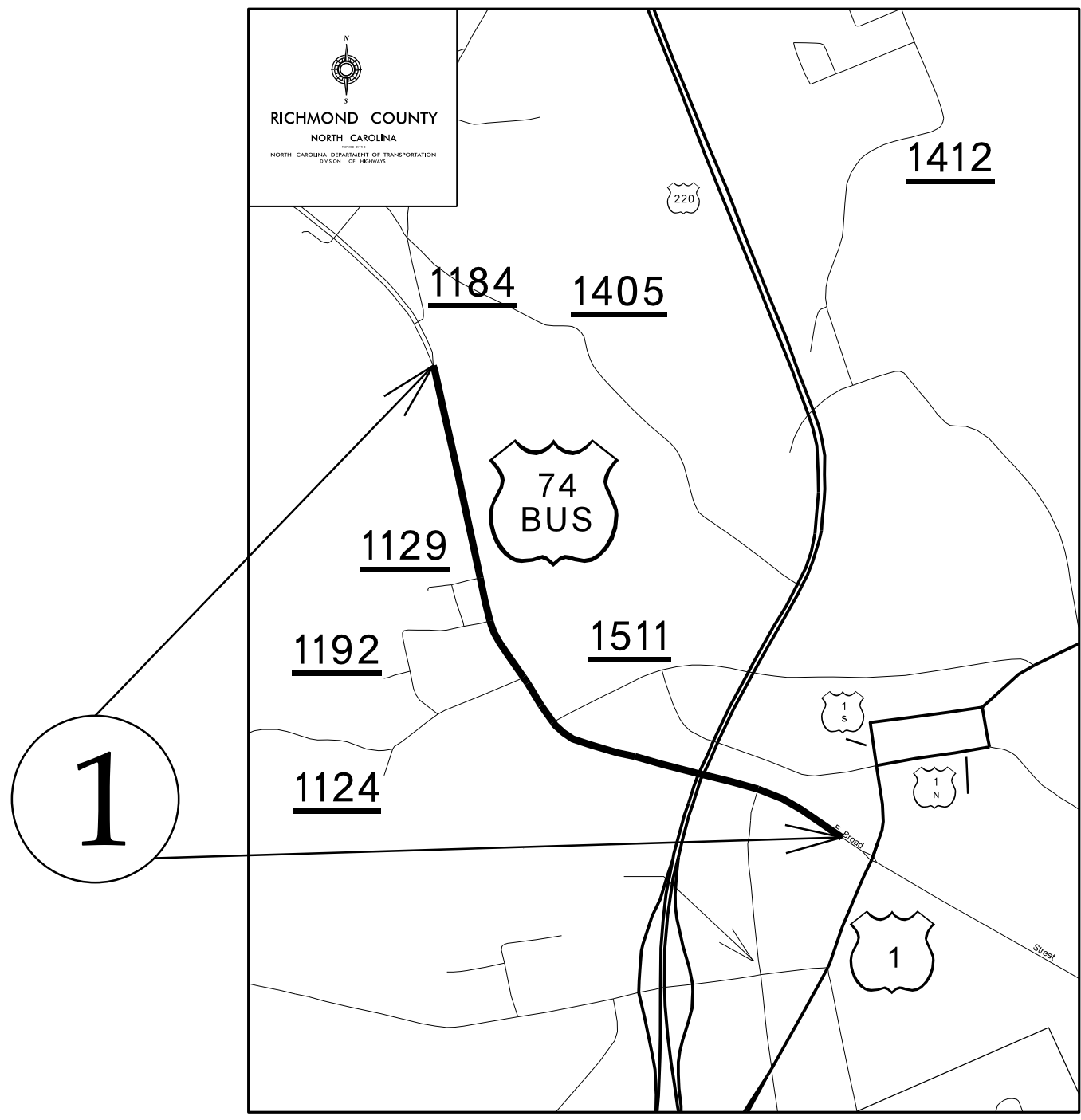


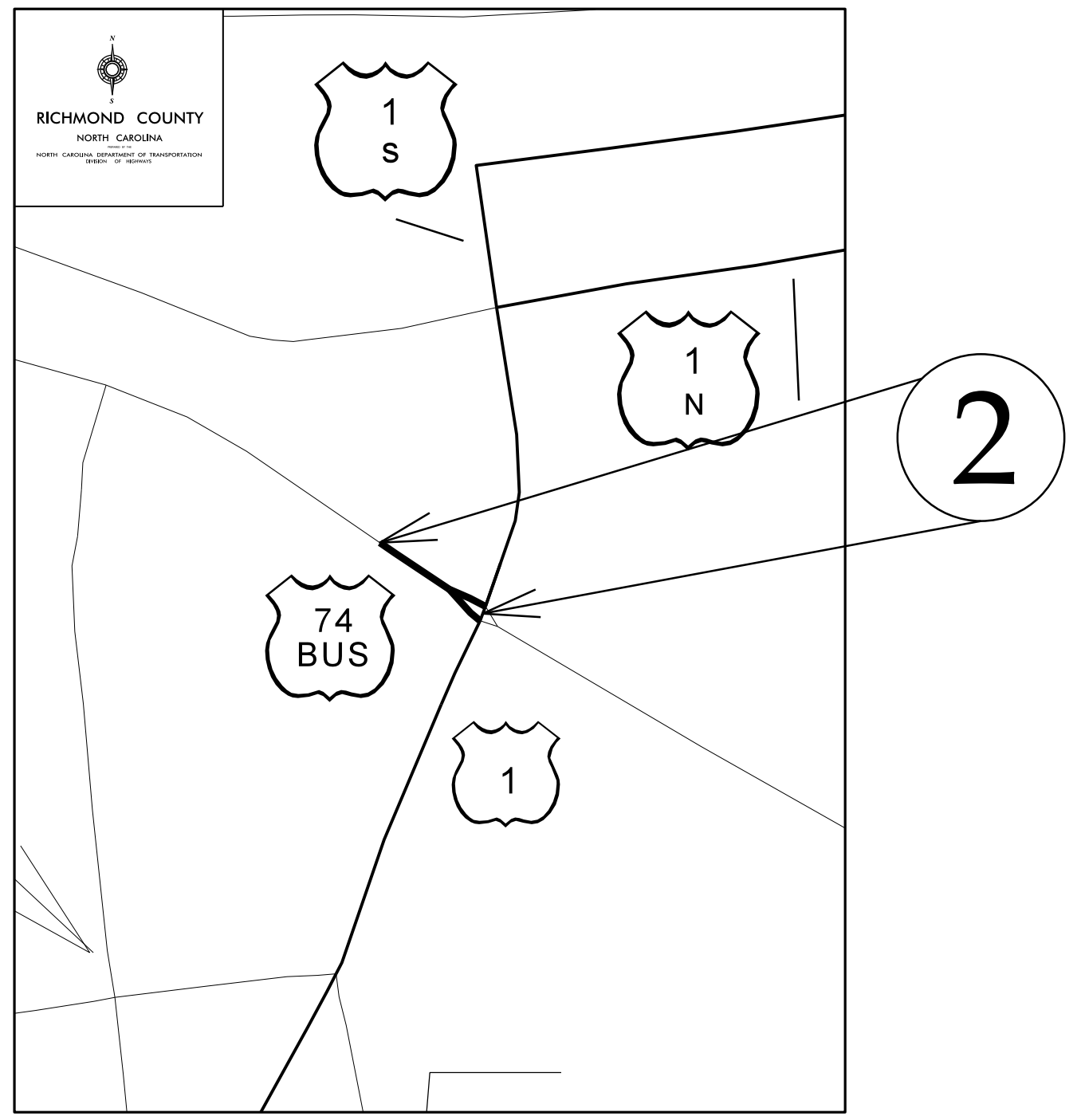
**RICHMOND COUNTY**

040397  
14-JAN-2022 11:03  
Richmond\_March2022\_Submittal\Richmond\_March2022\_Maps\_Typ.dgn

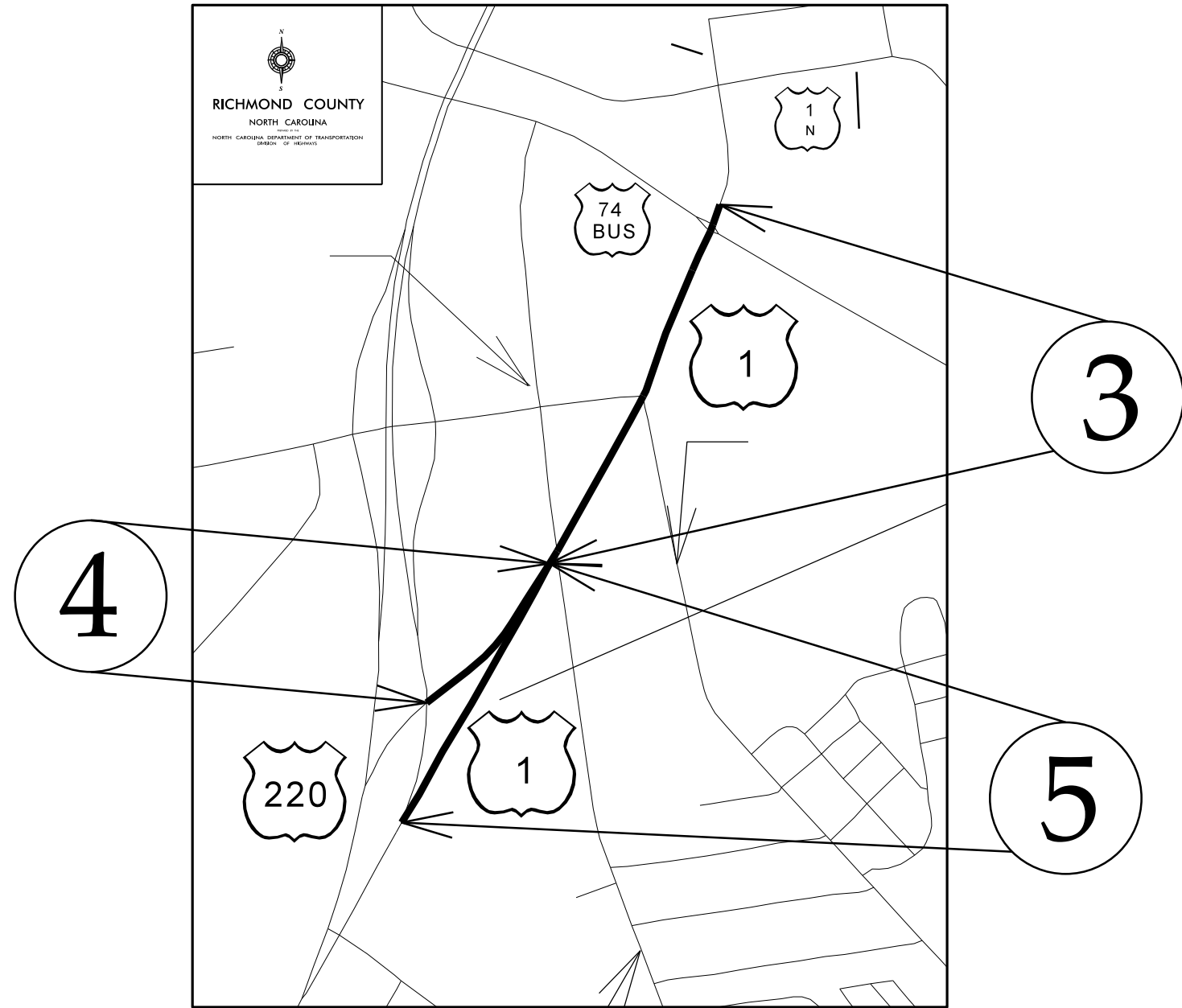
# Map 1



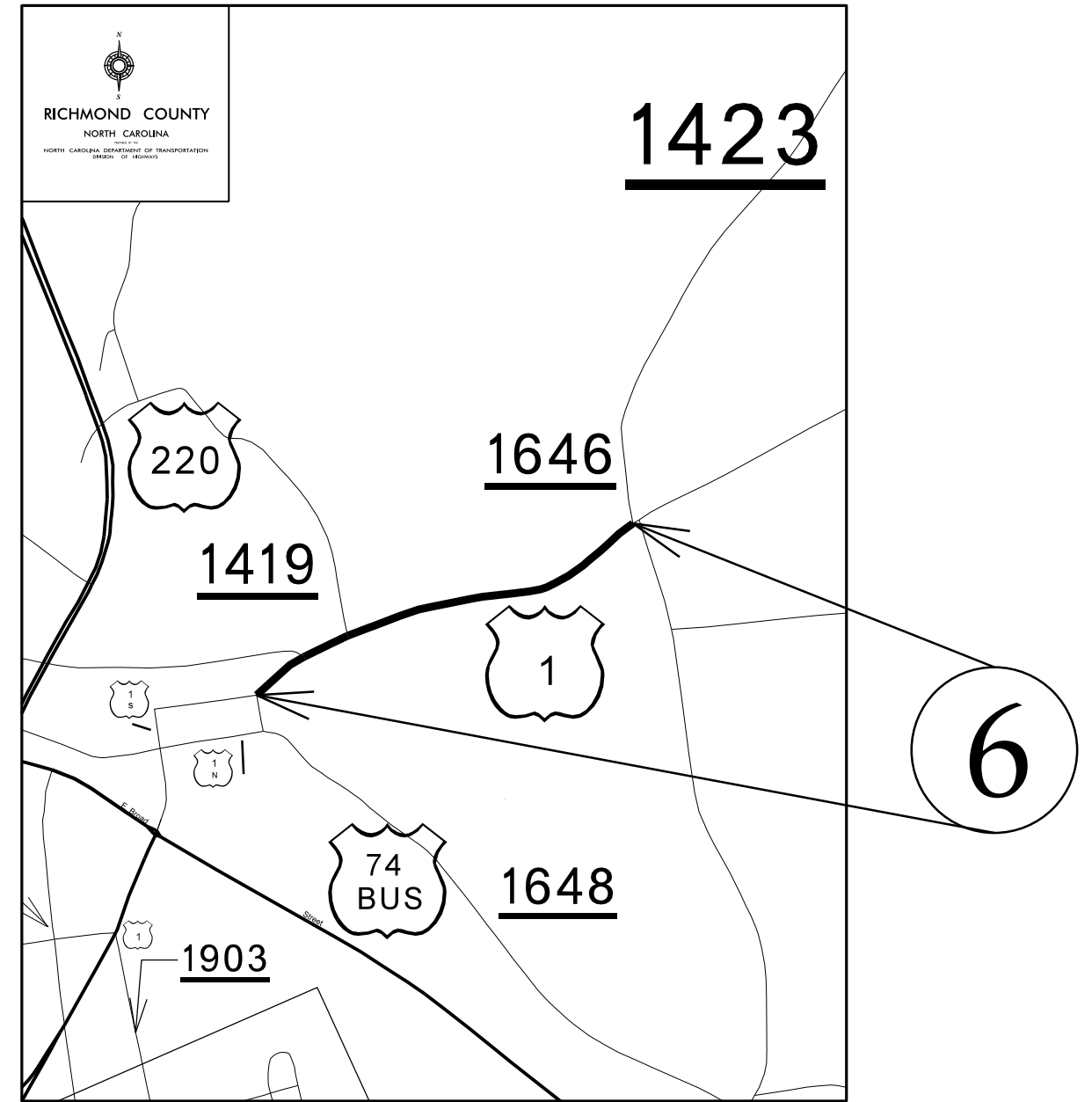
# Map 2



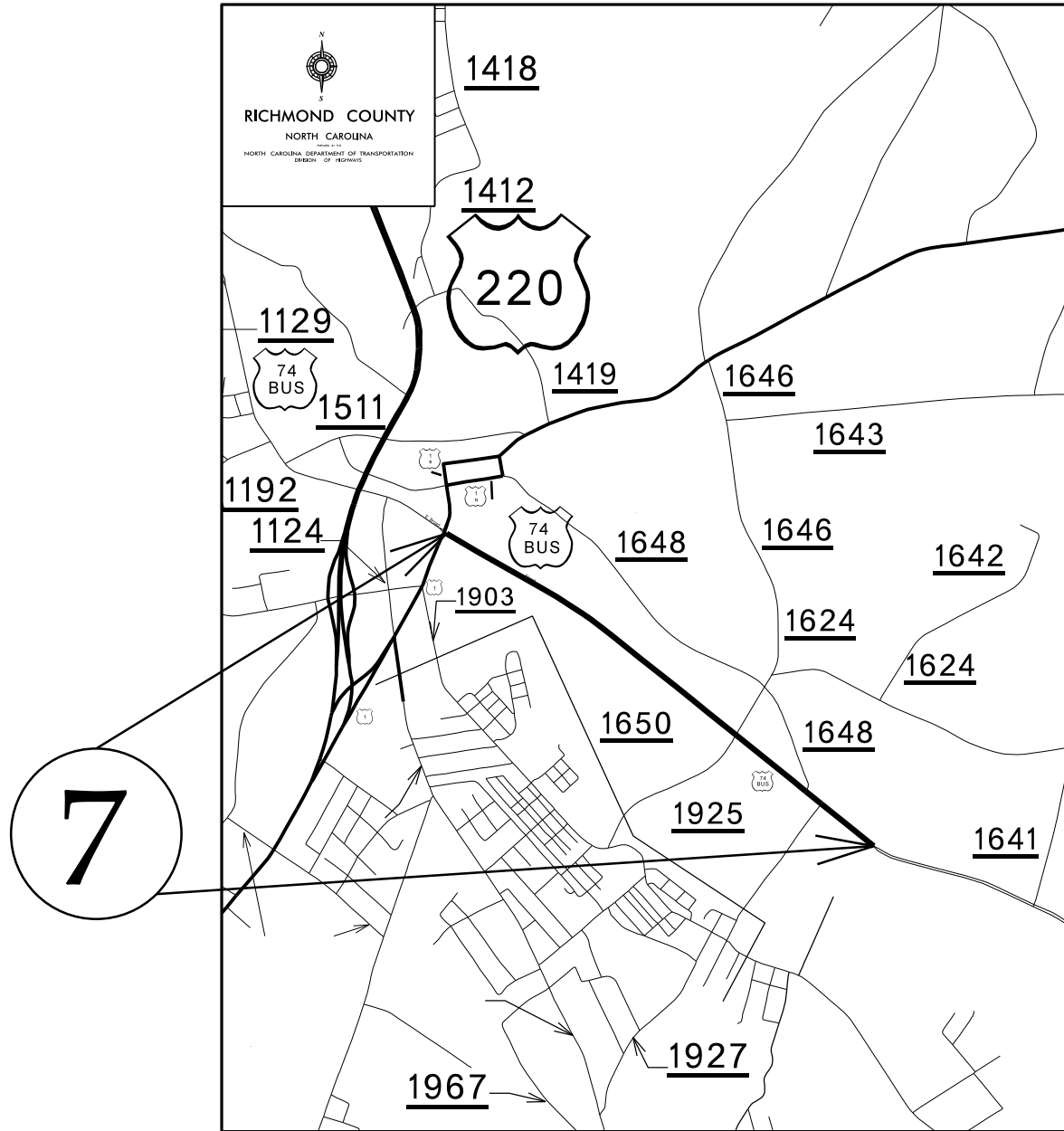
# Maps 3,4,5



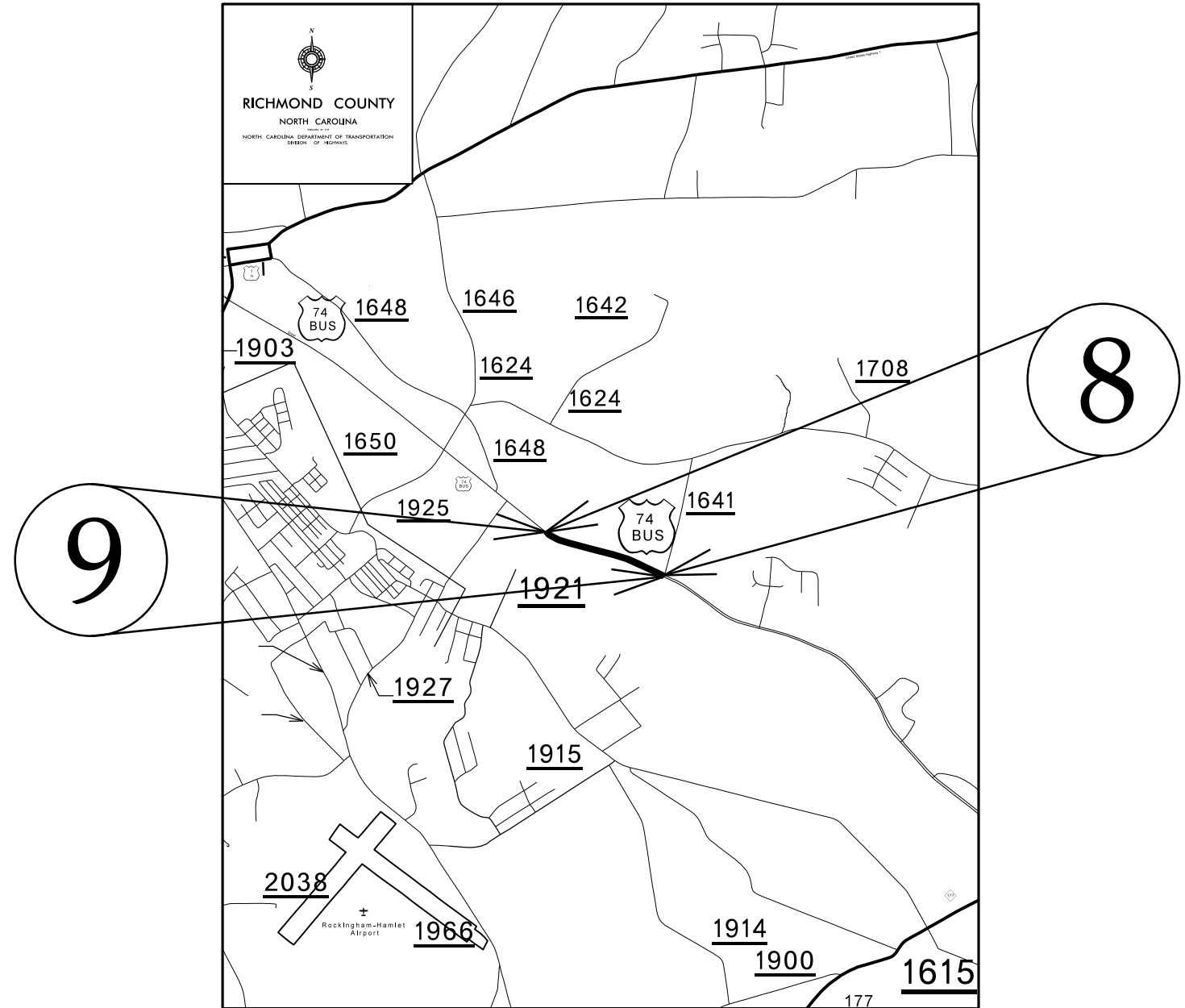
# Map 6



# Map 7

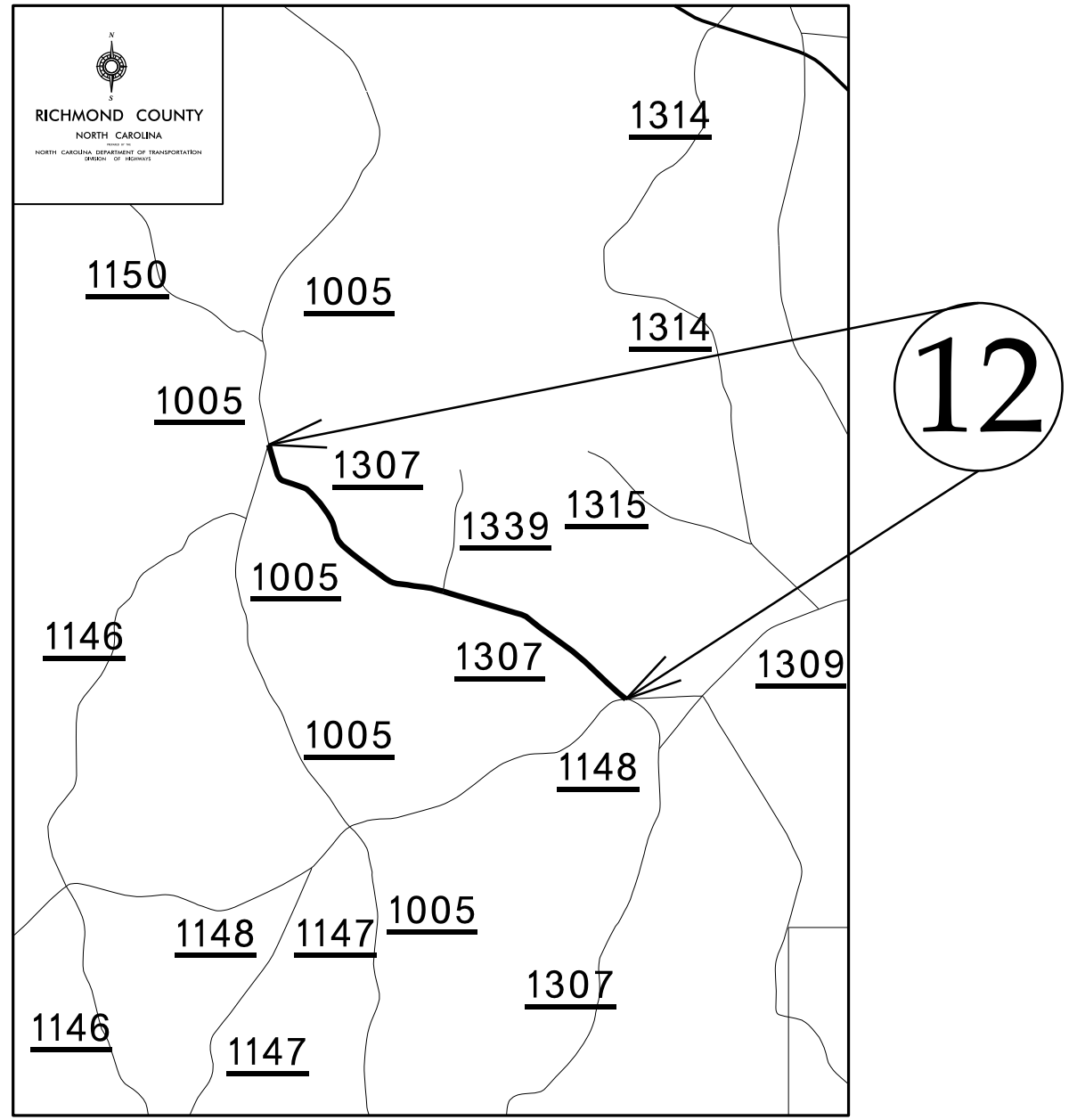
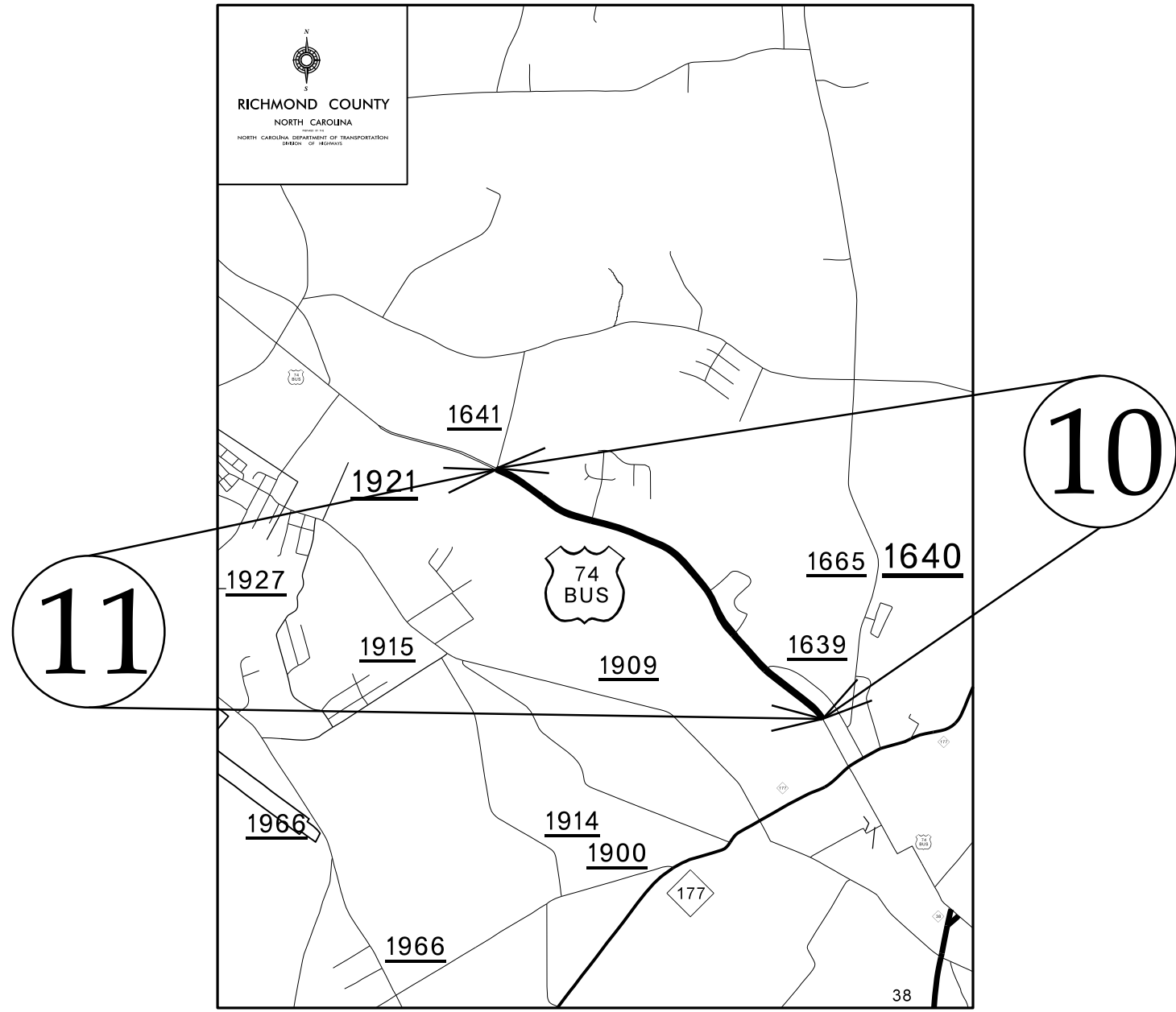


# Maps 8,9

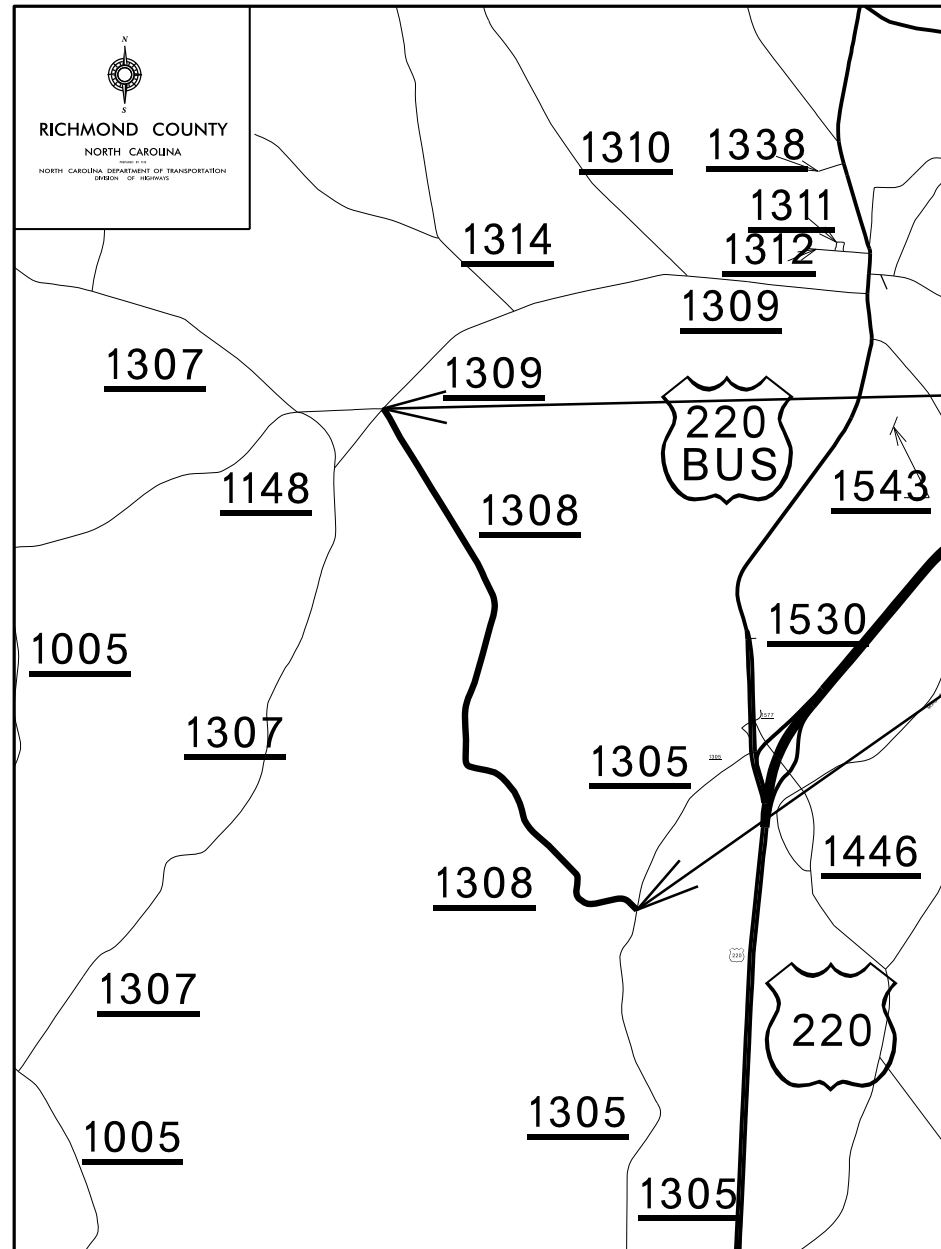


# Maps 10,11

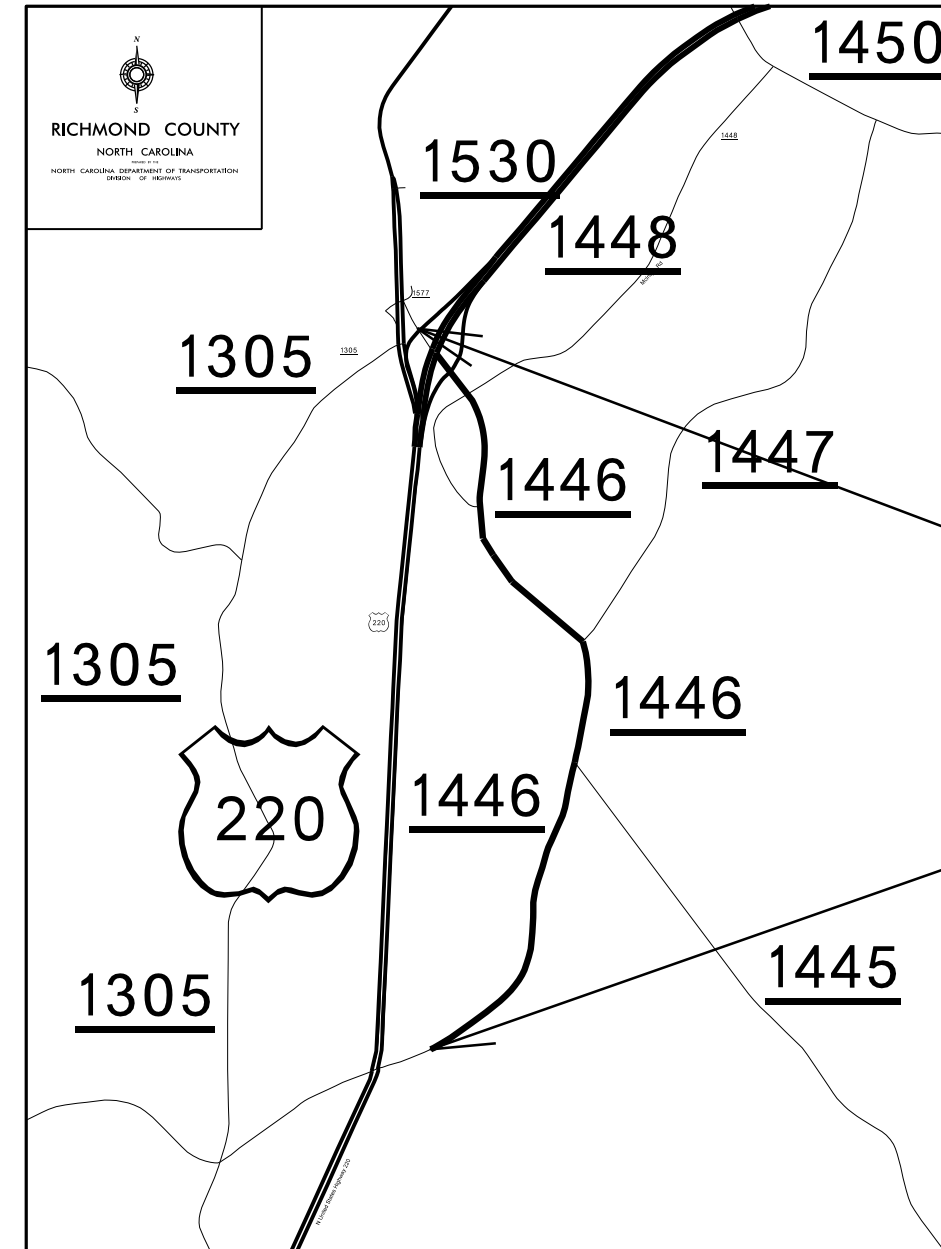
# Map 12



# Map 13



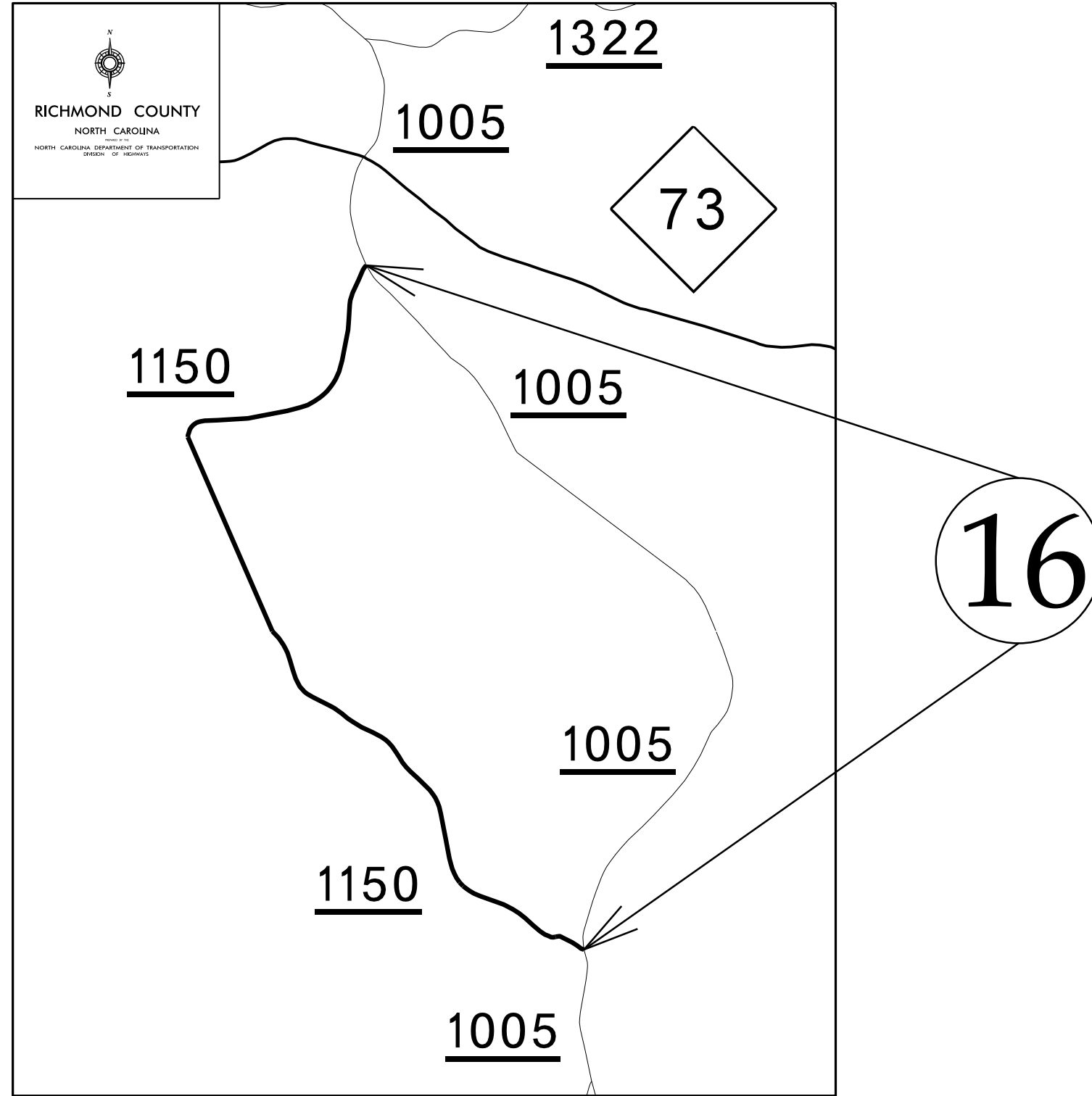
# Map 14



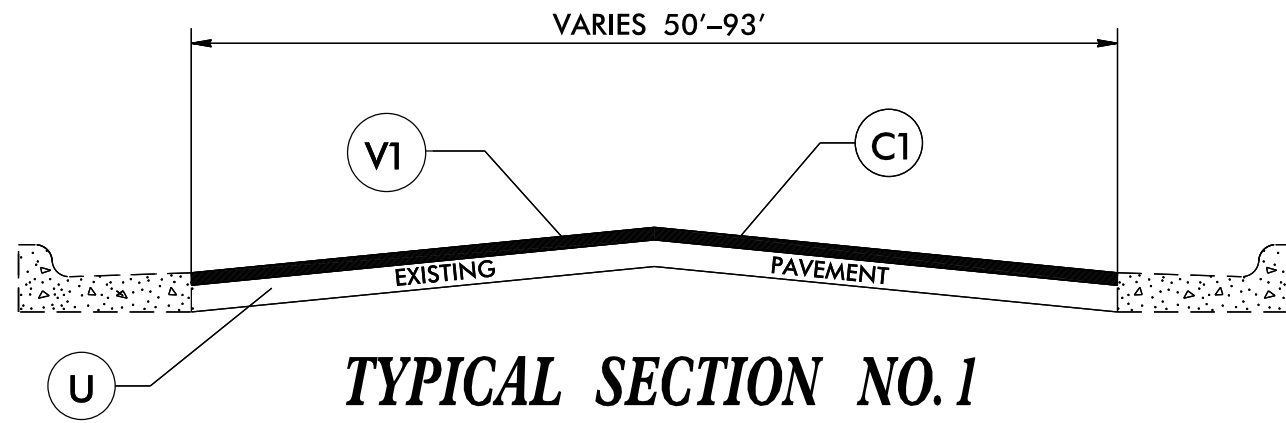
# Map 15 - East Rockingham Fire Department



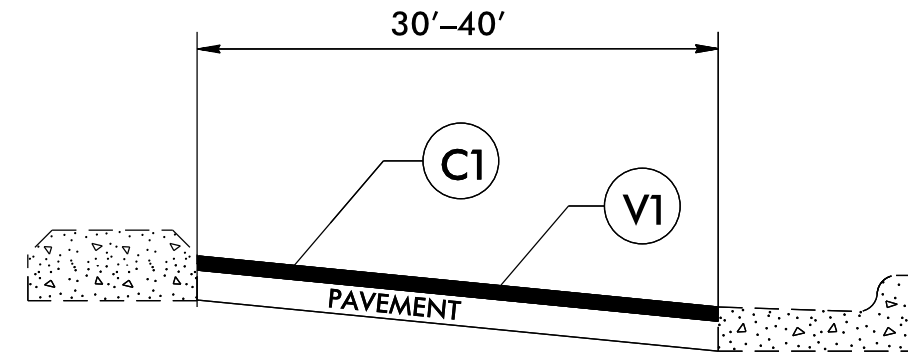
# Map 16



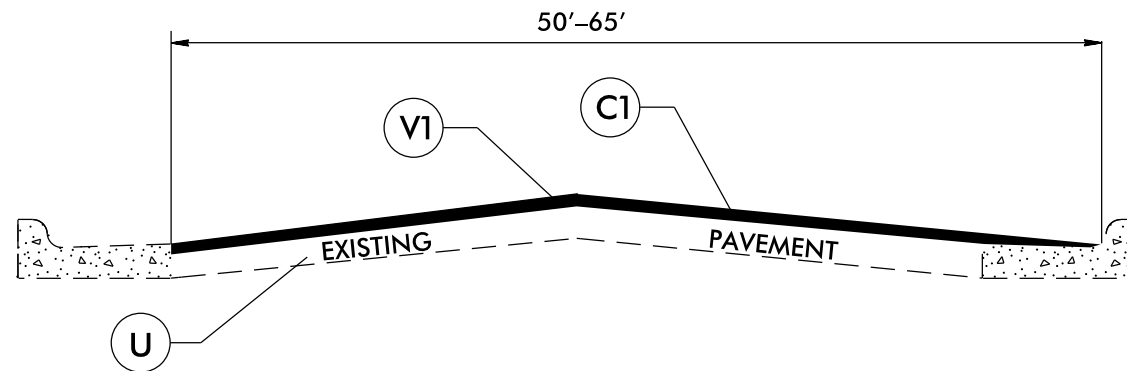




**TYPICAL SECTION NO. 1**

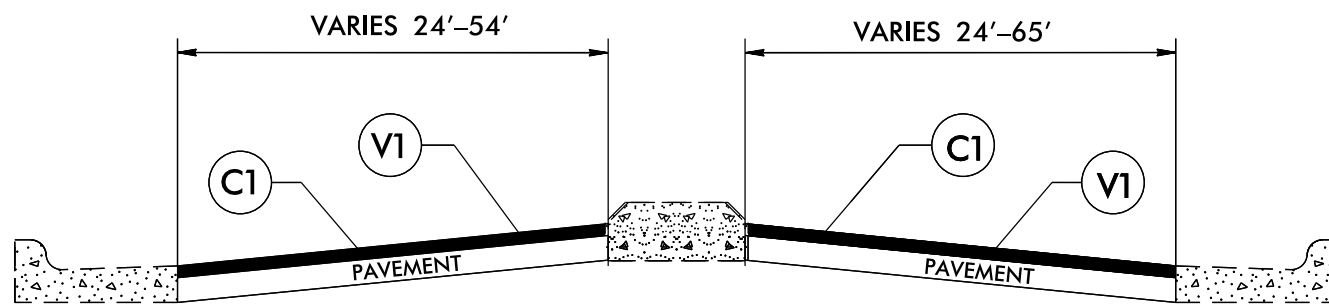


**TYPICAL SECTION NO. 4**



**TYPICAL SECTION NO. 2**

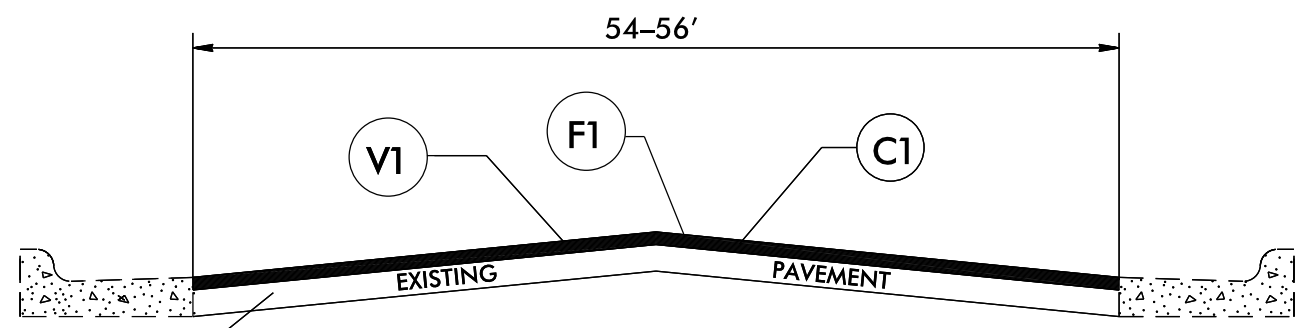
NOTE: USE FOR MAP #1 ON  
AREAS WITH PAVEMENT IN GUTTER



**TYPICAL SECTION NO. 3**

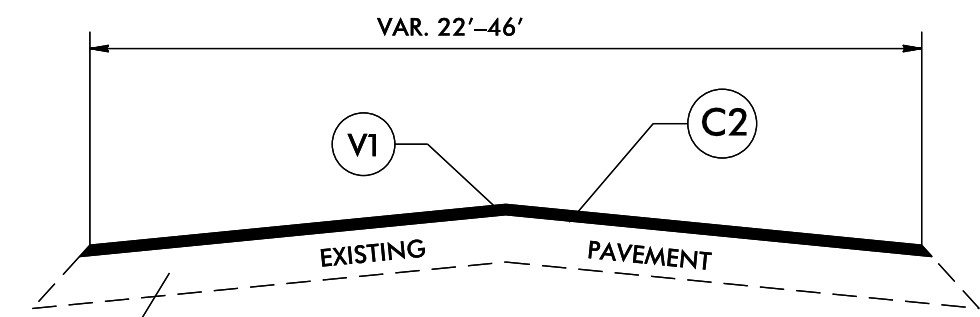
**PAVEMENT SCHEDULE**

C1	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
F1	PROP. APPROX. 5/8" OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
S	AGGREGATE SHOULDER BORROW (ASB)
U	EXISTING PAVEMENT
V1	1.5" MILLING
V2	0.0"-1.5" MILLING

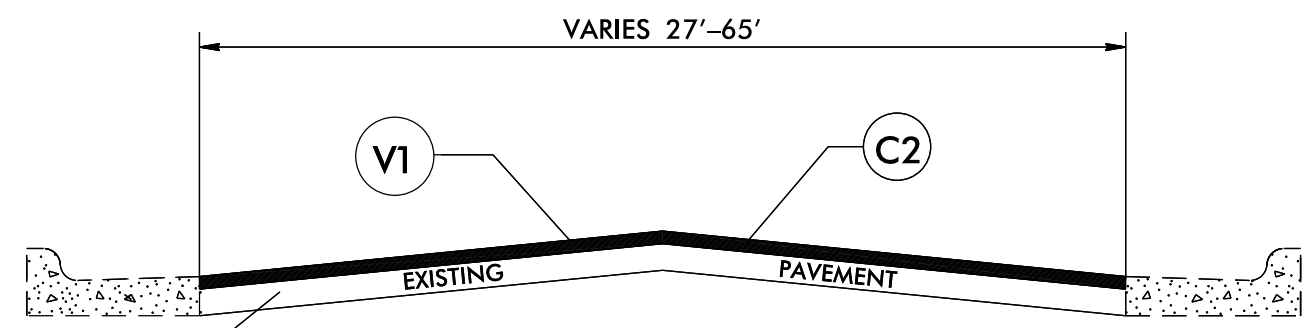


**TYPICAL SECTION NO. 5**

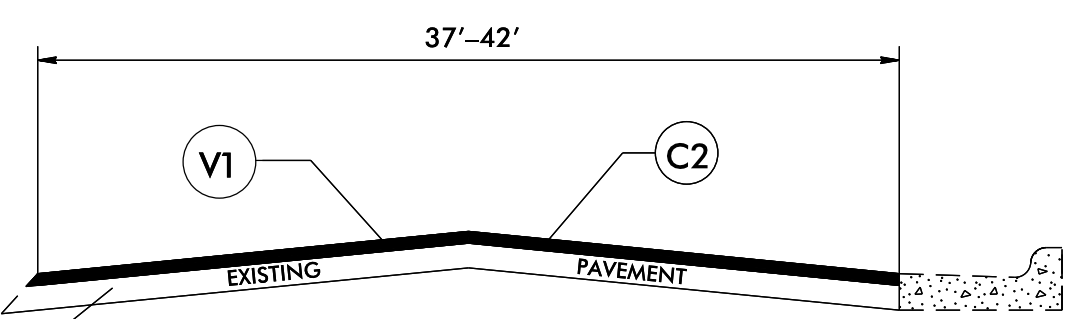
NOTE: USE FOR MAP #1 FROM JOINT AT BRIDGE #1 TO PAVEMENT JOINT APPROX. 950 FT EAST



**TYPICAL SECTION NO. 8**



**TYPICAL SECTION NO. 6**

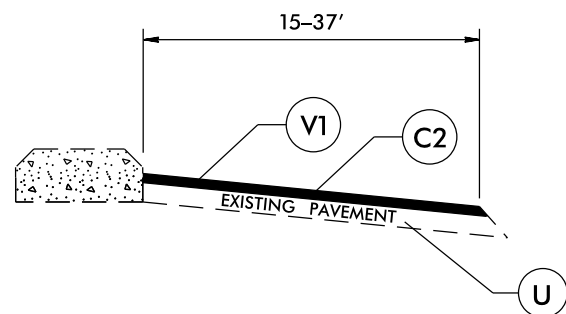


**TYPICAL SECTION NO. 7**

NOTE: USE FOR SECTIONS OF MAPS #4 AND #5 WITH C+G

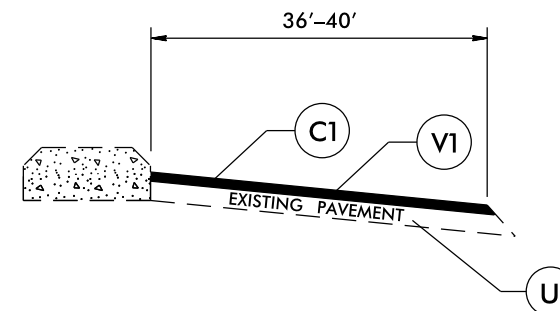
**PAVEMENT SCHEDULE**

C1	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
F1	PROP. APPROX. 5/8" OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
S	AGGREGATE SHOULDER BORROW (ASB)
U	EXISTING PAVEMENT
V1	1.5" MILLING
V2	0.0"-1.5" MILLING



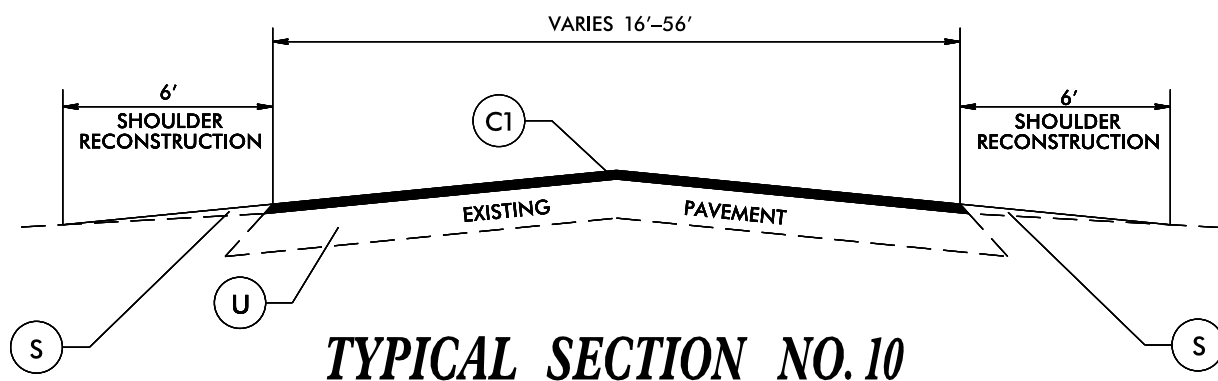
**TYPICAL SECTION NO. 9**

NOTE: USE FOR SECTION OF  
MAP #4 WITH ISLAND

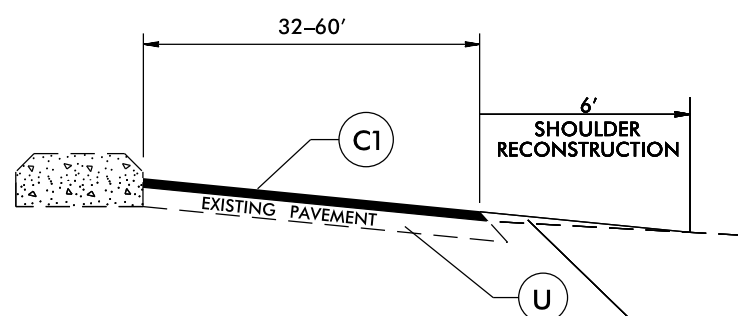


**TYPICAL SECTION NO. 12**

NOTE: USE FOR SECTIONS OF MAP #9  
WITH ISLANDS



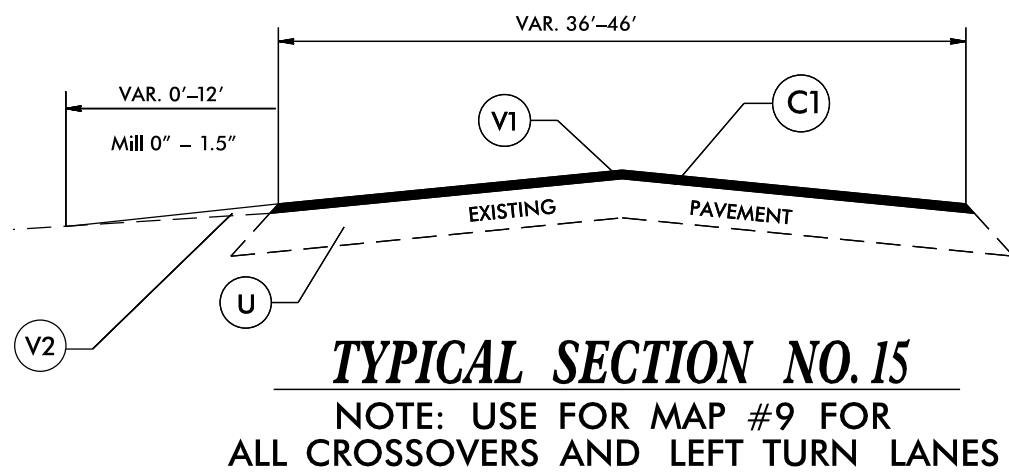
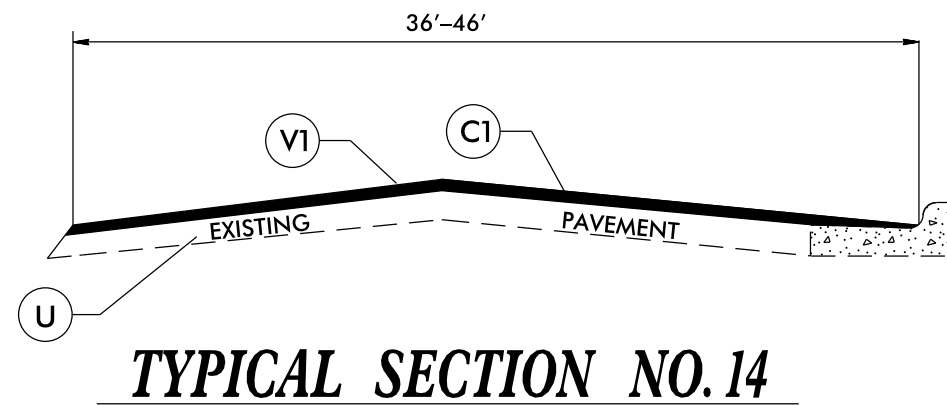
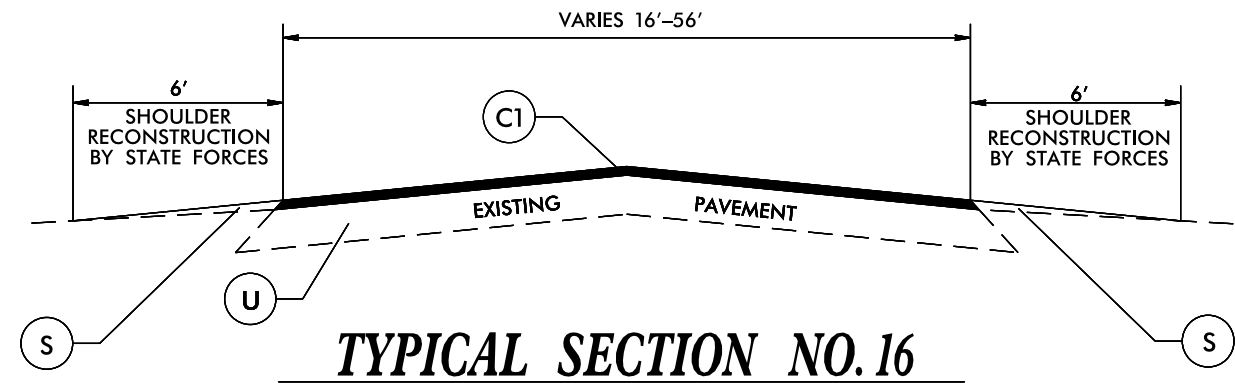
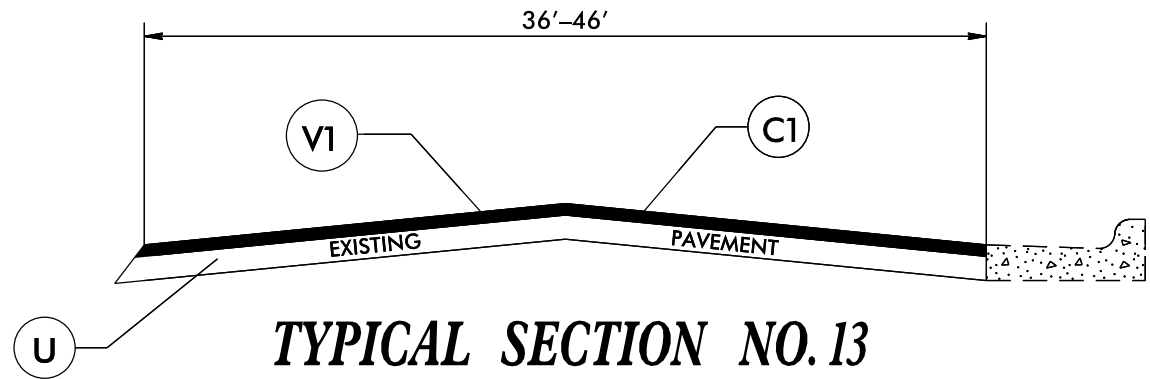
**TYPICAL SECTION NO. 10**



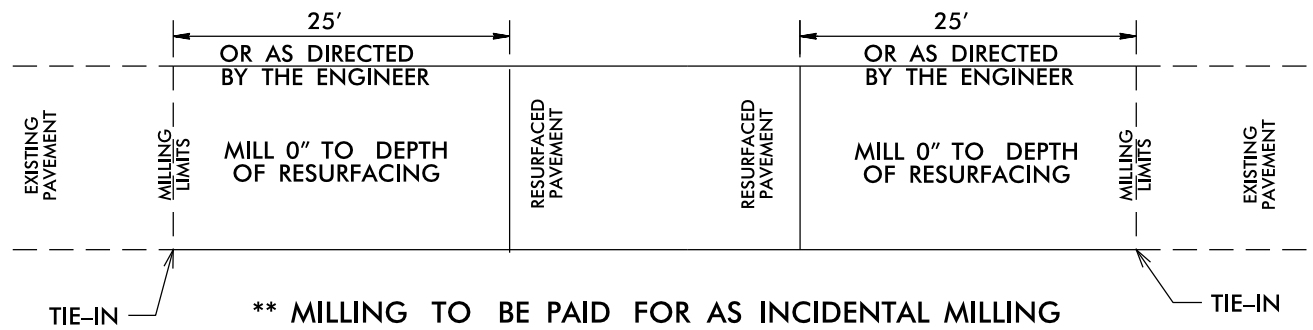
**TYPICAL SECTION NO. 11**

**PAVEMENT SCHEDULE**

C1	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
F1	PROP. APPROX. 5/8" OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
S	AGGREGATE SHOULDER BORROW (ASB)
U	EXISTING PAVEMENT
V1	1.5" MILLING
V2	0.0"-1.5" MILLING

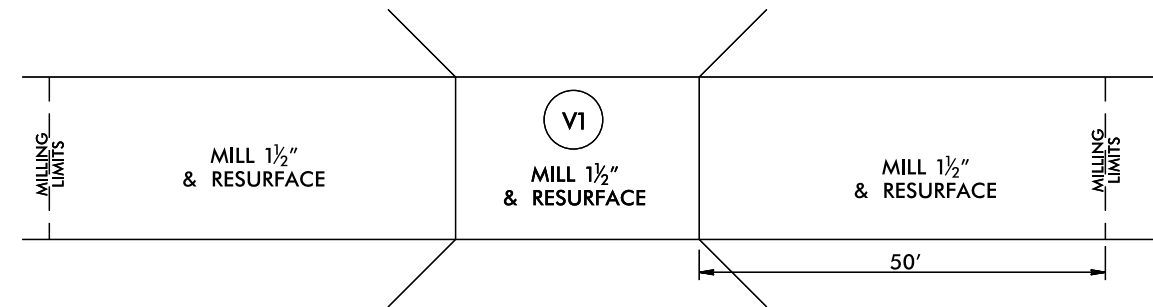


PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
F1	PROP. APPROX. 5/8" OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
S	AGGREGATE SHOULDER BORROW (ASB)
U	EXISTING PAVEMENT
V1	1.5" MILLING
V2	0.0"-1.5" MILLING

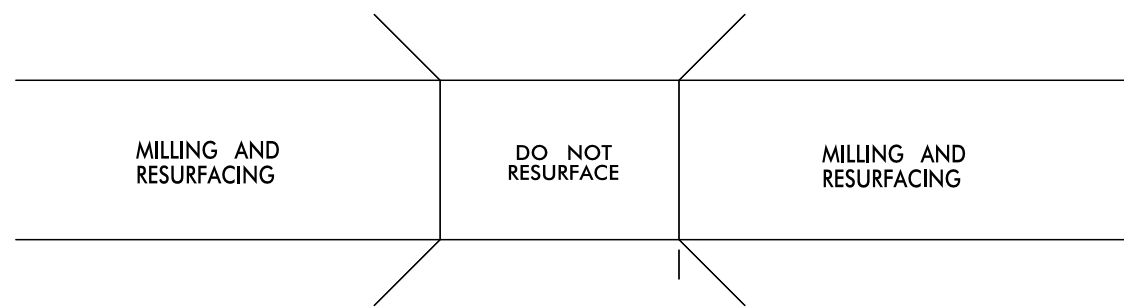


\*\* MILLING TO BE PAID FOR AS INCIDENTAL MILLING

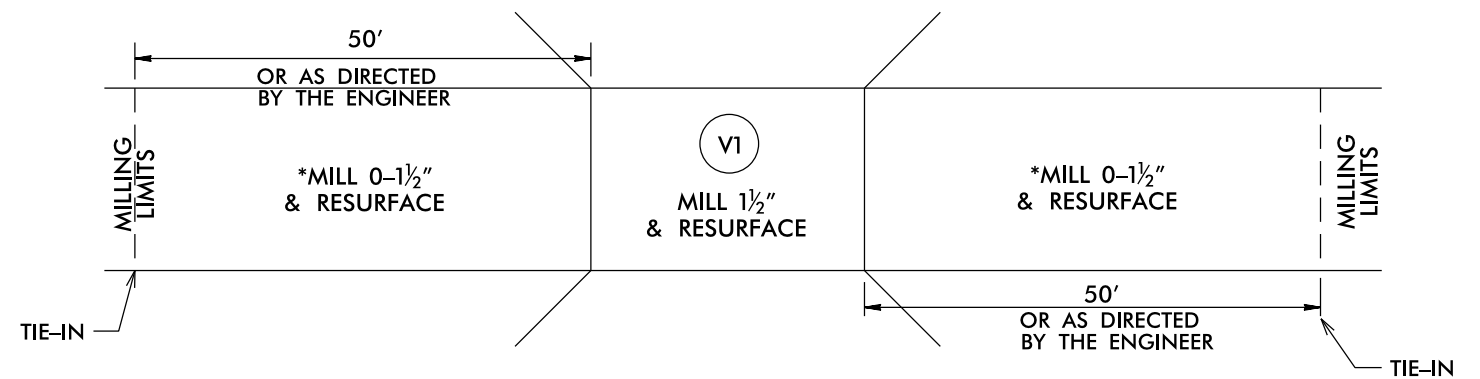
### PAVEMENT TIE-IN DETAIL



### BRIDGE DRAWING FOR MAP NO 1 US 74 BUS BRIDGE #1



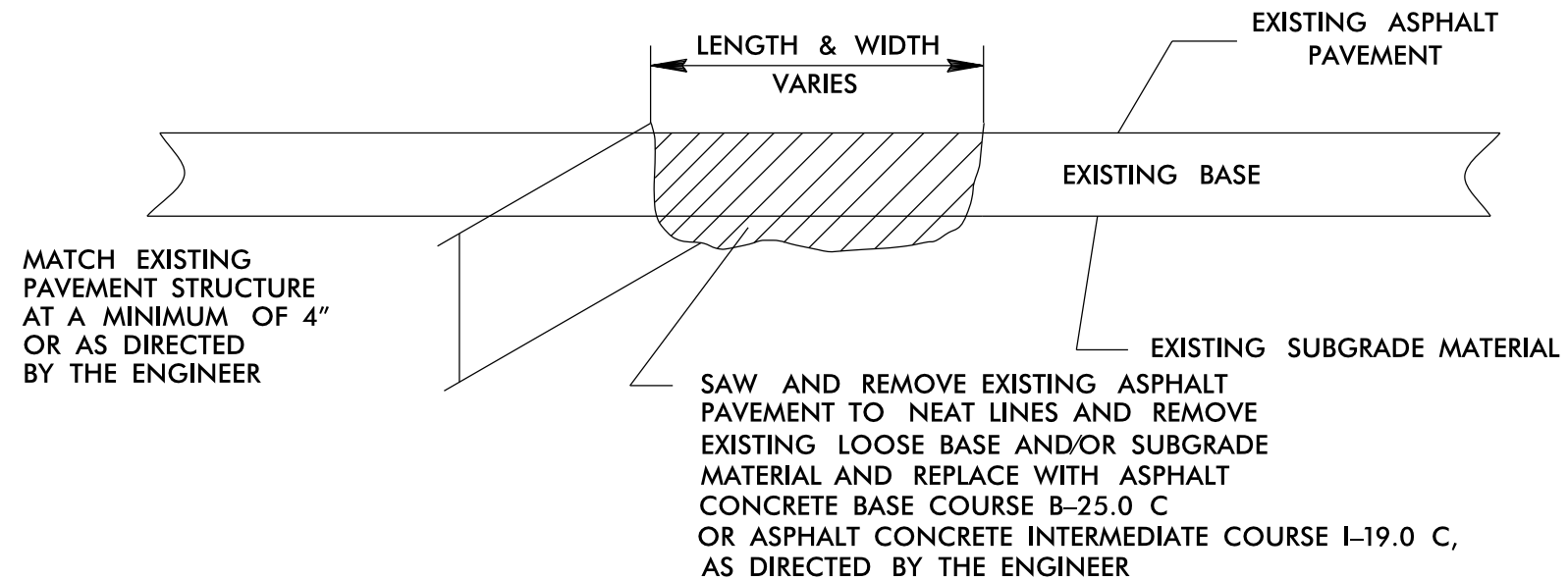
### BRIDGE DRAWING FOR MAP NO 3 US 1 BRIDGE #29



### BRIDGE DRAWING FOR MAP NO 16 SR 1150 GREEN RD BRIDGE #105

\* MILLING FOR APPROACHES SHALL BE PAID FOR UNDER INCIDENTAL MILLING

## DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING

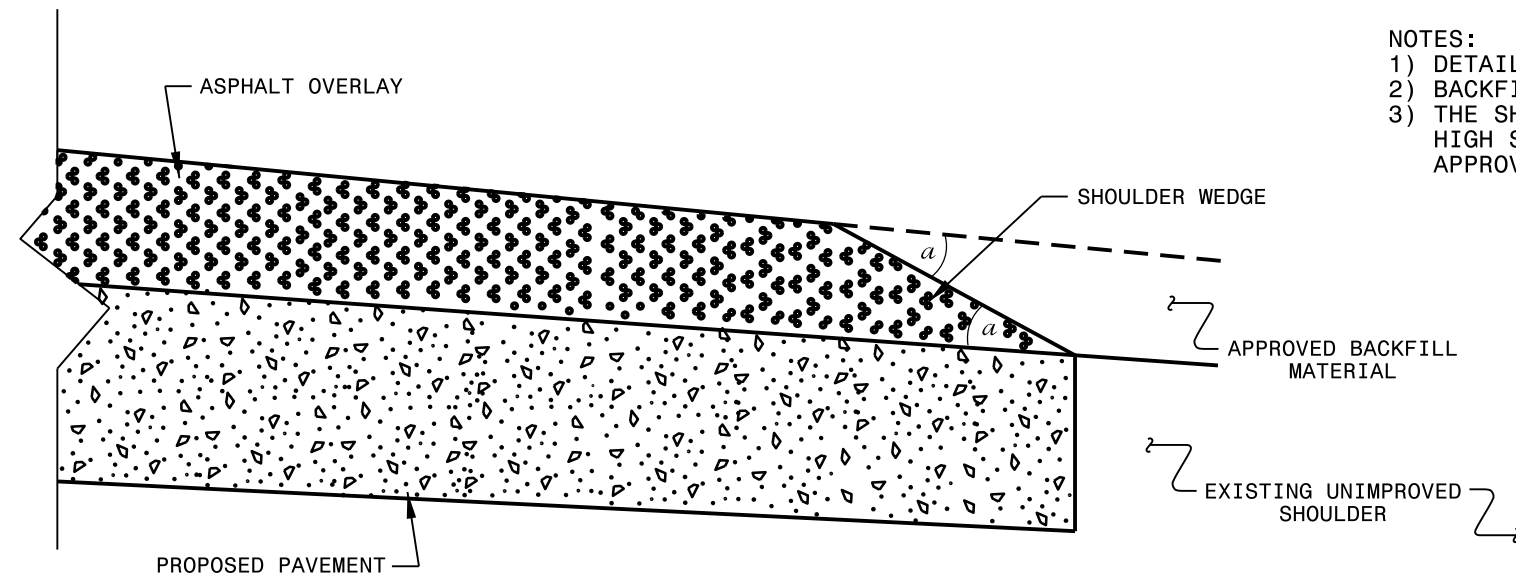


## PROJECT NOTES

- FINAL PAVEMENT MARKINGS TO BE HANDLED BY STATE FORCES ON MAPS 12,13,14, AND 16.
- TEMPORARY PAINT QUANTITIES INCLUDED FOR MAPS 1-7, AND 9 WITH MILLING.
- PAINT AND LINE REMOVAL QUANTITIES INCLUDED ON MAP 3 FOR BRIDGE DECK.
- SHOULDER RECONSTRUCTION TO BE HANDLED BY STATE FORCES ON MAPS 12,13,14, AND 16.

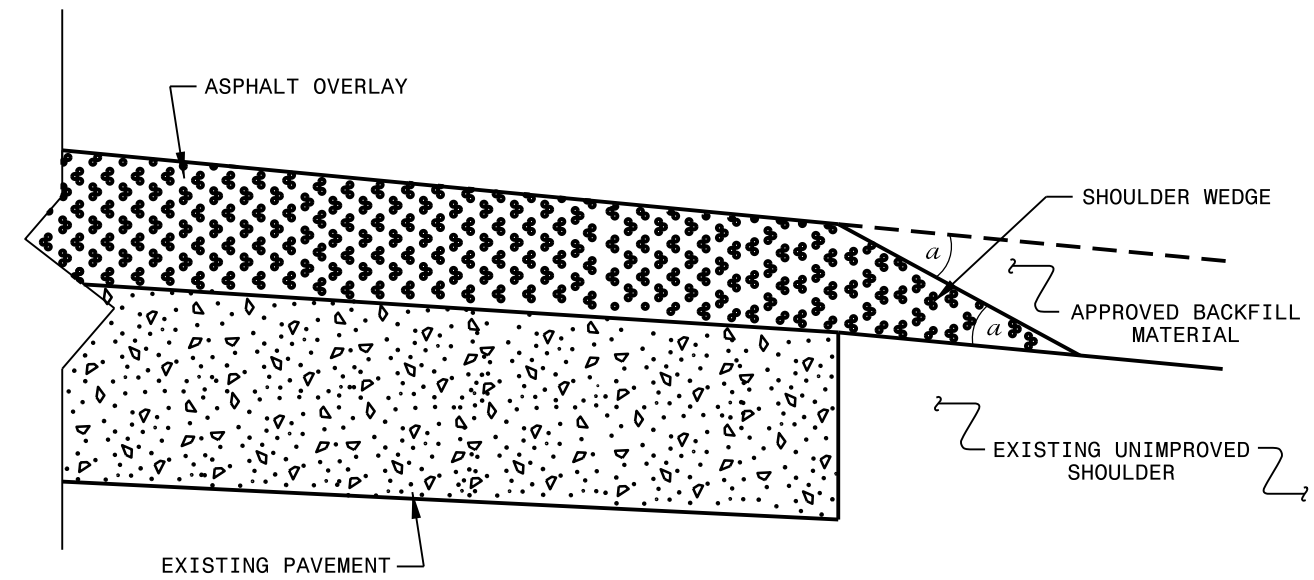
**NOTES:**

- 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.



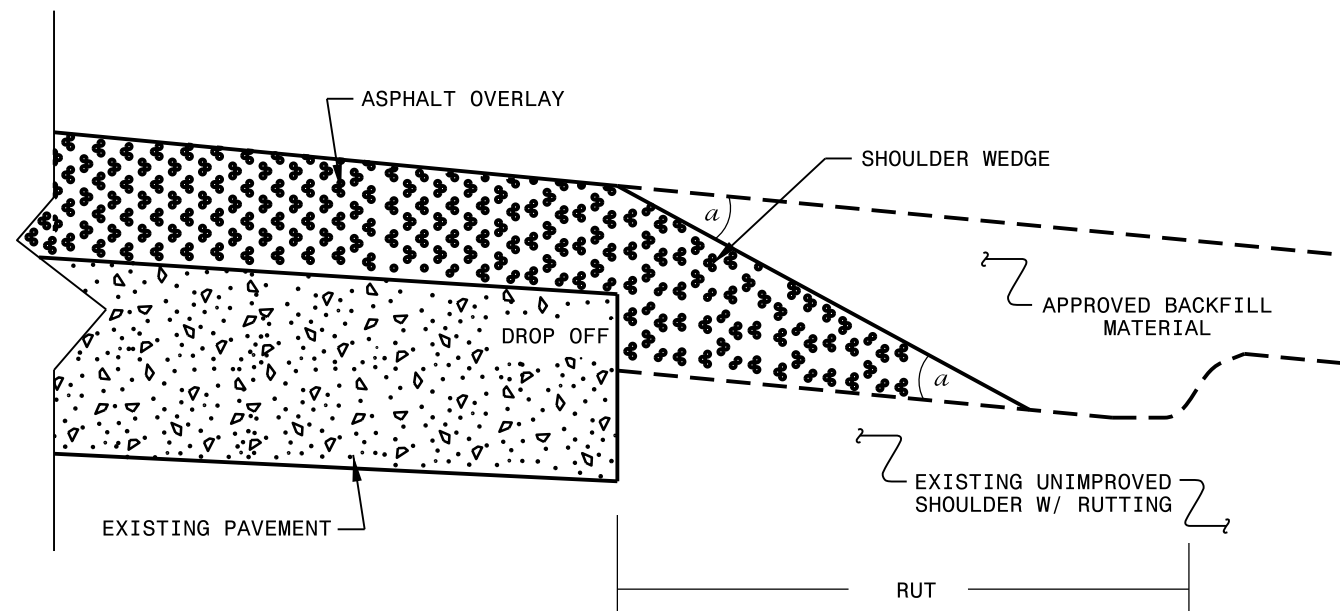
**SHOULDER WEDGE DETAIL**

(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.
2022CPT.08.23.10771, 2022CPT.08.23.20771	16

### SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	124500000-E	126000000-E	129700000-E	130800000-E	133000000-E	151900000-E	152300000-E	157500000-E	157700000-E	166200000-E	170400000-E	283000000-N	284500000-N	525500000-N	744400000-E	745600000-E			
												SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	1.5" MILLING	0" TO 1.5" MILLING	INCIDENTAL MILLING	SURFACE COURSE, S9.5B	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	POLYMER MODIFIED ASPHALT BINDER FOR PLANT MIX	OGAFC, TYPE FC-1 MOD.	PATCHING EXISTING PAVEMENT	ADJUST MANHOLES	ADJUST METER OR VALVE BOX	PORTABLE LIGHTING	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2 PAIR)			
												MI	FT	SMI	TON	SY	SY	SY	TONS	TONS	TONS	TONS	TON	TONS	EA	EA	LS	LF	LF	
2022CPT.08.23.10771	Richmond	1	US 74 BUS (W. BROAD AVE.)	FROM END OF CONCRETE ISLAND 470 FT S OF SR 1184 MCNAIR ST TO S. LEE ST.(CITY STREET)	1,2,3,5	2	MU	NO	NO	1.34	50				39,307		4,227	4,113		276	13	215	150	10	9		2,241	2,241		
<b>TOTAL FOR MAP NO. 1</b>												<b>1.34</b>					<b>39,307</b>		<b>4,227</b>	<b>4,113</b>		<b>276</b>	<b>13</b>	<b>215</b>	<b>150</b>	<b>10</b>	<b>9</b>		<b>2,241</b>	<b>2,241</b>
2022CPT.08.23.10771	Richmond	2	US 74 BUS (W. BROAD AVE)	FROM US HWY 1(S. HANCOCK ST) TO S. LEE ST.(CITY)	4	2	MU	NO	NO	0.09	30				3,217		1,000	383		26			50	3	3		475	475		
<b>TOTAL FOR MAP NO. 2</b>												<b>0.09</b>					<b>3,217</b>		<b>1,000</b>	<b>383</b>		<b>26</b>		<b>50</b>	<b>3</b>	<b>3</b>		<b>475</b>	<b>475</b>	
2022CPT.08.23.10771	Richmond	3	US HWY 1 (S. HANCOCK ST.)	FROM END OF DIVIDE TO C.J. N. OF US HWY 74 BUS.(W. BROAD AVE.)	6	2	MU	NO	NO	0.53	36				18,515		2,448		1,761	106			5	9			2,547	2,547		
<b>TOTAL FOR MAP NO. 3</b>												<b>0.53</b>					<b>18,515</b>		<b>2,448</b>	<b>1,761</b>	<b>106</b>		<b>5</b>	<b>9</b>			<b>2,547</b>	<b>2,547</b>		
2022CPT.08.23.10771	Richmond	4	US HWY 1 SB (S. HANCOCK ST.)	FROM END DIVIDE TO US HWY 220 NB	7,8,9	2	MD	NO	NO	0.18	15-37				3,610				334	20			15							
<b>TOTAL FOR MAP NO. 4</b>												<b>0.18</b>					<b>3,610</b>			<b>334</b>	<b>20</b>		<b>15</b>							
2022CPT.08.23.10771	Richmond	5	US 1 NB (S. HANCOCK)	FROM US 220 NB TO END OF DIVIDE	7,8	2	MU	NO	NO	0.22	30				4,310				398	24										
<b>TOTAL FOR MAP NO. 5</b>												<b>0.22</b>					<b>4,310</b>			<b>398</b>	<b>24</b>									
2022CPT.08.23.10771	Richmond	6	US HWY 1 (FAYETTEVILLE RD.)	FROM E. WASHINGTON ST. TO SR 1646 (LONG DR.)	6	2	2WU	NO	NO	0.9	27				10,810		4,828		1,445	87			20	15	16	1	468	468		
<b>TOTAL FOR MAP NO. 6</b>												<b>0.9</b>					<b>10,810</b>		<b>4,828</b>	<b>1,445</b>	<b>87</b>		<b>20</b>	<b>15</b>	<b>16</b>	<b>1</b>	<b>468</b>	<b>468</b>		
2022CPT.08.23.10771	Richmond	7	US HWY 74 BUS (E. BROAD AVE.)	FROM CST. INT. E. OF US HWY 1(S. HANCOCK ST.) TO BEGIN OF GRASS MEDIAN E. OF PINERIDGE DR(CITY)	1,3	2	MU	NO	NO	2.08	65				88,256		7,515	8,691		582			100	11	6		10,728	10,728		
<b>TOTAL FOR MAP NO. 7</b>												<b>2.08</b>					<b>88,256</b>		<b>7,515</b>	<b>8,691</b>		<b>582</b>		<b>100</b>	<b>11</b>	<b>6</b>		<b>10,728</b>	<b>10,728</b>	
2022CPT.08.23.10771	Richmond	8	US HWY 74 BUS WBL (E. BROAD AVE.)	FROM END OF GRASS MEDIAN E. OF SR 1641(CLEMMER RD) TO END OF GRASS MEDIAN E. OF PINERIDGE DR.(CITY)	10,11	2	MD	NO	NO	0.65	28		1.30	181				1,218		82			20	1	2					
<b>TOTAL FOR MAP NO. 8</b>												<b>0.65</b>	<b>1.30</b>	<b>181</b>			<b>1,218</b>		<b>82</b>		<b>20</b>	<b>1</b>	<b>2</b>							
2022CPT.08.23.10771	Richmond	9	US HWY 74 BUS EBL (E. BROAD AVE.)	FROM BEGINNING OF GRASS MEDIAN E. OF PINERIDGE DR(CITY) TO BEGINNING OF GRASS MEDIAN E. OF SR 1641(CLEMMER RD)	12,13,14,15	2	MD	NO	NO	0.64	36				12,108	1,584	2,563	1,331		89			60				3,430	3,430		
<b>TOTAL FOR MAP NO. 9</b>												<b>0.64</b>					<b>12,108</b>	<b>1,584</b>	<b>2,563</b>	<b>1,331</b>		<b>89</b>		<b>60</b>		<b>3,430</b>	<b>3,430</b>			
2022CPT.08.23.10771	Richmond	10	US HWY 74 BUS. WBL (W. HAMLET AVE.)	FROM BEG. GRASS MEDIAN TO TRN LN AT SR 1641(CLEMMER RD)	10	2	MD	NO	NO	2.05	28		4.10	574			1,225	4,192		281			100	2	1					
<b>TOTAL FOR MAP NO. 10</b>												<b>2.05</b>	<b>4.10</b>	<b>574</b>			<b>1,225</b>	<b>4,192</b>		<b>281</b>			<b>100</b>	<b>2</b>	<b>1</b>					
2022CPT.08.23.10771	Richmond	11	US HWY 74 BUS. EBL (W. HAMLET AVE.)	FROM BEGINNING OF GRASS MEDIAN E. OF SR 1641(CLEMMER RD) TO END OF GRASS MEDIAN	10	2	MD	NO	NO	2.05	26		4.10	574			1,178	3,650		245			40							
<b>TOTAL FOR MAP NO. 11</b>												<b>2.05</b>	<b>4.10</b>	<b>574</b>			<b>1,178</b>	<b>3,650</b>		<b>245</b>		<b>40</b>								
<b>TOTAL FOR PROJ NO. 2022CPT.08.23.10771</b>												<b>10.73</b>	<b>9.50</b>	<b>1,329</b>	<b>180,133</b>	<b>1,584</b>	<b>24,984</b>	<b>23,578</b>	<b>3,938</b>	<b>1,818</b>	<b>13</b>	<b>215</b>	<b>560</b>	<b>51</b>	<b>37</b>	<b>1</b>	<b>19,889</b>	<b>19,889</b>		
2022CPT.08.23.20771	Richmond	12	SR 1307 (BRUTON RD)	FROM SR 1005(CARTLEDGE CRK. RD) TO SR 1148(GRASSY ISLAND RD)	16	2	2WU	NO	NO	2.14	16				250		1,975		132											
<b>TOTAL FOR MAP NO. 12</b>												<b>2.14</b>					<b>250</b>		<b>1,975</b>		<b>132</b>									
2022CPT.08.23.20771	Richmond	13	SR 1308 (JOHN WEBB RD.)	FROM SR 1305(SANDY RIDGE CHURCH RD.) TO SR 1309(PAGE ST. EXT.)	16	2	2WU	NO	NO	2.65	20				239		2,987		200											
<b>TOTAL FOR MAP NO. 13</b>												<b>2.65</b>					<b>239</b>		<b>2,987</b>		<b>200</b>									
2022CPT.08.23.20771	Richmond	14	SR 1446 (HAYWOOD CEMETERY RD.)	FROM PAV'T JNT. +/-0.425E OF I-73 TO BRIDGE JNT. AT I-73	16	2	2WU	NO	NO	2.17	21						1,131	3,533		237										
<b>TOTAL FOR MAP NO. 14</b>												<b>2.17</b>							<b>1,131</b>	<b>3,533</b>		<b>237</b>								
2022CPT.08.23.20771	Richmond	15	EAST ROCKINGHAM FIRE DEPARTMENT	PARKING AREAS	See Sheet 7	2	2WU	NO	NO	0.06	60				1,873		240		16											
<b>TOTAL FOR MAP NO. 15</b>												<b>0.06</b>					<b>1,873</b>		<b>240</b>		<b>16</b>									
2022CPT.08.23.20771	Richmond	16	SR 1150 (GREEN RD)	FROM SR 1005 (CARTLEDGE CREEK RD) TO SR 1005 (CARTLEDGE CREEK RD)	16	2	2WU	NO	NO	3.58	19				344		881		3,333		223									
<b>TOTAL FOR MAP NO. 16</b>												<b>3.58</b>					<b>344</b>		<b>881</b>		<b>3,333</b>		<b>223</b>							
<b>TOTAL FOR PROJ NO. 2022CPT.08.23.20771</b>												<b>10.6</b>					<b>2,217</b>		<b>2,501</b>		<b>12,068</b>		<b>808</b>							
<b>GRAND TOTAL</b>												<b>21.33</b>		<b>9.50</b>	<b>1,329</b>	<b>182,350</b>	<b>1,584</b>	<b>27,485</b>	<b>35,646</b>	<b>3,938</b>	<b>2,626</b>	<b>13</b>	<b>215</b>	<b>560</b>	<b>51</b>	<b>37</b>	<b>1</b>	<b>19,889</b>	<b>19,889</b>	





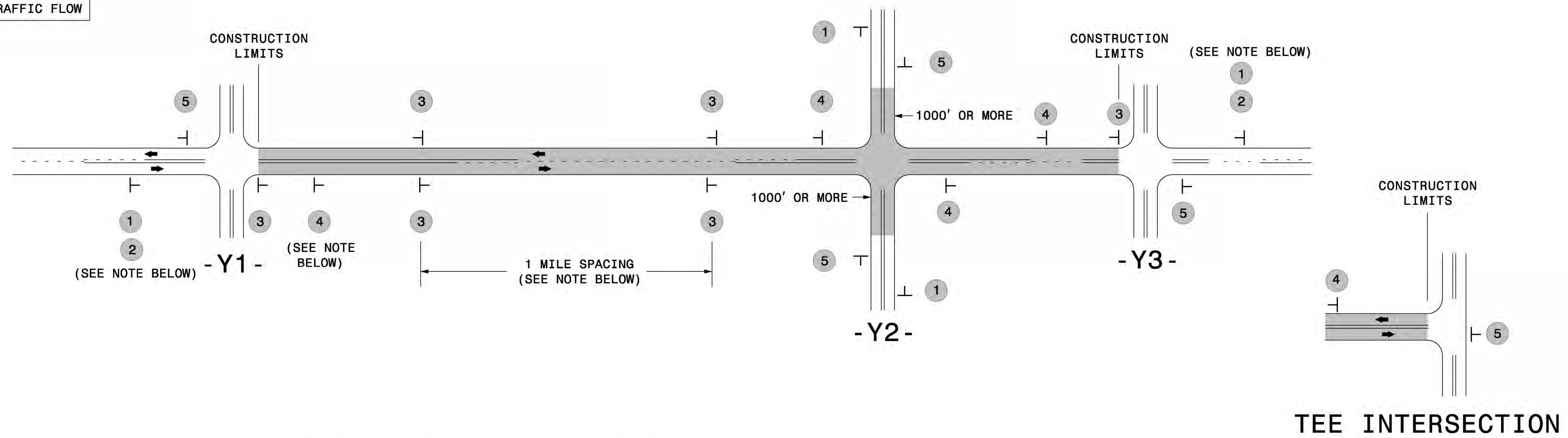
PROJECT NO.	SHEET NO.
2022CPT.08.23.10771,	18
2022CPT.08.23.20771	

# THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4825000000-E		4835000000-E				4840000000-N				4845000000-N					4850000000-E	4891000000-E	4895000000-N	
										12" YELLOW PAINT	24" WHITE PAINT	PAINT MSG SCHOOL	PAINT MSG ONLY	PAINT MSG STOP	PAINT MSG AHEAD	PAINT STR ARROW	PAINT STR & LT ARROW	PAINT RT ARROW	PAINT STR & RT ARROW	PAINT LT ARROW	PAINT STR RT ARROW	PAINT MERGE ARROW	4" LINE REMOVAL	GENERIC PAVEMENT MARKING ITEM - 24" X 90 M WHITE THERMO	GENERIC PAVEMENT MARKING ITEM - NON-CAST IRON SNOWPLOWABLE (C & R)	GENERIC PAVEMENT MARKING ITEM - NON-CAST IRON SNOWPLOWABLE (Y & Y)		
										MI	FT	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
2022CPT.08.23.10771	Richmond	1	US 74 BUS (W. BROAD AVE.)	FROM END OF CONCRETE ISLAND 470 FT S OF SR 1184 MCNAIR ST TO S. LEE ST.(CITY STREET)	1,2,3,5	2	MU	1.34	50	132	642	24				9	2	4	1	44				642	85	325		
TOTAL FOR MAP NO. 1									1.34	132	642	24			9	2	4	1	44				642	85	325			
2022CPT.08.23.10771	Richmond	2	US 74 BUS (W. BROAD AVE)	FROM US HWY 1(S. HANCOCK ST) TO S. LEE ST.(CITY)	4	2	MU	0.09	30		78				3			3	4					78	23	12		
TOTAL FOR MAP NO. 2									0.09		78			3			3	4						78	23	12		
2022CPT.08.23.10771	Richmond	3	US HWY 1 (S. HANCOCK ST.)	FROM END OF DIVIDE TO C.J. N. OF US HWY 74 BUS.(W. BROAD AVE.)	6	2	MU	0.53	36				4			6		3	1	15			1,160		31	97		
TOTAL FOR MAP NO. 3									0.53				4		6		3	1	15			1,160		31	97			
2022CPT.08.23.10771	Richmond	4	US HWY 1 SB (S. HANCOCK ST.)	FROM END DIVIDE TO US HWY 220 NB	7,8,9	2	MD	0.18	15-37		34							3						34				
TOTAL FOR MAP NO. 4									0.18		34						3							34				
2022CPT.08.23.10771	Richmond	5	US 1 NB (S. HANCOCK)	FROM US 220 NB TO END OF DIVIDE	7,8	2	MU	0.22	30																	15		
TOTAL FOR MAP NO. 5									0.22																	15		
2022CPT.08.23.10771	Richmond	6	US HWY 1 (FAYETTEVILLE RD.)	FROM E. WASHINGTON ST. TO SR 1646 (LONG DR.)	6	2	2WU	0.9	27		114				1	1	2	1	4					114	10	65		
TOTAL FOR MAP NO. 6									0.9		114			1	1	2	1	4					114	10	65			
2022CPT.08.23.10771	Richmond	7	US HWY 74 BUS (E. BROAD AVE.)	FROM CST. JNT. E. OF US HWY 1(S. HANCOCK ST.) TO BEGIN OF GRASS MEDIAN E. OF PINERIDGE DR(CITY)	1,3	2	MU	2.08	65	150	550				65	1	20	9	87	1	4			550	464	229		
TOTAL FOR MAP NO. 7									2.08	150	550			65	1	20	9	87	1	4			550	464	229			
2022CPT.08.23.10771	Richmond	8	US HWY 74 BUS WBL (E. BROAD AVE.)	FROM END OF GRASS MEDIAN E. OF SR 1641(CLEMMER RD) TO END OF GRASS MEDIAN E. OF PINERIDGE DR.(CITY)	10,11	2	MD	0.65	28															80	86			
TOTAL FOR MAP NO. 8									0.65															80	86			
2022CPT.08.23.10771	Richmond	9	US HWY 74 BUS EBL (E. BROAD AVE.)	FROM BEGINNING OF GRASS MEDIAN E. OF PINERIDGE DR(CITY) TO BEGINNING OF GRASS MEDIAN E. OF SR 1641(CLEMMER RD)	12,13,14,15	2	MD	0.64	36		190		8		13		11		8					190	133			
TOTAL FOR MAP NO. 9									0.64		190		8	13		11		8				190	133					
2022CPT.08.23.10771	Richmond	10	US HWY 74 BUS. WBL (W. HAMLET AVE.)	FROM BEG. GRASS MEDIAN TO TRN LN AT SR 1641(CLEMMER RD)	10	2	MD	2.05	28															226	266			
TOTAL FOR MAP NO. 10									2.05															226	266			
2022CPT.08.23.10771	Richmond	11	US HWY 74 BUS. EBL (W. HAMLET AVE.)	FROM BEGINNING OF GRASS MEDIAN E. OF SR 1641(CLEMMER RD) TO END OF GRASS MEDIAN	10	2	MD	2.05	26															52	460			
TOTAL FOR MAP NO. 11									2.05															52	460			
TOTAL FOR PROJ NO. 2022CPT.08.23.10771									10.73		282	1,608	24	12	4	5	97	4	43	15	162	1	4	1,160	1,966	1,573	728	
														45			326								2,301			
2022CPT.08.23.20771	Richmond	12	SR 1307 (BRUTON RD)	FROM SR 1005(CARTLEDGE CRK. RD) TO SR 1148(GRASSY ISLAND RD)	16	2	2WU	2.14	16																			
TOTAL FOR MAP NO. 12									2.14																			
2022CPT.08.23.20771	Richmond	13	SR 1308 (JOHN WEBB RD.)	FROM SR 1305(SANDY RIDGE CHURCH RD.) TO SR 1309(PAGE ST. EXT.)	16	2	2WU	2.65	20																			
TOTAL FOR MAP NO. 13									2.65																			
2022CPT.08.23.20771	Richmond	14	SR 1446 (HAYWOOD CEMETERY RD.)	FROM PAV'T JNT. +/-0.425E OF I-73 TO BRIDGE JNT. AT I-73	16	2	2WU	2.17	21															143				
TOTAL FOR MAP NO. 14									2.17																143			
2022CPT.08.23.20771	Richmond	15	EAST ROCKINGHAM FIRE DEPARTMENT	PARKING AREAS	See Sheet 7	2	2WU	0.06	60																			
TOTAL FOR MAP NO. 15									0.06																			
2022CPT.08.23.20771	Richmond	16	SR 1150 (GREEN RD)	FROM SR 1005 (CARTLEDGE CREEK RD) TO SR 1005 (CARTLEDGE CREEK RD)	16	2	2WU	3.58	19																			
TOTAL FOR MAP NO. 16									3.58																			
TOTAL FOR PROJ NO. 2022CPT.08.23.20771									10.6																	143		
GRAND TOTAL									21.33		282	1,608	24	12	4	5	97	4	43	15	162	1	4	1,160	2,109	1,573	728	
														45			326								2,301			

# SIGNING FOR RESURFACING PROJECTS

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



## MAINLINE (-L-) SIGNING

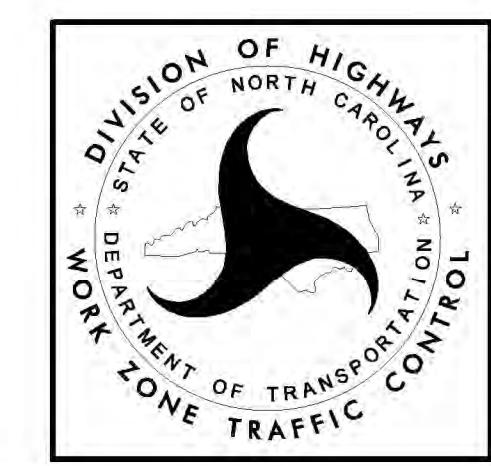
## -Y- LINE SIGNING

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;">             PLACED 500' IN ADVANCE OF FLAGGER.         </div> <div style="text-align: center;">             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

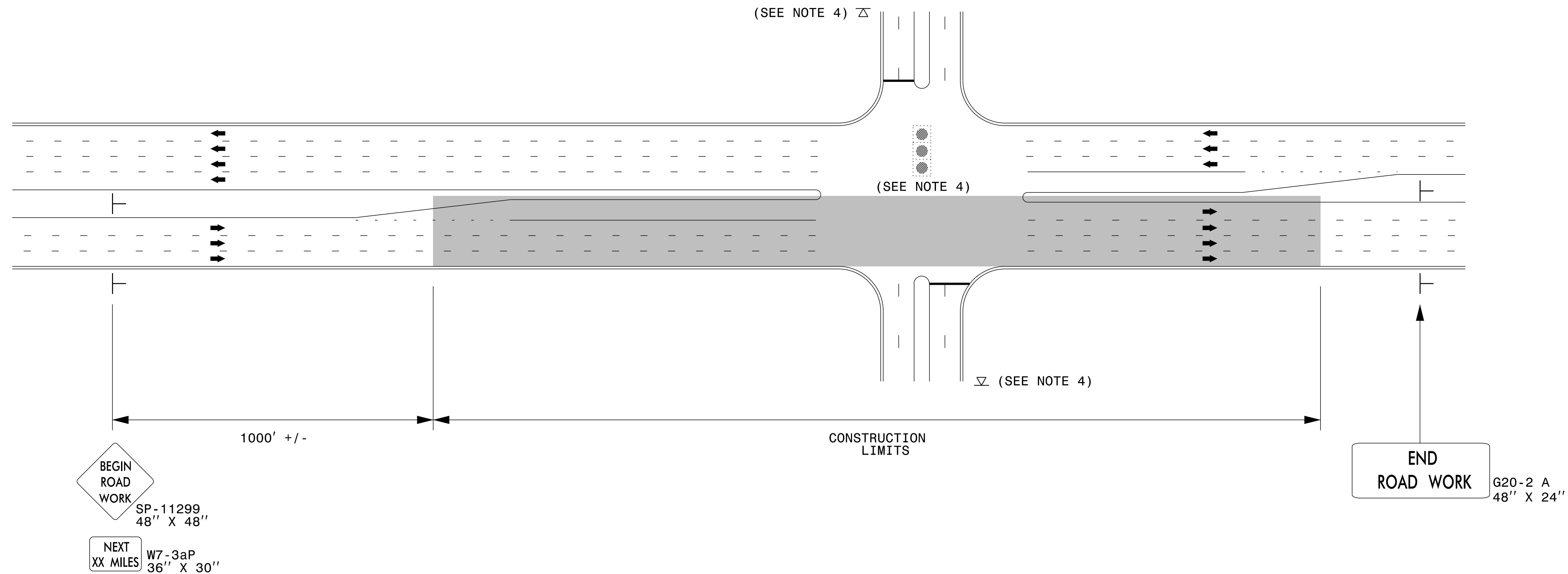
FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.



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

5/15/2017 5:11:10 PM \\NCDOT\GIS\Resurfacing\212W & AST Resurfacing Details\Resurfacing\_AdvWarn\_212W.dgn User:keads

## URBAN / SUBURBAN WORKZONES

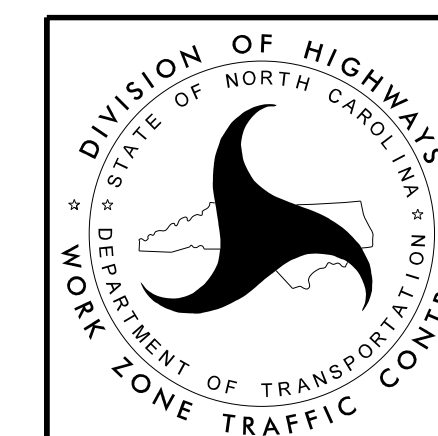


### NOTES:

- 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.

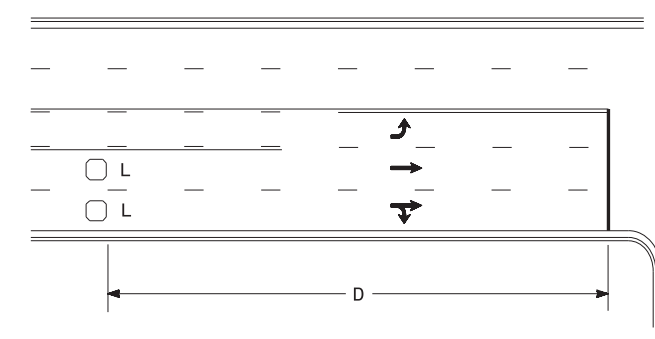
### LEGEND

- ┆ STATIONARY SIGN
- ➔ DIRECTION OF TRAFFIC FLOW



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

### High Speed Detection (≥40 mph)

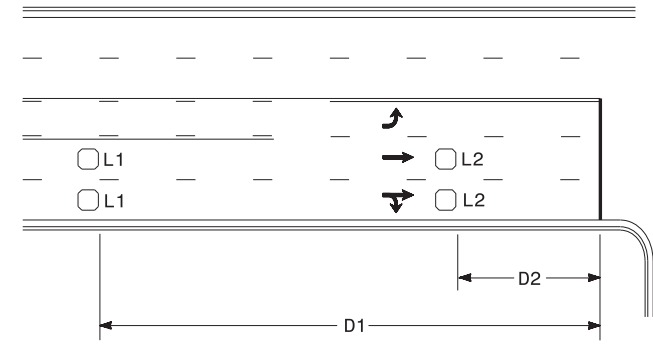


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft  
Wired separately

Volume Density Operation

OR

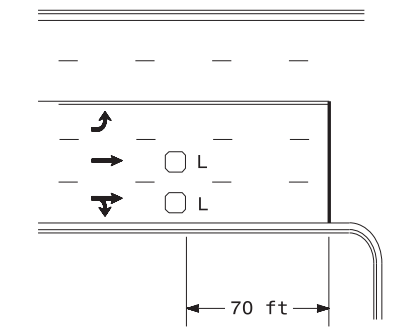


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

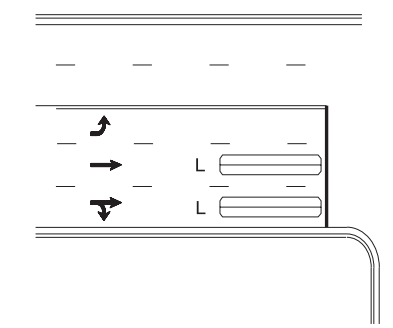
"Stretch" Operation

### Low Speed Detection (≤35 mph)



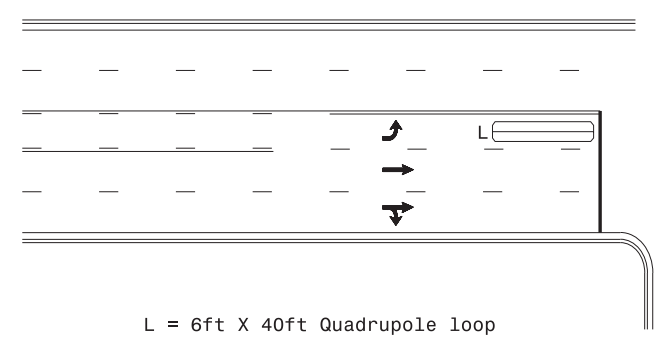
L = 6ft X 6ft  
Wired in series

OR



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

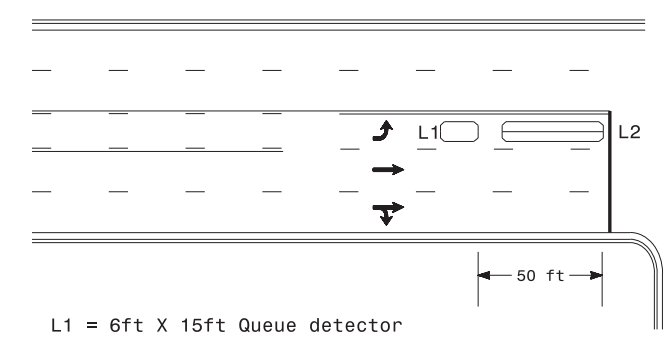
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

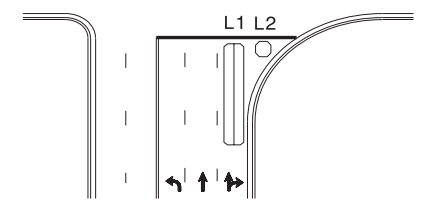
OR



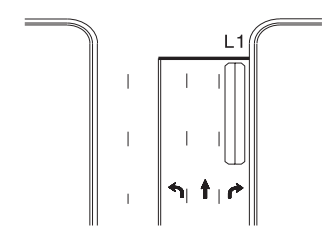
L1 = 6ft X 15ft Queue detector  
L2 = 6ft X 40ft Quadrupole loop

Queue Loop Detection

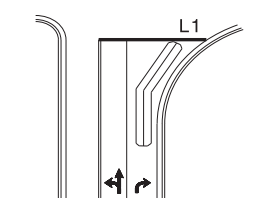
### Right Turn Lane Detection



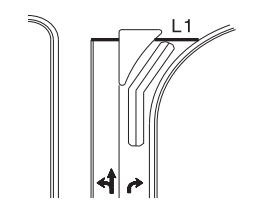
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

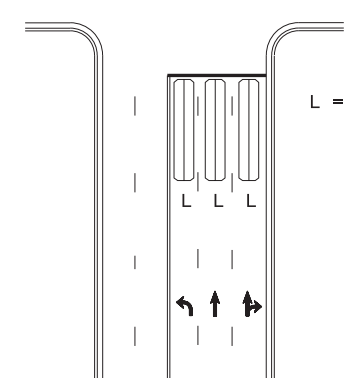


Wide Radius Turn



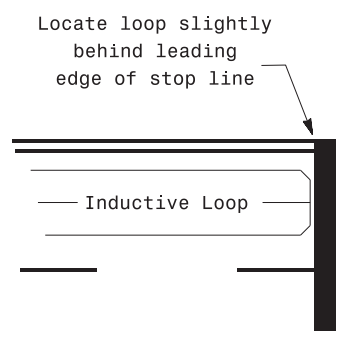
Channelized Turn

### Side Street Detection



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

### Presence Loop Placement at Stop Lines



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

09-SEP-2020 11:54 S:\17545\17545\SIGNAL\Design\Section\Eastern\Region\Loop\_Typical.dgn

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE  
N/A

#### Typical Signal Loop Locations

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

9/8/2020

SIG. INVENTORY NO.