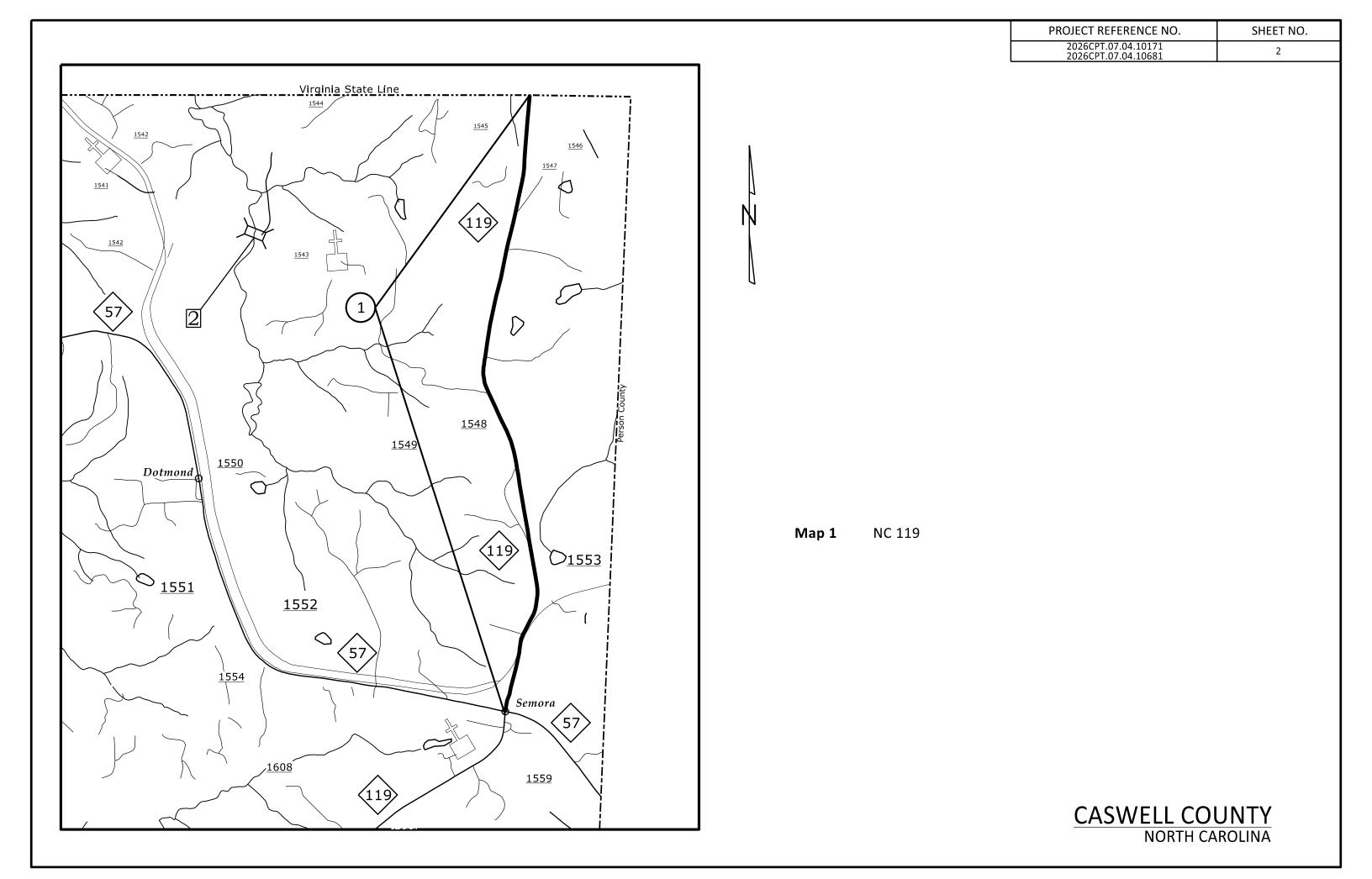
This electronic collection of documents is provided for the convenience of the user and is Not a Certified Document –

The documents contained herein were originally issued and sealed by the individuals whose names and license numbers appear on each page, on the dates appearing with their signature on that page.

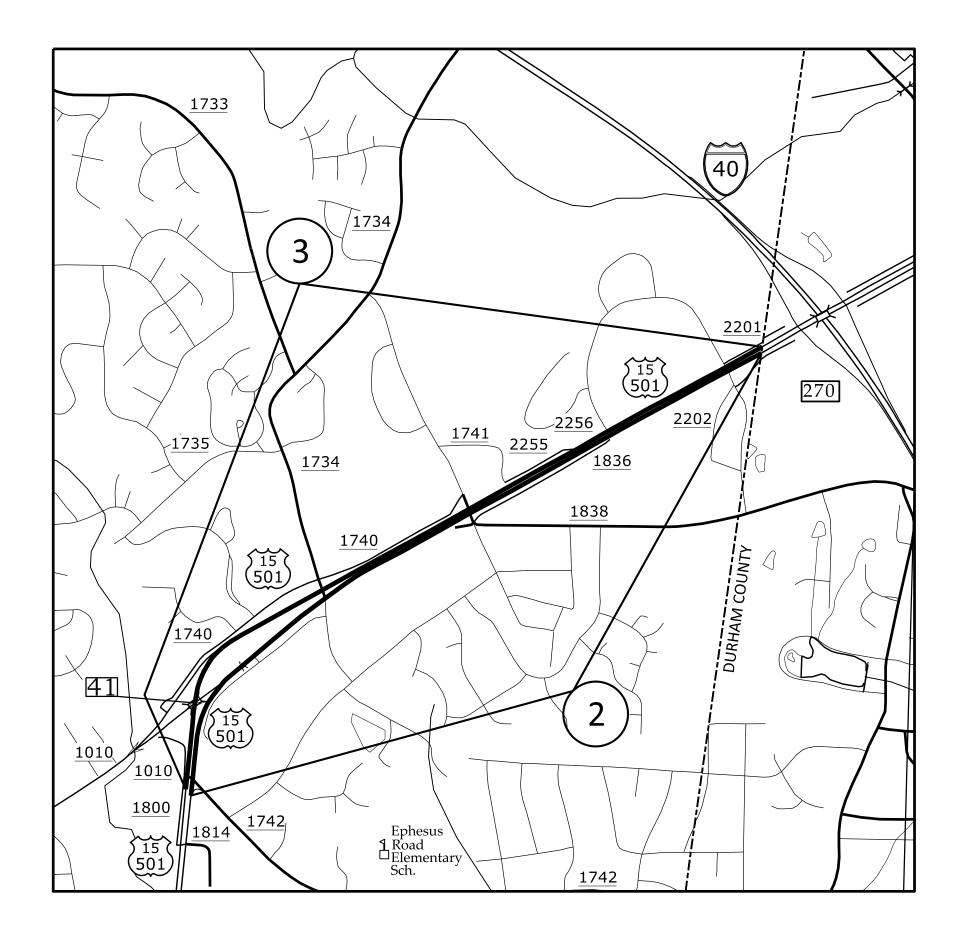
This file or an individual page shall not be considered a certified document.

SHEET NO. PROJECT REFERENCE NO. 2026CPT.07.04.10171 2026CPT.07.04.10681 ✓ Sheet No. 2 Sheet No. 3 **CASWELL COUNTY ORANGE COUNTY**

NORTH CAROLINA



PROJECT REFERENCE NO.	SHEET NO.		
2026CPT.07.04.10171 2026CPT.07.04.10681	3		

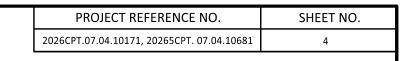


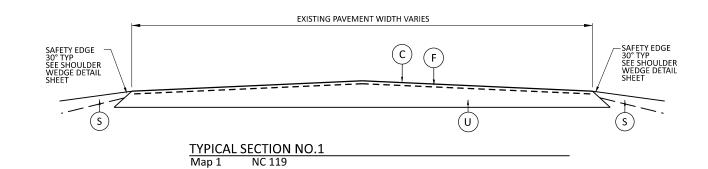


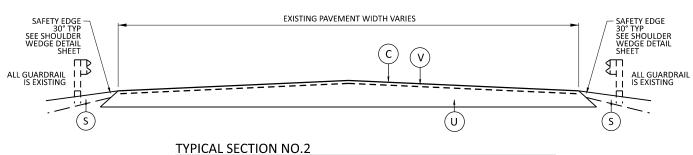
Map 2 US 15-501 NB
DO NOT PUT BACK DECORATIVE CROSSWALK
PUT BACK HIGH VIS CROSSWALK

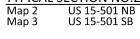
Map 3
US 15-501 SB
DO NOT PUT BACK DECORATIVE CROSSWALK
PUT BACK HIGH VIS CROSSWALK
Maintain Clearance at Bridge #41

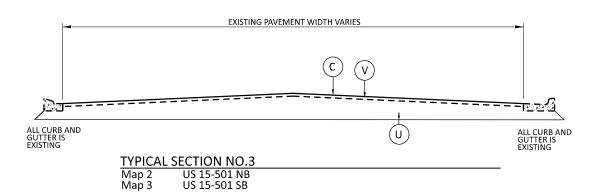


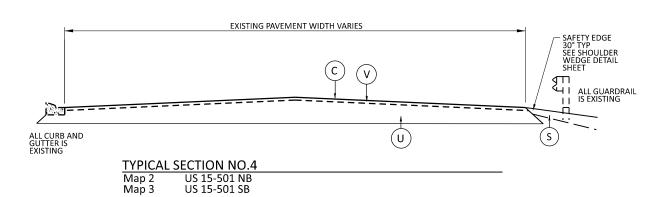


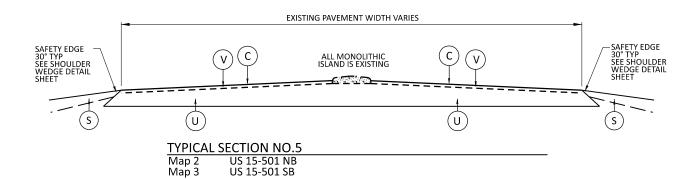


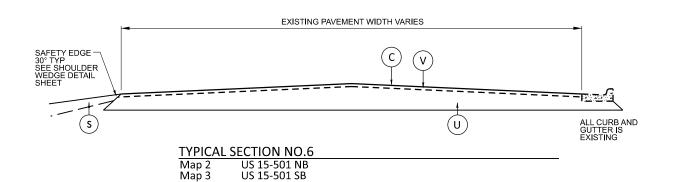


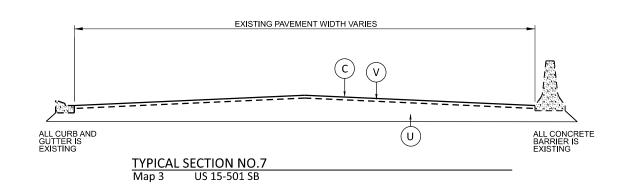




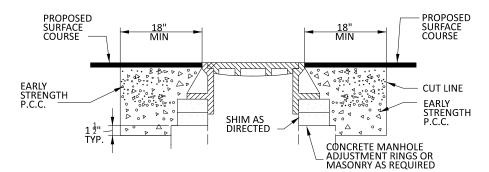








	PAVEMENT SCHEDULE			
С	PROP. APPROX. $1\frac{1}{2}$ " ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5.B, TO BE APPLIED AT AN AVERAGE RATE OF 165 LBS PER SQ YD.			
F	AST MAT COAT, #67			
U	EXISTING PAVEMENT			
V	MILL ASPHALT PAVEMENT, 1^{1}_{2} " DEPTH			
S	SHOULDER RECONSTRUCTION			



- NOTES:

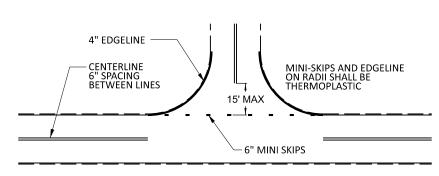
 1. MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.

 2. ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.

 3. EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.

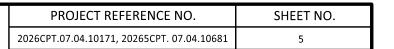
 4. RAPID SET GROUT, MORTAR, OR CONCRETE SHALL BE USED CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.

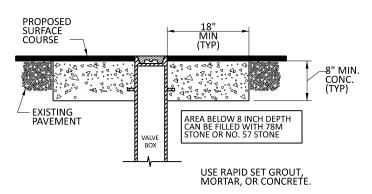
STANDARD CONCRETE ENCASEMENT FOR MANHOLE CASTINGS IN PAVEMENT



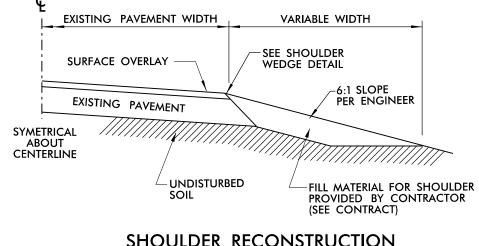
NOTE: MINI SKIPS SHALL BE PLACED ON A 8' CYCLE, CONTAINING A 6' AND 2' SKIP, THE WIDTH OF THE SKIP SHALL BE 6".

TO BE USED AT ALL NON-SIGNALIZED INTERSECTIONS



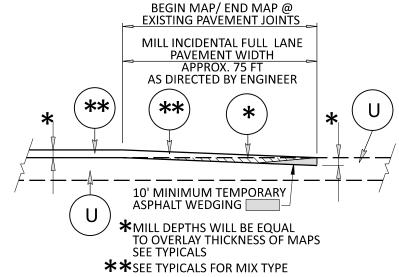


STANDARD CONCRETE ENCASEMENT FOR **VALVE CASTINGS IN PAVEMENT**



SHOULDER RECONSTRUCTION

* PLACE ASB OR BORROW AS DIRECTED BY ENGINEER



INCIDENTAL MILLING AT TIE-IN DETAIL

	PAVEMENT SCHEDULE
С	PROP. APPROX. $1\frac{1}{2}$ " ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5.B, TO BE APPLIED AT AN AVERAGE RATE OF 165 LBS PER SQ YD.
F	AST MAT COAT, #67
U	EXISTING PAVEMENT
V	MILL ASPHALT PAVEMENT, 1^{1}_{2} " DEPTH
S	SHOULDER RECONSTRUCTION

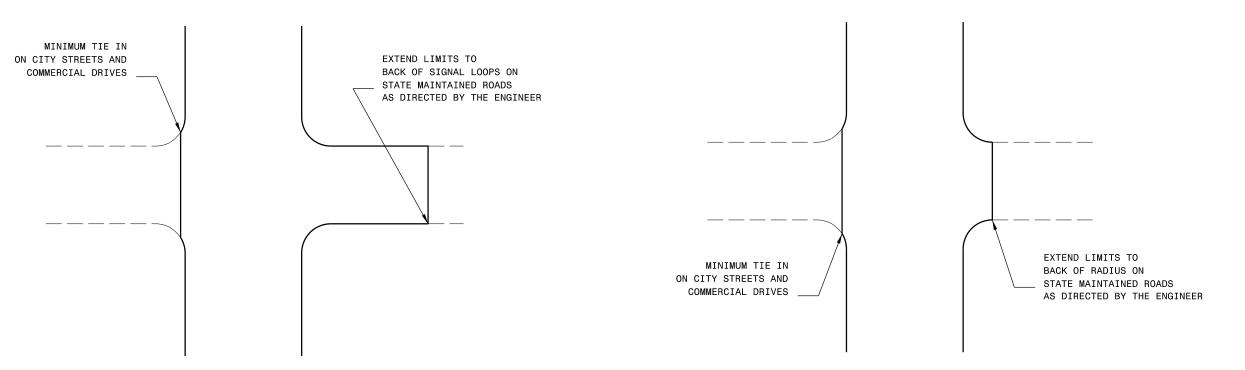
PROJECT REFERENCE NO.	SHEET NO.
2026CPT.07.04.10171, 20265CPT. 07.04.10681	6

Map 2 & 3 Decorative Crosswalk Special Detail



Replace decorative crosswalks on Maps 2 & 3 with standard Hi-Vis crosswalks as shown.

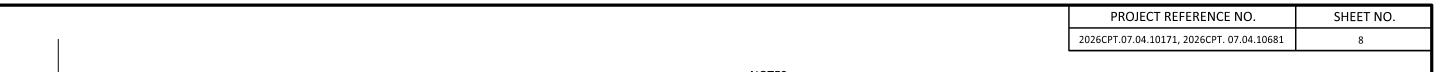
PROJECT REFERENCE NO.	SHEET NO.
2026CPT.07.04.10171, 20265CPT. 07.04.10681	7

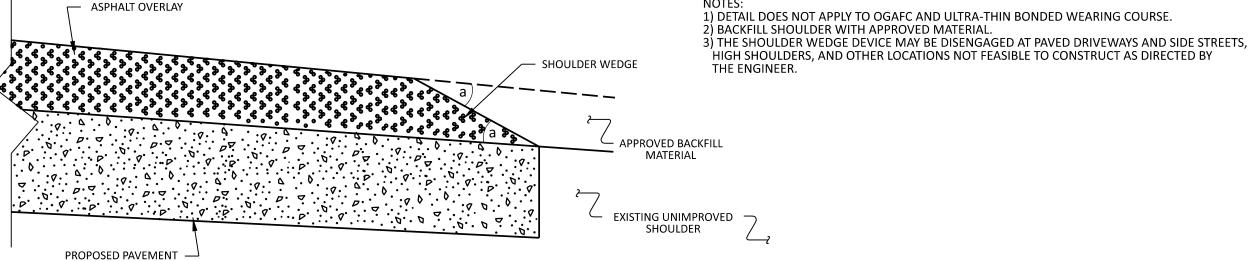


TYPICAL DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES

TYPICAL DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES

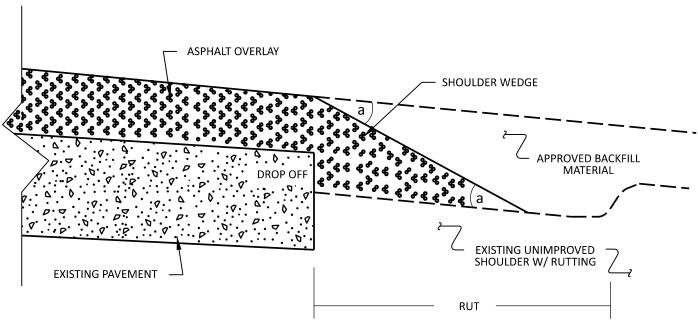
	ADDITIONAL INTERSECTIONS (NON-TYPICAL)					
MAP#	STREET NAME	COMMENTS				
2	RT Turn to SR 1742 - Ephesus Church Rd	Tie just beyond Hi-Vis Crosswalk				
2	SR 1742 - Ephesus Church Rd	Tie to nose of island, avoid loops if possible				
2	Service Rd To/From Rams Plaza	Tie to end of Gurb & Gutter				
2	From SR 1010 - E Franklin St	Tie to joint 790' from signal @ US 15-501 SB crossover				
2	Service Rd to Advance Auto Parts	Tie 8' from US 15-501 NB EP				
2	To Europa Dr	Tie to back of radius				
2	From Europa Dr	Tie to nose of island, avoid loops if possible				
2	To/From SR 1838 - Old Durham Rd	Tie to back of radius				
2	SR 1836 - Service Rd	Tie behind loops				
2	E Lakeview Dr	Tie to existing joint, avoid loops if possible				
3	Eastowne Dr	Tie to existing joint, avoid loops if possible				
3	From SR 2256 - Eastowne Dr	Tie behind loops				
3	To SR 2256 - Eastowne Dr	Tie to back of radius				
3	To/From SR 1741 - Sage Rd	Tie to back of radius				
3	SR 1734 - Erwin Rd	Tie to joint 160' from US 15-501 SB EP				
3	To SR 1010 - E. Franklin St	Tie to end of gore line on E. Franklin St				
3	To SR 2298 - Service Rd	Tie to joint 200' from back of gore				
3	To/From Eastgate Crossing	Tie 8' from US 15-501 SB EP				

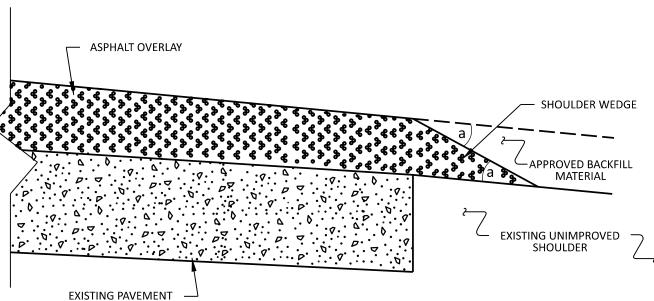




SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ Widening or with Existing Paved Shoulder having no dropoffs)





SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening)

a - SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS AND DEVELOPMENT UNIT Office 919-707-6950 FAX 919-250-4119

SHOULDER WEDGE DETAILS

ORIGINAL BY:	T.SPELL	DATE:	7-19-11	
MODIFIED BY:	•	DATE:	10/16/12	
CHECKED BY:		DATE:		
FILE SPEC.:	s:usr/details/stand/sho	ulderwedgede	tail.dgn	
	MODIFIED BY:	MODIFIED BY:	MODIFIED BY: DATE: CHECKED BY: DATE:	MODIFIED BY: DATE: 10/16/12

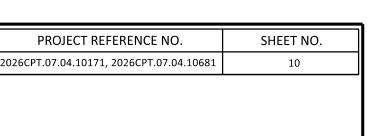
SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

PROJECT REFERENCE NO. SHEET NO. **EROSION CONTROL DETAIL** 2026CPT.07.04.10171, 20265CPT. 07.04.10681 < 5' - 10' Undisturbed buffer add BMP NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP. BMP Options: Wattle or Silt Fence EOP EOP Pipe/Culvert < 5' - 10' Undisturbed buffer from < 5' - 10' Undisturbed buffer from jurisdictional feature add BMP Undisturbed ditchline, add BMP Undisturbed Area Disturbed Area EOP EOP Jurisdictional Feature Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed Disturbed Area EOP EOP < 5' - 10' Undisturbed buffer from inlet, add wattle EOP EOP NOT TO SCALE

Wattlé

Drainage Inlet



SIGNING FOR RESURFACING PROJECTS

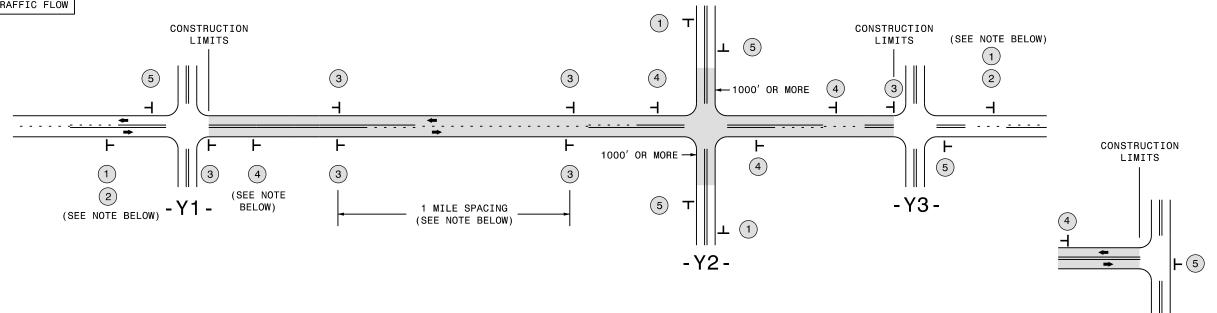
LEGEND - STATIONARY SIGN

MAPS LESS

THAN 2 MILES

ADVANCE WARNINGS SIGNS.

← DIRECTION OF TRAFFIC FLOW

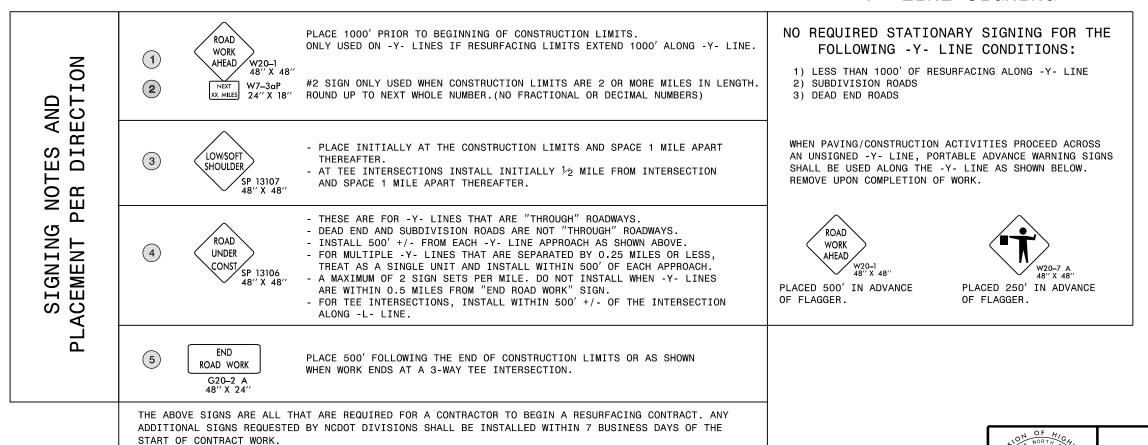


MAINLINE (-L-) SIGNING

FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE

REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY

-Y- LINE SIGNING



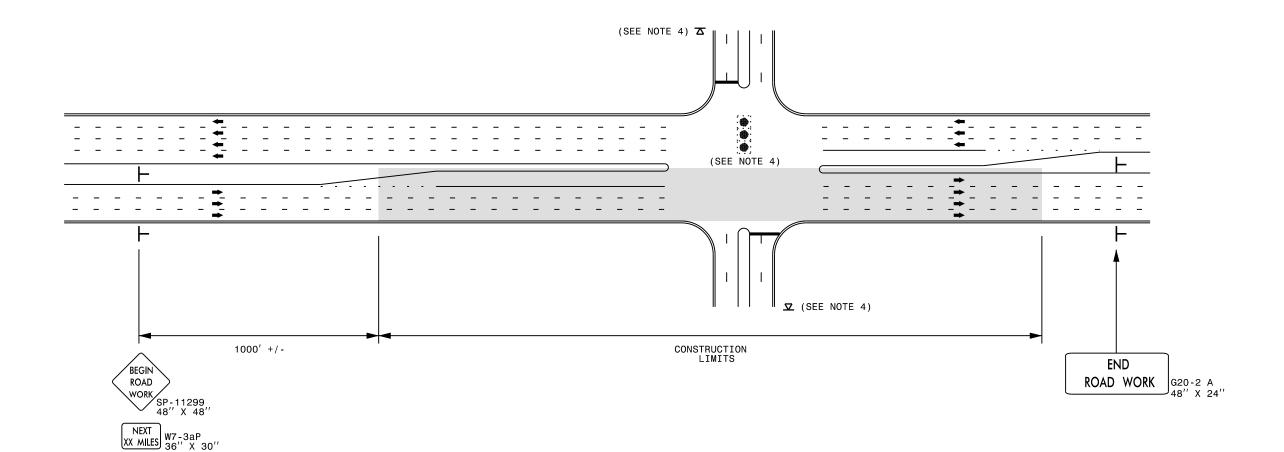


ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2-LANE ROADWAY
RESURFACING

TEE INTERSECTION

PROJECT REFERENCE NO.	SHEET NO.
2026CPT.07.04.10171, 2026CPT.07.04.10681	11

URBAN / SUBURBAN WORKZONES



NOTES:

- 1) $48" \times 48"$ SIZED SIGNS (SP- 11299) MAY BE REDUCED TO $36" \times 36"$ ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS.THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

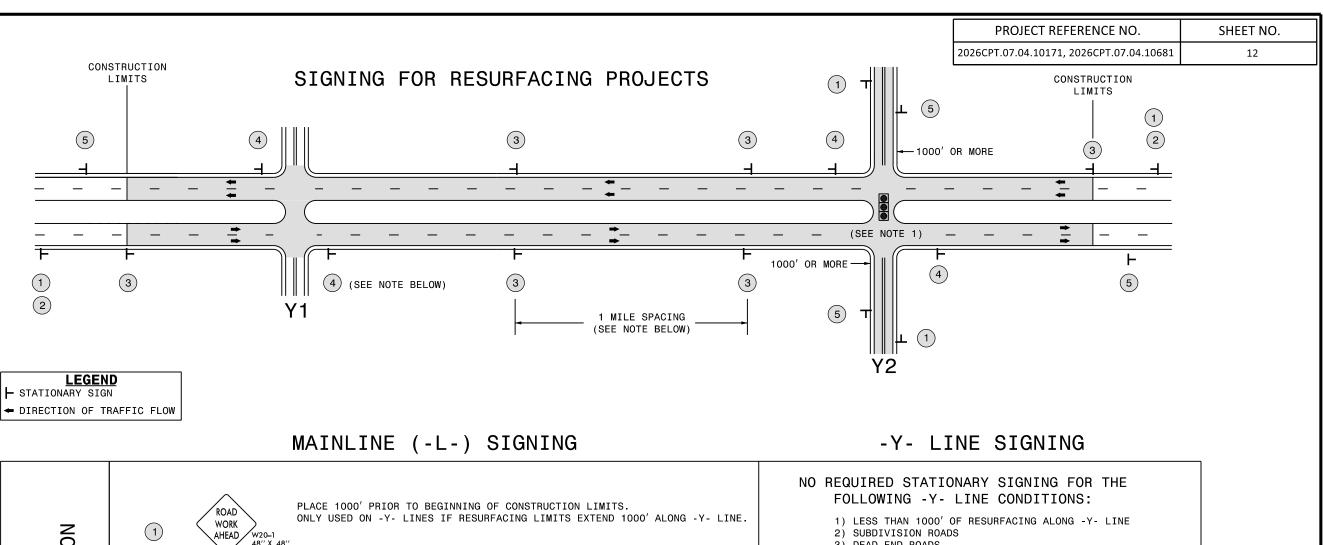


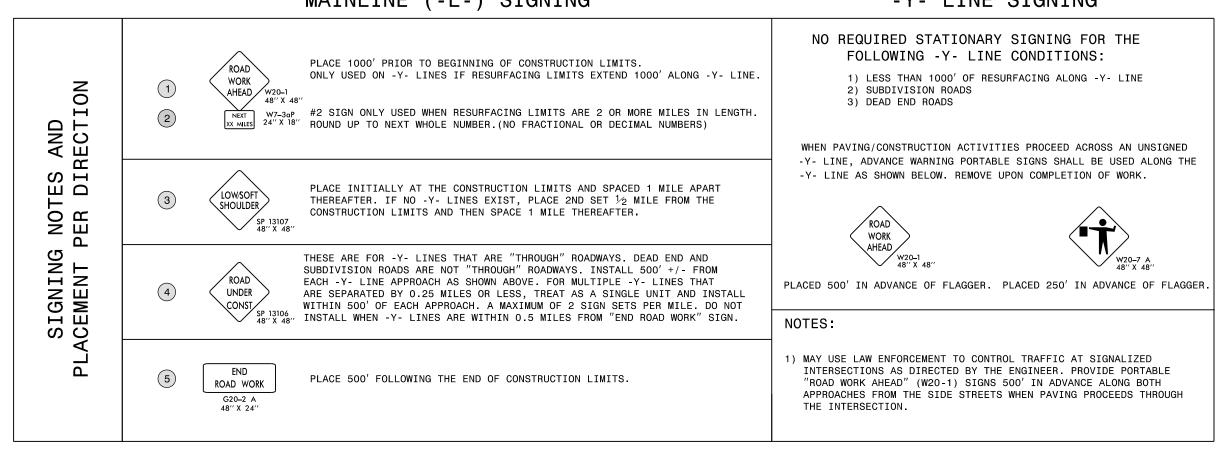
RESURFACING ADVANCE WARNING SIGNS FOR URBAN / SUBURBAN FACILITIES

LEGEND

► STATIONARY SIGN

DIRECTION OF TRAFFIC







RESURFACING
ADVANCE WARNING SIGNS
FOR RURAL AND SUBURBAN
MULTI-LANE ROADWAYS
W/ SHOULDER SECTIONS

DI DI STATE OF
NORTH CAROLINA
I. OF TRANSPORTATION
VISION OF HIGHWAYS
RALEIGH, N.C.

Ш CUT ENGL HSI H

Ш

DUC **TANDARD** Ш DRAW ING EC FOR

(FOR 9 .ING) 9 0 **P**

SHEET 1 OF 1

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 IN SERIES.
- -LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS.
- -USE A SERIES OF ONE INCH PIECES OF BACKER ROD SPACED ONE FOOT APART ALONG THE ENTIRE LENGTH OF THE FEEDER SLOT AND LOOP SAW SLOT.
- -CONSULT LOOP SEALANT MANUFACTURER TO DETERMINE CURING TIME REQUIRED PRIOR TO MILLING.
- -REFER TO STANDARD DRAWING 1725.01 SHEETS 2 AND 3 FOR ADDITIONAL REQUIREMENTS.

SAW SLOT DEPTH CHART ASSUMING 2" MILLING DEPTH

DEPTH	MAX	NO. C)F WI	RE LA	YERS
(IN)	2	3	4	5	6
SAW SLOT DEPTH	4.0	4.5	5.0	5.0	5.0
MINIMUM TOTAL ASPHALT DEPTH REQUIRED	5.0	5.5	6.0	6.0	6.0

LOOP WIRE TWISTING METHOD

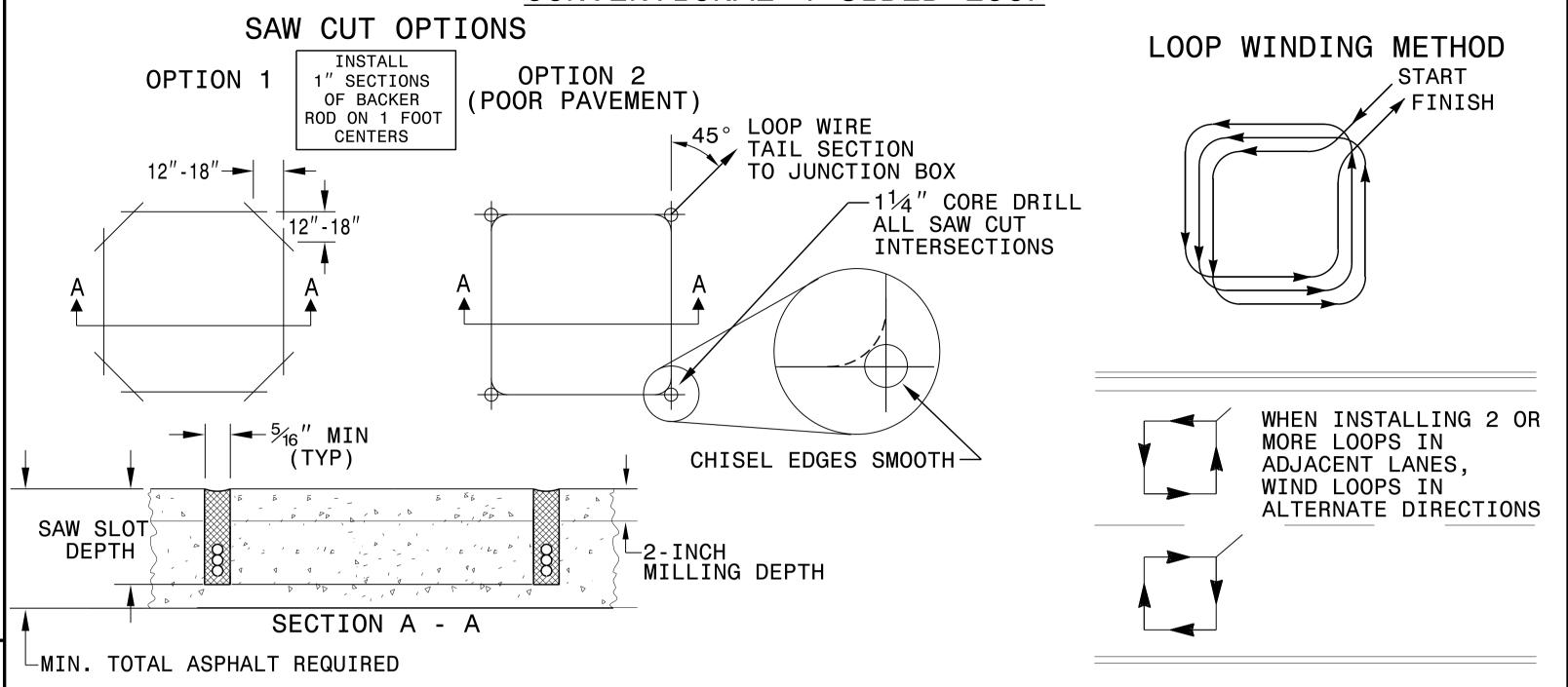
INCORRECT WAY TO TWIST WIRE



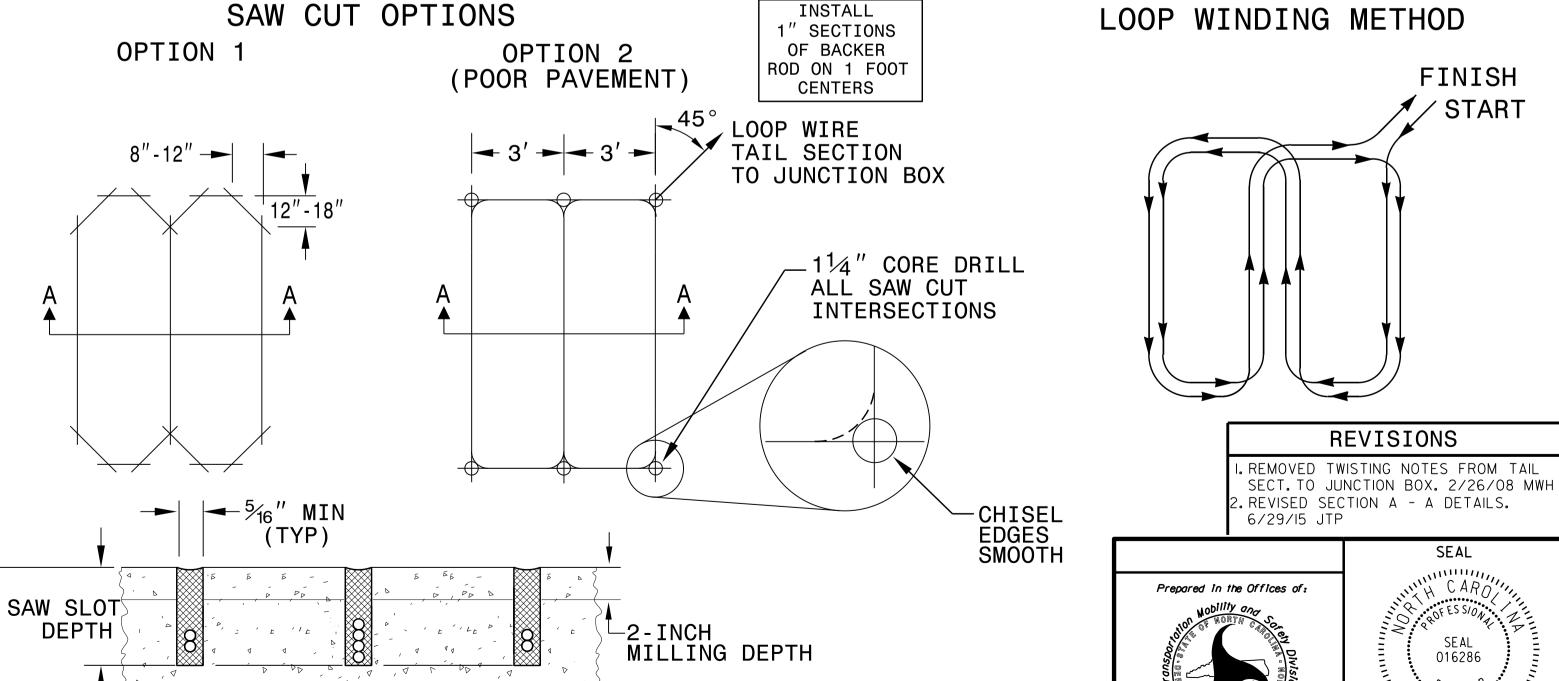
CORRECT WAY TO TWIST WIRE



CONVENTIONAL 4-SIDED LOOP

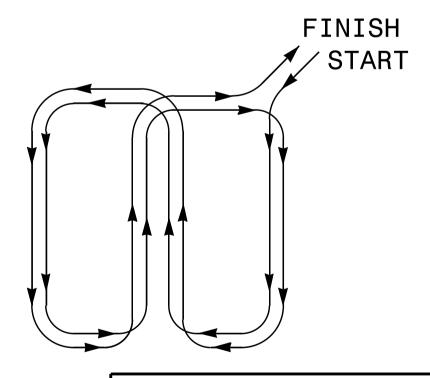


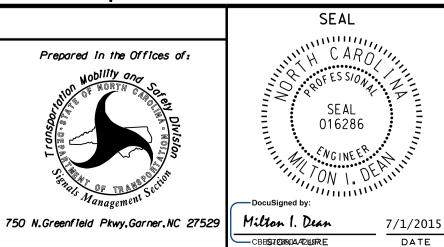




SECTION A - A

└MIN. TOTAL ASPHALT REQUIRED





2026CPT.07.04.10171 2026CPT.07.04.10681 SHEET No.

PROJECT REFERENCE

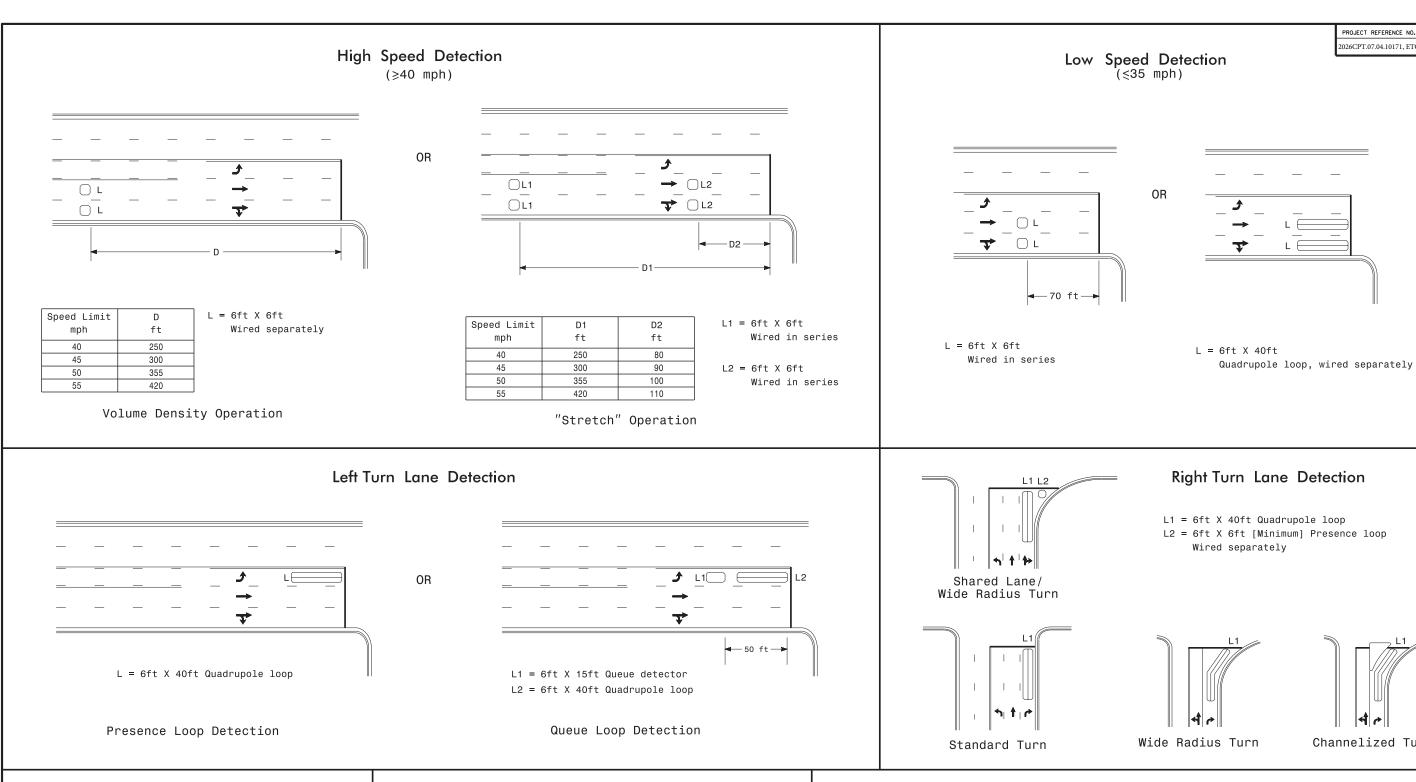
00 ING) FOR DRAWING Ш́Н DE IOR STANDARD Ш **_ LLATION** 200 IND INSTA ISH ENGL FOR

ION S

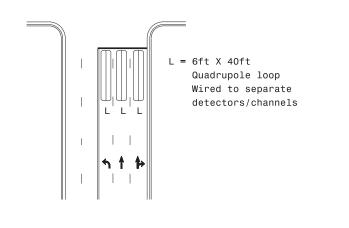
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATIC
DIVISION OF HIGHWAYS
RALEIGH, N.C.

SHEET OF

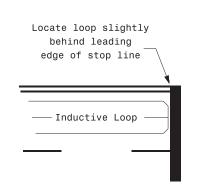
DEE







Presence Loop Placement at Stop Lines



Loop may be located in advance of stop line under any of the following conditions:

- 1) stop line is greater than 15' from edge of intersecting
- roadway 2) loop detects a permissive or protected/permissive left turn
- 3) for an exclusive right turn lane

Recommended Number of Turns

Single 6' X 6' loop (when wired separately):

Length of Lead-in ft	Number of Turns
< 250	3
250-375	4
375 - 525	5
> 525	6

Quadrupole loops: Use 2-4-2 turns 6' X 15' Loops: Lead-in < 150', use 2 turns

Lead-in	> 150', use 3 turns
Prepared in the Offices of:	Typical Signal Lo

pical Signal Loop Locations

PROJECT REFERENCE NO. 026CPT.07.04.10171, ETC.

Channelized Turn

Senal Design Section	PLAN DATE:	September	2020	REVIEWED BY:	JPG		111111
Greenfield Pkwy,Garner,NC 27529	PREPARED BY:	PLA		REVIEWED BY:			
SCALE		REV1S10NS			INIT.	DATE	.7000
N. / A							مالات
N / A							end
							SIG.

PROJECT NO.	SHEET NO.	TOTAL NO.
2026CPT.07.04.10171,	15	16
2026CPT.07.04.10681	13	10

SUMMARY OF QUANTITIES

												0106000000-E	1220000000-E	1245000000-E	1260000000-E	1297000000-E	133000000-E	1519000000-E	1575000000-E	1775500000-E	1838000000-E	2830000000-N	2845000000-N	5255000000-N	6000000000-E	6071010000-E	6084000000-E	7990000000-E
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	BORROW EXCAVATION	INCIDENTAL STONE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	MILLING ASPHALT PAVEMENT, 1 1/2" DEPTH	INCIDENTAL MILLING	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	ASPHALT BINDER FOR PLANT MIX	ASPHALT SURFACE TREATMENT, MAT COAT, #67 STONE	EMULSION FOR ASPHALT SURFACE TREATMENT	ADJUSTMENT OF MANHOLES	ADJUSTMENT OF METER BOXES OR VALVE BOXES	PORTABLE LIGHTING	TEMPORARY SILT FENCE	WATTLE	SEEDING & MULCHING	INDUCTIVE LOOP SAW CUT (DEEP CUT)
								MI	FT			CY	TONS	SMI	TON	SY	SY	TONS	TON	SY	GAL	EA	EA	LS	LF	LF	AC	LF
2026CPT.07.04.10171	Caswell	1	NC-119	FROM JOINT 180' NORTH OF NC 57 TO VIRGINIA STATE LINE	1	2	2WU	3.08	22	21.81	24.89	61	168	6.12	174		421	3,774	245	39,846	15,142				1,224	122	0.22	
TOTA	L FOR MAP	NO. 1						3.08				61	168	6.12	174		421	3,774	245	39,846	15,142				1,224	122	0.22	
TOTAL FOR PRO.	J NO. 2026	CPT.07.04	.10171					3.08				61	168	6.12	174		421	3,774	245	39,846	15,142				1,224	122	0.22	
2026CPT.07.04.10681	Orange	2	US-15-501 NB	FROM JOINT 320' SOUTH OF SR 1742 - EPHESUS CHURCH RD TO DURHAM COUNTY LINE		2-4	MU	1.67	25	6.81	8.48					38,075	3,482	3,771	245			1	3	0.50				5,831
TOTA	L FOR MAP	NO. 2						1.67								38,075	3,482	3,771	245			1	3	0.50				5,831
2026CPT.07.04.10681	Orange	3	US-15-501 SB	FROM DURHAM COUNTY LINE TO JOINT 150' SOUTH OF SR 1742 - EPHESUS CHURCH RD	2,3,4,5, 6,7	2-4	MU	1.68	26	0	1.68					35,880	3,650	3,587	233			1	7	0.50				4,703
TOTA	L FOR MAP	NO. 3						1.68								35,880	3,650	3,587	233			1	7	0.50				4,703
TOTAL FOR PRO.	J NO. 2026	CPT.07.04	.10681					3.35								73,955	7,132	7,358	478			2	10	1.00				10,534
G	RAND TOT	AL						6.43				61	168	6.12	174	73,955	7,553	11,132	723	39,846	15,142	2	10	1.00	1,224	122	0.22	10,534

PROJECT NO.	SHEET NO.	TOTAL NO.
2026CPT.07.04.10171,	16	16
2026CPT.07.04.10681	10	10

THERMOPLASTIC AND PAINT QUANTITIES

							ır	1 6	י ויו א	UP	LA	3 I I	C	AND	<u> </u>	AI	N I	Ų	U A	IN I	11	IE	3														
								441300000-E				4688000000-E	470000000 E	4/0000000-E	4709000000-E	4720000000-E			4725000000-E				-481500000-E	4025000000 E	4825000000-E	4835000000-E	4840000000-N			4845000000-N		489000000-E		489500000-N			
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	TYPE	LENGTH	WIDTH BEGIN MP	END MP	WORK ZONE ADVANCE/ GENERAL	TEMPORARY TRAFFIC CONTROL	6" X 90 M WHITE THERMO	6" X 90 M YELLOW THERMO	12" X 90 M WHITE THERMO	12" X 90 M YELLOW THERMO	24" X 90 M WHITE THERMO		THERMO LT ARROW 90 M THERMO STD ABDOW 90 M			THERMO MERGE F	THERMO BICYCLE SYMBOL 90 M THERMO BIKE STB ABBOW 50 M	BIKE SIR ARROW 90 PAINT	6" YELLOW PAINT	12" WHITE PAINT	12" YELLOW PAINT	24" WHITE PAINT	PAINT MSG ONLY					PAINT MERGE RIGHT YIELD LINE THERMOI		YELLOW/ YELLOW	POLYCARBONATE H-SHAPED MARKERS CRYSTAL/ RED
								MI	FT		SF	LS	LF	LF	LF	LF	LF	EA I	EA E	A EA	EA	EA I	EA E	A LF	LF	LF	LF	LF	EA	EA	EA	EA I	EA F	A LF		EA	EA
				FROM JOINT 180' NORTH OF NC 57 TO																											(V					202	
2026CPT.07.04.10171		1	NC-119	VIRGINIA STATE LINE	1	2	2WU		22 21.8	1 24.	343			21,500																	\Box						
TOTA	AL FOR MAP N	NO. 1						3.08			343			21,500																	\sqcup			\bot		202	
TOTAL FOR PRO	J NO. 2026C	PT.07.04	1.10171					3.08			343	0.34		21,500																					2	202	
													5	4,100																						202	
													1												,												
2026CPT.07.04.10681	Orango	2	US-15-501 NB	FROM JOINT 320' SOUTH OF SR 1742 EPHESUS CHURCH RD TO DURHAM COUNTY LINE		2-4	MII	1 67	25 6.83		.8 185	0.34	15,000	9,000	1 200	100	2 000	16	20 2	15	5	5		15,000	9,000	1,200	100	2 000	16	20	20	15	5 5	5			350
	L FOR MAP N		02-10-201 IAD	COOMIT LINE	— —	2-4	110	1.67	23 0.0.	0.4	185	0.34	15,000	9,000	1 200	100	2,090	16	30 3) 15	5	5		15,000		1,200	100	2,090	16	30	30	15	5	<u>,</u>	+-		350 350
IOIA	I	10.2		FROM DURHAM COUNTY LINE TO				1.07			100	0.54	13,000	3,000	1,200	100	2,000	10 ,	3	, 13		+		13,000	3,000	1,200	100	2,030	10	100	30		`	+		-	330
2026CPT.07.04.10681	Orange	3	US-15-501 SB	JOINT 150' SOUTH OF SR 1742 - EPHESUS CHURCH RD	2,3,4,5, 6,7	2-4	MU	1.68	26 0	1.6	8 185	0.32	15,000	8,500	1,000	100	1,790	8 2	21 2	2 16			1 :	1 15,000	8,500	1,000	100	1,790) 8	21	22	16		18			350
	L FOR MAP N							1.68			185		15,000				1,790			2 16			1 1		8,500	1,000		1,790						18			350
							3.35			370													1 30,000									5				700	
IOTAL FOR PRO.	TOTAL FOR PROJ NO. 2026CPT.07.04.10681												7,500	2,4						146				,500	2,4						144				700		
																													_								
	DAND TOTA							6.43			713	1.00	62,600	39,000	2,200	200	3,880	24 !	51 5	2 31	5	5	1 :	1 30,000	17,500	2,200	200	3,880	24	51	52	31	5	5 18	T :	202	700
GRAND TOTAL				•	•	•		•		•	•	+	1,600	2,4						146			_	,500		2,400				144					902	2	
													•		•			-										-		•							