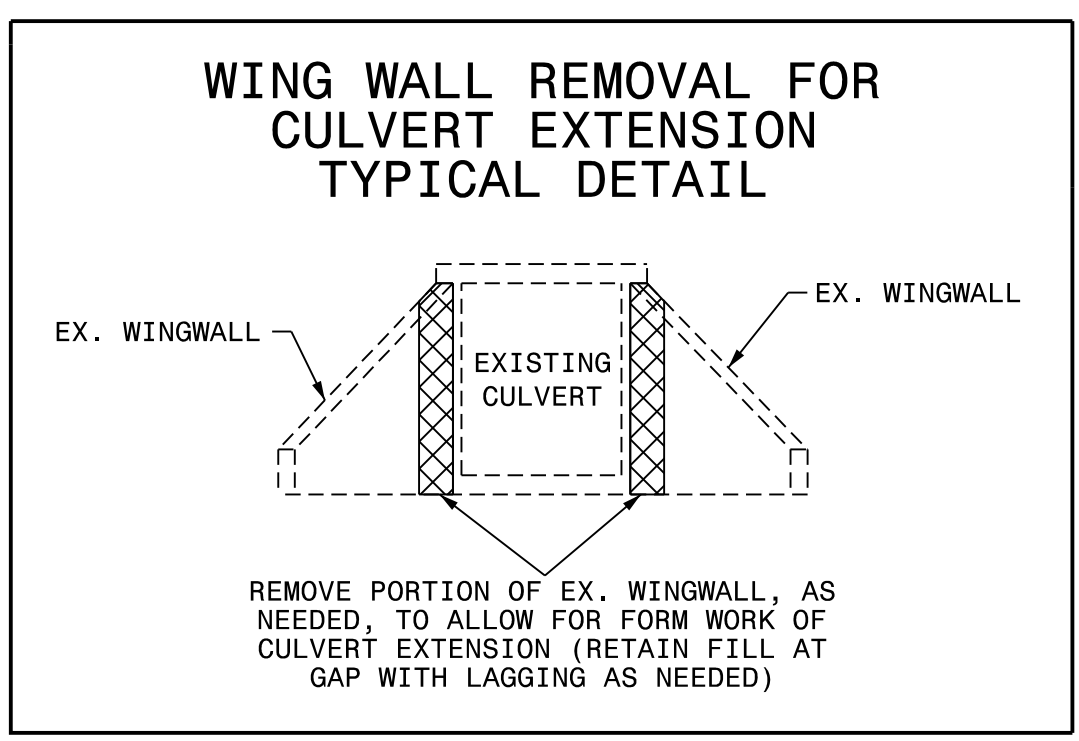


PHASE 1, STEP 1



REVISIONS

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APPROVED: *Michelle Ward*  
 DATE: 7/3/2019  
 SEAL

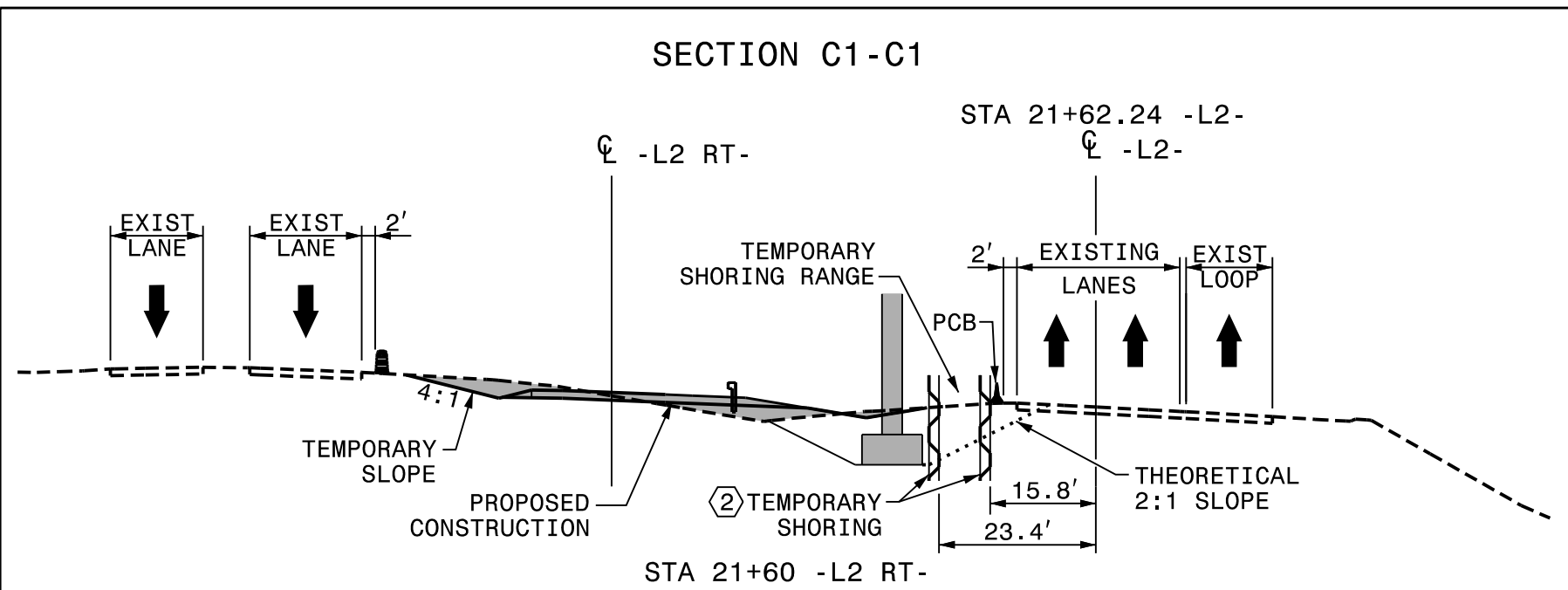
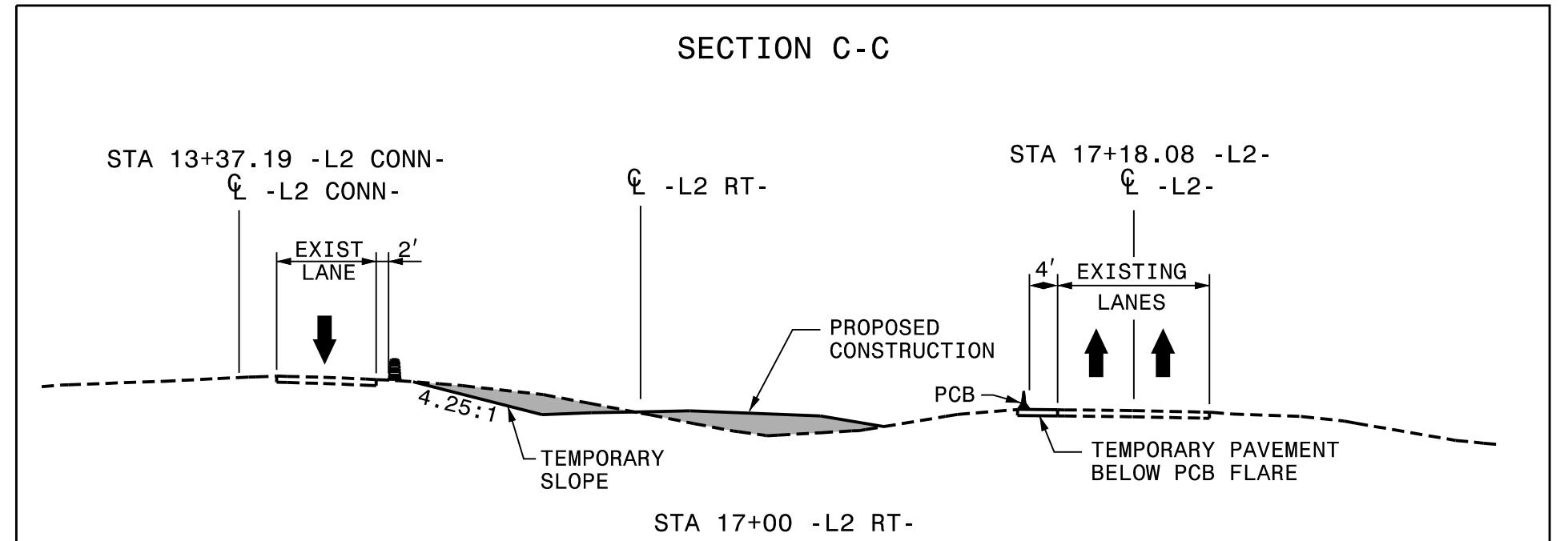


**PHASE 1, STEP 1**

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PROJ. REFERENCE NO.	SHEET NO.
R-3421A	TMP-8

**HDR** HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116

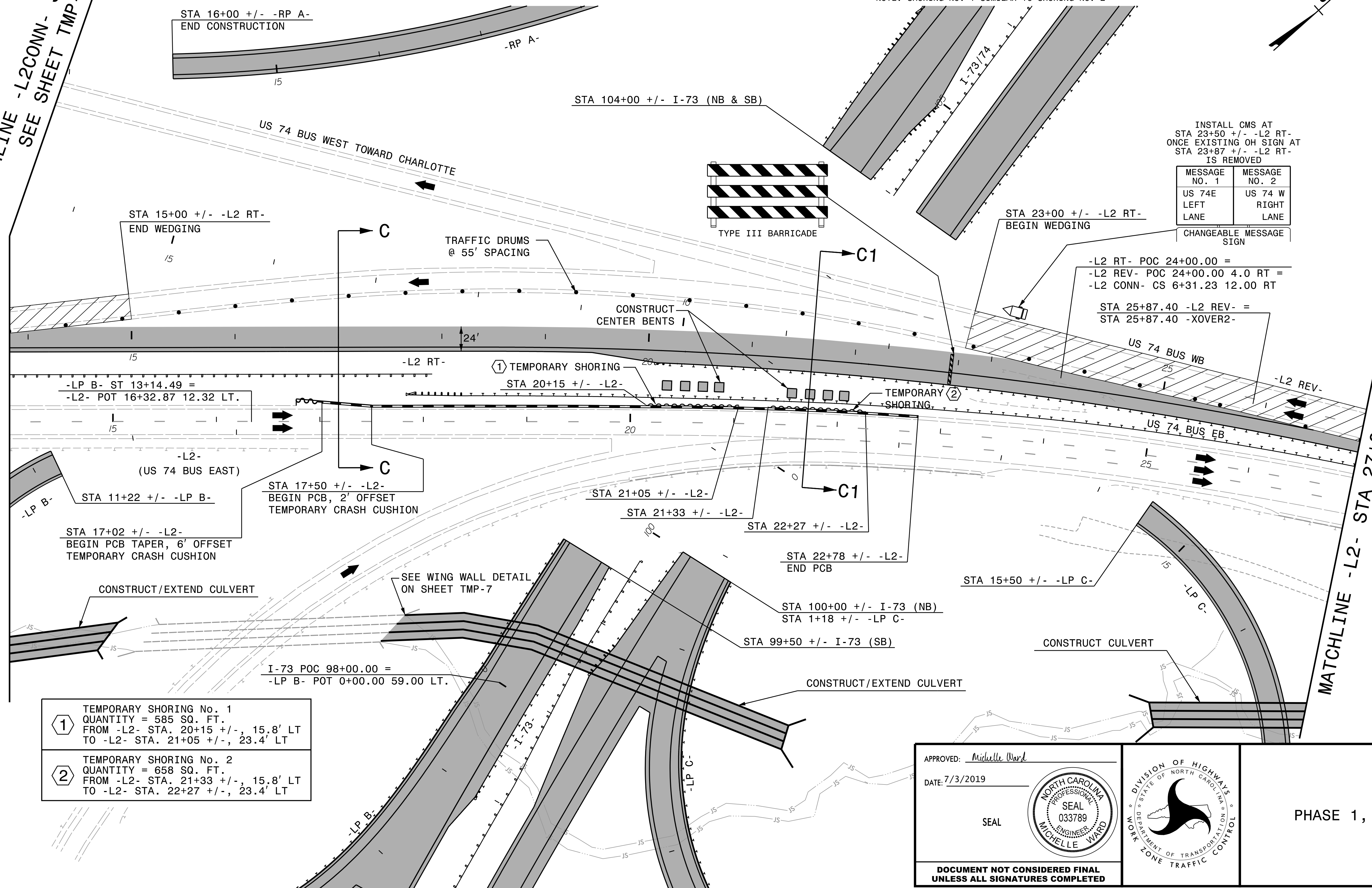


NOTE: SHORING NO. 1 SIMILAR TO SHORING NO. 2

MATCHLINE -L2CONN- STA 16+50  
SEE SHEET TMP-7

MATCHLINE -L2- STA 14+00  
SEE SHEET TMP-7

MATCHLINE -L2- STA 27+00  
SEE SHEET TMP-9



INSTALL CMS AT  
STA 23+50 +/- -L2 RT-  
ONCE EXISTING OH SIGN AT  
STA 23+87 +/- -L2 RT-  
IS REMOVED

MESSAGE NO. 1	MESSAGE NO. 2
US 74E LEFT LANE	US 74 W RIGHT LANE

CHANGEABLE MESSAGE SIGN

-L2 RT- POC 24+00.00 =  
-L2 REV- POC 24+00.00 4.0 RT =  
-L2 CONN- CS 6+31.23 12.00 RT

STA 25+87.40 -L2 REV- =  
STA 25+87.40 -XOVER2-

- 1 TEMPORARY SHORING No. 1  
QUANTITY = 585 SQ. FT.  
FROM -L2- STA. 20+15 +/-, 15.8' LT  
TO -L2- STA. 21+05 +/-, 23.4' LT
- 2 TEMPORARY SHORING No. 2  
QUANTITY = 658 SQ. FT.  
FROM -L2- STA. 21+33 +/-, 15.8' LT  
TO -L2- STA. 22+27 +/-, 23.4' LT

APPROVED: *Michelle Ward*  
DATE: 7/3/2019

SEAL



PHASE 1, STEP 1

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REVISIONS

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MATCHLINE -L2- STA 27+00 SEE SHEET TMP-8

MATCHLINE -L2- STA 40+00 SEE SHEET TMP-10

STA 28+50 +/- -L2 REV-  
PLACE TEMPORARY  
GUARDRAIL END UNIT

STA 29+57 +/- -L2 REV- =  
STA 29+44 +/- -XOVER2-  
BEGIN TEMP. ALIGNMENT CONSTRUCTION

STA 4+00 +/- -RP D-

STA 32+00 +/- -L2 REV-  
END CONSTRUCTION

TRAFFIC DRUMS  
@ 55' SPACING

US 74 BUS WB

US 74 BUS EB

EX  
EX  
EX

STA 29+00 +/- -L2-  
BEGIN LANE TAPER  
BEGIN PCB, 2' OFFSET

STA 30+58 +/- -L2-  
END LANE TAPER

STA 28+65 +/- -L2-  
BEGIN PCB TAPER, 5' OFFSET  
TEMPORARY CRASH CUSHION

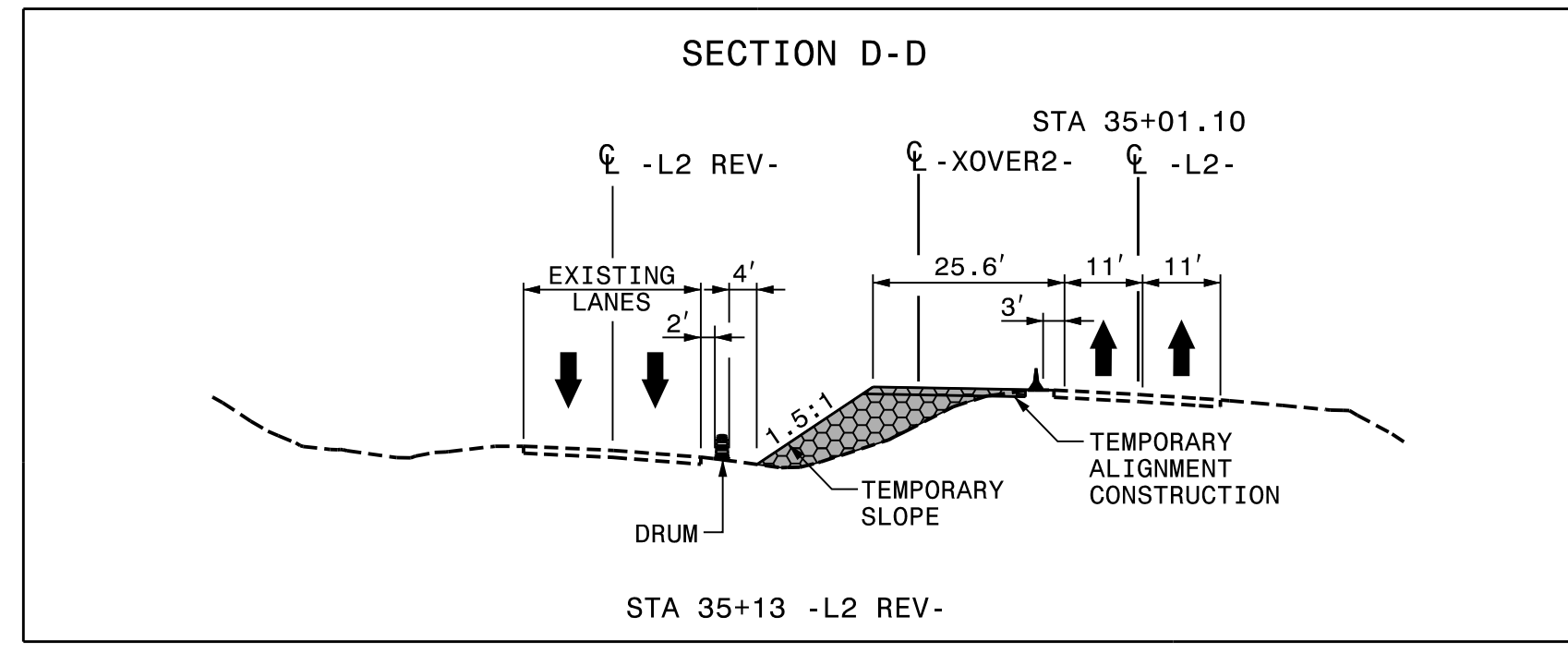
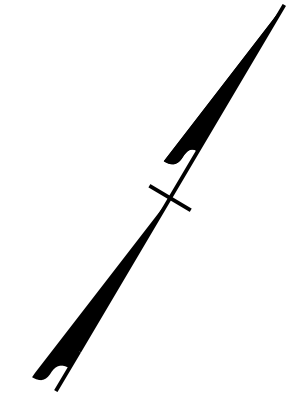
CONSTRUCT CULVERT

BEGIN CHANNEL RELOCATION

CONSTRUCT CULVERT

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REVISIONS



APPROVED: *Michelle Ward*

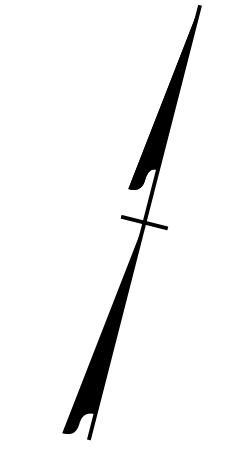
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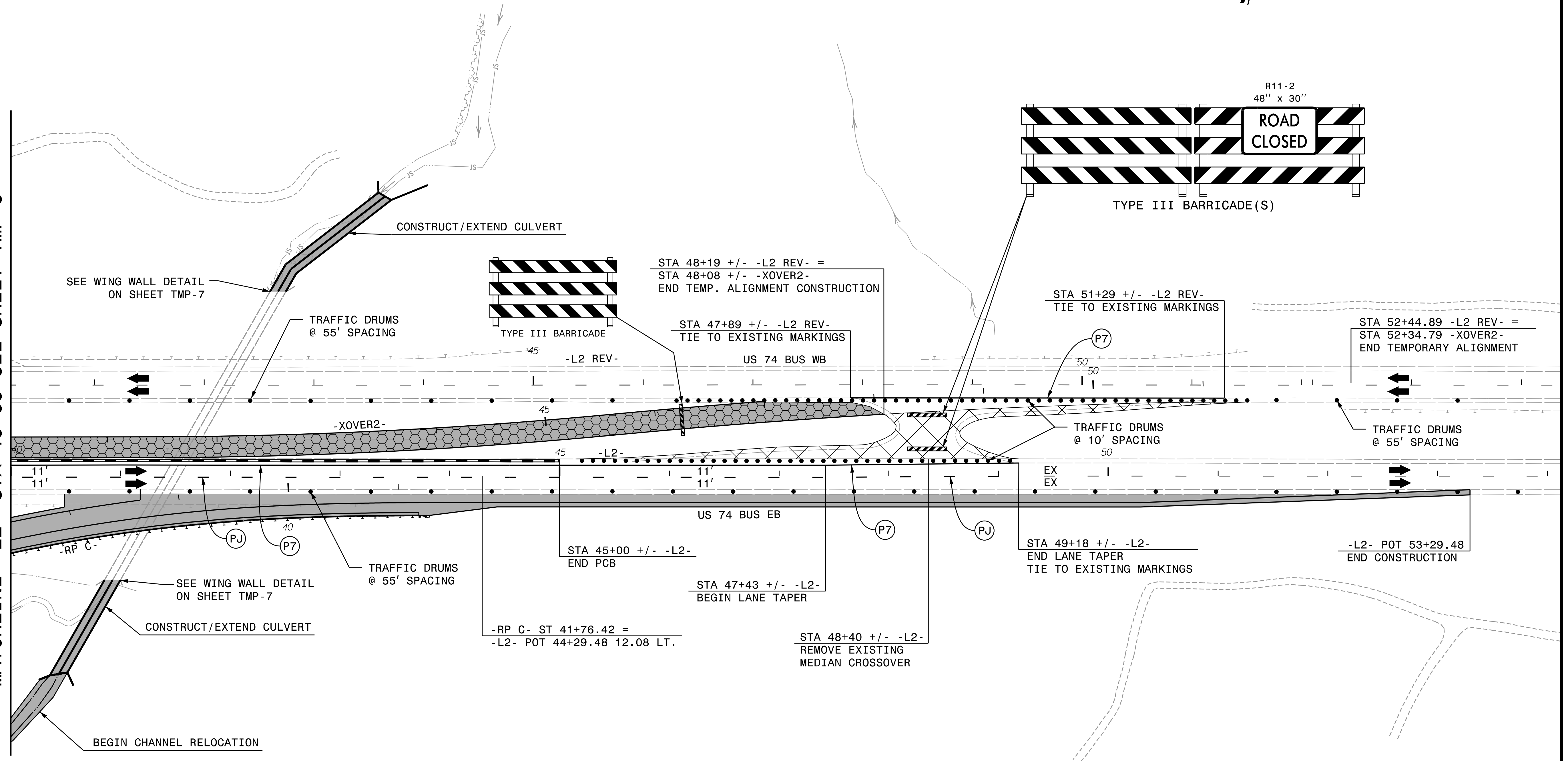
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PHASE 1, STEP 1



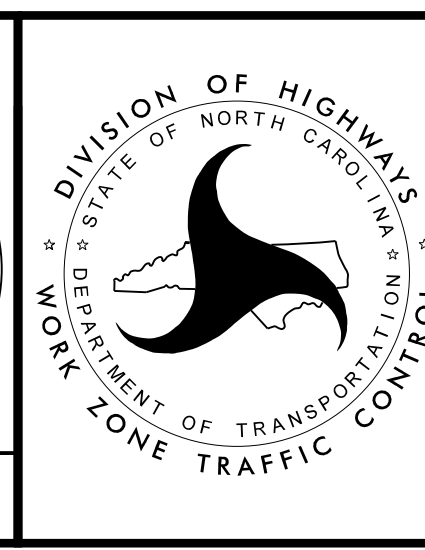
MATCHLINE -L2- STA 40+00 SEE SHEET TMP-9



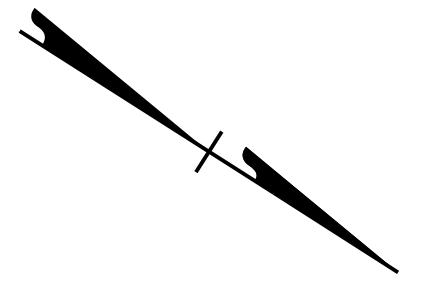
REVISITONS

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APPROVED: *Michelle Ward*  
DATE: 7/3/2019  
SEAL  
**NORTH CAROLINA**  
PROFESSIONAL  
SEAL  
033789  
ENGINEER  
MICHELLE WARD

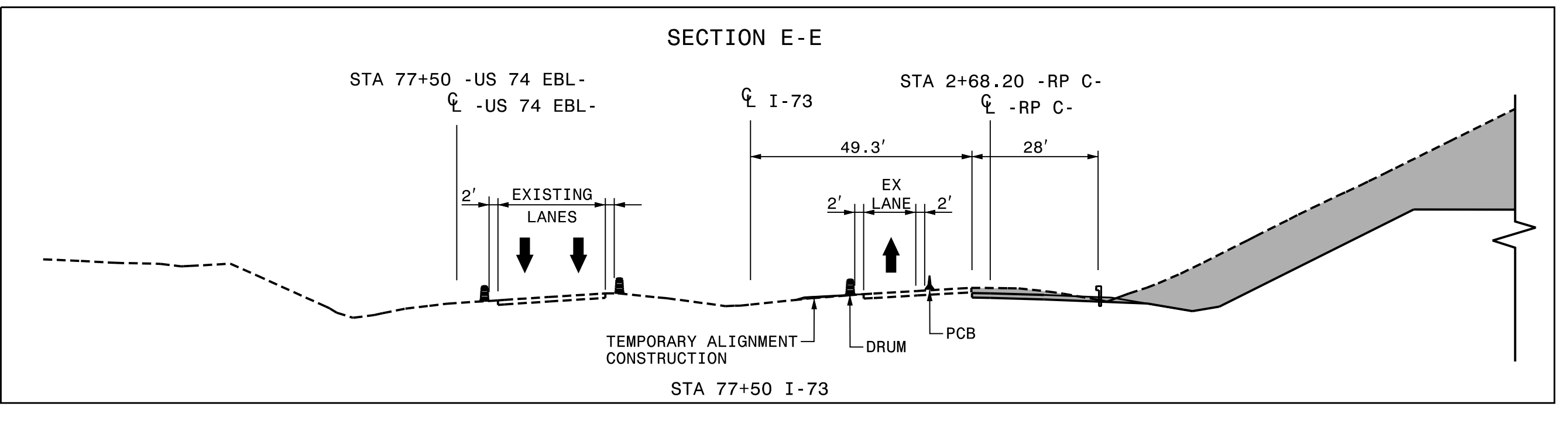
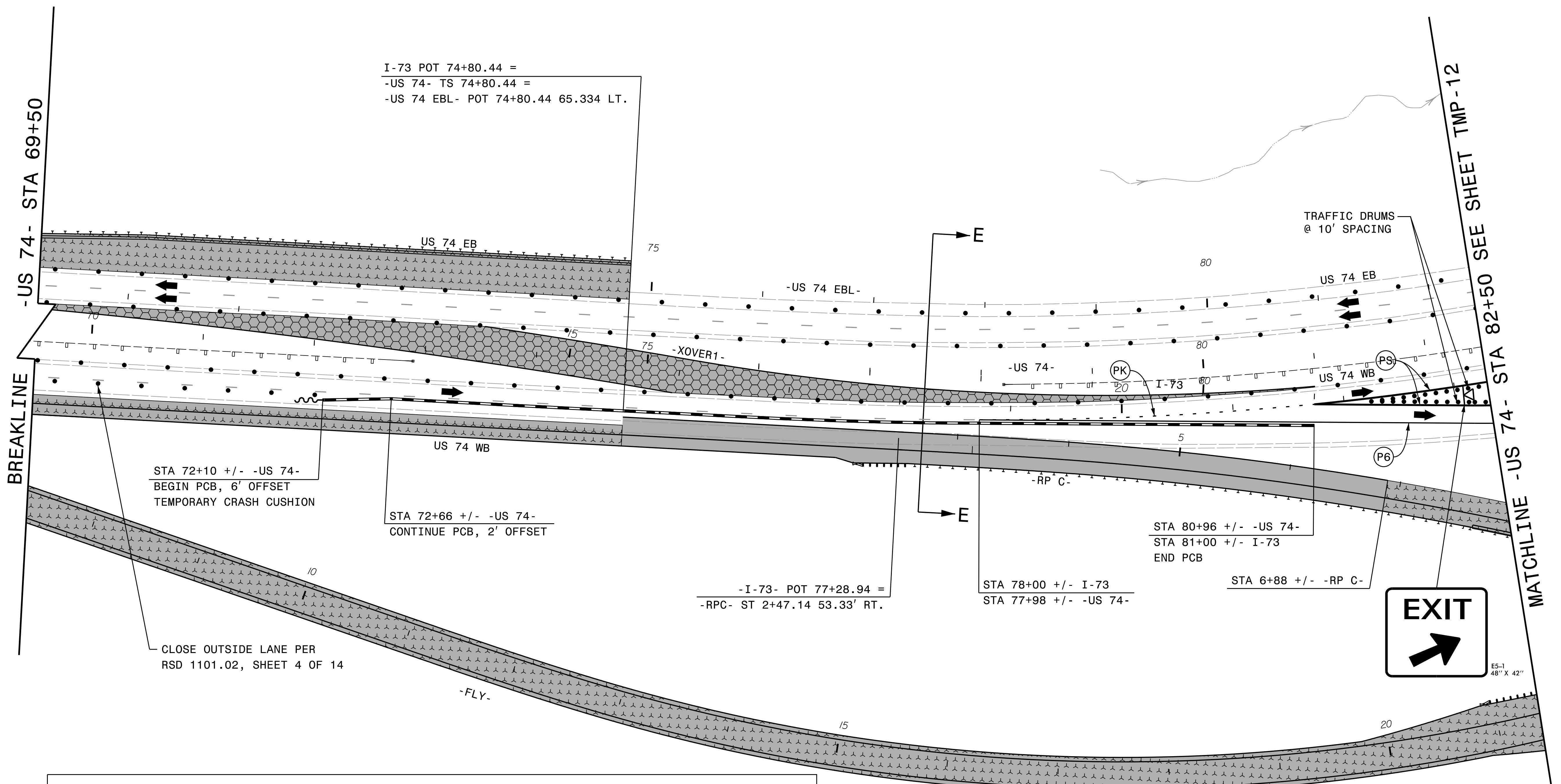


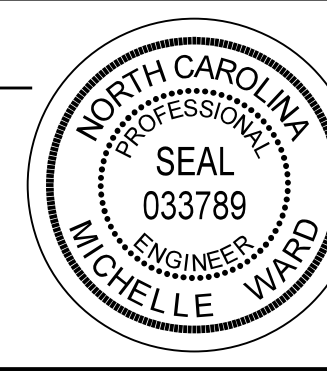
PHASE 1, STEP 1  
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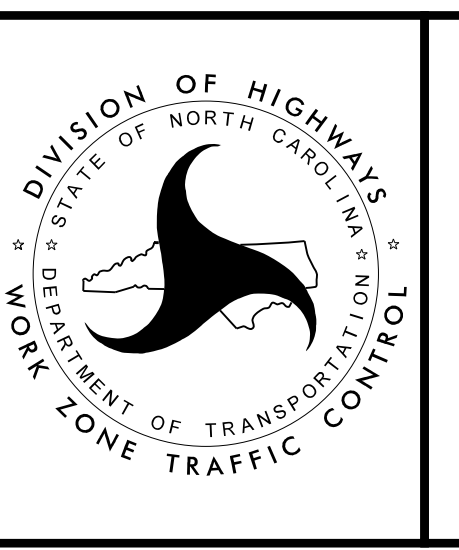


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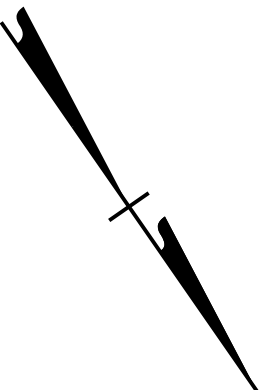
REVISIONS



APPROVED: *Michelle Ward*  
 DATE: 7/3/2019  
 SEAL  


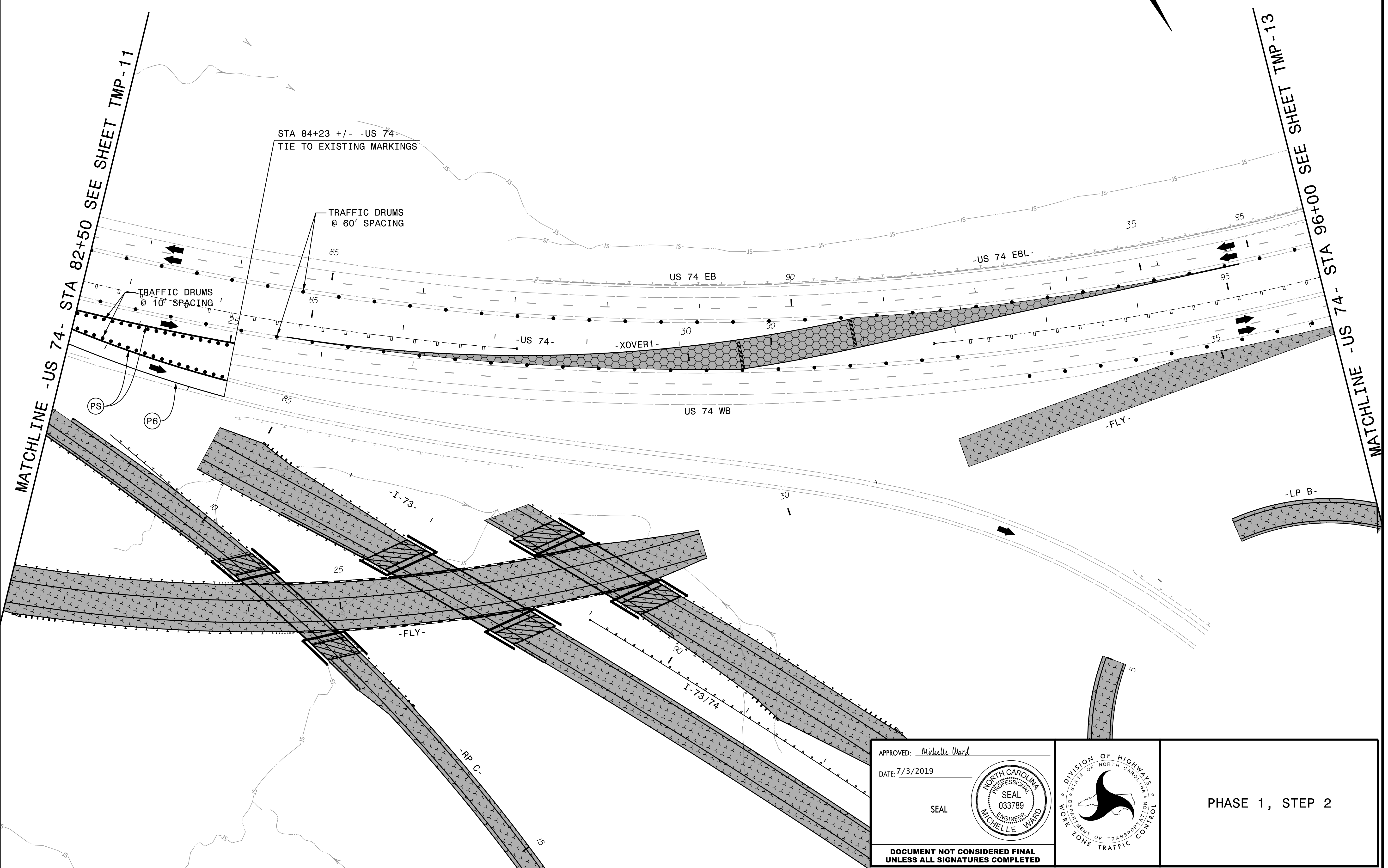


**PHASE 1, STEP 2**



REVISIONS

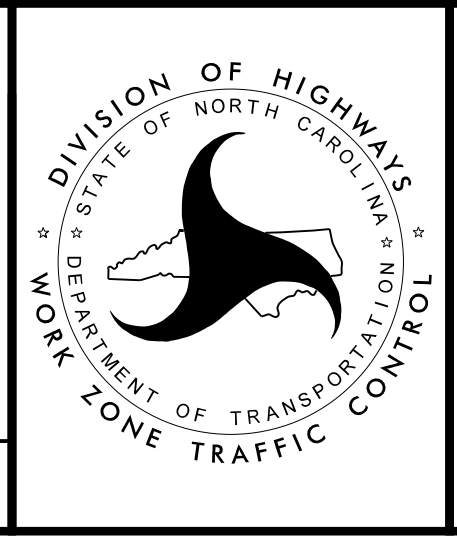
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APPROVED: Michelle Ward  
DATE: 7/3/2019

SEAL

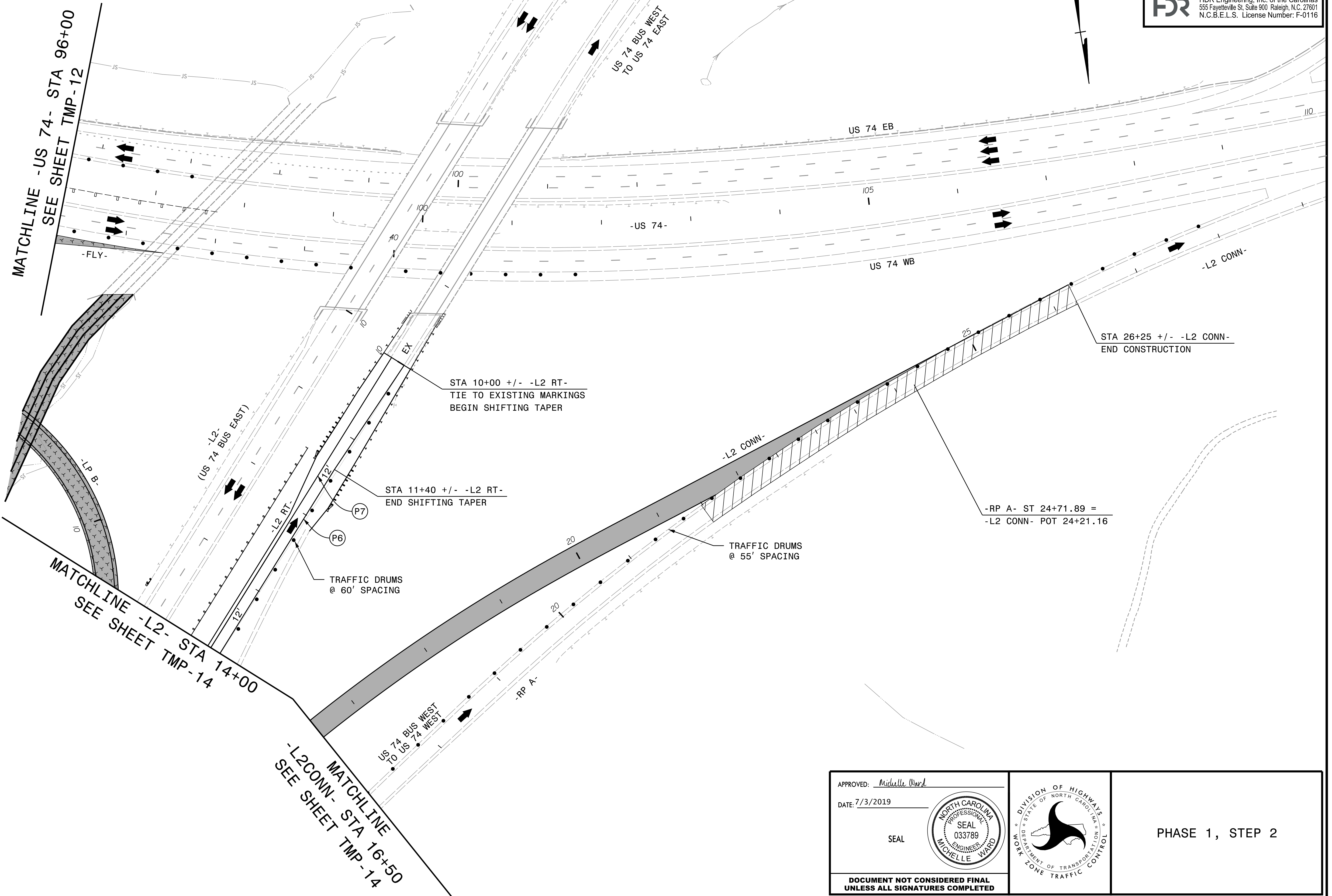
**NORTH CAROLINA**  
PROFESSIONAL  
SEAL  
033789  
ENGINEER  
MICHELLE WARD



PHASE 1, STEP 2

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UNLESS ALL SIGNATURES COMPLETED**





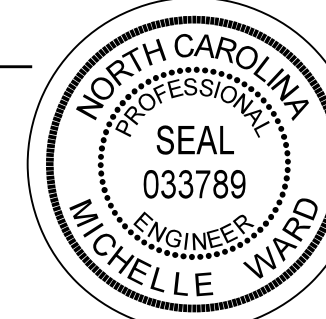
REVISIONS

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 USER: BSCOTT  
 DATE: 7/2/2019  
 TIME: 4:15:51 PM  
 FILE: p:\w\papp\TFA014\SouthEast\_Tampa\Documents\000166\CON0079\59\CON0095464\CON0000000248119\6.0\_CAD\_BITMAP\6.2\_Work\_In\_Progress\Traffic\TrafficControl\TCP\R-3421A\_TMP-TMP-13.dgn

APPROVED: *Michelle Ward*

DATE: 7/3/2019

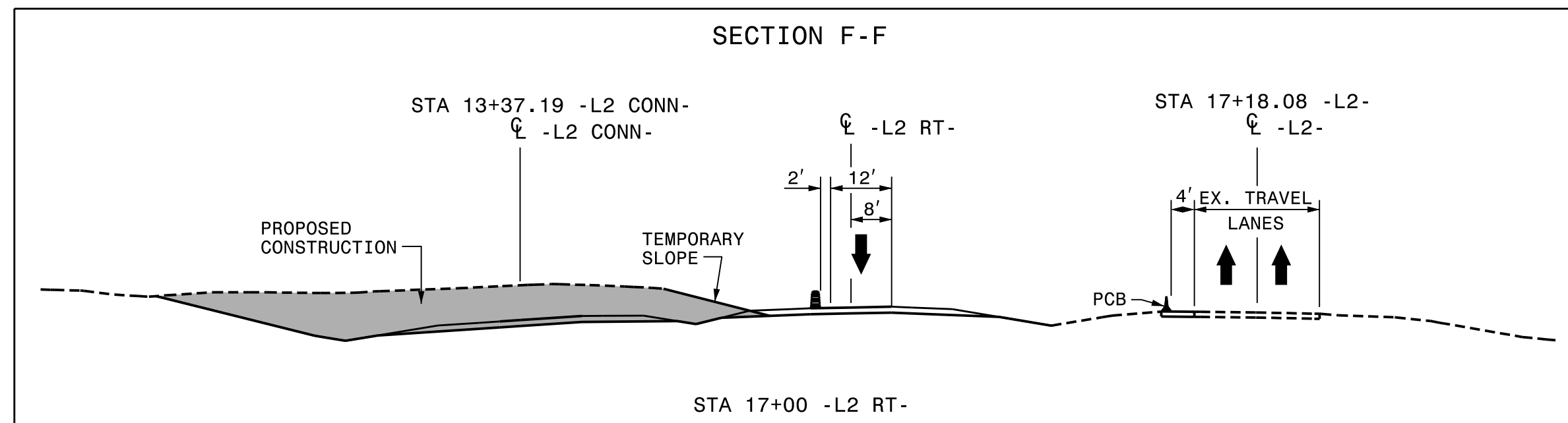
SEAL



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UNLESS ALL SIGNATURES COMPLETED



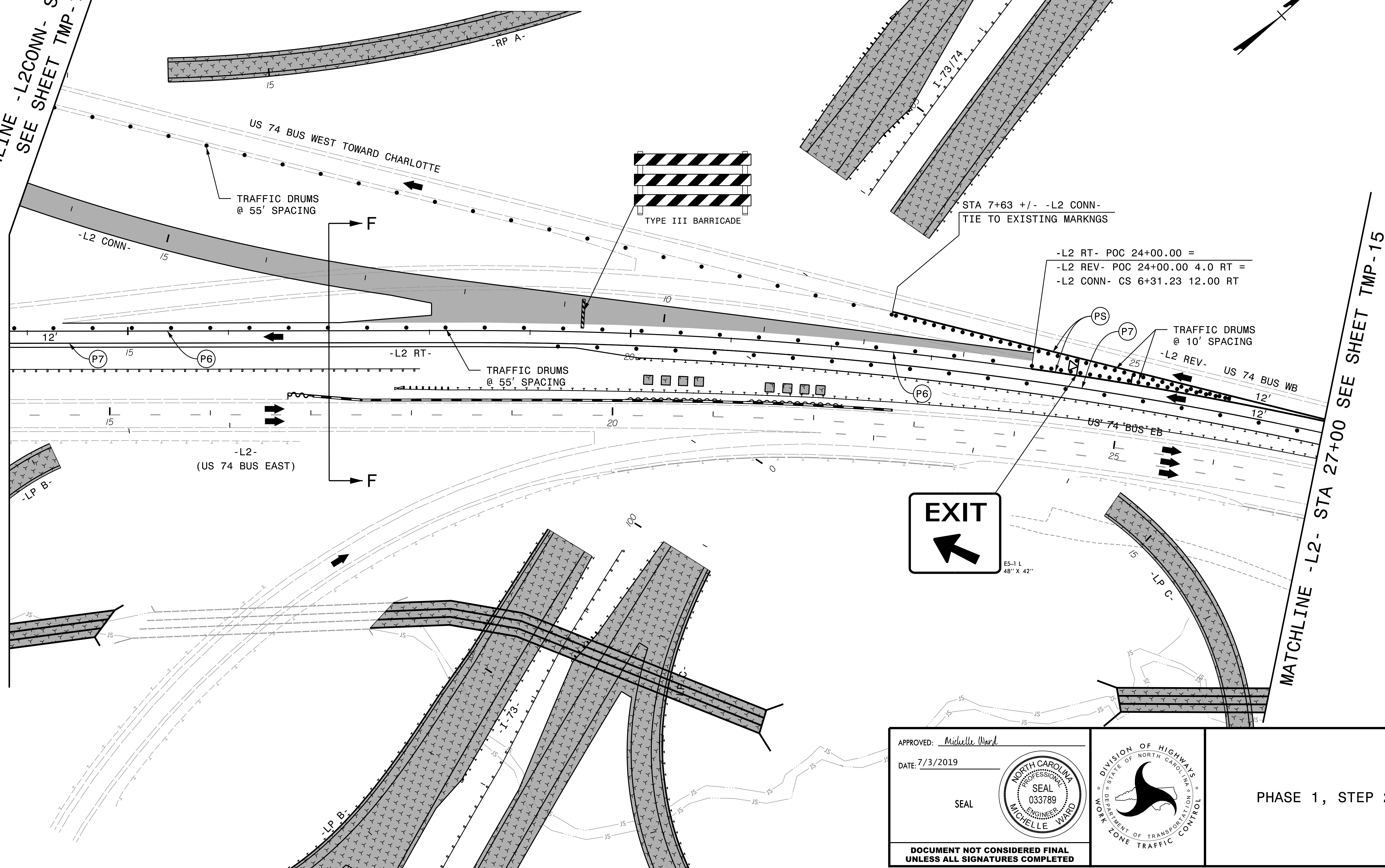
PHASE 1, STEP 2



MATCHLINE -L2CONN- STA 16+50  
SEE SHEET TMP-13

MATCHLINE -L2- STA 14+00  
SEE SHEET TMP-13

MATCHLINE -L2- STA 27+00  
SEE SHEET TMP-15



-L2 RT- POC 24+00.00 =  
-L2 REV- POC 24+00.00 4.0 RT =  
-L2 CONN- CS 6+31.23 12.00 RT

TRAFFIC DRUMS  
@ 10' SPACING

TRAFFIC DRUMS  
@ 55' SPACING



REVISIONS

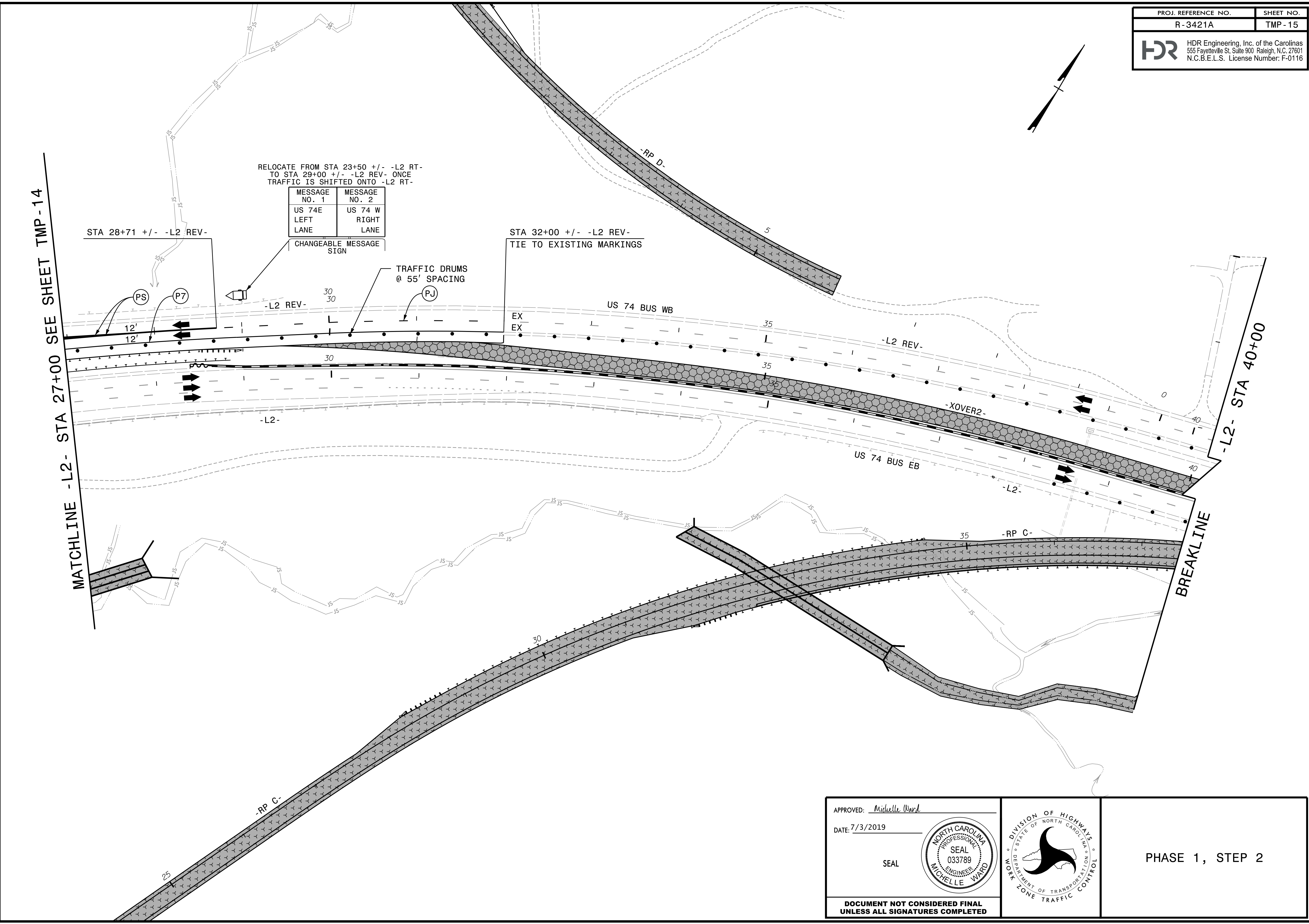
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APPROVED: *Michelle Ward*  
DATE: 7/3/2019  
SEAL  
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033789 MICHELLE WARD



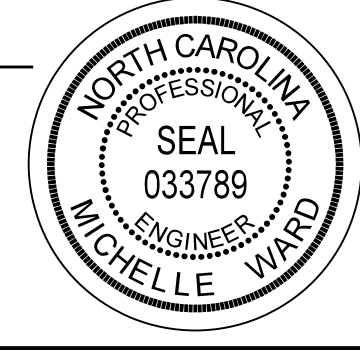
PHASE 1, STEP 2

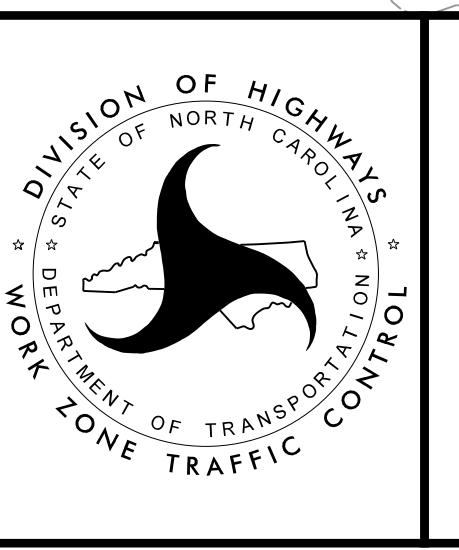
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



PLOT DRIVER: NCDOT\_pdf\_color\_eng\_50.plt  
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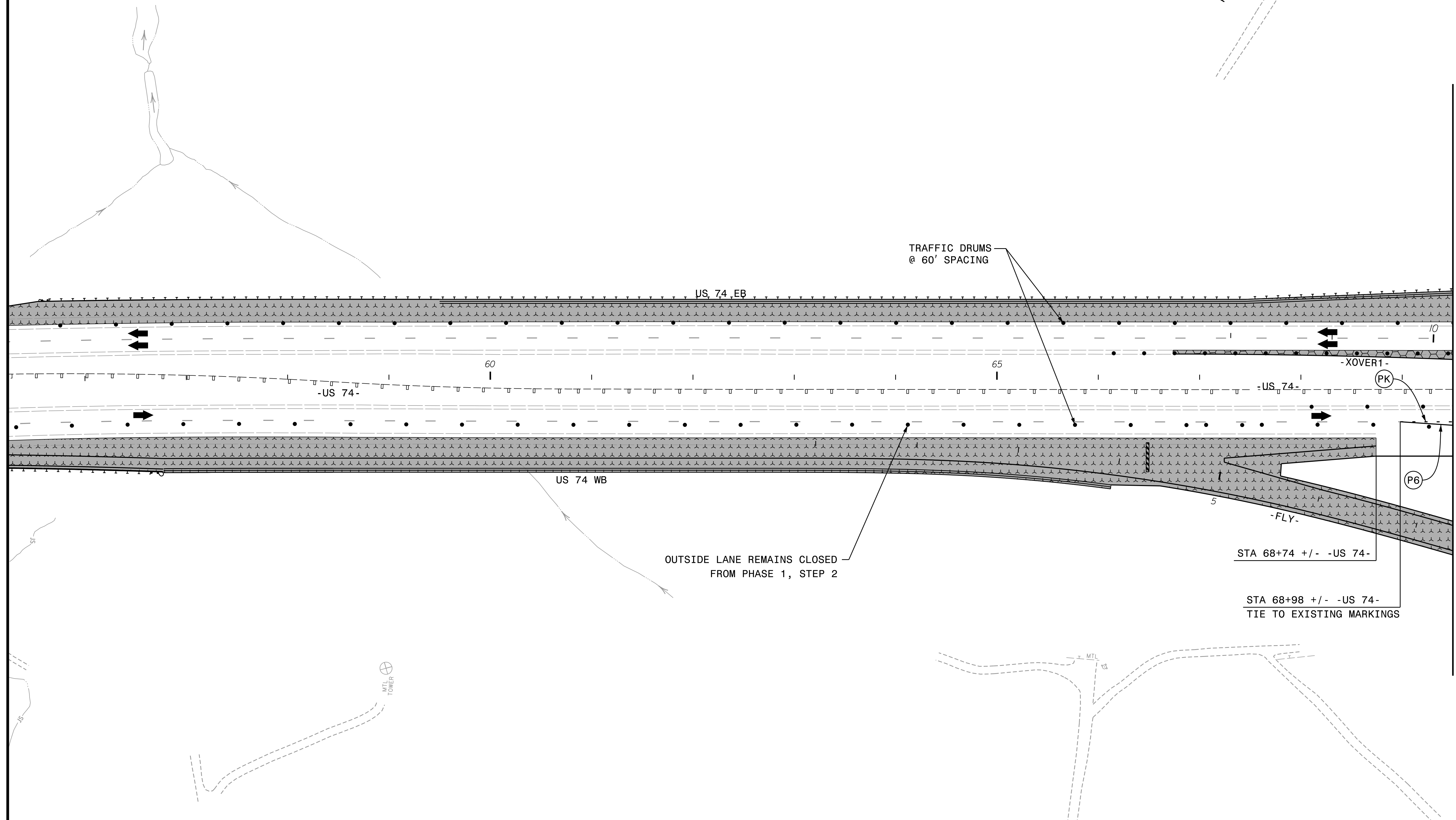
REVISIONS

APPROVED: *Michelle Ward*  
 DATE: 7/3/2019  
 SEAL  




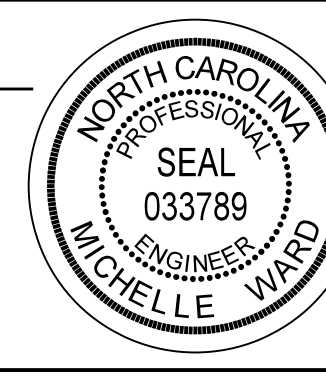

PHASE 1, STEP 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

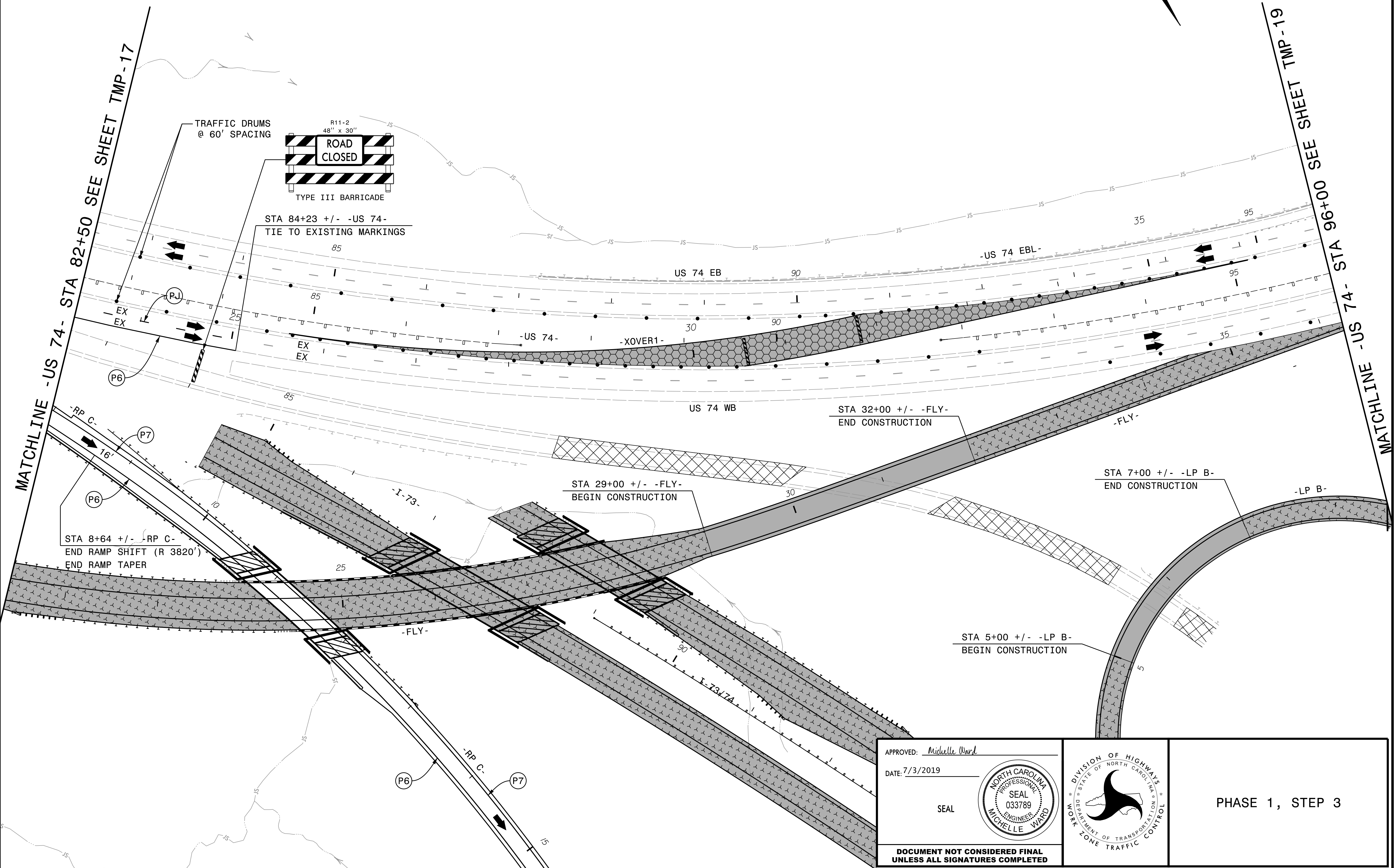


REVISIONS

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APPROVED: <i>Michelle Ward</i> DATE: 7/3/2019 SEAL 		PHASE 1, STEP 3
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



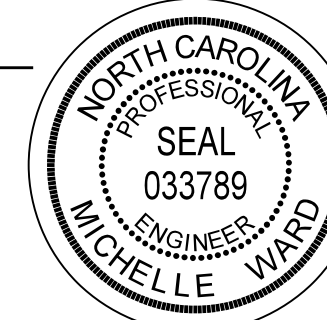


REVISIONS

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APPROVED: *Michelle Ward*  
 DATE: 7/3/2019

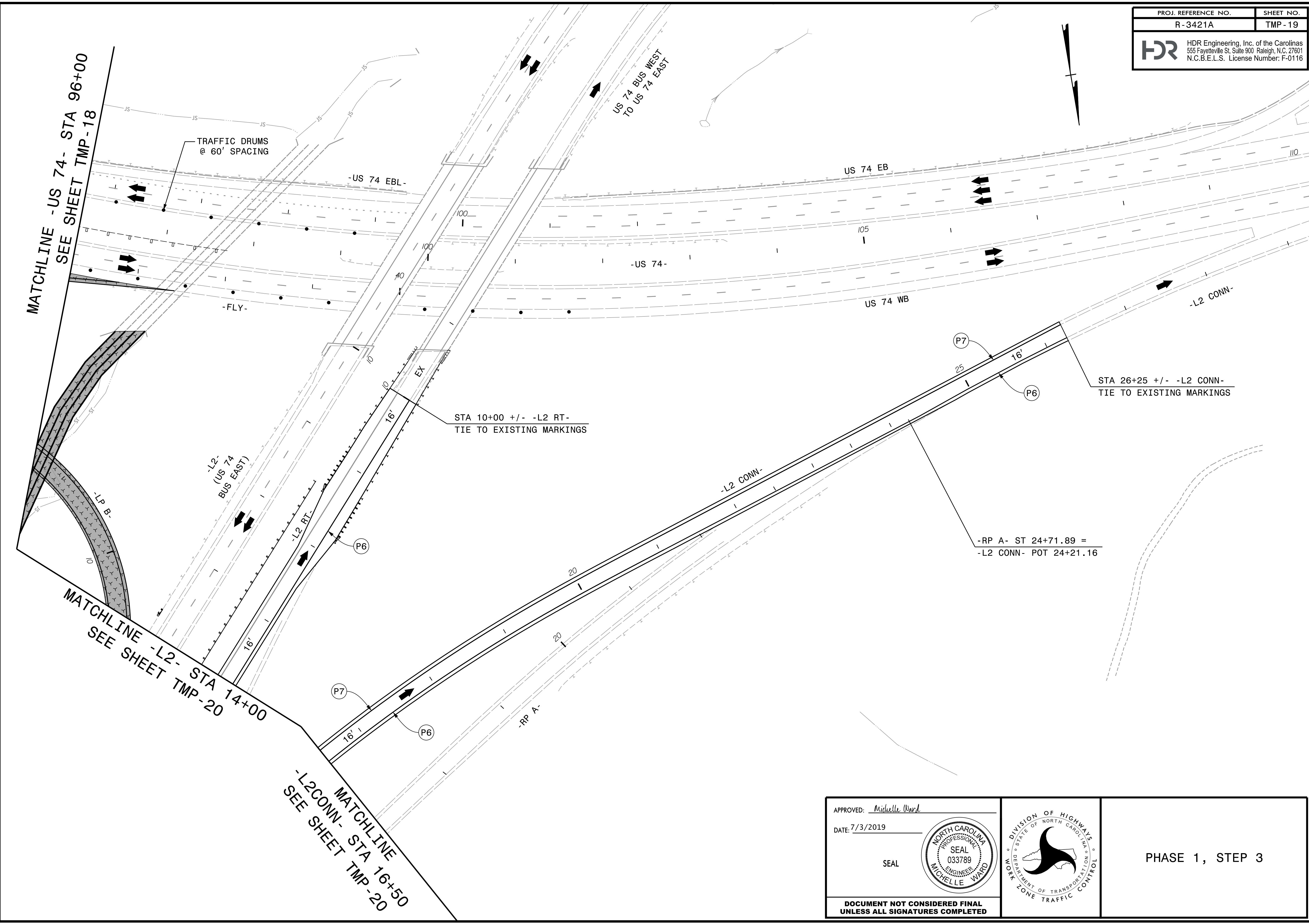
SEAL



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

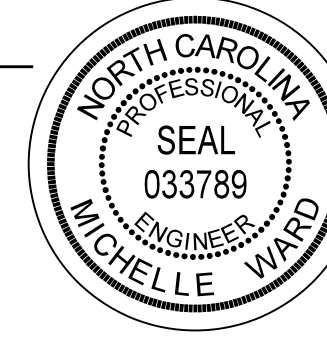



PHASE 1, STEP 3



REVISIONS

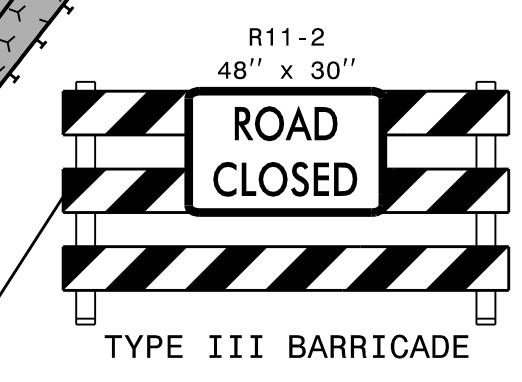
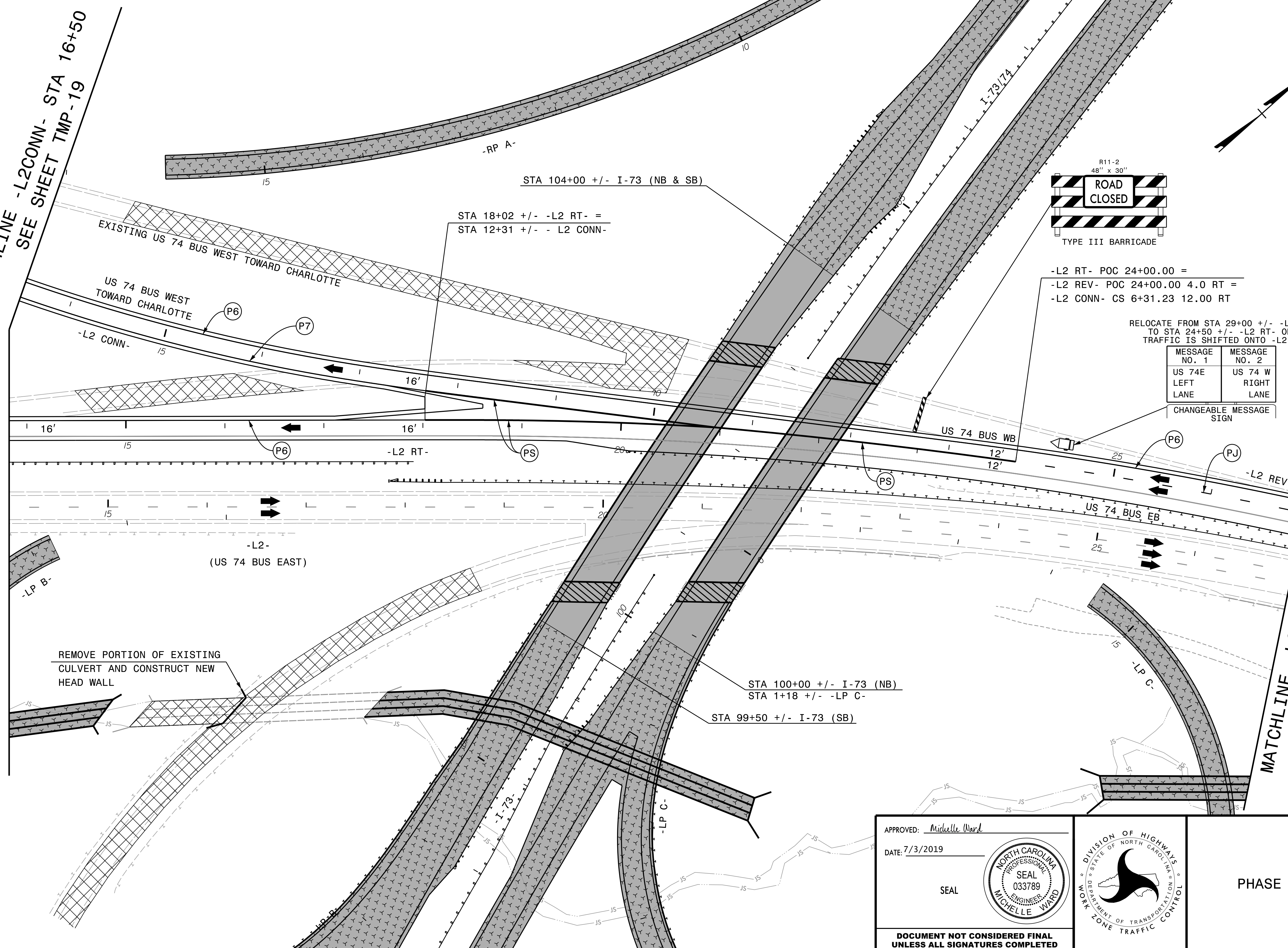
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APPROVED: <i>Michelle Ward</i> DATE: 7/3/2019 SEAL 		PHASE 1, STEP 3
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MATCHLINE -L2CONN- STA 16+50  
SEE SHEET TMP-19

MATCHLINE -L2- STA 14+00  
SEE SHEET TMP-19

MATCHLINE -L2- STA 27+00  
SEE SHEET TMP-21



-L2 RT- POC 24+00.00 =  
-L2 REV- POC 24+00.00 4.0 RT =  
-L2 CONN- CS 6+31.23 12.00 RT

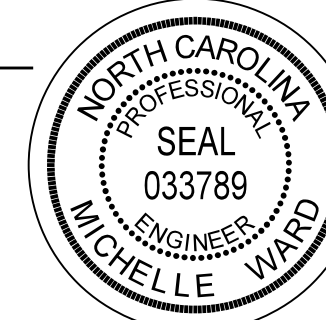
RELOCATE FROM STA 29+00 +/- -L2 REV-  
TO STA 24+50 +/- -L2 RT- ONCE  
TRAFFIC IS SHIFTED ONTO -L2 RT-

MESSAGE NO. 1	MESSAGE NO. 2
US 74E LEFT LANE	US 74 W RIGHT LANE
CHANGEABLE MESSAGE SIGN	

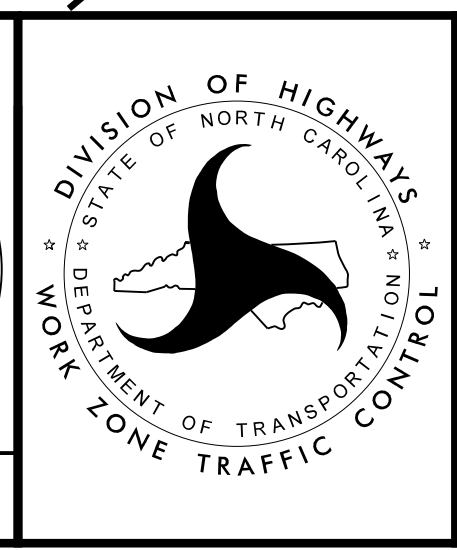
REMOVE PORTION OF EXISTING  
CULVERT AND CONSTRUCT NEW  
HEAD WALL

APPROVED: *Michelle Ward*  
DATE: 7/3/2019

SEAL



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



PHASE 1, STEP 3

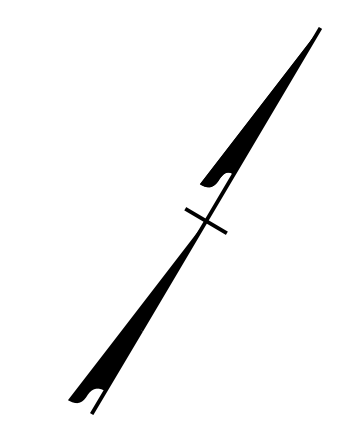
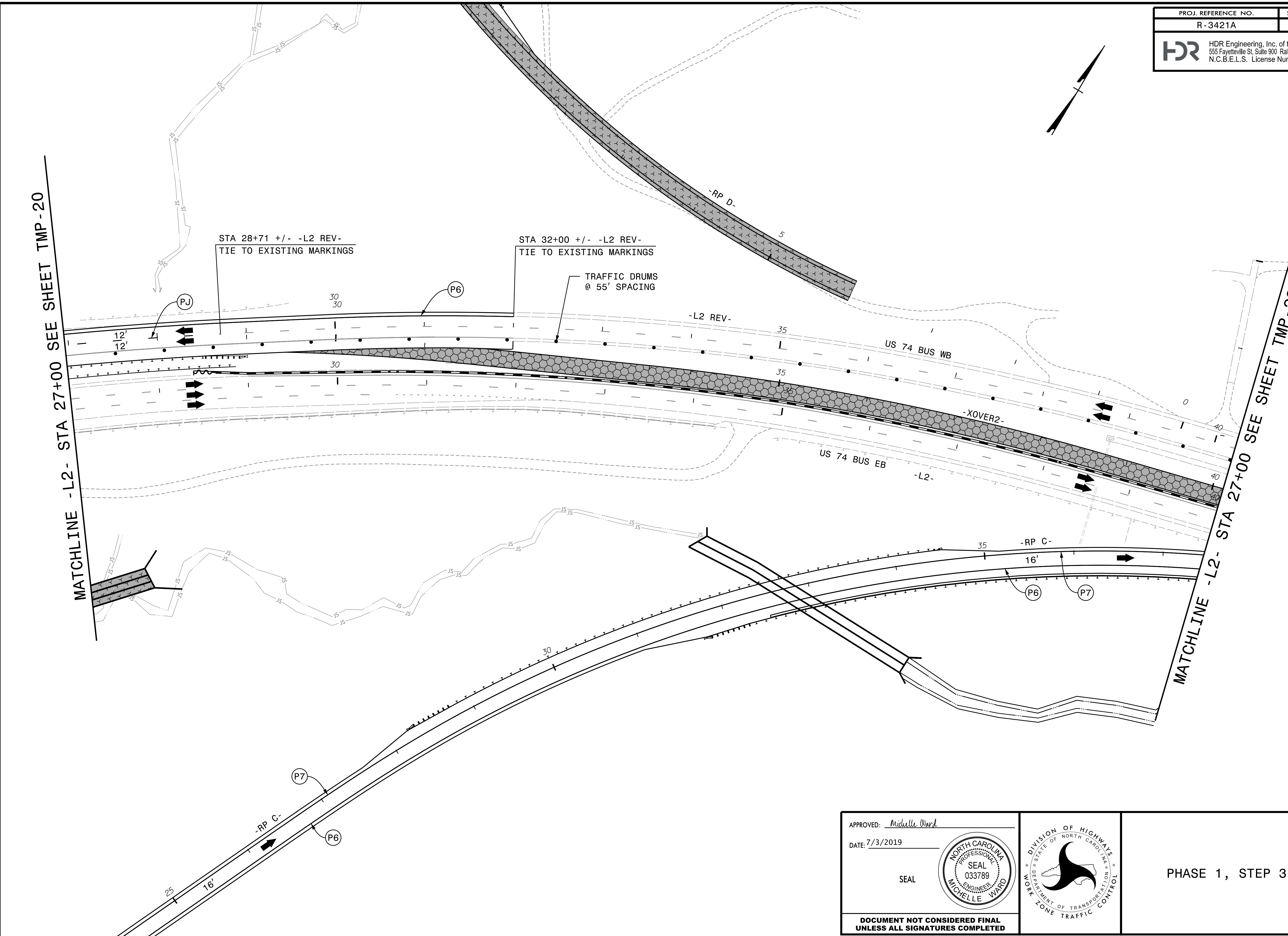
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 USER: BSCOTT  
 FILE: p:\VAP\PTPA01\SouthEast\_Tampa\Documents\000166\CON0079159\CON0095464\CON0000000248119\6.0\_CAD\_BITMAP\6.2\_Work\_In\_Progress\TrafficControl\TCP\_R-3421A\_TMP-TMP-20.dgn  
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 TIME: 4:17:08 PM

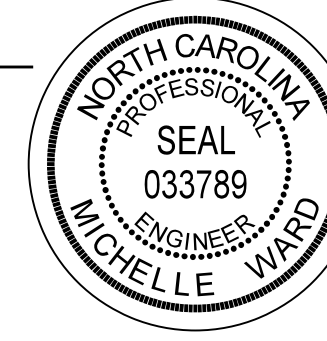
REVISIONS

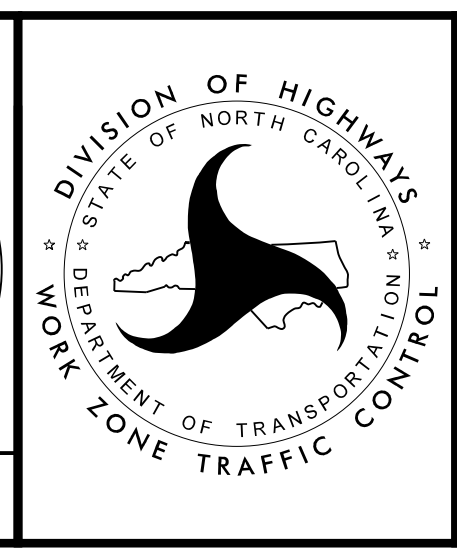


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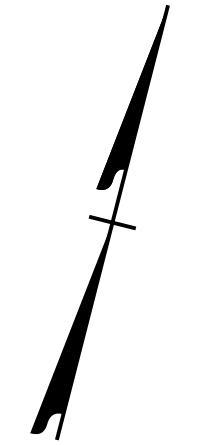
REVISIONS



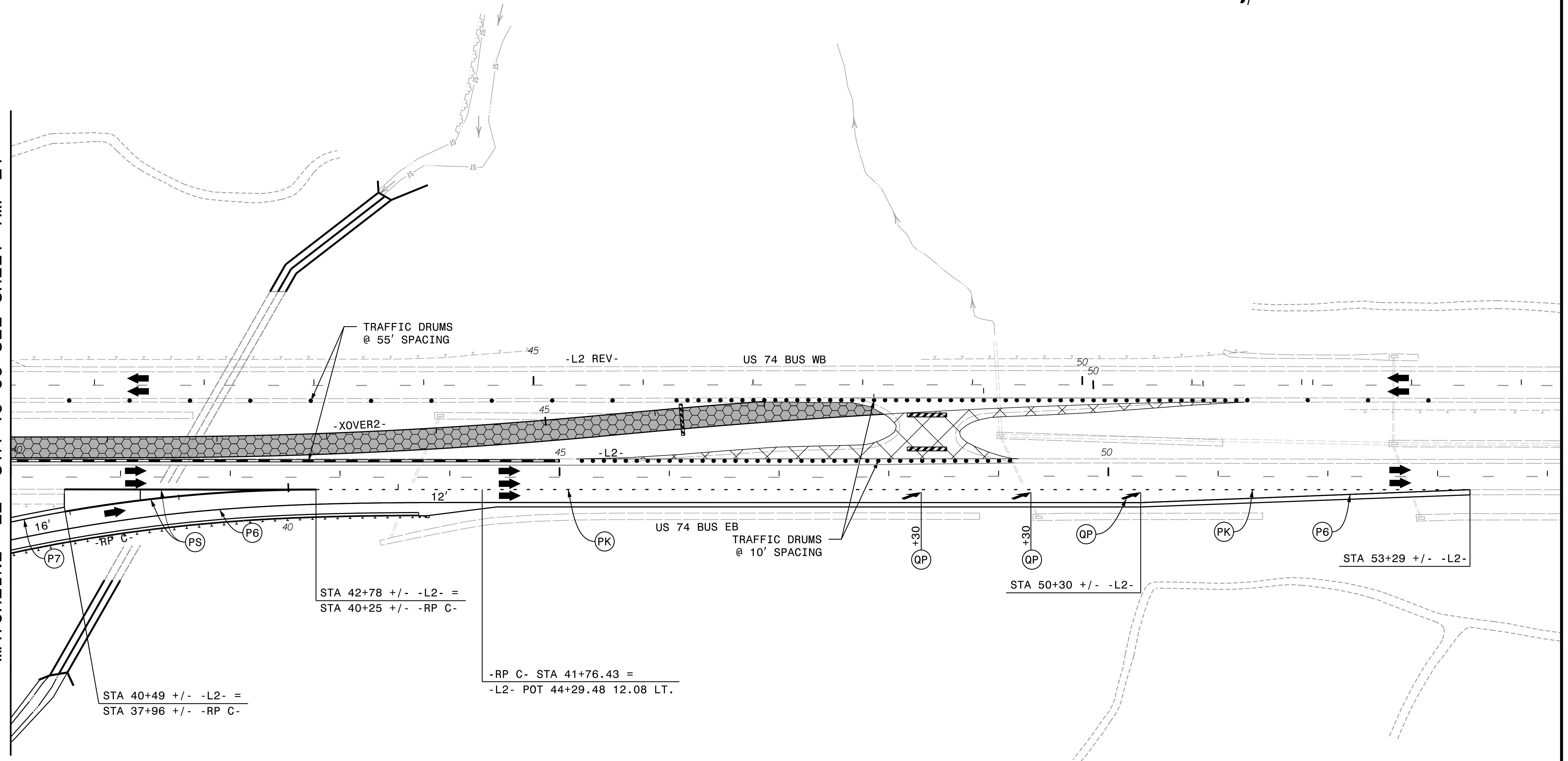
APPROVED: *Michelle Ward*  
 DATE: 7/3/2019  
 SEAL  




PHASE 1, STEP 3



MATCHLINE -L2- STA 40+00 SEE SHEET TMP-21



STA 42+78 +/- -L2- =  
STA 40+25 +/- -RP C-

STA 40+49 +/- -L2- =  
STA 37+96 +/- -RP C-

-RP C- STA 41+76.43 =  
-L2- POT 44+29.48 12.08 LT.

STA 50+30 +/- -L2-

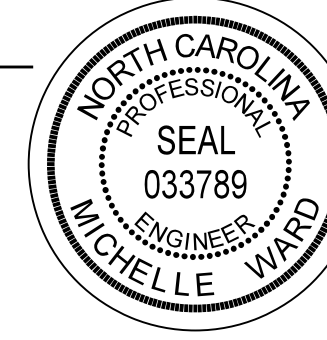
STA 53+29 +/- -L2-

REVISIONS

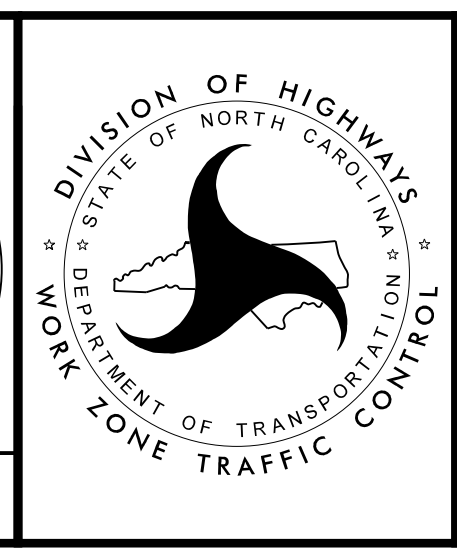
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APPROVED: *Michelle Ward*  
 DATE: 7/3/2019

SEAL



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

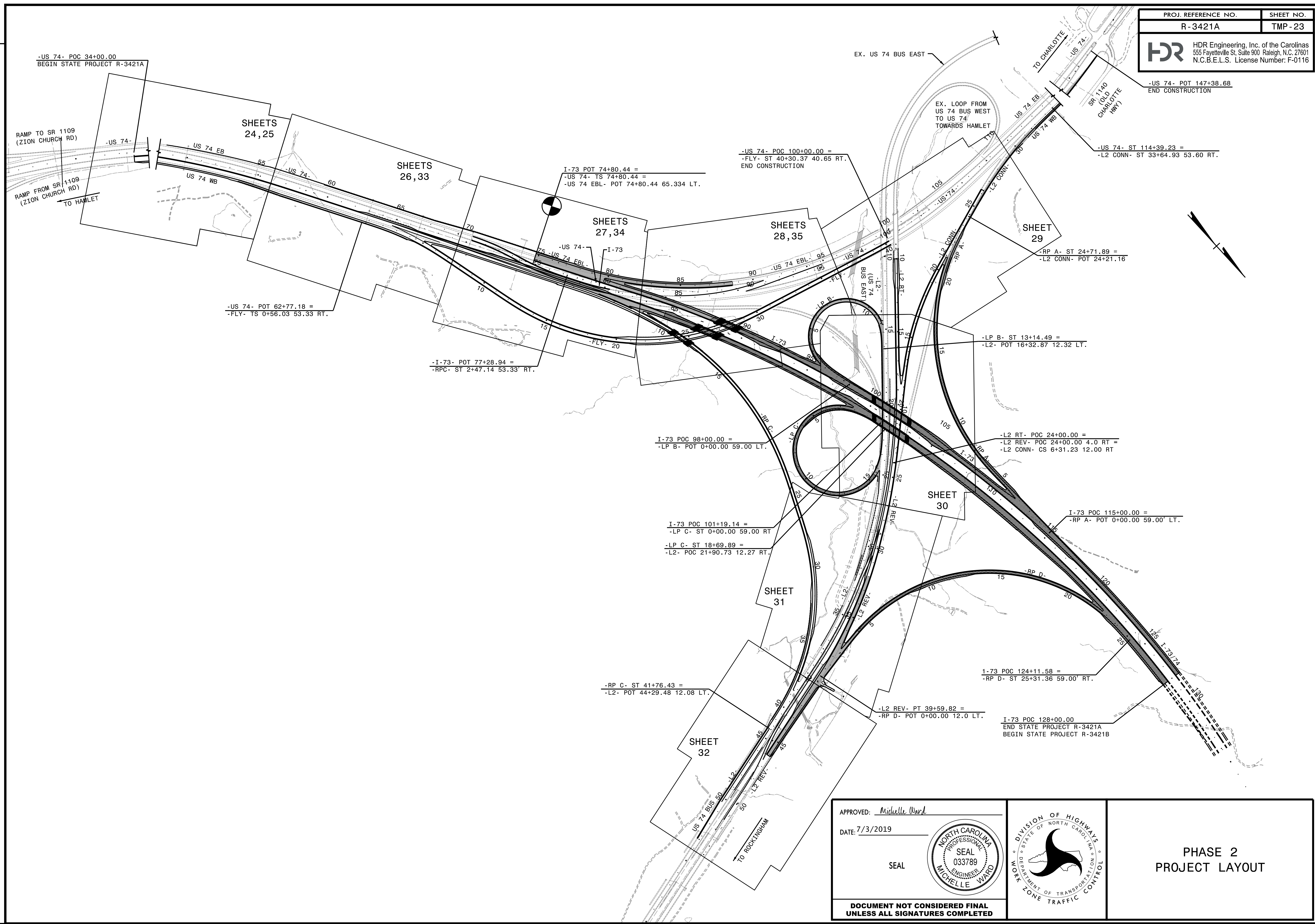


PHASE 1, STEP 3

REVISIONS

PROJ. REFERENCE NO. R-3421A	SHEET NO. TMP-23
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HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116



APPROVED: *Michelle Ward*  
DATE: 7/3/2019

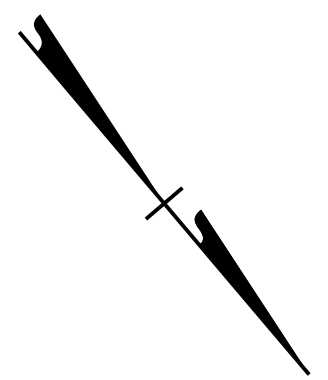
SEAL

SEAL

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

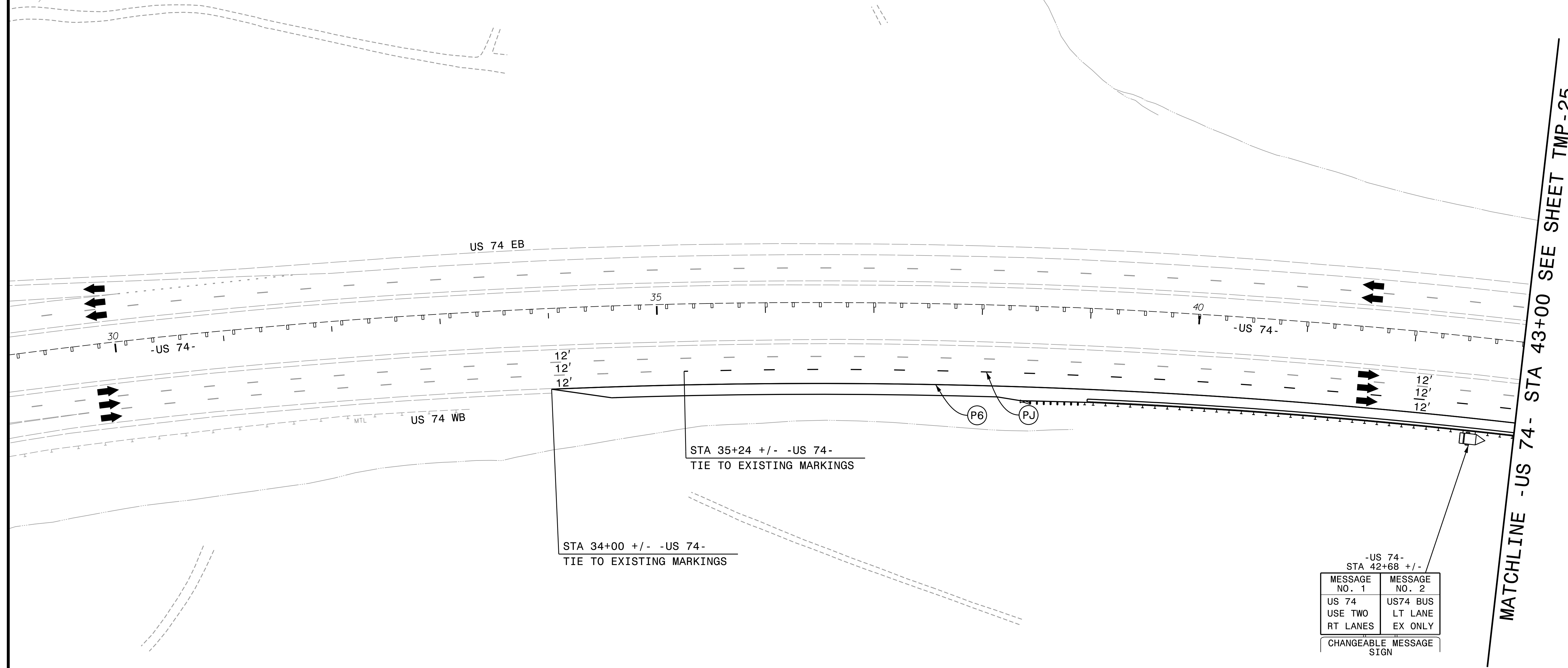


PHASE 2  
PROJECT LAYOUT



PLOT DRIVER: NCDOT\_pdf\_color\_eng\_50.plt    PENTABLE: NCDOT\_tcp.tbl  
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REVISITONS

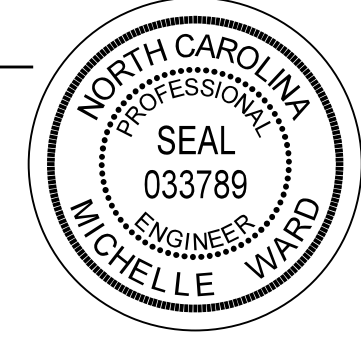


-US 74- STA 42+68 +/-	
MESSAGE NO. 1	MESSAGE NO. 2
US 74 USE TWO RT LANES	US74 BUS LT LANE EX ONLY
CHANGEABLE MESSAGE SIGN	

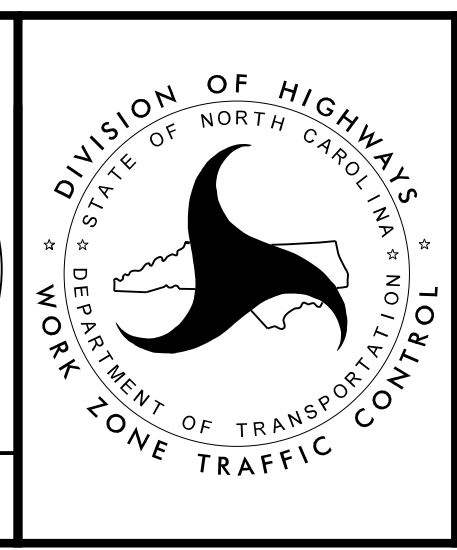
APPROVED: *Michelle Ward*

DATE: 7/3/2019

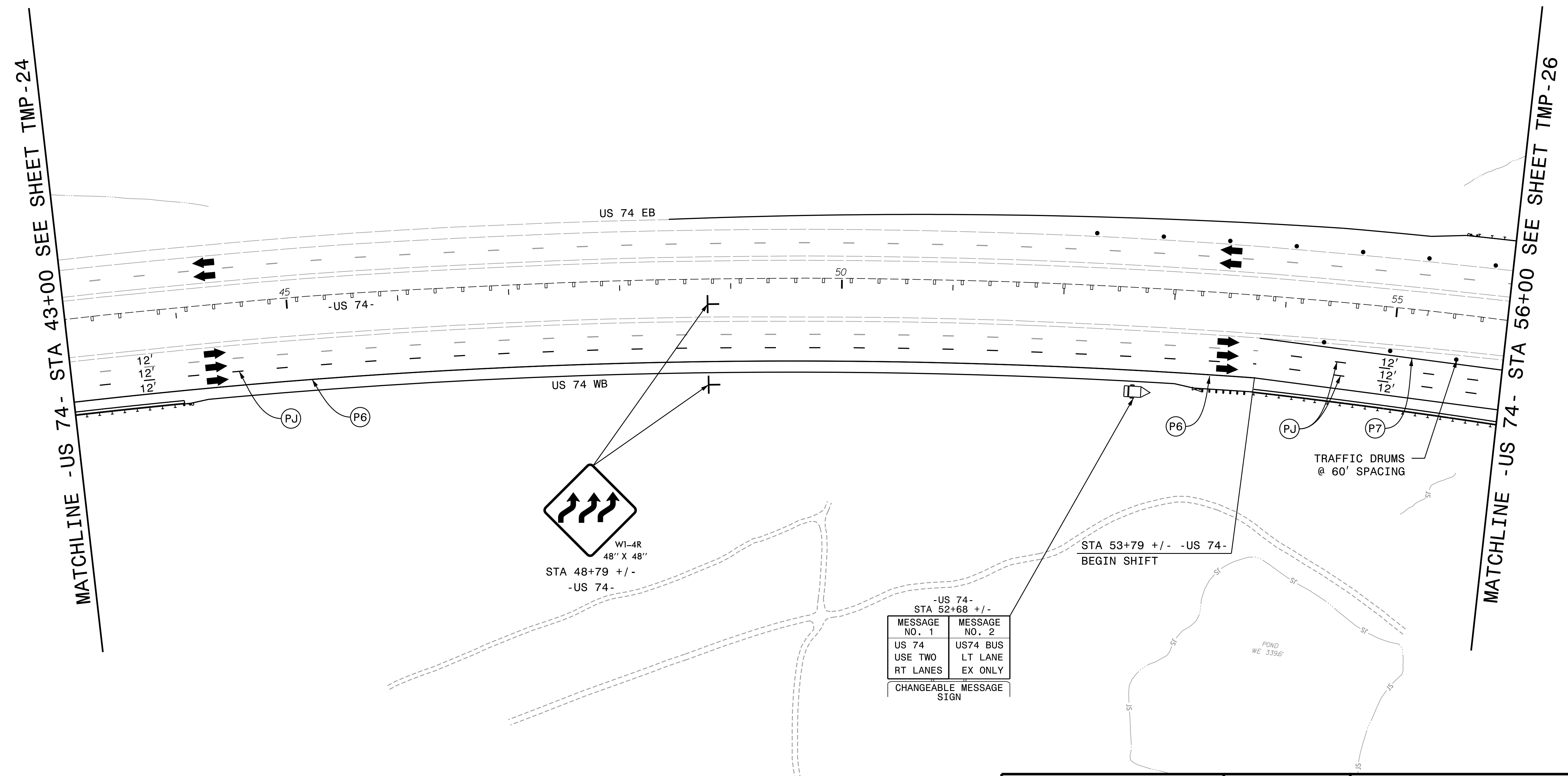
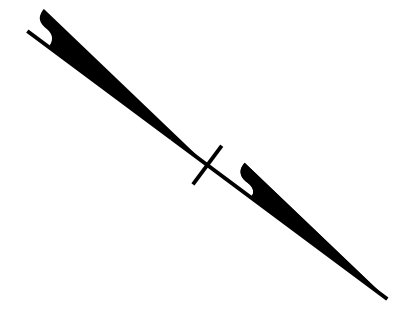
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**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

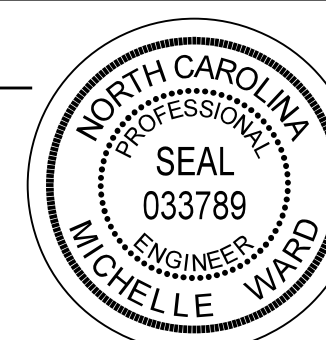



PHASE 2, STEP 1



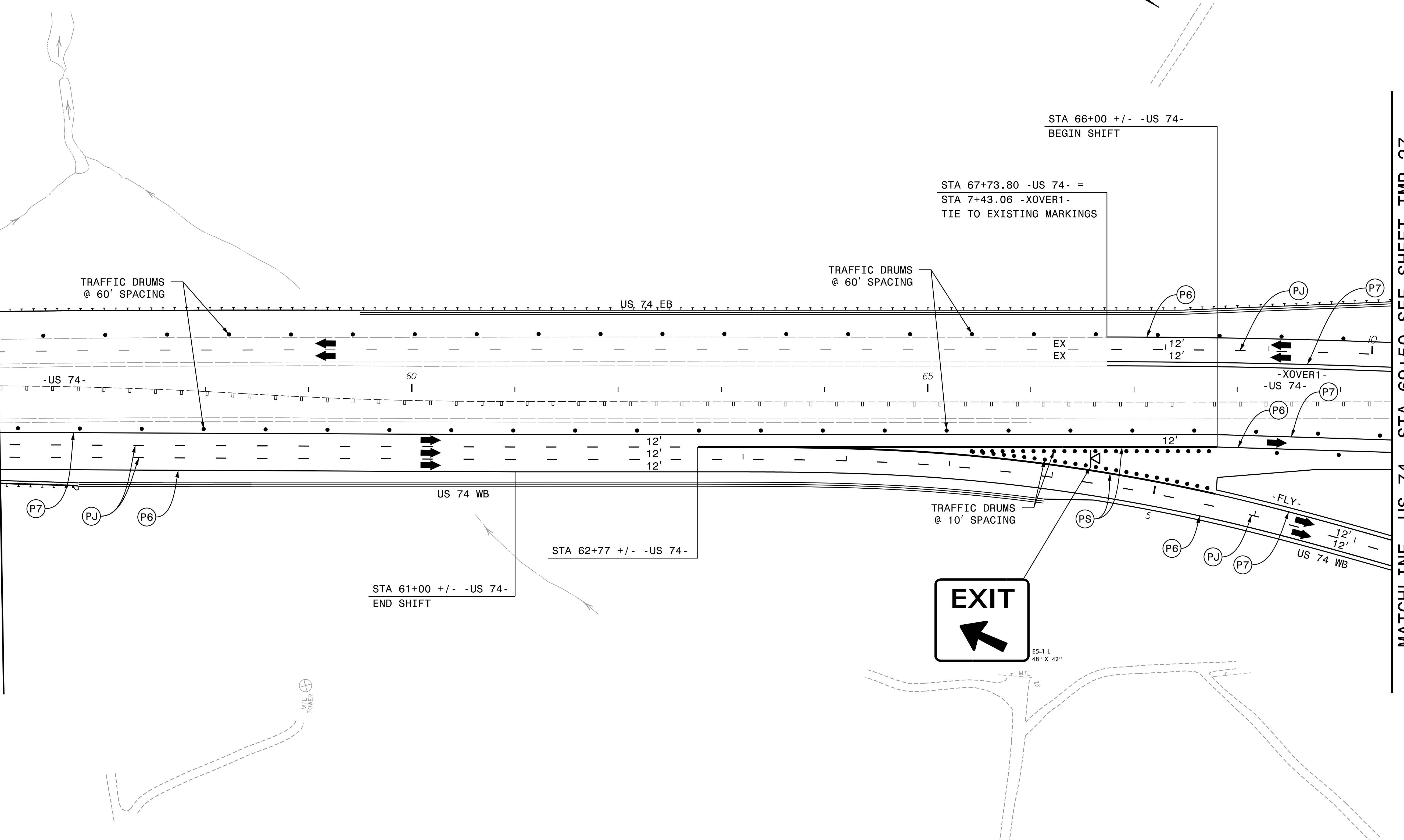
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REVISIONS

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MATCHLINE -US 74- STA 56+00 SEE SHEET TMP-25

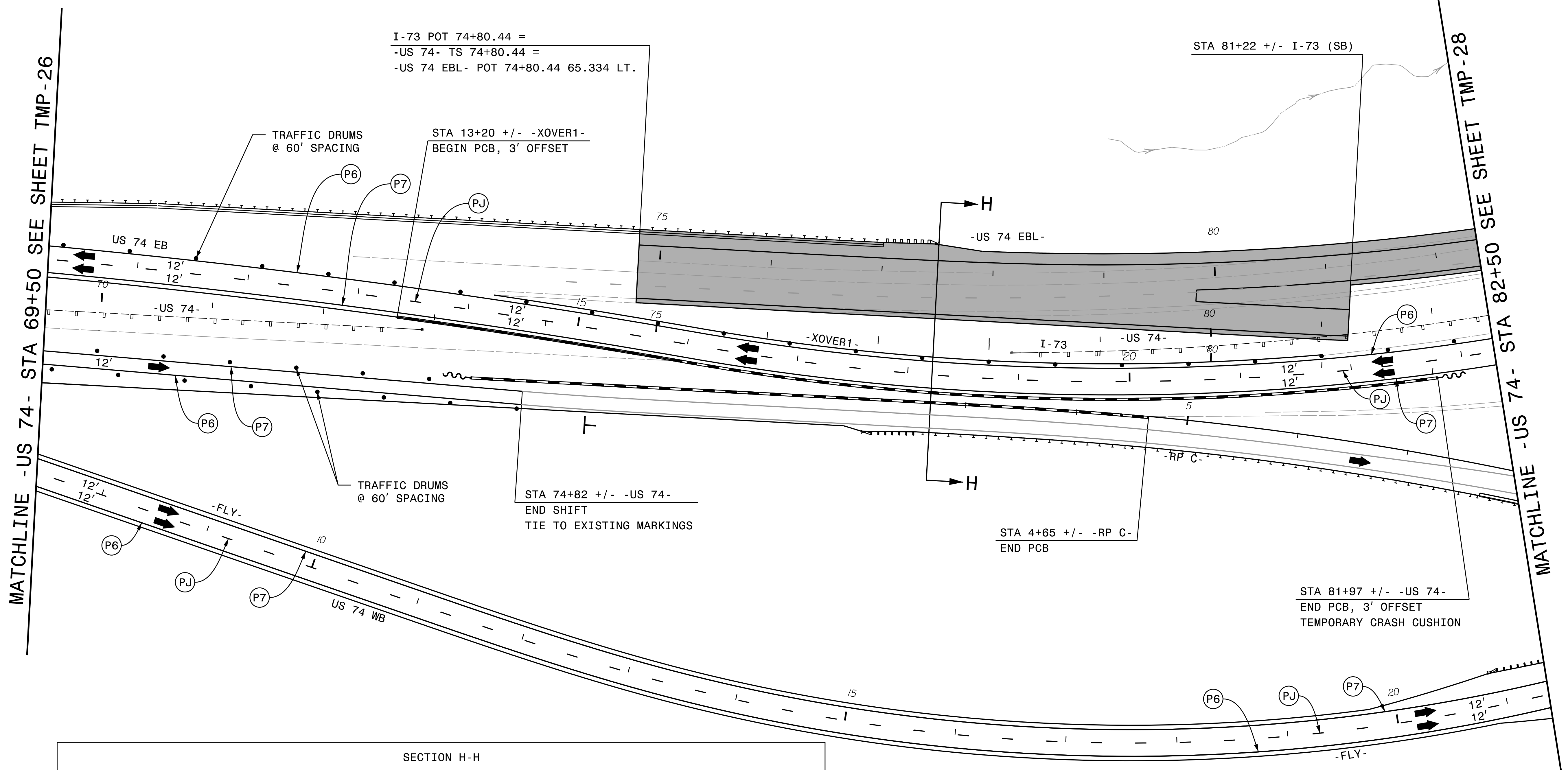
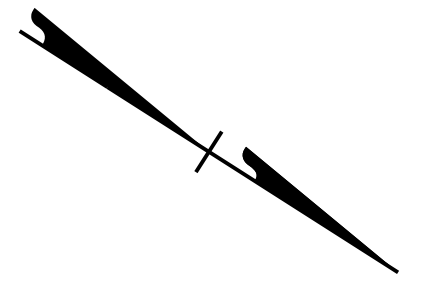
MATCHLINE -US 74- STA 69+50 SEE SHEET TMP-27



REVISIONS

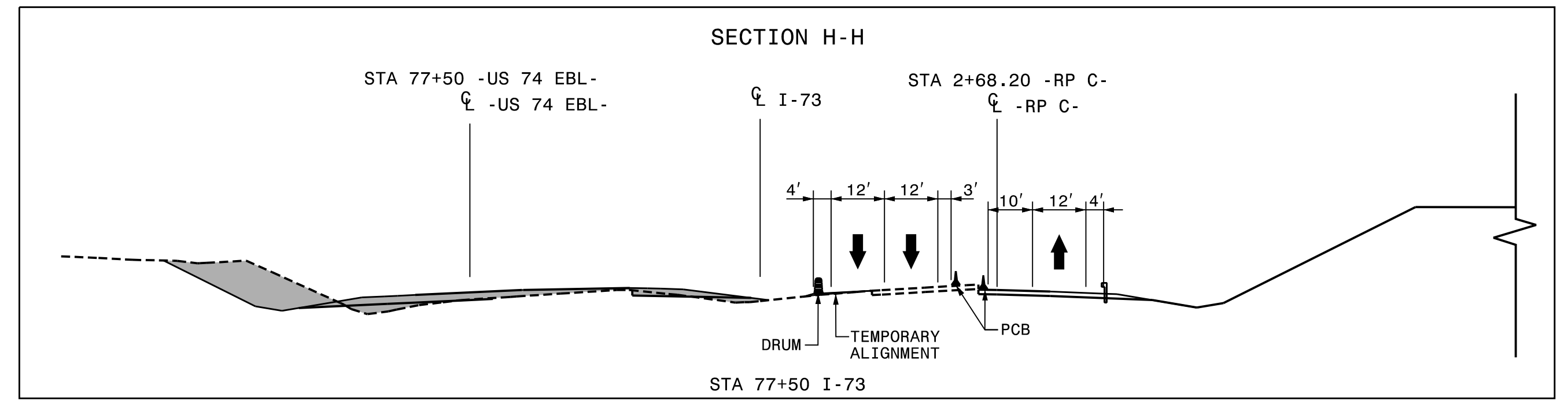
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APPROVED: <i>Michelle Ward</i> DATE: 7/3/2019				PHASE 2, STEP 1
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REVISIONS

PLOT DRIVER: NCDOT\_pdf\_color\_eng\_50.pit  
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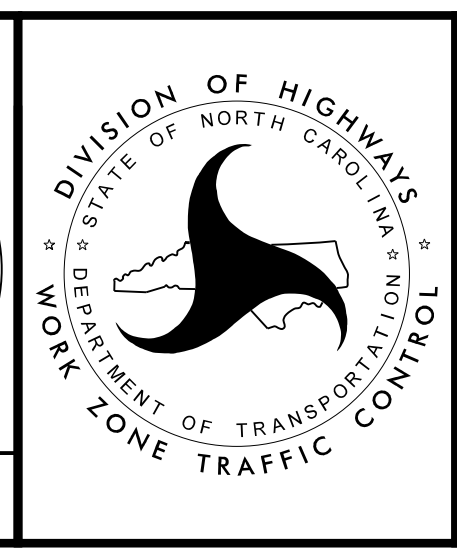


APPROVED: *Michelle Ward*  
 DATE: 7/3/2019

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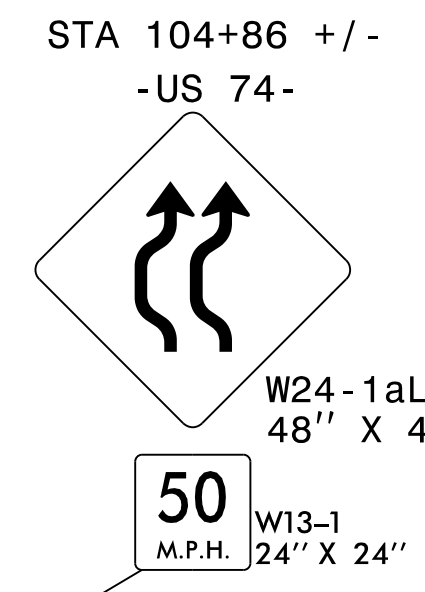
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



PHASE 2, STEP 1







MATCHLINE -US 74- STA 96+00  
SEE SHEET TMP-28

MATCHLINE -L2- STA 14+00  
SEE SHEET TMP-30

MATCHLINE -L2CONN- STA 16+50  
SEE SHEET TMP-30

TRAFFIC DRUMS @ 55' SPACING

STA 100+00 +/- -US 74-  
END WEDGING  
END SHOULDER CONSTRUCTION  
TIE TO EXISTING MARKINGS

TRAFFIC DRUMS @ 55' SPACING

-RP A- ST 24+71.89 =  
-L2 CONN- POT 24+21.16

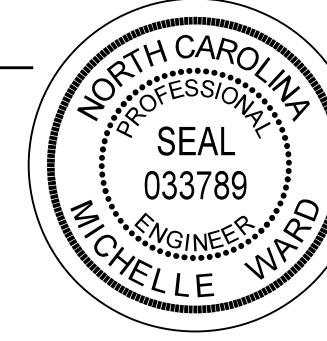
REVISIONS

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 DATE: 7/2/2019  
 TIME: 4:18:58 PM  
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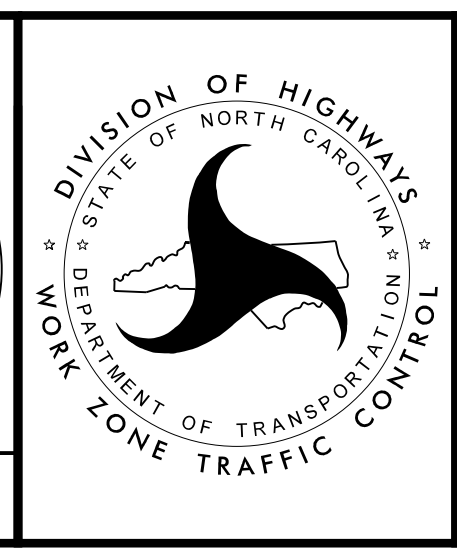
APPROVED: *Michelle Ward*

DATE: 7/3/2019

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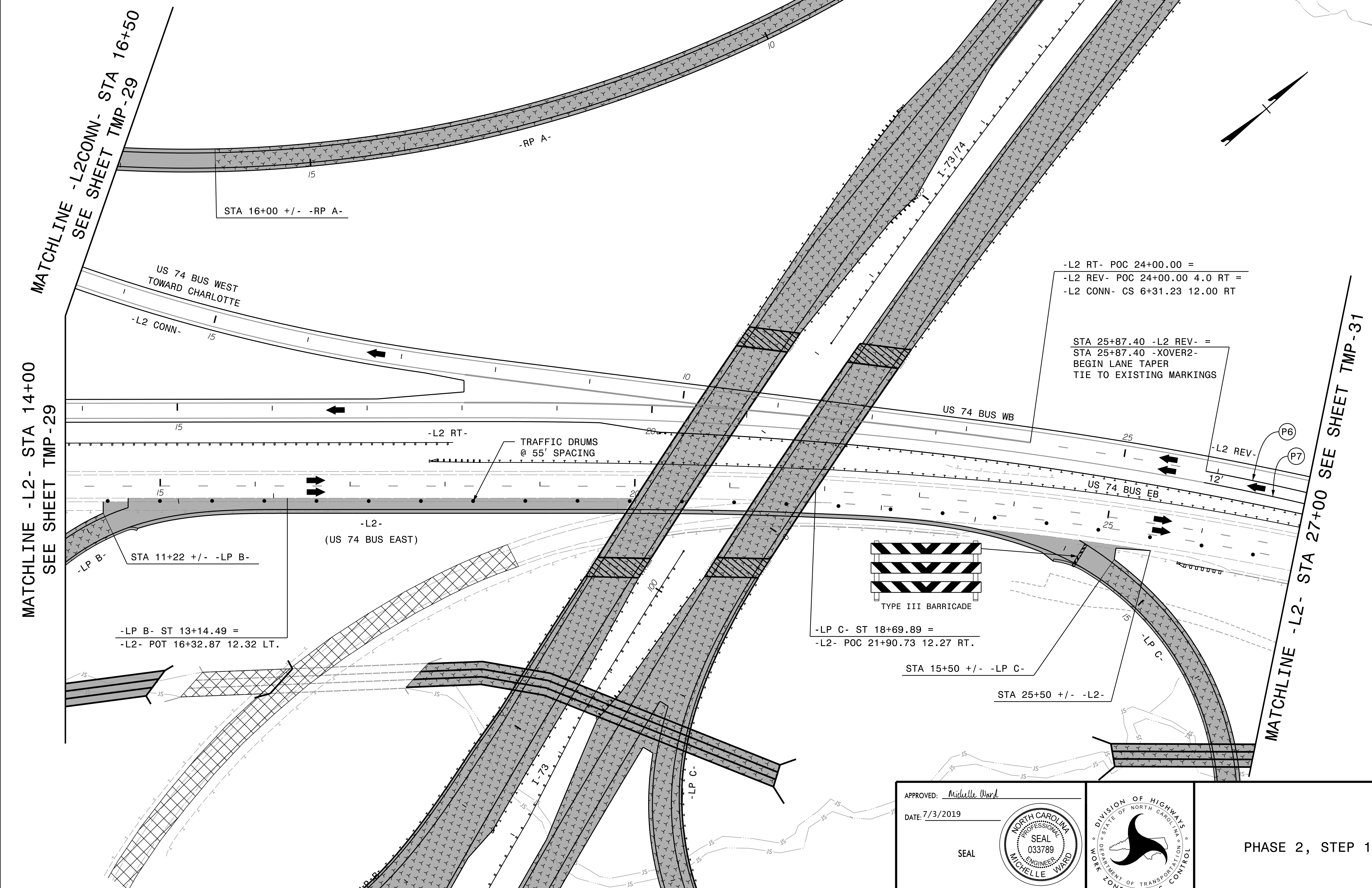
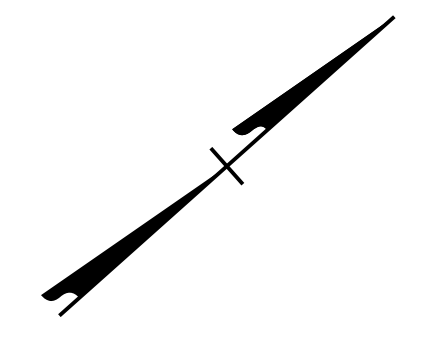


PHASE 2, STEP 1

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PENTABLE: NCDOT\_tcp.tbl  
USER: BSCOTT  
DATE: 7/2/2019  
TIME: 4:19:10 PM  
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REVISIONS

PROJ. REFERENCE NO.	SHEET NO.
R-3421A	TMP-30
 HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	



-L2 RT- POC 24+00.00 =  
 -L2 REV- POC 24+00.00 4.0 RT =  
 -L2 CONN- CS 6+31.23 12.00 RT

STA 25+87.40 -L2 REV- =  
 STA 25+87.40 -XOVER2-  
 BEGIN LANE TAPER  
 TIE TO EXISTING MARKINGS

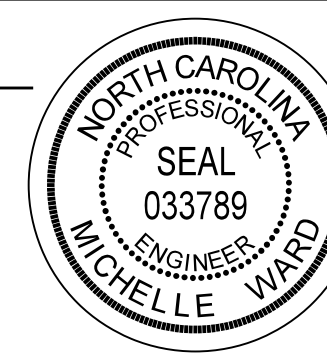


-LP C- ST 18+69.89 =  
 -L2- POC 21+90.73 12.27 RT.

-LP B- ST 13+14.49 =  
 -L2- POT 16+32.87 12.32 LT.

APPROVED: *Michelle Ward*  
 DATE: 7/3/2019

SEAL

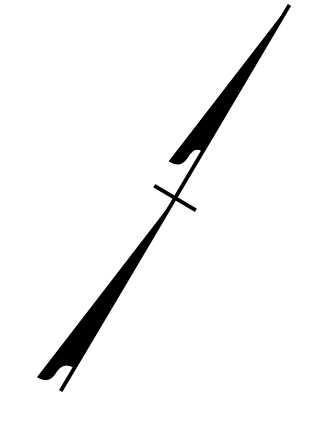


**DOCUMENT NOT CONSIDERED FINAL  
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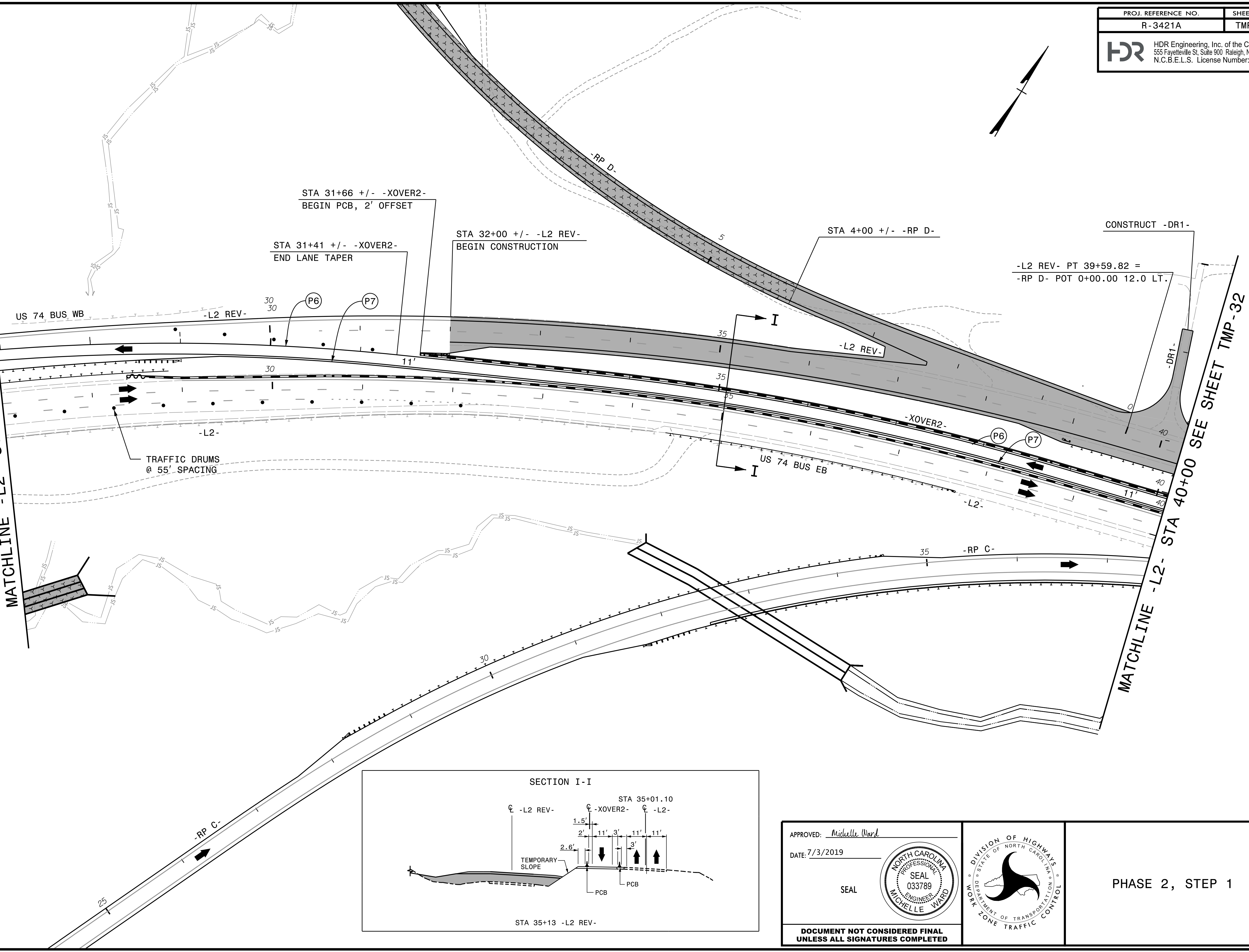
DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 WORK ZONE TRAFFIC CONTROL

PHASE 2, STEP 1



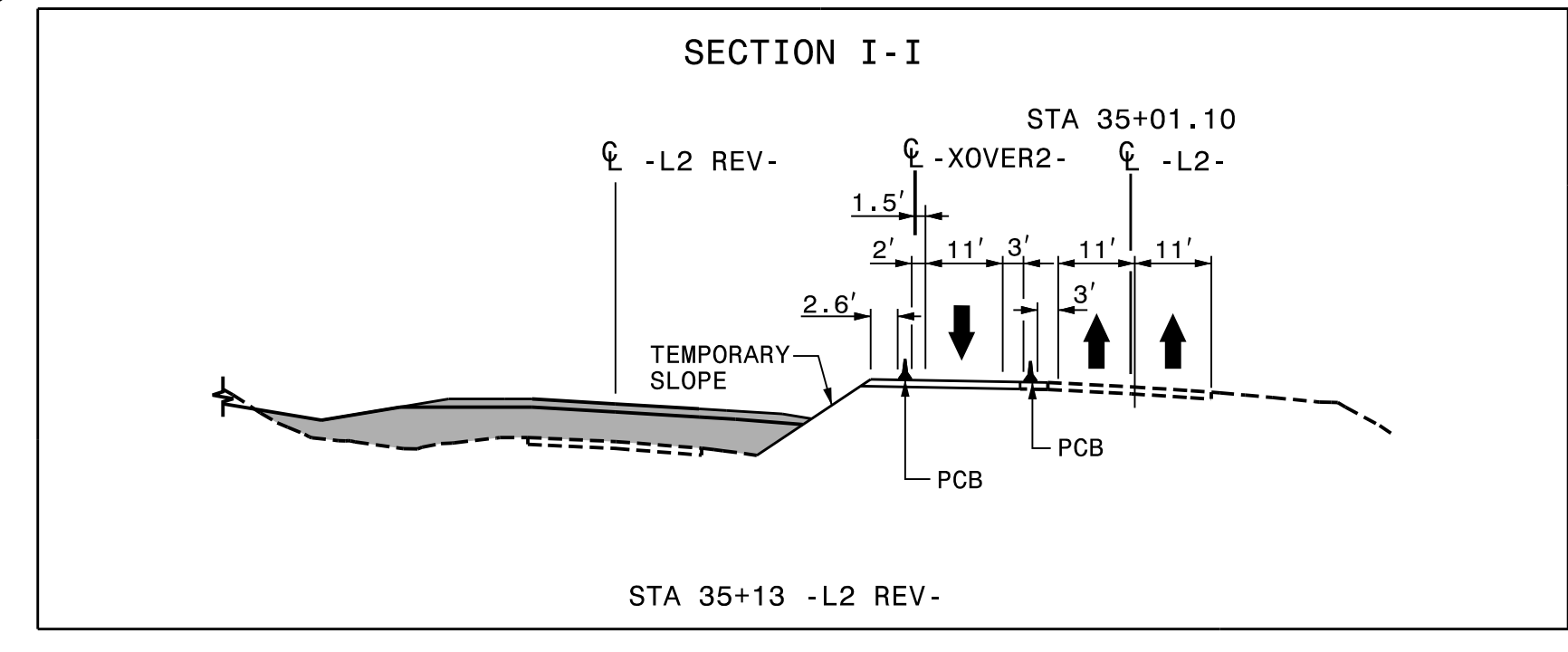
MATCHLINE -L2- STA 27+00 SEE SHEET TMP-30

MATCHLINE -L2- STA 40+00 SEE SHEET TMP-32



REVISIONS

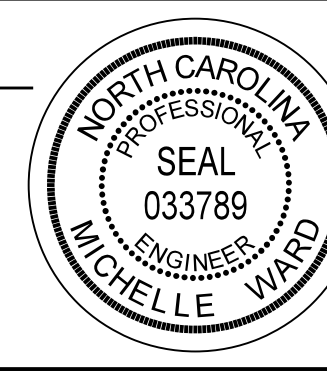
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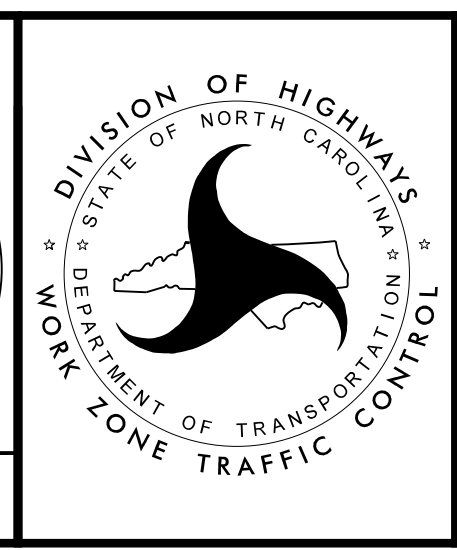
APPROVED: *Michelle Ward*

DATE: 7/3/2019

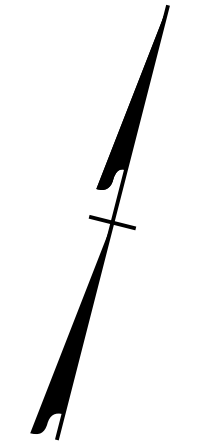
SEAL



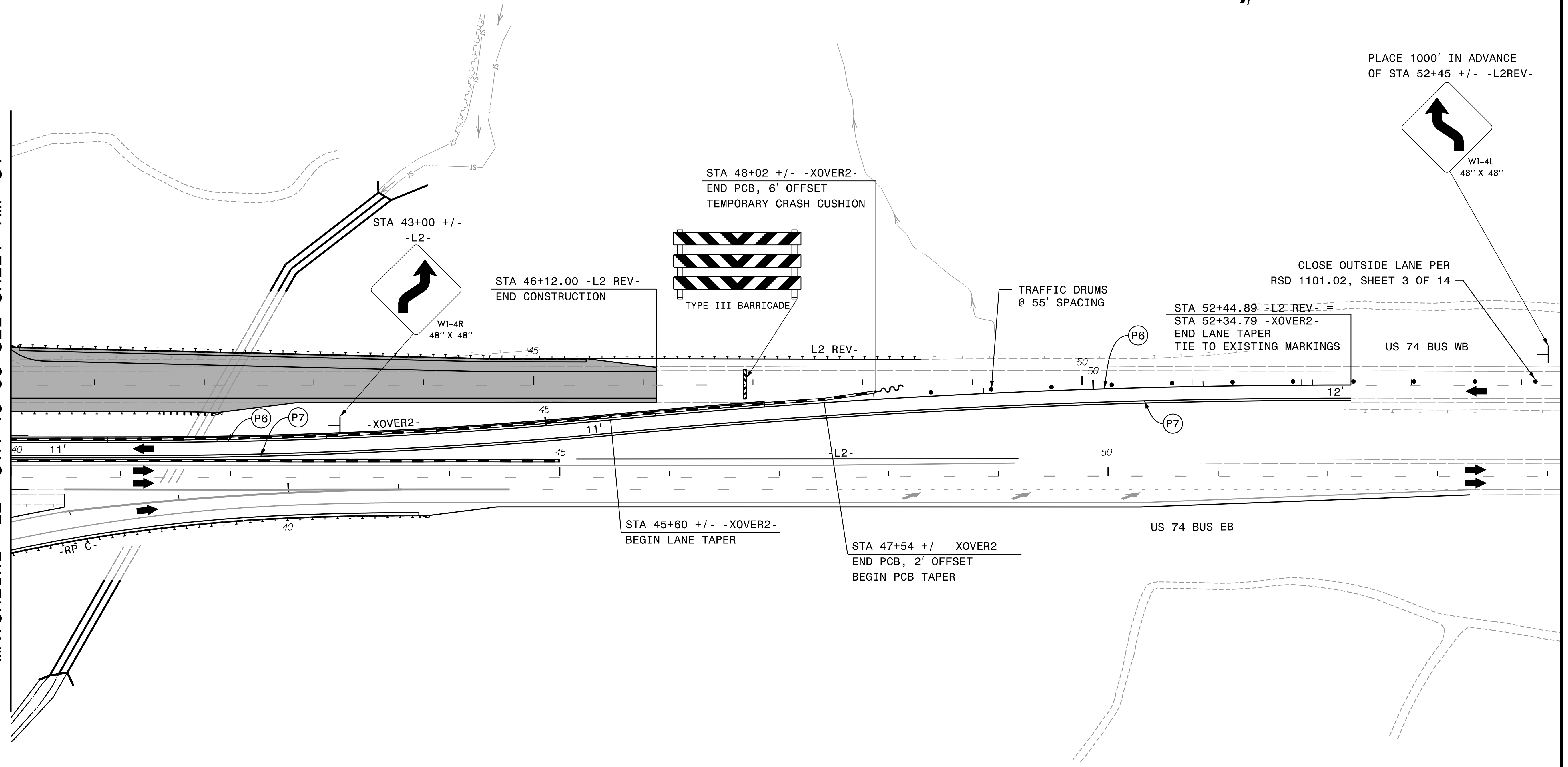
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UNLESS ALL SIGNATURES COMPLETED



PHASE 2, STEP 1



MATCHLINE -L2- STA 40+00 SEE SHEET TMP-31

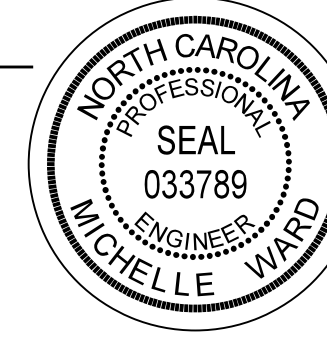


REVISIONS

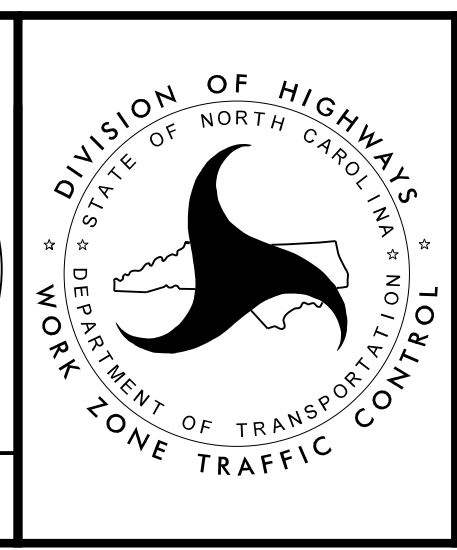
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APPROVED: *Michelle Ward*  
 DATE: 7/3/2019

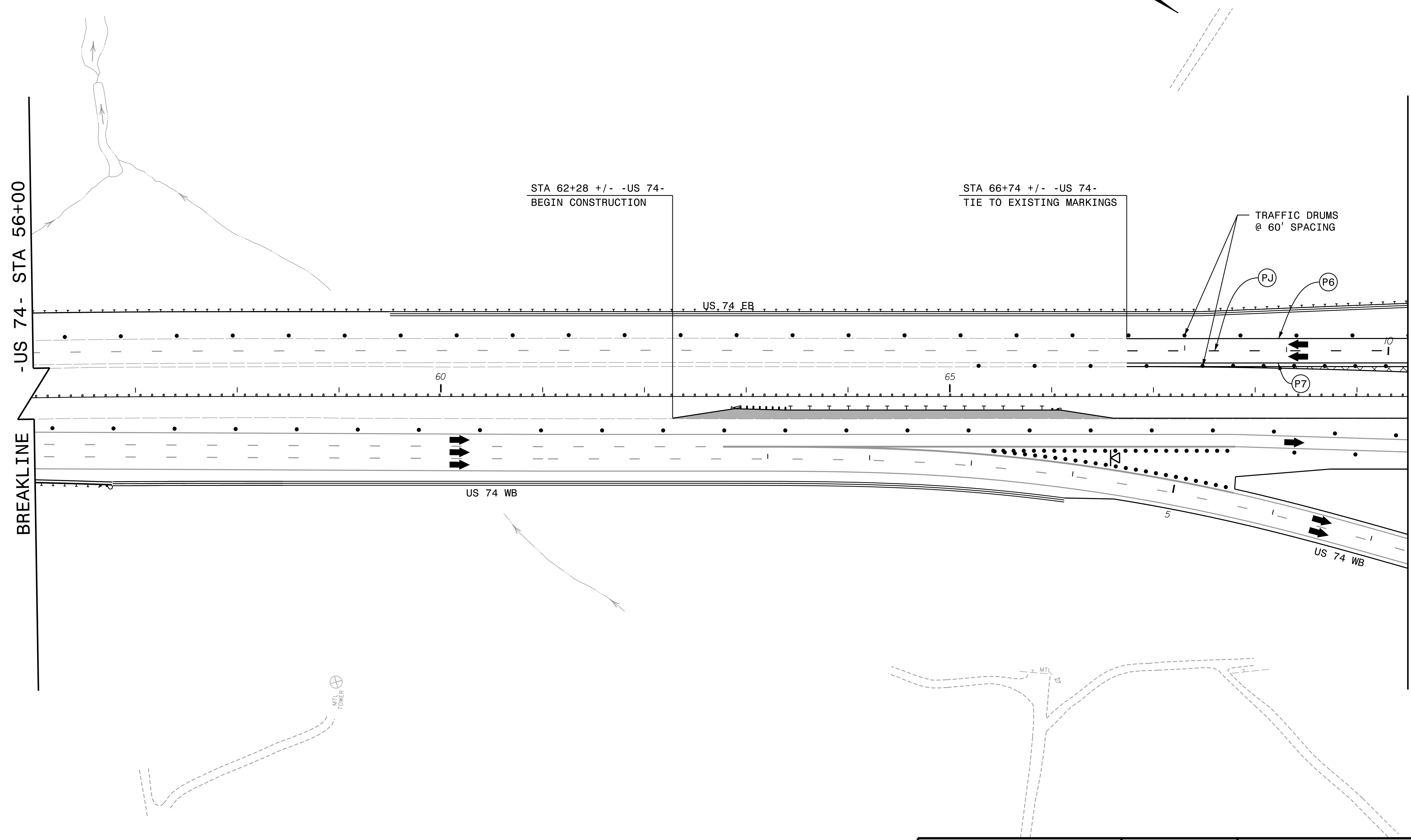
SEAL



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UNLESS ALL SIGNATURES COMPLETED**

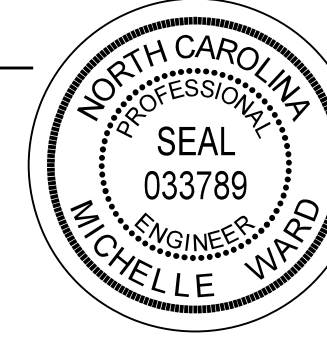



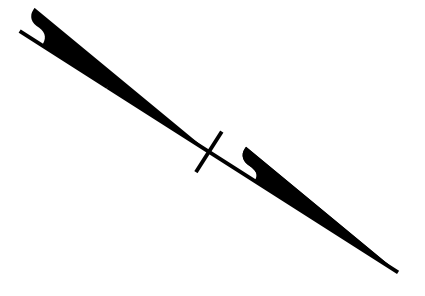
PHASE 2, STEP 1



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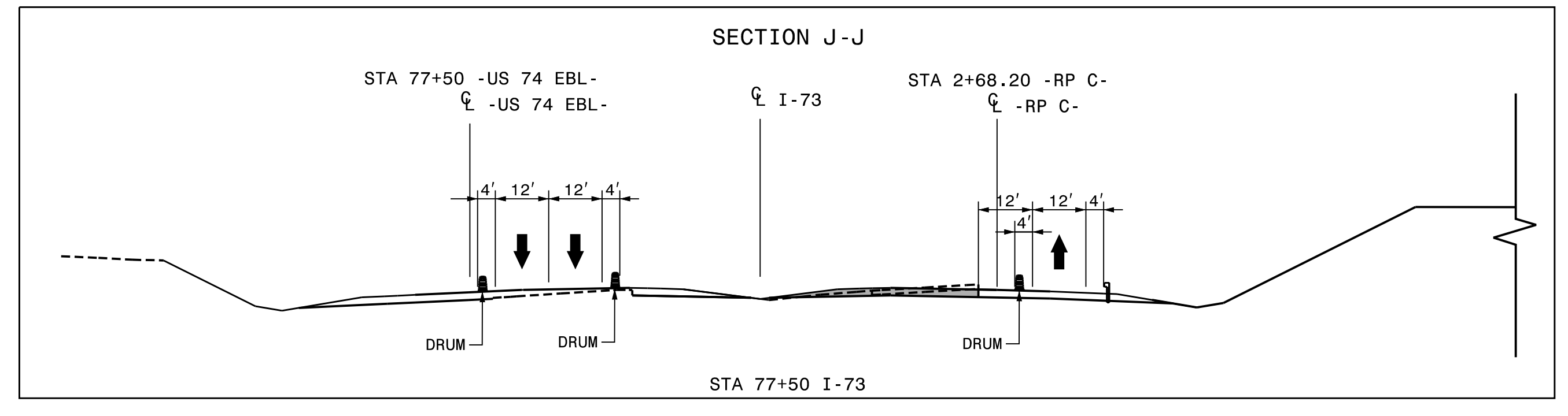
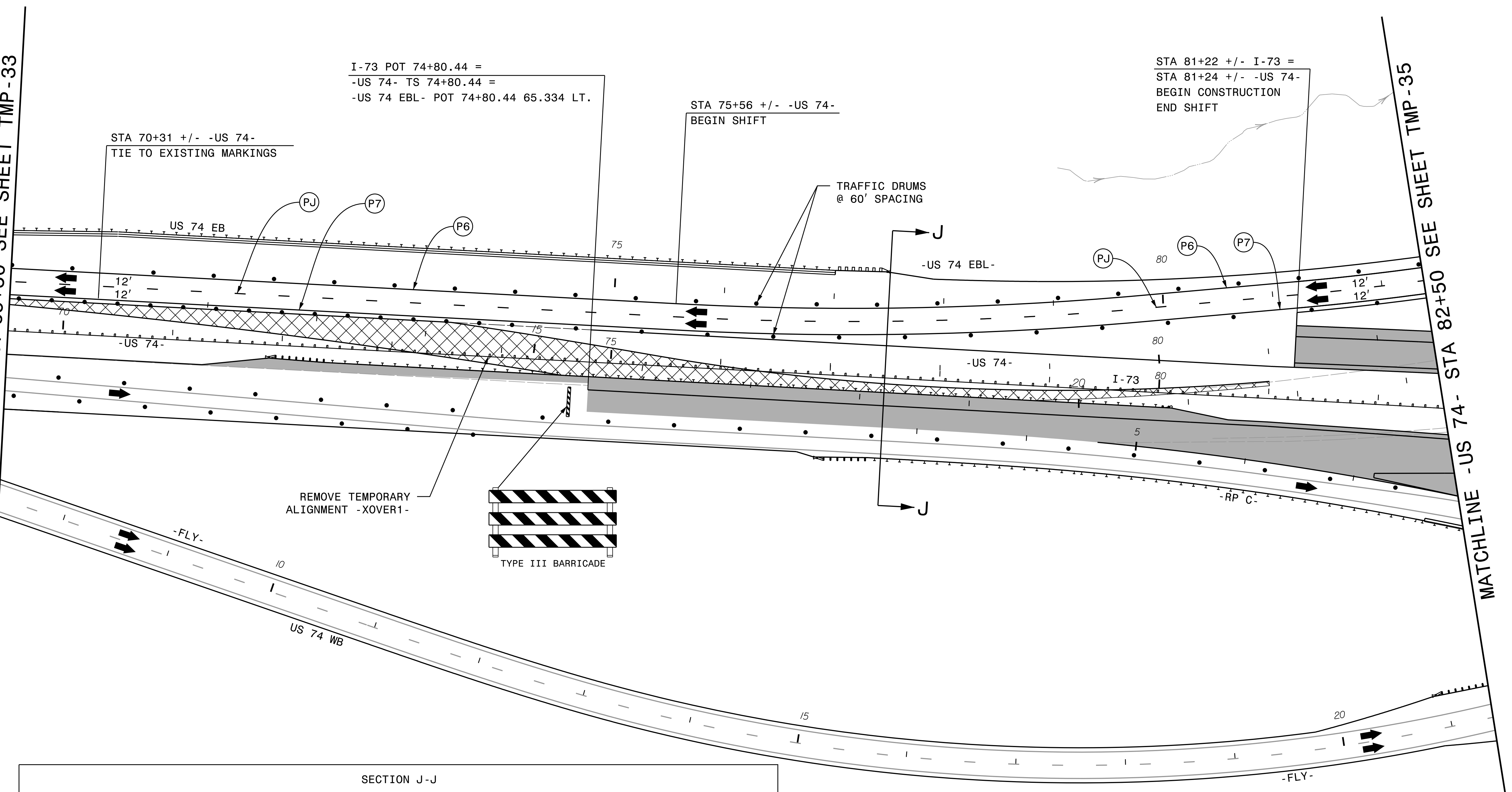
REVISIONS

APPROVED: <i>Michelle Ward</i> DATE: 7/3/2019 SEAL 		PHASE 2, STEP 2
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MATCHLINE -US 74- STA 69+50 SEE SHEET TMP-33

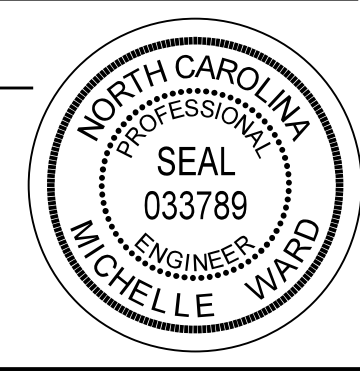
MATCHLINE -US 74- STA 82+50 SEE SHEET TMP-35



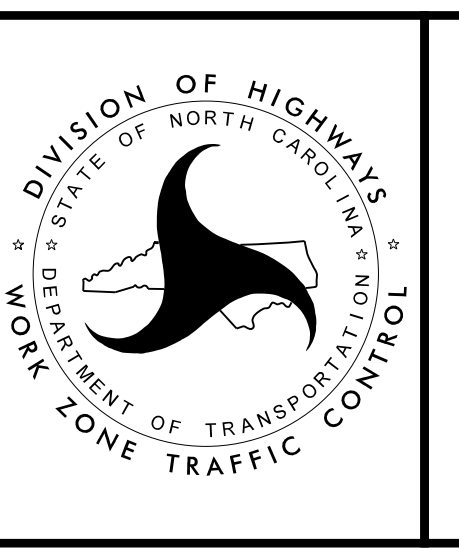
APPROVED: *Michelle Ward*

DATE: 7/3/2019

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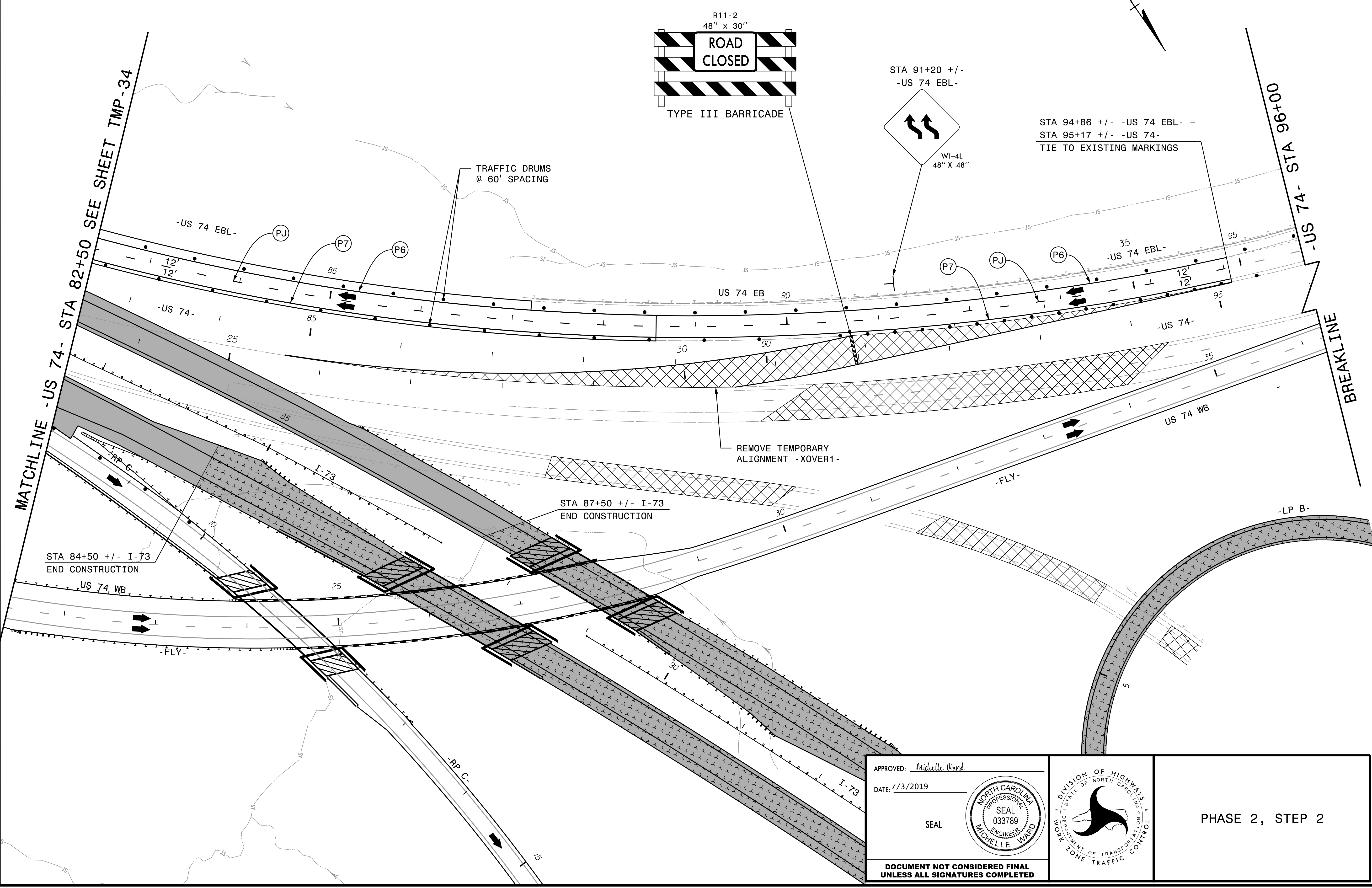
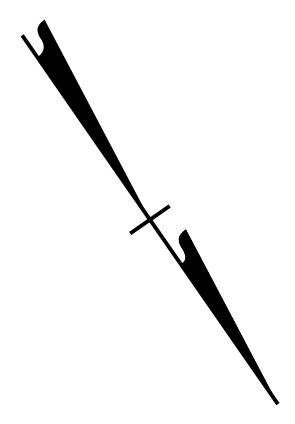
DOCUMENT NOT CONSIDERED FINAL  
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PHASE 2, STEP 2

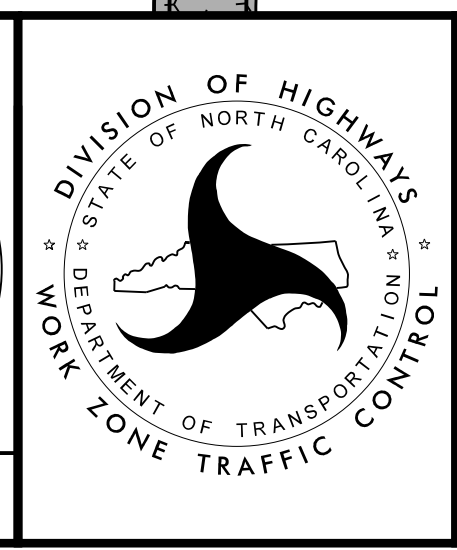
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REVISIONS



PLOT DRIVER: NCDOT\_pdf\_color\_eng\_50.plt  
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 DATE: 7/2/2019  
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APPROVED: *Michelle Ward*  
 DATE: 7/3/2019  
 SEAL



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