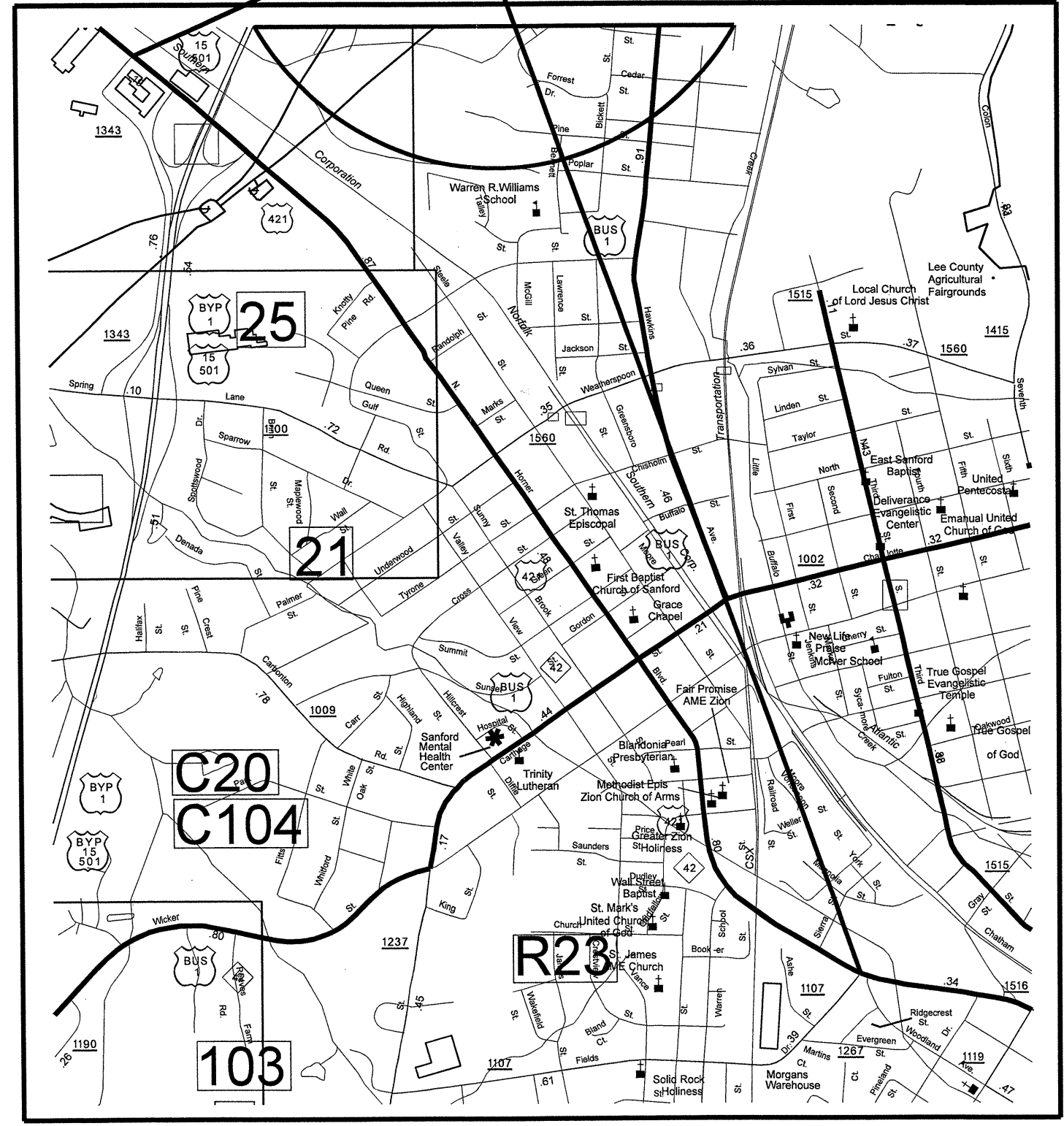
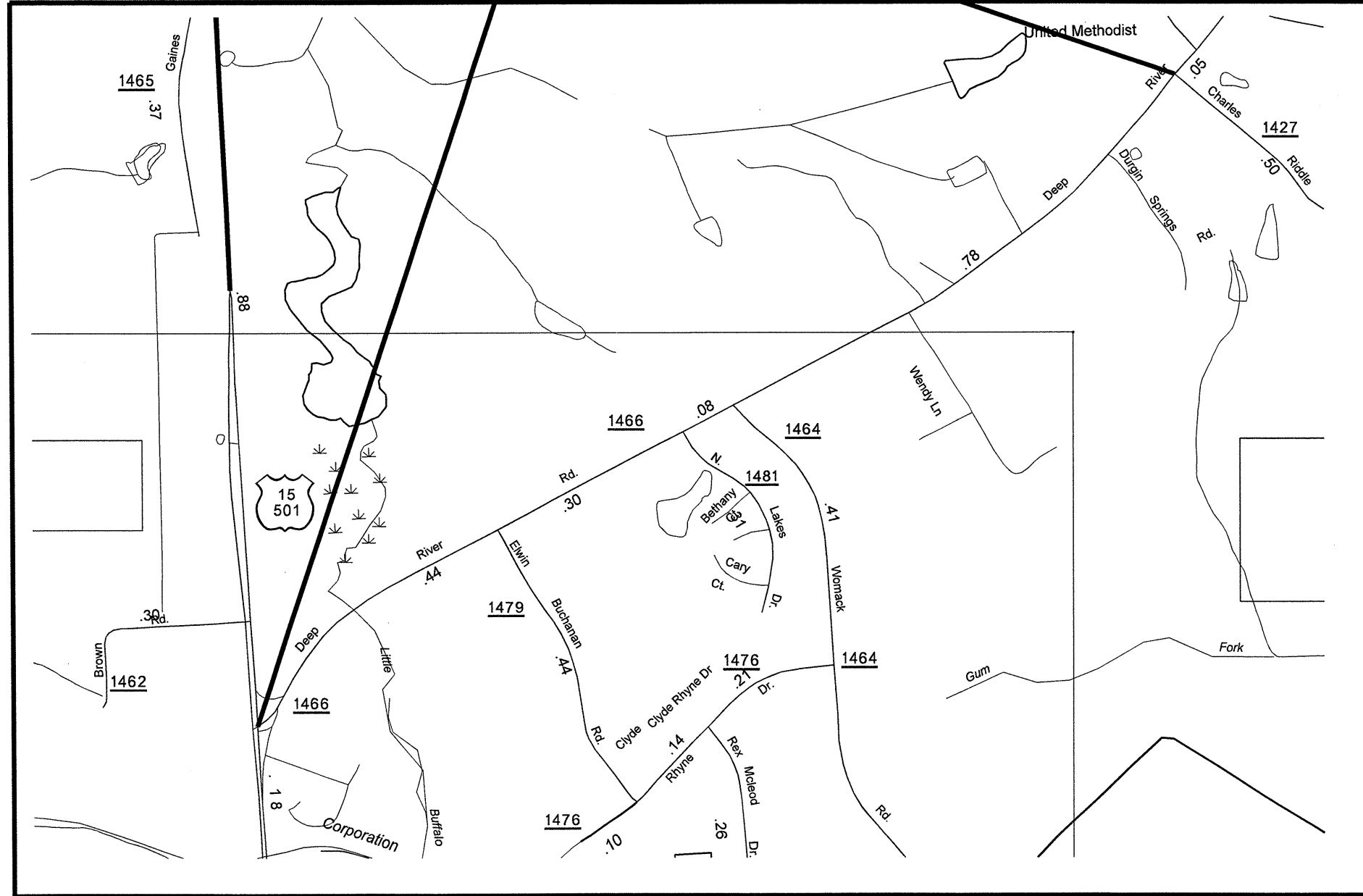


MAP NO. 1

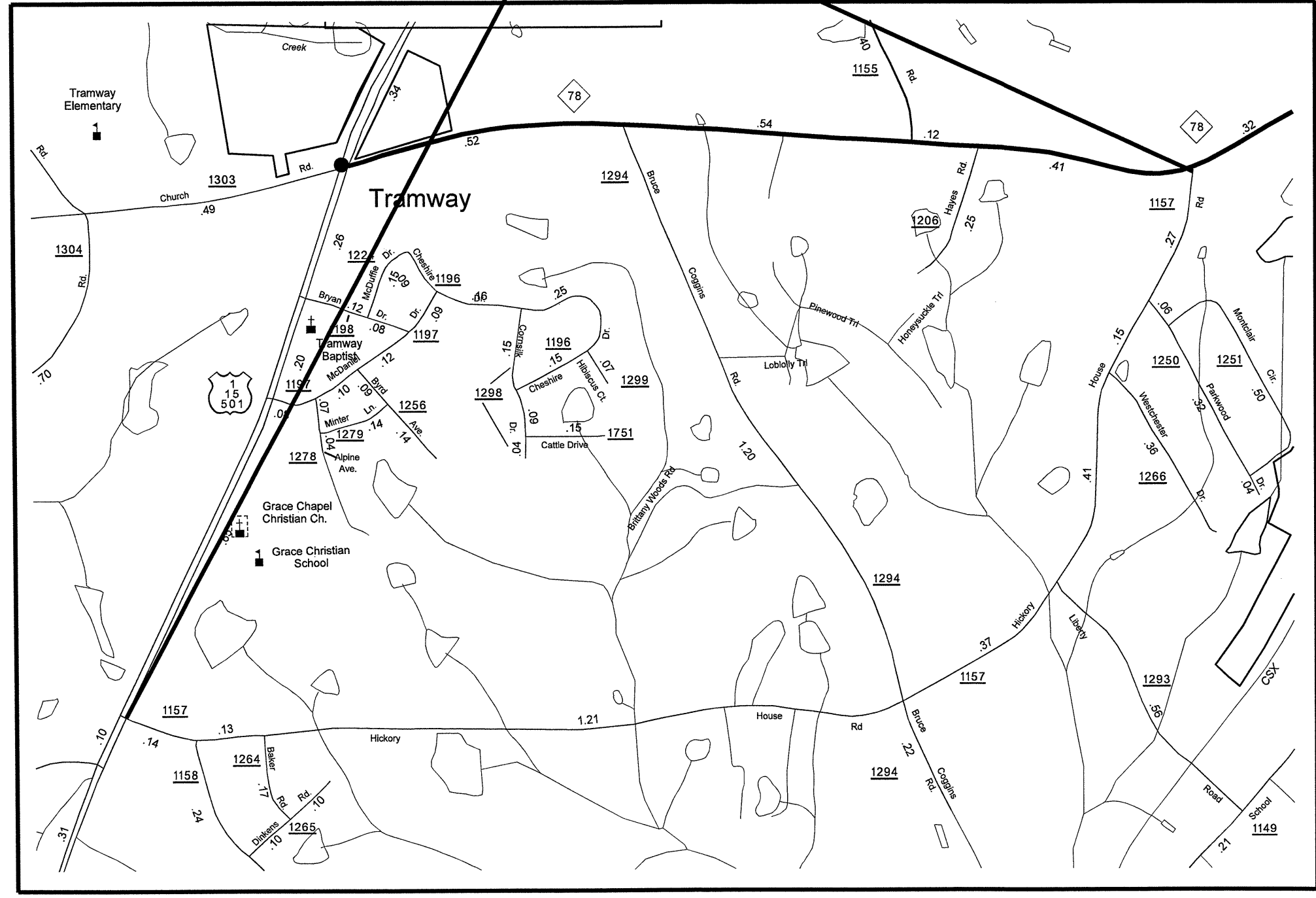


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MAP NO. 2



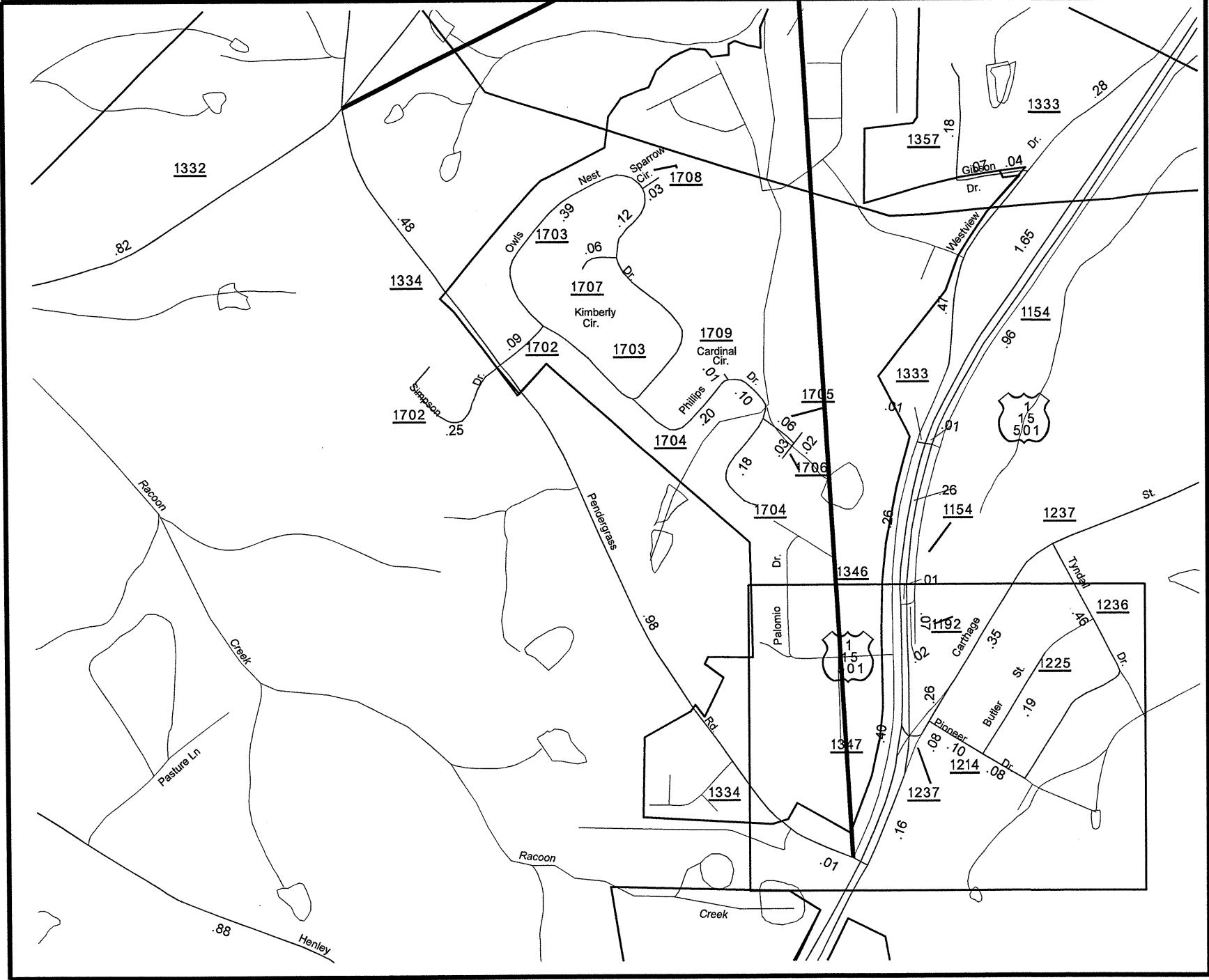
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5/14/99

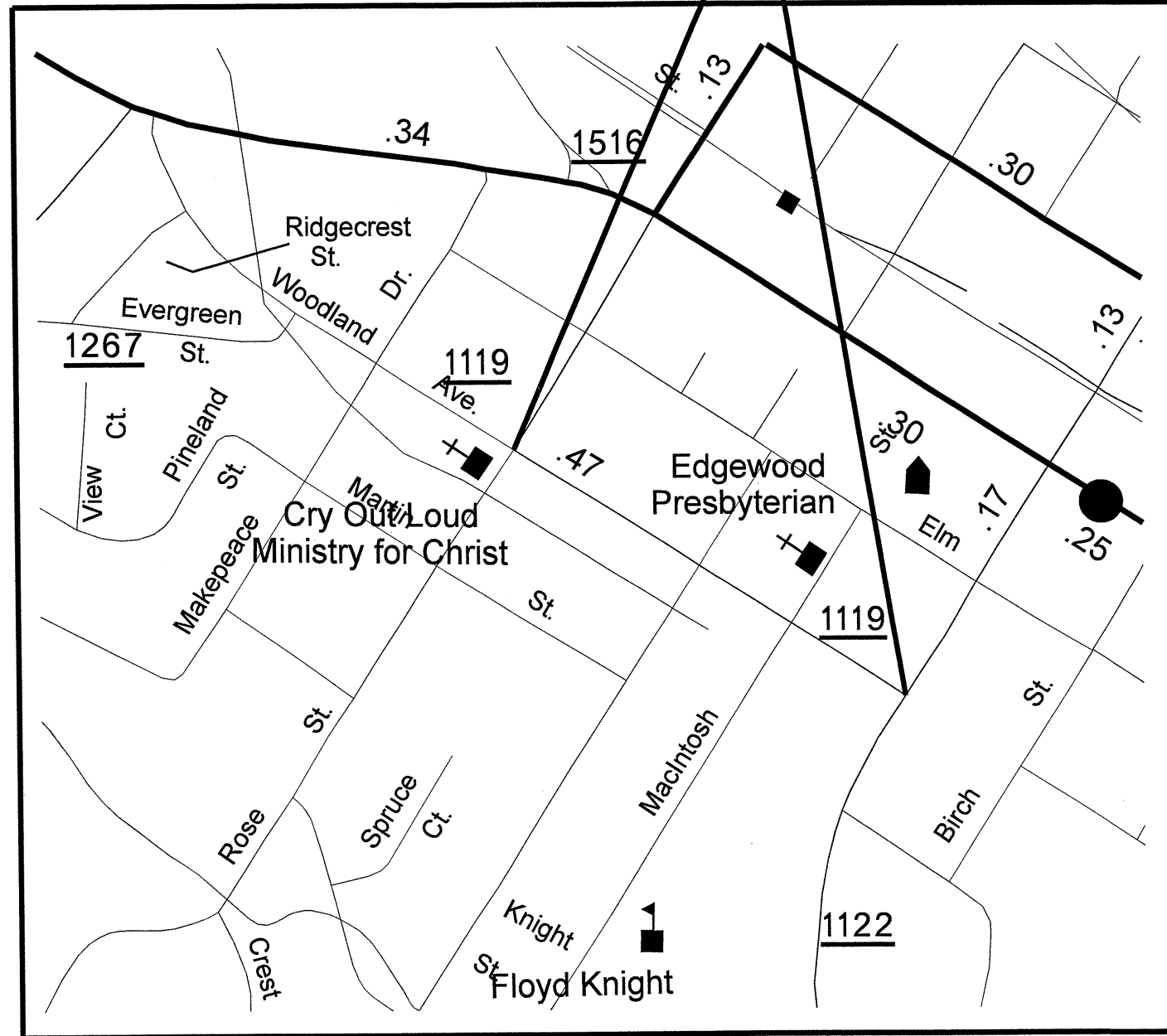
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MAP NO. 4



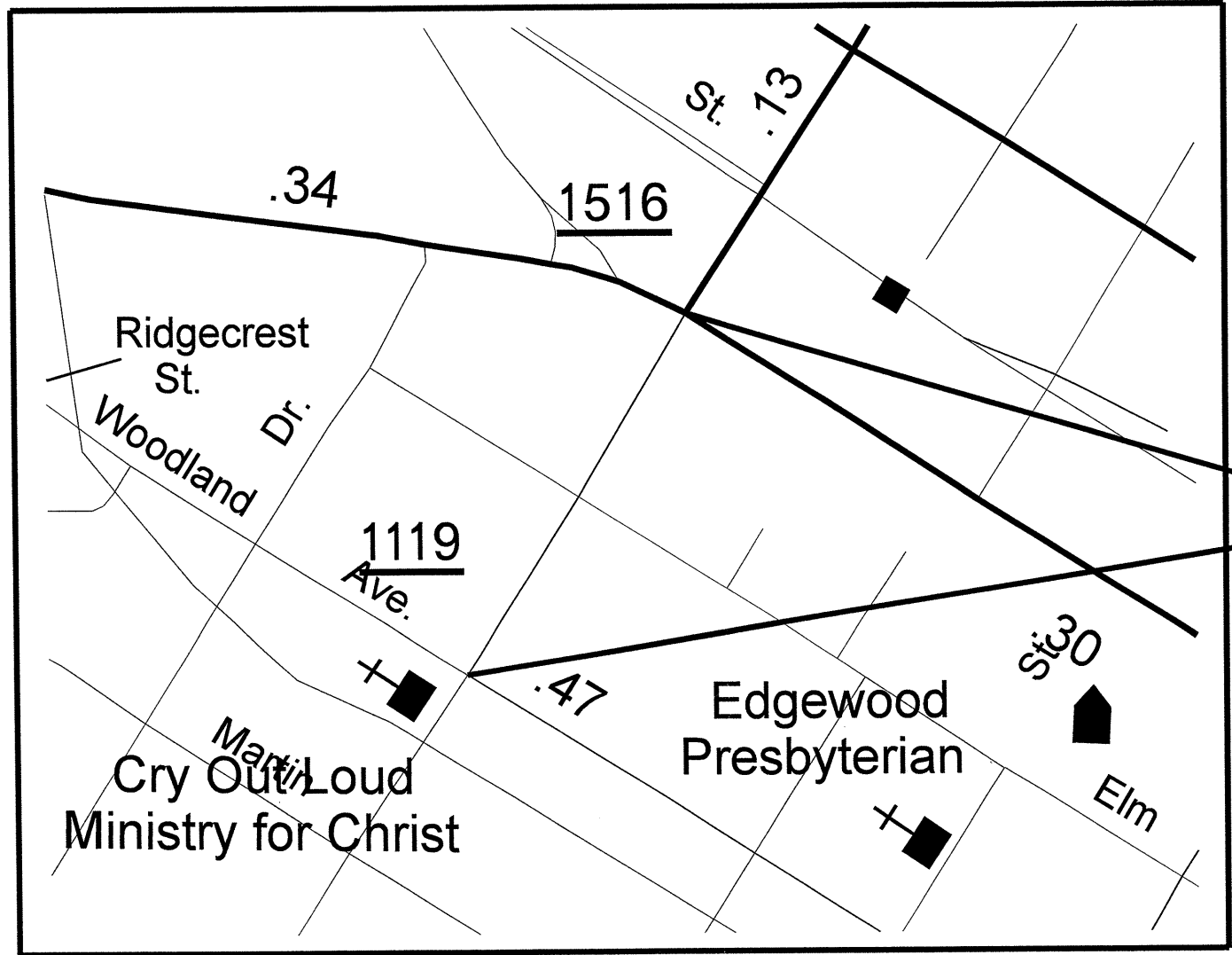
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MAP NO. 5



5/14/99

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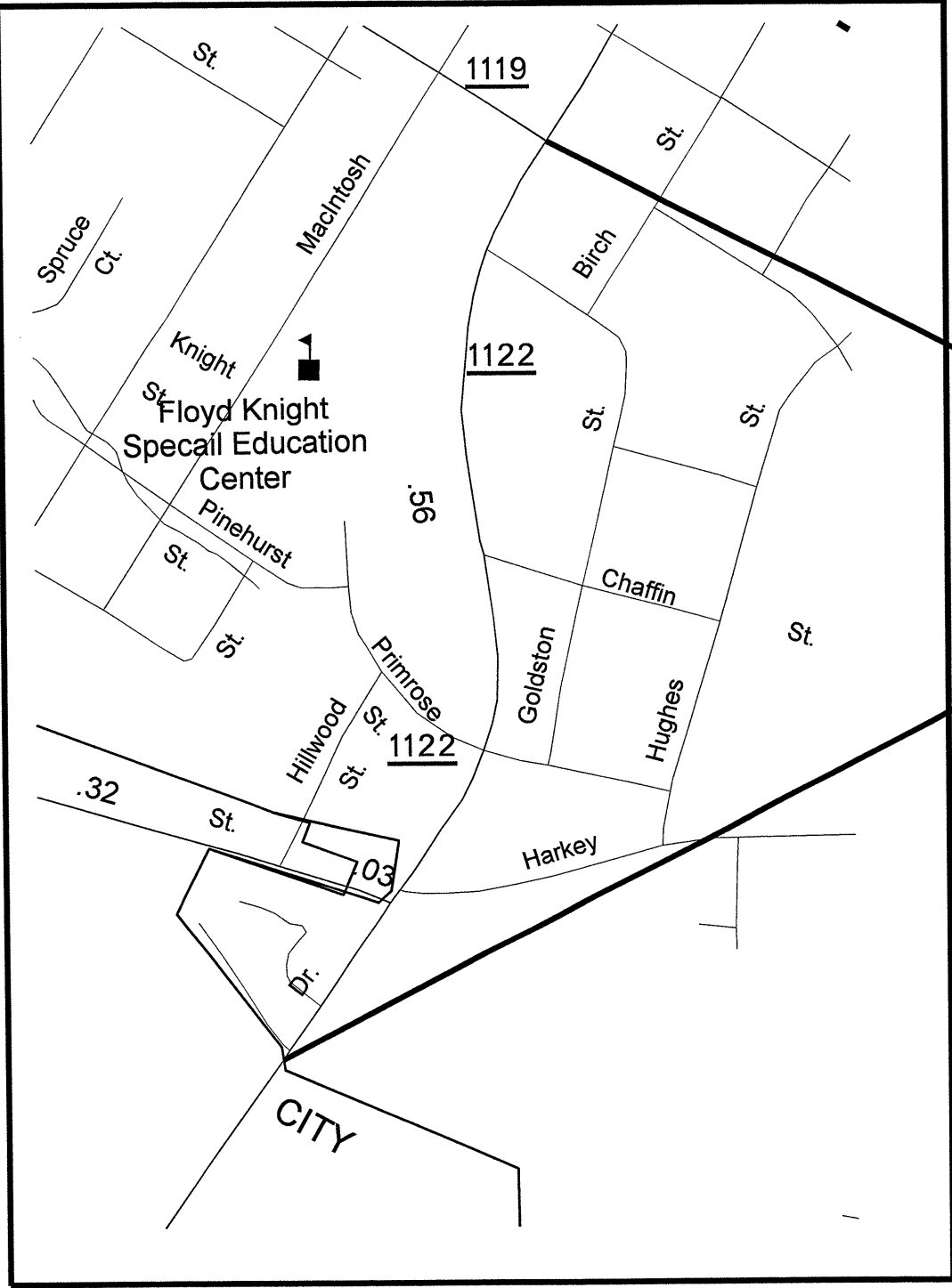


MAP NO. 6

5/11/99

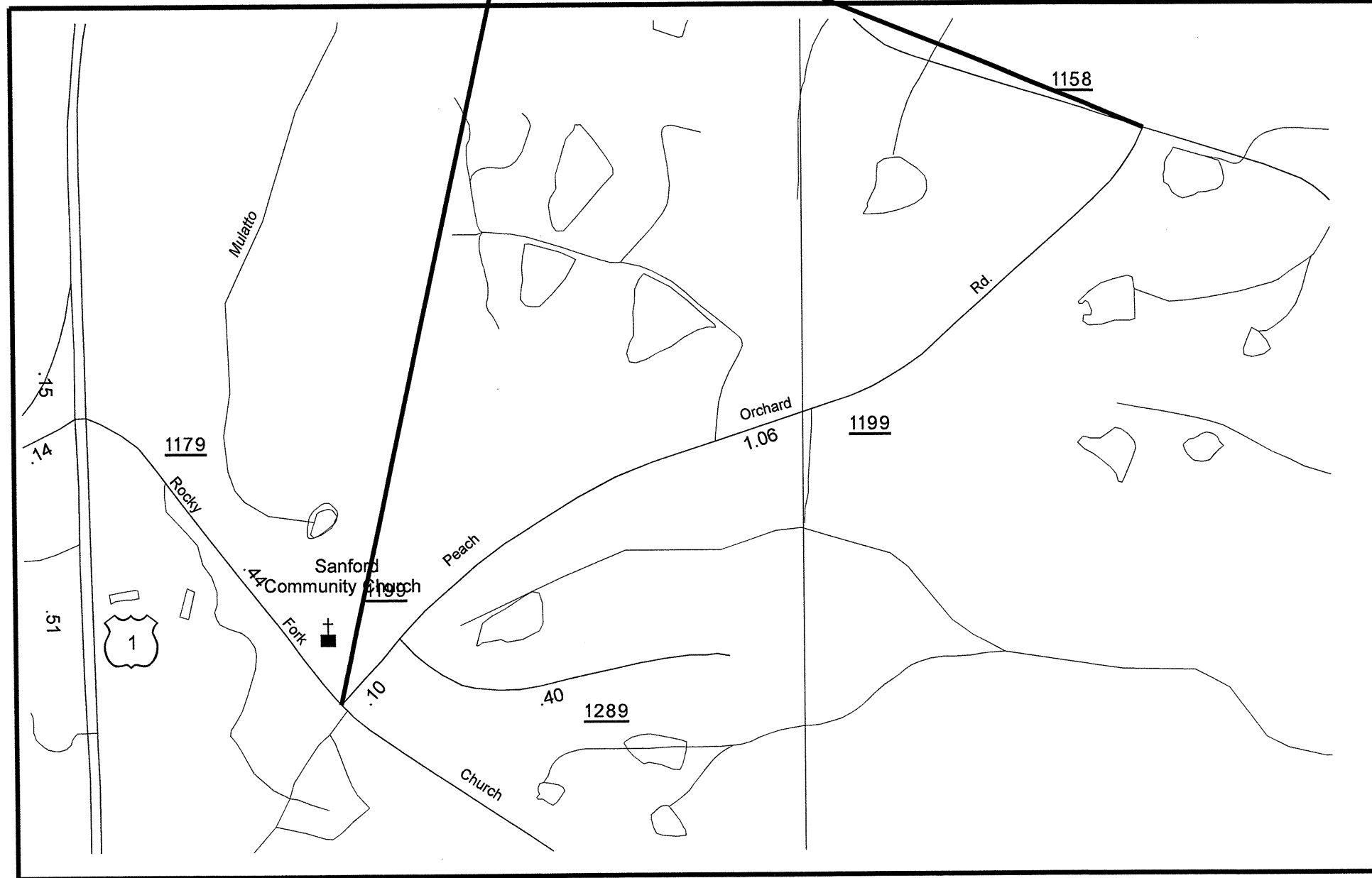
PROJECT REFERENCE NO.	SHEET NO.
8CR.10531.17	7
8CR.20531.17	

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 5/11/99



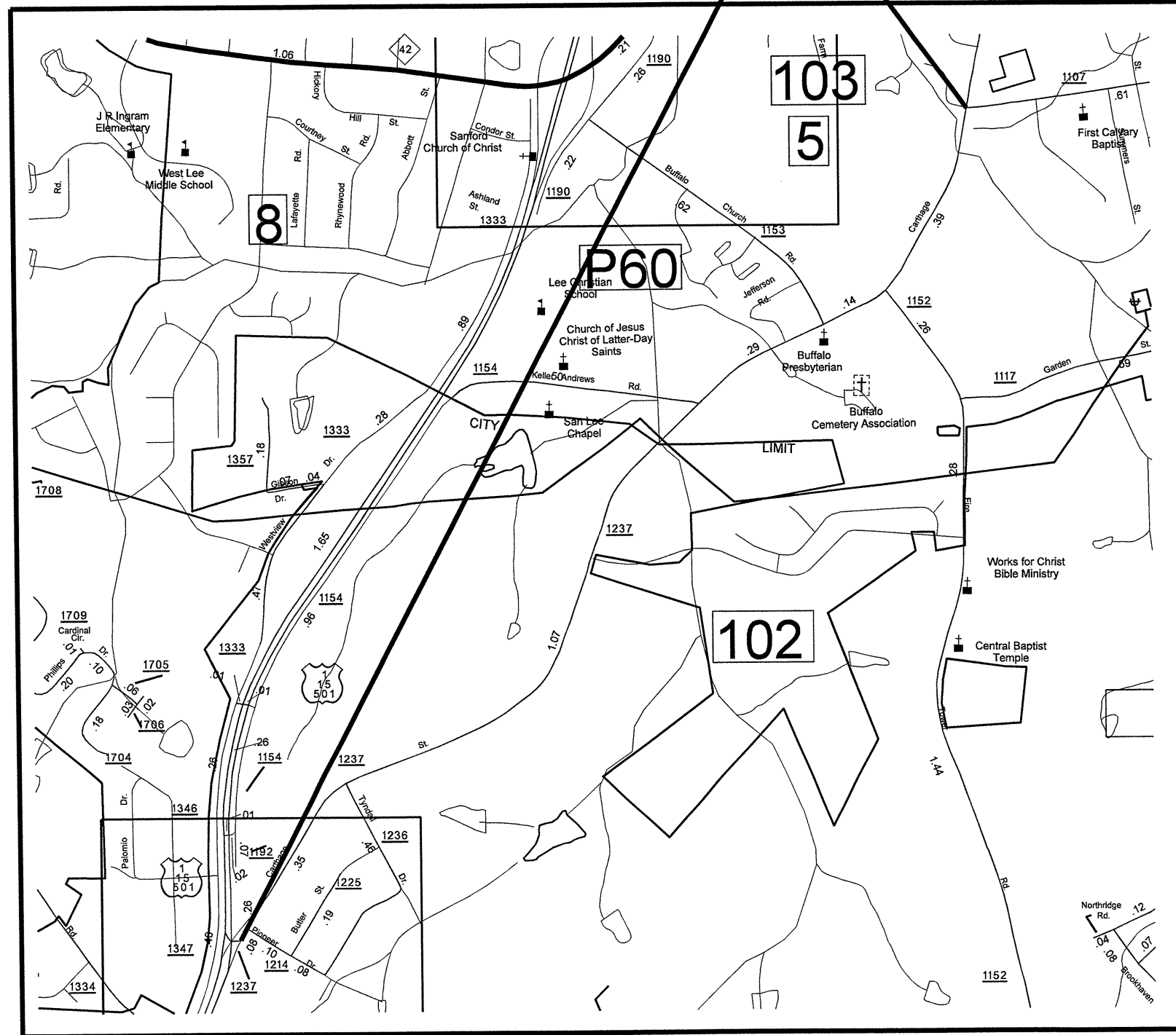
MAP NO. 7

MAP NO. 8



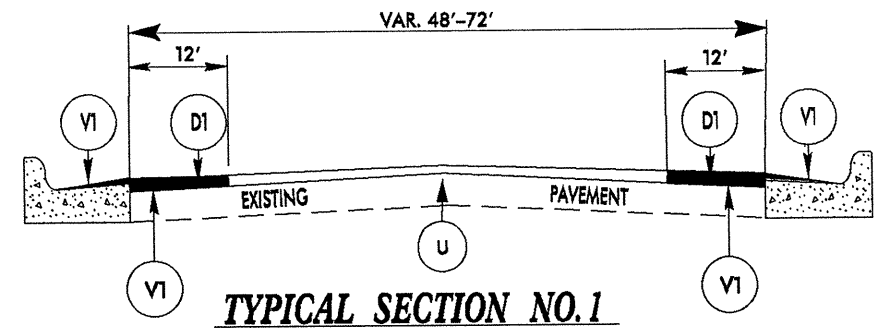
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MAP NO. 9

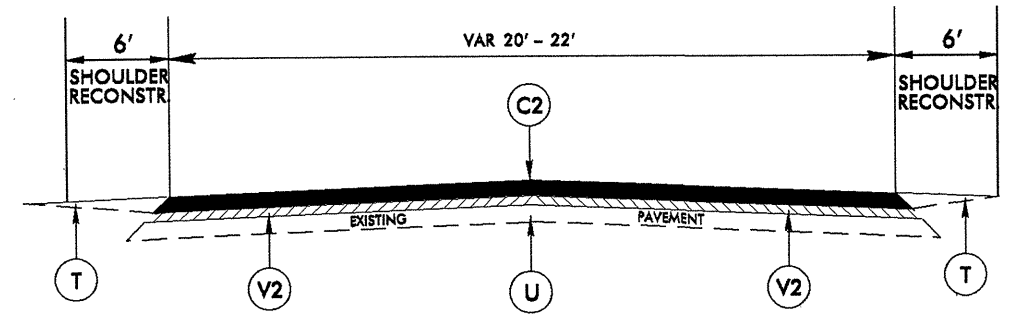


5/14/99

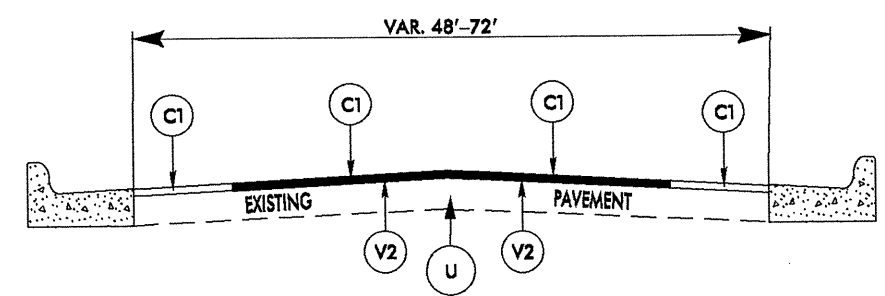
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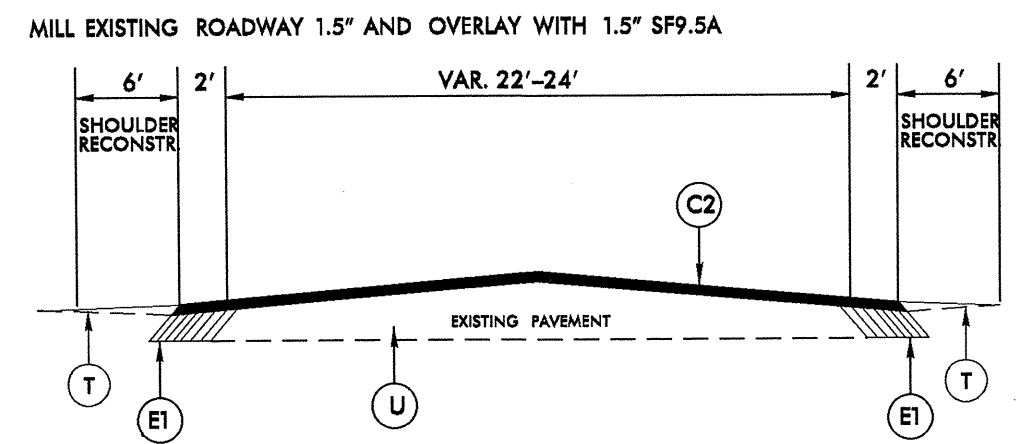
TYPICAL SECTION NO. 1
MILL OUTSIDE LANES 3" BELOW FRONT FACE OF CURB AND REPLACE WITH 2.5" OF I19.0C. BRING INTERMEDIATE TO 1.5" BELOW ELEVATION OF THE EXISTING INSIDE LANES.



TYPICAL SECTION NO. 3

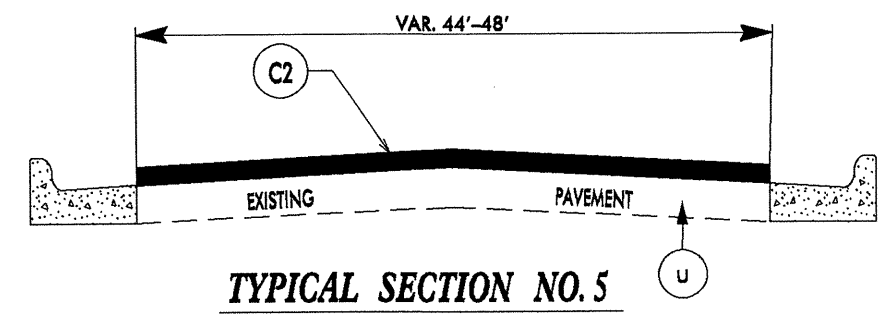


TYPICAL SECTION NO. 2

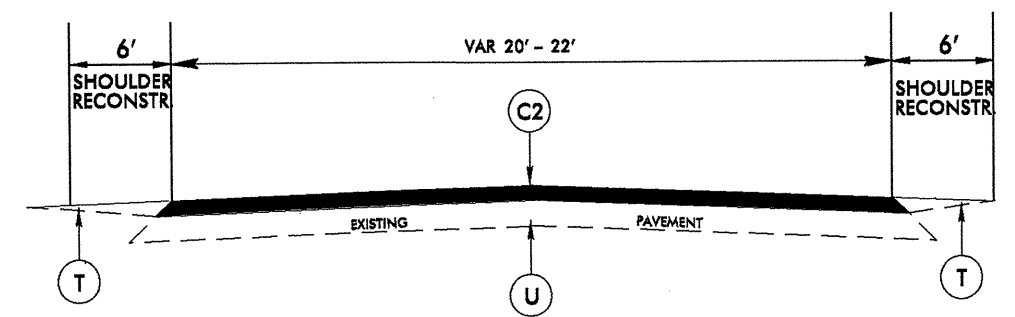


TYPICAL SECTION NO. 4

MILL INSIDE LANES AND ALL TURNING LANES, INTERSECTIONS, ETC. 1.5" AND OVERLAY ENTIRE ROADWAY WITH 1.5" OF S9.5C.



TYPICAL SECTION NO. 5

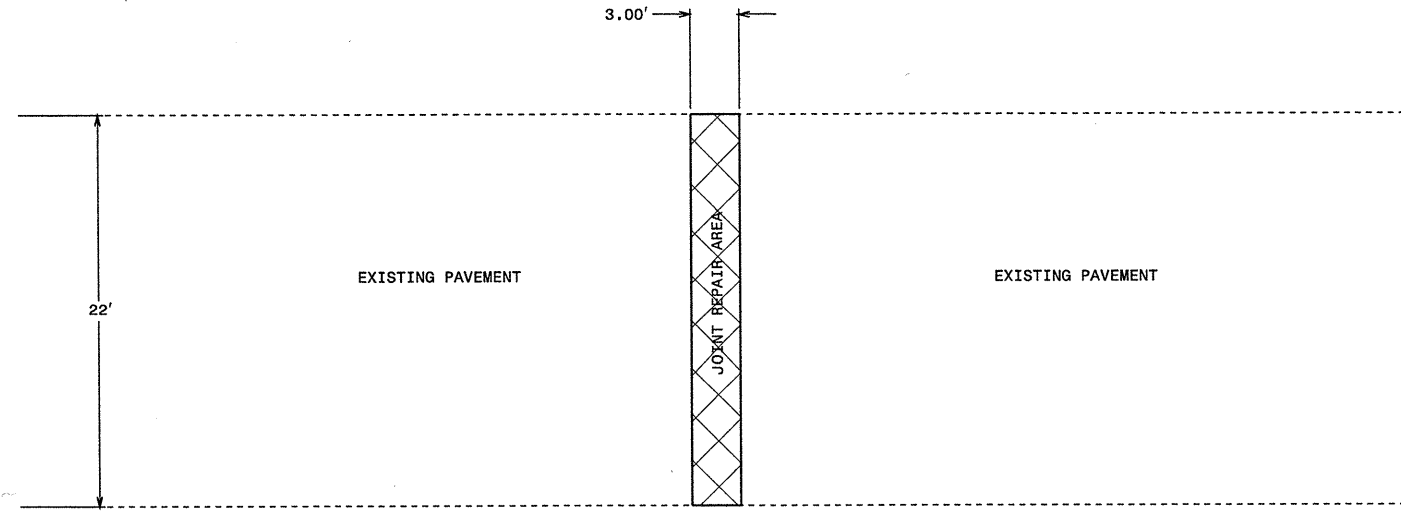


TYPICAL SECTION NO. 6

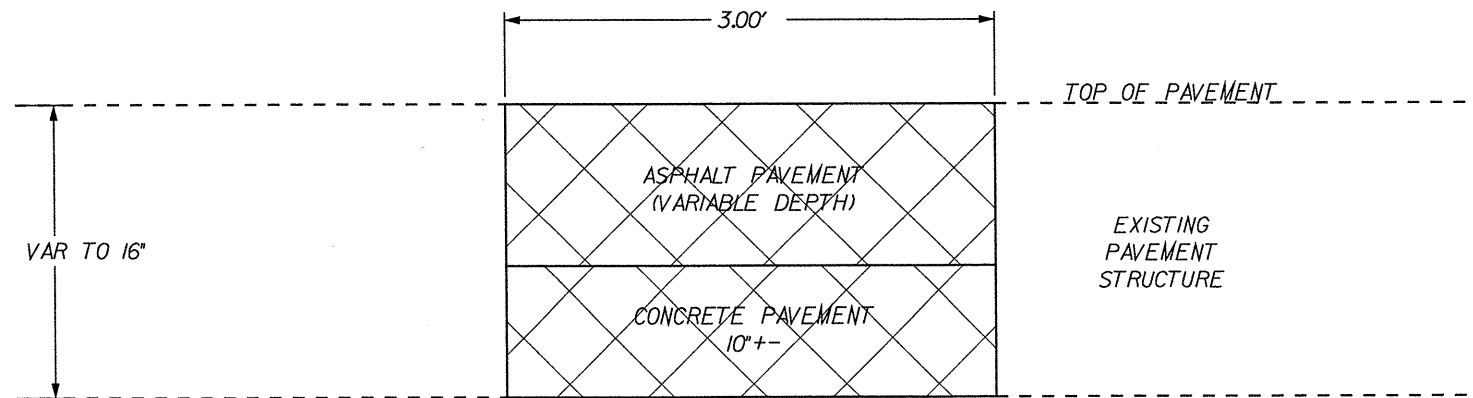
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
D1	PROP. APPROX. 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.0" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
V1	MILLING 3" TO 4.5"
V2	MILLING 1.5"
T	EARTH MATERIAL
U	EXISTING PAVEMENT

09-JUN-2010 09:35 acing_100_projects\Division 8\Lee_Submittal\Revised Files\tyr6_revised.dgn

JOINT REPAIR DETAIL



CROSS-SECTION

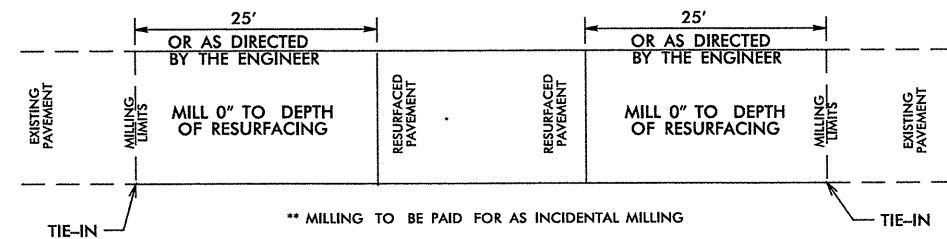
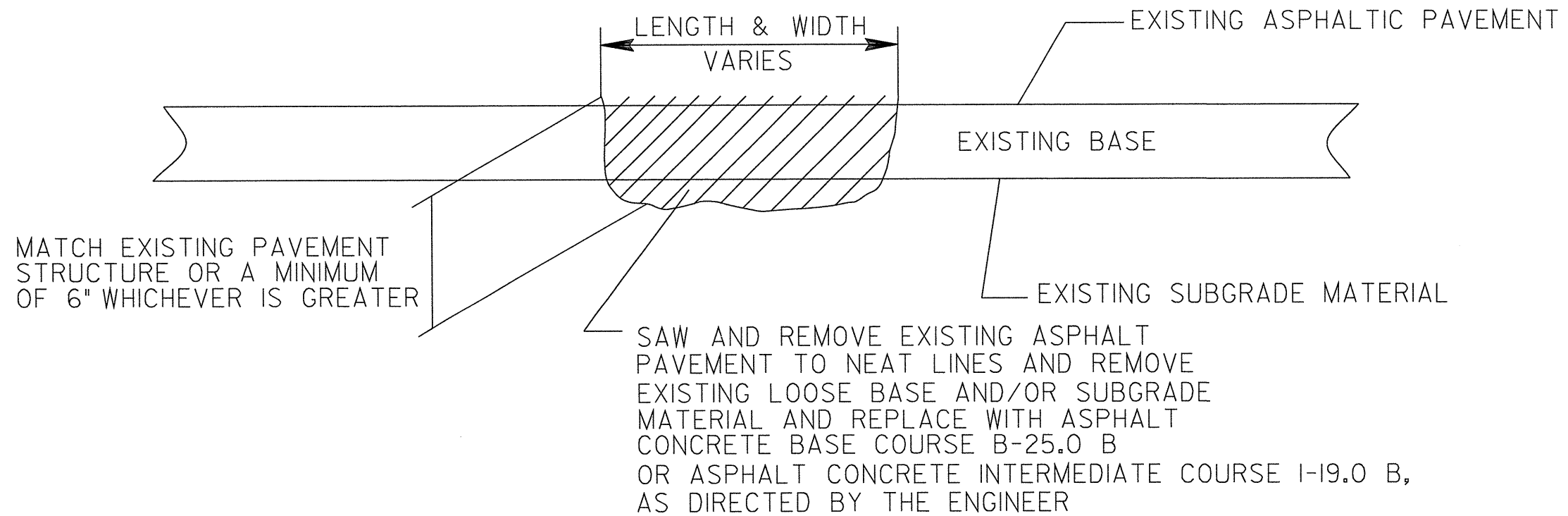


NOTE:
REMOVE ASPHALT AND CONCRETE AT JOINT LOCATIONS AS DIRECTED BY THE ENGINEER (BY SAWING OR MILLING CLEAN JOINTS). REMOVE A TOTAL WIDTH OF 3' (APPROX. 1.5' EACH SIDE OF JOINT). REMOVE AND REPLACE WITH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B. THERE WILL BE NO DIRECT PAY FOR THIS WORK AS IT WILL BE CONSIDERED INCIDENTAL TO TO THE LINE ITEM, JOINT REPAIR (TONNAGE)

5/14/99
C:\2012\MAY-2012\Resurfacing\Lee\Joint_repair_detail.dgn
C:\2012\MAY-2012\Resurfacing\Lee\Joint_repair_detail.dgn

DETAILS OF REPAIRING EXISTING PAVEMENT PRIOR TO RESURFACING

DETAIL



PAVEMENT TIE-IN DETAIL

5/14/99
 20-MAY-2015 15:45
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PROJECT NO.	SHEET NO.	TOTAL NO.
8CR.10531.17, 8CR.20531.17	13	16

SUMMARY OF QUANTITIES

PROJECT NO.	COUNTY	MAP NO.	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH	WIDTH	BORROW EXCAVATION	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	1 1/2" MILLING	3" TO 4.5" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0B	INTERMEDIATE COURSE, I19.0C	SURFACE COURSE, S9.5C	SURFACE COURSE, SF9.5A	PG 64-22 PLANT MIX	PG 70-22 PLANT MIX	PATCHING EXISTING PAVEMENT	JOINT REPAIR	ADJ. OF MANHOLES	ADJ. OF METER OR VALVE BOX	TEMPORARY SILT FENCE	WATTLE	SEED & MULCHING	SEED FOR REPAIR SEEDING	FERTILIZER FOR REPAIR SEEDING	INDUCTIVE LOOP SAW CUT			
NO		NO			NO		MI	FT	CY	TONS	SMI	SY	SY	SY	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TON	EA	EA	LF	LF	AC	LB	TON	LF			
8CR.10531.17	Lee	1	US 421	FROM CONST. JT. EAST OF FIELDS DRIVE TO CONST. JT. WEST OF US 1	1,2	NO	2.519	48				40,000	35,400	3,000		5,760	8,465		271	508	350		46	31							15,400.00		
TOTAL FOR MAP NO. 1							2.519					40,000	35,400	3,000		5,760	8,465		271	508	350		46	31							15,400.00		
TOTAL FOR PROJ NO. 8CR.10531.17							2.519					40,000	35,400	3,000		5,760	8,465		271	508	350		46	31								15,400.00	
8CR.20531.17	Lee	2	SR 1466	FROM CONST JT AT 15/501 TO CONST JT AT SR 1427	3	NO	1.591	22	65	185	3.18	26,500						2,305	150		180	170.00		2	160	30	2.31	80	0.50				
TOTAL FOR MAP NO. 2							1.591		65	185	3.18	26,500							2,305	150		180	170.00		2	160	30	2.31	80	0.50			
		3	SR 1157	FROM CONST JT AT NC 78 TO US 1	4	NO	2.538	22	105	240	5.10			850	3,290			3,345	359		350			1	255	40	3.69	130	0.75		500.00		
TOTAL FOR MAP NO. 3							2.538		105	240	5.10			850	3,290			3,345	359		350				1	255	40	3.69	130	0.75		500.00	
		4	SR 1334	FROM CONST JT AT US 1 TO SR 1332	6	NO	1.288	22	55	135	2.58			150				1,580	103		200				130	20	1.87	65	0.50				
TOTAL FOR MAP NO. 4							1.288		55	135	2.58			150			1,580	103		200						130	20	1.87	65	0.50			
		5	SR 1119	FROM SR 1122 TO SR 1199 (ROSE ST)	5	NO	0.322	44						880				760	49		85		6	14							3,600.00		
TOTAL FOR MAP NO. 5							0.322							880			760	49		85		6	14										3,600.00
		6	SR 1119	FROM SR 1122 TO US 421	5	NO	0.152	48						200				375	24		30		2								500.00		
TOTAL FOR MAP NO. 6							0.152							200			375	24		30		2											500.00
		7	SR 1122	FROM SR 1119 TO WCL OF SANFORD	6	NO	0.661	20	30	140	1.32			135				680	44		68				66	10	0.96	35	0.25				
TOTAL FOR MAP NO. 7							0.661		30	140	1.32			135			680	44		68						66	10	0.96	35	0.25			
		8	SR 1199	FROM SR 1179 TO SR 1158	4	NO	1.134	24	45	185	2.27			200	985			1,475	138		50				113	20	1.65	60	0.25				
TOTAL FOR MAP NO. 8							1.134		45	185	2.27			200	985			1,475	138		50					113	20	1.65	60	0.25			
		9	SR 1237	FROM END OF ISLAND AT US 1 TO SR 1107	6	NO	2.216	22	95	180	4.43			550				2,840	185		25			3	225	40	3.22	115	0.75		1,000.00		
TOTAL FOR MAP NO. 9							2.216		95	180	4.43			550			2,840	185		25					3	225	40	3.22	115	0.75		1,000.00	
TOTAL FOR PROJ NO. 8CR.20531.17							9.902		395	1,065	18.88		26,500		2,965	4,275		5,760	8,465		13,360	1,052		988	170.00	8	20	949	160	13.70	485	3.00	5,600.00
GRAND TOTAL							12.421		395	1,065	18.88		66,500	35,400	5,965	4,275	5,760	8,465		13,360	1,323	508	1,338	170.00	54	51	949	160	13.70	485	3.00	21,000.00	

PROJECT NO.	SHEET NO.	TOTAL NO.
8CR.10531.17, 8CR.20531.17	14	16

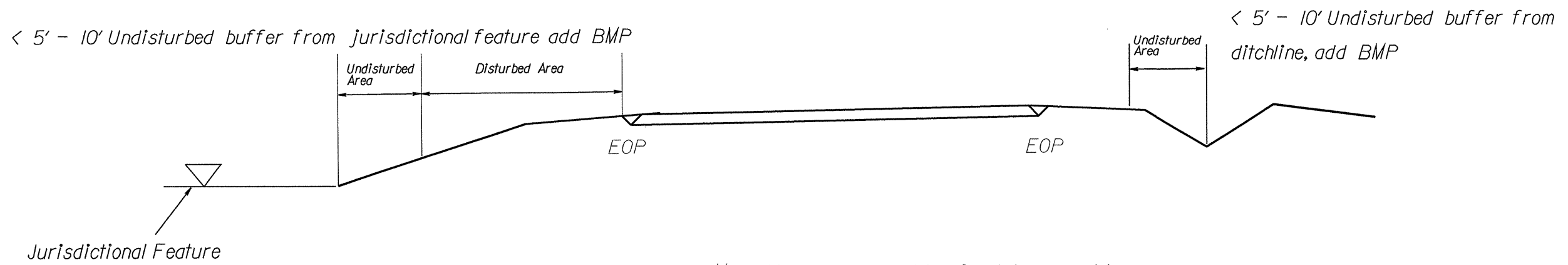
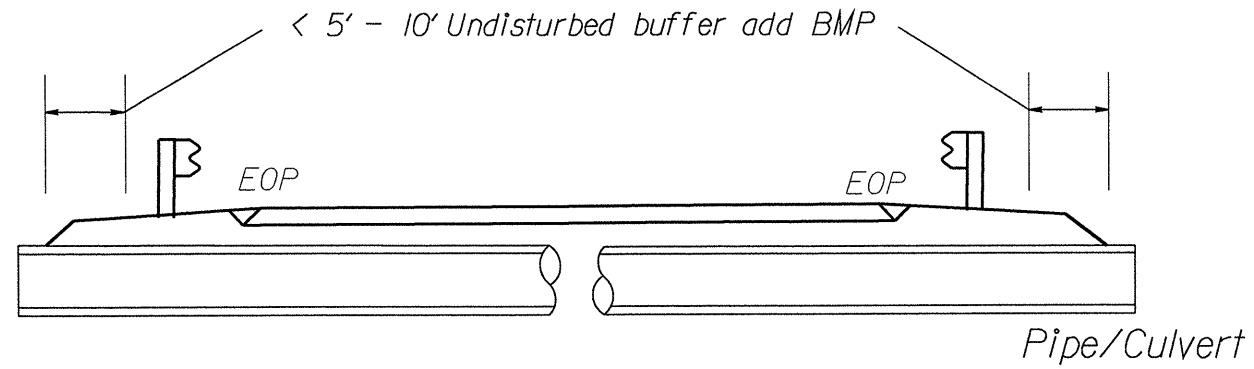
THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4589000000-N	4685000000-E	4686000000-E			4695000000-E	4697000000-E			4710000000-E	4725000000-E					4810000000-E		4820000000-E	4835000000-E	4900000000-N	
					GENERIC TRAFFIC CONTROL ITEM - TRAFFIC CONTROL	4" X 90 M WHITE THERMO	4" X 120 M WHITE THERMO	4" X 120 M YELLOW THERMO	8" X 90 M YELLOW THERMO	8" X 120 M WHITE THERMO	8" X 120 M YELLOW THERMO	24" X 120 M WHITE THERMO	THERMO STR ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO RT ARROW 90 M	THERMO LT ARROW 90 M	THERMO STR & LT ARROW 90 M	4" YELLOW PAINT	4" WHITE PAINT	8" YELLOW PAINT	24" WHITE PAINT	YELLOW & YELLOW MARKERS	CRYSTAL & RED MARKERS		
NO		NO			LS	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	LF	LF	LF	LF	EA	EA		
8CR.10531.17	Lee	1	US 421	FROM CONST. JT. EAST OF FIELDS DRIVE TO CONST. JT. WEST OF US 1		26,000	6,000	30,000		400		1,000	49	28	4	43								166	166
TOTAL FOR MAP NO. 1						26,000	6,000	30,000		400		1,000	49	28	4	43								166	166
TOTAL FOR PROJ NO. 8CR.10531.17						26,000	6,000	30,000		400		1,000	49	28	4	43								166	166
								36,000		400					124									332	
8CR.20531.17	Lee	2	SR 1466	FROM CONST JT AT 15/501 TO CONST JT AT SR 1427		17,200		21,800	400						4	4								140	
TOTAL FOR MAP NO. 2						17,200		21,800	400						4	4								140	
		3	SR 1157	FROM CONST JT AT NC 78 TO US 1											1	1	1	46,300	54,000	500	300				
TOTAL FOR MAP NO. 3															1	1	1	46,300	54,000	500	300				
		4	SR 1334	FROM CONST JT AT US 1 TO SR 1332											3			15,900	27,200						
TOTAL FOR MAP NO. 4															3			15,900	27,200						
		5	SR 1119	FROM SR 1122 TO SR 1199 (ROSE ST)			500	3,400				180		6		6								30	
TOTAL FOR MAP NO. 5							500	3,400				180		6		6								30	
		6	SR 1119	FROM SR 1122 TO US 421			1,200	2,800				60		3		8								20	
TOTAL FOR MAP NO. 6							1,200	2,800				60		3		8								20	
		7	SR 1122	FROM SR 1119 TO WCL OF SANFORD		7,000		5,600				60												44	
TOTAL FOR MAP NO. 7						7,000		5,600				60												44	
		8	SR 1199	FROM SR 1179 TO SR 1158														19,000	24,000						
TOTAL FOR MAP NO. 8																		19,000	24,000						
		9	SR 1237	FROM END OF ISLAND AT US 1 TO SR 1107		24,000		27,800			480	72		2		3								150	
TOTAL FOR MAP NO. 9						24,000		27,800			480	72		2		3								150	
TOTAL FOR PROJ NO. 8CR.20531.17					1	48,200	1,700	61,400	400		480	372		11	8	22	1	81,200	105,200	500	300			384	
GRAND TOTAL					1	74,200	7,700	91,400	400	400	480	1,372	49	39	12	65	1	81,200	105,200	500	300	550	166	716	
							99,100			880					166		186,400								

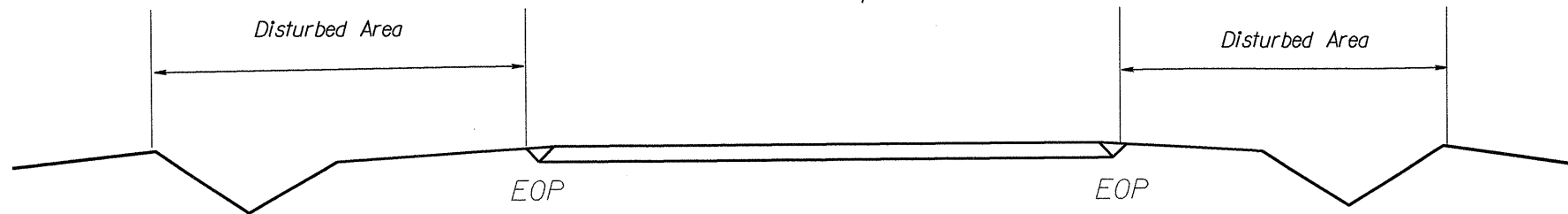
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

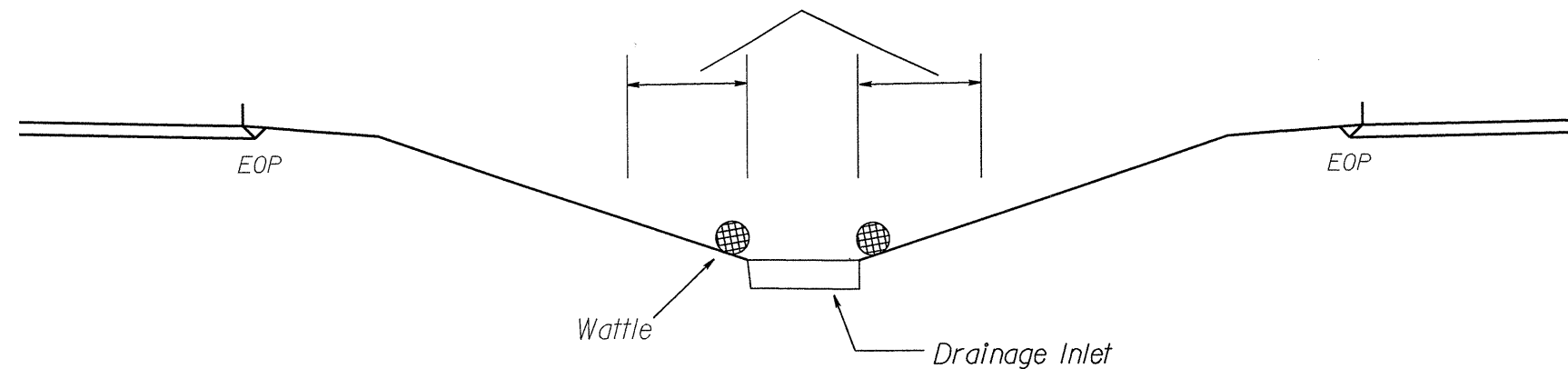
EROSION CONTROL DETAIL



Use BMP's if shoulders and/or front slopes and/or ditchline and/or back slopes are disturbed

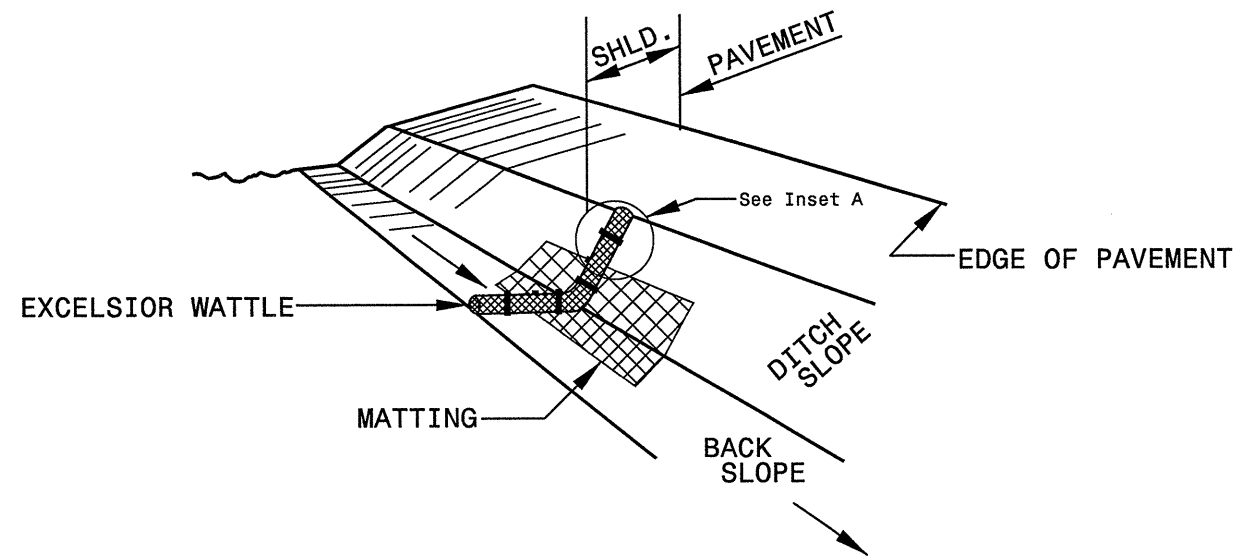


< 5' - 10' Undisturbed buffer from inlet, add wattle

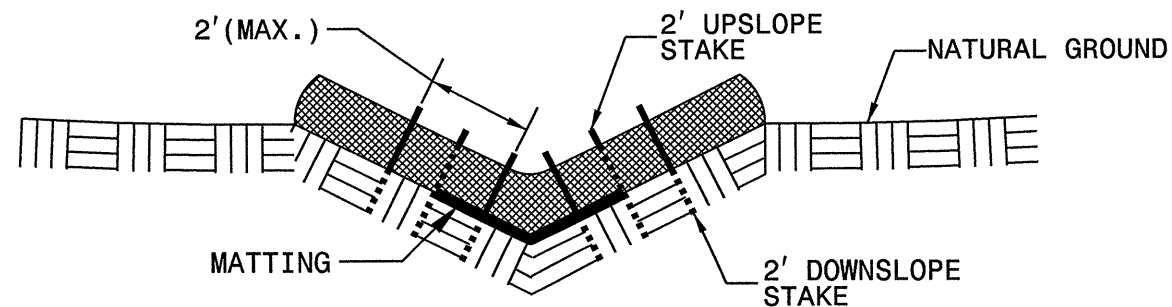


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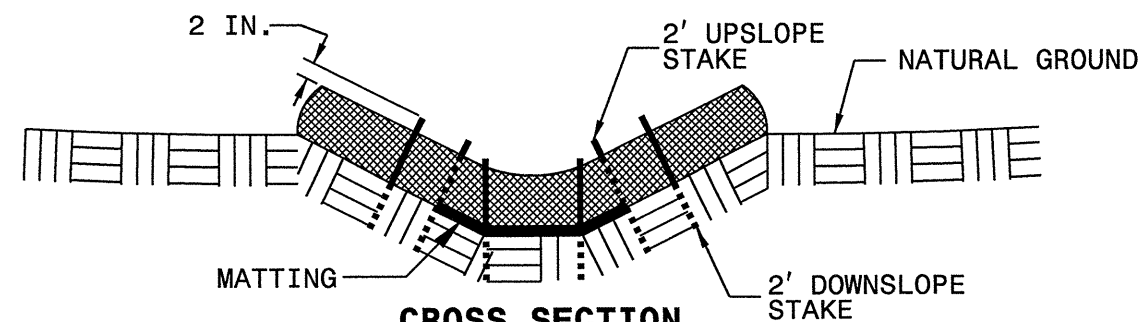
WATTLE DETAIL



ISOMETRIC VIEW



**CROSS SECTION
VEE DITCH**



**CROSS SECTION
TRAPEZOIDAL DITCH**

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

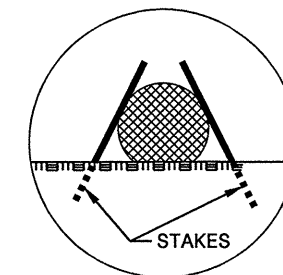
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

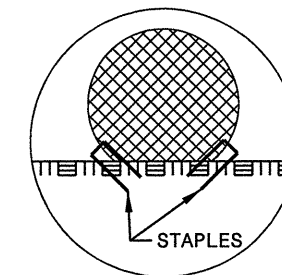
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

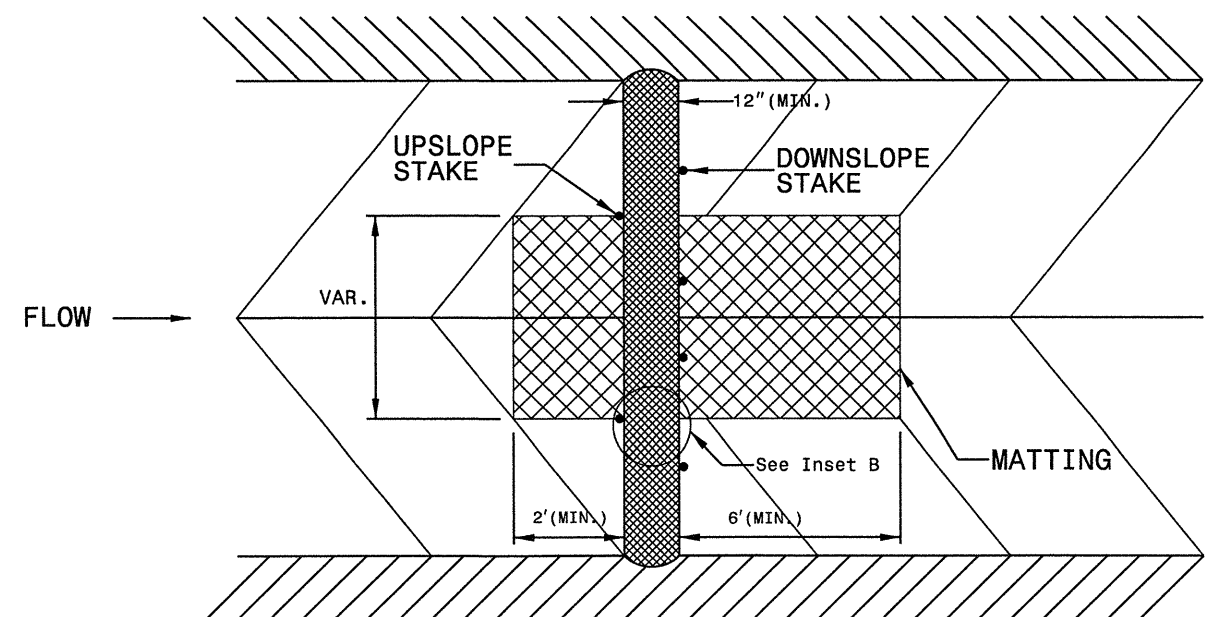
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



INSET A

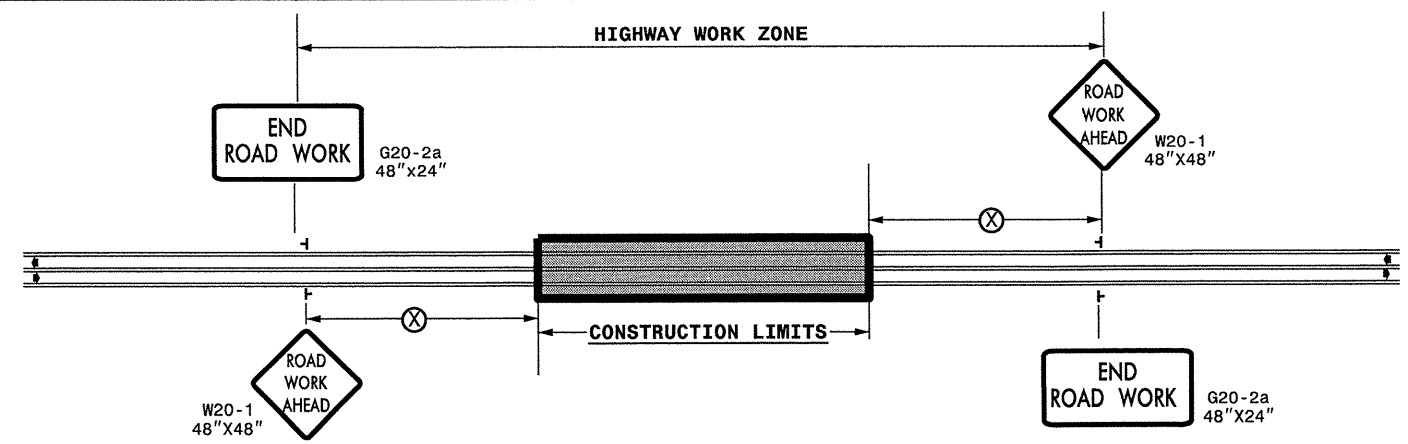


INSET B



TOP VIEW

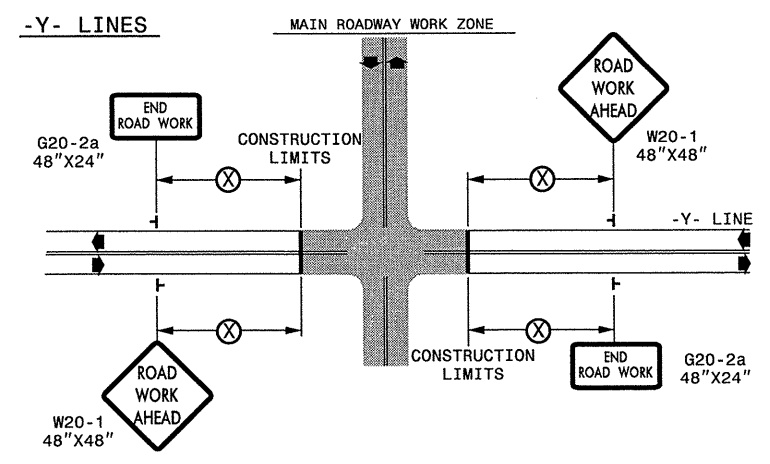
TWO-WAY UNDIVIDED ** (L-LINES)



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 ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.
- ** 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

└ STATIONARY SIGN

◀ DIRECTION OF TRAFFIC FLOW

DETAIL DRAWING FOR
TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS

SHEET 1 OF 1

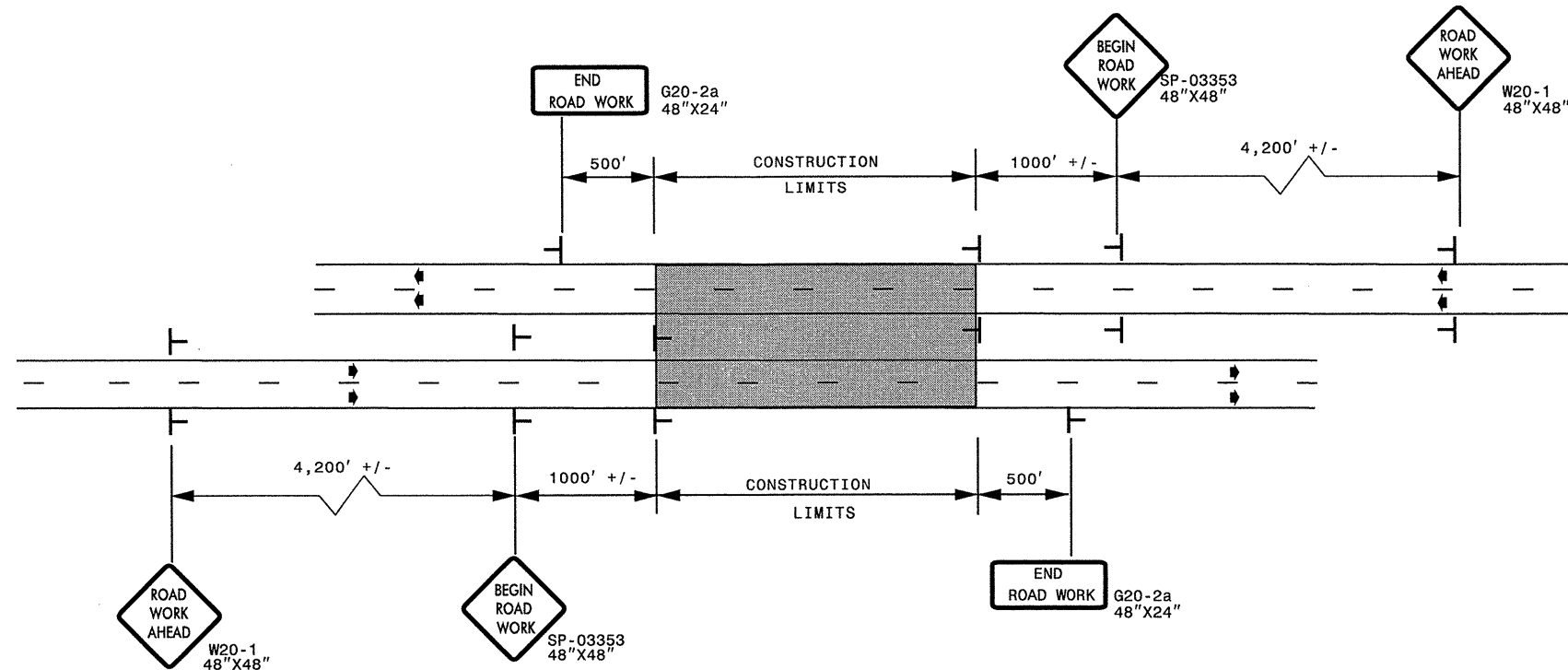
APPROVED: _____ DATE: _____	DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS		SCALE: NONE	REVISIONS
SEAL			DATE: _____ DWG. BY: _____ DESIGN BY: _____ REVIEWED BY: _____	7-98 10/01 10-98 03/04 01/01 11/04

05-JUN-2010 10:50
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 AT 1E247530

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

PROJ. REFERENCE NO.	SHEET NO.
8CR.10531.17	TCP-2
8CR.20531.17	

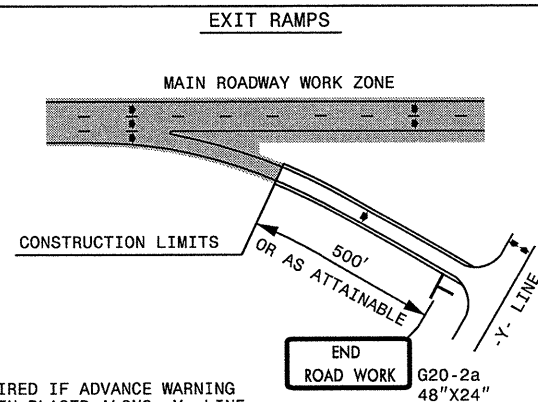
DETAIL A



LEGEND	
—	STATIONARY SIGN
→	DIRECTION OF TRAFFIC FLOW

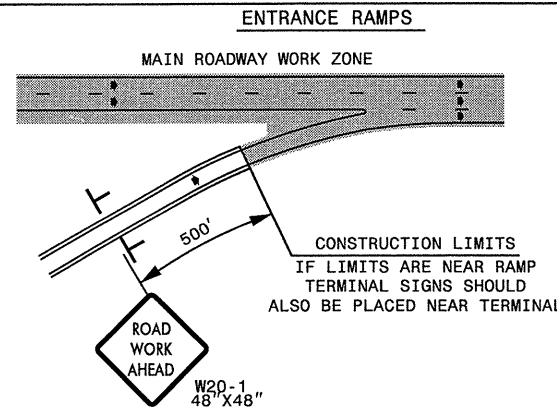
* USE THE "\$250 SPEEDING PENALTY" SIGN, SPEED LIMIT SIGN, AND ORANGE PANEL; ONLY WHEN A "\$250 SPEEDING PENALTY" ORDINANCE HAS BEEN ISSUED BY THE REGIONAL TRAFFIC ENGINEER.

DETAIL B

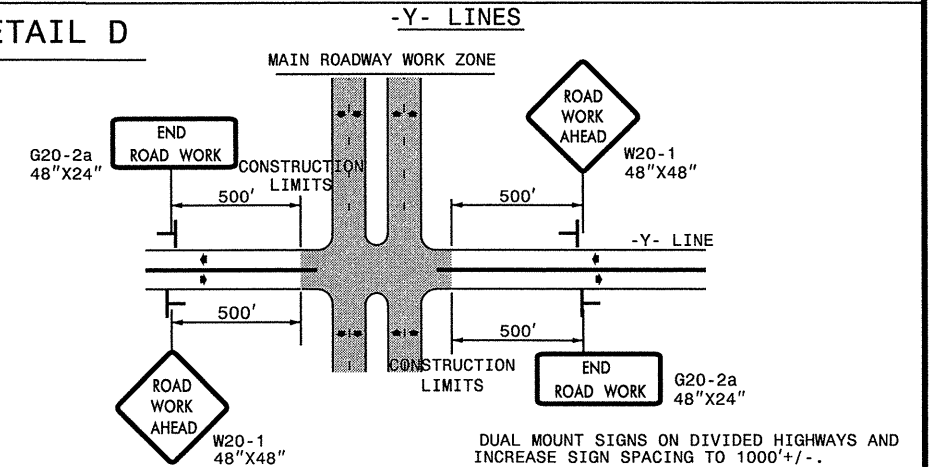


NOTE: SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

DETAIL C



DETAIL D



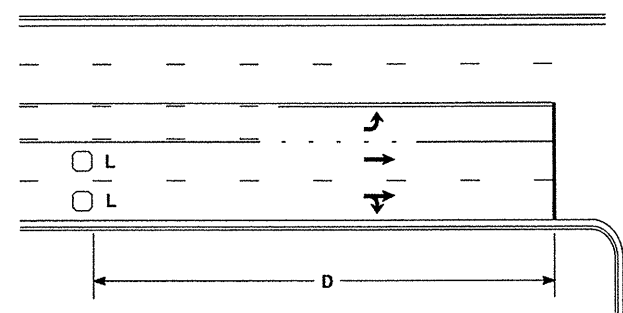
GENERAL NOTES

- 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.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.

APPROVED: _____	DATE: _____	ADVANCED WORK ZONE WARNING SIGNS FOR FREEWAYS (4 LANES OR GREATER)	
	SCALE: NONE		REVISIONS
	DATE: 8/03		03/04
	DWG. BY: JI		
	DESIGN BY: JI		
REVIEWED BY: _____			CADD FILE

06-JUN-2010 04:49
 \\DOT\DFSR007\GROUPOPS-WZTCCC\ResurFacing\2010\Centra\2010\Div08\202794A-B\8CR1053117x2.Lee_US421.mnN_jww\11x17-c202794A-B\8CR1053117x2-Freeways-4lanes.or-greater_stationary.dgn
 jwfiles AT 12:47:53

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

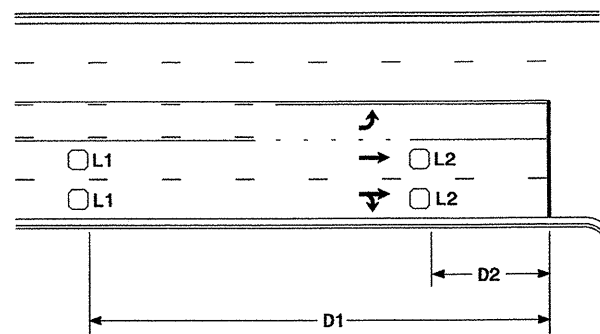


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

OR

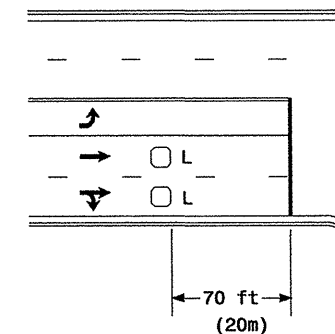


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series
L2 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series

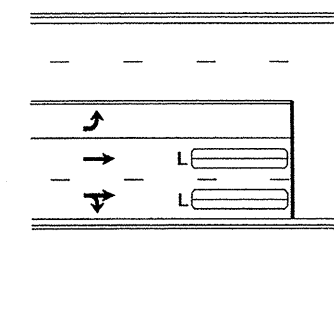
"Stretch" Operation

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



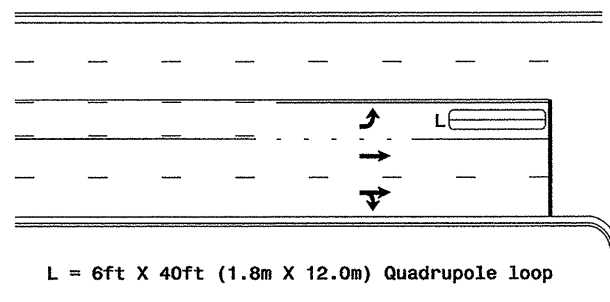
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

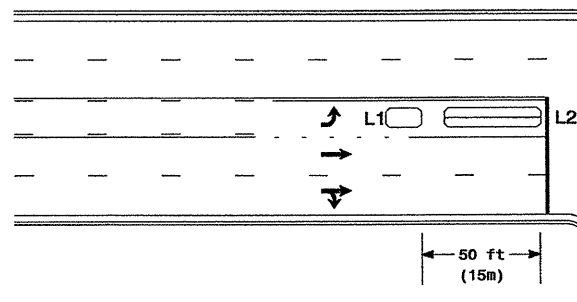
Left Turn Lane Detection



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

Presence Loop Detection

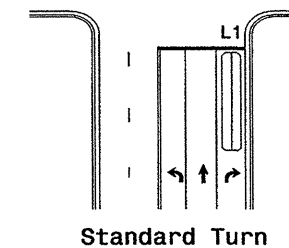
OR



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

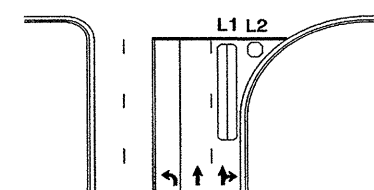
Queue Loop Detection

Right Turn Lane Detection

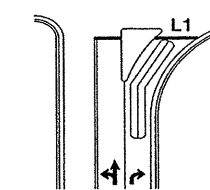


Standard Turn

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

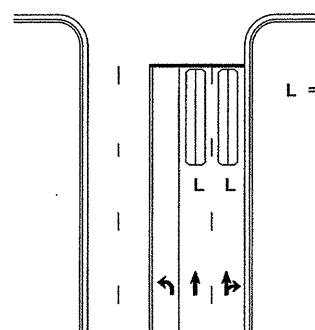


Wide Radius Turn



Channelized Turn

Side Street Detection

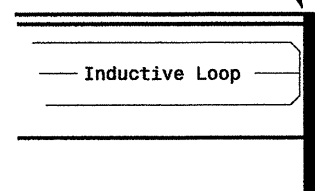


L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop
Wired to separate
detectors/channels

Side Street Detection

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.

Inductive Loop

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

	Typical Loop Locations		
	PLAN DATE: June 2006 PREPARED BY: P. L. Alexander	REVIEWED BY: REVIEWED BY:	
SCALE: N/A	INIT.: DATE:	SIGNATURE: DATE:	SIG. INVENTORY NO.:

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11-08

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

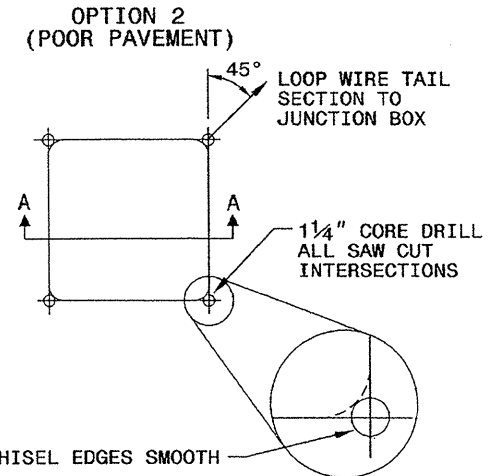
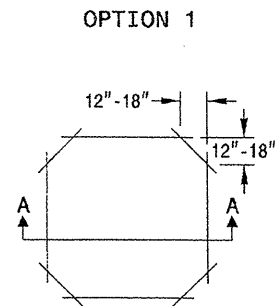
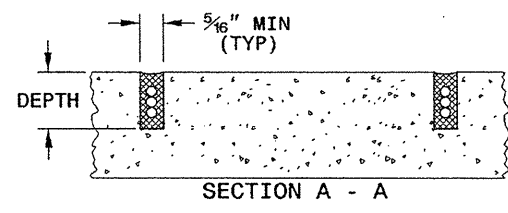
SHEET 1 OF 3
1725D01

CONVENTIONAL 4-SIDED LOOP

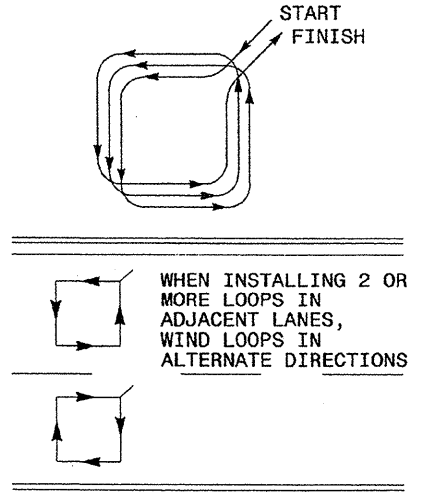
SAW CUT OPTIONS

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	



LOOP WINDING METHOD



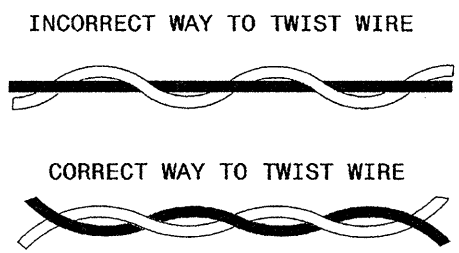
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11-08

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

LOOP WIRE TWISTING METHOD

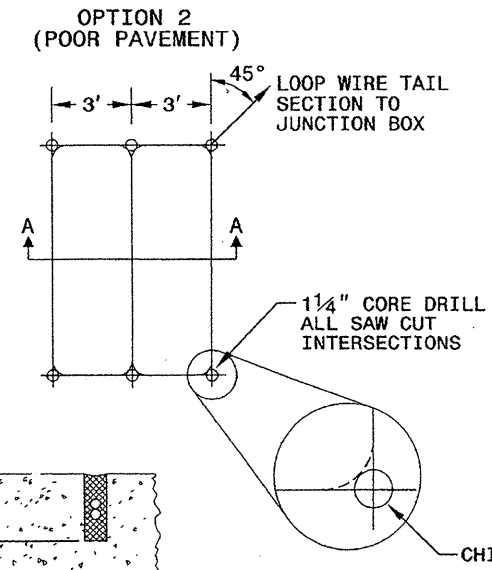
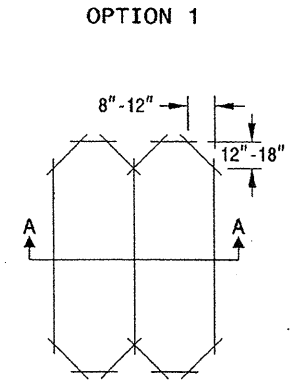


NOTES

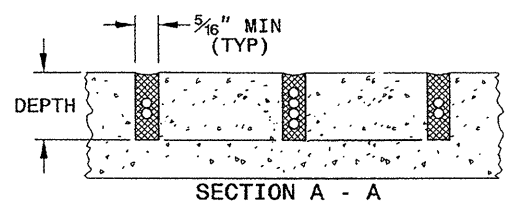
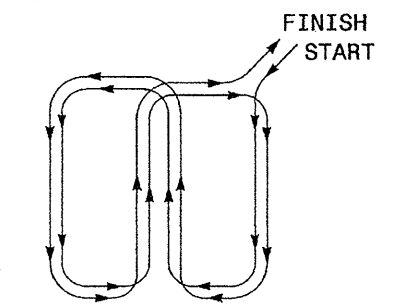
- OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
- MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
- WIRE LOOPS CONNECTED TO THE SAME DETECTOR CHANNEL IN SERIES.
- LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS OR APPROVED BY ENGINEER.

QUADRUPOLE LOOP

SAW CUT OPTIONS



LOOP WINDING METHOD



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

See Plate for Title

Prepared in the Offices of:

750 N. Greenfield Parkway
 Garner, NC 27529

SEAL

Wilton I. Dean 4/24/08
 SIGNATURE DATE

24-Nov-2008 09:28
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 24/11/10

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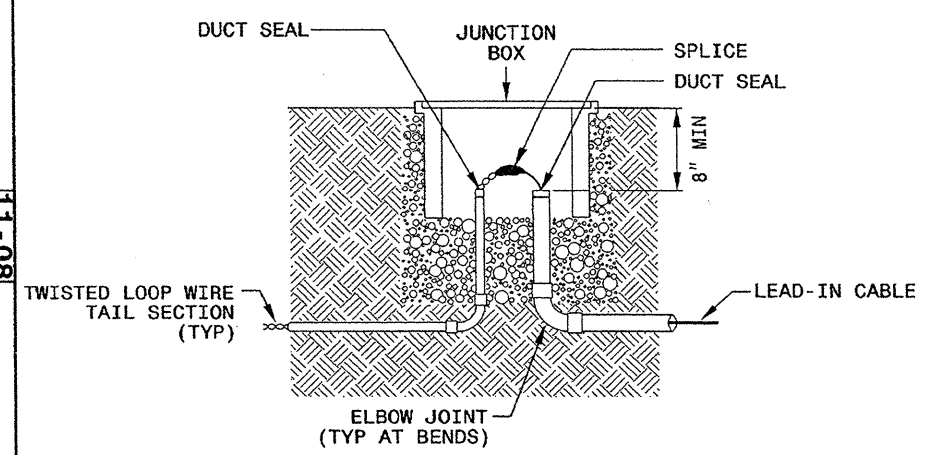
11-08

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

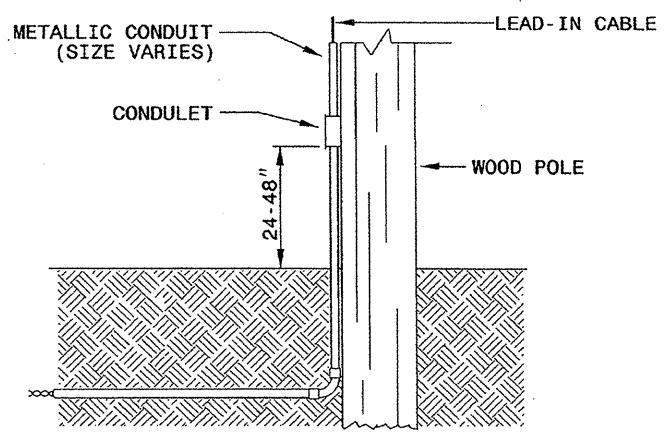
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

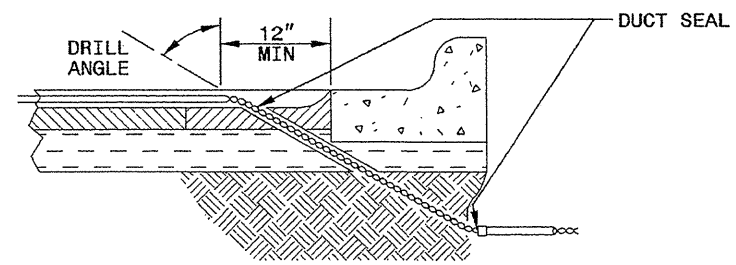


NOTE

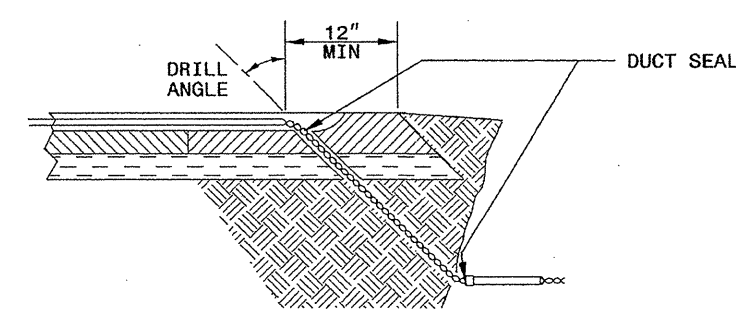
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

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.

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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 LOOP WIRE DETAILS

SHEET 2 OF 3
1725D01

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 Garner, NC 27529

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Milton J. Dean 11/24/08
 SIGNATURE DATE

24-nov-2008 09:29
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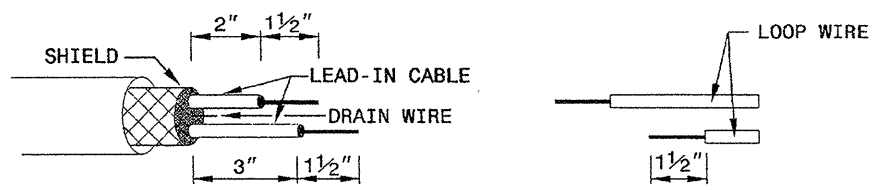
STATE OF NORTH CAROLINA
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11-08

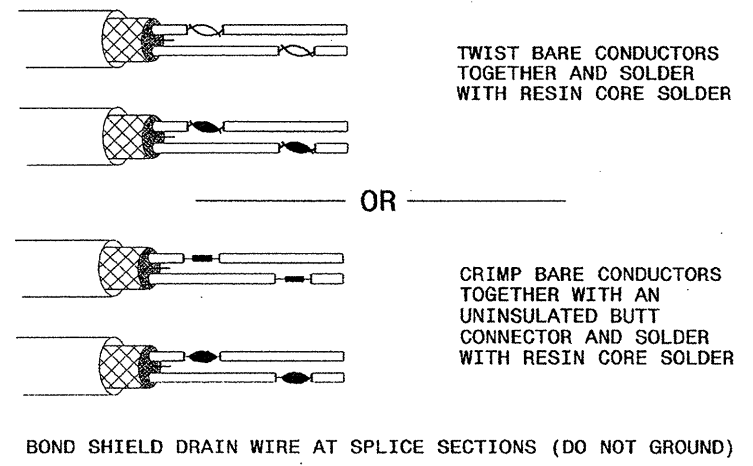
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
 SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

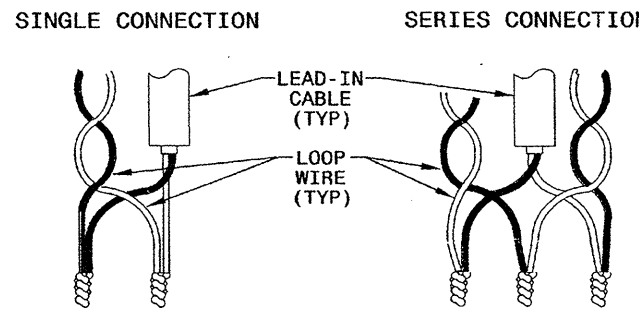
STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE



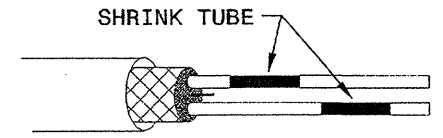
STEP 2. CONNECT AND SOLDER



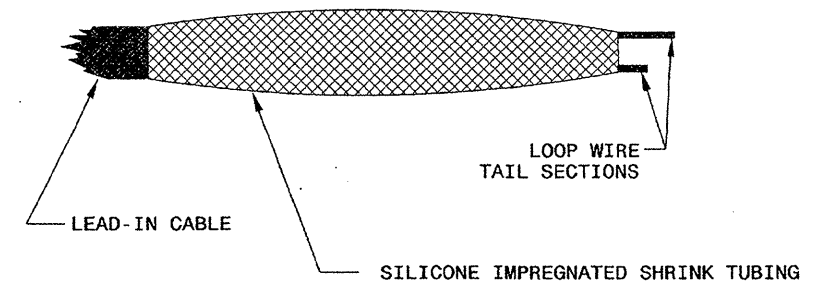
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



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

SHEET 3 OF 3
1725D01

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Milton J. Dean 11/24/08
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24-NOV-2008 09:36
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