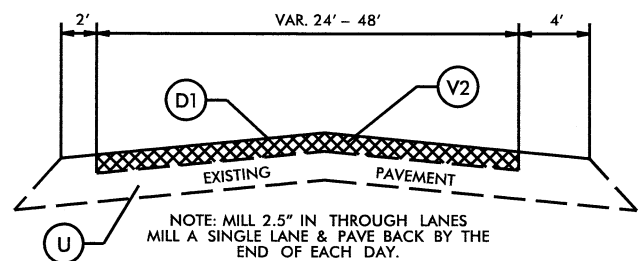


**CHATHAM COUNTY**  
PRIMARY AND SECONDARY RESURFACING MAP

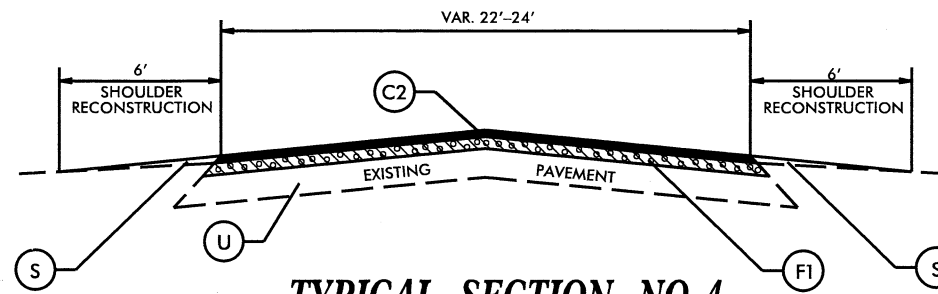
SYSTEMS SECTION  
DATE: 10/1/24  
DRAWN BY: [Name]



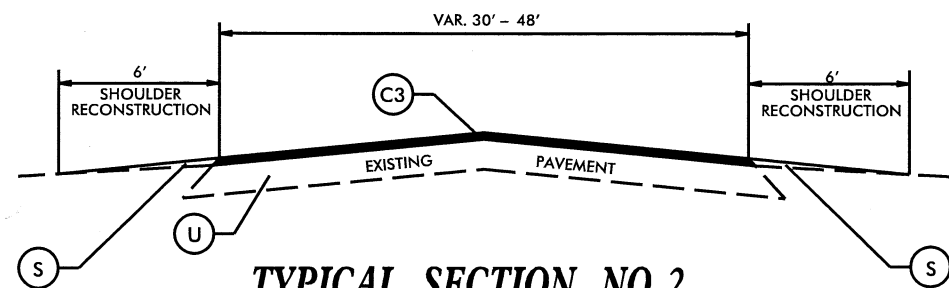


**TYPICAL SECTION NO.1**

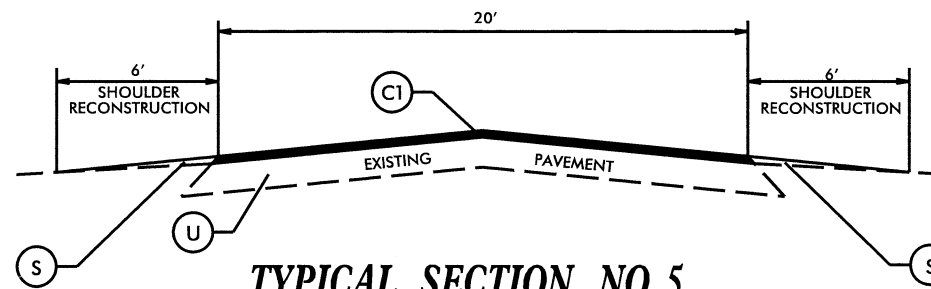
NOTE: MILL 2.5" IN THROUGH LANES  
MILL A SINGLE LANE & PAVE BACK BY THE  
END OF EACH DAY.



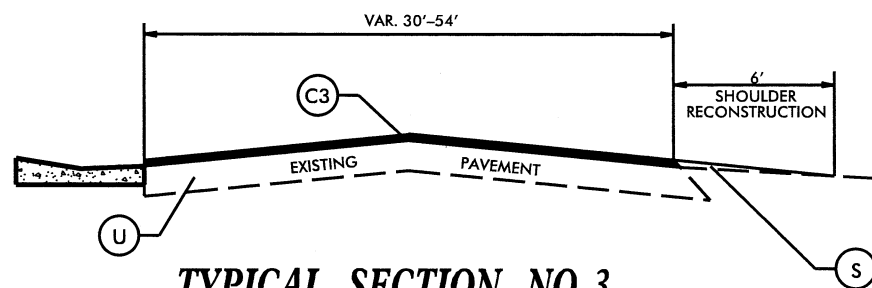
**TYPICAL SECTION NO.4**



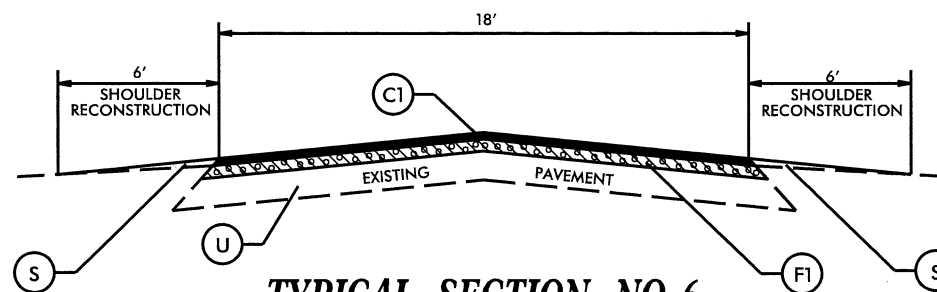
**TYPICAL SECTION NO.2**



**TYPICAL SECTION NO.5**



**TYPICAL SECTION NO.3**

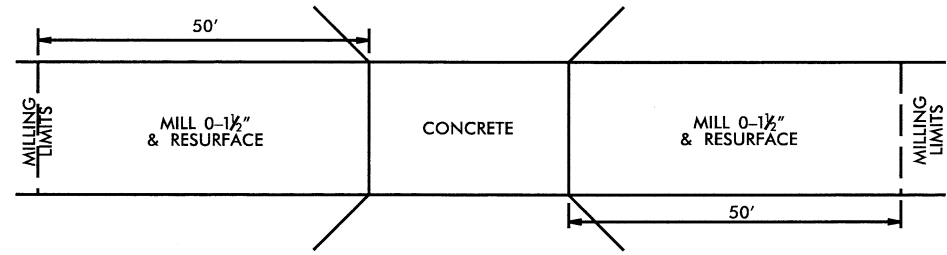


**TYPICAL SECTION NO.6**

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
F1	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #6M STONE
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 2.5" TO 4" IN DEPTH
V2	MILLING 2.5" IN DEPTH

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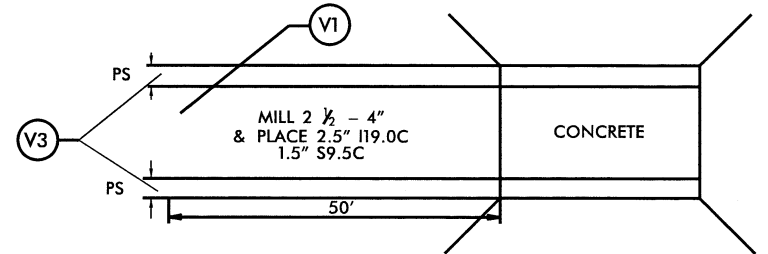
DATE TIME LOCATION USER



BRIDGE DRAWING FOR SR 1008

USE FOR MAP #5 (BRIDGE #46, AND #54)

\* MILLING SHALL BE PAID FOR UNDER INCIDENTAL MILLING



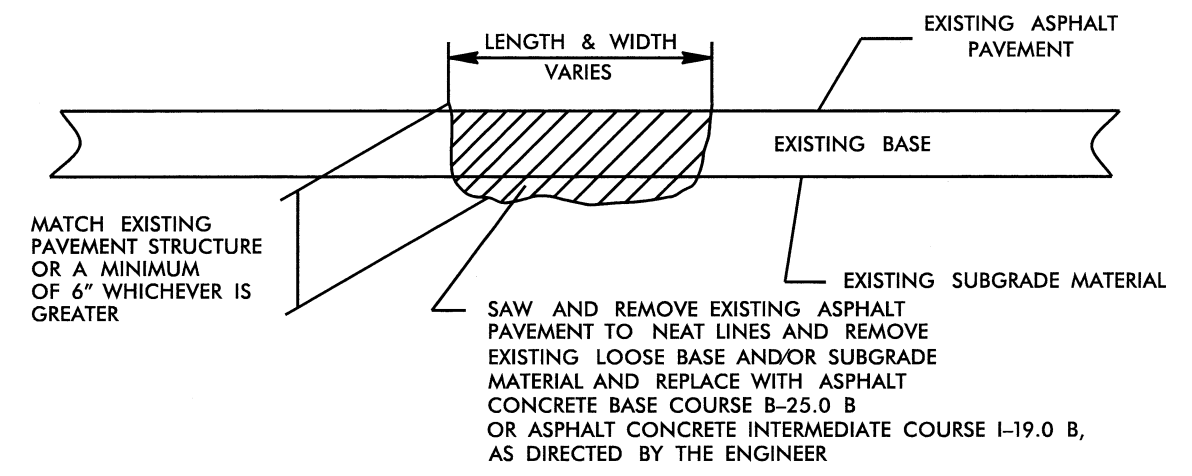
BRIDGE DRAWING FOR US 64

USE FOR MAP #1 (BRIDGE #58), & MAP #2 (BRIDGE #55 & #59)

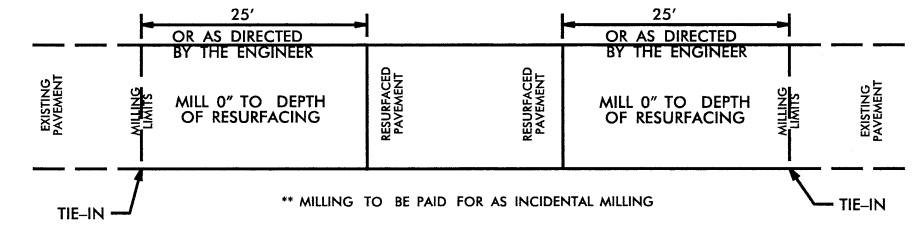
\*\*\*\* USE IN CONJUNCTION WITH TYPICALS #s 1 THRU 4

DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING

DETAIL



PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
F1	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #6M STONE
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 2.5" TO 4" IN DEPTH
V2	MILLING 2.5" IN DEPTH
V3	MILLING 0" TO 1.5" IN DEPTH

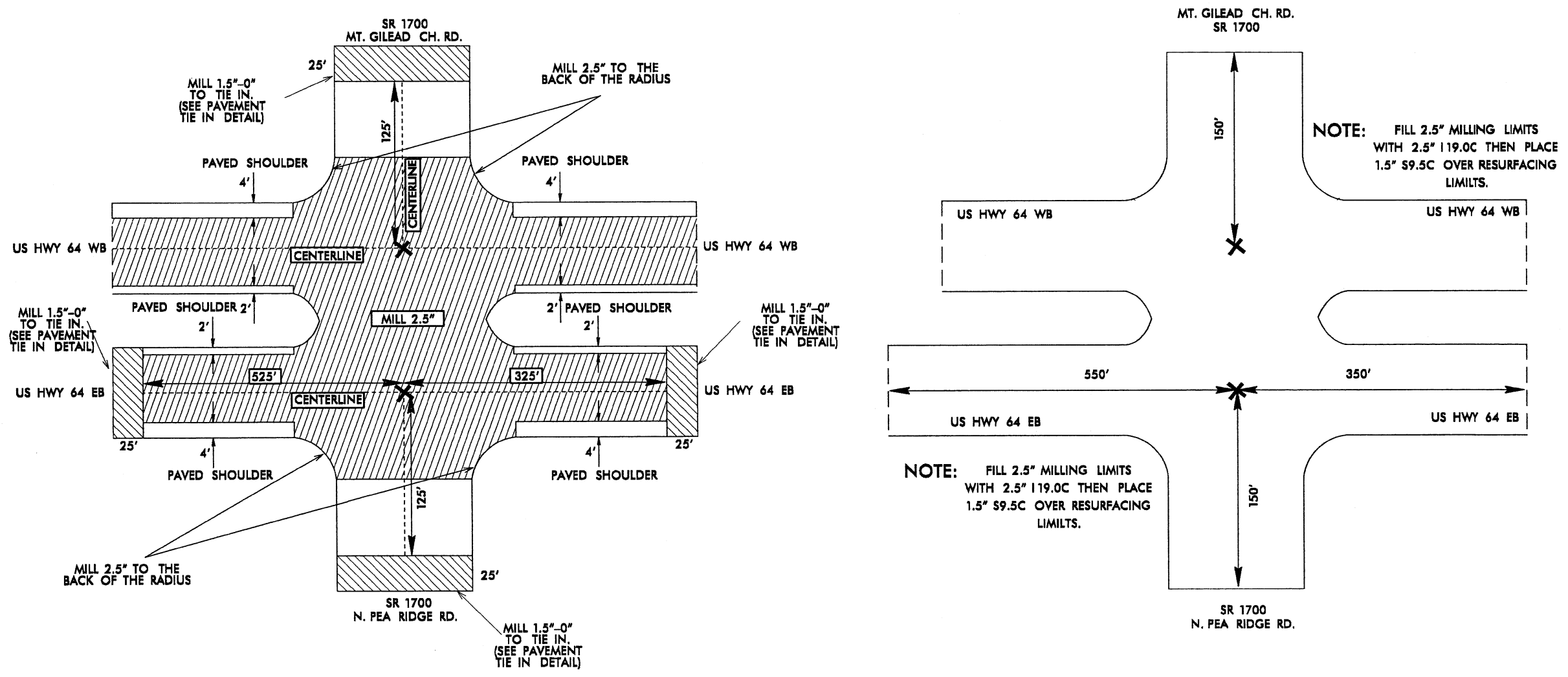


PAVEMENT TIE-IN DETAIL

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\*\*\*\*\*  
SYSTEMS  
\*\*\*\*\*

# INTERSECTION DETAILS FOR MAP #3 HWY 64 AND SR 1700 ( MT. GILEAD CH. RD. ) AND SR 1700 ( N. PEA RIDGE RD. )



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PROJECT NO.	SHEET NO.
8CR.10191.24, 8CR.20191.24	8

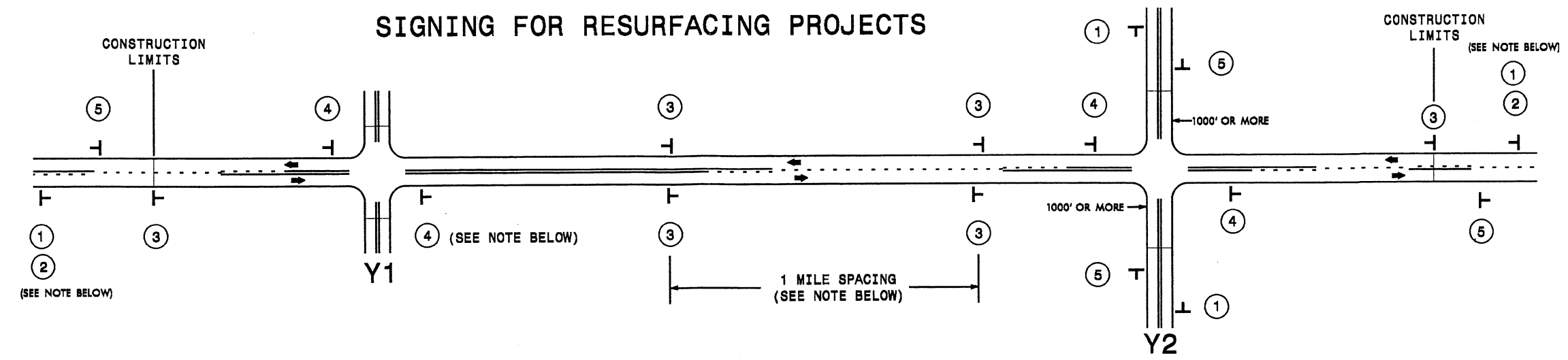
### SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	AGGREGATE SHOULDER BORROW TON	SHOULDER RECONSTRUCTION SMI	2.5" MILLING SY	2.5" TO 4" MILLING SY	0" TO 1.5" MILLING SY	INCIDENTAL MILLING SY	INTERMEDIATE COURSE, 119.0C TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	SURFACE COURSE, SF9.5A TON	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	ASPHALT SURFACE TREATMENT, MATCOAT, #6M STONE SY	INDUCTIVE LOOP SAWCUT LF		
8CR.10191.24	Chatham	1	US 64 E	FROM SR 1716 BIG WOODS RD TO BRIDGE#58 OVER JORDAN LAKE	1, 2, 3	2	MD	NO	NO	1.943	24-48	359.46	3.50	28,174	135	50	603	4,185		3,660		417					
<b>TOTAL FOR MAP NO. 1</b>										<b>1.943</b>		<b>359.46</b>	<b>3.50</b>	<b>28,174</b>	<b>135</b>		<b>603</b>	<b>4,185</b>		<b>3,660</b>		<b>417</b>					
8CR.10191.24	Chatham	2	US 64 W	FROM BRIDGE #59 OVER JORDAN LAKE TO BRIDGE #55 OVER HAW RIVER	1, 2, 3	2	MD	NO	NO	4.62	30-54	900.90	8.32	65,050	265	70	1,285	10,956		9,373		1,079			570		
<b>TOTAL FOR MAP NO. 2</b>										<b>4.62</b>		<b>900.90</b>	<b>8.32</b>	<b>65,050</b>	<b>265</b>	<b>70</b>	<b>1,285</b>	<b>10,956</b>		<b>9,373</b>		<b>1,079</b>		<b>570</b>			
8CR.10191.24	Chatham	3	US 64 (INTERSECTION AT SR 1700 (MT GILEAD CH RD))	INTERSECTION AT SR 1700 (MT. GILEAD CH RD)	1, 2, 3	2	MD	NO	NO	0.179	48	45.00	0.42	3,000			400	450		433		47	5		615		
<b>TOTAL FOR MAP NO. 3</b>										<b>0.179</b>		<b>45.00</b>	<b>0.42</b>	<b>3,000</b>			<b>400</b>	<b>450</b>		<b>433</b>		<b>47</b>	<b>5</b>		<b>615</b>		
8CR.10191.24	Chatham	4	US 64 (INTERSECTION AT SR 1008 (FARRINGTON RD))	INTERSECTION AT SR 1008 (FARRINGTON RD)	1, 2, 3	2	MD	NO	NO	0.176	48	83.00	0.80	7,550			844	1,200		999		117			1,000		
<b>TOTAL FOR MAP NO. 4</b>										<b>0.176</b>		<b>83.00</b>	<b>0.80</b>	<b>7,550</b>			<b>844</b>	<b>1,200</b>		<b>999</b>		<b>117</b>			<b>1,000</b>		
<b>TOTAL FOR PROJ NO. 8CR.10191.24</b>										<b>6.918</b>		<b>1,388.36</b>	<b>13.04</b>	<b>103,774</b>	<b>400</b>	<b>120</b>	<b>3,132</b>	<b>16,791</b>		<b>14,465</b>		<b>1,660</b>	<b>5</b>		<b>2,185</b>		
8CR.20191.24	Chatham	5	SR 1008 (FARRINGTON RD)	FROM PAVING LIMITS OF MAP#4 AT US 64 TO SR 1717 (LYSTRA RD)	4	2	2WU	NO	NO	6.04	23	1,208.00	12.08				856		7,660			460	700	82,000	900		
<b>TOTAL FOR MAP NO. 5</b>										<b>6.04</b>		<b>1,208.00</b>	<b>12.08</b>				<b>856</b>		<b>7,660</b>			<b>460</b>	<b>700</b>	<b>82,000</b>	<b>900</b>		
8CR.20191.24	Chatham	6	SR 1008 (FARRINGTON RD)	FROM SR 1717 (LYSTRA RD) TO SR 1726 (OLD FARRINGTON RD)	4	2	2WU	NO	NO	1.995	23	399.00	3.99				128		2,501			150	80	27,000			
<b>TOTAL FOR MAP NO. 6</b>										<b>1.995</b>		<b>399.00</b>	<b>3.99</b>				<b>128</b>		<b>2,501</b>			<b>150</b>	<b>80</b>	<b>27,000</b>			
8CR.20191.24	Chatham	7	SR 1008 (FARRINGTON RD)	FROM SR 1726 (OLD FARRINGTON RD) TO ORANGE CO. LINE	4	2	2WU	NO	NO	1.158	22	231.60	2.32				856		1,627			98	120	15,000	750		
<b>TOTAL FOR MAP NO. 7</b>										<b>1.158</b>		<b>231.60</b>	<b>2.32</b>				<b>856</b>		<b>1,627</b>			<b>98</b>	<b>120</b>	<b>15,000</b>	<b>750</b>		
8CR.20191.24	Chatham	8	SR 1714 (SUGAR LAKE RD)	FROM SR 1700 (MT. GILEAD CHURCH RD) W TO END MAINTENANCE	5	2	2WU	NO	NO	1.167	20	233.40	2.33				167				1,250	84	220				
<b>TOTAL FOR MAP NO. 8</b>										<b>1.167</b>		<b>233.40</b>	<b>2.33</b>				<b>167</b>				<b>1,250</b>	<b>84</b>	<b>220</b>				
8CR.20191.24	Chatham	9	SR 2303 (COLONIAL AVE)	FROM SR 2333 (S MAIN ST) TO SR 2306 GOLDSTON CARBONTON RD	6	2	2WU	NO	NO	0.282	18	56.40	0.56				250				272	18	160	3,000			
<b>TOTAL FOR MAP NO. 9</b>										<b>0.282</b>		<b>56.40</b>	<b>0.56</b>				<b>250</b>				<b>272</b>	<b>18</b>	<b>160</b>	<b>3,000</b>			
<b>TOTAL FOR PROJ NO. 8CR.20191.24</b>										<b>10.642</b>		<b>2,128.40</b>	<b>21.28</b>				<b>2,257</b>			<b>11,788</b>		<b>1,522</b>	<b>810</b>	<b>1,280</b>	<b>127,000</b>	<b>1,650</b>	
<b>GRAND TOTAL</b>										<b>17.56</b>		<b>3,516.76</b>	<b>34.32</b>	<b>103,774</b>	<b>400</b>	<b>120</b>	<b>5,389</b>	<b>16,791</b>		<b>11,788</b>		<b>14,465</b>	<b>1,522</b>	<b>2,470</b>	<b>1,285</b>	<b>127,000</b>	<b>3,835</b>





## SIGNING FOR RESURFACING PROJECTS



LEGEND	
T	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

### MAINLINE (-L-) SIGNING

### -Y- LINE SIGNING

<b>SIGNING NOTES AND PLACEMENT PER DIRECTION</b>	①	 <small>W20-1 48" X 48"</small>	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.
	②	 <small>W7-3eP 24" X 18"</small>	#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	 <small>SP 13107 48" X 48"</small>	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	 <small>SP 13106 48" X 48"</small>	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	 <small>G20-2 A 48" X 24"</small>	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

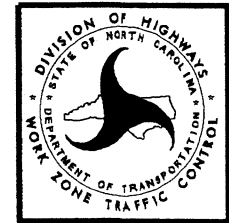
- 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
- 2) SUBDIVISION ROADS
- 3) DEAD END ROADS

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.



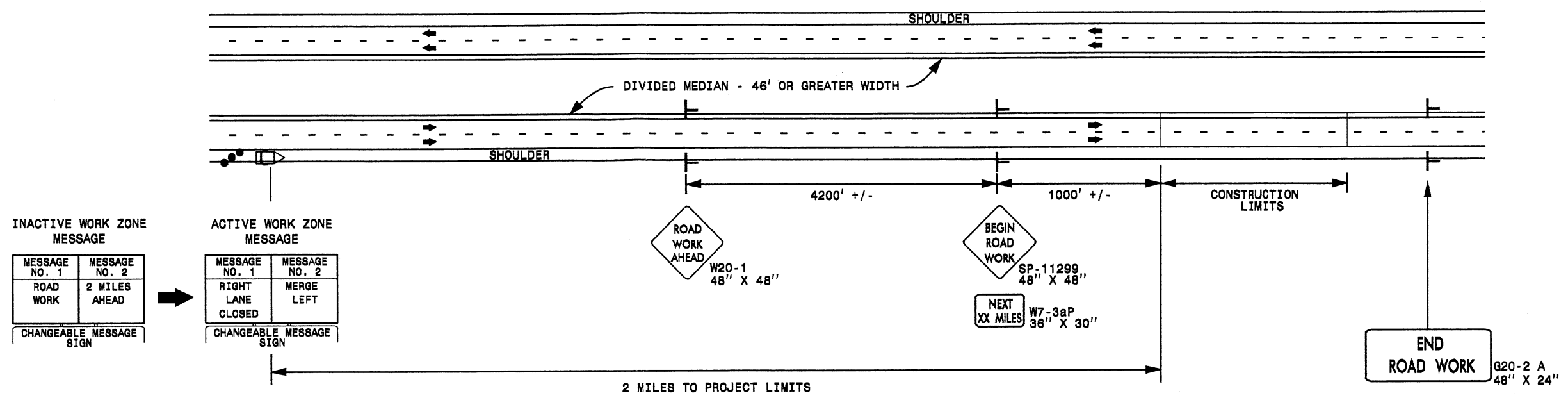
PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.

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 ASD/AVS

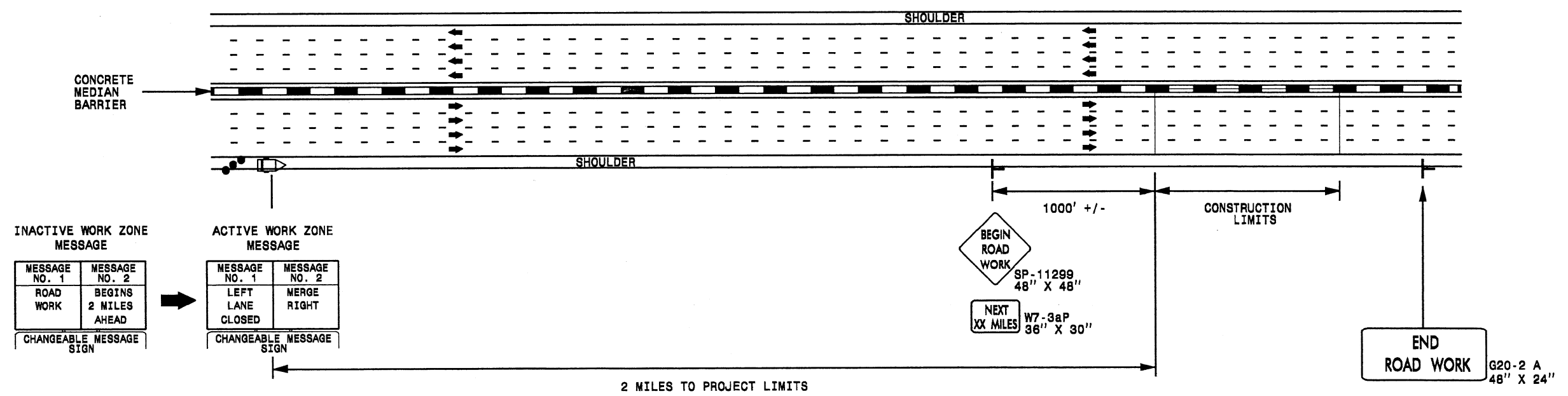


**RESURFACING  
 ADVANCE WARNING SIGNS  
 FOR  
 RURAL AND SUBURBAN  
 2 LANE ROADWAYS**

### 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 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**

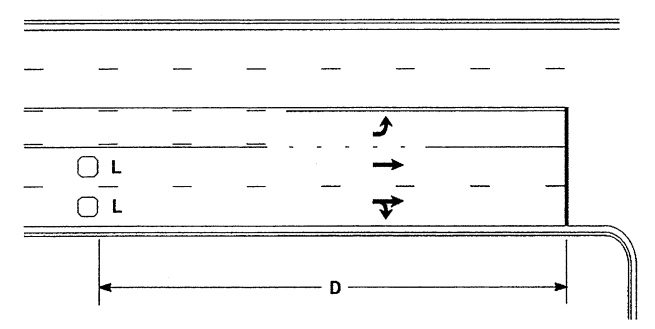
- CHANGEABLE MESSAGE SIGN (CMS)
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DRUM

**RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH**

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 GSC/AVS AT DBCAD-27040

8/20/19/24

### High Speed Detection [≥40 mph (64 km/hr)]

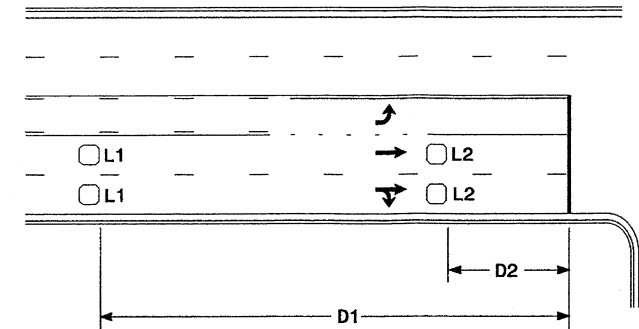


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series for TS1  
Controllers  
Wired separately for TS2,  
170, and 2070L Controllers

Volume Density Operation

OR

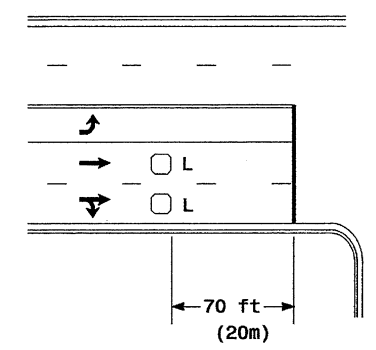


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft  
(1.8m X 1.8m)  
Wired in series  
L2 = 6ft X 6ft  
(1.8m X 1.8m)  
Wired in series

"Stretch" Operation

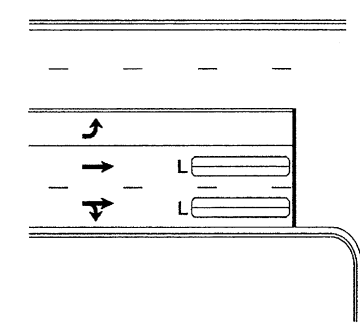
### Low Speed Detection [≤35 mph (56 km/hr)]



L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series

Volume Density Operation

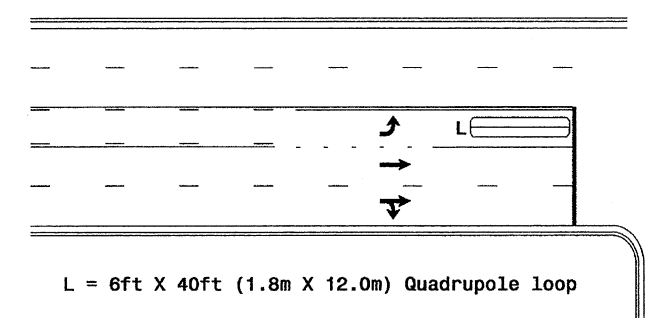
OR



L = 6ft X 40ft (1.8m X 12.0m)  
Quadrupole loop, wired separately

"Stretch" Operation

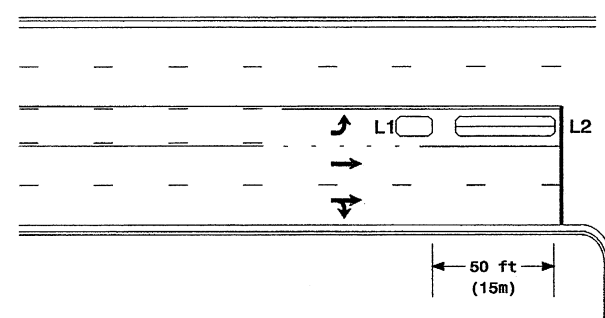
### Left Turn Lane Detection



L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

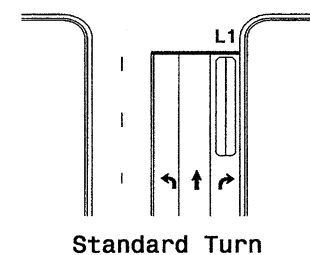
OR



L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector  
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

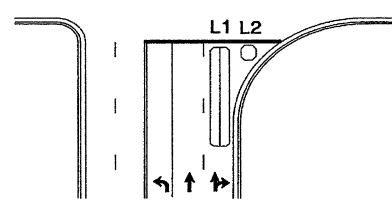
Queue Loop Detection

### Right Turn Lane Detection

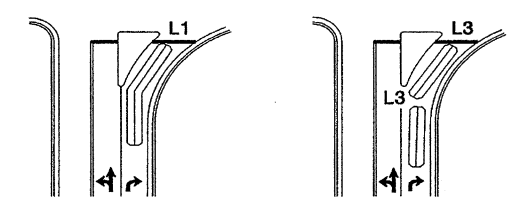


Standard Turn

L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop  
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop  
Wired separately  
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop  
Wired in series

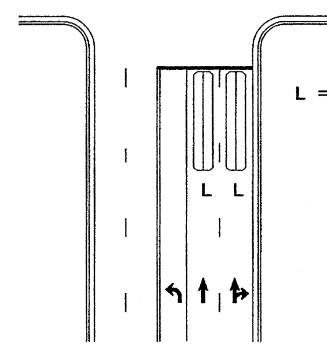


Wide Radius Turn



Channelized Turn

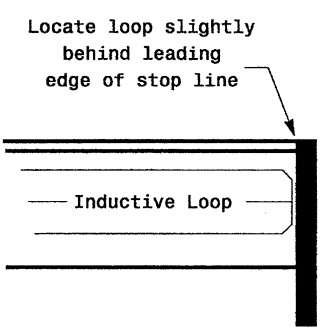
### Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)  
Quadrupole loop  
Wired to separate  
detectors/channels

Side Street Detection

### Presence Loop Placement at Stop Lines



Locate loop slightly  
behind leading  
edge of stop line

Inductive Loop

Note:  
Loop may be located in advance  
of stop line when stop line is  
greater than 15' (4.5m) from edge  
of intersecting roadway; or, when  
loop detects a permissive or  
protected/permissive left turn.

### Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m)  
loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns  
6' X 15' (1.8m X 4.6m) Loops:  
Lead-in < 150' (45 m), use 2 turns  
Lead-in > 150' (45 m), use 3 turns

#### Typical Loop Locations

Prepared in the Office of: <b>222 N. McDowell St., Raleigh, NC 27603</b>		PLAN DATE: <b>June 2006</b>	REVIEWED BY:
SCALE: <b>N/A</b>		PREPARED BY: <b>P. L. Alexander</b>	REVIEWED BY:
REVISIONS: <i>Revise pavement markings</i>		INIT. <b>PLA</b>	DATE <b>12/15/06</b>
SIGNATURE		DATE	
SIG. INVENTORY NO.			