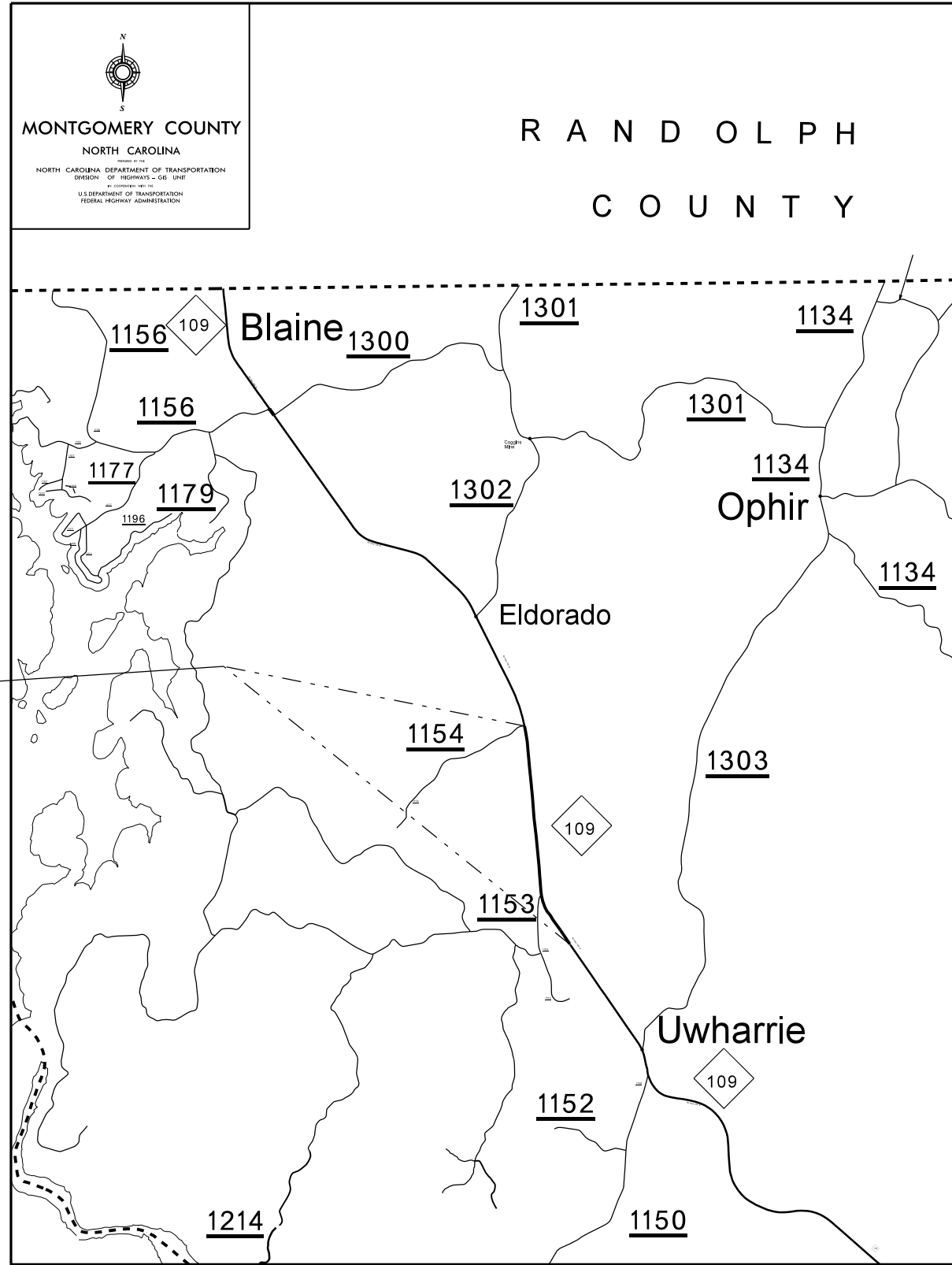
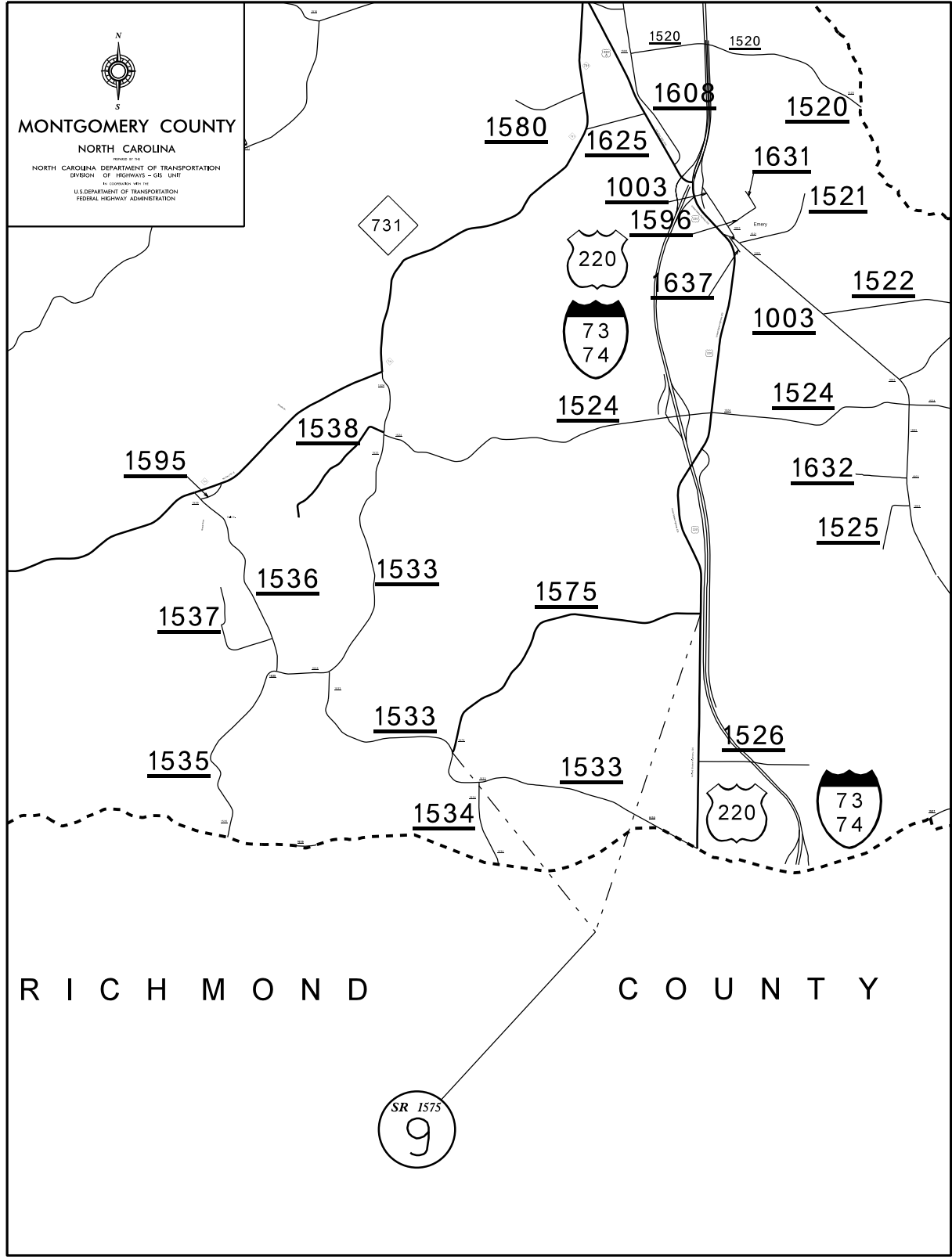


**MONTGOMERY COUNTY**  
PRIMARY & SECONDARY RESURFACING  
REQUEST MAP

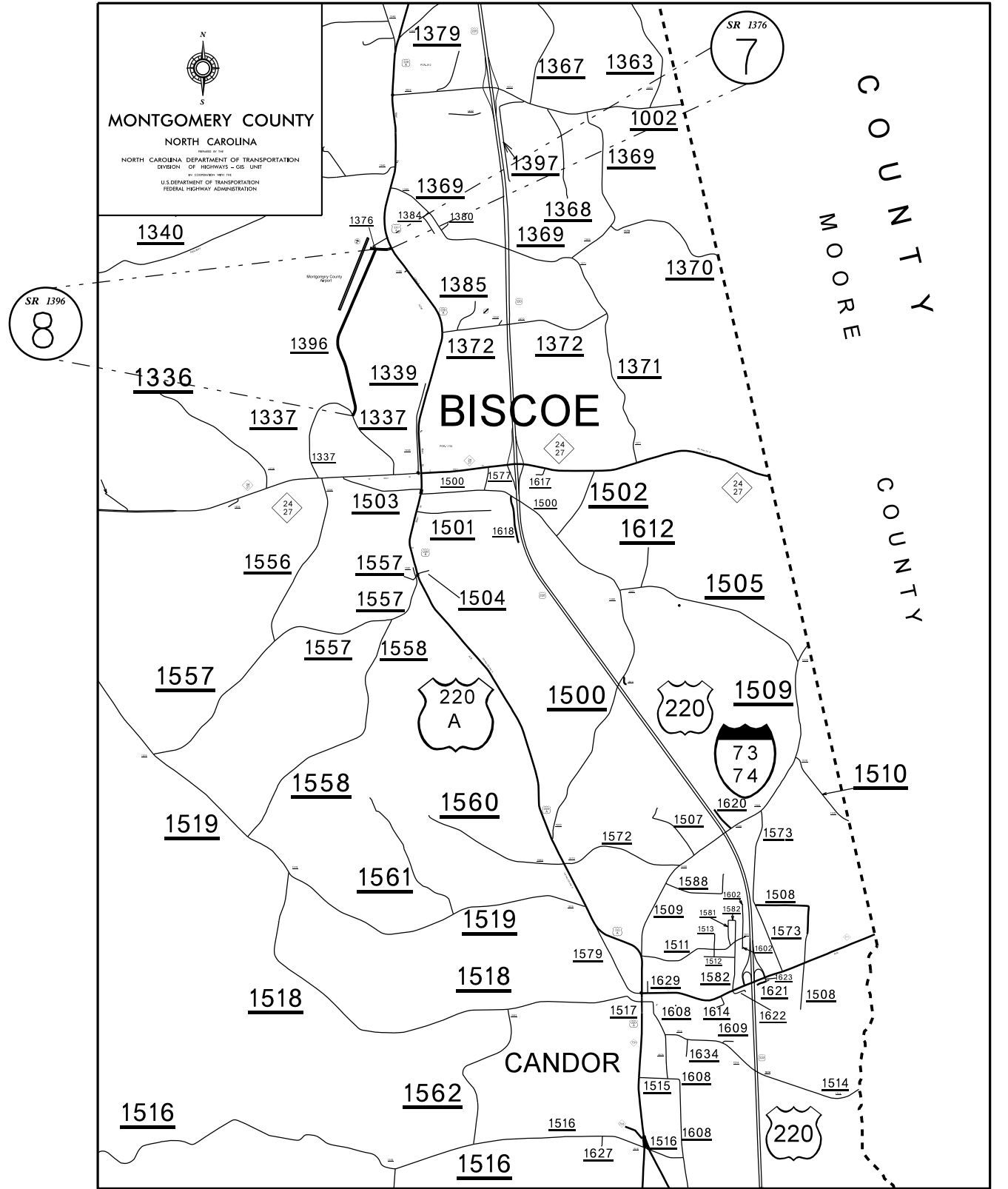
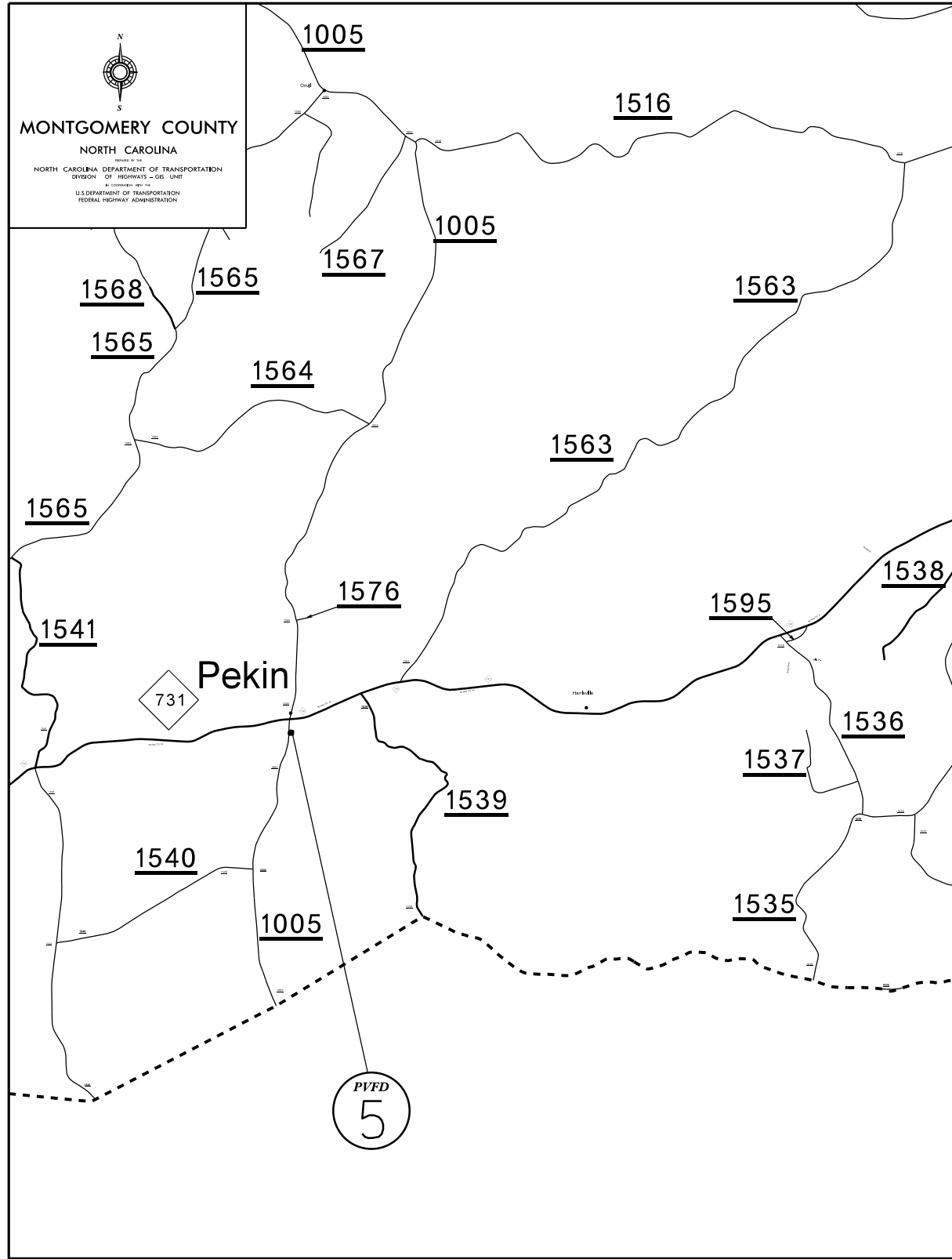
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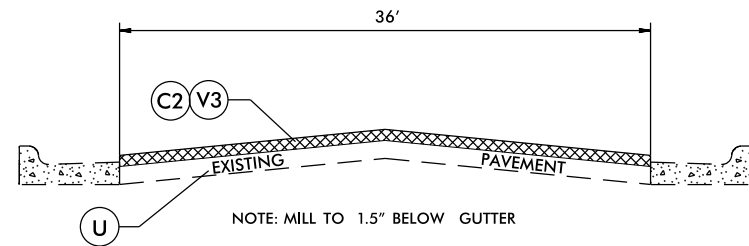


NC 109  
3

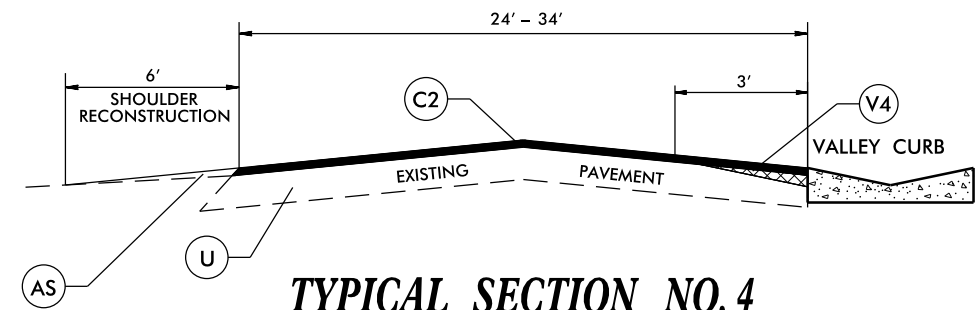
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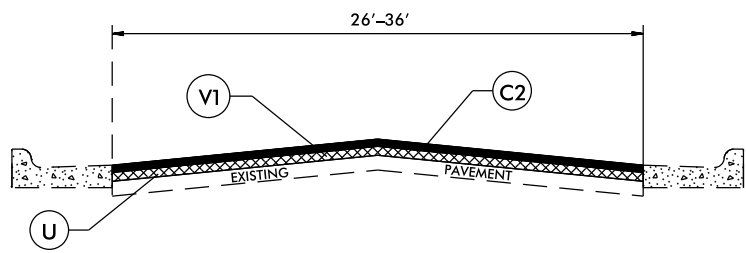




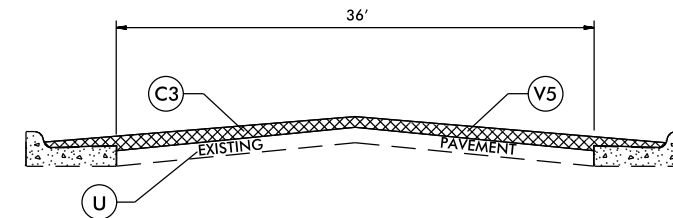
**TYPICAL SECTION NO. 1**



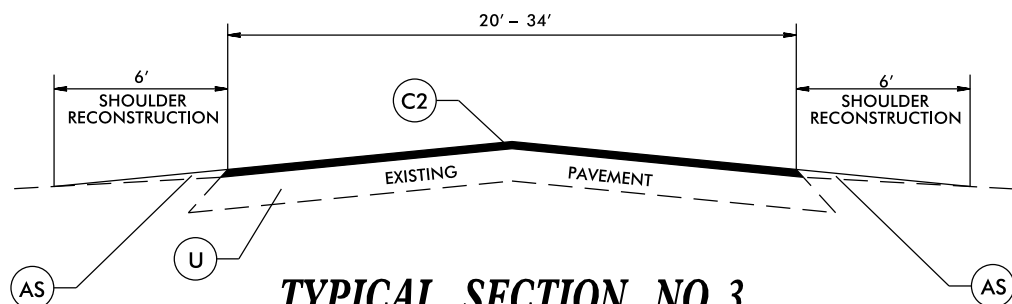
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**TYPICAL SECTION NO. 2**

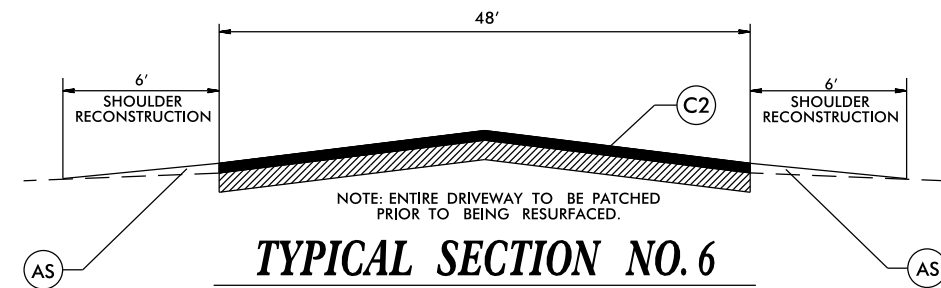


**TYPICAL SECTION NO. 5**



**TYPICAL SECTION NO. 3**

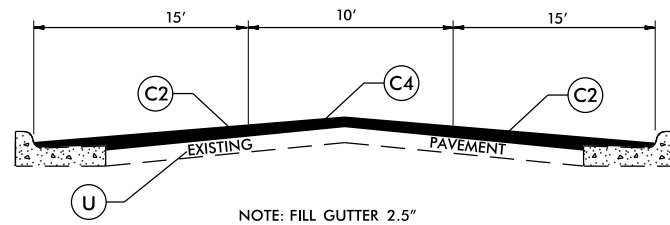
NOTE: SHOULDER RECONSTRUCTION AND STRIPING WILL BE PERFORMED BY STATE FORCES ON MAPS 15, 16, 18 AND 21



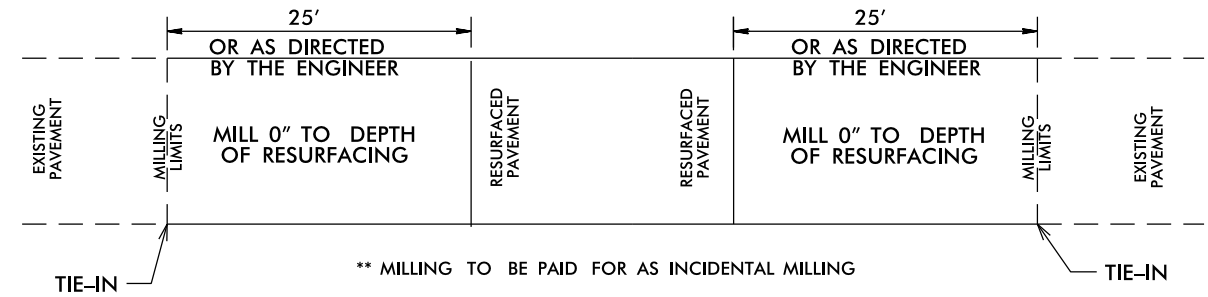
**TYPICAL SECTION NO. 6**

**PAVEMENT SCHEDULE**

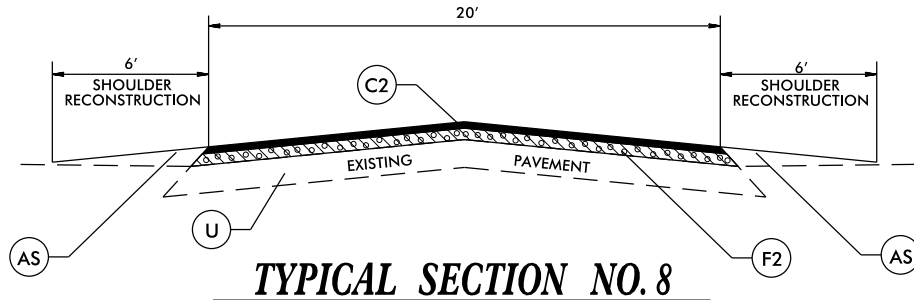
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C3	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C4	PROP. APPROX. 1.5" TO 2" VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. TO 110 LBS PER SQUARE YARD IN EACH OF TWO (2) LAYERS
F2	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #78M STONE
AS	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 1.5" IN DEPTH
V3	MILLING 3.0" IN DEPTH
V4	MILLING 0.0" - 1.5" IN DEPTH
V5	MILLING 1.25" IN DEPTH



**TYPICAL SECTION NO. 7**



## PAVEMENT TIE-IN DETAIL

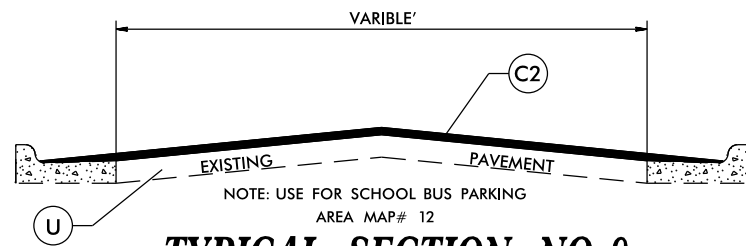
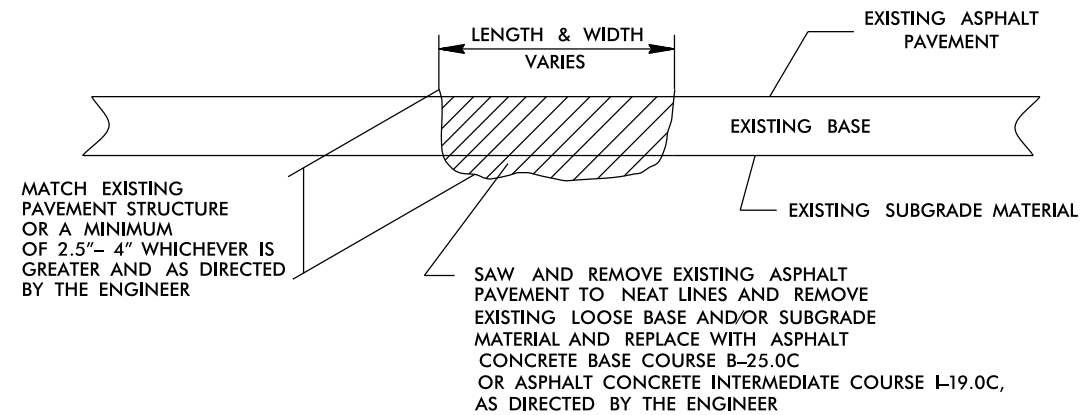


NOTE: SHOULDER RECONSTRUCTION AND STRIPING WILL BE PERFORMED BY STATE FORCES ON MAP 8

**TYPICAL SECTION NO. 8**

### DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING

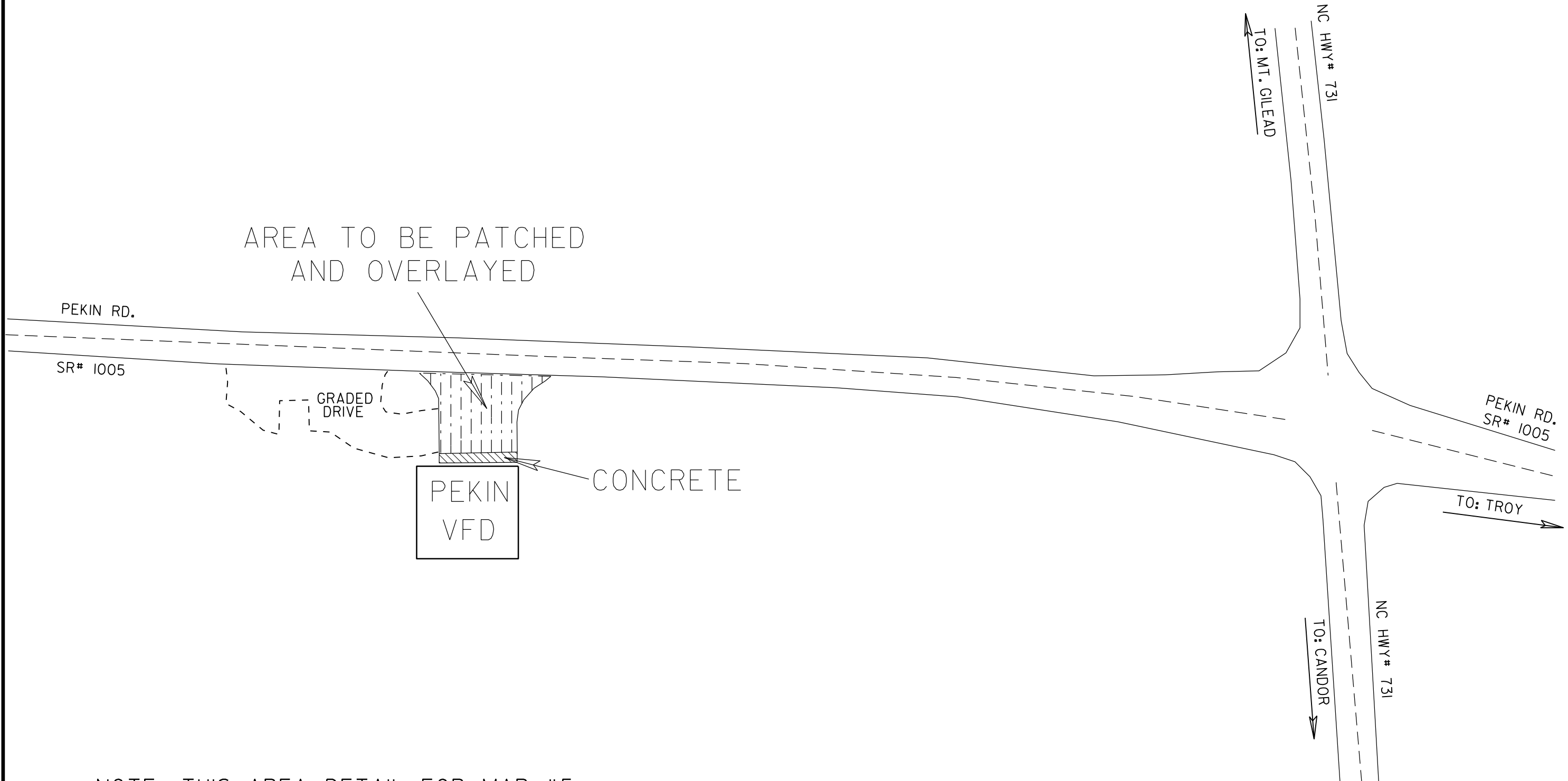
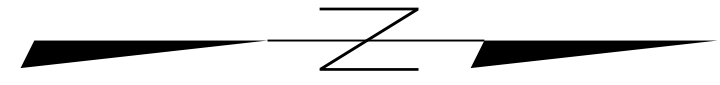
#### DETAIL



**TYPICAL SECTION NO. 9**

### PAVEMENT SCHEDULE

C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C3	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C4	PROP. APPROX. 1.5" TO 2" VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. TO 110 LBS PER SQUARE YARD IN EACH OF TWO (2) LAYERS
F2	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #78M STONE
F4	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #67 STONE
AS	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 1.5" IN DEPTH
V3	MILLING 3.0" IN DEPTH
V4	MILLING 0.0" - 1.5" IN DEPTH
V5	MILLING 1.25" IN DEPTH



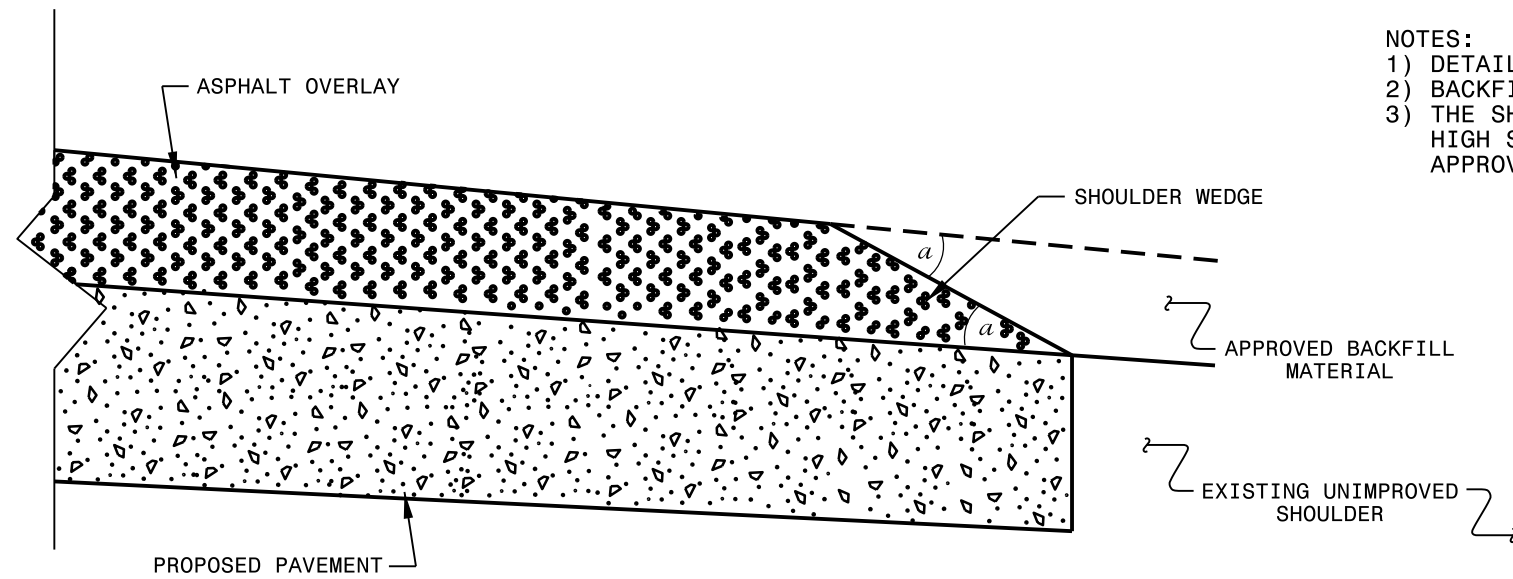
NOTE: THIS AREA DETAIL FOR MAP #5  
PEKIN VOLUNTEER FIRE DEPARTMENT

2020 OCT 20 11:56  
 SURF ACQUISITION  
 2020\FY\_2020\MONTGOMERY\_RESURFACING\_TYPICALS.dgn  
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 0/15



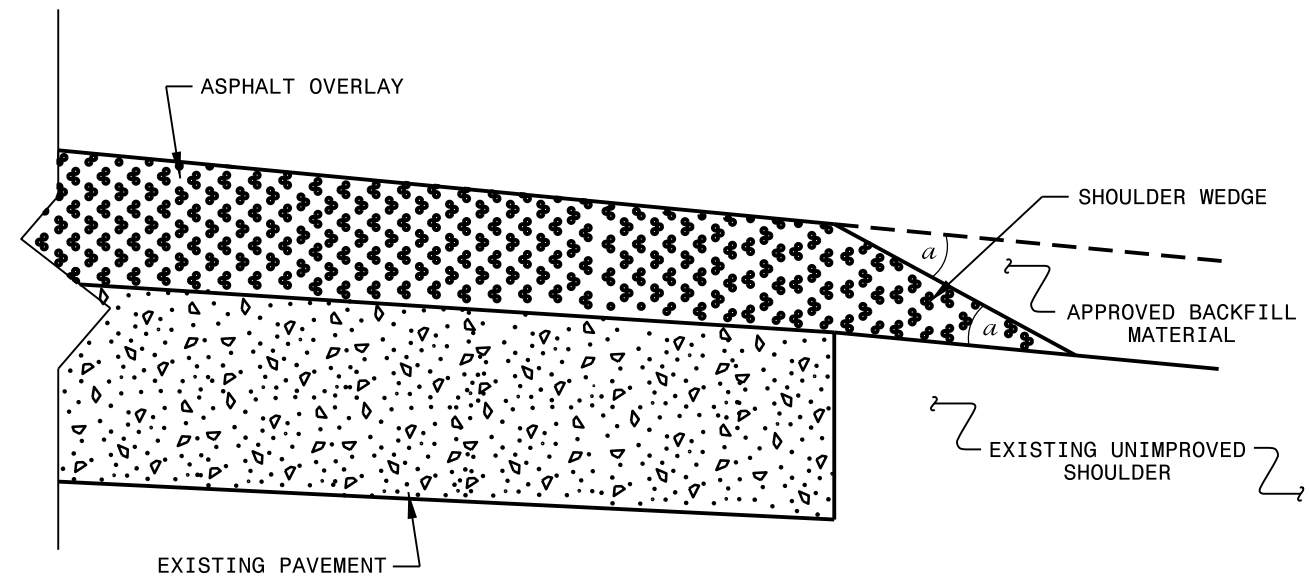
**NOTES:**

- 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, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



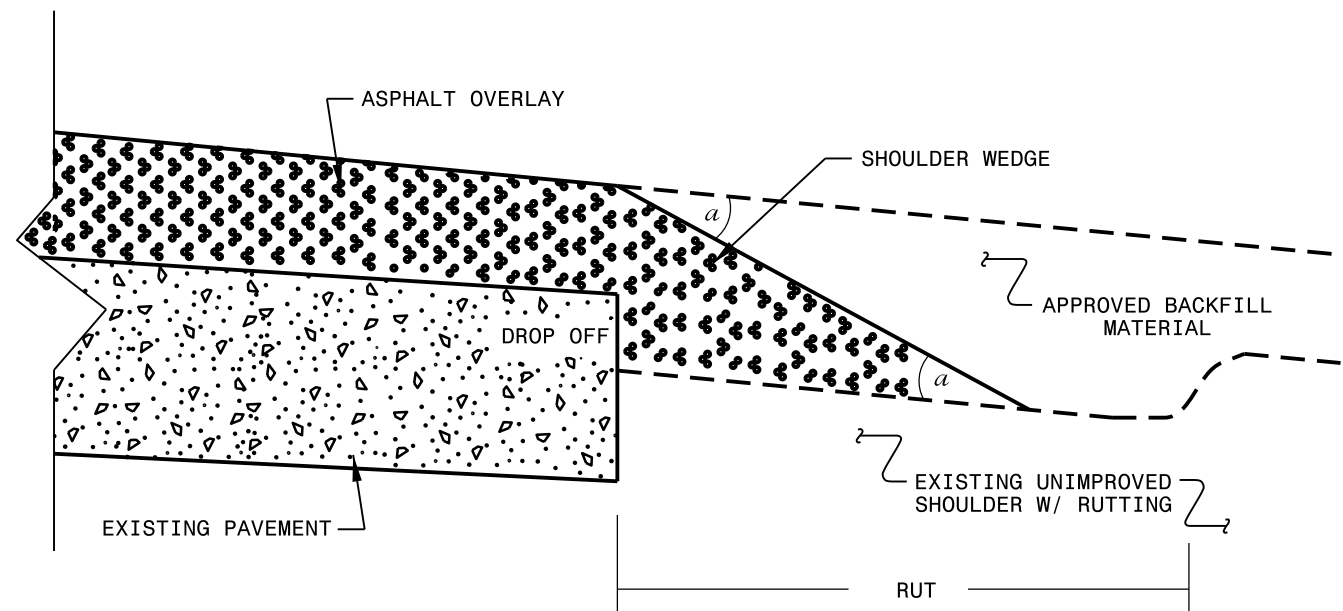
**SHOULDER WEDGE DETAIL**

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



**SHOULDER WEDGE DETAIL**

(Resurfacing Projects w/ NO Widening)



**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: 2/2/16	
CHECKED BY:	DATE:	
FILE SPEC.: szusr/details/stand/shoulderwedgedetail.dgn		



PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.08.07.10621, etc	11	

## SUMMARY OF QUANTITIES

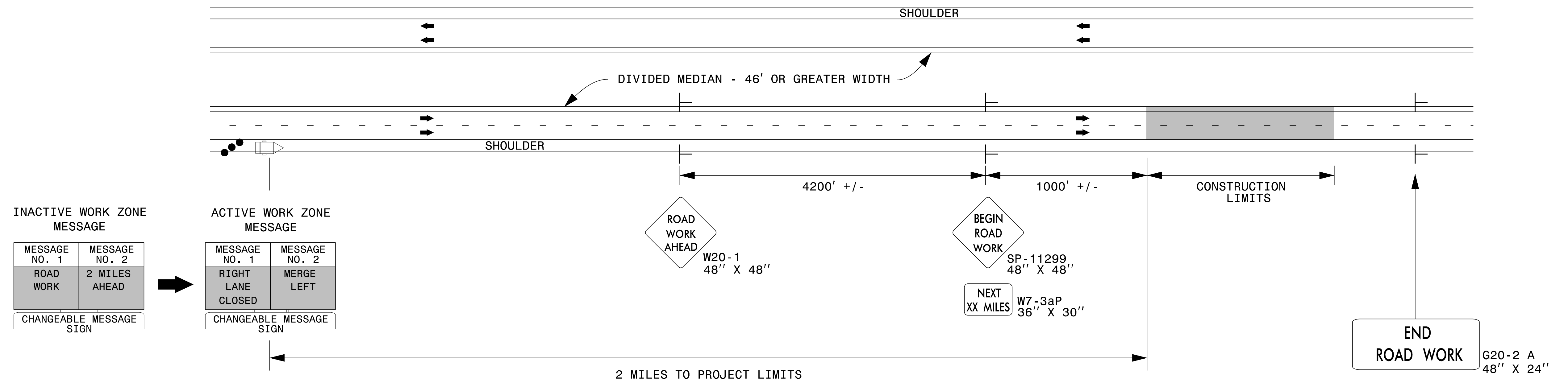
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURF. TEST. REQUIRED	WARM MIX ASPH. REQUIRED	LENGTH	WIDTH	SH. RECON.	ASB	3" MILLING	1.5" MILLING	1.25" MILLING	0" TO 1.5" MILLING	INC. MILLING	S9.5B	ASPH. BINDER FOR PLANT MIX	PATCHING EXI. PAVEMENT	AST, MAT-COAT, #78M STONE	EMULSION FOR AST	VACUUM TRUCK	2'-6" CURB & GUTTER	RETRO-FIT EXI. CURB RAMP	ADJ. OF DROP INLET	ADJ. OF MAN-HOLES	ADJ. OF METER OR VALVE BOX	IND. LOOP SAW-CUT	LEAD-IN CABLE (14-2 PAIR)					
										MI	FT	SMI	TON	SY	SY	SY	SY	SY	TONS	TONS	TONS	SY	GAL	WK	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
2019CPT.08.07.10621	Montgomery	1	NC 731	FROM END C&G 1.3MI W OF SR 1118 (YANK RD) TO PVT JT W OF EAST HAYWOOD ST (A.K.A. E 1ST ST) LOCATED 0.42MI E OF NC 73 N MAIN ST	1	2	2WU	NO	NO	0.5	36			11,100					965	65											2					
		2	NC 731	FROM FROM PVT JT W OF EAST HAYWOOD ST (A.K.A. E 1ST ST) 0.42MI E OF NC 73 TO END C&G 480FT E OF SR 1107 (NORTHVIEW RD)	2	2	2WU	NO	NO	1.37	26					23,160		1,300	1,965	132	70												2,144	2,144		
		3	NC 109 N	N JOINT OF BRIDGE # 45 TO JOINT SOUTH OF SR1154 (MULLINEX RD)	3,4	2	2WU	NO	NO	1.66	27	3.32	498					190	525	2,420	162	100														
		4	NC 73	FROM PVT JT S OF NC 109 TO PVT JT S OF W HAYWOOD ST (NON-SYSTEM) LOCATED 1,000FT S OF NC 731	5	2	2WU	NO	NO	0.515	36						10,300		1,600	990	66	20				50	2	6	2	17	2,140	2,140				
		5	PEKIN FIRE DEPARTMENT DRIVEWAY	PATCH AND RESURFACE FD DRIVEWAY	6	2	2WU	NO	NO	0.009	47	0.03	4							25	2	41														
		6	NC 73	BRIDGE JOINT N OF R/R BRIDGE #40 TO END 3-LANE SECTION 0.137MI E OF SR 1108 (PARKERTOWN RD)	7	2	2WU	NO	NO	0.185	36								400	495	33										3	1				
		<b>TOTAL FOR PROJ NO. 2019CPT.08.07.10621</b>										<b>4.239</b>		<b>3.35</b>	<b>502</b>	<b>11,100</b>	<b>23,160</b>	<b>10,300</b>	<b>190</b>	<b>3,825</b>	<b>6,860</b>	<b>460</b>	<b>231</b>				<b>50</b>	<b>2</b>	<b>6</b>	<b>5</b>	<b>20</b>	<b>4,284</b>	<b>4,284</b>			
2019CPT.08.07.20621	Montgomery	7	SR 1376 (AIRPORT RD.)	FROM AIRPORT GATE TO US 220 BUS.( S. MAIN ) TO JOINT AT TRF ISLAND	8	2	2WU	NO	NO	0.16	20							1,877	175	12		1,900	665	1												
		8	SR 1396 (CLAYOLA DR)	FROM SR 1337 (LAMBERT DR) TO SR 1376 (AIRPORT RD)	3	2	2WU	NO	NO	1.53	21								350	1,565	105															
		9	SR 1575 (YARBROUGH RD)	FROM SR 1533 (CEMETERY RD) TO US 220A	3	2	2WU	NO	NO	2.65	21								233	2,710	182															
		10	WEST MONTGOMERY MIDDLE SCHOOL PARKING	SCHOOL BUS PARKING AREA	9	2	2WU	NO	NO	0.053	118										335	22														
		11	WEST MONTGOMERY MIDDLE SCHOOL BUS DRIVE	FROM HWY 109 TO BUS PARKING AREA	3	2	2WU	NO	NO	0.14	25										220	15														
		12	SR 1194 (DEERFIELD CIR)	FROM SR 1139 (WARNER RD) TO SR 1195 (DEERFIELD CIR)	3	2	2WU	NO	NO	0.08	18										80	5														
		13	SR 1195 (DEERFIELD CIR)	FROM SR 1194 (DEERFIELD CIR) TO SR 1138 (DAIRY RD)	3	2	2WU	NO	NO	0.42	18										405	27														
		14	SR 1131 (SMITH DR)	FROM SR 1133 (DEBERRY RD) TO SR 1132 (STONE FORK CHURCH RD)	3	2	2WU	NO	NO	0.43	20										465	31														
<b>TOTAL FOR PROJ NO. 2019CPT.08.07.20621</b>										<b>5.463</b>								<b>2,460</b>	<b>5,955</b>	<b>399</b>		<b>1,900</b>	<b>665</b>	<b>1</b>												
<b>GRAND TOTAL</b>										<b>9.702</b>		<b>3.35</b>	<b>502</b>	<b>11,100</b>	<b>23,160</b>	<b>10,300</b>	<b>190</b>	<b>6,285</b>	<b>12,815</b>	<b>859</b>	<b>231</b>	<b>1,900</b>	<b>665</b>	<b>1</b>	<b>50</b>	<b>2</b>	<b>6</b>	<b>5</b>	<b>20</b>	<b>4,284</b>	<b>4,284</b>					

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.08.07.10621, etc	<b>12</b>	

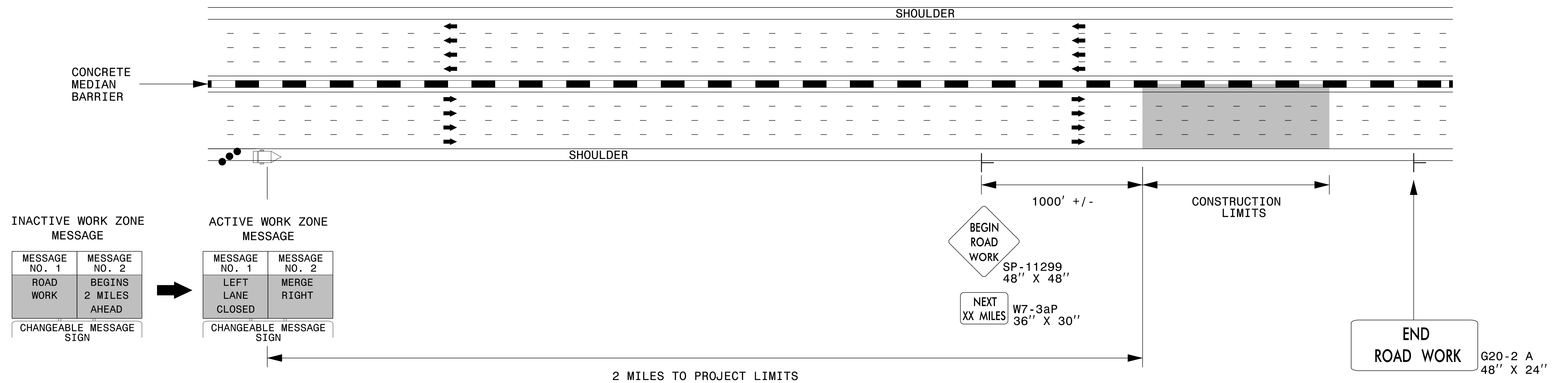
# THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LA NES	LANE TYPE	LENGTH	WID TH	4413000	4447	445700	45100	4685000000-E		4695000000-E		4725000000-E		4810000000-E		48200	4845000000-N		489100	4905000000-N					
										WZ ADV/ GEN. WARN. SIGNING	PED. CH. DEVI CES	TEMP. TRAFFI C CONTR OL	LAW ENFO RCEM ENT	4" X 90 M YELLOW THERMO	4" X 90 M WHITE THERMO	8" X 90 M WHITE THERMO	8" X 90 M YELLOW THERMO	THERMO LT ARROW 90 M	THERM O STR & RT ARRO W 90 M	4" YELLOW PAINT	4" WHITE PAINT	8" YELLO W PAINT	PAINT LT ARRO W	PAINT STR & RT ARRO W	24" X 90 M WHITE THERMO	SNOW PLOWA BLE Y & R MARKE RS	SNOW PLOWA BLE C & R MARKE RS				
										SF	LF	LS	HR	LF	LF	LF	LF	EA	EA	LF	LF	LF	EA	EA	LF	EA	EA				
2019CPT.08.07.10621	Montgomery	1	NC 731	FROM END C&G 1.3MI W OF SR 1118 (YANK RD) TO PVT JT W OF EAST HAYWOOD ST (A.K.A. E 1ST ST) LOCATED 0.42MI E OF NC 73 N MAIN ST	1	2	2WU	0.5	36	60					3,300														38		
		2	NC 731	FROM FROM PVT JT W OF EAST HAYWOOD ST (A.K.A. E 1ST ST) 0.42MI E OF NC 73 TO END C&G 480FT E OF SR 1107 (NORTHVIEW RD)	2	2	2WU	1.37	26	160				80	15,000	5,720			4	4	15,000	5,720		4	4	132	90	14			
		3	NC 109 N	N JOINT OF BRIDGE # 45 TO JOINT SOUTH OF SR1154 (MULLINEX RD)	3, 4	2	2WU	1.66	27	200			*		14,300	17,862														133	
		4	NC 73	FROM PVT JT S OF NC 109 TO PVT JT S OF W HAYWOOD ST (NON-SYSTEM) LOCATED 1,000FT S OF NC 731	5	2	2WU	0.515	36	60	16			120	6,330	6,000	30	55	4		6,330	6,000	55	4		35	68	5			
		5	PEKIN FIRE DEPARTMENT DRIVEWAY	PATCH AND RESURFACE FD DRIVEWAY	6	2	2WU	0.009	47	10																					
		6	NC 73	BRIDGE JOINT N OF R/R BRIDGE #40 TO END 3-LANE SECTION 0.137MI E OF SR 1108 (PARKERTOWN RD)	7	2	2WU	0.185	36	21						3,050	300	60	60	4											55
<b>TOTAL FOR PROJ NO. 2019CPT.08.07.10621</b>								<b>4.239</b>		<b>511</b>	<b>16</b>		<b>200</b>	<b>41,980</b>	<b>29,882</b>	<b>90</b>	<b>115</b>	<b>12</b>	<b>4</b>	<b>24,630</b>	<b>11,720</b>	<b>55</b>	<b>8</b>	<b>4</b>	<b>167</b>	<b>329</b>	<b>74</b>				
														<b>71,862</b>		<b>205</b>		<b>16</b>		<b>36,350</b>		<b>12</b>					<b>403</b>				
2019CPT.08.07.20621	Montgomery	7	SR 1376 (AIRPORT RD.)	FROM AIRPORT GATE TO US 220 BUS.( S. MAIN ) TO JOINT AT TRF ISLAND	8	2	2WU	0.16	20	20																					
		8	SR 1396 (CLAYOLA DR)	FROM SR 1337 (LAMBERT DR) TO SR 1376 (AIRPORT RD)	3	2	2WU	1.53	21	172																					
		9	SR 1575 (YARBROUGH RD)	FROM SR 1533 (CEMETERY RD) TO US 220A	3	2	2WU	2.65	21	297			*																		
		10	WEST MONTGOMERY MIDDLE SCHOOL PARKING LOT	SCHOOL BUS PARKING AREA	9	2	2WU	0.053	118																						
		11	WEST MONTGOMERY MIDDLE SCHOOL BUS DRIVE	FROM HWY 109 TO BUS PARKING AREA	3	2	2WU	0.14	25																						
		12	SR 1194 (DEERFIELD CIR)	FROM SR 1139 (WARNER RD) TO SR 1195 (DEERFIELD CIR)	3	2	2WU	0.08	18	9																					
		13	SR 1195 (DEERFIELD CIR)	FROM SR 1194 (DEERFIELD CIR) TO SR 1138 (DAIRY RD)	3	2	2WU	0.42	18	50																					
		14	SR 1131 (SMITH DR)	FROM SR 1133 (DEBERRY RD) TO SR 1132 (STONEY FORK CHURCH RD)	3	2	2WU	0.43	20	50																					
<b>TOTAL FOR PROJ NO. 2019CPT.08.07.20621</b>								<b>5.463</b>		<b>598</b>																					
<b>GRAND TOTAL</b>										<b>9.702</b>		<b>1,109</b>	<b>16</b>	<b>1</b>	<b>200</b>	<b>41,980</b>	<b>29,882</b>	<b>90</b>	<b>115</b>	<b>12</b>	<b>4</b>	<b>24,630</b>	<b>11,720</b>	<b>55</b>	<b>8</b>	<b>4</b>	<b>167</b>	<b>329</b>	<b>74</b>		
															<b>71,862</b>		<b>205</b>		<b>16</b>		<b>36,350</b>		<b>12</b>				<b>403</b>				

### DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER



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

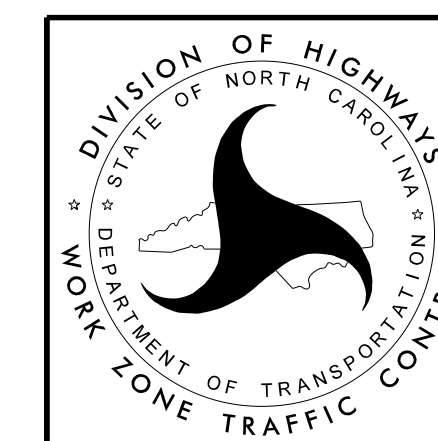


**NOTES:**

- 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**

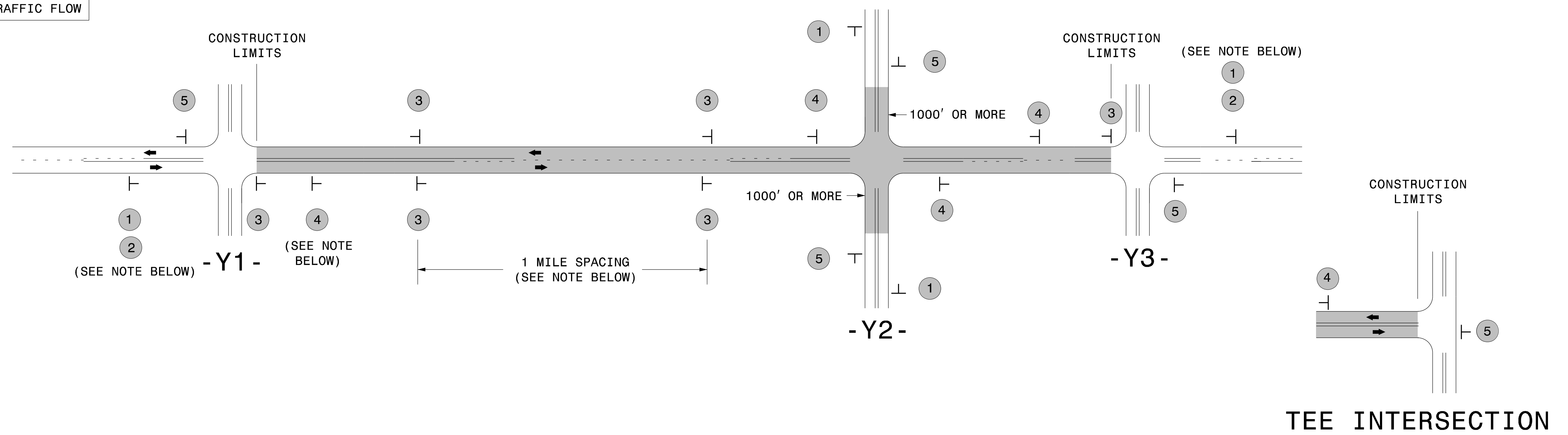
- CHANGEABLE MESSAGE SIGN (CMS)
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DRUM



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

# SIGNING FOR RESURFACING PROJECTS

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



## MAINLINE (-L-) SIGNING

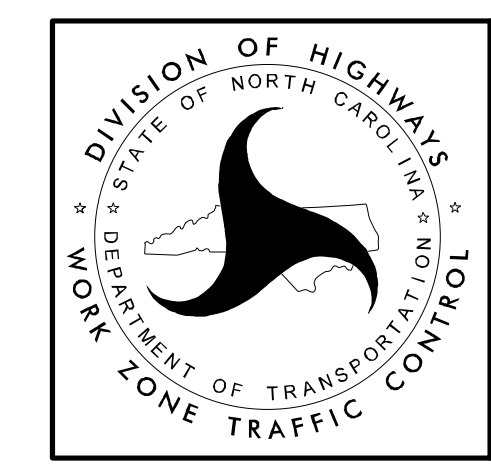
## -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1		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, PORTABLE ADVANCE WARNING 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"            PLACED 500' IN ADVANCE OF FLAGGER.         </div> <div style="text-align: center;">             W20-7 A 48" X 48"            PLACED 250' IN ADVANCE OF FLAGGER.         </div> </div>
	2		#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	3		- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.	
	4		- 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. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.	
	5		PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.	

THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

**MAPS LESS THAN 2 MILES**

FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.



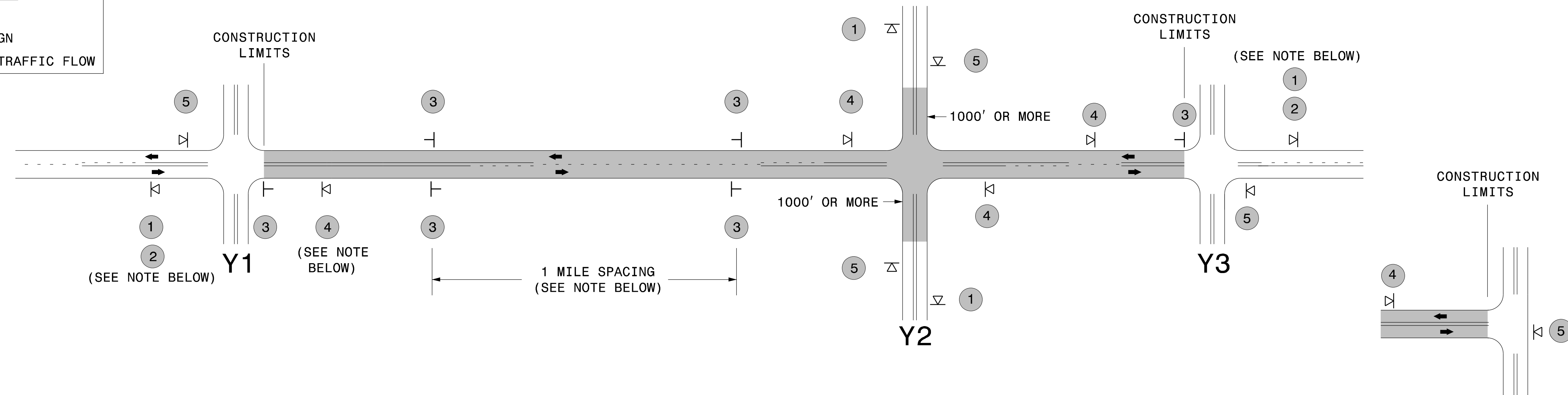
**ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING**

5/15/2017 S:\TMU\WZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing\_AdvWarn\_2Ln.dgn User:kadai

# SIGNING FOR ASPHALT SURFACE TREATMENT

**LEGEND**

- ▷ PORTABLE SIGN
- └ 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" W7-3qP 24" X 18"	- PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE. - SIGN #2 ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO THE NEAREST WHOLE NUMBER. DO NOT USE FRACTIONAL OR DECIMAL NUMBERS.
3	 W8-7 48" X 48" SP 48" X 48"	- ALTERNATE THE FOLLOWING TWO SIGNS: - STARTING WITH "LOOSE GRAVEL" (W8-7) FOLLOWED BY "UNMARKED PAVEMENT". - PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 0.5 MILE FROM INTERSECTION AND SPACE 1 MILE APART 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 OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.

**STATIONARY SIGNING NOT REQUIRED 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, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.

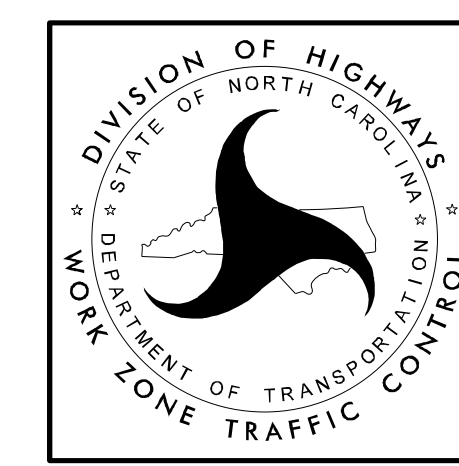
W20-1  
48" X 48"  
 PLACED 500' IN ADVANCE OF FLAGGER.

W20-7 A  
48" X 48"  
 PLACED 250' IN ADVANCE OF FLAGGER.

THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

**MAPS LESS THAN 2 MILES**

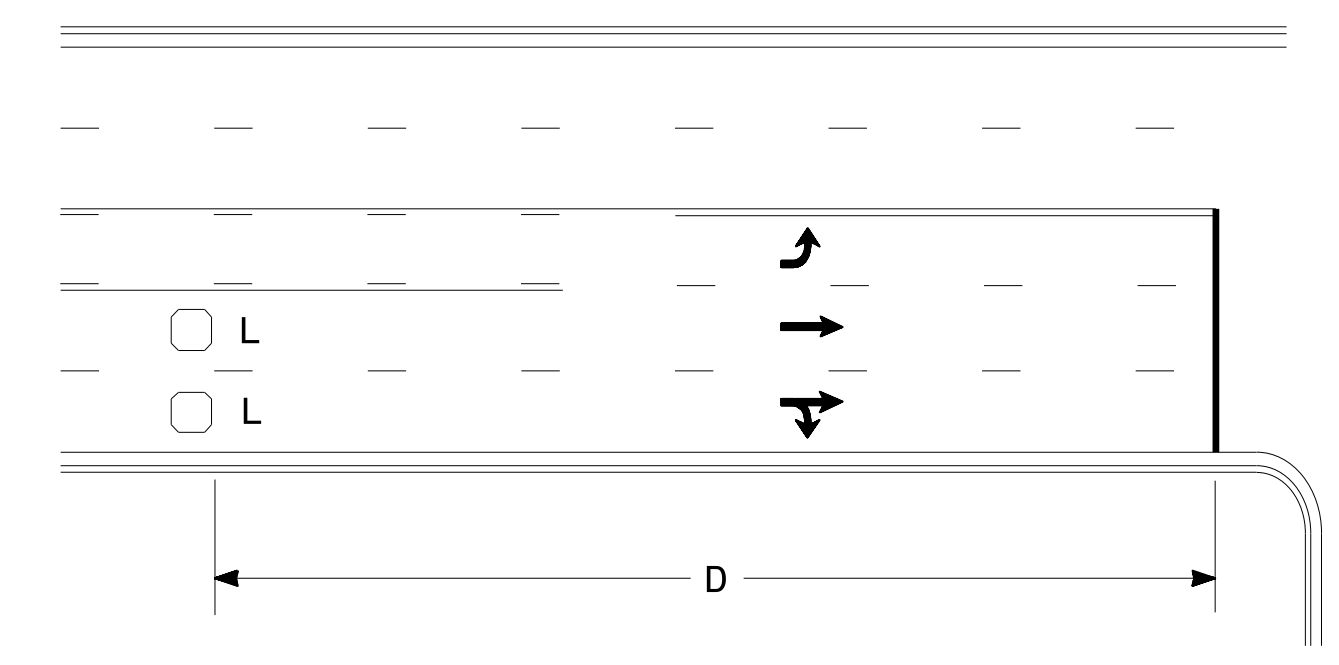
FOR AST RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, USE A STATIONARY "LOOSE GRAVEL" SIGN AT THE BEGINNING CONSTRUCTION LIMIT FOLLOWED BY AN "UNMARKED PAVEMENT" SIGN MIDWAY THROUGH AND AN "END ROAD WORK" SIGN AT THE END CONSTRUCTION LIMIT.



**ADVANCE WARNING SIGNS FOR 2-LANE ROADWAY ASPHALT SURFACE TREATMENT**

5/12/2017 S:\TUXWZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing\_AdvWarn\_2Ln - AST.dgn User:kadais

### High Speed Detection (≥40 mph)

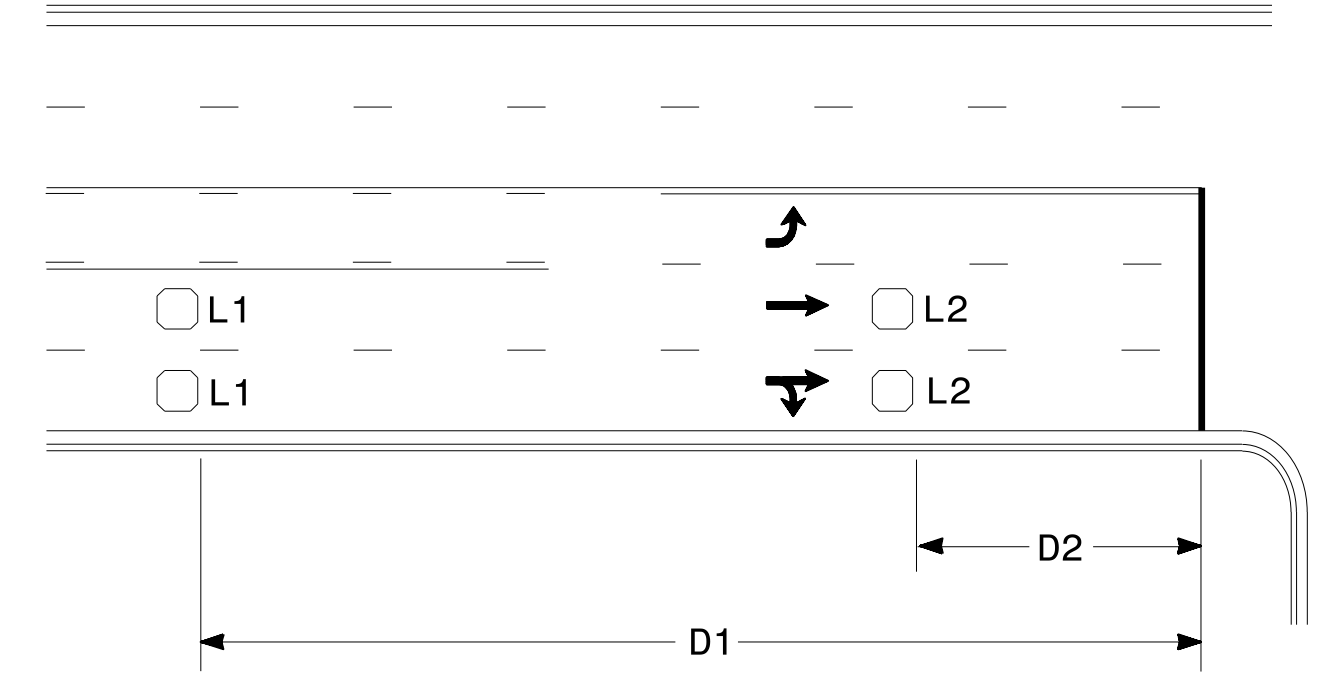


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft  
Wired separately

Volume Density Operation

OR



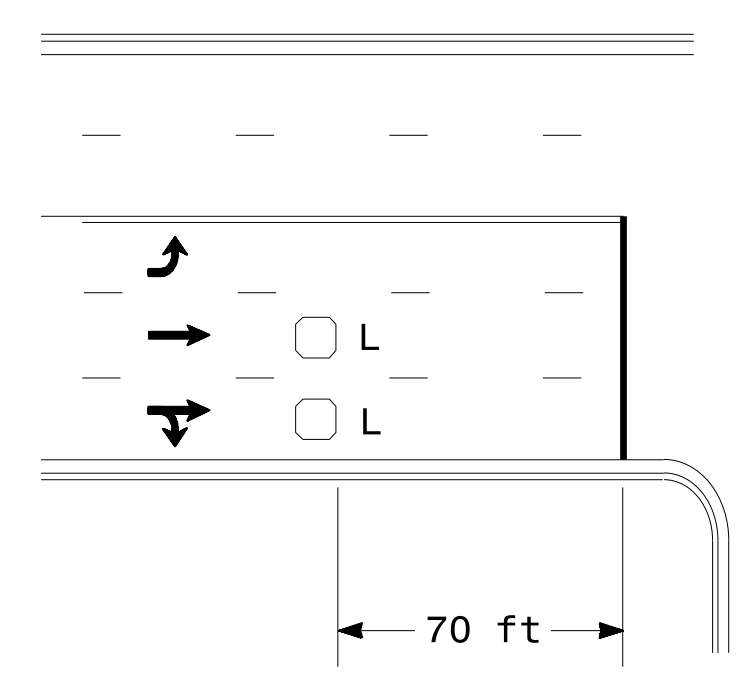
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft  
Wired in series

L2 = 6ft X 6ft  
Wired in series

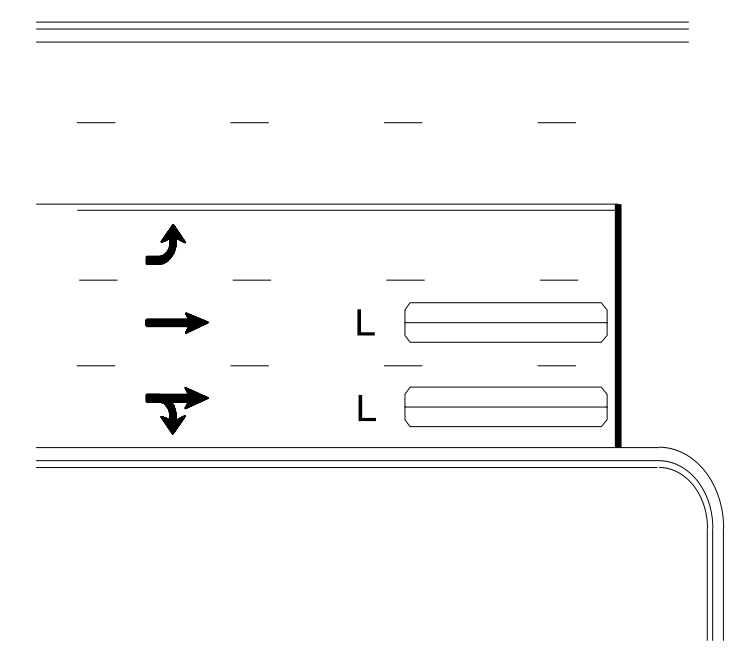
"Stretch" Operation

### Low Speed Detection (≤35 mph)



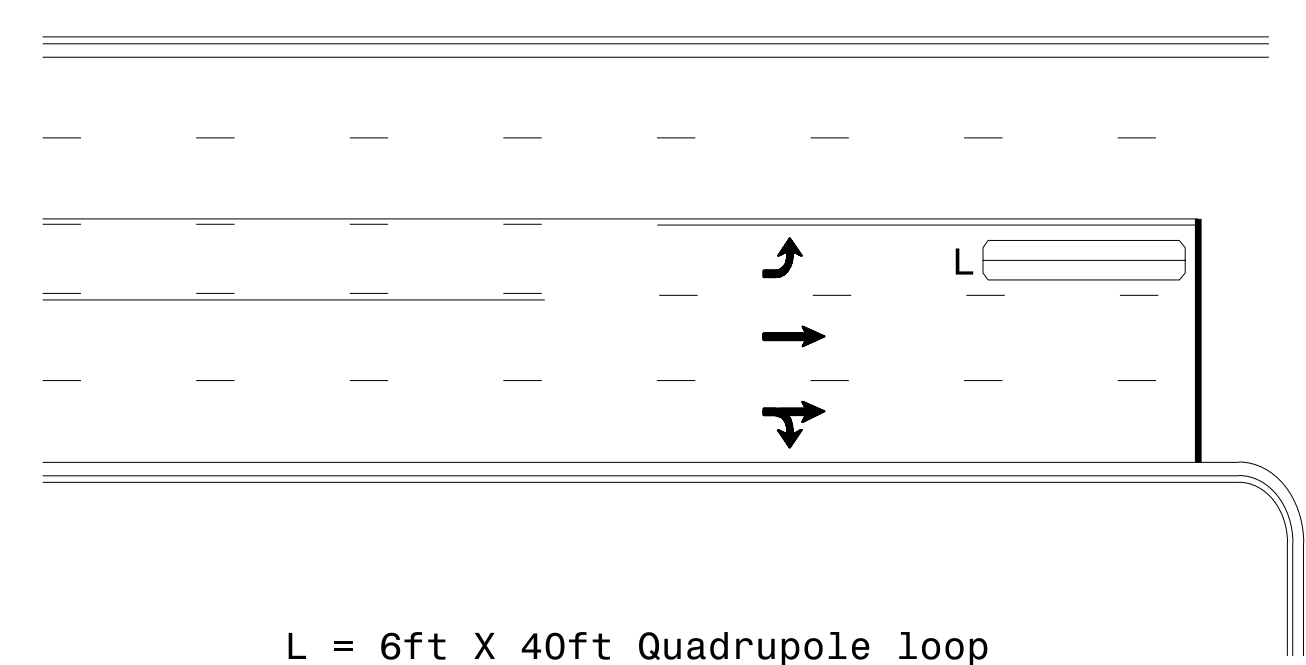
L = 6ft X 6ft  
Wired in series

OR



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

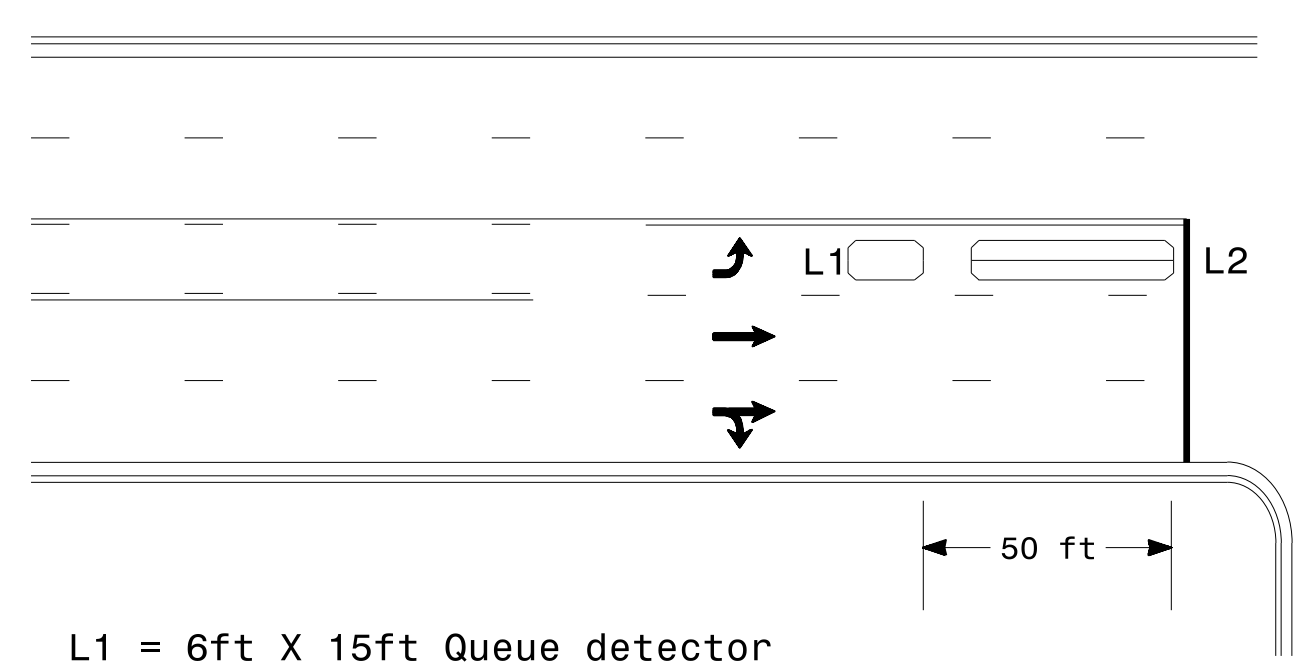
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

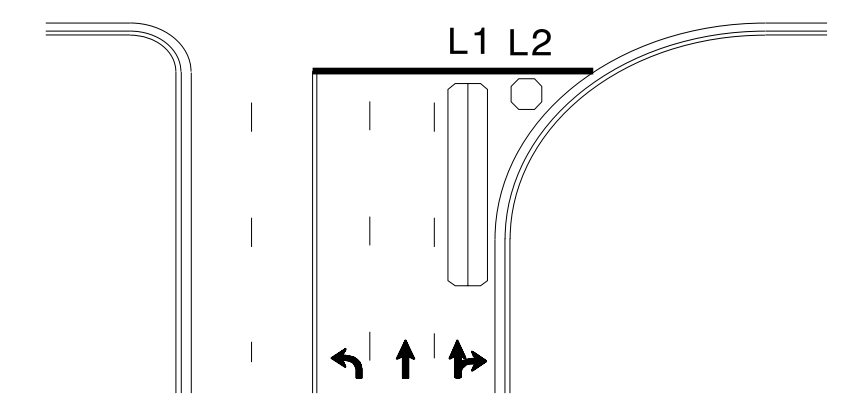
OR



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

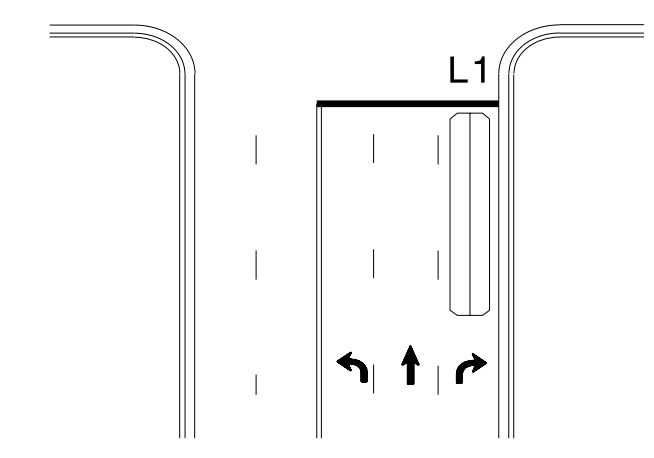
Queue Loop Detection

### Right Turn Lane Detection

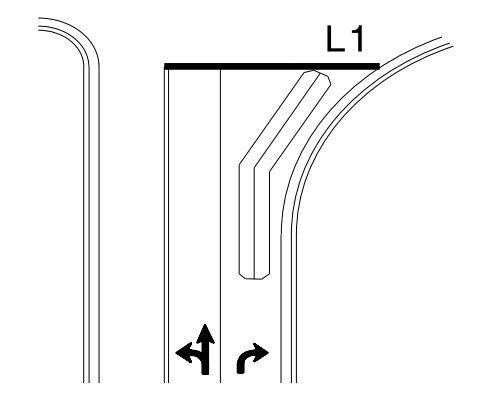


Shared Lane/  
Wide Radius Turn

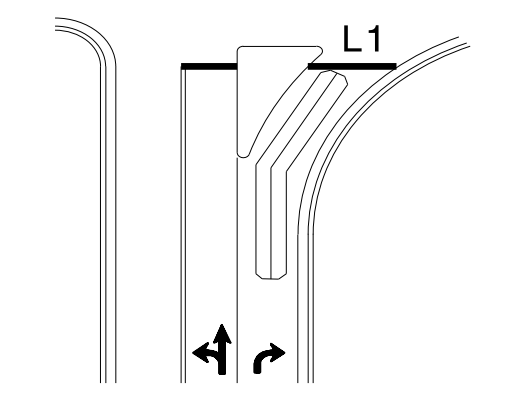
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

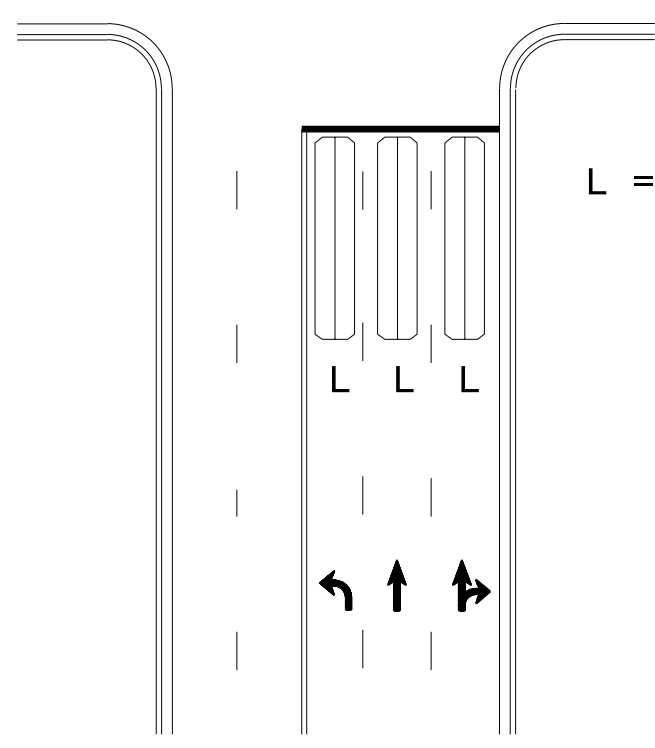


Wide Radius Turn



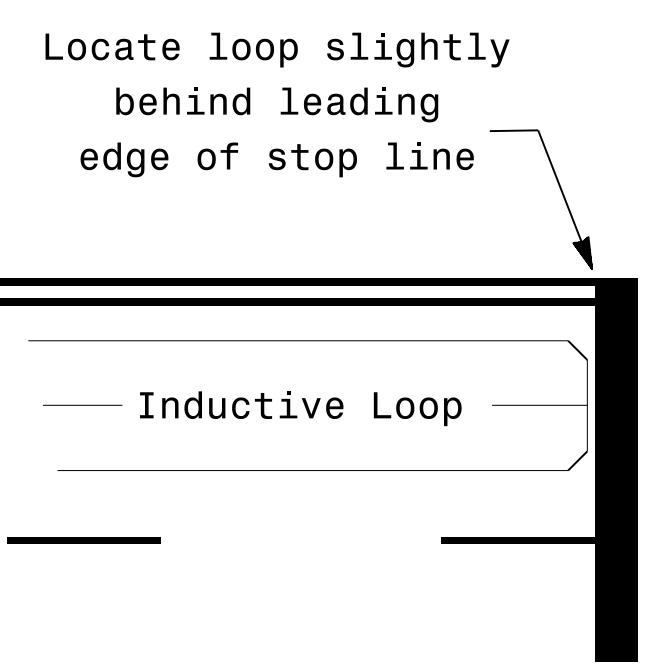
Channelized Turn

### 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

750 N. Greenfield Pkwy, Garner, NC 27529

#### Typical Signal Loop Locations

PLAN DATE: September 2020	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

SEAL  
NORTH CAROLINA  
PROFESSIONAL ENGINEER  
JASON P. GALLAWAY  
029904

SCALE: N/A

DocuSigned by: Jason P. Gallaway 9/8/2020  
 17705A70481841D DATE  
 SIG. INVENTORY NO.

08-SEP-2020 11:54  
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 Jpg11.dwg