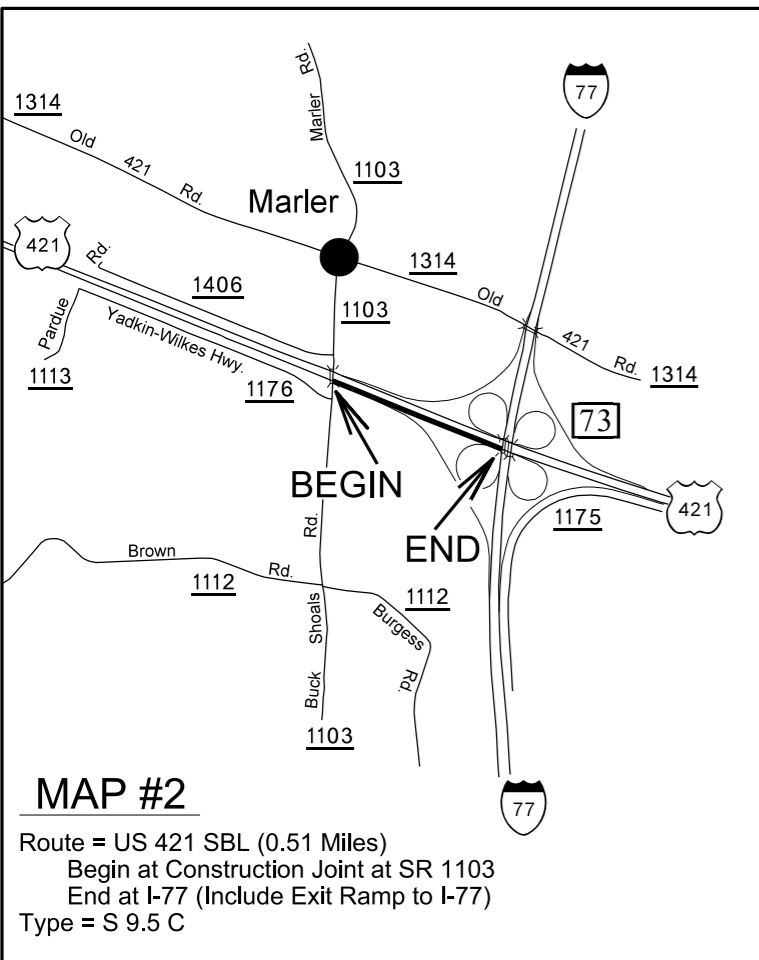


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

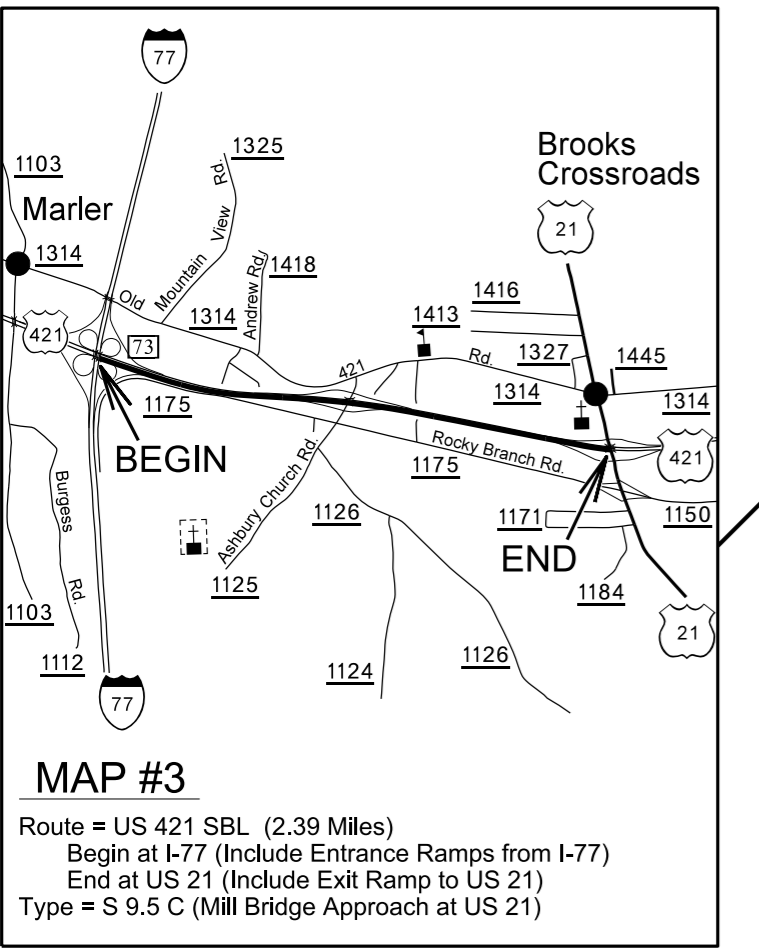
2016

**YADKIN COUNTY**

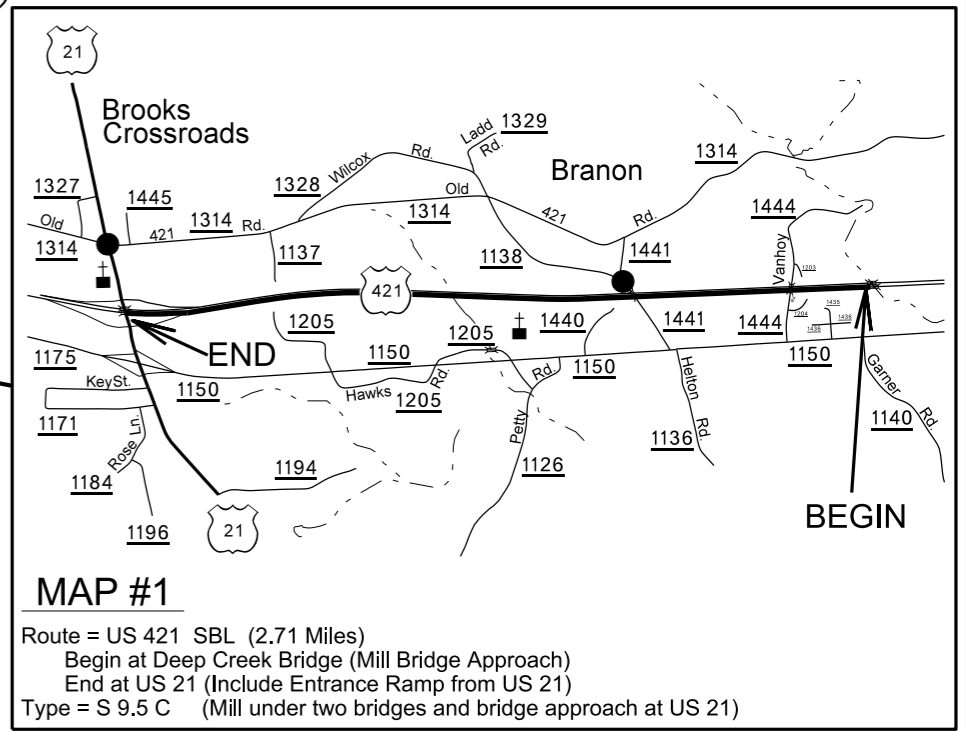
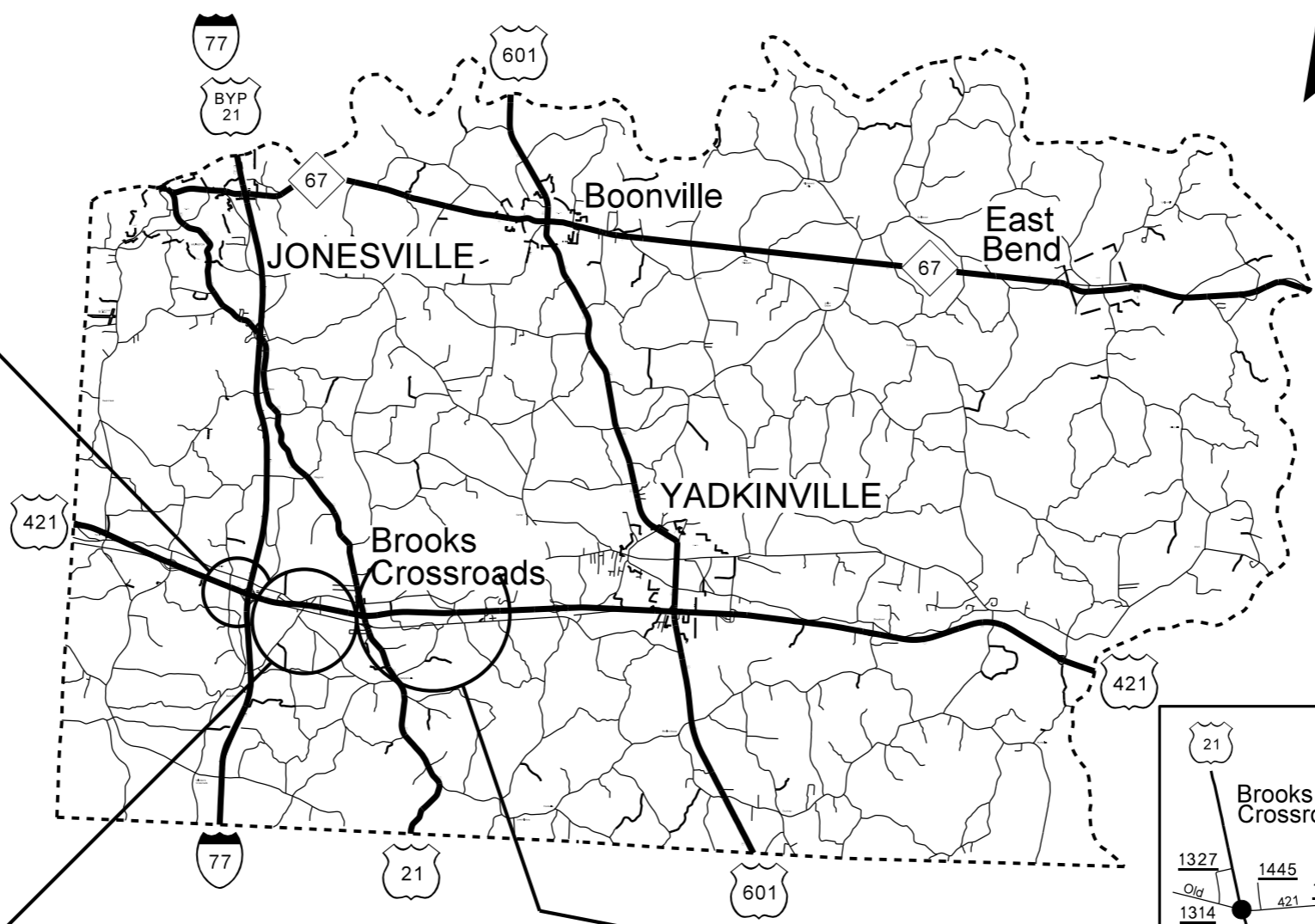
PRIMARY & SECONDARY ASPHALT RESURFACING



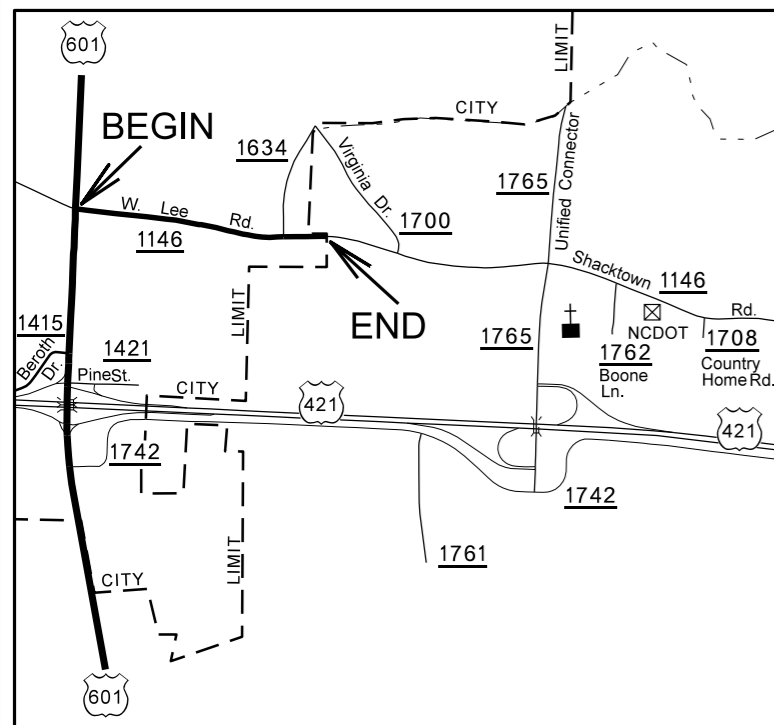
**MAP #2**  
Route = US 421 SBL (0.51 Miles)  
Begin at Construction Joint at SR 1103  
End at I-77 (Include Exit Ramp to I-77)  
Type = S 9.5 C



**MAP #3**  
Route = US 421 SBL (2.39 Miles)  
Begin at I-77 (Include Entrance Ramps from I-77)  
End at US 21 (Include Exit Ramp to US 21)  
Type = S 9.5 C (Mill Bridge Approach at US 21)

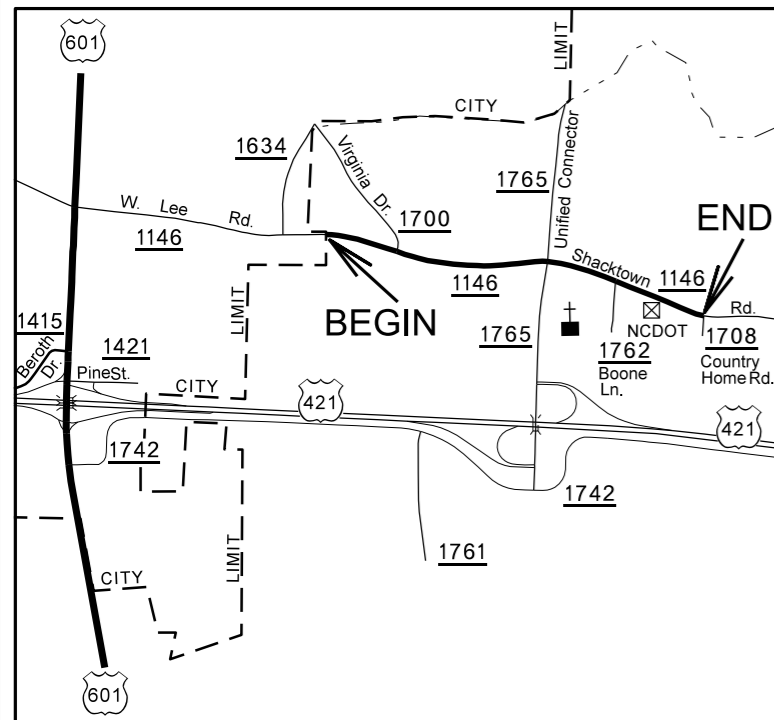


**MAP #1**  
Route = US 421 SBL (2.71 Miles)  
Begin at Deep Creek Bridge (Mill Bridge Approach)  
End at US 21 (Include Entrance Ramp from US 21)  
Type = S 9.5 C (Mill under two bridges and bridge approach at US 21)



**MAP #4**

Route = SR 1146 (0.61 Miles)  
 Begin at US 601  
 End at Yadkinville ECL  
 Type = S 9.5 B



**MAP #5**

Route = SR 1146 (0.95 Miles)  
 Begin at Yadkinville ECL  
 End at SR 1708  
 Type = S 9.5 B

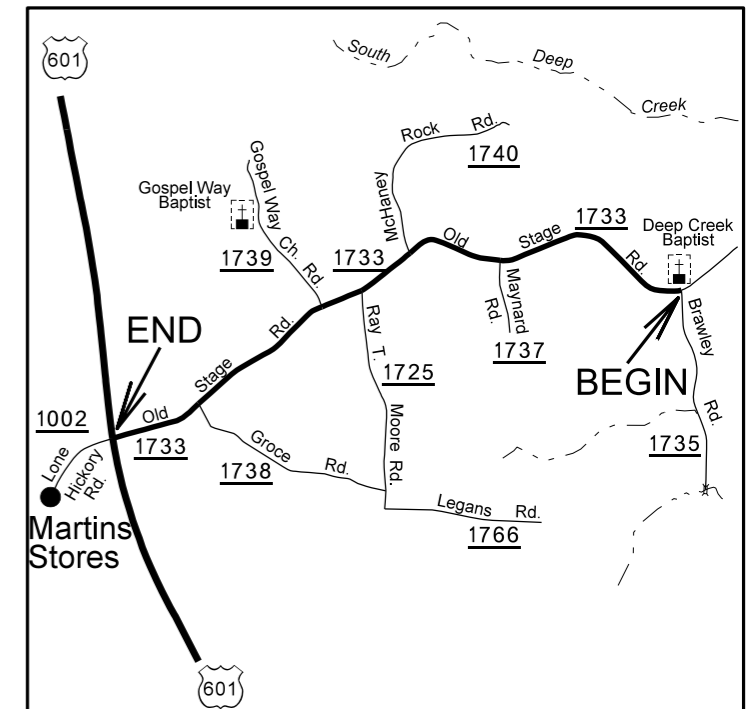
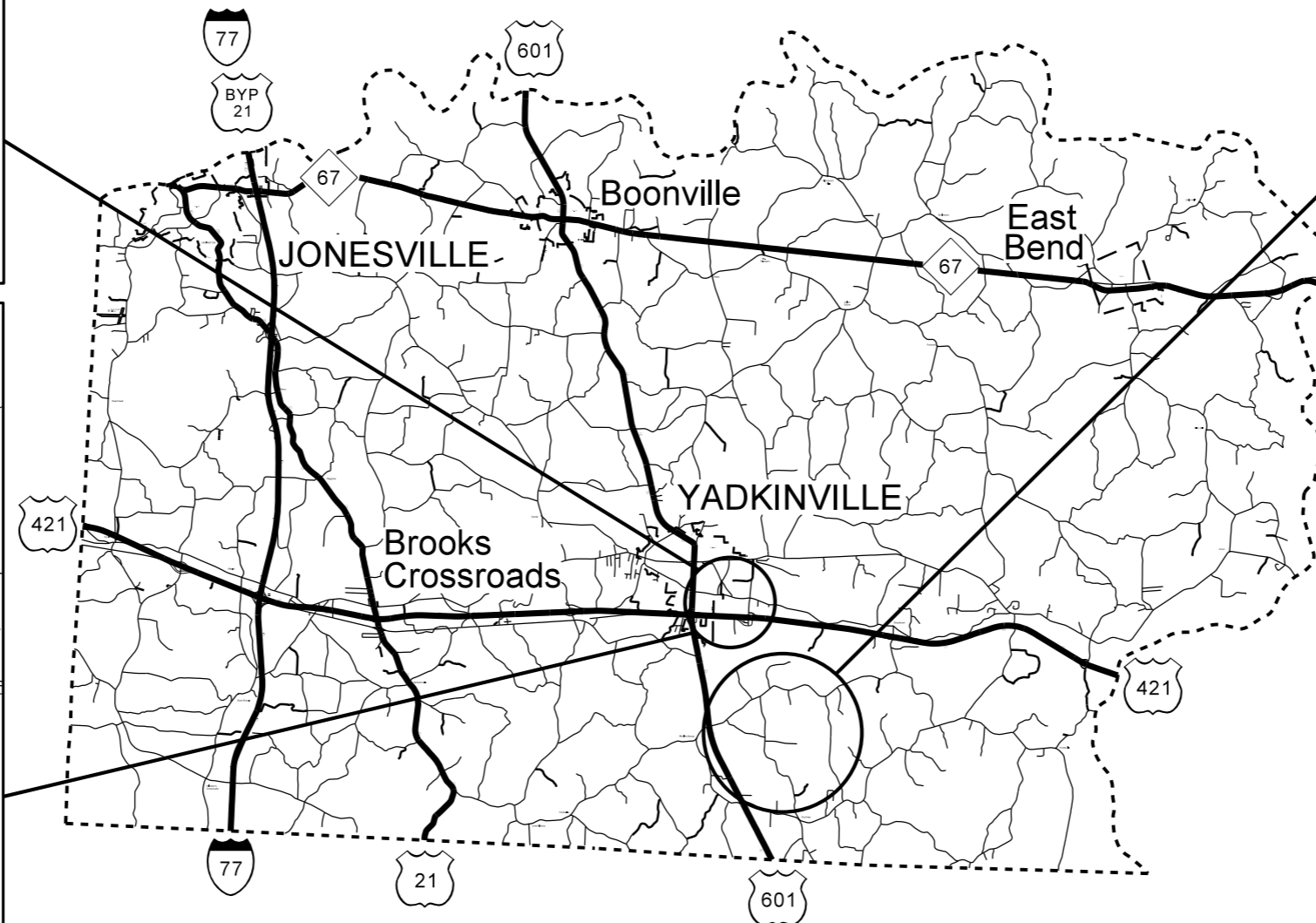


STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS

2016

**YADKIN COUNTY**

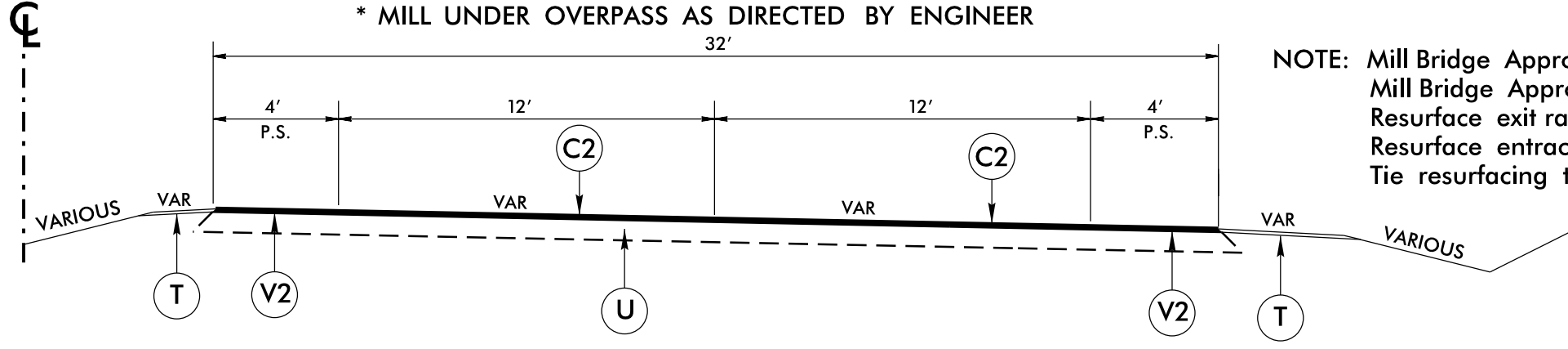
PRIMARY & SECONDARY ASPHALT RESURFACING



**MAP #6**

Route = SR 1733 (2.71 Miles)  
 Begin at SR 1735  
 End at US 601  
 Type = SF 9.5 A

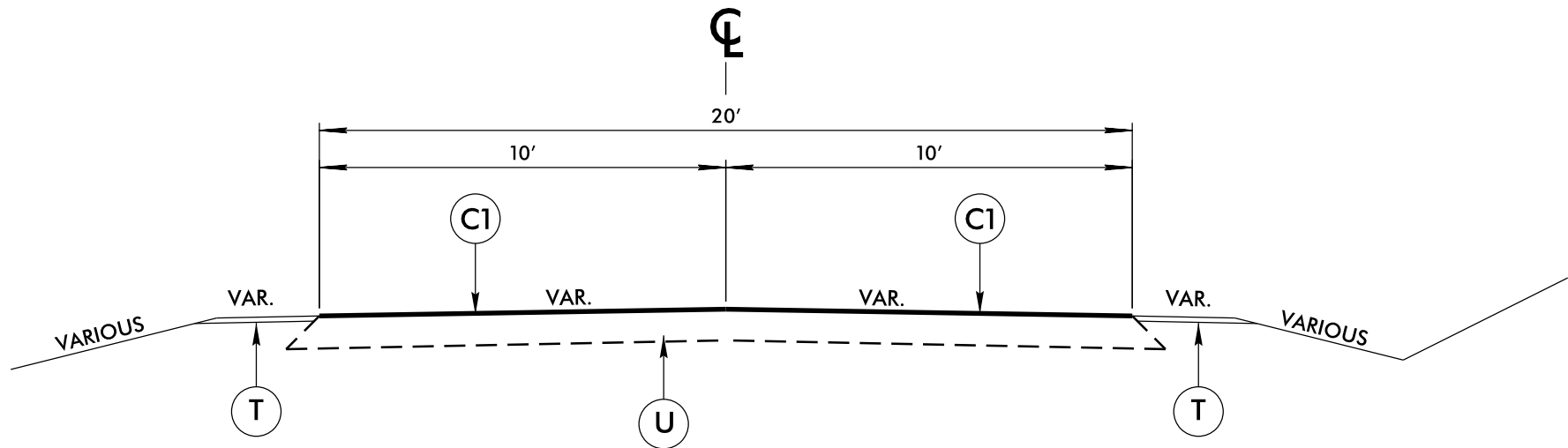
\* PATCHING AT LOCATIONS AS DIRECTED BY ENGINEER  
 \* MILL UNDER OVERPASS AS DIRECTED BY ENGINEER



NOTE: Mill Bridge Approach at Deep Creek per Bridge Tie-In Detail below.  
 Mill Bridge Approaches at US 21 per Bridge Tie-In Detail below.  
 Resurface exit ramp at US 21  
 Resurface entrance ramp at US 21  
 Tie resurfacing to concrete entrance and exit ramps at I-77

**TYPICAL SECTION NO. 1**

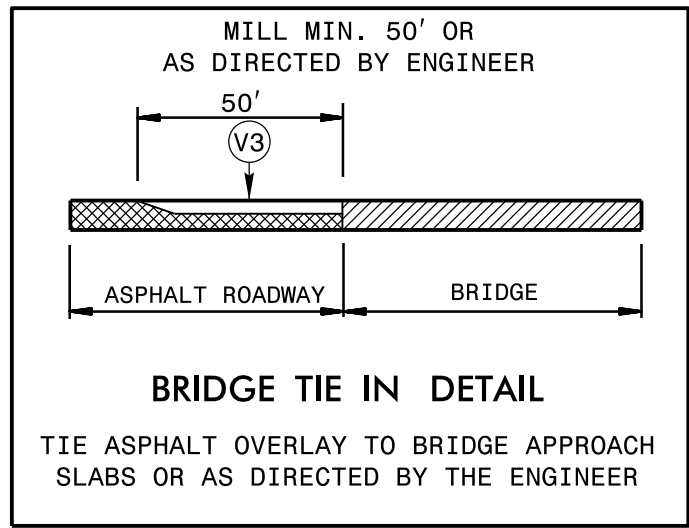
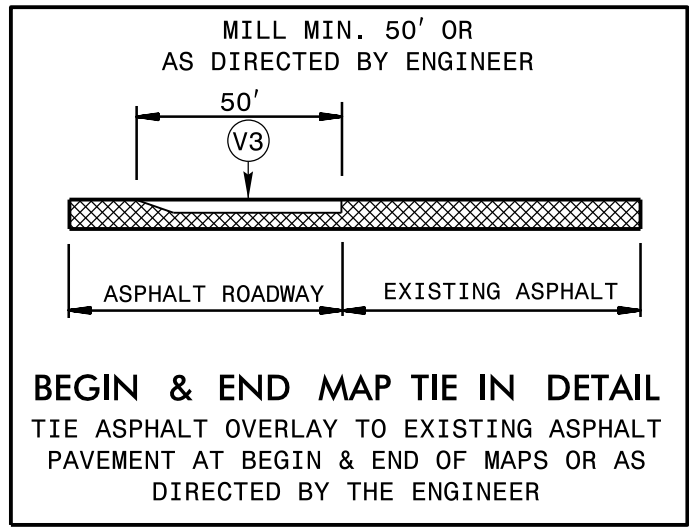
MAP 1 - US 421 SBL FROM DEEP CREEK BRIDGE TO US 21  
 MAP 2 - US 421 SBL FROM SR 1103 TO I-77  
 MAP 3 - US 421 SBL FROM I-77 TO US 21



**TYPICAL SECTION NO. 3**

MAP 5 - SR 1146 FROM YADKINVILLE ECL TO SR 1708

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137. LBS. PER SQ. YD.
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT
V1	INCIDENTAL MILLING
V2	MILLED RUMBLE STRIPS (ASPHALT CEMENT)



**YADKIN COUNTY  
 PRIMARY & SECONDARY  
 RESURFACING**

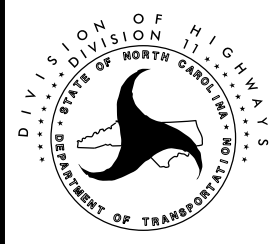
DIVISION II

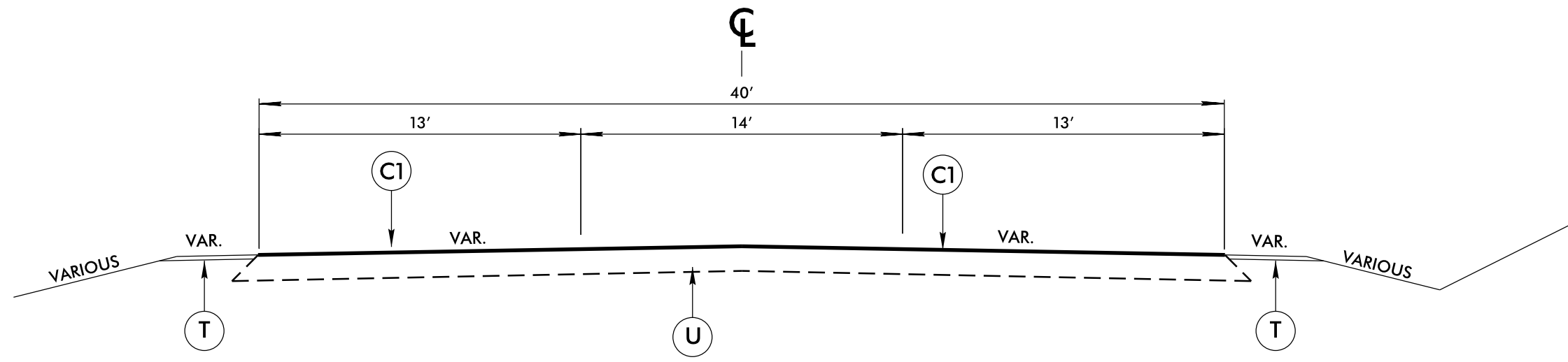
REVISIONS	INT.	DATE

SCALE: N/A DATE: 04/2015

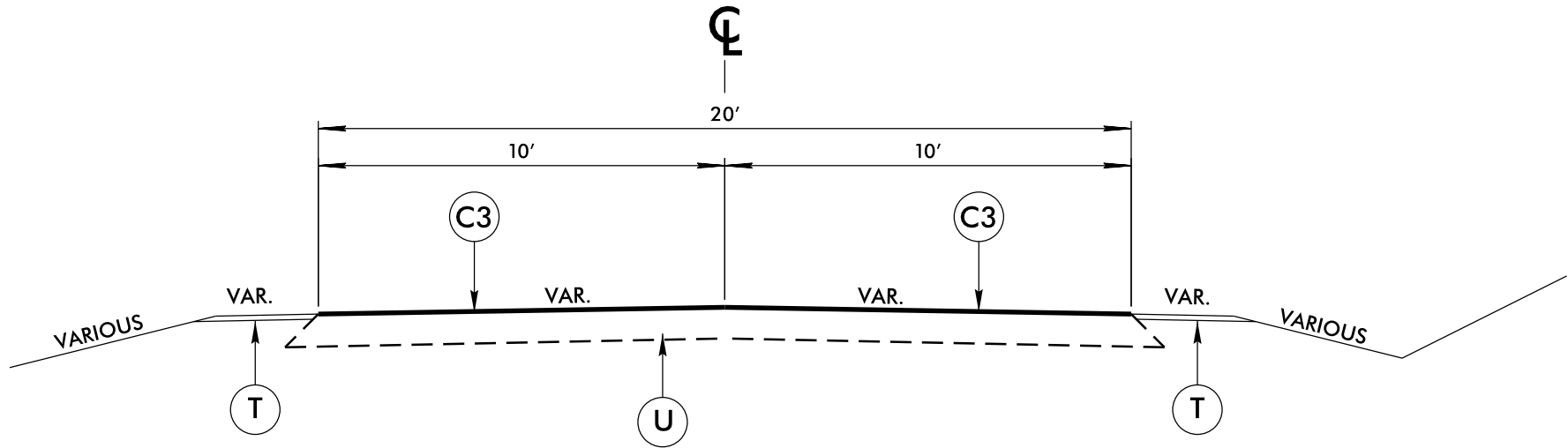
PREPARED BY: S.B. DARNELL  
 REVIEWED BY: J.L. LAWS

**N.C. DEPARTMENT of TRANSPORTATION  
 DIVISION of HIGHWAYS  
 DIVISION ELEVEN**





**TYPICAL SECTION NO. 2**  
MAP 4 – SR 1146 FROM US 601 TO YADKINVILLE ECL



**TYPICAL SECTION NO. 4**  
MAP 6 – SR 1733 FROM SR 1735 TO US 601

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137. LBS. PER SQ. YD.
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT
V1	INCIDENTAL MILLING
V2	MILLED RUMBLE STRIPS (ASPHALT CEMENT)

<b>YADKIN COUNTY PRIMARY &amp; SECONDARY RESURFACING</b>		
DIVISION II		
REVISIONS	INT.	DATE
SCALE: N/A		DATE: 04/2015
PREPARED BY: S.B. DARNELL		
REVIEWED BY: J.L. LAWS		
REVIEWED BY:		
<b>N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION ELEVEN</b>		

PROJECT NO.	SHEET NO.	TOTAL NO.
11CR.10991.23, 11CR.20991.23		

### SUMMARY OF QUANTITIES

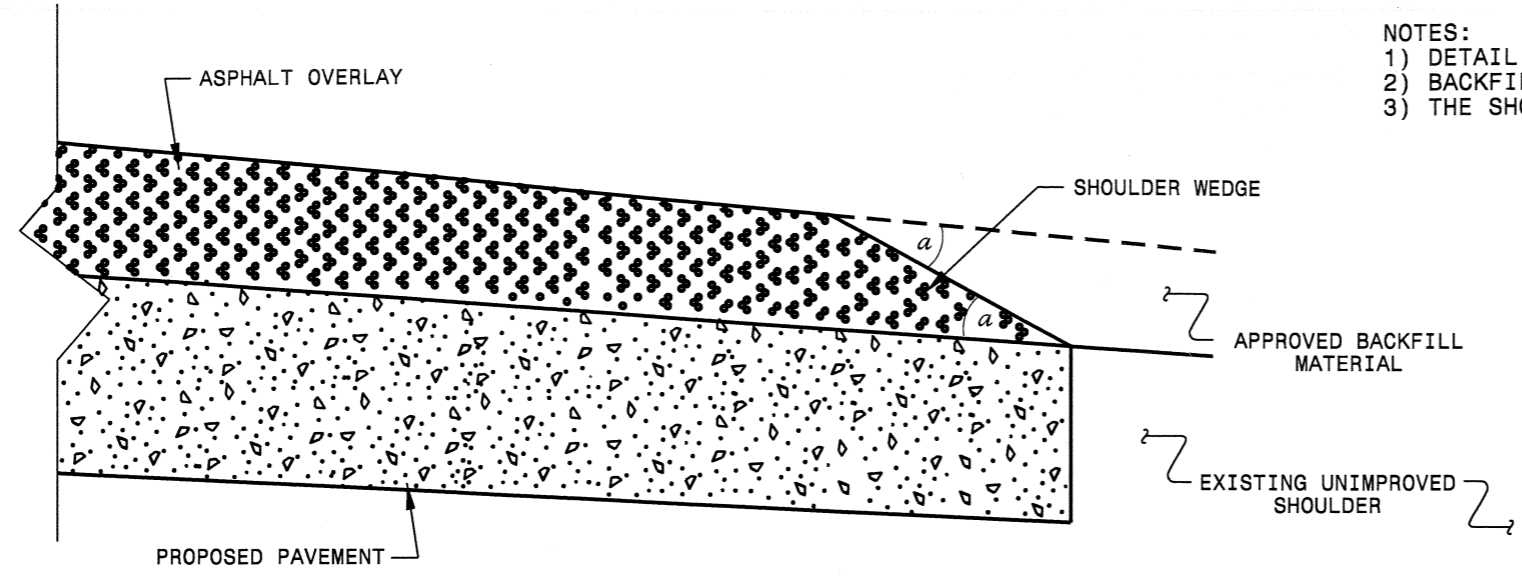
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH M	WIDTH FT	BORROW EXCAVATION CY	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SM	INCIDENTAL MILLING SY	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	SURFACE COURSE, SF9.5A TONS	ASPHALT BINDER FOR PLANT MX TONS	PATCHING EXISTING PAVEMENT TONS	MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE) LF	ADI. OF MANHOLES EA	ADI. OF METER OR VALVE BOX EA	SEED & MULCHING AC
11CR.10991.23	Yadkin	1	US 421 SBL	FROM DEEP CREEK BRIDGE TO US 21	1	2	MD	NO	NO	2.71	32	542		5.42	2,400		4,525		267	100	28,618			2.00
11CR.10991.23	Yadkin	2	US 421 SBL	FROM SR 1103 TO I-77	1	2	MD	NO	NO	0.51	32	102		1.02	1,250		855		50	100	5,386			0.10
11CR.10991.23	Yadkin	3	US 421 SBL	FROM I-77 TO US 21	1	2	MD	NO	NO	2.39	32	478		4.78	1,850		5,350		316	250				1.75
<b>TOTAL FOR PROJ NO. 11CR.10991.23</b>										<b>5.61</b>		<b>1,122</b>		<b>11.22</b>	<b>5,500</b>		<b>10,730</b>		<b>633</b>	<b>450</b>	<b>34,004</b>			<b>3.85</b>
11CR.20991.23	Yadkin	4	SR 1146	FROM US 601 TO YADKINVILLE ECL	2	3	MU	NO	NO	0.61	40	122	50	1.22	222	1,330			80	250		5	2	0.45
11CR.20991.23	Yadkin	5	SR 1146	FROM YADKINVILLE ECL TO SR 1708	3	2	2WU	NO	NO	0.95	20	190	25	1.90	111	1,050			63	150				0.70
11CR.20991.23	Yadkin	6	SR 1733	FROM SR 1735 TO US 601	4	2	2WU	NO	NO	2.71	21	542	100	5.42	233		2,530		170	250				2.00
<b>TOTAL FOR PROJ NO. 11CR.20991.23</b>										<b>4.27</b>		<b>854</b>	<b>175</b>	<b>8.54</b>	<b>566</b>	<b>2,380</b>		<b>2,530</b>	<b>313</b>	<b>650</b>		<b>5</b>	<b>2</b>	<b>3.15</b>
<b>GRANDTOTAL</b>										<b>9.88</b>		<b>1,976</b>	<b>175</b>	<b>19.76</b>	<b>6,066</b>	<b>2,380</b>	<b>10,730</b>		<b>946</b>	<b>1,100</b>	<b>34,004</b>	<b>5</b>	<b>2</b>	<b>7.00</b>

PROJECT NO.	SHEET NO.	TOTAL NO.
11CR.10991.23, 11CR.20991.23		

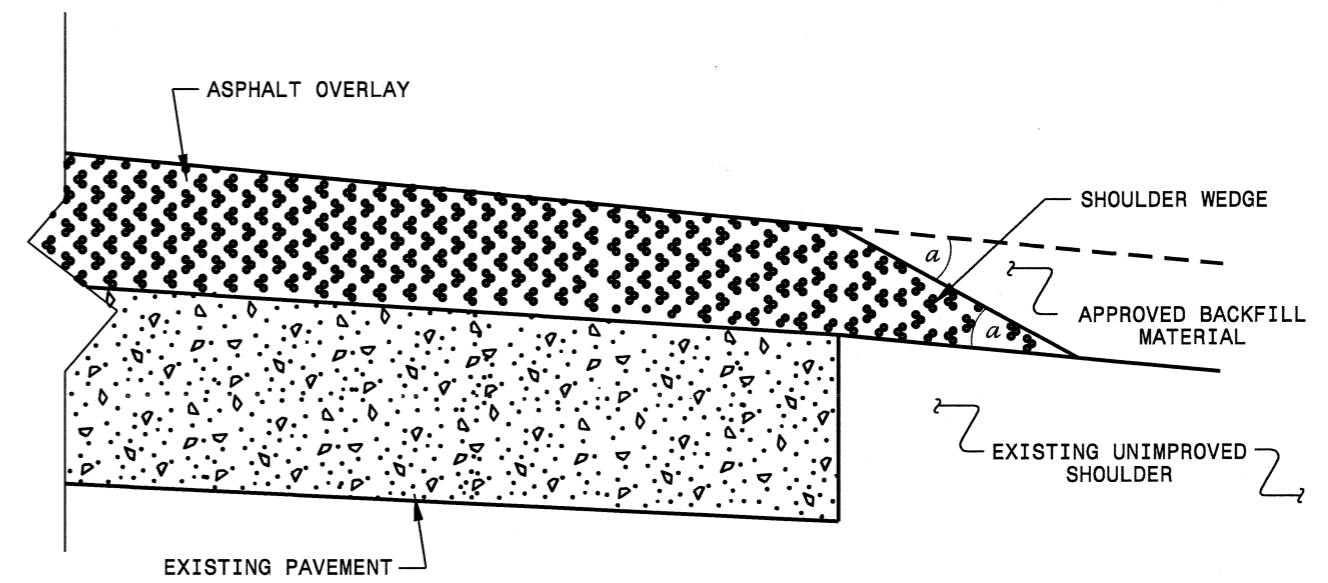
### THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4413000000-E	4457000000-N	4810000000-E		4815000000-E		4820000000-E	4835000000-E	4845000000-N				4905000000-N
										WRK ZONE ADVANCE/GENERAL WARNING SIGNS	TEMPORARY TRAFFIC CONTROL	4" WHITE PAINT	4" YELLOW PAINT	6" YELLOW PAINT	6" WHITE PAINT	8" WHITE PAINT	24" WHITE PAINT	PAINT LT ARROW	PAINT RT ARROW	PAINT STR ARROW	PAINT STR & RT ARROW	SNOW PLOWABLE MARKERS
										SF	LS	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA
11CR.10991.23	Yadkin	1	US 421 SBL	FROM DEEP CREEK BRIDGE TO US 21	1	2	MD	2.71	32	272	1			32,840	46,960	1,640						198
11CR.10991.23	Yadkin	2	US 421 SBL	FROM SR 1103 TO I-77	1	2	MD	0.51	32	72	*			5,385	8,079	1,800						45
11CR.10991.23	Yadkin	3	US 421 SBL	FROM I-77 TO US 21	1	2	MD	2.39	32	272	*			25,238	37,858	6,100		10	10	12		178
<b>TOTAL FOR PROJ NO. 11CR.10991.23</b>								<b>5.61</b>		<b>616</b>				<b>63,463</b>	<b>92,897</b>	<b>9,540</b>		<b>10</b>	<b>10</b>	<b>12</b>		<b>421</b>
										<b>156,360</b>				<b>32</b>								
11CR.20991.23	Yadkin	4	SR 1146	FROM US 601 TO YADKINVILLE ECL	2	3	MU	0.61	40	72	*	12,883	32,208				60	38			4	
11CR.20991.23	Yadkin	5	SR 1146	FROM YADKINVILLE ECL TO SR 1708	3	2	2WU	0.95	20	72	*	20,064	20,064				120	10			2	
11CR.20991.23	Yadkin	6	SR 1733	FROM SR 1735 TO US 601	4	2	2WU	2.71	21	136	*	57,235	57,235									151
<b>TOTAL FOR PROJ NO. 11CR.20991.23</b>								<b>4.27</b>		<b>280</b>	<b>*</b>	<b>90,182</b>	<b>109,507</b>				<b>180</b>	<b>48</b>			<b>6</b>	<b>151</b>
										<b>199,689</b>				<b>54</b>								
<b>GRAND TOTAL</b>								<b>9.88</b>		<b>896</b>	<b>1</b>	<b>90,182</b>	<b>109,507</b>	<b>63,463</b>	<b>92,897</b>	<b>9,540</b>	<b>180</b>	<b>58</b>	<b>10</b>	<b>12</b>	<b>6</b>	<b>572</b>
										<b>199,689</b>				<b>156,360</b>				<b>86</b>				

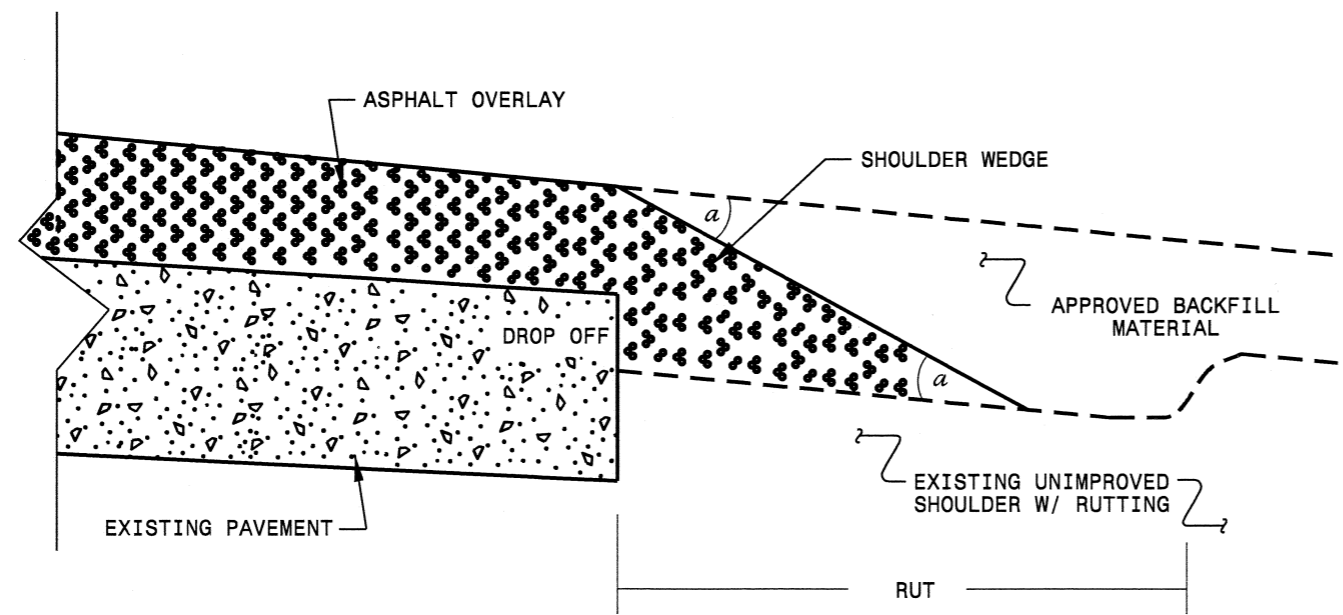
- NOTES:  
 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.  
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.  
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ Widening or  
 with Existing Paved Shoulder having no dropoffs)



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ NO Widening)



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Adjacent to  
 Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

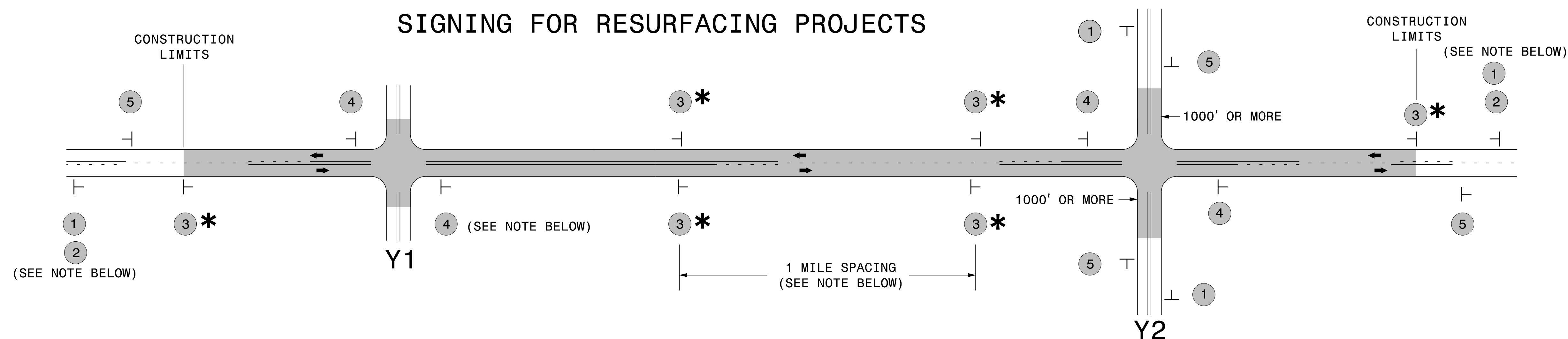
CONTRACT STANDARDS  
 AND DEVELOPMENT UNIT  
 Office 919-707-6950 FAX 919-250-4119

**SHOULDER WEDGE  
 DETAILS**

ORIGINAL BY: T.SPELL DATE: 7-19-11  
 MODIFIED BY: DATE: 10/18/12  
 CHECKED BY: DATE:  
 FILE SPEC.: s:\user\details\stand\shoulderwedgedetail.dgn

SYSTEMS CONSULTANTS  
 CONSULTANTS

# SIGNING FOR RESURFACING PROJECTS



LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

## MAINLINE (-L-) SIGNING

## -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	MAINLINE (-L-) SIGNING		-Y- LINE SIGNING	
	1	 W20-1 48" X 48"	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> <li>1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>2) SUBDIVISION ROADS</li> <li>3) DEAD END ROADS</li> </ol> <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">             W20-1            48" X 48"         </div> <div style="text-align: center;">             W20-7 A            48" X 48"         </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
	2	 W7-3aP 24" X 18"	#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	3 *	 SP 13107 48" X 48"	PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.	
	4	 SP 13106 48" X 48"	THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.	
5	 G20-2 A 48" X 24"	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.		

### \* SIGNING FOR ASPHALT SURFACE TREATMENTS (ONLY)

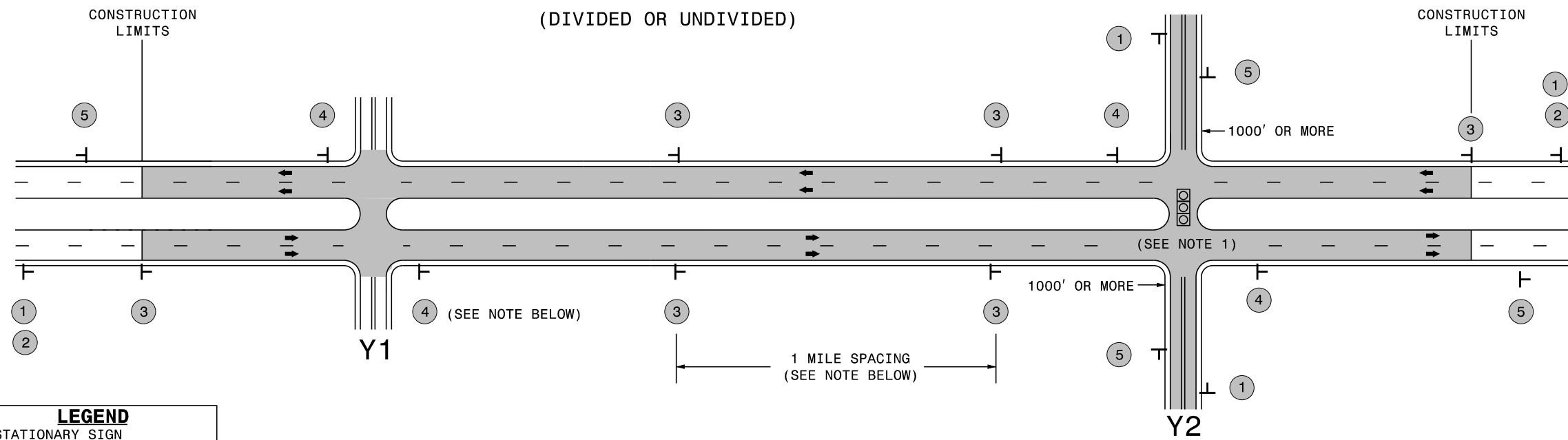
SUBSTITUTE LOW/SOFT SHOULDER SIGNS BY ALTERNATING THE FOLLOWING TWO SIGNS: STARTING WITH "UNMARKED PAVEMENT AHEAD" (SP 06026) FOLLOWED BY "LOOSE GRAVEL" (W8-7).



RESURFACING  
ADVANCE WARNING SIGNS  
FOR  
RURAL AND SUBURBAN  
2 LANE ROADWAYS



## SIGNING FOR RURAL AND SUBURBAN MULTI-LANE ROADWAYS WITH SHOULDER SECTIONS (DIVIDED OR UNDIVIDED)



LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

### MAINLINE (-L-) SIGNING

### -Y- LINE SIGNING

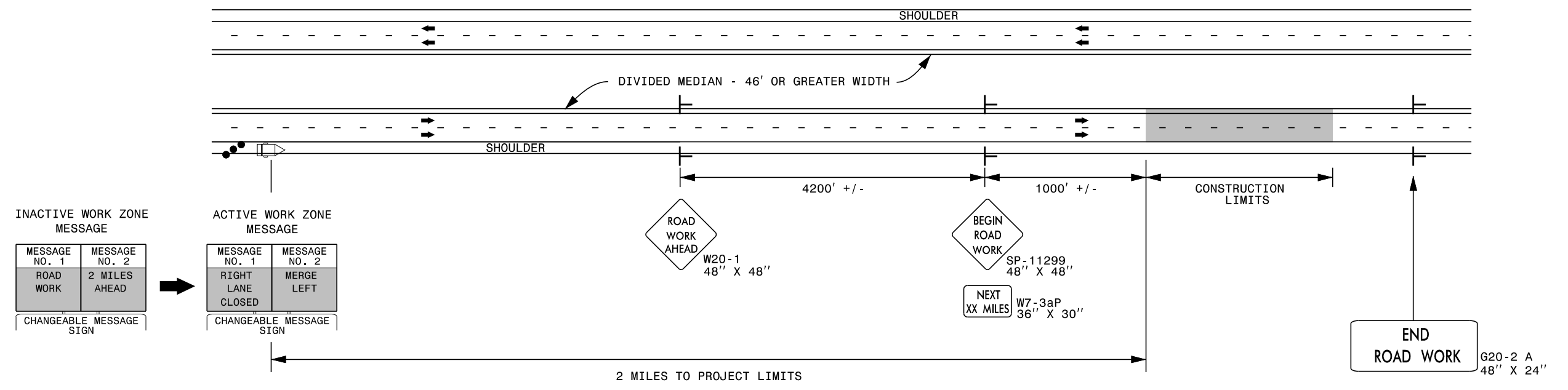
SIGNING NOTES AND PLACEMENT PER DIRECTION		
1 2	 W20-1 48" X 48" W7-3aP 24" X 18"	<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)</p>
3	 SP 13107 48" X 48"	<p>PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.</p>
4	 SP 13106 48" X 48"	<p>THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.</p>
5	 G20-2 A 48" X 24"	<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>
		<p><b>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</b></p> <ol style="list-style-type: none"> <li>1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>2) SUBDIVISION ROADS</li> <li>3) DEAD END ROADS</li> </ol> <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">             W20-1 48" X 48"         </div> <div style="text-align: center;">             W20-7 A 48" X 48"         </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.</li> </ol>

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

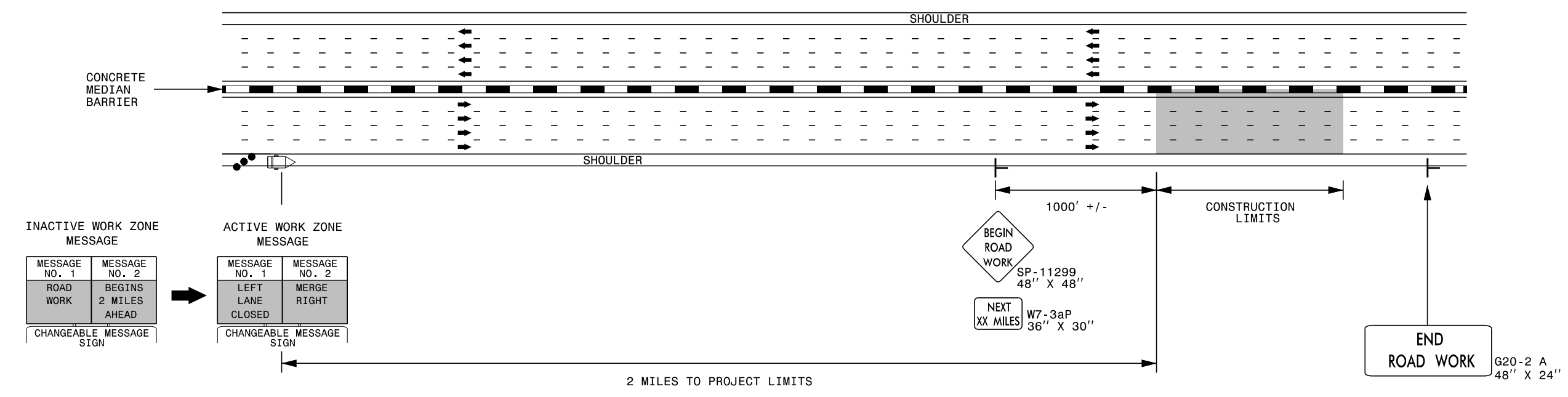
**RESURFACING  
ADVANCE WARNING SIGNS  
FOR RURAL AND SUBURBAN  
MULTI-LANE ROADWAYS  
W/ SHOULDER SECTIONS  
(DIVIDED OR UNDIVIDED)**

2/24/2014 S:\TMU\WZTC\Resurfacing\2013Documents\New\_Procedures\_05\_09\_2013\Resurfacing\_AdvWarn\_UrSu\_Shldr.dgn User:rmgarrrett

## DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER



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

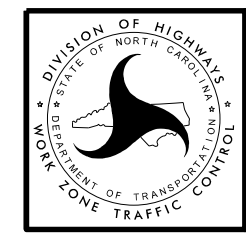


**NOTES:**

- 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**

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