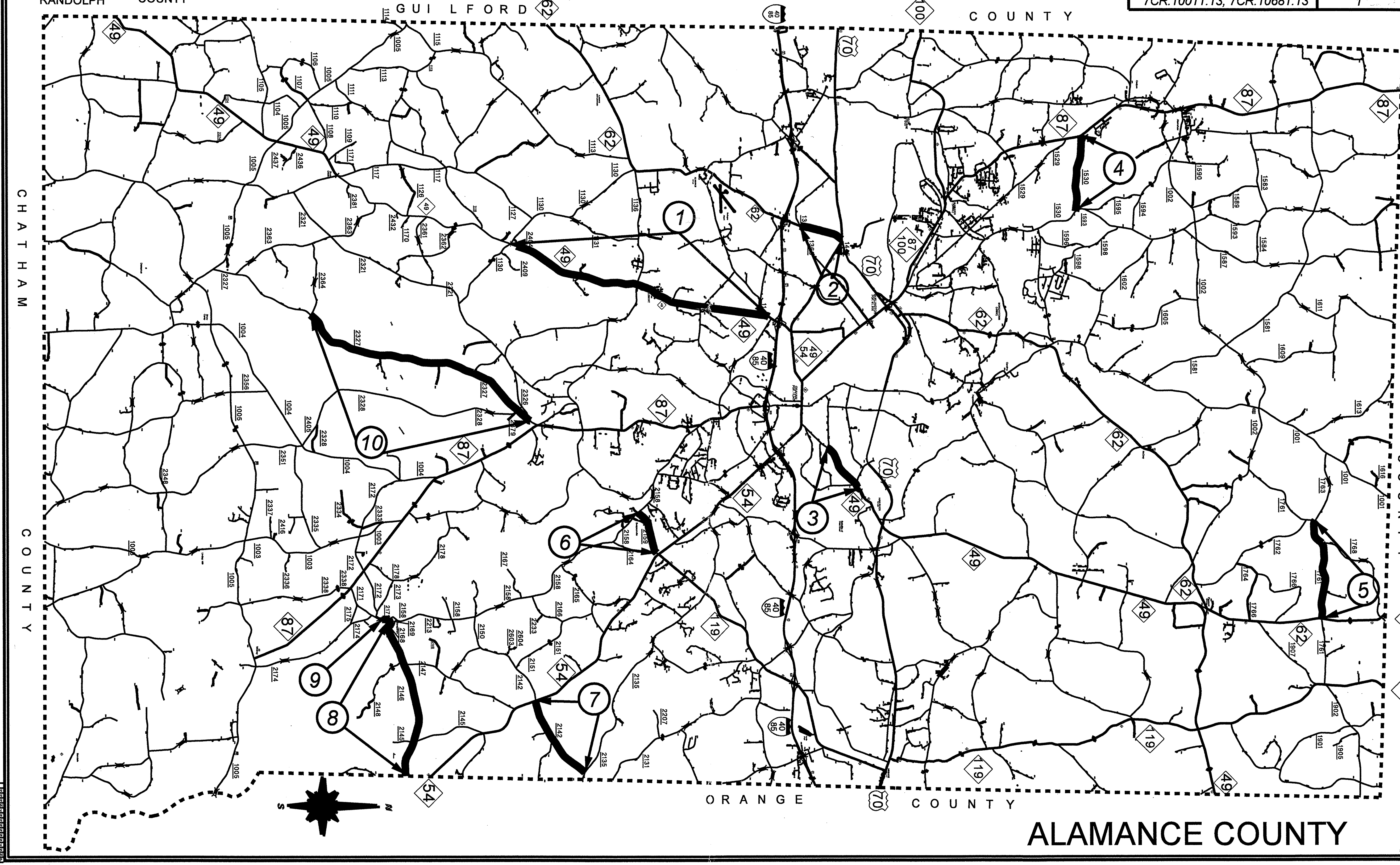
PROJECT REFERENCE NO.	SHEET NO.
7CR.10011.13, 7CR.10681.13	1



ALAMANCE COUNTY

alamance_vicinity1.dgn 11/13/2007 9:10:10 AM

PROJECT REFERENCE NO.	SHEET NO.
7CR.10011.13, 7CR.10681.13	2

ORANGE COUNTY

ALAMANCE

CHATHAM

54
1007
1961
Oaks
1101
1972
1960
11
1957
1958
1959
1956
1005
1954

N
S

ALAMANCE COUNTY

ORANGE COUNTY

2178
2213
2149
2145
54
2147
9
2158
2169
2170
2168
2146
Saxapahaw
87
2173
2172
2171
2148
2175
2174
2188
8
2338

N
S

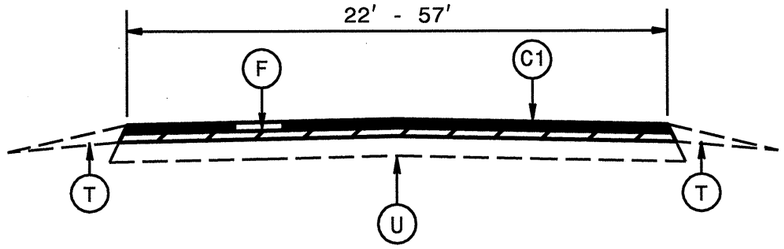
SHEET 2 OF 5

DIVISION 7 DISTRICT 1 ALAMANCE COUNTY NORTH CAROLINA

alamance_vicinity2.dgn 11/13/2007 9:10:50 AM

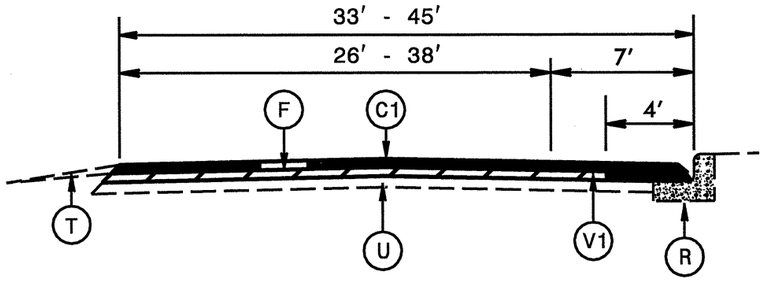
5/28/99

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10011.13, 7CR.10011.13, 7CR.10681.13	3	



USED ON MAPS 1,2,3

TYPICAL SECTION NO. 1

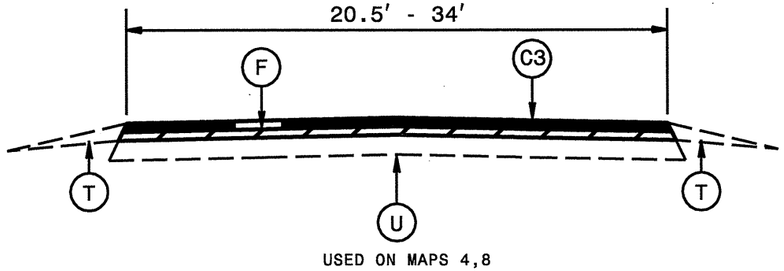


USED ON MAP 2

TYPICAL SECTION NO. 2

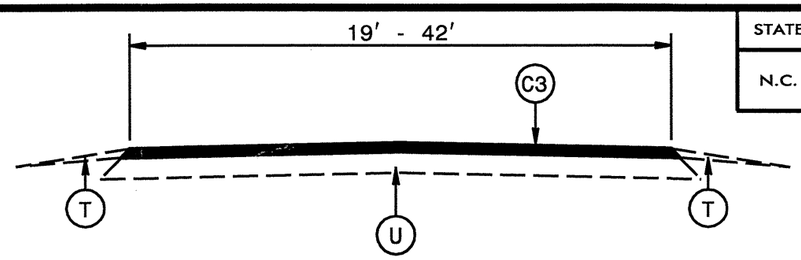
USED ON MAP 2

TYPICAL SECTION NO. 3



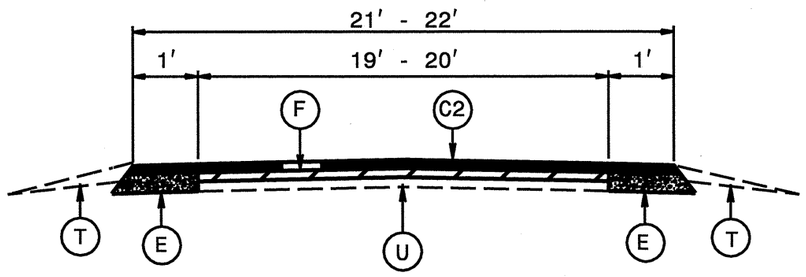
USED ON MAPS 4,8

TYPICAL SECTION NO. 4



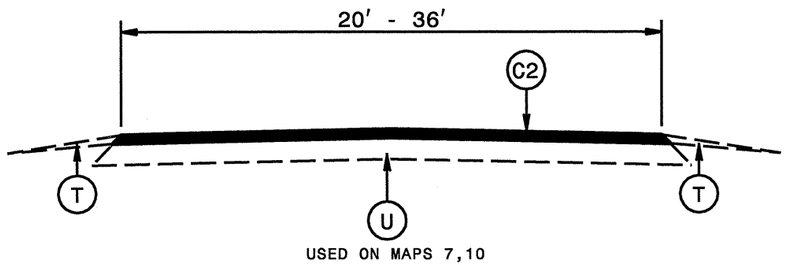
USED ON MAPS 5,11

TYPICAL SECTION NO. 5



USED ON MAPS 6

TYPICAL SECTION NO. 6



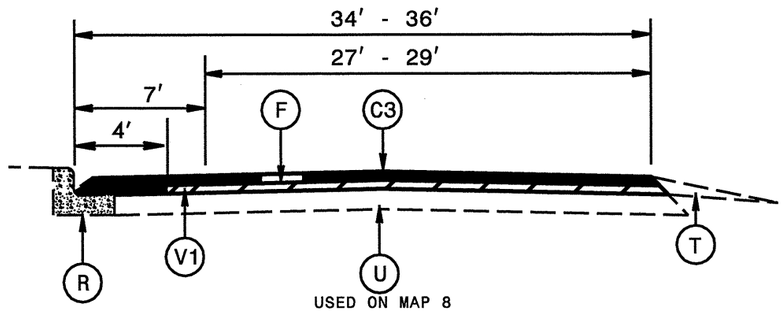
USED ON MAPS 7,10

TYPICAL SECTION NO. 7

PAVEMENT SCHEDULE

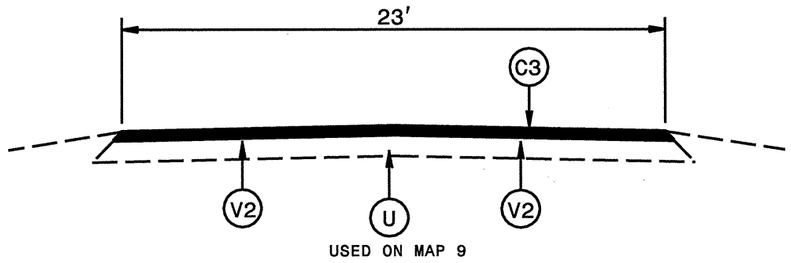
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	F	AST MAT COAT, 78M	V1	0" - 11/2" MILLING
C2	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	T	SHOULDER RECONSTRUCTION AS DIRECTED BY THE ENGINEER	V2	11/2" MILLING
C3	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	R	EXISTING 2-6 CURB AND GUTTER		
E	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYER.	U	EXISTING PAVEMENT.		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10011.13, 7CR.20011.13, 7CR.10681.13	4	



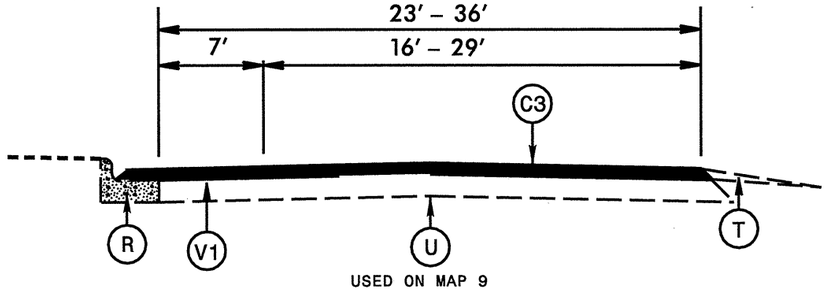
USED ON MAP 8

TYPICAL SECTION NO. 8



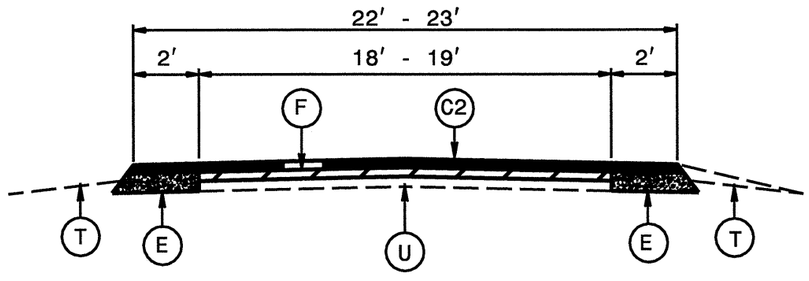
USED ON MAP 9

TYPICAL SECTION NO. 9



USED ON MAP 9

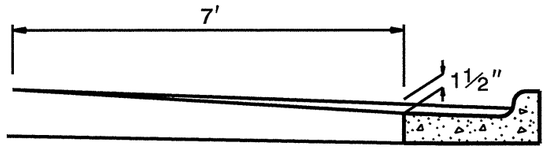
TYPICAL SECTION NO. 10



USED ON MAP 10

TYPICAL SECTION NO. 11

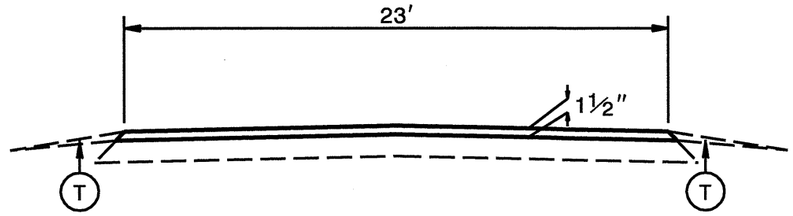
MILLING DETAIL 1



MILL EXISTING ASPHALT PAVEMENT 0-1½″ AT LOCATIONS AS DIRECTED BY THE ENGINNER

NOTE:
TO BE USED IN CONJUCTION WITH
TS. NO. 2 & 3 ON MAP 2
TS. NO. 8 ON MAP 8
T.S. NO. 10 ON MAP 9

MILLING DETAIL 2



MILL TOTAL WIDTH OF EXISTING ASPHALT PAVEMENT 1½″ AT LOCATIONS AS DIRECTED BY THE ENGINNER

NOTE:
TO BE USED IN CONJUCTION WITH
TS. NO. 9 ON MAP 9

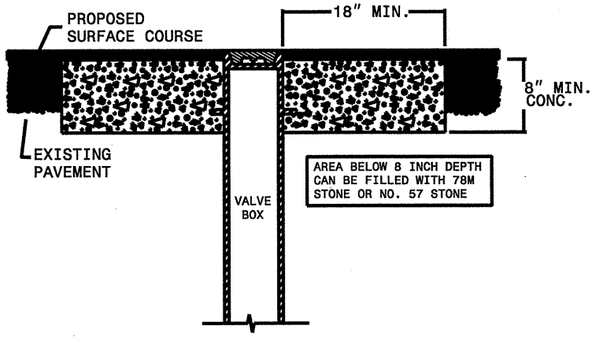
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	F	AST MAT COAT, 78M	V1	0″ - 11/2″ MILLING
C2	PROP. APPROX. 1¼″ ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	T	SHOULDER RECONSTRUCTION AS DIRECTED BY THE ENGINEER	V2	11/2″ MILLING
C3	PROP. APPROX. 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	R	EXISTING 2-6 CURB AND GUTTER		
E	PROP. APPROX. 7″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYER.	U	EXISTING PAVEMENT.		

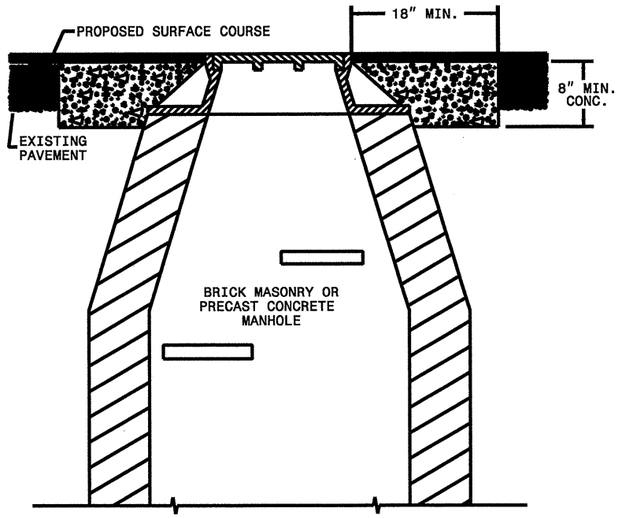
5/28/99

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10011.13, 7CR.10681.13	5	

STANDARD CONCRETE ENCASEMENT FOR MANHOLE & VALVE CASTINGS IN PAVEMENT
DETAIL DRAWING NO. 858.01

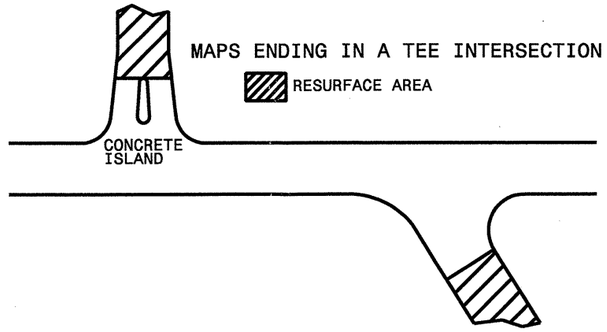


USE RAPID SET GROUT, MORTAR, OR CONCRETE CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.

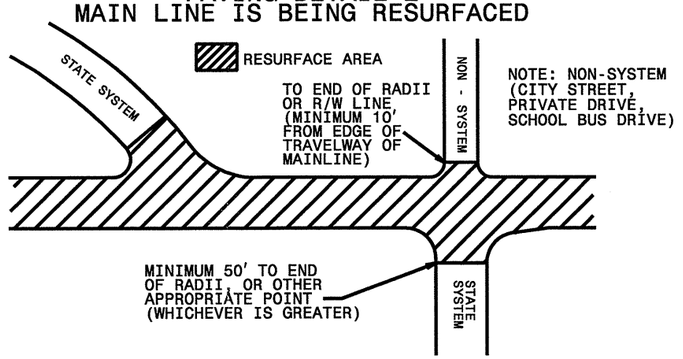


NOTES:
1. MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
2. ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
3. EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
4. RAPID SET GROUT, MORTAR, OR CONCRETE SHALL BE USED

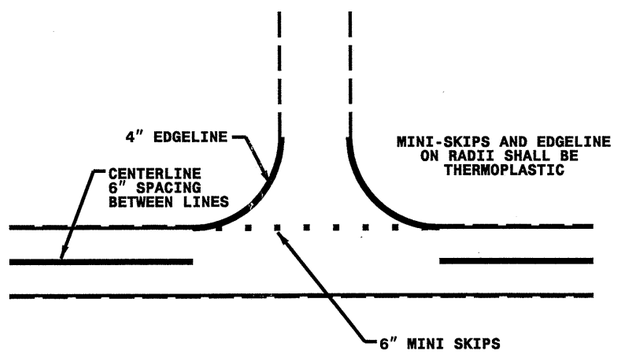
PAVING DETAIL 1
MAIN LINE IS NOT BEING RESURFACED



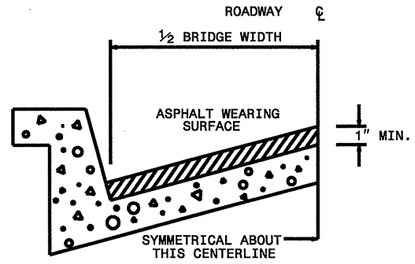
PAVING DETAIL 2
MAIN LINE IS BEING RESURFACED



TO BE USED AT ALL NON-SIGNALIZED INTERSECTIONS (NOT TO SCALE)



NOTE: MINI SKIPS SHALL BE PLACED ON A 10' CYCLE, CONTAINING AN 8' AND 2' SKIP, THE WIDTH OF THE SKIP SHALL BE 6".



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. A THICKNESS OF NOT LESS THAN 1" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1-1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

NOTES

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

PROJECT NO.	SHEET NO.	TOTAL NO.
7CR.10011.13, 7CR.20011.13 7CR.10681.13,	6	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	1½" 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 TONS	PG 64-22 PLANT MIX TONS	AST MAT COAT 78M SY	ADJ. OF MH EA	ADJ. OF MB OR VB EA	SEED & MULCHING AC	RESIDENTIAL SEEDING AC	TRENCHING (UNPAVED) (1) (2") LF	INDUCTIVE LOOP SAW CUT LF	LEAD - IN CABLE (14-2) LF
7CR.10011.13	Alamance	1	NC 49	FROM SR 1130 (FRIENDSHIP RD) TO SR 1148 (ANTHONY RD)	1	2.04	22	388	5.63					2,334		140	26,330		1	1.00	1.05			
					1	0.02	22 - 24							23		1	270							
					1	0.12	24							143		9	1,690							
					1	0.04	24							48		3	563							
					1	0.52	24					400		618		37	7,322							
					1	0.05	24 - 26							62		4	733							
					1	0.01	26 - 24							12		1	217							
					1	1.43	24					400		1,900		114	20,134							
					1	0.06	24 - 23							70		4	827							
					1	0.58	23							701		42	7,826							
					1	0.02	23 - 35							29		2	340							
					1	0.03	35 - 23							43		3	510							
					1	0.72	23					268		861		52	9,715							
TOTAL FOR MAP NO. 1						5.64		388	5.63			1,068		6,843		412	76,477		1	1.00	1.05			
"	"	2	NC62 (ALAMANCE RD)	FROM SR 1363 (S. MEBANE ST) TO US 70 (CHURCH ST)	1	0.74	24	50	0.84					1,040		62	10,419	6	8		0.31	50	650	50
					2	0.03	33				70			49		3	581							
					2	0.03	33 - 46				103			59		4	695							
					3	0.02	46 - 52				190			48		3	575							
					3	0.02	52 - 113				162			101		6	968							
					3	0.002	113 - 136				19			12		1	146							
TOTAL FOR MAP NO. 2						0.842		50	0.84		544			1,309		79	13,384	6	8		0.31	50	650.00	50.00
"	"	3	NC49 (ELM ST)	FROM PARKER ST (SR 2396) TO SR 1801 (WEST MAIN ST)	1	0.99	24	68	1.08					1,227		74	13,939	3	6	0.20	0.20			
					1	0.04	24 - 28							52		3	610							
					1	0.02	28 - 46							37		2	434							
					1	0.02	46 - 41							43		3	510							
					1	0.01	41 - 57							24		1	288							
TOTAL FOR MAP NO. 3						1.08		68	1.08					1,382		83	15,781	3	6	0.20	0.20			
TOTAL FOR PROJ NO. 7CR.10011.13						**7.562**		**506**	**7.55**		**544**	**1,068**		**9,535**		**574**	**105,642**	**9**	**15**	**1.20**	**1.56**	**50**	**650**	**50**
7CR.20011.13	Alamance	4	SR 1530 (GERRINGER MILL ROAD)	FROM NC 87 TO SR 1593 (BURCH BRIDGE ROAD)	4	0.58	21 - 20.5	70	1.55			779			637	41	7,078			0.28	0.28			
					4	0.97	20.5 - 20								959	62	11,552							
TOTAL FOR MAP NO. 4						1.55		70	1.55			779			1,596	103	18,630			0.28	0.28			
"	"	5	SR 1763 (WILLIE PACE RD)	FROM JOINT JUST WEST OF SR 1761 (LOWDER ROAD)	5	2.14	19	45	2.14						2,056	134				0.50	0.28			
"	"	6	SR 2159 (EAST MAIN STREET)	FROM SR 2158 (SWEPSONVILLE-SAXAPHAW RD) TO SR 2164 (ALFRED RD)	6	0.91	19 - 20	108	1.82				550		827	77	10,410	1	2		0.66			
"	"	7	SR 2142 (MT. WILLEN RD)	FROM NC 54 TO SR 2135 (JIM MINOR RD)	7	0.021	21 - 36	143	1.83						104	7				0.50	0.17			
					7	1.81	21								1,541	100								
TOTAL FOR MAP NO. 7						1.831		143	1.83						1,645	107				0.50	0.17			
"	"	8	SR 2146 (SAXAPAHAW BETHLEHEM CH RD)	FROM ORANGE COUNTY TO SR 2171 (CHURCH ST) NEW PAVEMENT JOINT	8,4	0.07	36 - 25	190	3.22		48				104	7	1,253	2		1.00	0.56			
					4	3.23	22 - 20.5								3,349	218	40,362							
TOTAL FOR MAP NO. 8						3.3		190	3.22		48				3,453	225	41,615	2		1.00	0.56			
"	"	9	SR 2171 (CHURCH RD)	FROM N OF SOUTH BRIDGE TO SR 2158 (SWEPSONVILLE - SAXAPHAW RD)/ SR 2146 (SAXAPAHAW - BETHLEHAM CH. RD.)	9	0.03	23			360					34	2								
					10	0.04	23 - 36				237	144			57	4								
TOTAL FOR MAP NO. 9						0.07				360	237	144			91	6								
"	"	10	SR 2327 (BASS MOUNTAIN RD)	FROM 2326 MT. HERMAN-ROCK CREEK RD TO SR 2364 (CARL NOAH RD)	7	2.73	21 - 20	223							2,339	152								
					11	1.63	18 - 19		7.96			323	1,749		1,533	175	17,691			2.00	0.90			
					11	0.66	18 - 18.6						708		599	69	7,086							
					11	0.33	19						354		336	37	3,485							
TOTAL FOR MAP NO. 10						5.35		223	7.96			323	2,811		4,806	433	28,262			2.00	0.90			
TOTAL FOR PROJ NO. 7CR.20011.13						**15.151**		**779**	**18.52**	**360**	**285**	**1,246**	**3,361**		**14,474**	**1,085**	**98,917**	**3**	**2**	**4.28**	**2.85**			
7CR.10681.13	Orange	11	SR 1961 (SAXAPAHAW RD)	FROM ALAMANCE COUNTY TO NC 54	5	0.42	20.5	6	0.51						419	27				0.25				
					5	0.08	20.5 - 38								115	7								
					5	0.01	34 - 42								18	1								
TOTAL FOR MAP NO. 11						0.51		6	0.51						552	35				0.25				
TOTAL FOR PROJ NO. 7CR.10681.13						**0.51**		**6**	**0.51**						**552**	**35**				**0.25**				
GRAND TOTAL						**23.223**		**1,291**	**26.58**	**360**	**829**	**2,314**	**3,361**	**9,535**	**15,026**	**1,694**	**204,559**	**12**	**17**	**5.73**	**4.41**	**50**	**650**	**50**

PROJECT NO.	SHEET NO.	TOTAL NO.
7CR.10011.13, 7CR.20011.13	7	
7CR.10681.13,		

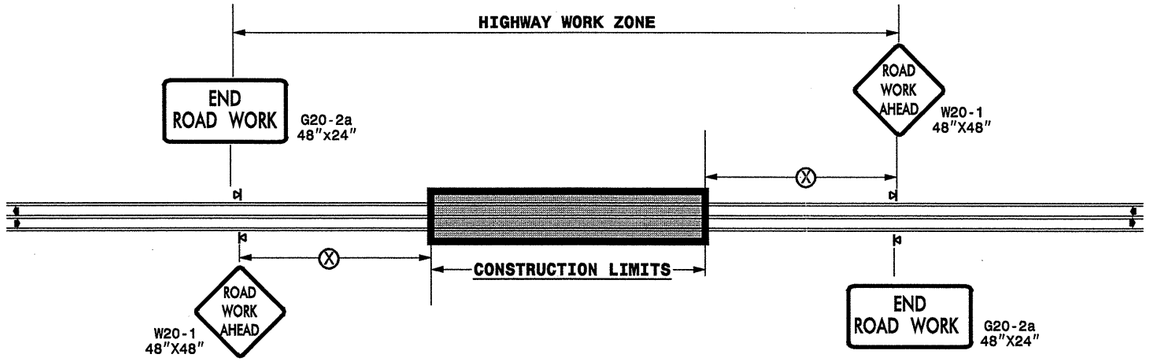
THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4685000000-E 4" X 90 M WHITE THERMO LF	4686000000-E 4" X 120 M WHITE THERMO LF	4686000000-E 4" X 120 M YELLOW THERMO LF	4690000000-E 6" X 120 M WHITE THERMO LF	4695000000-E 8" X 90 M WHITE THERMO LF	4695000000-E 8" X 90 M YELLOW THERMO LF	4710000000-E 24" X 120 M WHITE THERMO LF	4721000000-E THERMO MSG SCHOOL 120 M EA	4725000000-E THERMO STR & LT ARROW 90 M EA	4725000000-E THERMO RT ARROW 90 M EA	4725000000-E THERMO LT ARROW 90 M EA	4810000000-E 4" WHITE PAINT LF	4810000000-E 4" YELLOW PAINT LF
7CR.10011.13	Alamance	1	NC 49	FROM SR 1130 (FRIENDSHIP RD)	59,410	70	47,666	284			155		3				
7CR.10011.13	Alamance	2	NC62 (ALAMANCE RD)	FROM SR 1363 (S. MEBANE ST) TO US 70 (CHURCH ST)	8,075	231	8,840	138	180		177			2	1		
7CR.10011.13	Alamance	3	NC49 (ELM ST)	FROM PARKER ST (SR 2396) TO SR 1801 (WEST MAIN ST)	11,370		11,712	34	146	36	52			1	1		
TOTAL FOR PROJ NO. 7CR.10011.13					**78,855**	**301**	**68,218**	**456**	**326**	**36**	**384**		**3**	**3**	**2**		
					78,855	**68,519**			**362**				**8**				
7CR.20011.13	Alamance	4	SR 1530 (GERRINGER MILL ROAD)	FROM NC 87 TO SR 1593 (BURCH BRIDGE ROAD)	300			58								32,840	30,132
		5	SR 1763 (WILLIE PACE RD)	FROM JOINT JUST WEST OF SR 1761 (LOWDER ROAD)	450			58								44,224	44,286
		6	SR 2159 (EAST MAIN STREET)	FROM SR 2158 (SWEPSONVILLE-SAXAPHAW RD) TO SR 2164 (ALFRED RD)	9,600		9600	46									
		7	SR 2142 (MT. WILLEN RD)	FROM NC 54 TO SR 2135 (JIM MINOR RD)	300			34								38,000	33,392
		8	SR 2146 (SAXAPAHAW BETHLEHEM CH RD)	FROM ORANGE COUNTY TO SR 2171 (CHURCH ST) NEW PAVEMENT JOINT	1,050			164			100	12				67,580	49,722
		9	SR 2171 (CHURCH RD)	FROM N OF SOUTH BRIDGE TO SR 2158 (SWEPSONVILLE - SAXAPHAW RD)/ SR 2146 (SAXAPAHAW - BETHLEHAM CH. RD.)	175			35			50					2,650	3,000
		10	SR 2327 (BASS MOUNTAIN RD)	FROM 2326 MT. HERMAN-ROCK CREEK RD TO SR 2364 (CARL NOAH RD)	700			108								111,460	96,516
TOTAL FOR PROJ NO. 7CR.20011.13					**12,575**		**9,600**	**503**			**150**	**12**				**296,754**	**257,048**
					12,575	**9,600**										**553,802**	
7CR.10681.13	Orange	11	SR 1961 (SAXAPAHAW RD)	FROM ALAMANCE COUNTY TO NC 54	300			36								10,160	6,758
TOTAL FOR PROJ NO. 7CR.10681.13					**300**			**36**								**10,160**	**6,758**
					300											**16,918**	
GRAND TOTAL					**91,730**	**301**	**77,818**	**995**	**326**	**36**	**534**	**12**	**3**	**3**	**2**	**306,914**	**263,806**
					91,730	**78,119**			**362**				**8**			**570,720**	

WBS Elements: 7CR.10011.13, 7CR.20011.13 & 7CR10681.13

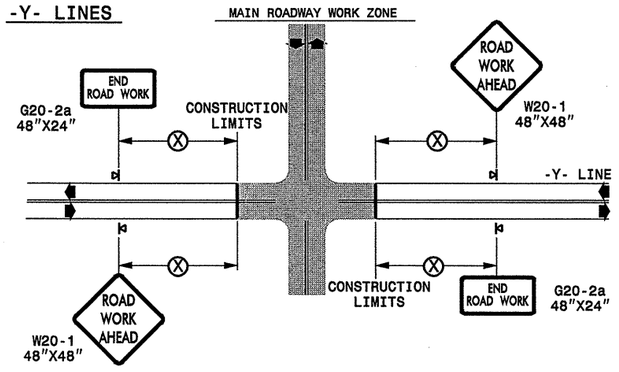
PROJ. REFERENCE NO.	SHEET NO.
See to the Left	TCP-1

TWO-WAY UNDIVIDED ** (L-LINES)



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

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



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED 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

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

DETAIL DRAWING FOR TWO-WAY UNDIVIDED WORK ZONE WARNING SIGNS

SHEET 1 OF 1

APPROVED:_____ DATE:_____

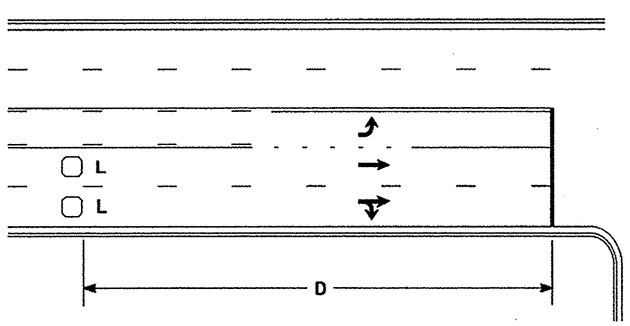
SEAL

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

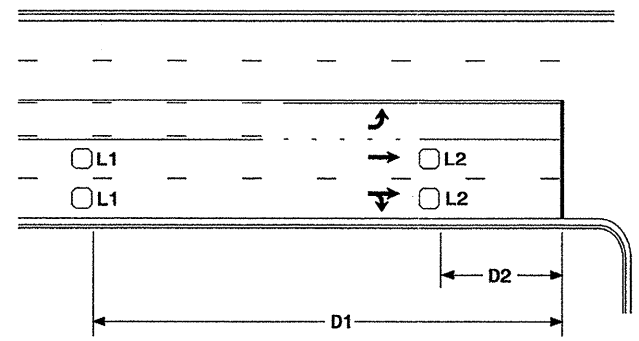
SCALE: NONE	REVISIONS	
DATE:	7-98	10/01
DWG. BY:	10-98	03/04
DESIGN BY:	01/01	11/04
REVIEWED BY:	CADD FILE	

7CR.10011.13, 7CR.20011.13 & 7CR10681.13

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

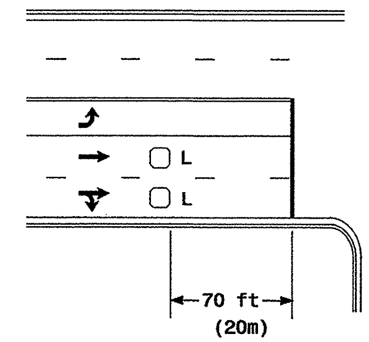
Speed Limit mph (km/hr)	D1 ft	(m)	D2 ft	(m)
40 (64)	250	(75)	80	(25)
45 (72)	300	(90)	90	(27)
50 (80)	355	(110)	100	(30)
55 (88)	420	(130)	110	(35)

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

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

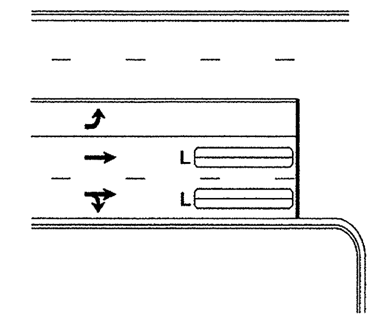
"Stretch" Operation

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



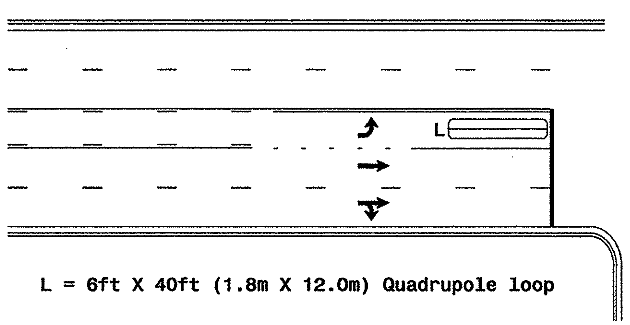
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

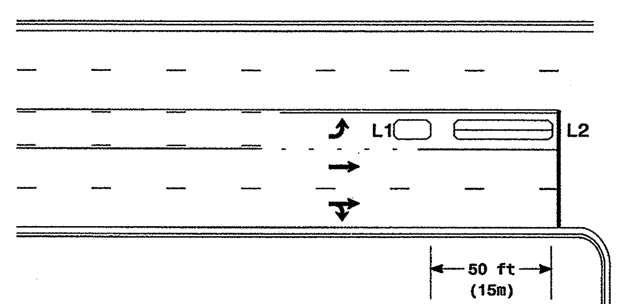
Left Turn Lane Detection



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

Presence Loop Detection

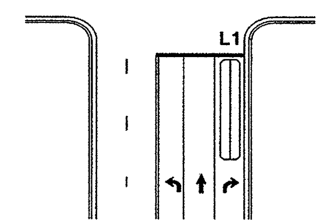
OR



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

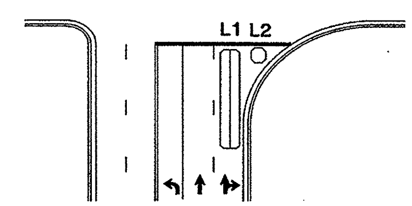
Queue Loop Detection

Right Turn Lane Detection

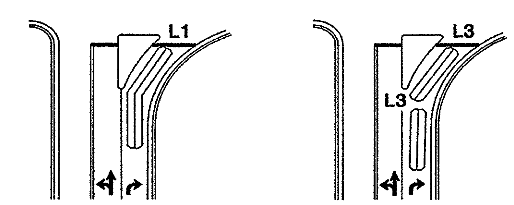


Standard Turn

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

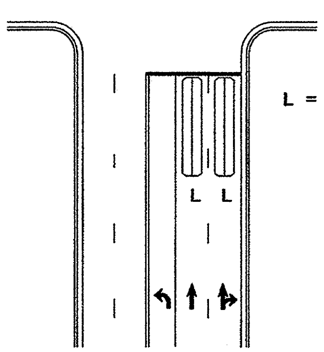


Wide Radius Turn



Channelized Turn

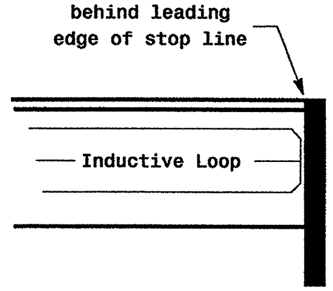
Side Street Detection



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: 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:	

REVISIONS	INIT.	DATE
Revise pavement markings		12/19/06

SCALE
N/A

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23486 P. L. ALEXANDER

SIGNATURE DATE 6/6/06

SIG. INVENTORY NO.

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

5-07

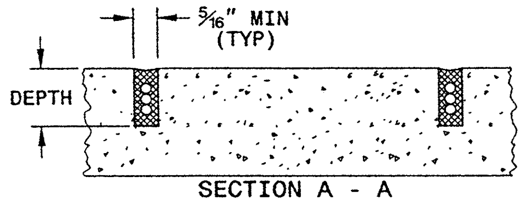
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

CONVENTIONAL 4-SIDED LOOP

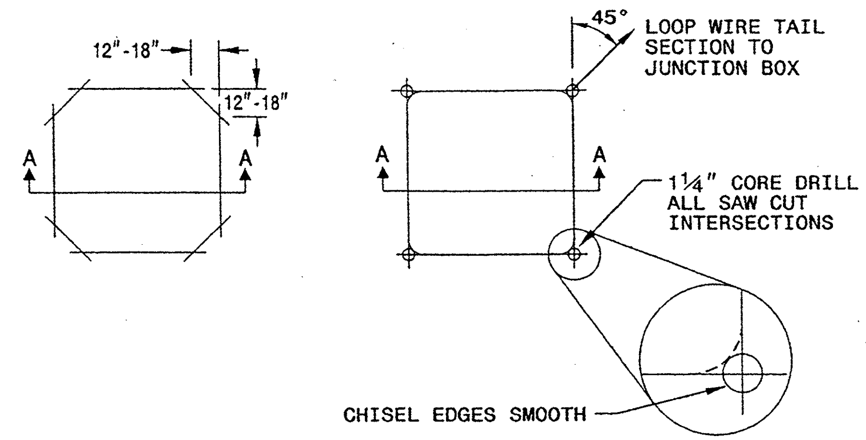
SAW SLOT DEPTH CHART

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

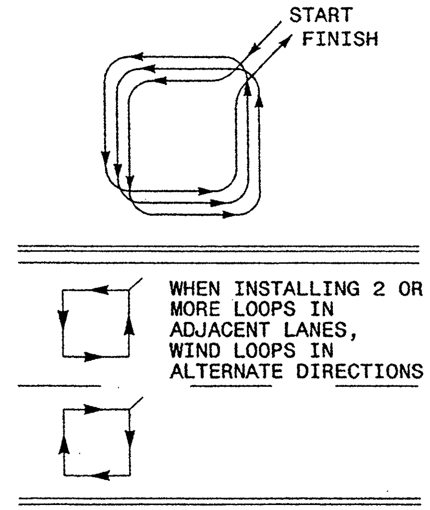


SECTION A - A

SAW CUT OPTIONS

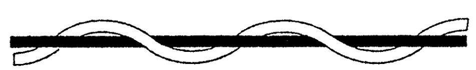


LOOP WINDING METHOD

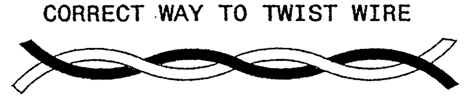


LOOP WIRE TWISTING METHOD

INCORRECT WAY TO TWIST WIRE



CORRECT WAY TO TWIST WIRE

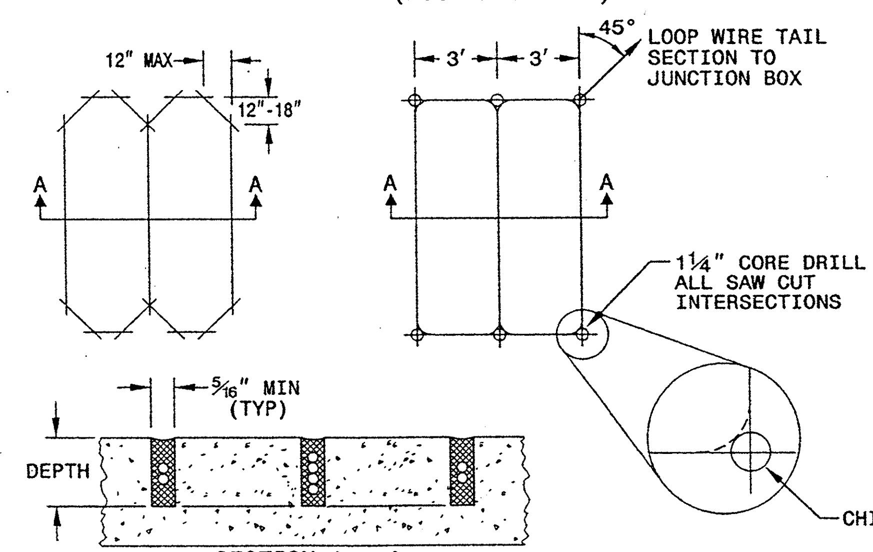


NOTES

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

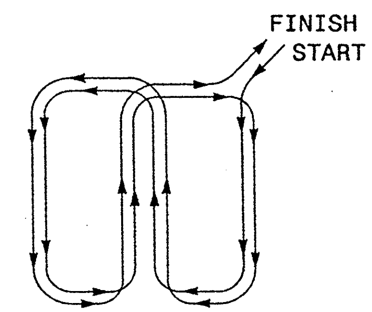
SAW CUT OPTIONS



SECTION A - A

DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

LOOP WINDING METHOD



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

5-07

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
750 N. Greenfield Parkway
Garner, NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 016286 ENGINEER MILTON I. DEAN
Milton I. Dean 9/5/07
SIGNATURE DATE

05-SEP-2007 14:00
c:\documents and settings\mlittle.dot\desktop\standard metal pole sheets\1725d01_may2307.dgn
mlittle

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

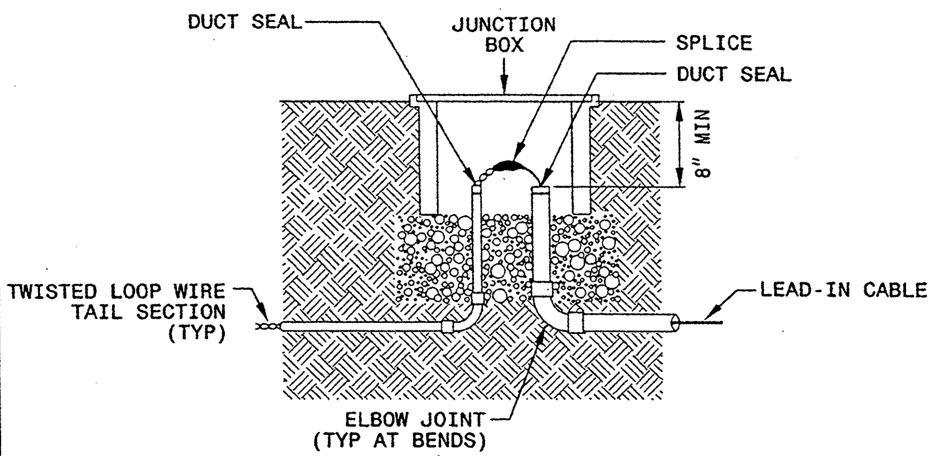
5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

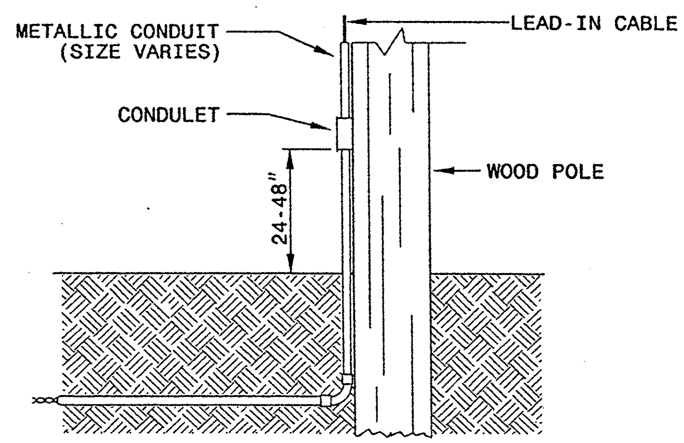
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

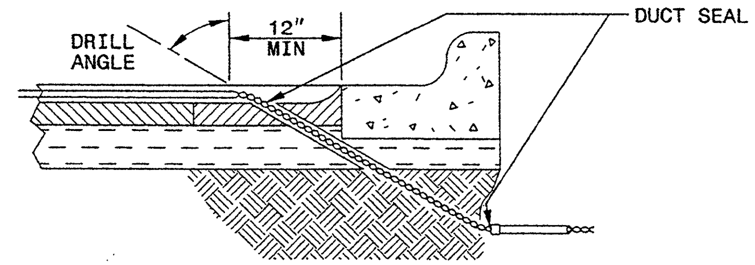


NOTE

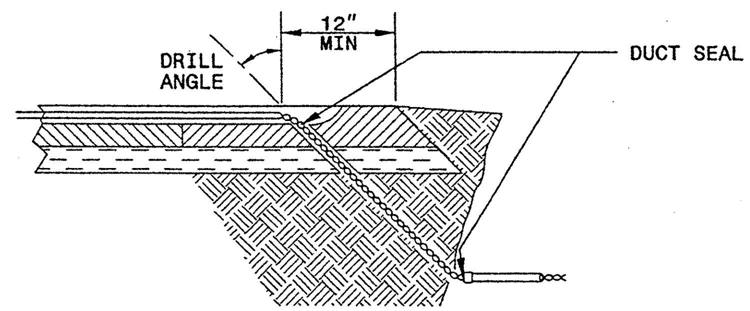
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

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
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

5-07

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

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 016286 ENGINEER MILTON I. DEAN

SIGNATURE 9/5/07 DATE

05-SEP-2007 14:00
zmlittle

PROJECT REFERENCE NO.	SHEET NO.
	Sig. 4

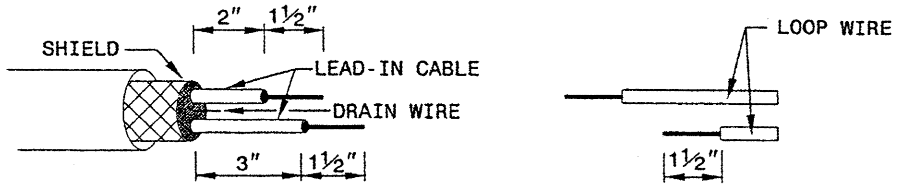
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

5-07

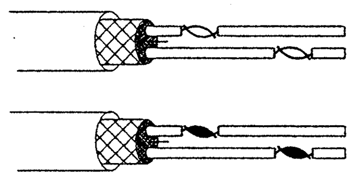
ENGLISH DETAIL DRAWING FOR
INDUCTION DETECTION LOOPS
SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

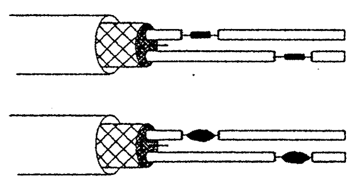


STEP 2. CONNECT AND SOLDER



TWIST BARE CONDUCTORS TOGETHER AND SOLDER WITH RESIN CORE SOLDER

OR

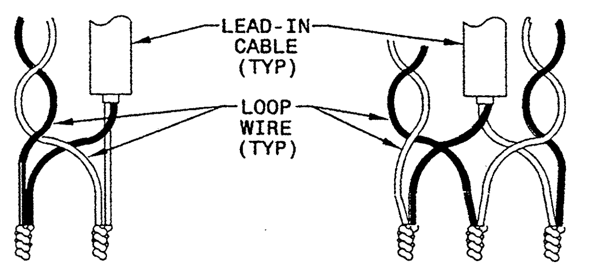


CRIMP BARE CONDUCTORS TOGETHER WITH AN UNINSULATED BUTT CONNECTOR AND SOLDER WITH RESIN CORE SOLDER

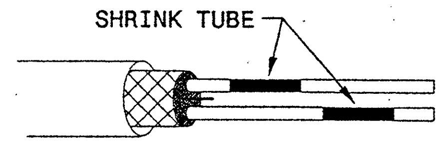
BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS

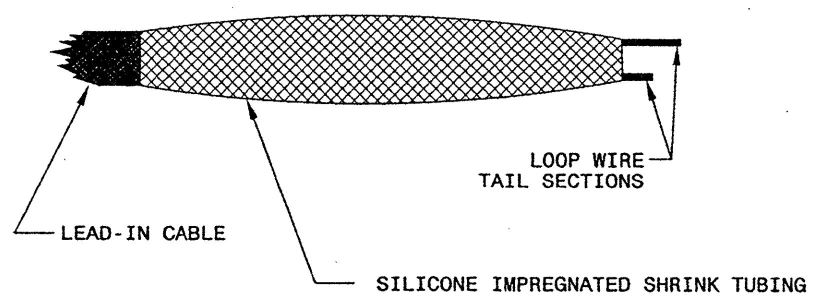
SINGLE CONNECTION — SERIES CONNECTION



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



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

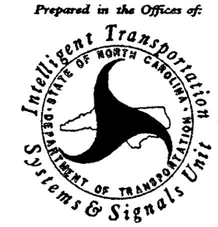
5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

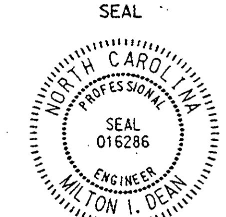
See Plate for Title

Prepared in the Offices of:



750 N. Greenfield Parkway
Garner, NC 27529

SEAL



Milton I. Dean 9/5/07
SIGNATURE DATE

05-SEP-2007 14:01
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