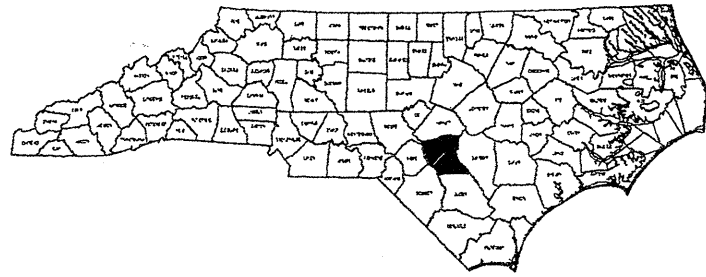


TIP PROJECT R-5512/R-5513

CONTRACT: C203435



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

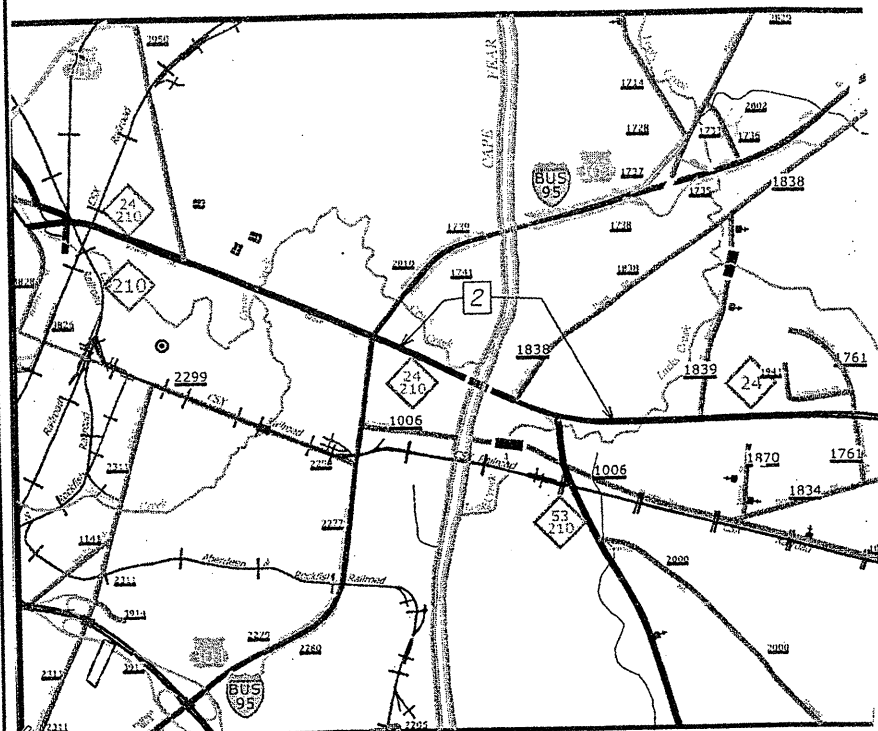
CUMBERLAND COUNTY

LOCATION: NC 24 FROM I-95/US 301 BUSINESS TO SR 1006
(CLINTON ROAD/MAXWELL ROAD); NC 24-87 FROM ROWAN STREET
TO THE US 401 BYPASS

TYPE OF WORK: MILLING, RESURFACING AND BRIDGE
REHABILITATION

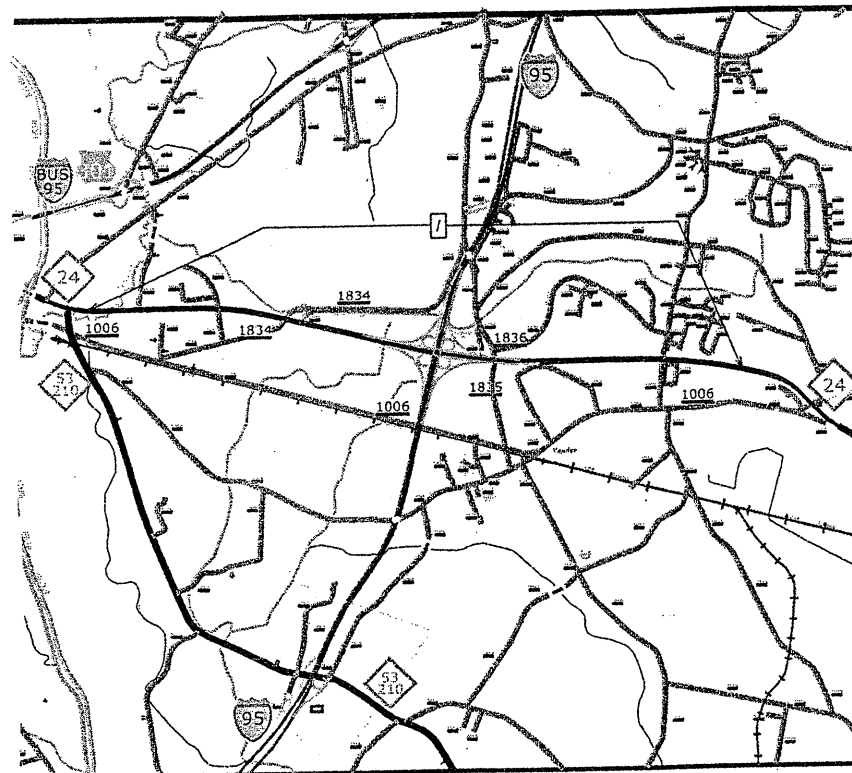
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5512 / R-5513	1	
STATE PROJECT NO.	F.A. PROJ. NO.	DESCRIPTION	
45465.1.1		PE	
45465.2.1		R / W	
45465.3.FS1	STP-0024(53)	CONSTR	

MAP 2



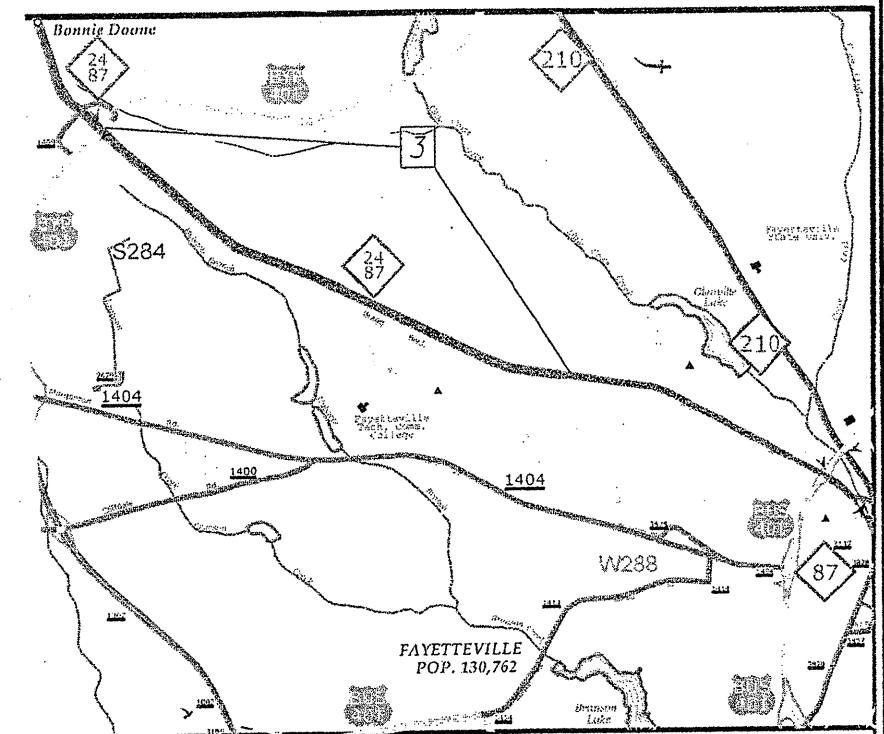
CUMBERLAND COUNTY
Project Length Approximately 0.72 Miles

MAP 1



CUMBERLAND COUNTY
Project Length Approximately 5.08 Miles

MAP 3



CUMBERLAND COUNTY
Project Length Approximately 2.49 Miles



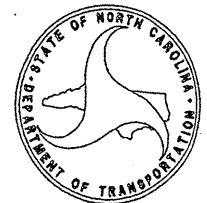
PROJECT LENGTH

LENGTH OF PROJECT R-5512/R-5513 = 8.29 MILES

Prepared in the Office of
DIVISION OF HIGHWAYS
558 Gillespie St, Fayetteville, NC 28301

2012 STANDARD SPECIFICATIONS

LETTING DATE:
JANUARY 21, 2014



INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS
2	RESURFACING TYPICAL SECTIONS
2-A	RESURFACING TYPICAL SECTIONS
2-B	SHOULDER WEDGE DETAIL
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF QUANTITIES
TMP-1 THRU TMP-3	TRAFFIC MANAGEMENT PLANS
SIG-1	SIGNAL PLAN SHEET
4	BRIDGE PRESERVATION TITLE SHEET
5	BRIDGE PRESERVATION INDEX OF SHEETS
S-1 THRU S-6	BRIDGE PRESERVATION PLANS

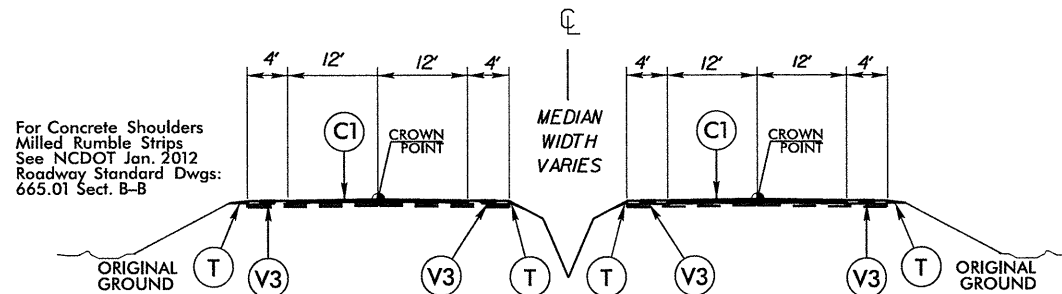
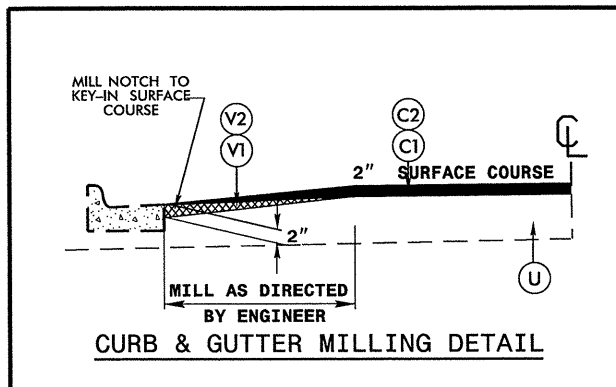
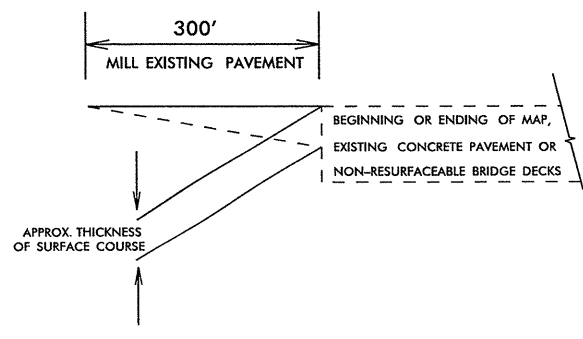
MILLING AT PAVEMENT TIE-INS

NOTES TO CONTRACTOR

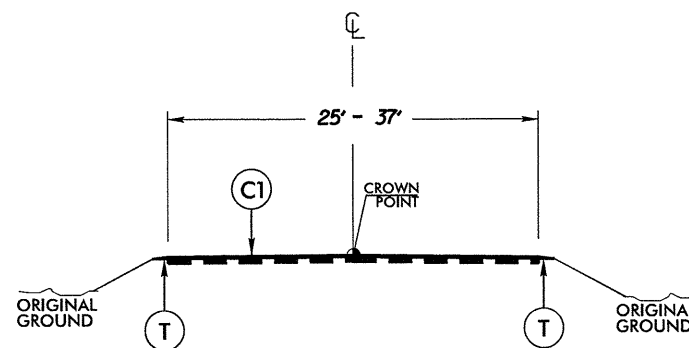
For surface mixes over 1" in thickness, mill the existing pavement in accordance with the following sketch as directed by the Engineer.

Locations shall include ties into existing concrete pavement, at bridge approaches where the bridge will not be resurfaced, and at the beginning and ending point of each resurfacing map.

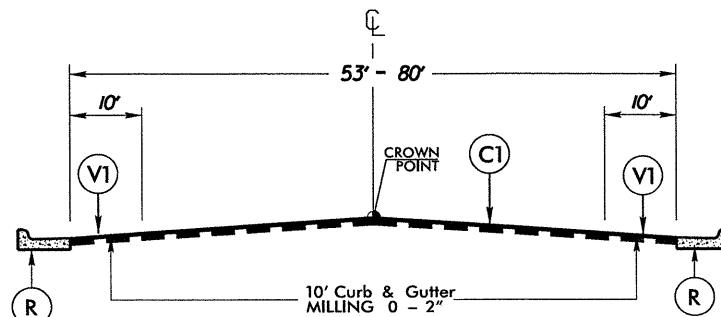
Perform the work in accordance with Section 607 of the January 2012 North Carolina Department of Transportation Standard Specifications for Roads and Structures. Resurfacing will be accomplished at the same time as the milling operation.



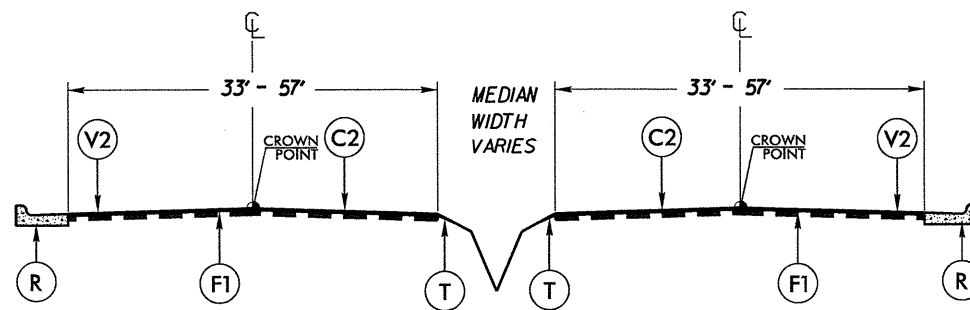
TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2



TYPICAL SECTION NO. 3



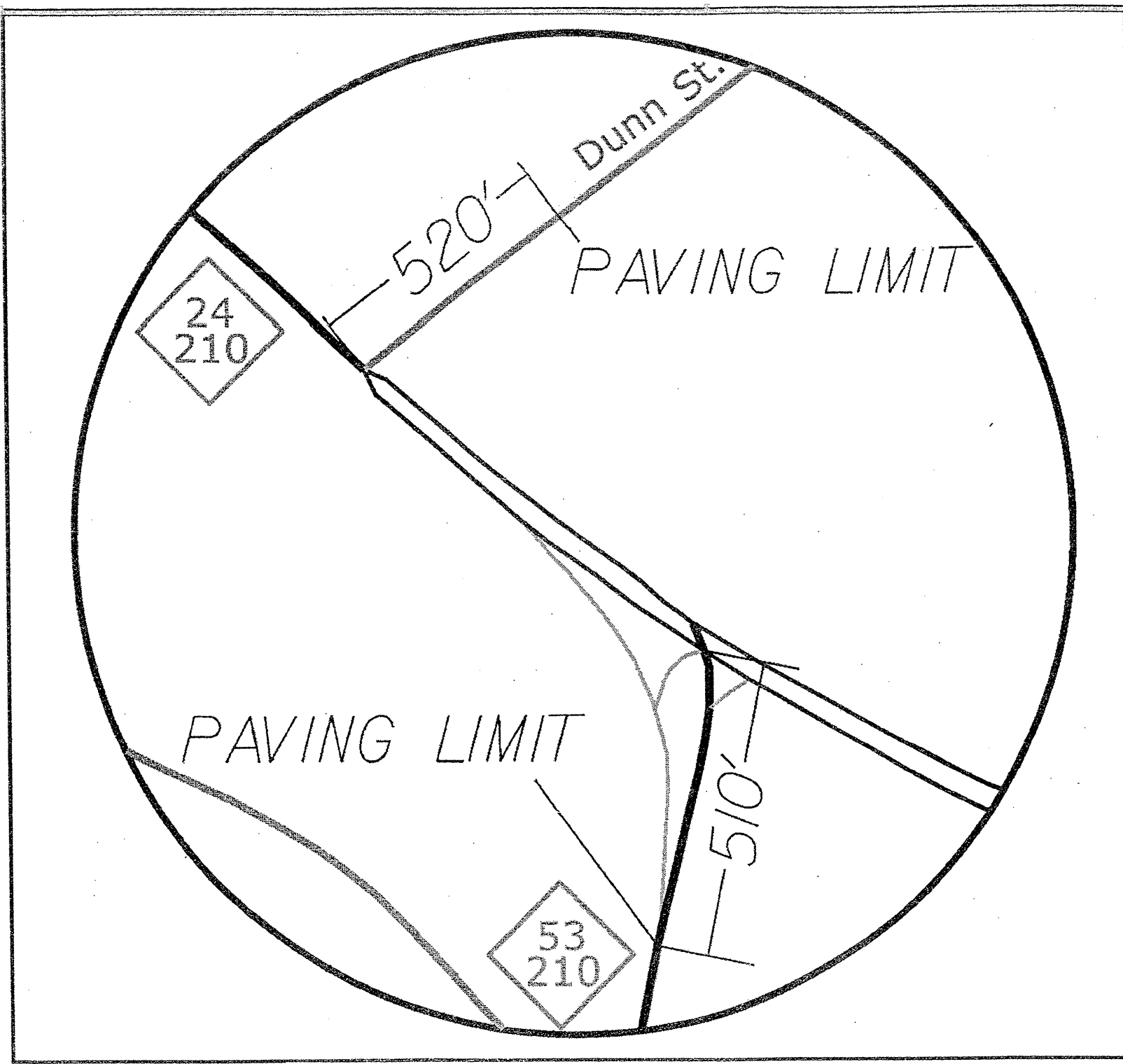
TYPICAL SECTION NO. 4

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
C2	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
F1	FIBERGLASS / POLYESTER INTERLAYER PAVING MAT.
R	EXISTING 2.5' CONCRETE CURB & GUTTER
V1	MILLING AT A DEPTH OF 0" TO 2" BELOW THE GUTTER AS DIRECTED BY THE ENGINEER
V2	MILLING AT A DEPTH OF 3" AS DIRECTED BY THE ENGINEER
V3	16" MILLED RUMBLE STRIPS
T	ASB TAPERED FROM 2" TO 0" AT A WIDTH OF 2'
U	EXISTING PAVEMENT

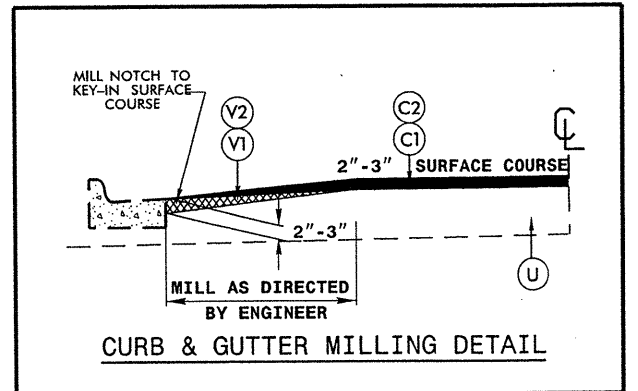
PROJECT NOTES

1. The Contractor shall not work on both sides of the road simultaneously within the same area.
2. Ingress and egress shall be maintained to all businesses and dwellings on the project.
3. At the end of each workday, the Contractor shall be required to backfill any area adjacent to existing travelway that has been graded leaving no more than a 1 1/2" drop-off.
4. A minimum of two-way, two-lane traffic (plus all existing left and right turn lanes) shall be maintained during periods of construction inactivity.
5. The Contractor shall not be allowed to stop traffic for more than 5 minutes at a time in any one direction.
6. During periods of construction inactivity, the difference in elevation between lanes shall not exceed 1-1/2 inch.
7. Access to police and fire station, fire hydrants, and hospitals shall be maintained at all times.
8. During periods of construction inactivity, place cones/drums 3' from existing edge of pavement (travelway) as directed by the Engineer.
9. Channelizing devices in work areas shall be spaced not greater than 50' on center in tangent areas, 45' on center in tapers, and 10' on center in radii, and shall be set 3' off the edge of travelway, unless otherwise indicated on plans.
10. Contractor to install Erosion Control devices as directed by the Engineer.
11. Contractor shall coordinate with the Division Six Traffic Services Unit (910-486-1452) for placement of all pavement markings and signs.
12. Removal of existing road signs is incidental to the project.



DETAIL A

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
C2	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
F1	FIBERGLASS / POLYESTER INTERLAYER PAVING MAT.
R	EXISTING 2.5' CONCRETE CURB & GUTTER
V1	MILLING AT A DEPTH OF 0" TO 2" BELOW THE GUTTER AS DIRECTED BY THE ENGINEER
V2	MILLING AT A DEPTH OF 3" AS DIRECTED BY THE ENGINEER
V3	16" MILLED RUMBLE STRIPS
T	ASB TAPERED FROM 2" TO 0" AT A WIDTH OF 2'
U	EXISTING PAVEMENT



6/2/99

09-AUG-2013 09:33 Resurfacing R-5512 & R-5513 Roadway\Proj\AR5512_R5513_Rdy.txd

PROJECT NO.	SHEET NO.	TOTAL NO.
R-5512/R-5513	3	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH MI	WIDTH FT	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	AGGREGATE SHOULDER BORROW TON	REMOVE AND REPLACE 2'-6" C&G LF	3" MILLING SY	0" TO 2" MILLING SY	INCIDENTAL MILLING SY	SURFACE COURSE, S9.5C TONS	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	STD. 665.01 MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE) LF	FIBERGLASS/POLYESTER INTERLAYER PAVING MAT SY	RETROFIT EXISTING CURB RAMP EA	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	IMPACT ATTENUATOR UNIT, TYPE 350 EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1 EA	
R-5512/R-5513	Cumberland	1	NC24	FROM BEGIN PROJECT (MP 20.85) TO END DIVIDED HWY (MP15.77)	1	6	MD	5.08	64	NO	NO	2,250				30,115	21,804	1,286	1,500	105,389							
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	4		1.46	25	NO	NO						2,398	141									
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	2		1.27	25	NO	NO						2,086	123									
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	2		1.46	12	NO	NO						1,152	68									
TOTAL FOR MAP NO. 1								5.08				2,250				30,115	27,440	1,618	1,500	105,389							
R-5512/R-5513	Cumberland	2	NC 24	FROM END OF DIVIDED HWY (MP 15.77) TO N. KIING ST (MP15.05)	3	2		0.72	53	NO	NO	25			8,213	5,300	2,548	150	60				6	7		3	
TOTAL FOR MAP NO. 2								0.72				25			8,213	5,300	2,548	150	60				6	7		3	
R-5512/R-5513	Cumberland	3	NC 24	FROM BEGINNING DIVIDED HWY (MP 11.95) TO US 401 BYPASS BRIDGE (MP 9.45)	4	4	MD	2.49	67	NO	NO	650	200	114,591		1,000	19,251	1,136	200		114,591	44			21	1	
TOTAL FOR MAP NO. 3								2.49				650	200	114,591		1,000	19,251	1,136	200		114,591	44			21	1	
TOTAL FOR PROJ NO. R-5512/R-5513								8.29				2,925	200	114,591	8,213	36,415	49,239	2,904	1,760	105,389	114,591	44	6	7	21	4	
GRAND TOTAL								8.29				2,925	200	114,591	8,213	36,415	49,239	2,904	1,760	105,389	114,591	44	6	7	21	4	

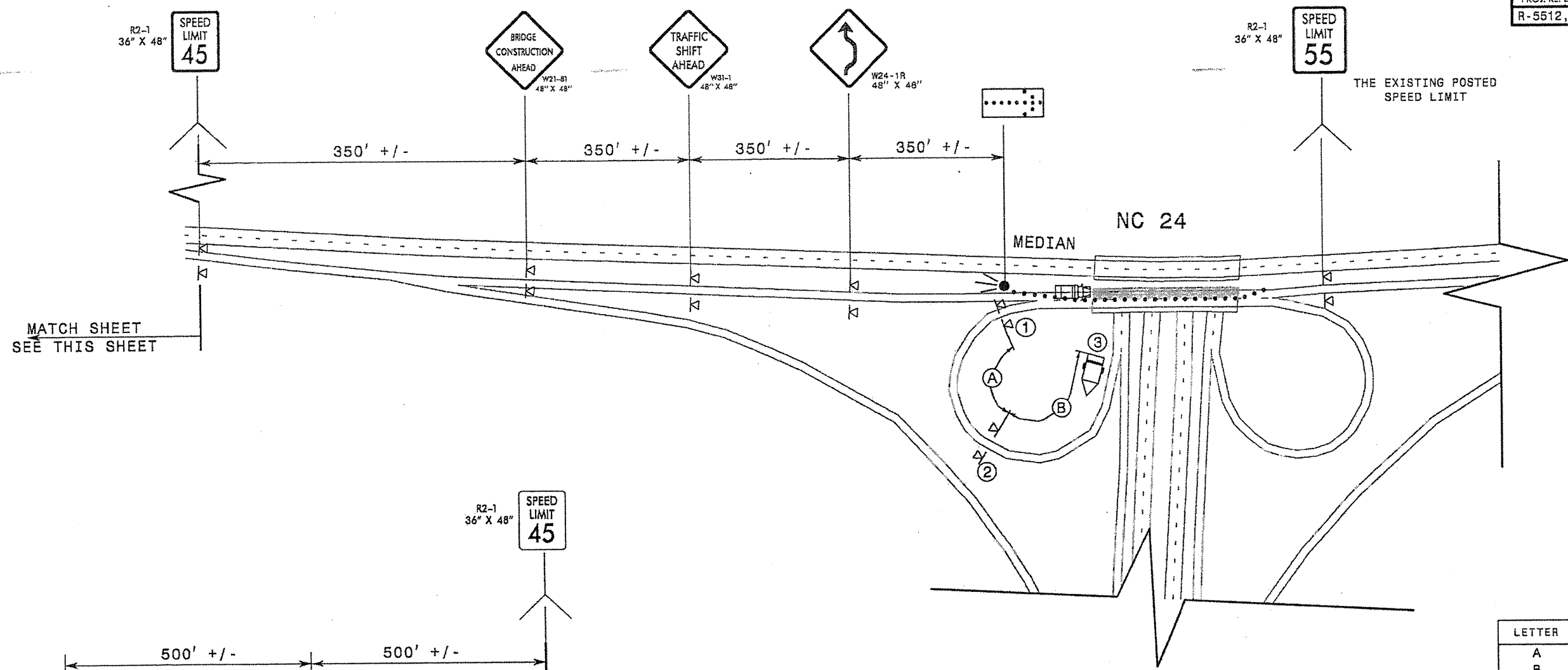
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH MI	WIDTH FT	GUARDRAIL ANCHOR UNITS, TYPE 350 EA	GUARDRAIL ANCHOR UNITS, TYPE M-350 EA	PAVED TRENCHING (1 CONDUIT-2") LF	UNPAVED TRENCHING (1 CONDUIT- 2") LF	JUNCTION BOX (STANDARD SIZE) EA	JUNCTION BOX (OVER-SIZED, HEA-VY DUTY) EA	2" RISER WITH WEATHERHEAD EA	INDUCTIVE LOOP SAWCUT LF	LEAD-IN CABLE (14-2) LF	PORTABLE LIGHTING LS
R-5512/R-5513	Cumberland	1	NC24	FROM BEGIN PROJECT (MP 20.85) TO END DIVIDED HWY (MP15.77)	1	6	MD	5.08	64	4.00	8.00	10.00	100.00	1.00	1.00	1.00	400.00	100.00	1.00
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	4		1.46	25										
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	2		1.27	25										
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	2		1.46	12										
TOTAL FOR MAP NO. 1								5.08		4.00	8.00	10.00	100.00	1.00	1.00	1.00	400.00	100.00	1.00
R-5512/R-5513	Cumberland	2	NC 24	FROM END OF DIVIDED HWY (MP 15.77) TO N. KIING ST (MP15.05)	3	2		0.72	53	4.00		20.00	200.00	2.00	2.00	2.00	2,000.00	200.00	
TOTAL FOR MAP NO. 2								0.72		4.00		20.00	200.00	2.00	2.00	2.00	2,000.00	200.00	
R-5512/R-5513	Cumberland	3	NC 24	FROM BEGINNING DIVIDED HWY (MP 11.95) TO US 401 BYPASS BRIDGE (MP 9.45)	4	4	MD	2.49	67	1.00		70.00	700.00	7.00	7.00	7.00	7,000.00	700.00	
TOTAL FOR MAP NO. 3								2.49		1.00		70.00	700.00	7.00	7.00	7.00	7,000.00	700.00	
TOTAL FOR PROJ NO. R-5512/R-5513								8.29		9.00	8.00	100.00	1,000.00	10.00	10.00	10.00	9,400.00	1,000.00	1.00
GRAND TOTAL								8.29				100		10	10	10	9,400	1,000	1

PROJECT NO.	SHEET NO.	TOTAL NO.
R-5512/R-5513	3-A	

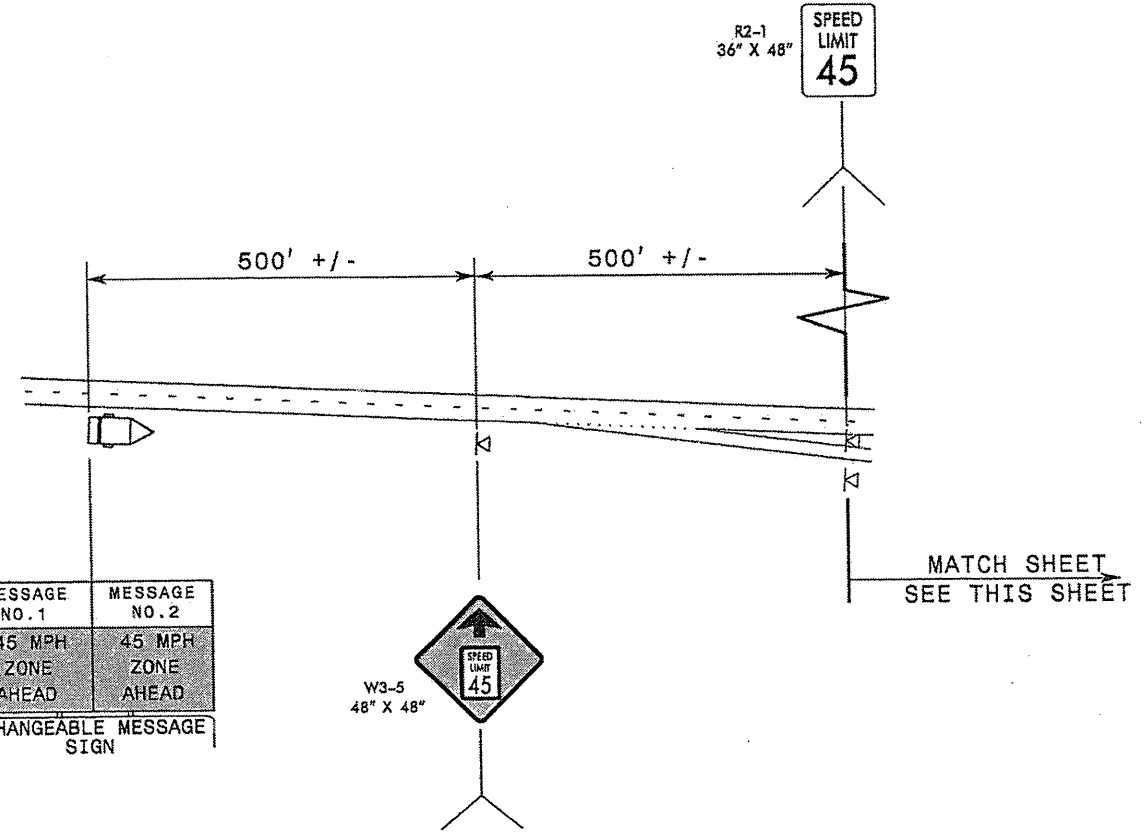
THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4457000000-N	4413000000-E	4510000000-N	4685000000-E		4686000000-E		4695000000-E		4710000000-E	4725000000-E				
										TEMPORARY TRAFFIC CONTROL	WORK ZONE ADVANCE/GENERAL WARNING SIGNING	LAW ENFORCEMENT	4" X 90 M YELLOW THERMO	4" X 90 M WHITE THERMO	4" X 120 M WHITE THERMO	4" X 120 M YELLOW THERMO	8" X 90 M YELLOW THERMO	8" X 90 M YELLOW THERMO	24" X 120 M WHITE THERMO	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR ARROW 90 M	THERMO MERGE ARROW 90 M	THERMO STR & RT ARROW 90 M
NO		NO			NO					LS	SF	HR	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA
R-5512/R-5513	Cumberland	1	NC24	FROM BEGIN PROJECT (MP 20.85) TO END DIVIDED HWY (MP15.77)	1	6	MD	5.08	64	1	396	382	68,000	70,968	18,465		8,104		100	17	13	32	6	
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	4		1.46	25		*	*												
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	2		1.27	25		*	*												
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	2		1.46	12		*	*												
TOTAL FOR MAP NO. 1								5.08					68,000	70,968	18,465		8,104		100	17	13	32		
R-5512/R-5513	Cumberland	2	NC 24	FROM END OF DIVIDED HWY (MP 15.77) TO N. KIING ST (MP15.05)	3	2		0.72	53	*	*	*			2,430	6,244	485	400	200	18	4	14		5
TOTAL FOR MAP NO. 2								0.72							2,430	6,244	485	400	200	18	4	14		5
R-5512/R-5513	Cumberland	3	NC 24	FROM BEGINNING DIVIDED HWY (MP 11.95) TO US 401 BYPASS BRIDGE (MP 9.45)	4	4	MD	2.49	67	*	*	*	26,540		15,855		550		330	54	18	45		20
TOTAL FOR MAP NO. 3								2.49					26,540		15,855		550		330	54	18	45		20
TOTAL FOR PROJ NO. R-5512/R-5513								8.29		1	396	382	94,540	70,968	36,750	6,244	9,139	400	630	89	35	91	6	25
GRAND TOTAL								8.29		1	396	382	94,540	70,968	36,750	6,244	9,139	400	630	89	35	91	6	25
												165,508		42,994		9,539		250						

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4810000000-E		4835000000-E	4900000000-N	
										4" WHITE PAINT	4" YELLOW PAINT	24" WHITE PAINT	CRYSTAL & RED MARKERS	YELLOW & YELLOW MARKERS
NO		NO			NO					LF	LF	LF		LF
R-5512/R-5513	Cumberland	1	NC24	FROM BEGIN PROJECT (MP 20.85) TO END DIVIDED HWY (MP15.77)	1	6	MD	5.08	64					1,184
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	4		1.46	25					
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	2		1.27	25					
		"	"	FROM BEGIN PROJECT TO END DIVIDED HWY	2	2		1.46	12					
TOTAL FOR MAP NO. 1								5.08						
R-5512/R-5513	Cumberland	2	NC 24	FROM END OF DIVIDED HWY (MP 15.77) TO N. KIING ST (MP15.05)	3	2		0.72	53				152	200
TOTAL FOR MAP NO. 2								0.72					152	200
R-5512/R-5513	Cumberland	3	NC 24	FROM BEGINNING DIVIDED HWY (MP 11.95) TO US 401 BYPASS BRIDGE (MP 9.45)	4	4	MD	2.49	67	15,855	26,540	330	860	
TOTAL FOR MAP NO. 3								2.49		15,855	26,540	330	860	200
TOTAL FOR PROJ NO. R-5512/R-5513								8.29		15,855	26,540	330	2,196	200
										42,395		2,396		



MATCH SHEET SEE THIS SHEET



MESSAGE NO. 1	MESSAGE NO. 2
45 MPH ZONE AHEAD	45 MPH ZONE AHEAD

CHANGEABLE MESSAGE SIGN

W3-5
48" X 48"

MATCH SHEET SEE THIS SHEET

LETTER	DISTANCE
A	500'
B	500'

NOTES

- FOR SHIFT TAPERS, USE DRUMS AT 20 FT. CENTERS.
- SKINNY DRUMS MAY BE USED BEYOND THE SHIFT TAPER.
- THE STATE TRAFFIC ENGINEER HAS TO ORDINANCE THE SPEED LIMIT REDUCTION IN ORDER FOR THE REDUCTION TO BE VALID AND ENFORCEABLE. NO SPEED LIMIT MESSAGES/SIGNS SHALL BE INSTALLED PRIOR TO RECEIVING A SIGNED ORDINANCE.
- THE WORK ZONE "VARIABLE" SPEED LIMIT SHALL NOT BE IN OPERATION CONTINUOUSLY (24/7) FOR A PERIOD EXCEEDING 30 CALENDAR DAYS. THE WORK ZONE "VARIABLE" SPEED LIMIT MESSAGING/SIGNAGE SHALL BE REMOVED AT THE COMPLETION OF THE ACTIVITY. THE REGIONAL TRAFFIC ENGINEER WILL BE NOTIFIED BY THE RESIDENT ENGINEER TO RESCIND THE ORDINANCE.
- WHEN WORK ZONE "VARIABLE" SPEED LIMIT REDUCTIONS ARE IN EFFECT, THE CONTRACTOR IS TO COVER ANY EXISTING SPEED LIMIT SIGNS LOCATED WITHIN THE ACTIVE WORK AREA THAT CONFLICT WITH THE WORK ZONE "VARIABLE" SPEED LIMIT REDUCTION.



①



②

MESSAGE NO. 1	MESSAGE NO. 2
BRIDGE WORK AHEAD	PREPARE TO STOP

CHANGEABLE MESSAGE SIGN

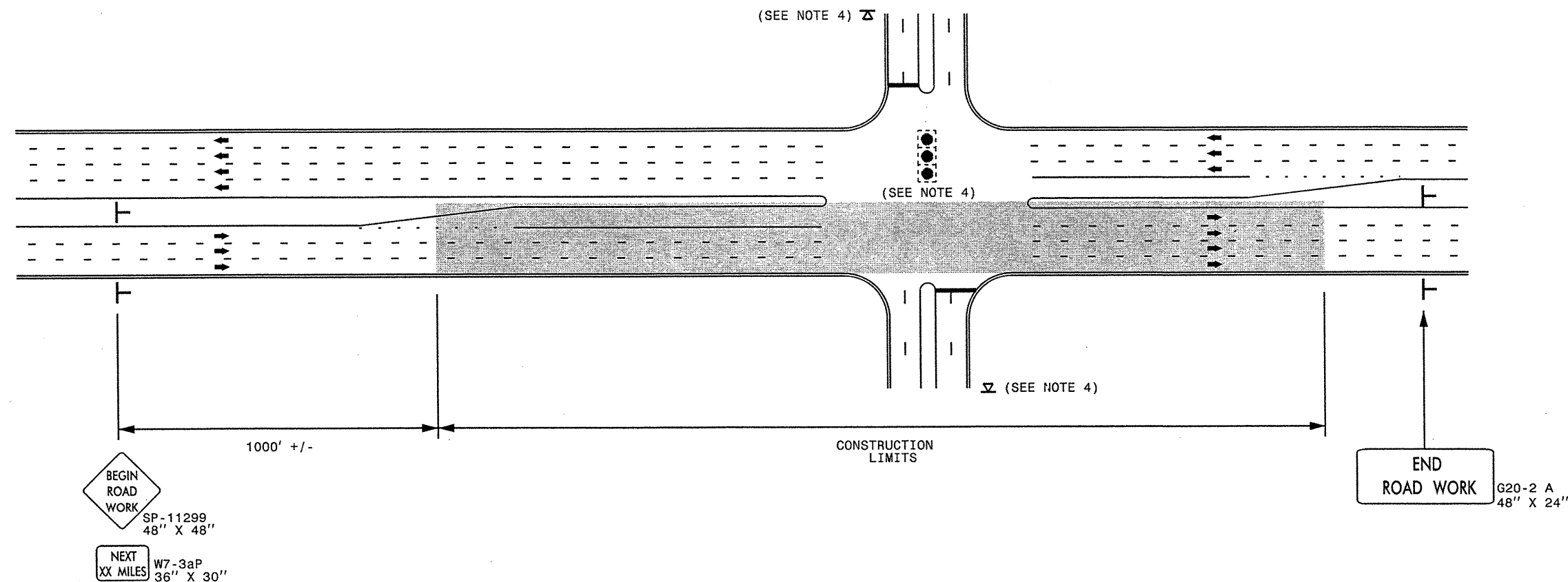
③

APPROVED: *[Signature]* DATE: 11/14/13

SEAL

**WORK ZONE
"VARIABLE"
SPEED LIMIT
REDUCTION**

URBAN / SUBURBAN WORKZONES

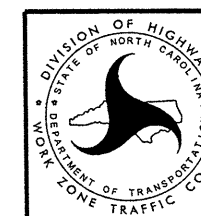


NOTES:

- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AND PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

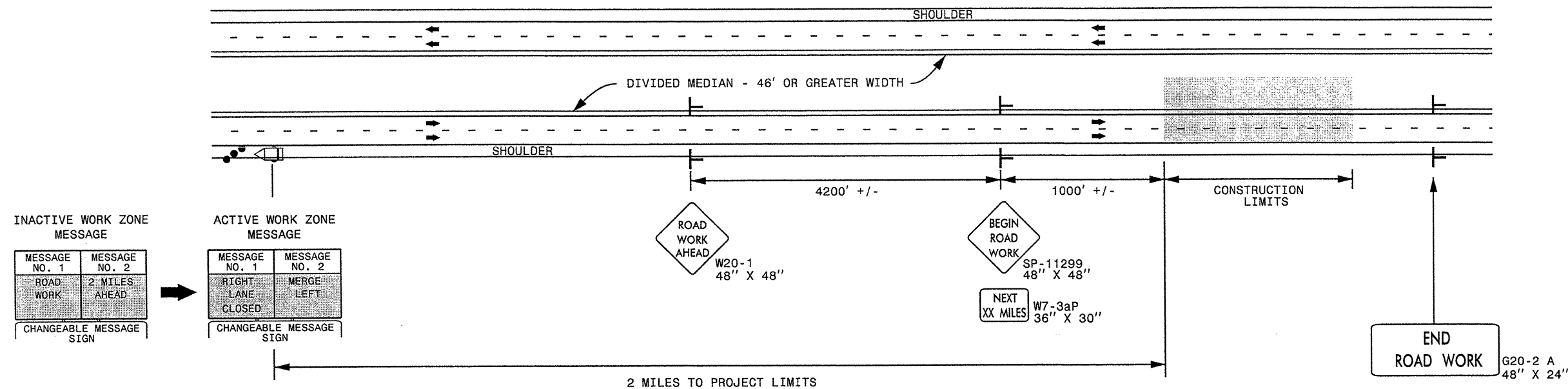
LEGEND

- ┆ STATIONARY SIGN
- ➔ DIRECTION OF TRAFFIC FLOW

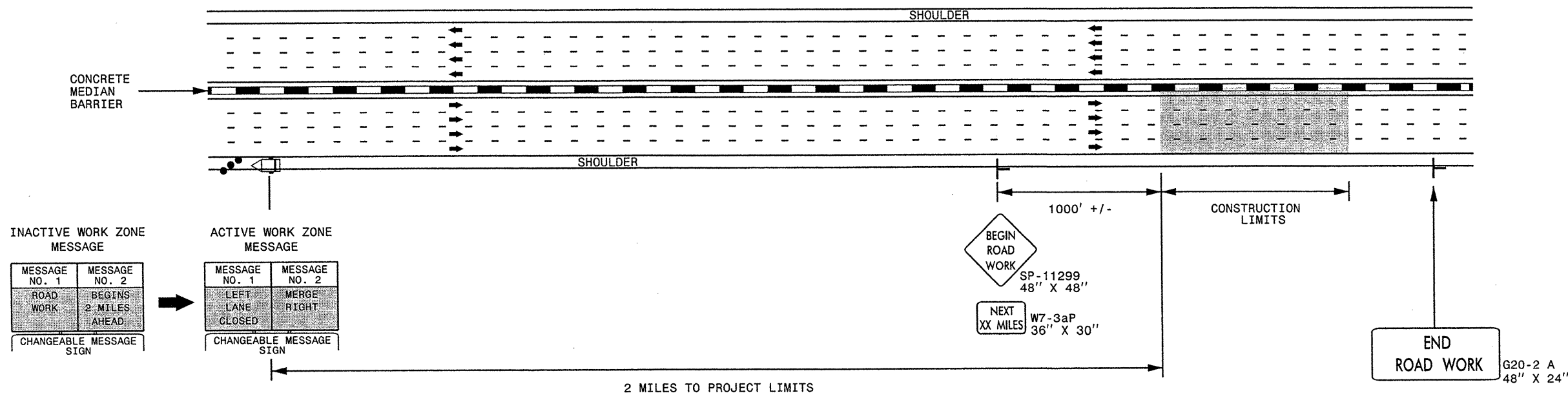


**RESURFACING ADVANCE
WARNING SIGNS FOR
URBAN / SUBURBAN
FACILITIES**

DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER



DIVIDED MEDIANS WITH WIDTHS LESS THAN 46' OR WITH PERMANENT MEDIAN BARRIER

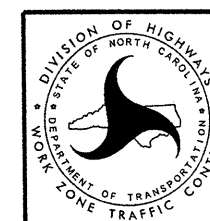


NOTES:

- 1) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 6' AS MEASURED FROM THE EDGE OF PAVEMENT.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) FOR MEDIAN WIDTHS LESS THAN 46' (MEASURED EDGELINE TO EDGELINE) USE THE BOTTOM DRAWING.
- 4) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 5) INSTALL "ROAD WORK AHEAD" (W20-1) ALONG ENTRANCE RAMP 500' PRIOR TO RAMP TERMINAL, AND "END ROAD WORK" (G20-2a) AT THE END OF EXIT RAMP WITHIN THE WORK ZONE.
- 6) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER AND WITH DIVIDED MEDIANS OF 46' OR GREATER. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND

- CHANGEABLE MESSAGE SIGN (CMS)
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DRUM

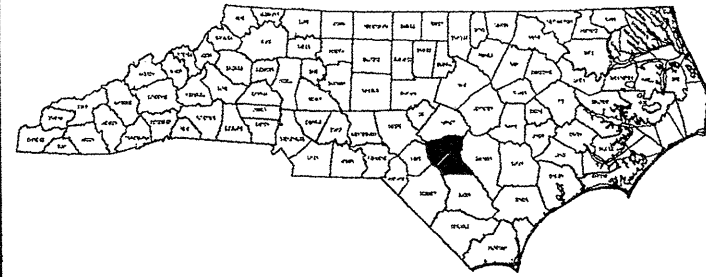


RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH

14-NOV-2005 09:07 \\DDP\UP\SP\GROUPS-WZ\TCCC-TM\WZTC\Resurfacing\2013Eastern\2013_Div06_C203435_R-5512_R-5513_Cumberland_NC_24.etc.m8.3.sg\Resurfacing_AdvWarn_HSP.dgn

TIP PROJECT R-5512/R-5513

CONTRACT: C203435



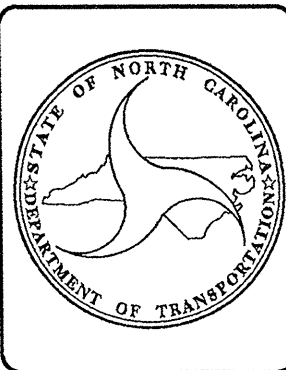
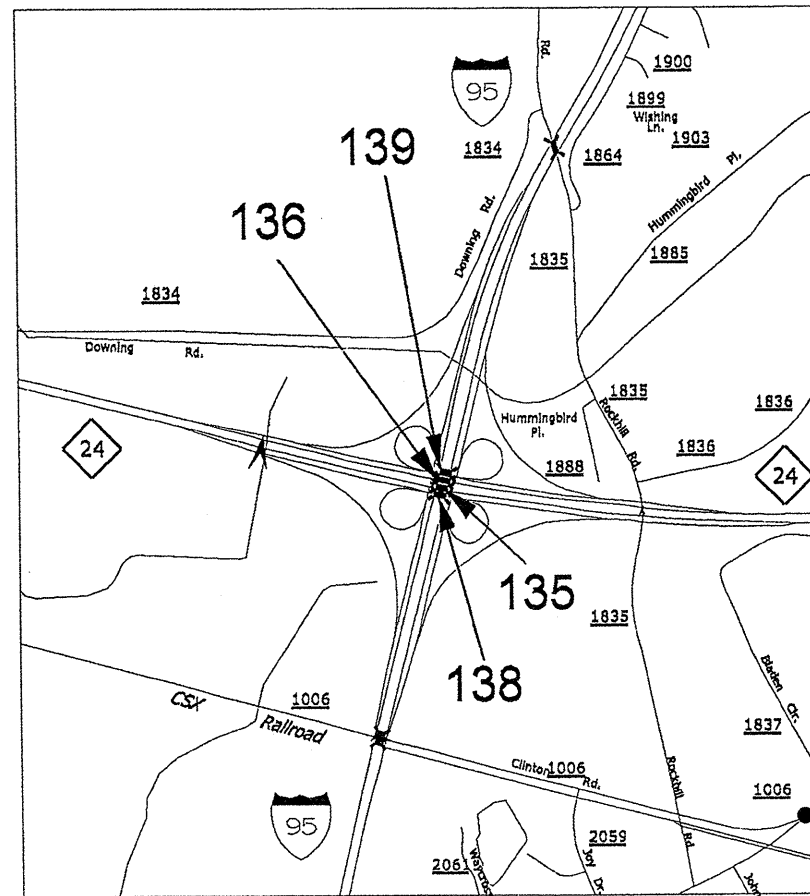
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

LOCATION: BRIDGE #139 ON NC24 WB COLLECTOR OVER I-95
BRIDGE #136 ON NC24 WBL OVER I-95
BRIDGE #135 ON NC24 EBL OVER I-95
BRIDGE #138 ON NC24 EB COLLECTOR OVER I-95

TYPE OF WORK: BRIDGE PRESERVATION- LATEX MODIFIED CONCRETE OVERLAY OF BRIDGE #136 & #135
AND VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY OF BRIDGE #139 & #138.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5512 / R-5513	4	
STATE PROJECT NO.	F.A. PROJ. NO.	DESCRIPTION	
45465.1.1		PE	
45465.2.1		R/W	
45465.3.FSI		CONSTR	



DESIGN DATA

#139 ADT 2012 = 12,000
#136 ADT 2012 = 12,000
#135 ADT 2012 = 12,000
#138 ADT 2012 = 12,000

PROJECT LENGTH

PROJECT LENGTH #139 = 0.083 MI
PROJECT LENGTH #136 = 0.083 MI
PROJECT LENGTH #135 = 0.083 MI
PROJECT LENGTH #138 = 0.083 MI

Prepared In the Office of:
STRUCTURES MANAGEMENT UNIT
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

LETTING DATE:
JANUARY 21, 2014

RICK NELSON, PE
PROJECT ENGINEER



FARZIN ASEFNIA, PE
PROJECT DESIGN ENGINEER

TIP PROJECT R-5512/R-5513

CONTRACT: C203435



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

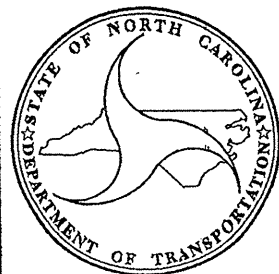
CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5512 / R-5513	5	
	F.A. PROJ. NO.	DESCRIPTION	
	45465.1.1	PE	
	45465.2.1	R/W	
	45465.3.FSI	CONSTR	

LOCATION: BRIDGE #139 ON NC24 WB COLLECTOR OVER I-95
 BRIDGE #136 ON NC24 WBL OVER I-95
 BRIDGE #135 ON NC24 EBL OVER I-95
 BRIDGE #138 ON NC24 EB COLLECTOR OVER I-95

TYPE OF WORK: BRIDGE PRESERVATION- LATEX MODIFIED CONCRETE OVERLAY OF BRIDGE #136 & #135
 AND VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY OF BRIDGE #139 & #138.

<u>SHT#</u>	<u>DESCRIPTION</u>
4	TITLE SHEET
5	INDEX OF SHEETS
S-1 THRU S-6	STRUCTURAL REHABILITATION PLANS



Prepared in the Office of:
STRUCTURES MANAGEMENT UNIT
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 2012 STANDARD SPECIFICATIONS

LETTING DATE: JANUARY 21, 2014	RICK NELSON, PE PROJECT ENGINEER
-----------------------------------	-------------------------------------

FARZIN ASEFNIA, PE
DESIGN ENGINEER

TOTAL BILL OF MATERIAL

BRIDGE NO.	GROOVING BRIDGE FLOORS SQ. FT.	CLASS II, SURFACE PREPARATION SQ. YDS.	LATEX MODIFIED CONCRETE OVERLAY CU. YDS.	PLACING & FINISHING OF LATEX MODIFIED CONCRETE OVERLAY SQ. YDS.	LATEX MODIFIED CONCRETE OVERLAY-VERY EARLY STRENGTH CU. YDS.	PLACING & FINISHING LATEX MODIFIED CONCRETE OVERLAY-VERY EARLY STRENGTH SQ. YDS.	FOAM JOINT SEALS LUMP SUM	BRIDGE JOINT DEMOLITION SQ. FT.	SCARIFYING BRIDGE DECK SQ. YDS.	HYDRO-DEMOLITION OF BRIDGE DECK SQ. YDS.
139	16,521	2.7	0.0	0.0	83.4	2,002	LUMP SUM	172.2	2,002	2,002
136	16,521	0.2	83.4	2,002	0.0	0.0	LUMP SUM	172.2	2,002	2,002
135	16,503	1.7	83.3	2,000	0.0	0.0	LUMP SUM	172.2	2,000	2,000
138	16,503	17.8	0.0	0.0	83.3	2,000	LUMP SUM	172.2	2,000	2,000
TOTAL	66,048	22.4	166.7	4,002	166.7	4,002	LUMP SUM	688.8	8,004	8,004

PROJECT NO. R-5512/R-5513
CUMBERLAND COUNTY
 BRIDGE NO.: _____

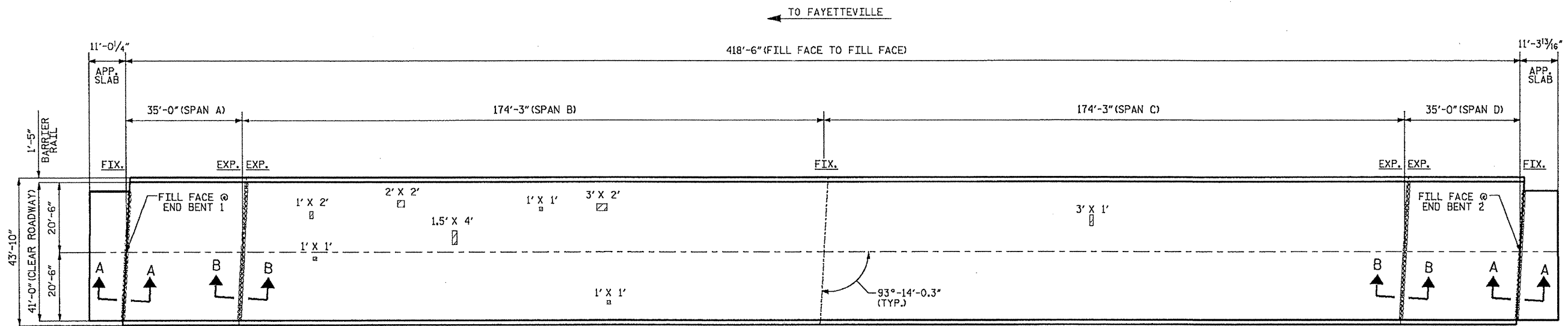
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STRUCTURE
 TOTAL BILL
 OF MATERIAL



DRAWN BY : R. WEISZ DATE : 10/13
 CHECKED BY : F. ASEFNIA DATE : 10/13

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			42



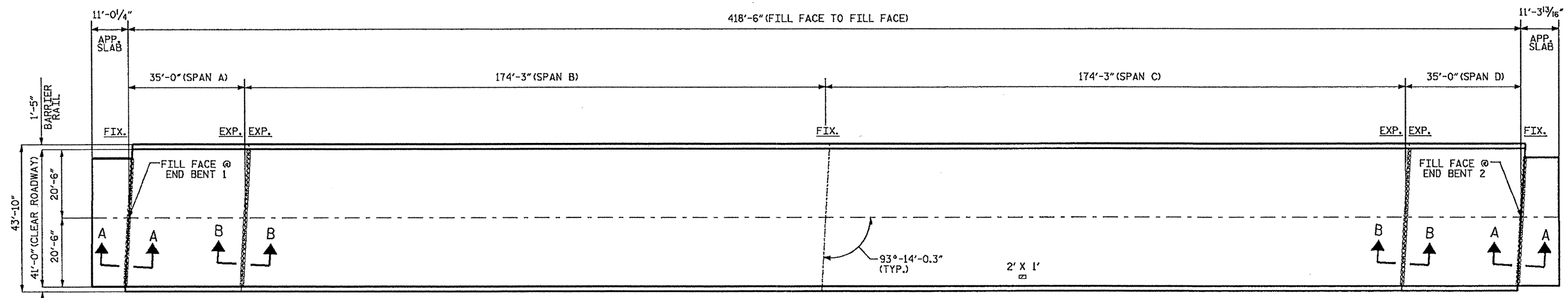
PLAN OF SPAN

(BRIDGE #139)
WESTBOUND NC 24
I-95 COLLECTOR

TO FAYETTEVILLE

APPROX. AREA: CLASS II REPAIR

BRIDGE JOINT DEMOLITION



PLAN OF SPAN

(BRIDGE #136)
WESTBOUND NC 24

PROJECT NO. R-5512/R-5513
CUMBERLAND COUNTY

STATION: -
SHEET OF

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN VIEW OF
BRIDGE 139 & 136
ON NC 24 OVER I-95



DRAWN BY: R. WEISZ DATE: 10/2013
CHECKED BY: F. ASEFNIA DATE: 10/2013

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-2
2			4			TOTAL SHEETS 6

NOTES

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATION OF BRIDGE DECK.

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK, SEE "TYPICAL "BLOW THRU" CONTAINMENT AND FORMWORK" DETAIL.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE MANAGING BRIDGE WASH WATER SPECIAL PROVISION.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

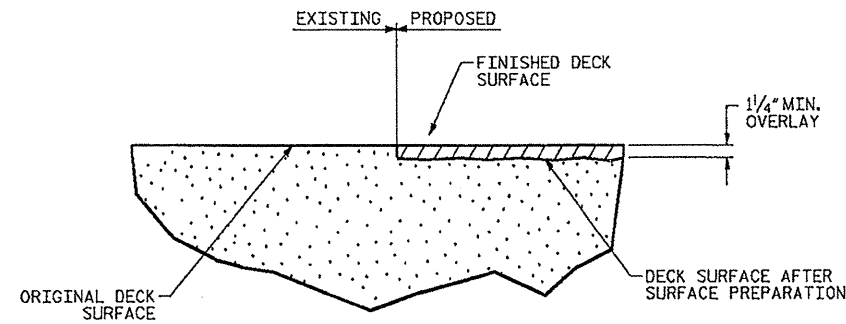
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLAN SHEETS.

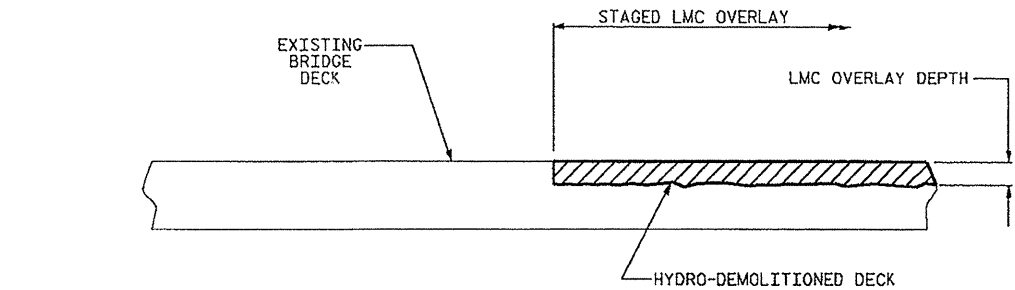
LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

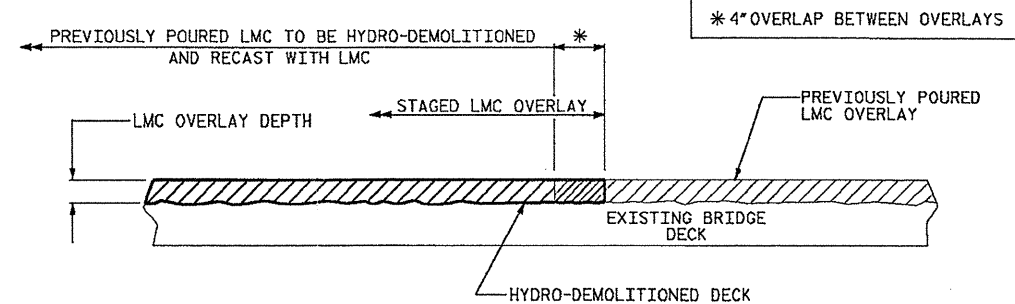


*** DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY**

* BRIDGES 139 & 138 ARE VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

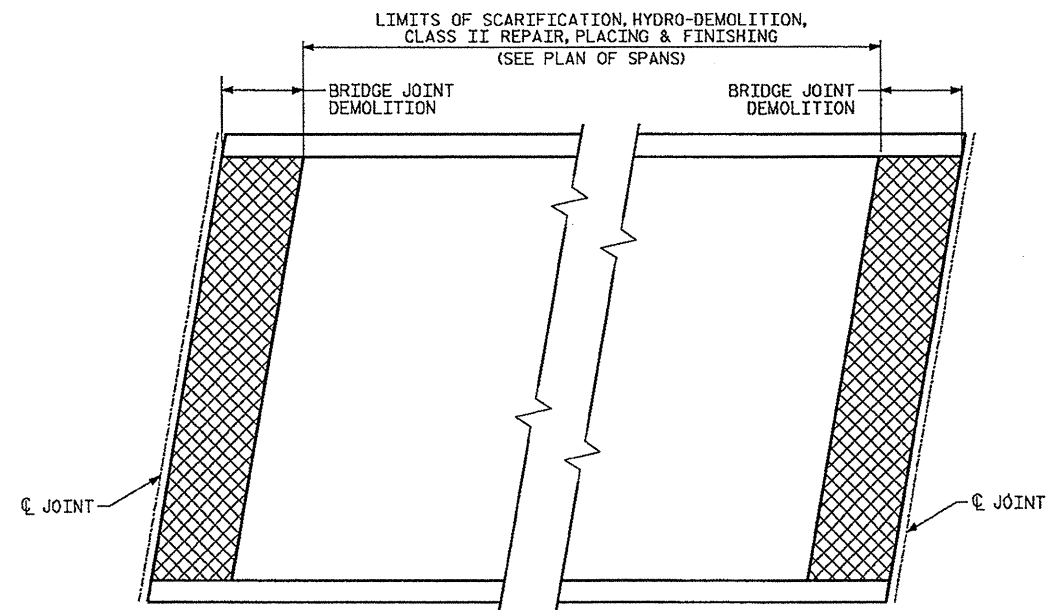


SECTION THRU DECK

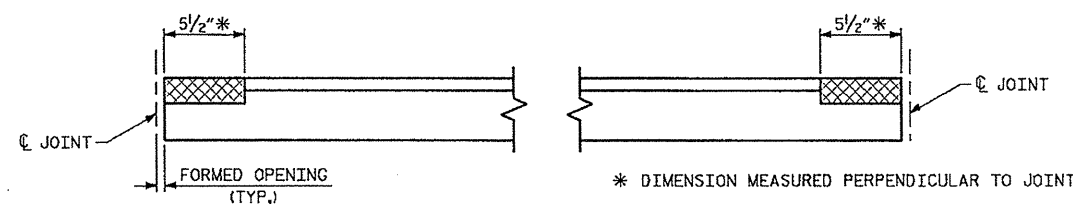


SECTION THRU DECK

STAGED LMC OVERLAY JOINTS

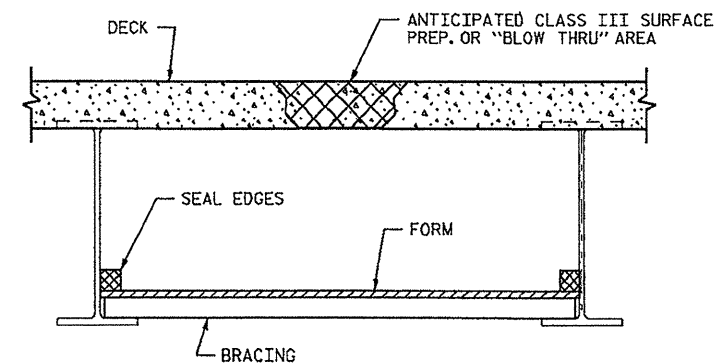


PLAN



ELEVATION

BRIDGE JOINT DEMOLITION



TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALLED IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COST FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE PER SQ. YARD OF HYDRO-DEMOLITION.

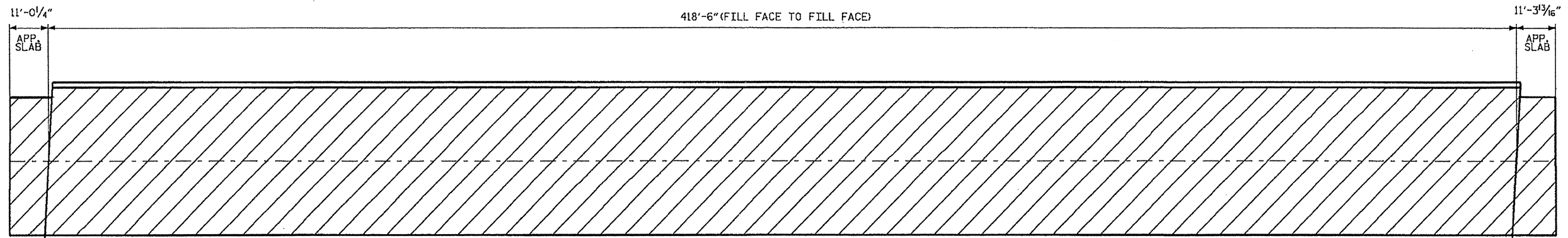
PROJECT NO. R-5512/R-5513
CUMBERLAND COUNTY
BRIDGE NO.: 139, 136, 135, 138

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SURFACE PREPARATION
DETAILS




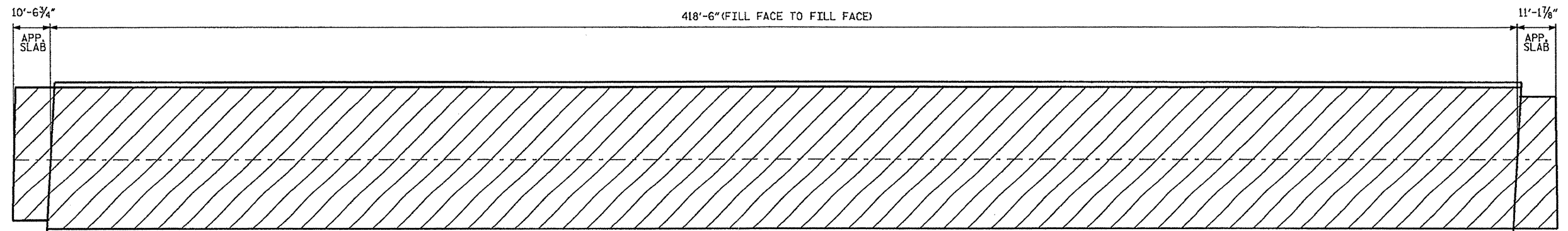
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			6

DRAWN BY: R. WEISZ DATE: 10/2013
CHECKED BY: F. ASEFNIA DATE: 10/2013



PLAN
(BRIDGE #139 OR BRIDGE #136)

 DECK SCARIFICATION AND HYDRODEMOLITION



PLAN
(BRIDGE #135 OR BRIDGE # 138)

R-5512/R-5513
CUMBERLAND COUNTY
BRIDGE NO. 139, 136, 135, 138



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SURFACE PREPARATION
PLAN

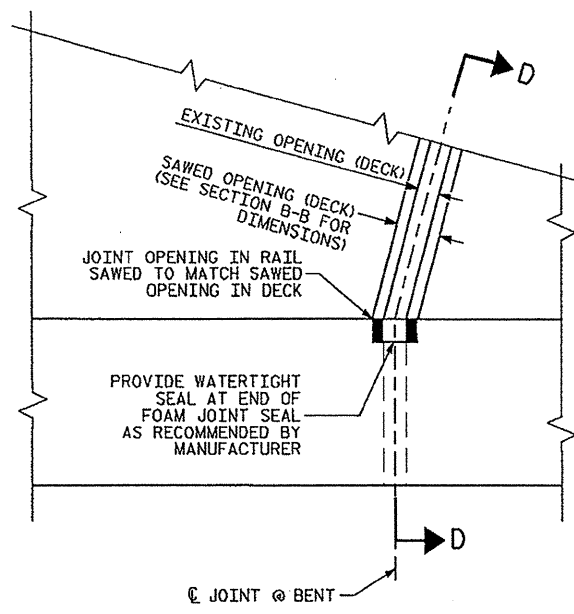


DRAWN BY : R. WEISZ DATE : 10/2013
CHECKED BY : F. ASEFNIA DATE : 10/2013

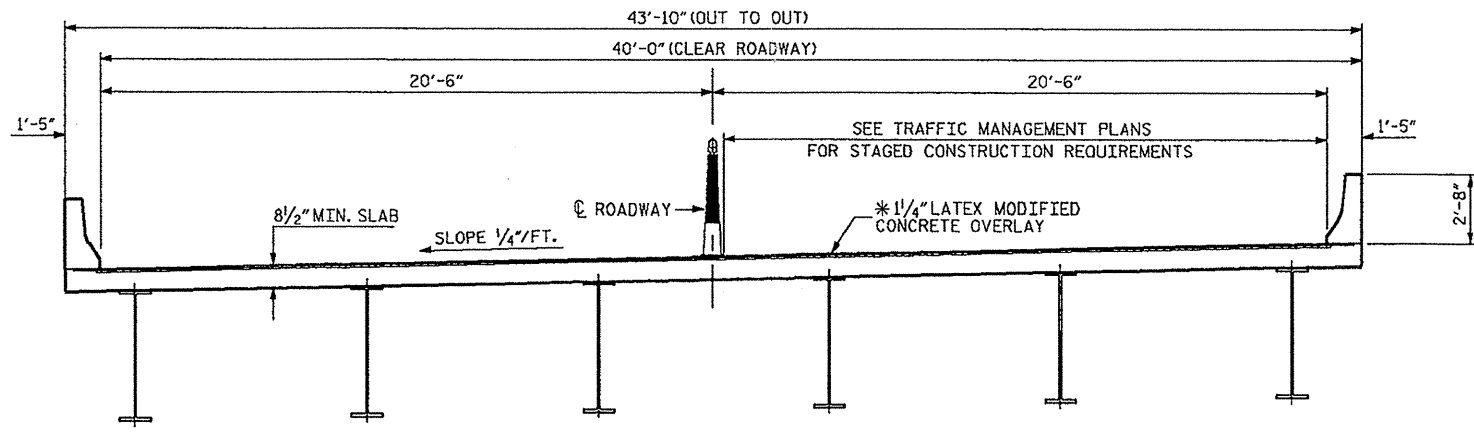
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-5
1			3			TOTAL SHEETS
2			4			6

NOTES

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2" AT END BENTS AND 3 1/2" AT BENTS 1 & 3.
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.

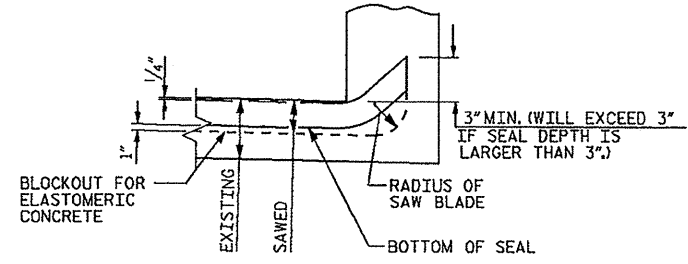


PLAN

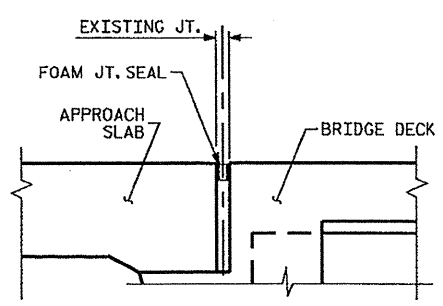


TYPICAL SECTION

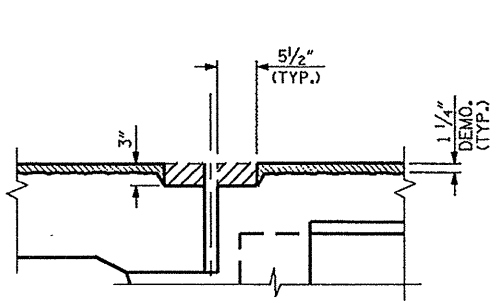
* BRIDGES 139 & 138 WILL BE OVERLAYS WITH VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY AND WILL BE STAGED



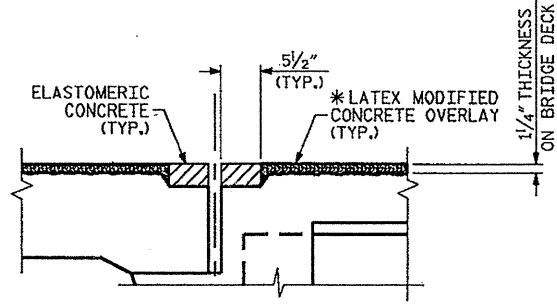
SECTION D-D



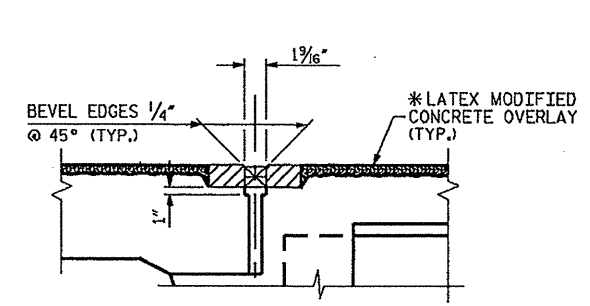
SECTION A-A (EXISTING JOINT)



SECTION A-A (MINIMUM EXISTING JOINT DEMOLITION)



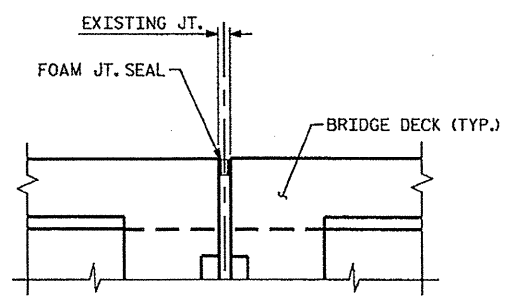
SECTION A-A (PROPOSED FOAM JOINT SEAL PRE-SAWED DIMENSIONS)



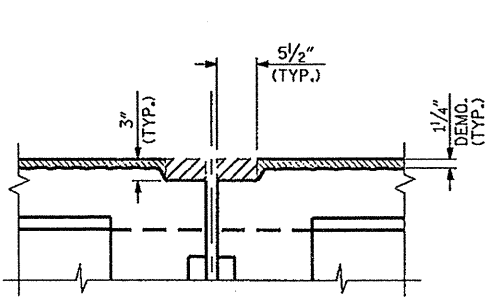
SECTION A-A (PROPOSED FOAM JOINT SEAL EXPANSION)

ELASTOMERIC CONCRETE	
END BENTS AND BENTS	145.7 (CU. FT.)
* TOTAL	145.7 (CU. FT.)

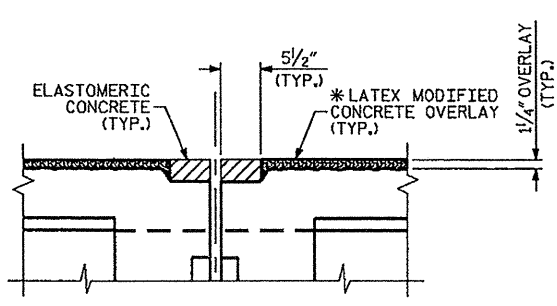
* BASED ON THE MINIMUM BLOCKOUT SHOWN.



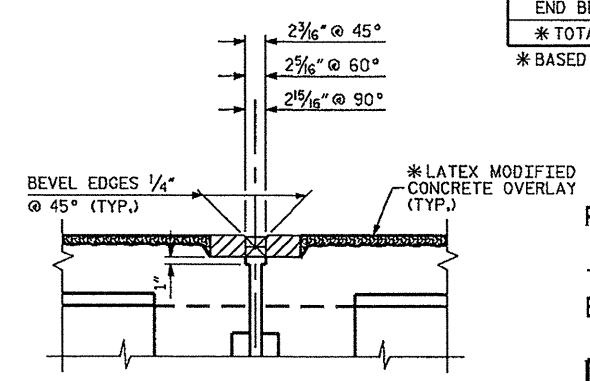
SECTION B-B (EXISTING JOINT)



SECTION B-B (MINIMUM EXISTING JOINT DEMOLITION)



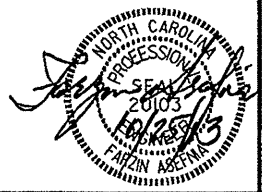
SECTION B-B (PROPOSED FOAM JOINT SEAL PRE-SAWED DIMENSIONS)



SECTION B-B (PROPOSED FOAM JOINT SEAL EXPANSION)

PROJECT NO. R-5512/R-5513
 CUMBERLAND COUNTY
 BRIDGE NO. 139, 136, 135, 138

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 TYPICAL SECTION & JOINT DETAILS



NOTE: RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS REQUIRED.

DRAWN BY: R. WEISZ DATE: 10/2013
 CHECKED BY: F. ASEFNIA DATE: 10/2013

REVISIONS						SHEET NO. S-6
NO.	BY	DATE	NO.	BY	DATE	
1			2			TOTAL SHEETS
2			4			6