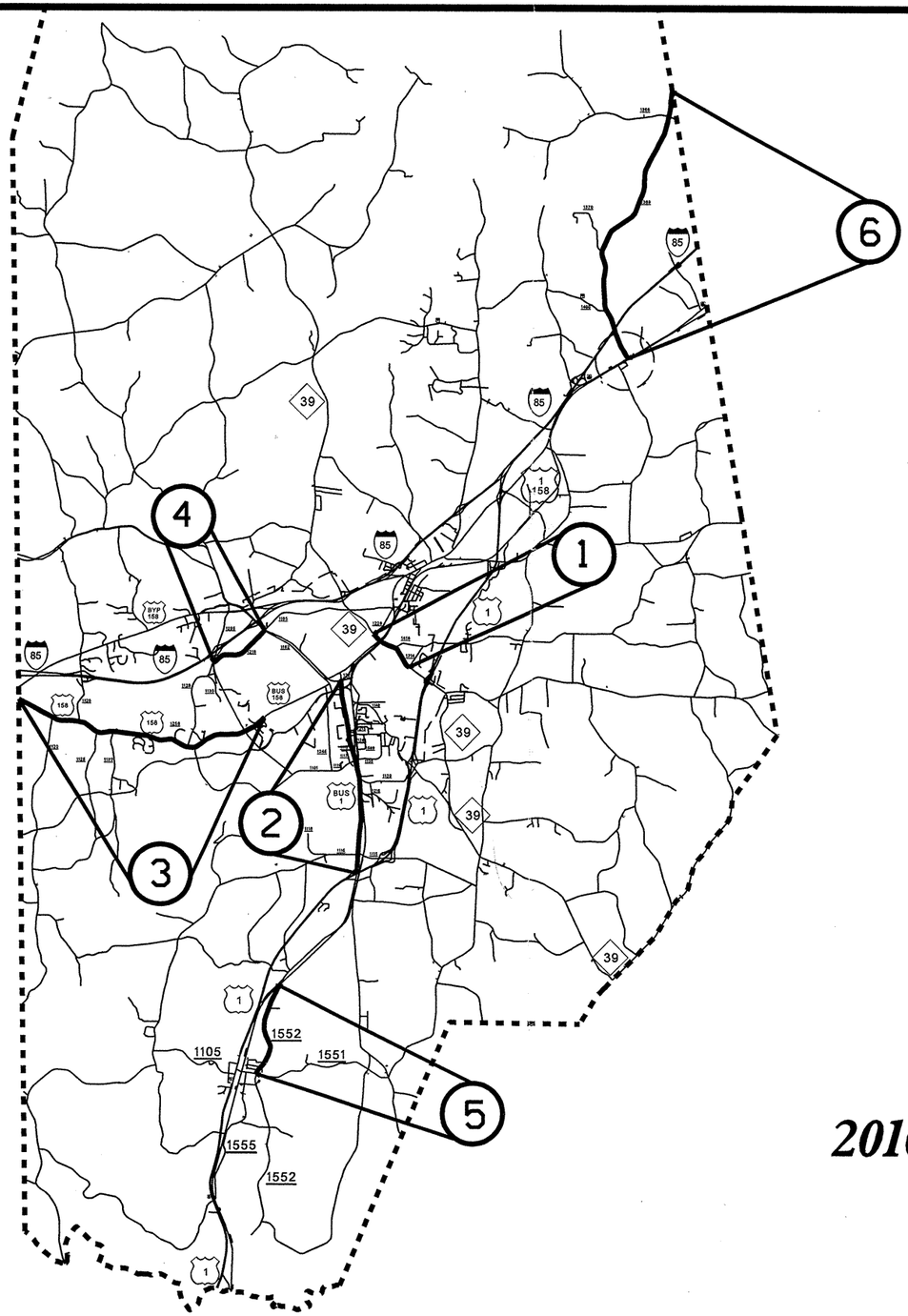
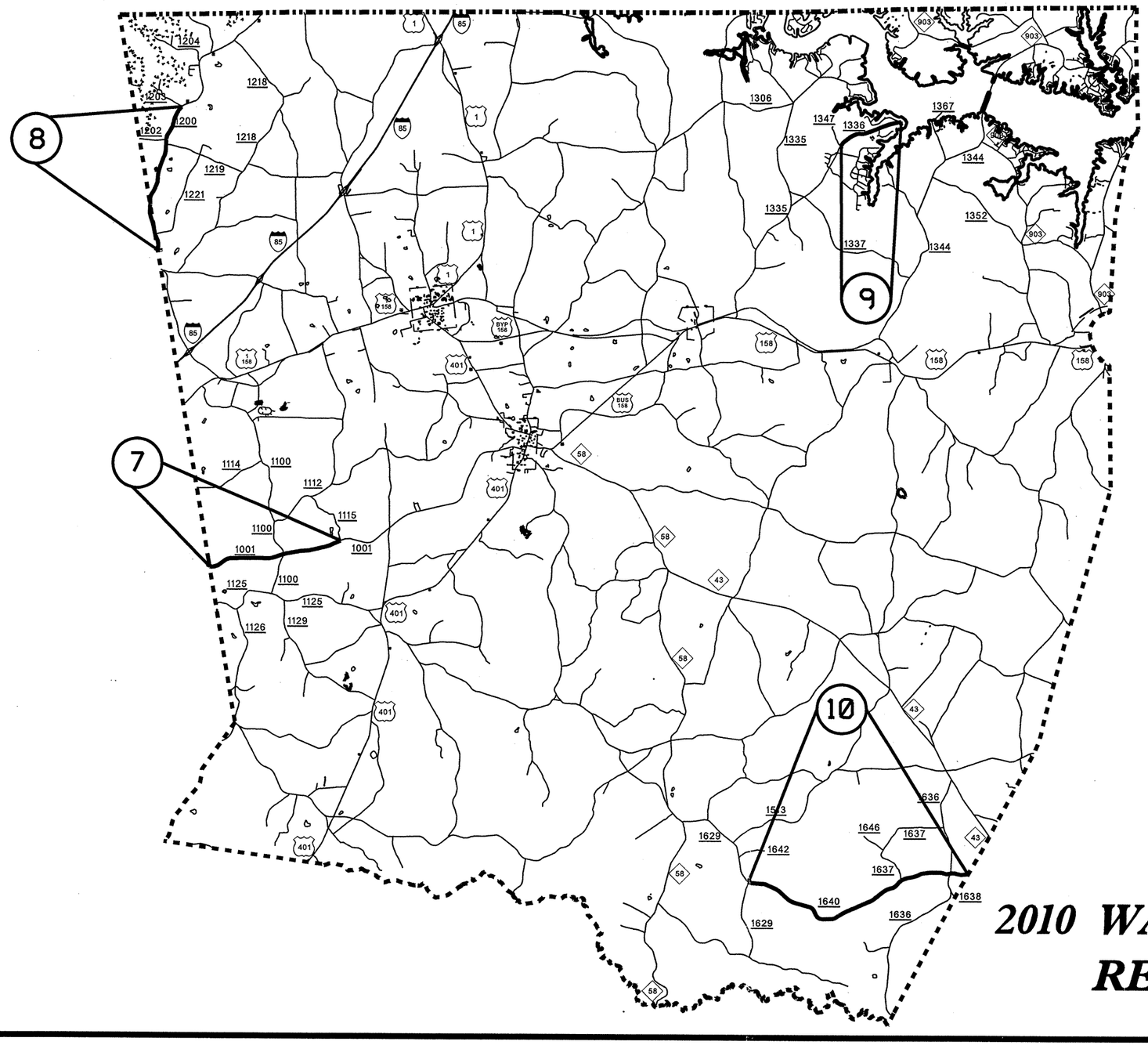
PROJECT NO.	SHEET NO.
5CR.10911.9, 5CR.20911.9, 5CR.20931.8	1



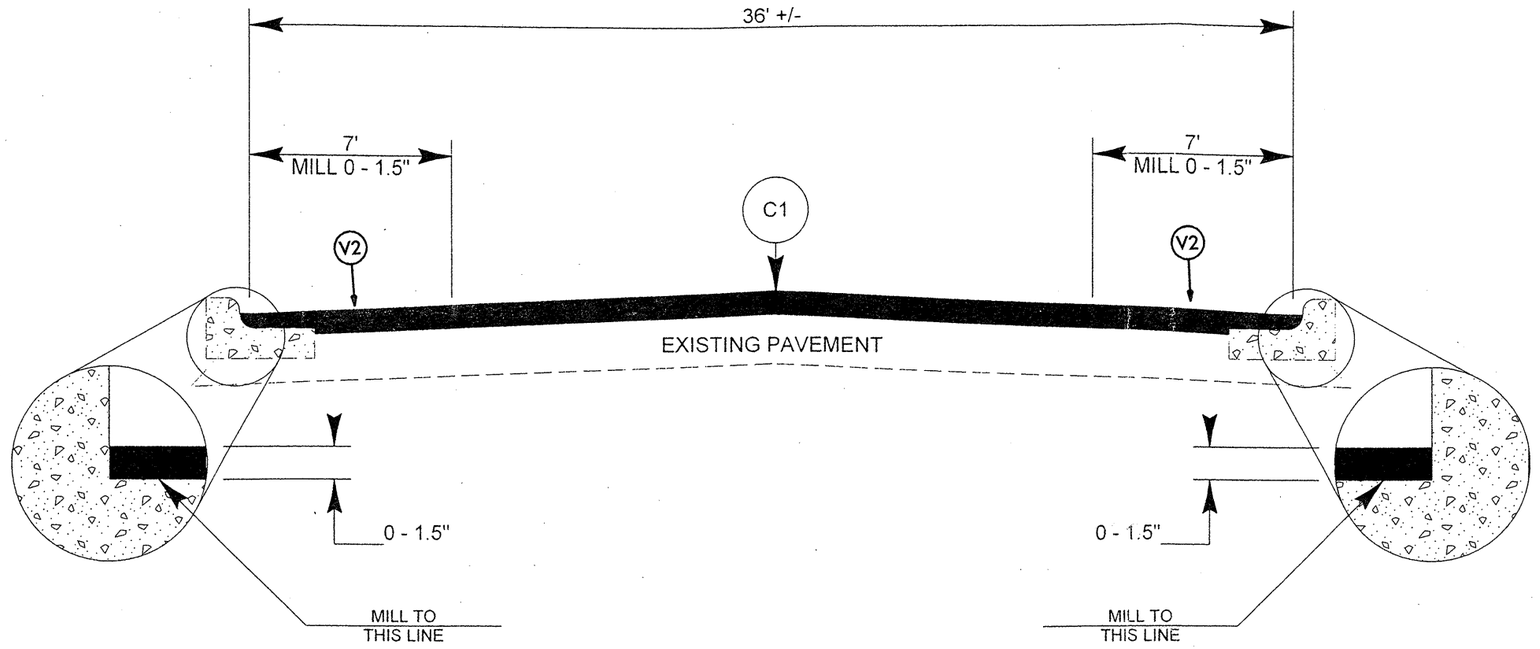
2010 VANCE COUNTY RESURFACING

PROJECT NO.	SHEET NO.
5CR.10911.9, 5CR.20911.9, 5CR.20931.8	2

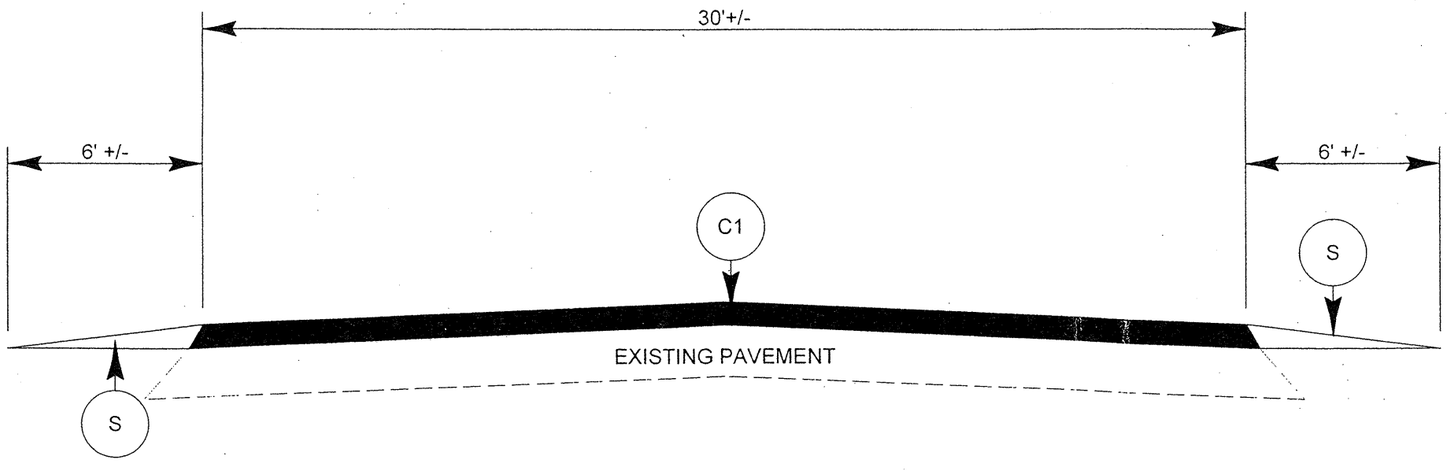


2010 WARREN COUNTY RESURFACING

PROJECT NO.	SHEET NO.	TOTAL SHEETS
5CR.10911.9, 5CR.20911.9, 5CR.20931.8,	3	



TYPICAL SECTION NO. 1



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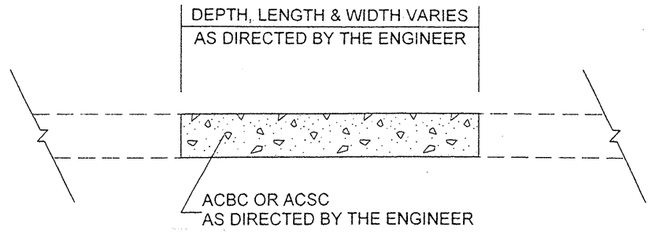


PATCHING EXISTING PAVEMENT

EFF. 07-18-06
REV. 01-02-07

2006 ROADWAY ENGLISH STANDARD DRAWINGS

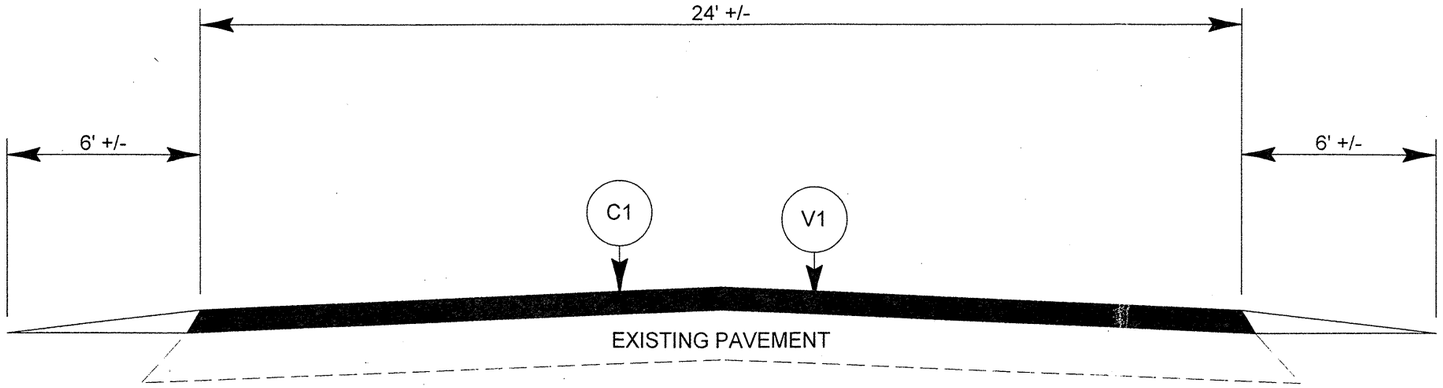
The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

DIVISION 8 - INCIDENTALS

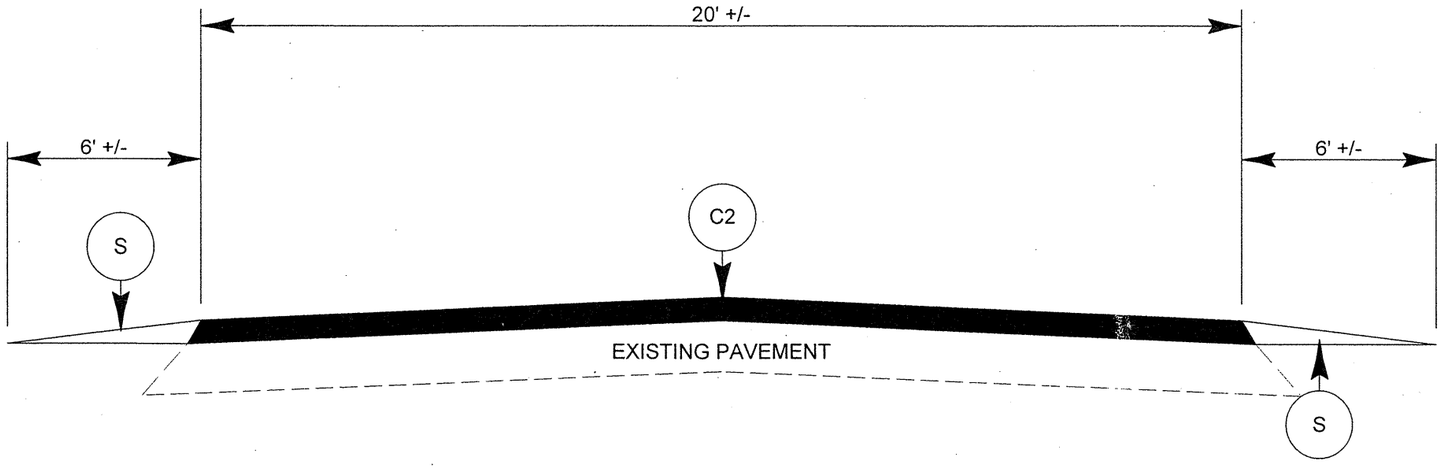
STD.NO.	TITLE
848.05	Wheelchair Ramp - Curb Cut

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE,TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS PER SQUARE YARD
C2	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 138 LBS. PER SQUARE YARD
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE CURVE WIDENING, TYPE B25.0B AT AN AVERAGE RATE OF 627 LBS PER SQUARE YD. AS DIRECTED BY THE ENGINEER
S	SHOULDER RECONSTRUCTION/SEEDING AND MULCHING BY CONTRACTOR
V1	PROP. 1 1/2" MILLING ASPHALT PAVEMENT
V2	PROP. 0" TO 1.5" MILLING ASPHALT PAVEMENT

PROJECT NO.	SHEET NO.	TOTAL SHEETS
5CR.10911.9, 5CR.20911.9, 5CR.20931.8,	4	



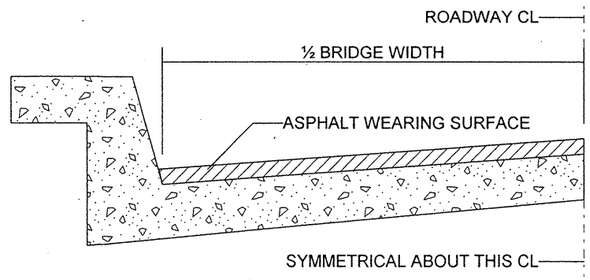
TYPICAL SECTION NO. 3



Note for Map 10: 1 ½" milling to be used for asphalt wearing surface on bridge as directed by the Engineer.

TYPICAL SECTION NO. 4

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE,TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS PER SQUARE YARD
C2	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 138 LBS. PER SQUARE YARD
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE CURVE WIDENING, TYPE B25.0B AT AN AVERAGE RATE OF 627 LBS PER SQUARE YD. AS DIRECTED BY THE ENGINEER
S	SHOULDER RECONSTRUCTION/SEEDING AND MULCHING BY CONTRACTOR
V1	PROP. 1 1/2" MILLING ASPHALT PAVEMENT



BRIDGE HALF TYPICAL SECTION

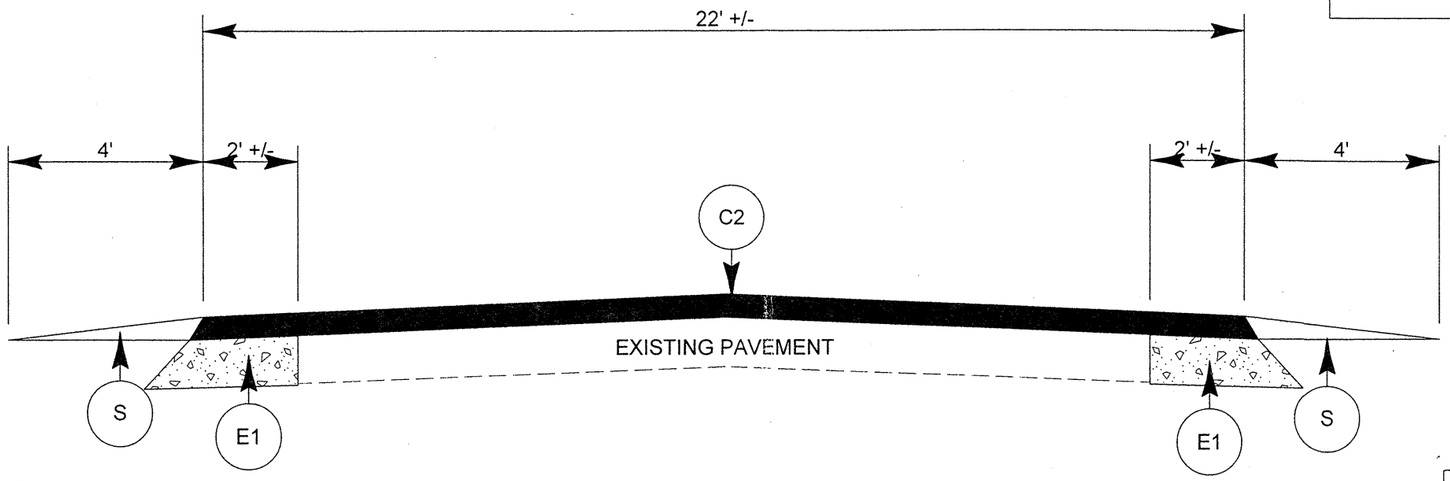
FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN

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 ¾", 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 A ¾", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN HOT MIX ASPHALT-TYPE C ½".

NOTES

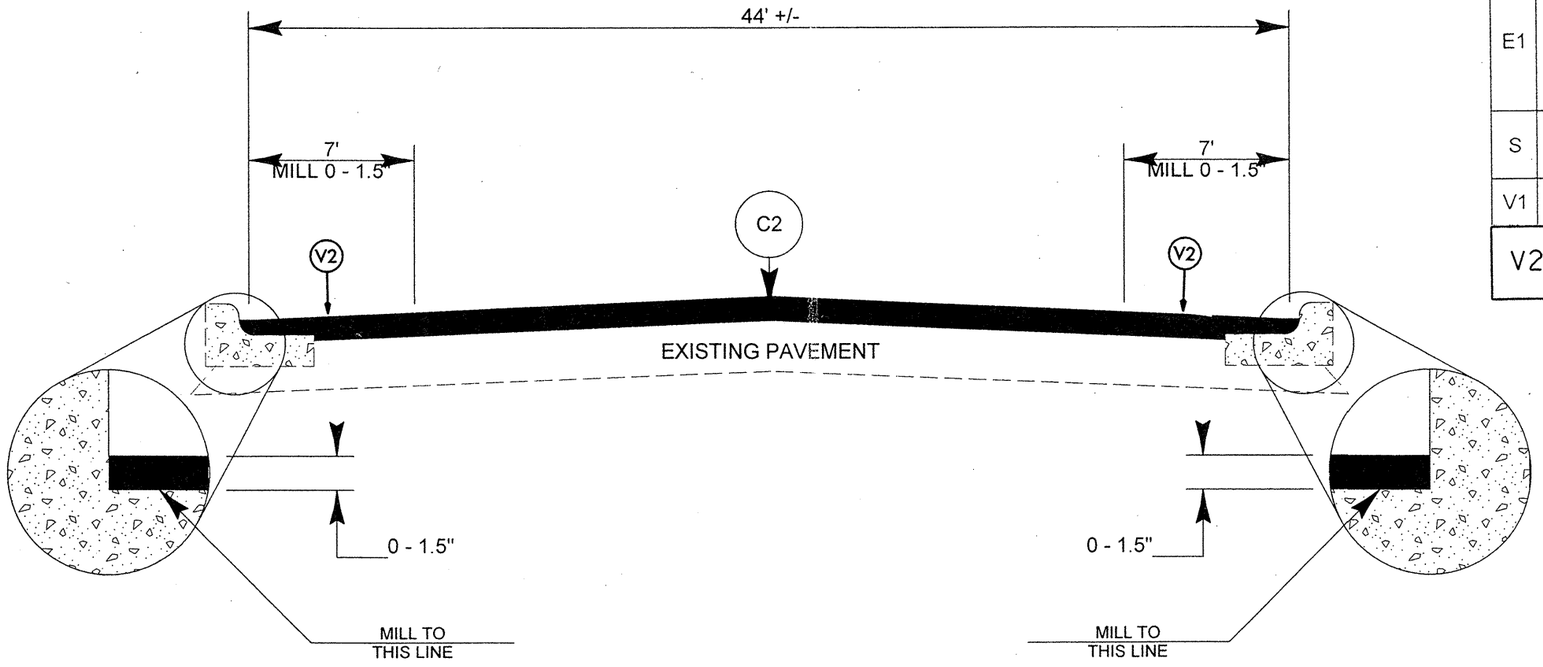
ALL UNPAVED ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT.
ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.
SHOULDERS AND DITCHES ARE TO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

PROJECT NO.	SHEET NO.	TOTAL SHEETS
5CR.10911.9, 5CR.20911.9, 5CR.20931.8,	5	



TYPICAL SECTION NO. 5

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE,TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS PER SQUARE YARD
C2	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 138 LBS. PER SQUARE YARD
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE CURVE WIDENING, TYPE B25.0B AT AN AVERAGE RATE OF 627 LBS PER SQUARE YD. AS DIRECTED BY THE ENGINEER
S	SHOULDER RECONSTRUCTION/SEEDING AND MULCHING BY CONTRACTOR
V1	PROP. 1 1/2" MILLING ASPHALT PAVEMENT
V2	PROP. 0" TO 1.5" MILLING ASPHALT PAVEMENT



TYPICAL SECTION NO. 6

PROJECT NO.	SHEET NO.	TOTAL NO.
5CR.10911.9, 5CR.20911.9 5CR.20931.8	6	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECON-STRUCTION SMI	1 ½" MILLING SY	0" TO 1.5" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TON	PG 64-22 PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	WHEELCHAIR RAMPS EA	ADJUST DROP INLET EA	ADJUST MANHOLES EA	ADJUST METER OR VALVE BOX EA	SEED & MULCHING AC	INDUCTIVE LOOP LF	LEAD-IN CABLE (14-2) LF
5CR.10911.9	Vance	1	NC 39	FROM SR 1214 (PINKSTON) TO SR 1226 (CHESTNUT)	1	NO	0.84	38				7000	134		1,578		95	200	1		18	11		1,700	200
TOTAL FOR MAP NO. 1							**0.84**					**7000**	**134**		**1,578**		**95**	**200**	**1**		**18**	**11**		**1,700**	**200**
		2	US 1 BUS	FROM US 1 BYPASS TO SR 1228 (CHAVASSE)	1, 2	NO	3.1	30		5.6		2333	859		5,402		324	200		1	3	13	4.0	3,600	400
TOTAL FOR MAP NO. 2							**3.1**			**5.6**		**2333**	**859**		**5,402**		**324**	**200**		**1**	**3**	**13**	**4.0**	**3,600**	**400**
		3	US 158 BUS.	GRANVILLE CO LINE TO CURB AND GUTTER (OMIT OUTERLOOP AREA)	3	NO	4.4	24	106		61952				5,388		323	800				5		220	100
TOTAL FOR MAP NO. 3							**4.4**		**106**	**0**	**61952**	**0**	**0**		**5,388**		**323**	**800**				**5**		**220**	**100**
TOTAL FOR PROJ NO. 5CR.10911.9							**8.34**		**106**	**5.6**	**61952**	**9333**	**993**		**12,368**		**742**	**1,200**	**1**	**1**	**21**	**29**	**4.0**	**5,520**	**700**
5CR.20911.9	Vance	4	SR 1218 (GRAHAM)	FROM SR 1162 (DABNEY) TO JOINT @ SILO GLEN REST.	4	NO	1	22	24	2			234			892	58	300			5	2	1.0	150	100
TOTAL FOR MAP NO. 4							**1**		**24**	**2**	**0**	**0**	**234**			**892**	**58**	**300**			**5**	**2**	**1.0**	**150**	**100**
		5	SR 1552 (N. CHAVIS)	FROM US 1 BUS. TO SR 1551 (MAIN ST.)	5	NO	1.75	24	42	3.5			534	40		1,701	112	100				4	1.7		
TOTAL FOR MAP NO. 5							**1.75**		**42**	**3.5**	**0**	**0**	**534**	**40**		**1,701**	**112**	**100**				**4**	**1.7**		
		6	SR 1369 (JACKSONTOWN)	FROM US 1/158 TO WARREN CO. LINE	5, 6	NO	4.97	22	119	9.7		1167	234	350		4,431	303	410	2		1		4.7		
TOTAL FOR MAP NO. 6							**4.97**		**119**	**9.7**	**0**	**1167**	**234**	**350**		**4,431**	**303**	**410**	**2**		**1**		**4.7**		
TOTAL FOR PROJ NO. 5CR.20911.9							**7.72**		**185**	**15.2**	**0**	**1167**	**1002**	**390**		**7,024**	**473**	**810**	**2**		**6**	**6**	**7.4**	**150**	**100**
5CR.20931.8	Warren	7	SR 1001 (M.L. KING BLVD)	FROM VANCE CO LINE TO SR 1115 (FATE WEAVER RD)	5	NO	3.25	24	78	6.5			209	250		3,160	216	200					4.7		
TOTAL FOR MAP NO. 7							**3.25**		**78**	**6.5**	**0**	**0**	**209**	**250**		**3,160**	**216**	**200**					**4.7**		
		8	SR 1200 (DREWRY RD)	FROM VANCE CO. LINE TO SR 1203 (SPAIN RD.)	4	NO	3.75	22	90	7.5			209			3,343	217	50					4.5		
TOTAL FOR MAP NO. 8							**3.75**		**90**	**7.5**	**0**	**0**	**209**	**0**		**3,343**	**217**	**50**					**4.5**		
		9	SR 1336 (HUBQUARTER)	FROM SR 1347 (CURRIN) TO SR 1721 (RIDGESHORE CT.)	4	NO	1.56	20	37	3.12			92			1,265	82	200					1.9		
TOTAL FOR MAP NO. 9							**1.56**		**37**	**3.12**	**0**	**0**	**92**	**0**		**1,265**	**82**	**200**					**1.9**		
		10	SR 1640 (RABBIT BOTTOM RD.)	FROM SR 1629 (OLD MAPLE) TO HALIFAX CO. LINE	4	NO	5.8	21	139	11.6	500		234			4,937	321	400					7.0		
TOTAL FOR MAP NO. 10							**5.8**		**139**	**11.6**	**500**	**0**	**234**	**0**		**4,937**	**321**	**400**					**7.0**		
TOTAL FOR PROJ NO. 5CR.20931.8							**14.36**		**344**	**28.72**	**500**	**0**	**744**	**250**		**12,705**	**836**	**850**					**18.1**		
GRAND TOTAL							**30.42**		**635**	**49.52**	**62,452**	**10,500**	**2,739**	**640**	**12,368**	**19,729**	**2,051**	**2,860**	**3**	**1**	**27**	**35**	**29.5**	**5,670**	**800**

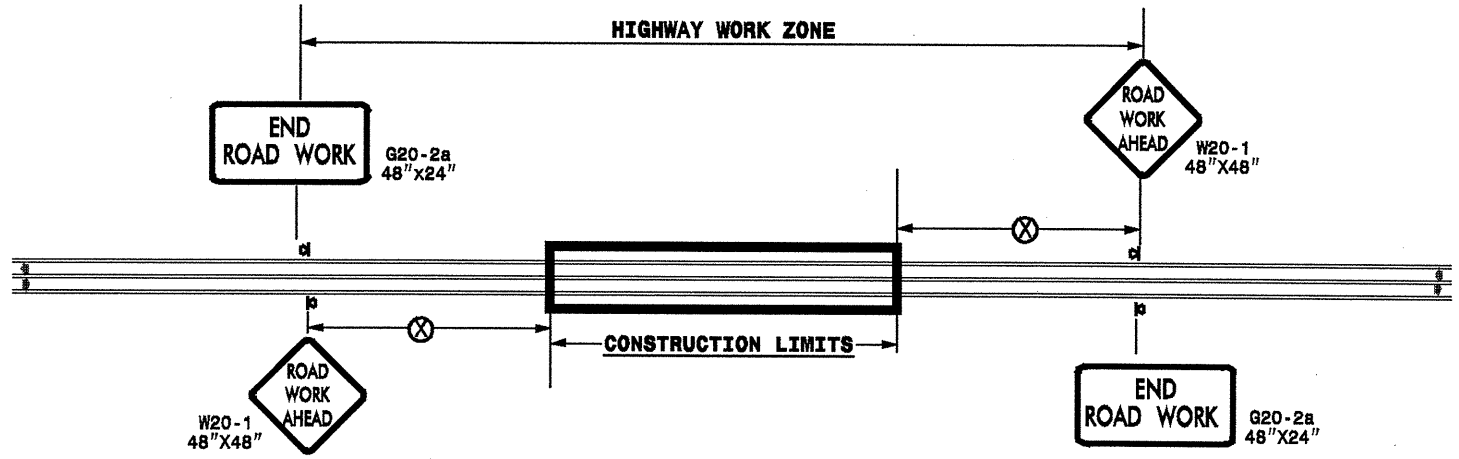
THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4685000000-E 4" X 90 M WHITE THERMO LF	4685000000-E 4" X 90 M YELLOW THERMO LF	4686000000-E 4" X 120 M YELLOW THERMO LF	4695000000-E 8" X 90 M WHITE THERMO LF	4705000000-E 16" X 120 M WHITE THERMO LF	4710000000-E 24" X 120 M WHITE THERMO LF	4721000000-E THERMO RXR 120 M EA	4725000000-E THERMO LT ARROW 90 M EA	4725000000-E THERMO RT ARROW 90 M EA	4725000000-E THERMO STR & RT ARROW 90 M EA	4725000000-E THERMO STR ARROW 90 M EA	4810000000-E 4" WHITE PAINT LF	4810000000-E 4" YELLOW PAINT LF	4835000000-E 24" WHITE PAINT LF	4900000000-N YELLOW & YELLOW MARKERS EA	4900000000-N CRYSTAL & RED MARKERS EA
5CR.10911.9	Vance	1	NC 39	FROM SR 1214 (PINKSTON) TO SR 1226 (CHESTNUT)	900		9,800	150		270		21	2	10	2				165	15
TOTAL FOR MAP NO. 1					900		9,800	150		270		21	2	10	2				165	15
		2	US 1 BUS	FROM US 1 BYPASS TO SR 1228 (CHAVASSE)	39,500		42,000	420	150	775	6	65	9	17	1				515	100
TOTAL FOR MAP NO. 2					39,500		42,000	420	150	775	6	65	9	17	1				515	100
		3	US 158 BUS.	GRANVILLE CO LINE TO CURB AND GUTTER (OMIT OUTERLOOP AREA)	47,344	900	46,000	100		50		2	4			47,344	46,900	50	290	20
TOTAL FOR MAP NO. 3					**47,344**	**900**	**46,000**	**100**		**50**		**2**	**4**			**47,344**	**46,900**	**50**	**290**	**20**
TOTAL FOR PROJ NO. 5CR.10911.9					**87,744**	**900**	**97,800**	**670**	**150**	**1,095**	**6**	**88**	**15**	**27**	**3**	**47,344**	**46,900**	**50**	**970**	**135**
					88,644							**133**				**94,244**			**1,105**	
5CR.20911.9	Vance	4	SR 1218 (GRAHAM)	FROM SR 1162 (DABNEY) TO JOINT @ SILO GLEN REST.	10,760		10,760			24		1		1						
TOTAL FOR MAP NO. 4					10,760		10,760			24		1		1						
		5	SR 1552 (N. CHAVIS)	FROM US 1 BUS. TO SR 1551 (MAIN ST.)	18,830		18,830		100	74	4									
TOTAL FOR MAP NO. 5					18,830		18,830		100	74	4									
		6	SR 1369 (JACKSONTOWN)	FROM US 1/158 TO WARREN CO. LINE															328	
TOTAL FOR MAP NO. 6																			**328**	
TOTAL FOR PROJ NO. 5CR.20911.9					**29,590**		**29,590**		**100**	**98**	**4**	**1**		**1**					**328**	
					29,590							**2**							**328**	
5CR.20931.8	Warren	7	SR 1001 (M.L. KING BLVD)	FROM VANCE CO LINE TO SR 1115 (FATE WEAVER RD)	34,970		41,000												215	
TOTAL FOR MAP NO. 7					34,970		41,000												215	
		8	SR 1200 (DREWRY RD)	FROM VANCE CO. LINE TO SR 1203 (SPAIN RD.)	40,350		24,750												248	
TOTAL FOR MAP NO. 8					40,350		24,750												248	
		9	SR 1336 (HUBQUARTER)	FROM SR 1347 (CURRIN) TO SR 1721 (RIDGESHORE CT.)	16,786		10,296													
TOTAL FOR MAP NO. 9					16,786		10,296													
		10	SR 1640 (RABBIT BOTTOM RD.)	FROM SR 1629 (OLD MAPLE) TO HALIFAX CO. LINE	62,408		38,280													
TOTAL FOR MAP NO. 10					**62,408**		**38,280**													
TOTAL FOR PROJ NO. 5CR.20931.8					**154,514**		**114,326**												**463**	
					154,514														**463**	
GRAND TOTAL					**271,848**	**900**	**241,716**	**670**	**250**	**1,193**	**10**	**89**	**15**	**28**	**3**	**47,344**	**46,900**	**50**	**1,761**	**135**
					272,748							**135**				**94,244**			**1,896**	

WBS Elements: 5CR.10911.9, 5CR.20911.9 & 5CR.20931.8

PROJ. REFERENCE NO.	SHEET NO.
See to the Left	TCP-1

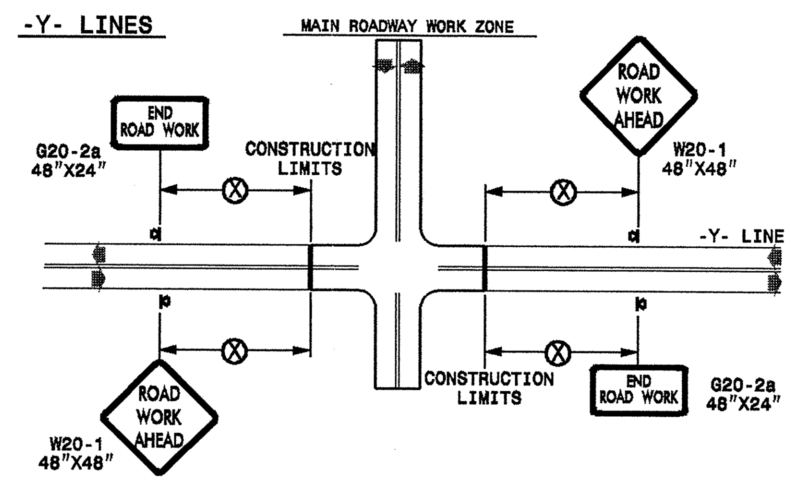
TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING ⊗
≤ 50	500'
≥ 55	1000'

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCE WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH PORTABLE WORK ZONE SIGN STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. PORTABLE WORK ZONE SIGNS MAY BE ROLL UP OR APPROVED COMPOSITE.
- PROVIDE PORTABLE WORK ZONE SIGN STANDS, PORTABLE SIGNS AND SIGN SHEETING WHICH ARE LISTED ON THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCT LIST OR ACCEPTED AS TRAFFIC QUALIFIED BY THE TRAFFIC CONTROL UNIT.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND

PORTABLE SIGN
DIRECTION OF TRAFFIC FLOW

DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS

SHEET 1 OF 1

APPROVED: DATE:

SEAL

DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
ADVANCED WORK ZONE WARNING SIGNS

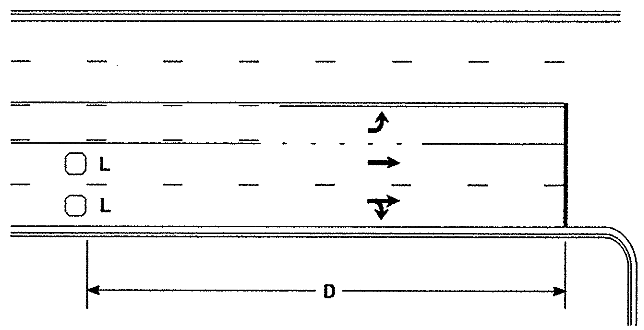
SCALE: NONE
DATE:
DWG. BY:
DESIGN BY:
REVIEWED BY:

REVISIONS	
7-98	10/01
10-98	03/04
01/01	11/04

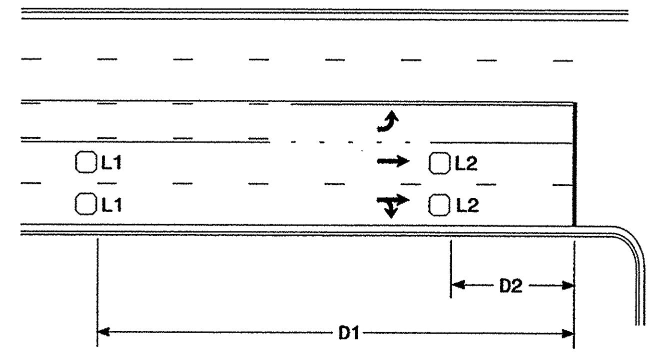
16-NOV-2009 16:02
s:\signing\resurfacing\resurfacing 030509\resurfacing2010\div05\c2025lla-c.5cr10911.9x3.vancewarren_usbusml0\c2025lla-c.5cr10911.9x3.2wayundivurbfrwysjuly2006.portable.dgn
pseymore AT WZTC237502

PROJECT REFERENCE NO.	SHEET NO.
	SIG 1

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



OR



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

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

Volume Density Operation

Speed Limit mph (km/hr)	D1 ft	(m)	D2 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)

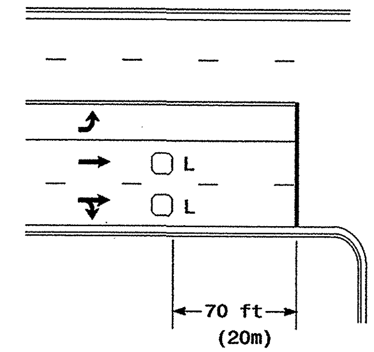
L1 = 6ft X 6ft (1.8m X 1.8m) Wired in series

L2 = 6ft X 6ft (1.8m X 1.8m) Wired in series

"Stretch" Operation

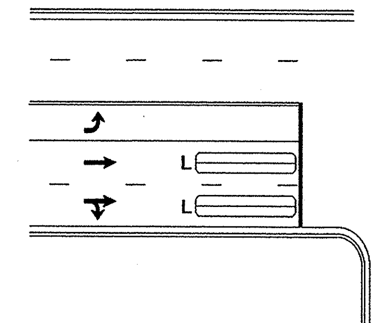
Low Speed Detection
[≤35 mph (56 km/hr)]

5CR.10911.9, 5CR.20911.9 & 5CR.20931.8



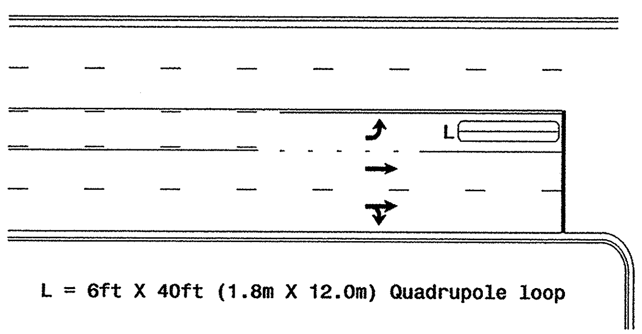
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop, wired separately

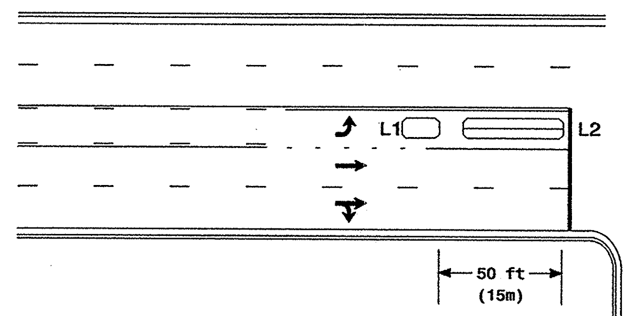
Left Turn Lane Detection



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

Presence Loop Detection

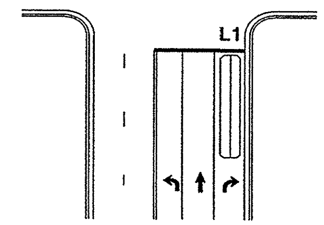
OR



L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

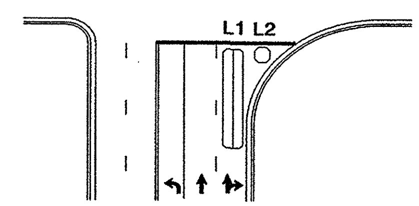
Queue Loop Detection

Right Turn Lane Detection

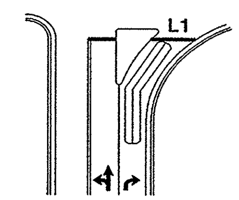


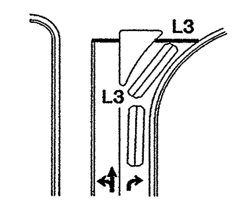
Standard Turn

L1 = 6ft X 40ft (1.8m X 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



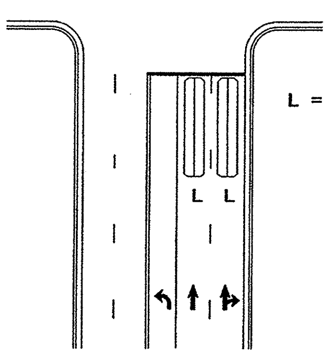
Wide Radius Turn





Channelized Turn

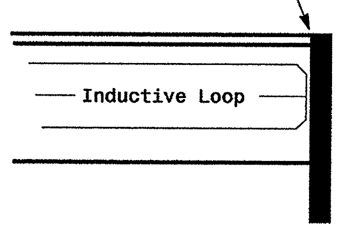
Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)
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 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.

Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m) loop (wired separately):

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

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

Prepared in the Offices of: Traffic Engineering and Safety Systems Branch, State of North Carolina, Department of Transportation, Signals and Geometrics Section
122 N. McDowell St., Raleigh, NC 27603

Typical Loop Locations

PLAN DATE:	June 2006	REVIEWED BY:	
PREPARED BY:	P L Alexander	REVIEWED BY:	

SCALE
N/A

REVISIONS	INIT.	DATE
Revise pavement markings		

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23488 PAMELA ALEXANDER
6/6/06
SIGNATURE DATE
SIG. INVENTORY NO.

PROJECT REFERENCE NO.	SHEET NO.
	Sig. 2

5CR.10911.9, 5CR.20911.9 & 5CR.20931.8

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

11-08

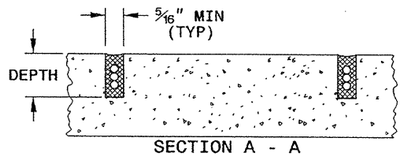
ENGLISH DETAIL DRAWING FOR

INDUCTIVE DETECTION LOOPS

CONVENTIONAL 4-SIDED LOOP

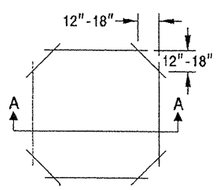
SAW SLOT DEPTH CHART

DEPTH (IN)	NO. OF WIRE TURNS				
	2	3	4	5	6
CONCRETE	2.0	2.0	2.5	2.5	3.0
ASPHALT	2.0	2.5	3.0	3.0	3.0

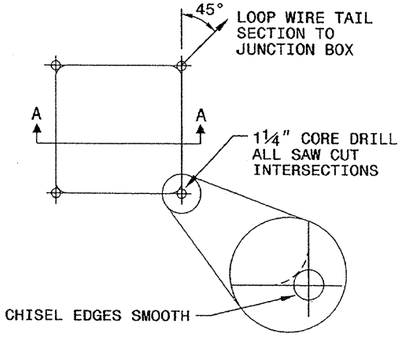


SAW CUT OPTIONS

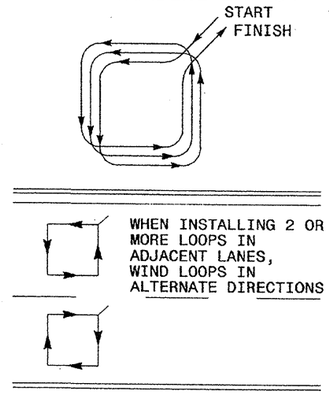
OPTION 1



OPTION 2 (POOR PAVEMENT)



LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

INCORRECT WAY TO TWIST WIRE

CORRECT WAY TO TWIST WIRE

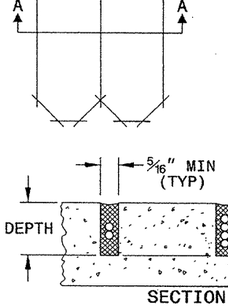
NOTES

1. OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
2. MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
3. WIRE LOOPS CONNECTED TO THE SAME DETECTOR CHANNEL IN SERIES.
4. LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS OR APPROVED BY ENGINEER.

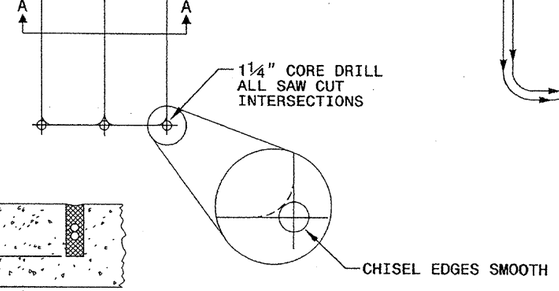
QUADRUPOLE LOOP

SAW CUT OPTIONS

OPTION 1

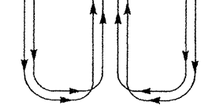


OPTION 2 (POOR PAVEMENT)



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

LOOP WINDING METHOD



SHEET 1 OF 3

1725D01

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

11-08

ENGLISH DETAIL DRAWING FOR

INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3

1725D01

See Plate for Title

Prepared in the Offices of:

Intelligent Transportation Systems & Signals Unit
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 16286 ENGINEER MILTON I DEAN

SIGNATURE

11/24/08
DATE

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zmillie

PROJECT REFERENCE NO.	SHEET NO.
	Sig. 3

5CR.10911.9, 5CR.20911.9 & 5CR.20931.8

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

11-08

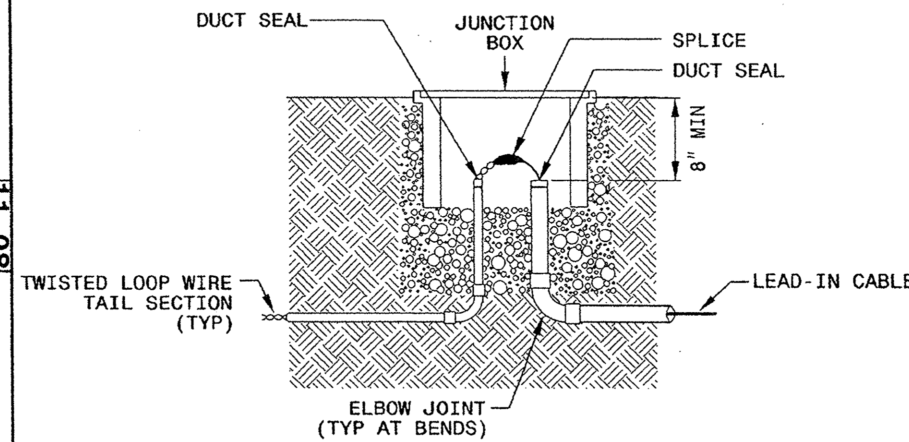
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

SHEET 2 OF 3

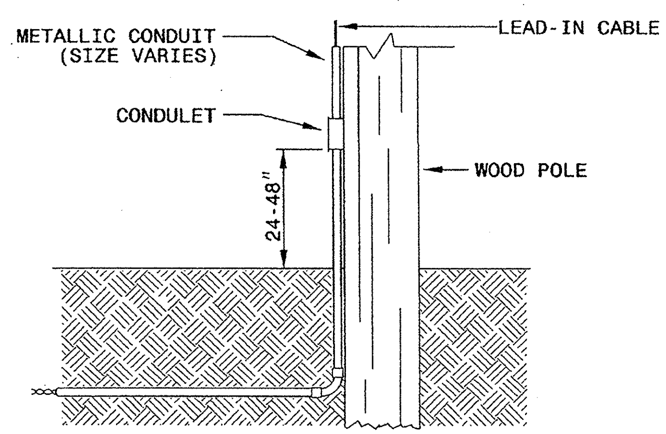
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

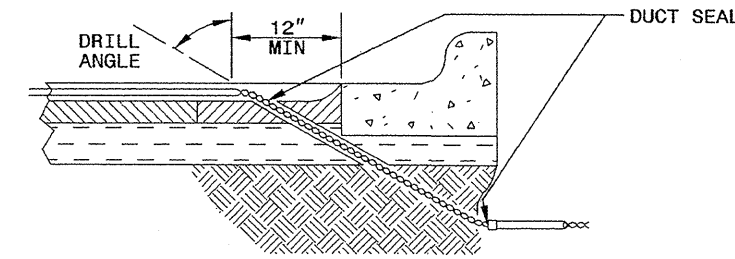


NOTE

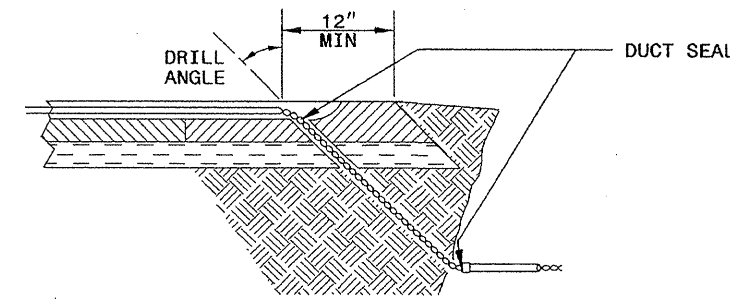
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

LOOP WIRE PAVEMENT EDGE DETAILS

LOOP WIRE AT CURB & GUTTER SECTION



LOOP WIRE AT PAVEMENT SECTION



NOTES

1. DO NOT EXCAVATE UNDER CURB AND GUTTER SECTIONS FOR CONDUIT INSTALLATION.
2. TWIST LOOP WIRE TAIL SECTIONS FROM WHERE LOOP WIRE TAIL LEAVES SAW CUT TO JUNCTION BOX, INCLUDING THROUGH CONDUIT.
3. BEFORE SEALING LOOPS, INSTALL DUCT SEAL WHERE LOOP WIRE TAIL SECTION LEAVES SAW CUT IN PAVEMENT AND AT ENTRANCE OF CONDUIT TO JUNCTION BOX.

STATE OF NORTH CAROLINA
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DIVISION OF HIGHWAYS
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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

SHEET 2 OF 3

1725D01

See Plate for Title

Prepared in the Offices of:
Intelligent Transportation Systems & Signals Unit
750 N. Greenfield Parkway
Garner, NC 27529

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NORTH CAROLINA PROFESSIONAL SEAL 16286 ENGINEER MILTON I. DEAN

SIGNATURE 11/24/08 DATE

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	Sig. 4

5CR.10911.9, 5CR.20911.9 & 5CR.20931.8

STATE OF NORTH CAROLINA
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

11-08

ENGLISH DETAIL DRAWING FOR

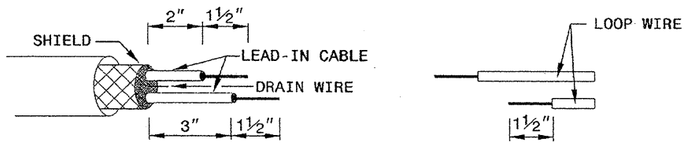
INDUCTIVE DETECTION LOOPS

SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

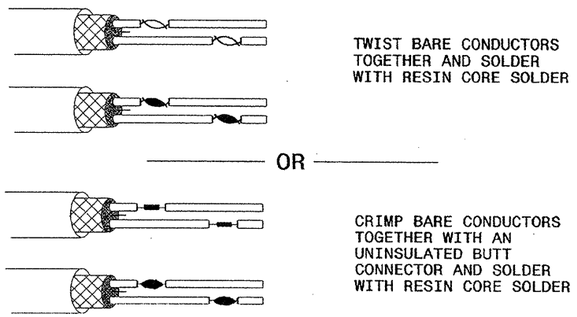
SHEET 3 OF 3

1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE



STEP 2. CONNECT AND SOLDER



TWIST BARE CONDUCTORS TOGETHER AND SOLDER WITH RESIN CORE SOLDER

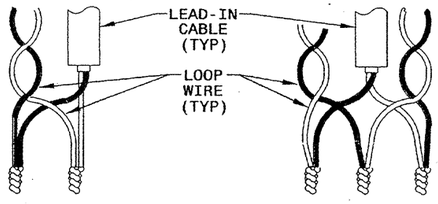
OR

CRIMP BARE CONDUCTORS TOGETHER WITH AN UNINSULATED BUTT CONNECTOR AND SOLDER WITH RESIN CORE SOLDER

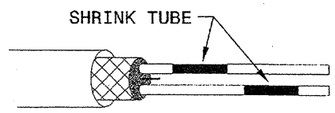
BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS

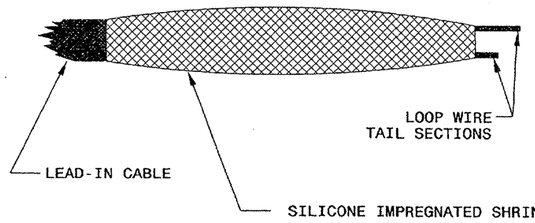
SINGLE CONNECTION SERIES CONNECTION



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



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DEPT. OF TRANSPORTATION
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RALEIGH, N.C.

11-08

ENGLISH DETAIL DRAWING FOR

INDUCTIVE DETECTION LOOPS

SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3

1725D01

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Intelligent Transportation Systems & Signals Unit
STATE OF NORTH CAROLINA — DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Parkway
Garner, NC 27529

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NORTH CAROLINA PROFESSIONAL SEAL 16286 ENGINEER WILTON DEAN

Wilton L. Dean 11/24/08
SIGNATURE DATE