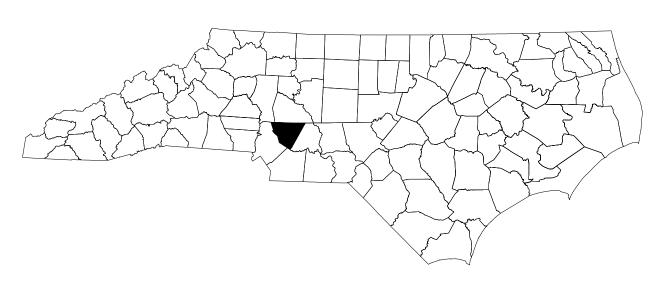
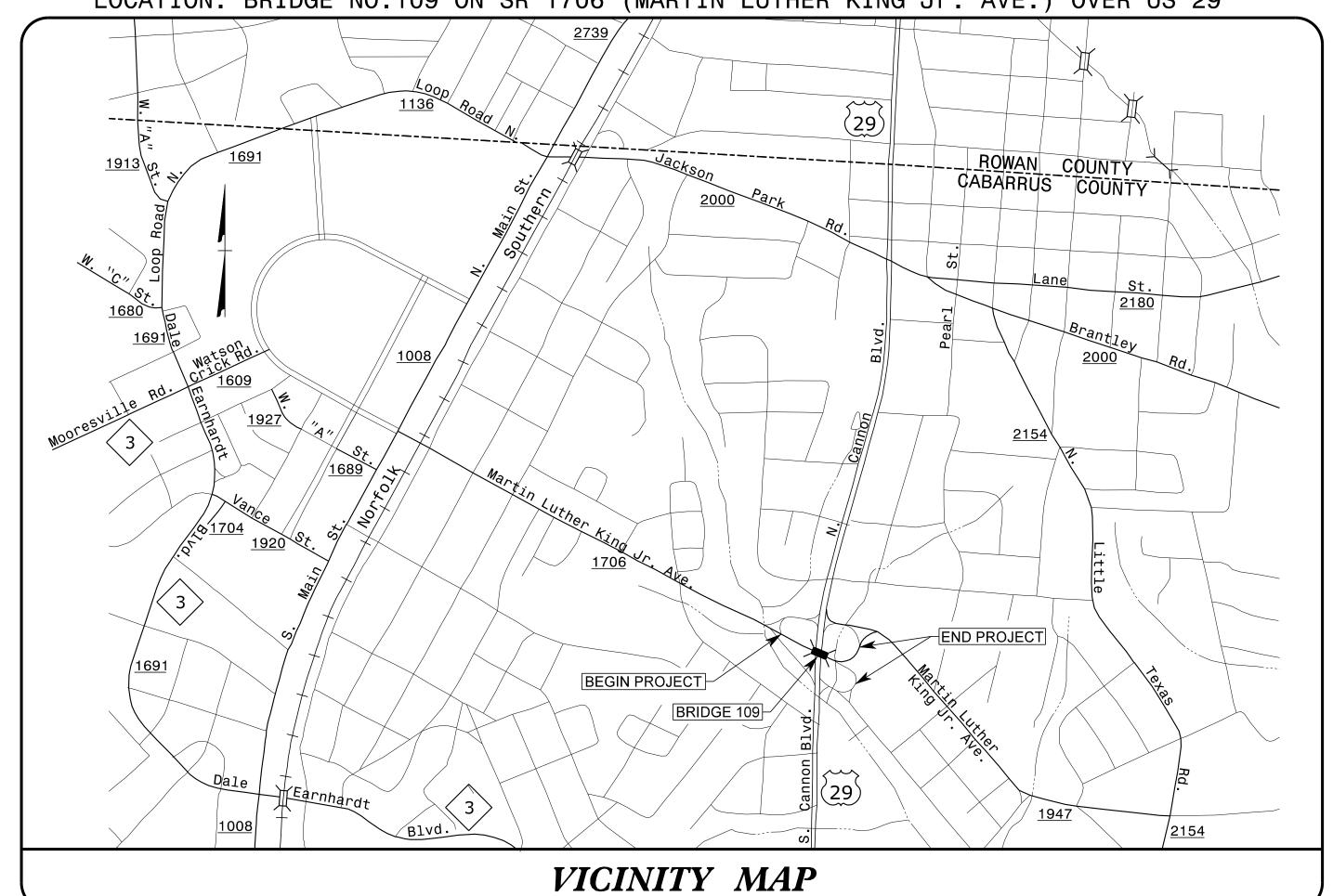
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CABARRUS COUNTY



LOCATION: BRIDGE NO.109 ON SR 1706 (MARTIN LUTHER KING Jr. AVE.) OVER US 29

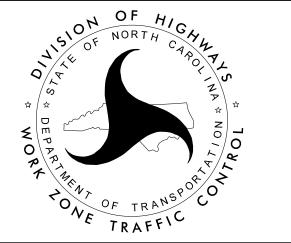


WORK ZONE SAFETY & MOBILITY "from the MOUNTAINS to the COAST"

PLANS PREPARED BY: Habib Lawandos TRAFFIC CONTROL DESIGN ENGINEER

NCDOT CONTACTS: Zachary T. Clark, PE PROJECT ENGINEER

Sheena N. Green PROJECT DESIGN ENGINEER



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TITLE

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TMP-1B TRANSPORTATION OPERATIONS PLAN: GENERAL NOTES

TMP-2 PORTABLE CONCRETE BARRIER AT TEMPORARY

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> DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

APPROVED: Zachary T Clark **DATE:** 11/07/2024 SEAL

TMP-1

SHEET NO.

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE 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
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1205.15	
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

PROJ. REFERENCE NO.	SHEET NO.
B-5372	TMP-1A

LEGEND

GENERAL

DIRECTION OF TRAFFIC FLOW

DIRECTION OF PEDESTRIAN TRAFFIC FLOW

----- EXIST. PVMT.

─────── NORTH ARROW

— PROPOSED PVMT.

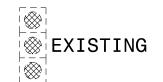
TEMP. SHORING (LOCATION PURPOSES ONLY)

WORK AREA

REMOVAL

TEMPORARY PAVEMENT

<u>SIGNALS</u>







PAVEMENT MARKINGS

——EXISTING LINES

----TEMPORARY LINES

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

DRUM SKINNY DRUM O 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

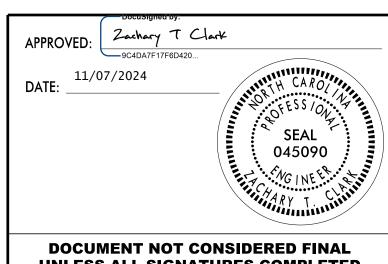
◆ YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING SCHEDULE

P1	- WHITE EDGELINE (PAINT) - 4"
P2	- WHITE SOLIDLINE (PAINT) - 4"
P3	- 10 FT. WHITE SKIP (PAINT) - 4"
P10	- YELLOW EDGELINE (PAINT) - 4"
P11	- YELLOW SINGLE CENTER (PAINT) - 4"
P12	- 10 FT. YELLOW SKIP (PAINT) - 4"
P42	- YELLOW DIAGONAL (PAINT) - 8"





ROADWAY STANDARD DRAWINGS, LEGEND, & TEMP PAV'T MARKING SCHEDULE

UNLESS ALL SIGNATURES COMPLETED

CONSTRUCTION

IMPROVEMENT OF THE INTERCHANGE OF SR 1706 (MARTIN LUTHER KING Jr. AVE.) AND US 29 (CANNON BLVD.). BRIDGE REMOVAL AND REPLACEMENT OF EXISTING STRUCTURE AND ROADWAY APPROACHES ON SR 1706 (MARTIN LUTHER KING Jr. AVE.) ALIGNMENT AS SHOWN IN THE CONSTRUCTION PLANS.

TMP DESIGN PARAMETERS

UTILIZE OFF-SITE DETOURS, LANE CLOSURES, SIGNAGE, AND TRAFFIC CONTROL DEVICES FOR THE IMPROVEMENT OF THE INTERCHANGE OF SR 1706 (MARTIN LUTHER KING Jr. AVE.) AND US 29. TRAFFIC WILL BE DETOURED OFF-SITE DURING THE CONSTRUCTION OF BRIDGE AND APPROACHES ON MARTIN LUTHER KING Jr. AVE. (SR 1706).

THE OFF-SITE DETOUR WILL INCLUDE US 29, N. LITTLE TEXAS RD. (SR 2154), BRANTLEY RD. (SR 2000), PEARL ST., LANE ST. (SR 2180), JACKSON PARK RD. (SR 2000), AND N. MAIN ST. (SR 1008).

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

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

US 29 (-Y-)

MONDAY THRU FRIDAY 6:00 A.M. - 9:00 P.M.

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

ROAD NAME US 29 (-Y-)

HOLIDAY

- 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 A.M. DECEMBER 31st TO 9:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 P.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER. BETWEEN THE HOURS OF 6:00 A.M. THURSDAY TO 9:00 P.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 9:00 P.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 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 9:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 9:00 P.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 9:00 P.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- C) DO NOT CLOSE ROADS AS FOLLOWS: (ONLY ONE DIRECTION CAN BE CLOSED AT A TIME)

DAY AND TIME RESTRICTIONS ROAD NAME

US 29 (-Y-) MONDAY THRU SUNDAY AND RAMPS

6:00 A.M. - 9:00 P.M.

BRIDGE DEMOLITION AND GIRDERS INSTALLATION

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.
- 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.
- 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.
- 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.
- 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

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.

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

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

SIGNING

- 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.
- PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

PROJ. REFERENCE NO.

B-5372

SHEET NO. TMP-1B

TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

TRAFFIC BARRIER

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.

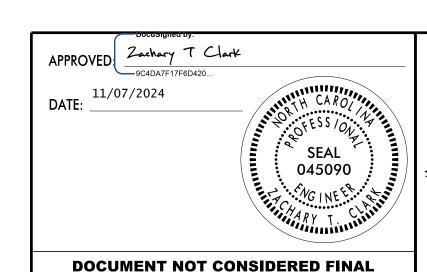
INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

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.

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 25 FT 60 MPH or HIGHER 30 FT



UNLESS ALL SIGNATURES COMPLETED



TRANSPORTATION **OPERATIONS** (GENERAL NOTES)

DRAINAGE WORK ON RAMPS

OPERATION

ROJ. REFERENCE NO.	SHEET NO.
B-5372	TMP-1C

GENERAL NOTES CONTINUED

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
US 29 -Y- AND RAMPS	PAINT	TEMPORARY

- 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 EXISTING AND PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO REMOVAL AND INSTALLATION.
 PLACE DRUMS TO DELINEATE ANY EXISTING AND PROPOSED MONOLITHIC ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION.

MISCELLANEOUS

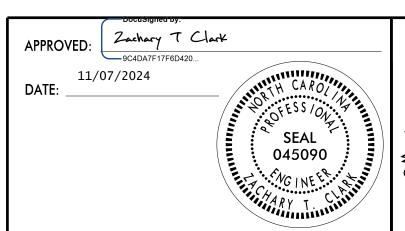
- Z) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- AA) COORDINATION BETWEEN CONTRACTORS WILL BE REQUIRED FOR THE FOLLOWING PROJECTS:

EB-5844:

- USE OF US 29 WITHIN B-5372 PROJECT LIMITS AS AN OFFSITE DETOUR.

ADJOINING MLK Jr. RESURFACING PROJECT:

- MILLING AND RESURFACING ALONG MLK JR AVE FROM N. RIDGE AVE TO B-5372 PROJECT LIMITS, WITH OVERLAP FOR B-5372 CLOSURE OF MLK JR AVE AND TEMPORARY PATTERN.



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TRANSPORTATION
OPERATIONS
(GENERAL NOTES)

FIGURE A

NOTES

- 1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- 2- REFER TO THE "TEMPORARY SHORING" STANDARD PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- 3- PCB IS REQUIRED IF TEMPORARY SHORING/WALL 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 FOR APPLICABLE PAVEMENT DESIGN).
- 4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- 5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING/WALLS EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- 6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 7- 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 OR APPROVED BY THE ENGINEER.
- 8- 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 THIS MINIMUM REQUIRED DISTANCE IS NOT AVAILABLE, CONTACT THE ENGINEER.
- 9- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS.

PROJ. REFERENCE NO.	SHEET NO.
B-5372	TMP-2

MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier	Pavement	Offset *	Design Speed, mph								
Type	Type	ft	< 30	31-40	41-50	51-60	61-70	71-80			
		<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			
	Asphalt	26-32	29	32	36	39	42	45			
	F 22.02.5	32-38	30	34	38	41	43	46			
PCB		38-44	31	34	41	43	45	48			
P(44-50	31	35	41	43	46	49			
		50-56	32	36	42	44	47	50			
Unanchored		>56	32	36	42	45	47	51			
l pc		<8	17	18	21	22	25	26			
) u 1		8-14	19	20	23	25	26	29			
n a		14-20	22	22	24	26	28	31			
		20-26	23	24	26	27	30	34			
	Concrete	26-32	24	25	27	28	32	35			
		32-38	24	26	27	30	33	36			
		38-44	25	26	28	30	34	37			
		44-50	26	26	28	32	35	37			
		50-56	26	26	28	32	35	38			
		>56	26	27	29	32	36	38			
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds								
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds								

^{*} See Figure Below

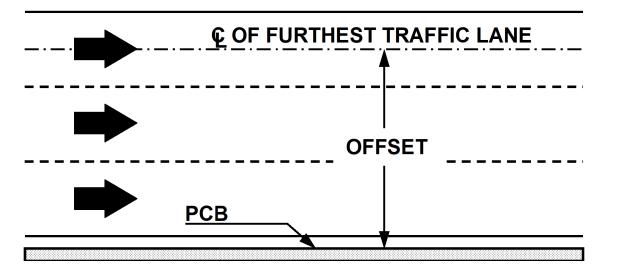
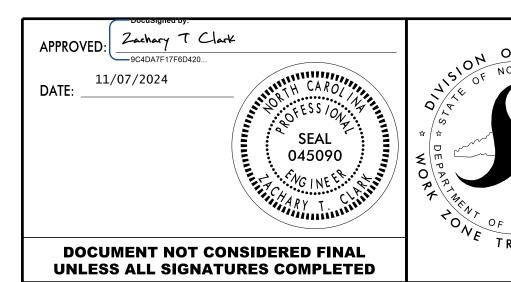
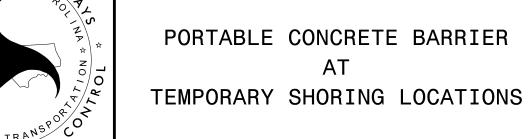


FIGURE B





PROJ. REFERENCE NO.	SHEET NO.
B-5372	TMP-2A

TEMPORARY SHORING NOTES

SHORING LOCATION NOS.1 AND 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.

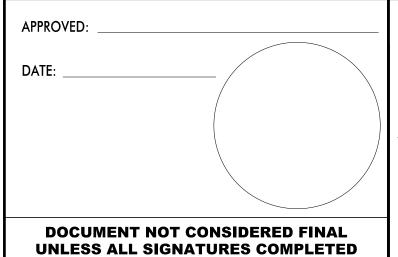
DESIGN TEMPORARY SHORING FROM -Y- STA. 18+80+/- (15'R), TO STATION -Y- STA. 19+51 +/- (15'R) AND FROM -Y- STA. 18+90+/- (15'L), TO STATION -Y- STA. 19+64 +/- (15'L), FOR THE FOLLOWING ASSUMED SOIL PARAMETERS:

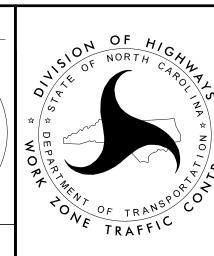
UNIT WEIGHT (γ) = 120 PCF FRICTION ANGLE (ϕ) = 30 DEGREES COHESION (c) = 0 PSF GROUNDWATER ELEVATION = N/A FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM -Y- STA. 18+80+/- (15'R), TO STATION -Y- STA. 19+51 +/- (15'R) AND FROM -Y- STA. 18+90+/- (15'L), TO STATION -Y- STA. 19+64 +/- (15'L), THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING
FROM -Y- STA. 18+80+/- (15'R), TO STATION -Y- STA. 19+51 +/- (15'R) AND FROM -Y- STA. 18+90+/- (15'L),
TO STATION -Y- STA. 19+64 +/- (15'L),. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

* THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO THE WZTCU ON 06-06-2023 AND SEALED BY A PROFESSIONAL ENGINEER, MICHAEL H. STEPHENS, P.E., LICENSE # (028893)*.





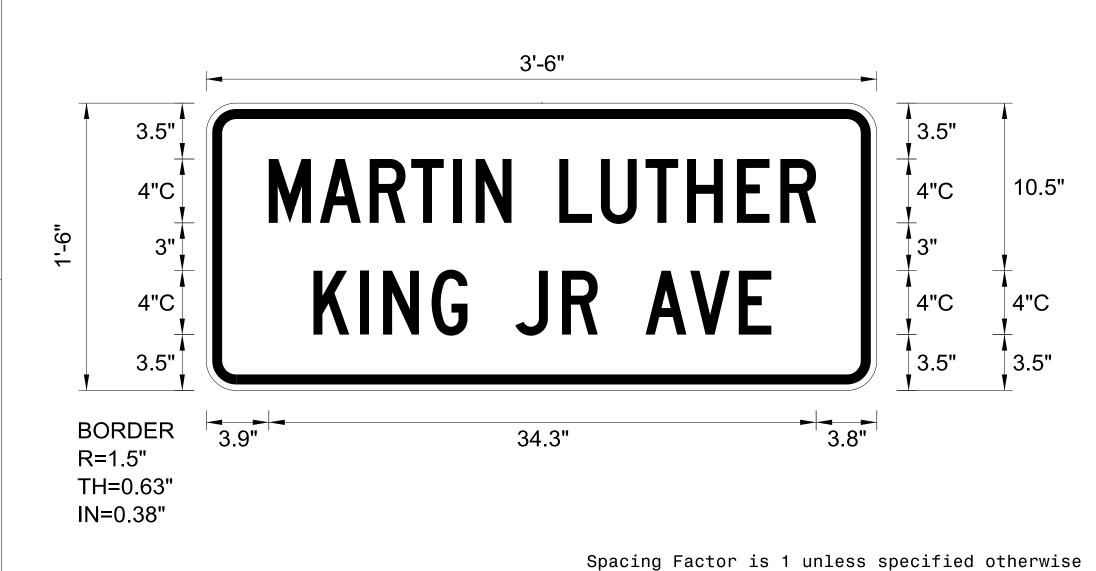
TEMPORARY SHORING NOTES

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

BACKG COLOR: Fluorescent Orange SIGN NUMBER: SP24179 Black TYPE: STATIONARY COPY COLOR: QUANTITY: SEE PLANS X Y WID HT SYMBOL SIGN WIDTH: 3'-6" **HEIGHT:** 1'-6" TOTAL AREA: 5.25 Sq.Ft. BORDER TYPE: INSET RECESS: 0.38" WIDTH: 0.63" **RADII:** 1.5" MAT'L: 0.080" (2.0 mm) ALUMINUM NO. Z BARS: LENGTH:

USE NOTES: 1,2

- Legend and border shall be direct applied black non-reflective sheeting.
- 2.Background shall be NC GRADE B fluorescent orange retroreflective sheeting.



CHECKED BY: M. EATON

LOCATION:

Jun 04, 2024

DIV:

LETTER POSITIONS

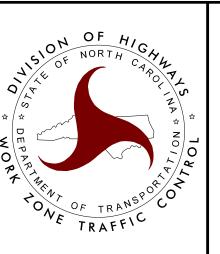
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	M	Α	R	Т	I	N		L	U	Т	Н	E	R								C 20
3.92	3.2	3.12	2.6	2.6	1.44	2.24	3	2.6	2.8	2.6	3.12	2.72	2.24	3.8							34.
	K	I	N	G		J	R		Α	V	E										C 20
6.72	2.92	1.44	3.04	2.24	3	2.92	2.24	3	2.8	3.04	2.04	6.6									28.
							1														

DESIGN BY: D. BEARD

PROJECT ID: B-5372

DATE:

| Document not considered final unless all signatures completed



SPECIAL SIGN DESIGN
"MARTIN LUTHER KING
Jr. AVE,"

\S&UU\Western kegion\Uiv iU\B-53*iz*\b53*iz*-iu_uen_impuzb.dg ser:akma+thews

PROJ. REFERENCE NO. SHEET NO. B-5372 TMP-2C

BACKG COLOR: Fluorescent Orange SIGN NUMBER: SP18158 DESIGN BY: J.Navarrete CHECKED BY: Aug 09, 2018 COPY COLOR: Black TYPE: STATIONARY DIV: LOCATION: PROJECT ID: B-5372 QUANTITY: SEE PLANS SYMBOL X Y WID HT SIGN WIDTH: 3'-6" **HEIGHT:** 1'-6" TOTAL AREA: 5.3 Sq.Ft. **BORDER TYPE: INSET RECESS:** 0.47" 3'-6" WIDTH: 0.63" **RADII:** 1.5" 6.5" MAT'L: 0.080" (2.0 mm) ALUMINUM NO. Z BARS: 1′-6″ LENGTH: USE NOTES: 1,2 6.35" Legend and border shall be direct applied black non-reflective sheeting. **BORDER** 6.35" 29.3" R=1.5" 2.Background shall be NC GRADE B fluorescent orange retroreflective sheeting. TH=0.63" IN=0.47" Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

	Letter spacings are to start of next letter													Series/Size Text Length			
	D	0	W	N	Т	0	W	N									C 2000
6.4	3.7	3.6	4.5	3.5	3.2	3.5	4.5	2.8	6.4								29.3

DATE: 6/27/2024 | 2:40 PM EDT SEAL

SEAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

OF HIGHWAYS

NORTH CARROLL

NORTH CARROLL

NORTH CARROLL

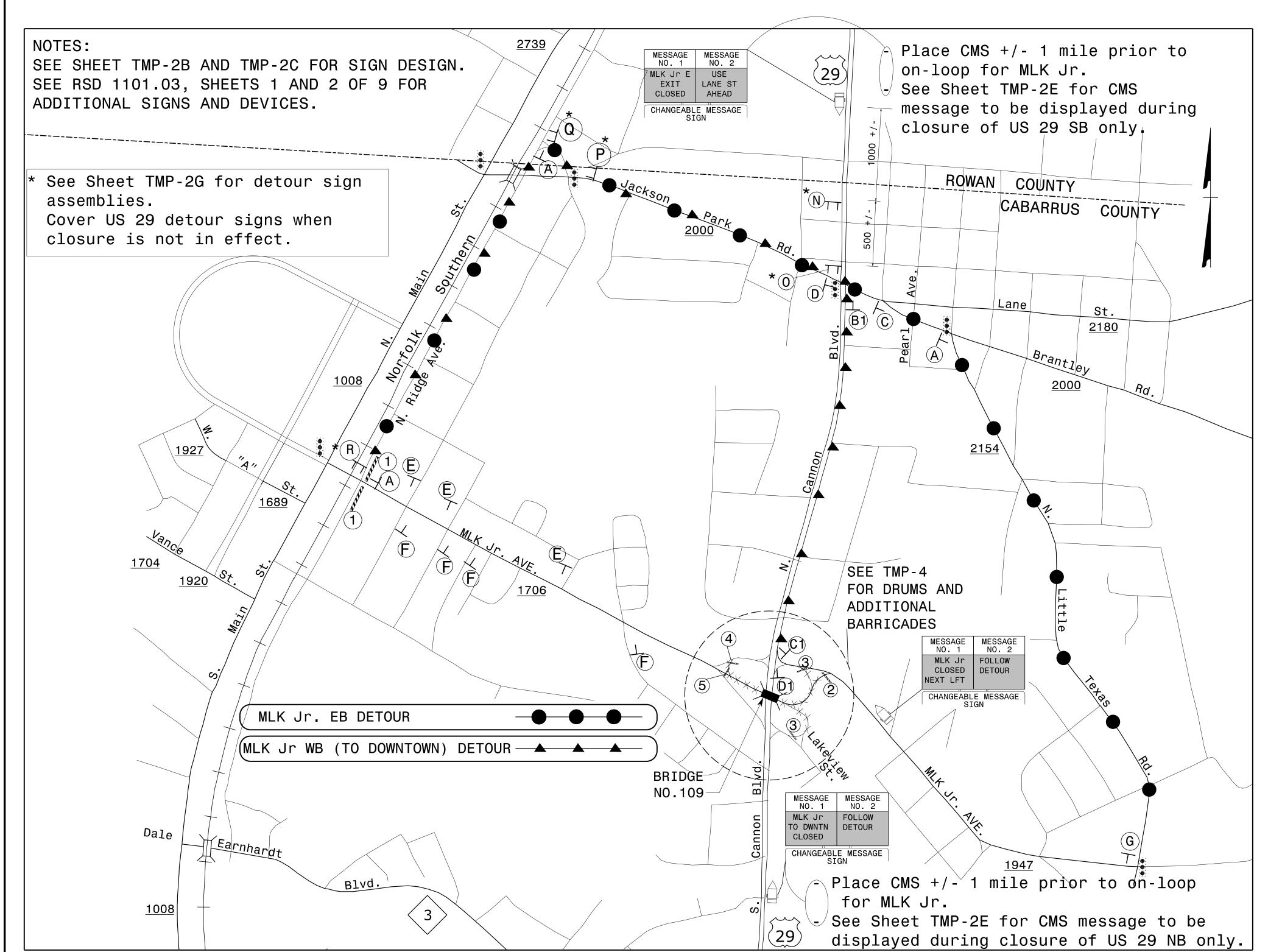
NORTH CARROLL

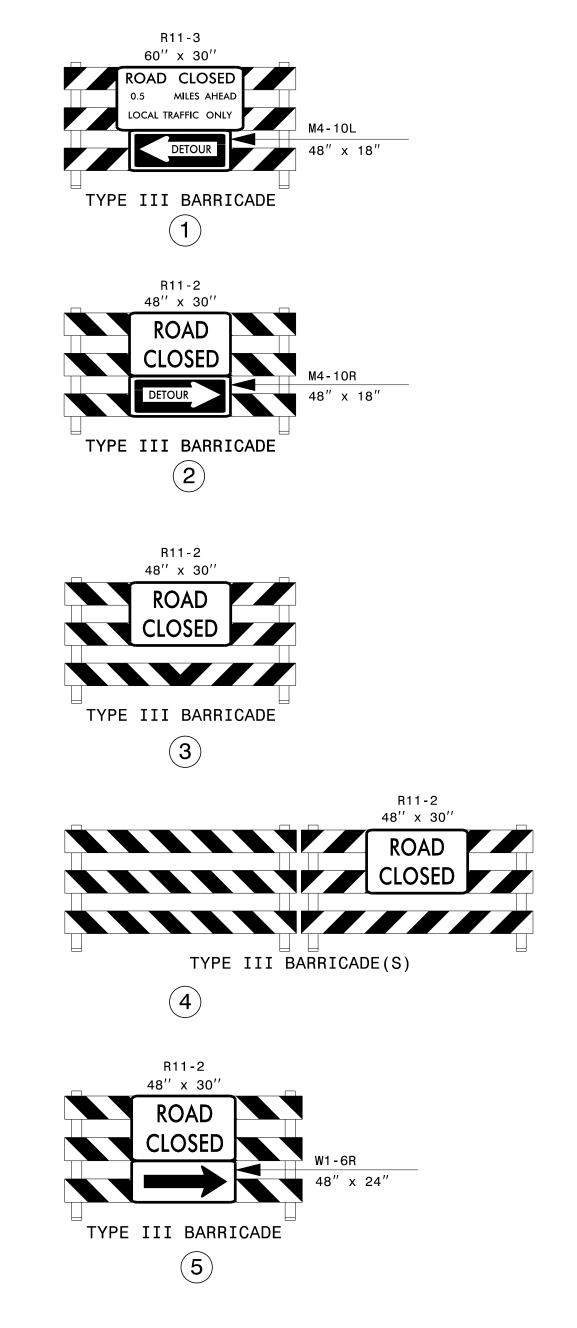
TRAFFIC

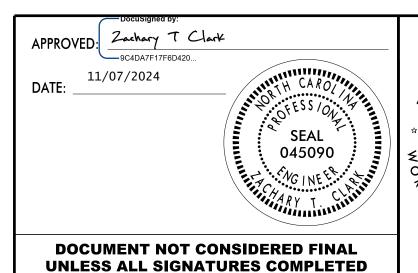
TRAFFIC

SPECIAL SIGN DESIGN "DOWNTOWN"





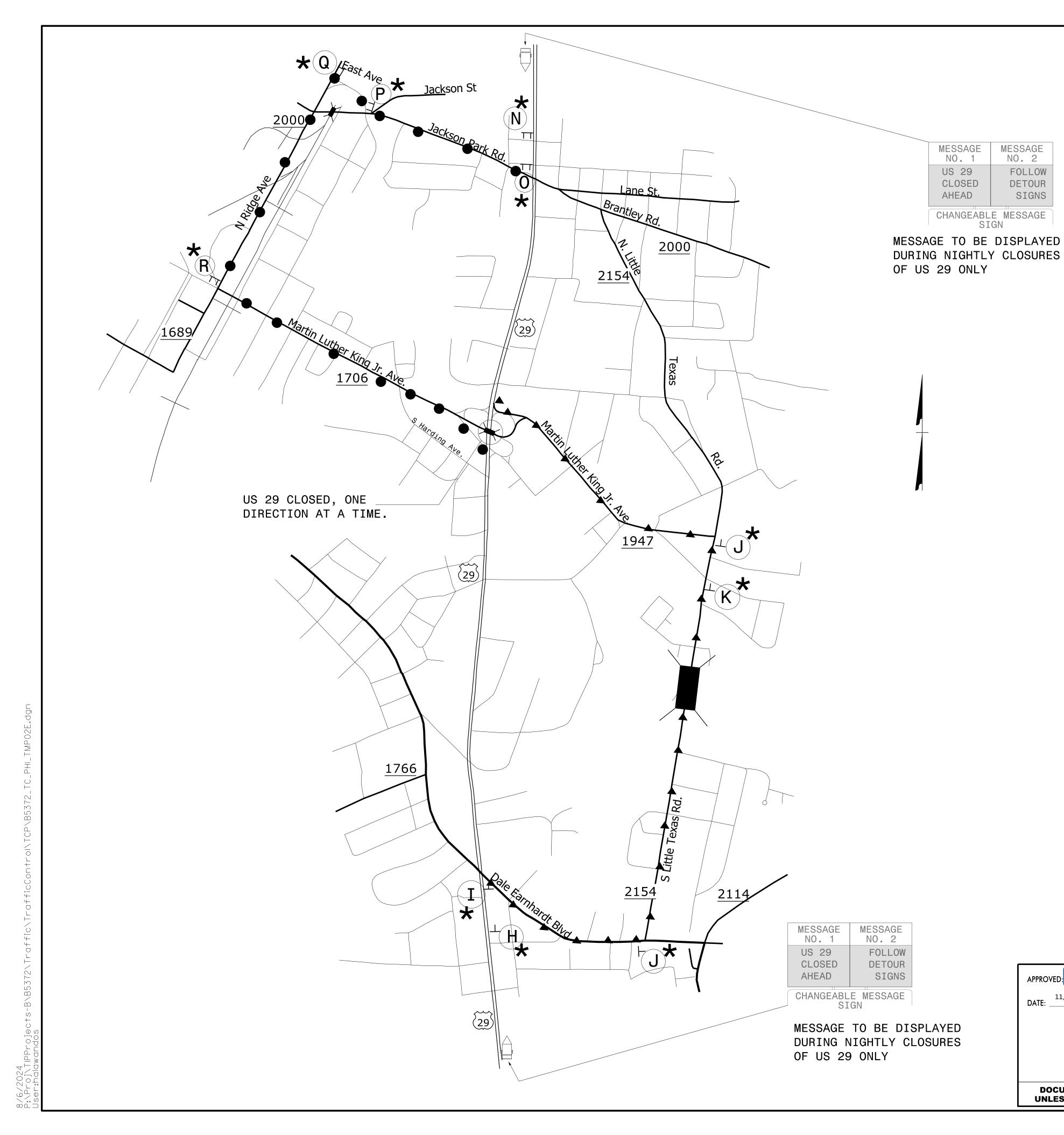






OFF-SITE DETOUR
ROUTE & SIGNING
FOR
MARTIN LUTHER
KING Jr. AVE.
SR 1706

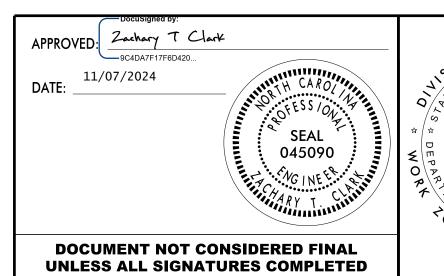
PROJ. REFERENCE NO. SHEET NO. B-5372 TMP-2E

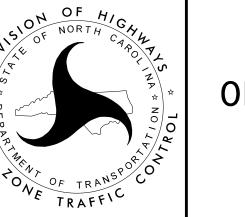


NOTES:

- 1. ONLY ONE DIRECTION OF US 29 SHALL BE CLOSED AT A TIME.
- 2. SEE GENERAL NOTES FOR TIME RESTRICTIONS.
- 3. SEE TMP-2G FOR DETOUR SIGN ASSEMBLIES.
- • • OFFSITE DETOUR FOR US 29 SB TRAFFIC
- → → → OFFSITE DETOUR FOR US 29 NB TRAFFIC

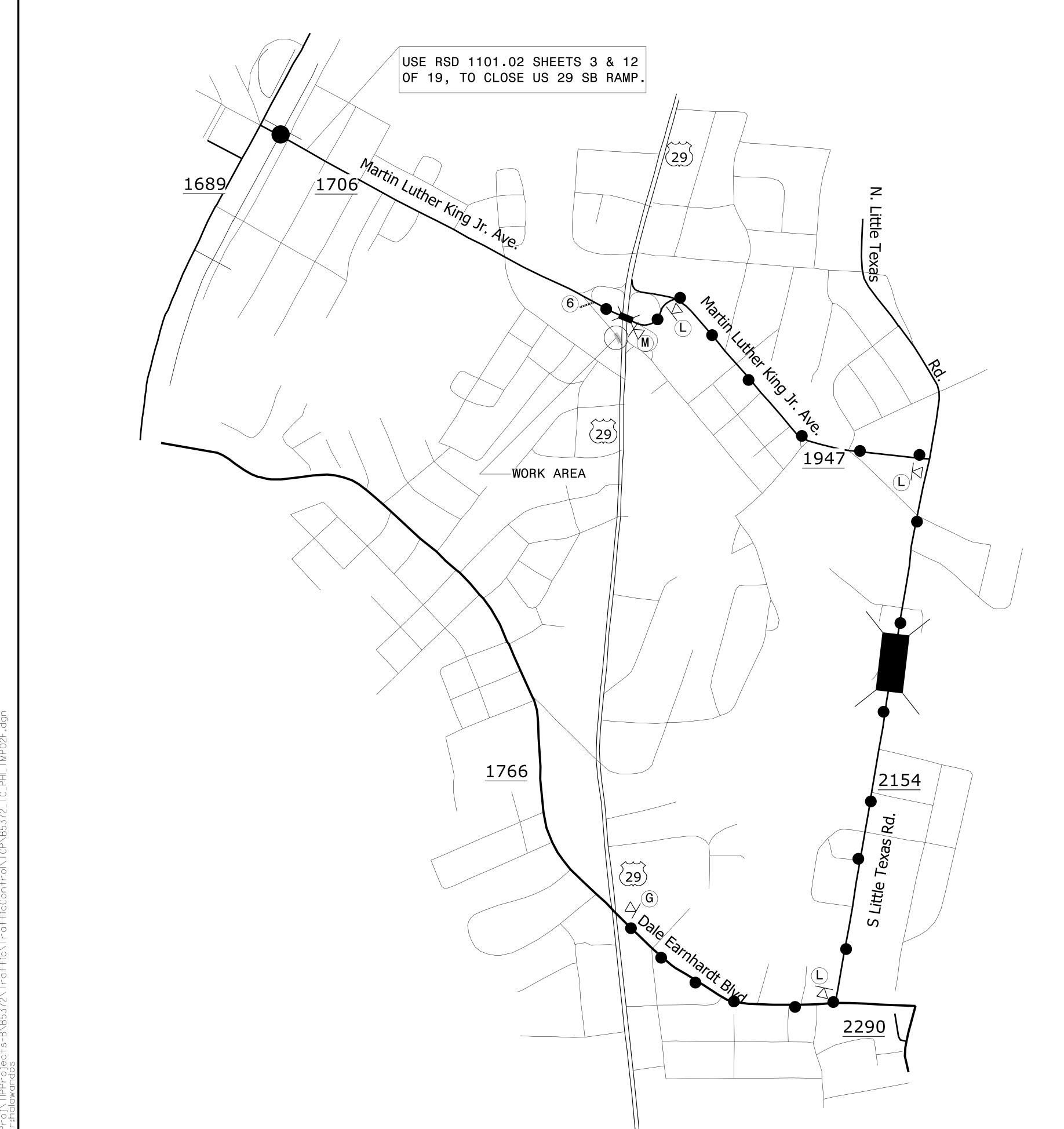
* SHOULD BE COVERED WHEN US 29 DETOURS ARE NOT ACTIVE.

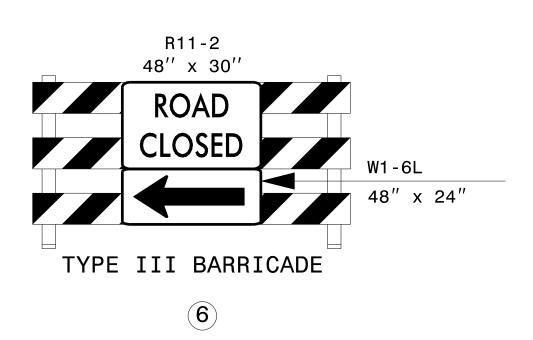




OFFSITE DETOUR FOR US 29 NB & SB

PROJ. REFERENCE NO. B-5372 TMP-2F

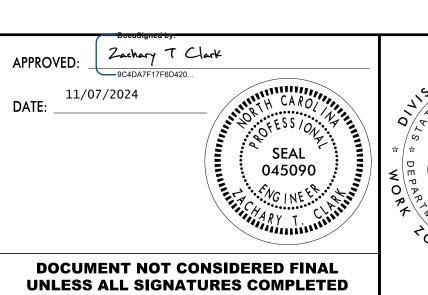


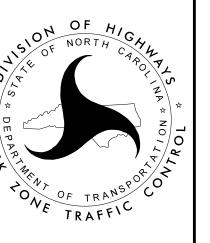


NOTES:

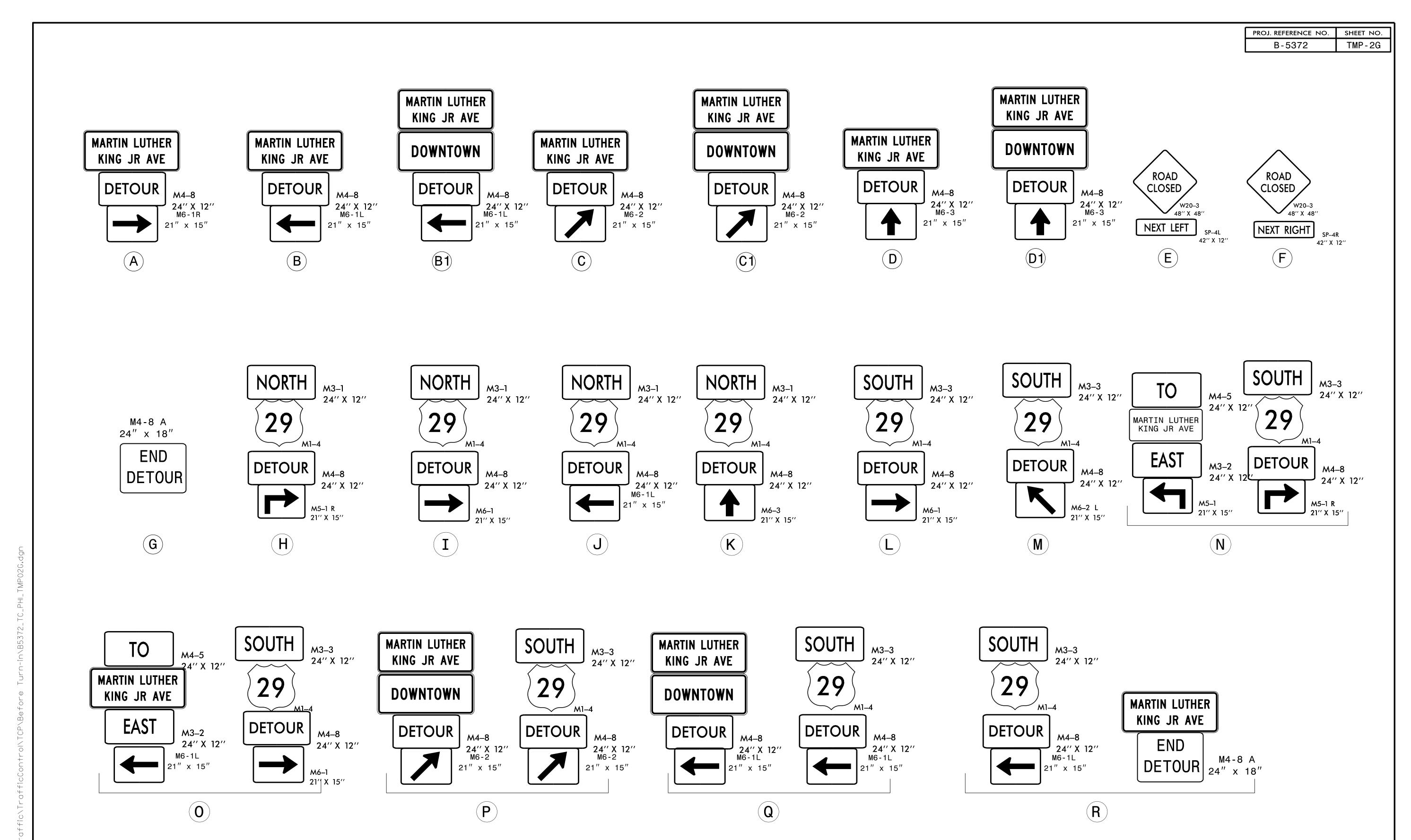
- 1. SEE GENERAL NOTES FOR TIME RESTRICTIONS.
- 2. ALL SIGNS SHOWN ON THIS SHEET SHOULD BE COVERED WHEN DETOUR IS NOT ACTIVE.
- 3. SEE TMP-2G FOR DETOUR SIGN ASSEMBLIES.

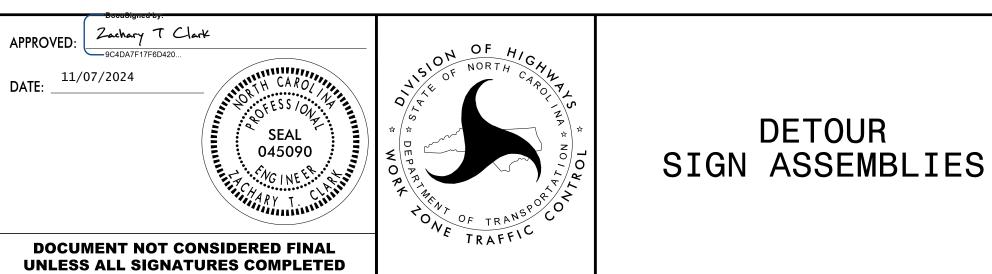
OFFSITE DETOUR FOR US 29 SB RAMP CLOSURE





OFFSITE DETOUR FOR US 29 SB RAMP CLOSURE





PROJ. REFERENCE NO.	SHEET NO.
B-5372	TMP-3

NOTES:

BEFORE BEGINNING ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS AND TRAFFIC CONTROL DEVICES. FIELD VERIFY LOCATIONS WITH THE RESIDENT ENGINEER PRIOR TO INSTALLATION.

COVER DETOUR SIGNS WHEN DETOURS ARE NOT IN USE.

MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES DURING THE LIFE OF THE CONTRACT, UNLESS OTHERWISE NOTED IN THE PHASING PLANS OR DIRECTED 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 CLOSURE (1101.02), RETURN TRAFFIC TO EXISTING AND/OR TEMPORARY TRAFFIC PATTERN UPON ACTIVITIES COMPLETION, UNLESS OTHERWISE NOTED IN THE PHASING PLANS.

WHEN PHASING STATES TO USE LANE CLOSURES, REFER TO RSD 1101.02 SHEETS 1 & 3 OF 19

COMPLETE PAVING UP TO, BUT NOT INCLUDING, THE FINAL LAYER OF SURFACE COURSE UNTIL STATED TO PLACE FINAL LAYER IN THE PHASING PLANS.

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.

UTILIZE SLOTTED PORTABLE CONCRETE BARRIER (PCB) TO FACILITATE TEMPORARY DRAINAGE.

PHASING

PHASE I

- STEP 1: USING RSD 1101.01, INSTALL WORK ZONE ADVANCE WARNING SIGNS.
- STEP 2: INSTALL DETOUR SIGNS FOR THE CLOSURE OF RAMP TO US 29 SB (SHEET TMP-2F)

USING NIGHTLY RAMP CLOSURES AND RSD 1101.02 SHEETS 3 & 12 OF 19, INSTALL PROPOSED DRAINAGE STRUCTURES 425 & 426 AND PIPE ACROSS RAMP. (SEE ROADWAY PLAN AND UTILITY PLAN).

- NOTE: AT THE END OF EACH WORK PERIOD COVER DETOUR SIGNS AND OPEN THIS RAMP BACK TO TRAFFIC.

 UPON COMPLETION OF THIS WORK, REMOVE DETOUR SIGNS.
- STEP 3: INSTALL AND COVER DETOUR SIGNS FOR -L- (MARTIN LUTHER KING Jr. AVE.). (SEE SHEETS TMP-2D AND TMP-4).
- STEP 4: USING FLAGGERS, RSD 1101.03 (SHEETS 1 & 2 OF 9), TMP-4, AND TMP-2D, PERFORM THE FOLLOWING:
 - PLACE TEMPORARY PAVEMENT MARKINGS AND DRUMS FOR TEMPORARY TRAFFIC PATTERN ON -L- (MLK Jr. AVE.) AS SHOWN ON SHEET TMP-4.
 - UNCOVER DETOUR SIGNS PLACED IN STEP 2, PLACE BARRICADES TO CLOSE THE EXISTING BRIDGE, AND DETOUR -L- (MLK Jr. AVE.) TRAFFIC OFF-SITE.
- STEP 5: INSTALL AND COVER DETOUR SIGNS FOR THE CLOSURE OF US 29 AS SHOWN ON SHEET TMP-2E.
- NOTE: THE CONTRACTOR SHALL NOT CLOSE BOTH DIRECTIONS OF US 29 AT THE SAME TIME. THE CLOSURE IS ALLOWED BETWEEN 9:00 PM AND 6:00 AM THE FOLLOWING DAY. FOR BRIDGE DEMOLITION AND GIRDER INSTALLATION.
- STEP 6: USING RSD 1101.03 (SHEET 7 OF 9) DURING ALLOWABLE CLOSURE HOURS, PERFORM THE FOLLOWING:
 - UNCOVER DETOUR SIGNS PLACED IN STEP 4 AND DETOUR ONE DIRECTION OF -Y- (US 29) TRAFFIC AT THE TIME.
 - REMOVE EXISTING BRIDGE DECK & GIRDERS OVER -Y- (US 29).
 - BEHIND EXISTING GUARDRAIL, REMOVE BRIDGE END BENTS AND BEGIN THE REMOVAL OF MEDIAN BENT.
- STEP 7: USING LANE CLOSURES ON -Y- (US 29) AND SHEET TMP-5, PERFORM THE FOLLOWING:
 - REMOVE EXISTING OUTSIDE GUARDRAIL IN BOTH DIRECTIONS ON -Y- (US 29).
- NOTE: REMOVE GUARDRAIL AGAINST THE FLOW OF TRAFFIC TO AVOID
 UNPROTECTED END BEING EXPOSED TO TRAFFIC. USE TWA AS NECESSARY.
 - INSTALL TEMPORARY PAVEMENT ALONG THE OUTSIDE SHOULDERS AS FOLLOW:
 - -- SB US 29 FROM -Y- STA. 16+93 +/- TO -Y- STA. 21+40 +/-. -- NB US 29 FROM -Y- STA. 18+11 +/- TO -Y- STA. 20+80 +/-.
 - INSTALL TEMPORARY GUARDRAIL ALONG THE OUTSIDE SHOULDERS AS FOLLOW:
 - -- SB US 29 FROM -Y- STA. 16+93 +/- TO -Y- STA. 20+35 +/-.
 -- NB US 29 FROM -Y- STA. 17+92 +/- TO -Y- STA. 21+20 +/-.
 - SEE SHEET TMP-5, PLACE TEMPORARY PAVEMENT MARKINGS & MARKERS ON -Y- (US 29), FOR REDUCED LANE WIDTHS (SHIFTED TOWARDS OUTSIDE SHOULDERS), AND SHIFT TRAFFIC IN BOTH DIRECTIONS.

PHASE II

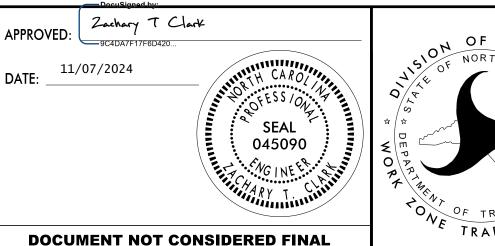
- STEP 1: USING LANE CLOSURES ON US 29 AND SHEET TMP-5, PERFORM THE FOLLOWING:
 - INSTALL PCB AND CRASH CUSHIONS ON THE INSIDE LANES AS FOLLOWS:
 - -- SB US 29 FROM -Y- STA. 17+66 +/- TO -Y- STA. 20+00 +/-. -- NB US 29 FROM -Y- STA. 18+16 +/- TO -Y- STA. 20+70 +/-.
 - REMOVE EXISTING MEDIAN GUARDRAIL.

PHASE II (CONTINUED)

- STEP 2: BEHIND PCB AND USING LANE CLOSURE AS NEEDED, BEGIN PROPOSED DRAINAGE WORK IN THE MEDIAN OF US 29 AND INSTALL TEMPORARY SHORINGS AS FOLLOWS:
 - -- SHORING #1, ON SB US 29 (15' RIGHT OF CL) FROM -Y- STA. 18+80 +/TO -Y- STA. 20+00 +/-.
 - -- SHORING #2, ON NB US 29 (15' LEFT OF CL) FROM -Y- STA. 18+90 +/TO -Y- STA. 19+64 +/-.
 - COMPLETE THE REMOVAL OF MEDIAN BRIDGE BENT/ EXISTING SUBSTRUCTURE AND COMPLETE CONSTRUCTION OF PROPOSED SUBSTRUCTURE AS SHOWN ON SHEET TMP-5 AND STRUCTURE PLANS. COMPLETE DRAINAGE WORK.
 - CONSTRUCT AS MUCH AS POSSIBLE OF PROPOSED INSIDE SHOULDER BEHIND PCB.
- STEP 3: USING LANE CLOSURES, AND FINAL PAVEMENT MARKING PLANS, PERFORM THE FOLLOWING ON -Y- LINE (US 29):
 - REMOVE TEMPORARY SHORING, COMPLETE CONSTRUCTION OF INSIDE SHOULDER AND INSTALL PROPOSED GUARDRAIL.
 - REMOVE PCB.
 - PLACE TEMPORARY PAVEMENT MARKINGS, AND SHIFT TRAFFIC TO THE PROPOSED ALIGNMENT.
- STEP 4: USING LANE CLOSURES, PERFORM THE FOLLOWING ON -Y- LINE (US 29):
 - REMOVE TEMPORARY PAVEMENT INSTALLED ON THE OUTSIDE SHOULDERS.
 - CONSTRUCT PROPOSED CURB & GUTTER, PROPOSED SIDEWALK, AND INSTALL PROPOSED GUARDRAIL.
- THE FOLLOWING DAY, FOR BRIDGE DEMOLITION AND GIRDER INSTALLATION. NOTES: REMOVE GUARDRAIL AGAINST THE FLOW OF TRAFFIC TO AVOID
 - UNPROTECTED END BEING EXPOSED TO TRAFFIC. USE TMA AS NECESSARY.
 THE CONTRACTOR SHALL NOT CLOSE BOTH DIRECTIONS OF US 29 AT THE
 SAME TIME. THE CLOSURE IS ALLOWED BETWEEN 9:00 PM AND 6:00 AM
 THE FOLLOWING DAY. FOR BRIDGE DEMOLITION AND GIRDER INSTALLATION.
 - STEP 5: AWAY FROM TRAFFIC AND USING RSD 1101.03 AND FLAGGERS AS NECESSARY, DURINGALLOWABLE CLOSURE HOURS, COMPLETE THE FOLLOWING:
 - BRIDGE DECK, GIRDERS AND APPROACHES ON -L-:
 - -- FROM -L- STA. 17+00 +/- TO -L- STA. 25+85 +/-.
 - -- FROM -Y- STA. 16+55 +/- TO -Y- STA. 21+64 +/-. -- FROM -LPC- STA. 10+00 +/- TO -LPC- STA. 14+00 +/-.
 - MILL FROM -L- STA. 13+00 +/- TO -L- STA. 17+00 +/-.
 - PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS FROM -L- STA. 13+00 +/- TO -L- STA. 17+00 +/-.
 - REOPEN -L- TO PROPOSED TRAFFIC PATTERN.

PHASE III

- STEP 1: USING LANE CLOSURES AND FINAL PAVEMENT MARKING PLANS, PLACE FINAL SURFACE COURSE AND FINAL PAVEMENT MARKINGS ON US 29.
- STEP 2: REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES.



UNLESS ALL SIGNATURES COMPLETED

TEMPORARY
TRAFFIC CONTROL
PHASING

rindlawands

