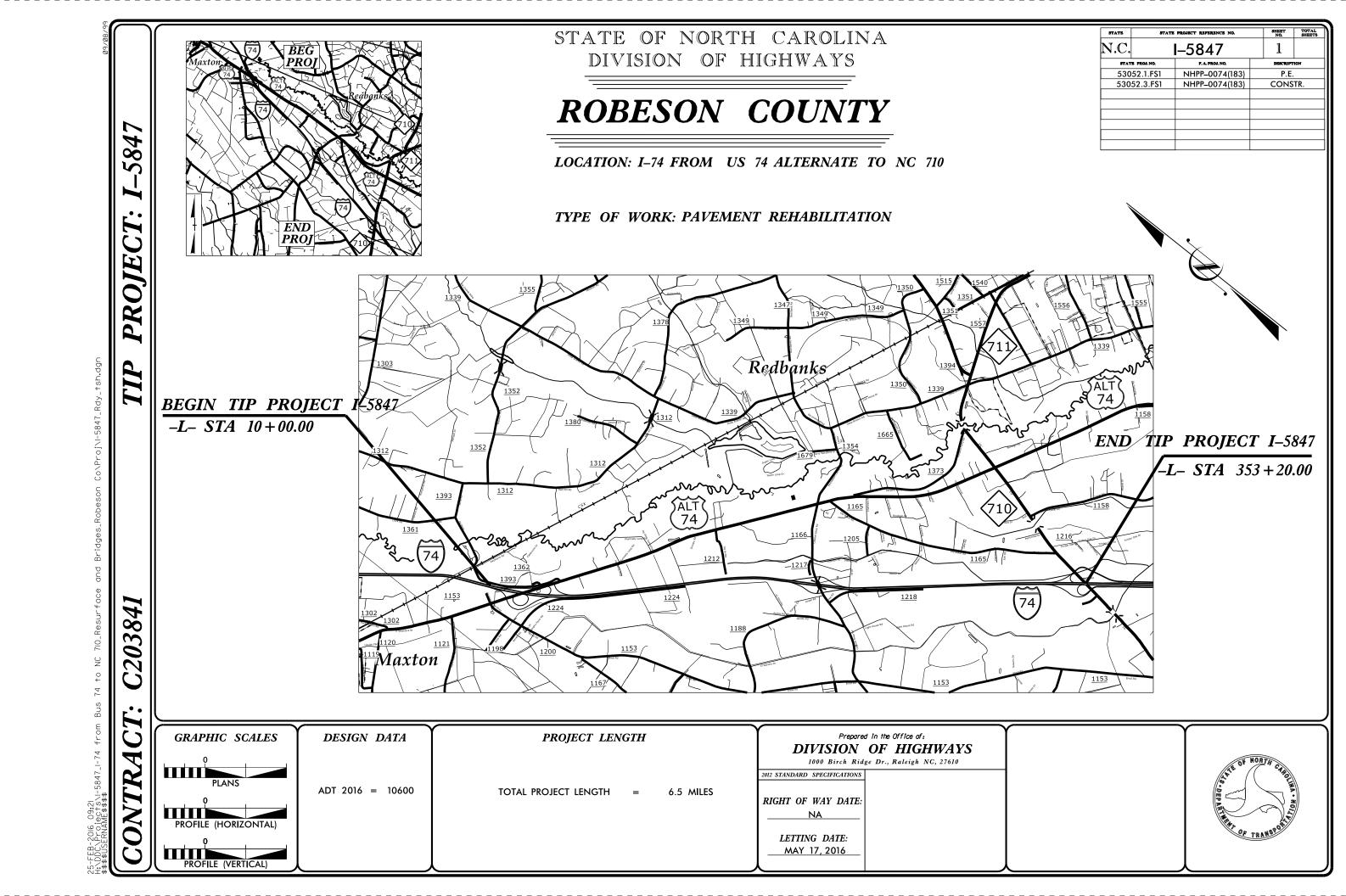
# This electronic collection of documents is provided for the convenience of the user and is Not a Certified Document –

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This file or an individual page shall not be considered a certified document.



*1−584*7

INDEX OF SHEETS

SHEET SHEET NUMBER

TITLE SHEET

INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS

PAVEMENT SCHEDULE AND TYPICAL SECTIONS 2A-1

PLAN SHEETS

ROADWAY DETAILS 2B-1 ROADWAY SUMMARIES 3B-1 THRU 3B-3

4 THRU 5

TRAFFIC MANAGEMENT PLANS PAVEMENT MARKING PLANS

GENERAL NOTES:

2012 SPECIFICATIONS EFFECTIVE: 01-17-2012 REVISED: 10-31-2014

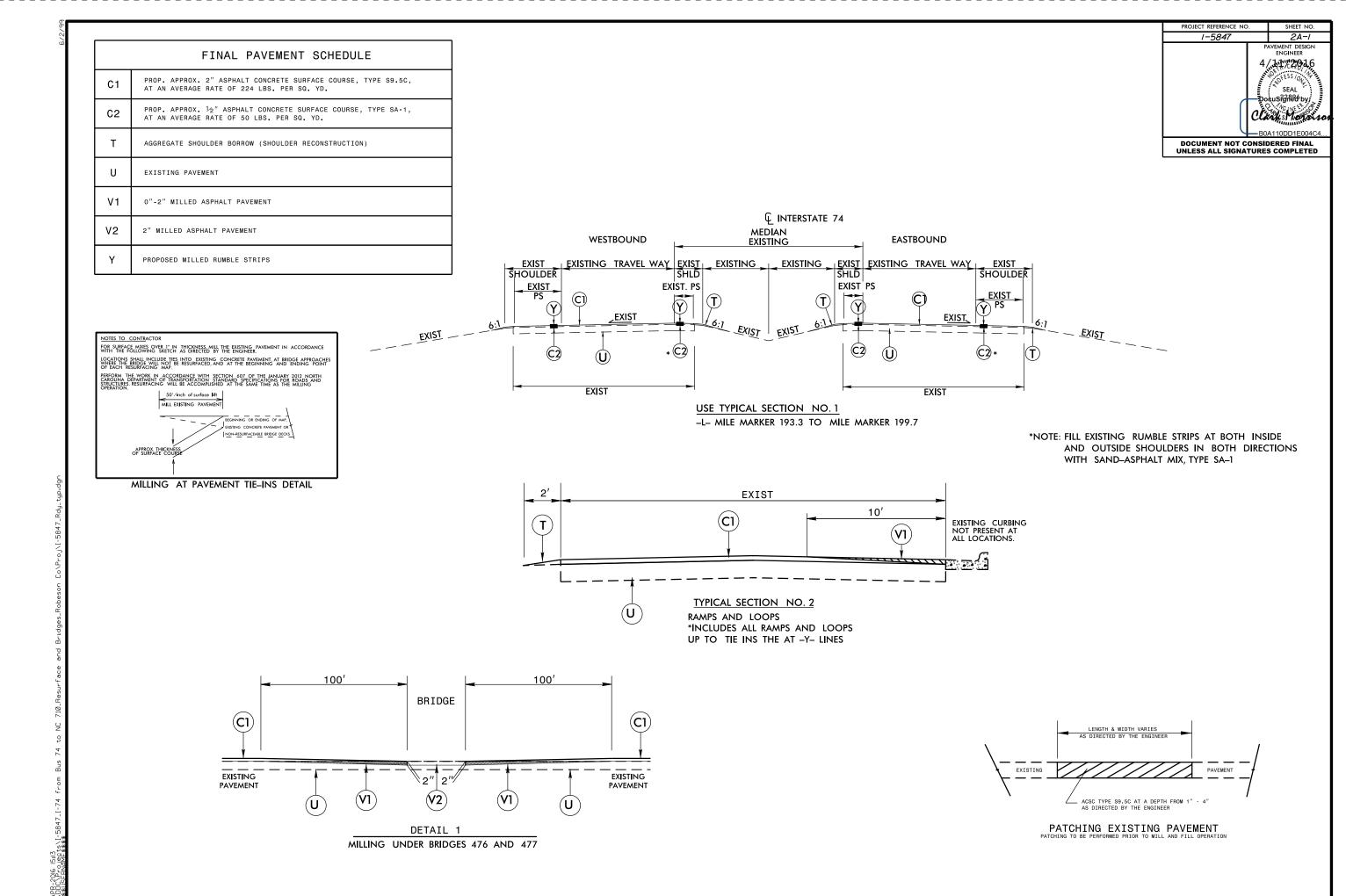
GUARDRAIL:

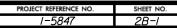
THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

EFF. 01-17-2012 REV. 10-30-2012

2012 ROADWAY ENGLISH STANDARD DRAWINGS The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C. Dated January. 2012 are applicable to this project and by reference hereby are considered a part of these plans:

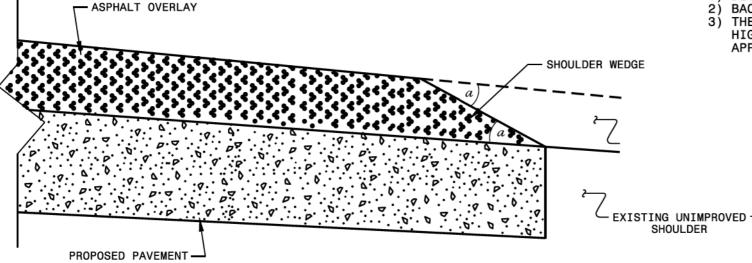
STO.NO. TITLE
DIVISION 8 - INCIDENTALS
B62.01 Guardrail Placement
862.02 Guardrail Installation





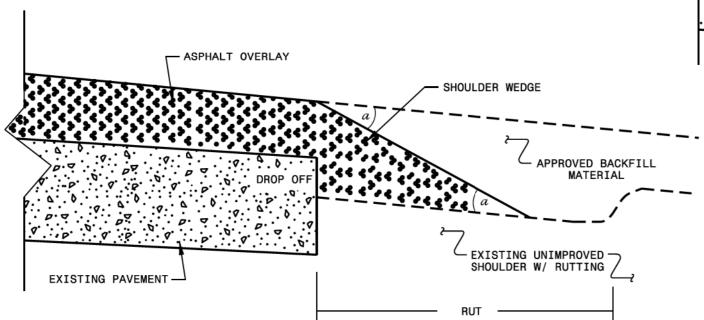
#### NOTE

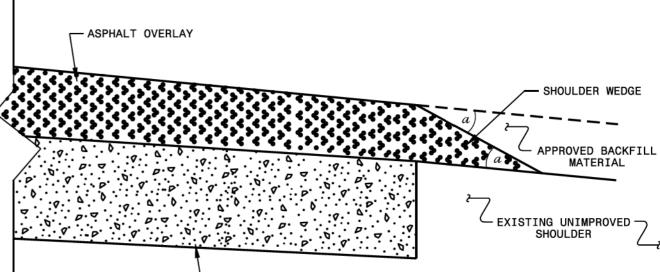
- DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
- 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
- 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



#### SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ Widening or with Existing Paved Shoulder having no dropoffs)





#### SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening)

EXISTING PAVEMENT

- SHOULDER WEDGE ANGLE = 30°

#### CONTRACT STANDARDS AND DEVELOPMENT UNIT Office 919-707-6950 FAX 919-250-4119

#### SHOULDER WEDGE DETAILS

ORIGINAL BY:	T.SPELL	DATE:	7-19-11
MODIFIED BY:		DATE:	2/2/16
CHECKED BY:		DATE:	
FILE SPEC .: Sius	r/details/stand/sho	ulderwedge	detail dgn

#### SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SHEET NO. 3B-1 PROJECT REFERENCE NO. *1−584*7

OFFICE BY:

DAIE:

DAIE:

OFFICE OF GUARDRAIL.

TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.

FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.

W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.

G = GATING IMPACT ATTENUATOR TYPE 350

NG = NON-GATING IMPACT ATTENUATOR TYPE 350

#### CILADDDAIL CTIME ADV

									GU	JAF	RDI	RA	IL	SL	<i>JM</i>	M	AR	Y	7					
SURVEY LINE	BEG. STA.	END STA.	LOCATION		LENGTH	T	<b>.</b>	NT POINT	"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH		LENGTH		w I				AN	NCHORS	,	IMPACT ATTENUATO TYPE 350	OR.	REMOVE EXISTING	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END	E.O.L.	WIDTH	APPROACH END	TRAILING END	APPROACH END	TRAILING END	TYPE 350					١	PERMITT	IG	GUARDRAIL	
L L	11 + 00 26 + 25		CL CL												1								50 50	
L	266+40		CL												1			1					50	
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PROJECT NO.	SHEET NO.
I-5847	3B-2

#### SUMMARY OF QUANTITIES

PROJECT	COUNTY	MAP R	DUTE	DESCRIPTION	TYP	LANES	LANE	FINAL	WARM MIX	LENGTH	WIDTH	AGGREGATE	SHOULDER	2" MILLING	0" TO 2"	INCIDENTAL	ASPHALT	ASPHALT	ASPHALT	PATCHING	MILLED	GUARDRAIL	REMOVE	SEED &
							TYPE	SURFACE	ASPHALT			SHOULDER	RECON-		MILLING	MILLING	CONCRETE	CONCRETE	BINDER FOR	EXISTING	RUMBLE	ANCHOR	EXISTING	MULCHING
								TESTING	REQUIRED			BORROW	STRUCTION				SURFACE	SURFACE	PLANT MIX	PAVEMENT	STRIPS	UNITS,	GUARDRAIL	
								REQUIRED									COURSE,	COURSE,			(ASPHALT	TYPE 350		
																	S9.5C	TYPE SA-1			CEMENT			
																					CONCRETE)			
NO		NO			NO					MI	FT	TON	SMI	SY	SY	SY	TONS	TON	TONS	TON	LF	EA	LF	AC
				FROM ALT. 74 MP 193.3 TO NC 710																				
I-5847	Robeson	1	-74	MP 199.8	1 & 2	4	MD	NO	NO	6.5	80	5,901	35.40	3,970	12,674	612	42,161	200	2,501	155	137,280	3	150	1.00
TOT	AL FOR MA	AP NO. 1								6.5		5,901	35.40	3,970	12,674	612	42,161	200	2,501	155	137,280	3	150	1.00
TOTA	L FOR PRO	)J NO. I-74	ļ							6.5		5,901	35.40	3,970	12,674	612	42,161	200	2,501	155	137,280	3	150	1.00
					•	•	•			•	•	•	•		•	•			•			•		
	GRAND TO	OTAL								6.5		5,901	35.40	3,970	12,674	612	42,161	200	2,501	155	137,280	3	150	1.00

PROJECT NO.	SHEET NO.
1-5847	3B-3

#### THERMOPLASTIC AND PAINT QUANTITIES

					4400000000-	E 4405000000-E	4410000000-E	4415000000-N	4420000000-N	4422000000-N	4430000000-N	4435000000-N	4445000000-E	4450000000-N 4	480000000-1	4510000000-i	N 4650000000-N	4688000000-E	4690000000-E	4695000000-E	4700000000-E	4702000000-E	4710000000-E	4725000000-E	4815000000-E	4820000000-E	4825000000-E	4835000000-E	4845000000-N	4855000000-E	4905000000-N
PROJECT COUNTY MAP ROUTE DESC	SCRIPTION	TYP LAN	ES LANE LENG	TH WIDT	H STATIONARY	PORTABLE	BARRICADE	FLASHING	PORTABLE	PORTABLE	DRUMS	CONES	BARRICADES	FLAGGERS	TMA	LAW ENFORC	- TEMPORARY	THERMO-	THERMO-	THERMO-	THERMO-	THERMO-	THERMO-	THERMO-	PAINT	PAINT	PAINT	PAINT	PAINT	REMOVAL OF	SNOW-
			TYPE		WORK ZONE	WORK ZONE	MOUNTED	ARROW	CHANGEABLE	CHANGEABLE			(TYPE III)			MENT	RAISED	PLASTIC	PLASTIC	PLASTIC	PLASTIC	PLASTIC	PLASTIC	PLASTIC	PAVEMENT	PAVEMENT	PAVEMENT	PAVEMENT	PAVEMENT	PAVEMENT	PLOWABLE
					SIGN	SIGN	WORK ZONE	BOARD	MESSAGE	MESSAGE							PAVEMENT	PAVEMENT	PAVEMENT	PAVEMENT	PAVEMENT	PAVEMENT	PAVEMENT	PAVEMENT	MARKING	MARKING	MARKING	MARKING	MARKING	MARKING	PAVEMENT
							SIGN		SIGN	SIGN (SHORT							MARKERS	MARKING	MARKING	MARKING	MARKING	MARKING	MARKING	MARKING	LINES (6")	LINES (8")	LINES (12")	LINES (24")	SYMBOL	LINES (6")	MARKERS
										TERM)								LINES	LINES	LINES	LINES	LINES	LINES	SYMBOL							
																		(6", 90 MILS)	(6", 120 MILS)	(8", 90 MILS)	(12", 90 MILS)	(12", 120	(24", 120	(90 MILS)							
																						MILS)	MILS)								
NO NO		NO			SF	SF	SF	EA	EA	DAY	EA	EA	LF	HR	EA	HR	EA	LF	LF	LF	LF	LF	LF	EA	LF	LF	LF	LF	EA	LF	EA
FROM ALT	LT. 74 MP 193.3																														
I-5847 Robeson 1 I-74 TO NC 7	710 MP 199.8	1 & 2 4	MD 6.	80	244	571	44	2	4	80	200	40	32	80.00	1.00	80.00	900.00	154,013	17,572	435	5,841	200	204	26	350,000	435	641	204	26	175,000	1,435
TOTAL FOR MAP NO. 1			6.	;	244	571	44	2	4	80	200	40	32	80	1	80	900	154,013	17,572	435	5,841	200	204	26	350,000	435	641	204	26	175,000	1,435
TOTAL FOR PROJ NO. 1-74			6.	;	244	571	44	2	4	80	200	40	32	80	1	80	900	154,013	17,572	435	5,841	200	204	26	350,000	435	641	204	26	175,000	1,435
GRAND TOTAL			6.	;	244	571	44	2	4	80	200	40	32	80	1	80	900	154,013	17,572	435	5,841	200	204	26	350,000	435	641	204	26	175,000	1,435

PROJECT REFERENCE NO.

1-5847 BEGIN RESURACING AT PAVEMENT JOINT 16+50 REMOVE EXISTING ANCHOR UNIT AND REPLACE WITH GRAU-350 35+00 30 + 00 25 + 00 20 + 00 15 + 00 10 + 00REMOVE EXISTING ANCHOR UNIT AND REPLACE WITH GRAU-350

project reference no.

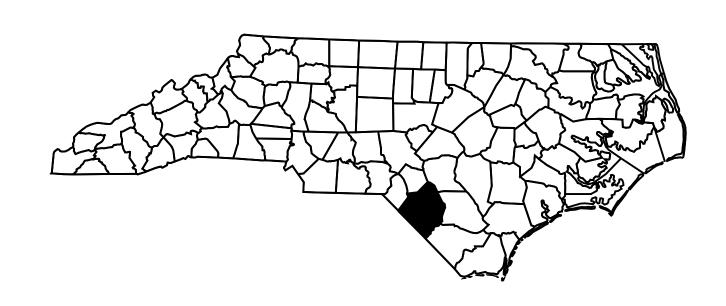
1-5847 REMOVE EXISTING ANCHOR UNIT AND REPLACE WITH GRAU-350 255 + 00 270+00 260+00 265 + 00 275 + 00 280 + 00

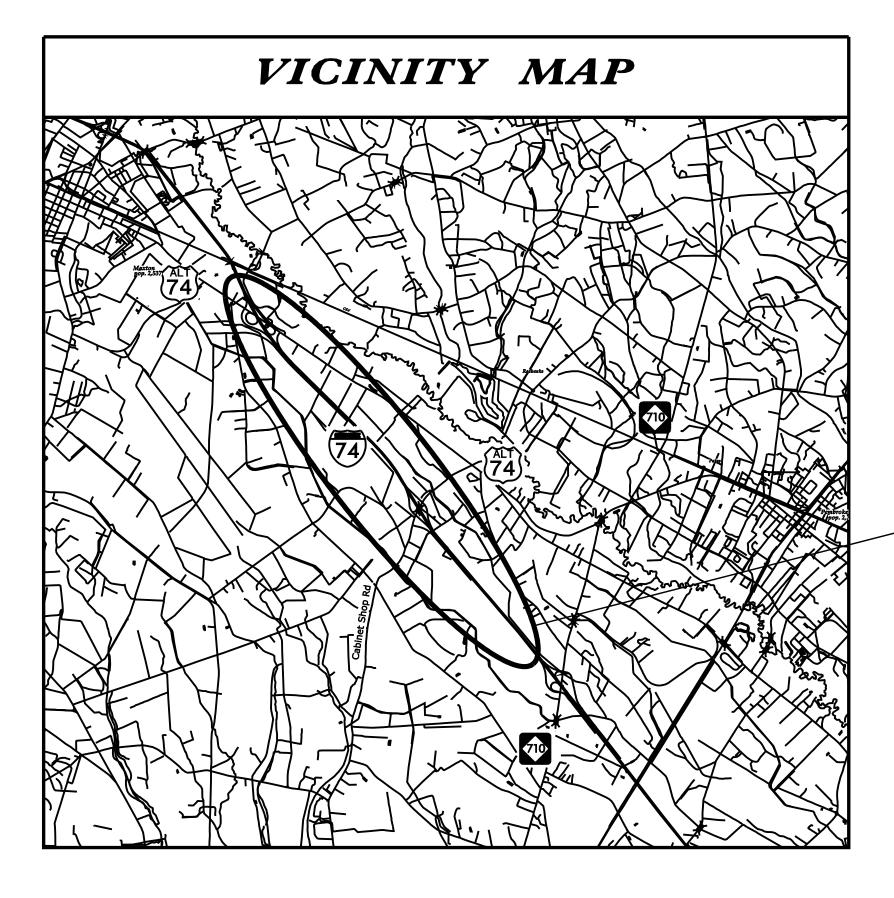
octs/l-364/.1-/4 from bus /4 to Nr /10\_Mesurface and bridges\_Mobeson Lowrrojvi-: //esss

### STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

# TRANSPORTATION MANAGEMENT PLAN

# ROBESON COUNTY





APPROXIMATE
PROJECT LOCATION

#### 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-2 TRANSPORTATION OPERATIONS PLAN: (WORK ZONE

TRAFFIC CONTROL REQUIREMENTS)

TMP-2A AND TMP-2B OFF SITE DETOUR DETAILS

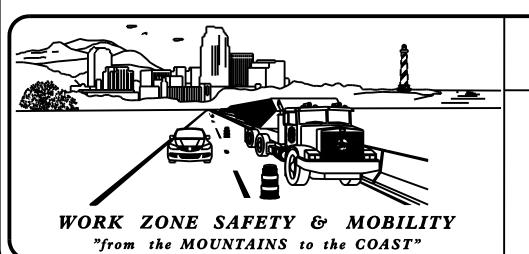
TMP-2C RESURFACING ADVANCE WARNING SIGNS FOR HIGH

SPEED FACILITIES >= 60 MPH

TMP-2D WORK ZONE VARIABLE SPEED LIMIT DETAIL

TMP-3 WORK ZONE TRAFFIC CONTROL NARRATIVE

PROJECT



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL

1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561

750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)

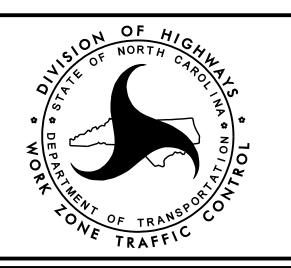
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER

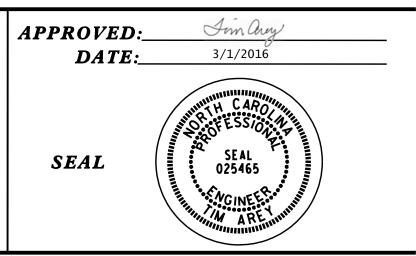
STEVE KITE, P.E. TRAFFIC CONTROL PROJECT ENGINEER

DON PARKER, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER

TRAFFIC CONTROL DESIGN ENGINEER







PROJ. REFERENCE NO.	SHEET NO.
I-5847	TMP-1A

#### 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 2012 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
1101.04	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	DRUMS
1135.01	CONES
1145.01	BARRICADES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXIT AND ENTRANCE RAMPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING

#### **LEGEND**

#### <u>GENERAL</u>

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

ON-GOING CONSTRUCTION

#### PAVEMENT MARKINGS

-----EXISTING LINES
-----TEMPORARY LINES

#### TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

CONI

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

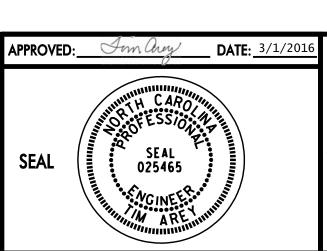
CRYSTAL/RED

◆ YELLOW/YELLOW

#### PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS







ROADWAY STANDARD DRAWINGS & LEGEND

#### WORK ZONE TRAFFIC CONTROL GENERAL REQUIREMENTS

PROJ. REFERENCE NO. SHEET NO. I - 5847 TMP - 2

#### GENERAL PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF MILLING UNDER BRIDGES AND IN TIE-IN AREAS, RESURFACING THE MAINLINE AND RAMPS, AND PLACING LONGLIFE PAVEMENT MARKINGS AND SNOWPLOWABLE MARKERS. THE CONSTRUCTION OPERATIONS ALONG THE MAINLINE WILL BE ACCOMPLISHED USING LANE CLOSURES. CONSTRUCTION OPERATIONS ON THE RAMPS AND LOOPS WILL BE ACCOMPLISHED WITH OFFSITE DETOURS AS SHOWN IN THESE PLANS.

#### LANE CLOSURE RESTRICTIONS

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 (SEE SPECIAL PROVISION, INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)

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

#### **ROAD NAME**

I - 74

ALL I-74 RAMPS/LOOPS

#### HOLIDAY

- 1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- 2. FOR NEW YEAR'S DAY, BETWEEN THE HOURS OF 7:00AM DECEMBER 31st AND 6:00PM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00PM THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 7:00AM THURSDAY AND 6:00PM
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00AM FRIDAY AND 6:00PM WEDNESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00AM THE FRIDAY BEFORE THE WEEK OF INDEPENDENCE DAY AND 6:00PM THE FOLLOWING MONDAY AFTER THE WEEK OF INDEPENDENCE DAY.
- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00AM FRIDAY AND 6:00PM WEDNESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00AM TUESDAY AND 6:00PM MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

#### LANE AND SHOULDER CLOSURE REQUIREMENTS

- B) 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.
- O) 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.
- 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.

#### WORK ZONE SIGNING:

#### (A) INSTALLATION

IF THERE IS A PERIOD OF CONSTRUCTION INACTIVITY LONGER THAN 14 CALENDAR DAYS, REMOVE OR COVER ADVANCE/GENERAL WARNING WORK ZONE SIGNS. UNCOVER ADVANCE/GENERAL WARNING WORK ZONE SIGNS NO MORE THAN 7 CALENDAR DAYS BEFORE WORK RESUMES. ALL OTHER OPERATIONS MAY BE SUSPENDED UPON FAILURE TO COMPLY WITH THE ABOVE REQUIREMENTS. SUCH SUSPENDED OPERATIONS WOULD NOT BE RESUMED UNTIL THE ABOVE REQUIREMENTS ARE FULFILLED.

#### (B) SIGN REMOVAL

ALL STATIONARY WORK ZONE SIGNS SHALL BE REMOVED ONCE THE PROJECT IS SUBSTANTIALLY COMPLETE. THE PROJECT IS SUBSTANTIALLY COMPLETE WHEN THE RESURFACING OPERATIONS ARE COMPLETED AND THE SHOULDERS ARE BROUGHT UP TO THE SAME ELEVATION AS THE PROPOSED PAVEMENT AND WHEN PAVEMENT MARKINGS ARE INSTALLED. THE PAVEMENT MARKING DOESN'T HAVE TO BE THE FINAL MARKING MATERIAL TO BE CONSIDERED SUBSTANTIALLY COMPLETE. ANY REMAINING PUNCH LIST ITEMS ARE TO BE COMPLETED WITH PORTABLE WORK ZONE SIGNING.

#### (C) LANE CLOSURE WORK ZONE SIGNS

INSTALL ANY REQUIRED LANE CLOSURE SIGNING NEEDED DURING THE LIFE OF THE PROJECT IN ACCORDANCE WITH THE STANDARD DRAWING NO. 1101.02, 1101.11 AND 1110.02 OF THE 2012 ROADWAY STANDARD DRAWINGS.

#### (D) ROAD CLOSURE SIGNS

NOTIFIY THE ENGINEER FOURTEEN (14) CALENDAR DAYS PRIOR TO RAMP/LOOP CLOSURE. PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS AND PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS. COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD AND 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.

#### PAVEMENT MARKING AND MARKERS:

#### DESCRIPTION

TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DRAWINGS 1205.01 THROUGH 1205.13 OF THE 2012 ROADWAY STANDARD DRAWINGS AND SECTION 1205 OF THE 2012 STANDARD SPECIFICATIONS.

#### (A) MARKERS

REMOVE EXISTING SNOWPLOWABLE PAVEMENT MARKERS IN PREPARATION FOR PAVING. REPAIR ANY PAVEMENT DAMAGE DUE TO EXISTING PAVEMENT MARKER REMOVAL PRIOR TO THE END OF THE WORK DAY. DISPOSE OF EXISTING PAVEMENT MARKERS AS DIRECTED BY THE ENGINEER. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK AS IT WILL BE INCIDENTAL TO THE PAVING OPERATION.

INSTALL PERMANENT PAVEMENT MARKERS WITHIN 60 CALENDAR DAYS AFTER COMPLETING THE RESURFACING. PAVEMENT MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DRAWING 1205.12 AND STANDARD DRAWINGS 1250.01 THROUGH 1253.01 OF THE 2012 ROADWAY STANDARD DRAWINGS AND SECTIONS 1250 THROUGH 1253 OF THE 2012 STANDARD SPECIFICATIONS.

#### (B) MARKING AND MARKERS

FOR TEMPORARY PAVEMENT MARKING USE RSD 1205.01, 1205.02, 1205.03, 1205.06, 1205.08, 1205.12, 1205.13.

#### TEMPORARY TRAFFIC CONTROL (TTC):

MAINTAIN TRAFFIC IN ACCORDANCE WITH DIVISIONS 10, 11 AND 12 OF THE 2012 STANDARD SPECIFICATIONS AND THE FOLLOWING PROVISIONS:

INSTALL WORK ZONE ADVANCE WARNING SIGNS IN ACCORDANCE WITH THE DETAIL DRAWING PROVIDED IN THESE PLANS PRIOR TO BEGINNING ANY OTHER WORK.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AND WITHIN 10 FEET OF OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING STANDARD DRAWING NO. 1101.02 OF THE 2012 ROADWAY STANDARD DRAWINGS. 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, 2012 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.

WHEN UTILIZING A SLOW-MOVING OPERATION FOR SUCH ITEMS AS PAVEMENT MARKING AND MARKER PLACEMENT, AS A MINIMUM THE SLOW MOVING OPERATION CARAVAN SHALL CONSIST OF THE VEHICLES AND DEVICES SHOWN ON THE MOVING OPERATION CARAVAN DETAILS ACCORDING TO ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 13 OF THE 2012 ROADWAY STANDARD DRAWINGS. TRAFFIC CONES MAY BE USED WHEN NECESSARY TO PROVIDE ADDITIONAL PROTECTION OF WET PAVEMENT MARKINGS. BALLAST ALL TRAFFIC CONES SO THEY WILL NOT BE BLOWN OVER BY TRAFFIC.

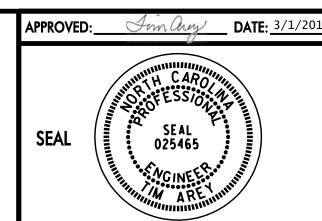
#### **CONSTRUCTION OPERATIONS:**

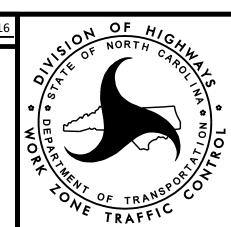
- 1. CONTRACTOR SHALL MILL AND PAVE LANES IN AN ORDER SUCH THAT WATER SHALL NOT ACCUMULATE.
- IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, THE CONTRACTOR IS TO FURNISH AND INSTALL THE FOLLOWING PORTABLE SIGNS TO WARN DRIVERS OF THE CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" (W8-8), "UNEVEN LANES" (W8-11), AND "GROOVED PAVEMENT" (W8-15) W/ MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DUAL INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS.
- 3. REMOVE /REPLACE ANY CONFLICTING OR DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- 4. OPERATE EQUIPMENT AND CONDUCT OPERATIONS IN THE SAME DIRECTION AS THE FLOW OF TRAFFIC. MAINTAIN VEHICULAR ACCESS IN ACCORDANCE WITH ARTICLE 1101-05 OF THE 2012 STANDARD SPECIFICATIONS.
- DO NOT INSTALL MORE THAT 2 MILES OF LANE CLOSURE ON I-74, MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE, AND DO NOT INSTALL ANY MORE THAN ONE PER DIRECTION.

#### MISCELLANEOUS

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

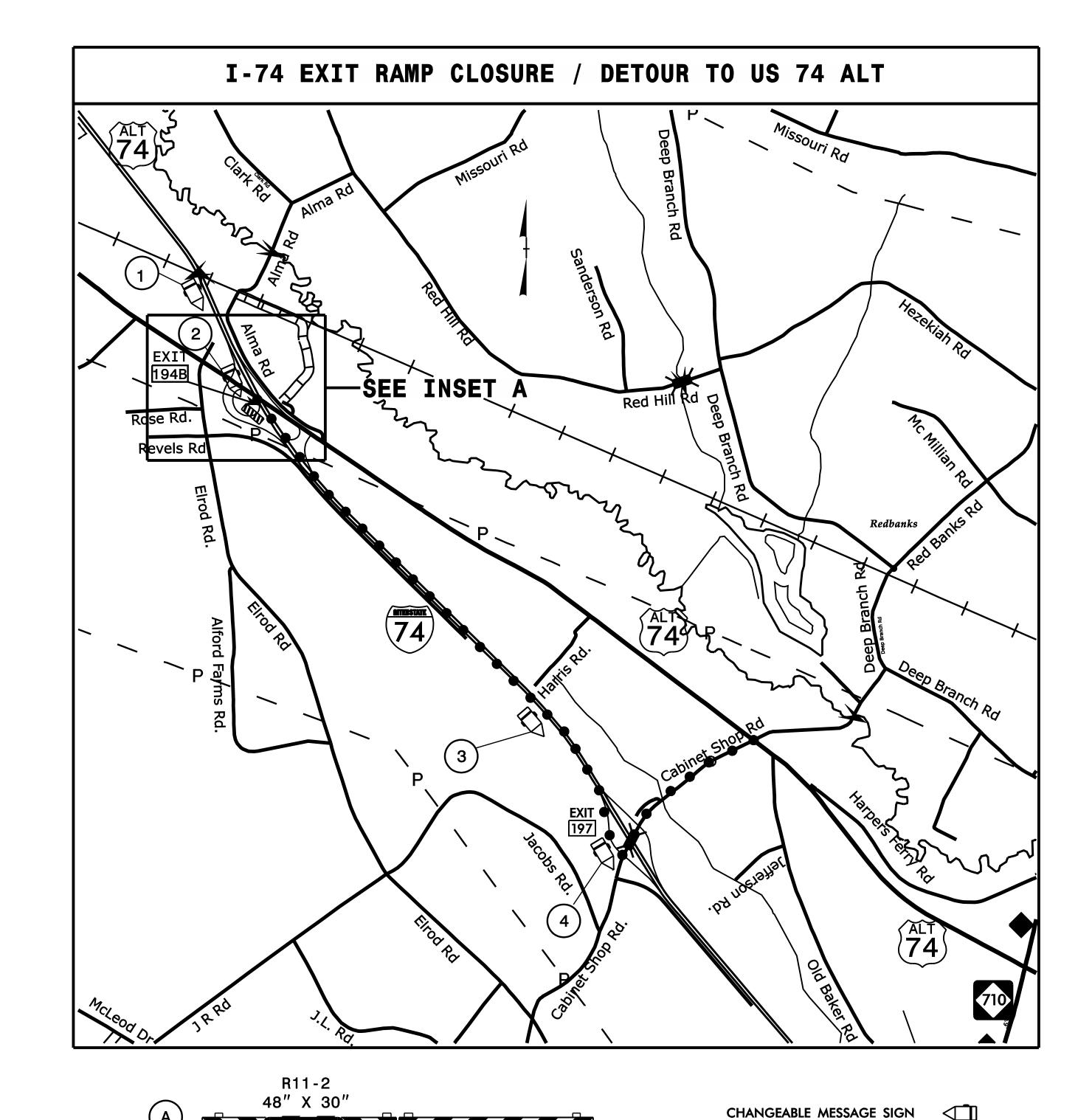






TRANSPORTATION MANAGEMENT PLAN

TRANSPORTATION OPERATIONS PLAN



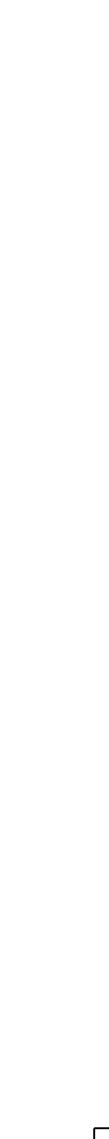
TYPE III BARRICADE(S)

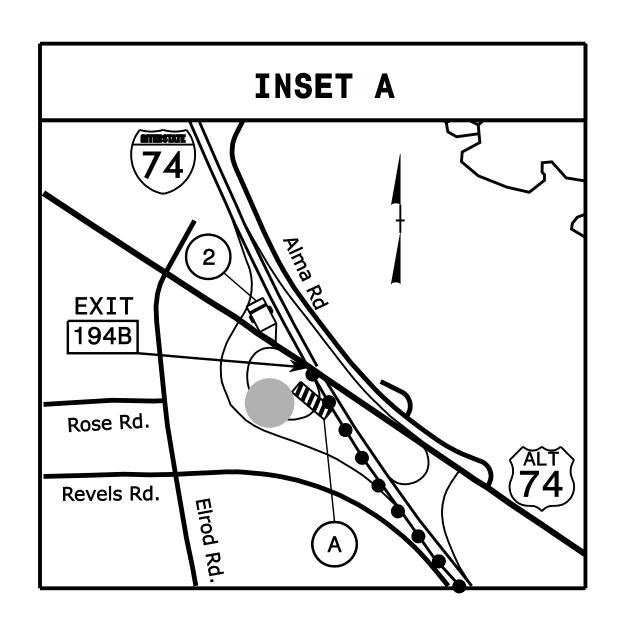
USE WHEN CLOSING A FREEWAY EXIT RAMP (AT -L- LINE MOVEMENT TO -Y- LINE)

CLOSED RAMP

OFFSITE DETOUR

• • • • •





$\bigcirc$ 1	MESSAGE NO. 1	MESSAGE NO. 2						
	EXIT	USE						
	194B	EXIT						
	CLOSED	197						
	CHANGEABLE MESSA SIGN							

PLACE CMS APPROX. 1/2 MILE IN ADVANCE OF CLOSED RAMP

$\bigcirc$	MESSAGE NO. 1	MESSAGE NO. 2						
	EXIT	USE						
	194B	EXIT						
	CLOSED	197						
	CHANGEABL SI							

PLACE CMS 1000+/- FEET IN ADVANCE OF CLOSED RAMP

(3)	MESSAGE NO. 1	MESSAGE NO. 2
	DETOUR	USE
	ТО	EXIT
	US 74 ALT	197
'	CHANCEADL	E MESSACI

PLACE CMS 800-1000 FEET IN ADVANCE OF EXIT 197

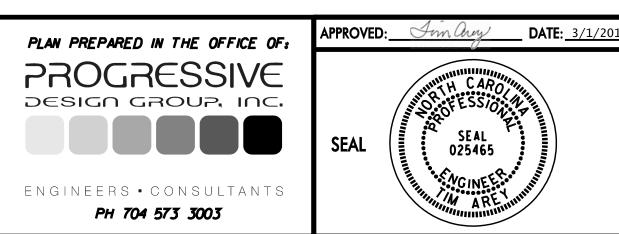
\	MESSAGE NO. 1	MESSAGE NO. 2
/	DETOUR	TURN
	ТО	LEFT
	US 74 ALT	
	CHANGEABL	

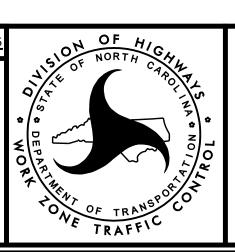
PLACE CMS 300-600 FEET FROM TOP OF RAMP

#### NOTES:

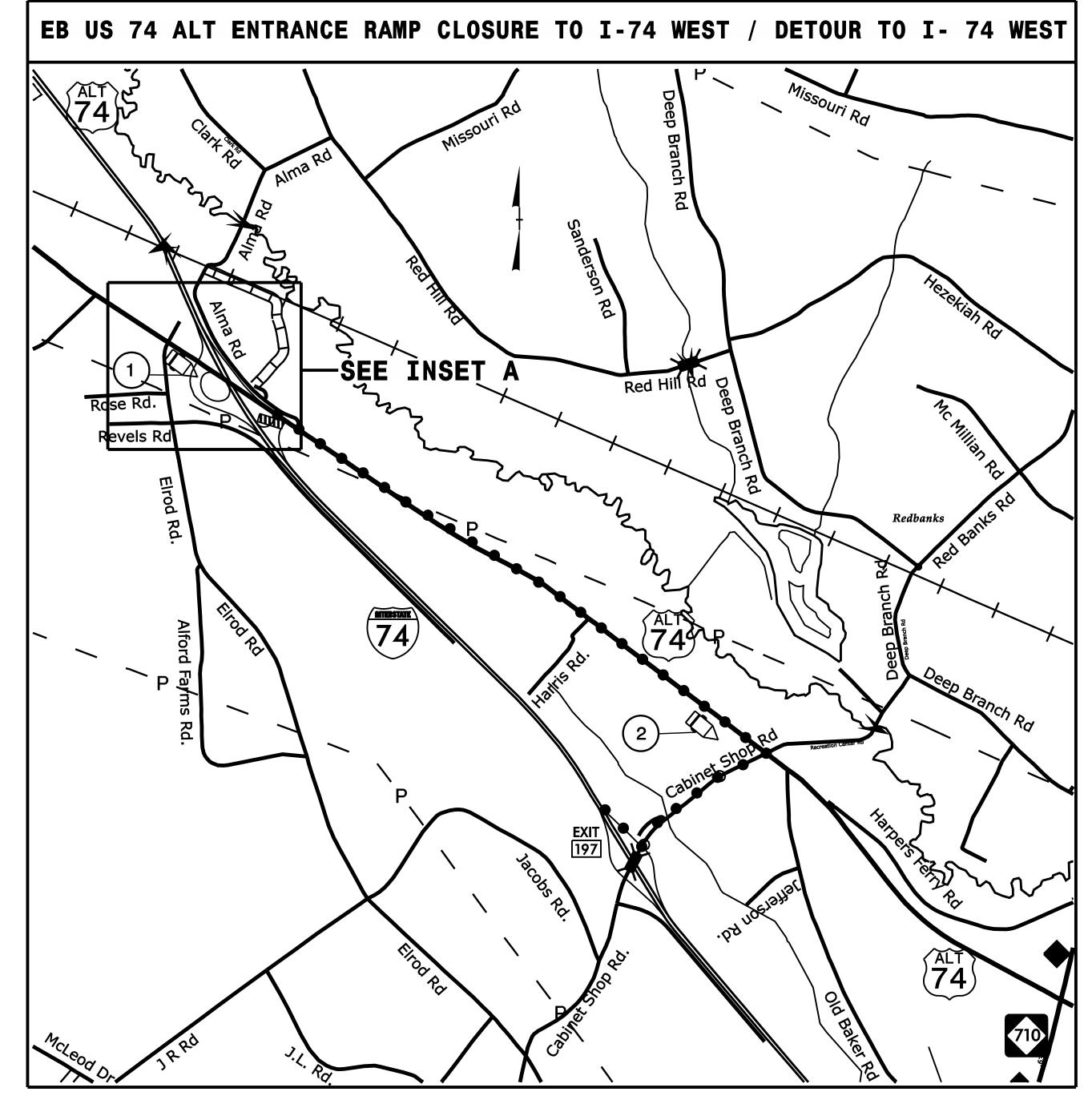
- USE THIS OFF SITE DETOUR EXAMPLE FOR CLOSURES OF FREEWAY EXIT RAMPS. MODIFY CMS MESSAGES AND NUMBER OF CMS LOCATIONS REQUIRED FOR SPECIFIC DETOUR.
- NO MORE THAN ONE RAMP OR LOOP SHOULD BE CLOSED AT THE SAME TIME.
- CHANGEABLE MESSAGE SIGNS LOCATED AT INTERSECTIONS SHALL NOT BE PLACED WHERE THEY BLOCK STOP SIGNS, STOP AHEAD SIGNS, OR OTHER REGULATORY OR WARNING SIGNS. DO NOT PLACE CMS IN LOCATION THAT MAY INTERFERE WITH PROPER SIGHT DISTANCE OF ANY SIGNS.

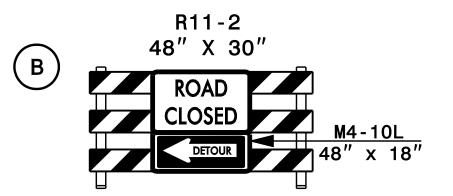
#### EXAMPLE CLOSURE AT FREEWAY EXIT RAMP





TRANSPORTATION
MANAGEMENT PLAN
OFF SITE DETOURS





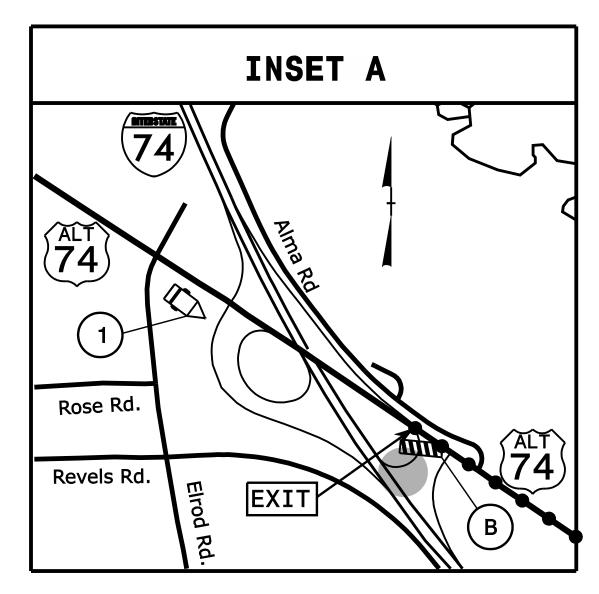
TYPE III BARRICADE

USE WHEN CLOSING A FREEWAY ENTRANCE RAMP
(AT -Y- LINE MOVEMENT TO -L- LINE)



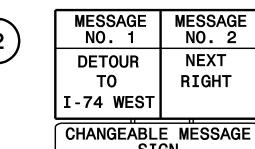
OFFSITE DETOUR

 $\bullet$   $\bullet$   $\bullet$   $\bullet$   $\bullet$ 



1	MESSAGE NO. 1	MESSAGE NO. 2
	I-74 WEST	FOLLOW
	RAMP	DETOUR
	CLOSED	
	CHANGEABLE MESSAGE	
	SI	GN

PLACE CMS APPROX. 1/2 MILE IN ADVANCE OF CLOSED RAMP

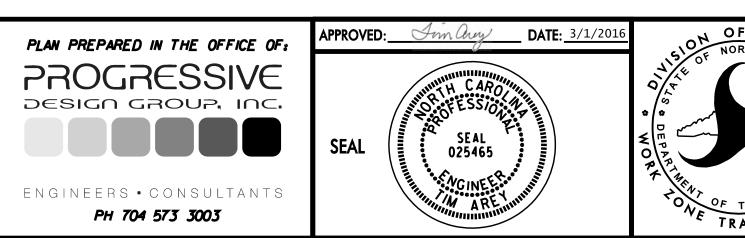


PLACE CMS 1000+/- FEET IN ADVANCE OF INTERSECTION

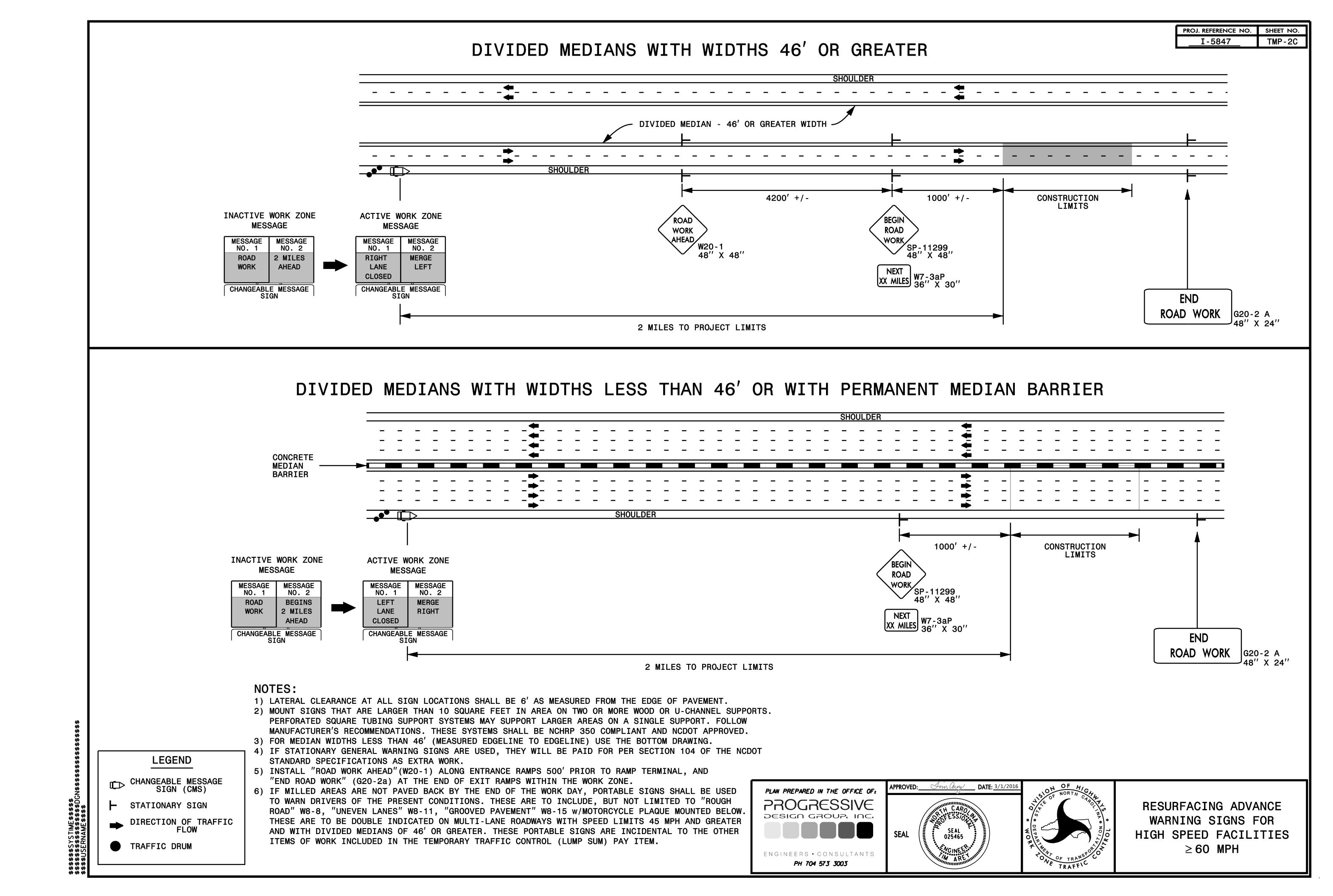
#### NOTES:

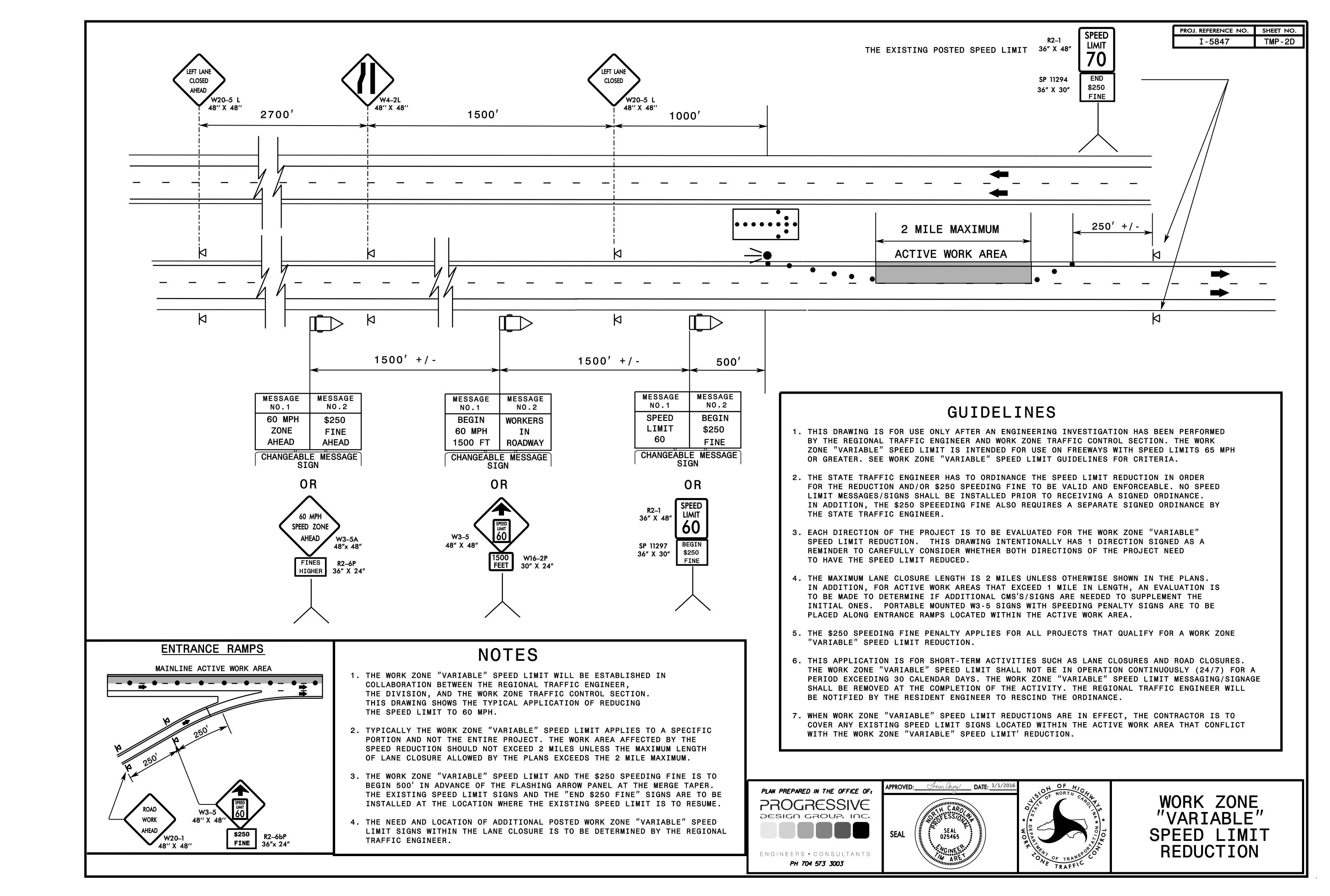
- USE THIS OFF SITE DETOUR EXAMPLE FOR CLOSURES OF FREEWAY ENTRANCE RAMPS. MODIFY CMS MESSAGES AND NUMBER OF CMS LOCATIONS REQUIRED FOR SPECIFIC DETOUR.
- NO MORE THAN ONE RAMP OR LOOP SHOULD BE CLOSED AT THE SAME TIME.
- CHANGEABLE MESSAGE SIGNS LOCATED AT INTERSECTIONS SHALL NOT BE PLACED WHERE THEY BLOCK STOP SIGNS, STOP AHEAD SIGNS, OR OTHER REGULATORY OR WARNING SIGNS. DO NOT PLACE CMS IN LOCATION THAT MAY INTERFERE WITH PROPER SIGHT DISTANCE OF ANY SIGNS.

#### EXAMPLE CLOSURE AT FREEWAY ENTRANCE RAMP



TRANSPORTATION
MANAGEMENT PLAN
OFF SITE DETOURS





PROJ. REFERENCE NO.	SHEET NO.
I-5847	TMP-3

# WORK ZONE TRAFFIC CONTROL NARRATIVE

STEP 1: INSTALL WORK ZONE ADVANCE WARNING SIGNS FOR THE PROJECT LIMITS AS SHOWN ON TMP-2C (RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES >= 60 MPH.

NOTE: OPERATIONS DESCRIBED IN STEP 2 AND STEPS 3 THRU 5 MAY BE COMPLETED SIMULTANEOUSLY.

STEP 2: USING THE WORK ZONE VARIABLE SPEED LIMIT DETAIL SHOWN ON SHEET TMP-2D, COMPLETE THE REMOVAL OF EXISTING PAVEMENT MARKINGS AND MARKERS, MILLING, AND RESURFACING FOR BOTH DIRECTIONS OF I-74. PLACE TEMPORARY PAVEMENT MARKINGS ALONG I-74 BACK TO THE ORIGINAL PATTERN AT THE END OF EACH OPERATION BEFORE OPENING LANES BACK TO TRAFFIC. PLACE PERMANENT PAVEMENT MARKINGS AND MARKERS ON THE FINAL SURFACE.

NOTE: UTILIZE THE CONSTRUCTION OPERATION DESCRIBED IN STEP 3 THRU STEP 5 FOR EACH RAMP AND LOOP AT THE US 74 ALTERNATE AND SR 1166 (CABINET SHOP RD) INTERCHANGES. DO NOT SIMULTANEOUSLY CLOSE MORE THAN ONE RAMP AT A TIME.

STEP 3: FOR THE APPROPRIATE RAMP OR LOOP THAT IS UNDER CONSTRUCTION, PLACE THE OFF SITE DETOUR DEVICES AS SHOWN ON SHEET TMP-2A FOR I-74 EXIT RAMPS AND LOOPS (OFF RAMPS FROM I-74). TMP-2A INCLUDES AN EXAMPLE DETOUR TO BE REFERENCED FOR THESE LOCATIONS. THE SPECIFIC DETOUR FOR EACH LOCATION WILL BE APPROVED BY THE ENGINEER. IN ADDITION TO THE CHANGEABLE MESSAGE SIGNS REQUIRED ON I-74, A MINIMUM OF ONE CMS PER TURN ON THE DETOUR IS REQUIRED. CLOSE THE MAINLINE EXIT LANE USING DRUMS. CLOSE THE RAMP USING TYPE III BARRICADES.

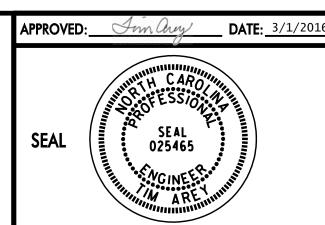
USE THE WORK ZONE VARIABLE SPEED LIMIT DETAIL SHOWN ON SHEET TMP-2D AND ROADWAY STANDARD DRAWING 1101.02 SHEETS 4, 9, AND 10, TO CLOSE THE OUTSIDE LANE OF I-74 WHEN RAMP CONSTRUCTION OPERATIONS ARE WITHIN 10' OF THE OPEN TRAVEL LANE.

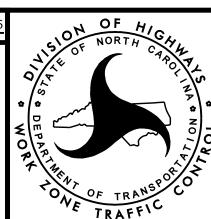
STEP 4: FOR THE APPROPRIATE RAMP OR LOOP THAT IS UNDER CONSTRUCTION, PLACE THE OFF SITE DETOUR DEVICES AS SHOWN ON SHEET TMP-2B FOR THE -Y-LINE ENTRANCE RAMPS AND LOOPS (ON RAMPS TO I-74). TMP-2B INCLUDES AN EXAMPLE DETOUR TO BE REFERENCED FOR THESE LOCATIONS. THE SPECIFIC DETOUR FOR EACH LOCATION WILL BE APPROVED BY THE ENGINEER. IN ADDITION TO THE CHANGEABLE MESSAGE SIGN REQUIRED ON THE -Y-LINE IN ADVANCE OF THE RAMP CLOSURE, A MINIMUM OF ONE CMS PER TURN ON THE DETOUR IS REQUIRED. USING DRUMS, CLOSE THE EXCLUSIVE RIGHT AND LEFT TURN LANES THAT ACCESS THE CLOSED ENTRANCE RAMP. CLOSE THE RAMP USING TYPE III BARRICADES.

USE THE WORK ZONE VARIABLE SPEED LIMIT DETAIL SHOWN ON SHEET TMP-2D AND ROADWAY STANDARD DRAWING 1101.02 SHEETS 4, 9, AND 10, TO CLOSE THE OUTSIDE LANE OF I-74 WHEN RAMP CONSTRUCTION OPERATIONS ARE WITHIN 10' OF THE OPEN TRAVEL LANE.

STEP 5: PLACE PERMANENT MARKINGS AND MARKERS ALONG THE NEWLY RESURFACED RAMPS AND REOPEN THE RAMPS BACK TO THE ORIGINAL PATTERN.







TRANSPORTATION

MANAGEMENT PLAN

TRAFFIC CONTROL NARRATIVE

#### STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

# PAVEMENT MARKING PLAN ROBESON COUNTY

TIP NO.

I - 5847

PMP - 1

APPROVED: Ayman Algudwah

DATE: 3/42/201672

SEAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

#### ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXIT AND ENTRANCE RAMPS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE

#### GENERAL NOTES

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.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME MARKING MARKER
I-74/RAMPS THERMOPLASTIC SNOWPLOWABLE

- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
- E) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
- F) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

#### PAVEMENT MARKINGS SCHEDULE

THERMOPLASTIC(12", 120 MILS)
WHITE SOLID LANE LINE

THERMOPLASTIC(12", 90 MILS)

WHITE GORELINE

THERMOPLASTIC(24", 120 MILS)

WHITE STOPBAR

THERMOPLASTIC(6", 120 MILS)

3 FT. - 9 FT./SP WHITE MINISKIP

THERMOPLASTIC(6", 90 MILS)

WHITE EDGELINE YELLOW EDGELINE

THERMOPLASTIC(8", 90 MILS)

WHITE GORELINE

THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)

LEFT TURN ARROW RIGHT TURN ARROW COMBO.STRAIGHT/RIGHT MERGE ARROW RAMP ARROW SYMBOL

MARKERS

SNOWPLOWABLE RAISED PAVEMENT MARKERS

CRYSTAL & RED

#### **INDEX**

SHEET NO.

DESCRIPTION

PMP-1

PAVEMENT MARKING PLAN TITLE, NOTES, AND SCHEDULE

I.P.: I-5847

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

 $\underline{\textit{A.I.ALQUDWAH}, \textit{P.E.}}$  SIGNING & DELINEATION REGIONAL ENGINEER

D. M. EATON

\_ SIGNING & DELINEATION PROJECT DESIGN ENGINEER/TECHNICIAN



Nuatanstuii Ni384/Ni384/\_Fmp\_proposed. saton AT TE274922