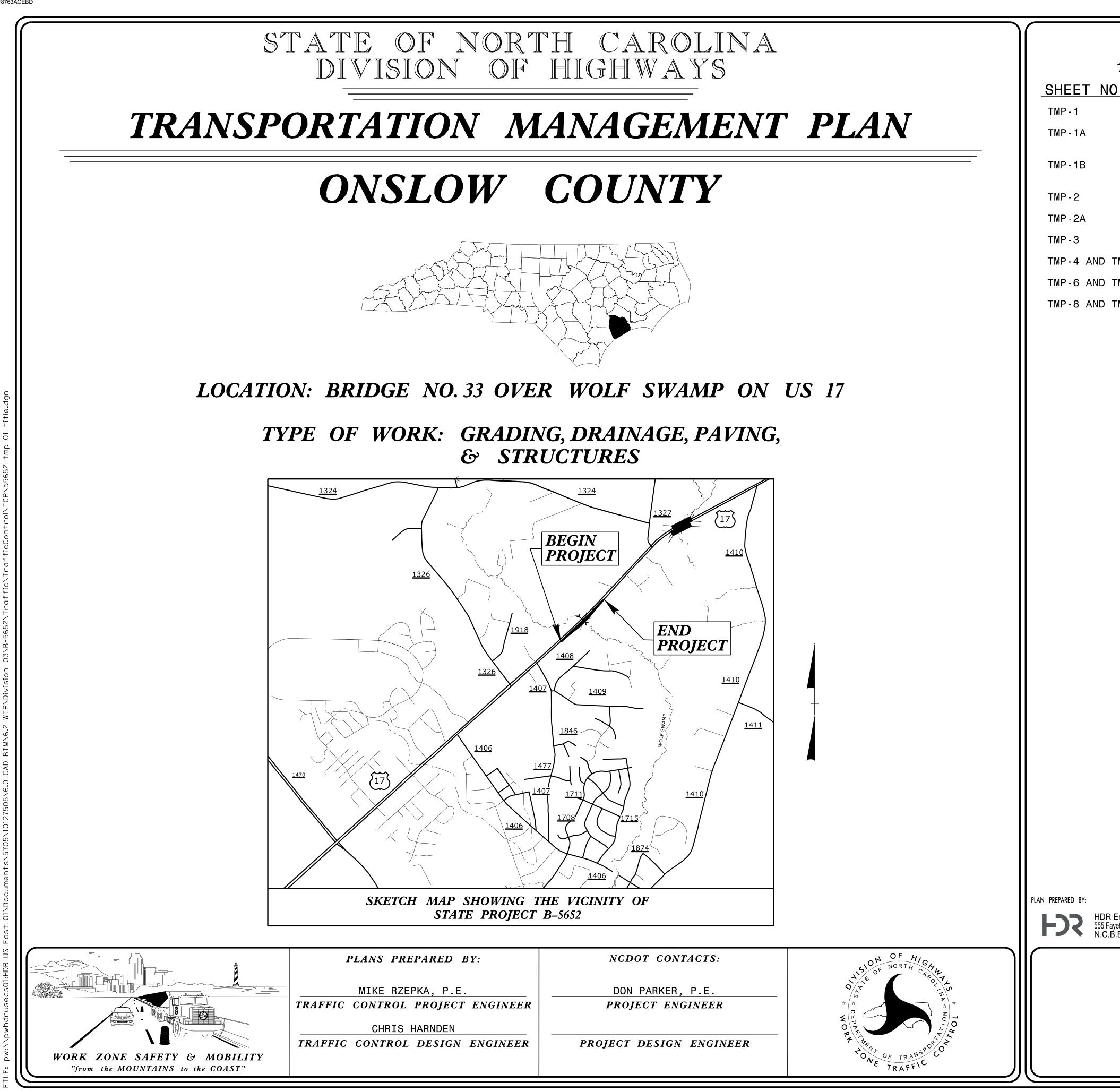
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ngineering, Inc. of the Carolinas	
etteville St, Suite 900 Raleigh, N.C. 27601 E.L.S. License Number: F-0116	DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
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# ROADWAY STANDARD DRAWINGS

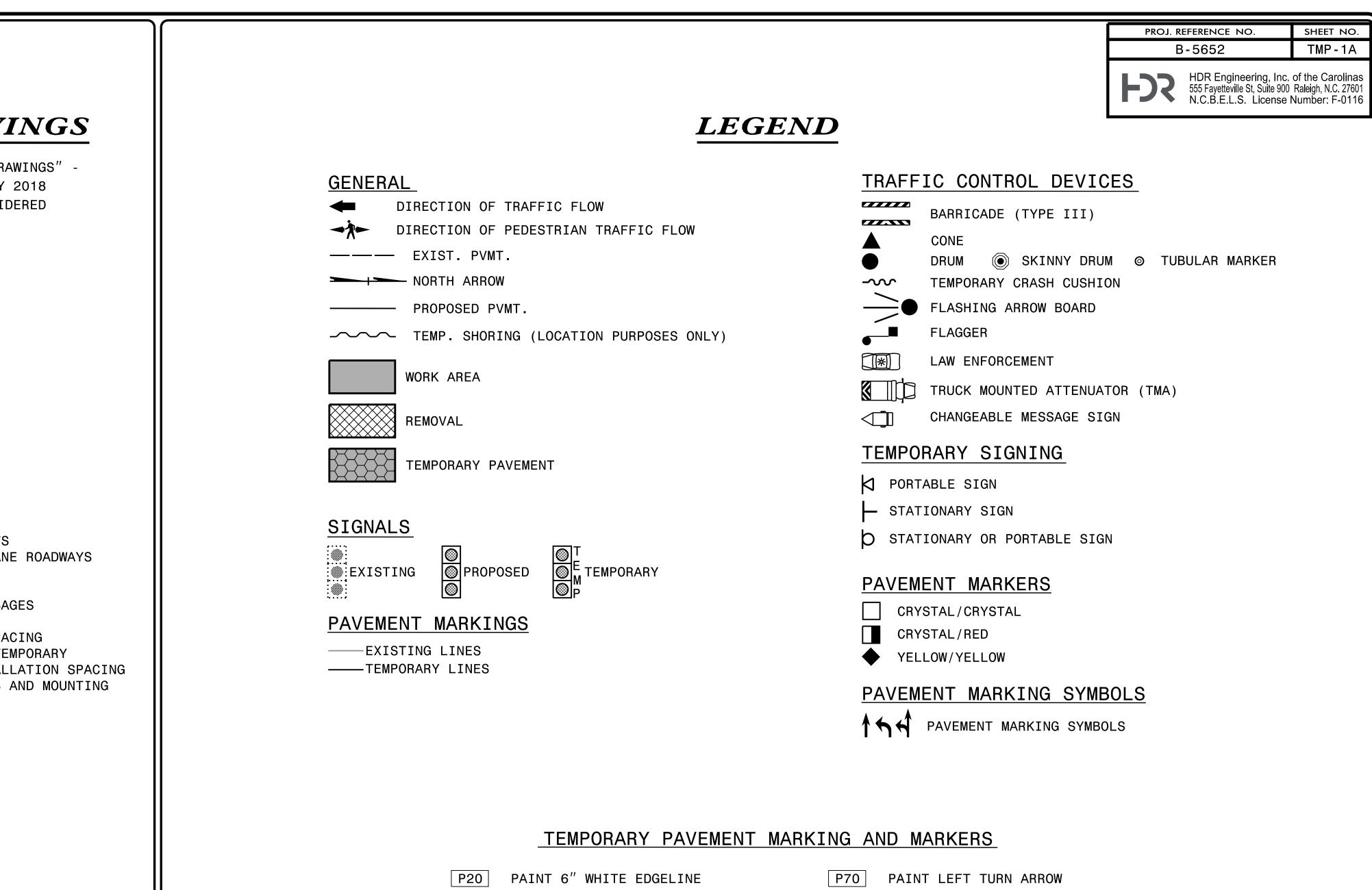
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" -N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
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
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-LAN
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAG
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACE
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEN
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTAL
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES /
1262.01	GUARDRAIL END DELINEATION

PENTABLE: NCDOT\_. TIME: 10:37:11 AM 9/14/2 IT\_Pdf. DATE: Z

DRIVER: CHARNDE

01



	P21	PAINT	6″	WHITE	SOLID	LANE	LINE	
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- PAINT 6" 10'-30'/SP. WHITE SKIP P22
- P23 PAINT 6" 3'-9'/SP. WHITE MINI-SKIP
- P24 PAINT 6" 2'-6'/SP. WHITE MINI-SKIP
- PAINT 6" YELLOW EDGELINE P30
- PAINT 12" WHITE GORELINE P50

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P70	PAINT LEFT TURN ARROW
P72	PAINT STRAIGHT ARROW
MI	TEMPORARY RAISED MARKER - CRYSTAL & RED



## ROADWAY STANDARD DRAWINGS & LEGEND

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR
INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).
TRAFFIC MANAGEMENT STRATEGIES:
FULL ROADWAY CLOSURES LANE SHIFTS OR CLOSURES
SHOULDER CLOSURES WORK HOUR RESTRICTIONS FOR PEAK TRAVEL ON-SITE DETOURS
GENERAL NOTES
CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.
THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.
TIME RESTRICTIONS - REQUIRES INTERMEDIATE CONTRACT TIME PROJECT SPECIAL PROVISIONS
A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:
ROAD NAME DAY AND TIME RESTRICTIONS
US 17 MON-FRI: 6:00AM - 9:00AM 4:00PM - 7:00PM
B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS: <u>ROAD NAME</u>
US 17 1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC
VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 AM DECEMBER 31st TO 7:00 PM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 PM THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 AM THURSDAY AND 7:00 PM MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY TO 7:00 PM TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 AM THE DAY BEFORE INDEPENDENCE DAY AND 7:00 PM THE DAY AFTER INDEPENDENCE DAY.
INDEPENDENCE DAY AND 7:00 PM THE DAY AFTER INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY
INDEPENDENCE DAY AND 7:00 PM THE DAY AFTER INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 AM THE THURSDAY BEFORE INDEPENDENCE
INDEPENDENCE DAY AND 7:00 PM THE DAY AFTER INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 PM THE TUESDAY AFTER INDEPENDENCE DAY. 6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY AND 7:00 PM

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
US 17	MON-FRI: 6:00AM - 9:00AM 4:00PM - 7:00PM

D) 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.

DURATION AND

OPERATION

15 MINUTES TRAFFIC SHIFTS

### LANE AND SHOULDER CLOSURE REQUIREMENTS

- E) 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.
- F) 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.
- G) 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.

- H) 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.
- I) 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.
- J) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON US 17.

PAVEMENT EDGE DROP OFF REQUIREMENTS

K) 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.
  - L) 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) 350' IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- N) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE JDENCE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
  - 0) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
  - PROVIDE SIGNING REQUIRED FOR THE ON-SITE DETOUR AS SHOWN IN THE TRAFFIC CONTROL PLANS.
  - P) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
  - COVER OR REMOVE ALL SIGNS REQUIRED FOR THE ON-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
  - Q) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC BARRIER

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

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

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

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

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)

TRAFFIC CONTROL DEVICES

REQUIREMENTS.

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD

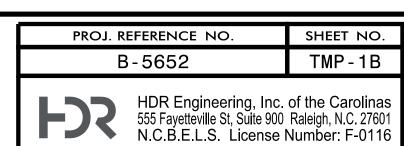
US

- LINES.

MISCELLANEOUS

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

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R) 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.

S) 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.

POSTED SPEED LIMIT	MINIMUM OFFSET
O R LESS	15 FT
15 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

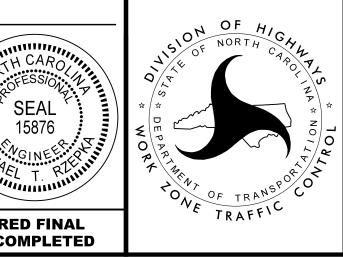
T) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII. AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135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

NAME	MARKING	MARKER
17	PAINT	TEMPORARY RAISED

W) 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.

X) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING

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



## TRANSPORTATION **OPERATIONS** PLAN

<ul> <li>BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORIN LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.</li> <li>DESIGN TEMPORARY SHORING FROM STATION -L. 19+86±, 23 FT RT TO STATION -L- 0-02±, 23 FT RT, FOR THE FOLLOWING ASSUME SOIL PARAMETERS AND GROUNDWATER ELEVATION:</li> <li>UNIT WEIGHT (?) = 120 PCF FRICTION ANGLE () = 30 DEGREES COHESION (c) = 0 PSF GROUNDWATER ELEVATION = 11.9 FT ±</li> <li>DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 19+86±, 23 FT RT, TO STATION -L- 20+02±, 23 FT RT.</li> <li>AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FROM STATION -L- 19+86±, 23 FT RT, TO STATION -L- 20+02±, 23 FT RT.</li> <li>AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FROM STATION -L- 19+86±, 23 FT RT, TO STATION -L- 19+86±, 23 FT RT, TO STATION -L- 19+86±, 23 FT RT, TO STATION -L- 20+02±, 23 FT RT, TO STATION -L- 19+86±, 23 FT RT, TO STATION -L- 20+02±, 23 FT RT MAY NOT PENETRAT BELOW ELEVATION NO. 18</li> <li>SHORING LOCATION NO. 1E</li> <li>FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORAF SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.</li> <li>BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORIN LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.</li> <li>DESIGN TEMPORARY SHORING FROM STATION -L- 21+12±, 23 FT RT TO STATION -L- 21+42±, 23 FT RT FOR THE FOLLOWING ASSUME SOIL PARAMETERS AND GROUNDWATER ELEVATION :</li> </ul>
<ul> <li>TO STATION -L- 20+02±, 23 FT RT, FOR THE FOLLOWING ASSUME SOIL PARAMETERS AND GROUNDWATER ELEVATION:</li> <li>UNIT WEIGHT (?) = 120 PCF FRICTION ANGLE (#) = 30 DEGREES COHESION (c) = 0 PSF GROUNDWATER ELEVATION = 11.9 FT ±</li> <li>DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FRO STATION 19+86±, 23 FT RT, TO STATION -L- 20+02±, 23 FT RT.</li> <li>AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FO TEMPORARY SHORING FROM STATION -L- 19+86±, 23 FT RT, T STATION -L- 20+02±, 23 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.</li> <li>DRIVEN PILLING FOR TEMPORARY SHORING FROM STATION -L- 19+86± 23 FT RT, TO STATION -L- 20+02±, 23 FT RT MAY NOT PENETRAT BELOW ELEVATION -23.4 FT DUE TO WEATHERED OR HARD ROCK.</li> <li>SHORING LOCATION NO. 1B FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORAR SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.</li> <li>BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORIN LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.</li> <li>DESIGN TEMPORARY SHORING FROM STATION -L- 21+12±, 23 FT RT TO STATION -L- 21+42±, 23 FT RT, FOR THE FOLLOWING ASSUME</li> </ul>
<ul> <li>FRICTION ANGLE () = 30 DEGREES COHESION (c) = 0 PSF GROUNDWATER ELEVATION = 11.9 FT ±</li> <li>DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FRO STATION 19+86±, 23 FT RT, TO STATION -L- 20+02±, 23 FT RT.</li> <li>AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FO TEMPORARY SHORING FROM STATION -L- 19+86±, 23 FT RT, T STATION -L- 20+02±, 23 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.</li> <li>DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L- 19+86± 23 FT RT, TO STATION -L- 20+02±, 23 FT RT MAY NOT PENETRAT BELOW ELEVATION -23.4 FT DUE TO WEATHERED OR HARD ROCK.</li> <li>SHORING LOCATION NO. 1B</li> <li>FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORAR SHORING, SEE PLANS AND TEMPORARY SHORING DESIGN OR CONSTRUCTION SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORIN LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.</li> <li>DESIGN TEMPORARY SHORING FROM STATION -L- 21+12±, 23 FT RT TO STATION -L- 21+42±, 23 FT RT, FOR THE FOLLOWING ASSUME</li> </ul>
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TO STATION -L- 21+42±, 23 FT RT, FOR THE FOLLOWING ASSUME
UNIT WEIGHT $(\gamma) = 120$ PCF FRICTION ANGLE ( $\phi$ ) = 30 DEGREES COHESION (c) = 0 PSF GROUNDWATER ELEVATION = 16.5 FT ±
DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FRO STATION -L- 21+12±, 23 FT RT, TO STATION -L- 21+42±, 23 FT RT.
AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FO TEMPORARY SHORING FROM STATION -L- 21+12±, 23 FT RT, STATION -L- 21+42±, 23 FT RT. SEE GEOTECHNICAL STANDAR DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.
DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L- 21+12: 23 FT RT, TO STATION -L- 21+42±, 23 FT RT MAY NOT PENETRA- BELOW ELEVATION -25.5 FT DUE TO WEATHERED OR HARD ROCK.

## TEMPORARY SHORING DATA

## SHORING LOCATION NO. 2A

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

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

DESIGN TEMPORARY SHORING FROM STATION -L- 19+86±, 28 FT RT, TO STATION -L- 20+21±, 28 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

> UNIT WEIGHT  $(\gamma) = 120$  PCF FRICTION ANGLE ( $\phi$ ) = 30 DEGREES COHESION (c) = 0 PSF GROUNDWATER ELEVATION = 11.9 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 19+86±, 28 FT RT, TO STATION -L- 20+21±, 28 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 19+86±, 28 FT RT, TO STATION -L- 20+21±, 28 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

## SHORING LOCATION NO. 2B

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

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

DESIGN TEMPORARY SHORING FROM STATION -L- 20+91±, 28 FT RT, TO STATION -L- 21+42±, 28 FT RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

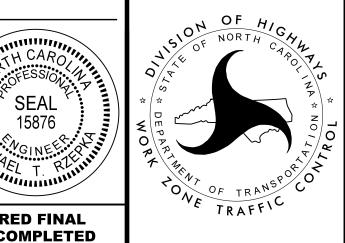
> UNIT WEIGHT  $(\gamma) = 120$  PCF FRICTION ANGLE  $(\phi) = 30$  DEGREES COHESION (c) = 0 PSF GROUNDWATER ELEVATION = 16.5 FT ±

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 20+91±, 28 FT RT, TO STATION -L- 21+42±, 28 FT RT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 20+91±, 28 FT RT, TO STATION -L- 21+42±, 28 FT RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

APPROVED: <u>Michael T. Rzepka</u>				
DATE: 10/31/2022				
SEAL				
DOCUMENT NOT CONSIDER UNLESS ALL SIGNATURES C				



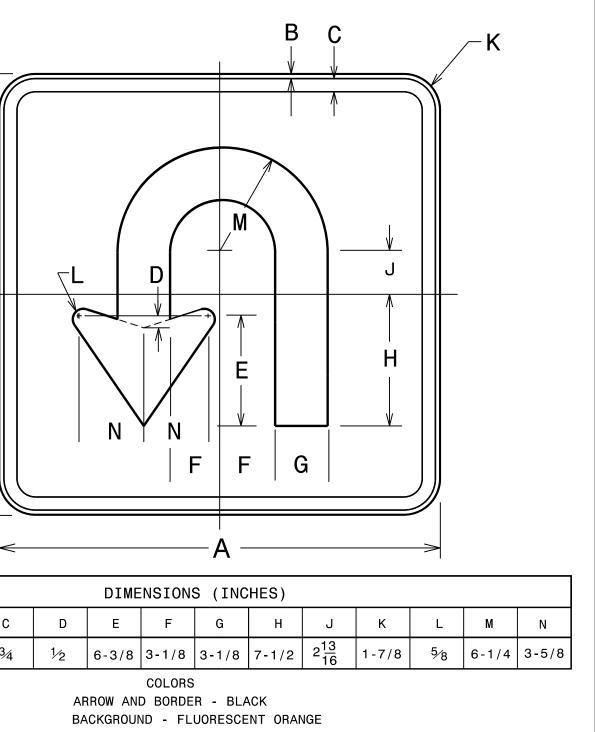


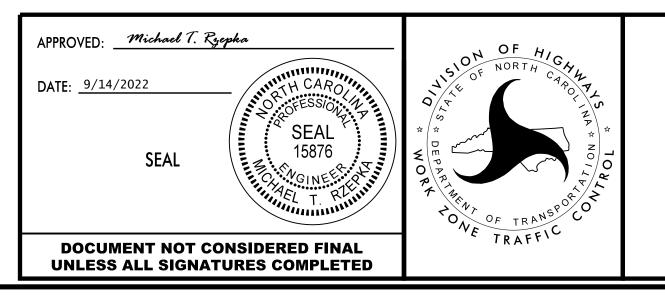
TEMPORARY SHORING DATA

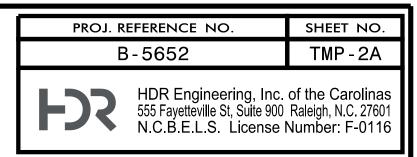
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt	ang_50.p	) †	PENTABLE: NCDOT_tcp.tbl
USER: CHARNDEN	DATE:	DATE: 9/14/2022	TIME: 10:37:28 AM
FILE: pw:\\pwhdruseas01:HDR_US_East_01\Documents\5705\10127505\6.0_CAD_BIM\6.	S_East_	01\Documents	\5705\10127505\6.0_CAD_BIM\6.

affic\Tr 52\Tr 03\B-5 TIME: 10:37:28 AM its\5705\10127505\6.0\_CAD\_BIM\6.2\_WIP\ DATE: 9/14/2022 DR\_US\_East\_01\Docume 01 ....UE w:\\pwh

SI	GN NUMBEF TYPE QUANTITY	: E		
	SIGN	A	В	С
	SPECIAL	24	1⁄2	3⁄4







SPECIAL SIGN DESIGN

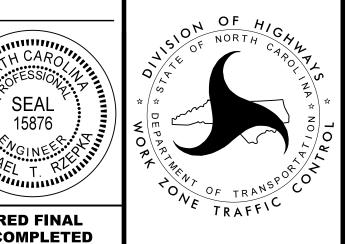
NOTES: BEFORE BEGINNING ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL IN ALL ADVANCE WARNING SIGNS AND TRAFFIC CONTROL DEVICES. FIELD VERIFY LOCATIONS WITH THE RESIDENT ENGINEER PRIOR TO INSTALLATION. MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES DURING THE OF THE CONTRACT, UNLESS OTHERWISE NOTED IN THE PHASING PLANS OR DIREC BY THE RESIDENT ENGINEER. COMPLETE ANY PROPOSED OR TEMPORARY WIDENING IN SUCH A MANNER THAT NO PONDING OF WATER WILL OCCUR WITHIN THE TRAVEL LANE. WHEN USING LANE CLOSURES (RSD 1101.02), RETURN TRAFFIC TO EXISTING AN TEMPORARY TRAFFIC PATTERN UPON ACTIVITIES COMPLETION, UNLESS OTHERWIS NOTED IN THE PHASING PLANS. WHEN PHASING STATES TO USE LANE CLOSURES, REFER TO THE FOLLOWING FOR EXISTING AND PROPOSED ROADS: -ALL MULTI-LANE FACILITIES POSTED < 60 MPH SEE RSD 1101.02 SHEET 3 OF COMPLETE PAVING UP TO, BUT NOT INCLUDING, THE FINAL LAYER OF SURFACE COURSE UNTIL STATED TO PLACE FINAL LAYER IN THE PHASING PLANS. WHEN WEDGING OVER EXISTING PAVEMENT, WEDGE TO PROPOSED ELEVATION (LES FINAL LAYER OF SURFACE COURSE), OR WEDGE AS NEEDED TO MAINTAIN TRAFF MAINTAIN POSITIVE DRAINAGE AND MAINTAIN A MAXIMUM 0.04 ROLLOVER IN BO EXISTING AND/OR TEMPORARY TRAVEL LANES. REPLACE MARKINGS AND RETURN TRAFFIC TO THE CURRENT TRAFFIC PATTERN A END OF EACH WORK PERIOD UNLESS OTHERWISE NOTED IN THE PHASING OR DIRE BY THE ENGINEER. FOR ALL SHOULDER CLOSURES, SEE RSD 1101.04. WHEN PORTABLE CONCRETE BARRIER (PCB) IS PRESENT ON SHOULDERS, PLACE SHOULDER CLOSURE SIGNS & DEVICES IN ADVANCE OF PCB. PHASE 1 (SEE TMP-4 & TMP-5) BEFORE BEGINNING CONSTRUCTION IN STEP 1, INSTALL WORK ZONE ADVANCE WARNING SIGNS IN THE NORTHBOUND AND SOUTHBOUND DIRECTIONS OF US 17. BEFORE BEGINNING CONSTRUCTION IN PHASE 1, RECORD EXISTING PAVEMENT MARKING LOCATIONS PRIOR TO REMOVING OR COVERING EXISTING MARKINGS. STEP 1 USING LANE CLOSURES INSTALL PORTABLE CONCRETE BARRIER (PCB) ALONG OUTSIDE SHOULDER OF NORTHBOUND LANES. STEP 2 BEHIND BARRIER AND USING LANE CLOSURES, CONSTRUCT -LDET- INCLUDING TEMPORARY BRIDGE FROM -LDET- STA 11+52± TO STA 27+18±. PHASE 2 (SEE TMP-6 & TMP-7) STEP 1 ΒI USING LANE CLOSURES, COMPLETE THE FOLLOWING: CAD\_ AM 6.0\_ - REMOVE PCB AND PAVE DETOUR TIE TO EXISTING PAVEMENT. :**:** 10**:**37:33 10127505\6 - PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS ALONG -LDET- AND TIE TO EXISTING MARKINGS. PENT, TIME: 705\1 - SHIFT TRAFFIC TO -LDET- ALIGNMENT. s/5 - INSTALL PCB ALONG INSIDE SHOULDER OF -LDET- ALIGNMENT AS SHOWN. STEP 2 /14/2022 \\Docume BEHIND BARRIER, REMOVE EXISTING STRUCTURE AND CONSTRUCT PROPOSED NORTHBOUND STRUCTURE AND ROADWAY APPROACHES FROM -L\_RT- STA 17+00± TO STA 22+00±. , 9, 01 DATE: \_East\_ DR 5 LOT ISER: ILE:

# PHASING

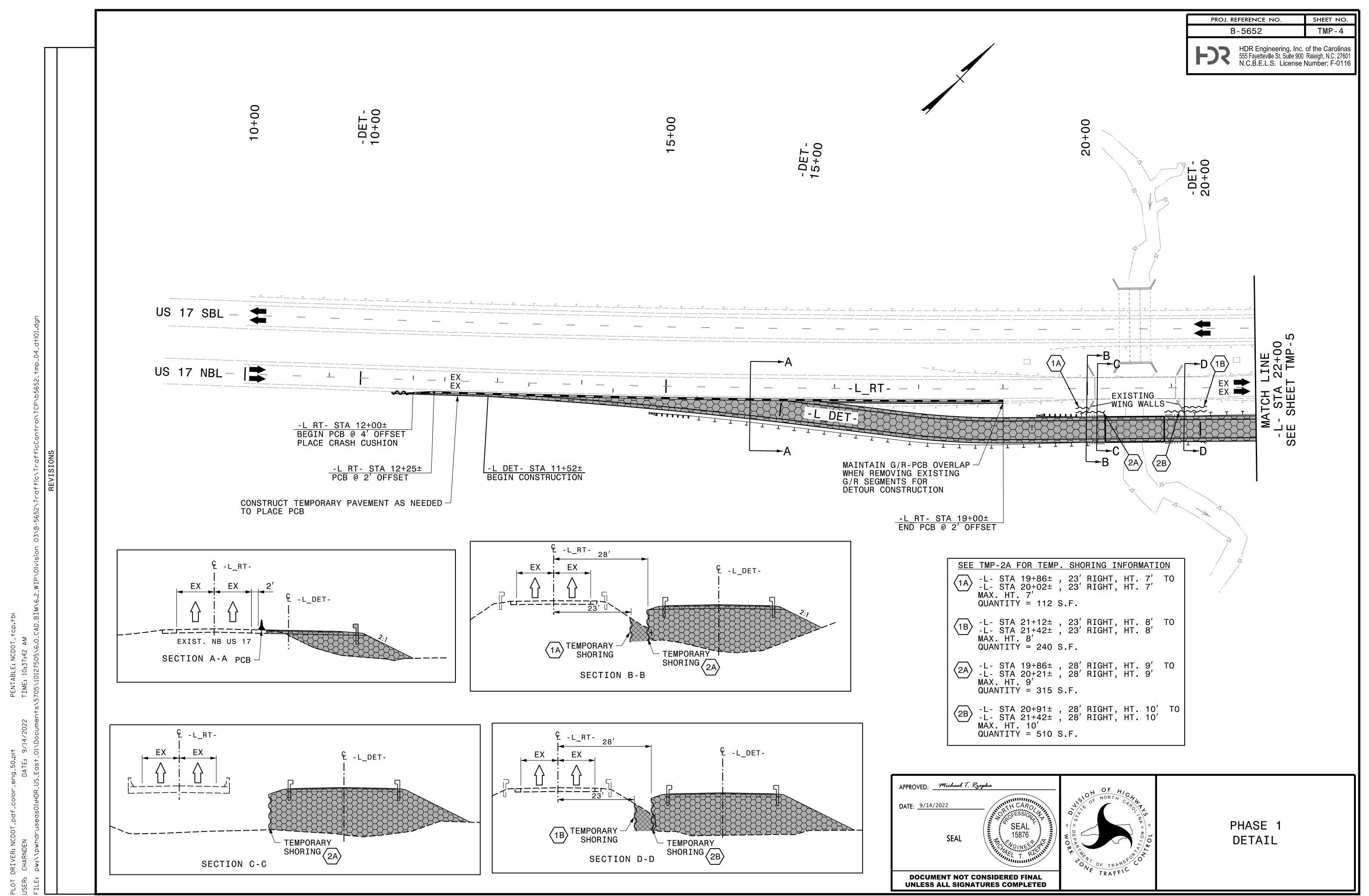
INSTALL	PHASE 3 (SEE TMP-8 & TMP-9)				
HE LIFE	STEP 1				
ECTED	- REMOVE PHASE 2 PCB CONFLICTING WITH PHASE 3 TRAFFIC PATTERN.				
)	- PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS ALONG -L_RT- AND TIE TO EXISTING MARKINGS.				
AND/OR ISE					
R ALL	- INSTALL PCB ALONG OUTSIDE SHOULDER OF -L_RT- ALIGNMENT AS SHOWN.				
	STEP 2				
DF 14	BEHIND BARRIER AND GUARDRAIL, AND USING LANE CLOSURES, REMOVE TEMPORARY BRIDGE AND -LDET- ALIGNMENT. COMPLETE CONSTRUCTION OF SHOULDERS AND INSTALLATION OF PROPOSED GUARDRAIL.				
ESS THE	STEP 3				
FIC. BOTH	USING LANE CLOSURES, PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS AND MARKERS (USING PREVIOUSLY RECORDED LOCATIONS).				
AT THE RECTED	REMOVE REMAINING TRAFFIC CONTROL DEVICES.				

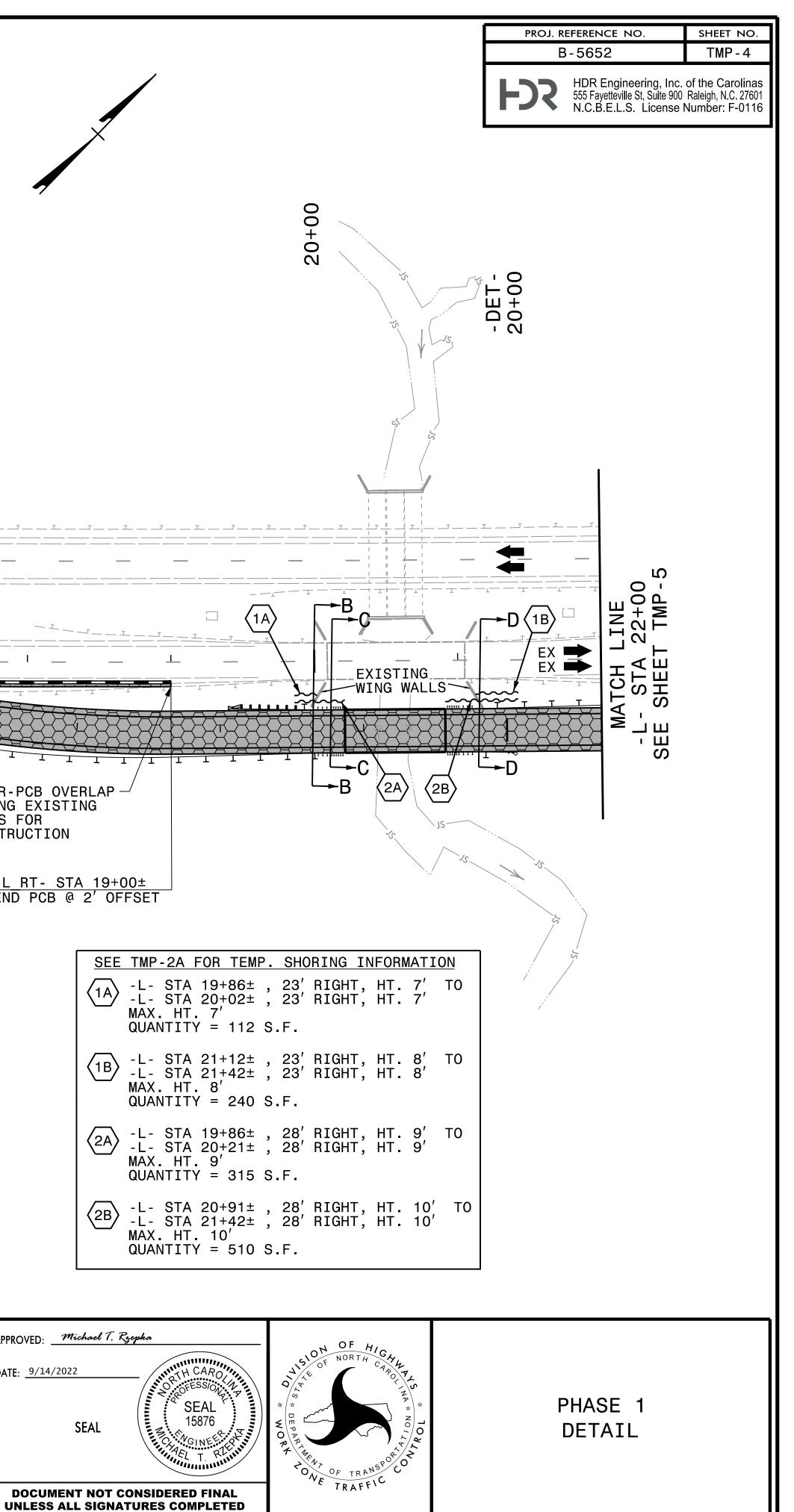
APPROVED:	Michael T. Rz	epka
DATE: 9/14/2	022	
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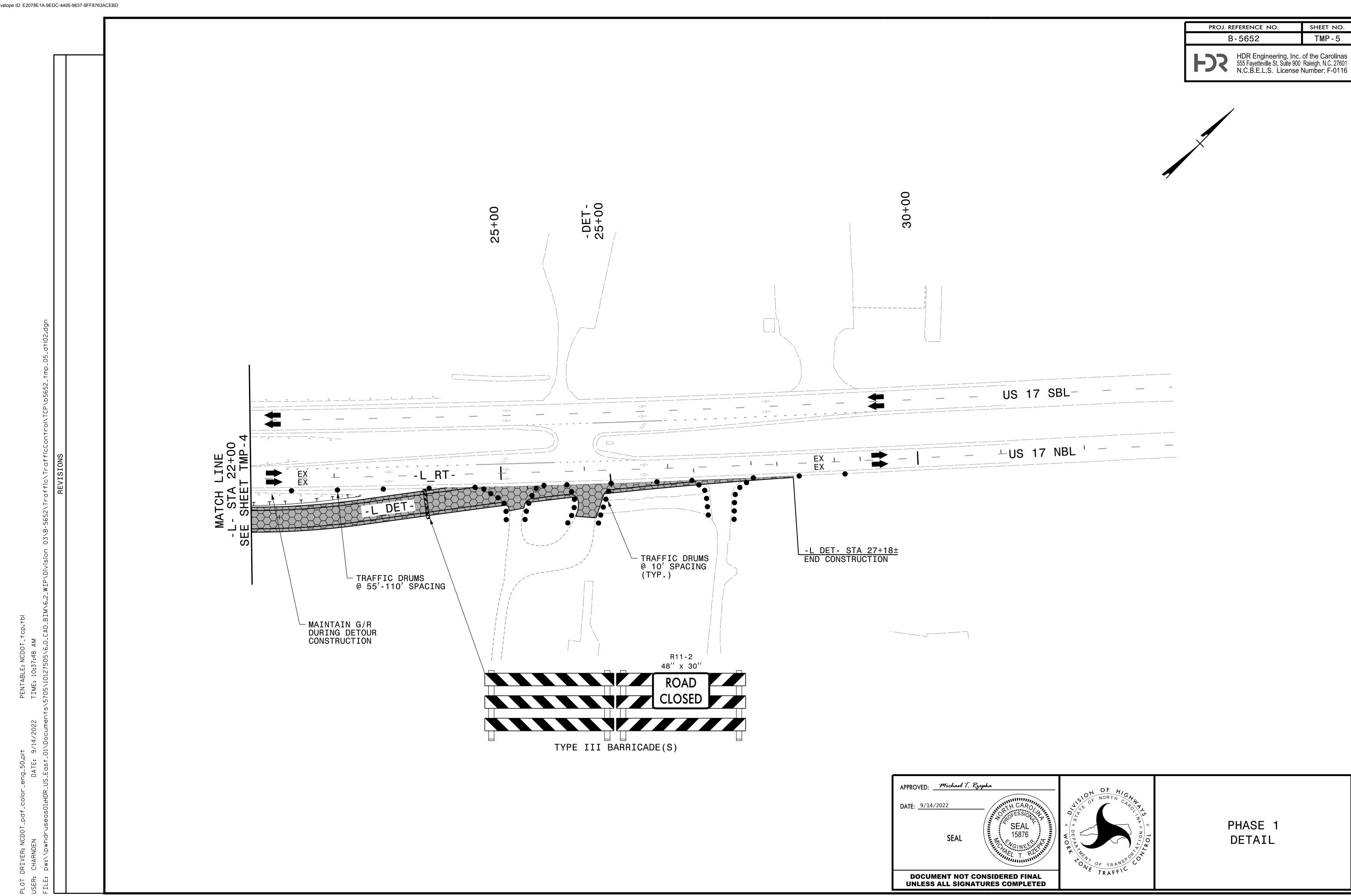
## TEMPORARY TRAFFIC CONTROL PHASING





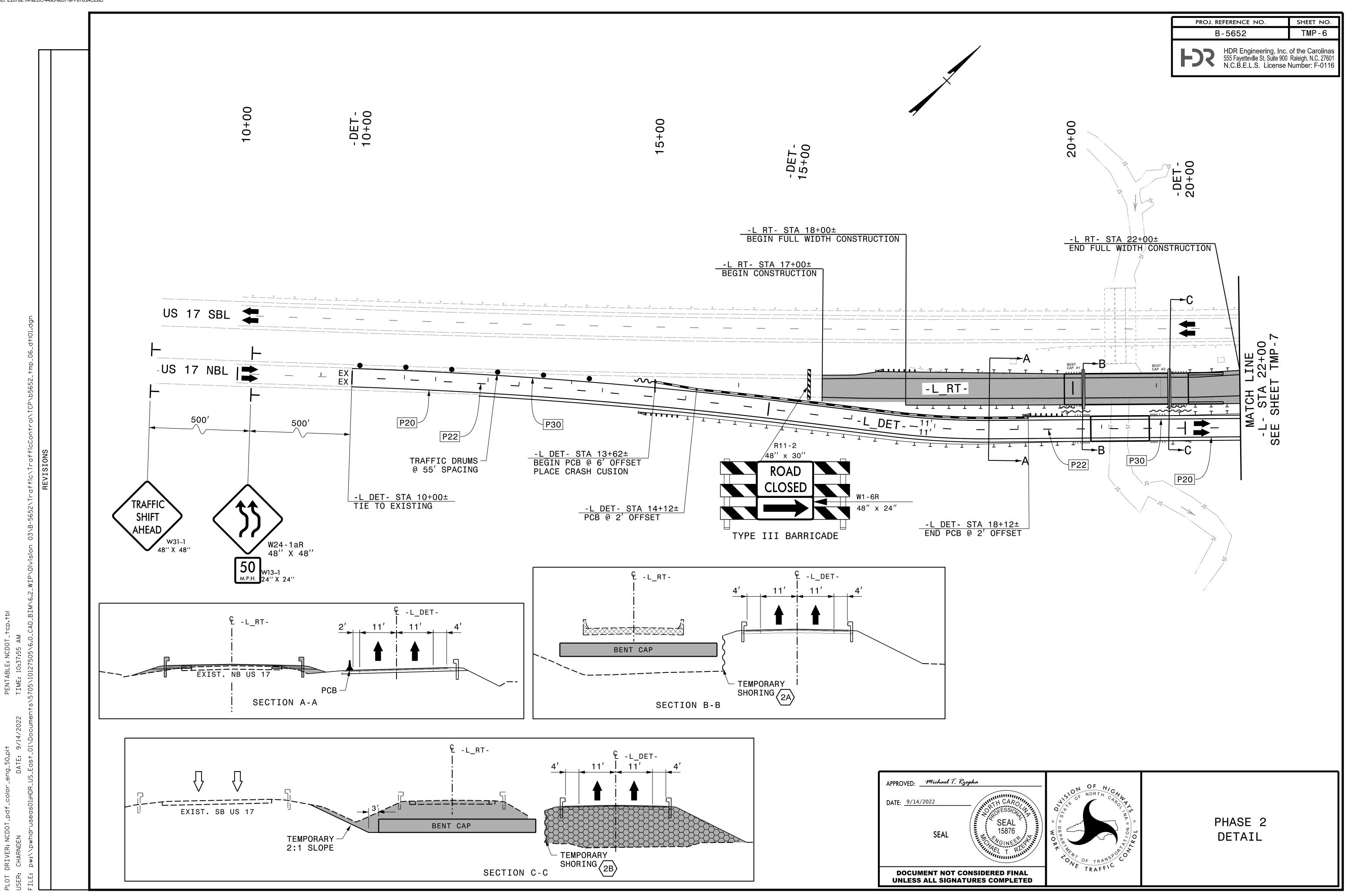


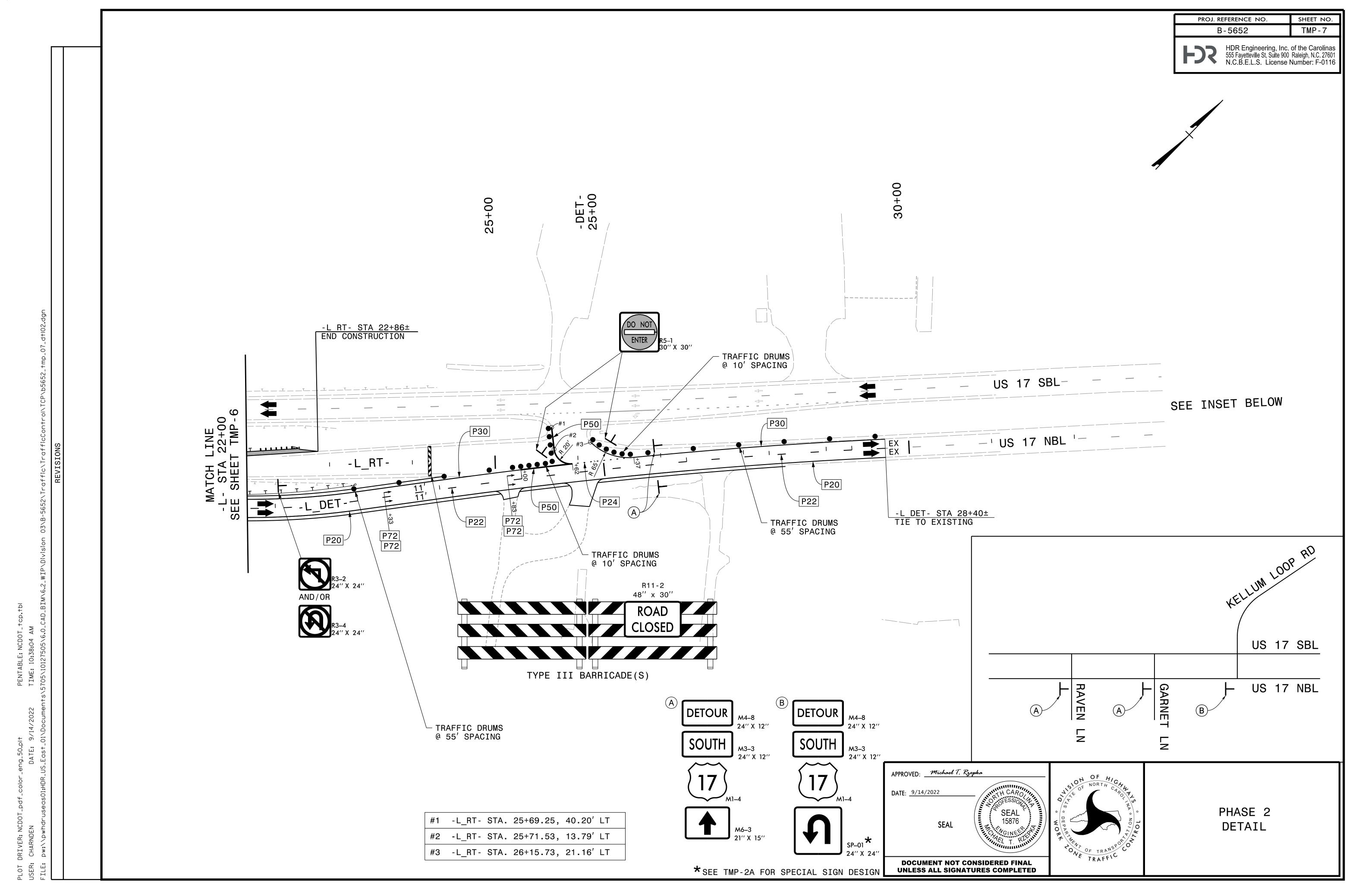


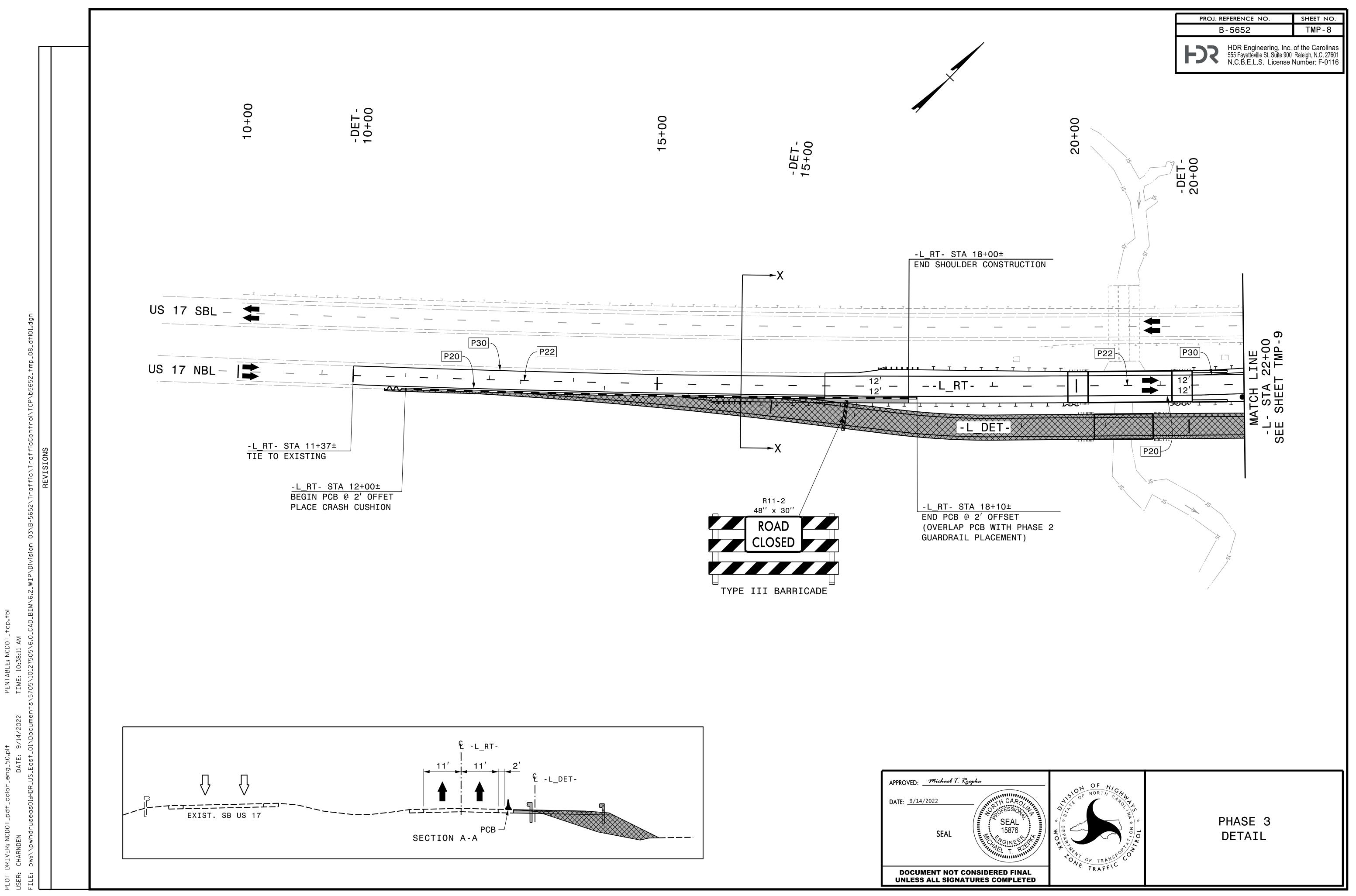


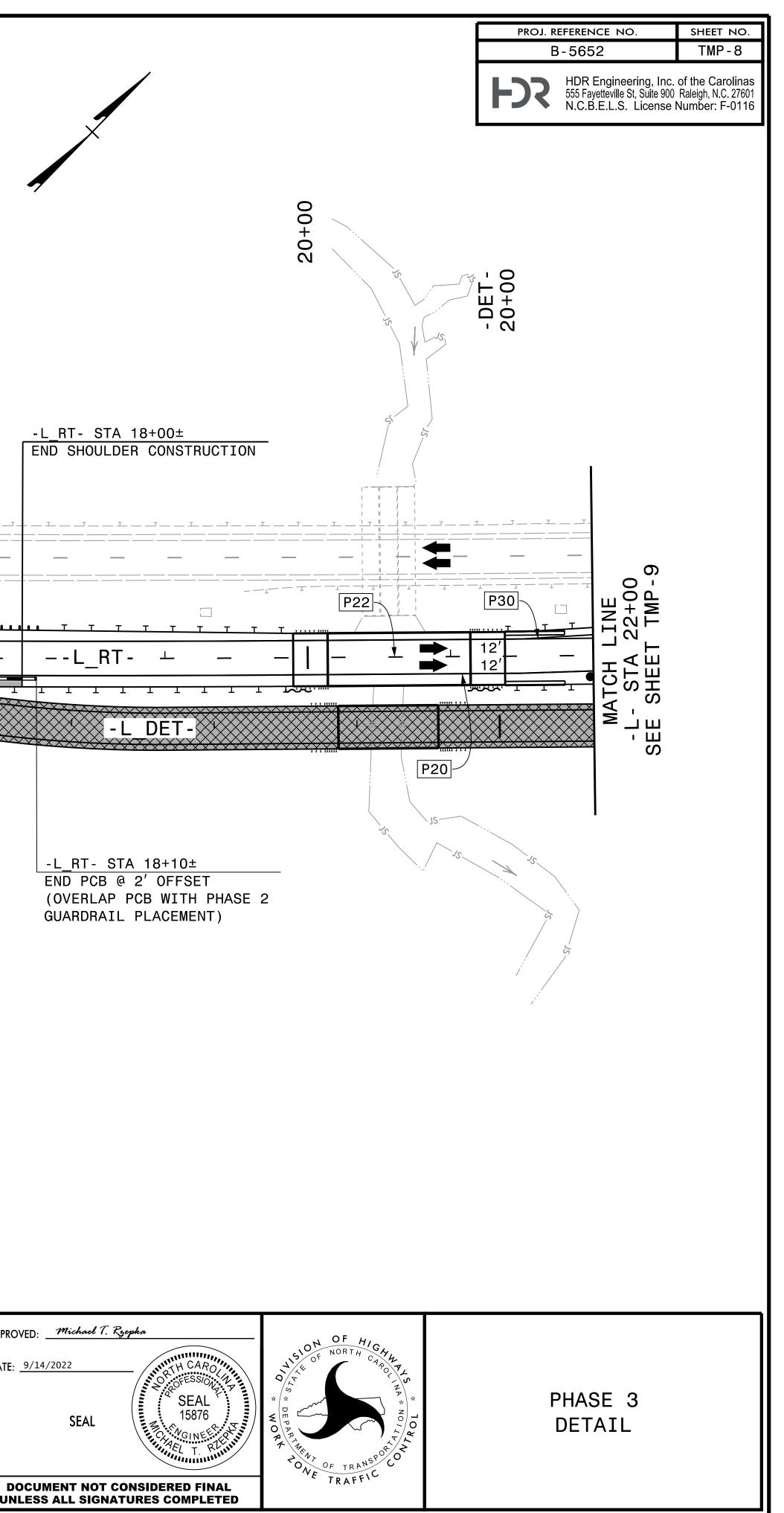
PROJ. R	SHEET NO.		
В	TMP-5		
FSS	HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116		











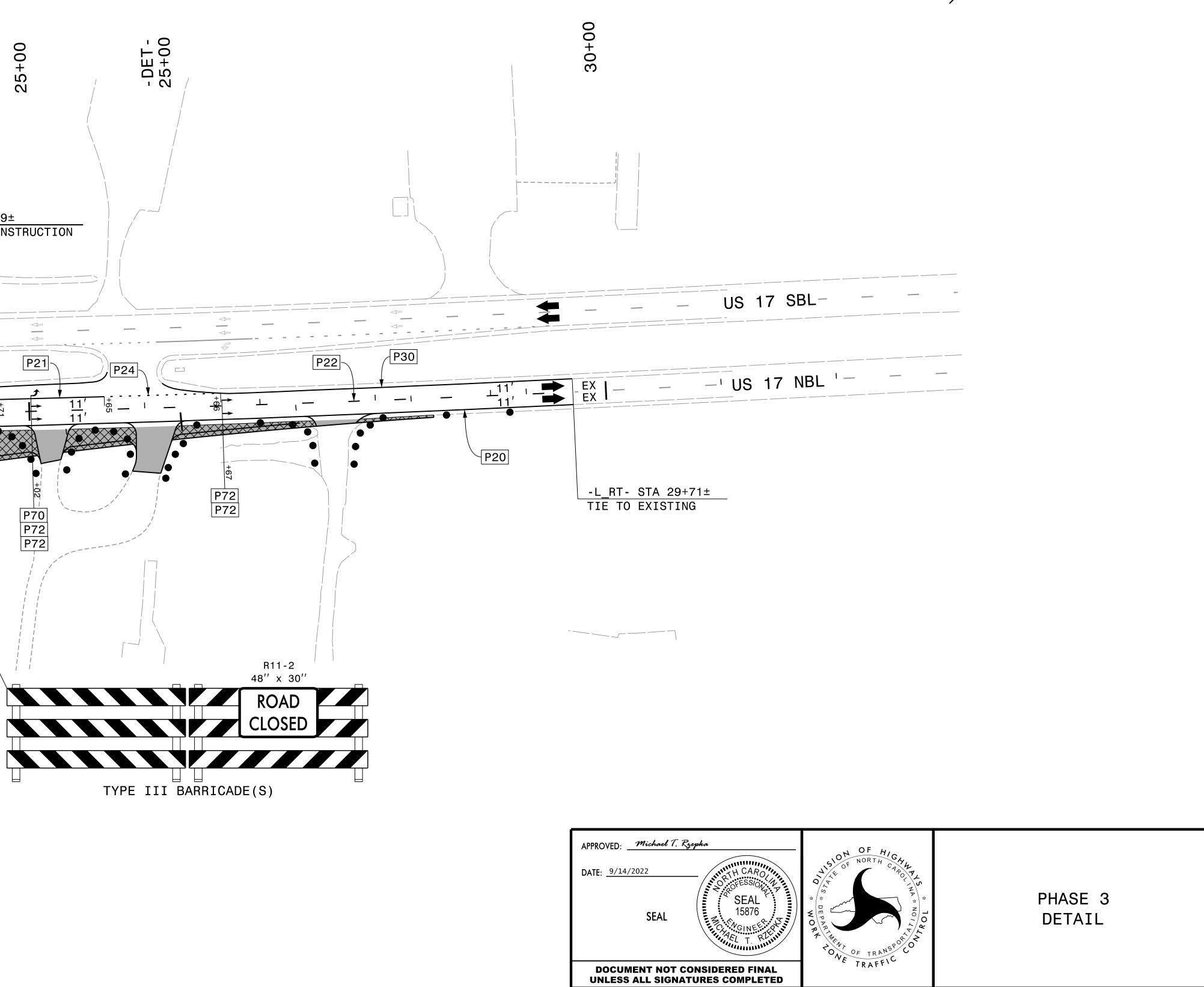




APPROVED:Michael T. Ryepka				
DATE: <u>9/14/2022</u>				
SEAL				
DOCUMENT NOT CONSIDER UNLESS ALL SIGNATURES C				

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_tcp.tbl JSR: CHARNDEN DATE: 9/14/2022 TIME: 10:38:18 AM FILE: pw:\\pwhdruseas01:HDR_US_East_01\Documents\5705\10127505\6.0_CAD_BIM\6.2_WIP\Division 03\B-5652\Traffic	BUISIONS	MATCH -L-ST SEE SHE	-L_RT- STA 22 BEGIN SHOULD 	TCTION <u>RT- STA 23+79+</u> ID SHOULDER CONS P30 - L_RT

\_\_\_\_\_



PROJ. R	SHEET NO.		
В	TMP-9		
FSS	HDR Engineering, Inc. of the Carolina 555 Fayetteville St, Suite 900 Raleigh, N.C. 2760 N.C.B.E.L.S. License Number: F-0110		

