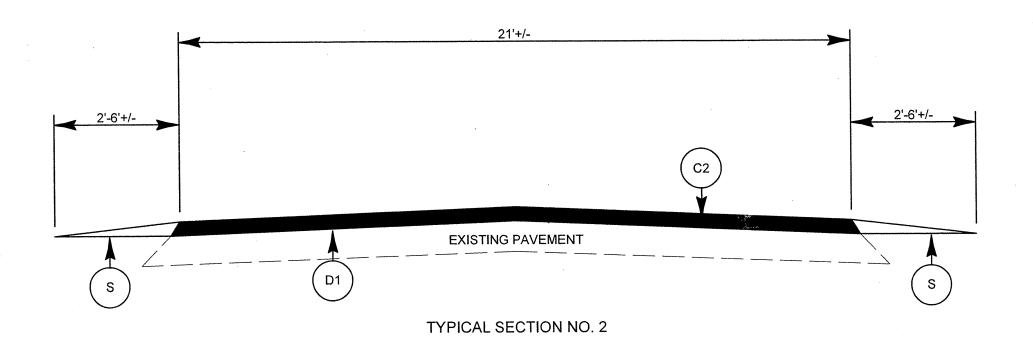
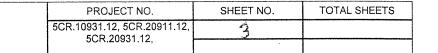
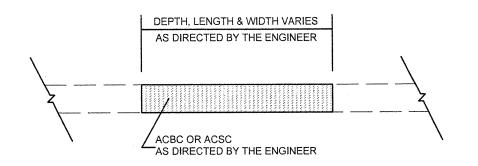


TYPICAL SECTION NO. 1

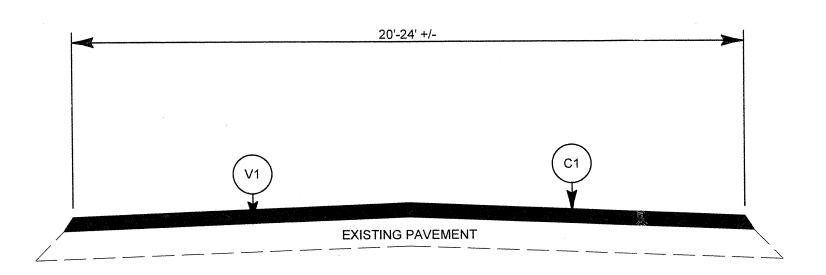




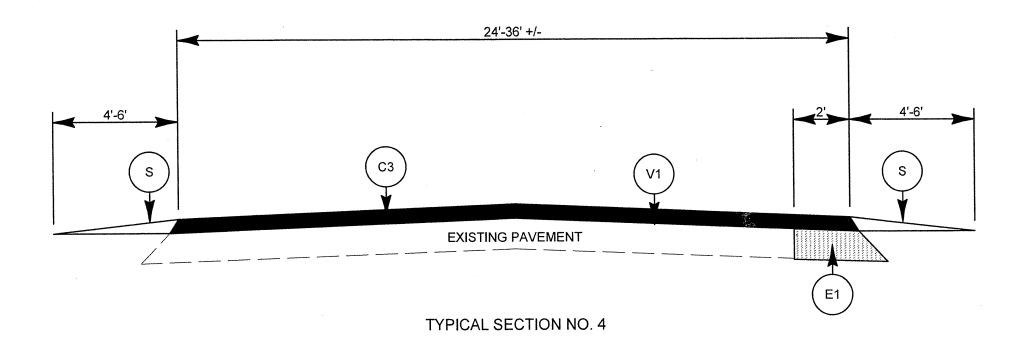


PATCHING EXISTING PAVEMENT

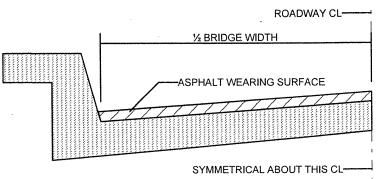
	PATCHING EXISTING PAVEMENT
garate. E Province	PAVEMENT SCHEDULE
C1	PROP. APPROX. 1.5" OF ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD
C2	PROP. APPROX. 1.25" OF ASPHALT SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 138 LBS. PER. SQ. YD.
C3	PROP. APPROX. 1.5" OF ASPHALT SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE WIDENING, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS PER SQ. YD IN EACH OF TWO LAYERS TO PROVIDE 2' WIDENING AS DIRECTED BY THE ENGINEER
S	SHOULDER RECONSTRUCTION/SEEDING AND MULCHING/BORROW AS DIRECTED BY THE ENGINEER
V1	MILL 1.5"
V2	MILL 4"



TYPICAL SECTION NO. 3



PROJECT NO.	SHEET NO.	TOTAL SHEETS
5CR.10931.12, 5CR.20911.12, 5CR.20931.12.	4	
5CR.20931.12,		



BRIDGE HALF TYPICAL SECTION

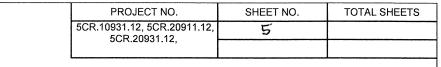
FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN

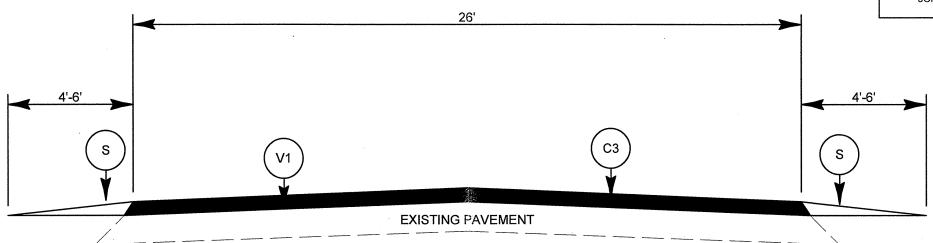
THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. THE MINIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A ½", SF9.5A 1.0", S9.5X 1.5", S12.5X 2.0", ULTRATHIN HOT MIX ASPHALT-TYPE A ½", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN HOT MIX ASPHALT-TYPE C ½". THE MAXIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1.0", SF9.5A 1.5", S9.5X 2.0", S12.5X 2.0", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN HOT MIX ASPHALT-TYPE C ½".

NOTES

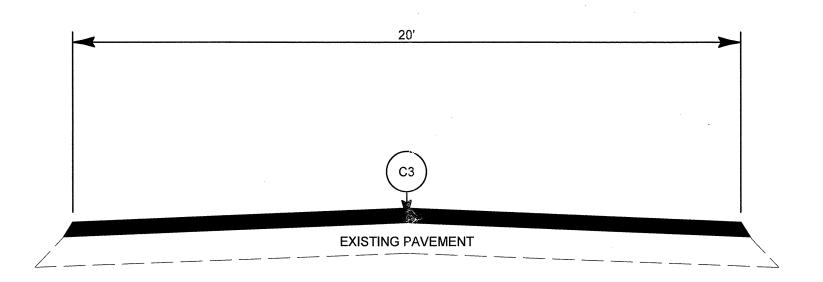
ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF

SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE INDICATED. BRIDGES ARE TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

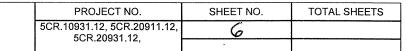


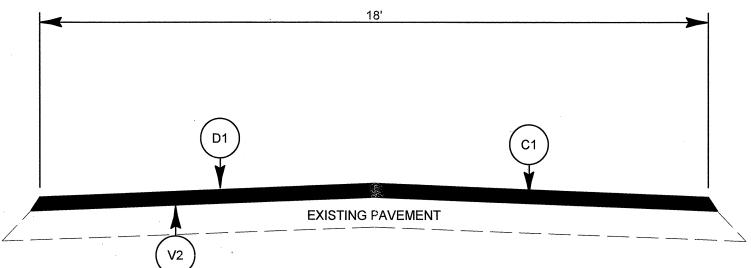


TYPICAL SECTION NO. 5

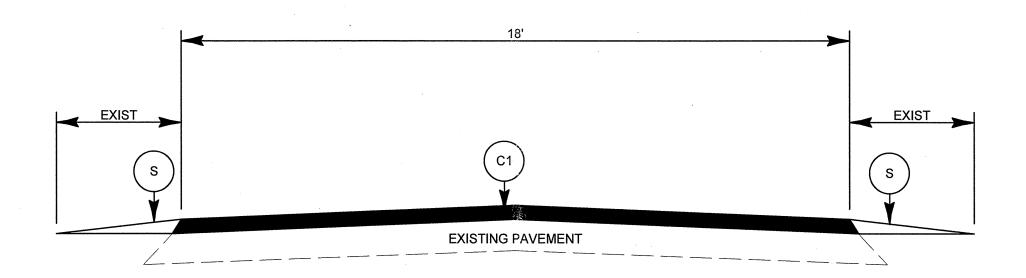


TYPICAL SECTION NO. 6





TYPICAL SECTION NO. 7



TYPICAL SECTION NO. 8

MINIMUM TIE IN ON CITY STREETS AND EXTEND LIMITS TO COMMERCIAL DRIVES BACK OF SIGNAL LOOPS ON AS DIRECTED BY THE ENGINEER STATE MAINTAINED ROADS AS DIRECTED BY THE ENGINEER EXTEND LIMITS TO MINIMUM TIE IN BACK OF RADIUS ON ON CITY STREETS AND STATE MAINTAINED ROADS COMMERCIAL DRIVES AS DIRECTED BY THE ENGINEER DETAIL OF PROJECT LIMITS AT DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES SIGNALIZED Y LINES

PROJECT NO.	SHEET NO.	TOTAL NO.
5CR.10931.12, 5CR.20911.12,		
5CR.20931.12	•	

SUMMARY OF QUANTITIES

												QUA															
PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP FINAL SURFAC	WARM MIX ASPHALT	AGGREGATE SHOULDER	LENGTH	WIDTH	BORROW	INCIDENTAL STONE BASE	1	1½" MILLING	4" MILLING	0" TO 4" MILLING	INCIDENTAL MILLING	BASE COURSE,	INTER-	SURFACE COURSE,	SURFACE COURSE,	ASPHALT BINDER	PATCHING EXISTING	ADJ. OF MANHOLES	TEMPORARY SILT FENCE		INDUCTIVE	LEAD-IN CABLE (14-2
		1 1			TESTING	1	BORROW					STRUCTION					B25.0B	COURSE,	S9.5B	SF9.5A	FOR	PAVEMENT	MANUOLLS	SILI PLICE	Moternio	2001	CADEL (14-2
		1 1			REQUIRE		ALLOWED					51110011011					025.00	119.0B	33.30	SISISK	PLANT	LWALIMITIAL			1		1
					1	-	11											113.00			MIX		1		l		1
NO		No			NO			мі	FT	СУ	TONS	SMI	SY	SY	SY	SY	TONS	TONS	TONS	TON	TON	TONS	EA	LF	AC	LF	LF
		†***†					+	 	<u> </u>		10115			<u> </u>		 	1.010	10145	10113	1014	1014	10113	<u>EA</u>	L. L.	AC	LF	<u> </u>
		1		FROM US 1 TO US 158 BUS (EXCLUDE	1		1											1							1		1
5CR.10931.12	Warren	11	US 158 BUS & BYPASS	NEW TECH HIGH SCHOOL AREA)	4 NO	YES	YES	6.1	27	1,000	73	12.0	96,624				800	1	8,399		539	100	1	200	1	6,000	200
		2	US 158 BUS	FROM US 401 TO US 158 BYPASS	5 NO	YES	YES	4.4	26	200	53	4.4	67,115	<u> </u>		<u> </u>	1 000	 	5,835		350	100	 	800		120	100
	TOTA		PROJ NO. 5CR.10931.12				T	10.5		1,200	126	16.4	163,739			 	800		14,234		889	200	 	1,000	i	6,120	300
				1					L				100,000	L		<u> </u>	1 000	<u> </u>	14,234	L	1 003	200		1,000	lL	0,120	1 300
		T		FROM SR 1507 (BROOKSTON RD) TO				T T	Ι						T	T	Т	Τ	T	I			T	I	T		T
5CR.20911.12	Vance	3	SR 1505 (CARVER SCHOOL RD)	SR 1501(ALLISON COOPER RD)	8 NO	NO	YES	1.2	18	240	58	2.4				150				1,084	73	500	1		1.80		1
		1 1		FROM SR 1308 (GLEBE RD) TO SR			1						*****			1	 	 		1,001	/	300	 		1.00		
		4	SR 1303 (HICKSBORO RD)	1342 (MORGAN RD)	1 NO	NO	NO	8.63	18		207				1	1,540		İ		6,491	435	150	1	İ			
				FROM US-1 BUSINESS TO SR 1148			1										 	İ			100		-				
		5	SR 1138 (WELCOME AVE./KING STREET)	(OLD EPSOM ROAD)	6 NO	NO	NO	0.95	20		23				1	840			970		58	50	ĺ]	150	100
			· · · · · · · · · · · · · · · · · · ·	FROM GRANVILLE COUNTY LINE TO			 										 	 									1 100
		6	SR 1342 (MORGAN ROAD)	NC 39	7 NO	NO	NO	4.37	18		210			46,447				6,719		3,949	587		1		1		1
	TOTA	AL FOR P	PROJ NO. 5CR.20911.12					15.15		240	498	2.4		46,447	l	2,530	 	6,719	970	11,524	1,153	700	<u> </u>		1.80	150	100
	***************************************			· · · · · · · · · · · · · · · · · · ·					L		L		L *	l	·			1 -/						L	1 2.00 1		1 200
		T							I	<u> </u>					T	T		T T		I			T	I	l I		T
		1 1		FROM SR 1510 (HARDY CEMETARY	1	- 1	1																1				
5CR.20931.12	Warren	7	SR 1509 (EMBRO-ODELL ROAD)	RD) TO SR 1521(ODELL-ARCOLA RD)	2 NO	NO	YES	3.5	21	1,300	84	7.0				500		6,206		3,069	503	100			5.10		1
		ПП		FROM US-401 TO TO SR 1613												ļ	T										1
		8	SR 1625 (PARKTOWN ROAD)	(SHOCCO SPRINGS ROAD)	3 NO	NO	NO	1.1	21		26		13,552					I		1,158	78	50	1				1
																	†	†							l		1
				FROM SR 1306 (WISE-FIVE FORKS RD)														İ							l 1		1
		9	SR 1305 (WARREN PLAINS ROAD)	TO NORTH WARRENTON CITY LIMITS	1 NO	NO	NO	6.9	21		150					2,500				6,336	425	50	1		1		1
				FROM SR 1224 (RIDGEWAY DREWRY																						······································	1
		10	SR 1237 (MANSON-DREWRY ROAD)	RD) TO I-85	1 NO	NO	NO	2	23		48				1,400	490		1		1,920	129	50	1				1
				FROM SR 1210 (ST. TAMMANY ROAD)																							
		11	SR 1231 (OINE ROAD)	TO US-1	3 NO	NO	NO	1.88	24		45		26,470							2,261	151	25		ĺ			1
		1 1			1	- 1											}										
		1 1		FROM SR 1231 (ST TAMMANY ROAD)	ı	1	Ì								l								1				1
		12	SR 1210 (OINE ROAD)	TO NORTH OF I-85 INTERCHANGE	3 NO	NO	NO	1.6	23		38		21,589		1,400		1			1,845	124	20			l i		
		13	SR 1224 (RIDGEWAY-DREWRY ROAD)	FROM VANCE COUNTY LINE TO I-85	3 NO	NO	NO	2.4	20		58		28,160		700	<u> </u>				2,408	161	10					
		<u>l " l</u>	. и	FROM I-85 TO US-1	1 NO	NO	NO	2.52	20		60				700	590		<u> </u>		2,105	141	50	<u> </u>				
····	TOTA	AL FOR P	PROJ NO. 5CR.20931.12	L	L			21.9	L	1,300	509	7.0	89,771	<u> </u>	4,200	4,080		6,206		21,102	1,712	355	1		5.10		
·								·							·	·	·	·		·							
		GF	RAND TOTAL	<u> </u>			<u> </u>	47.55	L	2,740	1,133	25.8	253,510	46,447	4,200	6,610	800	12,925	15,204	32,626	3,754	1,255	1	1,000	6.90	6,270	400

PROJECT NO.	SHEET NO.	TOTAL NO.
5CR.10931.12, 5CR.20911.12, 5CR.20931.12	9	

THERMOPLASTIC AND PAINT QUANTITIES

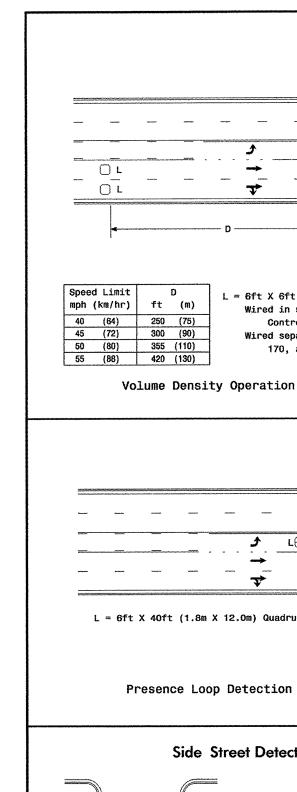
							INL	. IV IVI	OPL	AJII	CAN	U P	4 W	ı u	UA	14 1 1	IIE.	3										
							4685000000-	468600	00000-E	4695000000-E	4705000000-E	4710000000-E	472100	0000-E		472500	0000-E		48100	00000-E	4820000000-E	4835000000-E				00000-N		4905000000-
PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	LENGTH	I WIDTH	4" X 90 M			8" X 90 M	16" X 120 M	24" X 120 M	THERMO	THERMO	THERMO	THERMO	THERMO	THERMO	4"	4" WHITE	8" YELLOW	24" WHITE	PAINT MSG	PAINT LT	PAINT	PAINT	PAINT LT &	SNOW
							WHITE	M WHITE	YELLOW	YELLOW	WHITE	WHITE	MSG	RXR 120	STR	LT	RT	LT & RT	YELLOW	PAINT	PAINT	PAINT	SCHOOL	ARROW	RT	STR	RT ARROW	PLOWABLE
							THERMO	THERMO	THERMO	THERMO	THERMO	THERMO	SCHOOL	M	ARROW	ARROW	ARROW	ARROW	PAINT						ARROW	ARROW		MARKERS
		1 1					1						120 M		90 M	90 M	90 M	90 M						1 1				
NO		NO				1	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA
				FROM US 1 TO US 158 BUS																								
		1 1		(EXCLUDE NEW TECH HIGH SCHOOL																								
CR.10931.12	Warren		US 158 BUS & BYPASS	AREA)	6.1	27	65,636	600	40,260	1,200		235	18		6	8	5		40,260	66,236	1,200	235		8	5	6		500
		2	US 158 BUS	FROM US 401 TO US 158 BYPASS	4.4	26	47,344	200	29,040	300						3	<u> </u>	1	29,040	47,544	300			3			1	350
	TOTA	L FOR P	ROJ NO. 5CR.10931.12		10.5		112,980	800	69,300	1,500		235	18	l	6	11	5	1		113,780	1,500	235		11	5	6	1	850
					<u> </u>	<u> </u>	<u> </u>	70,	,100			L	1	8	<u> </u>	2	23		183	,080		I	L			23		
		·											Ţ									·	,	·		,		-
		1 1		FROM SR 1507 (BROOKSTON RD) TO																				1 1				
CR.20911.12	Vance	3	SR 1505 (CARVER SCHOOL RD)	SR 1501(ALLISON COOPER RD)	1.2	18	12,912		7,920			50	6				<u> </u>										···	
				FROM SR 1308 (GLEBE RD) TO SR											į					l								l
		4	SR 1303 (HICKSBORO RD)	1342 (MORGAN RD)	8.63	18	92,859	ļ	56,958								ļ			ļ								
				FROM US-1 BUSINESS TO SR 1148																								I
		5	SR 1138 (WELCOME AVE./KING STREET)	(OLD EPSOM ROAD)	0.95	20	10,222		6,270		100	50		4	ļ		ļ			ļ				ļ				
		1 1		FROM GRANVILLE COUNTY LINE TO																								1
		6	SR 1342 (MORGAN ROAD)	NC 39	4.37	18	47,021		28,842			50	6			ļ	ļ		28,842			50	6	ļ				
	TOTA	L FOR P	ROJ NO. 5CR.20911.12		15.15	 	163,014		99,990	***************************************	100	150	12	4	ļ	<u> </u>	<u> </u>	L		47,021		50	6	<u> </u>		LI		
				1	l	.1	1	99,	,990		L	L	1 1	6	L				75,	,863	<u> </u>	l	<u> L</u>	l				<u></u>
				T	1		T	1				г		·	r		T	1	Γ	T		r		г				
				FROM CRASHA WARRY CENTERALY		1																						1
-00 00004 40		1 - 1	CD 4500 /544DDO OD511 DO4D	FROM SR 1510 (HARDY CEMETARY	٦.	24	27.000		23,100						l				22.420	27.000				1 1				
5CR.20931.12	warren	 ' 	SR 1509 (EMBRO-ODELL ROAD)	RD) TO SR 1521(ODELL-ARCOLA RD)	3.5	21	37,660	+	23,100						 	 	 		23,100	37,660		ļ						
		8	CD 4COF (DADKTONAIN DOAD)	FROM US-401 TO TO SR 1613		24	11.026		7 200										7 200	44.000								
		8	SR 1625 (PARKTOWN ROAD)	(SHOCCO SPRINGS ROAD)	1.1	21	11,836		7,260				ļ			ļ	 		7,260	11,836								
		1 1		FROM SR 1306 (WISE-FIVE FORKS																								
		ا و ا	CD 130E (MADDEN DI AINC DOAD)	RD) TO NORTH WARRENTON CITY LIMITS	6.9	24	74,244		45,540			30						ĺ										
		9	SR 1305 (WARREN PLAINS ROAD)	FROM SR 1224 (RIDGEWAY DREWRY	6.9	21	74,244	 	45,540			30				 	 	ļ		 				 				
		10	SR 1237 (MANSON-DREWRY ROAD)	RD) TO 1-85	,	23	21,520		13,200										1,000	1,000								1
		10	SK 1237 (WANSON-DREWKT ROAD)	FROM SR 1210 (ST. TAMMANY		+ 23	21,320	 	13,200							<u> </u>	+	ļ	1,000	1,000		-						-
		11	SR 1231 (OINE ROAD)	ROAD) TO US-1	1.88	24	20,229		12,408										12,408	20,229								
		++	Sit 1251 (OINE NOAD)	FROM SR 1231 (ST TAMMANY	1.00	+	20,225	-	12,400				 				-	 	12,400	20,223		-		 				
		1 1		ROAD) TO NORTH OF I-85																			1					1
		12	SR 1210 (OINE ROAD)	INTERCHANGE	1.6	23	17,216		10,560										10,560	17,216		l						1
		++	on 1210 (one none)	THE TOTAL PROPERTY OF THE PROP	1	+	1 27,220	 	10,500							 	 		10,500	17,210				 				
		13	SR 1224 (RIDGEWAY-DREWRY ROAD)	FROM VANCE COUNTY LINE TO I-85	2.4	20	25,824		15,840]			İ				15,840	25,824			1					
		"	n	FROM I-85 TO US-1	2.52	20	27,115	1	16,632				†			 	1	†	500	500				 				T
	L				21.9	 	235,644	1	144,540			30		 	 	 	1	 		114,265	 	 		1				
	TOTA	AL FOR P	ROJ NO. 5CR.20931.12		 	 	+	144	1,540		 	l	 	L				<u> </u>		1,933				 		L		
······································					L			1	-,		I	L	L		1					.,	L	L	1	J	·			
			RAND TOTAL	T	47.55	1	511,638	800	313,830	1,500	100	415	30	4	6	11	5	1	168,810	275,066	1,500	285	6	11	5	6	1	850

PROJECT REFERENCE NO. SHEET NO. 5CRJ0931J2,ETC NOTES: Less than 5' — 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP. EC-I EROSION CONTROL DETAIL < 5' - 10' Undisturbed buffer add BMP BMP Options: Wattle, Silt Fence, or Hardened Aggregate. Pipe/Culvert < 5' - 10' Undisturbed buffer from < 5' - 10' Undisturbed buffer from jurisdictional feature add BMP ditchline, add BMP Undisturbed Area Disturbed Area EOP EOP Jurisdictional Feature Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed Disturbed Area Disturbed Area E0P EOP < 5' - 10' Undisturbed buffer from inlet, add wattle E0P E0P NOT TO SCALE Wattle Drainage Inlet

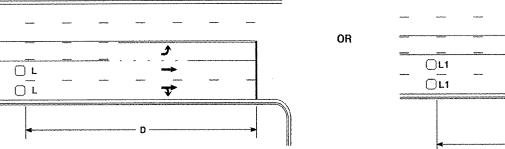
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS						
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE						
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE IF SLOPES ARE IO' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.						
SLOPES STEEPER THAN 3:1	7 DAYS							
SLOPES 3: OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.						
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	I4 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES.						



High Speed Detection [≥40 mph (64 km/hr)]



	1
m)	L = 6ft X 6ft (1.8m X 1.8m)
	Wired in series for TS1
' 5)	Controllers
10)	Wired separately for TS2,
10)	170, and 2070L Controllers
su)	,

Speed Limit mph (km/hr) ft (m) ft (m) 40 (64) 250 (75) 80 (25) 45 (72) 300 (90) 90 (27) 50 (80) 355 (110) 100 (30) 55 (88) 420 (130) 110 (35)

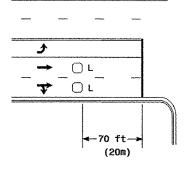
"Stretch" Operation

Low Speed Detection [<35 mph (56 km/hr)]

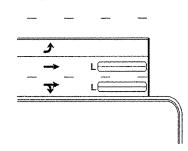
OR

PROJECT REFERENCE NO. SHEET NO. SIG 1 See Below 5CR.10931.12

5CR.20911.12 5CR.20931.12

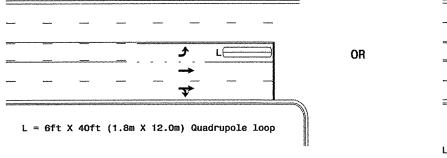


 $L = 6ft \times 6ft (1.8m \times 1.8m)$ Wired in series

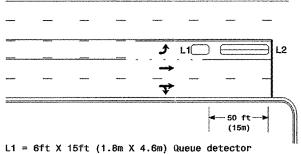


 $L = 6ft \times 40ft (1.8m \times 12.0m)$ Quadrupole loop, wired separately

Left Turn Lane Detection



Presence Loop Detection



→ □L2

▼ □L2

--- D2 ·

L1 = 6ft X 6ft

L2 = 6ft X 6ft

(1.8m X 1.8m)

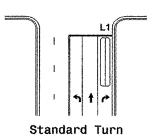
(1.8m X 1.8m)

Wired in series

Wired in series

L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

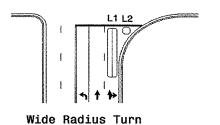
Queue Loop Detection

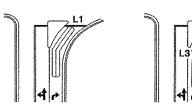


Right Turn Lane Detection

 $L1 = 6ft \times 40ft (1.8m \times 12.0m)$ Quadrupole loop L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop Wired separately

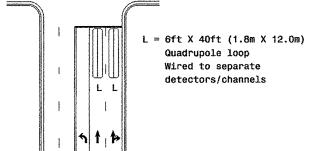
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop Wired in series





Channelized Turn

Side Street Detection Presence Loop Placement at Stop Lines



Locate loop slightly behind leading edge of stop line ---- Inductive Loop

Loop may be located in advance of stop line when stop line is greater than 15' (4.5m) from edge of intersecting roadway; or, when loop detects a permissive or protected/permissive left turn.

Single 6' X 6' (1.8m X 1.8m) loon (wired congretely):

Tooh (ATLen 26)	Janatery;
Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Recommended Number of Turns

Quadrupole loops: Use 2-4-2 turns

6' X 15' (1.8m X 4.6m) Loops: Lead-in < 150' (45 m), use 2 turns Lead-in > 150' (45 m), use 3 turns



Typical Loop Locations

FLAN DATE: June 2006 REVIEWED BY: PREPARES BY: P L Alexander REVIEWED BY: INIT. DATE

SCALE

N/A