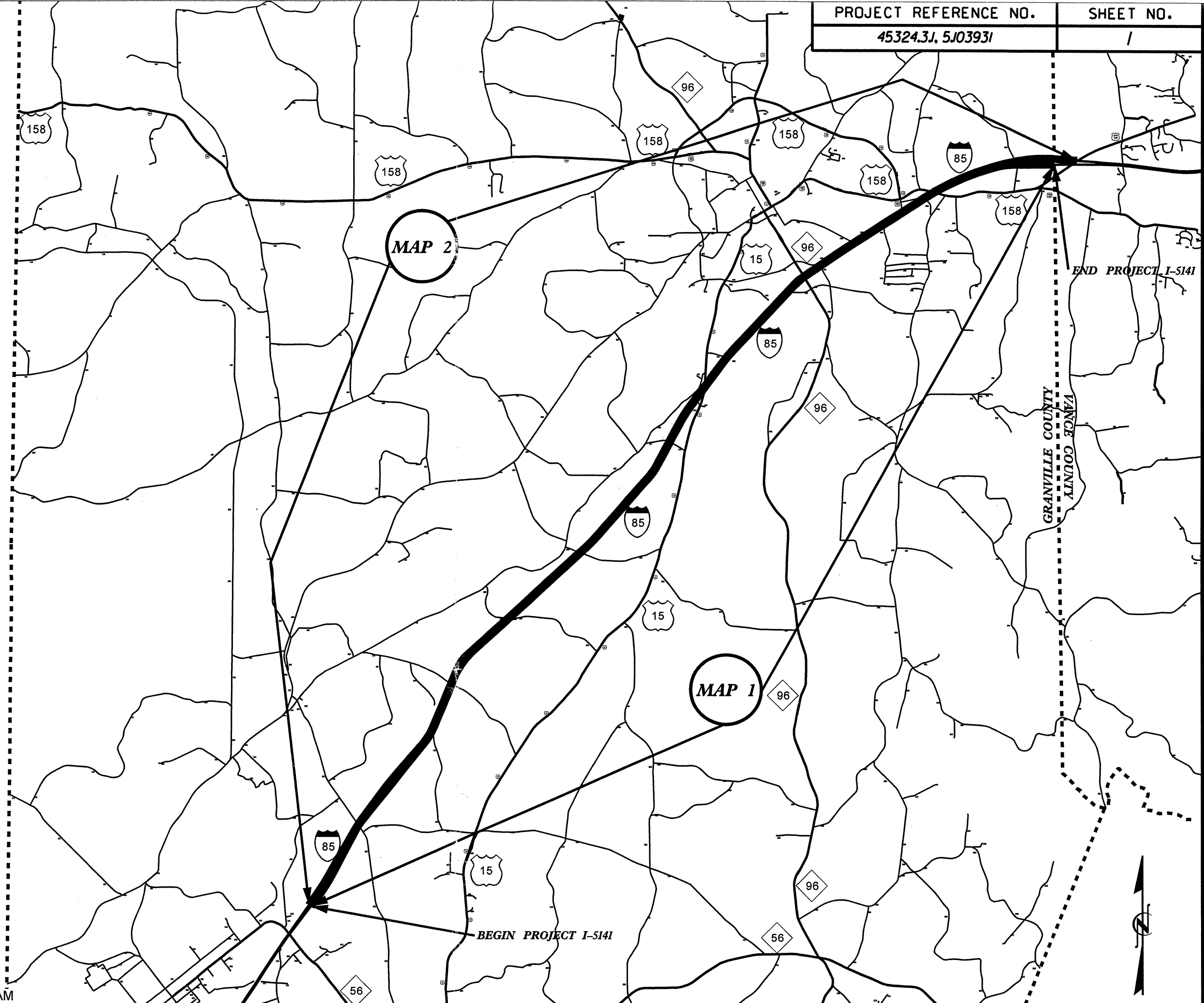


**I-514I,
I-85 NB GRANVILLE
COUNTY DIAMOND
GRINDING AND
JOINT SEALING
AND
5.10393I,
I-85 SB JOINT
SEALING**



GRANVILLE COUNTY

GRANVILLE COUNTY
VANCE COUNTY

MAP 2

MAP 1

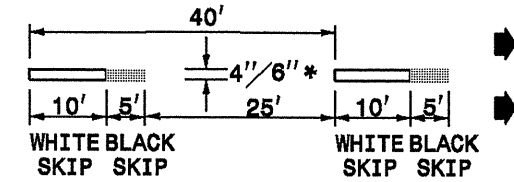
PAVEMENT SCHEDULE

PROJECT REFERENCE NO. 45324.3J, 5, 03931 SHEET NO. 2

Y	PROPOSED DIAMOND GRINDING
U	EXISTING PAVEMENT

BLACK - WHITE COMBINATION
10' WHITE SKIP LINES
5' BLACK SKIP LINES

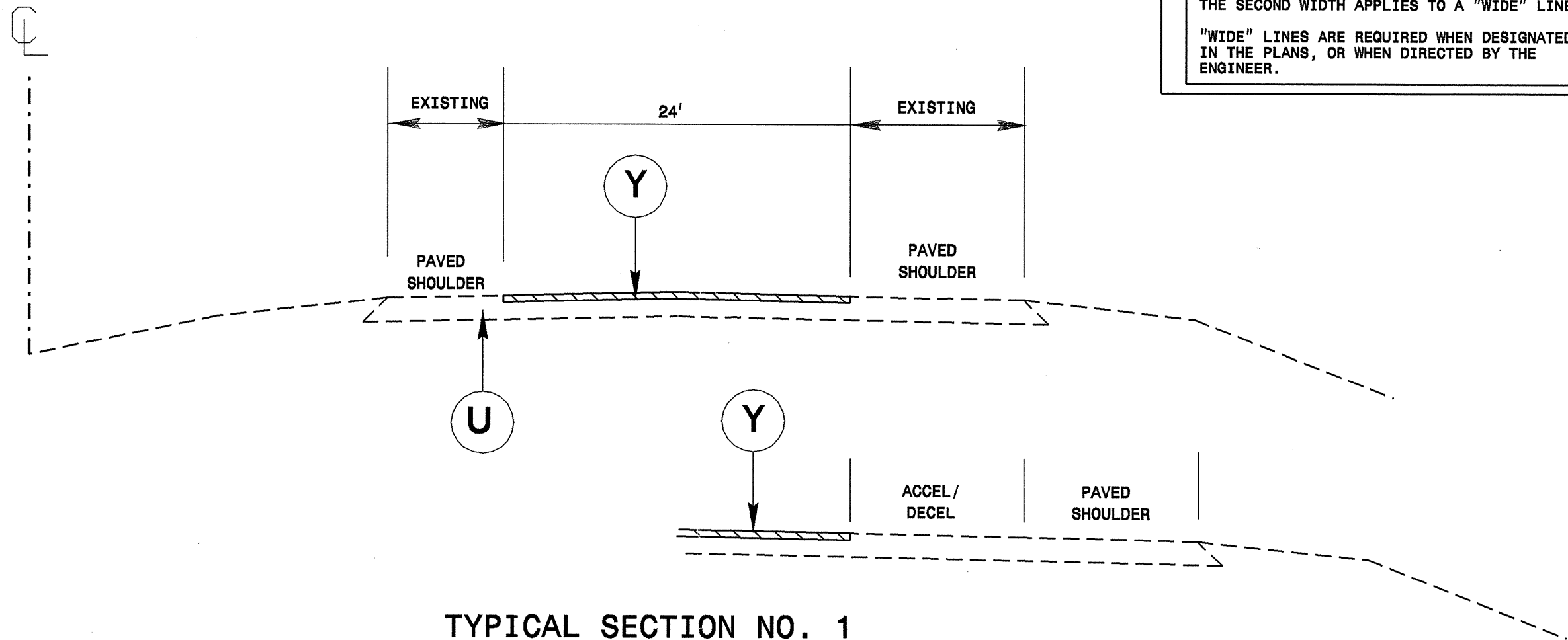
FOR USE ON CONCRETE PAVEMENTS TO PROVIDE CONTRAST FOR THE WHITE LANE LINE, ALONG THRU LANES AND RAMP LANES.



* NOTE:

WHERE TWO WIDTHS ARE INDICATED, THE FIRST WIDTH APPLIES TO A "NORMAL" WIDTH LINE, THE SECOND WIDTH APPLIES TO A "WIDE" LINE.

"WIDE" LINES ARE REQUIRED WHEN DESIGNATED IN THE PLANS, OR WHEN DIRECTED BY THE ENGINEER.



TYPICAL SECTION NO. 1

DIAMOND GRIND EXISTING 24' TRAVEL LANES ONLY
 DIAMOND GRINDING OPERATION SHALL BE PERFORMED PRIOR TO JOINT SEALING OPERATION

PROJECT NO.	SHEET NO.	TOTAL NO.
45324.3.1, 5.103931	3	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	GENERIC MISCELLANEOUS ITEM - DIAMOND GRIND SY	GENERIC PAVING ITEM SEALING EXISTING CONCRETE PAVEMENT JOINT LF	GENERIC PAVING ITEM - SEALING EXISTING PAVEMENT CRACKS LF	INDUCTIVE LOOP LF
45324.3.1	Granville	1	I-85 NORTHBOUND	MAINLINE FROM THE BEGINNING OF CONCRETE PAVEMENT NORTH OF NC 56 TO THE VANCE COUNTY LINE	1	NO	17	24	239,360	219,912	87,423	65
TOTAL FOR MAP NO. 1							17		239,360	219,912	87,423	65
		2	I-85 NORTHBOUND	ACCEL/DECEL AND RAMP FROM BEGINNING OF CONCRETE PAVEMENT NORTH OF NC 56 TO THE VANCE COUNTY LINE	-	NO	17	24		4,550	6,825	
TOTAL FOR MAP NO. 2							17			4,550	6,825	
TOTAL FOR PROJ NO. 45324.3.1							34		239,360	224,462	94,248	65
5.103931	Granville/Vance	3	I-85 SOUTHBOUND	JOINT SEALING FROM THE US 158 BYP OVERPASS TO THE END OF CONCRETE PAVEMENT NORTH OF NC 56	-	NO	17.4	24		225,086	96,466	
TOTAL FOR MAP NO. 3							17.4			225,086	96,466	
TOTAL FOR PROJ NO. 5.103931							17.4			225,086	96,466	
GRAND TOTAL							51.4		239,360	449,548	190,714	65

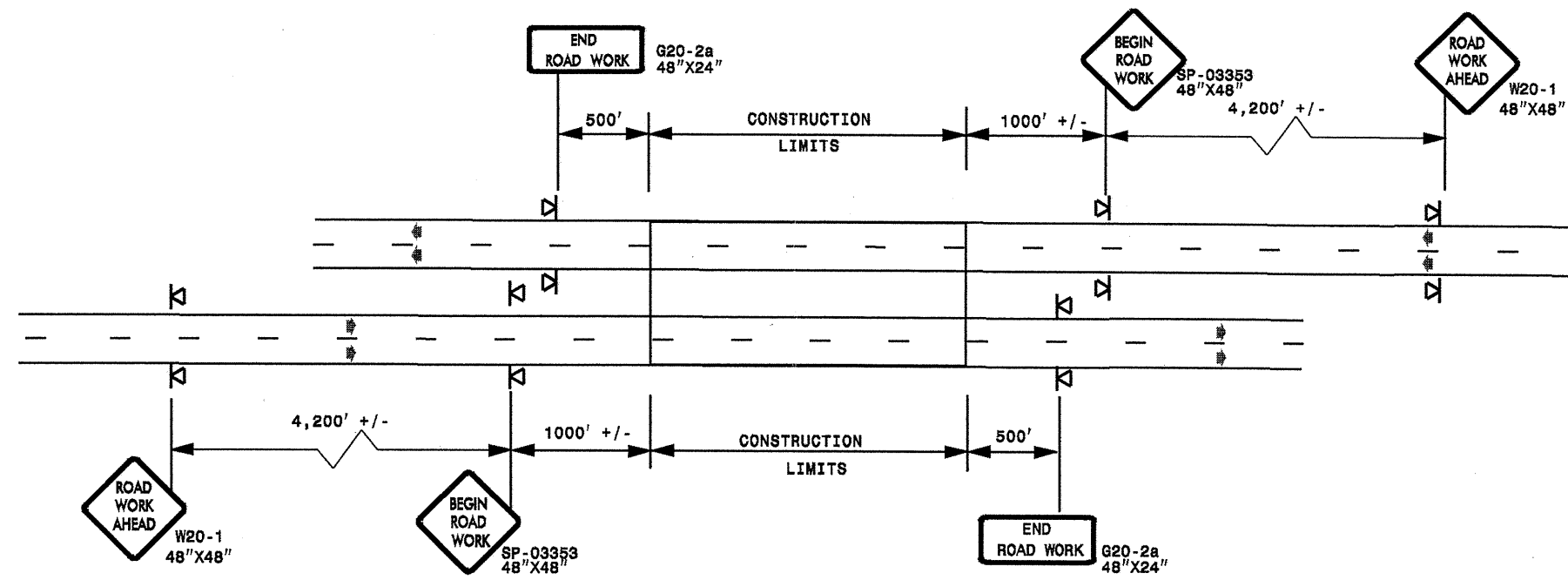
THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4589000000-N	4688000000-E		4702000000-E	4710000000-E	4725000000-E		4847100000-E			4847120000-E	4850000000-E	4860000000-E	4870000000-E	4875000000-N	4892000000-N	4900000000-N	4905000000-N		
					TRAFFIC CONTROL	6" X 90 M WHITE THERMO	6" X 90 M YELLOW THERMO	12" X 120 M WHITE THERMO	24" X 120 M WHITE THERMO	THERMO RAMP ARROW 90 M	THERMO STR ARROW	6" BLACK POLYUREA HRE	6" YELLOW POLYUREA HRE	6" WHITE POLYUREA HRE	12" WHITE POLYUREA HRE	* 4" LINE REMOVAL	* 8" LINE REMOVAL	* 24" LINE REMOVAL	REML OF PVMT MRKG SYMBOLS & CHARACTERS	REPLACE SNOWPLOWABLE PAVEMENT MARKER REFLECTOR EA	CRYSTAL & RED MARKERS EA	SNOW FLOWABLE MARKERS EA		
45324.3.1	Granville	1	I-85 NORTHBOUND	MAINLINE FROM THE BEGINNING OF CONCRETE PAVEMENT NORTH OF NC 56 TO THE VANCE COUNTY LINE	0.71																		1,350	
TOTAL FOR MAP NO. 1					0.71																			1,350
		2	I-85 NORTHBOUND	ACCEL/DECEL AND RAMP FROM BEGINNING OF CONCRETE PAVEMENT NORTH OF NC 56 TO THE VANCE COUNTY LINE		8,350	7,350	1,500	200	3	12				5,650	3,000	21,350	4,500	200	15	222	45		
TOTAL FOR MAP NO. 2						8,350	7,350	1,500	200	3	12				5,650	3,000	21,350	4,500	200	15	222	45		
TOTAL FOR PROJ NO. 45324.3.1					0.71	8,350	7,350	1,500	200	3	12	11,220	89,760	116,650	7,500	222,110	9,000	200	15	222	45		1,350	
						15,700				15		217,630												
5.103931	Granville/Vance	3	I-85 SOUTHBOUND	JOINT SEALING FROM THE US 158 BYP OVERPASS TO THE END OF CONCRETE PAVEMENT NORTH OF NC 56	0.29																			
TOTAL FOR MAP NO. 3					0.29																			
TOTAL FOR PROJ NO. 5.103931					0.29																			
GRAND TOTAL					1	8,350	7,350	1,500	200	3	12	11,220	89,760	116,650	7,500	222,110	9,000	200	15	222	45		1,350	
						15,700				15		217,630												

* Remove 100% of the temporary paint on the concrete surface by grinding method only.

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

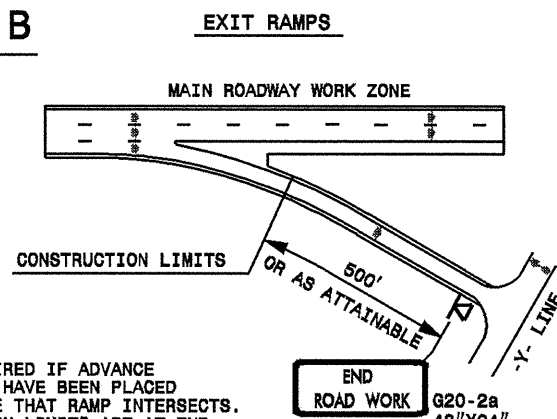
DETAIL A



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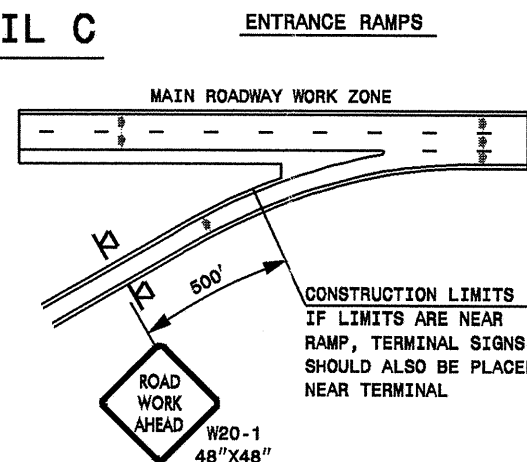
ROADWAYS INTERSECTING ALONG FREEWAY WORK ZONE (Y-LINES)

DETAIL B



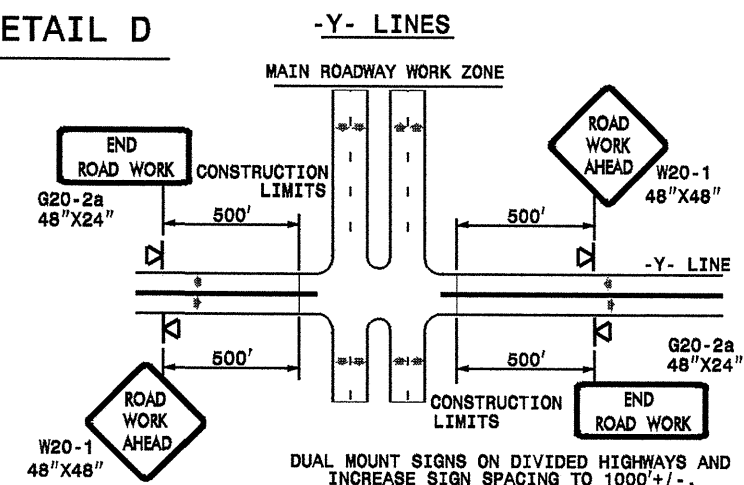
NOTE:
SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

DETAIL C



CONSTRUCTION LIMITS IF LIMITS ARE NEAR RAMP, TERMINAL SIGNS SHOULD ALSO BE PLACED NEAR TERMINAL

DETAIL D



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

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

GENERAL NOTES

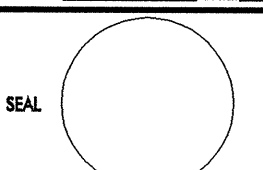
- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCE WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH 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

SHEET 1 OF 1

04-JAN-2010 15:30 S:\Signing\resurfacing\030509\Resurfacing2010_Div05\C202533A-B_453243x2.1-5141_Granville_I-85-diamond grade\C202533A-B_453243x2.1-5141_freewaylanesgreatJuly2006-porttable.dgn pseymore AT #ZTC237502

APPROVED: _____	DATE: _____
SEAL 	
DETAIL DRAWING FOR FREEWAYS 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: _____	

STATE OF NORTH CAROLINA
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11-08

INDUCTIVE DETECTION LOOPS
 ENGLISH DETAIL DRAWING FOR

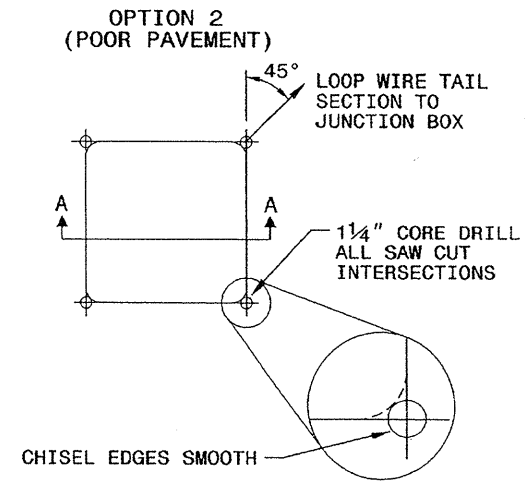
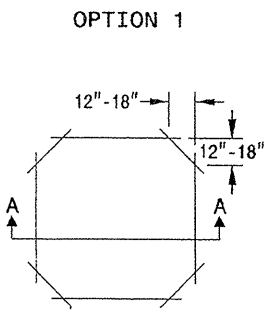
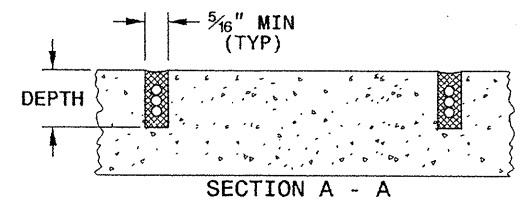
SHEET 1 OF 3
1725D01

CONVENTIONAL 4-SIDED LOOP

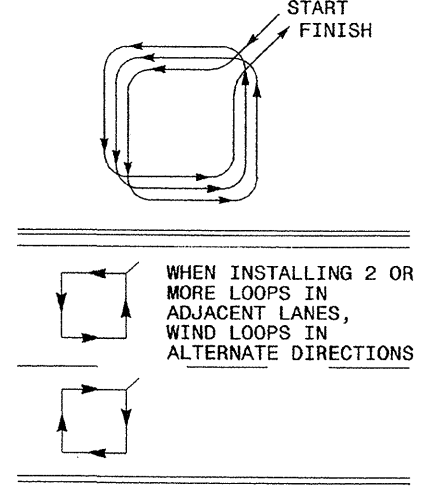
SAW CUT OPTIONS

SAW SLOT DEPTH CHART

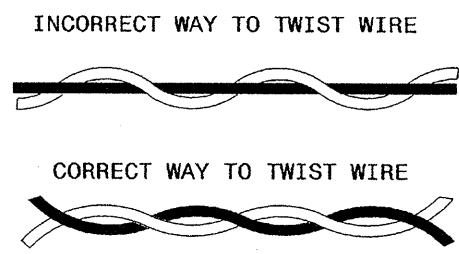
DEPTH (IN)	NO. OF WIRE TURNS					
	2	3	4	5	6	
CONCRETE	2.0	2.0	2.5	2.5	3.0	
ASPHALT	2.0	2.5	3.0	3.0	3.0	



LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

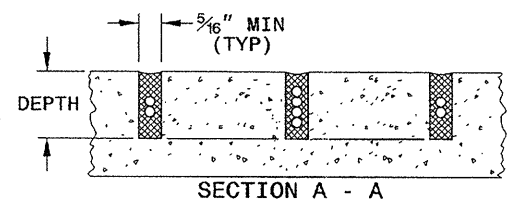
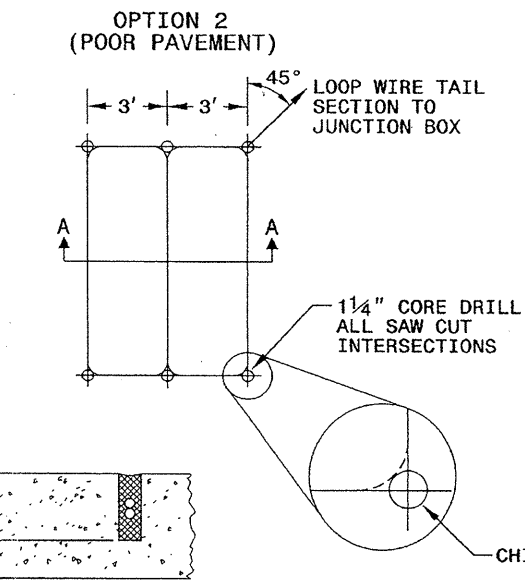
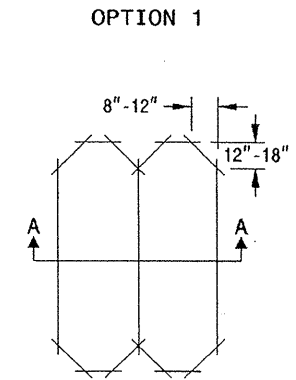


NOTES

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.

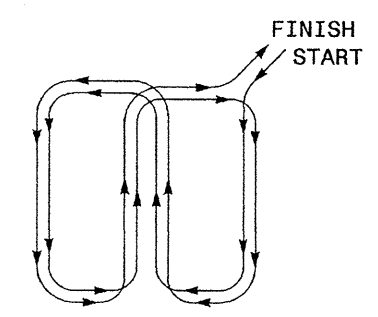
QUADRUPOLE LOOP

SAW CUT OPTIONS



DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

LOOP WINDING METHOD



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INDUCTIVE DETECTION LOOPS
 ENGLISH DETAIL DRAWING FOR

SHEET 1 OF 3
1725D01

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

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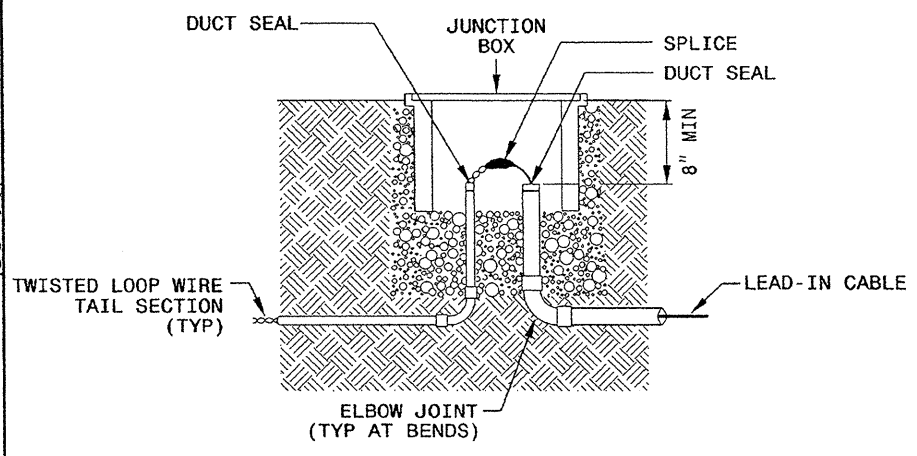
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

11-08
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

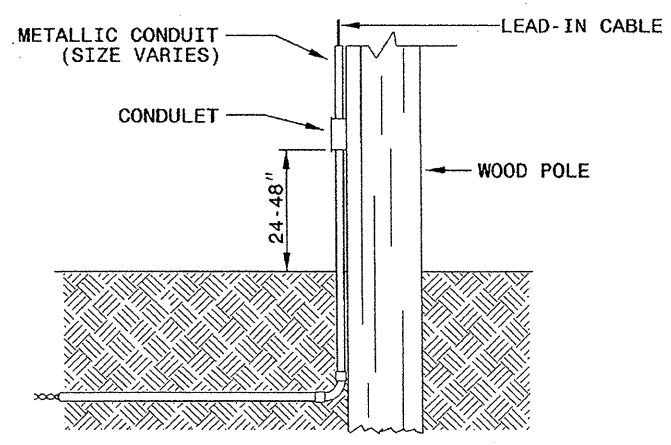
SHEET 2 OF 3
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

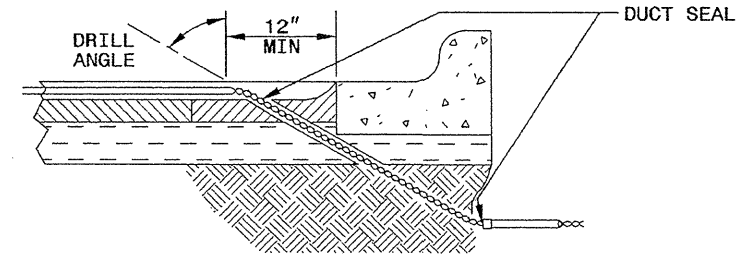


NOTE

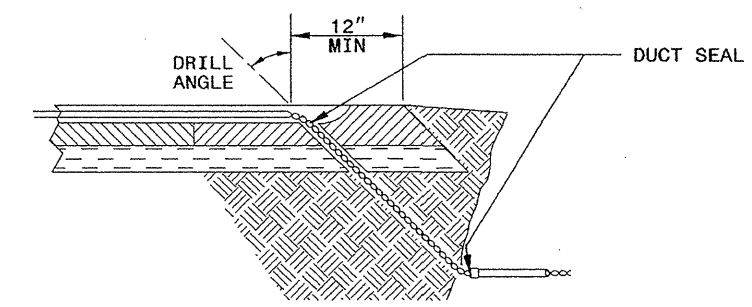
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

LOOP WIRE PAVEMENT EDGE DETAILS

LOOP WIRE AT CURB & GUTTER SECTION



LOOP WIRE AT PAVEMENT SECTION



NOTES

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

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ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
LOOP WIRE DETAILS

SHEET 2 OF 3
1725D01

See Plate for Title

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Garner, NC 27529

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Milton I. Bean 11/24/08
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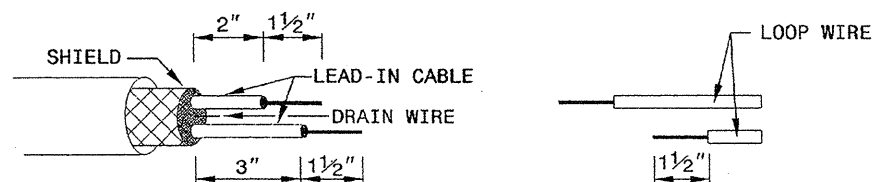
STATE OF NORTH CAROLINA
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11-08

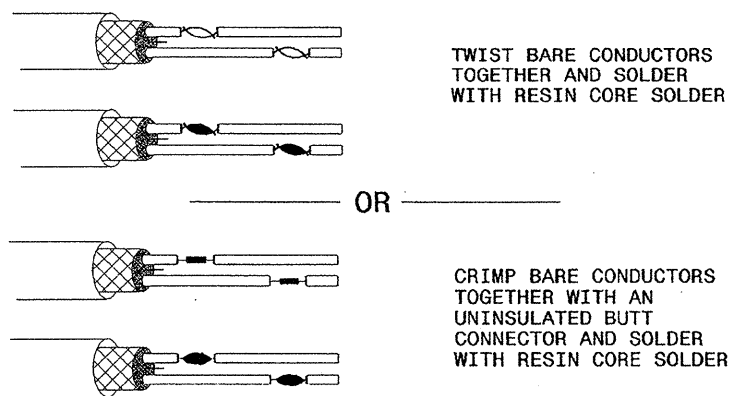
ENGLISH DETAIL DRAWING FOR
INDUCTIVE DETECTION LOOPS
SPlicing FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3
1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE

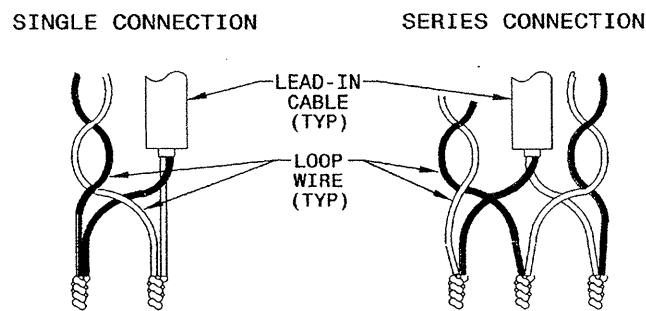


STEP 2. CONNECT AND SOLDER

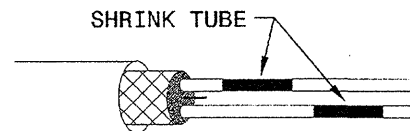


BOND SHIELD DRAIN WIRE AT SPLICE SECTIONS (DO NOT GROUND)

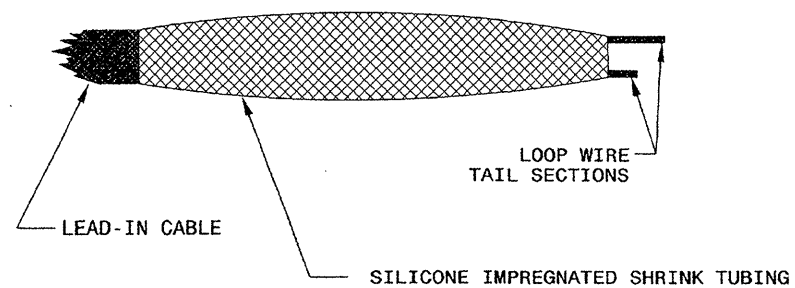
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



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

SHEET 3 OF 3
1725D01

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Milton I. Dean 11/24/08
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