PROJECT REFERENCE NO.	SHEET NO.
5CR.10921.19	1

WAKE COUNTY

1 2 3 4 5

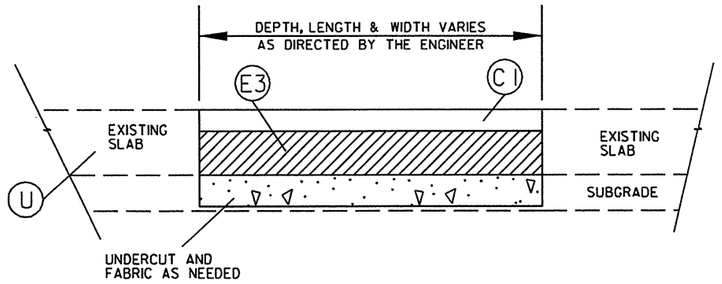
CITY (IN) (OUT)

Stough Elem. Sch.
Martin Middle Sch.
Lacy Elem.
Underwood Elem. Sch.
Daniels Middle Sch.
Timothy's Sch.
Douglas Elem. Sch.
Raleigh Comm. Hosp.
Joyner Elem. Sch.
Noble Rd. Adm. Sch.
Conn. Elem. Sch.
Faculty G.C.
CORPORATION
CSX
Beaver Dam
Carolina Ck.

PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 1-½" ASPH. CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 2" ASPH. CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
(E1)	PROP.APPROX. 4" ASPH. CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
(E2)	PROP.APPROX. 5½" ASPH. CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
(E3)	PROP. VARIABLE DEPTH ASPH. CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER IN. OF DEPTH
(U)	EXISTING PAVEMENT
(V1)	PROP. 5½" MILLING
(V2)	PROP 1" TO 4" MILLING TO REMOVE ASPHALT OVERLAY (EXPOSE EXISTING CONCRETE SLABS)
(V3)	PROP. 2" MILLNG ONLY (DO NOT EXPOSE EXISTING CONCRETE SLABS)
(S)	EXISTING SUBGRADE

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
5CR.1092 1.19	2	5
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION



SLAB REPLACEMENT DETAIL

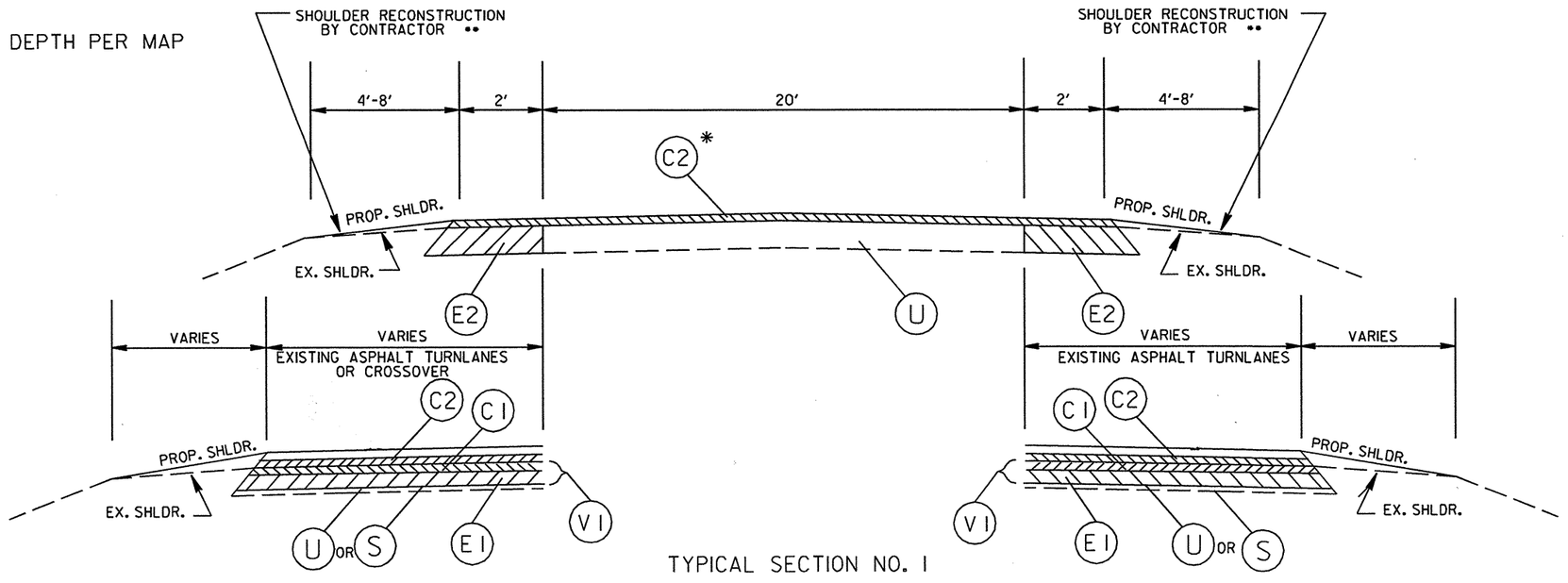
LOCATIONS AS DIRECTED BY THE ENGINEER

IF SUBGRADE MATERIAL IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE REMOVE UP TO 12" AND REPLACE WITH SOIL STABILIZATION FABRIC AND ABC. PLACE ABC IN LIFTS OF 6" OR LESS

SUBDRAIN PIPE, AGGREGATE AND EXCAVATION (PER ROADWAY STANDARD DRAWING 815.03) TO BE USED, AS DIRECTED BY THE ENGINEER, IF REQUIRED DURING SLAB REPLACEMENT OPERATION.

ESTIMATED MAINLINE MILLING DEPTH PER MAP

MAP 1: N/A
MAP 2: 1.75 TO 3.5"
MAP 3: 1.0" TO 1.25"
MAP 4: 2" MILLING
MAP 5: 2.5" TO 3.5"



TYPICAL SECTION NO. 1

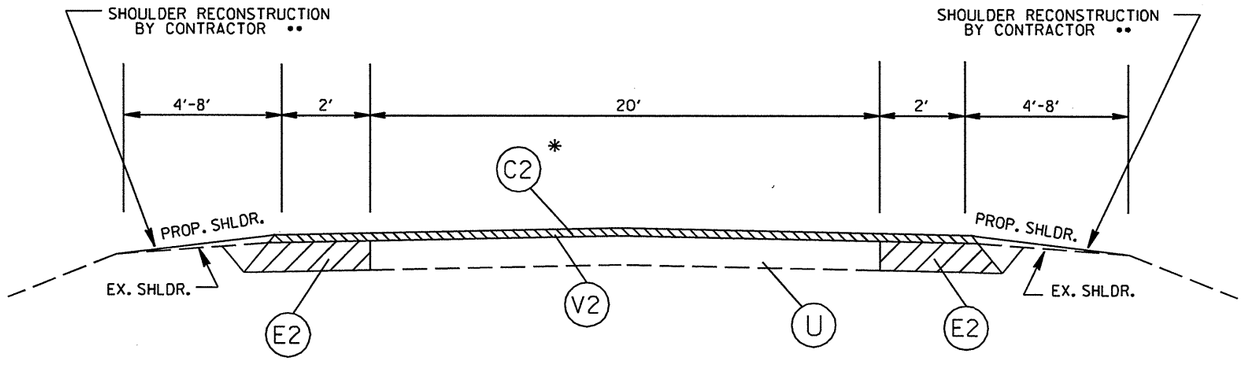
* NOTE: SEAL EXISTING CRACKS PRIOR TO RESURFACING

** NOTE: PROVIDE A SAFE SHOULDER AFTER WIDENING OPERATION AS DIRECTED BY ENGINEER. FULL SHOULDER RECONSTRUCTION SHALL BE ACCOMPLISHED AFTER RESURFACING.

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
5CR. 1092 1. 19	3	5
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

PAVEMENT SCHEDULE

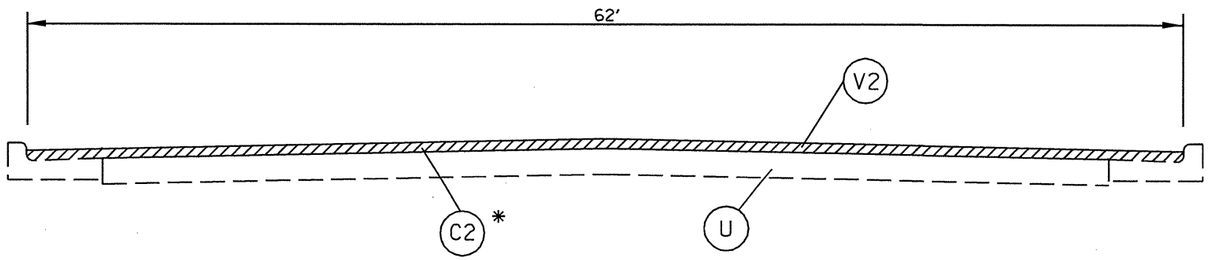
(C1)	PROP. APPROX. 1-1/2" ASPH. CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 2" ASPH. CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
(E1)	PROP.APPROX. 4" ASPH. CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
(E2)	PROP.APPROX. 5 1/2" ASPH. CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
(E3)	PROP. VARIABLE DEPTH ASPH. CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER IN. OF DEPTH
(U)	EXISTING PAVEMENT
(V1)	PROP. 5 1/2" MILLING
(V2)	PROP 1" TO 4" MILLING TO REMOVE ASPHALT OVERLAY (EXPOSE EXISTING CONCRETE SLABS)
(V3)	PROP. 2" MILLNG ONLY (DO NOT EXPOSE EXISTING CONCRETE SLABS)
(S)	EXISTING SUBGRADE



TYPICAL SECTION NO. 2

* NOTE: SEAL EXISTING CRACKS PRIOR TO RESURFACING

** NOTE: PROVIDE A SAFE SHOULDER AFTER WIDENING OPERATION AS DIRECTED BY ENGINEER. FULL SHOULDER RECONSTRUCTION SHALL BE ACCOMPLISHED AFTER RESURFACING.



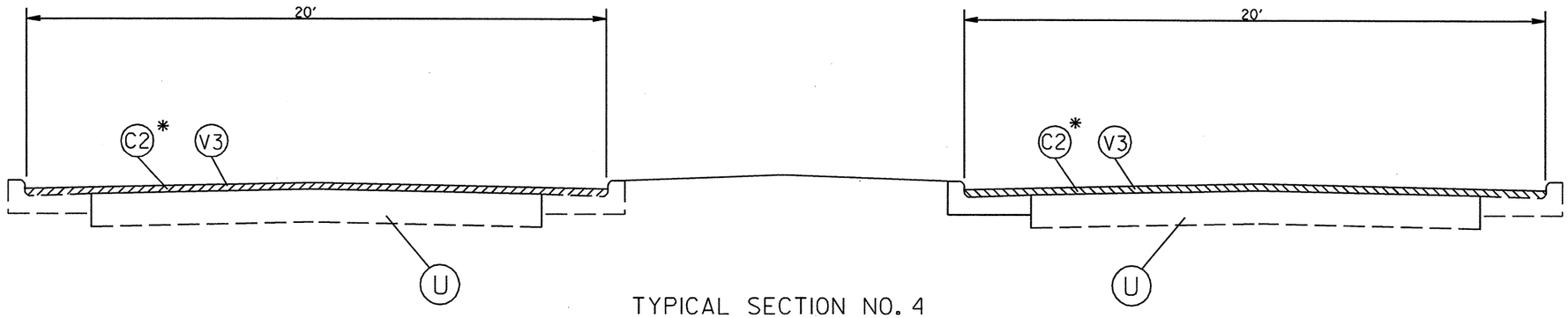
TYPICAL SECTION NO. 3

* NOTE: SEAL EXISTING CRACKS PRIOR TO RESURFACING

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1-1/2" ASPH. CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
C2	PROP. APPROX. 2" ASPH. CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	V1	PROP. 5 1/2" MILLING
E1	PROP.APPROX. 4" ASPH. CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	V2	PROP 1" TO 4" MILLING TO REMOVE ASPHALT OVERLAY (EXPOSE EXISTING CONCRETE SLABS)
E2	PROP.APPROX. 5 1/2" ASPH. CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.	V3	PROP. 2" MILLNG ONLY (DO NOT EXPOSE EXISTING CONCRETE SLABS)
E3	PROP. VARIABLE DEPTH ASPH. CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER IN. OF DEPTH	S	EXISTING SUBGRADE

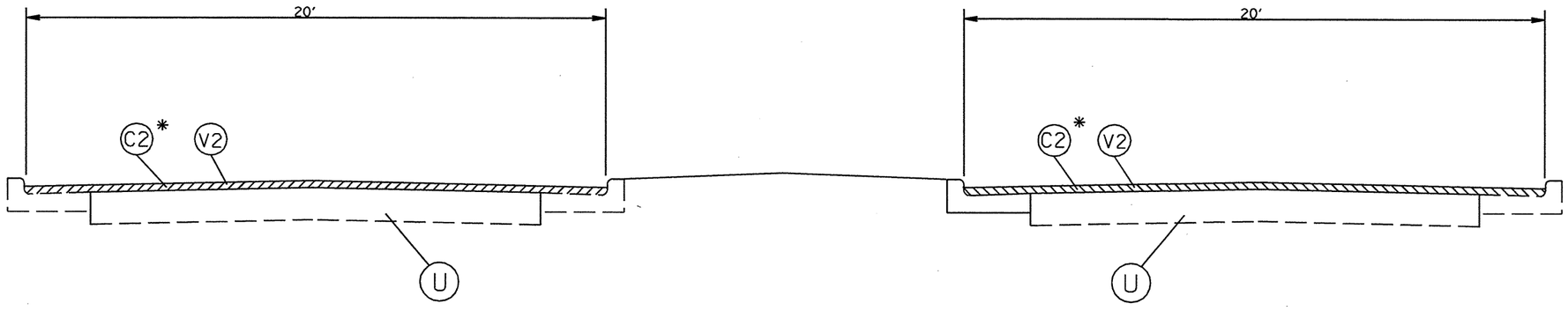
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
5CR. 1092 1. 19	4	5
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION



TYPICAL SECTION NO. 4

NOTE: DO NOT EXPOSE CONCRETE ON THIS MAP

* NOTE: SEAL EXISTING CRACKS PRIOR TO RESURFACING



TYPICAL SECTION NO. 5

* NOTE: SEAL EXISTING CRACKS PRIOR TO RESURFACING

PROJECT NO.	SHEET NO.	TOTAL NO.
5CR.10921.19	5	5

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	UNDERCUT EXCAVATION CY	REMOVAL OF EXISTING CONCRETE PAVEMENT SLABS SY	FABRIC FOR SOIL STABILIZATION SY	SEALING EXIST. PVMT. CRACKS LB	AGGREGATE BASE COURSE TONS	INCIDENTAL STONE BASE TONS	SHOULDER RECON-STRUCTION SMI	5 1/2" MILLING SY	2" MILLING SY	1" TO 4" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	PG 64-22 PLANT MIX TONS	SUBDRAIN EXCAVATION CY	SUBDRAIN FINE AGGREGATE CY	4" PERFORATED SUBDRAIN PIPE LF	WHEEL-CHAIR RAMPS EA	ADJUST CATCH BASIN EA	ADJUST MANHOLES EA	ADJUST METER OR VALVE BOX EA	SEED & MULCHING AC	INDUCTIVE LOOP LF
5CR.10921.19	Wake	1	US 70 / NC 50 - GLENWOOD AVE EASTBOUND	FROM WOMANS CLUB TO SR 1733 (OBERLIN RD)	1	NO	1.09	24				33,681		55	2.18	6,530			350	2,513	3,163	298						8	12	1.58	414
TOTAL FOR MAP NO. 1							1.09					33,681		55	2.18	6,530			350	2,513	3,163	298						8	12	1.58	414
		2	US 70 / NC 50 - GLENWOOD AVE WESTBOUND	FROM WOMANS CLUB TO SR 1733 (OBERLIN RD)	2	NO	1.07	24	85	380	380	33,063	170	54	2.14			18,550		1,147	2,194	181						5	4	1.55	414
TOTAL FOR MAP NO. 2							1.07		85	380	380	33,063	170	54	2.14	0		18,550	0	1,147	2,194	181						5	4	1.55	414
		3	US 70 / NC 50 - GLENWOOD AVE	FROM SR-1733 - OBERLIN RD TO END OF C&G AT THE CIRCLE NORTH	3	NO	0.89	62	281	1,260	1,260	68,753	562					32,372		718	3,929	267				11		16	10		632
TOTAL FOR MAP NO. 3							0.89		281	1,260	1,260	68,753	562	0	0.00	0		32,372	0	718	3,929	267				11		16	10		632
		4	US 70 / NC 50 - GLENWOOD AVE EB AND WB	FROM END C&G AT THE CIRCLE NORTH TO WHITAKER MILL RD	4	NO	0.4	40				24,720					10,093			162	1,192	78				2	3	7	1		138
TOTAL FOR MAP NO. 4							0.4		0	0	0	24,720	0	0	0.00	0	10,093	0	0	162	1,192	78				2	3	7	1		138
		5	US 70 / NC 50 - GLENWOOD AVE. EB AND WB	FROM WHITAKER MILL TO PAVEMENT JOINT N OF WADE AVE	5	NO	0.32	40	152	680	680	19,776	304					8,958		388	1,117	84	22	22	100	2		14	16		356
TOTAL FOR MAP NO. 5							0.32		152	680	680	19,776	304	0	0.00	0	0	8,958	0	388	1,117	84	22	22	100	2	0	14	16		356
TOTAL FOR PROJ NO. 5CR.10921.19							3.77		518	2,320	2,320	179,993	1,036	109	4.32	6,530	10,093	59,880	350	4,928	11,595	908	22	22	100	15	3	50	43	3.13	1,954
GRAND TOTAL							3.77		518	2,320	2,320	179,993	1,036	109	4.32	6,530	10,093	59,880	350	4,928	11,595	908	22	22	100	15	3	50	43	3.13	1,954

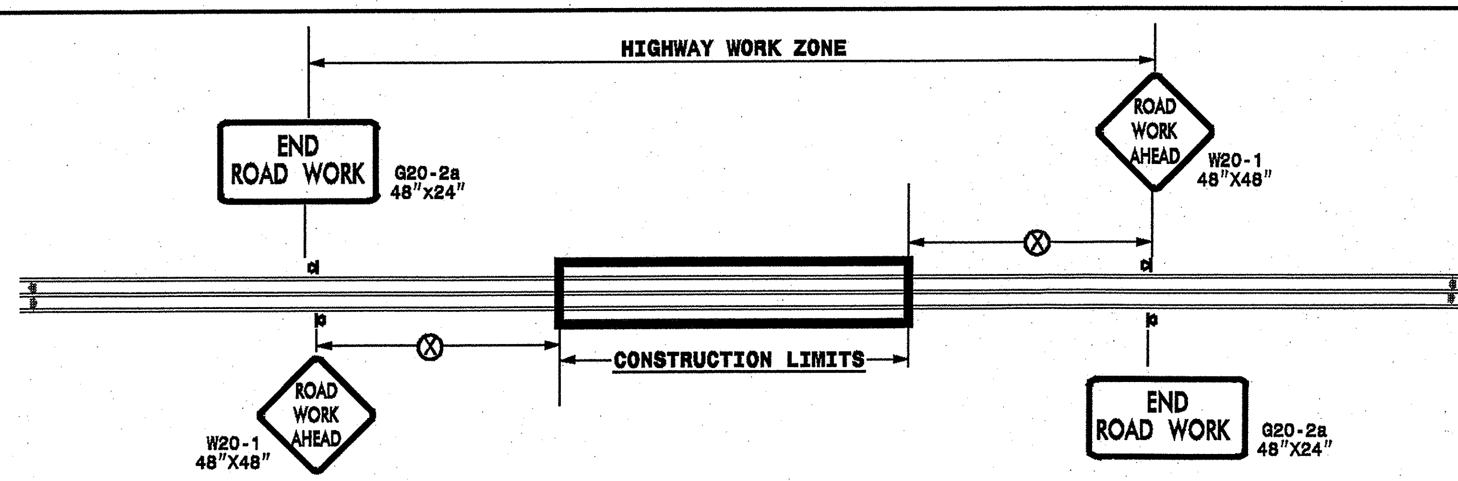
THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4685000000-E		4686000000-E		4697000000-E	4710000000-E	4725000000-E				4810000000-E		4835000000-E	4845000000-N				4900000000-N	
					4" X 90 M WHITE THERMO LF	4" X 90 M YELLOW THERMO LF	4" X 120 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	8" X 120 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	4" WHITE PAINT LF	4" YELLOW PAINT LF	24" WHITE PAINT LF	PAINT LT ARROW EA	PAINT RT ARROW EA	PAINT STR ARROW EA	PAINT STR & RT ARROW EA	CRYSTAL & RED MARKERS EA	YELLOW & YELLOW MARKERS EA
5CR.10921.19	Wake	1	US 70 / NC 50 - GLENWOOD AVE EASTBOUND	FROM WOMANS CLUB TO SR 1733 (OBERLIN RD)	5,973	5,755	1,439	131	997	214	8	10			14,824	11,772	428	16	20			72	
TOTAL FOR MAP NO. 1					5,973	5,755	1,439	131	997	214	8	10			14,824	11,772	428	16	20			72	
		2	US 70 / NC 50 - GLENWOOD AVE WESTBOUND	FROM WOMANS CLUB TO SR 1733 (OBERLIN RD)	5,864	5,650	1,412	107	173	200	15	5	9	3	14,552	11,514	400	30	10	18	6	71	
TOTAL FOR MAP NO. 2					5,864	5,650	1,412	107	173	200	15	5	9	3	14,552	11,514	400	30	10	18	6	71	
		3	US 70 / NC 50 - GLENWOOD AVE	FROM SR-1733 - OBERLIN RD TO END OF C&G AT THE CIRCLE NORTH	356		2,350	11,748	124	137	9	2	4	3	5,412	23,496	274	18	4	8	6	117	117
TOTAL FOR MAP NO. 3					356		2,350	11,748	124	137	9	2	4	3	5,412	23,496	274	18	4	8	6	117	117
		4	US 70 / NC 50 - GLENWOOD AVE EB AND WB	FROM END C&G AT THE CIRCLE NORTH TO WHITAKER MILL RD			1,070	330	300	36	2				2,140	660	72	4				53	
TOTAL FOR MAP NO. 4							1,070	330	300	36	2				2,140	660	72	4				53	
		5	US 70 / NC 50 - GLENWOOD AVE. EB AND WB	FROM WHITAKER MILL TO PAVEMENT JOINT N OF WADE AVE			955	890	452	106	5	1			1,910	1,780	212	10	2			42	
TOTAL FOR MAP NO. 5							955	890	452	106	5	1			1,910	1,780	212	10	2			42	
TOTAL FOR PROJ NO. 5CR.10921.19					12,193	11,405	7,226	13,206	2,046	693	39	18	13	6	38,838	49,222	1,386	78	36	26	12	355	117
					23,598		20,432				76				88,060			152				472	

PROJ. REFERENCE NO.	SHEET NO.
5CR.10921.19	TCP-1

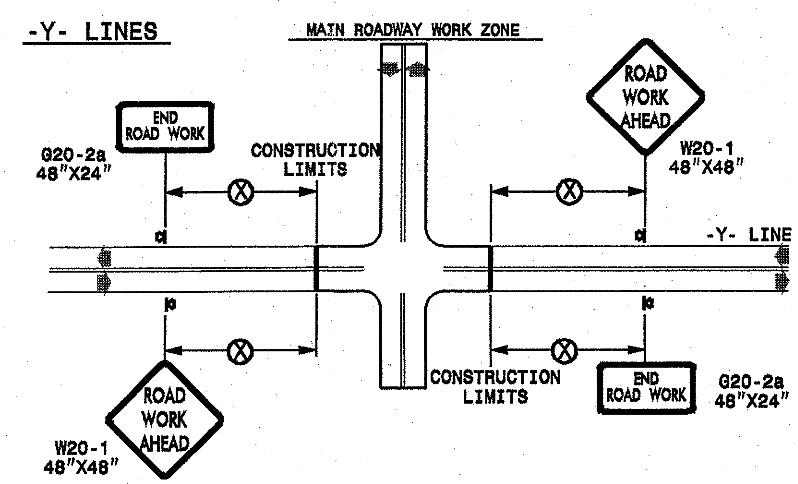
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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 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:

DIVISION OF HIGHWAYS · TRAFFIC ENGINEERING BRANCH · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · TRAFFIC CONTROL UNIT

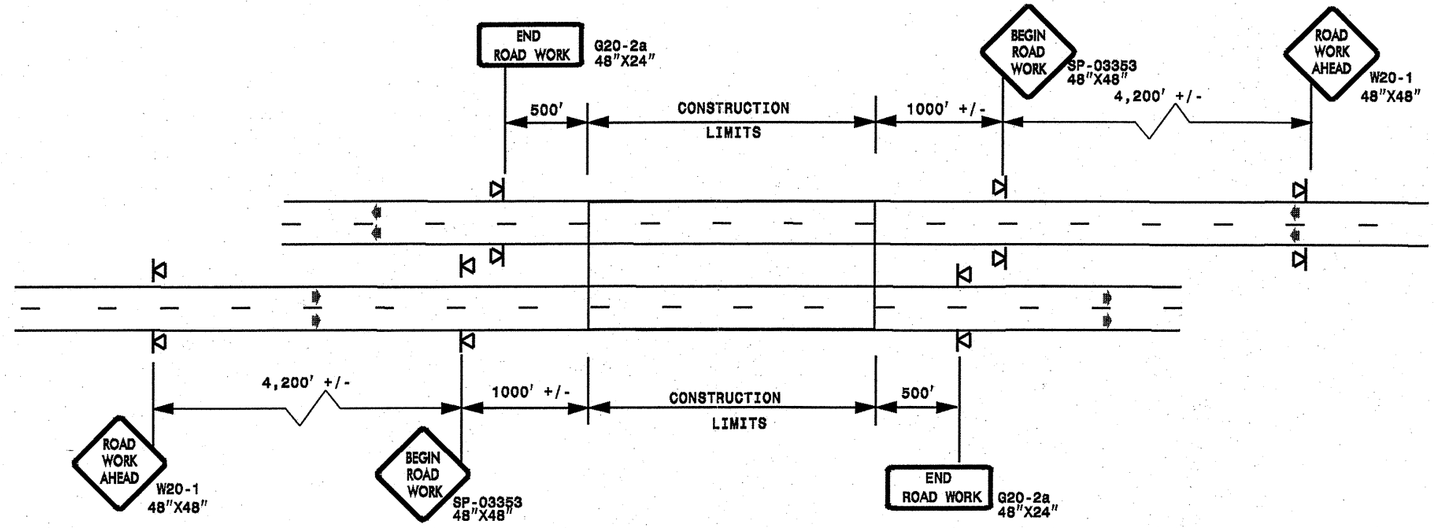
REVISIONS	
7-98	10/01
10-98	03/04
01/01	11/04
CADD FILE	

26-JUN-2009 16:30
s:\signing\resurfacing\resurfacing_030509\resurfacing2009\div05\c202411_5cr109219.wake_us70-50\c202411_5cr109219_2wayundivurbfrwysjuly2006.dgn
PSEYMORE AT WZTC237502

PROJ. REFERENCE NO.	SHEET NO.
5CR.10921.19	TCP-2

ADVANCE WORK ZONE WARNING SIGNING FOR FREEWAYS (4 LANES OR GREATER)

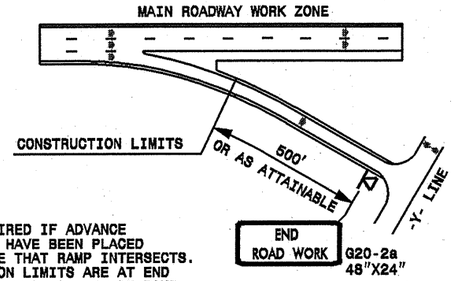
DETAIL A



ROADWAYS INTERSECTING ALONG FREEWAY WORK ZONE (Y-LINES)

DETAIL B

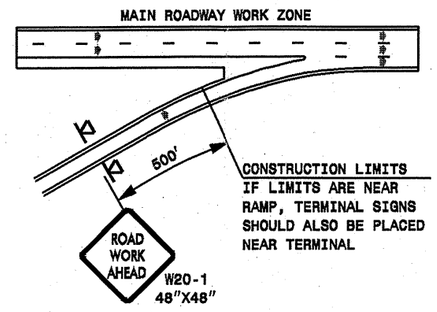
EXIT RAMPS



NOTE:
SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

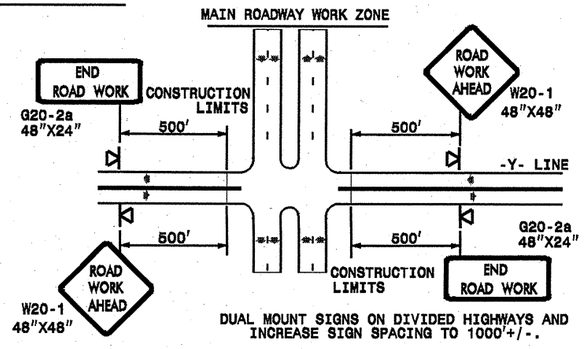
DETAIL C

ENTRANCE RAMPS



DETAIL D

-Y- LINES



DUAL MOUNT SIGNS ON DIVIDED HIGHWAYS AND INCREASE SIGN SPACING TO 1000'+/-.

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 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 FREEWAYS
WORK ZONE WARNING SIGNS
(SHORT-DURATION LANE CLOSURES)

SHEET 1 OF 1

APPROVED: _____ DATE: _____

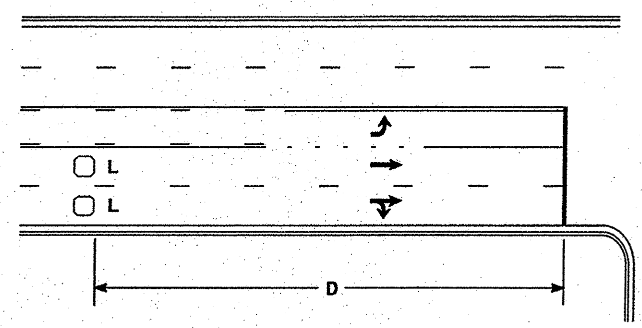
SEAL

DETAIL DRAWING
FOR FREEWAYS
WORK ZONE WARNING SIGNS

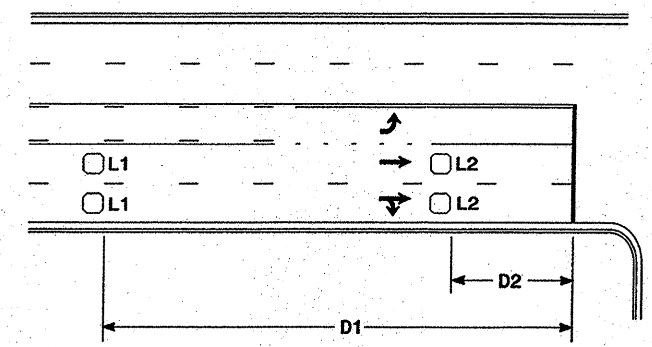
SCALE: NONE	REVISIONS	
DATE:	7-98	10/01
DWG. BY:	10-98	09/04
DESIGN BY:	01/01	11/04
REVIEWED BY:	CADD FILE	

PROJECT REFERENCE NO.	SHEET NO.
5CR.10921.19	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

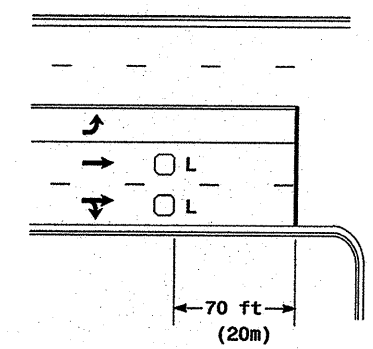
Speed Limit mph (km/hr)	D1 ft	(m)	D2 ft	(m)
40 (64)	250	(75)	80	(25)
45 (72)	300	(90)	90	(27)
50 (80)	355	(110)	100	(30)
55 (88)	420	(130)	110	(35)

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

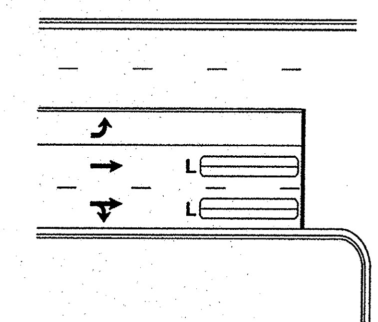
L2 = 6ft X 6ft (1.8m X 1.8m) Wired in series

"Stretch" Operation

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



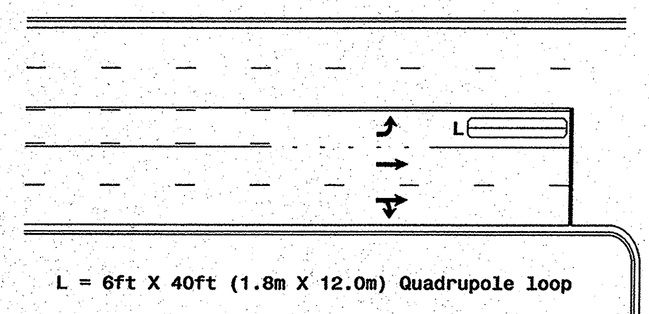
OR



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

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

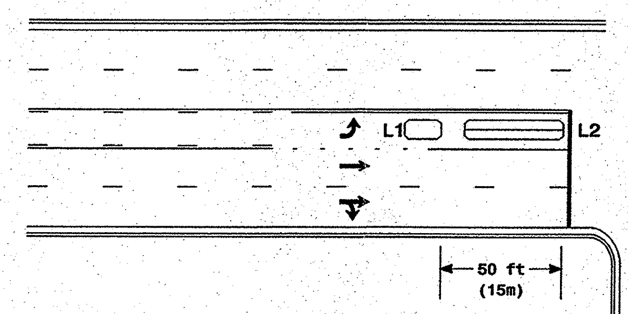
Left Turn Lane Detection



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

Presence Loop Detection

OR

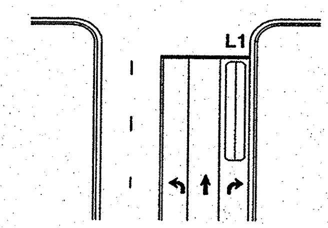


L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

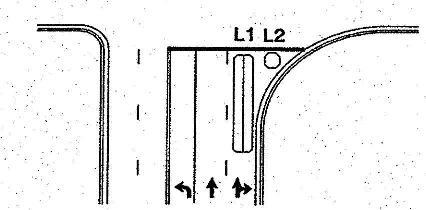
Queue Loop Detection

Right Turn Lane Detection

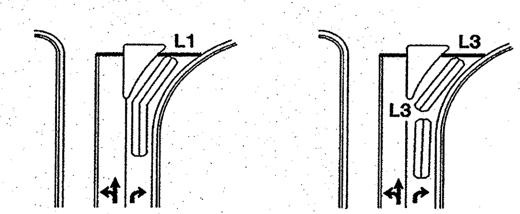
L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series



Standard Turn

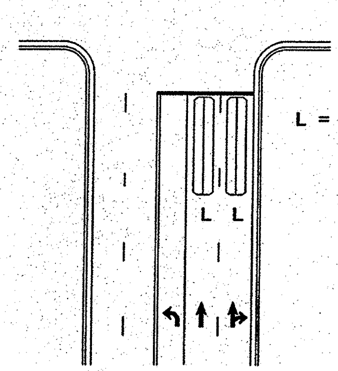


Wide Radius Turn



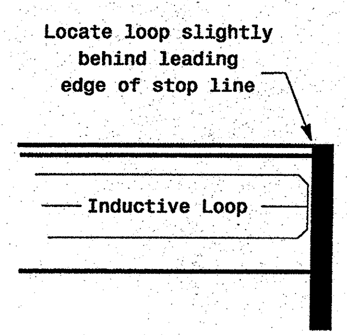
Channelized Turn

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



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

SCALE N/A

Typical Loop Locations

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

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

SEAL
North Carolina Professional Engineer Seal 23480 Pamela A. Alexander
SIGNATURE 6/6/06 DATE
SIG. INVENTORY NO.

19-DEC-2006 14:29
s:*its signals*lib turn in*misc*looptypical2006.dgn
palexander

PROJECT REFERENCE NO.	SHEET NO.
	Sig. 2

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

5-07

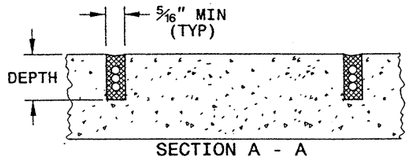
ENGLISH DETAIL DRAWING FOR

INDUCTIVE DETECTION LOOPS

CONVENTIONAL 4-SIDED LOOP

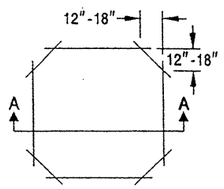
SAW SLOT DEPTH CHART

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

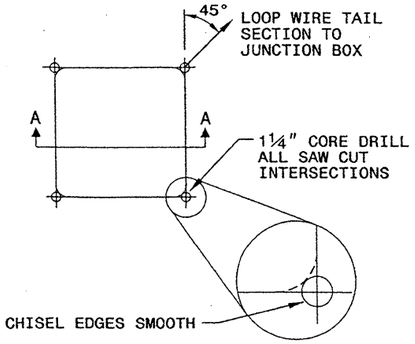


SAW CUT OPTIONS

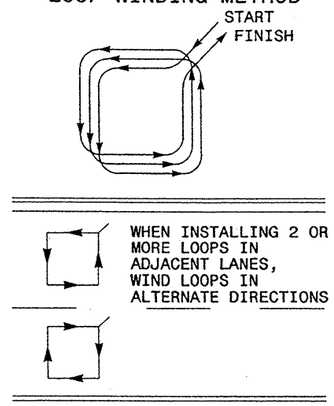
OPTION 1



OPTION 2 (POOR PAVEMENT)



LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

INCORRECT WAY TO TWIST WIRE

CORRECT WAY TO TWIST WIRE

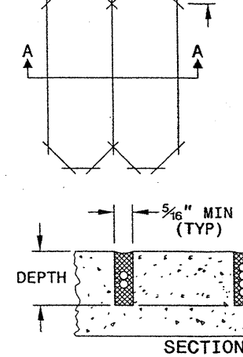
NOTES

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.

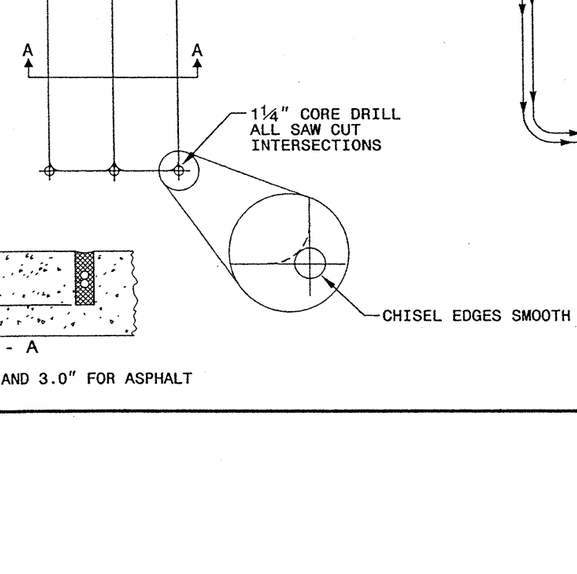
QUADRUPOLE LOOP

SAW CUT OPTIONS

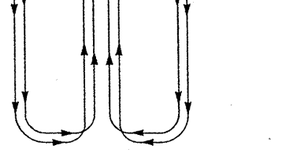
OPTION 1



OPTION 2 (POOR PAVEMENT)



LOOP WINDING METHOD



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

SHEET 1 OF 3

1725D01

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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
STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION
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
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mlittle

PROJECT REFERENCE NO.	SHEET NO.
	Sig. 3

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

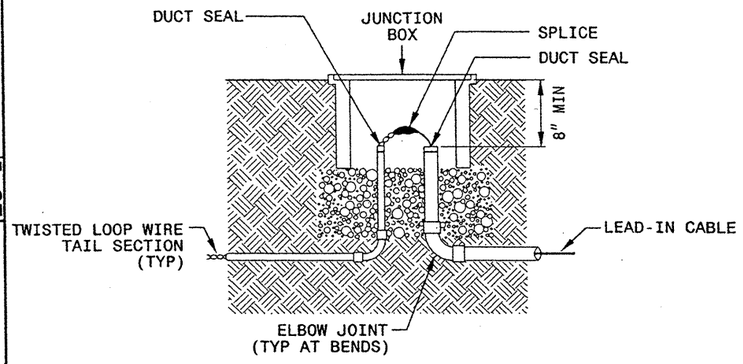
5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

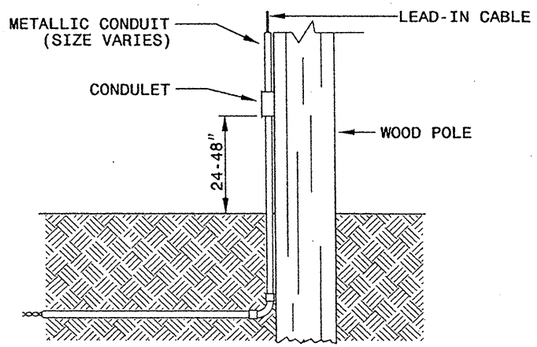
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

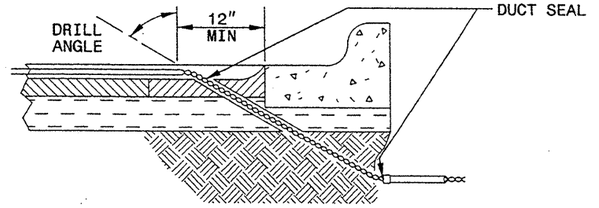


NOTE

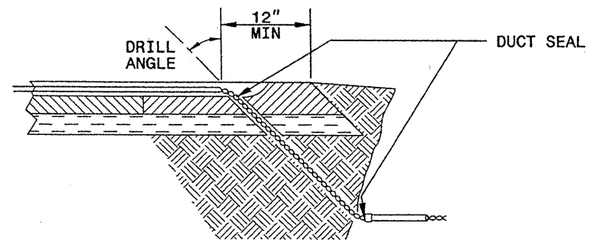
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

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.

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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
STATE OF NORTH CAROLINA — DEPARTMENT OF TRANSPORTATION
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

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

5-07

ENGLISH DETAIL DRAWING FOR

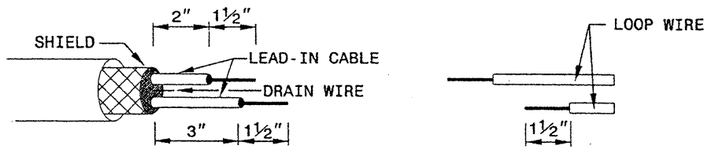
INDUCTION DETECTION LOOPS

SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

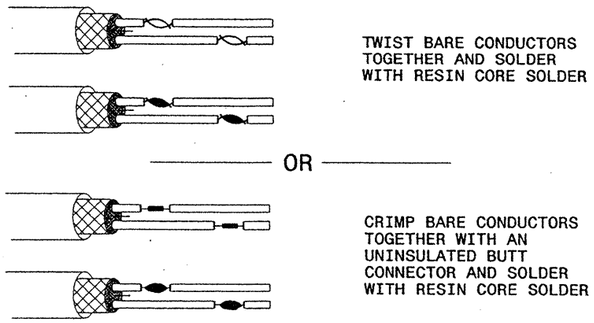
SHEET 3 OF 3

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

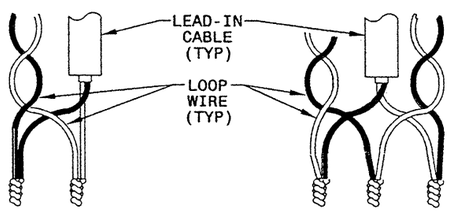
OR

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

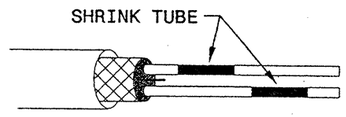
BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS

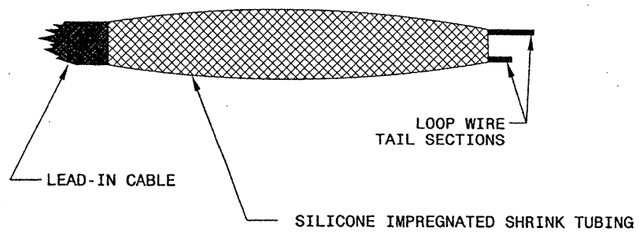
SINGLE CONNECTION SERIES CONNECTION



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



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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:
Intelligent Transportation Systems & Signals Unit
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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

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