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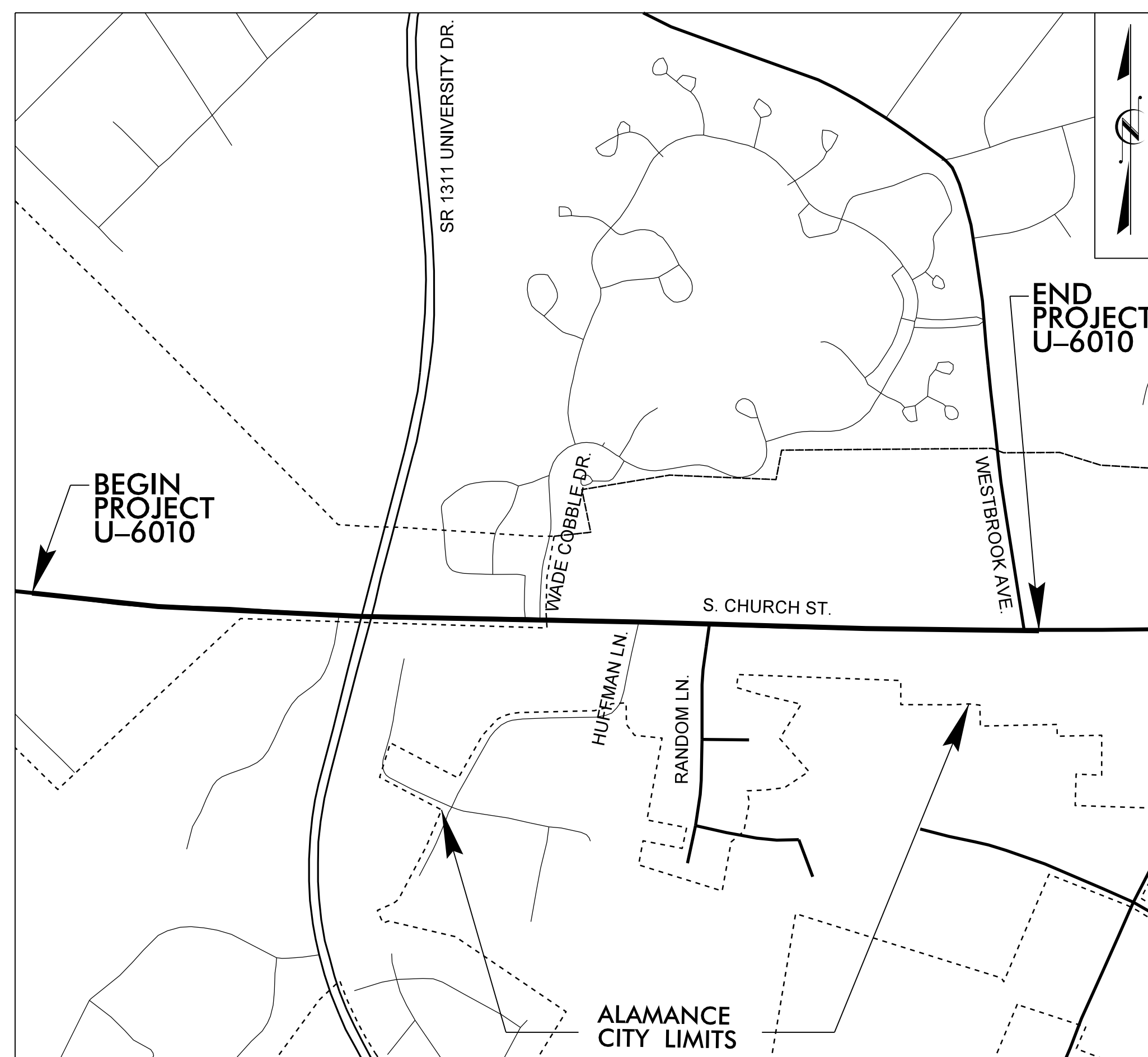
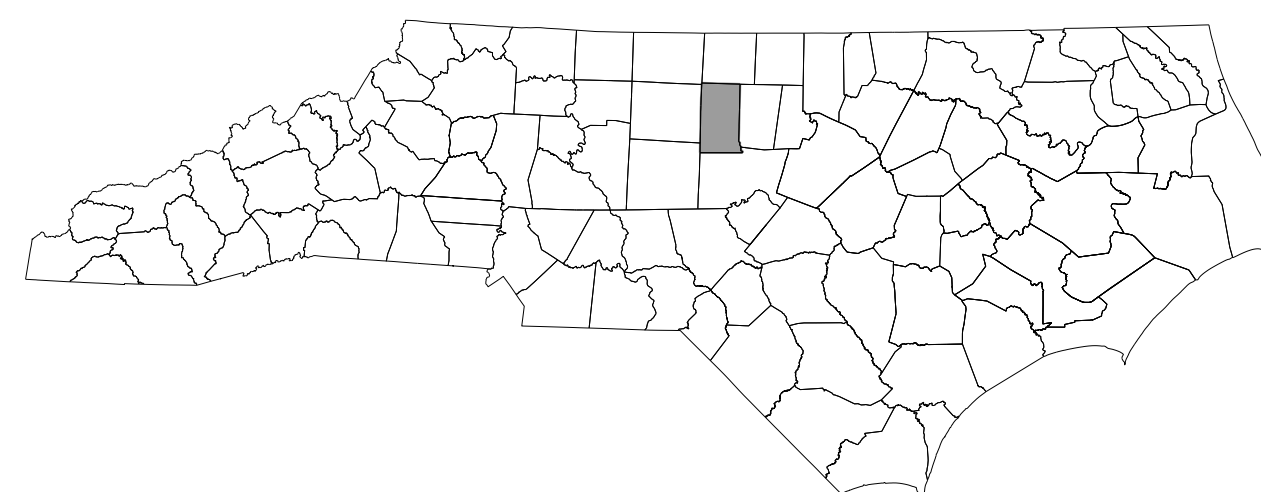
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ALAMANCE COUNTY



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	GENERAL NOTES
TMP-2	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS DETAIL
TMP-2A	TEMPORARY SHORING NOTES
TMP-3	PHASING
TMP-4 THRU TMP-6	PHASE IA DETAIL SHEETS
TMP-7 & TMP-8	PHASE IB DETAIL SHEETS
TMP-9 THRU TMP-11	PHASE II DETAIL SHEETS

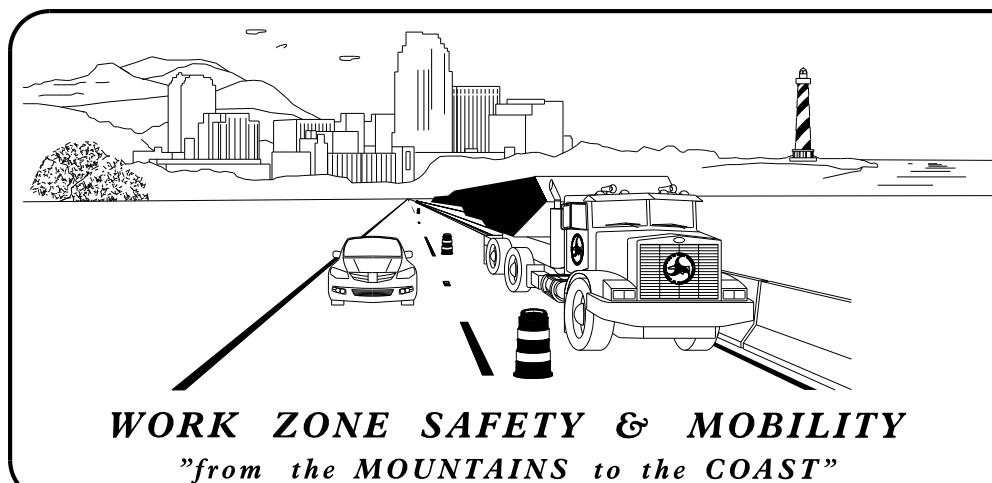
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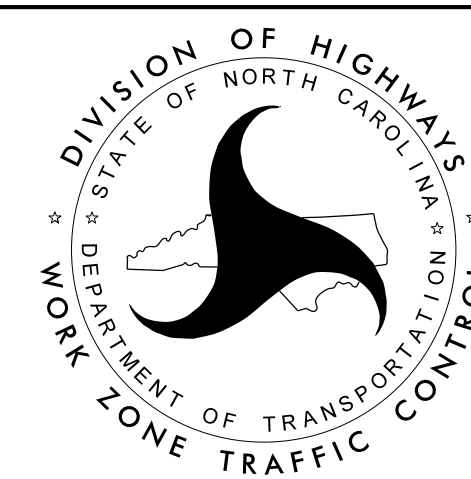
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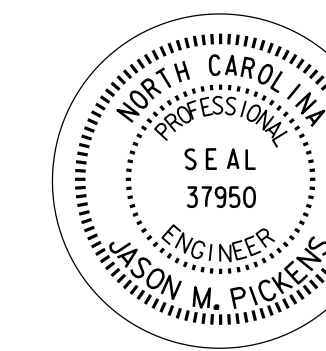
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FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

APPROVED: Jason M. Pickens
DATE: 2/21/2022

SEAL



CONTRACT: C204572 TIP PROJECT: U-6010

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
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1170.01	POSITIVE PROTECTION
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
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING

LEGEND

GENERAL

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

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

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

SIGNALS

- EXISTING

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TEMPORARY PAVEMENT MARKING

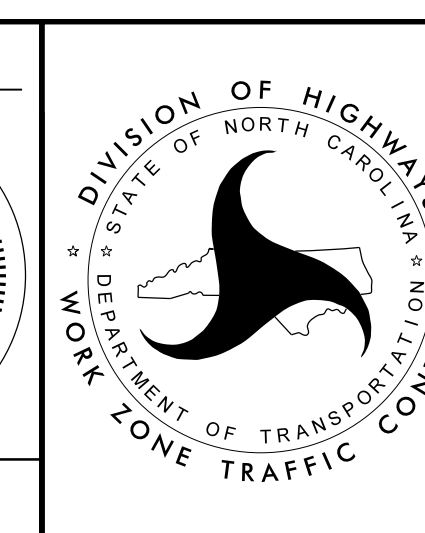
SYMBOL	DESCRIPTION	PAY ITEM
<u>PAVEMENT MARKING LINES</u>		
		PAINT (4")
PA	WHITE EDGELINE	
PC	10 FT WHITE SKIP	
PD	3 FT - 9 FT/SP WHITE MINISKIP	
PE	WHITE SOLID LANE LINE	
PH	YELLOW SINGLE CENTER	
PI	YELLOW DOUBLE CENTER	
		PAINT (8")
PN	WHITE GORELINE	
PP	YELLOW DIAGONAL	
PQ	WHITE CROSSWALK LINE	
		PAINT (24")
P2	WHITE STOPBAR	
<u>PAVEMENT MARKING SYMBOLS</u>		
		PAINT SYMBOL
QA	LEFT TURN ARROW	
QB	RIGHT TURN ARROW	
QC	STRAIGHT ARROW	
QE	COMBO. RIGHT/STRAIGHT ARROW	
QG	COMBO. LEFT/RIGHT/STRAIGHT ARROW	

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PLANS PREPARED BY:
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FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

APPROVED: Jason M. Pickens
DATE: 2/21/2022

SEAL



ROADWAY STANDARD DRAWINGS & LEGEND

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GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
U-6010	TMP-1B

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 CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
S. CHURCH ST. (-L-)	MONDAY - FRIDAY
UNIVERSITY DRIVE (-Y1-)	6:00 AM TO 9:00 AM
WESTBROOK AVENUE (-Y4-)	4:00 PM TO 6:00 PM
	7:00 PM FRIDAY TO 7:00 PM SUNDAY

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

ROAD NAME
S. CHURCH ST. (-L-)
UNIVERSITY DRIVE (-Y1-)
WESTBROOK AVENUE (-Y4-)

HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 6:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 8:00 P.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 6:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 6:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 6:00 P.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 6:00 P.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT 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

- D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING 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.

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

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

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) 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.

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

L) 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.

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

N) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 350 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

O) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

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

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

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

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

P) 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

Q) 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.

R) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	TEMPORARY RAISED

T) 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.

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

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

W) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

X) CONTRACTOR SHALL MAINTAIN SIDEWALK ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).

MISCELLANEOUS

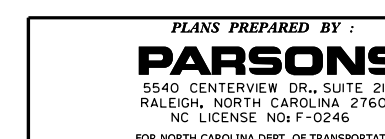
Y) REPLACE MARKINGS AND RETURN TRAFFIC TO THE CURRENT TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

Z) COMPLETE ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE.

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

BB) WEDGING OPERATIONS SHOULD BE DONE IN SUCH A MANNER THAT SMOOTH TRANSITIONS ARE PROVIDED AT THE END OF EACH DAY BETWEEN TRAVEL LANES AND AT TIE-INS WITH EXISTING PAVEMENT.

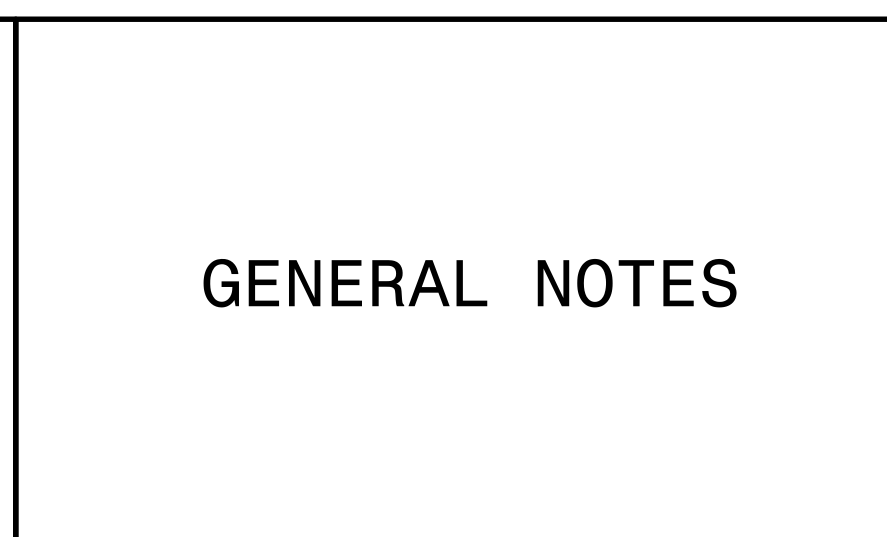
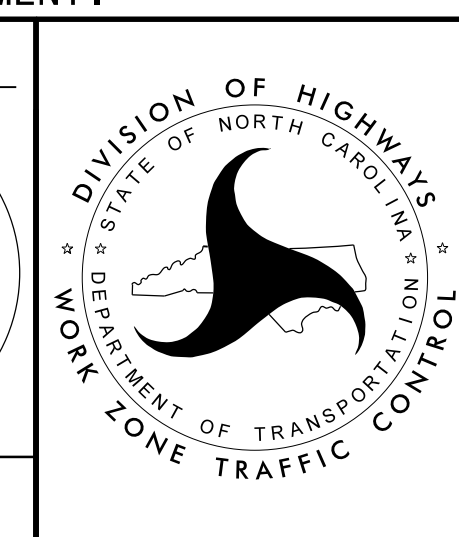
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GENERAL NOTES

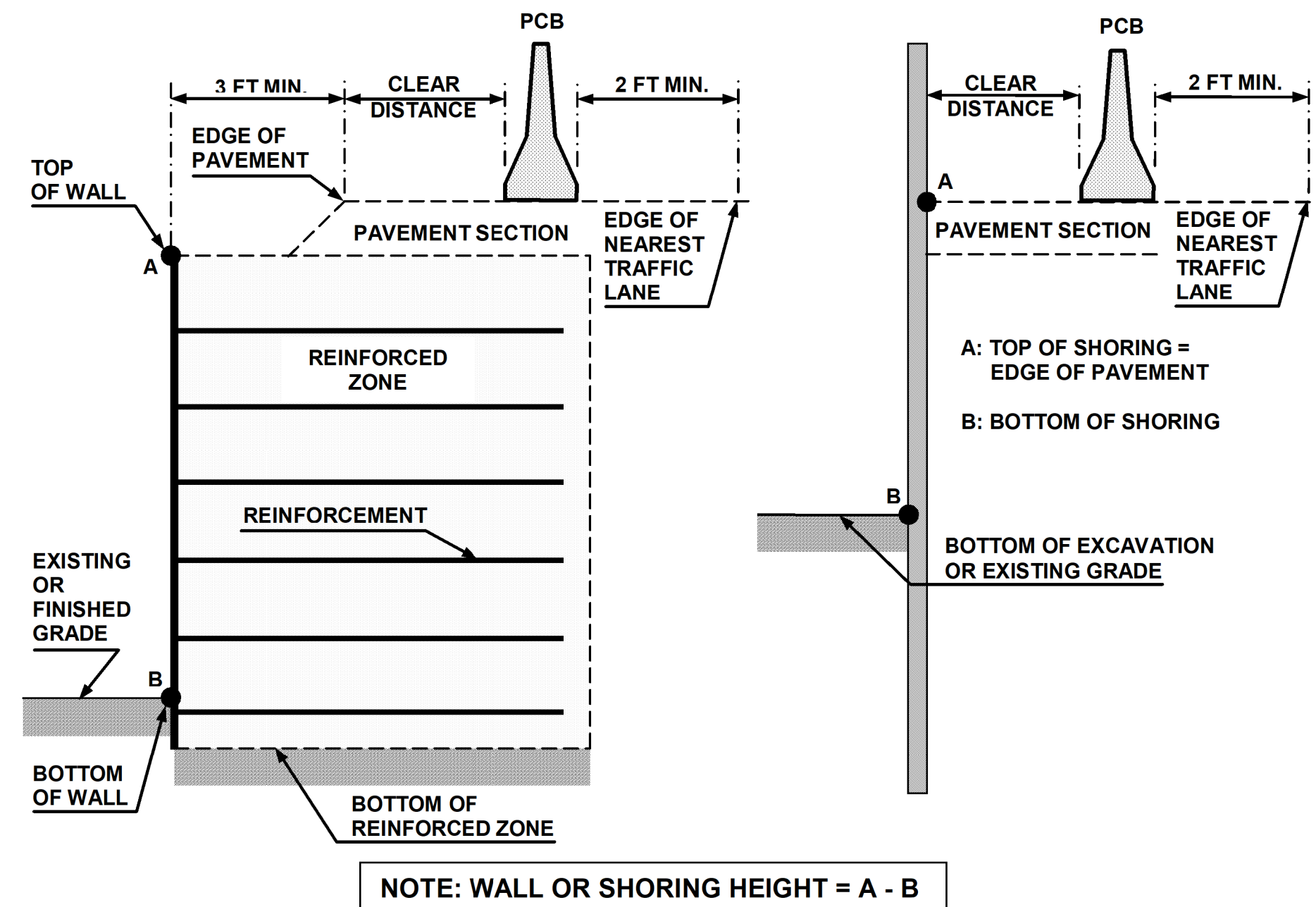


FIGURE A

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.

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	
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds					
		Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds				

* See Figure Below

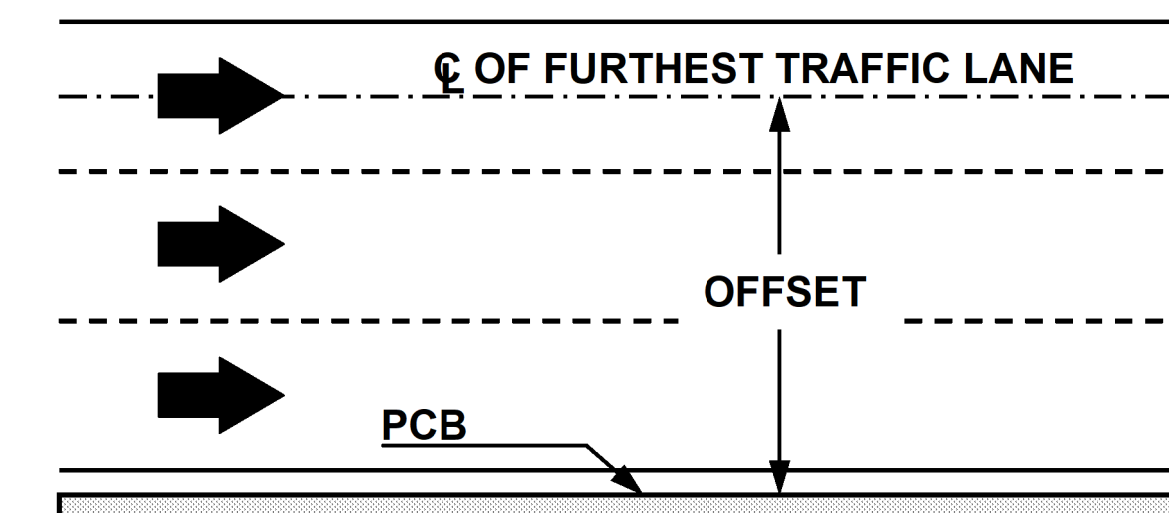


FIGURE B

APPROVED: <i>Jason M. Pickens</i> DATE: 2/21/2022 SEAL DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
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NOTES FOR TEMPORARY SHORING NO. 1

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

DESIGN TEMPORARY SHORING FROM STATION 19+54 +/-, 2' RT OF -L- TO 20+13 +/-, 2' RT OF -L-, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 26$ DEGREES
 COHESION, $c = 250$ PSF
 GROUNDWATER ELEVATION = NWS 605.3 FEET AT CULVERT
 (WATER TABLE AT TIME OF INVESTIGATION WAS 604.0 FEET)

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

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 19+54 +/-, 2' RT OF -L- TO 20+13 +/-, 2' RT OF -L- THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTORS OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 19+54 +/-, 2' RT OF -L- TO 20+13 +/-, 2' RT OF -L-. SEE STANDARD DRAWING 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.

DESIGN TEMPORARY SHORING FROM STATION 19+55 +/-, 5.5' RT OF -L- TO 20+15 +/-, 6.4' RT OF -L-, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 26$ DEGREES
 COHESION, $c = 250$ PSF
 GROUNDWATER ELEVATION = NWS 605.3 FEET AT CULVERT
 (WATER TABLE AT TIME OF INVESTIGATION WAS 604.0 FEET)

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

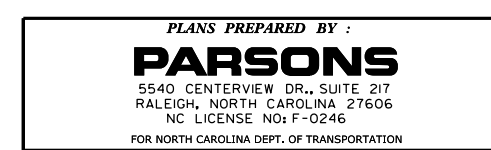
LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 19+55 +/-, 5.5' RT OF -L- TO 20+15 +/-, 6.4' RT OF -L- THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTORS OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 19+55 +/-, 5.5' RT OF -L- TO 19+81 +/-, 5.9' RT OF -L- AND FROM STATION 19+89 +/-, 6.0' RT OF -L- TO 20+15 +/-, 6.4' RT OF -L-. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

STATION 19+81 +/-, 5.9' RT OF -L- TO 19+89 +/-, 6.0' RT OF -L-. SEE STANDARD DRAWING NO. 1801.02 FOR STANDARD TEMPORARY SHORING.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED FROM TERRACON VIA EMAIL ON MARCH 25, 2020 BY PROFESSIONAL ENGINEER, ABNER F. RIGGS, JR., P.E., LICENSE #014155.

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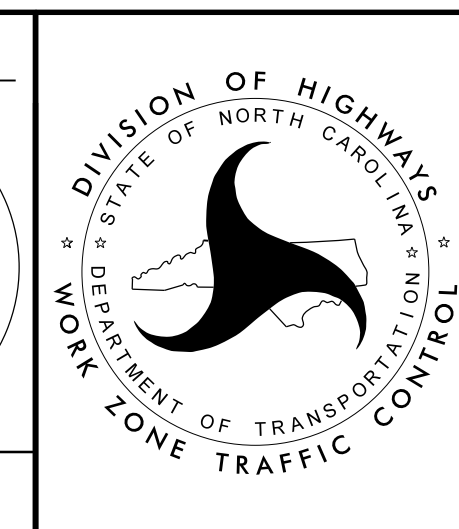


APPROVED: Jason M. Pickens
39061588103484

DATE: 2/21/2022

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TEMPORARY SHORING NOTES

PROJ. REFERENCE NO.	SHEET NO.
U-6010	TMP-3

PHASING

PHASE IA

STEP 1: INSTALL ADVANCE WORK ZONE WARNING SIGNS ACCORDING TO ROADWAY STANDARD DRAWING 1101.01 (SHEETS 2 AND 3 OF 3).

STEP 2: USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1 AND 2 OF 14) AS NEEDED, CONSTRUCT THE FOLLOWING UP TO THE EXISTING AND ELEVATION OF EDGE OF TRAVEL AS SHOWN ON TMP-4 THRU TMP-6:

- * REMOVE EXISTING CONCRETE MEDIAN ON -L- (CHURCH STREET) AND -Y- (UNIVERSITY DRIVE).
- * MILL AND FILL 1.5" PAVEMENT FOR -L- FROM STA. 7+50 +/- TO STA. 27+00 AND FOR -Y- FROM 10+00 +/- TO STA. 21+72 +/-, PLACE PAVEMENT MARKINGS AS SHOWN ON TMP-4 & TMP-5.
- * INSTALL TEMPORARY SHORING AND CONSTRUCT PARTIAL PROPOSED CULVERT AT -L- STA. 19+85 +/- RT.
- * CONSTRUCT PROPOSED CULVERT EXTENSION AT -L- STA. 19+50 +/- RT.
- * CONSTRUCT -L- FROM STA. 7+50 +/- TO STA. 22+30 +/- RT. (PROP. PAVEMENT, C&G AND SIDEWALK)

DO NOT PROCEED TO STEP 3 OR SUBSEQUENT PHASES UNTIL ALL PRIVATE UTILITY RELOCATIONS ARE COMPLETED AND AS DIRECTED BY THE ENGINEER.

STEP 3: CONSTRUCT THE FOLLOWING AREAS:

- * -L- FROM STA. 23+50 +/- TO STA. 54+15 +/- RT. (PROP. PAVEMENT, C&G AND SIDEWALK)
- * -L- FROM STA. 7+50 +/- TO STA. 18+25 +/- LT. (PROP. PAVEMENT, C&G AND SIDEWALK)
- * -L- FROM STA. 21+25 +/- TO STA. 54+15 +/- LT. (PROP. PAVEMENT, C&G AND SIDEWALK)
- * -Y- FROM STA. 10+00 +/- TO STA. 21+72 +/- (PROP. PAVEMENT, C&G AND SIDEWALK)

PHASE IB

STEP 1: USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 2, AND 3 OF 14) AS NEEDED, CONSTRUCT THE FOLLOWING UP TO THE EXISTING EDGE OF TRAVEL AS SHOWN ON TMP-7:

- * MILL AND FILL 1.5" PAVEMENT FOR -L- FROM STA. 13+00 +/- TO STA. 27+00 AND PLACE PAVEMENT MARKINGS AS SHOWN ON TMP-7.
- * INSTALL TEMPORARY SHORING AND COMPLETE PROPOSED CULVERT AT -L- STA. 19+85 +/- LT.
- * COMPLETE PROPOSED CULVERT EXTENSION AT -L- STA. 19+50 +/- LT.
- * -L- FROM STA. 18+25 +/- TO STA. 21+25 +/- LT. (PROP. PAVEMENT, C&G AND SIDEWALK)

PHASE II

STEP 1: USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 2, AND 3 OF 14) AS NEEDED, CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS SHOWN ON TMP-8 THRU TMP-10:

- * WEDGING FOR -L- FROM STA. 17+00 +/- TO STA. 28+00 +/-
- * MEDIAN CONSTRUCTION FOR -L- (CHURCH STREET) AND -Y- (UNIVERSITY DRIVE).

STEP 2: WORKING IN A CONTINUOUS MANNER, USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 2, AND 3 OF 14) AS NEEDED, PLACE 1.5" OF SURFACE COURSE FOR THE FOLLOWING:

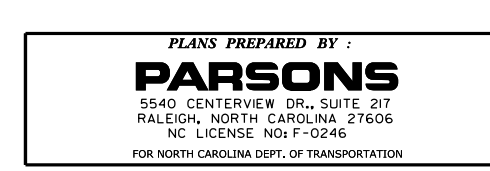
- * -L- FROM STA. 7+50 +/- TO STA. 54+15 +/-
- * -Y- FROM STA. 10+00 +/- TO STA. 21+72 +/-

STEP 3: USING ROADWAY STANDARD DRAWING 1101.02 (SHEETS 1, 2, AND 3 OF 14) AS NEEDED, COMPLETE THE FOLLOWING:

- * PLACE THE FINAL PAVEMENT MARKINGS AND MARKERS AS SHOWN IN THE PAVEMENT MARKING PLANS.

STEP 4: UPON APPROVAL OF ENGINEER, REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNING.

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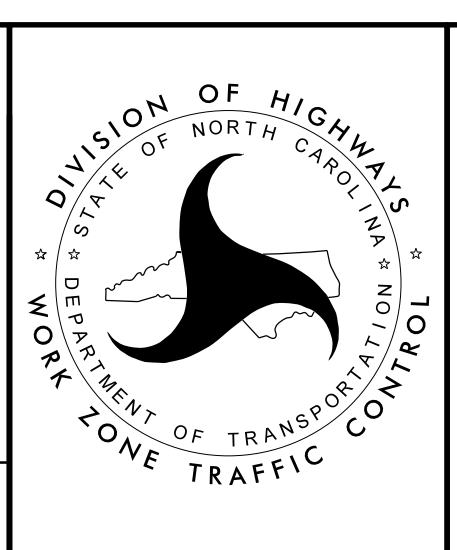


APPROVED: Jason M. Pickens
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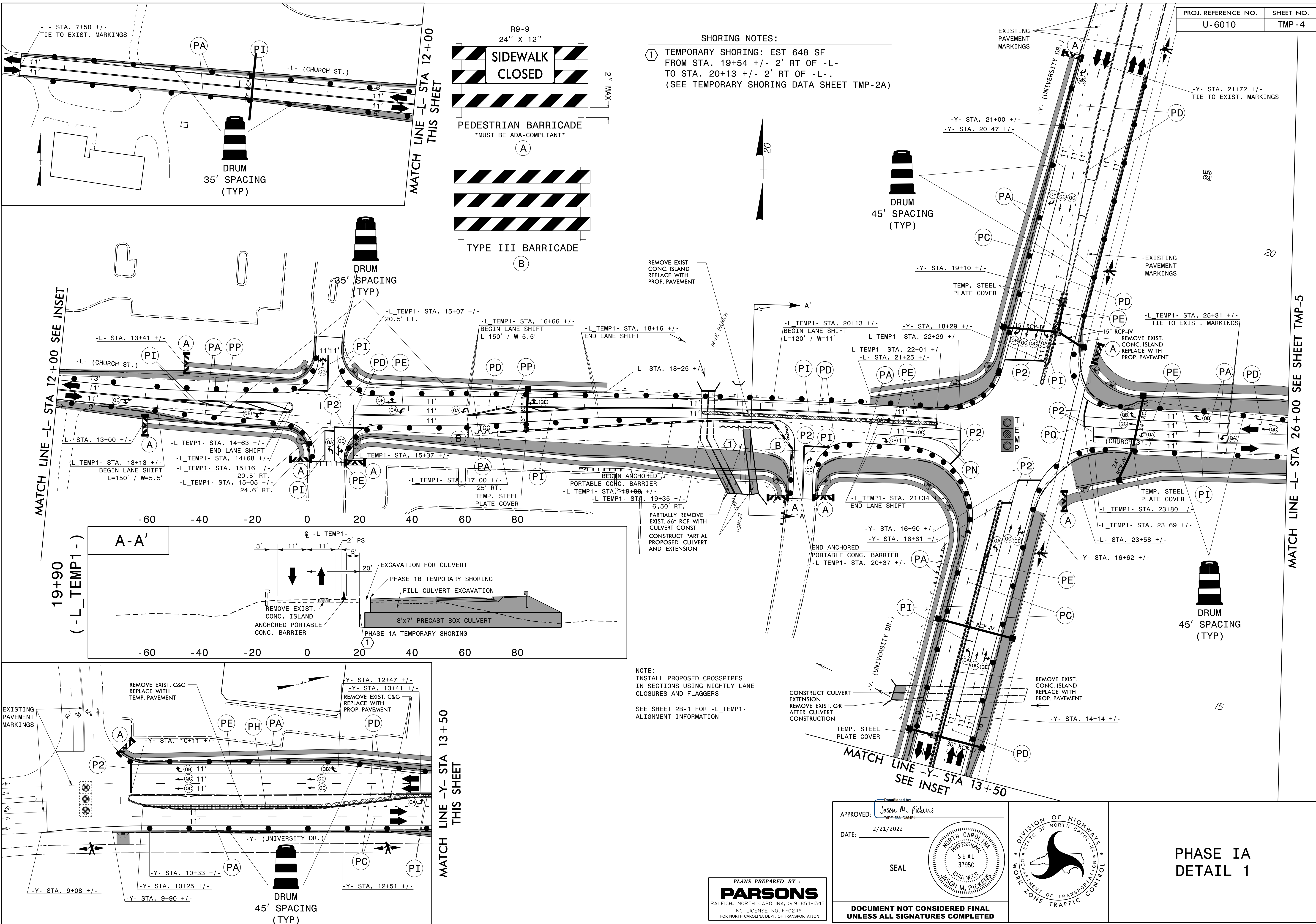
DATE: 2/21/2022

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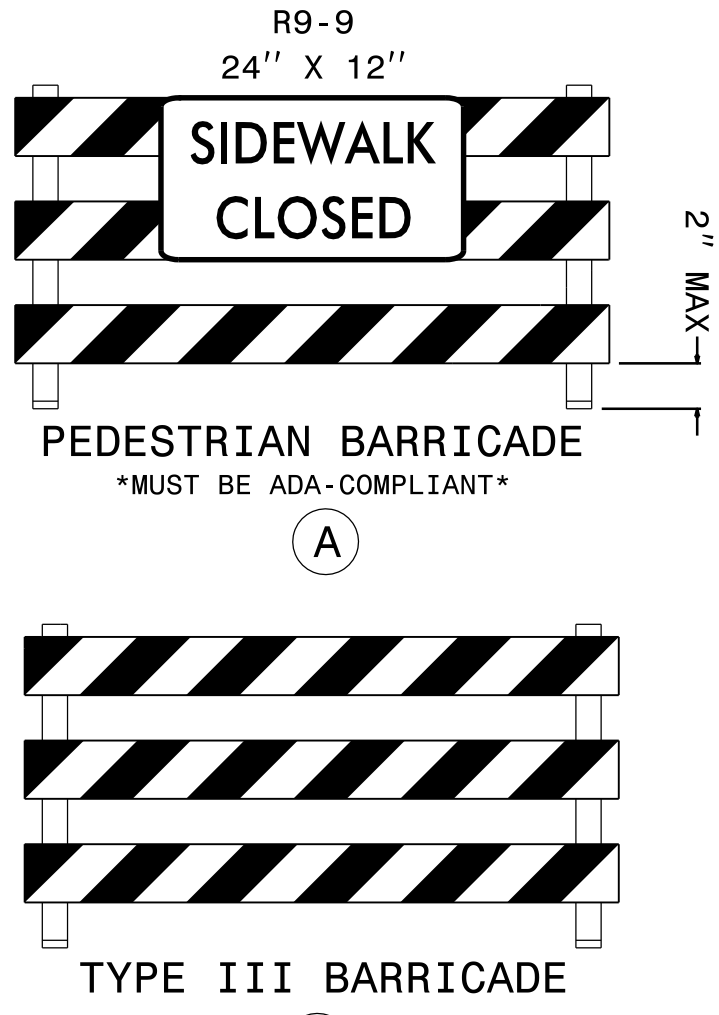
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PHASING

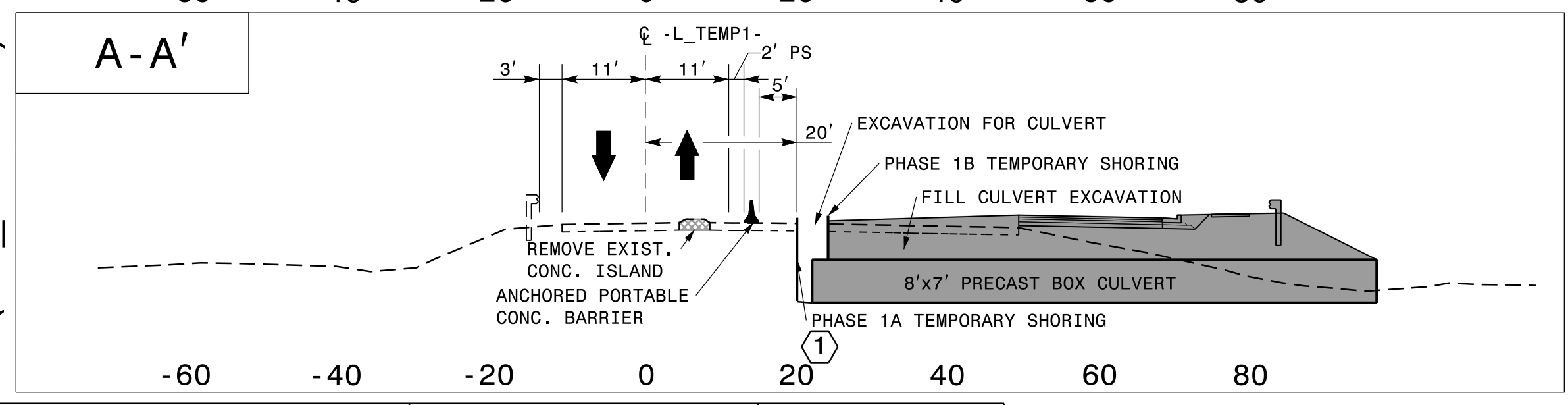


SHORING NOTES:
① TEMPORARY SHORING: EST 648 SF FROM STA. 19+54 +/- 2' RT OF -L- TO STA. 20+13 +/- 2' RT OF -L-. (SEE TEMPORARY SHORING DATA SHEET TMP-2A)

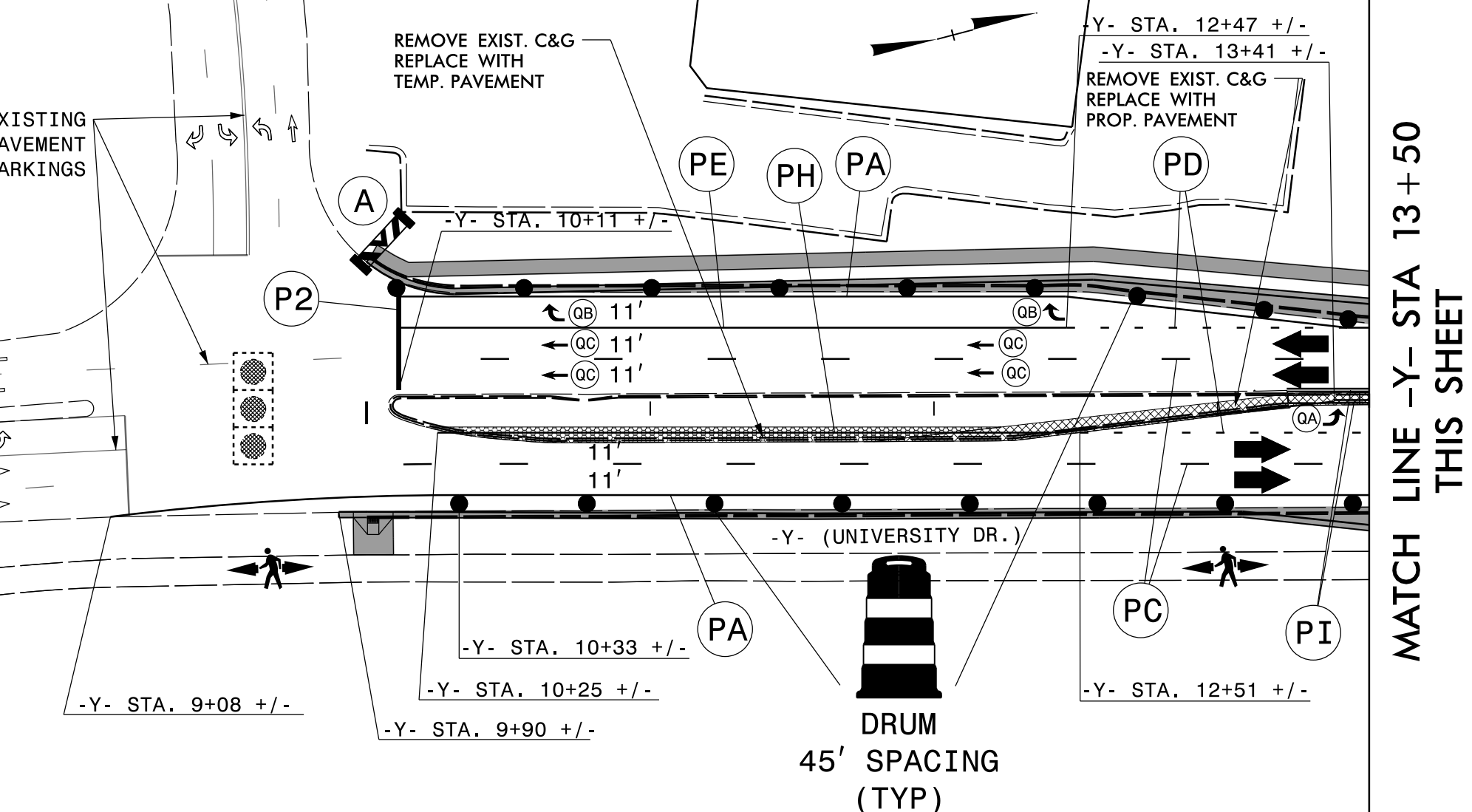


MATCH LINE -L- STA 12+00 SEE INSET
19+90 (-L_TEMP1-)

MATCH LINE -L- STA 26+00 SEE SHEET TMP-5

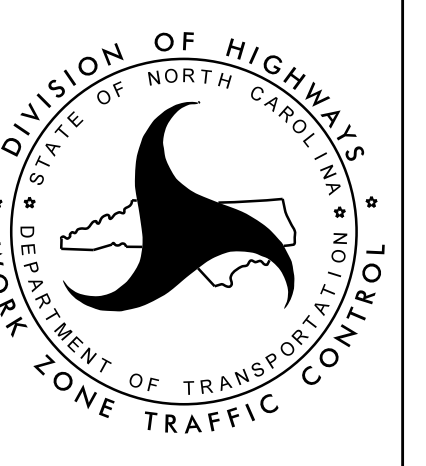


NOTE:
INSTALL PROPOSED CROSSPIPES IN SECTIONS USING NIGHTLY LANE CLOSURES AND FLAGGERS
SEE SHEET 2B-1 FOR -L_TEMP1- ALIGNMENT INFORMATION



MATCH LINE -Y- STA 13+50 SEE INSET

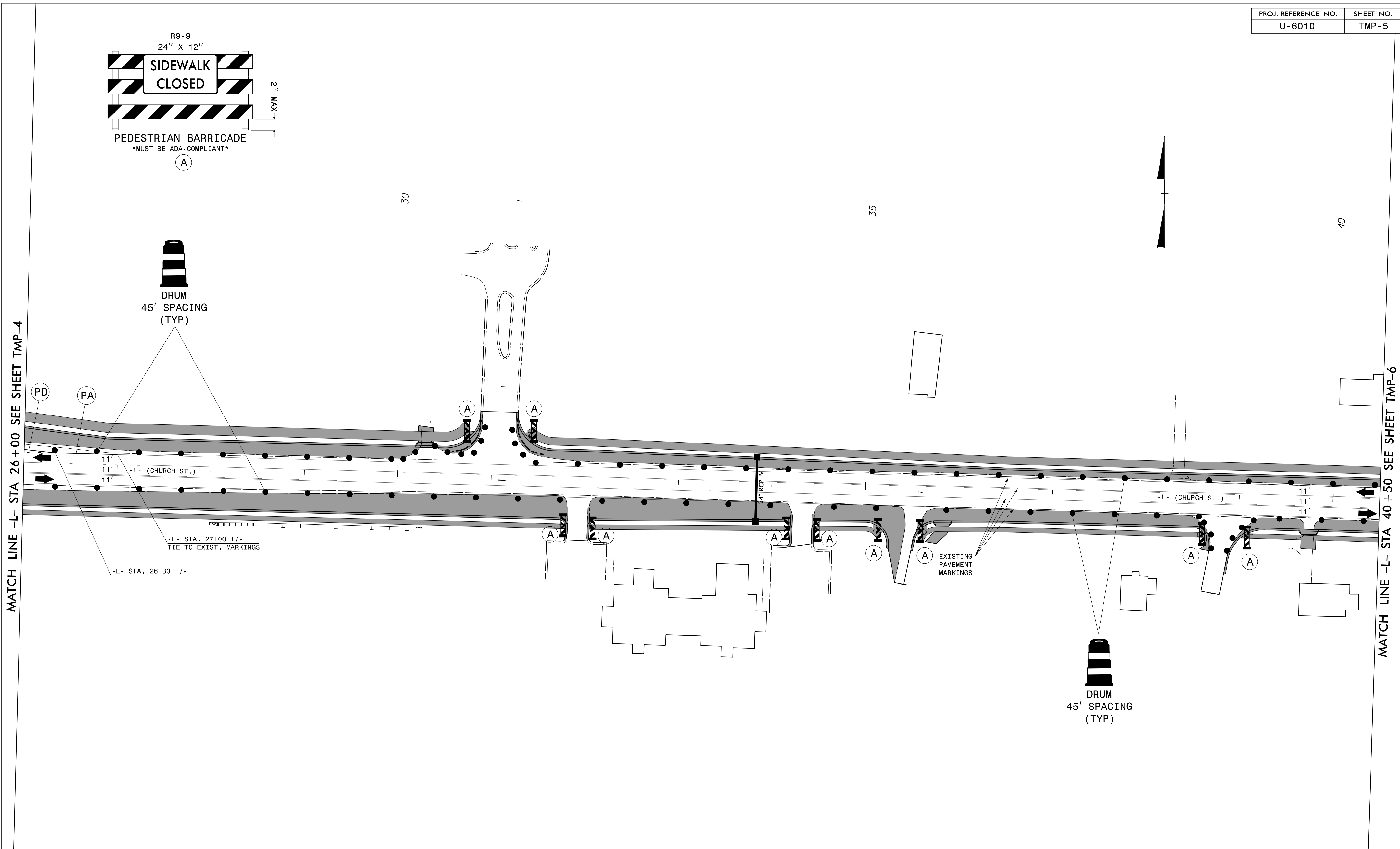
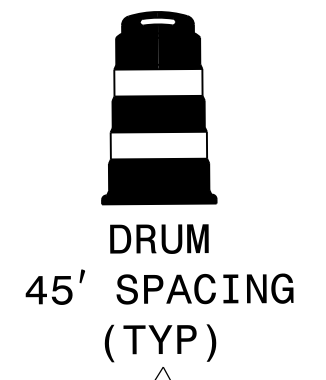
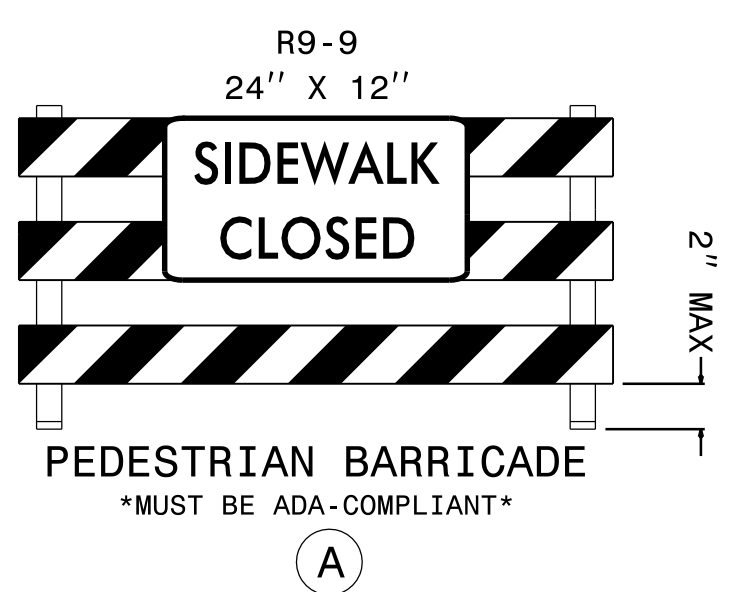
APPROVED: Jason M. Pickens
DATE: 2/21/2022
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PHASE IA
DETAIL 1

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PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

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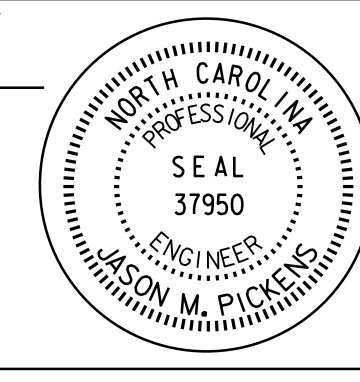


NOTE:
 INSTALL PROPOSED CROSSPIPES
 IN SECTIONS USING NIGHTLY LANE
 CLOSURES AND FLAGGERS

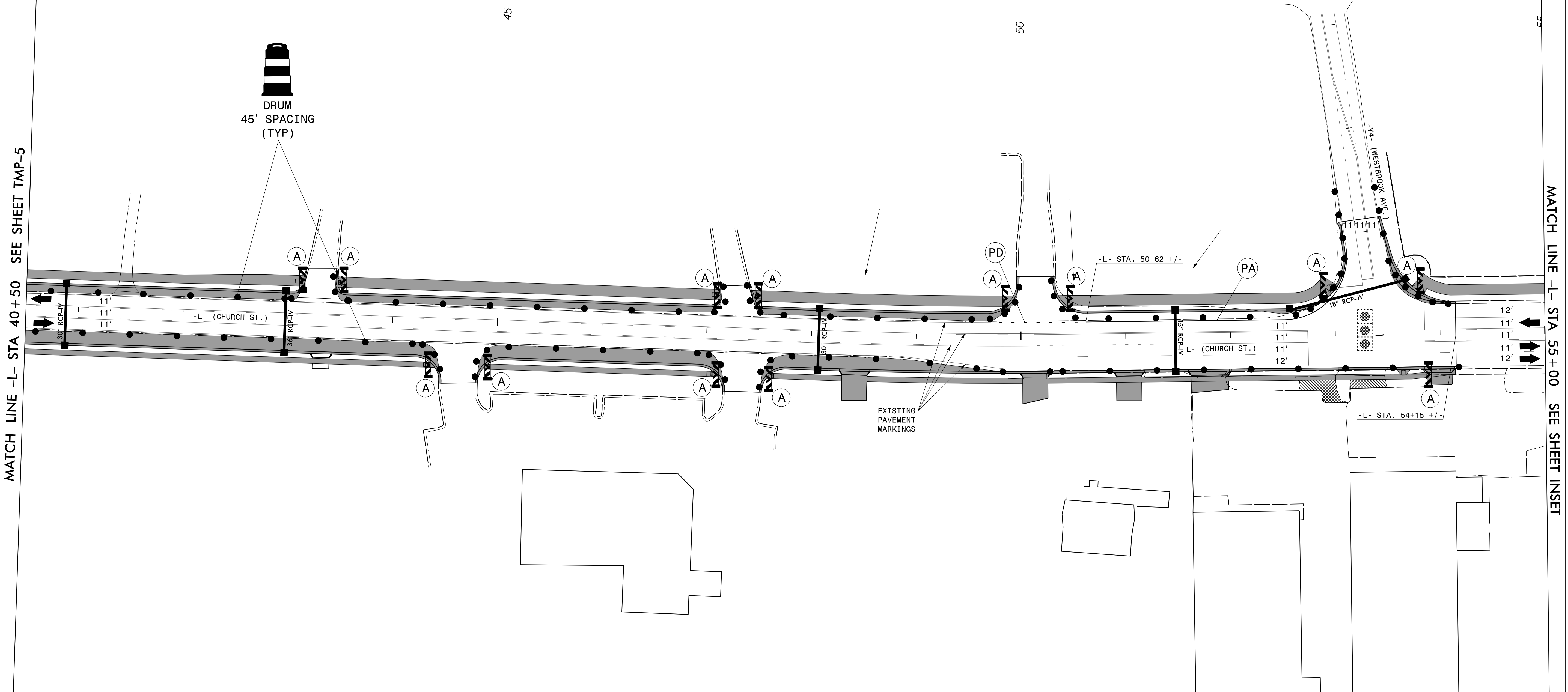
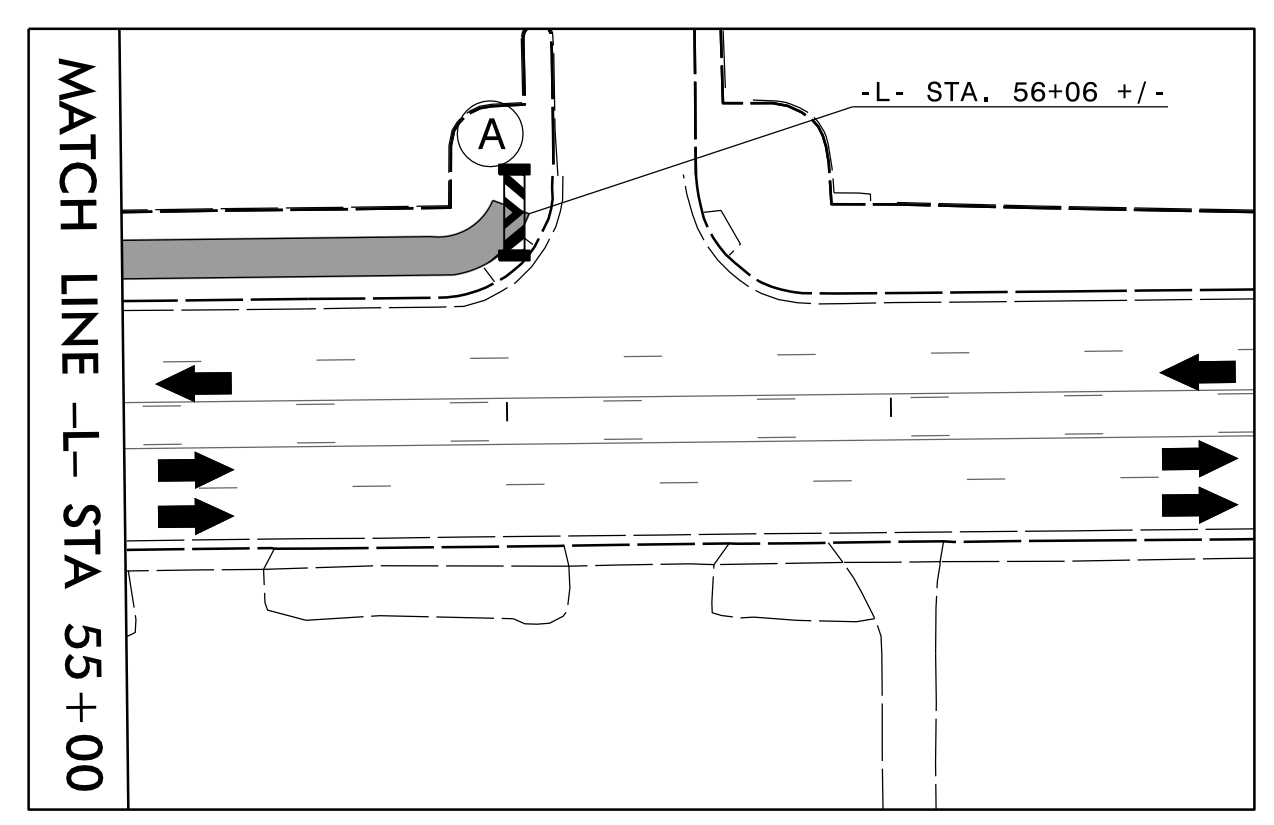
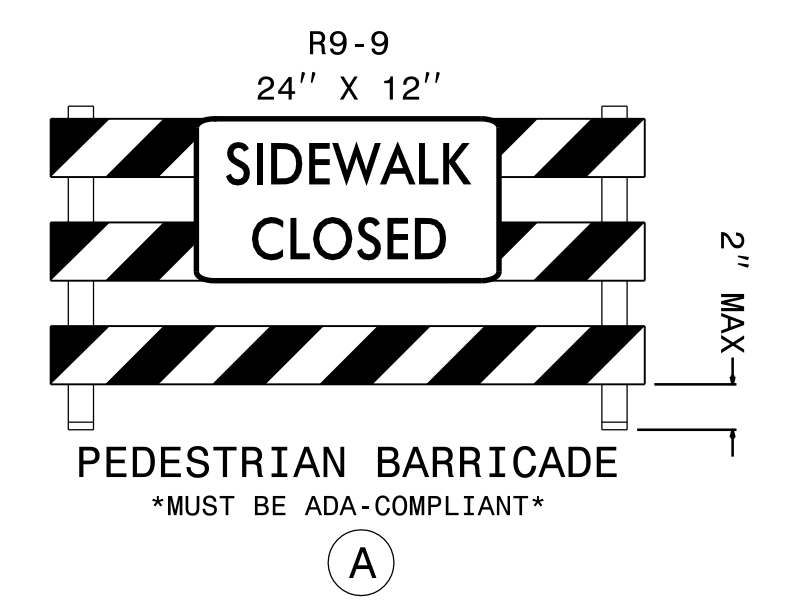
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PARSONS
 RALEIGH, NORTH CAROLINA, (919) 854-1345
 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

APPROVED: *Jason M. Pickens*
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 DATE: 2/21/2022
 SEAL



PHASE IA
 DETAIL 2



MATCH LINE -L- STA 40+50 SEE SHEET TMP-5

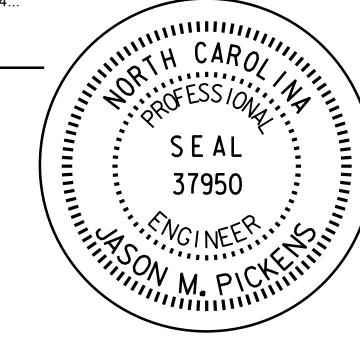
MATCH LINE -L- STA 55+00 SEE SHEET INSET

NOTE:
 INSTALL PROPOSED CROSSPIPES
 IN SECTIONS USING NIGHTLY LANE
 CLOSURES AND FLAGGERS

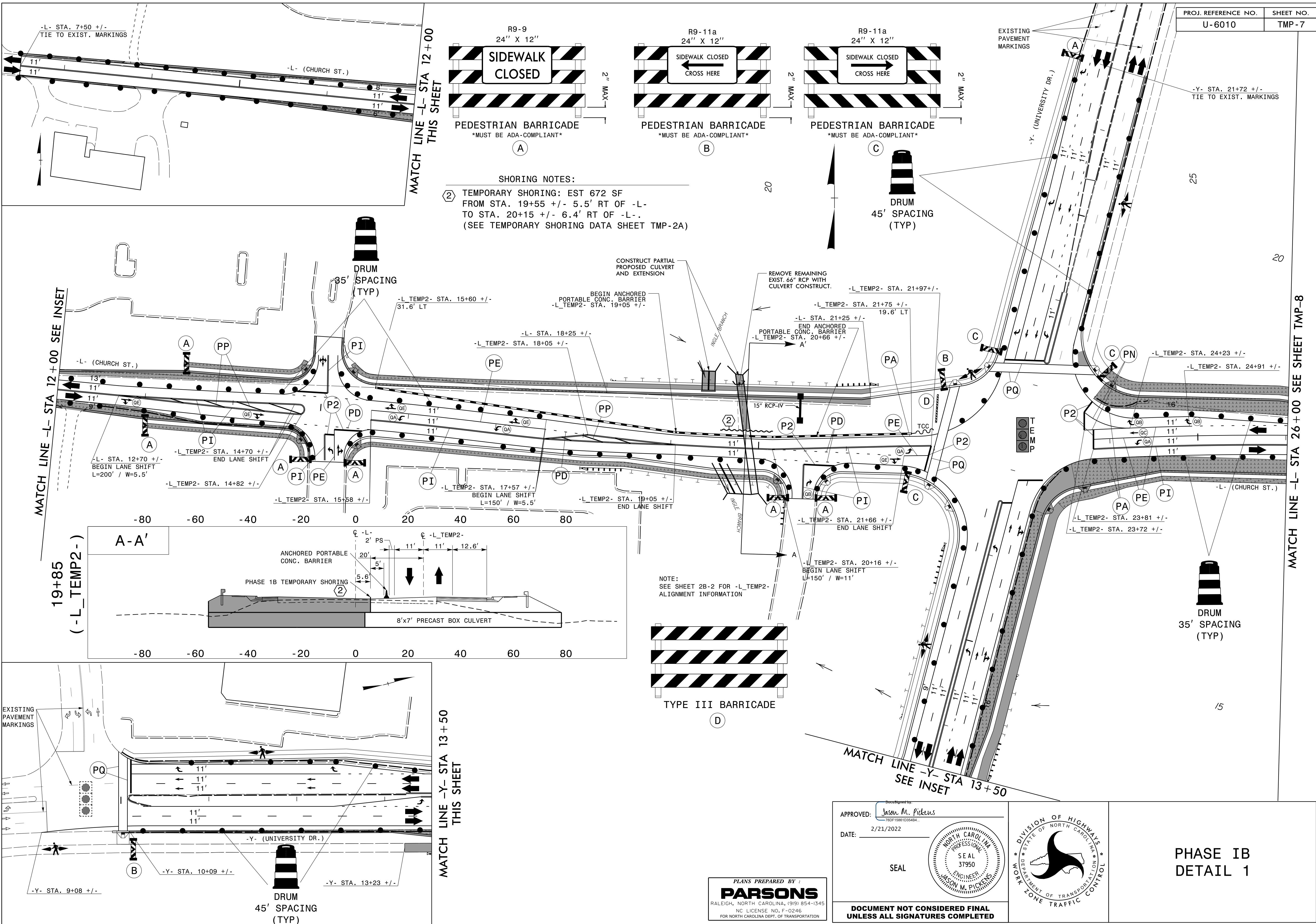
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APPROVED: *Jason M. Pickens*
 DATE: 2/21/2022
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**PHASE IA
 DETAIL 3**



MATCH LINE -L- STA 12+00 SEE INSET

MATCH LINE -L- STA 12+00 THIS SHEET

MATCH LINE -L- STA 26+00 SEE SHEET TMP-8

MATCH LINE -Y- STA 13+50 THIS SHEET

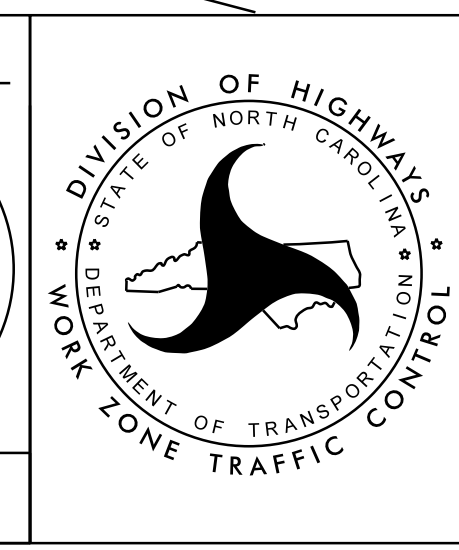
MATCH LINE -Y- STA 13+50 SEE INSET

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 DATE: 2/21/2022

SEAL

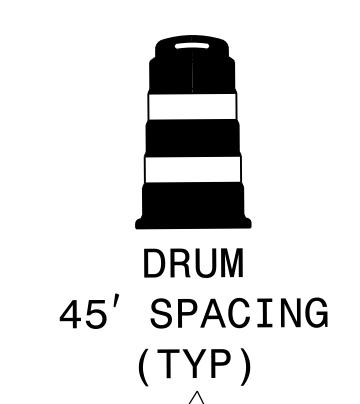
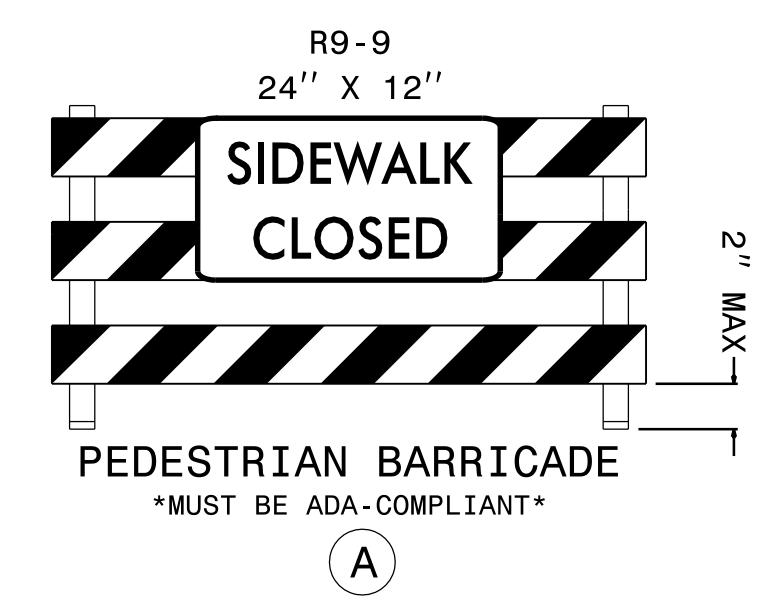
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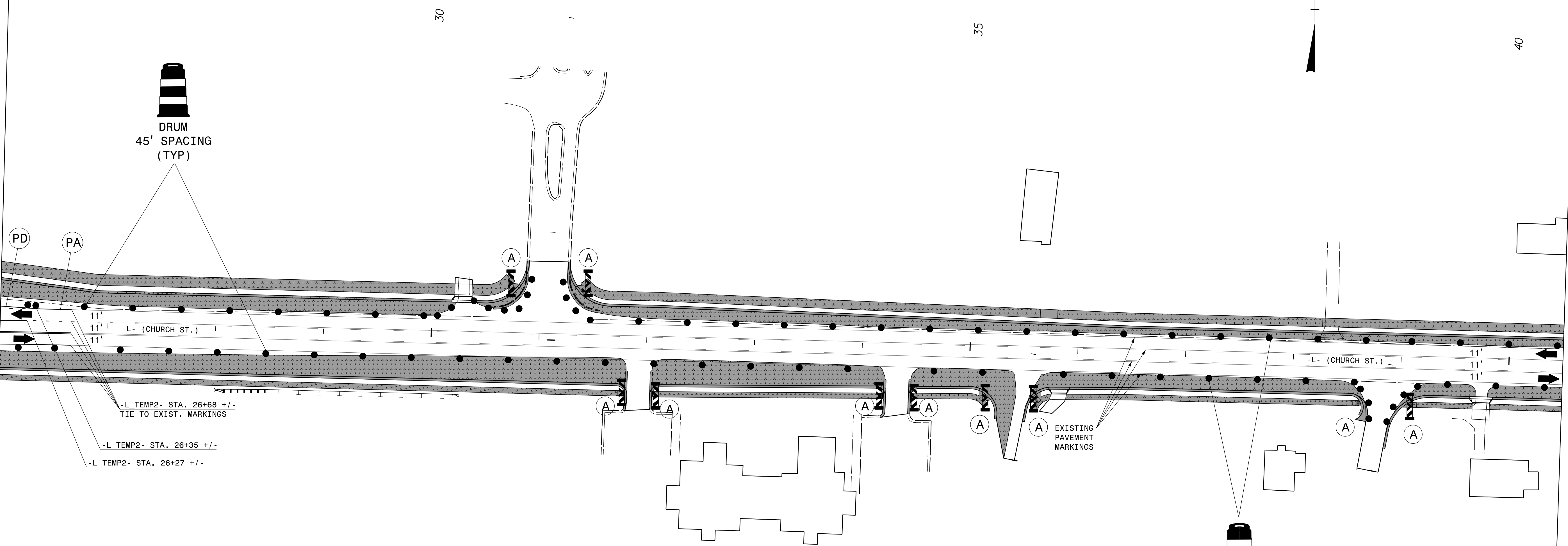
PHASE 1B DETAIL 1

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

PLANS PREPARED BY:
PARSONS
 RALEIGH, NORTH CAROLINA, (919) 854-1345
 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION



MATCH LINE -L- STA 26+00 SEE SHEET TMP-7



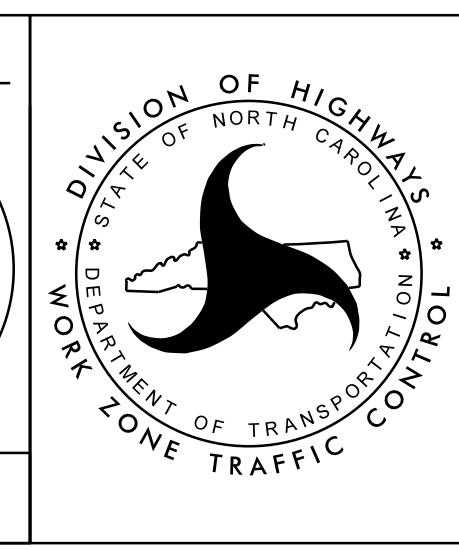
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FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

APPROVED: *Jason M. Pickens*
DATE: 2/21/2022

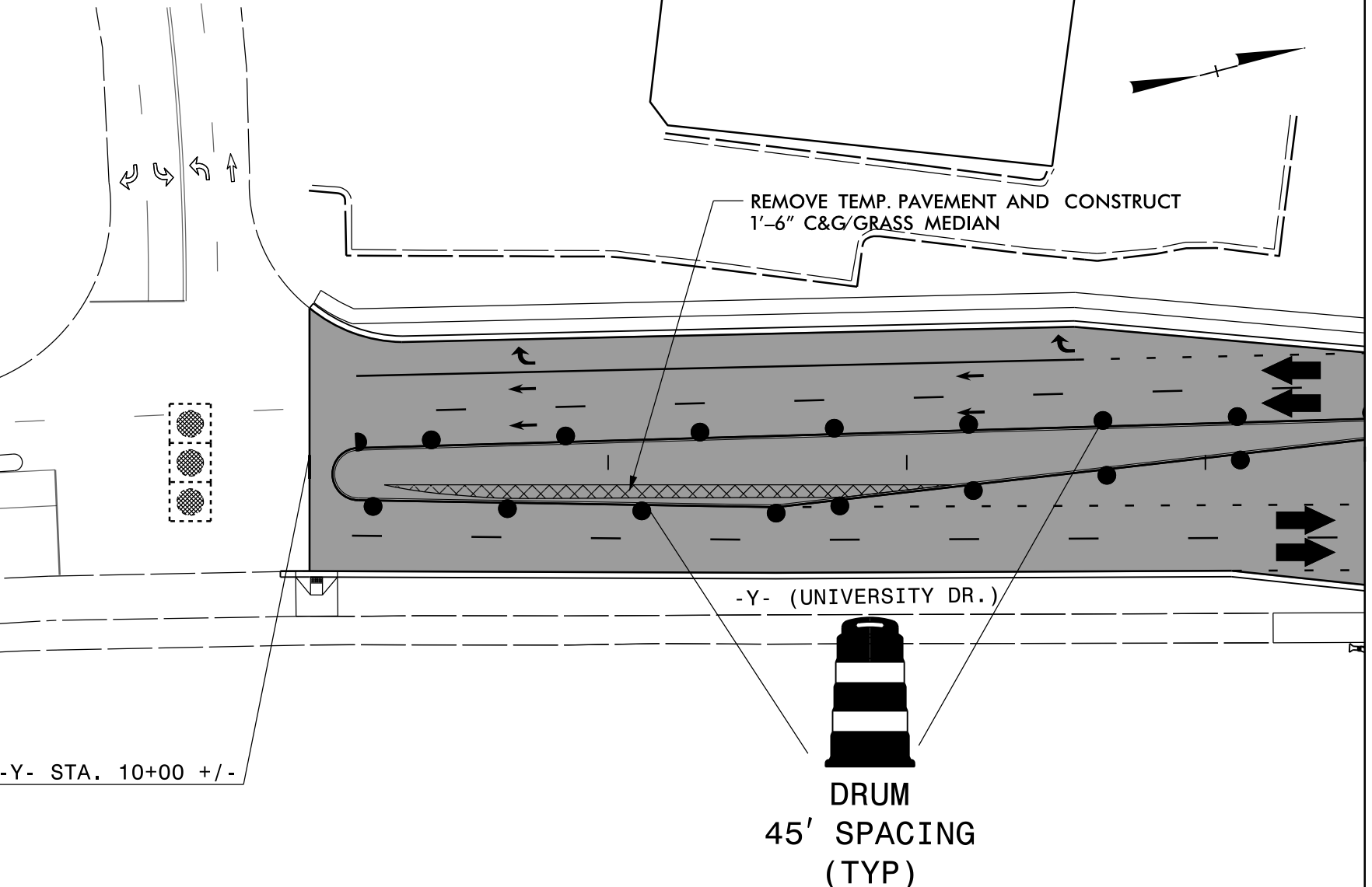
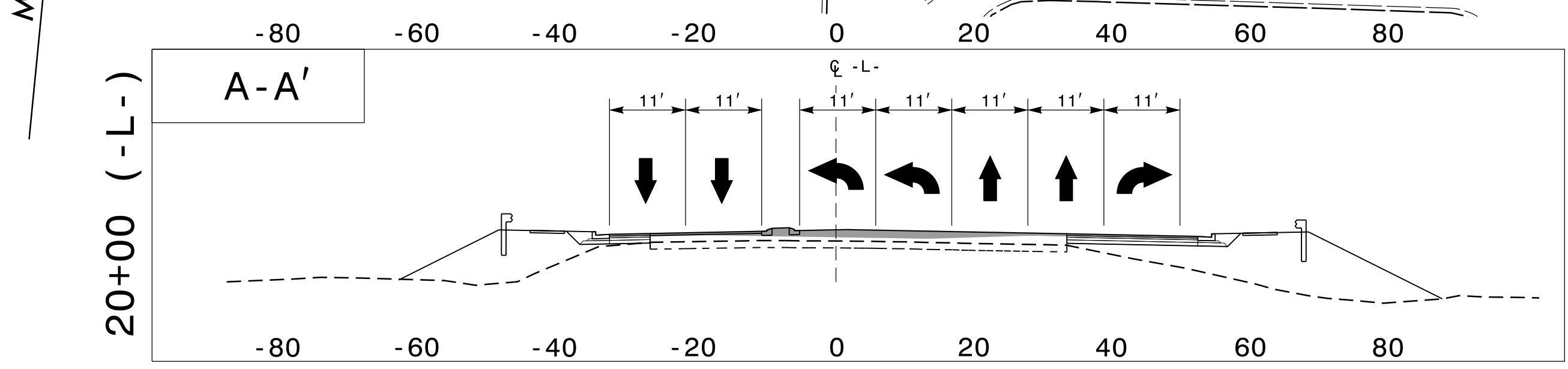
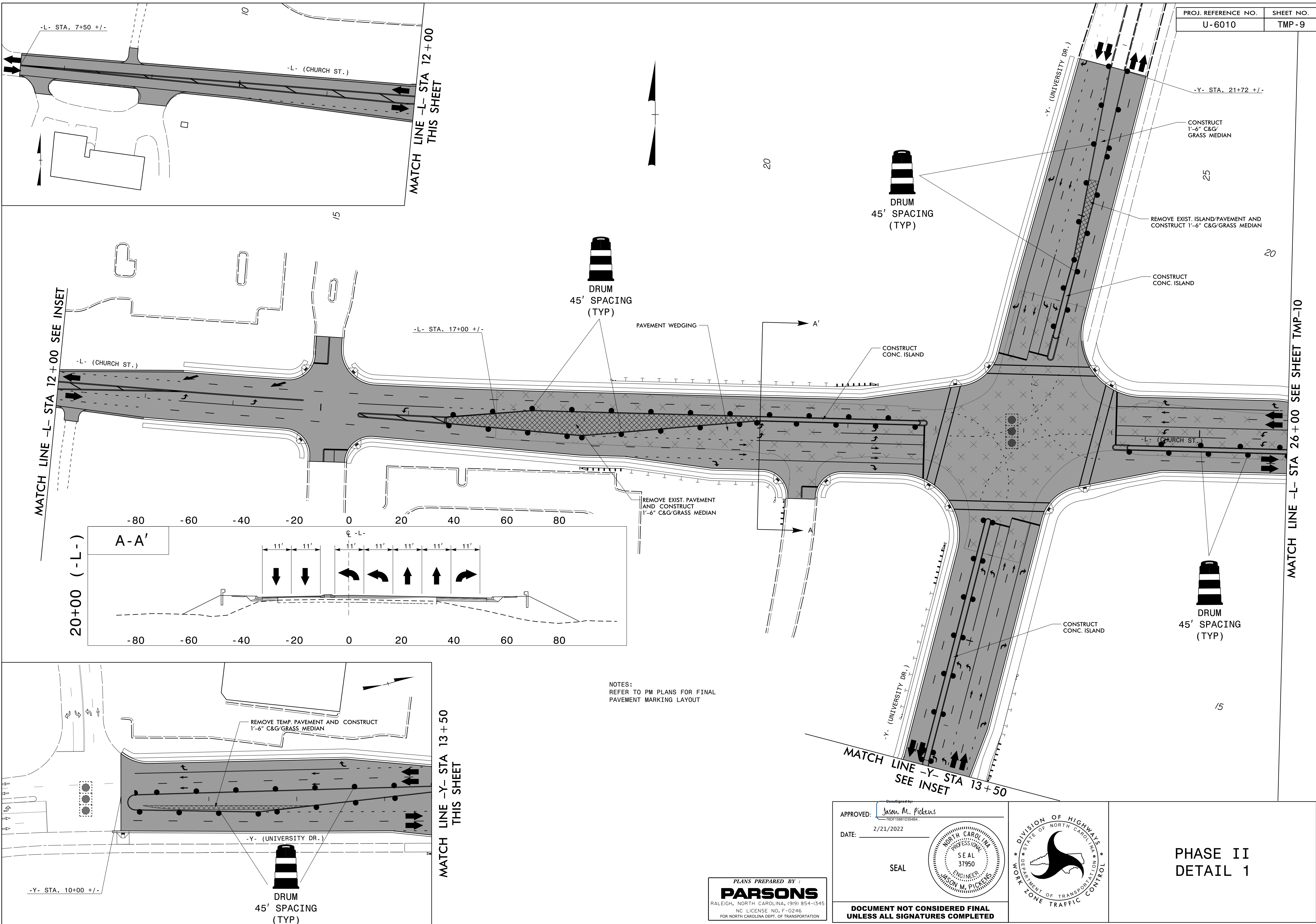
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PHASE IB
DETAIL 2

PROJ. REFERENCE NO.	SHEET NO.
U-6010	TMP-9



NOTES:
 REFER TO PM PLANS FOR FINAL
 PAVEMENT MARKING LAYOUT

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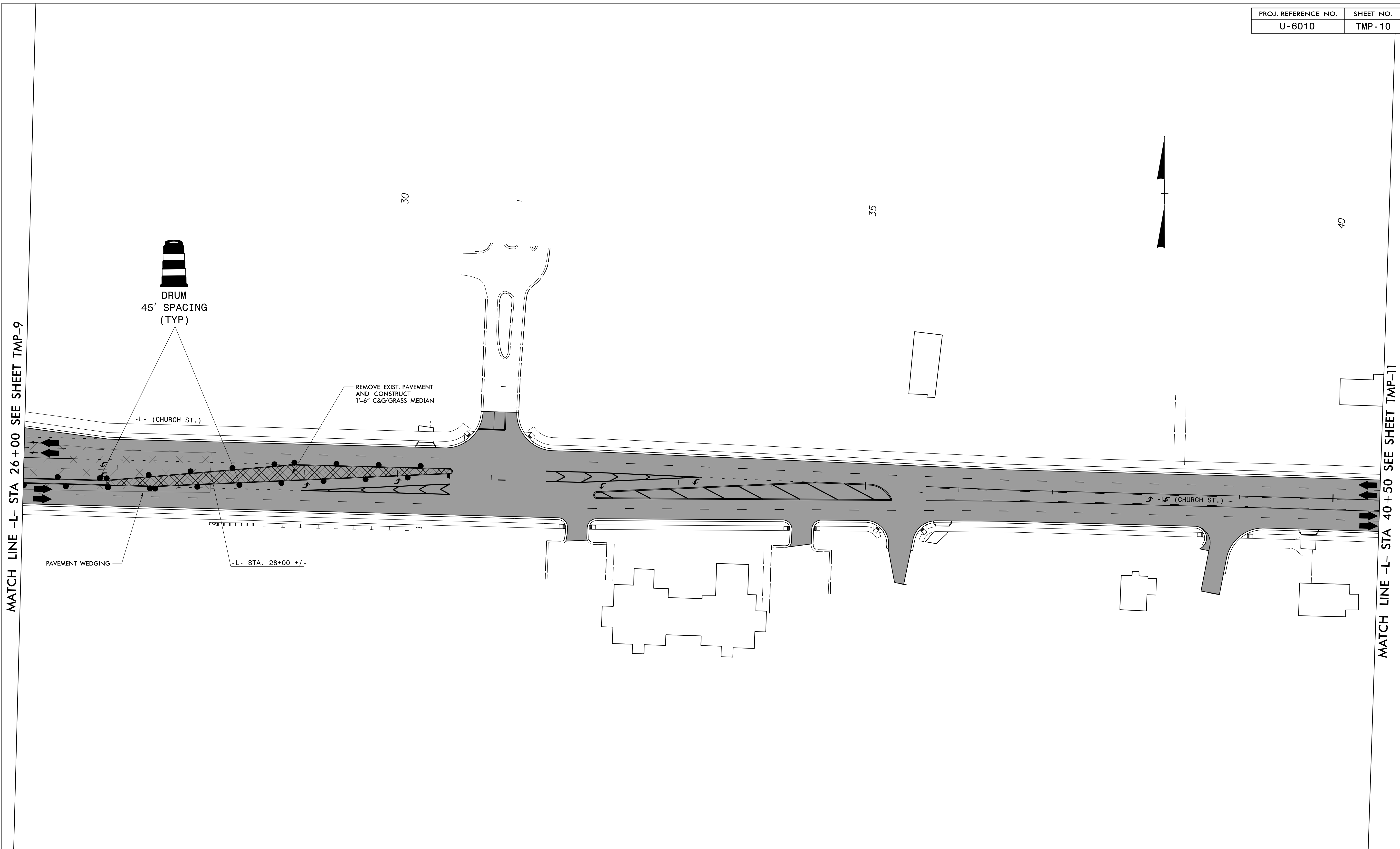
PLANS PREPARED BY:
PARSONS
 RALEIGH, NORTH CAROLINA, (919) 854-1345
 NC LICENSE NO. F-0246
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APPROVED: *Jason M. Pickens*
 DATE: 2/21/2022
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**PHASE II
 DETAIL 1**





MATCH LINE -L- STA 26+00 SEE SHEET TMP-9

MATCH LINE -L- STA 40+50 SEE SHEET TMP-11

NOTE:
REFER TO PM PLANS FOR FINAL
PAVEMENT MARKING LAYOUT

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FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

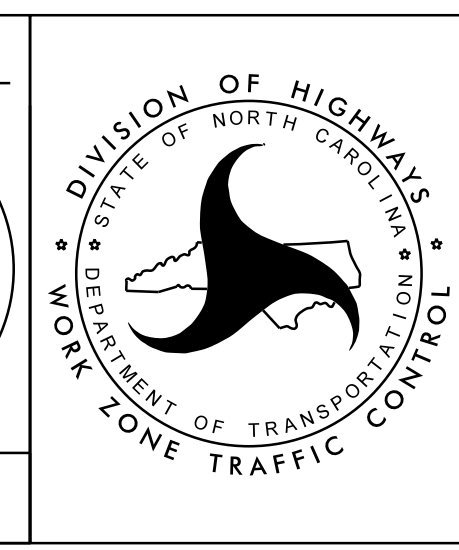
APPROVED: *Jason M. Pickens*
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DATE: 2/23/2022

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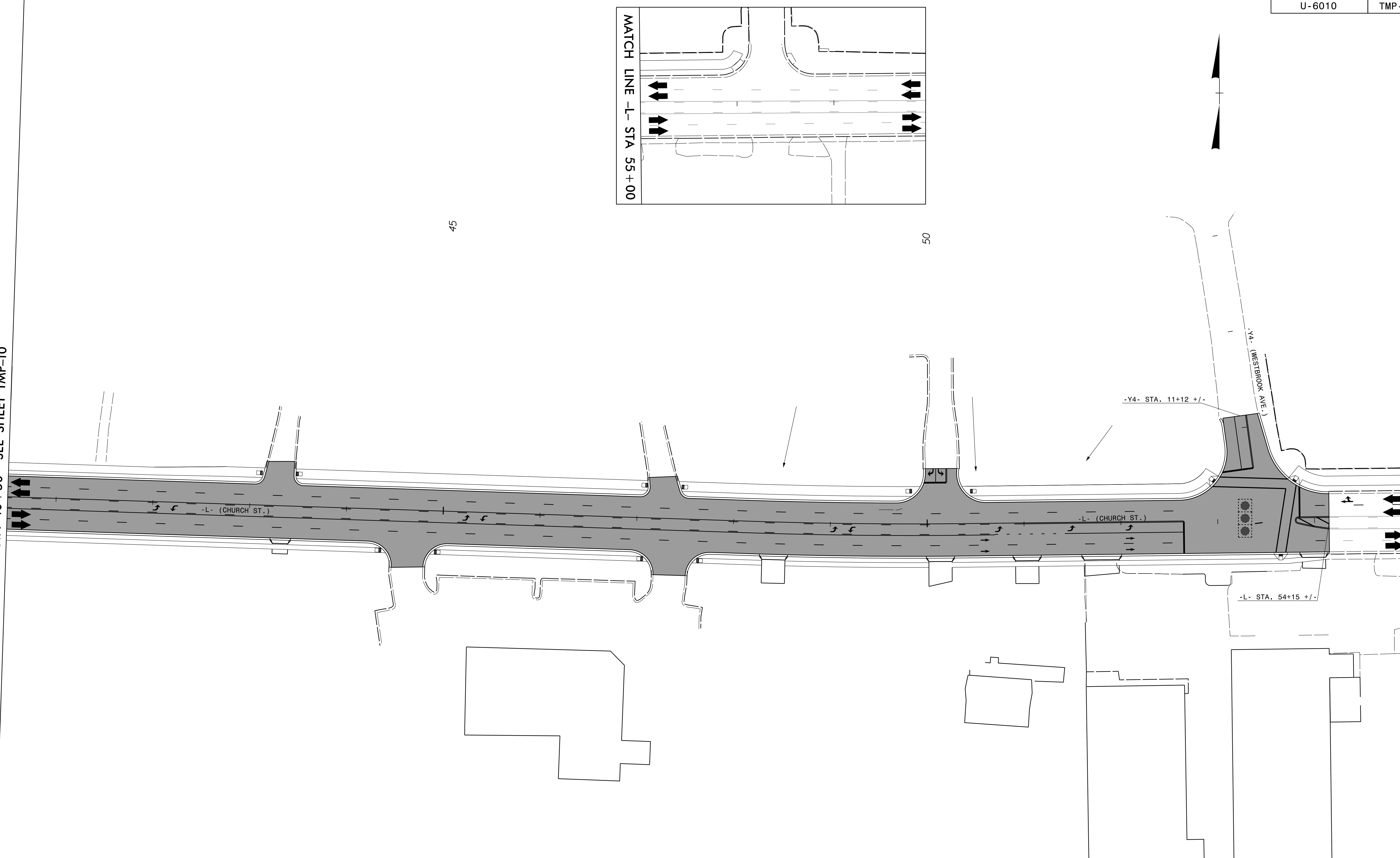
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**PHASE II
DETAIL 2**

MATCH LINE -L- STA 40+50 SEE SHEET TMP-10

MATCH LINE -L- STA 55+00 SEE SHEET INSET

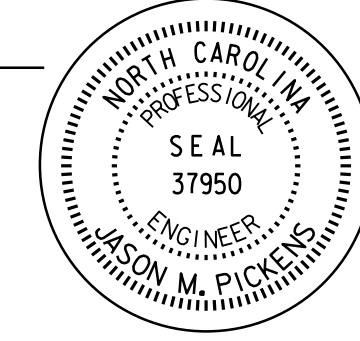


NOTE:
REFER TO PM PLANS FOR FINAL
PAVEMENT MARKING LAYOUT

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PHASE II
DETAIL 3