

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION 6

**PLANS - REVISED**  
**June 5, 2017**

**CONTRACT ID: DF00160**

**WBS ELEMENT NO.: 2017CPT.06.11.10091.1 & 2017CPT.06.11.20091.1**

**FEDERAL AID NO.: STATE FUNDED**

**COUNTY: BLADEN**

**TIP NO.: -----**

**LENGTH OF PROJECT: 9.58 MILES**

**ROUTE NO.: NC 87 & SR 1316**

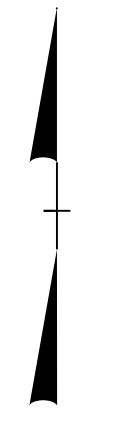
**TYPE OF WORK: RESURFACING, MILL & FILL, PROFILE MILLING & PVT. MKGS.**

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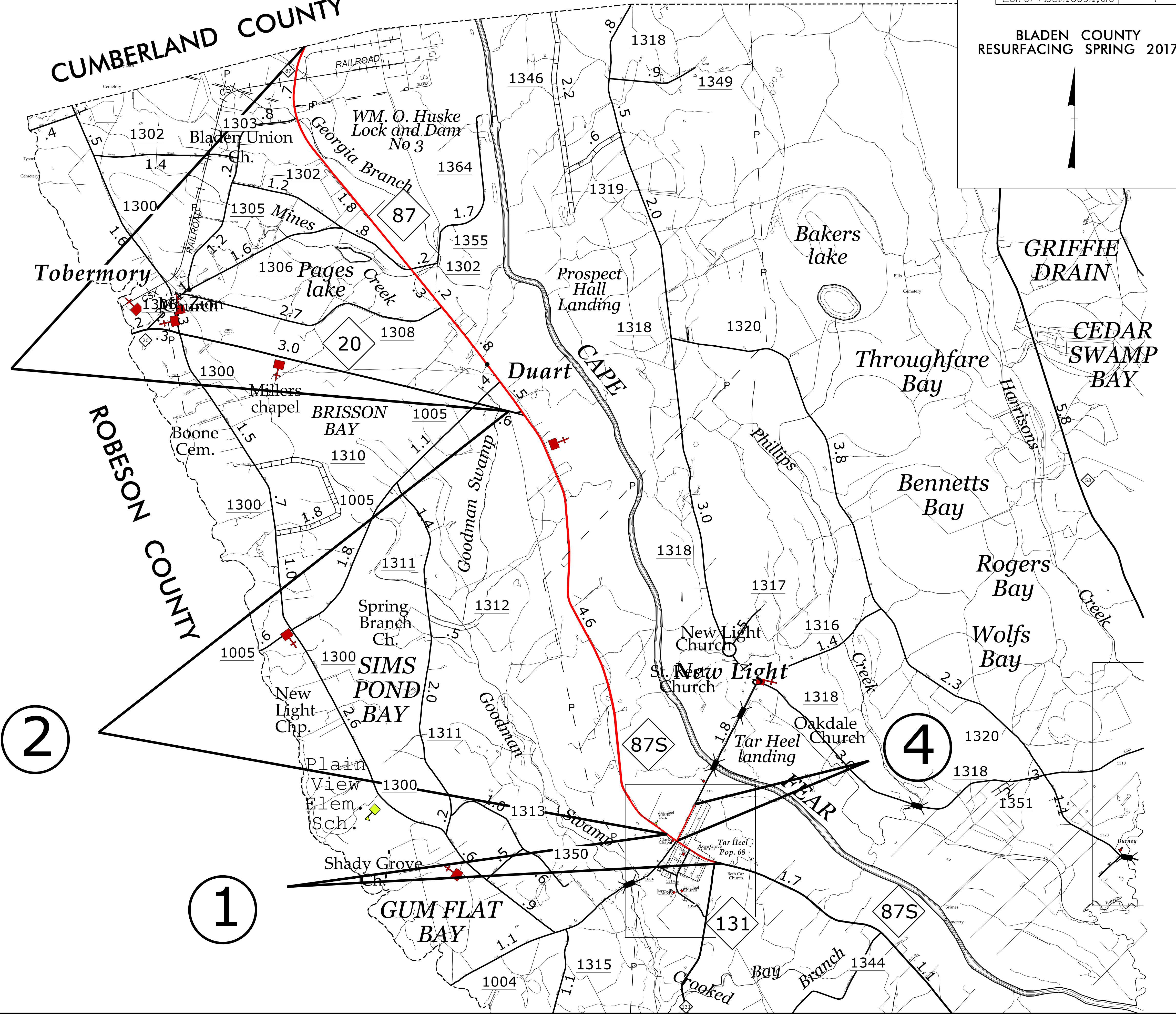
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**BLADEN COUNTY  
RESURFACING SPRING 2017**



**CUMBERLAND COUNTY**



**3**

**2**

**1**

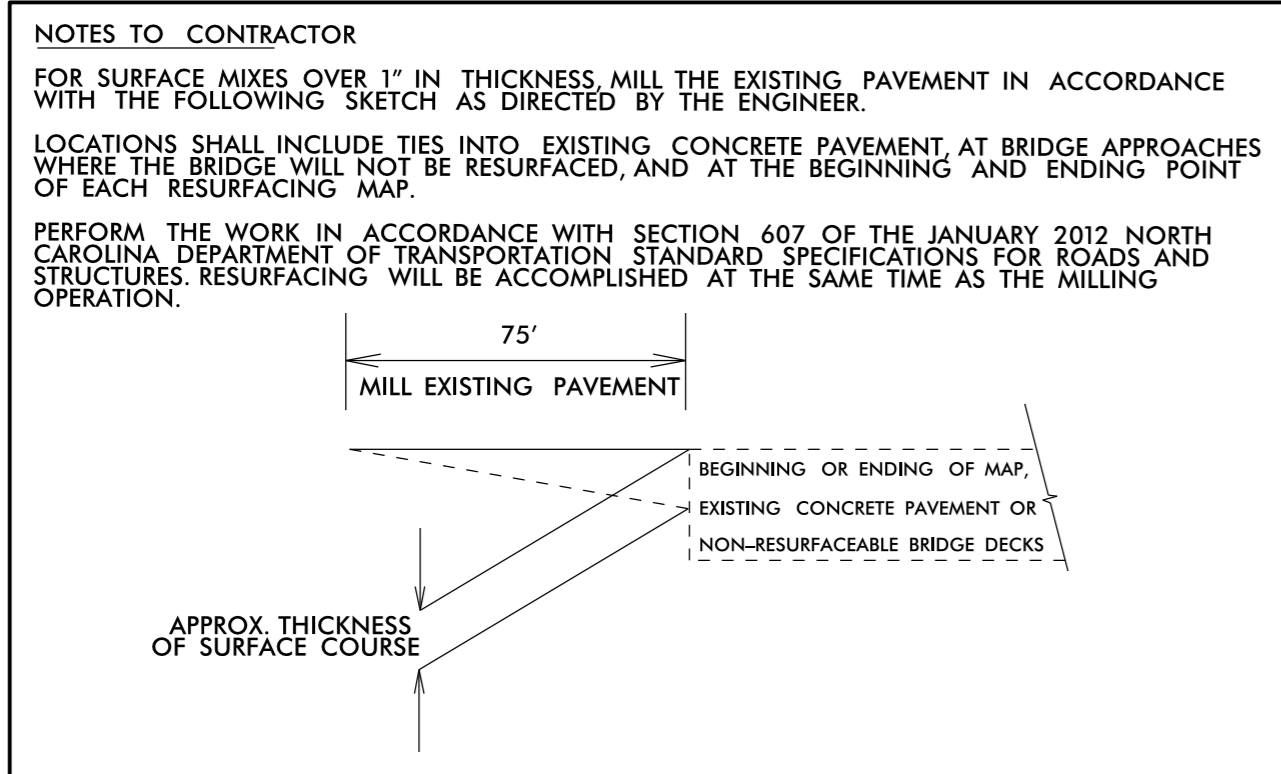
**4**

REVISIONS

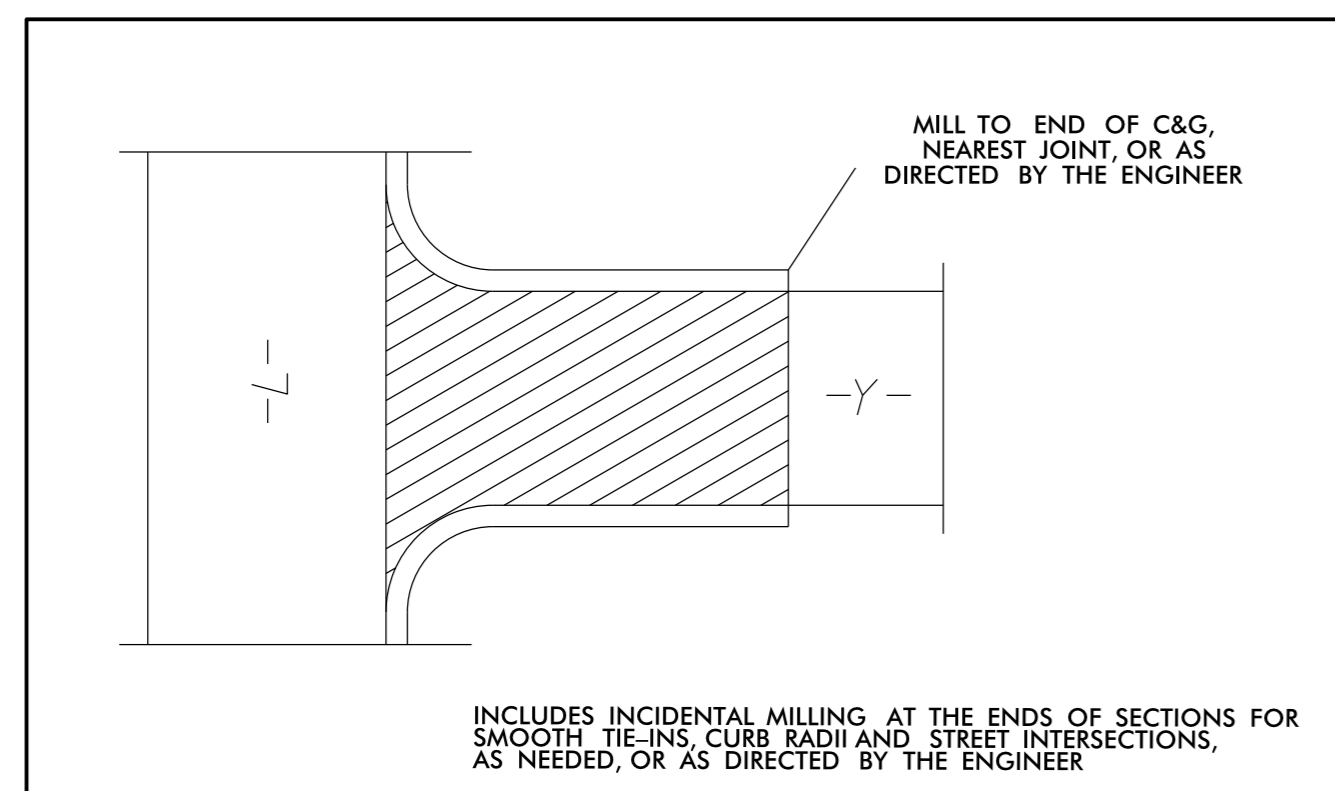
27 APR 2017 08:16 F:\Projects\Bladen\Bladen\MS-ENG.dgn  
 2017CPT.06.11.0091.1, etc

# PAVEMENT SCHEDULE

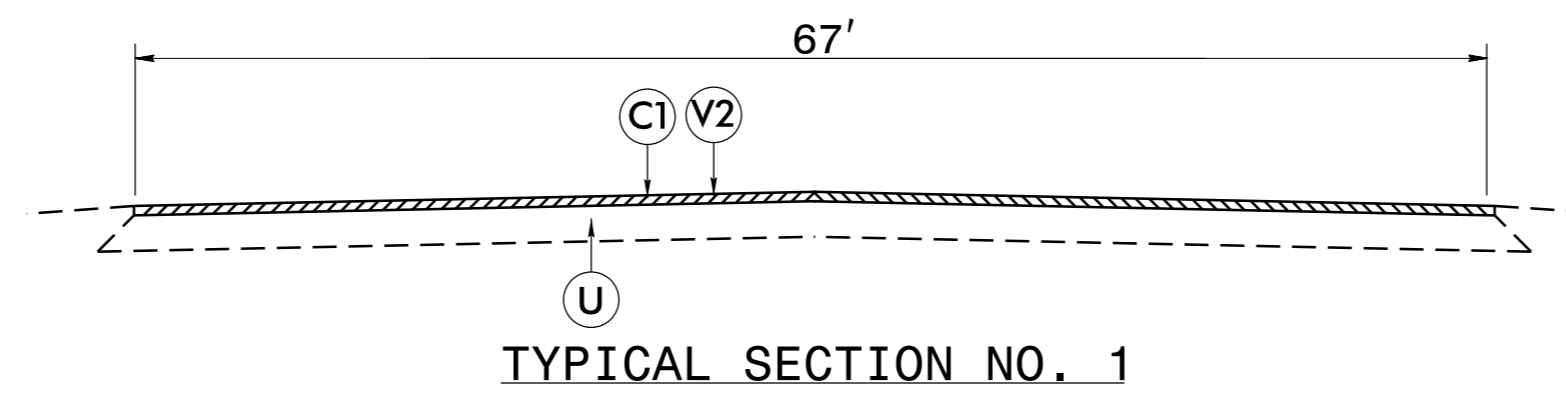
C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
R1	EXISTING CONCRETE ISLAND
R2	EXISTING CURB AND GUTTER
V1	0"-1½" MILLING
V2	¾" MILLING
V3	1½" MILLING
V4	2½" MILLING
U	EXISTING ASPHALT



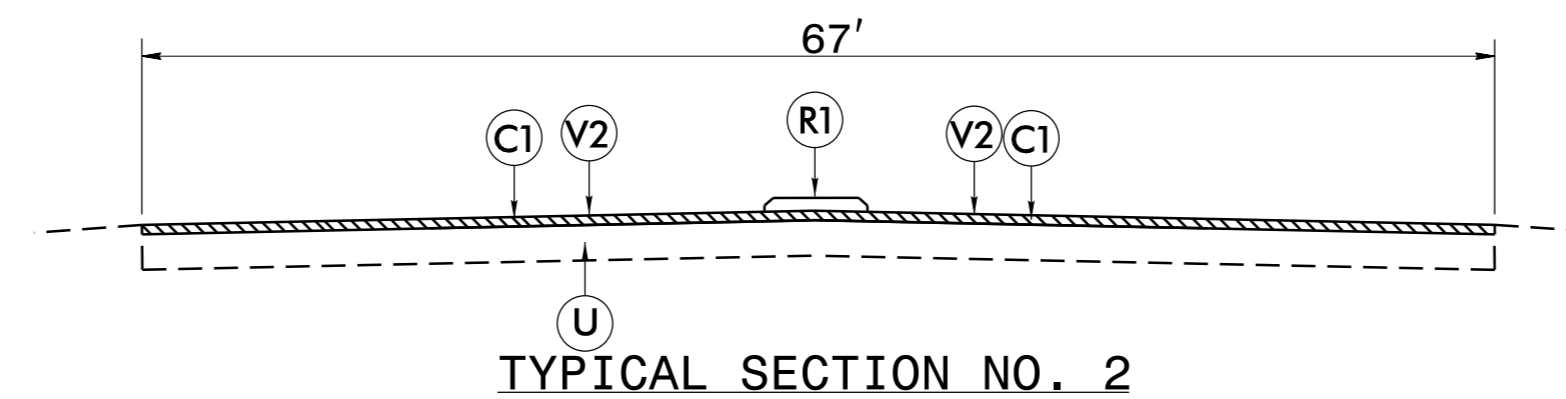
MILLING AT PAVEMENT TIE-INS DETAIL



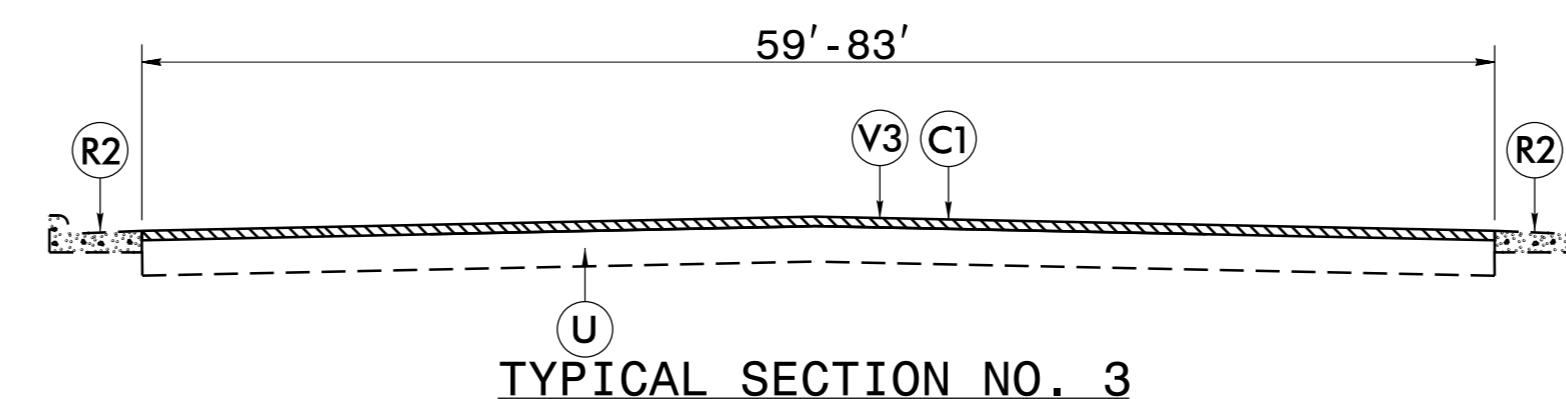
MILLING AT CURB AND GUTTER INTERSECTIONS



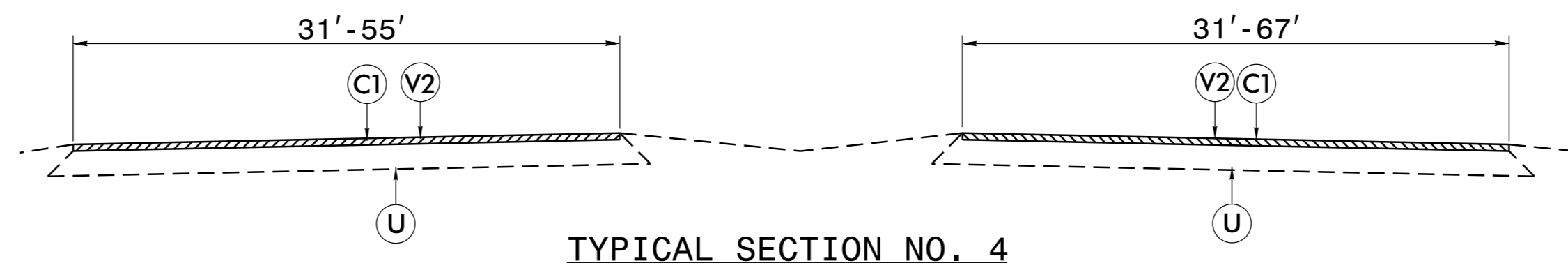
\*PLUS MILL AND FILL REPAIR (SEE DETAIL)



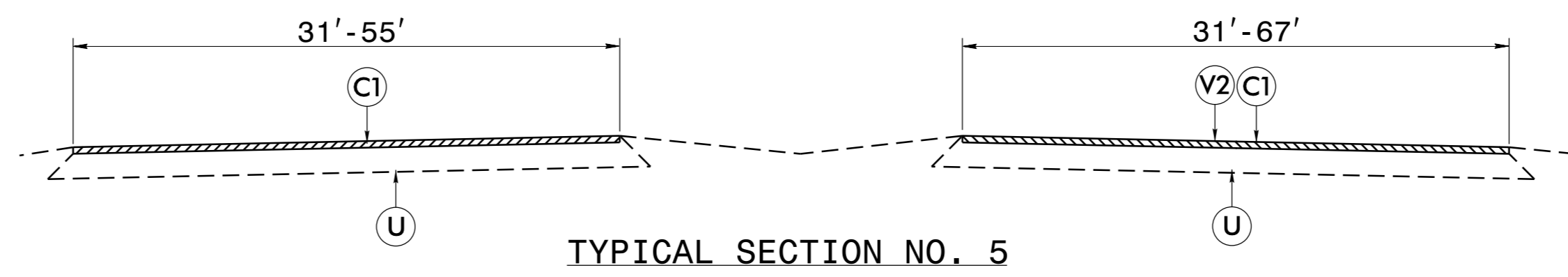
\*PLUS MILL AND FILL REPAIR (SEE DETAIL)



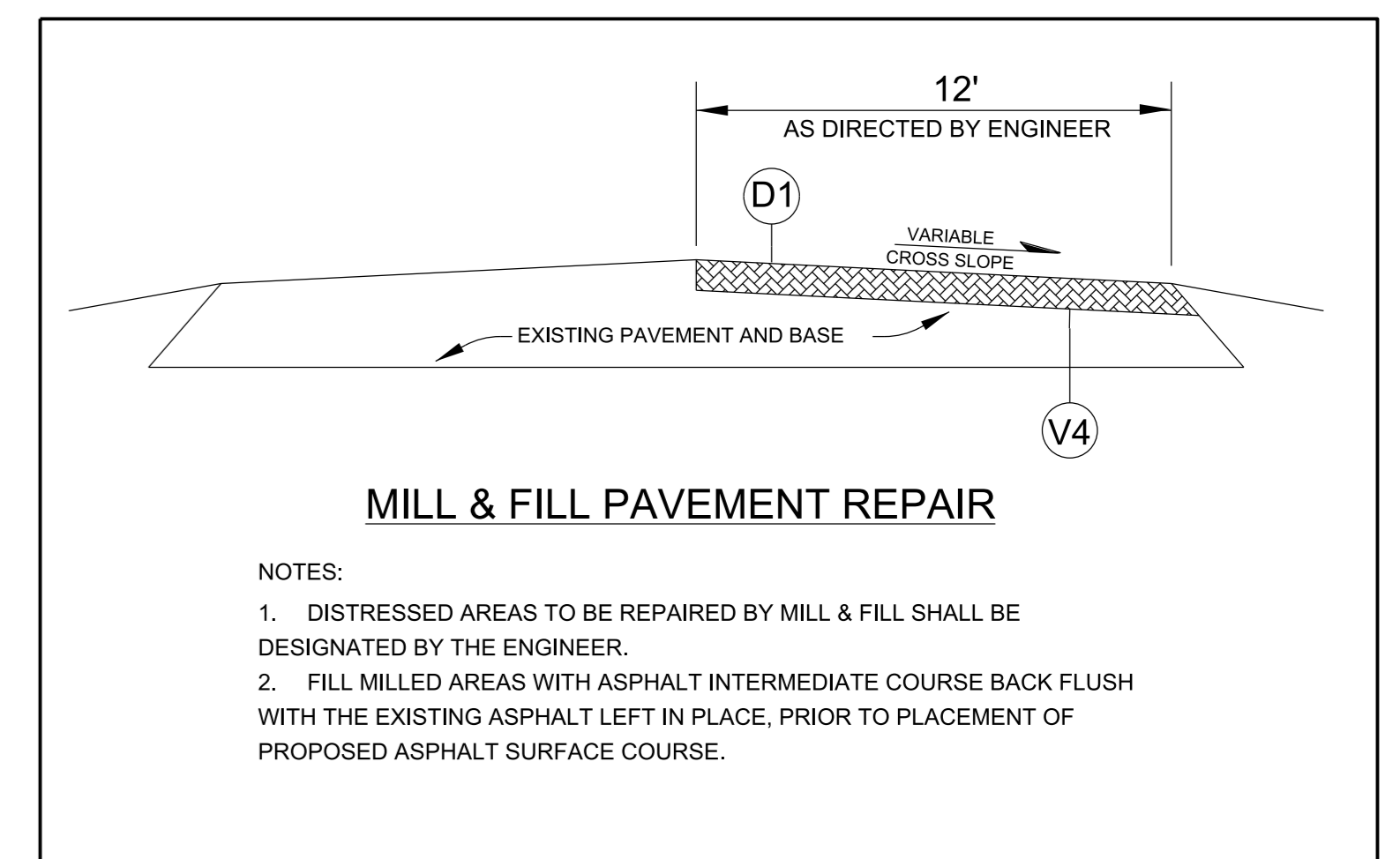
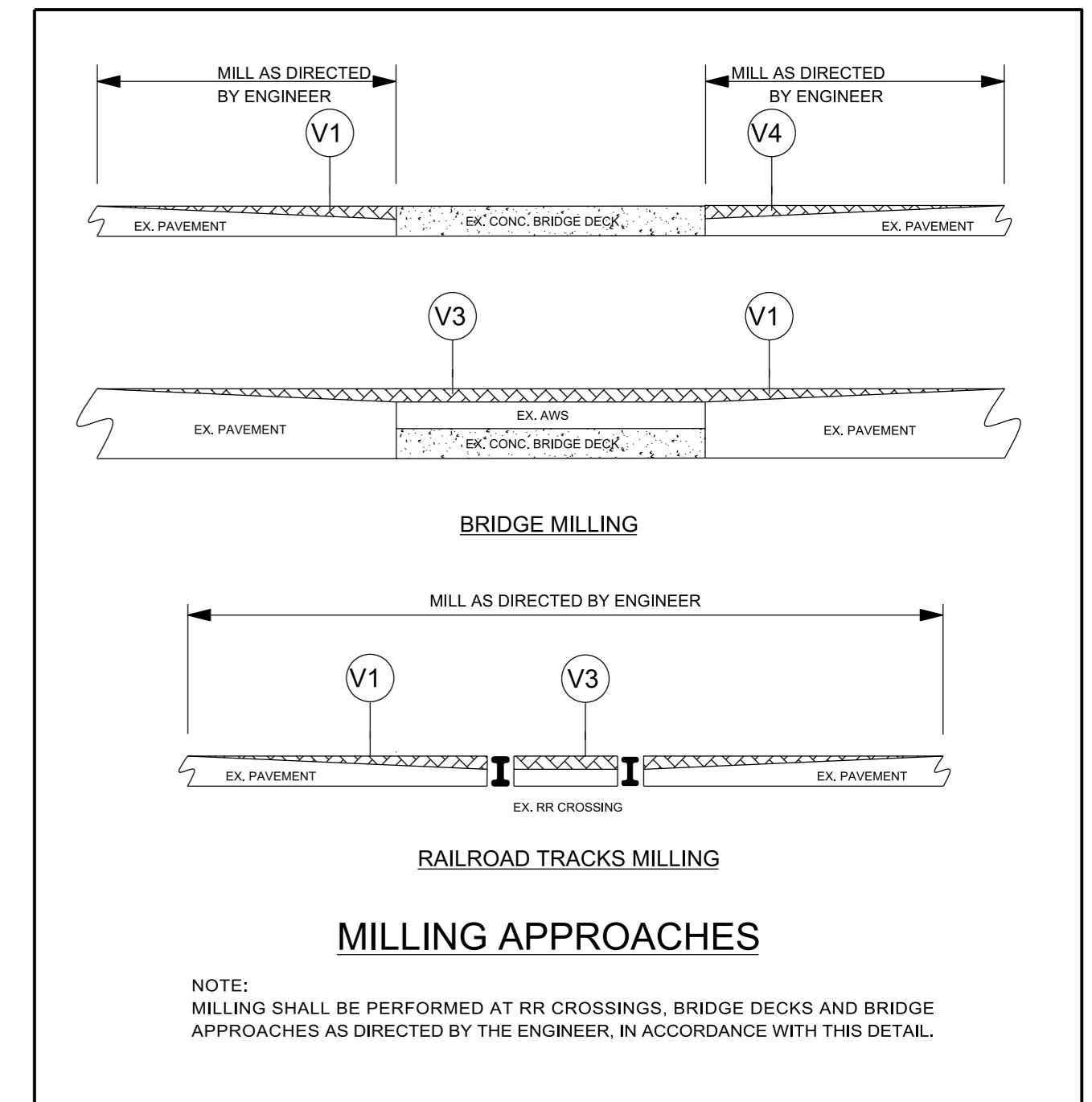
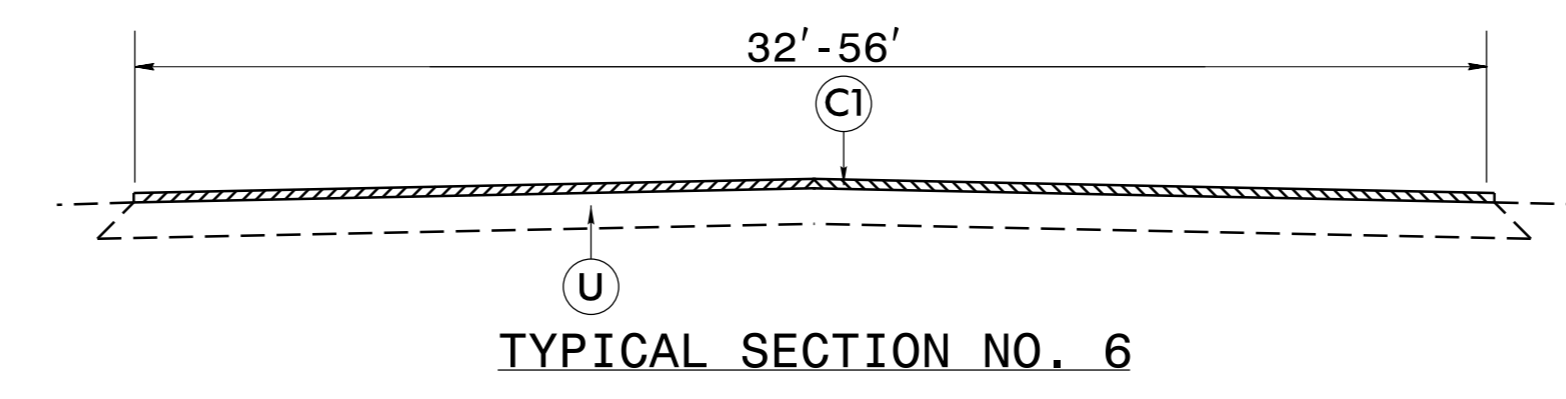
\*PLUS MILL AND FILL REPAIR (SEE DETAIL)



\*PLUS MILL AND FILL REPAIR (SEE DETAIL)

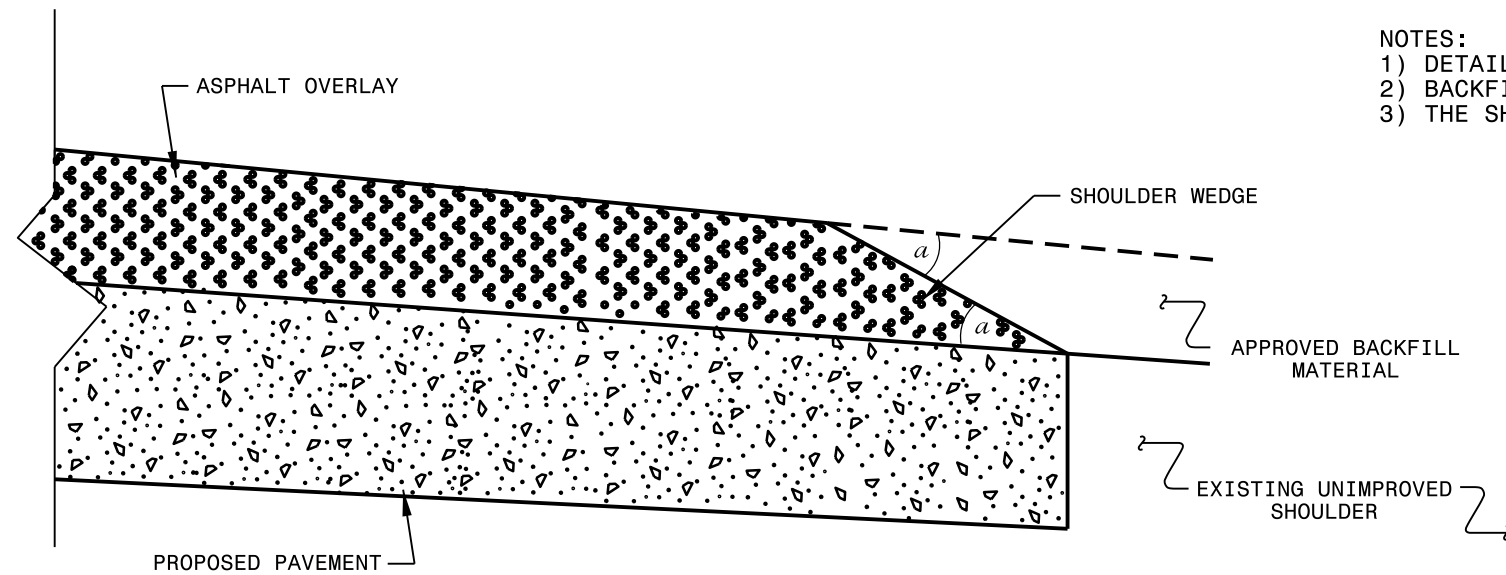


\*PLUS MILL AND FILL REPAIR (SEE DETAIL)

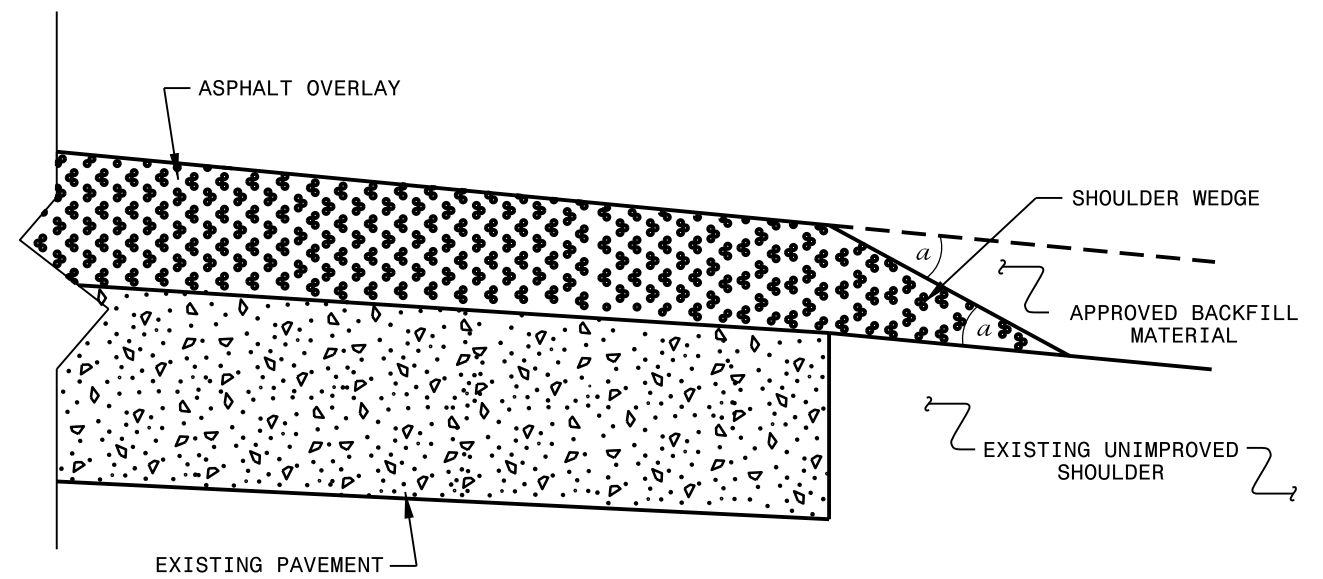


6/2/09  
05-MAY-2017 10:36 Files\Projects\Let\Resurfacing\2017 Spring\B\aden\160\B\aden\_typ.dgn

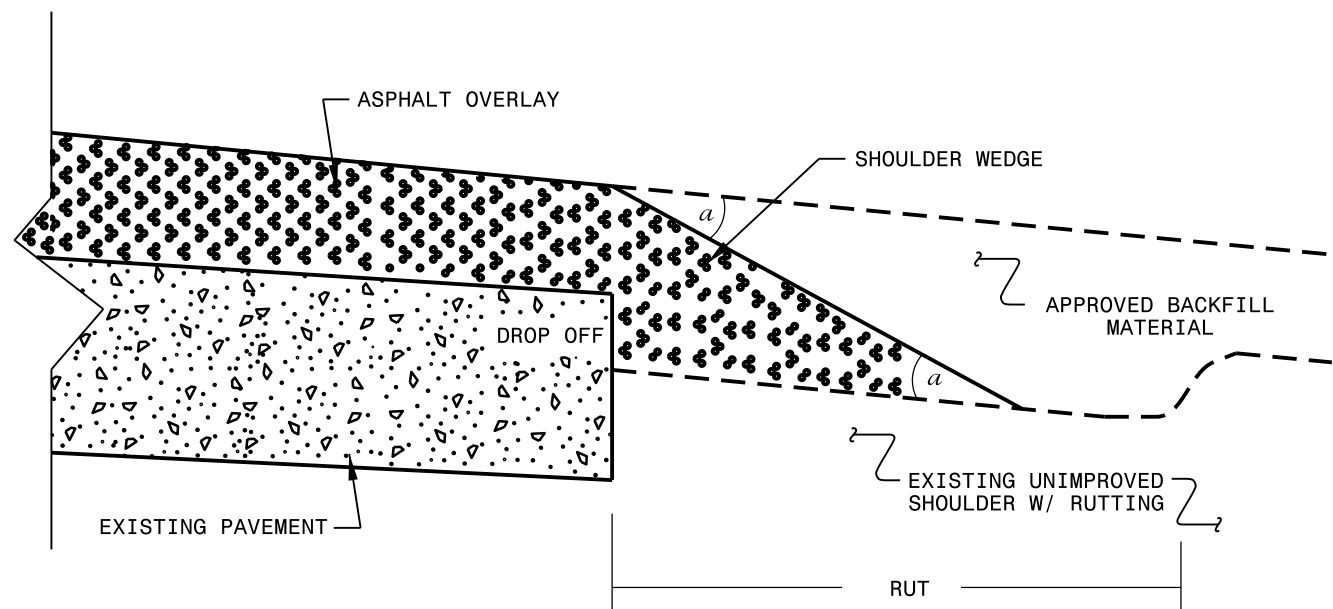
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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



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



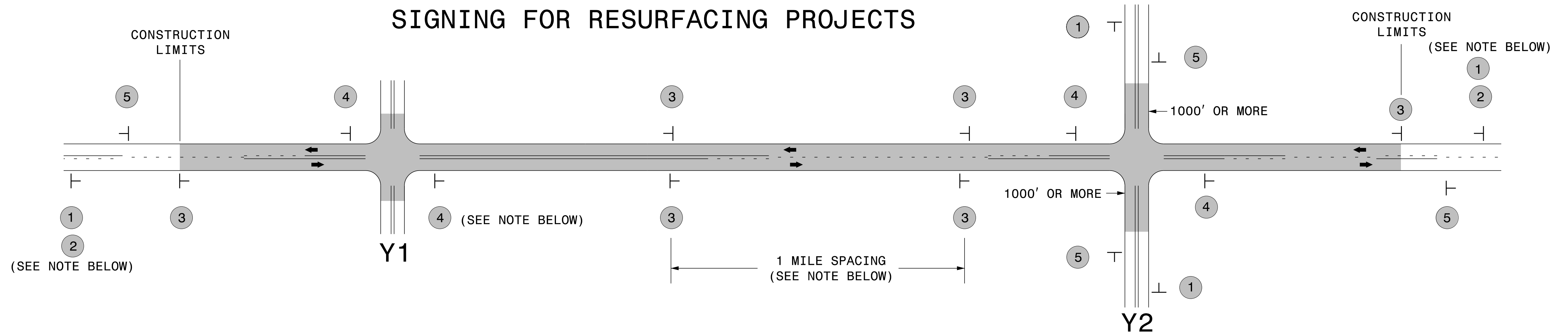
**SHOULDER WEDGE DETAIL**  
(Resurfacing Adjacent to  
Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>			
Office 919-707-6950		FAX 919-250-4119	
<b>SHOULDER WEDGE DETAILS</b>			
ORIGINAL BY: T.SPELL	DATE: 7-19-11		
MODIFIED BY:	DATE: 10/16/12		
CHECKED BY:	DATE:		
FILE SPEC.: susr/details/stand/shoulderwedgedetail.dgn			

SYSTEMS DESIGN  
USER NAME

# SIGNING FOR RESURFACING PROJECTS

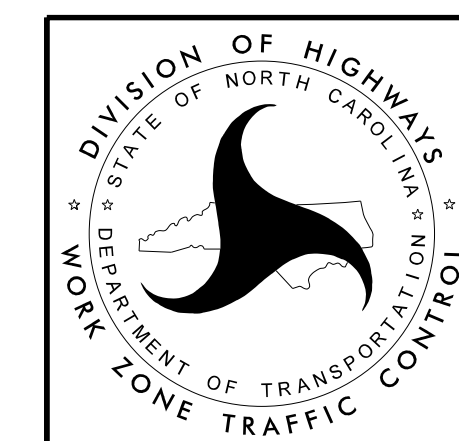


LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

## MAINLINE (-L-) SIGNING

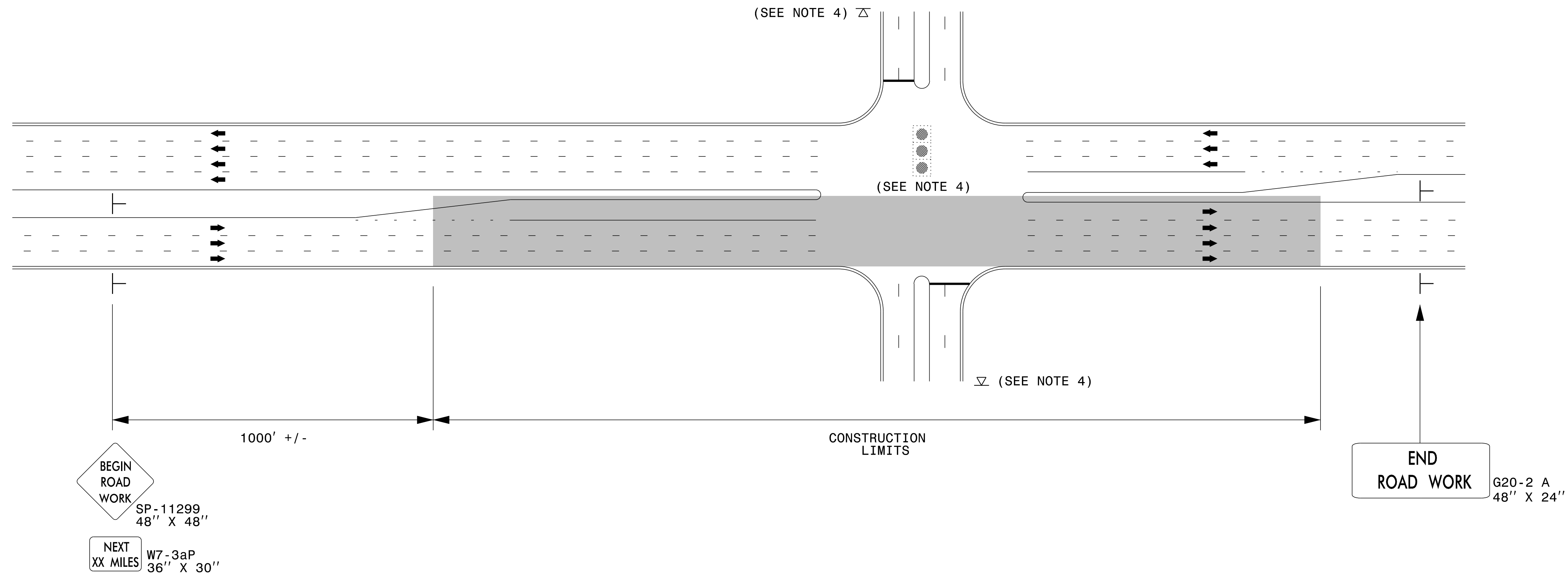
## -Y- LINE SIGNING

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.		



**RESURFACING  
 ADVANCE WARNING SIGNS  
 FOR  
 RURAL AND SUBURBAN  
 2 LANE ROADWAYS**

## URBAN / SUBURBAN WORKZONES

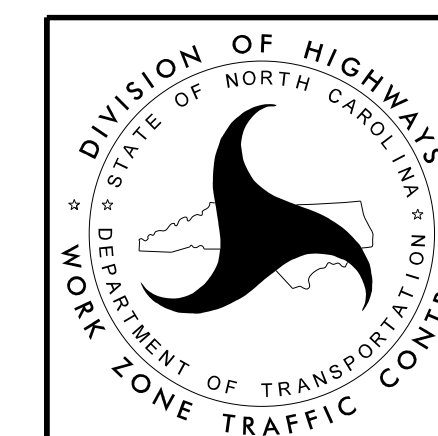


### NOTES:

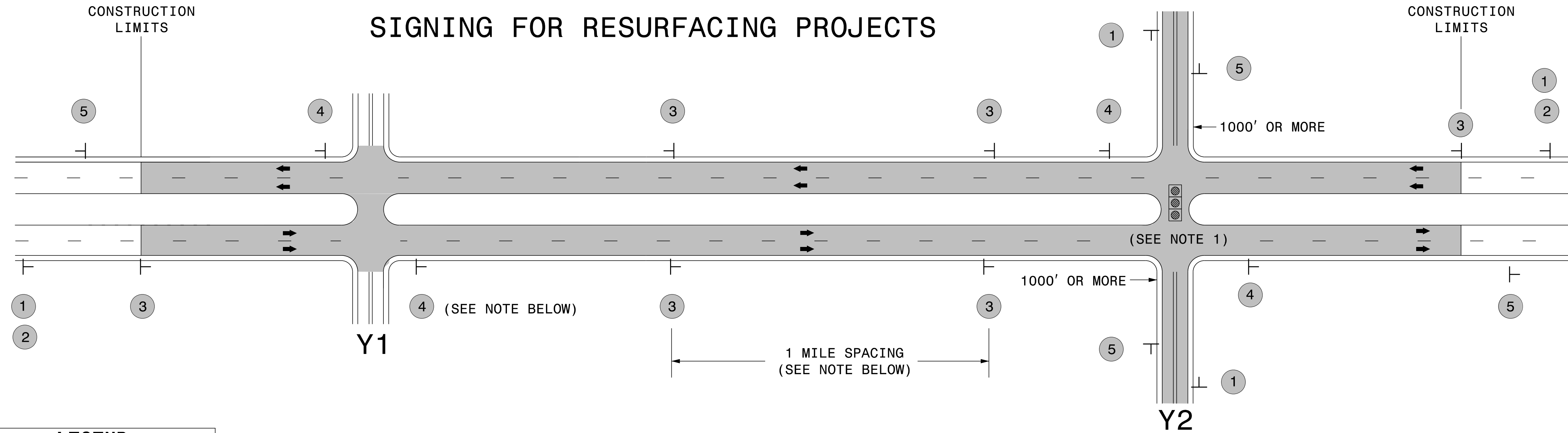
- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. 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) 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.
- 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**



**LEGEND**  
 ┆ STATIONARY SIGN  
 ← DIRECTION OF TRAFFIC FLOW

**MAINLINE (-L-) SIGNING**

**-Y- LINE SIGNING**

<b>SIGNING NOTES AND PLACEMENT PER DIRECTION</b>	 	<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>	<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;">   <small>W20-1 48" X 48"</small> </div> <div style="text-align: center;">   <small>W20-7 A 48" X 48"</small> </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>
		<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>	
		<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>	
		<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>	

3/23/2015  
 C:\Users\rmgarrrett\Downloads\Resurfacing\_AdvWarn\_Lr-Su\_Shldr.dgn  
 User:rmgarrrett

**RESURFACING  
 ADVANCE WARNING SIGNS  
 FOR RURAL AND SUBURBAN  
 MULTI-LANE ROADWAYS  
 W/ SHOULDER SECTIONS**



## DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER

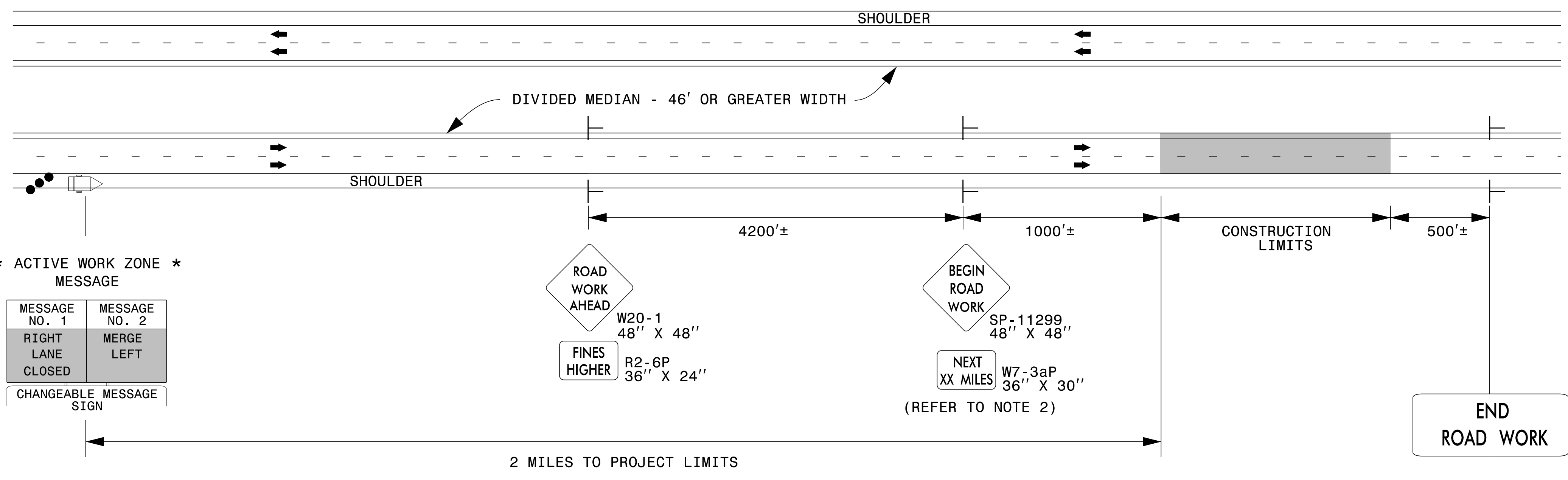
\* NOTE: ADVANCE THIS CMS CONTINUOUSLY AS WORK OPERATIONS PROGRESS.

\* INACTIVE WORK ZONE \* MESSAGE

MESSAGE NO. 1	MESSAGE NO. 2
ROAD WORK	2 MILES AHEAD
CHANGEABLE MESSAGE SIGN	

\* ACTIVE WORK ZONE \* MESSAGE

MESSAGE NO. 1	MESSAGE NO. 2
RIGHT LANE CLOSED	MERGE LEFT
CHANGEABLE MESSAGE SIGN	



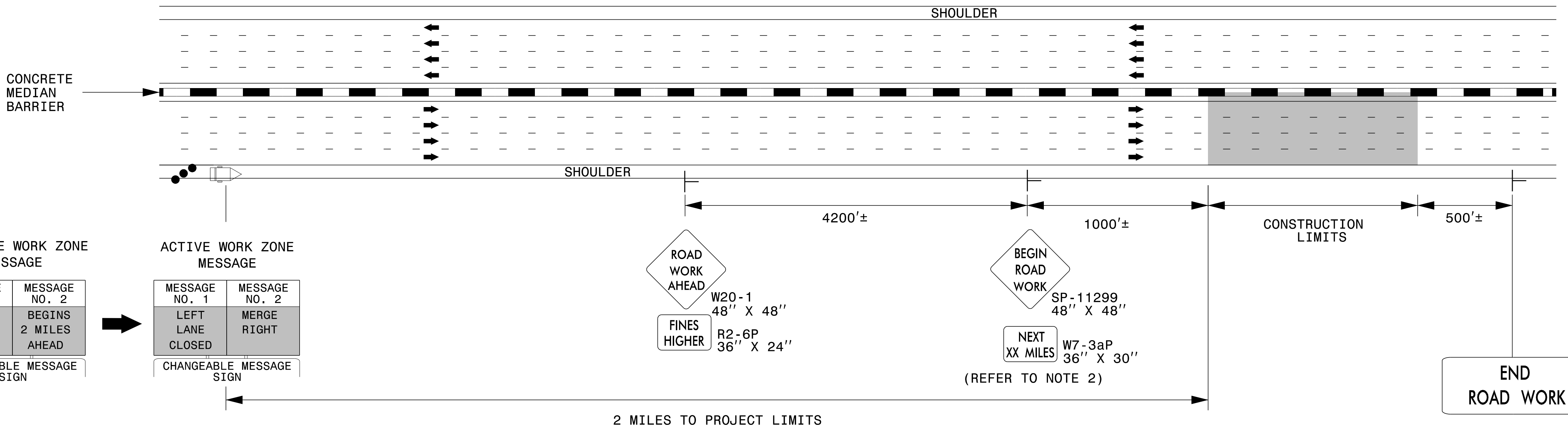
## DIVIDED MEDIANS WITH WIDTHS LESS THAN 46' OR WITH PERMANENT MEDIAN BARRIER

INACTIVE WORK ZONE MESSAGE

MESSAGE NO. 1	MESSAGE NO. 2
ROAD WORK	BEGINS 2 MILES AHEAD
CHANGEABLE MESSAGE SIGN	

ACTIVE WORK ZONE MESSAGE

MESSAGE NO. 1	MESSAGE NO. 2
LEFT LANE CLOSED	MERGE RIGHT
CHANGEABLE MESSAGE SIGN	



### NOTES

1. THIS DRAWING IS TO BE USED IN CONJUNCTION WITH THE WORK ZONE VARIABLE SPEED LIMIT USING DIGITAL SPEED LIMIT SIGNS FOR INTERSTATE/FREEWAY RESURFACING PROJECTS DETAIL.
2. FOR SIGN W7-3aP, ROUND TO THE NEAREST MILE.
3. FOR ENTRANCE AND EXIT RAMP, REFER TO RSD 1101.01, SHEET 1, DETAIL B & C.
4. FOR ADDITIONAL NOTES, REFER TO RSD 1101.01, SHEET 1.

#### LEGEND

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

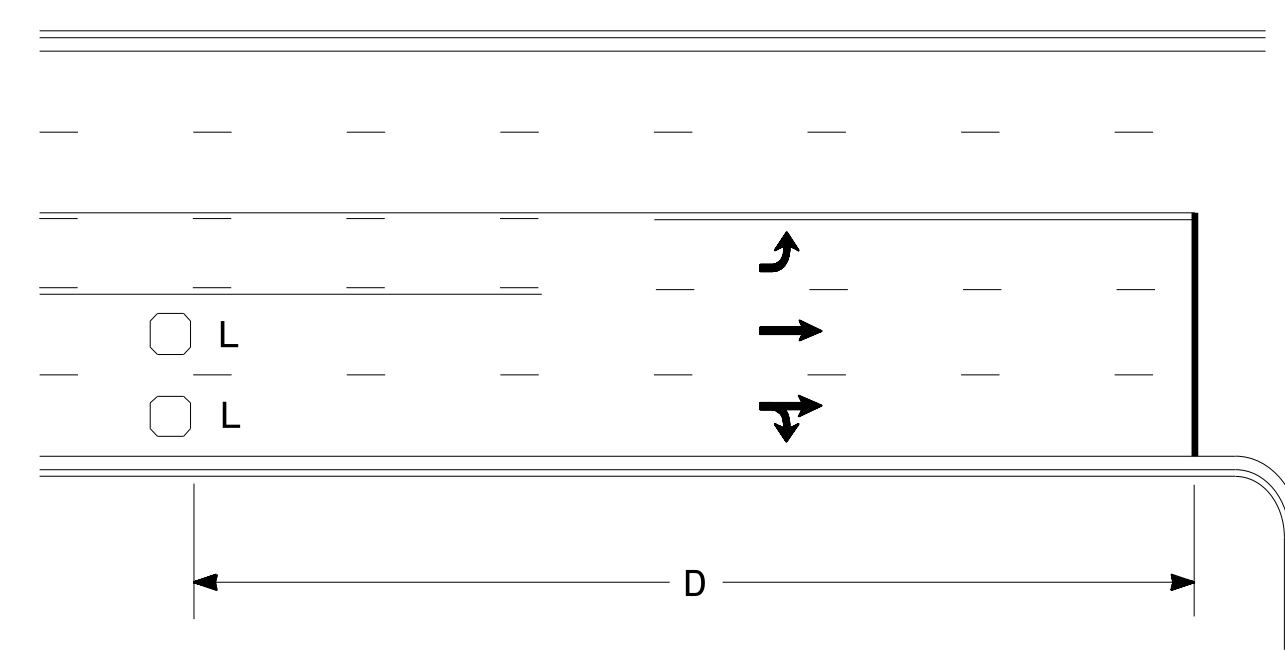
APPROVED: DATE: 2/23/2017

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

**STATIONARY ADVANCE WARNING SIGNS FOR INTERSTATE/FREEWAY RESURFACING PROJECTS**

2/23/2017 S:\TMU\WZTC\DesignGroup3\Squad3B\0ats\Interstate Resurfacing Provisions and Details\Kite\Resurfacing\_AdvWarn\_HSpd.dgn User:kedais

### High Speed Detection (≥40 mph)

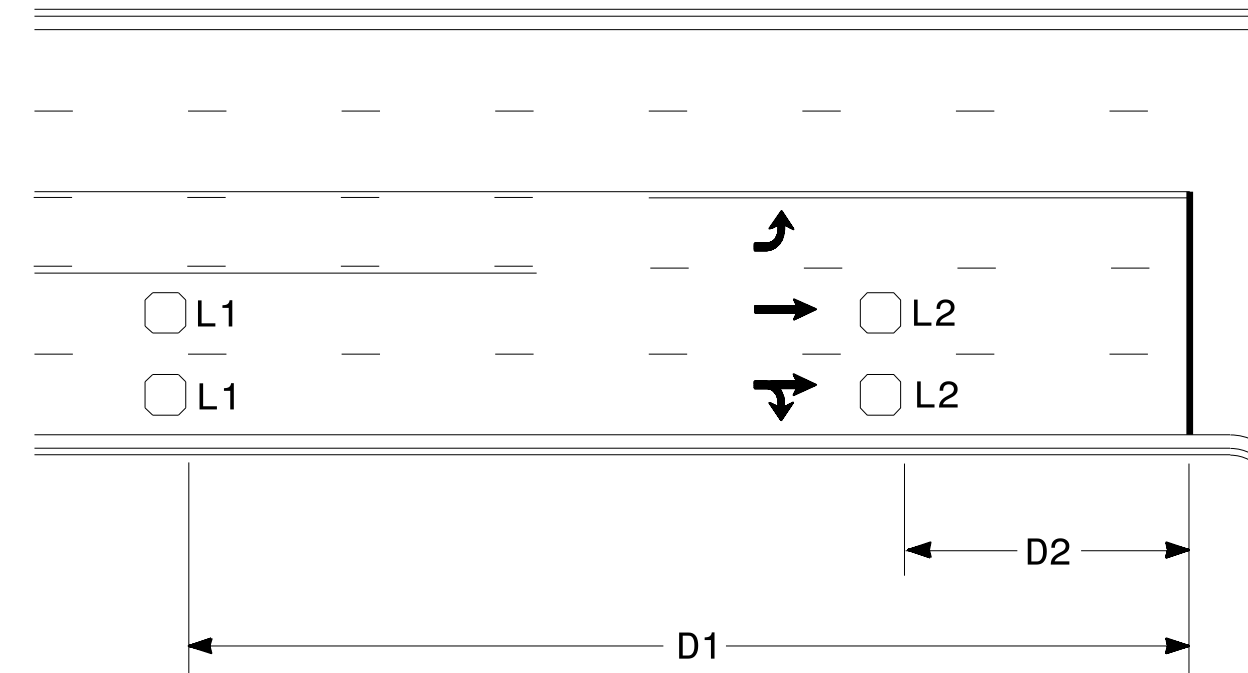


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft  
Wired in series for TS1  
Controllers  
Wired separately for TS2,  
170, and 2070L Controllers

Volume Density Operation

OR

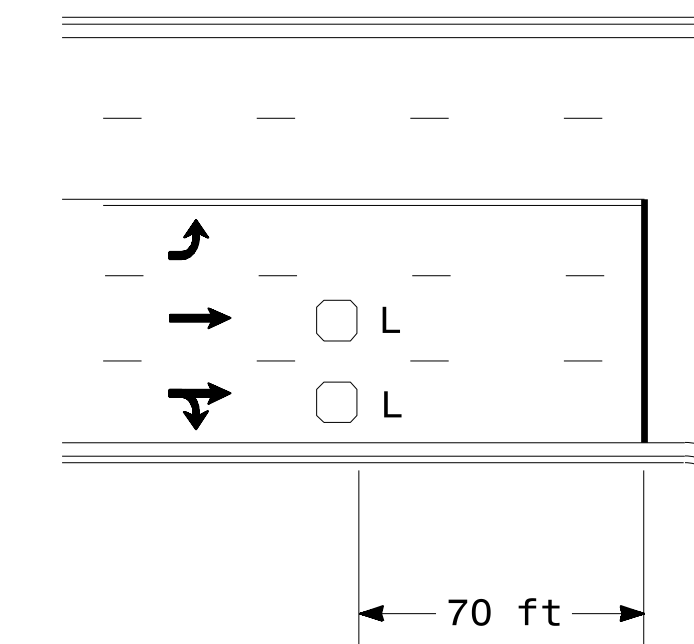


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft  
Wired in series  
L2 = 6ft X 6ft  
Wired in series

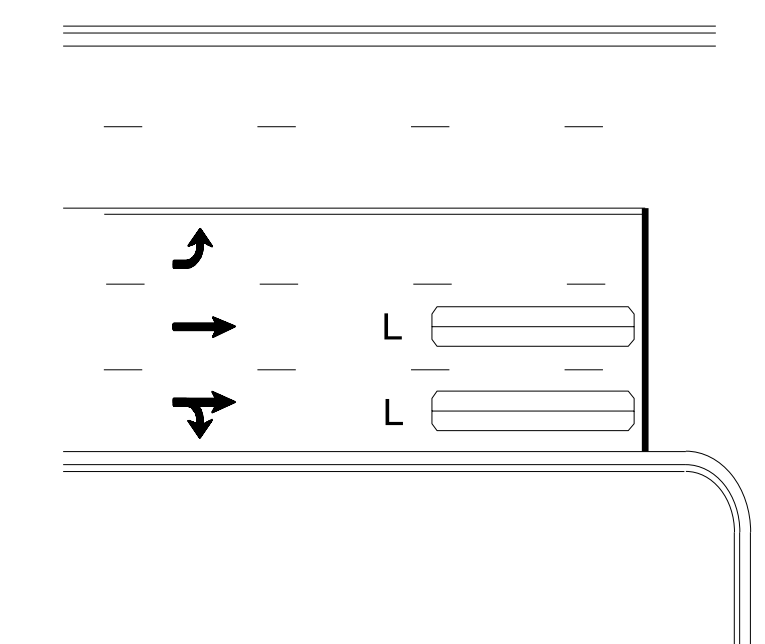
"Stretch" Operation

### Low Speed Detection (≤35 mph)



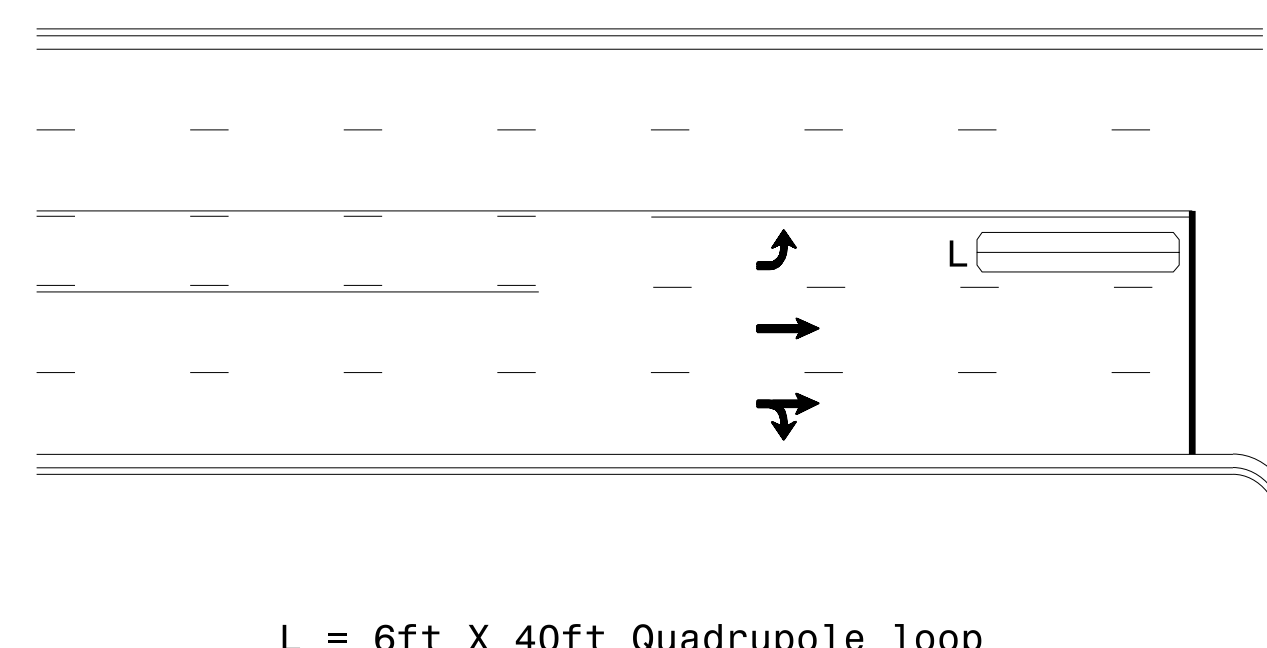
L = 6ft X 6ft  
Wired in series

OR



L = 6ft X 40ft  
Quadrupole loop, wired separately

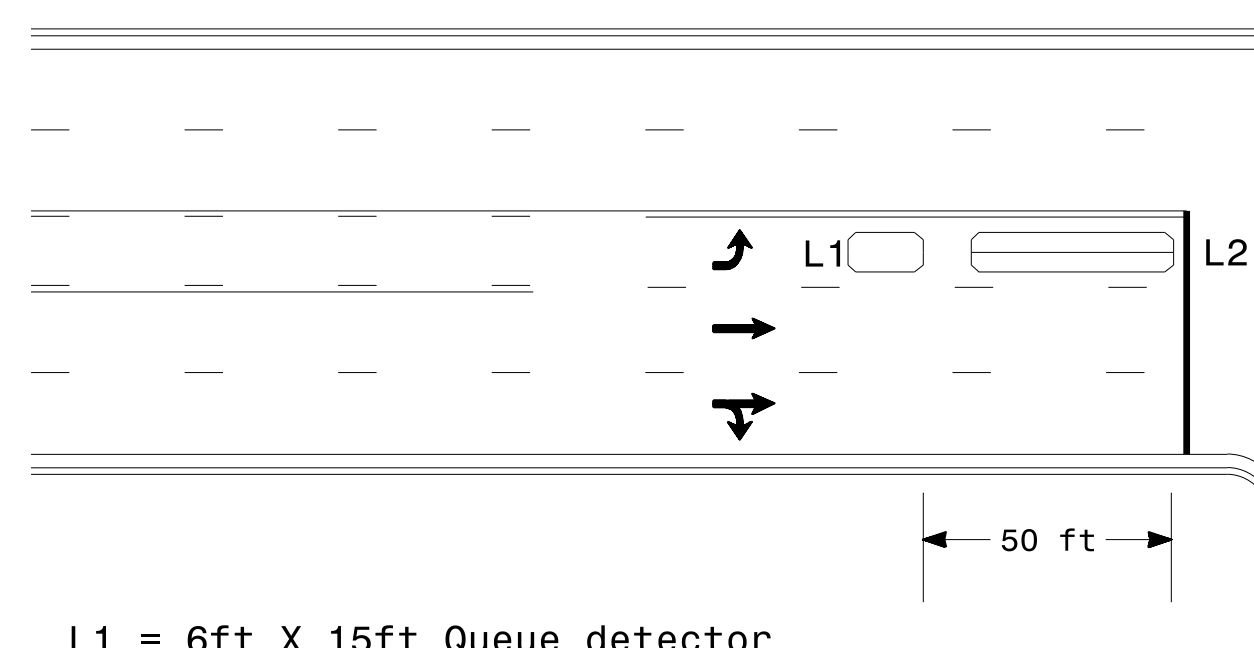
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

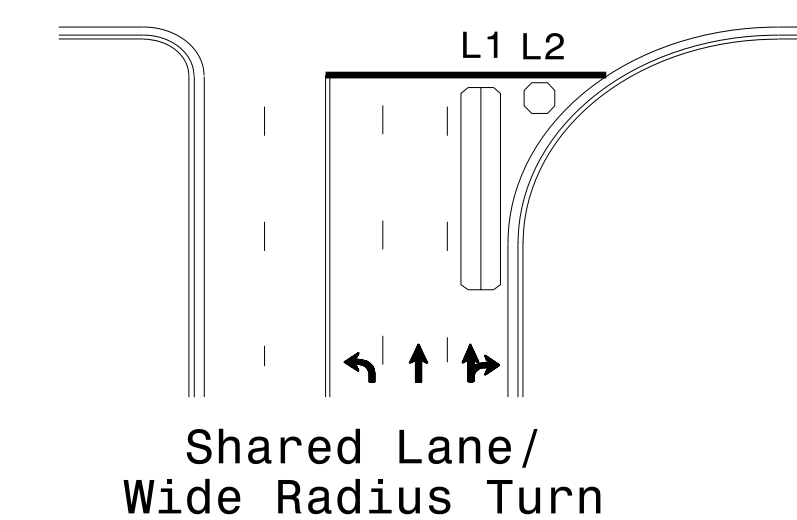
OR



L1 = 6ft X 15ft Queue detector  
L2 = 6ft X 40ft Quadrupole loop

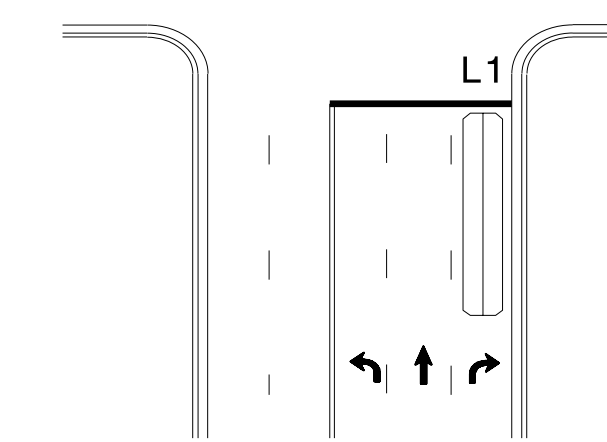
Queue Loop Detection

### Right Turn Lane Detection

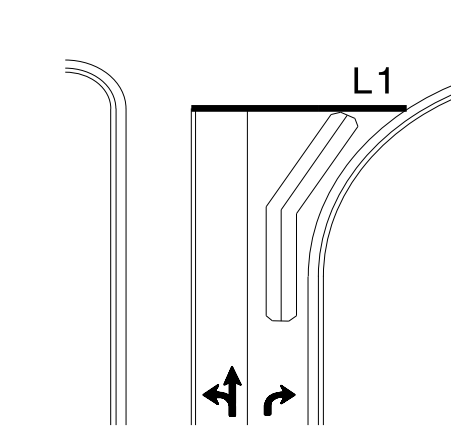


Shared Lane/  
Wide Radius Turn

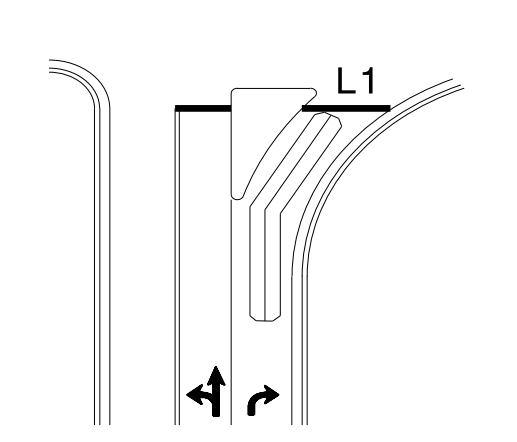
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

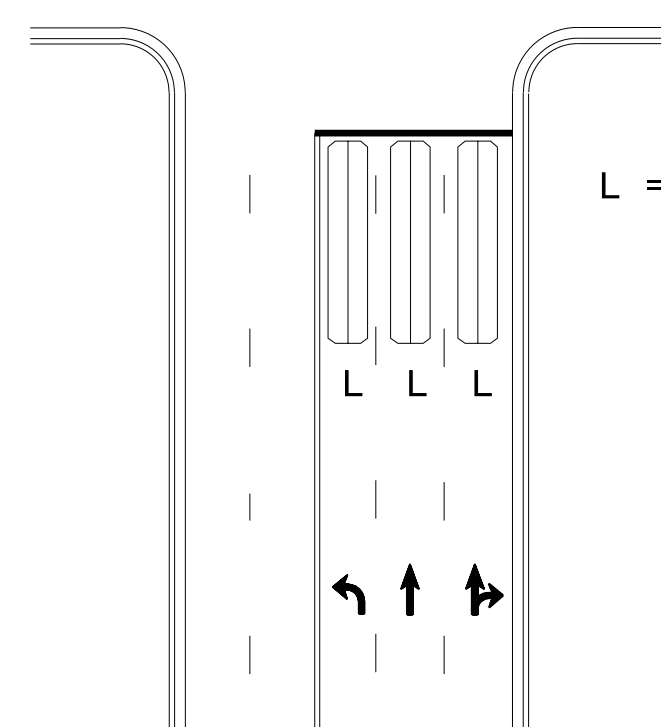


Wide Radius Turn



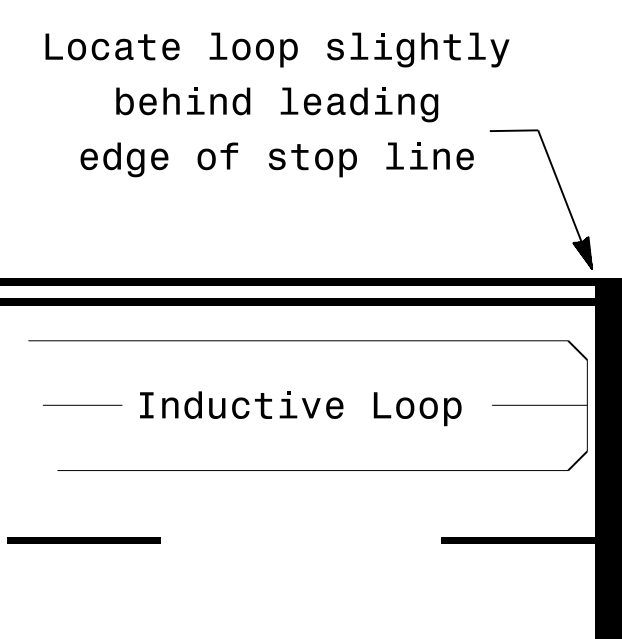
Channelized Turn

### Side Street Detection



L = 6ft X 40ft  
Quadrupole loop  
Wired to separate  
detectors/channels

### Presence Loop Placement at Stop Lines



Locate loop slightly  
behind leading  
edge of stop line

Note:  
Loop may be located in advance  
of stop line under any of the  
following conditions:  
1) stop line is greater than 15'  
from edge of intersecting  
roadway  
2) loop detects a permissive or  
protected/permissive left turn  
3) for an exclusive right turn  
lane

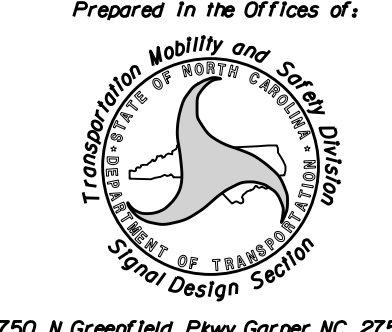
### Recommended Number of Turns

Single 6' X 6' loop  
(when wired separately):

Length of Lead-in ft	Number of Turns
< 250	3
250-375	4
375-525	5
> 525	6

Quadrupole loops: Use 2-4-2 turns

6' X 15' Loops:  
Lead-in < 150', use 2 turns  
Lead-in > 150', use 3 turns

	<p>SEAL NORTH CAROLINA PROFESSIONAL ENGINEER PAMELA L. ALEXANDER 23489</p>	
	<p>Typical Signal Loop Locations</p>	
<p>PLAN DATE: January 2015 PREPARED BY: PLA</p>	<p>REVIEWED BY: JPG REVIEWED BY:</p>	<p>SCALE N/A</p>
<p>REVISIONS</p>	<p>INIT. DATE</p>	<p>DocuSigned by: P. Alexander 1/30/2015 10:44:44 AM B4756E00CE4E4ED SIG. INVENTORY NO.</p>

**GUIDELINES FOR LANE WIDTHS ON RESURFACING PROJECTS**

Contractor shall place the new pavement markings in accordance with this table and detail unless otherwise directed by the Engineer.

<b>TWO LANE - TWO WAY ROADWAY - 55 MPH</b>		
ROADWAY WIDTH	LANE WIDTH	SHOULDER WIDTH
18'	9' *	0'
20'	10' *	0'
22'	10'	1'
24'	10'	2'
26'	11'	2'
28'	12'	2'
32'	12'	4'

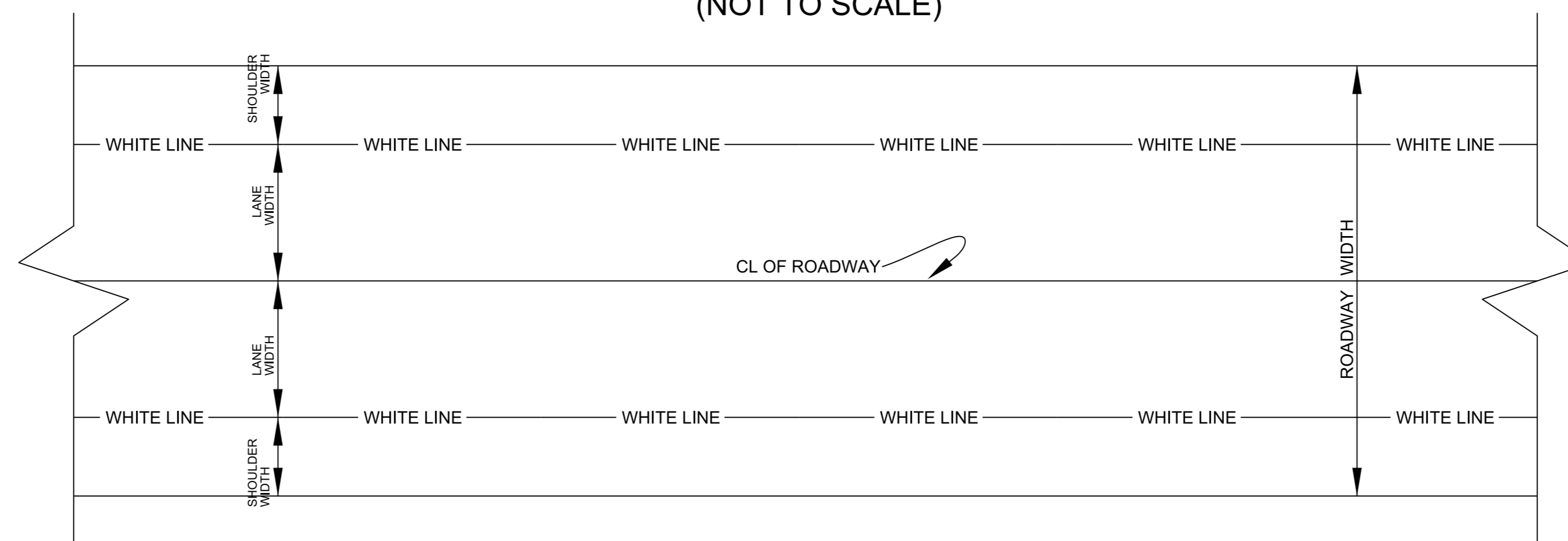
\* May vary due to pavement width

<b>TWO LANE - TWO WAY ROADWAY</b>		<b>50</b>
<b>MPH OR LESS</b>		
ROADWAY WIDTH	LANE WIDTH	SHOULDER WIDTH
18'	9' *	0'
20'	10' *	0'
22'	10'	1'
24'	10'	2'
26'	11'	2'
28'	11'	3'
32'	11'	5'

\* May vary due to pavement width

**SCHEMATIC OF ROADWAY**

(NOT TO SCALE)



PROJECT NO.	SHEET NO.	TOTAL NO.
2017CPT.06.11.10091.1, 2017CPT.06.11.20091.1		

# SUMMARY OF QUANTITIES

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	1½" MILLING	2.5" MILLING	0.75" MILLING	INCIDENTAL MILLING	INTERMEDIATE COURSE, I19.0B	SURFACE COURSE, S9.5B	LEVELING COURSE, S9.5B	
NO		NO			NO					MI	FT	SY	SY	SY	SY	TONS	TONS	TONS	
2017CPT.06.11.10091.1	Bladen	1	NC 87	FROM END DIVIDED HWY TO BEGIN DIVIDED HWY	1,2,3	5	MU	NO	NO	0.96	67	35,850	493		1,200	70	3,125	32	
<b>TOTAL FOR MAP NO. 1</b>										<b>0.96</b>		<b>35,850</b>	<b>493</b>		<b>1,200</b>	<b>70</b>	<b>3,125</b>	<b>32</b>	
2017CPT.06.11.10091.1	Bladen	2	NC 87	FROM BEGIN DIVIDED HWY TO NC 20	4	4	MD	NO	NO	4.2	62		47,590	170,555	44	6,782	14,688	128	
<b>TOTAL FOR MAP NO. 2</b>										<b>4.2</b>			<b>47,590</b>	<b>170,555</b>	<b>44</b>	<b>6,782</b>	<b>14,688</b>	<b>128</b>	
2017CPT.06.11.10091.1	Bladen	3	NC 87	FROM NC 20 TO CUMBERLAND COUNTY	5	4	MD	NO	NO	4.27	62		34,989	167,071	3,111	4,986	15,104	130	
<b>TOTAL FOR MAP NO. 3</b>										<b>4.27</b>			<b>34,989</b>	<b>167,071</b>	<b>3,111</b>	<b>4,986</b>	<b>15,104</b>	<b>130</b>	
<b>TOTAL FOR PROJ NO. 2017CPT.06.11.10091.1</b>										<b>9.43</b>			<b>35,850</b>	<b>83,072</b>	<b>337,626</b>	<b>4,355</b>	<b>11,838</b>	<b>32,917</b>	<b>290</b>
2017CPT.06.11.20091.1	Bladen	4	SR 1316	FROM NC 87 TO BEGIN 2 LANES	6	2	2WU	NO	NO	0.15	44				250		343	3	
<b>TOTAL FOR MAP NO. 4</b>										<b>0.15</b>					<b>250</b>		<b>343</b>	<b>3</b>	
<b>TOTAL FOR PROJ NO. 2017CPT.06.11.20091.1</b>										<b>0.15</b>					<b>250</b>		<b>343</b>	<b>3</b>	
<b>GRAND TOTAL</b>										<b>9.58</b>		<b>35,850</b>	<b>83,072</b>	<b>337,626</b>	<b>4,605</b>	<b>11,838</b>	<b>33,260</b>	<b>293</b>	

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ADJ. OF MANHOLES	ADJ. OF METER OR VALVE BOX	JUNCTION BOX (STANDARD SIZE)	INDUCTIVE LOOP SAWCUT
NO		NO			NO					MI	FT	TONS	TONS	EA	EA	EA	LF
2017CPT.06.11.10091.1	Bladen	1	NC 87	FROM END DIVIDED HWY TO BEGIN DIVIDED HWY	1,2,3	5	MU	NO	NO	0.96	67	193	3	1	1		
<b>TOTAL FOR MAP NO. 1</b>										<b>0.96</b>		<b>193</b>	<b>3</b>	<b>1</b>	<b>1</b>		
2017CPT.06.11.10091.1	Bladen	2	NC 87	FROM BEGIN DIVIDED HWY TO NC 20	4	4	MD	NO	NO	4.2	62	1,215	122			1	800
<b>TOTAL FOR MAP NO. 2</b>										<b>4.2</b>		<b>1,215</b>	<b>122</b>			<b>1</b>	<b>800</b>
2017CPT.06.11.10091.1	Bladen	3	NC 87	FROM NC 20 TO CUMBERLAND COUNTY	5	4	MD	NO	NO	4.27	62	1,154	128				
<b>TOTAL FOR MAP NO. 3</b>										<b>4.27</b>		<b>1,154</b>	<b>128</b>				
<b>TOTAL FOR PROJ NO. 2017CPT.06.11.10091.1</b>										<b>9.43</b>		<b>2,562</b>	<b>253</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>800</b>
2017CPT.06.11.20091.1	Bladen	4	SR 1316	FROM NC 87 TO BEGIN 2 LANES	6	2	2WU	NO	NO	0.15	44	21	5			1	1,000
<b>TOTAL FOR MAP NO. 4</b>										<b>0.15</b>		<b>21</b>	<b>5</b>			<b>1</b>	<b>1,000</b>
<b>TOTAL FOR PROJ NO. 2017CPT.06.11.20091.1</b>										<b>0.15</b>		<b>21</b>	<b>5</b>			<b>1</b>	<b>1,000</b>
<b>GRAND TOTAL</b>										<b>9.58</b>		<b>2,583</b>	<b>258</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1,800</b>

PROJECT NO.	SHEET NO.	TOTAL NO.
2017CPT.06.11.10091.1, 2017CPT.06.11.20091.1		

## THERMOPLASTIC AND PAINT QUANTITIES

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4413000000-E	4457000000-N	4510000000-N	4685000000-E		4686000000-E		4690000000-E	4695000000-E	4700000000-E	4705000000-E	
										WORK ZONE ADVANCE/GENERAL WARNING SIGNING SF	TEMPORARY TRAFFIC CONTROL LS	LAW ENFORCEMENT HR	4" X 90 M WHITE THERMO LF	4" X 90 M YELLOW THERMO LF	4" X 120 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	6" X 120 M WHITE THERMO LF	8" X 90 M WHITE THERMO LF	12" X 90 M YELLOW THERMO LF	16" X 120 M WHITE THERMO LF	
2017CPT.06.11.10091.1	Bladen	1	NC 87	FROM END DIVIDEDHWY TO BEGIN DIVIDED HWY	1,2,3	5	MU	0.96	67	139	1	40	1,122	600	3,610	16,850			40		
TOTAL FOR MAP NO. 1										139	1	40	1,122	600	3,610	16,850			40		
2017CPT.06.11.10091.1	Bladen	2	NC 87	FROM BEGIN DIVIDED HWY TO NC 20	4	4	MD	4.2	62	470			44,418		18,466	44,418					
TOTAL FOR MAP NO. 2										470			44,418		18,466	44,418					
2017CPT.06.11.10091.1	Bladen	3	NC 87	FROM NC 20 TO CUMBERLAND COUNTY	5	4	MD	4.27	62	478			44,908	44,908	16,188		980			360	
TOTAL FOR MAP NO. 3										478			44,908	44,908	16,188		980			360	
TOTAL FOR PROJ NO. 2017CPT.06.11.10091.1										1,087	1	40	90,448	45,508	38,264	61,268	980		40	360	
												135,956	99,532								
2017CPT.06.11.20091.1	Bladen	4	SR 1316	FROM NC 87 TO BEGIN 2 LANES	6	2	2WU	0.15	44	17			1,586			2,599	180			450	
TOTAL FOR MAP NO. 4										17			1,586			2,599	180			450	
TOTAL FOR PROJ NO. 2017CPT.06.11.20091.1										17			1,586			2,599	180			450	
												1,586	2,599								
GRAND TOTAL										1,104	1	40	92,034	45,508	38,264	63,867	180		980	490	360
												137,542	102,131								

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4710000000-E	4721000000-E		4725000000-E				4810000000-E		4820000000-E	4825000000-E
										24" X 120 M WHITE THERMO LF	THERMO MSG SCHOOL 120 M EA	THERMO RXR 120 M EA	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	4" WHITE PAINT LF	4" YELLOW PAINT LF	8" WHITE PAINT LF	12" YELLOW PAINT LF
2017CPT.06.11.10091.1	Bladen	1	NC 87	FROM END DIVIDEDHWY TO BEGIN DIVIDED HWY	1,2,3	5	MU	0.96	67	260	18		29	9	16		4,732	22,182		54
TOTAL FOR MAP NO. 1										260	18		29	9	16		4,732	22,182		54
2017CPT.06.11.10091.1	Bladen	2	NC 87	FROM BEGIN DIVIDED HWY TO NC 20	4	4	MD	4.2	62	190			56	10	68		62,844	44,418		
TOTAL FOR MAP NO. 2										190			56	10	68		62,844	44,418		
2017CPT.06.11.10091.1	Bladen	3	NC 87	FROM NC 20 TO CUMBERLAND COUNTY	5	4	MD	4.27	62	270		8	45	13	57		61,096	44,418	980	
TOTAL FOR MAP NO. 3										270		8	45	13	57		61,096	44,418	980	
TOTAL FOR PROJ NO. 2017CPT.06.11.10091.1										720	18		130	32	141		128,672	111,018	980	54
										26		303				239,690				
2017CPT.06.11.20091.1	Bladen	4	SR 1316	FROM NC 87 TO BEGIN 2 LANES	6	2	2WU	0.15	44	30			3	2		2	2,000	2,599		450
TOTAL FOR MAP NO. 4										30			3	2		2	2,000	2,599		450
TOTAL FOR PROJ NO. 2017CPT.06.11.20091.1										30			3	2		2	2,000	2,599		450
												7				4,599				
GRAND TOTAL										750	18	8	133	34	141	2	130,672	113,617	980	504
										26		310				244,289				

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4830000000-E	4835000000-E	4840000000-N		4845000000-N				4900000000-N	
										16" WHITE PAINT LF	24" WHITE PAINT LF	PAINT MSG SCHOOL EA	PAINT MSG RXR EA	PAINT LT ARROW EA	PAINT RT ARROW EA	PAINT STR ARROW EA	PAINT STR & RT ARROW EA	CRYSTAL & RED MARKERS EA	YELLOW & YELLOW MARKERS EA
2017CPT.06.11.10091.1	Bladen	1	NC 87	FROM END DIVIDEDHWY TO BEGIN DIVIDED HWY	1,2,3	5	MU	0.96	67		260	24		29	9	16		180	124
TOTAL FOR MAP NO. 1											260	24		29	9	16		180	124
2017CPT.06.11.10091.1	Bladen	2	NC 87	FROM BEGIN DIVIDED HWY TO NC 20	4	4	MD	4.2	62		190			56	10	68		980	
TOTAL FOR MAP NO. 2											190			56	10	68		980	
2017CPT.06.11.10091.1	Bladen	3	NC 87	FROM NC 20 TO CUMBERLAND COUNTY	5	4	MD	4.27	62	760	470		8	45	13	57		857	
TOTAL FOR MAP NO. 3										760	470		8	45	13	57		857	
TOTAL FOR PROJ NO. 2017CPT.06.11.10091.1										760	920	24	8	130	32	141		2,017	124
												32		303				2,141	
2017CPT.06.11.20091.1	Bladen	4	SR 1316	FROM NC 87 TO BEGIN 2 LANES	6	2	2WU	0.15	44		30			3	2		2		
TOTAL FOR MAP NO. 4											30			3	2		2		
TOTAL FOR PROJ NO. 2017CPT.06.11.20091.1											30			3	2		2		
												7							
GRAND TOTAL										760	950	24	8	133	34	141	2	2,017	124
												32		310				2,141	