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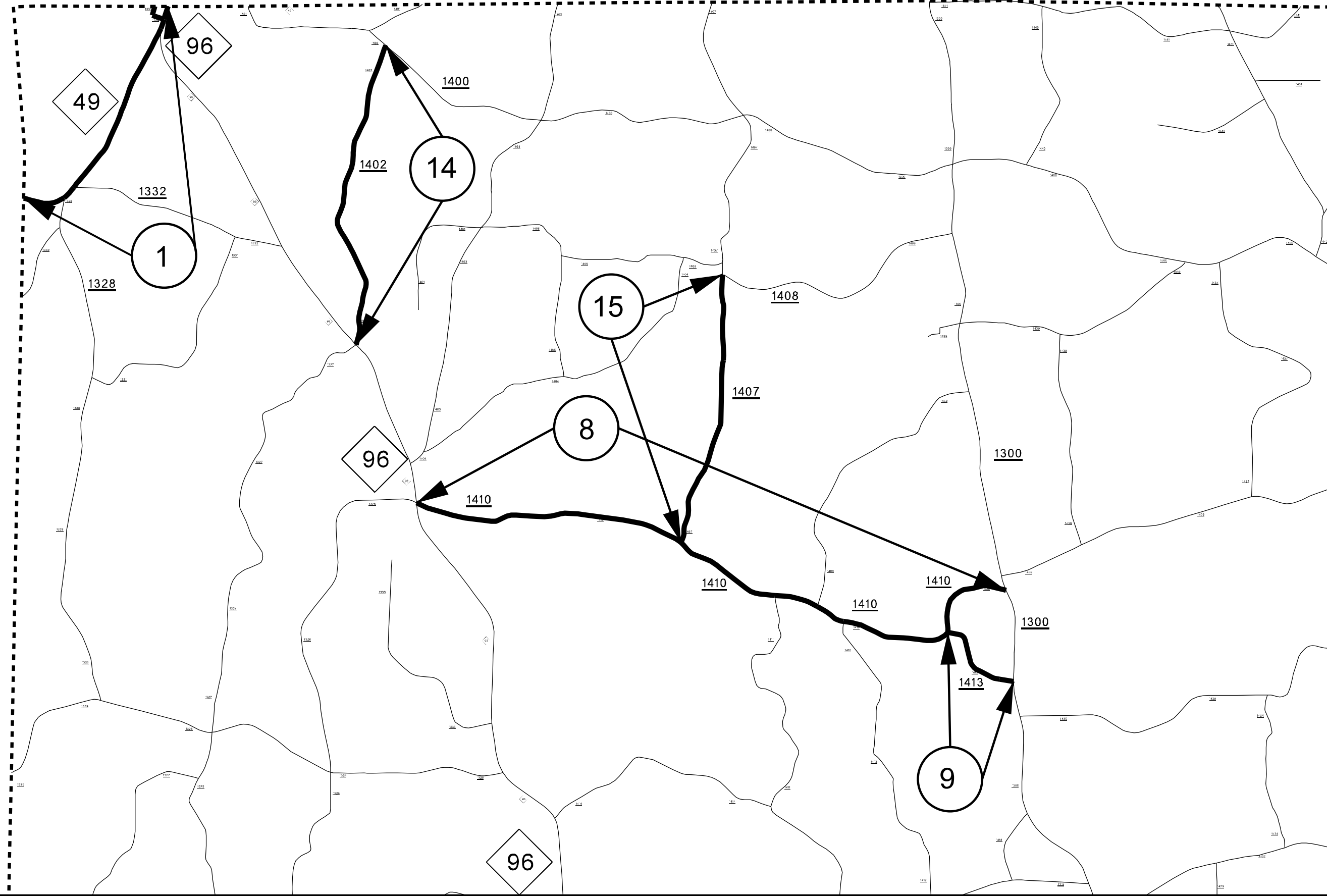
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2016 - 2017  
Granville County  
Resurfacing

PROJECT REFERENCE NO.	SHEET NO.
2017CPT.05.06.10391.1, etc.	1

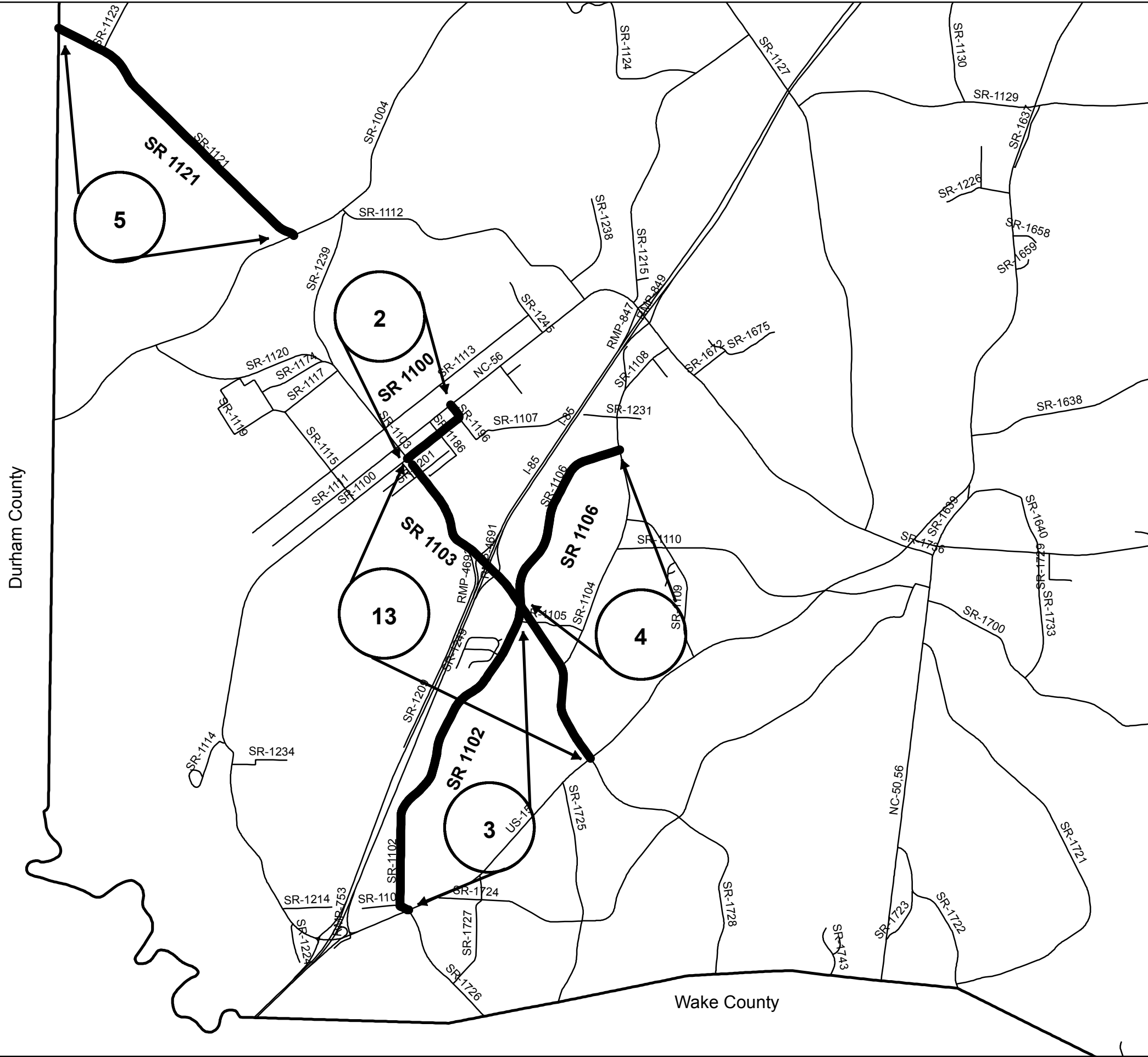
Virginia State Line

Person County



5/14/99  
C:\ACTIVE\PROJECTS\2017\2017CPT\2017CPT.DWG

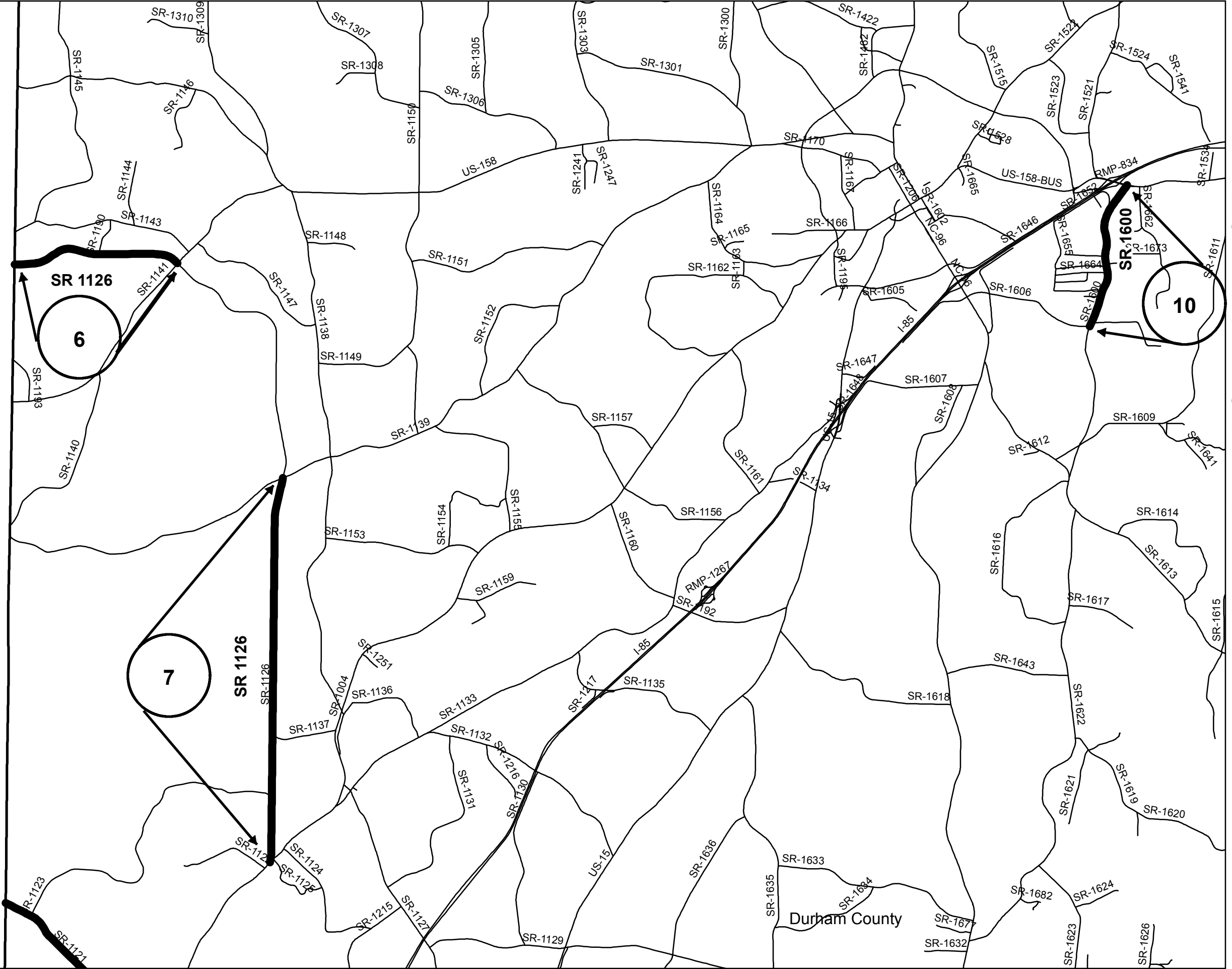
# 2016 - 2017 Granville County Resurfacing



# 2016 - 2017 Granville County Resurfacing



Durham County



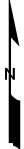
SR 1126  
6

SR 1126  
7

SR 1600  
10

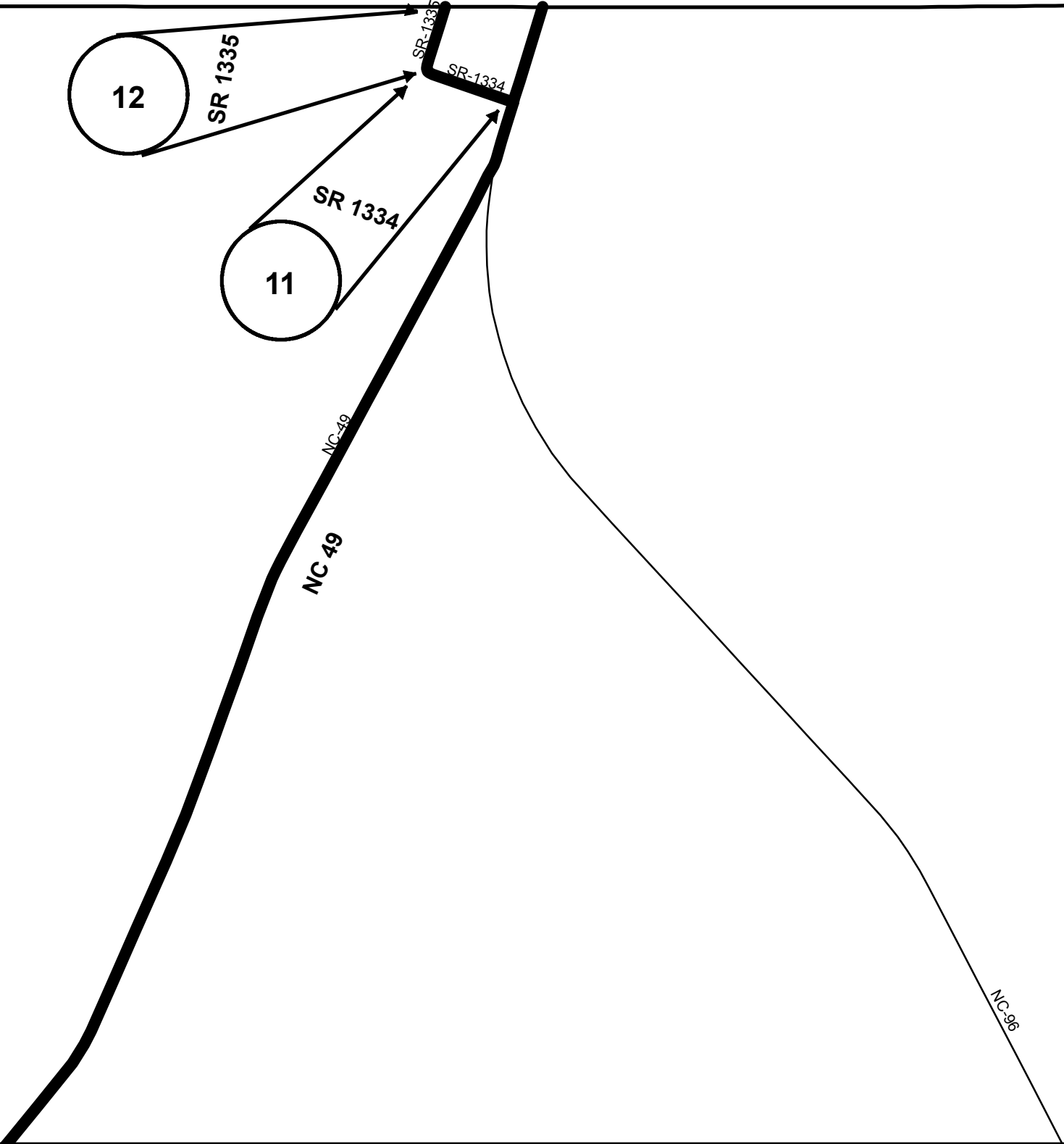
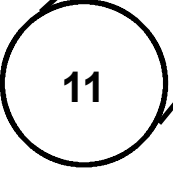
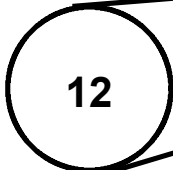
Durham County

**2016 - 2017  
Granville County  
Resurfacing**



Person County

Virginia State Line





5/14/98

# PAVEMENT SCHEDULE

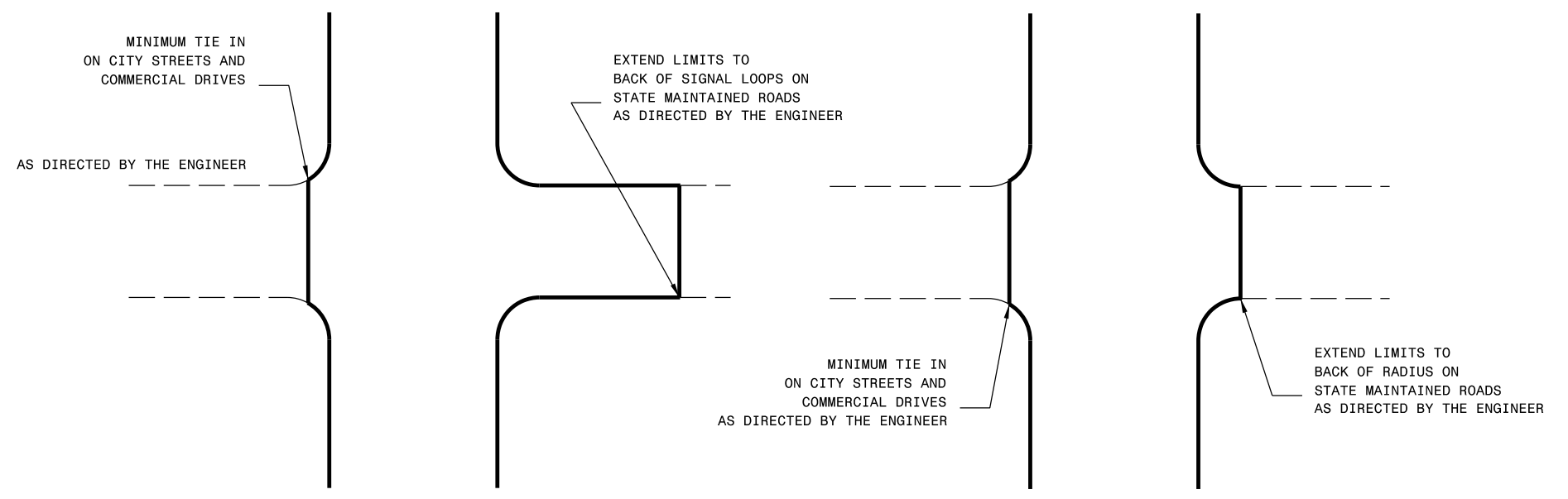
PROJECT REFERENCE NO.

2017CPT.05.06.10391J, etc.

SHEET NO.

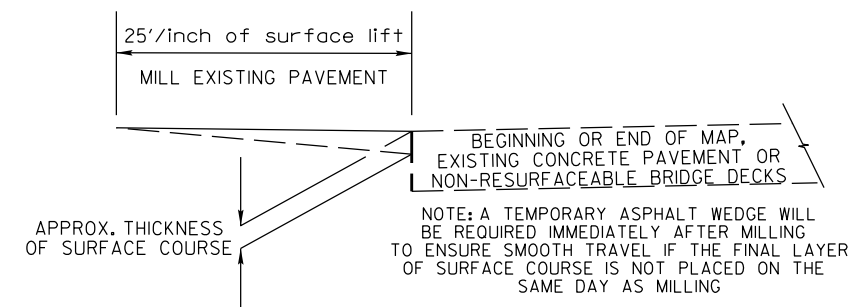
6

C	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
D	PROP. APPROX. 2 1/2" ASPH. CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
P	PRIME COAT AT THE RATE OF 0.20-0.50 GALLONS PER SQUARE YARD, AS DIRECTED BY THE ENGINEER
U1	EXISTING PAVEMENT
U2	EXISTING ABC TO BE CONDITIONED AND SHAPED
V	1 1/2" MILLING

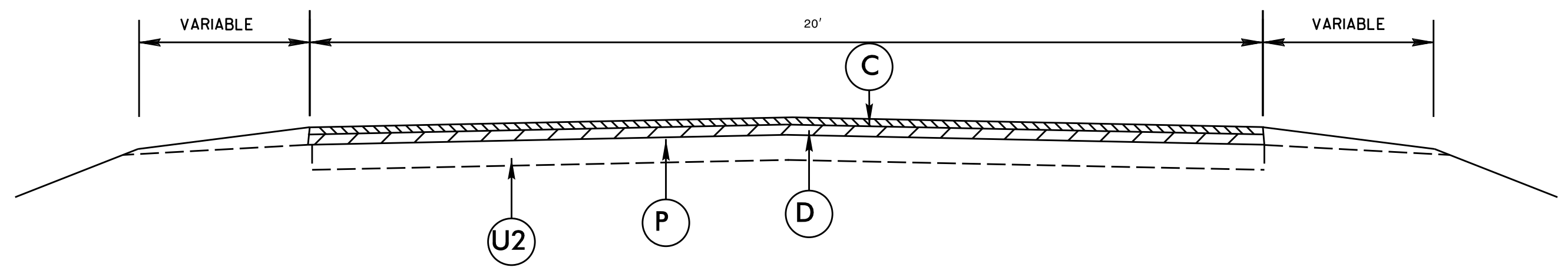


DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES

DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES



INCIDENTAL MILLING



TYPICAL SECTION 3

\*SHOULDER RECONSTRUCTION TO BE DONE BY STATE FORCES

SECTION 301.01

PROJECT NO.	SHEET NO.	TOTAL NO.
2017CPT.05.06.10391.1, etc.	7	

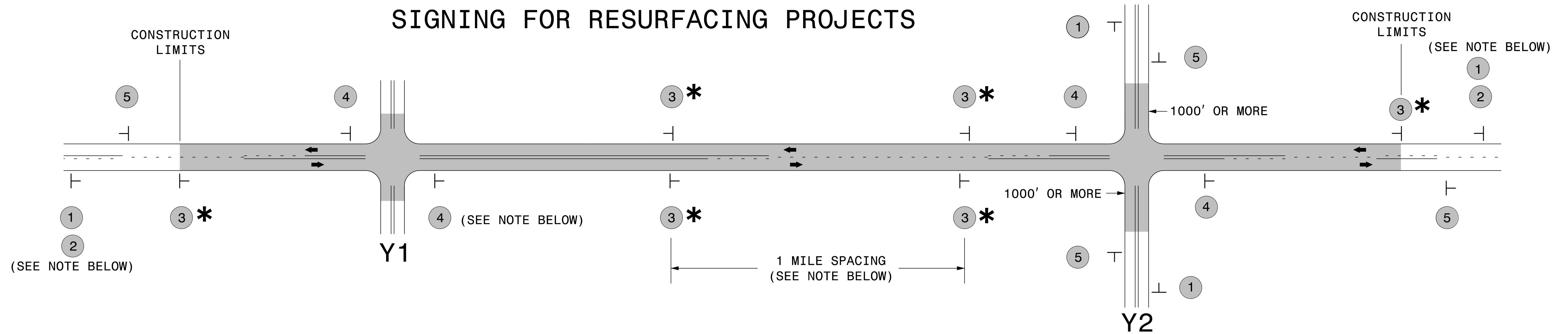
### SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	BORROW CY	GEOTEXTILE FOR SOIL STABILIZATION SY	ASB TONS	REPAIR EXISTING AGGREGATE BASE COURSE TON	SHOULDER GRADING SMI	CONDITIONING EXISTING BASE MSY	INCIDENTAL STONE BASE TONS	PRIME COAT GAL	1½" MILLING SY	INCIDENTAL MILLING SY	INTERMEDIATE COURSE, I19.0B TONS	SURFACE COURSE, SF9.5A TON	ASPHALT BINDER FOR PLANT MIX TON	PATCHING EXISTING PAVEMENT TONS	TEMPORARY SILT FENCE LF	WATTLE LF	SEED & MULCHING AC	INDUCTIVE LOOP LF
2017CPT.05.06.10391.1	Granville	1	NC 49	PERSON CL TO STATE LINE	1	2	2WU	NO	NO	1.93	20	193		93		3.86		48			268	2,096	140	200	140	360	1.40		
<b>TOTAL FOR MAP NO. 1</b>										<b>1.93</b>		<b>193</b>		<b>93</b>		<b>3.86</b>		<b>48</b>			<b>268</b>	<b>2,096</b>	<b>140</b>	<b>200</b>	<b>140</b>	<b>360</b>	<b>1.40</b>		
<b>TOTAL FOR PROJ NO. 2017CPT.05.06.10391.1</b>										<b>1.93</b>		<b>193</b>		<b>93</b>		<b>3.86</b>		<b>48</b>			<b>268</b>	<b>2,096</b>	<b>140</b>	<b>200</b>	<b>140</b>	<b>360</b>	<b>1.40</b>		
2017CPT.05.06.20391.1	Granville	2	SR 1100 - E B ST	SR 1103 - CENTRAL AVE TO NC 56 - E C ST	2	2	2WU	NO	NO	0.61	26							15		12,202	245	1,082	72						
<b>TOTAL FOR MAP NO. 2</b>										<b>0.61</b>								<b>15</b>		<b>12,202</b>	<b>245</b>	<b>1,082</b>	<b>72</b>						
2017CPT.05.06.20391.1	Granville	3	SR 1102 - WILL SUITT RD	US 15 TO SR 1103 - GATE TWO RD	1	2	2WU	NO	NO	2.61	22	261		125		5.22		65			265	3,006	201	500	190	480	1.90		
<b>TOTAL FOR MAP NO. 3</b>										<b>2.61</b>		<b>261</b>		<b>125</b>		<b>5.22</b>		<b>65</b>			<b>265</b>	<b>3,006</b>	<b>201</b>	<b>500</b>	<b>190</b>	<b>480</b>	<b>1.90</b>		
2017CPT.05.06.20391.1	Granville	4	SR 1106 - WILL SUITT RD	SR1103 - GATE TWO RD TO SR 1104 - E LYON STATION RD	1	2	2WU	NO	NO	1.51	20	151		73		3.02		38			287	1,555	104	500	110	280	1.10		
<b>TOTAL FOR MAP NO. 4</b>										<b>1.51</b>		<b>151</b>		<b>73</b>		<b>3.02</b>		<b>38</b>			<b>287</b>	<b>1,555</b>	<b>104</b>	<b>500</b>	<b>110</b>	<b>280</b>	<b>1.10</b>		
2017CPT.05.06.20391.1	Granville	5	SR 1121 - RANGE RD	SR 1004 - OLD NC 75 TO DURHAM CL	1	2	2WU	NO	NO	2.37	20			228		4.74				406	295	2,454	164	800					
<b>TOTAL FOR MAP NO. 5</b>										<b>2.37</b>				<b>228</b>		<b>4.74</b>				<b>406</b>	<b>295</b>	<b>2,454</b>	<b>164</b>	<b>800</b>					
2017CPT.05.06.20391.1	Granville	6	SR 1126 - RANGE RD	PERSON CL TO SR 1141 - MORIAH RD	1	2	2WU	NO	NO	2.22	20	222		107		4.44		56			190	2,291	153	350	161	410	1.62		
<b>TOTAL FOR MAP NO. 6</b>										<b>2.22</b>		<b>222</b>		<b>107</b>		<b>4.44</b>		<b>56</b>			<b>190</b>	<b>2,291</b>	<b>153</b>	<b>350</b>	<b>161</b>	<b>410</b>	<b>1.62</b>		
2017CPT.05.06.20391.1	Granville	7	SR 1126 - RANGE RD	SR 1139 - ENON RD TO SR 1004 - OLD NC 75	1	2	2WU	NO	YES	5.03	20	252		363		10.06		63			200	5,203	349	1,000	183	460	1.83		
<b>TOTAL FOR MAP NO. 7</b>										<b>5.03</b>		<b>252</b>		<b>363</b>		<b>10.06</b>		<b>63</b>			<b>200</b>	<b>5,203</b>	<b>349</b>	<b>1,000</b>	<b>183</b>	<b>460</b>	<b>1.83</b>		
2017CPT.05.06.20391.1	Granville	8	SR 1410 - OAK HILL RD	NC 96 TO SR 1300 - CORNWALL RD	1	2	2WU	NO	NO	4.88	20	488		234		9.76		122			255	5,099	342	1,000	355	890	3.55		
<b>TOTAL FOR MAP NO. 8</b>										<b>4.88</b>		<b>488</b>		<b>234</b>		<b>9.76</b>		<b>122</b>			<b>255</b>	<b>5,099</b>	<b>342</b>	<b>1,000</b>	<b>355</b>	<b>890</b>	<b>3.55</b>		
2017CPT.05.06.20391.1	Granville	9	SR 1413 - JOHN WATKINS RD	SR 1410 - OAK HILL RD TO SR 1300 - CORNWALL RD	1	2	2WU	NO	NO	0.67	20	34		48		1.34		8			330	685	46	20	24	70	0.24		
<b>TOTAL FOR MAP NO. 9</b>										<b>0.67</b>		<b>34</b>		<b>48</b>		<b>1.34</b>		<b>8</b>			<b>330</b>	<b>685</b>	<b>46</b>	<b>20</b>	<b>24</b>	<b>70</b>	<b>0.24</b>		
2017CPT.05.06.20391.1	Granville	10	SR 1600 - ANTIOCH RD	US 158 TO SR 1606 - W ANTIOCH DR	1	2	2WU	NO	NO	1.98	22	396				3.96		100			420	2,362	158	250	288	720	2.88		
<b>TOTAL FOR MAP NO. 10</b>										<b>1.98</b>		<b>396</b>				<b>3.96</b>		<b>100</b>			<b>420</b>	<b>2,362</b>	<b>158</b>	<b>250</b>	<b>288</b>	<b>720</b>	<b>2.88</b>		
2017CPT.05.06.20391.1	Granville	11	SR 1334 - 5TH ST	NC 96 TO SR 1335	1	2	2WU	NO	NO	0.09	18	18				0.18		5				92	6	20	13	40	0.13		
<b>TOTAL FOR MAP NO. 11</b>										<b>0.09</b>		<b>18</b>				<b>0.18</b>		<b>5</b>				<b>92</b>	<b>6</b>	<b>20</b>	<b>13</b>	<b>40</b>	<b>0.13</b>		
2017CPT.05.06.20391.1	Granville	12	SR 1335- CAROLINA AVE.	SR 1334 - 5TH ST TO STATE LINE	1	2	2WU	NO	NO	0.07	18	14				0.14		4			74	78	5	20	10	30	0.10		
<b>TOTAL FOR MAP NO. 12</b>										<b>0.07</b>		<b>14</b>				<b>0.14</b>		<b>4</b>			<b>74</b>	<b>78</b>	<b>5</b>	<b>20</b>	<b>10</b>	<b>30</b>	<b>0.10</b>		
2017CPT.05.06.20391.1	Granville	13	SR 1103- GATE 2 RD	US 15 TO PVTJT 570' NORTH OF SR 1201	1,2	2	2WU	NO	NO	2.613	26	257		123		5.23		64		10,290	800	4,521	303	20	187	470	1.87	900	
<b>TOTAL FOR MAP NO. 13</b>										<b>2.613</b>		<b>257</b>		<b>123</b>		<b>5.23</b>		<b>64</b>		<b>10,290</b>	<b>800</b>	<b>4,521</b>	<b>303</b>	<b>20</b>	<b>187</b>	<b>470</b>	<b>1.87</b>	<b>900</b>	
2017CPT.05.06.20391.1	Granville	14	SR 1402- SMART RD	NC 96 TO SR 1400 - GRASSY CREEK VIRGILINA RD	1	2	2WU	NO	NO	2.32	20	232		111		4.64		58			167	2,328	156	1,000	169	430	1.69		
<b>TOTAL FOR MAP NO. 14</b>										<b>2.32</b>		<b>232</b>		<b>111</b>		<b>4.64</b>		<b>58</b>			<b>167</b>	<b>2,328</b>	<b>156</b>	<b>1,000</b>	<b>169</b>	<b>430</b>	<b>1.69</b>		
<b>TOTAL FOR PROJ NO. 2017CPT.05.06.20391.1</b>										<b>26.973</b>		<b>2,325</b>		<b>1,412</b>		<b>52.73</b>		<b>598</b>		<b>22,898</b>	<b>3,528</b>	<b>30,756</b>	<b>2,059</b>	<b>5,480</b>	<b>1,690</b>	<b>4,280</b>	<b>16.91</b>	<b>900</b>	
5C.039060	Granville	15	SR 1407 - RUEBEN HART	SR 1410 TO SR 1408		2		NO	NO	2.01	20		25.00		50		26	40	8,255			3,396	1,958	294					
<b>TOTAL FOR MAP NO. 15</b>										<b>2.01</b>			<b>25.00</b>		<b>50</b>		<b>26</b>	<b>40</b>	<b>8,255</b>			<b>3,396</b>	<b>1,958</b>	<b>294</b>					
<b>TOTAL FOR PROJ NO. 5C.039060</b>										<b>2.01</b>			<b>25.00</b>		<b>50</b>		<b>26</b>	<b>40</b>	<b>8,255</b>			<b>3,396</b>	<b>1,958</b>	<b>294</b>					
<b>GRAND TOTAL</b>										<b>30.913</b>		<b>2,518</b>	<b>25.00</b>	<b>1,505</b>	<b>50</b>	<b>56.59</b>	<b>26</b>	<b>686</b>	<b>8,255</b>	<b>22,898</b>	<b>3,796</b>	<b>3,396</b>	<b>34,810</b>	<b>2,493</b>	<b>5,680</b>	<b>1,830</b>	<b>4,640</b>	<b>18.31</b>	<b>900</b>





## SIGNING FOR RESURFACING PROJECTS



LEGEND	
	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

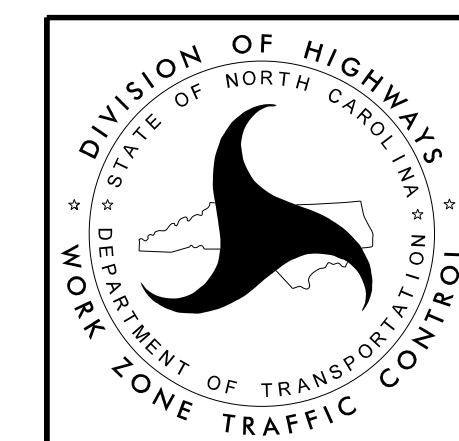
### MAINLINE (-L-) SIGNING

### -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION		
1 2		<p style="text-align: center;"><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 style="text-align: center;">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;"> </div> <div style="text-align: center;"> </div> </div> <p style="text-align: center;">PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
3 *		
4		
5		

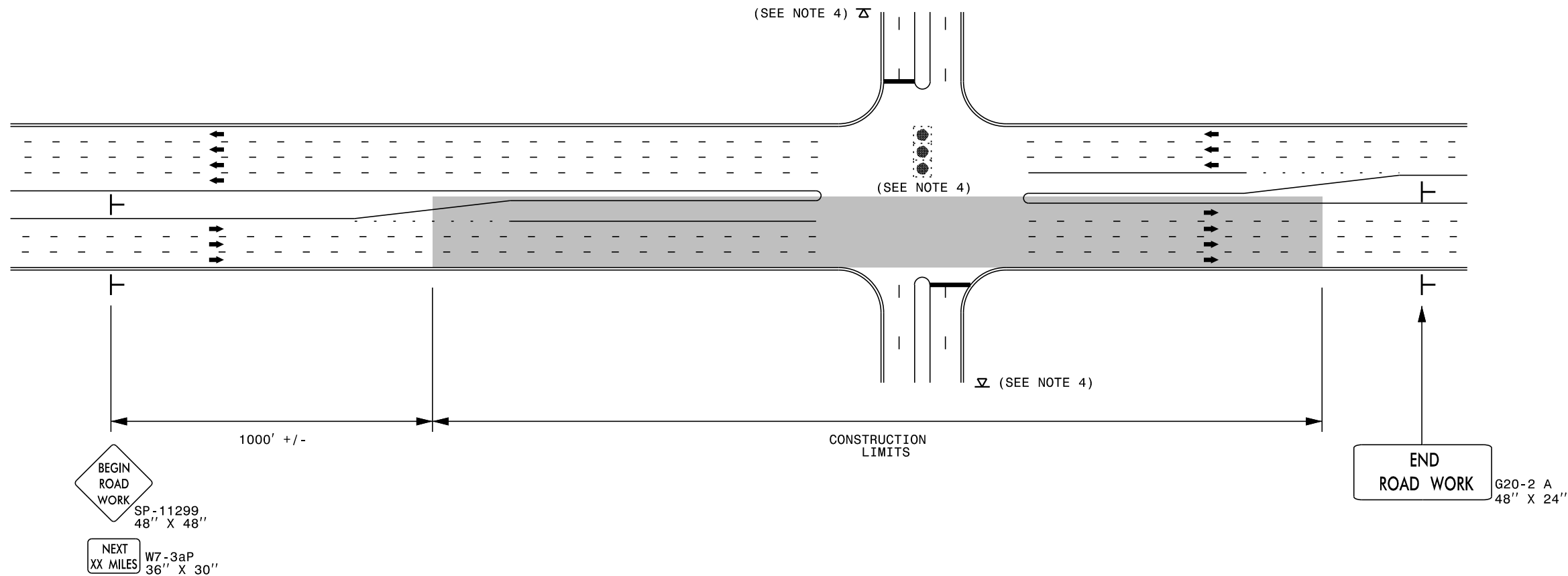
### \* SIGNING FOR ASPHALT SURFACE TREATMENTS (ONLY)

SUBSTITUTE LOW/SOFT SHOULDER SIGNS BY ALTERNATING THE FOLLOWING TWO SIGNS:  
STARTING WITH "UNMARKED PAVEMENT AHEAD" (SP 06026) FOLLOWED BY "LOOSE GRAVEL" (W8-7).



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

## URBAN / SUBURBAN WORKZONES

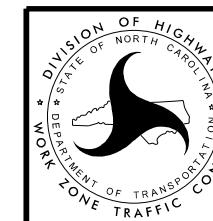


### NOTES:

- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

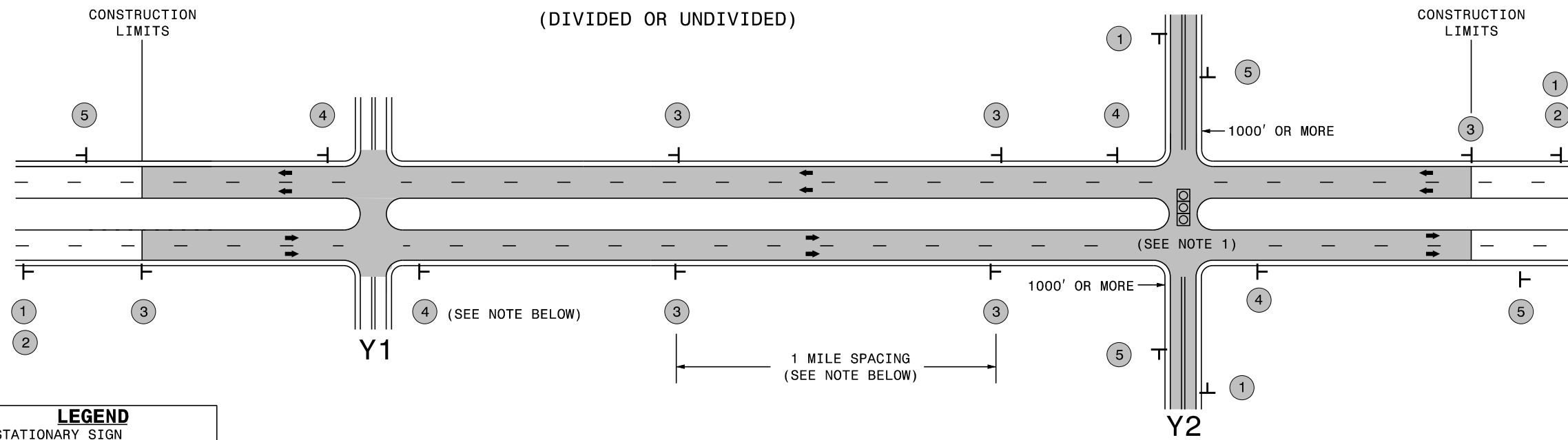
### LEGEND

- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW



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

## SIGNING FOR RURAL AND SUBURBAN MULTI-LANE ROADWAYS WITH SHOULDER SECTIONS (DIVIDED OR UNDIVIDED)



LEGEND	
T	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" W7-3aP 24" X 18"	<p style="text-align: center;">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>
3	 SP 13107 48" X 48"	<p style="text-align: center;">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>
4	 SP 13106 48" X 48"	<p style="text-align: center;">PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
5	 G20-2 A 48" X 24"	<p style="text-align: center;">NOTES:</p> <ol style="list-style-type: none"> <li>1) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.</li> </ol>

PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.

#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)

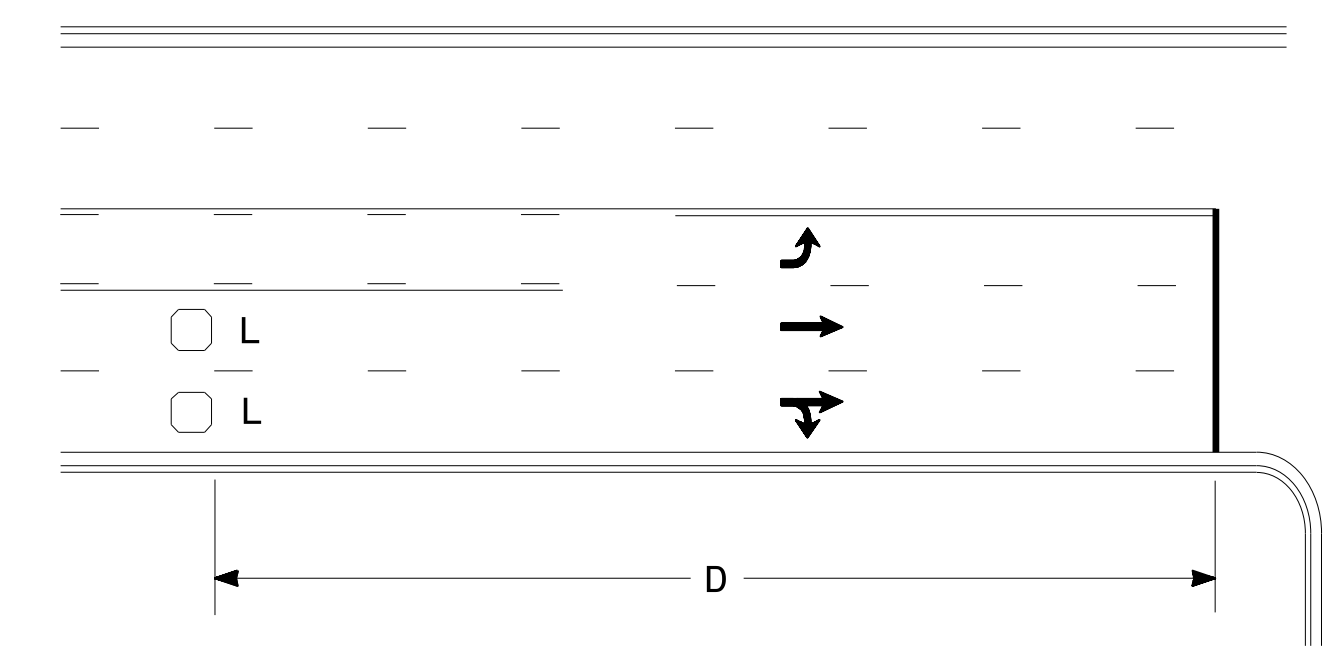
PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.

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.

PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.

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

### High Speed Detection (≥40 mph)

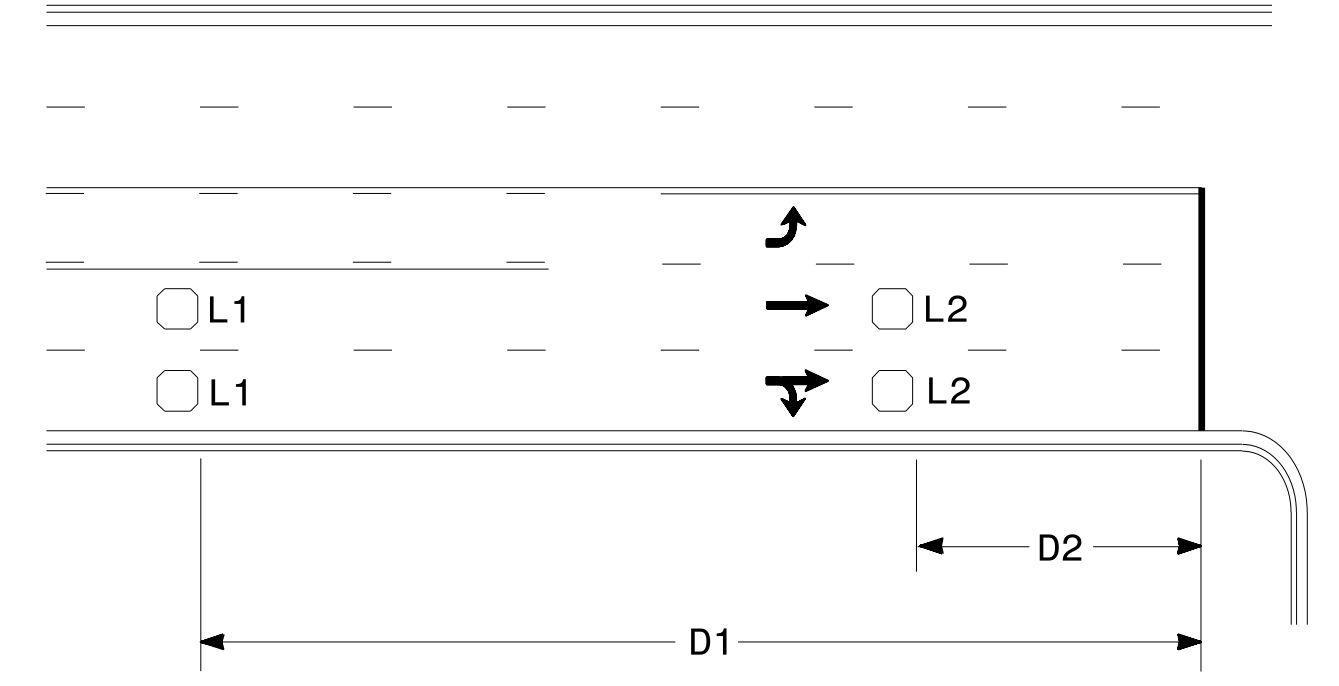


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

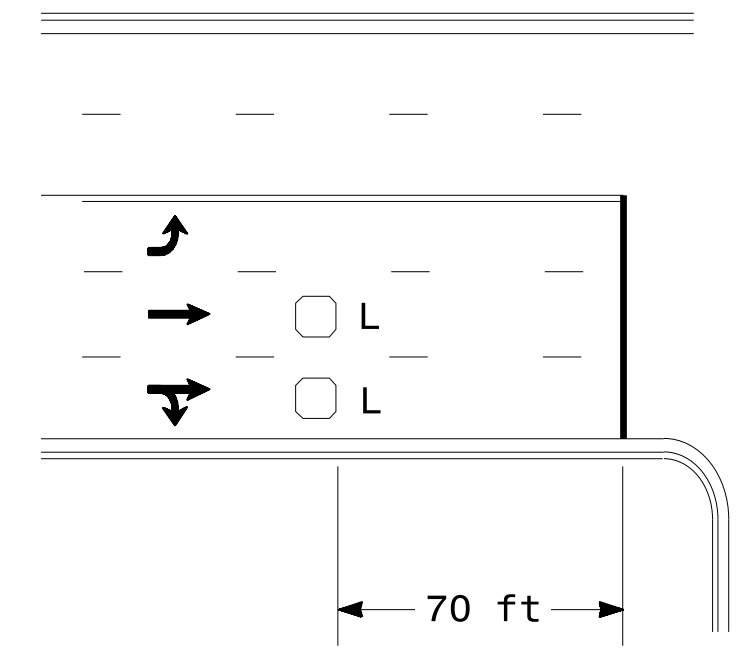


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

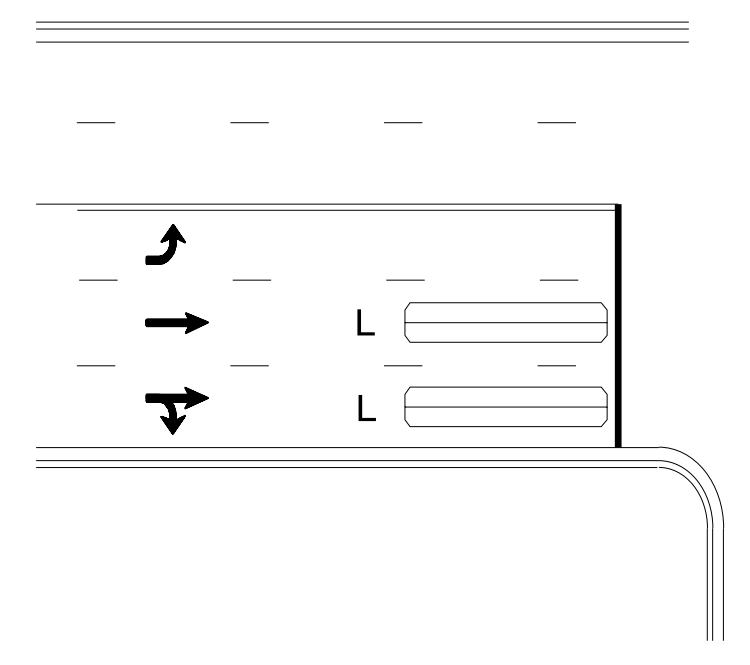
"Stretch" Operation

### Low Speed Detection (≤35 mph)



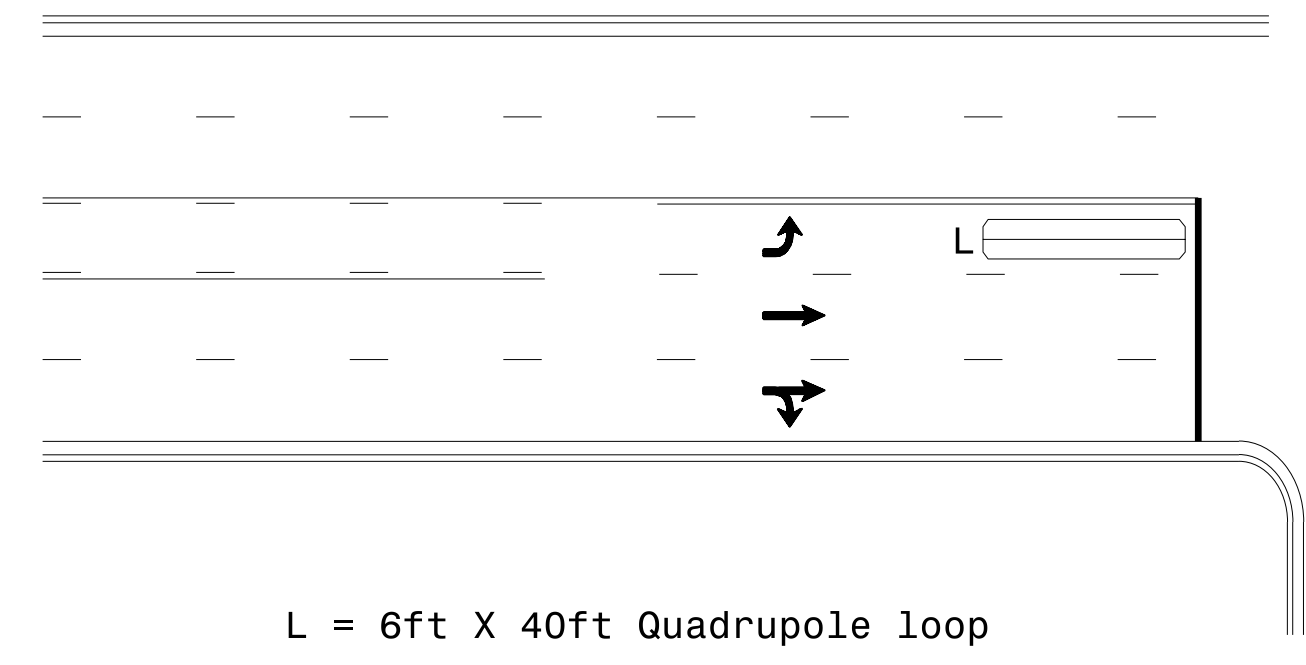
L = 6ft X 6ft  
Wired in series

OR



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

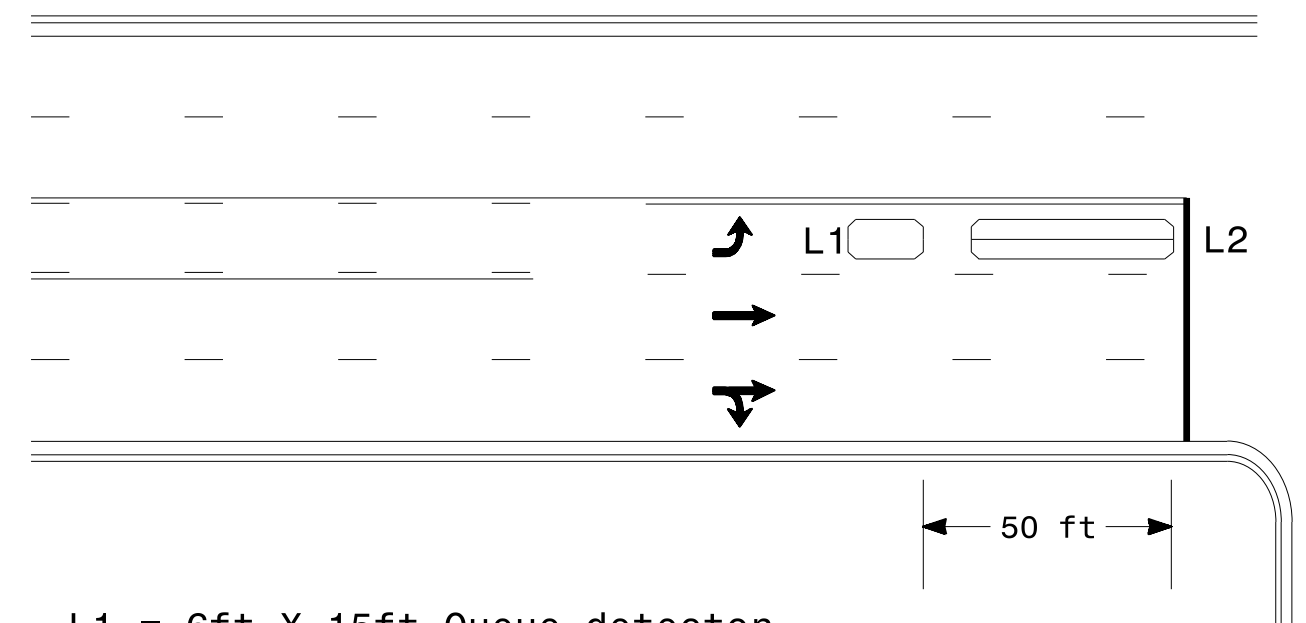
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

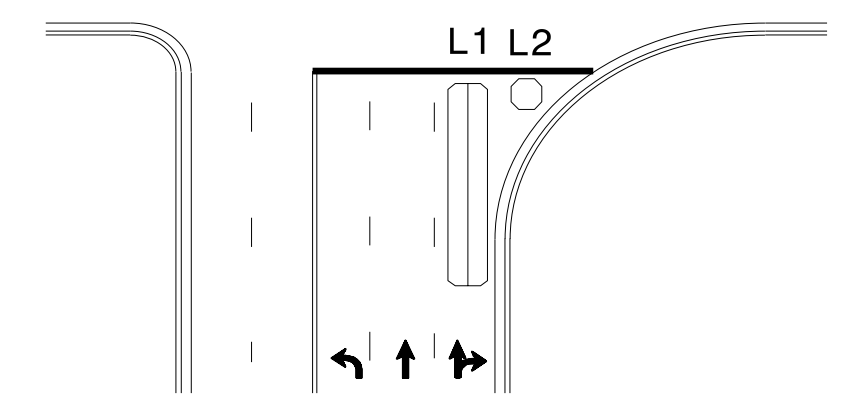
OR



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

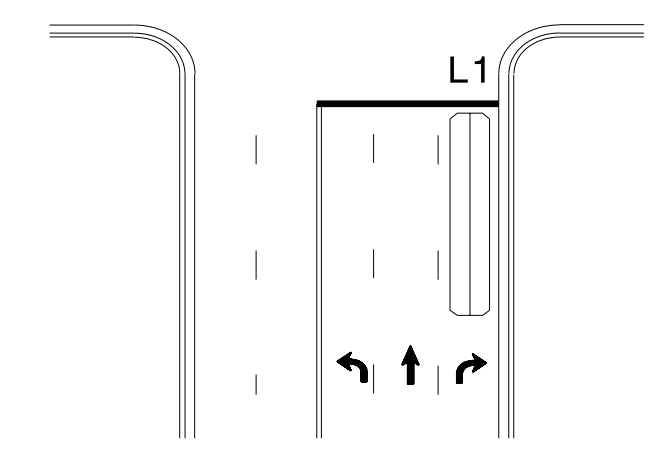
Queue Loop Detection

### Right Turn Lane Detection

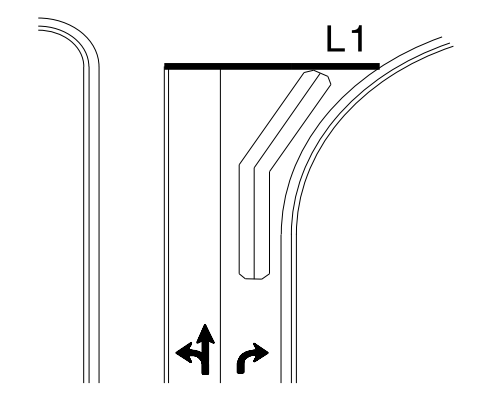


Shared Lane/  
Wide Radius Turn

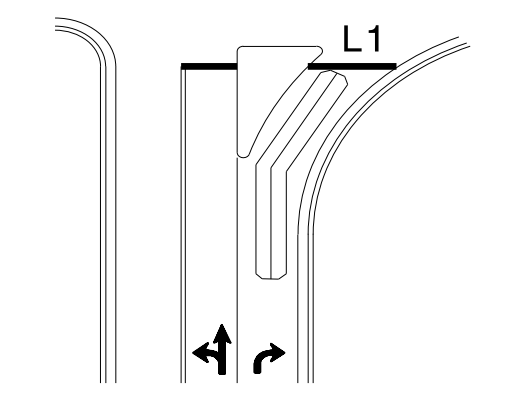
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

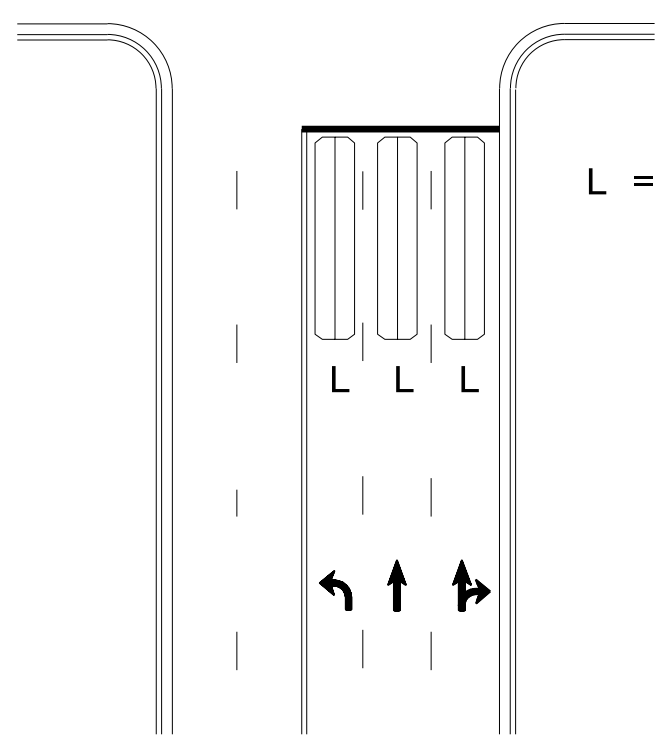


Wide Radius Turn



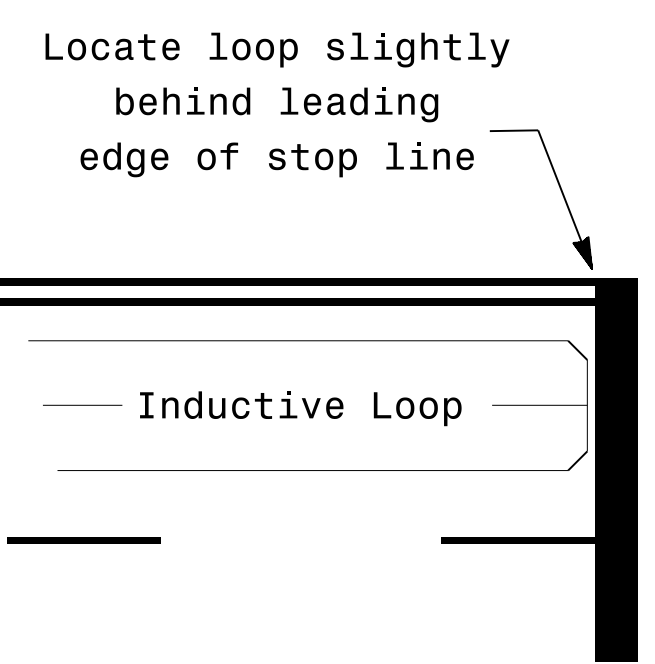
Channelized Turn

### Side Street Detection



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

### Presence Loop Placement at Stop Lines



Locate loop slightly  
behind leading  
edge of stop line

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

### Recommended Number of Turns

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

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

Quadrupole loops: Use 2-4-2 turns  
6' X 15' Loops:  
Lead-in < 150', use 2 turns  
Lead-in > 150', use 3 turns

750 N. Greenfield Pkwy, Garner, NC 27529

#### Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

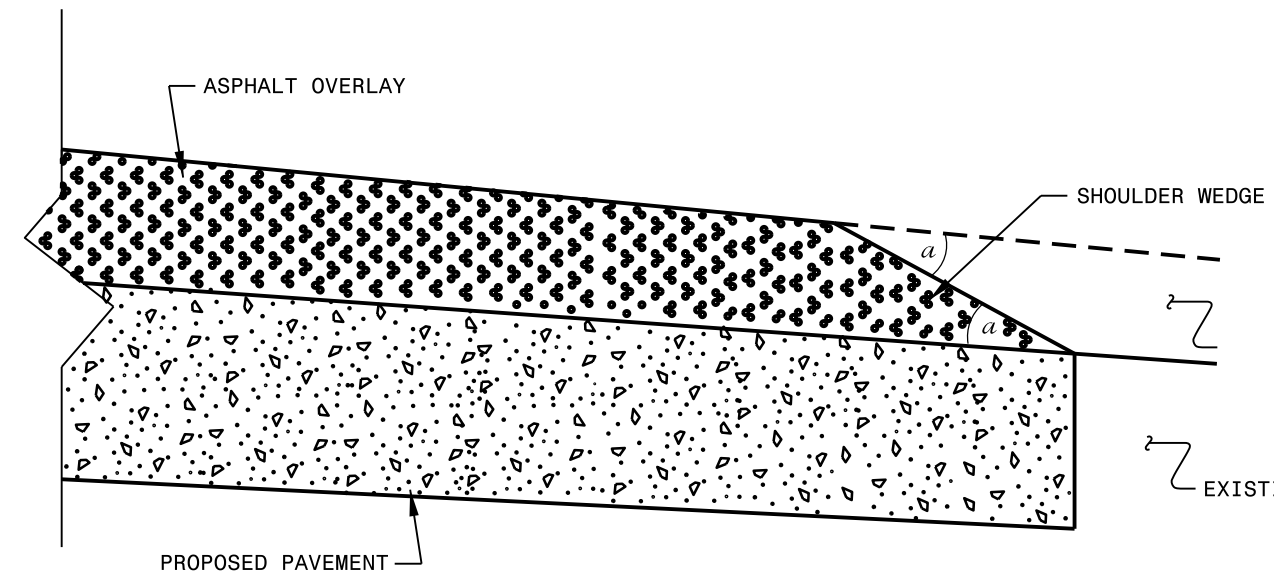
SCALE: N/A

SEAL  
NORTH CAROLINA  
PROFESSIONAL ENGINEER  
PAMELA L. ALEXANDER  
23489

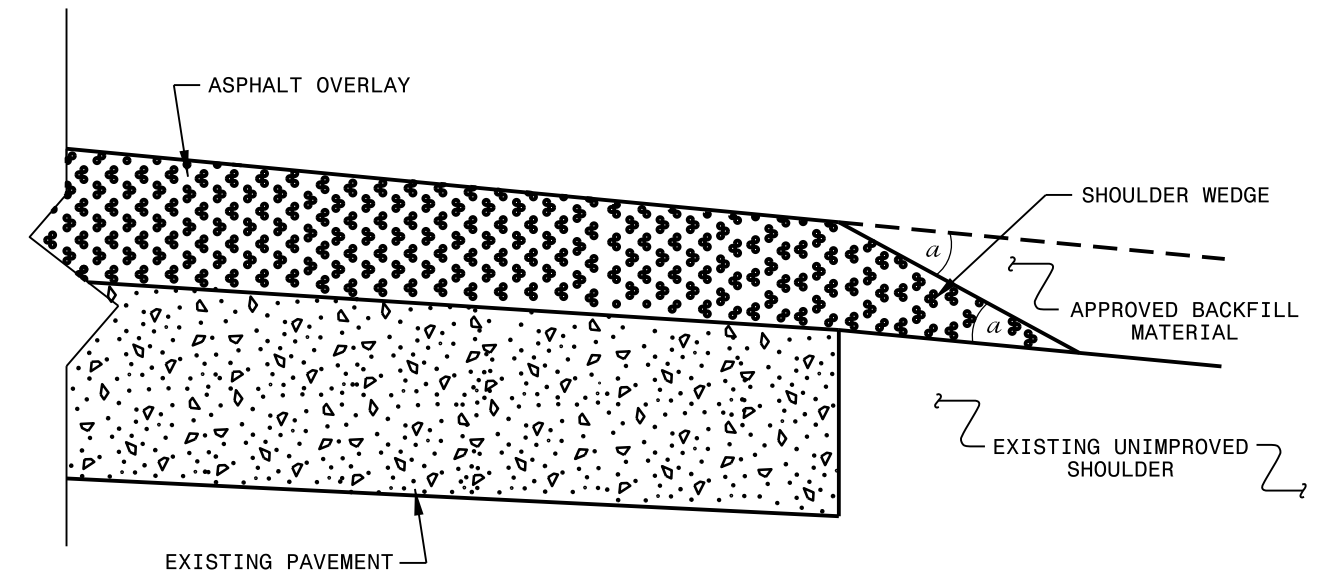
DocuSigned by:  
P. Alexander  
1/30/2015 10:44:44 AM  
B4756E00CE4E4ED  
SIG. INVENTORY NO.

3D:\146-2015-12-29  
 S:\146\146-2015-12-29\Signal Design\Section\Eastern\Region\loop\yp\lca\2015.dgn  
 paalexander

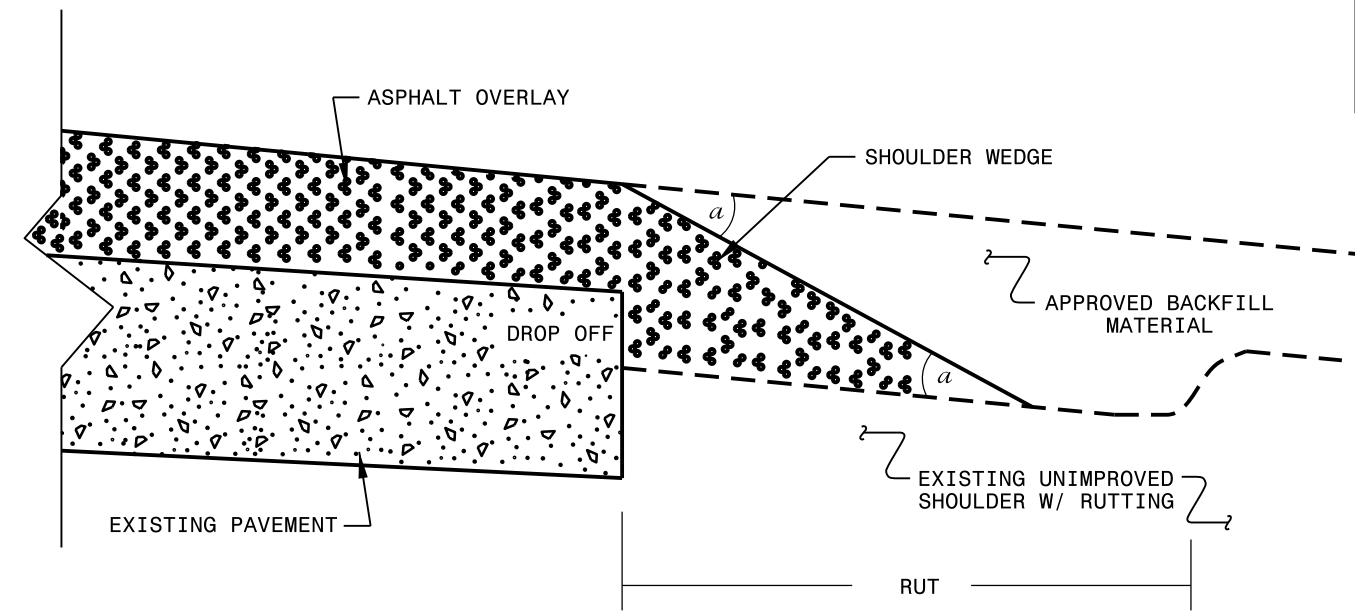
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



**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°

**CONTRACT STANDARDS  
 AND DEVELOPMENT UNIT**  
 Office 919-707-6950 FAX 919-250-4119

**SHOULDER WEDGE  
 DETAILS**

ORIGINAL BY: T.SPELL DATE: 7-19-11  
 MODIFIED BY: DATE: 2/2/16  
 CHECKED BY: DATE:  
 FILE SPEC.: susr/details/stand/shoulderwedgedetail.dgn

SYSTEMS DESIGN  
 USER NAME

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

***SOIL STABILIZATION TIMEFRAMES***

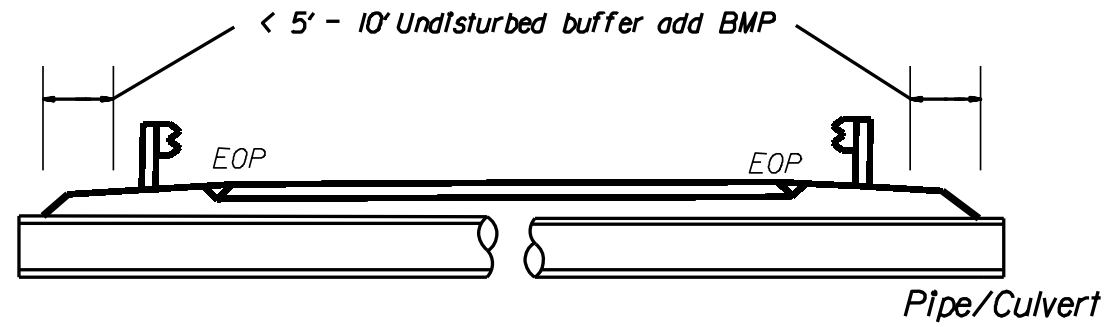
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
<b>PERIMETER DIKES, SWALES, DITCHES AND SLOPES</b>	<b>7 DAYS</b>	<b>NONE</b>
<b>HIGH QUALITY WATER (HOW) ZONES</b>	<b>7 DAYS</b>	<b>NONE</b>
<b>SLOPES STEEPER THAN 3:1</b>	<b>7 DAYS</b>	<b>IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.</b>
<b>SLOPES 3:1 OR FLATTER</b>	<b>14 DAYS</b>	<b>7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.</b>
<b>ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1</b>	<b>14 DAYS</b>	<b>NONE, EXCEPT FOR PERIMETERS AND HOW ZONES.</b>

NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

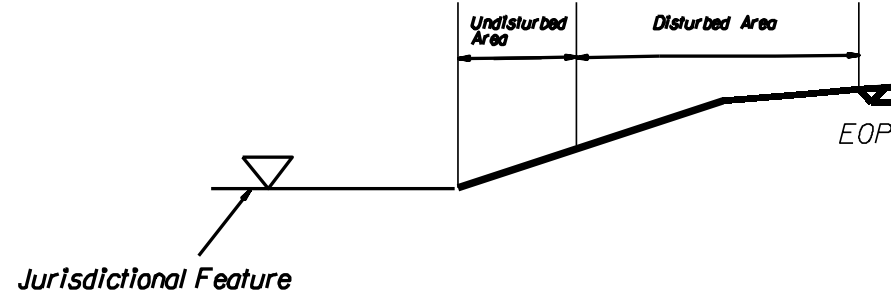
BMP Options: Wattle, Silt Fence, or Hardened Aggregate.

# EROSION CONTROL DETAIL

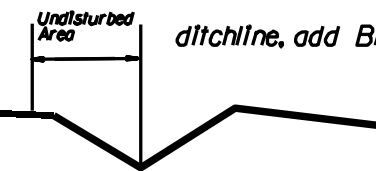
PROJECT REFERENCE NO. <b>1-1111</b>	SHEET NO. <b>10-11/01/11</b>
RDW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP



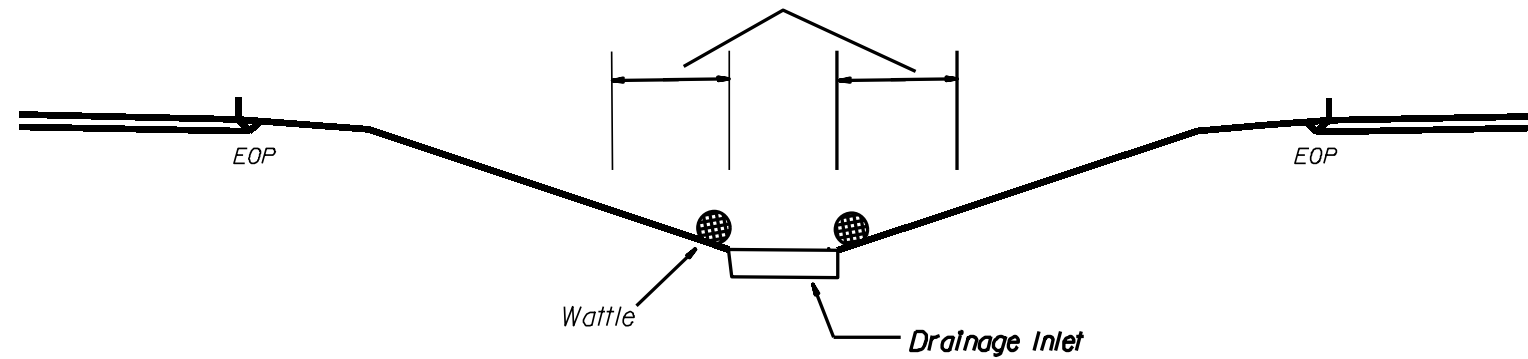
< 5' - 10' Undisturbed buffer from ditchline, add BMP



Use BMP's if shoulders and/or front slopes and/or ditchline and/or back slopes are disturbed



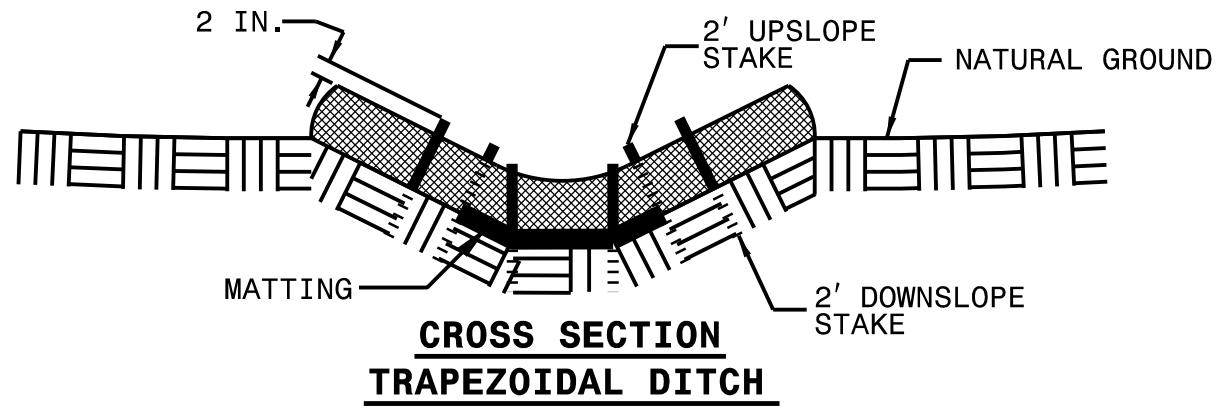
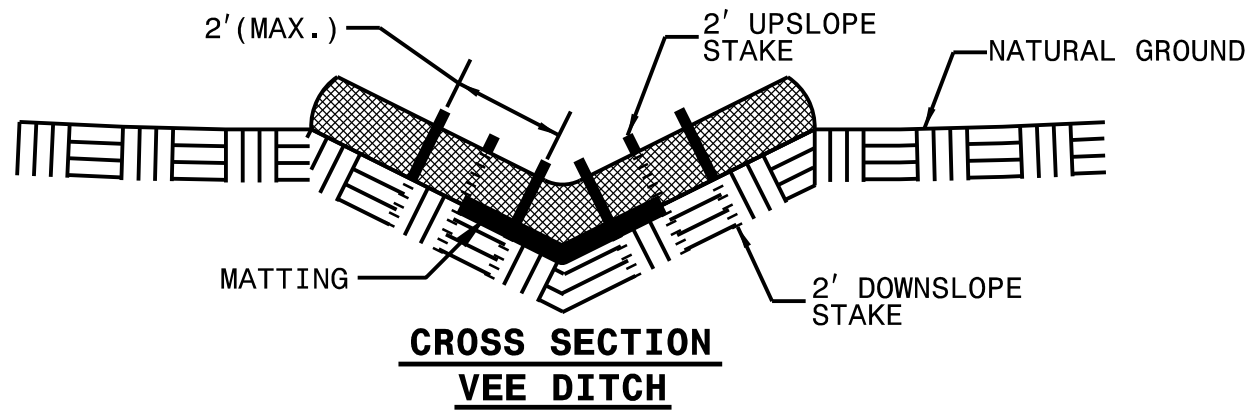
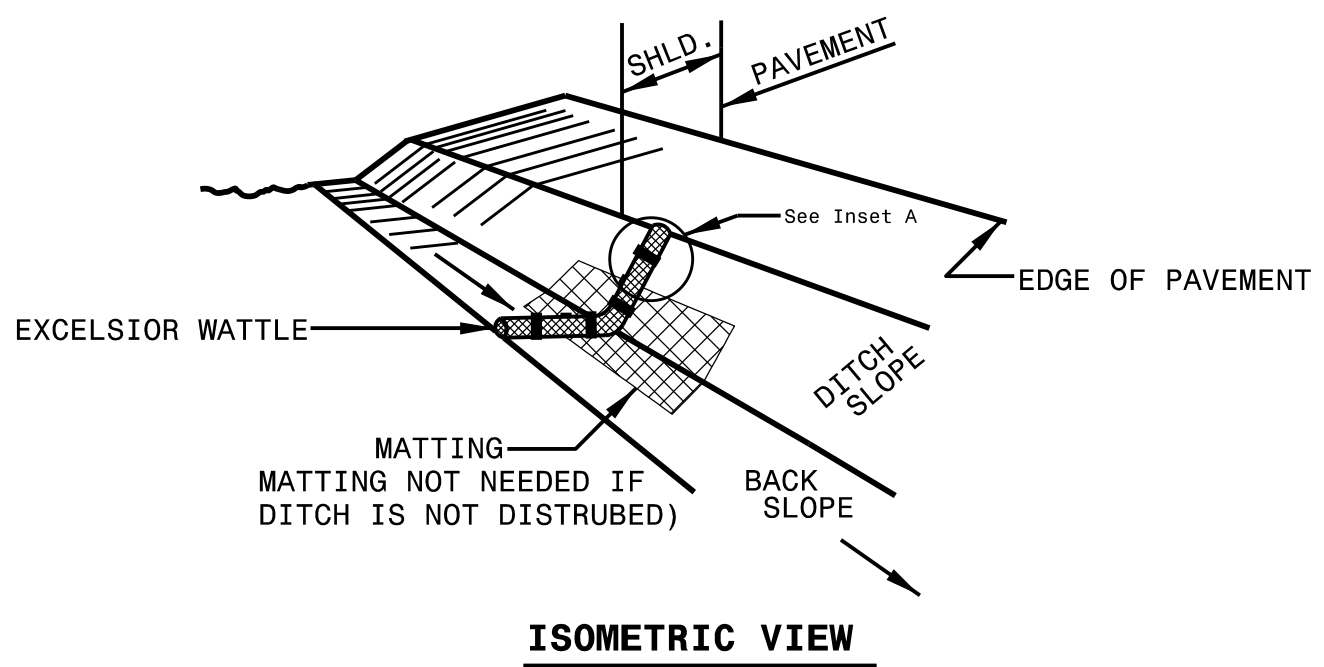
< 5' - 10' Undisturbed buffer from Inlet, add wattle



NOT TO SCALE



# WATTLE DETAIL



**NOTES:**

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

IF DITCH WILL BE DISTURBED, INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

