STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	1C.015126, ETC.	1	13

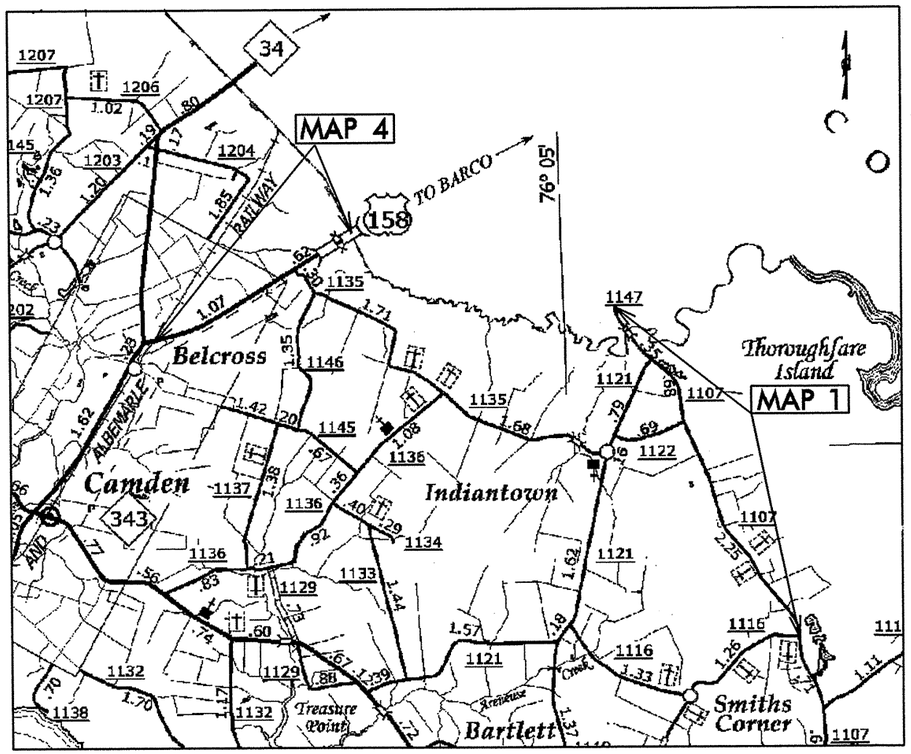
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
1C.015126		MAP 1
1CR.10151.17		MAP 4
1CR.20151.39		MAP 6

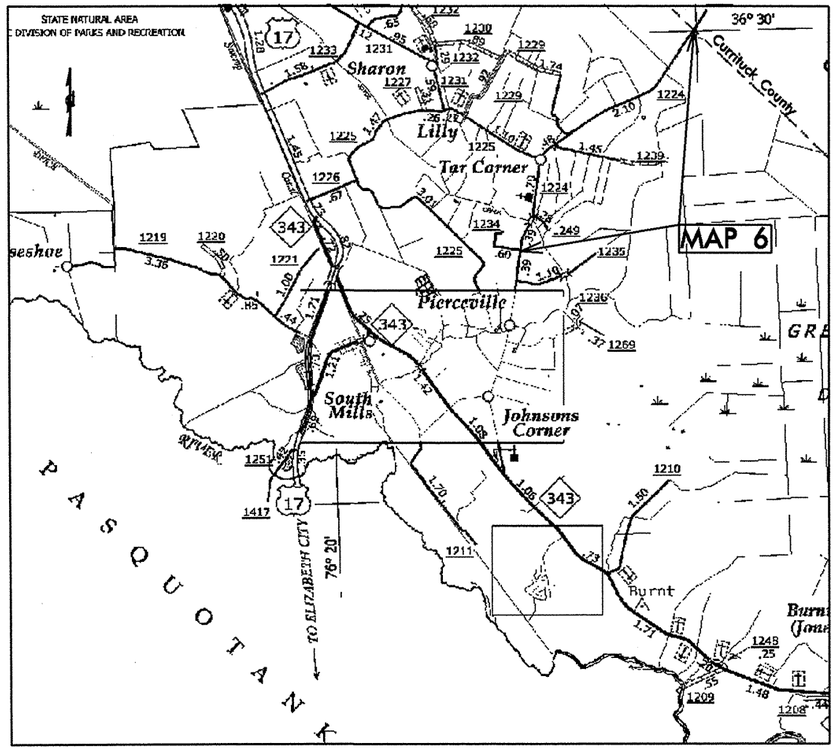
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CAMDEN COUNTY

LOCATION: *MAP 1 SR 1107 FROM CURRITUCK CO LINE TO SR 1116*
MAP 4 US 158 FROM RAILROAD CROSSING TO CURRITUCK CO LINE
MAP 6 SR 1224 FROM SR 1234 TO CURRITUCK CO LINE

TYPE OF WORK: *MILLING, WIDENING, RESURFACING & PAVEMENT MARKINGS*





CONTRACT NO.: C202937 **WBS ELEMENT: 1C.015126, ETC.**

NTS

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT	MAP 1	3.28 MI.
LENGTH OF ROADWAY PROJECT	MAP 4	2.08 MI.
LENGTH OF ROADWAY PROJECT	MAP 6	3.73 MI.

Prepared In the Office of:
DIVISION OF HIGHWAYS
113 Airport Dr., Edenton NC, 27932

2012 STANDARD SPECIFICATIONS

LETTING DATE:
February 21, 2012

W.B. HOBBS, P.E.
DIVISION PROJECT MANAGER

C.E. SLACHTA
DIVISION PROPOSALS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	1C.015126, ETC.	2	13

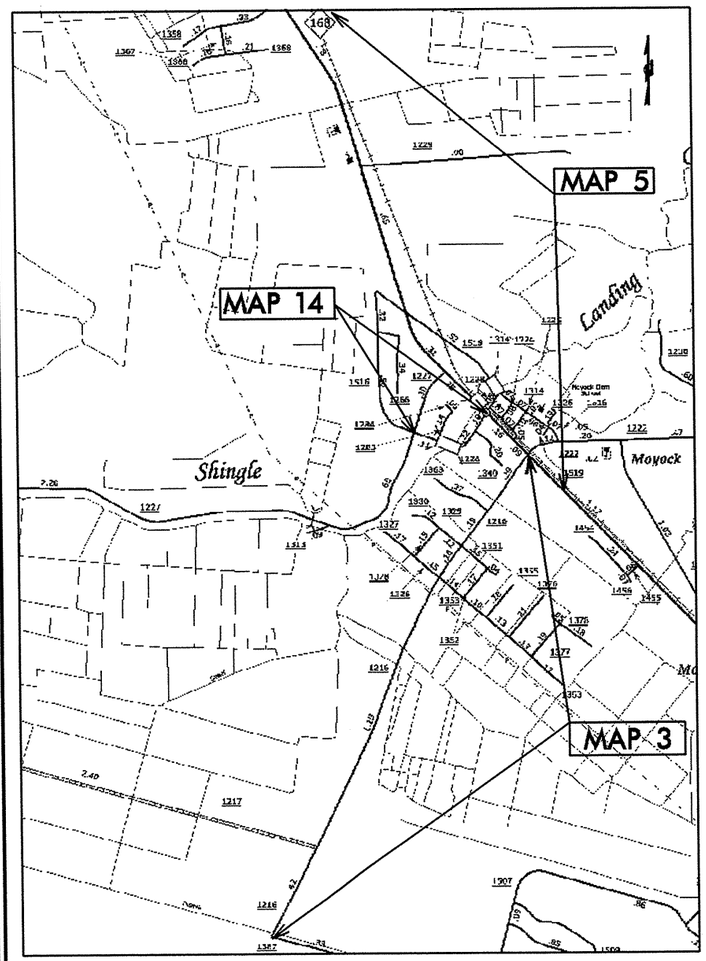
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
1C.027068		MAP 3
1CR.10271.3		MAP 5
1CR.20271.47		MAP 11
1CR.20271.50		MAP 14
1CR.20271.52		MAP 16

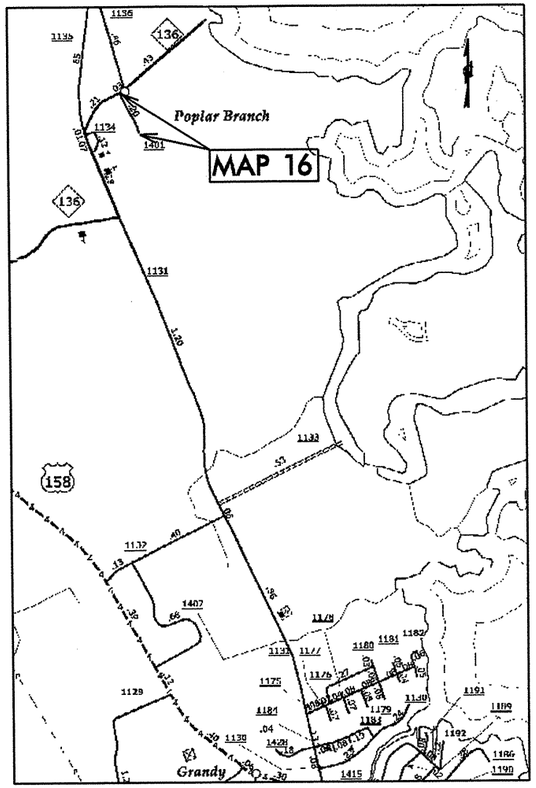
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

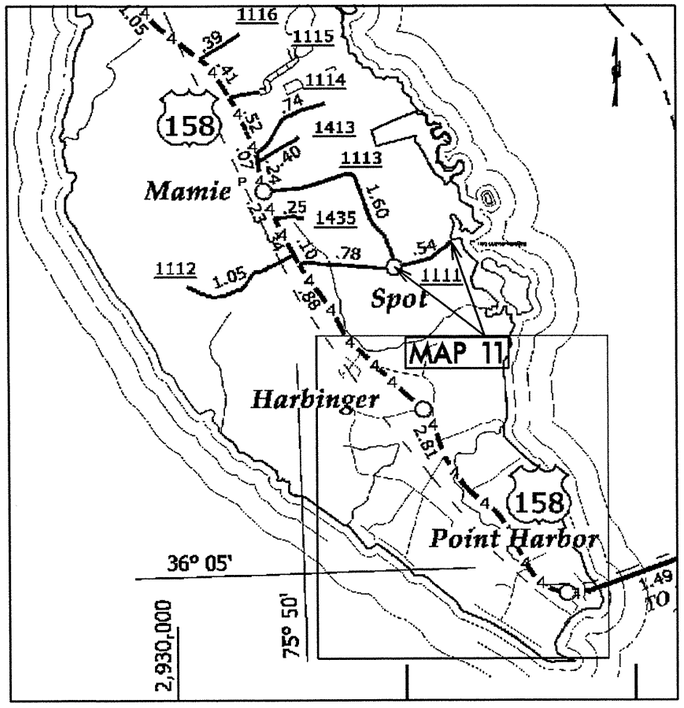
CURRITUCK COUNTY

LOCATION: *MAP 3 SR 1216 FROM NC 168 TO DEAD END*
MAP 5 NC 168 FROM VA LINE TO END OF CURB & GUTTER
MAP 11 SR 1111 FROM SR 1113 TO END
MAP 14 SR 1228 FROM SR 1227 TO NC 168
MAP 16 SR 1401 FROM NC 136 TO CUL DE SAC

TYPE OF WORK: *MILLING, RESURFACING & PAVEMENT MARKINGS*







CONTRACT NO.: C202937 WBS ELEMENT: 1C.015126, ETC.

NTS

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT	MAP 3	2.72 MI.
LENGTH OF ROADWAY PROJECT	MAP 5	2.53 MI.
LENGTH OF ROADWAY PROJECT	MAP 11	0.54 MI.
LENGTH OF ROADWAY PROJECT	MAP 14	0.35 MI.
LENGTH OF ROADWAY PROJECT	MAP 16	0.22 MI.

Prepared In the Office of:
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113 Airport Dr., Edenton NC, 27932

2012 STANDARD SPECIFICATIONS

LETTING DATE:
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W.B. HOBBS, P.E.
DIVISION PROJECT MANAGER

C.E. SLACHTA
DIVISION PROPOSALS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

CONTRACT NO.: C202937 WBS ELEMENT: 1C.015126, ETC.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

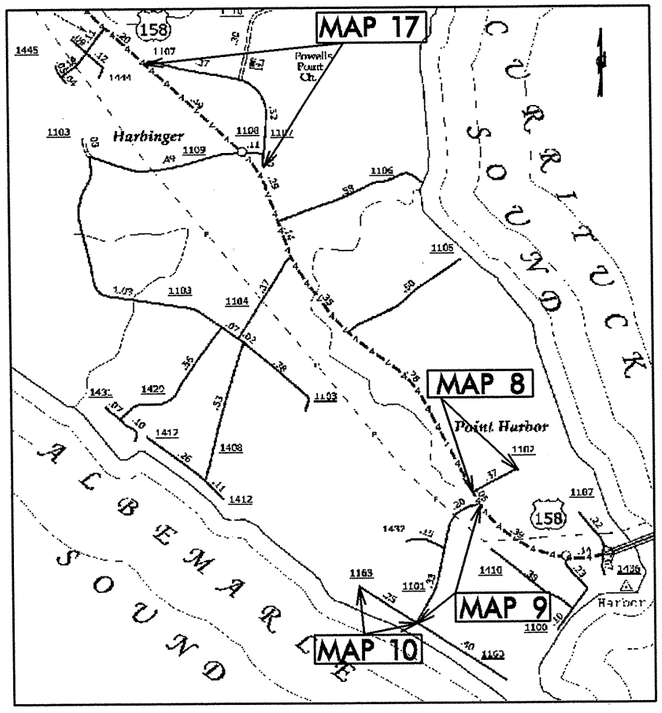
CURRITUCK COUNTY

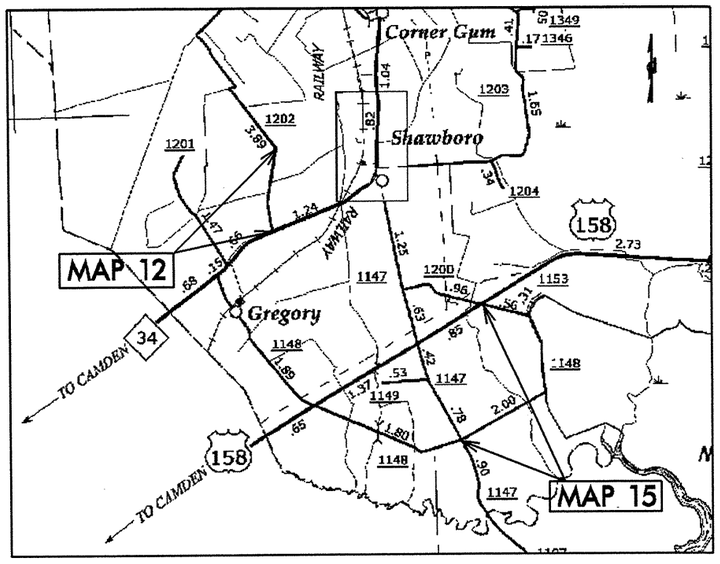
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	1C.015126, ETC.	3	13

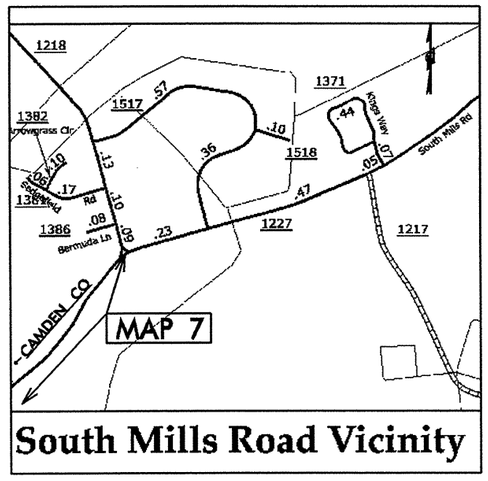
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
1CR.20271.43		MAP 7
1CR.20271.44		MAP 8
1CR.20271.45		MAP 9
1CR.20271.46		MAP 10
1CR.20271.48		MAP 12
1CR.20271.51		MAP 15
1CR.20271.53		MAP 17

LOCATION: *MAP 7 SR 1218 FROM SR 1227 TO CAMDEN LINE*
MAP 8 SR 1102 FROM US 158 TO END OF MAINTENANCE
MAP 9 SR 1101 FROM US 158 TO SR 1163
MAP 10 SR 1163 FROM SR 1101 TO NORTH END
MAP 12 SR 1202 FROM NC 34 TO END OF PAVEMENT
MAP 15 SR 1148 FROM SR 1147 TO US 158
MAP 17 SR 1107 FROM US 158 TO DEAD END

TYPE OF WORK: *MILLING, RESURFACING & PAVEMENT MARKINGS*







South Mills Road Vicinity

NTS

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT	MAP 7	0.84 MI.
LENGTH OF ROADWAY PROJECT	MAP 8	0.35 MI.
LENGTH OF ROADWAY PROJECT	MAP 9	0.50 MI.
LENGTH OF ROADWAY PROJECT	MAP 10	0.50 MI.
LENGTH OF ROADWAY PROJECT	MAP 12	1.00 MI.
LENGTH OF ROADWAY PROJECT	MAP 15	2.53 MI.
LENGTH OF ROADWAY PROJECT	MAP 17	0.68 MI.

Prepared In the Office of:
DIVISION OF HIGHWAYS
113 Airport Dr., Edenton NC, 27932

2012 STANDARD SPECIFICATIONS

LETTING DATE:
February 21, 2012

W.B. HOBBS, P.E.
DIVISION PROJECT MANAGER

C.E. SLACHTA
DIVISION PROPOSALS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

CONTRACT NO.: C202937 WBS ELEMENT: 1C.015126, ETC.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

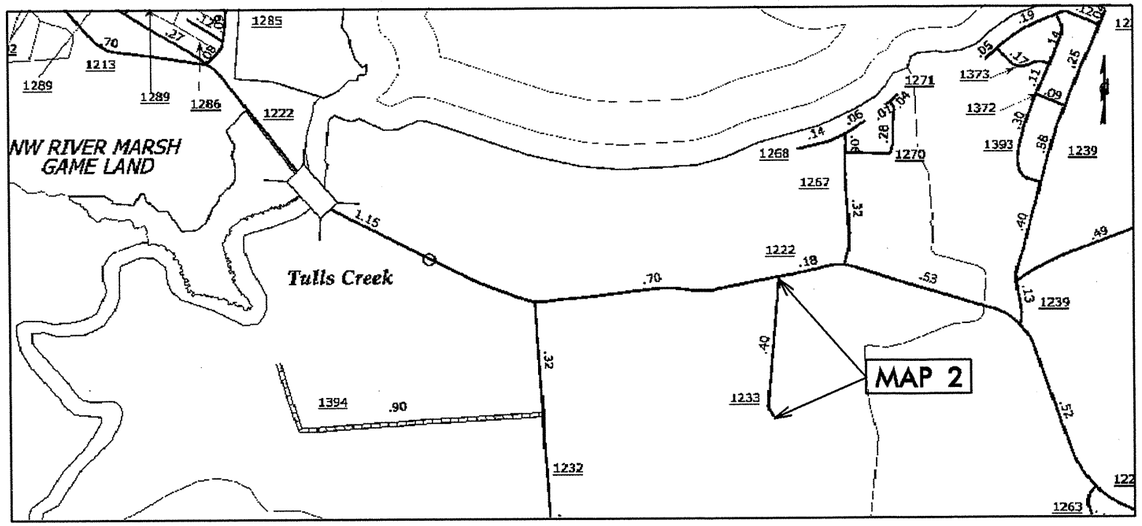
CURRITUCK COUNTY

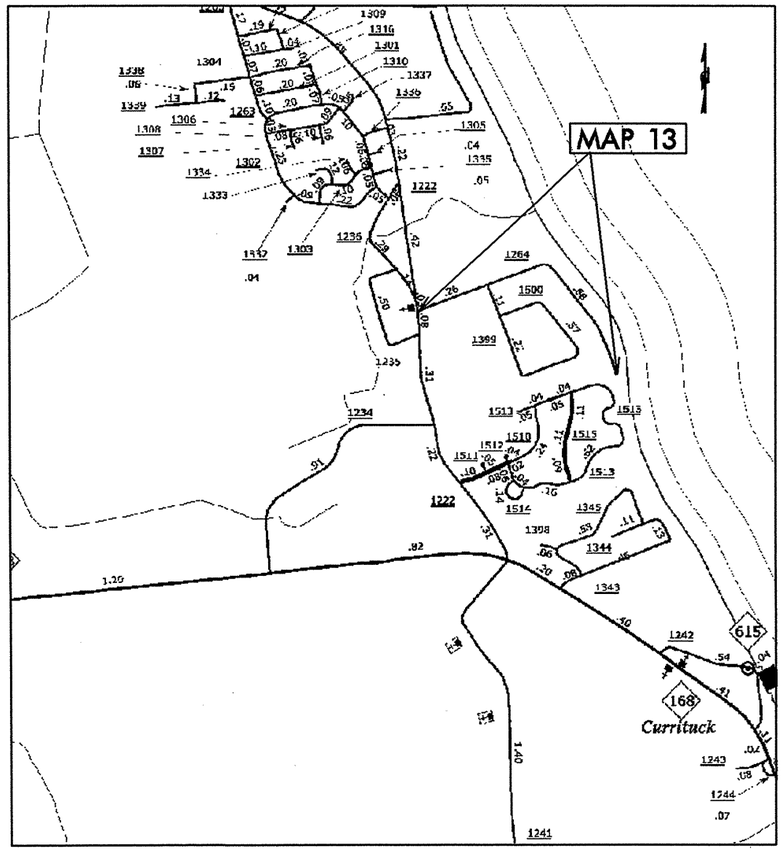
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	1C.015126, ETC.	4	13

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
1C.027064		MAP 2
1CR.20271.49		MAP 13

LOCATION: *MAP 2 SR 1233 FROM SR 1222 TO DEAD END*
MAP 13 SR 1264 FROM SR 1222 TO DEAD END

TYPE OF WORK: *RESURFACING & PAVEMENT MARKINGS*





NTS

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT MAP 2 0.35 MI.
LENGTH OF ROADWAY PROJECT MAP 13 0.86 MI.

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113 Airport Dr., Edenton NC, 27932

2012 STANDARD SPECIFICATIONS

LETTING DATE:
February 21, 2012

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DIVISION PROJECT MANAGER

C.E. SLACHTA
DIVISION PROPOSALS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
1C.015126, ETC	5

PAVEMENT SCHEDULE

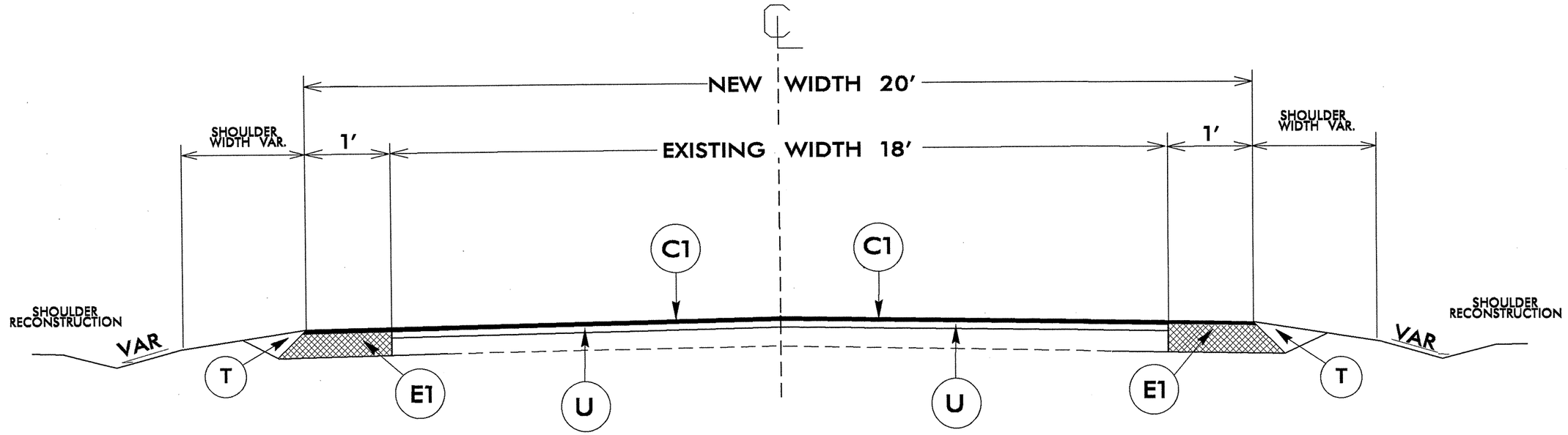
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
E1	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

NOTES:

*ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADI., OR AS DIRECTED BY THE ENGINEER

*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES

*PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



TYPICAL SECTION NO.1

USE WITH MAP 1

NTS

PROJECT REFERENCE NO.	SHEET NO.
1C.015126, ETC	6

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
T	EARTH MATERIAL.
P*	PRIME COAT TO BE APPLIED AT AN AVERAGE RATE 0.35 GAL. PER SQ YD
U	EXISTING PAVEMENT.
U*	EXISTING AGGREGATE BASE COURSE

NOTES:

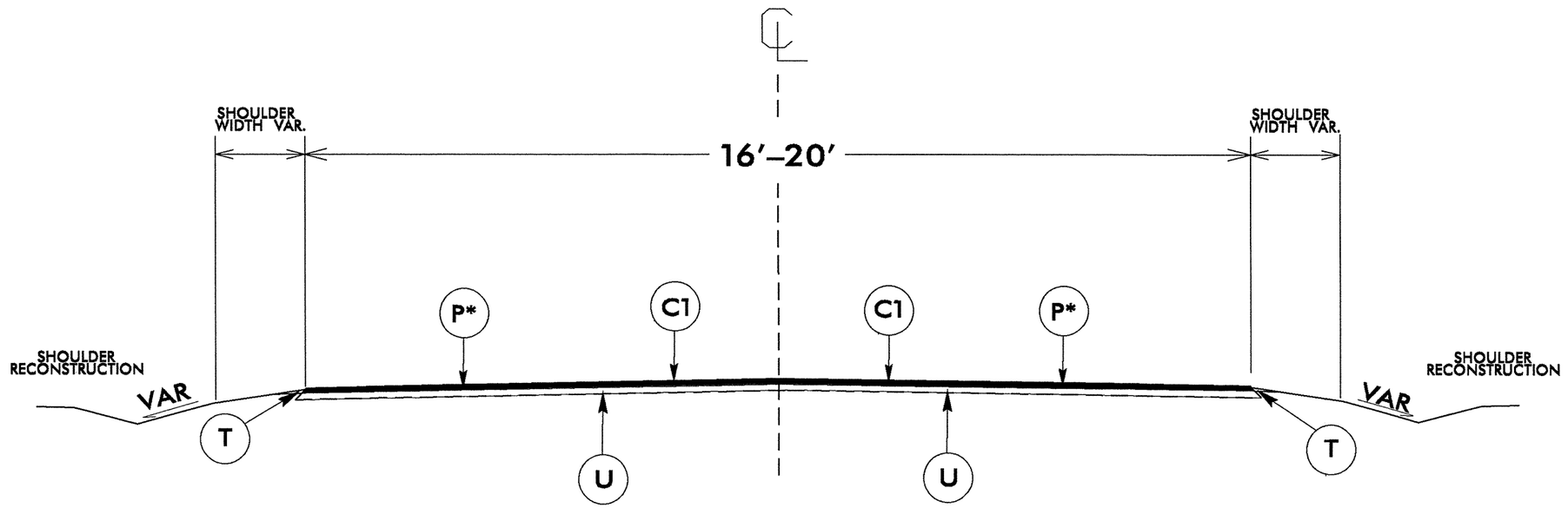
*ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADI., OR AS DIRECTED BY THE ENGINEER

*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES

*PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

ON MAP NO.2 SR 1233 SUBSTITUTE U (EXISTING AGGREGATE BASE COURSE) FOR U (EXISTING PAVEMENT)

*PRIME COAT WILL ONLY BE USED ON MAP NO. 2 (SR 1233)



TYPICAL SECTION NO.2

USE WITH MAP 2,9-11,13-17

NTS

PROJECT REFERENCE NO.	SHEET NO.
1C.015126, ETC	7

PAVEMENT SCHEDULE

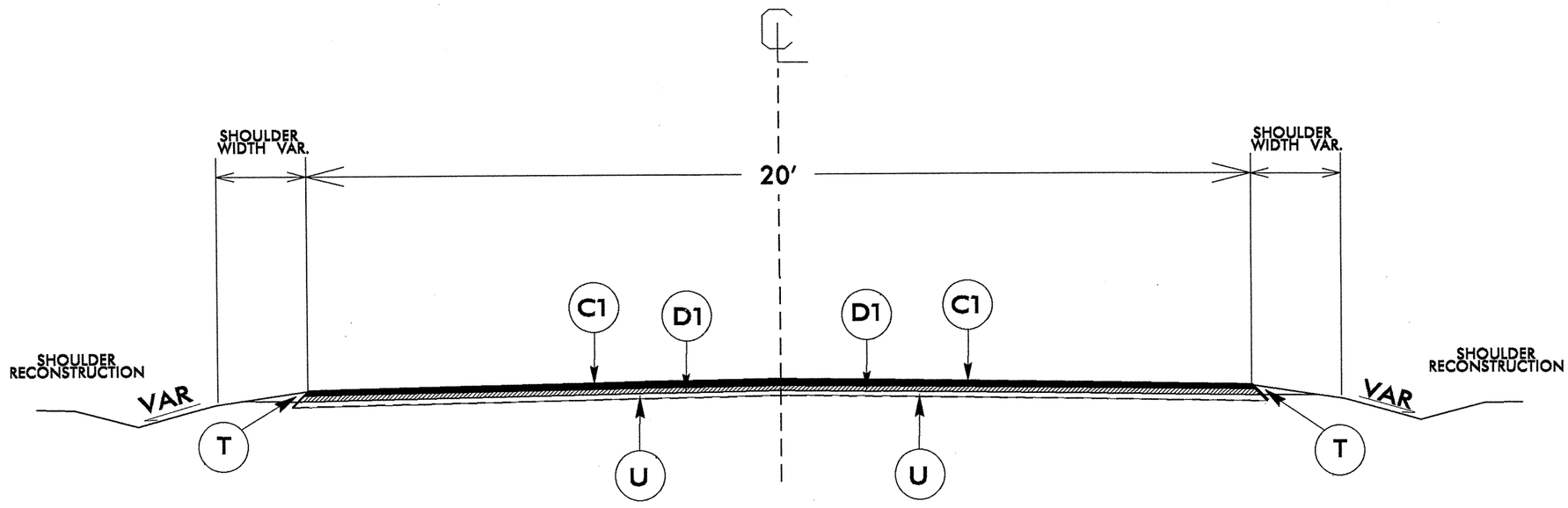
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

NOTES:

*ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADI., OR AS DIRECTED BY THE ENGINEER

*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES

*PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



TYPICAL SECTION NO.3

USE WITH MAP 3

NTS

PROJECT REFERENCE NO.	SHEET NO.
1C.015126, ETC	8

PAVEMENT SCHEDULE

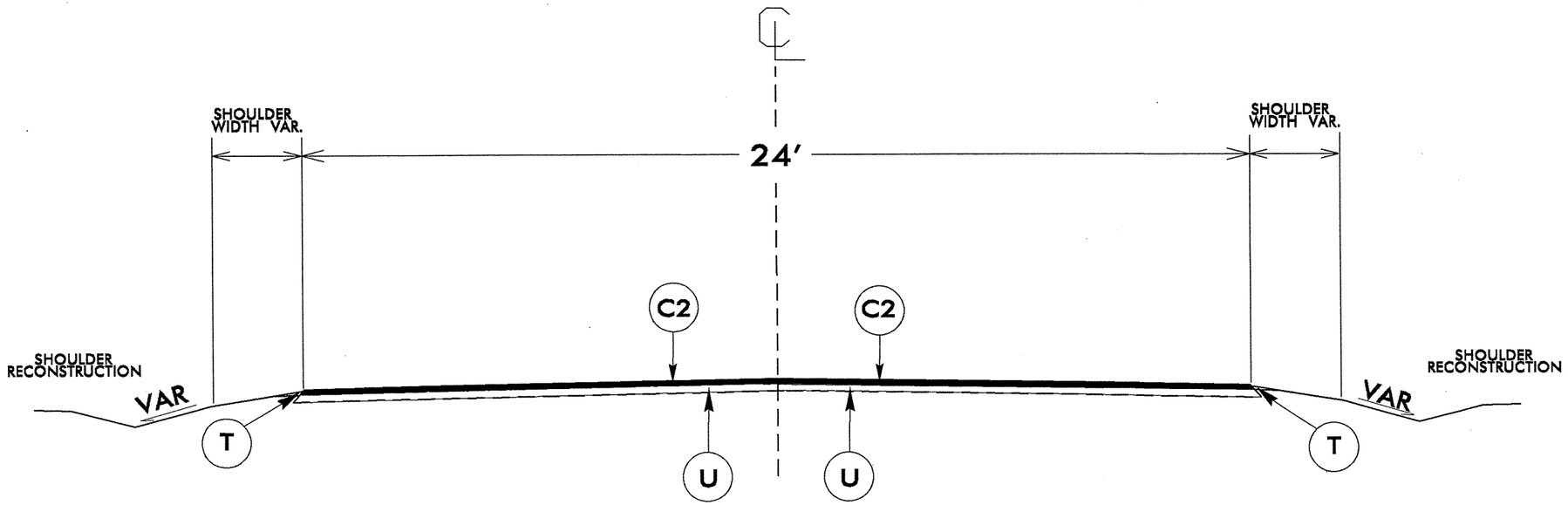
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

NOTES:

*ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADI., OR AS DIRECTED BY THE ENGINEER

*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES

*PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



TYPICAL SECTION NO.4

USE WITH MAP 4

NTS

PROJECT REFERENCE NO.	SHEET NO.
1C.015126, ETC	9

PAVEMENT SCHEDULE

C3	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. 1½" DEPTH.

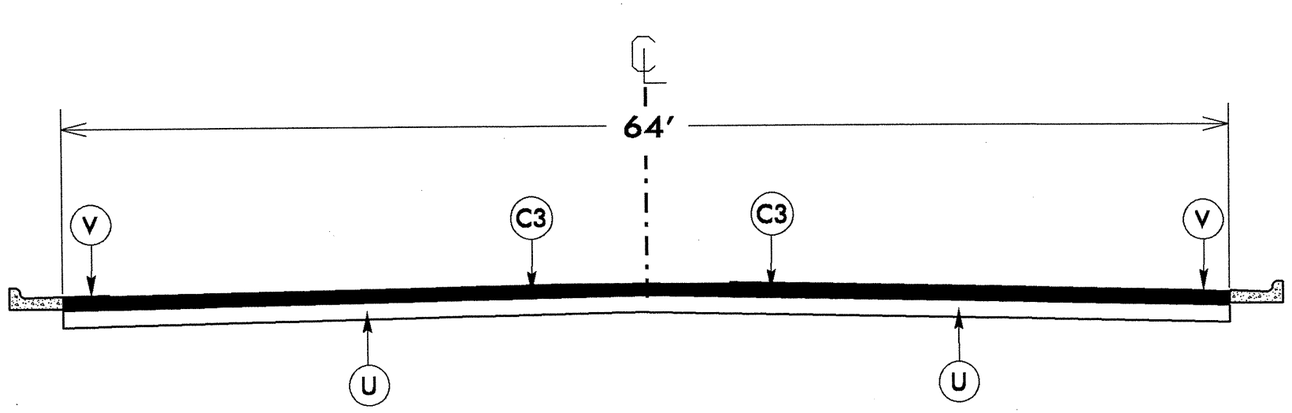
NOTES:

*ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADI., OR AS DIRECTED BY THE ENGINEER

*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES

*PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

*CONTRACTOR SHALL MILL ASPHALT PAVEMENT 1 1/2" BELOW EDGE OF CURB & GUTTER



TYPICAL SECTION NO.5

USE WITH MAP 5

NTS

PROJECT REFERENCE NO.	SHEET NO.
1C.015126, ETC	10

PAVEMENT SCHEDULE

C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

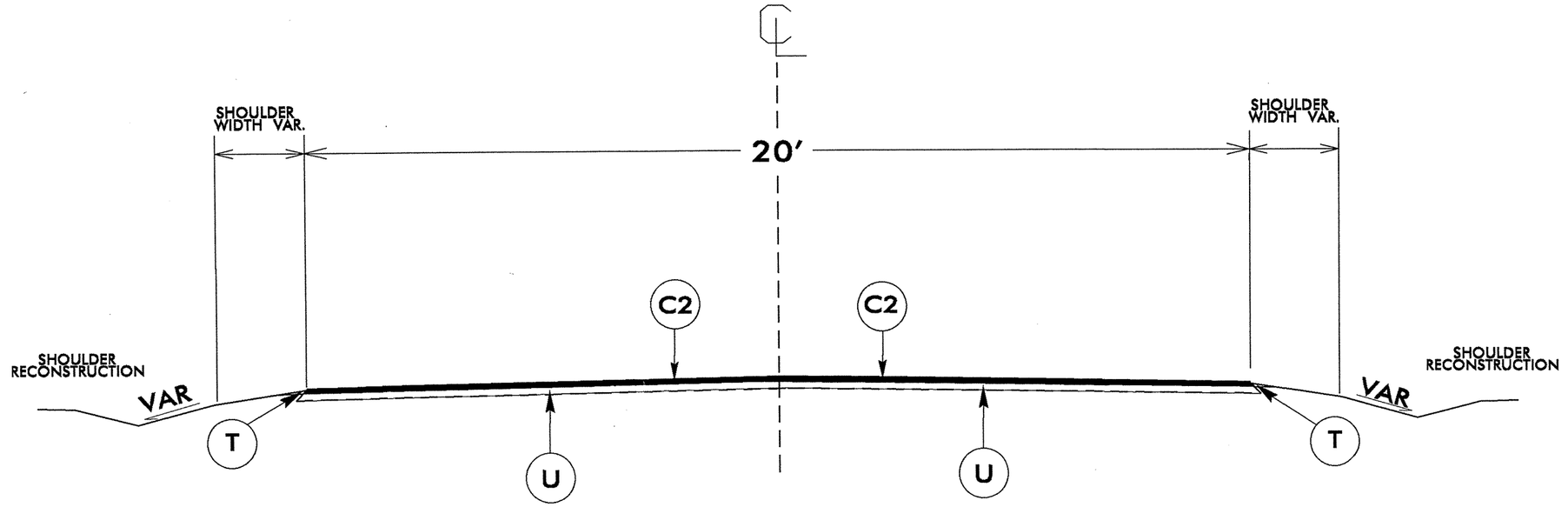
NOTES:

*ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADI., OR AS DIRECTED BY THE ENGINEER

*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES

*PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

***1 1/2" MILLING ON MAP #6 AS DIRECTED BY THE ENGINEER, TO INSURE A PROPER TIE-IN TO THE BRIDGE DECK**



TYPICAL SECTION NO.6

USE WITH MAP 6 & 7

NTS

14-DEC-2011 09:07
S:\Contracts\Contracts\Resurfacing Projects\Division 1\camdencurrituck\Plan Sheets\1C.015126, ETC Title & Typicals.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
1C.015126, ETC	11

PAVEMENT SCHEDULE

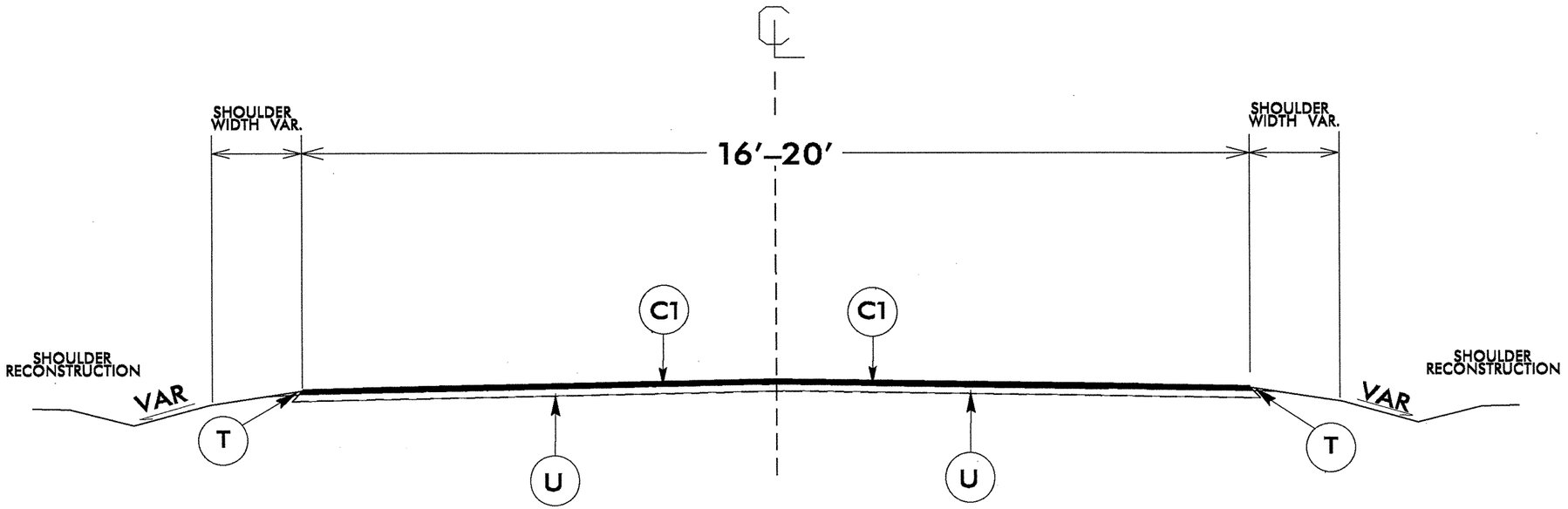
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

NOTES:

*ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADI., OR AS DIRECTED BY THE ENGINEER

*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES

*PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

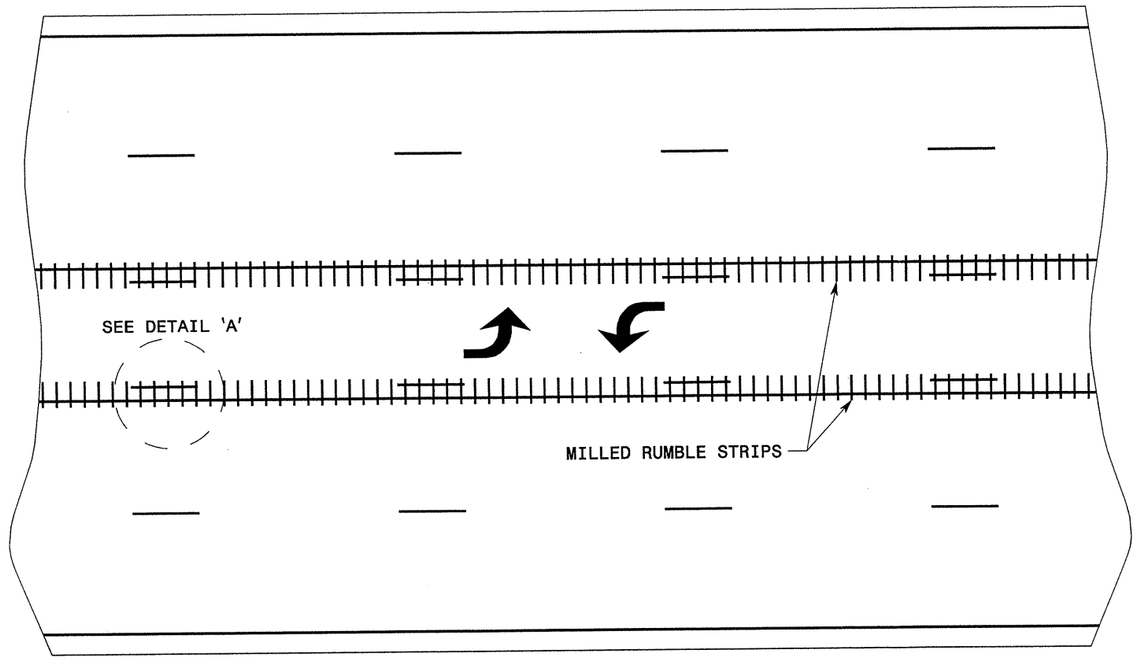


TYPICAL SECTION NO.7

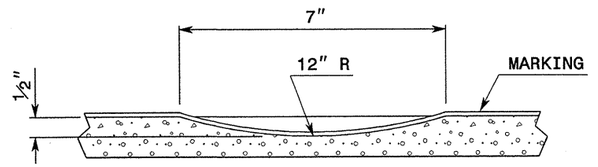
USE WITH MAP 8 & 12

NTS

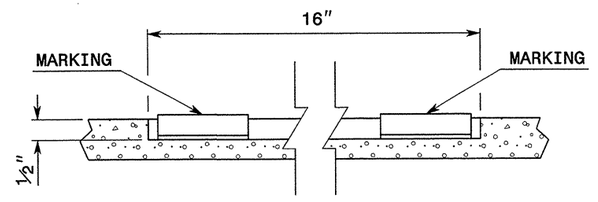
PROJ. REFERENCE NO.	SHEET NO.
1C.015126, ETC	12



MILLING DETAIL

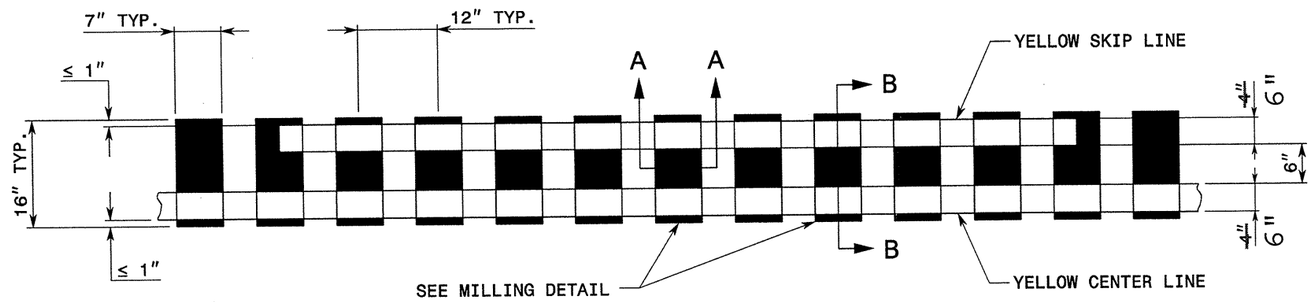


SECTION A-A



SECTION B-B

DETAIL 'A'



NOTES:

AFTER MILLING RUMBLE STRIPS, MAKE SURE ROAD SURFACE IS IN PROPER CONDITION FOR ADEQUATE BONDING OF THE NEW POLYUREA MARKINGS.

PAVEMENT MARKING LINES THAT ARE APPLIED TO THE RUMBLE STRIPS SHOULD NOT HAVE MORE THAN .5" LATERAL DEVIATION.

APPROVED: _____ DATE: _____

SEAL

RUMBLE STRIPE DETAILS FOR A 5-LANE SECTION

SCALE:	NONE
DATE:	
DWG. BY:	
DESIGN BY:	
REVIEWED BY:	

REVISIONS

CADD FILE

$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$USERNAME$$$$$$

PROJECT NO.	SHEET NO.	TOTAL NO.
1C.015126, ETC.	13	13

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	MOBILIZATION LS	BORROW CY	CONDITIONING EXISTING BASE MSY	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	1¼" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	INTERMEDIATE COURSE, I19.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	SURFACE COURSE, SF9.5A TONS	ASPHALT PLANT BINDER MIX TONS	MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE) LF	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	TEMPORARY SILT FENCE LF	MATTING FOR EROSION CONTROL SY	WATTLE LF	POLYACRYLAMIDE (PAM) LB	SEED & MULCHING AC	UNPAVED TRENCHING (1)(2") LF	JUNCTION BOX (STANDARD SIZE) EA	INDUCTIVE LOOP LF	LEAD-IN CABLE (14-2) LF	PRIME COAT GAL
1C.015126	Camden	1	SR 1107	FROM CURRITUCK CO LINE TO SR 1116	1	NO	3.28	18	1	390		25	6.52			1,483				3,995	333				2,100	32	80	7	4.50					
1C.027064	Currituck	2	SR 1233	FROM SR 1222 TO DEAD END	2	NO	0.35	18	*	100	3	5	0.7							470	31				50				0.45					1330
1C.027068	Currituck	3	SR 1216	FROM NC 168 TO END	3	NO	2.72	20	*	150		25	4.54				5,055			2,967	421			1	200	32	80	7	3.30					
1CR.10151.17	Camden	4	US 158	FROM RAILROAD CROSSING TO CURRITUCK CO LINE	4	NO	2.08	24	*	120		25	4.20	4,172				3,352			201			4	200	32	80	13	3.00					
1CR.10271.3	Currituck	5	NC 168	FROM VA LINE TO END OF CURB AND GUTTER	5	NO	2.53	64	*					102,920					8,695		513	26,717	2	4						1,900	25	2,708	5,400	
1CR.20151.39	Camden	6	SR 1224	FROM SR 1234 TO COUNTY LINE	6	NO	3.73	20	*	225		100	7.46		30			4,869			292				200	32	80	7	3.62					
1CR.20271.43	Currituck	7	SR 1218	FROM SR 1227 TO CAMDEN LINE	6	NO	0.84	20	*	60			1.68					1,644			99				200	32	80	7	1.22					
1CR.20271.44	Currituck	8	SR 1102	FROM US 158 TO END OF MAINT	7	NO	0.35	16	*	50		25	0.70		30					349	23				200	32	80	7	0.51					
1CR.20271.45	Currituck	9	SR 1101	FROM US 158 TO SR 1163	2	NO	0.5	18	*	50			1.00							464	31				200	64	80	7	0.73					
1CR.20271.46	Currituck	10	SR 1163	FROM SR 1101 TO NORTH END	2	NO	0.5	18	*	50		15	1.00							514	34				200	32	80		0.73					
1CR.20271.47	Currituck	11	SR 1111	SR 1113 TO END	2	NO	0.54	16	*	50		15	1.08							451	30				200	32	80	7	0.79					
1CR.20271.48	Currituck	12	SR 1202	NC 34 TO END OF PAVEMENT	7	NO	1	20	*	60		25	2.00		30					1,049	70				200	32	80	7	1.45					
1CR.20271.49	Currituck	13	SR 1264	FROM SR 1222 TO DEAD END	2	NO	0.86	18	*	60			3.44							779	52				200	32	80	7	1.25					
1CR.20271.50	Currituck	14	SR 1228	SR 1227 TO NC 168	2	NO	0.35	18	*	50			0.70							317	21				200	32	80	7	0.51					
1CR.20271.51	Currituck	15	SR 1148	SR 1147 TO US 158	2	NO	2.53	16	*	150		25	5.06							1,990	133				200	32	80	7	4.95					
1CR.20271.52	Currituck	16	SR 1401	FROM NC 136 TO CUL DE SAC	2	NO	0.22	20	*	30		10	0.44							364	24				200	32	80	7	0.32					
1CR.20271.53	Currituck	17	SR 1107	FROM US 158 TO DEAD END	2	NO	0.68	16	*	40		10	1.36							616	41				200	32	80	7	1.00					
GRAND TOTAL							23.06		1	1,635	3	305	41.88	107,092	90	1,483	5,055	9,865	8,695	14,325	2,349	26,717	2	9	4,950	512	1,200	104	28.33	1,900	25	2,708	5,400	1,330

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGTH	WIDTH	TEMPORARY TRAFFIC CONTROL LS	4" X 90 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	4" WHITE PAINT LF	4" YELLOW PAINT LF	24" WHITE PAINT LF	4" WHITE POLYUREA H.R.E LF	4" YELLOW POLYUREA H. R. E. LF	24" x 120 M WHITE Thermo LF	THERMO STR & RT ARROW 90M EA	THERMO RT ARROW 90M EA	THERMO STR ARROW 90M EA	THERMO LT ARROW 90M EA	4" WHITE COLD APPLIED PLASTIC TYPE 2 LF	4" YELLOW COLD APPLIED PLASTIC TYPE 2 LF	REMOVAL OF 4" LINES LF	YELLOW & YELLOW MARKERS EA	CRYSTAL & RED MARKERS EA
1C.015126	Camden	1	SR 1107	FROM CURRITUCK CO LINE TO SR 1116	3.28	18	1	35,293	21,648	35,293	21,648													
1C.027064	Currituck	2	SR 1233	FROM SR 1222 TO DEAD END	0.35	18	*																	
1C.027068	Currituck	3	SR 1216	FROM NC 168 TO END	2.72	20	*	29,267	17,952	29,267	17,952													
1CR.10151.17	Camden	4	US 158	FROM RAILROAD CROSSING TO CURRITUCK CO LINE	2.08	24	*	22,381	13,728	22,381	13,728												137	
1CR.10271.3	Currituck	5	NC 168	FROM VA LINE TO END OF CURB AND GUTTER	2.53	64	*			22,248	104,933	1,212	6,800	32,000	500	17	6	15	88				339	354
1CR.20151.39	Camden	6	SR 1224	FROM 1234 TO COUNTY LINE	3.73	20	*	40,135	24,618	40,135	24,618									100	100	200		
1CR.20271.43	Currituck	7	SR 1218	FROM SR 1227 TO CAMDEN LINE	0.84	20	*																	
1CR.20271.44	Currituck	8	SR 1102	FROM US 158 TO END OF MAINT	0.35	16	*		2,317		2,317													
1CR.20271.45	Currituck	9	SR 1101	FROM US 158 TO SR 1163	0.5	18	*	5,380	3,300	5,380	3,300													
1CR.20271.46	Currituck	10	SR 1163	FROM SR 1101 TO NORTH END	0.5	18	*																	
1CR.20271.47	Currituck	11	SR 1111	SR 1113 TO END	0.54	16	*		3,564		3,564													
1CR.20271.48	Currituck	12	SR 1202	NC 34 TO END OF PAVEMENT	1	20	*		6,600		6,600													
1CR.20271.49	Currituck	13	SR 1264	FROM SR 1222 TO DEAD END	0.86	18	*	9,254	5,676	9,254	5,676													
1CR.20271.50	Currituck	14	SR 1228	SR 1227 TO NC 168	0.35	18	*	3,766	2,310	3,766	2,310													
1CR.20271.51	Currituck	15	SR 1148	SR 1147 TO US 158	2.53	16	*		16,698		16,698													
1CR.20271.52	Currituck	16	SR 1401	FROM NC 136 TO CUL DE SAC	0.22	20	*																	
1CR.20271.53	Currituck	17	SR 1107	FROM US 158 TO DEAD END	0.68	16	*		4,488		4,488													
GRAND TOTAL					23.06		1	145,476	122,899	167,724	227,832	1,212	6,800	32,000	500	17	6	15	88	100	100	200	476	354
										395,556			38,800			126				200			830	

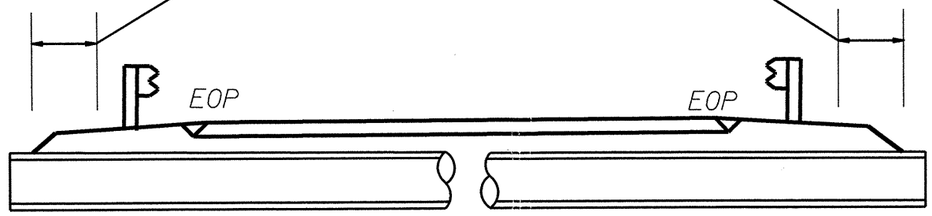
PROJECT REFERENCE NO.	SHEET NO.
IC.015126, ETC	EC-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

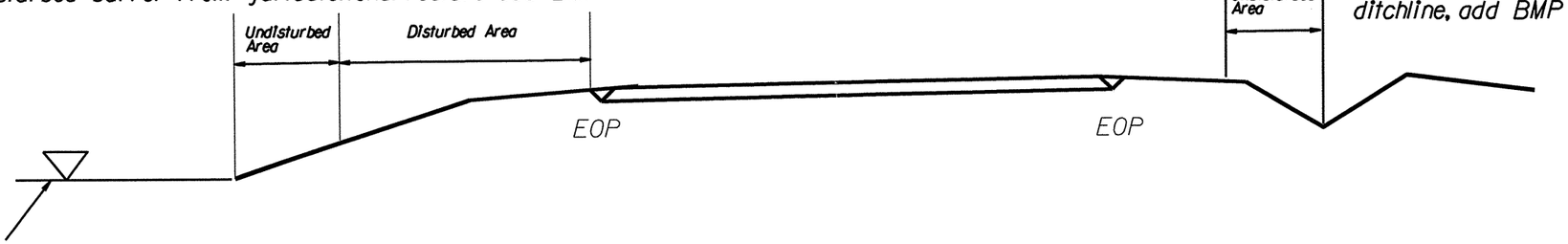
< 5' – 10' Undisturbed buffer add BMP



Pipe/Culvert

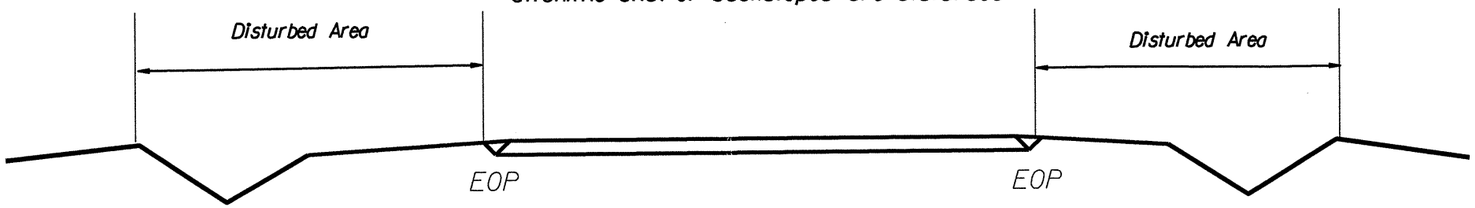
< 5' – 10' Undisturbed buffer from jurisdictional feature add BMP

< 5' – 10' Undisturbed buffer from ditchline, add BMP

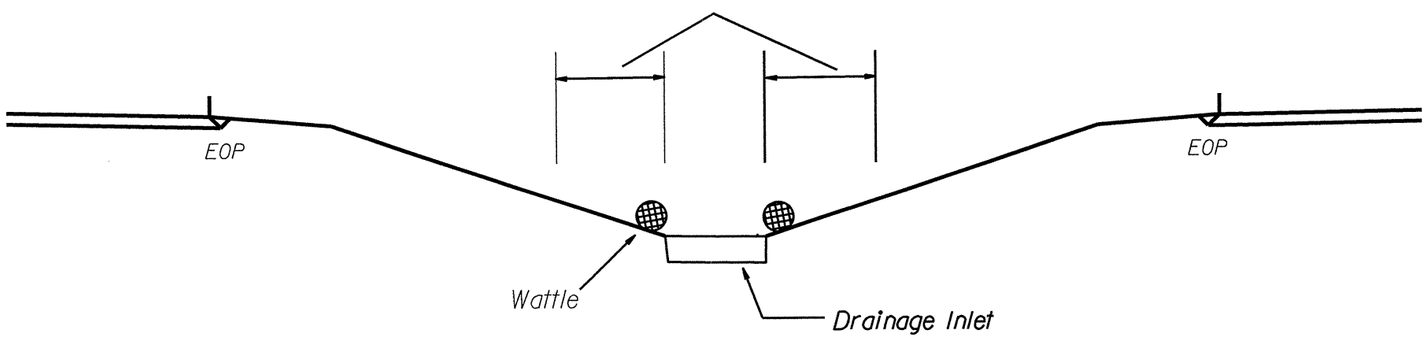


Jurisdictional Feature

Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed



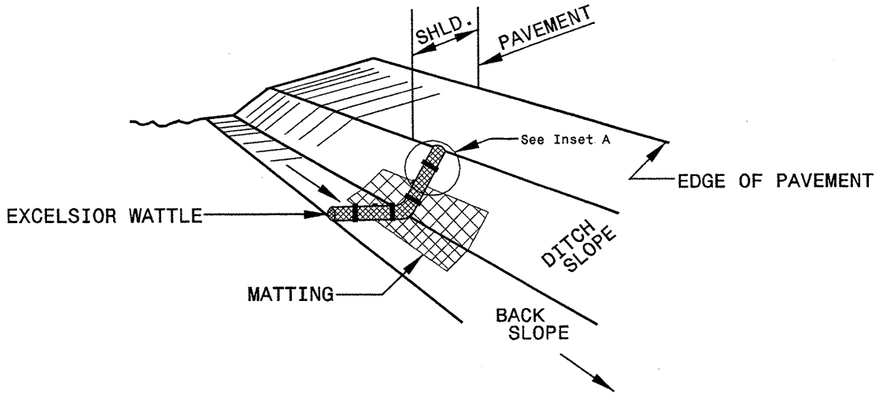
< 5' – 10' Undisturbed buffer from inlet, add wattle



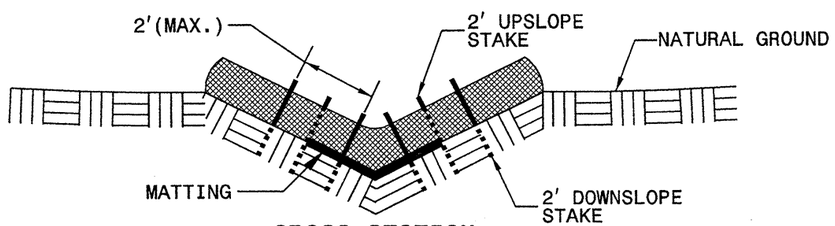
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
1C.015126,STC	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

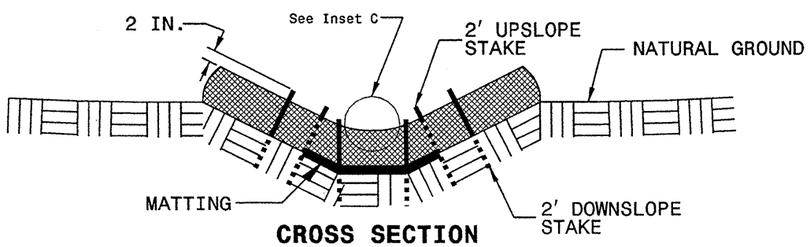
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

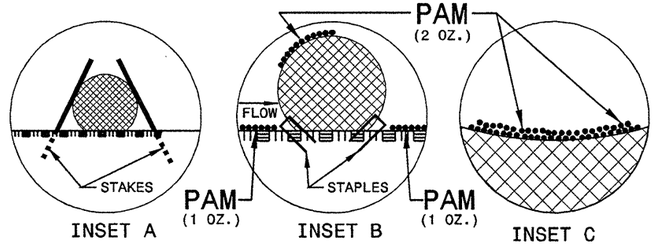
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

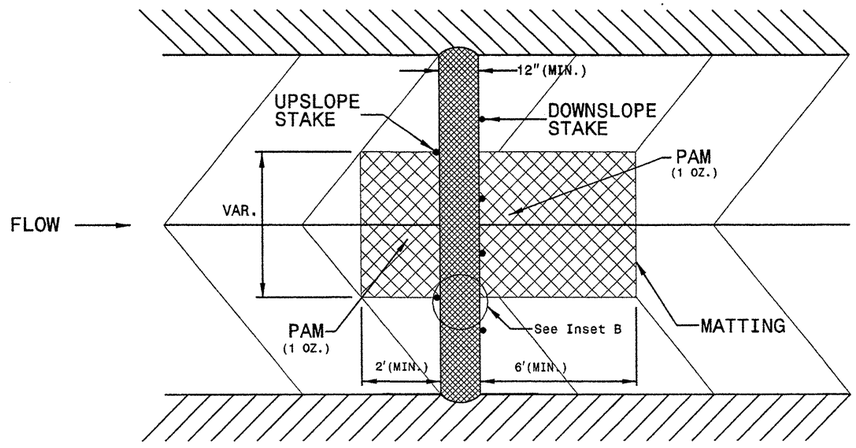
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

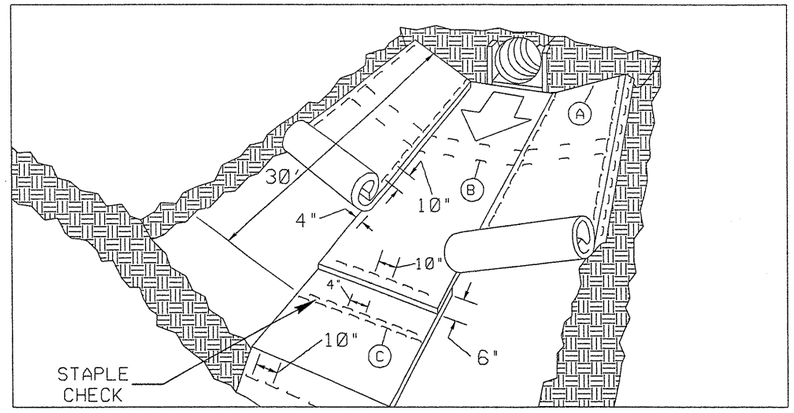




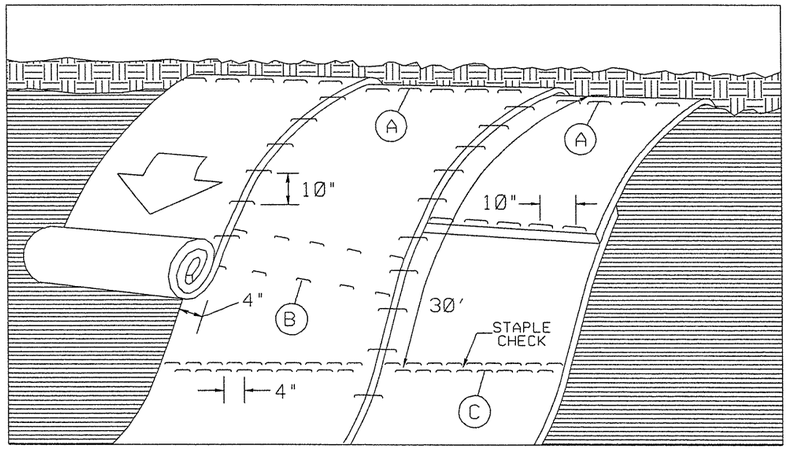
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
IG.015126, Etc.	EC-3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATTING INSTALLATION DETAIL



MATTING IN DITCHES



MATTING ON SLOPES

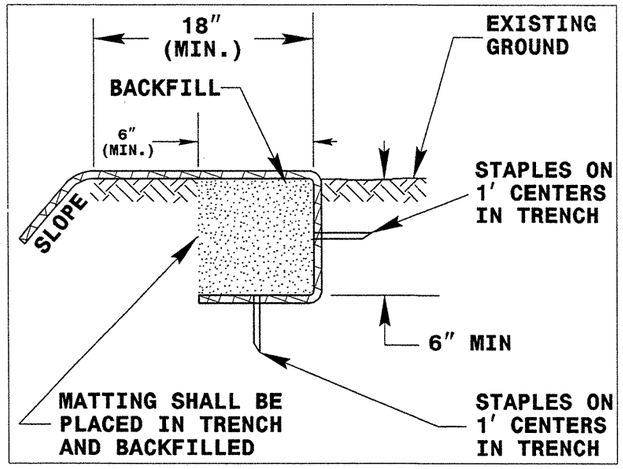


DIAGRAM (A)

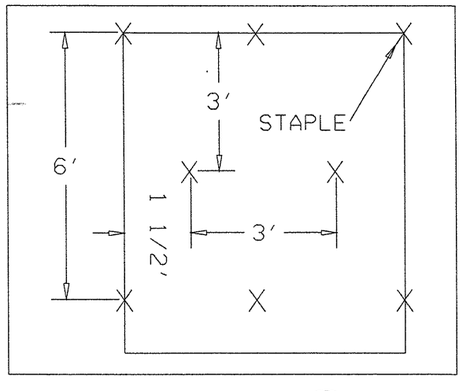


DIAGRAM (B)

STAPLE CHECK PATTERN

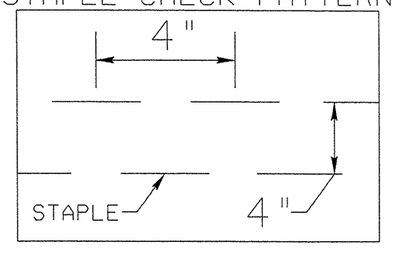


DIAGRAM (C)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

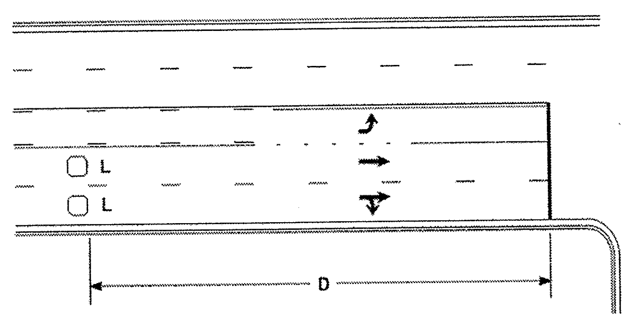
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
SEE BELOW	SIG 1

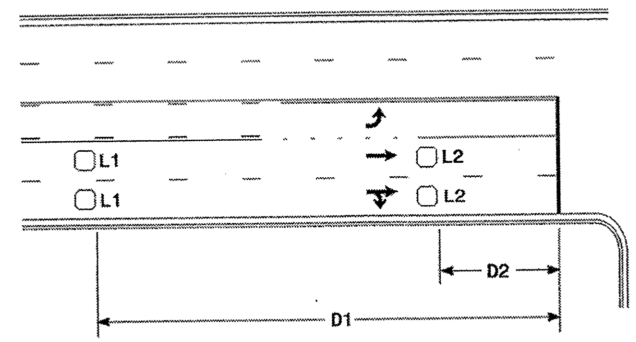
1C.015126, 1C.027064, 1C.027068,
1CR.10151.17, 1CR.10271.3, 1CR.20151.39,
1CR.20271.43, 1CR.20271.44, 1CR.20271.45,
1CR.20271.46, 1CR.20271.47,, 1CR.20271.48, etc

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)

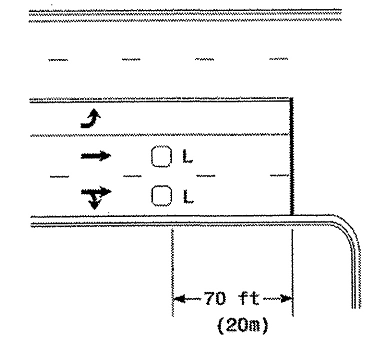
L1 = 6ft X 6ft (1.8m X 1.8m)
Wired in series

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

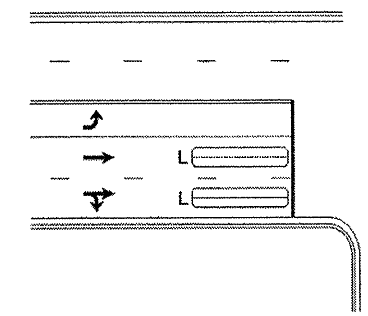
"Stretch" Operation

Low Speed Detection

[≤35 mph (56 km/hr)]



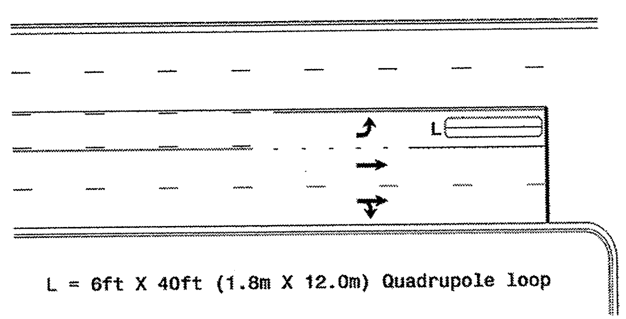
OR



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

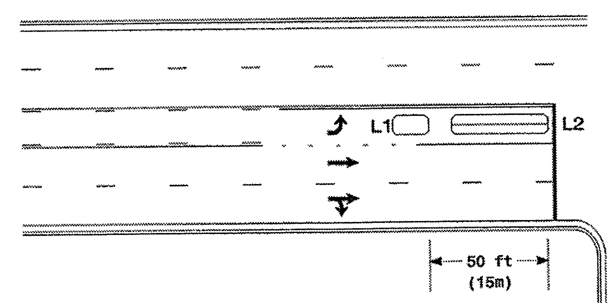
Left Turn Lane Detection



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

Presence Loop Detection

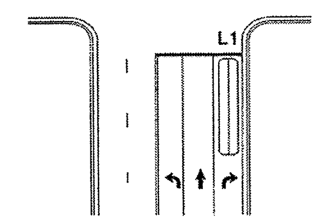
OR



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

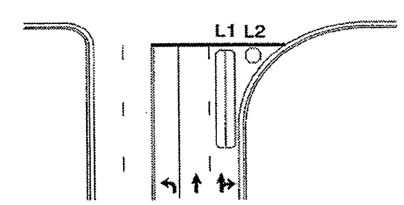
Queue Loop Detection

Right Turn Lane Detection

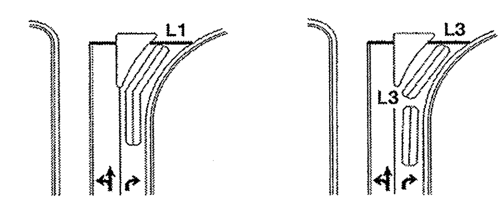


Standard Turn

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

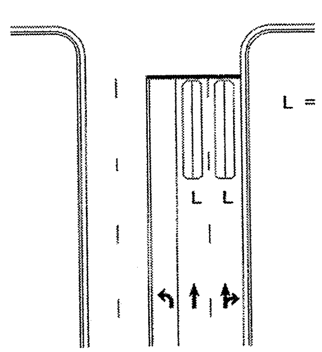


Wide Radius Turn



Channelized Turn

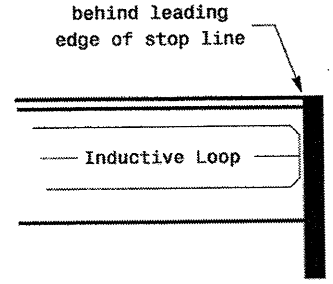
Side Street Detection



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

Presence Loop Placement at Stop Lines

Locate loop slightly behind leading edge of stop line



Note:
Loop may be located in advance of stop line when stop line is greater than 15' (4.5m) from edge of intersecting roadway; or, when loop detects a permissive or protected/permissive left turn.

Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m) loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns

6' X 15' (1.8m X 4.6m) Loops:
Lead-in < 150' (45 m), use 2 turns
Lead-in > 150' (45 m), use 3 turns

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch
State of North Carolina Department of Transportation
Signals and Geometrics Section
122 N. McDowell St., Raleigh, NC 27603

Typical Loop Locations

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

SCALE
N/A

REVISIONS	INIT.	DATE
Revise pavement markings		

SEAL
North Carolina Professional Seal 23488 Engineer Pamela Alexander

SIGNATURE
DATE
SIG. INVENTORY NO.

PROJECT REFERENCE NO.	SHEET NO.
K,015126,etc.	Sig. 2

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

11-08

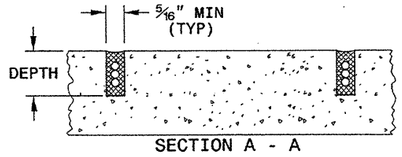
ENGLISH DETAIL DRAWING FOR

INDUCTIVE DETECTION LOOPS

CONVENTIONAL 4-SIDED LOOP

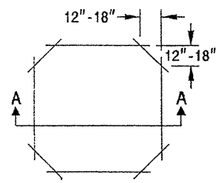
SAW SLOT DEPTH CHART

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

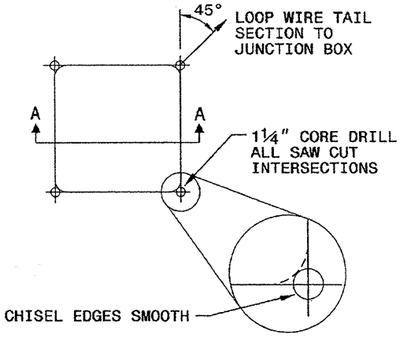


SAW CUT OPTIONS

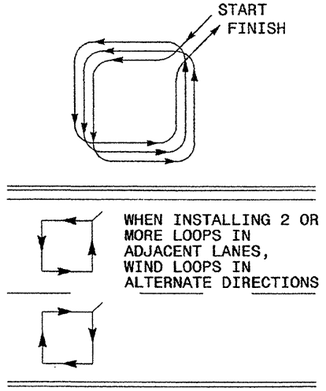
OPTION 1



OPTION 2
(POOR PAVEMENT)



LOOP WINDING METHOD



LOOP WIRE TWISTING METHOD

INCORRECT WAY TO TWIST WIRE

CORRECT WAY TO TWIST WIRE

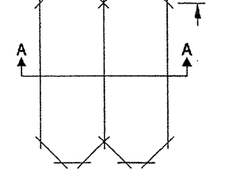
NOTES

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.

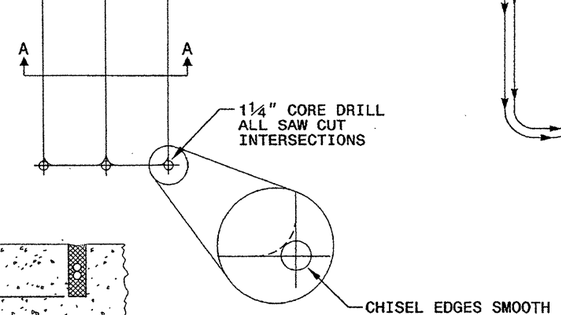
QUADRUPOLE LOOP

SAW CUT OPTIONS

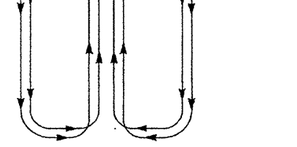
OPTION 1

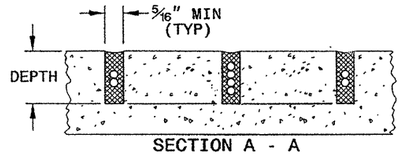


OPTION 2
(POOR PAVEMENT)



LOOP WINDING METHOD





DEPTH IS 2.5" FOR CONCRETE AND 3.0" FOR ASPHALT

SHEET 1 OF 3
1725D01

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

11-08

ENGLISH DETAIL DRAWING FOR

INDUCTIVE DETECTION LOOPS

SHEET 1 OF 3
1725D01

See Plate for Title

Prepared in the Offices of:
Intelligent Transportation Systems & Signals Unit
750 N. Greenfield Parkway
Garner, NC 27529

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NORTH CAROLINA PROFESSIONAL SEAL 16286 ENGINEER MILTON L. DEAN
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11/24/08
DATE

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11-08

ENGLISH DETAIL DRAWING FOR

INDUCTIVE DETECTION LOOPS

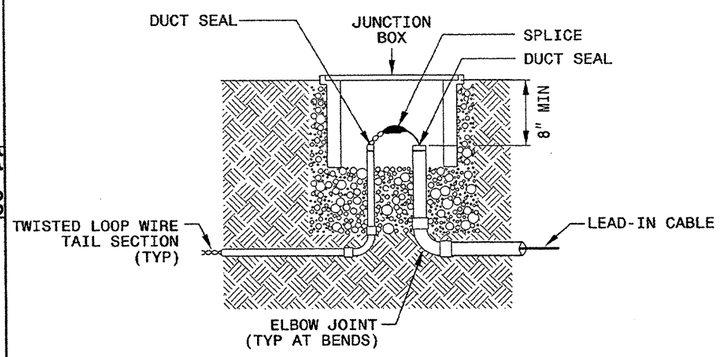
LOOP WIRE DETAILS

SHEET 2 OF 3

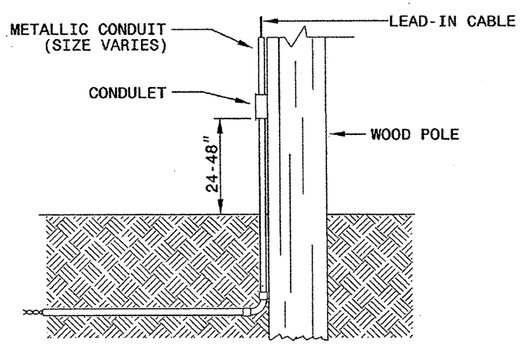
1725D01

LOOP WIRE SPLICE POINT DETAILS

LOOP WIRE AT JUNCTION BOX



LOOP WIRE AT POLE

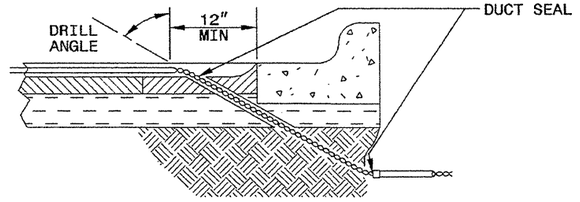


NOTE

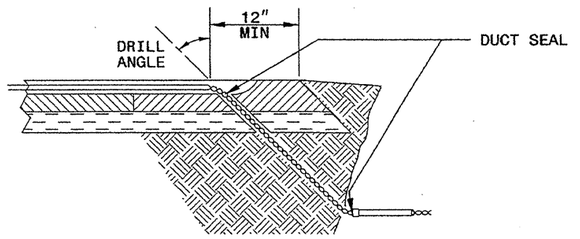
SPLICE ALL LOOP WIRE TAIL SECTIONS/LEAD-IN CABLE IN JUNCTION BOXES OR APPROVED CONDULETS.

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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ENGLISH DETAIL DRAWING FOR

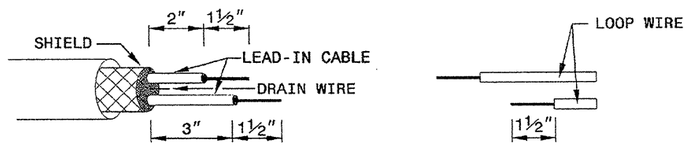
INDUCTIVE DETECTION LOOPS

SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

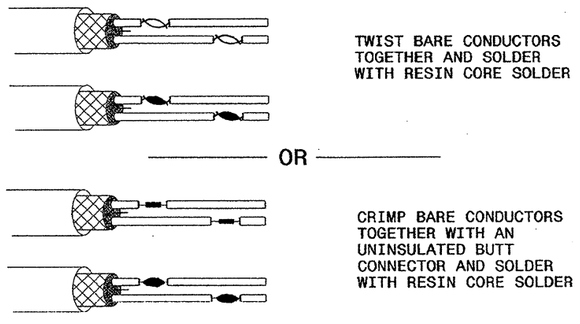
SHEET 3 OF 3

1725D01

STEP 1. STRIP LOOP WIRE AND LEAD-IN CABLE



STEP 2. CONNECT AND SOLDER



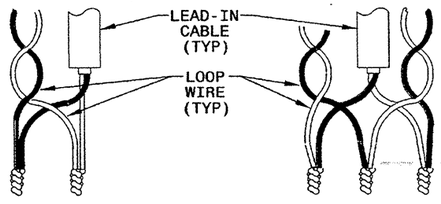
TWIST BARE CONDUCTORS TOGETHER AND SOLDER WITH RESIN CORE SOLDER

OR

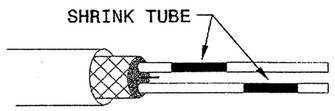
CRIMP BARE CONDUCTORS TOGETHER WITH AN UNINSULATED BUTT CONNECTOR AND SOLDER WITH RESIN CORE SOLDER

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

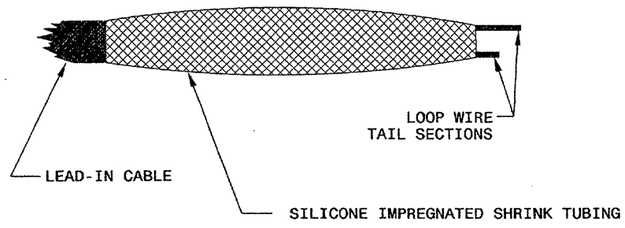
LOOP WIRE AND LEAD-IN CABLE CONNECTION DETAILS



STEP 3. INSULATE EACH SOLDER JOINT SEPARATELY



STEP 4. ENVIRONMENTALLY PROTECT SPLICE



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ENGLISH DETAIL DRAWING FOR

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SPLICING FOR LEAD-IN CABLE AND LOOP WIRE

SHEET 3 OF 3

1725D01

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