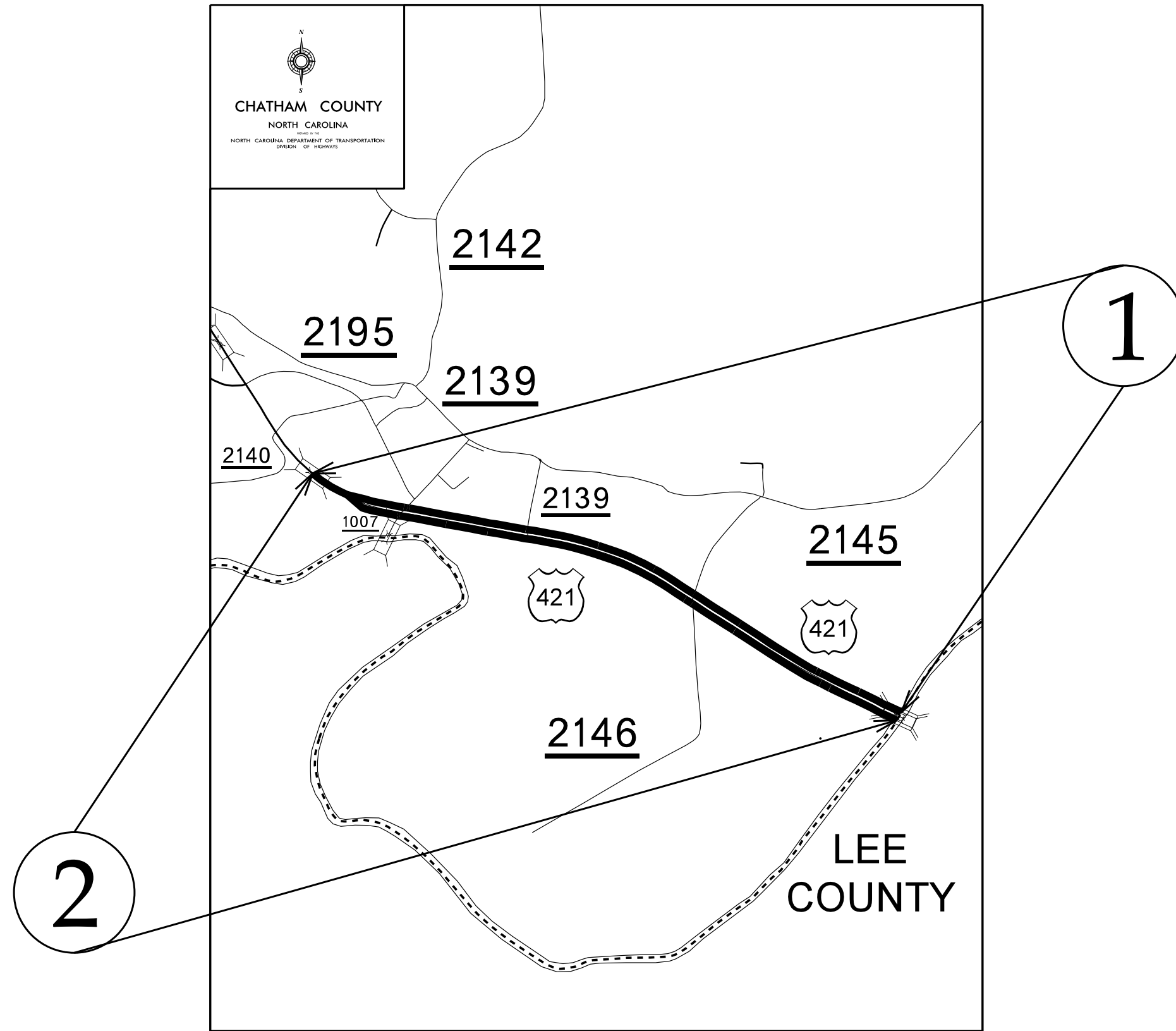


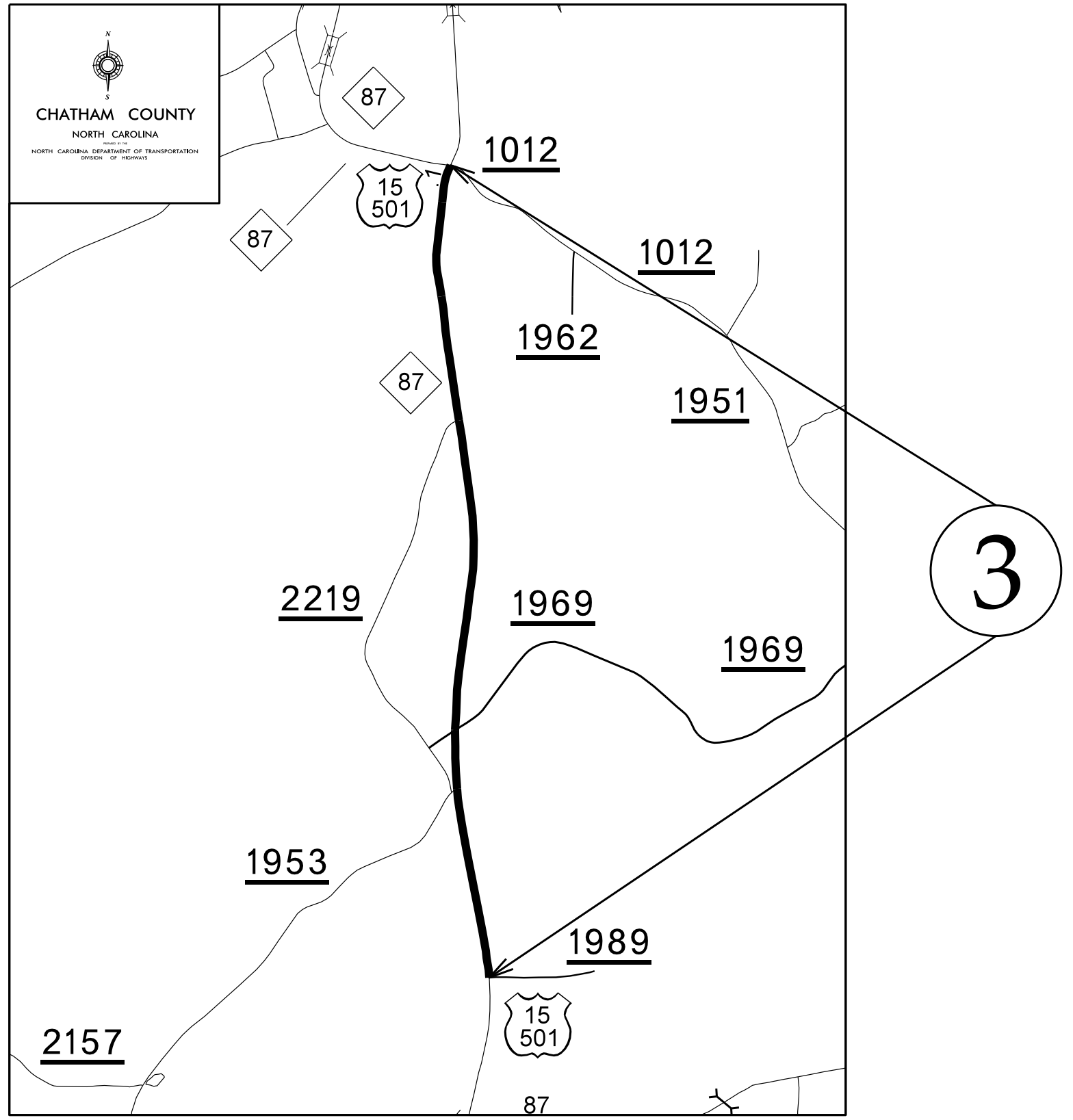
# CHATHAM COUNTY RESURFACING

01-NOV-2023 15:10  
Resurfacing  
December 2023-Submittal\Chatham-January2024\_Maps\_Typ.dgn

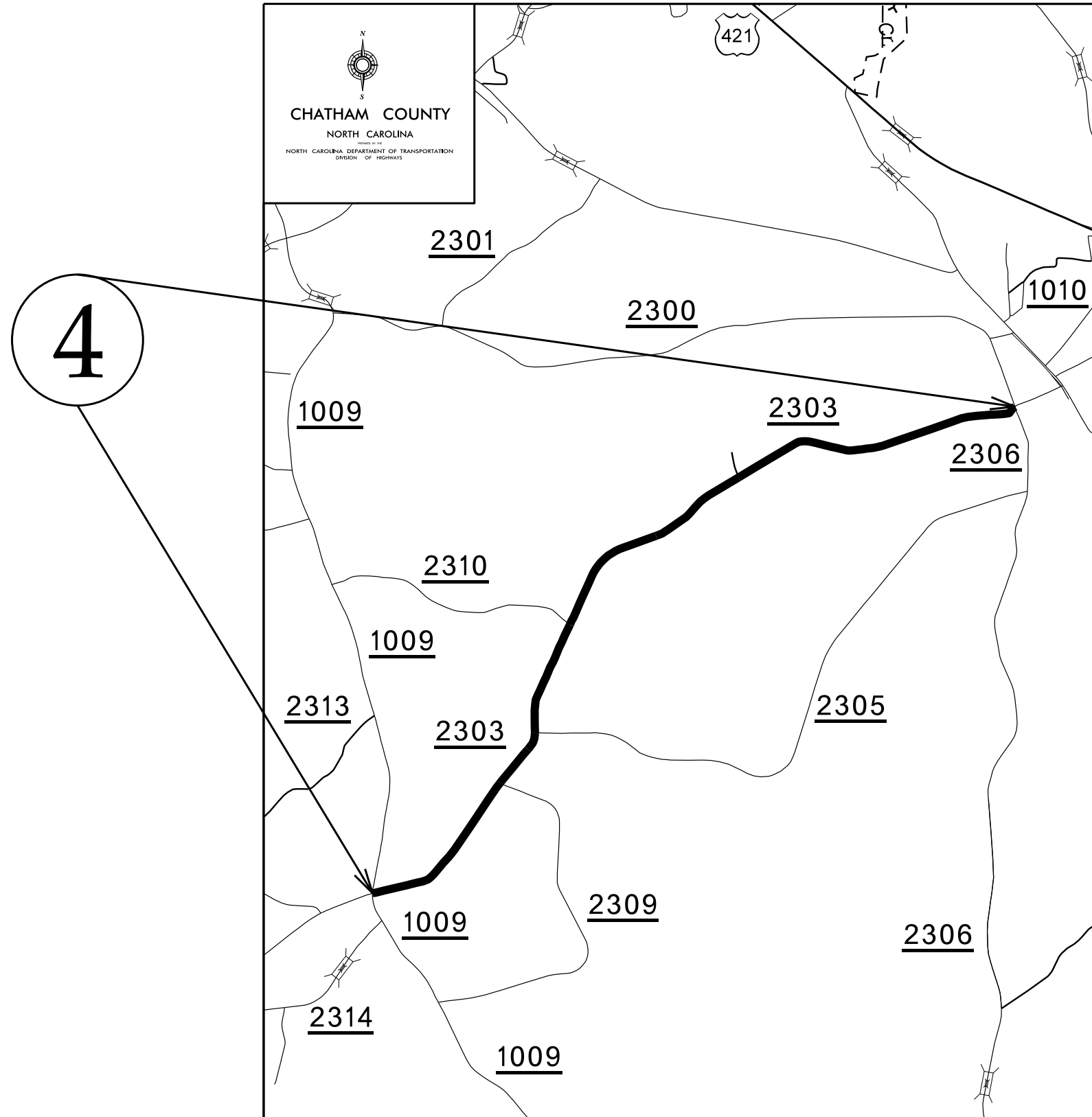
# Maps 1 and 2



# Map 3

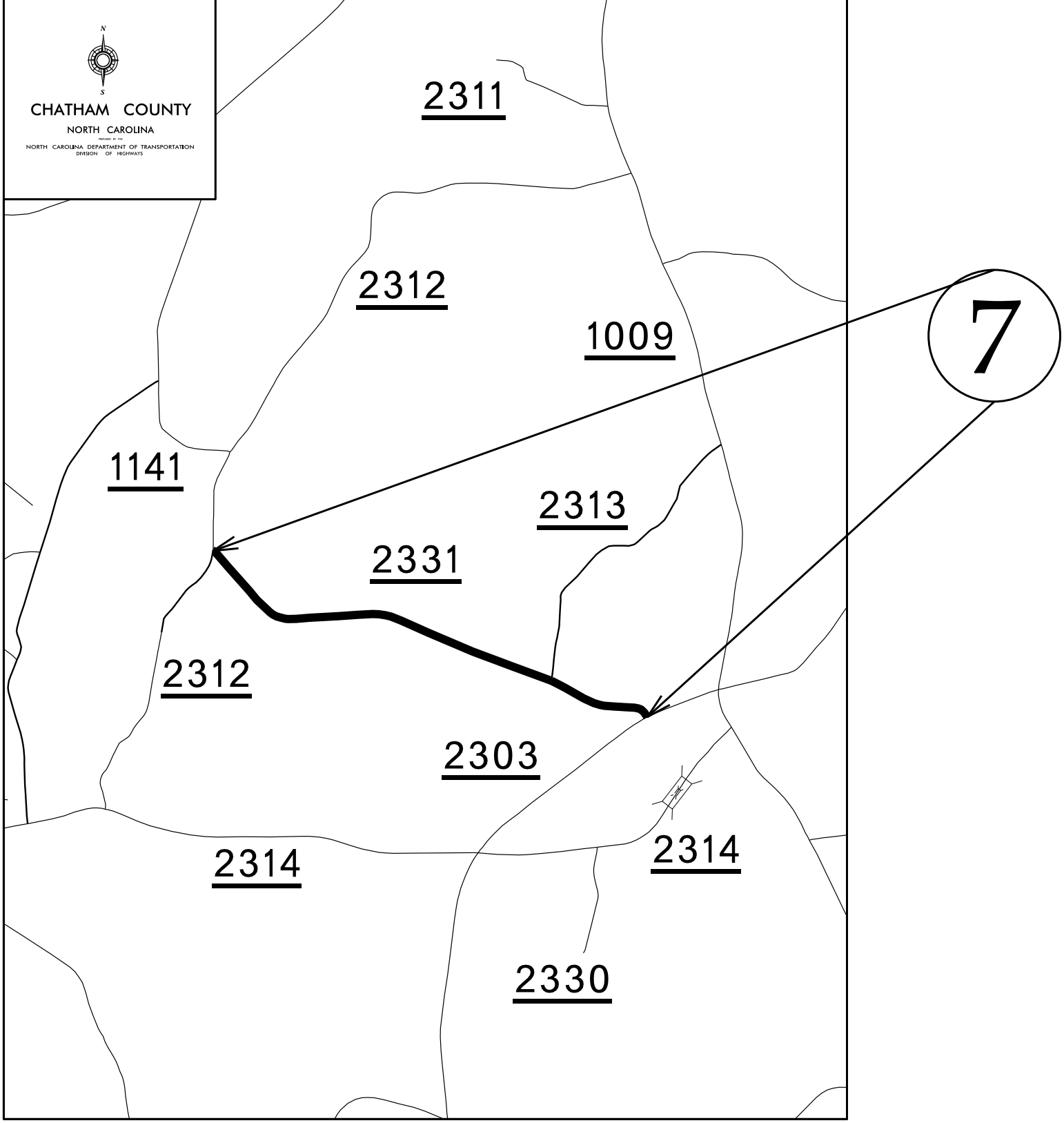


# Map 4



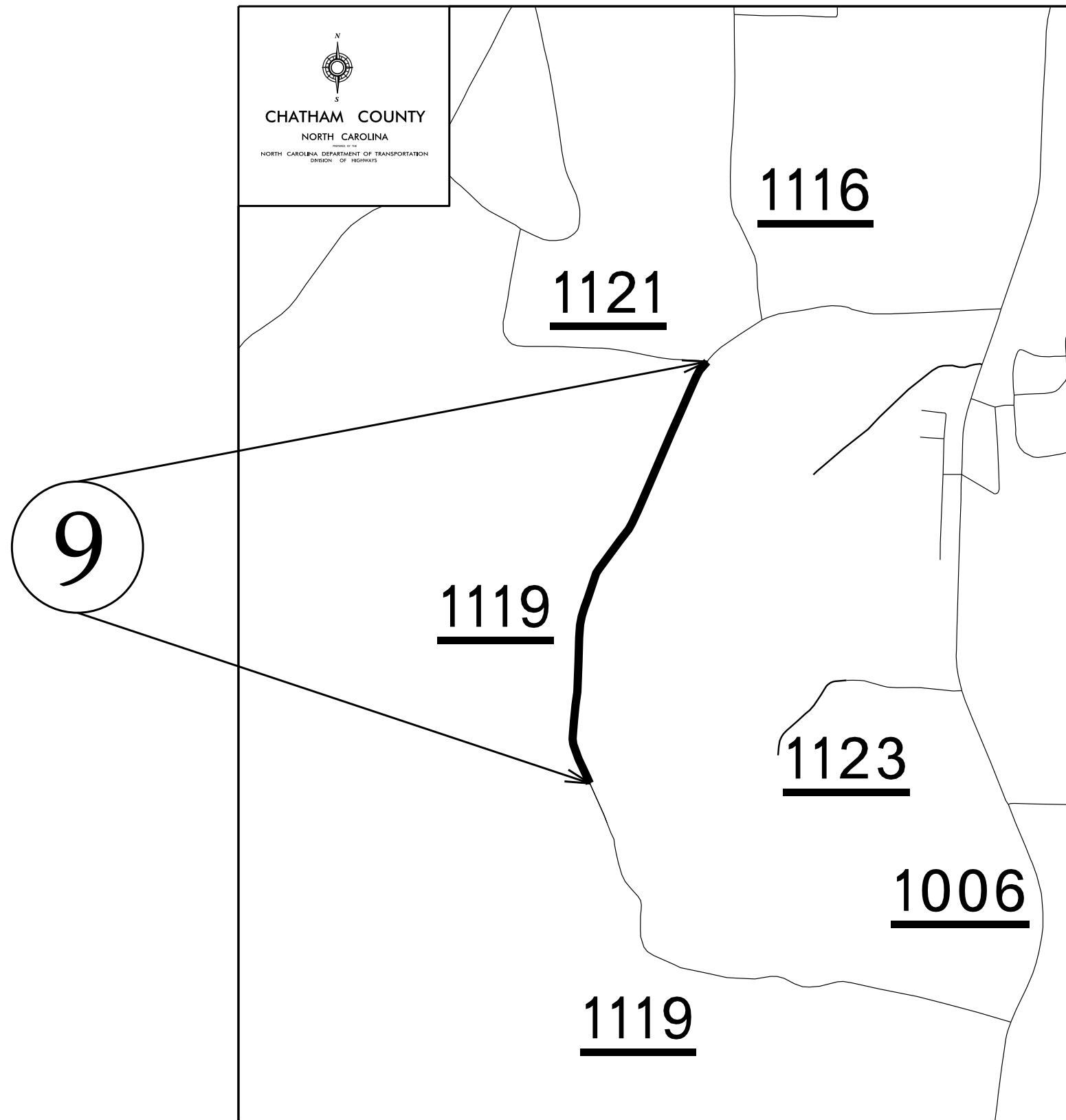


# Map 7



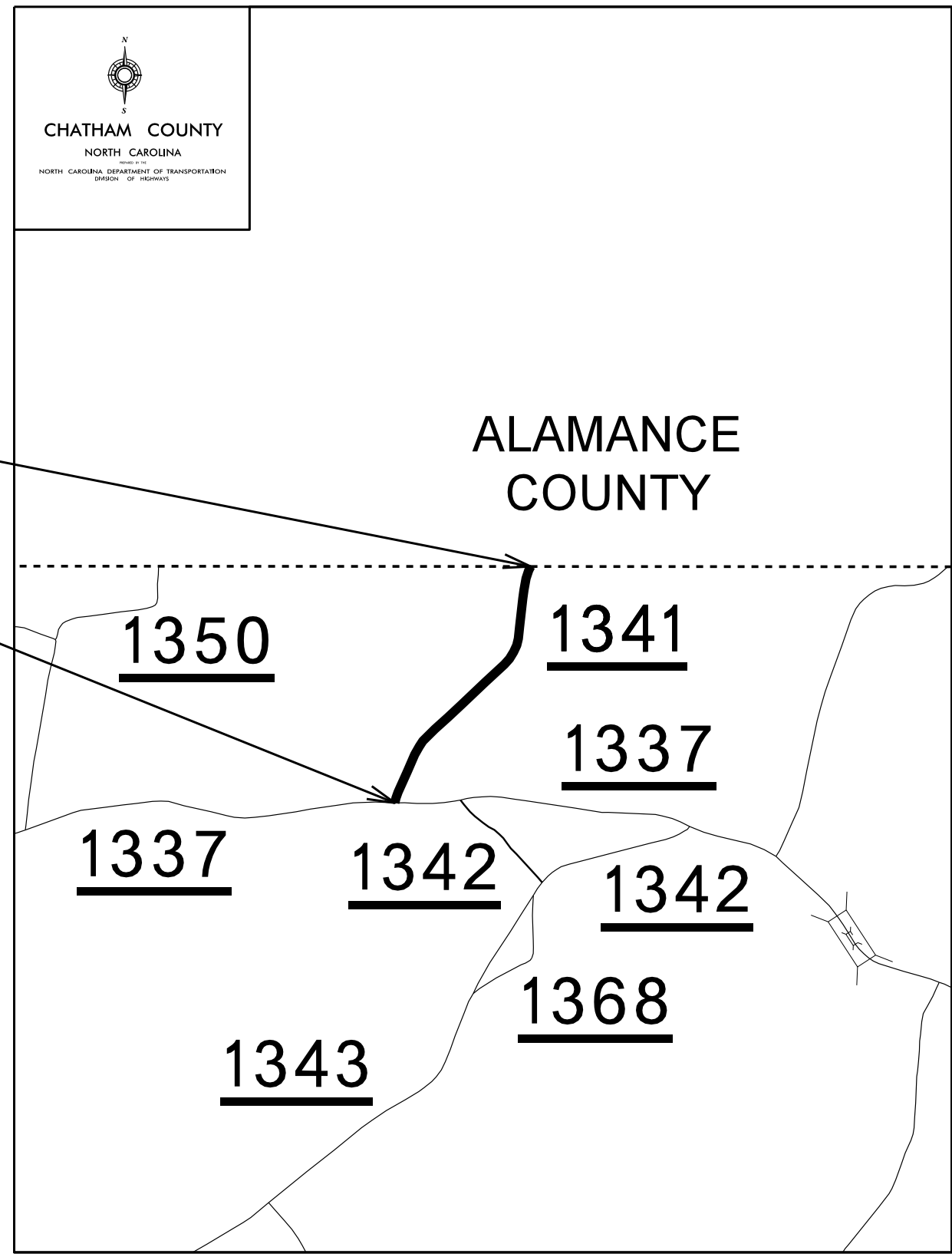


# Map 9

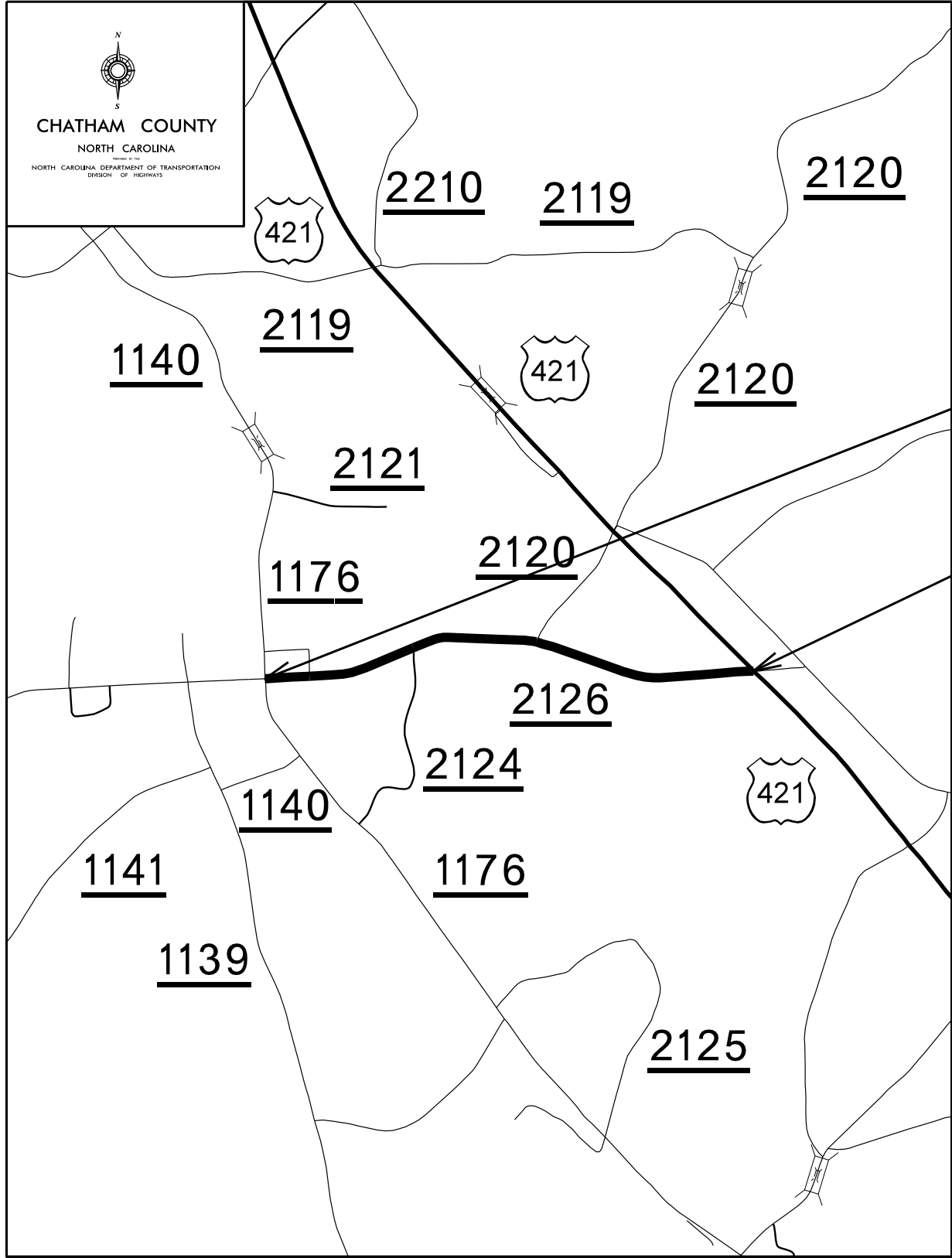




# Map 10

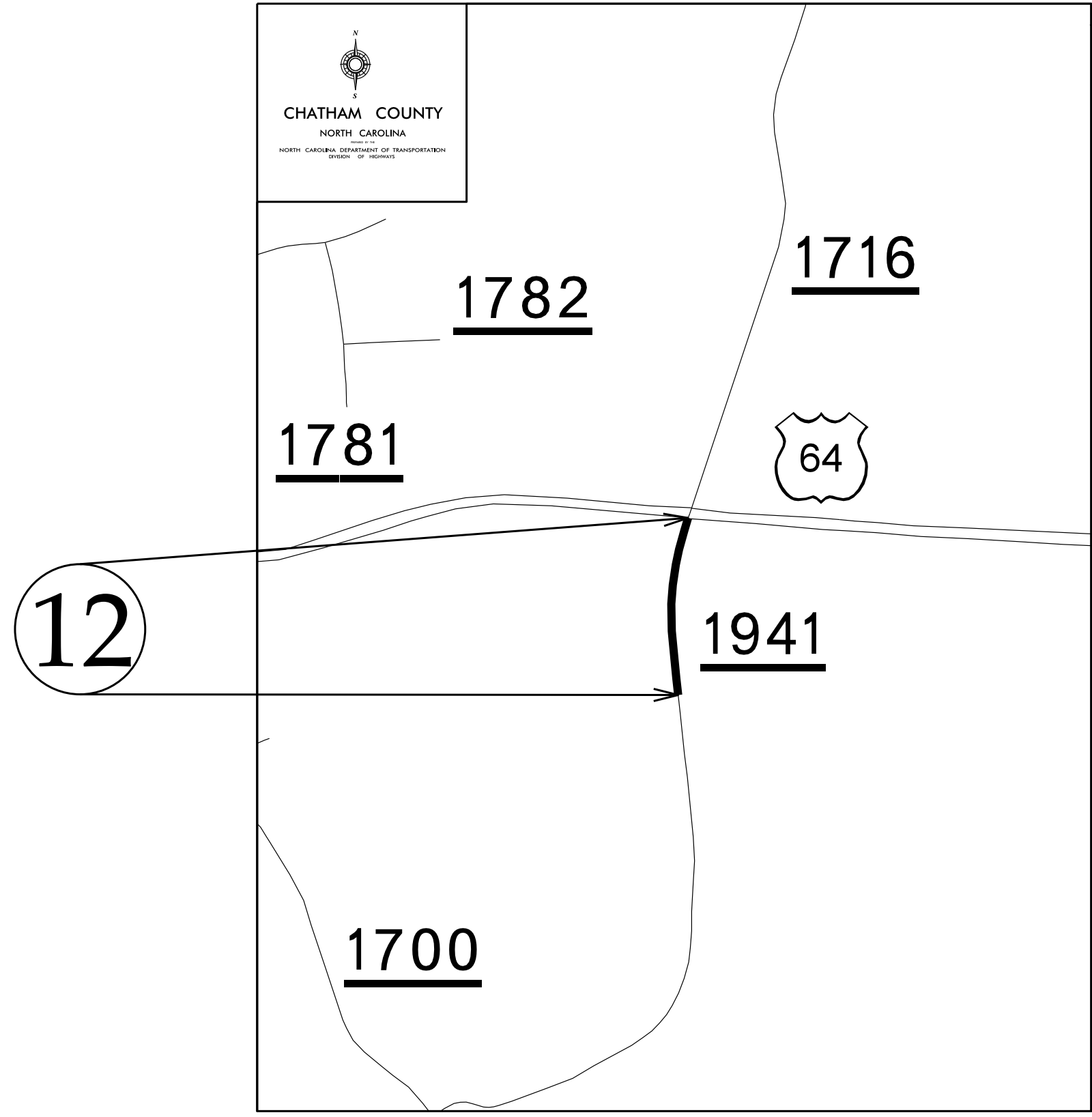


# Map 11

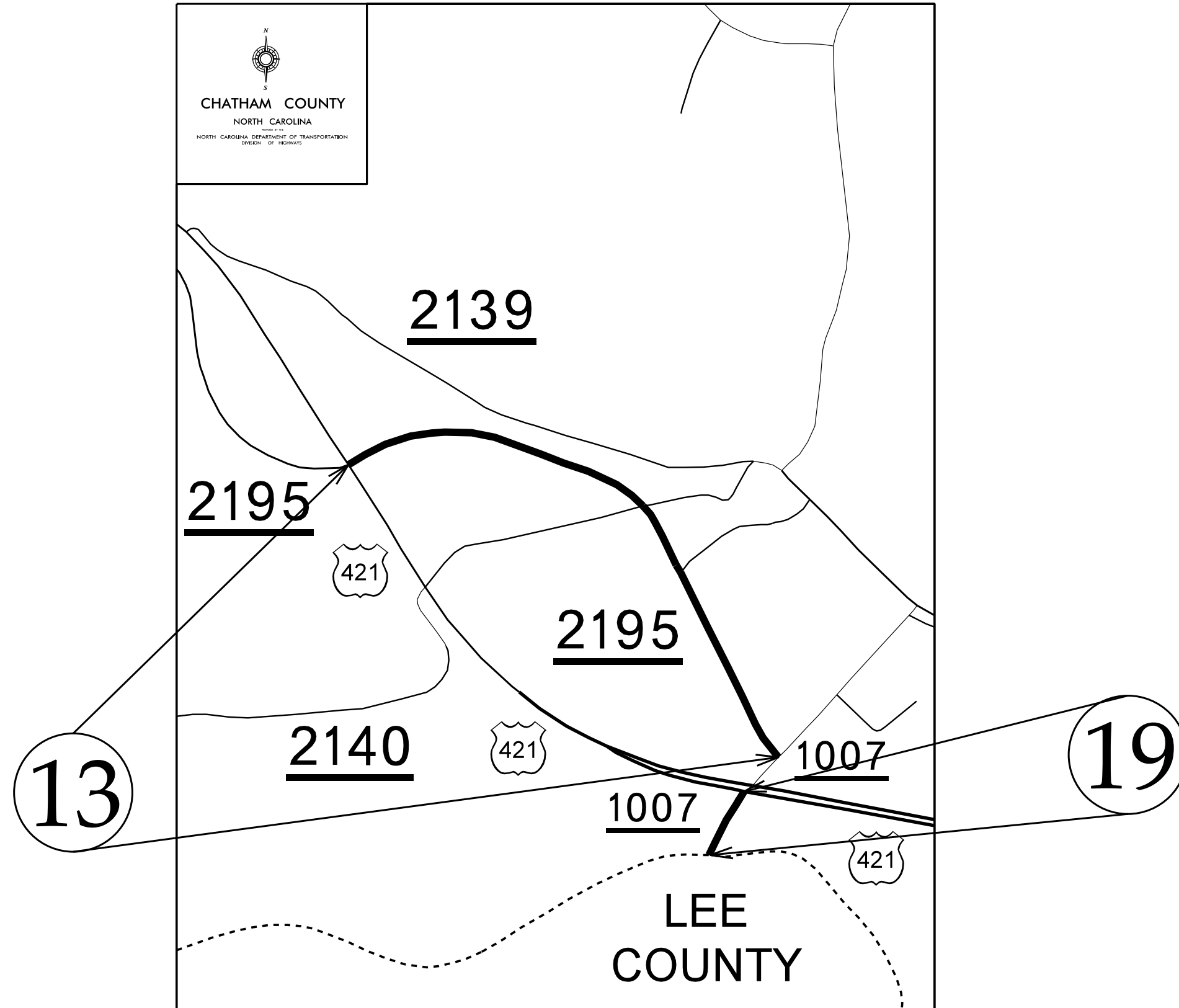


11

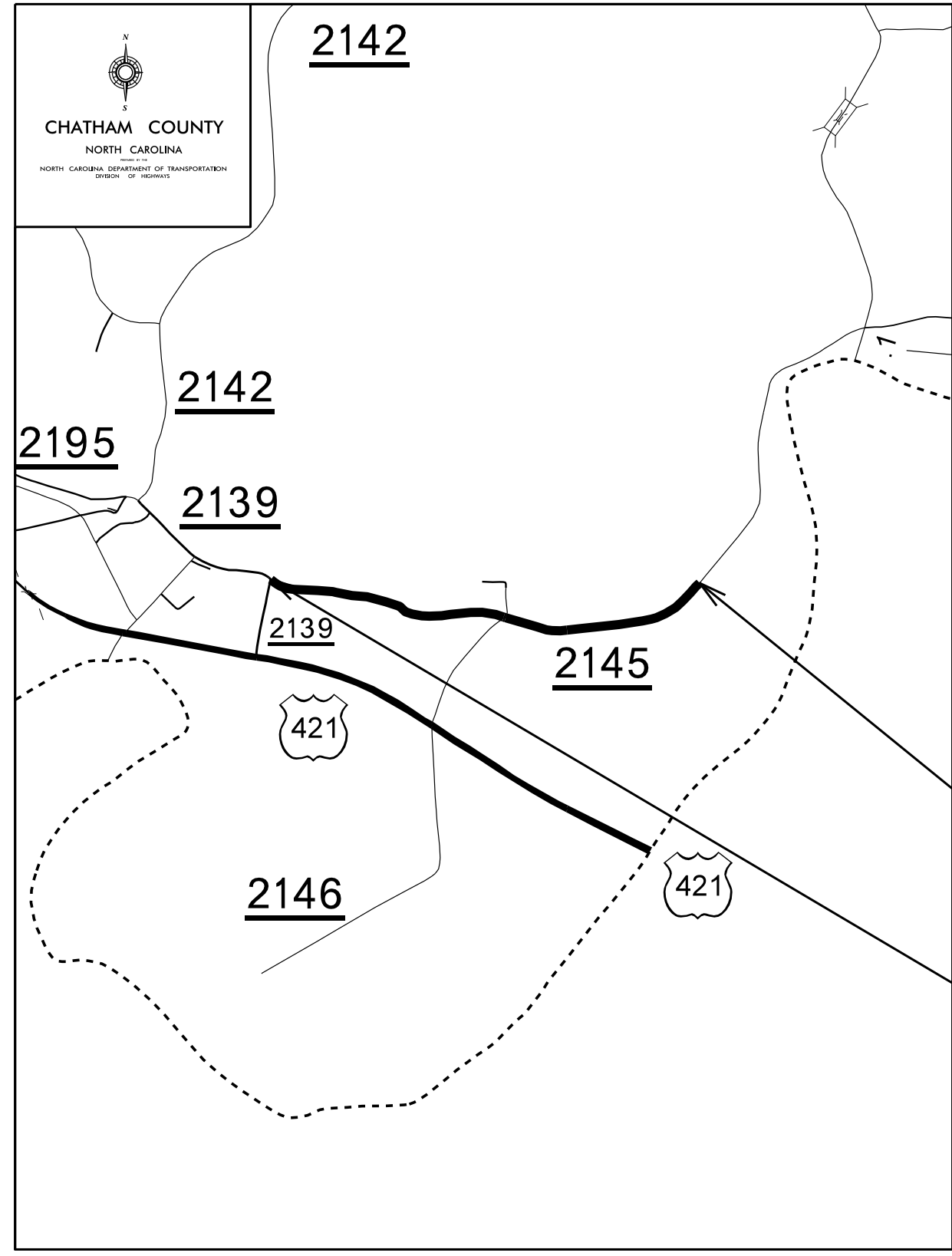
# Map 12



# Map 13 and 19

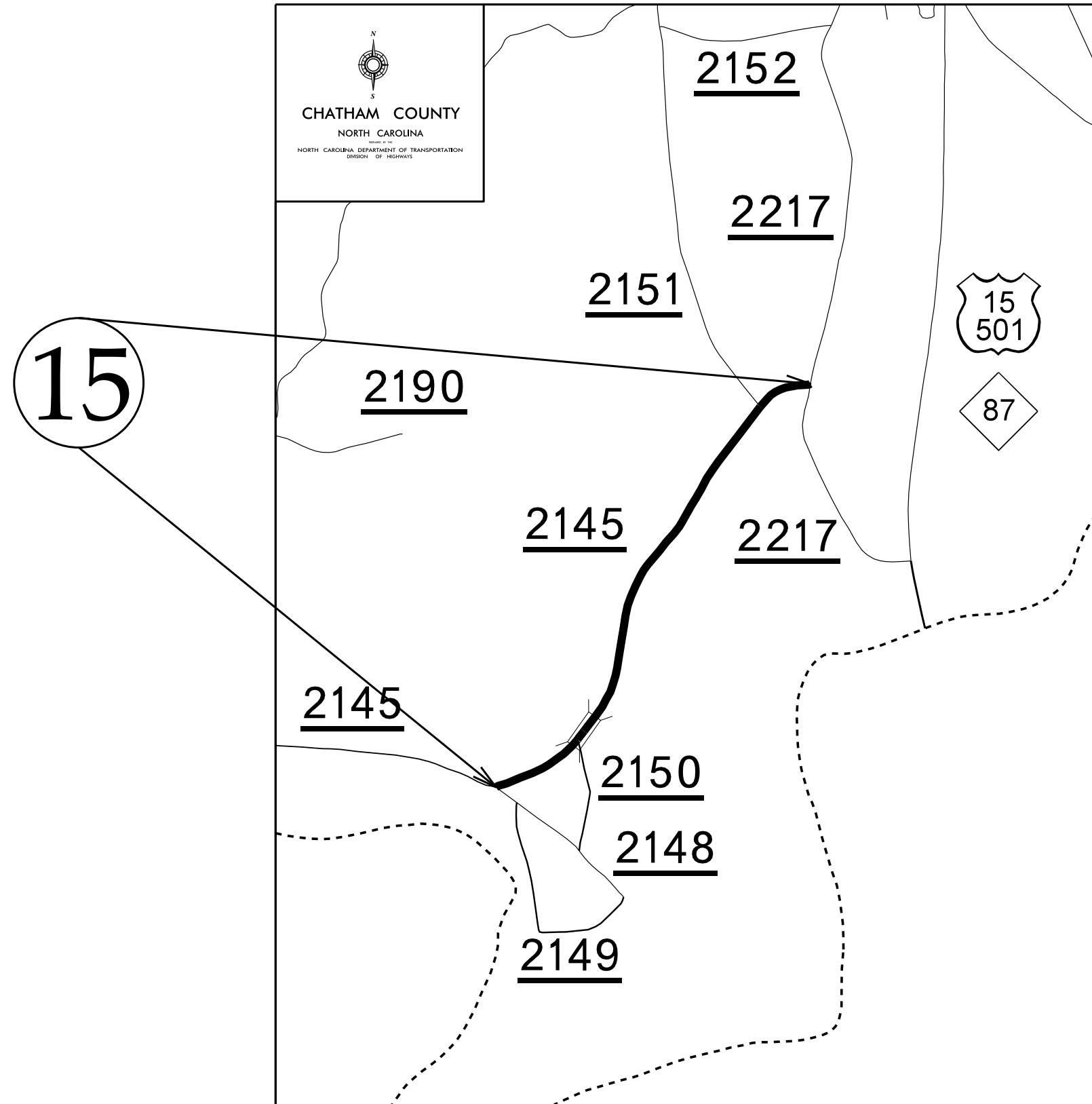


# Map 14

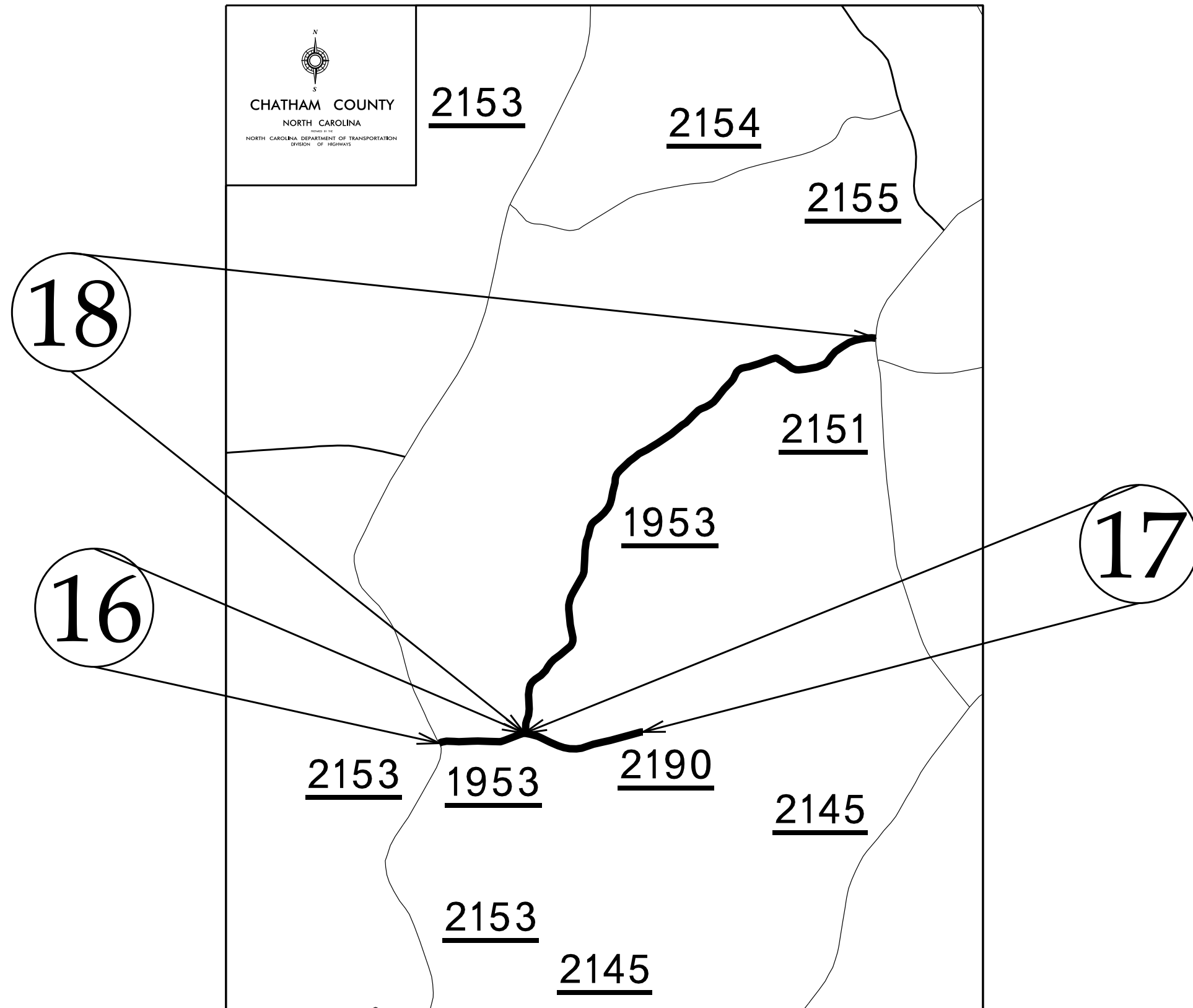


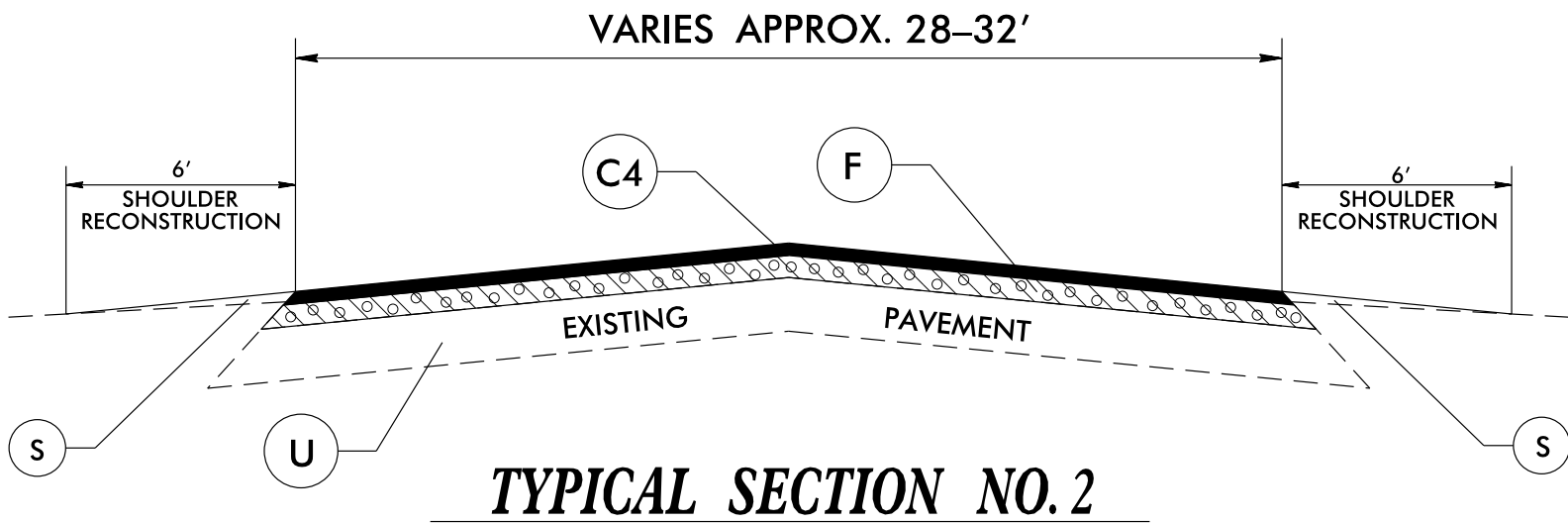
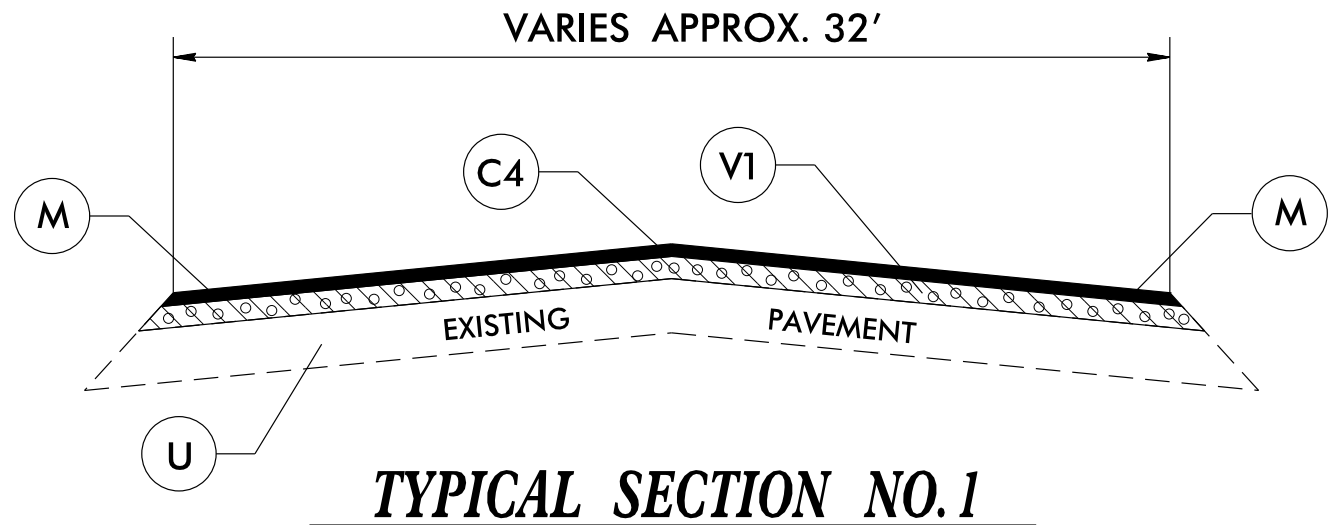
14

# Map 15



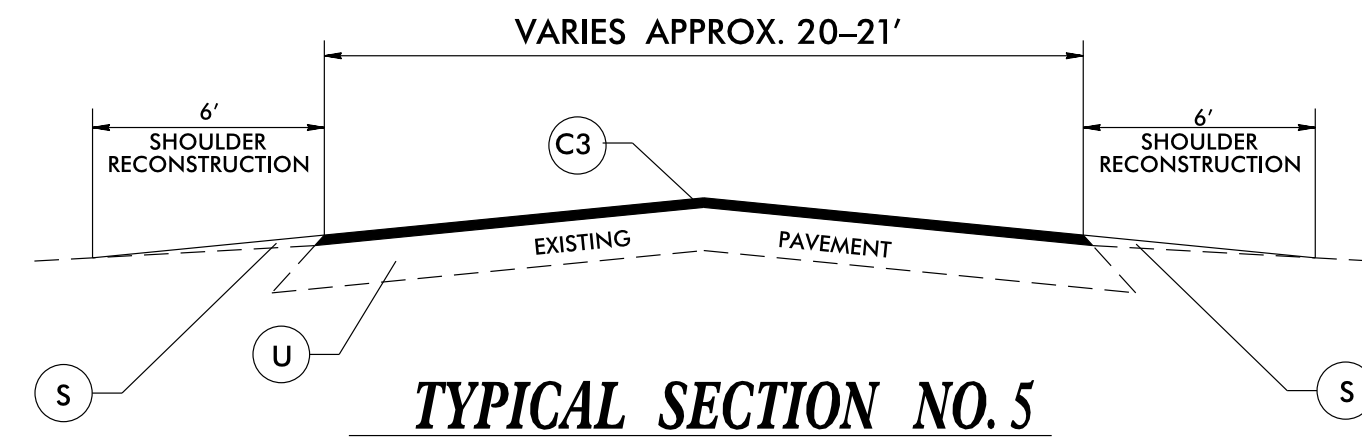
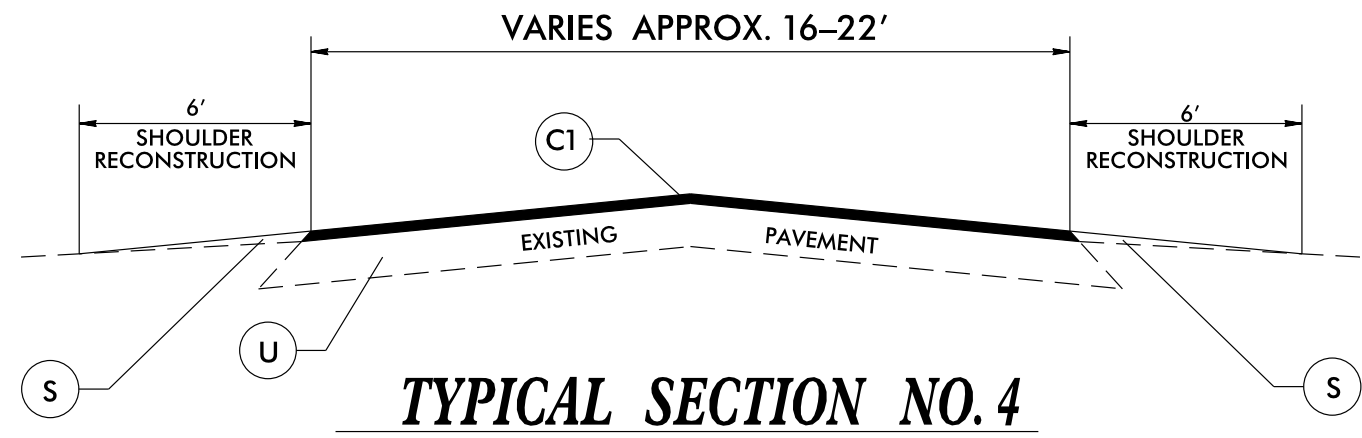
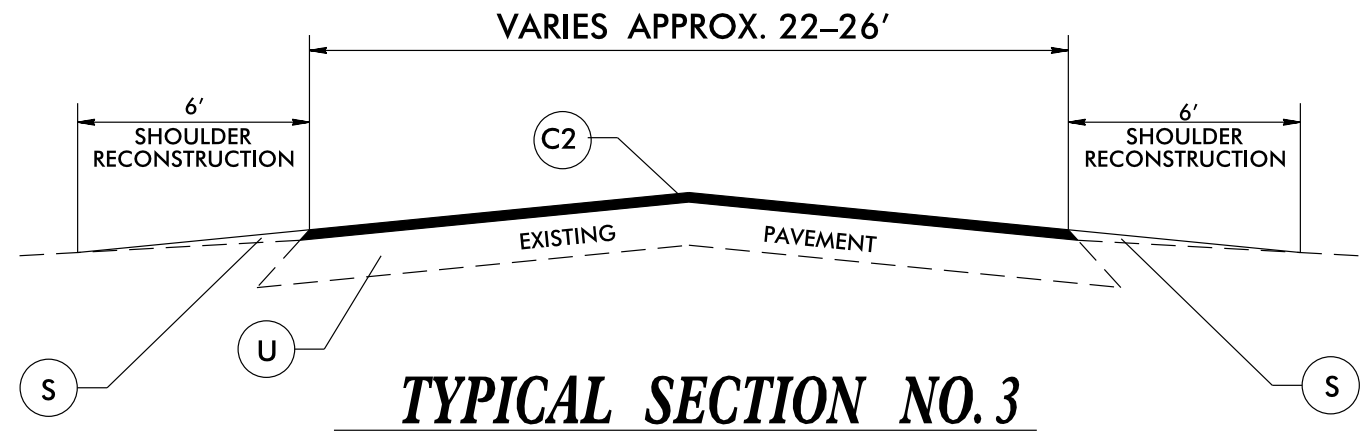
# Maps 16,17,18





PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
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. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 220 LBS. PER SQ. YD.
C4	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
F	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #67 STONE
M	MILLED RUMBLE STRIPS
S	AGGREGATE SHOULDER BORROW
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	MILLING 2.0" IN DEPTH

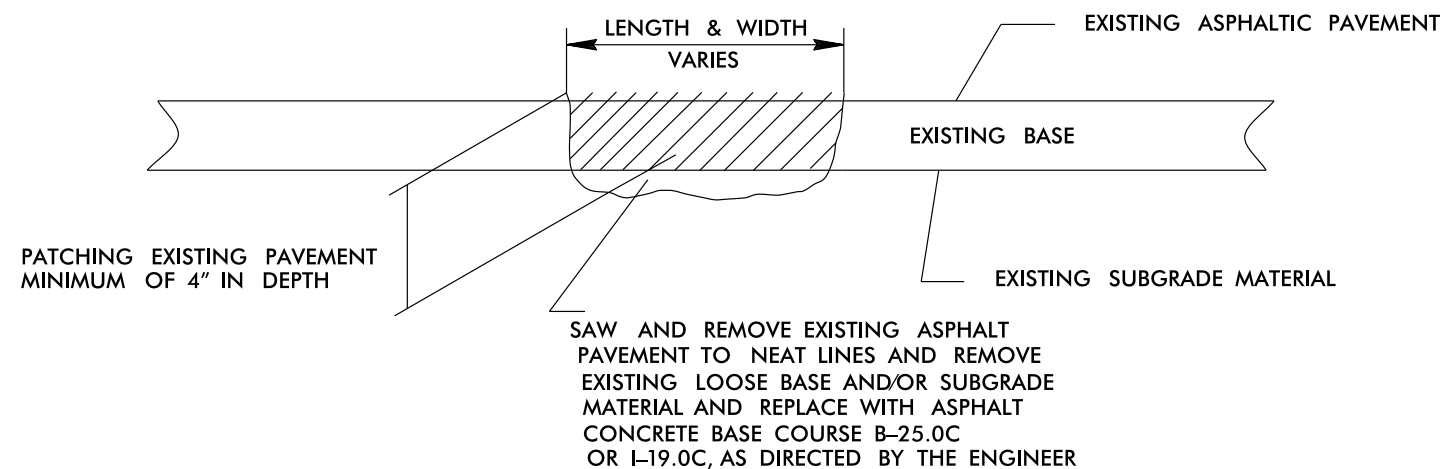




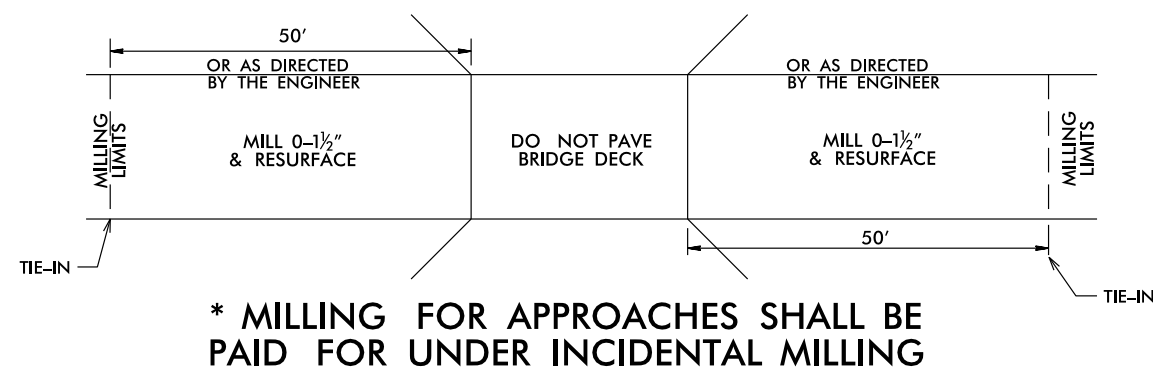
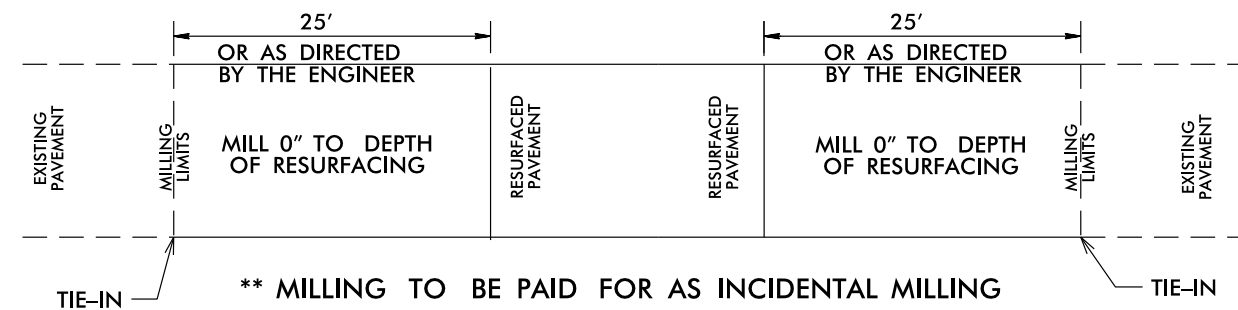
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C3	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 220 LBS. PER SQ. YD.
C4	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
F	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #67 STONE
M	MILLED RUMBLE STRIPS
S	AGGREGATE SHOULDER BORROW
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
VI	MILLING 2.0" IN DEPTH

01-NOV-2023 15:42  
 Resurfacing - Cheatham  
 01-NOV-2023 15:42  
 Resurfacing - Cheatham  
 01-NOV-2023 15:42  
 Resurfacing - Cheatham

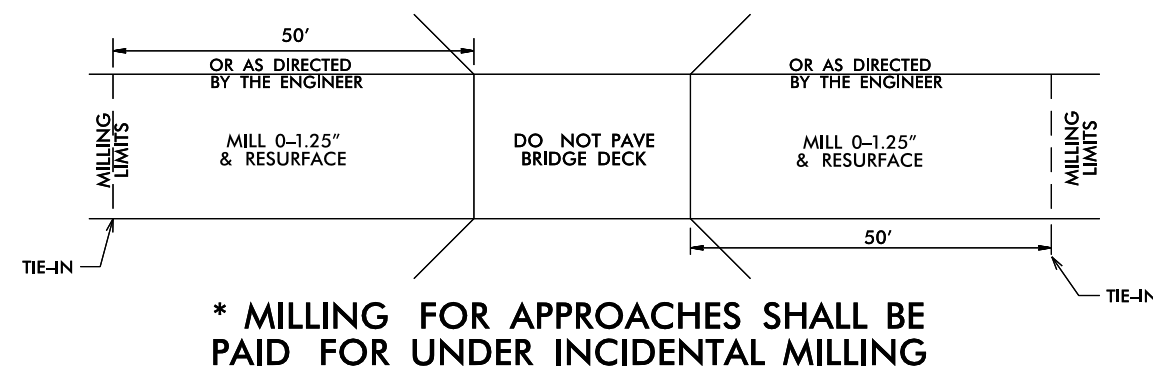
### DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING



### PAVEMENT TIE-IN DETAIL



**BRIDGE DRAWING FOR  
MAP #5 GOLDSTON CARBONTON RD BRIDGE #201**



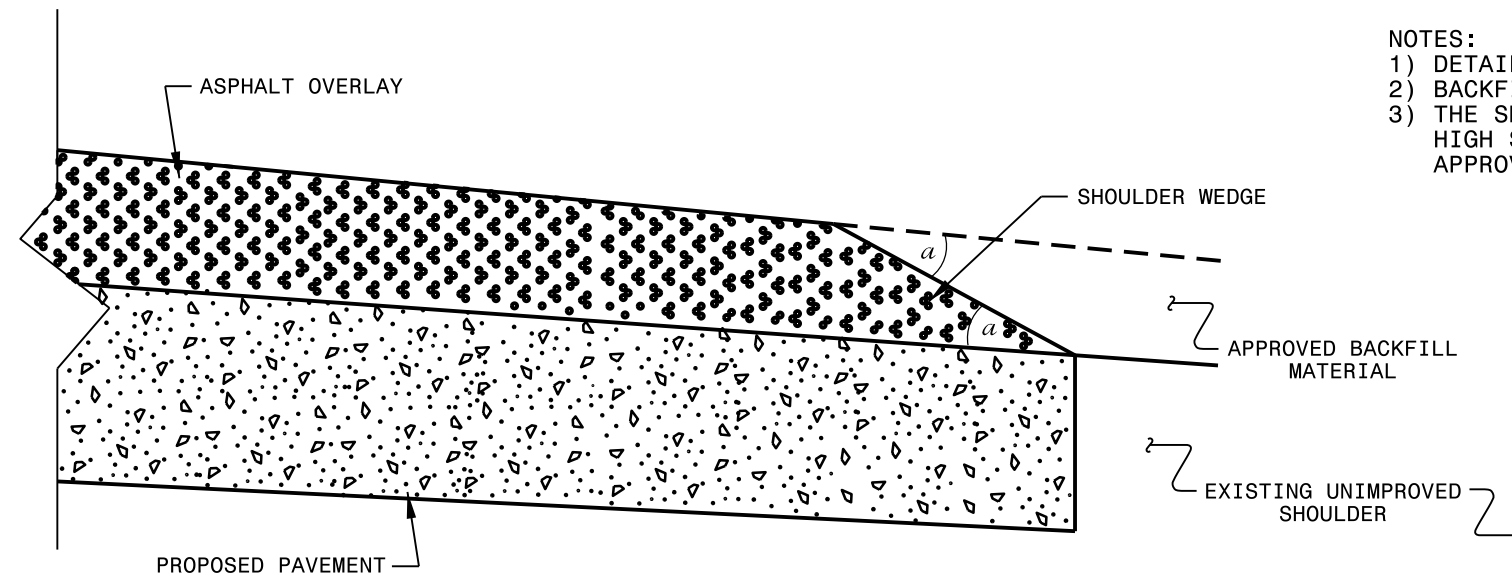
**BRIDGE DRAWING FOR  
MAP #19 PLANK RD BRIDGE #169**

### PROJECT NOTES

- ONE COAT OF PAINT MARKINGS TO BE APPLIED ON MAPS 4-19. PERMANENT MARKINGS TO BE HANDLED ON A LATER PROJECT.
- PAINT MARKINGS INCLUDED FOR MILLING ON MAPS 1 AND 2.

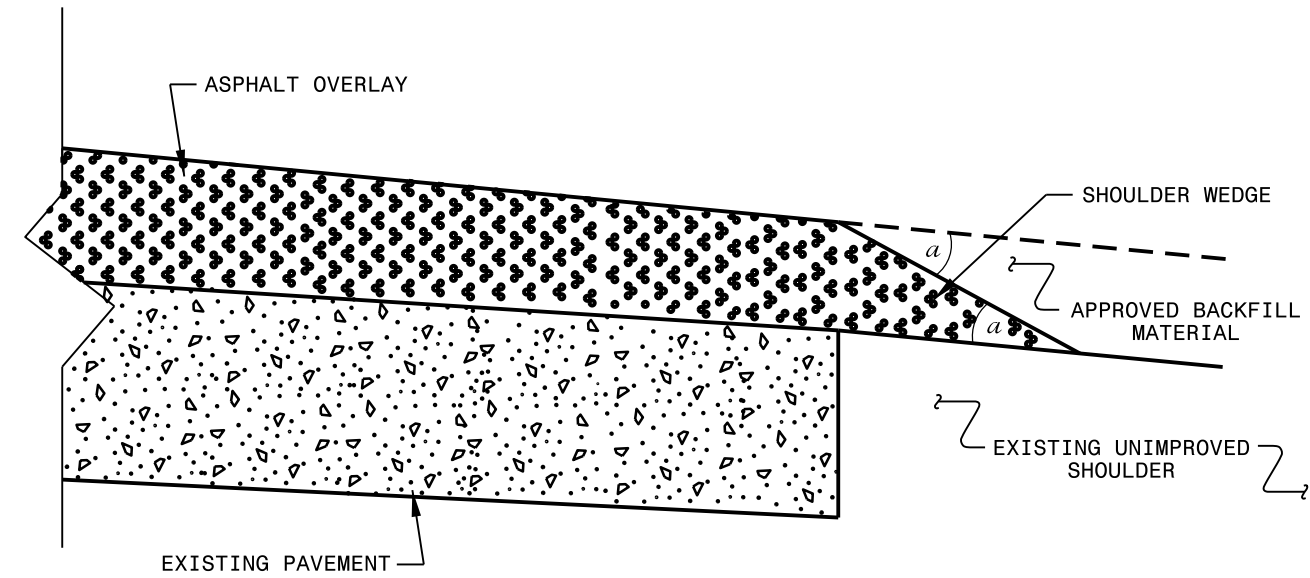
**NOTES:**

- 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.



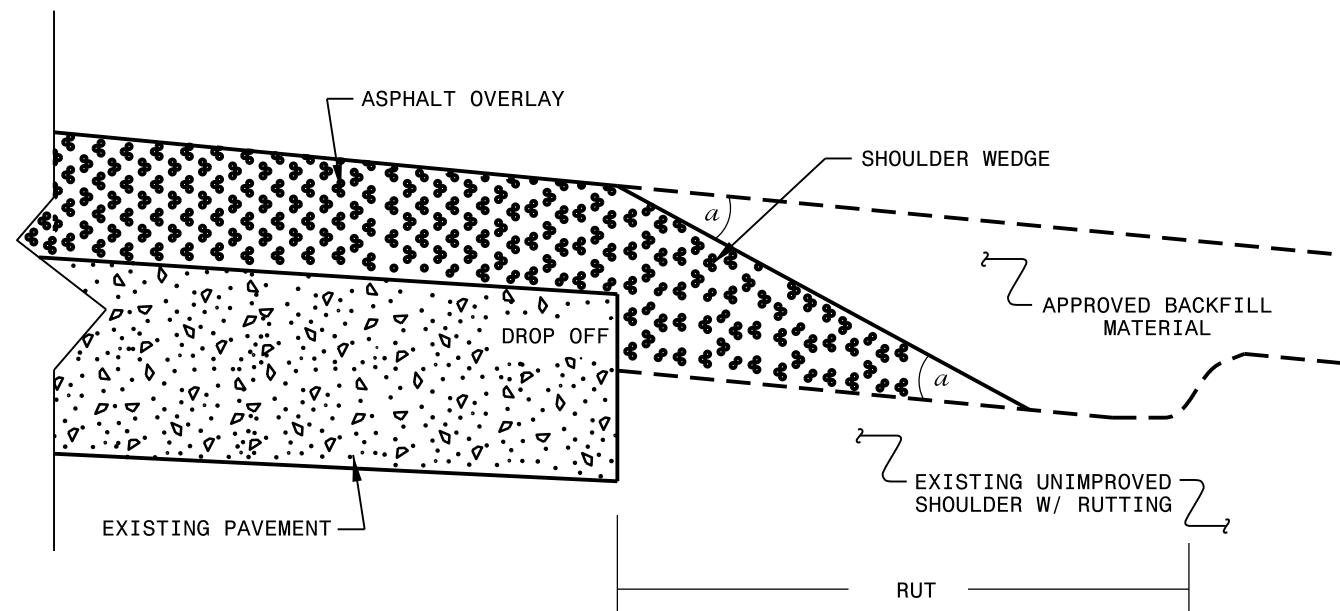
**SHOULDER WEDGE DETAIL**

(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.
2024CPT.08.06.10191, 2024CPT.08.06.20191	20	

**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	BEGIN MP	END MP	1245000000-E	1260000000-E	1297000000-E	1330000000-E	1519000000-E	1523000000-E	1575000000-E	1704000000-E	1775000000-E	1838000000-E	1838500000-N	1840000000-E	2143000000-E	7444000000-E	7456100000-E							
														SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	2" MILLING	INCIDENTAL MILLING	SURFACE COURSE, S9.5B	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ASPHALT SURFACE TREATMENT, MATCOAT, #67 STONE	EMULSION FOR ASPHALT SURFACE TREATMENT	VACUUM TRUCK	MILLED RUMBLE STRIPS	BLOTTING SAND	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2)							
														MI	FT			TONS	TONS	TONS	TONS	SY	GAL	WK	LF	TON	LF	LF							
2024CPT.08.06.10191	Chatham	1	US-421 N	FROM LEE COUNTY TO BRIDGE #35 AT RR	1	2	MD	NO	NO	2.4	32	0	2.4			45,187	3,140		5,992	355	20				25,080										
<b>TOTAL FOR MAP NO. 1</b>														<b>2.4</b>				<b>45,187</b>	<b>3,140</b>		<b>5,992</b>	<b>355</b>	<b>20</b>				<b>25,080</b>								
2024CPT.08.06.10191	Chatham	2	US-421 S	FROM BRIDGE #506 AT RR TO LEE COUNTY	1	2	MD	NO	NO	2.4	32	23.3	25.7			45,950	1,290		5,867	347	20				25,080										
<b>TOTAL FOR MAP NO. 2</b>														<b>2.4</b>				<b>45,950</b>	<b>1,290</b>		<b>5,867</b>	<b>347</b>	<b>20</b>				<b>25,080</b>								
2024CPT.08.06.10191	Chatham	3	US-15	FROM SR 1989 JOE WOMBLE RD TO SR 1012 MONCURE PITTSBORO RD	2	2	2WU	NO	NO	3.5	32	5.62	9.12	7.00	980.00			1,176	8,420	504	150	65,000.00	26,000	3.00		5	216	216							
<b>TOTAL FOR MAP NO. 3</b>														<b>3.5</b>				<b>7.00</b>	<b>980.00</b>		<b>1,176</b>	<b>8,420</b>	<b>504</b>	<b>150</b>	<b>65,000.00</b>	<b>26,000</b>	<b>3.00</b>		<b>5</b>	<b>216</b>	<b>216</b>				
<b>TOTAL FOR PROJ NO. 2024CPT.08.06.10191</b>														<b>8.3</b>				<b>7.00</b>	<b>980.00</b>		<b>91,137</b>	<b>5,606</b>		<b>20,279</b>	<b>1,206</b>	<b>190</b>	<b>65,000.00</b>	<b>26,000</b>	<b>3.00</b>	<b>50,160</b>	<b>5</b>	<b>216</b>	<b>216</b>		
2024CPT.08.06.20191	Chatham	4	SR-2303 / GOLDSTON GLENDON RD	FROM SR 2306 (GOLDSTON CARBONTON RD) TO SR 1009 (BONLEE CARBONTON RD)	3	2	2WU	NO	NO	4.77	24	0.28	5.05	9.54	1,336.00			400	6,127		410	250													
<b>TOTAL FOR MAP NO. 4</b>														<b>4.77</b>				<b>9.54</b>	<b>1,336.00</b>		<b>400</b>	<b>6,127</b>		<b>410</b>	<b>250</b>										
2024CPT.08.06.20191	Chatham	5	SR-2306 / GOLDSTON CARBONTON RD	FROM NC 42 TO EARLS RETREAT (NON-SYSTEM - 1.04 MI N OF SR 2140ALTON KING RD)	3	2	2WU	NO	NO	3.08	22	0	3.08	6.16	862.00			183	3,628		236														
<b>TOTAL FOR MAP NO. 5</b>														<b>3.08</b>				<b>6.16</b>	<b>862.00</b>		<b>183</b>	<b>3,628</b>		<b>236</b>											
2024CPT.08.06.20191	Chatham	6	SR-2307 / ALSTON HOUSE RD	FROM MOORE COUNTY TO NC 42	3	2	2WU	NO	NO	0.41	22	0	0.41	0.82	115.00			122	483		35	75													
<b>TOTAL FOR MAP NO. 6</b>														<b>0.41</b>				<b>0.82</b>	<b>115.00</b>		<b>122</b>	<b>483</b>		<b>35</b>	<b>75</b>										
2024CPT.08.06.20191	Chatham	7	SR-2331 / DELPHUS STINSON RD	FROM SR 2312 (VANDER OLDHAM RD) TO SR 2303 (GOLDSTON GLENDON RD)	4	2	2WU	NO	NO	1.9	20	0	1.9	3.80	532.00			111	1,695		120	200													
<b>TOTAL FOR MAP NO. 7</b>														<b>1.9</b>				<b>3.80</b>	<b>532.00</b>		<b>111</b>	<b>1,695</b>		<b>120</b>	<b>200</b>										
2024CPT.08.06.20191	Chatham	8	SR-2301 / CALLICUTT RD	FROM SR 1176 (OLD US 421) TO SR 2300 (BEAR CREEK CHURCH RD)	4	2	2WU	NO	NO	1.21	20	0	1.21	2.42	339.00			222	1,079		80	200													
<b>TOTAL FOR MAP NO. 8</b>														<b>1.21</b>				<b>2.42</b>	<b>339.00</b>		<b>222</b>	<b>1,079</b>		<b>80</b>	<b>200</b>										
2024CPT.08.06.20191	Chatham	9	SR-1119 / WADE PASCHAL RD	FROM PVMT JOINT (HOUSE 2060) TO SR 1121 (SS EDWARDS RD)	4	2	2WU	NO	NO	1.22	16	1.37	2.59	2.44	342.00			89	872		61	100													
<b>TOTAL FOR MAP NO. 9</b>														<b>1.22</b>				<b>2.44</b>	<b>342.00</b>		<b>89</b>	<b>872</b>		<b>61</b>	<b>100</b>										
2024CPT.08.06.20191	Chatham	10	SR-1341 / SHEEP ROCK RD	FROM ALAMANCE COUNTY TO SR 1337 (MOON LINDLEY RD)	4	2	2WU	NO	NO	0.66	20	0	0.66	1.32	185.00			111	589		41	50													
<b>TOTAL FOR MAP NO. 10</b>														<b>0.66</b>				<b>1.32</b>	<b>185.00</b>		<b>111</b>	<b>589</b>		<b>41</b>	<b>50</b>										
2024CPT.08.06.20191	Chatham	11	SR-2126 / ELMER MOORE RD	FROM SR 1176 (OLD US 421) TO PVT JT OF US 421	4	2	2WU	NO	NO	1.69	22	0	1.69	3.38	473.00			306	1,657		117	200													
<b>TOTAL FOR MAP NO. 11</b>														<b>1.69</b>				<b>3.38</b>	<b>473.00</b>		<b>306</b>	<b>1,657</b>		<b>117</b>	<b>200</b>										
2024CPT.08.06.20191	Chatham	12	SR-1941 / SEAFORTH RD	FROM US 64 PVMT JT SOUTH TO SOUTHERN SEAFORTH HS DRWY	3	2	2WU	NO	NO	0.45	26	0	0.45	0.90	126.00			289	626		41														
<b>TOTAL FOR MAP NO. 12</b>														<b>0.45</b>				<b>0.90</b>	<b>126.00</b>		<b>289</b>	<b>626</b>		<b>41</b>											
2024CPT.08.06.20191	Chatham	13	SR-2195 / THRIFT RD	FROM SR 1007 FAYETTEVILLE ST TO US 421	4	2	2WU	NO	NO	0.88	18	0	0.88	1.76	246.00			200	707		46														
<b>TOTAL FOR MAP NO. 13</b>														<b>0.88</b>				<b>1.76</b>	<b>246.00</b>		<b>200</b>	<b>707</b>		<b>46</b>											
2024CPT.08.06.20191	Chatham	14	SR-2145 / R JORDAN RD	FROM SR 2139 GULF RD TO RXR	4	2	2WU	NO	NO	1.61	18	0	1.61	3.22	451.00			150	1,293		84														
<b>TOTAL FOR MAP NO. 14</b>														<b>1.61</b>				<b>3.22</b>	<b>451.00</b>		<b>150</b>	<b>1,293</b>		<b>84</b>											
2024CPT.08.06.20191	Chatham	15	SR-2145 / EVERETTE DOWDY RD	FROM SR 2148 FARMVILLE COAL MINE RD TO SR 2217 WALTER BRIGHT RD	4	2	2WU	NO	NO	1.83	19	3.9	5.73	3.66	423.00			158	1,551		103	50													
<b>TOTAL FOR MAP NO. 15</b>														<b>1.83</b>				<b>3.66</b>	<b>423.00</b>		<b>158</b>	<b>1,551</b>		<b>103</b>	<b>50</b>										
2024CPT.08.06.20191	Chatham	16	SR-1953 / LYDIA PERRY RD	FROM SR 2153 ROSSER RD TO SR 2190 LW BURNS RD	5	2	2WU	NO	NO	0.32	20	0	0.32	0.64	90.00			111	458		30														
<b>TOTAL FOR MAP NO. 16</b>														<b>0.32</b>				<b>0.64</b>	<b>90.00</b>		<b>111</b>	<b>458</b>		<b>30</b>											
2024CPT.08.06.20191	Chatham	17	SR-2190 / LW BURNS RD	FROM SR 1953 LYDIA PERRY RD TO END MAINT	4	2	2WU	NO	NO	0.5	20	0	0.5	1.00	140.00			56	536		40	100													
<b>TOTAL FOR MAP NO. 17</b>														<b>0.5</b>				<b>1.00</b>	<b>140.00</b>		<b>56</b>	<b>536</b>		<b>40</b>	<b>100</b>										
2024CPT.08.06.20191	Chatham	18	SR-1953 / LYDIA PERRY RD	FROM SR 2190 LW BURNS RD TO SR 2151 ASBURY CHURCH RD	4	2	2WU	NO	NO	2.22	21	0.32	2.54	4.44	622.00			117	2,079		138	50													
<b>TOTAL FOR MAP NO. 18</b>														<b>2.22</b>				<b>4.44</b>	<b>622.00</b>		<b>117</b>	<b>2,079</b>		<b>138</b>	<b>50</b>										
2024CPT.08.06.20191	Chatham	19	SR-1007 / PLANK RD	FROM US 421 TIE-IN AT S SIDE MEDIAN ISLAND TO LEE COUNTY LINE	4	2	2WU	NO	NO	0.11	20	0	0.11	0.22	31.00			111	98		9	50													
<b>TOTAL FOR MAP NO. 19</b>														<b>0.11</b>				<b>0.22</b>	<b>31.00</b>		<b>111</b>	<b>98</b>		<b>9</b>	<b>50</b>										
<b>TOTAL FOR PROJ NO. 2024CPT.08.06.20191</b>														<b>22.86</b>				<b>45.72</b>	<b>6,313.00</b>		<b>2,736</b>	<b>23,478</b>		<b>1,591</b>	<b>1,325</b>										
<b>GRAND TOTAL</b>														<b>31.16</b>				<b>52.72</b>	<b>7,293.00</b>		<b>91,137</b>	<b>8,342</b>		<b>23,478</b>	<b>20,279</b>		<b>2,797</b>	<b>1,515</b>	<b>65,000.00</b>	<b>26,000</b>	<b>3.00</b>	<b>50,160</b>	<b>5</b>	<b>216</b>	<b>216</b>

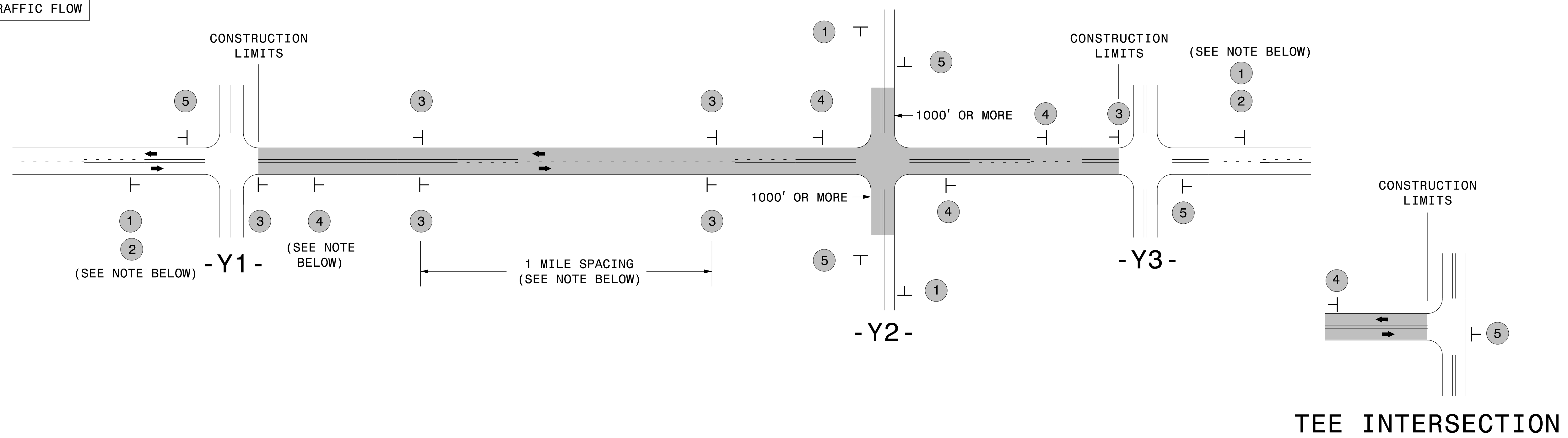


# SIGNING FOR RESURFACING PROJECTS

**LEGEND**

┆ 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>W7-3aP 24" X 18"</small>	#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	 <small>SP 13107 48" X 48"</small>	- 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	 <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. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.	
	5	 <small>G20-2 A 48" X 24"</small>	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.	

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

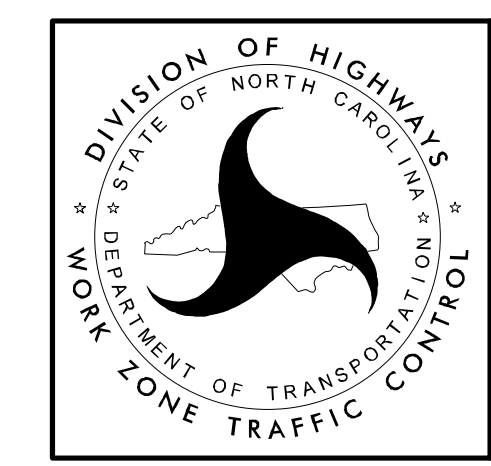
- 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
- 2) SUBDIVISION ROADS
- 3) DEAD END ROADS

WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.

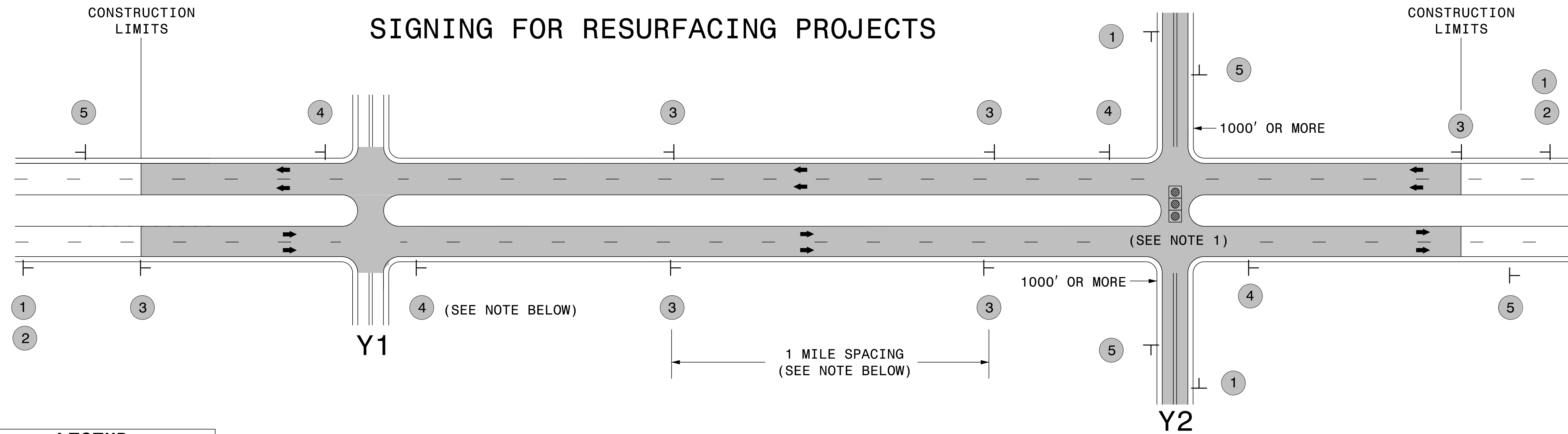
 <small>W20-1 48" X 48"</small> PLACED 500' IN ADVANCE OF FLAGGER.	 <small>W20-7 A 48" X 48"</small> PLACED 250' IN ADVANCE OF FLAGGER.
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### MAPS LESS THAN 2 MILES

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**



LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

### MAINLINE (-L-) SIGNING

### -Y- LINE SIGNING

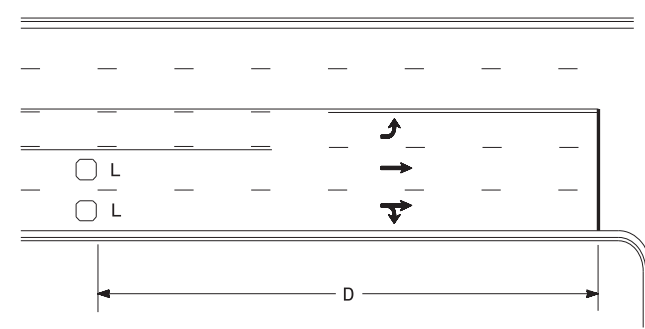
SIGNING NOTES AND PLACEMENT PER DIRECTION	MAINLINE (-L-) SIGNING		-Y- LINE SIGNING	
	1	 <small>W20-1 48" X 48"</small>	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<p><b>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -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>
	2	 <small>W7-3aP 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.		

**NOTES:**

- 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.

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

### High Speed Detection (≥40 mph)

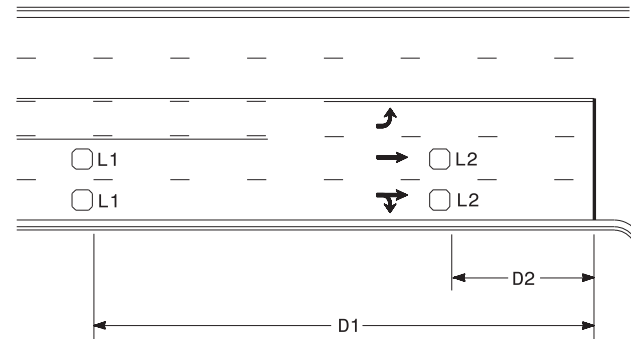


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft  
Wired separately

Volume Density Operation

OR

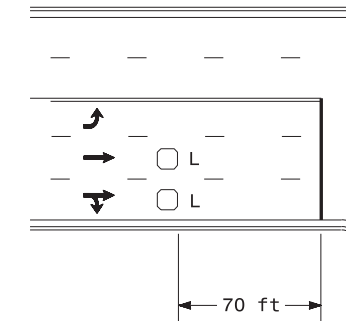


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

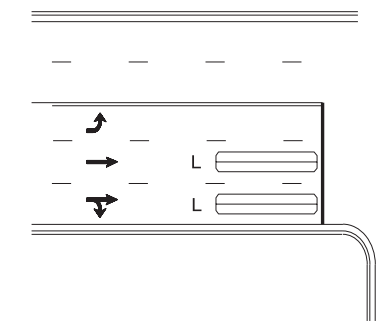
"Stretch" Operation

### Low Speed Detection (≤35 mph)



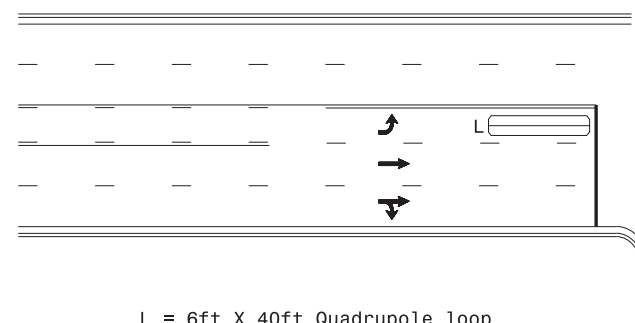
L = 6ft X 6ft  
Wired in series

OR



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

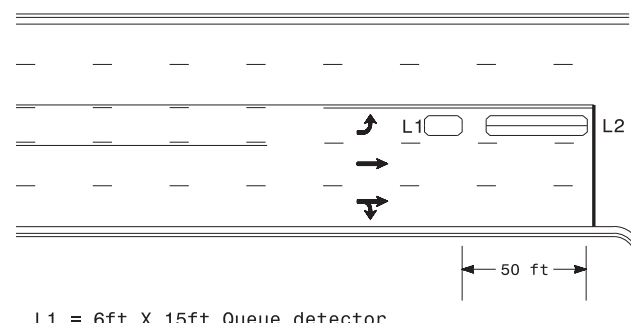
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

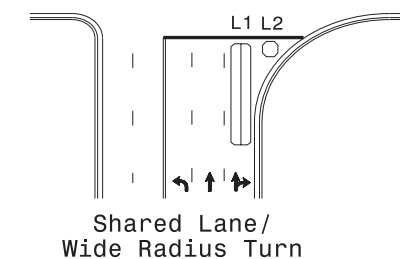
OR



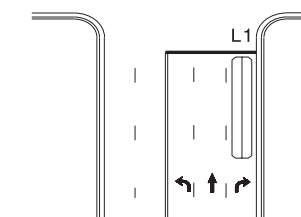
L1 = 6ft X 15ft Queue detector  
L2 = 6ft X 40ft Quadrupole loop

Queue Loop Detection

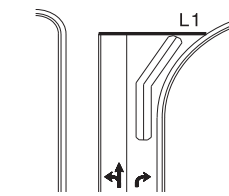
### Right Turn Lane Detection



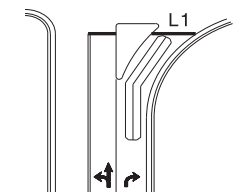
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

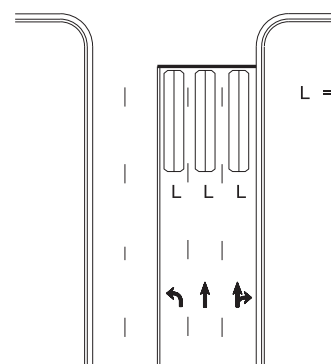


Wide Radius Turn



Channelized Turn

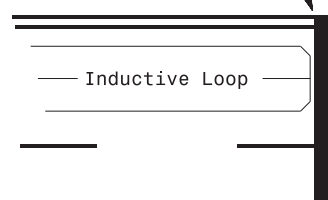
### Side Street Detection



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

### Presence Loop Placement at Stop Lines

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

Prepared In the Offices of:

Typical Signal Loop Locations	
PLAN DATE: September 2020	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
SCALE: N/A	REVISIONS: INIT. DATE
<p>9/8/2020</p> <p>SIG. INVENTORY NO.</p>	