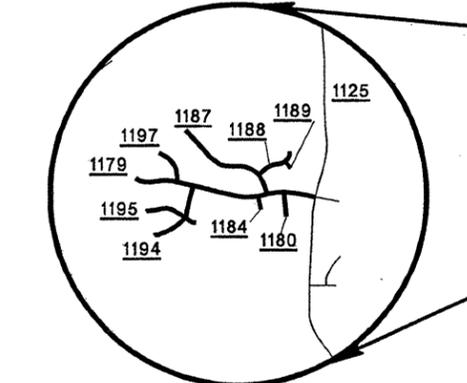
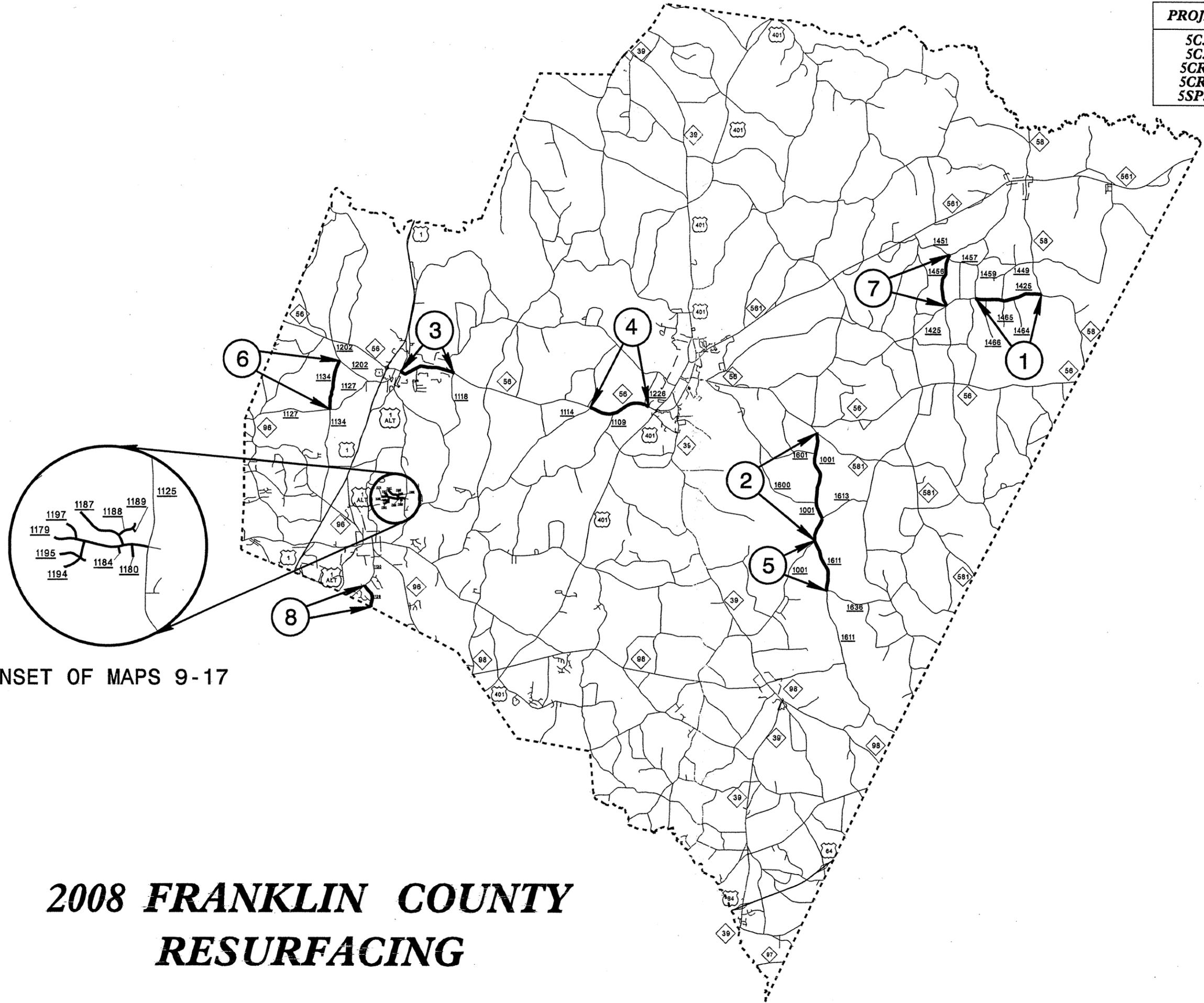


PROJECT NO.	SHEET NO.
SC.035030 SC.035032 SCR.10351.7 SCR.20351.7 SSP.20354.11	1

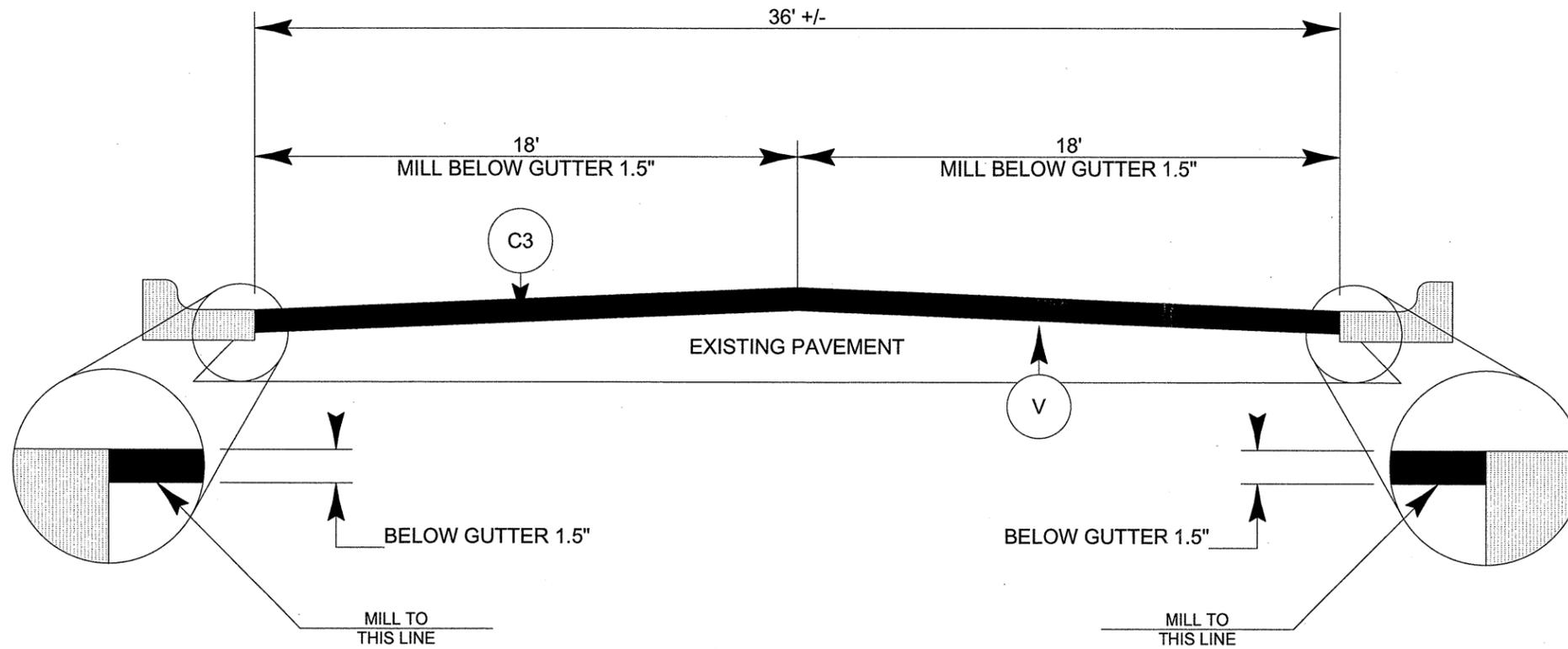
6201953



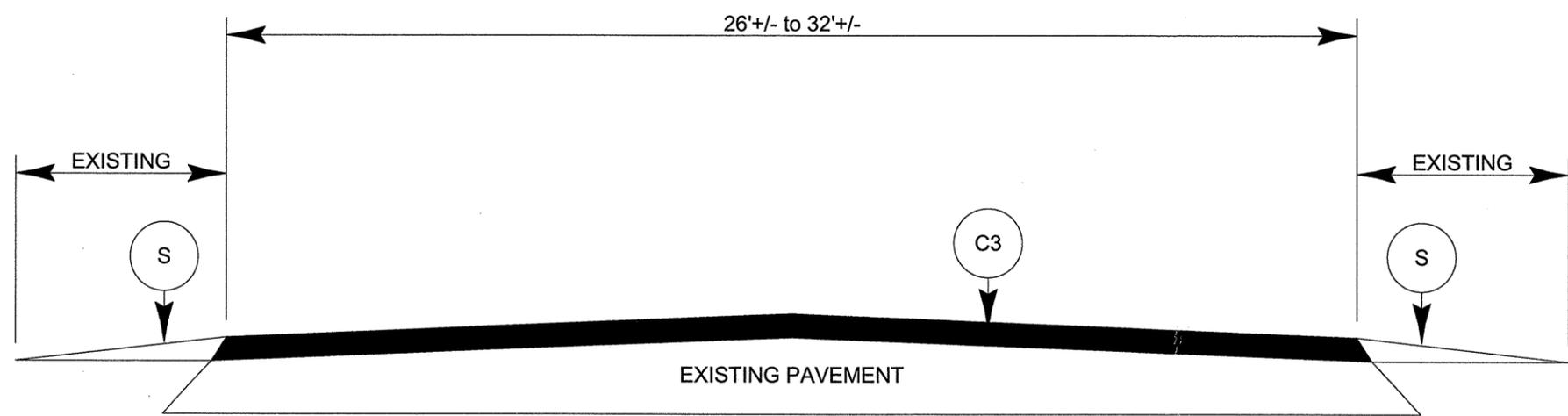
INSET OF MAPS 9-17

2008 FRANKLIN COUNTY RESURFACING

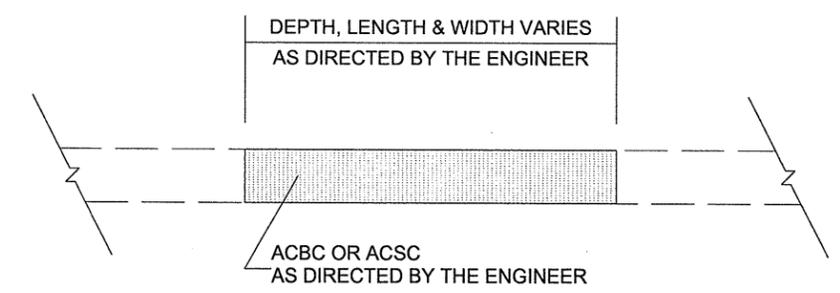
PROJECT NO. 5C.035030, 5C.035032, 5CR.10351.7, ETC.	SHEET NO. 2	TOTAL SHEETS
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TYPICAL SECTION NO. 1



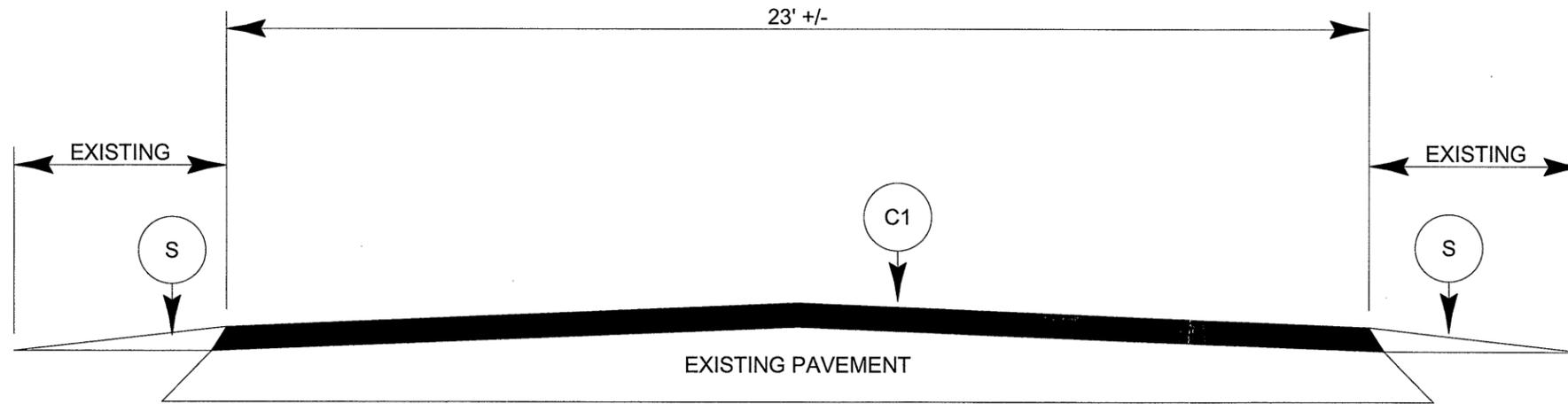
TYPICAL SECTION NO. 2



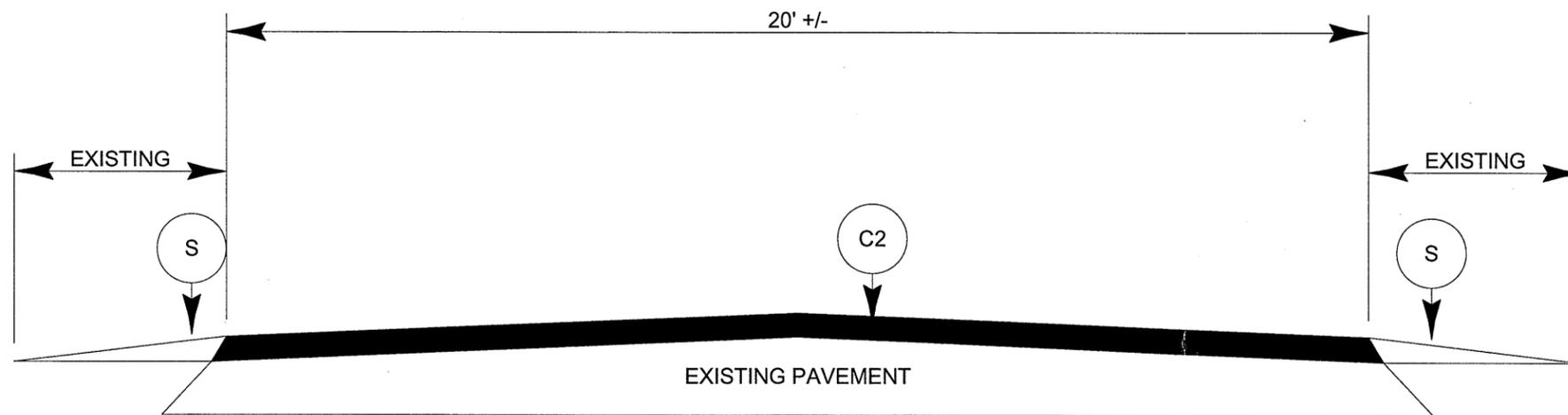
PATCHING EXISTING PAVEMENT

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.25" OF ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 140 LBS PER SQUARE YARD
C2	PROP. APPROX. 1.5" OF ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 165 LBS PER SQUARE YARD
C3	PROP. APPROX. 1.5" OF ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 168 LBS. PER SQUARE YARD
C4	PROP. APPROX. 0.75" OF ASPHALT CONCRETE SURFACE COURSE, TYPE S4.75A AT AN AVERAGE RATE OF 75 LBS. PER SQUARE YARD
D	PROP. APPROX. 2.5" OF ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B AT AN AVERAGE RATE OF 285 LBS PER SQUARE YARD
E1	PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 684 LBS. PER SQUARE YARD AS DIRECTED BY THE ENGINEER
E2	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 456 LBS. PER SQUARE YARD
S	SHOULDER RECONSTRUCTION/SEEDING AND MULCHING
V	VARIABLE DEPTH MILLING, 0-4.5" TO RE-ESTABLISH ROAD CROWN AND EXPOSE GUTTER.

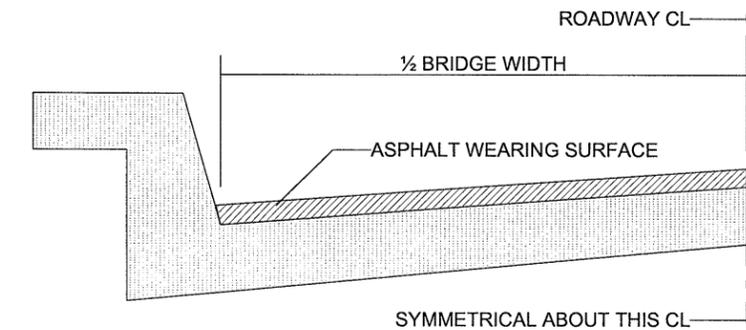
PROJECT NO.	SHEET NO.	TOTAL SHEETS
5C.035030, 5C.035032, 5CR.10351.7, ETC.	3	



TYPICAL SECTION NO. 3



TYPICAL SECTION NO. 4



BRIDGE HALF TYPICAL SECTION

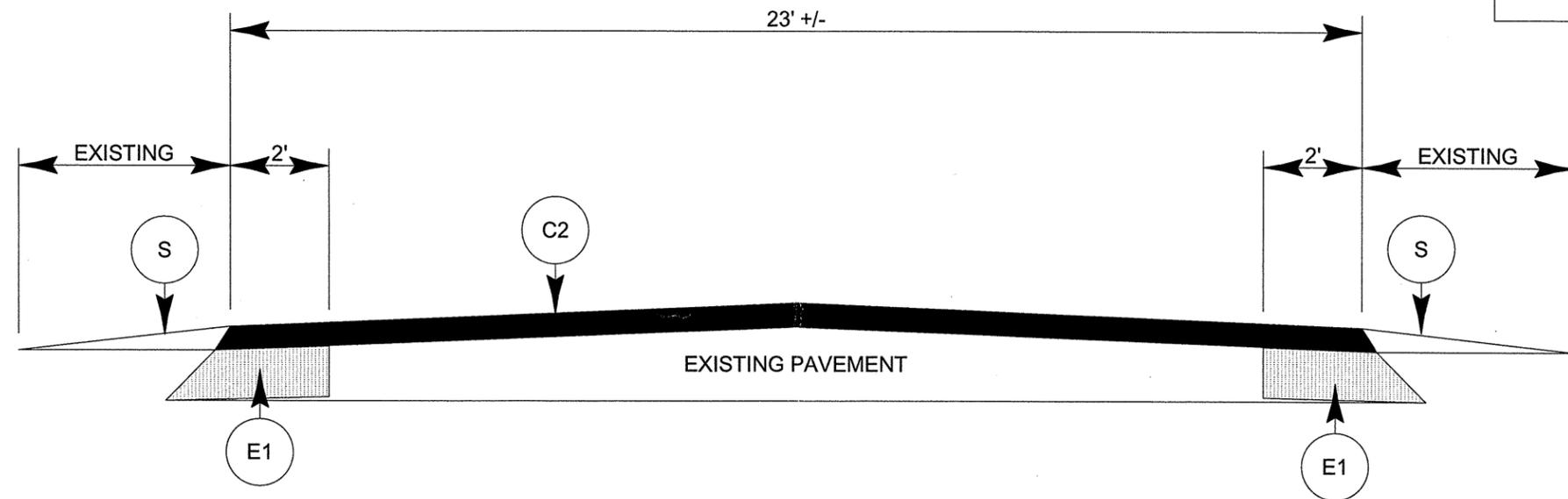
FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS THAN 5/8" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1 1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

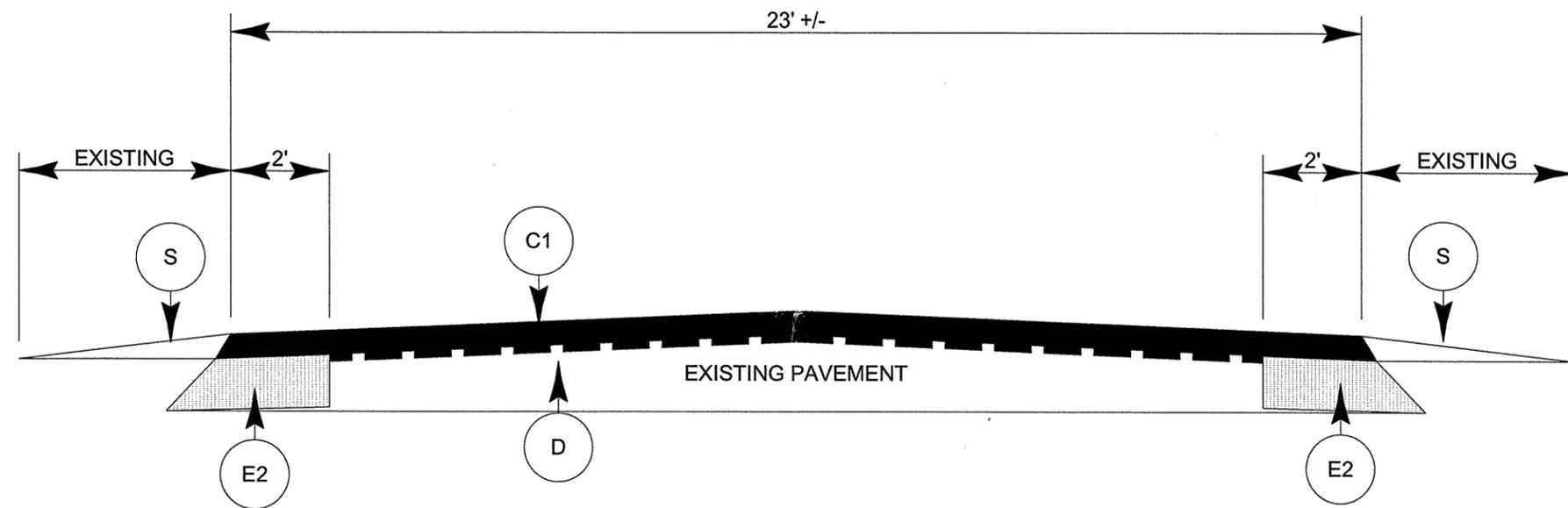
NOTES

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

PROJECT NO. 5C.035030, 5C.035032, 5CR.10351.7, ETC.	SHEET NO. 4	TOTAL SHEETS
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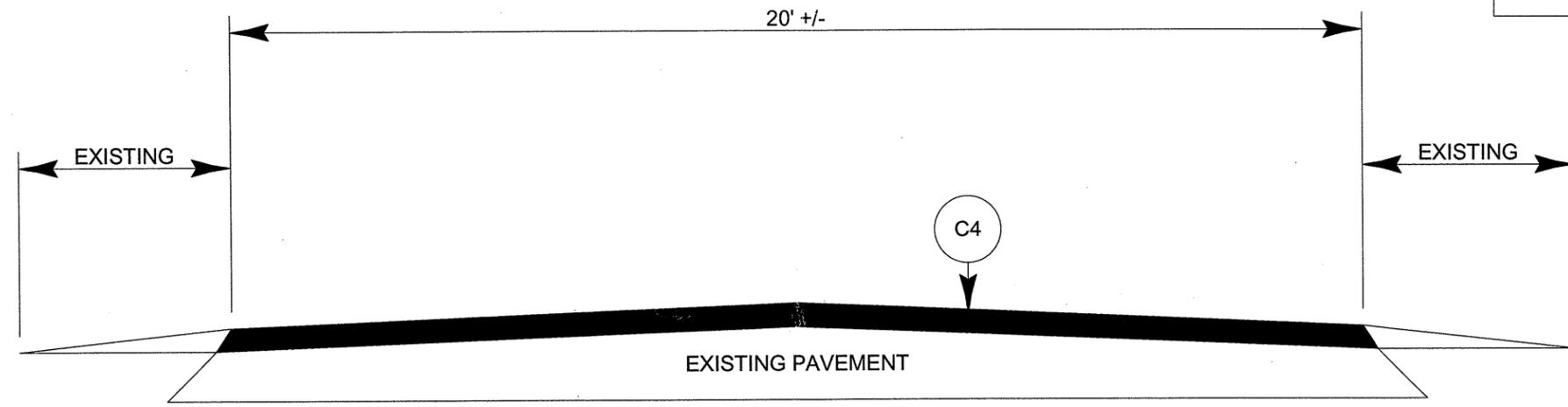


TYPICAL SECTION NO. 5



TYPICAL SECTION NO. 6

PROJECT NO.	SHEET NO.	TOTAL SHEETS
5C.035030, 5C.035032, 5CR.10351.7, ETC.	5	



TYPICAL SECTION NO. 7

PROJECT NO.	SHEET NO.	TOTAL NO.
5C.035030, 5C.035032 5CR.10351.7, ETC.	6	

SUMMARY OF QUANTITIES

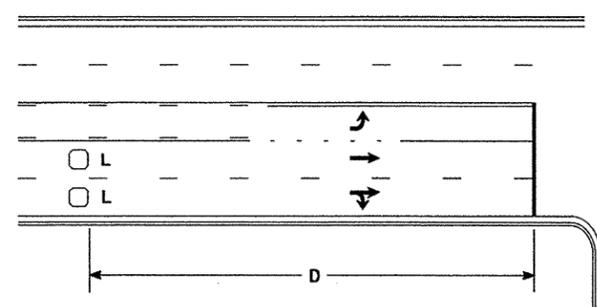
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	0" TO 4.5" MILLING SY	0" TO 1.5" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	INTERMEDIATE COURSE, I19.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TONS	SURFACE COURSE, S4.75A TONS	PG 64-22 PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	SEED & MULCHING AC	INDUCTIVE LOOP LF	LEAD-IN CABLE LF
5C.035030	Franklin	1	SR 1425 (WHITE LEVEL)	FROM SR 1459 (WOOD ROAD) TO NC 58	5	2.1	23						2,086					90						
TOTAL FOR PROJ NO. 5C.035030						2.1							2,086					90						
5C.035032	Franklin	2	SR 1001 (MORT HARRIS ROAD)	FROM NC 581 TO SR 1611 (SLEDGE ROAD)	6	3.6	23						2,295	7,334				443						
TOTAL FOR PROJ NO. 5C.035032						3.6							2,295	7,334				443						
5CR.10351.7	Franklin	3	NC 56	FROM US1A (MAIN STEET TO SR 1118 (LANE STORE ROAD)	1,2	1.8	31	80	2.2	10650		225			2,844			171	150	7	4	1.6	1,000	100
		4	NC 56	FROM SR 1114 (PEACH ORCHARD ROAD TO SR 1226 (GAYLINE DRIVE)	2	2	28	24	4		700				2,855			171	50		10	1.5		
TOTAL FOR PROJ NO. 5CR.10351.7						3.8		104	6.2	10650	700	225			5,699			342	200	7	14	3.1	1,000	100
5CR.20351.7	Franklin	1	SR 1425 (WHITE LEVEL)	FROM SR 1459 (WOOD ROAD) TO NC 58	5	2.1	23	50	4.2							2,421		157	50			3.1		
		2	SR 1001 (MORT HARRIS ROAD)	FROM NC 581 TO SR 1611(SLEDGE ROAD)	6	3.6	23	86	7.2								3,455		225	100			3.5	
		5	SR 1611 (SLEDGE ROAD)	FROM SR 1001 (PEARCE ROAD) TO SR 1636 (SYKES ROAD)	3	1.7	23	41	3.4							1,632		106	100			1.7		
		6	1134 (LONG MILL ROAD)	FROM SR 1127 (POCOMOKE ROAD TO SR 1202 FRED WILDER)	4	1.6	20	38	3.2							1,605		104	20			2.4		
		7	SR 1456 (BALDY MURPHY ROAD)	FROM SR 1425 (WHITE LEVEL) TO SR 1451 (LEONARD ROAD)	4	1.6	20	38	3.2				60			1,605		107	50			2.4		
		8	SR 1129 (GILCREST FARM)	FROM SR 1130 (NORTH WHITE) TO WAKE CO. LINE	4	0.8	20	19	1.6							803		51	20			1.2		
TOTAL FOR PROJ NO. 5CR.20351.7						11.4		272	22.8	0	0	0	60			11,521		750	340			14.2		
5SP.20354.11	Franklin	9	SR 1179 (MILL CREEK DRIVE)	FROM SR 1125 (HICKS ROAD) TO CUL-DE-SAC	7	0.75	20										348	24						
		10	SR 1187 (BRIDGES LANE)	FROM SR 1179 (MILL CREEK) TO CUL-DE-SAC	7	0.45	20										209	15						
		11	SR 1188 (EASON CT.)	FROM SR 1187 (BRIDGES LANE TO END STATE MAINT.)	7	0.18	20										83	6						
		12	SR 1189 (NEWTON CT.)	FROM SR 1188 (EASON CT) TO CUL-DE-SAC	7	0.03	20										14	1						
		13	SR 1197 (WAITERS WAY)	FROM SR 1179 (MILL CREEK DR.) TO CUL-DE-SAC	7	0.15	20										70	5						
		14	SR 1195 (MADELINE CT.)	FROM SR 1179 (MILL CREEK DR.) TO CUL-DE-SAC	7	0.22	20										102	7						
		15	SR 1194 (CLARK CT.)	FROM CUL-DE-SAC TO CUL-DE-SAC	7	0.28	20										130	9						
		16	SR 1184 (HINES CT.)	FROM SR 1179 (MILL CREEK DR.) TO CUL-DE-SAC	7	0.05	20										23	2						
		17	SR 1180 (SHEARON CT)	FROM SR 1179 (MILL CREEK DRIVE) TO CUL-DE-SAC	7	0.1	20										46	3						
TOTAL FOR PROJ NO. 5SP.20354.11						2.21		0	0	0	0	0					1,025	72						
GRAND TOTAL						23.11		376	29	10650	700	225	4,441	7,334	5,699	11,521	1,025	1,697	540	7	14	17.3	1,000	100

PROJECT NO.	SHEET NO.	TOTAL NO.
5C.035030, 5C.035032 5CR.10351.7, ETC.	7	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4685000000-E	4686000000-E	4710000000-E	4810000000-E	4725000000-E	4900000000-N	4900000000-N		
					4" X 90 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	4" X 120 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	4" PAINT YELLOW LF	THERMO STR & RT ARROW 90 M EA	THERMO LT ARROW 90 M EA	YELLOW & YELLOW MARKERS EA	CRYSTAL & RED MARKERS EA
5C.035030	Franklin	1	SR 1425 (WHITE LEVEL)	FROM SR 1459 (WOOD ROAD) TO NC 58									
TOTAL FOR PROJ NO. 5C.035030													
5C.035032	Franklin	2	SR 1001 (MORT HARRIS ROAD)	FROM NC 581 TO SR 1611 (SLEDGE ROAD)									
TOTAL FOR PROJ NO. 5C.035032													
5CR.10351.7	Franklin	3	NC 56	FROM US1A (MAIN STEET TO SR 1118 (LANE STORE ROAD)	13,000	20,200	250	40	8,000	2	5	119	20
		4	NC 56	FROM SR 1114 (PEACH ORCHARD ROAD TO SR 1226 (GAYLINE DRIVE)	21,520	15,300		90			8	140	
TOTAL FOR PROJ NO. 5CR.10351.7					34,520	35,500	250	130	8,000	2	13	259	20
					35,750				15				
5CR.20351.7	Franklin	1	SR 1425 (WHITE LEVEL)	FROM SR 1459 (WOOD ROAD) TO NC 58	22,596	19,425							
		2	SR 1001 (MORT HARRIS ROAD)	FROM NC 581 TO SR 1611(SLEDGE ROAD)	38,736	33,300			38500				
		5	SR 1611 (SLEDGE ROAD)	FROM SR 1001 (PEARCE ROAD) TO SR 1636 (SYKES ROAD)	18,292	15,725							
		6	1134 (LONG MILL ROAD)	FROM SR 1127 (POCOMOKE ROAD TO SR 1202 FRED WILDER)	17,216	14,800							
		7	SR 1456 (BALDY MURPHY ROAD)	FROM SR 1425 (WHITE LEVEL) TO SR 1451 (LEONARD ROAD)	17,216	10,560							
		8	SR 1129 (GILCREST FARM)	FROM SR 1130 (NORTH WHITE) TO WAKE CO. LINE	8,608	7,400							
TOTAL FOR PROJ NO. 5CR.20351.7					122,664	101,210			38,500				
					101,210								
5SP.20354.11	Franklin	9	SR 1179 (MILL CREEK DRIVE)	FROM SR 1125 (HICKS ROAD) TO CUL-DE-SAC									
		10	SR 1187 (BRIDGES LANE)	FROM SR 1179 (MILL CREEK) TO CUL-DE-SAC									
		11	SR 1188 (EASON CT.)	FROM SR 1187 (BRIDGES LANE TO END STATE MAINT.)									
		12	SR 1189 (NEWTON CT.)	FROM SR 1188 (EASON CT) TO CUL-DE-SAC									
		13	SR 1197 (WAITERS WAY)	FROM SR 1179 (MILL CREEK DR.) TO CUL-DE-SAC									
		14	SR 1195 (MADELINE CT.)	FROM SR 1179 (MILL CREEK DR.) TO CUL-DE-SAC									
		15	SR 1194 (CLARK CT.)	FROM CUL-DE-SAC TO CUL-DE- SAC									
		16	SR 1184 (HINES CT.)	FROM SR 1179 (MILL CREEK DR.) TO CUL-DE-SAC									
		17	SR 1180 (SHEARON CT)	FROM SR 1179 (MILL CREEK DRIVE) TO CUL-DE-SAC									
TOTAL FOR PROJ NO. 5SP.20354.11													
GRAND TOTAL					157,184	136,710	250	130	46,500	2	13	259	20
					136,960				15		279		

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

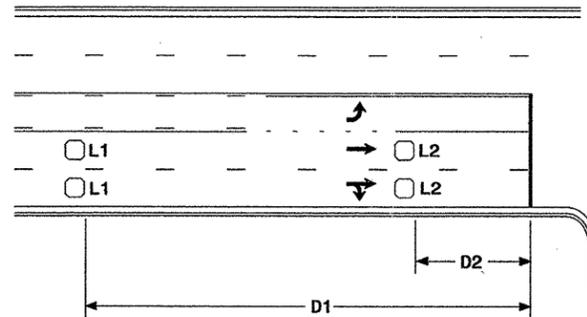


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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



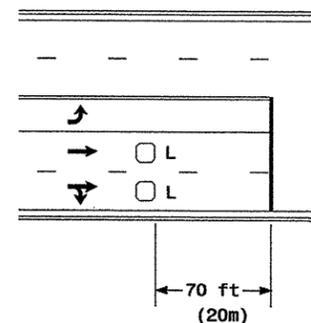
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

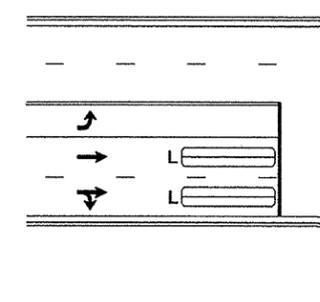
Low Speed Detection [≤35 mph (56 km/hr)]

5C.035030, 5C.035032, 5CR.10351.7, 5CR.20351.7
& 5SP.20354.11



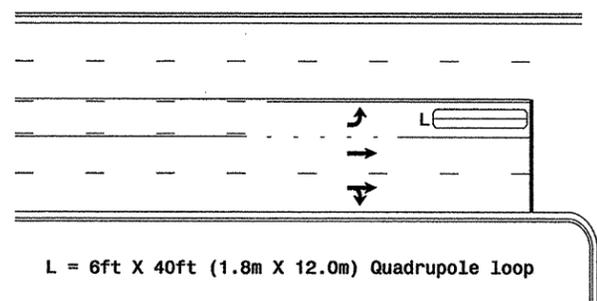
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

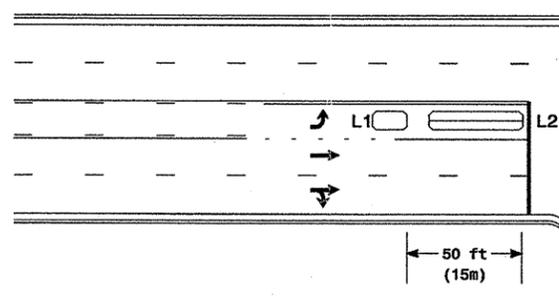
Left Turn Lane Detection



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

Presence Loop Detection

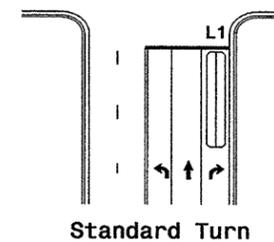
OR



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

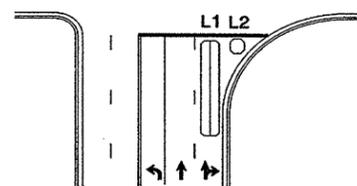
Queue Loop Detection

Right Turn Lane Detection

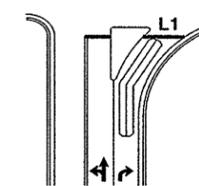


Standard Turn

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

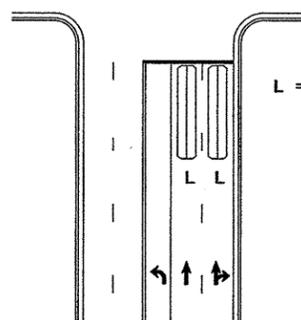


Wide Radius Turn



Channelized Turn

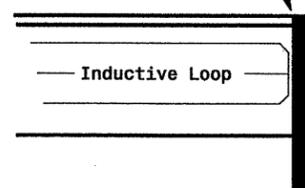
Side Street Detection



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

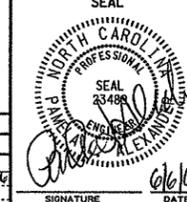
Quadrupole loops: Use 2-4-2 turns

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 Office of:

Typical Loop Locations
 PLAN DATE: June 2006 REVIEWED BY:
 PREPARED BY: P. L. Alexander REVIEWED BY:
 SCALE: N/A
 REVISIONS:

1	Revise pavement markings	INIT.	DATE

 SIGNATURE:  DATE: 12/1/06
 SIG. INVENTORY NO.

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

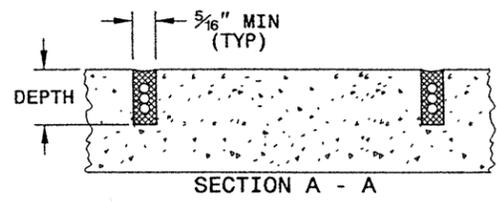
5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

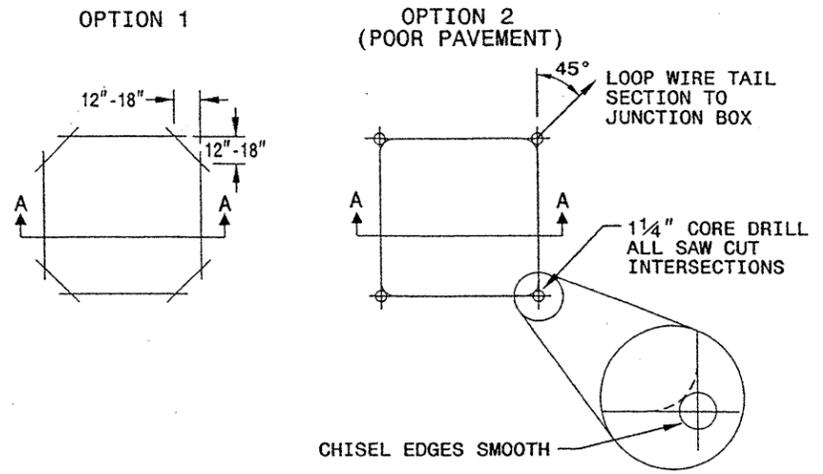
SAW SLOT DEPTH CHART

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

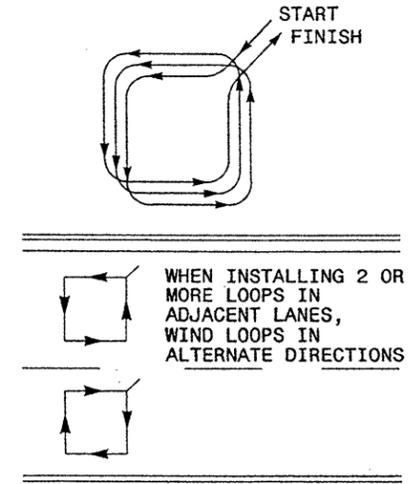


CONVENTIONAL 4-SIDED LOOP

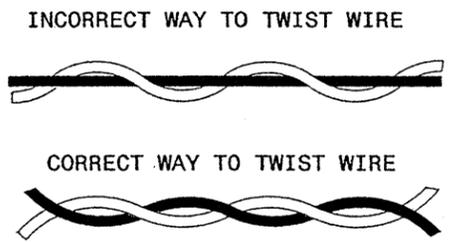
SAW CUT OPTIONS



LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

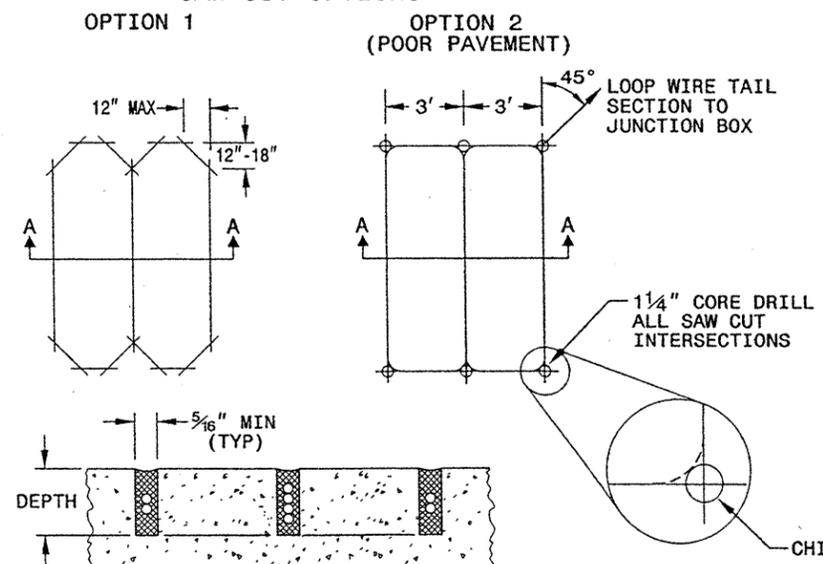


NOTES

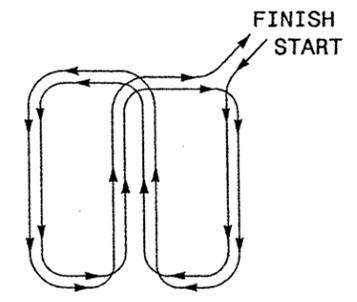
1. OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
2. MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
3. WIRE LOOPS CONNECTED TO THE SAME DETECTOR CHANNEL IN SERIES.
4. LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS OR APPROVED BY ENGINEER.

QUADRUPOLE LOOP

SAW CUT OPTIONS



LOOP WINDING METHOD



SECTION A - A
DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

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
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Parkway
Garner, NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 016286
MILTON L. DEAN
Signature: Milton L. Dean
Date: 9/5/07

05-Sep-2007 14:00 c:\documents and settings\zmlittle\dwt\asktop\standard metal pole sheets\1725D01.mxd zmlittle

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

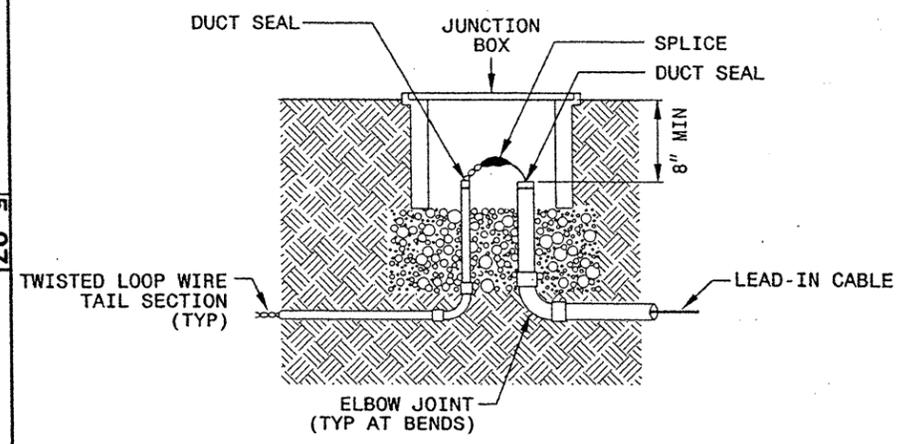
5-07

ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

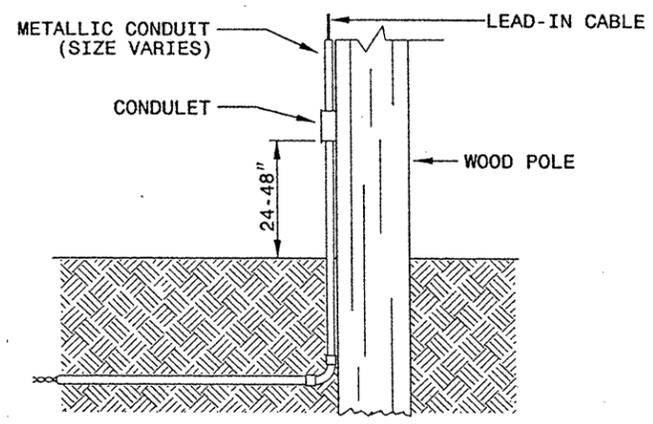
SHEET 2 OF 3
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LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

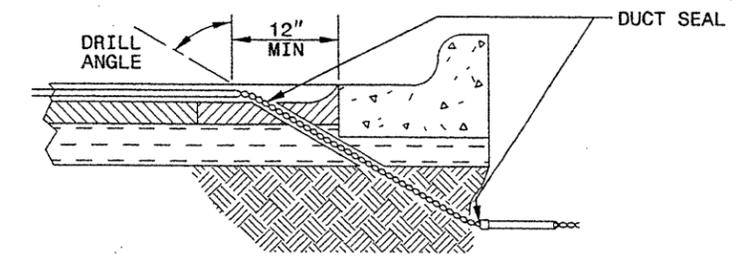


NOTE

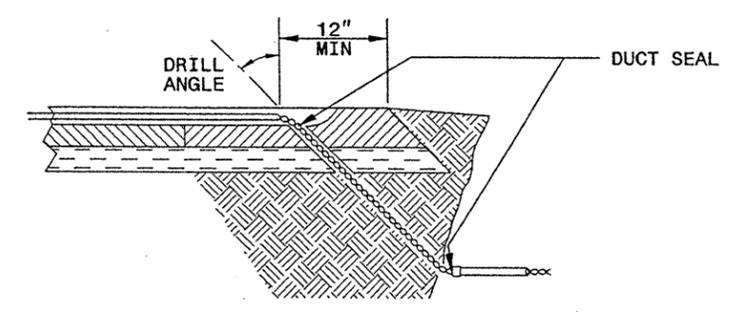
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

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:

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

Milton I. Dean 9/5/07
SIGNATURE DATE

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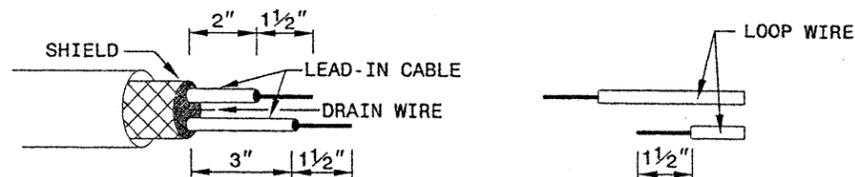
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5-07

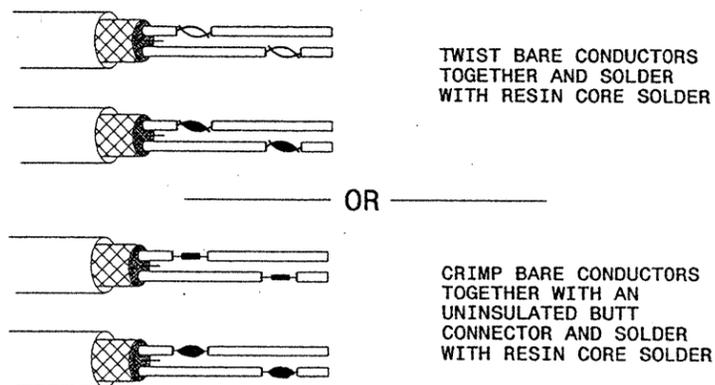
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
SPlicing FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

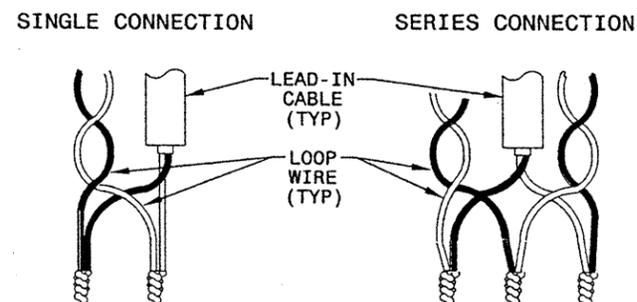


STEP 2. CONNECT AND SOLDER

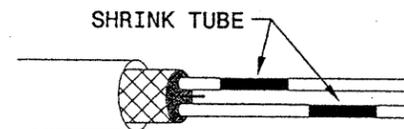


BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

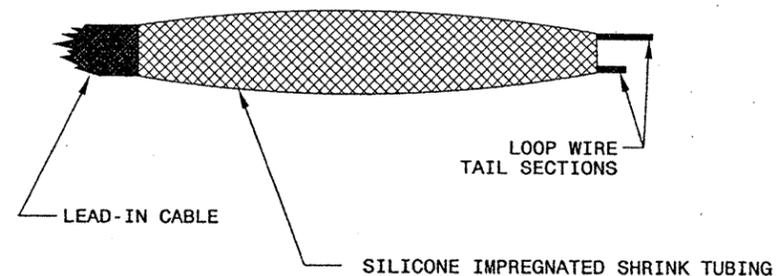
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



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

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