

Warren Plains

BYP  
158

BYP  
158

401

401

401

3

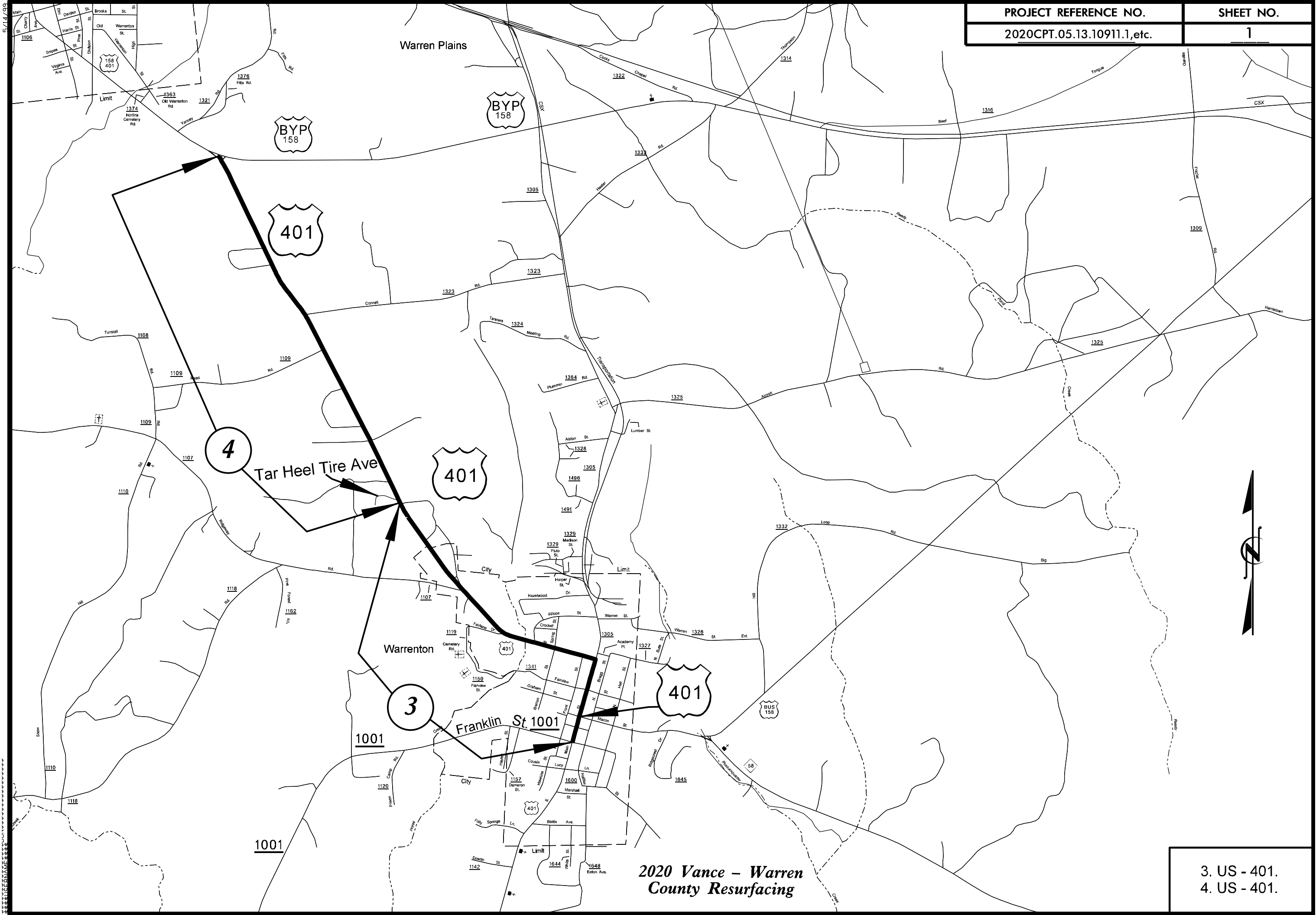
1001

Tar Heel Tire Ave

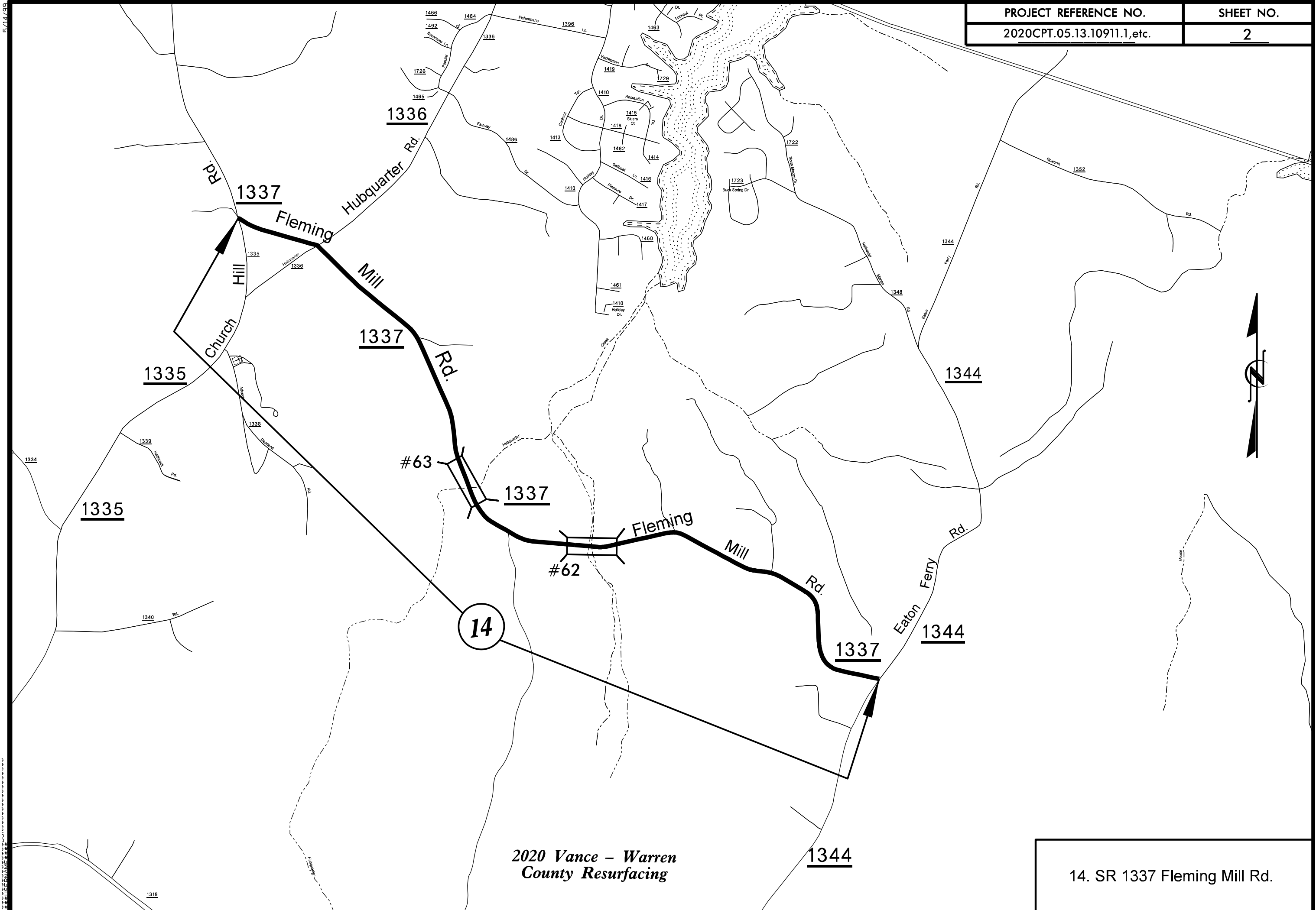
Franklin St. 1001

2020 Vance - Warren  
County Resurfacing

3. US - 401.  
4. US - 401.



5/14/19



2020 Vance - Warren  
County Resurfacing

14. SR 1337 Fleming Mill Rd.

5/14/19



Granville County

Vance County

Henderson

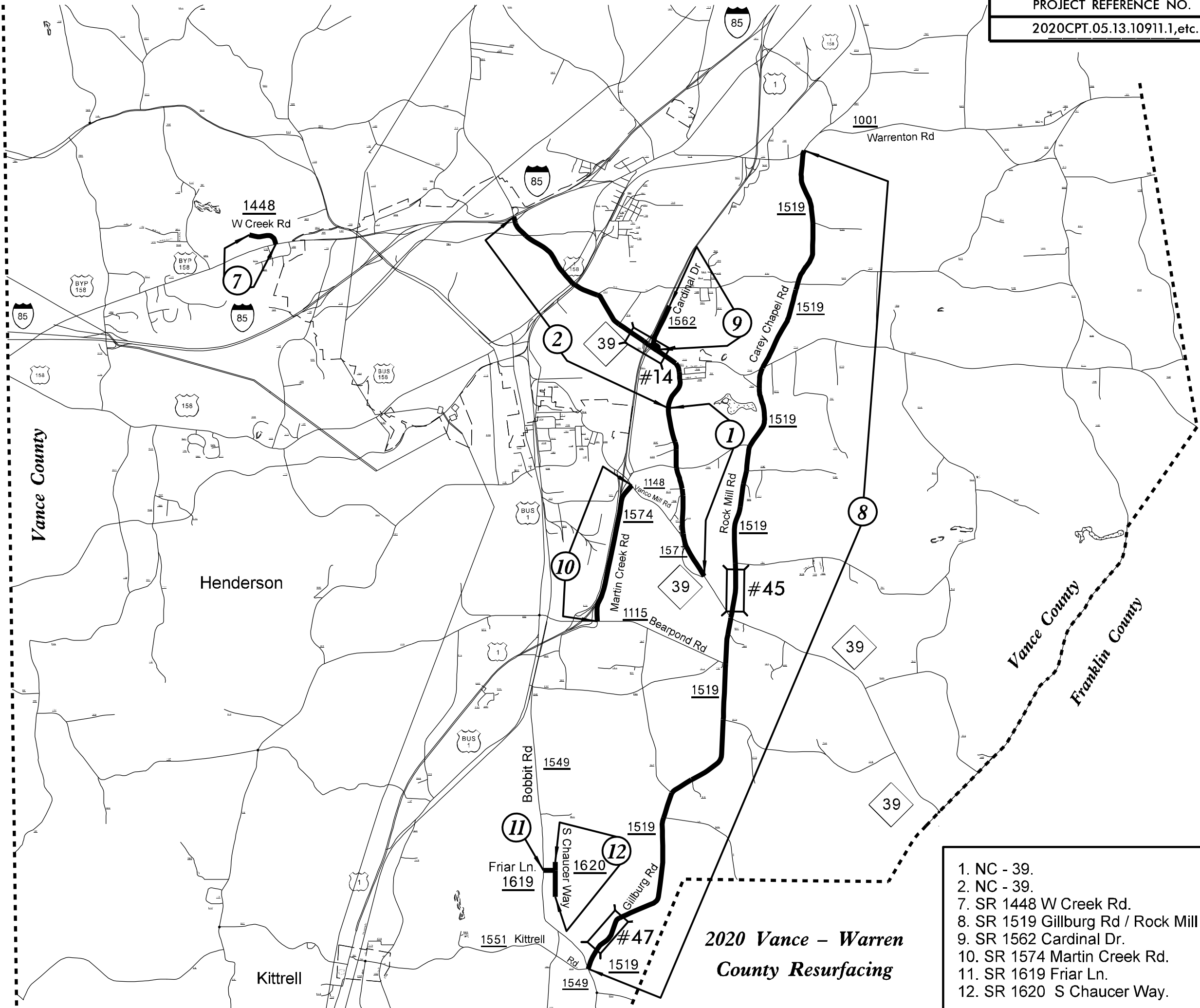
Kittrell

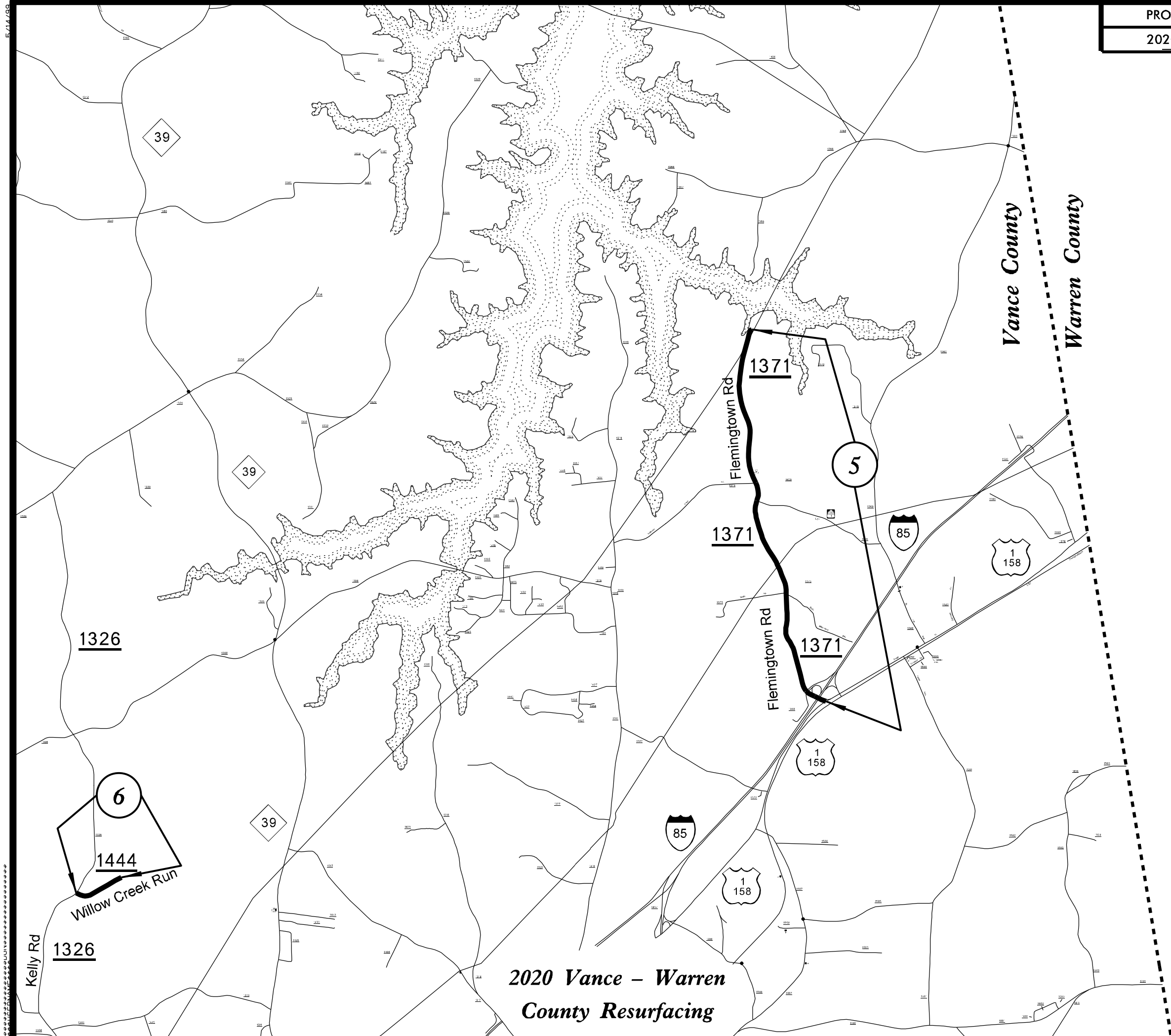
Vance County

Franklin County

**2020 Vance - Warren  
County Resurfacing**

- 1. NC - 39.
- 2. NC - 39.
- 7. SR 1448 W Creek Rd.
- 8. SR 1519 Gillburg Rd / Rock Mill Rd / Carey Chapel Rd.
- 9. SR 1562 Cardinal Dr.
- 10. SR 1574 Martin Creek Rd.
- 11. SR 1619 Friar Ln.
- 12. SR 1620 S Chaucer Way.





**2020 Vance – Warren  
County Resurfacing**

- 5. SR 1371 Flemington Rd.
- 6. SR 1444 Willow Creek Run.

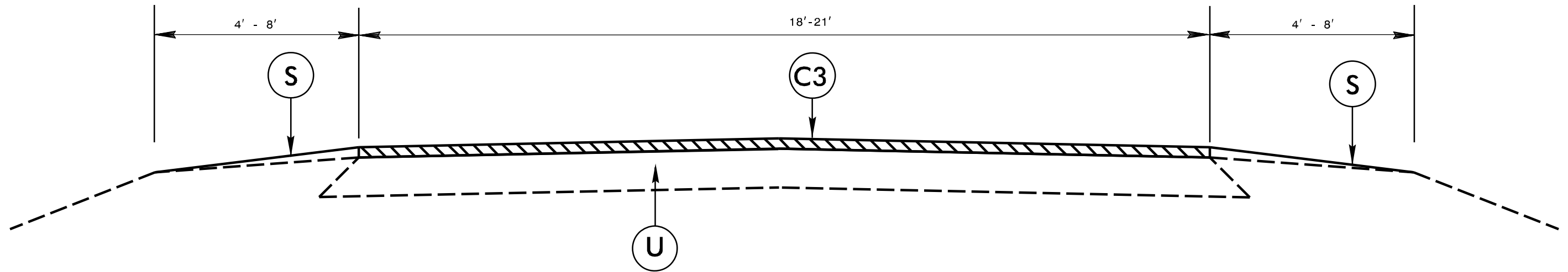
# PAVEMENT SCHEDULE

S SHOULDER GRADING  
ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)

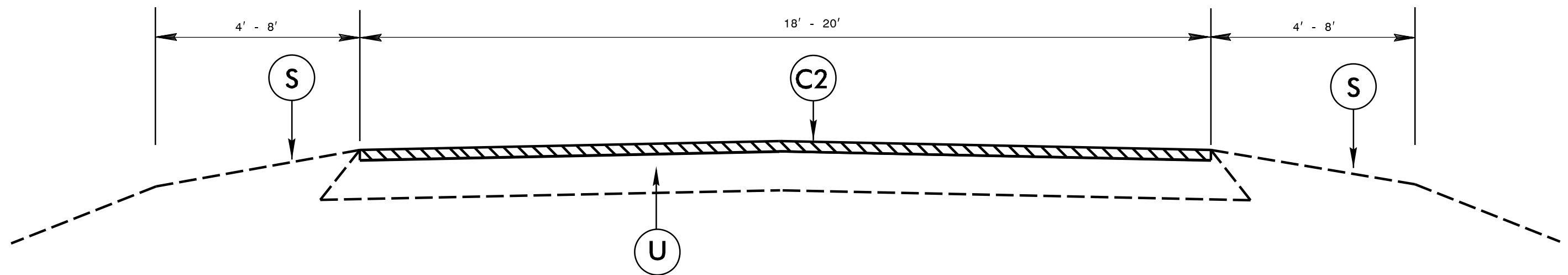
PROJECT REFERENCE NO.  
2020CPT.05.13.10911.1, etc.

SHEET NO.  
6

C1	1" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
C2	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	V1	1½" MILLING
C3	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		



TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2

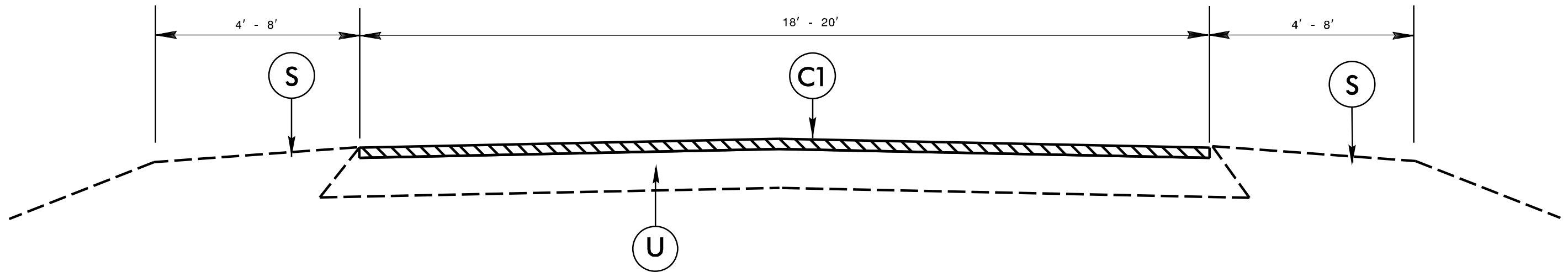
# PAVEMENT SCHEDULE

S SHOULDER GRADING  
ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)

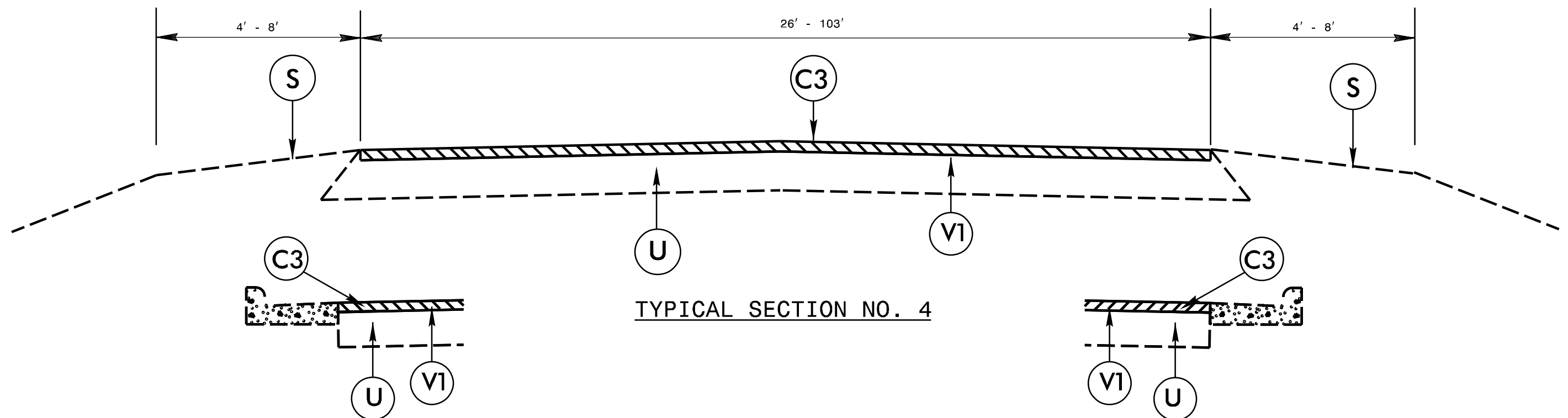
PROJECT REFERENCE NO.  
2020CPT.05.13.10911.1, etc.

SHEET NO.  
7

C1	1" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
C2	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	V1	1½" MILLING
C3	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		



TYPICAL SECTION NO. 3

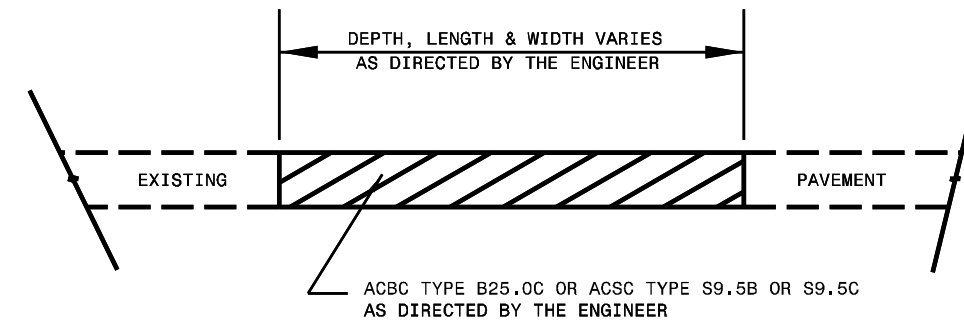
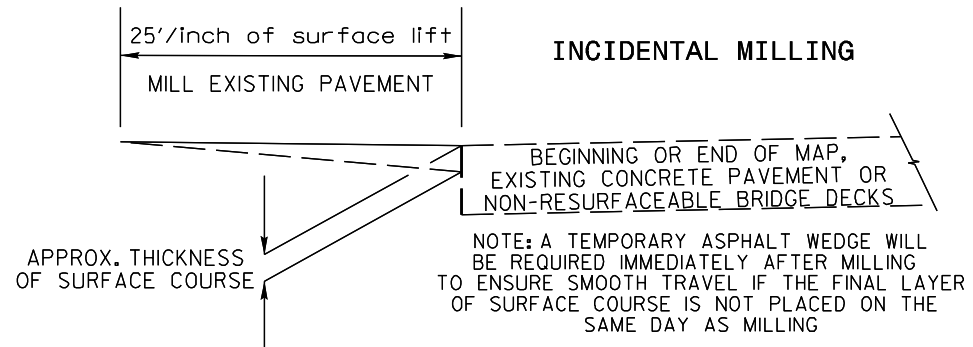


TYPICAL SECTION NO. 4

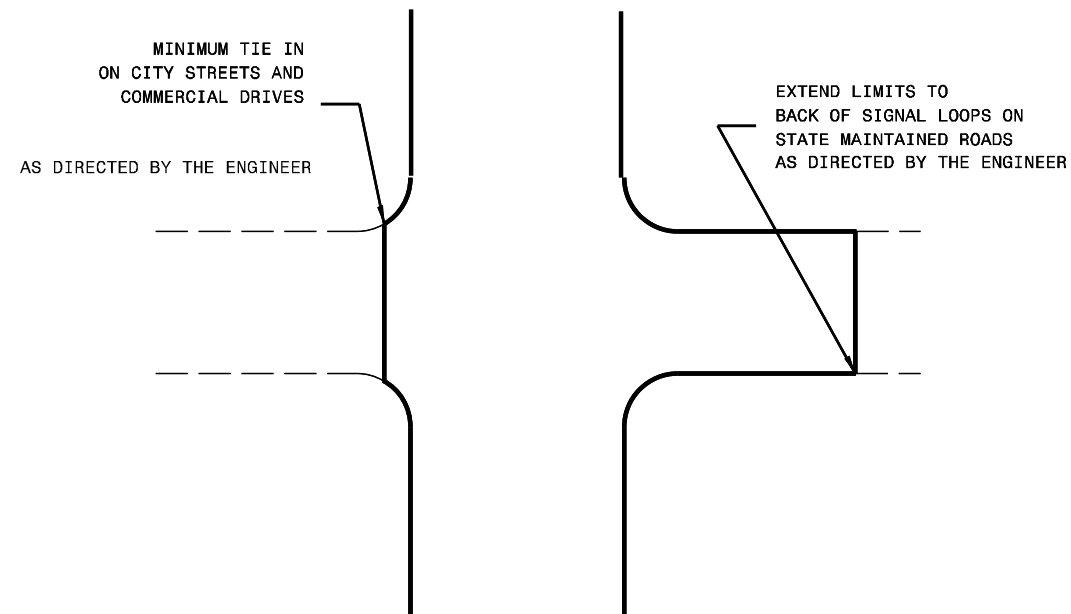
PAVEMENT SCHEDULE		S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
C1	1" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
C2	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	V1	1½" MILLING
C3	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		

NOTES

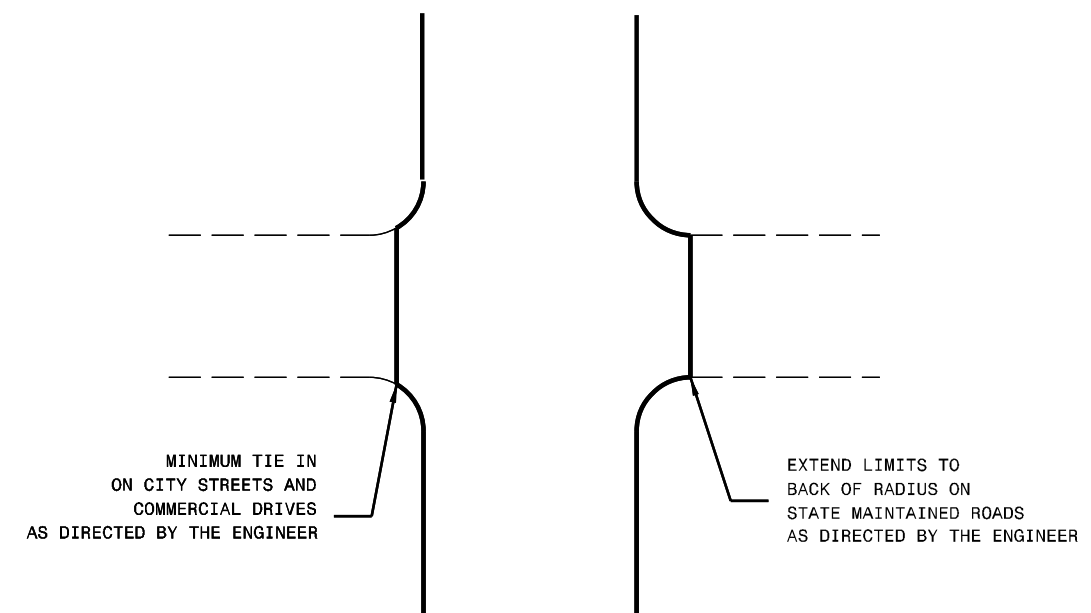
ALL UNPAVED S.R. ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT  
 ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.  
 EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.  
 BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.



**PATCHING EXISTING PAVEMENT**  
MILLING TO BE PERFORMED PRIOR TO PATCHING



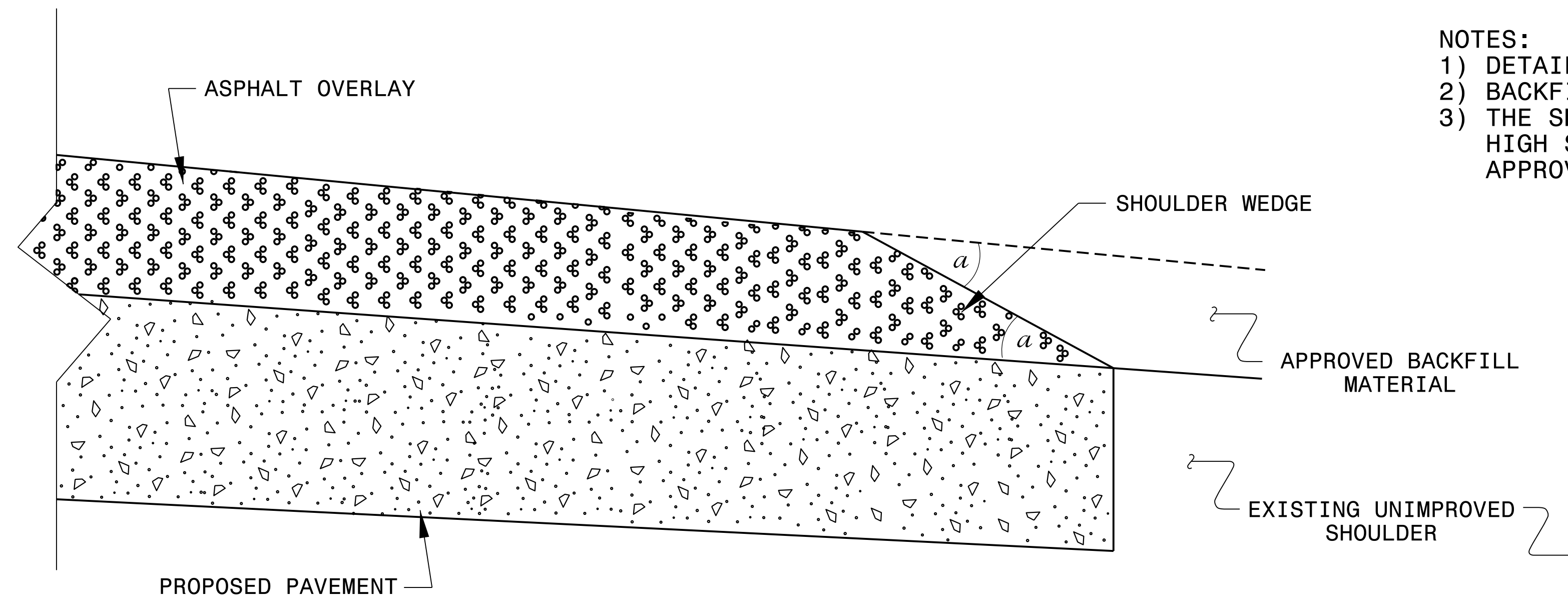
DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES



DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES

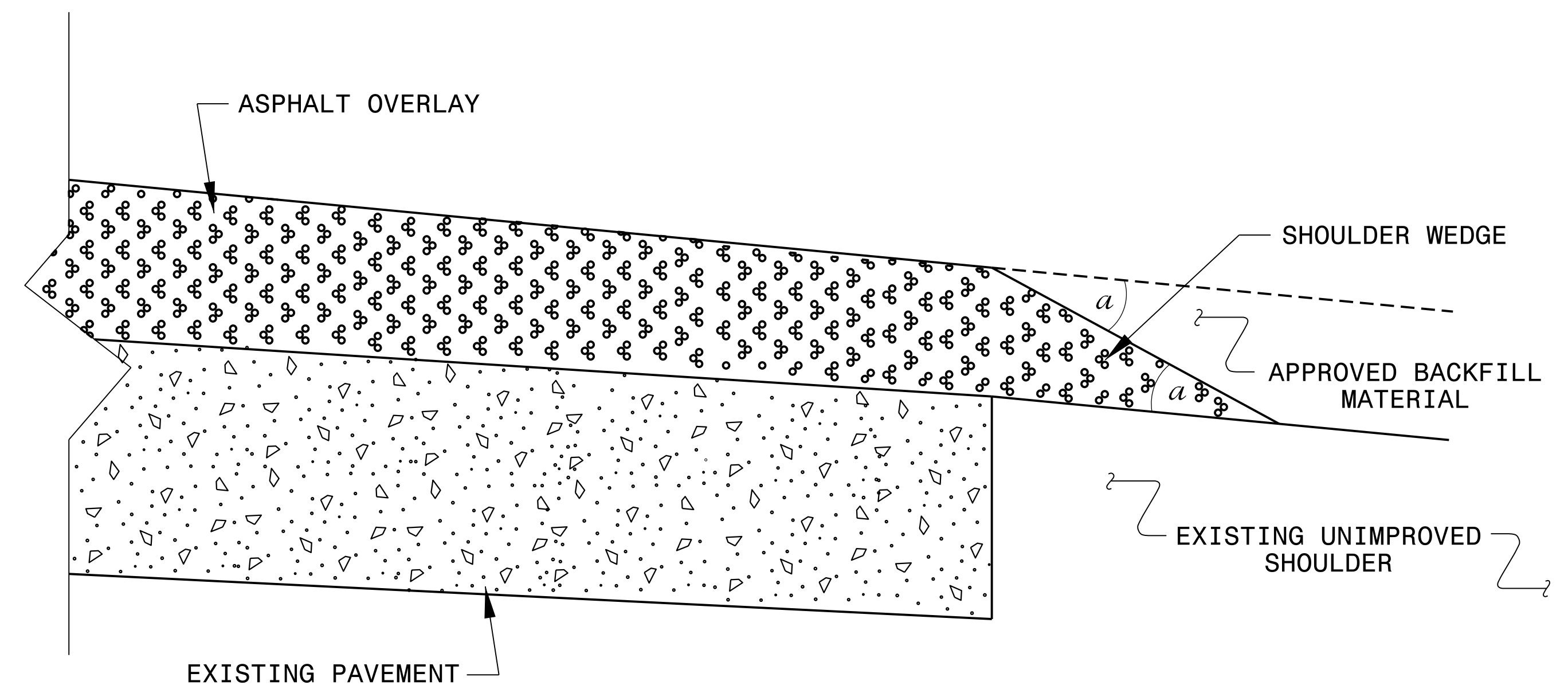
**NOTES:**

- 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.



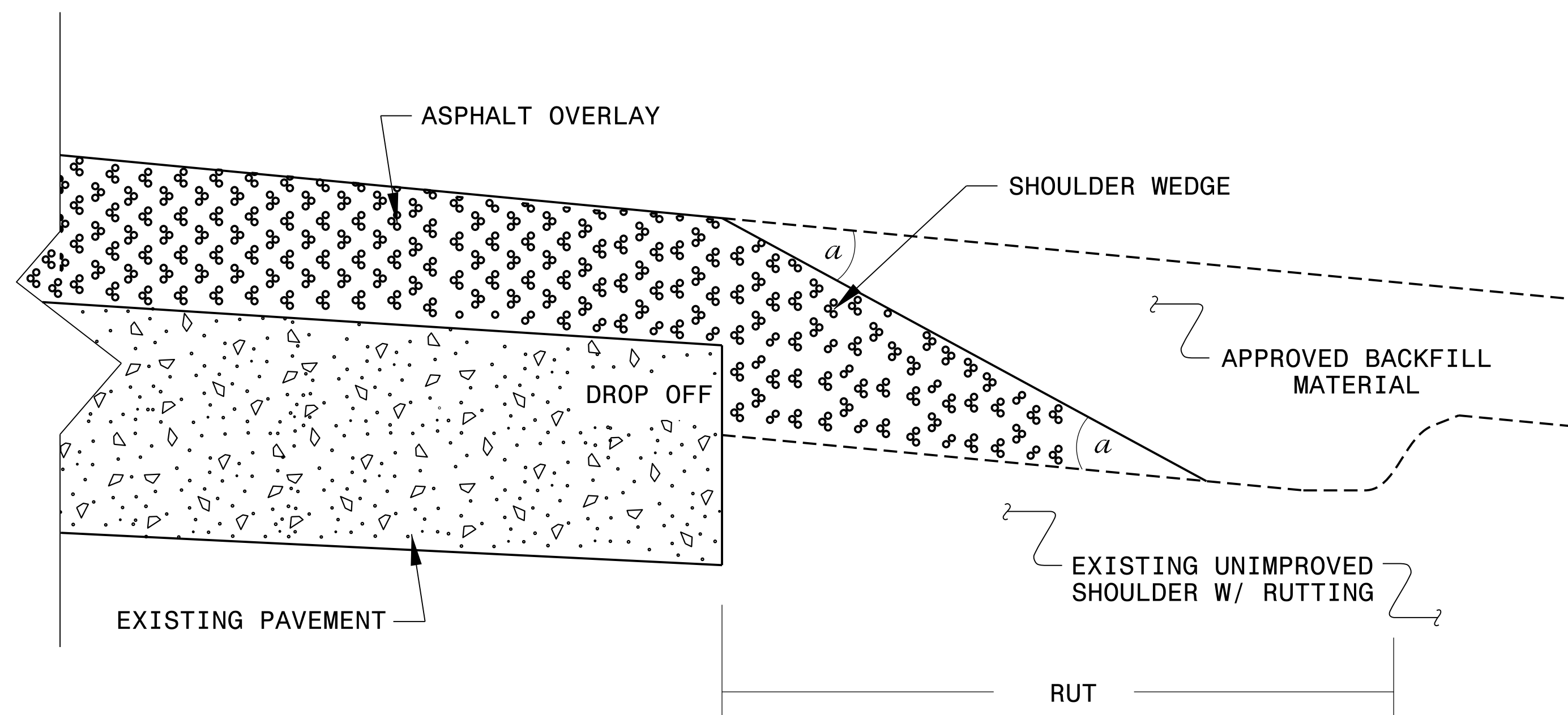
**SHOULDER WEDGE DETAIL**

(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.: s:\usr\details\stand\shoulderwedgedetail.dgn

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PROJECT NO.	SHEET NO.	TOTAL NO.
2020CPT.05.13.10911.1, etc.	10	

## SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	0106000000-E	0264000000-E	1220000000-E	1260000000-E	1297000000-E	1330000000-E	1519000000-E	1575000000-E	1704000000-E	2830000000-N	2845000000-N	4457000000-N	5255000000-N	6000000000-E	6071010000-E	6084000000-E	7444000000-E			
											BORROW	SHOULDER GRADING	INCIDENTAL STONE BASE	AGGREGATE SHOULDER BORROW	1½" MILLING	INCIDENTAL MILLING	SURFACE COURSE, S9.5B	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ADJUST MANHOLES	ADJUST METER OR VALVE BOX	Temporary Traffic Control	PORTABLE LIGHTING	TEMPORARY SILT FENCE	WATTLE	SEED & MULCHING	INDUCTIVE LOOP SAWCUT			
									MI	FT	CY	SMI	TONS	TON	SY	SY	TONS	TON	TONS	EA	EA	LS	LS	LF	LF	AC	LF			
2020CPT.05.13.10911.1	Vance	1	NC 39	SR 1577 - LOOP RD TO .25 MI S. OF SR 1560 - GARLAND ST	1	2	NO	NO	2.01	24-48	161	4.02	101	74		200	2,624	176	650	1					234	590	2.34			
		2	NC 39	.25 MI S. OF SR 1560 - GARLAND ST TO I-85	4	2	NO	NO	2.9	34-56			41		71,953	261	6,268	420	1,000			*								
<b>TOTAL FOR PROJ NO. 2020CPT.05.13.10911.1</b>									<b>4.91</b>		<b>161</b>	<b>4.02</b>	<b>142</b>	<b>74</b>	<b>71,953</b>	<b>461</b>	<b>8,892</b>	<b>596</b>	<b>1,650</b>	<b>1</b>		<b>*</b>		<b>234</b>	<b>590</b>	<b>2.34</b>				
2020CPT.05.13.10931.1	Warren	3	US 401	SR 1001 - W FRANKLIN ST TO TAR HEEL TIRE AVE	4	2	NO	NO	1.45	26-47			13		36,991	180	3,214	215	500					1				583		
		4	US 401	TAR HEEL TIRE AVE TO US - 158 - BYP	1	2	NO	NO	1.78	24-64	125	3.56	89	99		200	2,350	157	200			*		181	460	1.81				
<b>TOTAL FOR PROJ NO. 2020CPT.05.13.10931.1</b>									<b>3.23</b>		<b>125</b>	<b>3.56</b>	<b>102</b>	<b>99</b>	<b>36,991</b>	<b>380</b>	<b>5,564</b>	<b>372</b>	<b>700</b>		<b>*</b>	<b>1</b>	<b>181</b>	<b>460</b>	<b>1.81</b>	<b>583</b>				
2020CPT.05.13.20911.1	Vance	5	SR 1371 - FLEMINGTOWN RD	US - 1 TO END MAINT	1	2	NO	NO	3.31	20-41	83	6.62	166	459		83	3,690	247	90						120	310	1.20			
		6	SR 1444 - WILLOW CREEK RUN	SR 1326 - KELLY RD TO END MAINT	3	2	NO	NO	0.42	20	42	0.84	21			56	287	19	75						61	160	0.61			
		7	SR 1448 - W CREEK RD	US - 158 - BYP TO DEAD END	3	2	NO	NO	0.34	20	34	0.68	17			56	246	16	60						50	130	0.49			
		8	SR 1519 - CAREY CHAPEL RD/ ROCK MILL RD/ GILLBURG RD	SR 1001 - W FRANKLIN ST TO SR 1549 - BOBBITT RD	1	2	NO	NO	9.86	20-38	592	19.72	493	729			166	10,718	718	450	3			*		861	2,160	8.61		
		9	SR 1562 - CARDINAL DR	NC 39 TO PAVMT JOINT	2	2	NO	NO	0.21	20	17	0.42	11	8			138	226	15	25	1				24	70	0.24			
		10	SR 1574 - MARTIN CREEK RD	SR 1115 - BEARPOND RD TO SR 1148 - VANCO MILL RD	1	2	NO	NO	1.55	20		3.10	78	286				1,609	108	25		1								
		11	SR 1619 - FRIAR LN	SR 1549 - BOBBITT RD TO SR 1620 - S CHAUCER WAY	3	2	NO	NO	0.14	20	14	0.28	7				96	6	45							20	60	0.20		
12	SR 1620 - S CHAUCER WAY	CUL-DE-SAC TO CUL-DE-SAC	3	2	NO	NO	0.38	20	38	0.76	19					284	19	90						55	140	0.55				
<b>TOTAL FOR PROJ NO. 2020CPT.05.13.20911.1</b>									<b>16.21</b>		<b>820</b>	<b>32.42</b>	<b>812</b>	<b>1,482</b>		<b>499</b>	<b>17,156</b>	<b>1,148</b>	<b>860</b>	<b>4</b>	<b>1</b>	<b>*</b>		<b>1,191</b>	<b>3,030</b>	<b>11.90</b>				
2020CPT.05.13.20931.1	Warren	14	SR 1337 - FLEMING MILL RD	SR 1344 - EATON FERRY RD TO SR 1335 - CHURCH HILL RD	2	2	NO	NO	3.88	20	58	7.76	194	609	1,667	334	3,353	225	200			*		85	220	0.85				
<b>TOTAL FOR PROJ NO. 2020CPT.05.13.20931.1</b>									<b>3.88</b>		<b>58</b>	<b>7.76</b>	<b>194</b>	<b>609</b>	<b>1,667</b>	<b>334</b>	<b>3,353</b>	<b>225</b>	<b>200</b>	<b>*</b>		<b>85</b>	<b>220</b>	<b>0.85</b>						
<b>GRAND TOTAL</b>									<b>28.23</b>		<b>1,164</b>	<b>47.76</b>	<b>1,250</b>	<b>2,264</b>	<b>110,611</b>	<b>1,674</b>	<b>34,965</b>	<b>2,341</b>	<b>3,410</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1,691</b>	<b>4,300</b>	<b>16.90</b>	<b>583</b>			

PROJECT NO.	SHEET NO.	TOTAL NO.
2020CPT.05.13.10911.1, etc.	11	

**THERMOPLASTIC AND PAINT QUANTITIES**

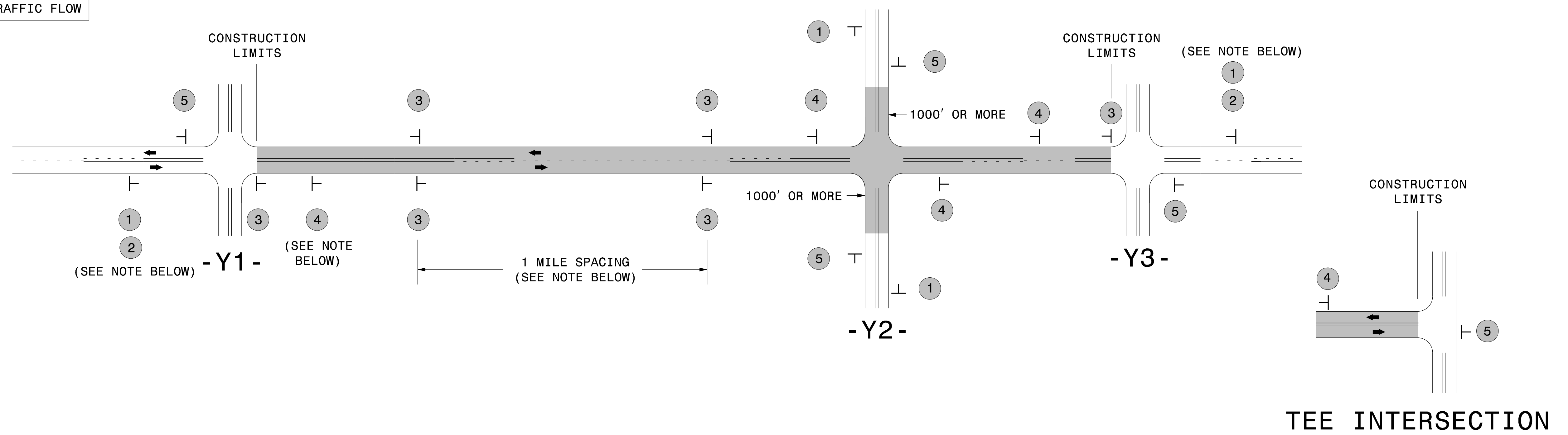
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LENGTH	WIDTH	4413000000-E	4685000000-E	4686000000-E	4695000000-E	4700000000-E	4705000000-E	4710000000-E	4721000000-E										4725000000-E				4770000000-E		4810000000-E		4835000000-E			4845000000-N			4850000000-E	4905000000-N					
									WORK ZONE ADVANCE/GENERAL WARNING SIGNING	4" X 90 M WHITE THERMO	4" X 120 M YELLOW THERMO	4" X 120 M WHITE THERMO	8" X 90 M YELLOW THERMO	8" X 90 M WHITE THERMO	12" X 90 m Yellow Thermo	16" X 120 M WHITE THERMO	24" X 120 M WHITE THERMO	THERMO MSG ONLY 120 M	Thermo Msg SCHOOL 120 m	THERMO RXR 120 M	THERMO MSG KEEP 120 M	THERMO MSG CLEAR 120 M	THERMO MSG AHEAD 120 M	THERMO MSG STOP 120 M	THERMO STR & RT ARROW 90 M	THERMO LT ARROW 90 M	THERMO MERGE ARROW 90 M	THERMO STR & LT ARROW 90 M	THERMO STR ARROW 90 M	THERMO RT ARROW 90 M	THERMO LT STR RT ARROW 90 M	THERMO YIELD TRIANGLE 90 M	4" White Cold Applied Plastic, Type II	4" Yellow Cold Applied Plastic, Type II	4" WHITE PAINT	4" YELLOW PAINT	24" WHITE PAINT	PAINT MERGE ARROW	PAINT STR ARROW	PAINT LT ARROW	4" LINE REMOVAL	SNOW PLOWABLE MARKERS				
							MI	FT	SF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA						
2020CPT.05.13.10911.1	Vance	1	NC 39	SR 1577 - LOOP RD TO .25 MI S. OF SR 1560 - GARLAND ST	1	2	2.01	24	225	20,172	21,113	467			279																											168				
		2	NC 39	.25 MI S. OF SR 1560 - GARLAND ST TO I-85	4	2	2.9	34	325	666	26,518	5,013	812					100	630	8		4																				840	450			
<b>TOTAL FOR PROJ NO. 2020CPT.05.13.10911.1</b>							<b>4.91</b>		<b>550</b>	<b>20,838</b>	<b>47,631</b>	<b>5,480</b>	<b>812</b>		<b>279</b>	<b>100</b>	<b>718</b>	<b>8</b>	<b>4</b>									<b>24</b>	<b>33</b>	<b>7</b>	<b>4</b>	<b>17</b>	<b>2</b>				<b>128</b>	<b>712</b>				<b>840</b>	<b>618</b>			
2020CPT.05.13.10931.1	Warren	3	US 401	SR 1001 - W FRANKLIN ST TO TAR HEEL TIRE AVE	4	2	1.45	40	162	365	13,974	1,985			740																											200				
		4	US 401	TAR HEEL TIRE AVE TO -158 - BYP	1	2	1.78	24	126	18,548	14,182	175				412																										127				
<b>TOTAL FOR PROJ NO. 2020CPT.05.13.10931.1</b>							<b>3.23</b>		<b>288</b>	<b>18,913</b>	<b>28,156</b>	<b>2,160</b>	<b>1,152</b>			<b>169</b>													<b>4</b>	<b>5</b>		<b>4</b>							<b>2,350</b>	<b>13,974</b>	<b>141</b>	<b>5</b>	<b>2</b>	<b>2</b>		<b>327</b>
2020CPT.05.13.20911.1	Vance	5	SR 1371 - FLEMINGTOWN RD	US - 1 TO END MAINT	1	2	3.31	20	371	34,494	33,396	227	432	397																																
		6	SR 1444 - WILLOW CREEK RUN	SR 1326 - KELLY RD TO END MAINT	3	2	0.42	20	47																																					
		7	SR 1448 - W CREEK RD	US - 158 - BYP TO DEAD END	3	2	0.34	20	38																																					
		8	SR 1519 - CAREY CHAPEL RD/ ROCK MILL RD/ GILLBURG RD	SR 1001 - W FRANKLIN ST TO SR 1549 - BOBBITT RD	1	2	9.86	20	1,104	100,288	84,593	792																																		
		9	SR 1562 - CARDINAL DR	NC 39 TO PAVMT JOINT	2	2	0.21	20	24	2,260	2,166																																			
		10	SR 1574 - MARTIN CREEK RD	SR 1115 - BEARPOND RD TO SR 1148 - VANCO MILL RD	1	2	1.55	20	174	15,190	16,234	131																																		
		11	SR 1619 - FRIAR LN	SR 1549 - BOBBITT RD TO SR 1620 - S CHAUCER WAY	3	2	0.14	20	16																																					
<b>TOTAL FOR PROJ NO. 2020CPT.05.13.20911.1</b>							<b>16.21</b>		<b>1,817</b>	<b>152,232</b>	<b>136,389</b>	<b>1,150</b>	<b>432</b>	<b>397</b>	<b>174</b>			<b>203</b>			<b>24</b>						<b>10</b>	<b>16</b>		<b>4</b>																
2020CPT.05.13.20931.1	Warren	14	SR 1337 - FLEMING MILL RD	SR 1344 - EATON FERRY RD TO SR 1335 - CHURCH HILL RD	2	2	3.88	20	435	40,472	37,101																															1,000				
		<b>TOTAL FOR PROJ NO. 2020CPT.05.13.20931.1</b>							<b>3.88</b>		<b>435</b>	<b>40,472</b>	<b>37,101</b>																													<b>1,000</b>				
<b>GRAND TOTAL</b>							<b>28.23</b>		<b>3,090</b>	<b>232,455</b>	<b>249,277</b>	<b>8,790</b>	<b>1,244</b>	<b>1,549</b>	<b>453</b>	<b>100</b>	<b>1,090</b>	<b>8</b>	<b>24</b>	<b>4</b>	<b>8</b>	<b>10</b>	<b>10</b>	<b>16</b>	<b>24</b>	<b>41</b>	<b>12</b>	<b>4</b>	<b>21</b>	<b>2</b>	<b>2</b>	<b>18</b>	<b>128</b>	<b>712</b>	<b>2,350</b>	<b>13,974</b>	<b>141</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>1,840</b>	<b>945</b>				

# SIGNING FOR RESURFACING PROJECTS

**LEGEND**

┆ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



## MAINLINE (-L-) SIGNING

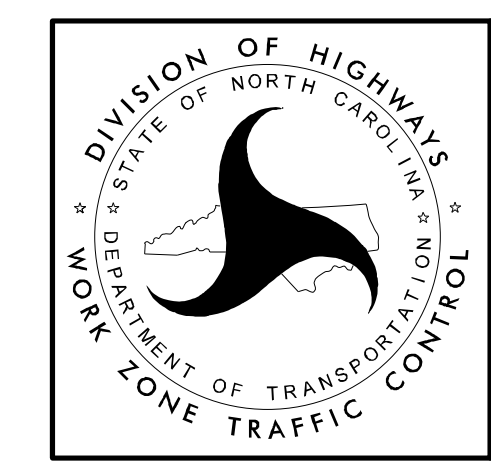
## -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1		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

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

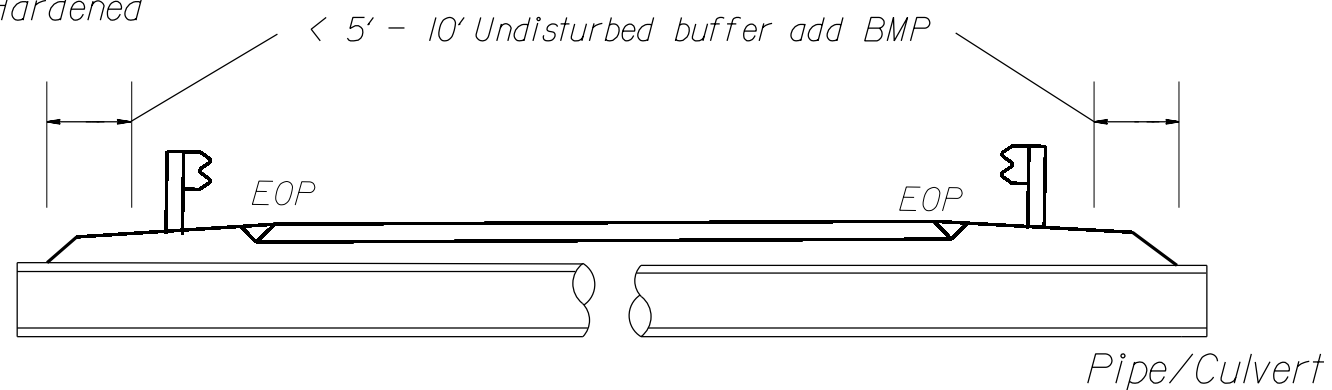
***SOIL STABILIZATION TIMEFRAMES***

<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>

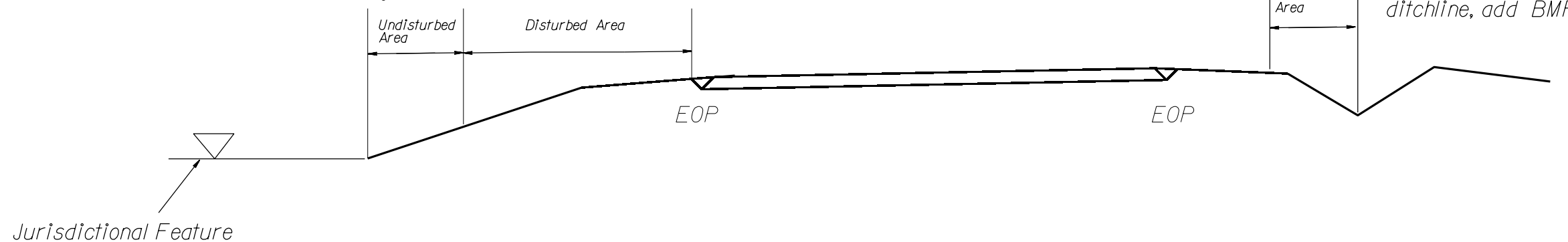
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle, Silt Fence or Hardened Aggregate.

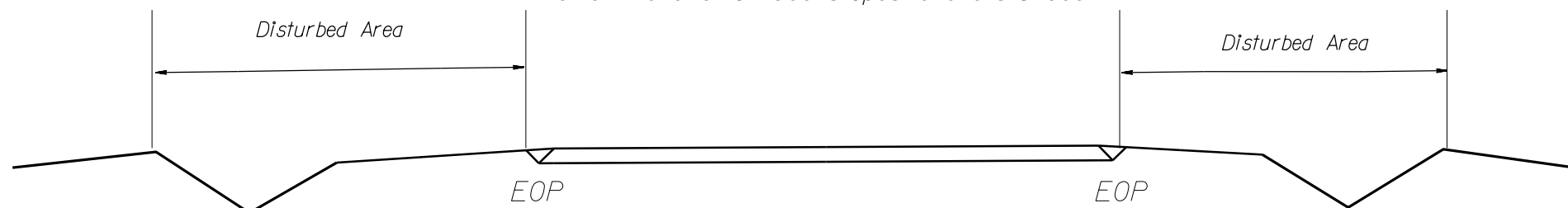
# EROSION CONTROL DETAIL



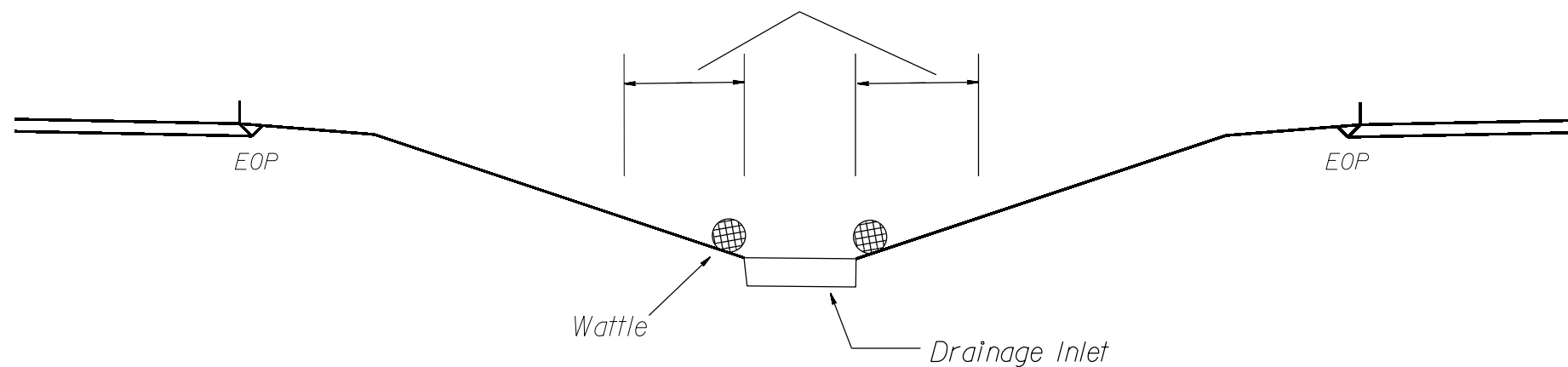
< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP



Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed

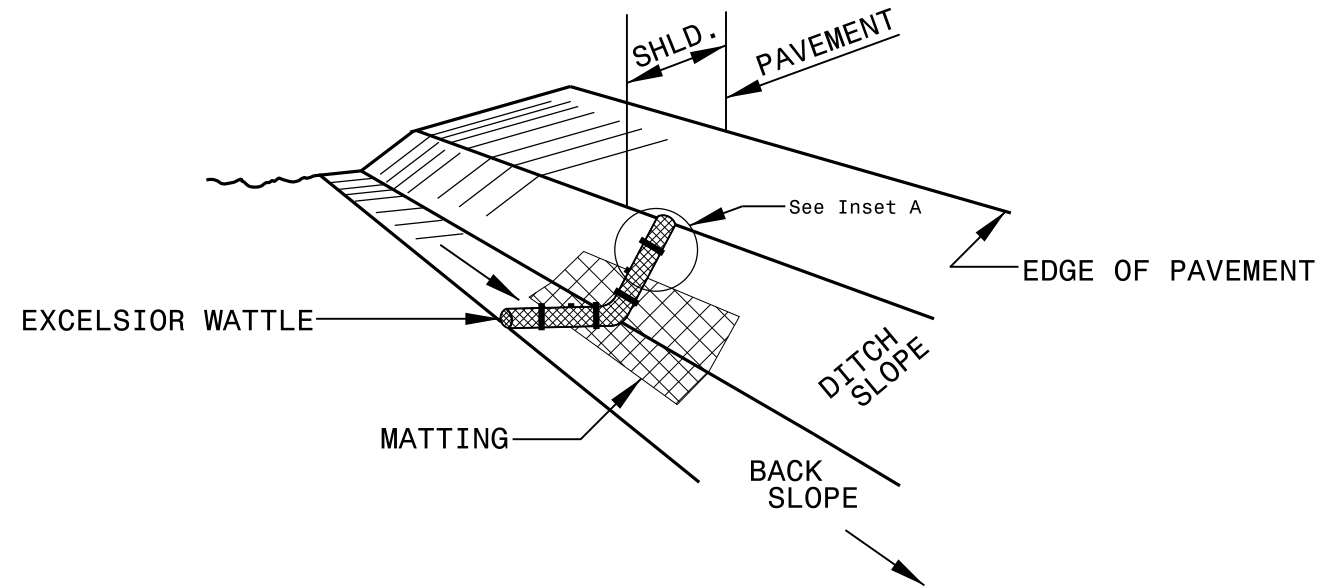


< 5' - 10' Undisturbed buffer from inlet, add wattle

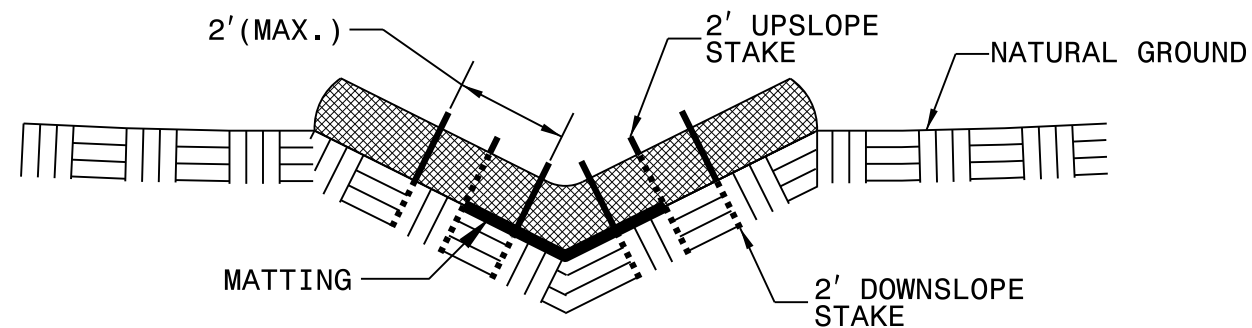


NOT TO SCALE

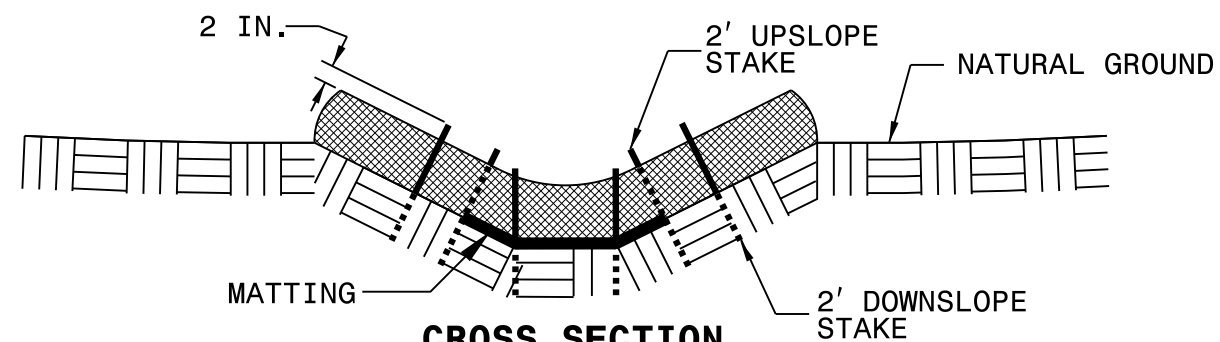
# WATTLE DETAIL



**ISOMETRIC VIEW**



**CROSS SECTION  
VEE DITCH**



**CROSS SECTION  
TRAPEZOIDAL DITCH**

**NOTES:**

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

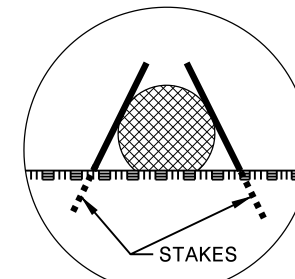
**ONLY** INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

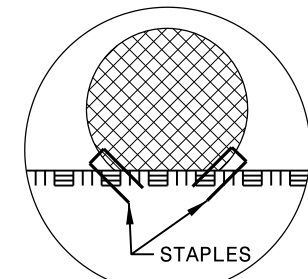
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

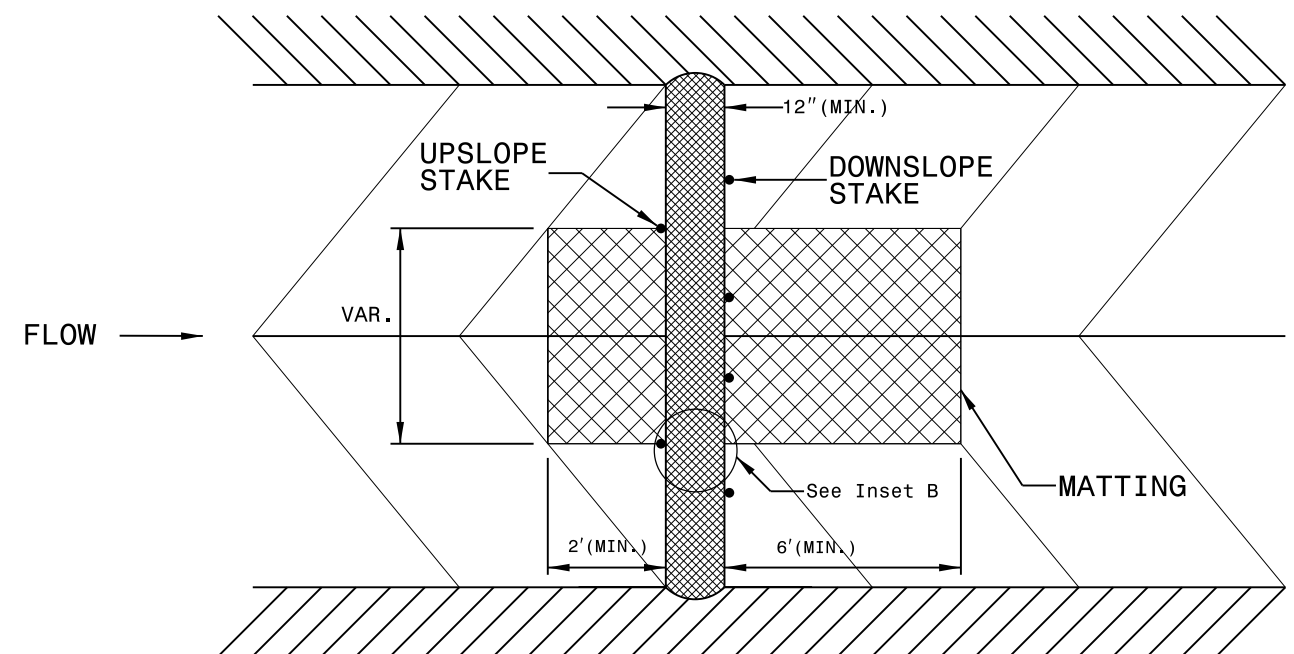
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



**INSET A**

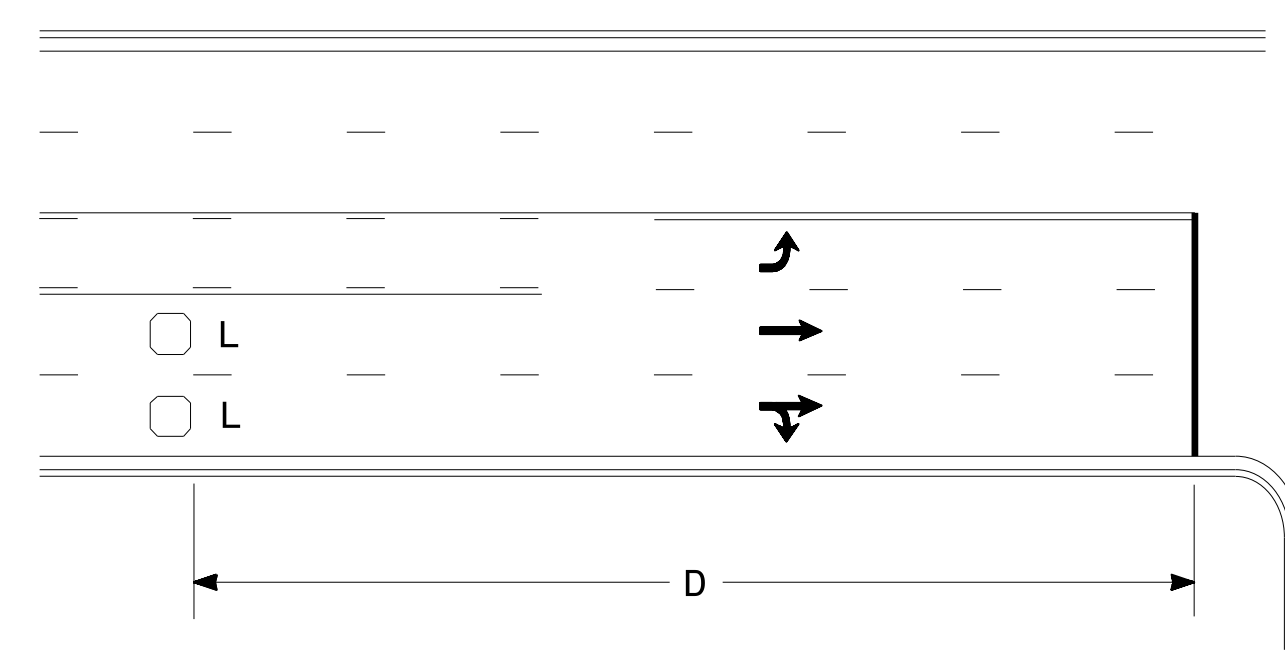


**INSET B**



**TOP VIEW**

### High Speed Detection (≥40 mph)

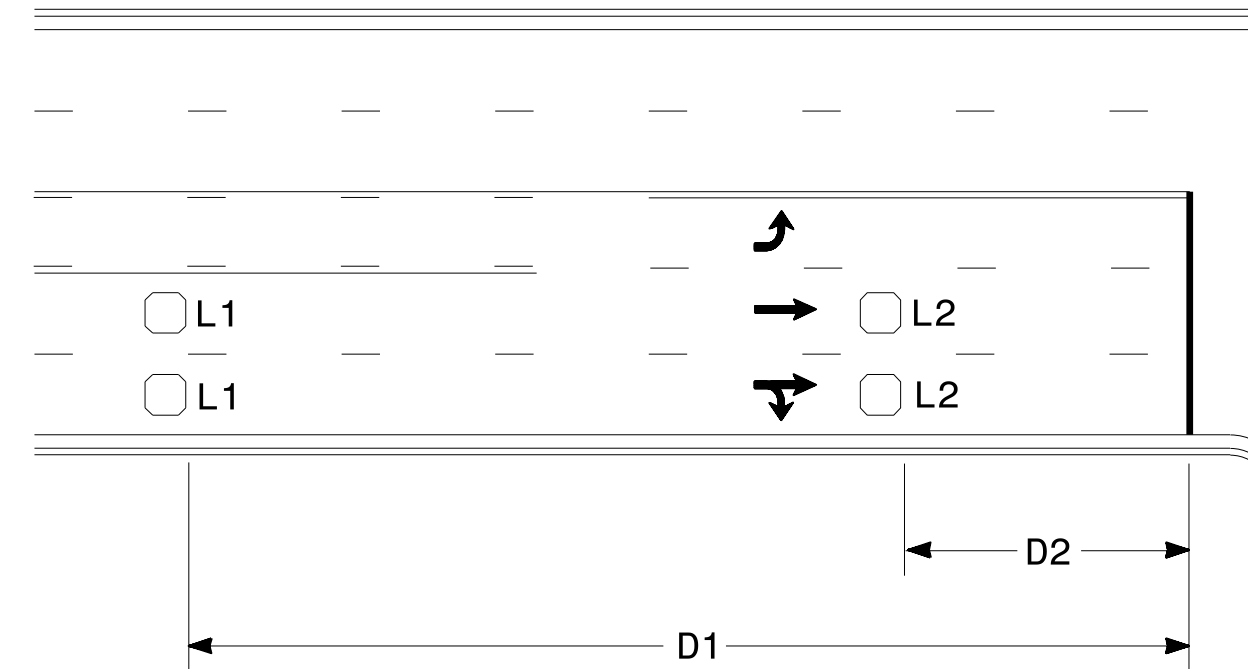


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

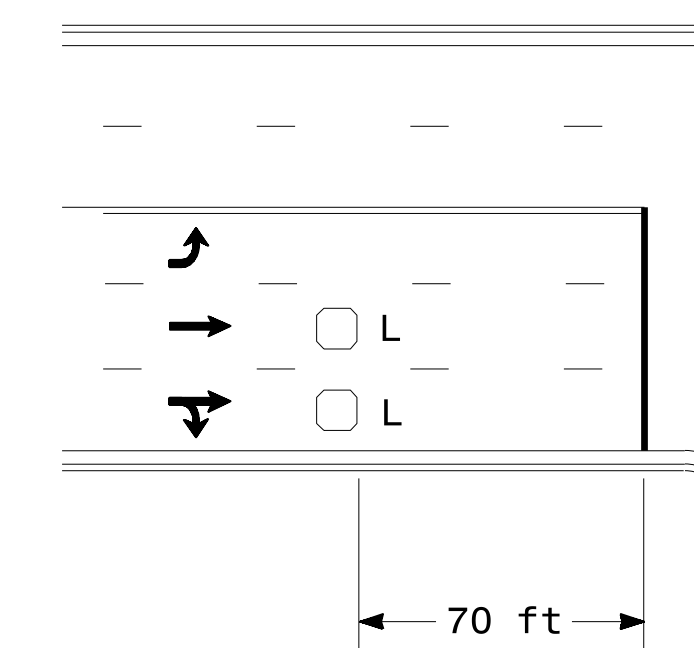


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

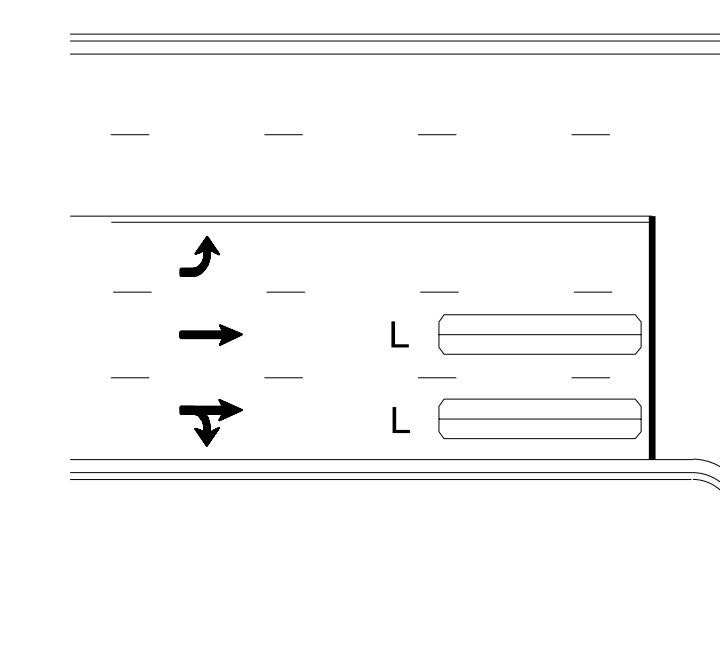
"Stretch" Operation

### Low Speed Detection (≤35 mph)



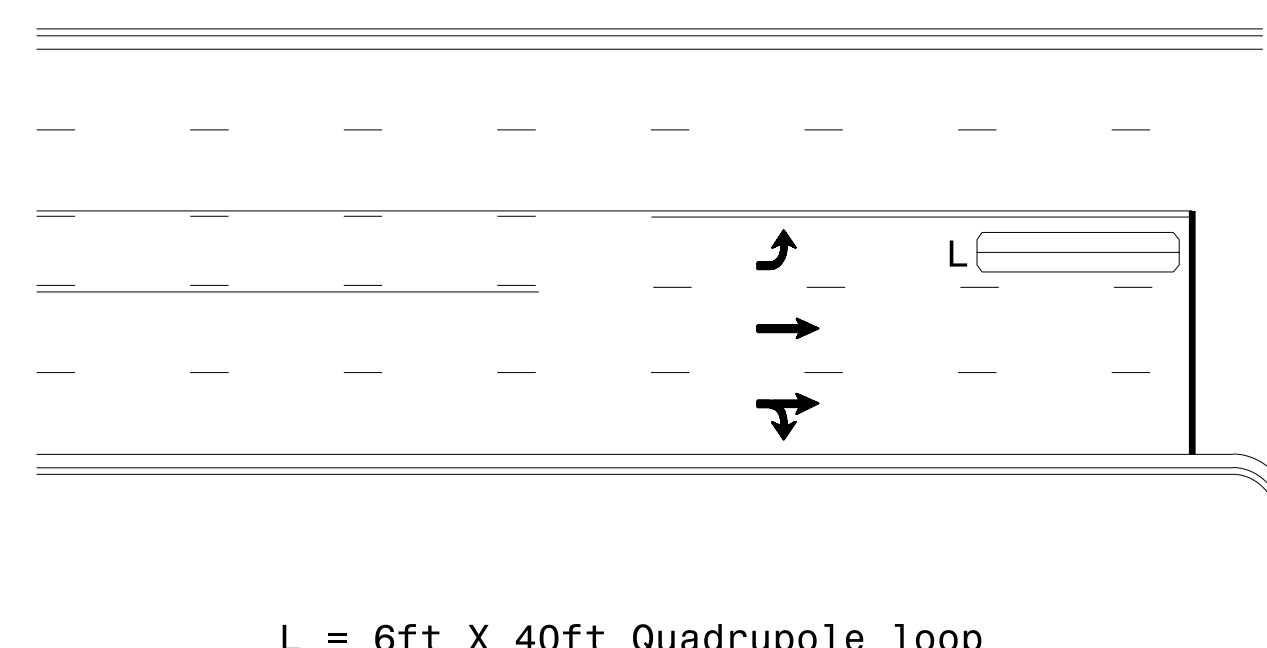
L = 6ft X 6ft  
Wired in series

OR



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

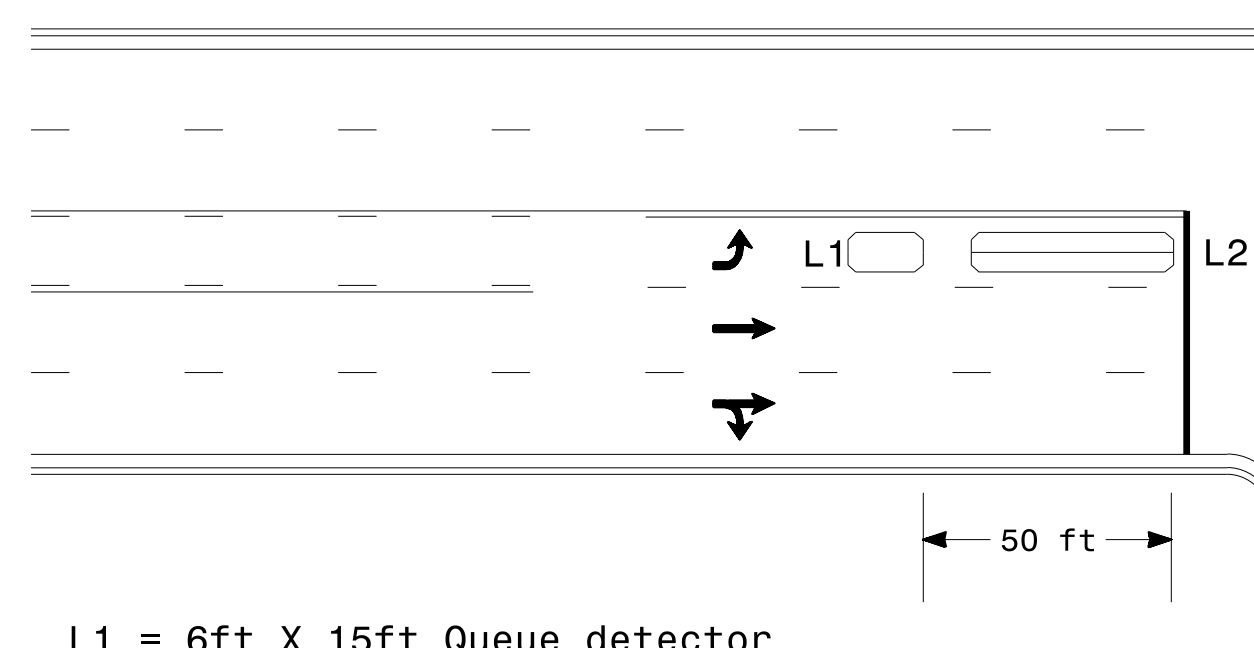
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

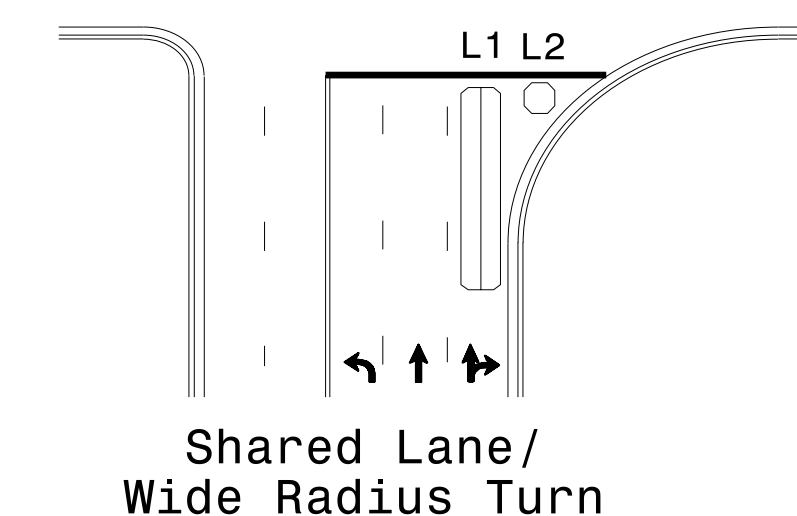
OR



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

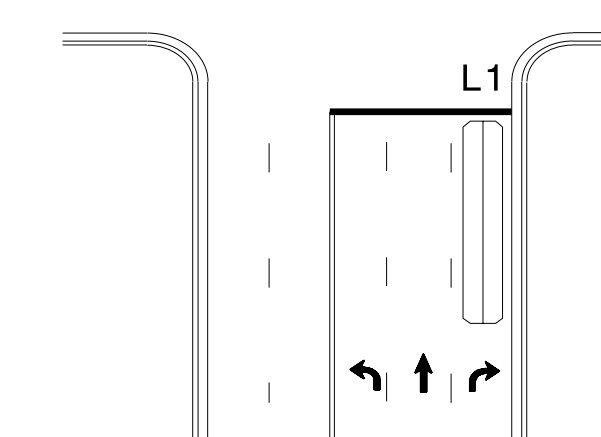
Queue Loop Detection

### Right Turn Lane Detection

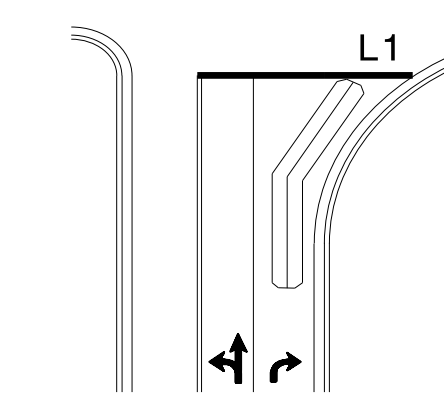


Shared Lane/  
Wide Radius Turn

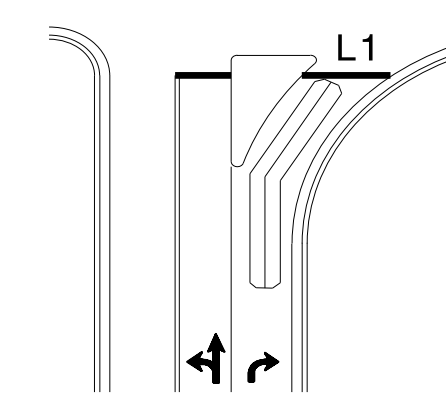
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

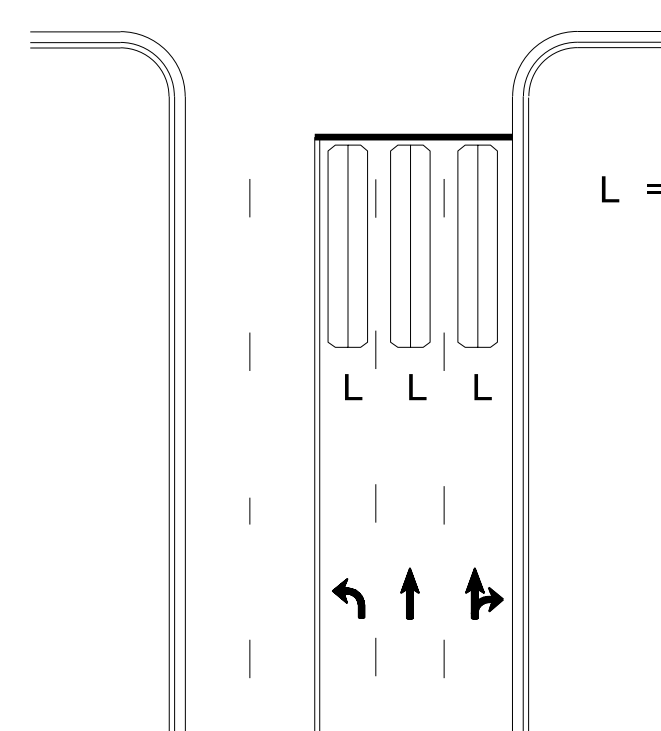


Wide Radius Turn



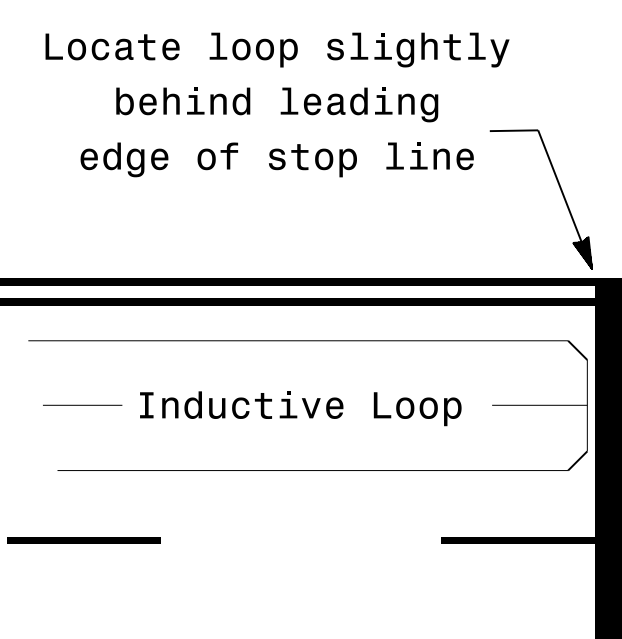
Channelized Turn

### 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

	<p>Prepared In the Offices of:</p> <p>TRANSPORTATION MOBILITY AND SAFETY DIVISION DEPARTMENT OF TRANSPORTATION SIGNAL DESIGN SECTION 750 N. Greenfield Pkwy, Garner, NC 27529</p>		<p>SEAL NORTH CAROLINA PROFESSIONAL ENGINEER PAMELA L. ALEXANDER 23489</p>	
	<p>Typical Signal Loop Locations</p>		<p>PLAN DATE: January 2015 REVIEWED BY: JPG PREPARED BY: PLA REVIEWED BY:</p>	
<p>SCALE N/A</p>	<p>REVISIONS</p>	<p>INIT.</p>	<p>DATE</p>	<p>1/30/2015 DATE</p>