PROJECT REFERENCE NO.	SHEET NO.
2020CPT.05.08.20731.1	/

5/14/99

09-OCT-2018 10:17
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1337
Chub Lake Rd.
1333
Chub Lake Rd.
Stories Creek Rd.
1347
9
1524
Allie Clay Rd.
501
11
New Project as US 501
N Main St.
1605
1363
Ridge Rd.
10
Reams Ave
1363
57
49
49
49
49
1555
Lawson Chapel Church Rd.
1556
13
Dirgie Mine Rd.
1542
St. Paul Church Rd.
Hazel Lawson Rd.
1595
1542
Dirgie Mine Rd.
12
Allensville Rd
1536
Denny's Store Rd
49

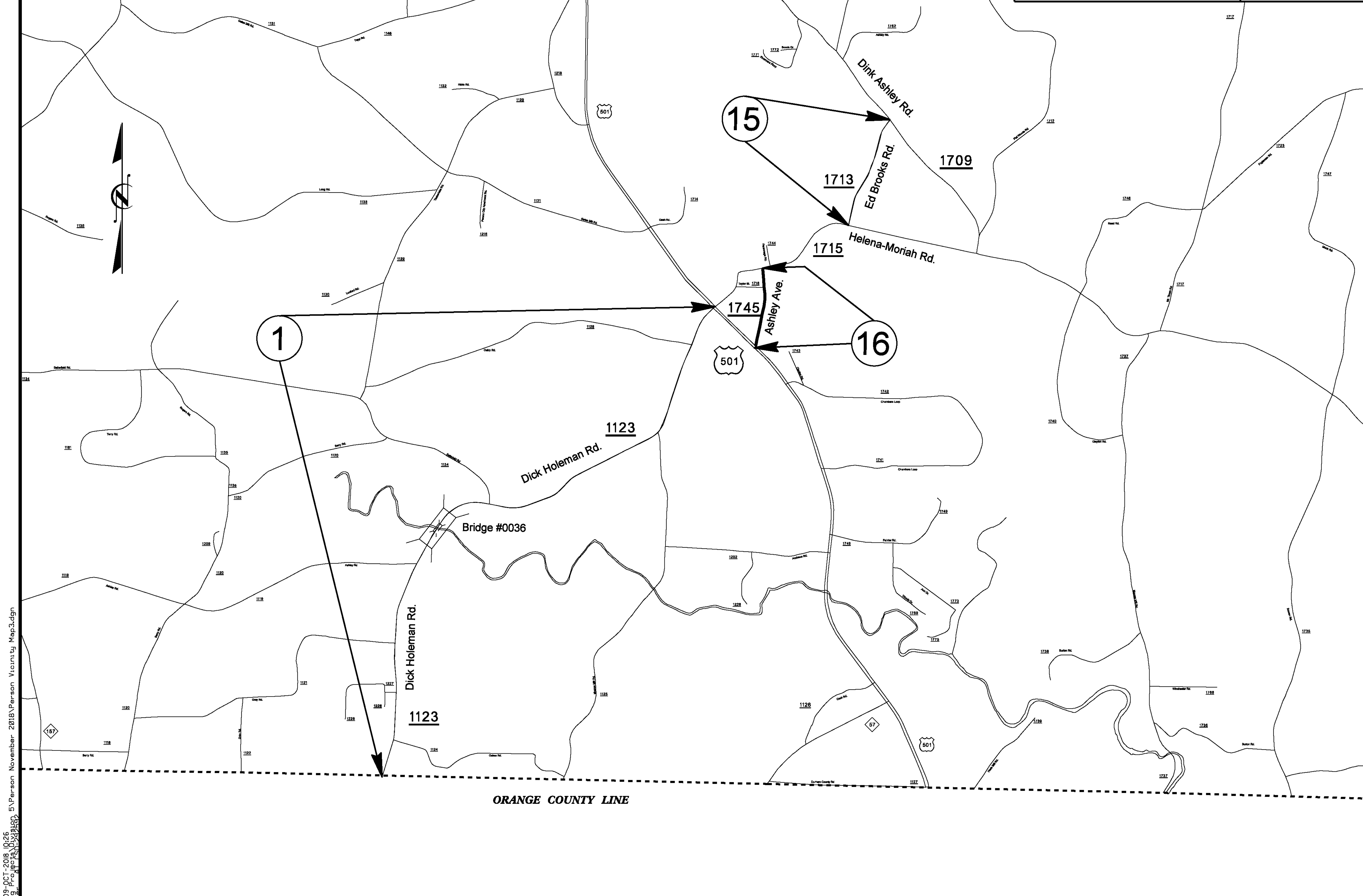
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
2020CPT.05.08.20731.1	2

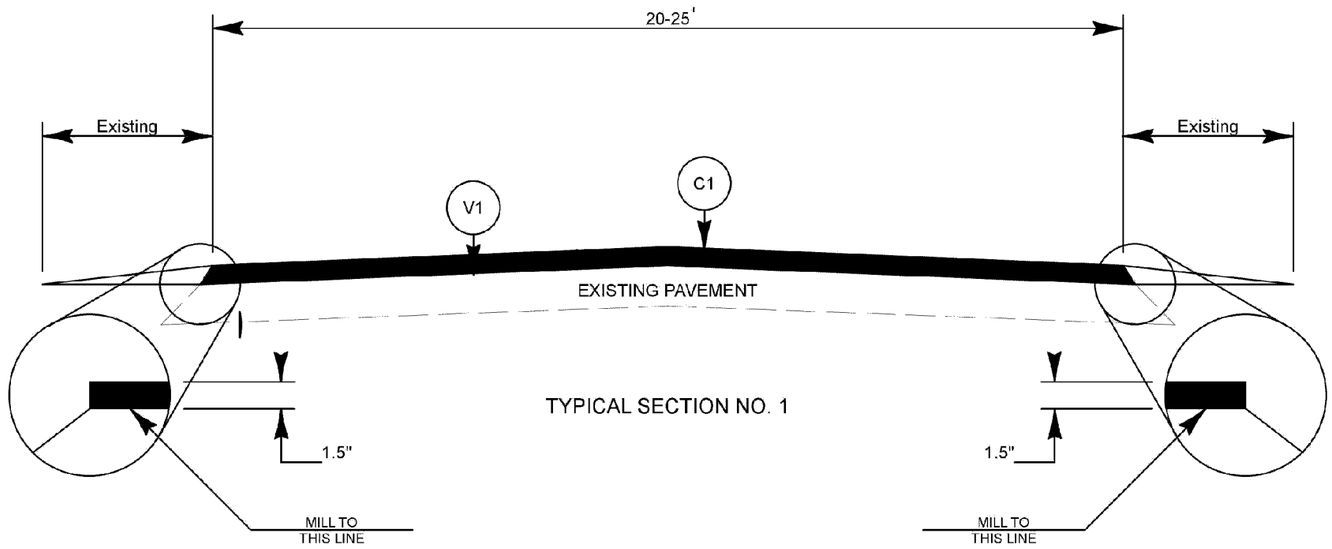
1157
Dee Long Rd.
8
Landmark North Rd.
7
1222
1221
Landmark South Dr.
Burlington Rd.
Critcher Wilkerson Rd.
1153
Carrington Ln
Wesleyan Rd.
49
1152
5
4
6
Hurdle Mills Rd.
1148
Patterson Dr.
501
158
1203
Lewis Winstead Loop Rd.
157
1142
C-24
Paynes Tavern Rd.
Bessie Daniel Rd.
P-193
1144
1142
1141
14
1717
Huff Rd.
2
Flat River Church Rd.
Surl Mt. Tizah Rd.
3
501
Antioch Church Rd.
P-22
1708
157

21-SEP-2018 15:39
\\ncdot.org\nc\Projects\Divisions\05\Person\Traffic\Engineering Projects\2018 November 5\Person November 2018\Person Vicinity Map.dgn

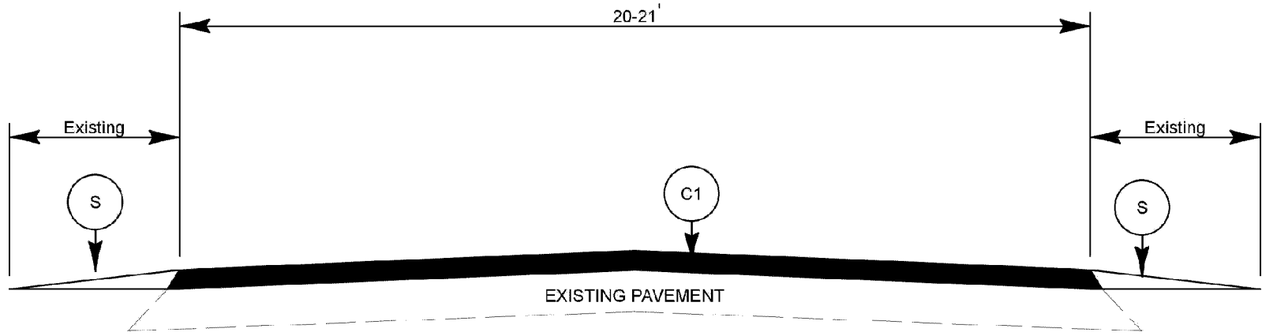
PROJECT REFERENCE NO.	SHEET NO.
2020CPT.05.08.20731.1	3



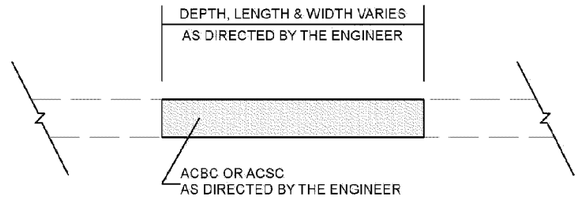
PROJECT NO.	SHEET NO.	TOTAL SHEETS
2020CPT.05.08.20731.1	4	



TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2



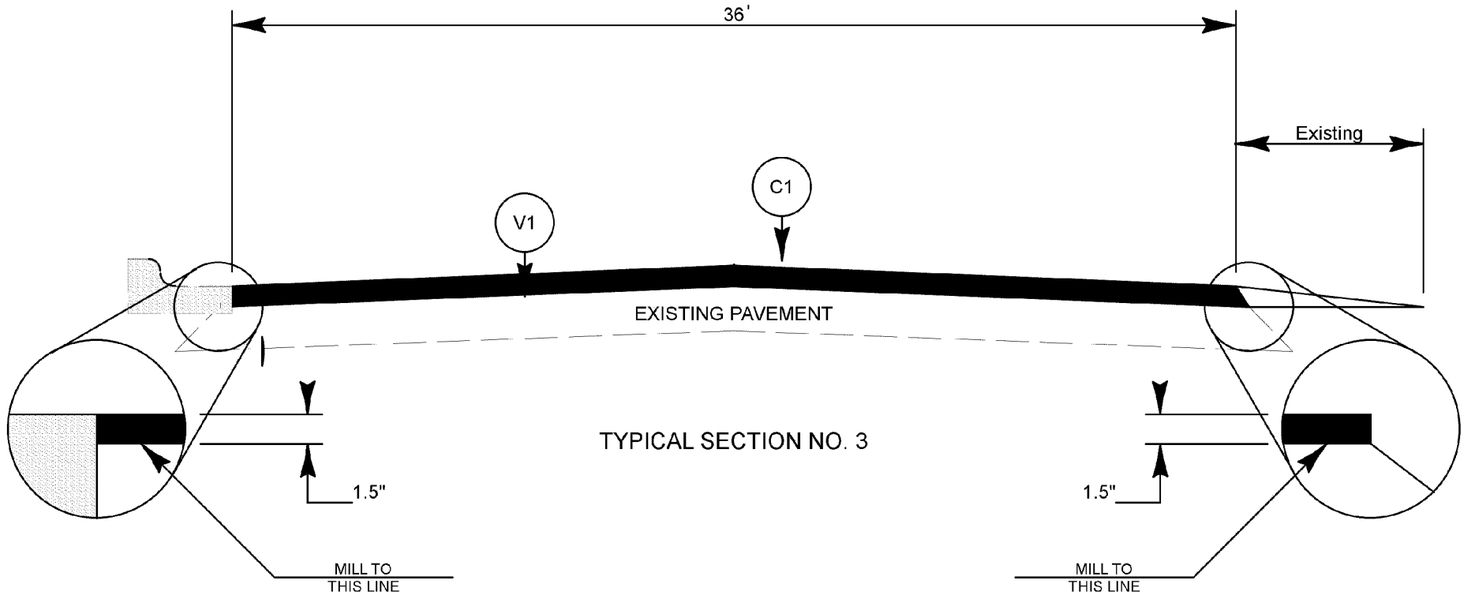
PATCHING EXISTING PAVEMENT

Patching prior to milling for the following maps due to areas that are distressed more than 1.5" deep :

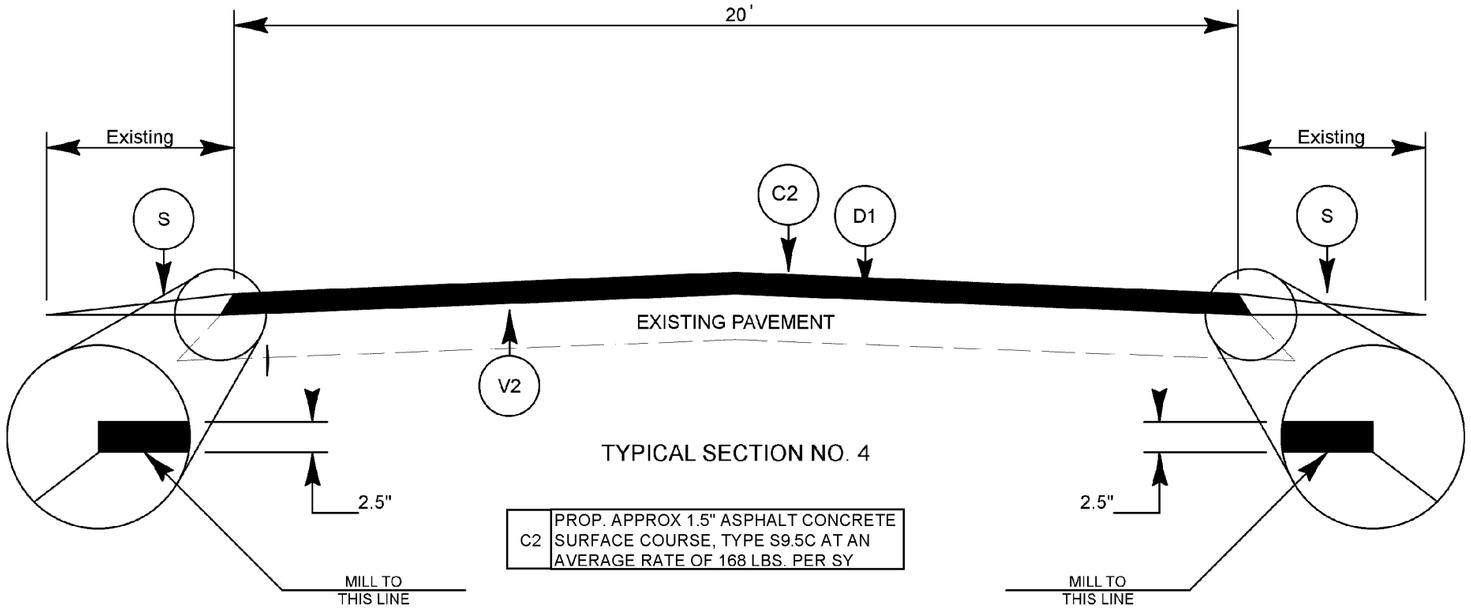
Map 1 - SR 1123 - DICK HOLEMAN RD
Map 5 - SR 1152 - WESLEYAN RD
Map 14 - SR 1708 - ANTIOCH CHURCH RD

PAVEMENT SCHEDULE	
C1	PROP. APPROX 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SY.
D1	PROP. APPROX 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C AT AN AVERAGE RATE OF 285LBS. PER SY.
S	SHOULDER GRADING
V1	PROP. 1.5" MILLING EXISTING PAVEMENT
V2	PROP. 2.5" MILLING EXISTING PAVEMENT

PROJECT NO.	SHEET NO.	TOTAL SHEETS
2020CPT.05.08.20731.1	5	

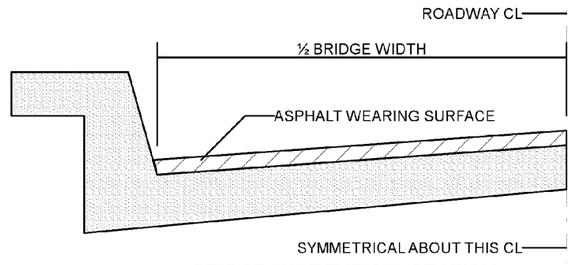


TYPICAL SECTION NO. 3



TYPICAL SECTION NO. 4

C2	PROP. APPROX 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C AT AN AVERAGE RATE OF 168 LBS. PER SY



BRIDGE HALF TYPICAL SECTION

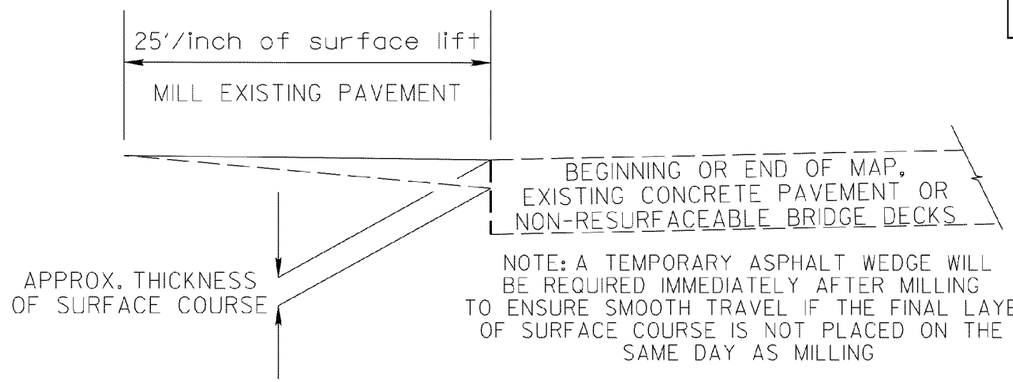
FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN

THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. THE MINIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A ¼", SF9.5A 1.0", S9.5X 1.5", S12.5X 2.0", ULTRATHIN HOT MIX ASPHALT-TYPE A ¾", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8', ULTRATHIN HOT MIX ASPHALT-TYPE C ¾".THE MAXIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS. S4.75A 1.0", SF9.5A 1.5",S9.5X 2.0", S12.5X 2.0", ULTRATHIN HOT MIX ASPHALT-TYPE A ¾", ULTRATHIN HOT MIX ASPHALT-TYPE B 5/8", ULTRATHIN HOT MIX ASPHALT-TYPE C ½".

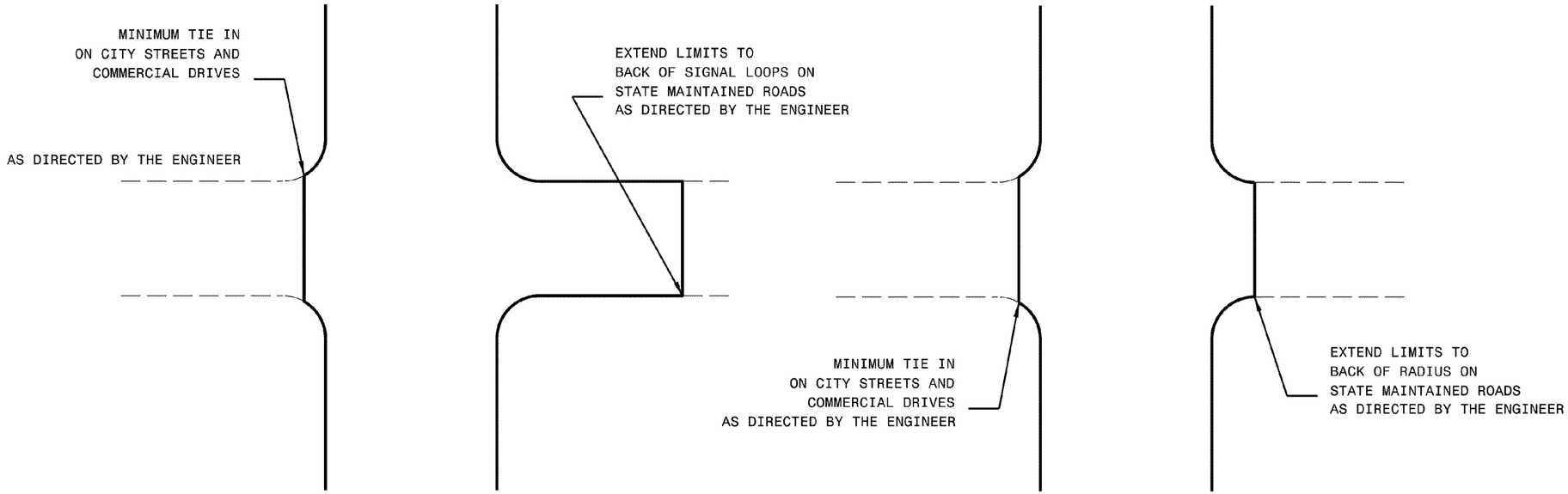
NOTES

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.	SHEET NO.	TOTAL SHEETS
2020CPT.05.08.20731.1	6	



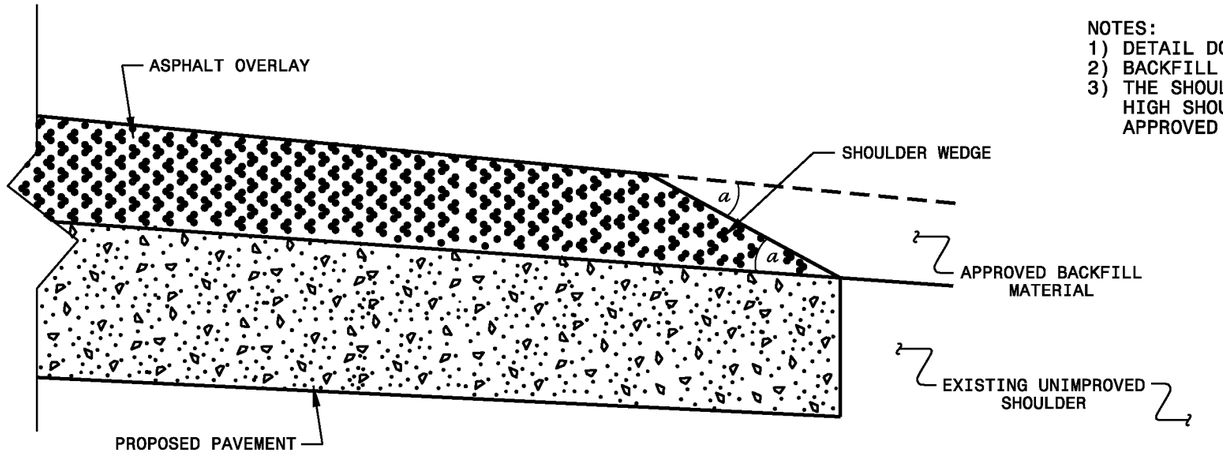
DETAIL OF INCIDENTAL MILLING



DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES

DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES

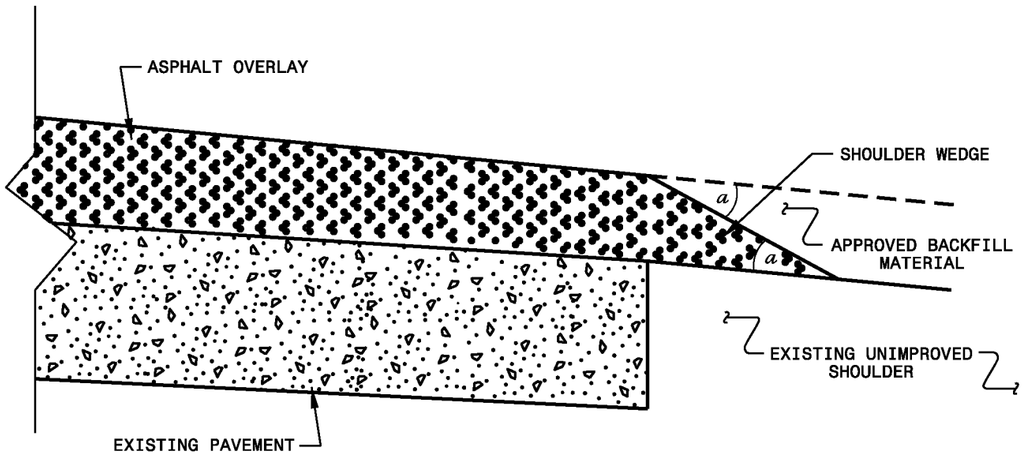
PROJECT REFERENCE NO.	SHEET NO.
2020CPT.05.08.20731.1	7



NOTES:
1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.

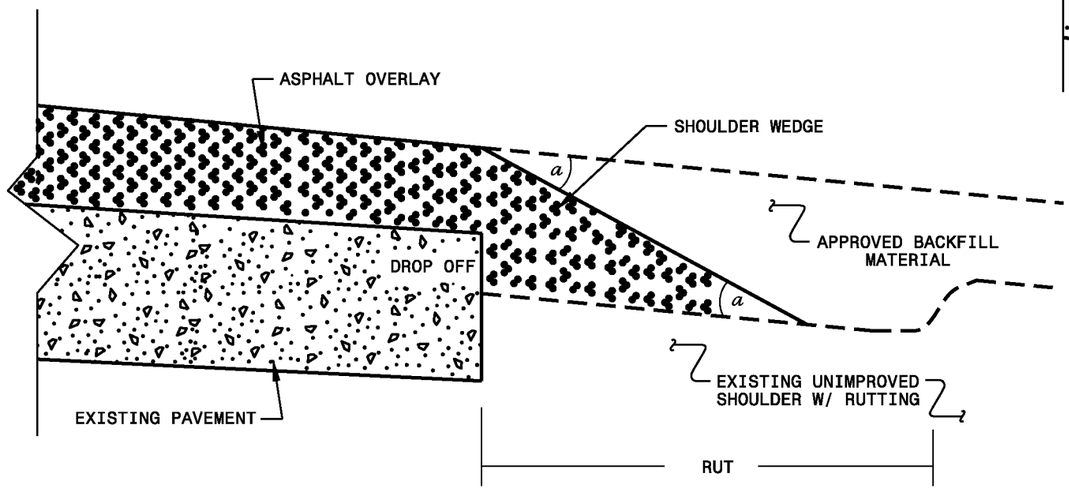
SHOULDER WEDGE DETAIL

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



SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening)



SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

- 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:	2/2/16
CHECKED BY:		DATE:	
FILE SPEC.:	s:\usr\details\stand\shoulderwedgedetail.dgn		

22-JAN-2018 09:41
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pporter AT CSD 27252

PROJECT NO.	SHEET NO.	TOTAL NO.
2020CPT.05.08.20731.1	8	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	BORROW	SHOULDER GRADING	INC. STONE BASE	ASB	1½" MILLING	2.5" MILLING	INC. MILLING	INTERMEDIATE COURSE, I19.0C	SURFACE COURSE, S9.5B	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXI. PAVEMENT	ADJ. OF MANHOLES	ADJ. OF METER OR VALVE BOXES	TEMP. SILT FENCE	WATTLE	SEED & MULCHING	INDUCTIVE LOOP SAWCUT
									MI	FT	CY	SMI	TONS	TON	SY	SY	SY	TONS	TONS	TONS	TON	TONS	EA	EA	LF	LF	AC	LF
2020CPT.05.08.20731.1	Person	1	SR 1123 - DICK HOLEMAN RD	FROM US 501 - DURHAM RD TO THE ORANGE COUNTY LINE	1	2	NO	NO	4.07	24			50		56,379		2,443		5,188		348	200						
		2	SR 1142 - BESSIE DANIEL RD	FROM SR 1144 - FLAT RIVER CHURCH RD TO NC 157 - HURDLE-MILLS RD	2	2	NO	NO	1.26	20	13	2.52	63	210			264		1,297		87	75			18	50	0.18	
		3	SR 1142 - PAYNES TAVERN RD	FROM NC 157 - HURDLE-MILLS TO SR 1141 - HUFF RD	2	2	NO	NO	1.39	20	111	2.78	70	51			1,156		1,507		101	300			162	410	1.62	
		4	SR 1148 - PATTERSON DR	FROM US 501 TO NC 157 HURDLE-MILLS RD	1	2	NO	NO	1.12	25			16		16,162		404		1,433		96		1					
		5	SR 1152 - WESLEYAN RD	FROM NC 49 - BURLINGTON RD TO SR 1153 - CRITCHER WILKERSON RD/CARRINGTON LN (INCLUDE INTERSECTION)	1	2	NO	NO	1.66	21			15		20,451		1,192		1,870		125	50						
		6	SR 1203 - LEWIS WINSTEAD LOOP RD	FROM NC 49 - BURLINGTON RD TO NC 49 - BURLINGTON RD	2	2	NO	NO	1.31	20	118	2.62	66	24			315		1,351		91	500			171	430	1.71	
		7	SR 1221 - LANDMARK SOUTH DR	FROM NC 49 - BURLINGTON RD TO CUL DE SAC	2	2	NO	NO	0.06	20	6	0.12	3				85		81		5	20			9	30	0.09	
		8	SR 1222 - LANDMARK NORTH RD	FROM SR 1157 - DEE LONG RD TO CUL DE SAC	2	2	NO	NO	0.08	20	8	0.16	4				78		123		8	50			12	30	0.12	
		9	SR 1333 - CHUB LAKE RD	FROM SR 1347 - STORIES CREEK RD (INTERSECTION INCLUDED) TO SR 1337 - CHUB LAKE RD	1	2	NO	NO	1.58	20			20		18,642		1,475		1,744		117	50						
		10	SR 1363 - RIDGE RD	FROM SR 1605 - N. MAIN ST TO MP 1.67 (INCLUDE SR 1363 - REAMS AVE. INTERSECTION)	1&3	2	NO	NO	1.66	20-36			20		19,922		2,642		1,953		131	40		6				1,062
		11	SR 1524 - ALLIE CLAY RD	FROM 0.3 EAST OF SR 1605 - N MAIN ST TO US 501	4	2	NO	NO	0.94	20	56	1.88	47	69		11,029	1,003	1,818		1,067	151				82	210	0.82	
		12	SR 1542 - DIRGIE MINE RD	FROM SR 1536 - ALLENSVILLE RD/ DENNY'S STORE RD (INCLUDE INTERSECTION) TO SR 1595 - HAZEL LAWSON RD	2	2	NO	NO	2.62	21	183	5.24	131	145			1,674		2,943		197	1,500			267	670	2.67	
		13	SR 1555 - ST. PAUL CHURCH RD	FROM SR 1556 - LAWSON CHAPEL CHURCH RD TO SR 1542 - DIRGIE MINE RD	2	2	NO	NO	2.11	20	21	4.22	106	351			192		2,182		146	500			31	80	0.31	
		14	SR 1708 - ANTIOCH CHURCH RD	FROM SR 1717 - SURL MT TIRZAH RD TO US 501 - DURHAM RD	1	2	NO	NO	4.58	22			64		58,432		2,533		5,282		354	1,000						
		15	SR 1713 - ED BROOKS RD	FROM SR 1715 - HELENA-MORIAH RD TO SR 1709 - DINK ASHLEY RD	2	2	NO	NO	0.70	20	14	1.40	35	103			164		716		48	300			20	60	0.20	
		16	SR 1745 - ASHLEY AVE	FROM US 501 - DURHAM RD TO SR 1715 - HELENA-MORIAH RD	2	2	NO	NO	0.47	20	47	0.94	24				395		477		32	130			68	180	0.68	
GRAND TOTAL FOR PROJ NO. 2020CPT.05.08.20731.1									**25.61**		**577**	**21.88**	**734**	**953**	**189,988**	**11,029**	**16,015**	**1,818**	**28,147**	**1,067**	**2,037**	**4,715**	**1**	**6**	**840**	**2,150**	**8.40**	**1,062**

PROJECT NO.	SHEET NO.	TOTAL NO.
2020CPT.05.08.20731.1	9	

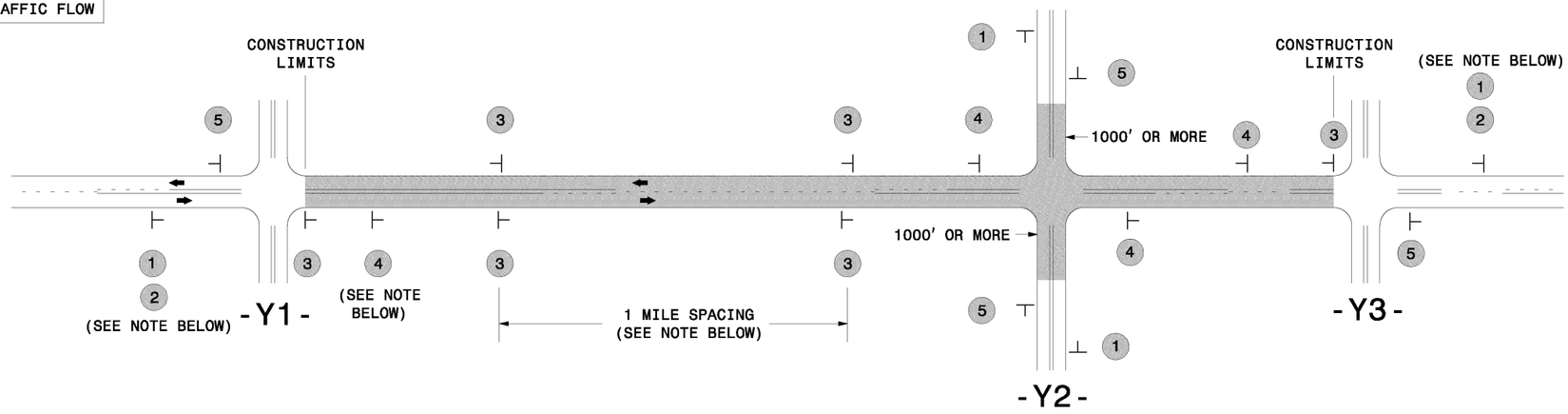
THERMOPLASTIC AND PAINT QUANTITIES

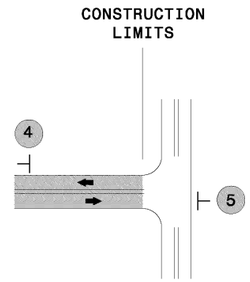
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LENGTH	WIDTH	4413000000-E WK ZN ADV/GEN WARNING SIGNING	44570000 TEMP. TRAFFIC CONTROL	46850000 4" X 90 M WHITE THERMO	4686000000-E 4" X 120 M WHITE THERMO	4686000000-E 4" X 120 M YELLOW THERMO	46870000 4" X 240 M WHITE THERMO	46970000 8" X 120 M YELLOW THERMO	47100000 24" X 120 M WHITE THERMO	4721000000-E THERMO MSG STOP 120 M	4721000000-E THERMO MSG AHEAD 120 M	4721000000-E THERMO MSG SCHOOL 120 M	4725000000-E THERMO LT ARROW 90 M	4725000000-E THERMO RT ARROW 90 M	4725000000-E THERMO STR & RT ARROW 90 M	4725000000-E THERMO LT STR RT ARROW 90 M	4810000000-E 4" WHITE PAINT	4810000000-E 4" YELLOW PAINT
							MI	FT	SF	LS	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	LF	LF
2020CPT.05.08.20731.1	Person	1	SR 1123 - DICK HOLEMAN RD	FROM US 501 - DURHAM RD TO THE ORANGE COUNTY LINE	1	2	4.07	24	456		43,793	257	42,850												
		2	SR 1142 - BESSIE DANIEL RD	FROM SR 1144 - FLAT RIVER CHURCH RD TO NC 157 - HURDLE-MILLS RD	2	2	1.26	20	126		13,558	23	13,266												
		3	SR 1142 - PAYNES TAVERN RD	FROM NC 157 - HURDLE-MILLS TO SR 1141 - HUFF RD	2	2	1.39	20	156		14,956	80	14,311												
		4	SR 1148 - PATTERSON DR	FROM US 501 TO NC 157 HURDLE-MILLS RD	1	2	1.12	25	125		12,051	18	11,792	200		20	4	5							
		5	SR 1152 - WESLEYAN RD	FROM NC 49 - BURLINGTON RD TO SR 1153 - CRITCHER WILKERSON RD/CARRINGTON LN (INCLUDE INTERSECTION)	1	2	1.66	21	186		17,862	87	17,624												
		6	SR 1203 - LEWIS WINSTEAD LOOP RD	FROM NC 49 - BURLINGTON RD TO NC 49 - BURLINGTON RD	2	2	1.31	20	147		14,096		13,462												
		7	SR 1221 - LANDMARK SOUTH DR	FROM NC 49 - BURLINGTON RD TO CUL DE SAC	2	2	0.06	20	7																
		8	SR 1222 - LANDMARK NORTH RD	FROM SR 1157 - DEE LONG RD TO CUL DE SAC	2	2	0.08	20	9	*															
		9	SR 1333 - CHUB LAKE RD	FROM SR 1347 - STORIES CREEK RD (INTERSECTION INCLUDED) TO SR 1337 - CHUB LAKE RD	1	2	1.58	20	177		17,001	230	16,690												
		10	SR 1363 - RIDGE RD	FROM SR 1605 - N. MAIN ST TO MP 1.67 (INCLUDE SR 1363 - REAMS AVE. INTERSECTION)	1&3	2	1.66	20-36	186		17,862	503	19,217		88	220			6	18	1	6			
		11	SR 1524 - ALLIE CLAY RD	FROM 0.3 EAST OF SR 1605 - N MAIN ST TO US 501	4	2	0.94	20	105		10,114	43	9,643											10,157	9,643
		12	SR 1542 - DIRGIE MINE RD	FROM SR 1536 - ALLENSVILLE RD/ DENNY'S STORE RD (INCLUDE INTERSECTION) TO SR 1595 - HAZEL LAWSON RD	2	2	2.62	21	293		28,191	88	26,837			77	20	5							
		13	SR 1555 - ST. PAUL CHURCH RD	FROM SR 1556 - LAWSON CHAPEL CHURCH RD TO SR 1542 - DIRGIE MINE RD	2	2	2.11	20	236		22,704		21,613												
		14	SR 1708 - ANTIOCH CHURCH RD	FROM SR 1717 - SURL MT TIRZAH RD TO US 501 - DURHAM RD	1	2	4.58	22	513		49,281	306	42,561			42									
		15	SR 1713 - ED BROOKS RD	FROM SR 1715 - HELENA-MORIAH RD TO SR 1709 - DINK ASHLEY RD	2	2	0.70	20	78		7,532		7,392												
		16	SR 1745 - ASHLEY AVE	FROM US 501 - DURHAM RD TO SR 1715 - HELENA-MORIAH RD	2	2	0.47	20	53		5,057	24	4,948										1		
GRAND TOTAL FOR PROJ NO. 2020CPT.05.08.20731.1							**25.61**		**2,853**	**1**	**274,058**	**1,659**	**262,206**	**200**	**88**	**359**	**24**	**10**	**6**	**18**	**1**	**6**	**1**	**10,157**	**9,643**
												263,865					**40**			**26**				**19,800**	

PROJ. REFERENCE NO.	SHEET NO.
2020CPT.05.08.20731.1	TMP-1

SIGNING FOR RESURFACING PROJECTS

LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW





TEE INTERSECTION

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1	ROAD WORK AHEAD W20-1 48" X 48"	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.
2	NEXT XX MILES W7-3aP 24" X 18"	#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER.(NO FRACTIONAL OR DECIMAL NUMBERS)
3	LOW/SOFT SHOULDER SP 13107 48" X 48"	- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY ½ MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.
4	ROAD UNDER CONST SP 13106 48" X 48"	- THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. - DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. - INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. - FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. - A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.
5	END ROAD WORK G20-2 A 48" X 24"	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.

THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

MAPS LESS THAN 2 MILES

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 ADVANCE WARNINGS SIGNS.

-Y- LINE SIGNING

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
2) SUBDIVISION ROADS
3) DEAD END ROADS

WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.

ROAD WORK AHEAD W20-1 48" X 48"
PLACED 500' IN ADVANCE OF FLAGGER.

W20-7 A 48" X 48"
PLACED 250' IN ADVANCE OF FLAGGER.

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

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

5/15/2017
STMGMT\WZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing_AdvWarn_2Ln.dgn
User:Acolis

PROJECT REFERENCE NO.	SHEET NO.
2020CPT.05.08.20731.1	EC-1
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	*STABILIZATION TIME*	*TIMEFRAME EXCEPTIONS*
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

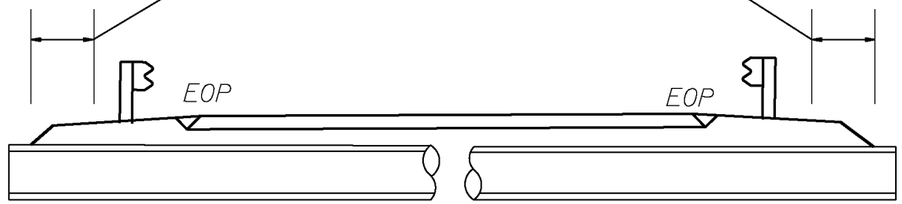
PROJECT REFERENCE NO.	SHEET NO.
2020CPT.05.08.20731J	EC-2

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

BMP Options: Wattle, Silt Fence, or Hardened Aggregate.

EROSION CONTROL DETAIL

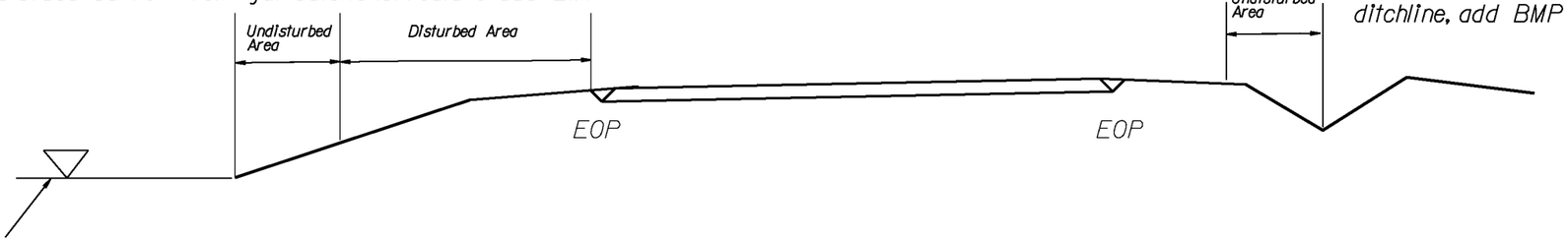
< 5' – 10' Undisturbed buffer add BMP



Pipe/Culvert

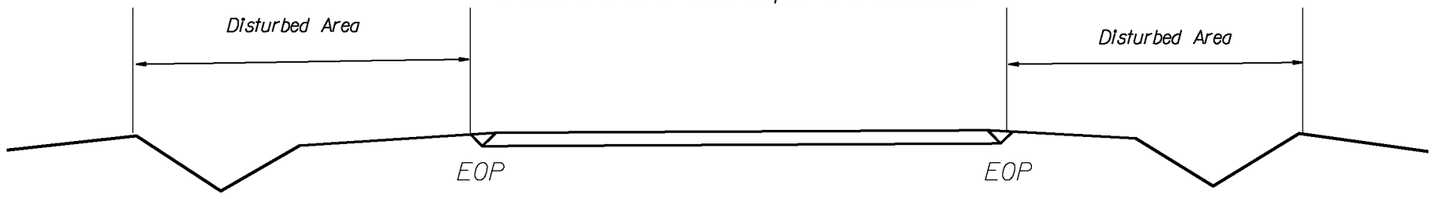
< 5' – 10' Undisturbed buffer from jurisdictional feature add BMP

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

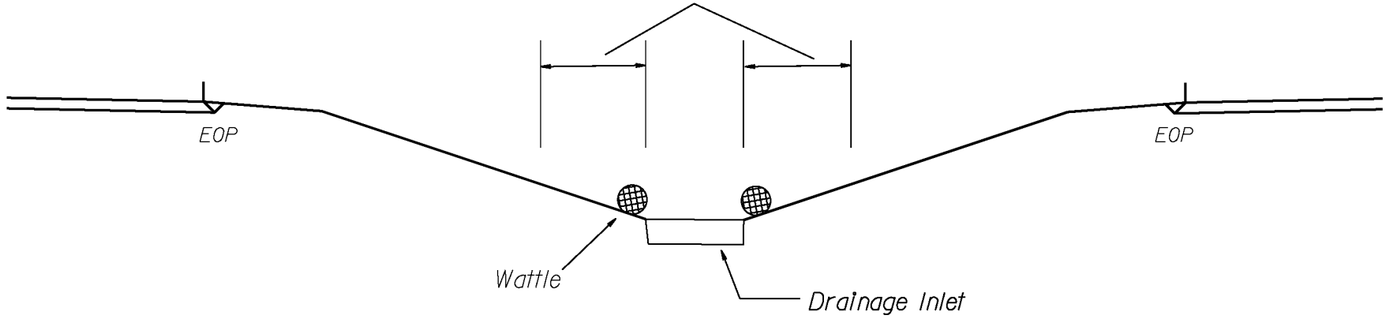


Jurisdictional Feature

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



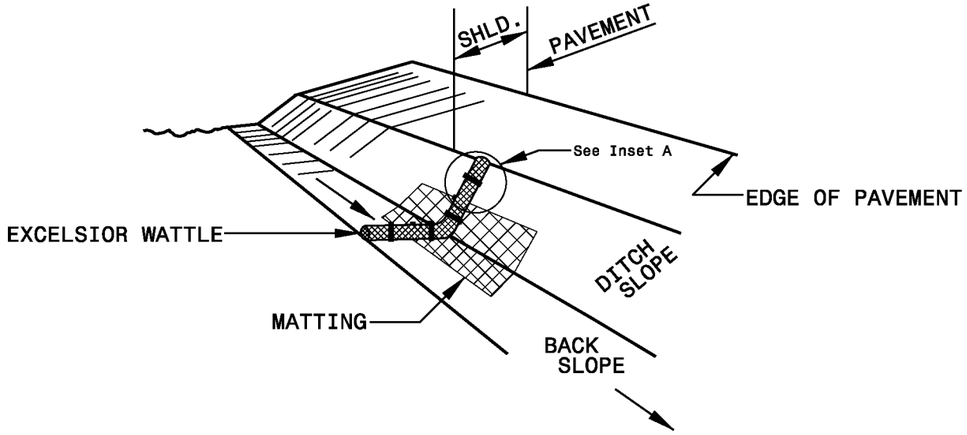
< 5' – 10' Undisturbed buffer from inlet, add wattle



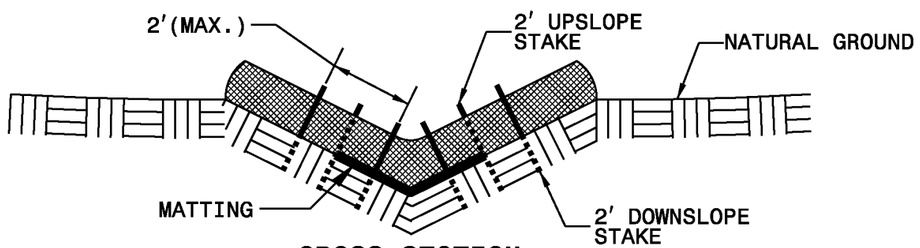
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
2020CPT.05.08.2073IJ	EC-3

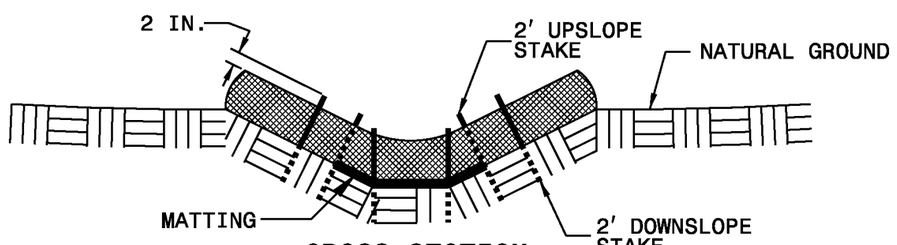
WATTLE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

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

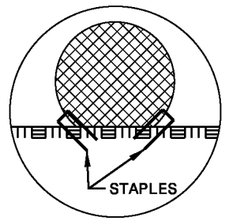
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

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

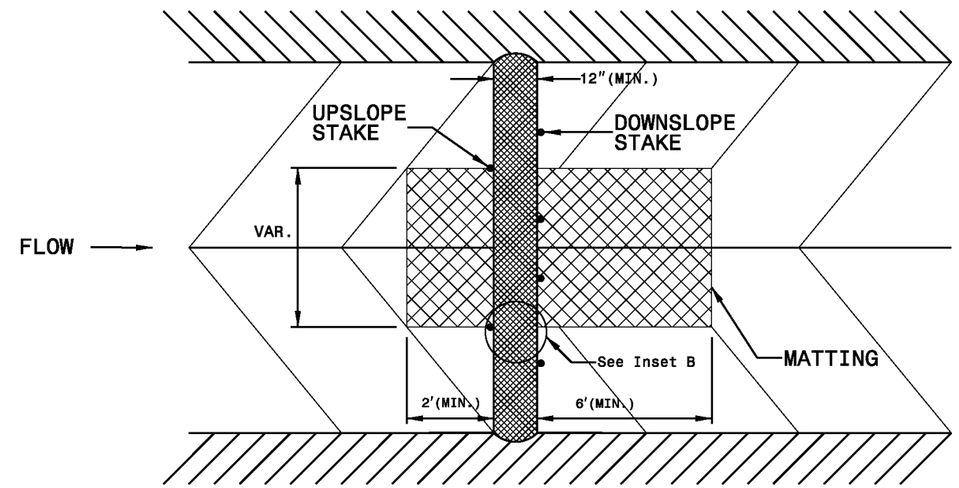
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

INSET A

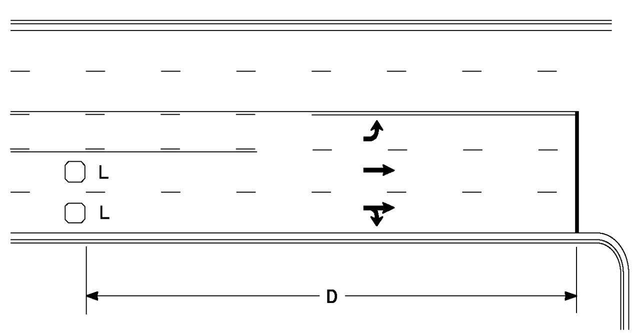


INSET B



TOP VIEW

High Speed Detection
(≥40 mph)

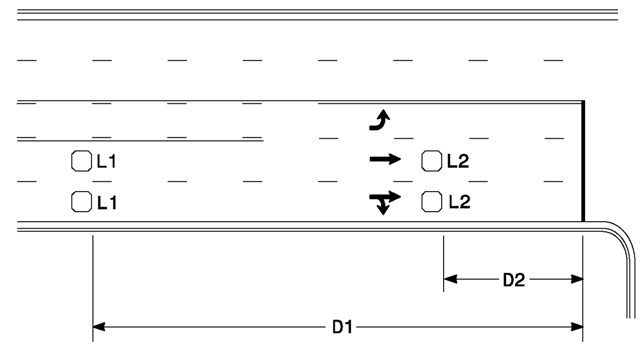


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired in series for TS1 Controllers
Wired separately for TS2, 170, and 2070L Controllers

Volume Density Operation

OR



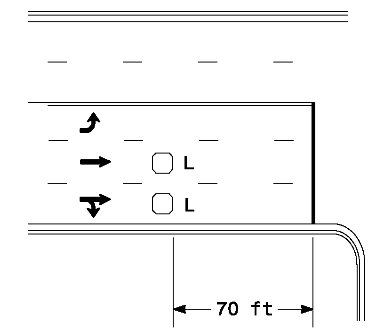
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

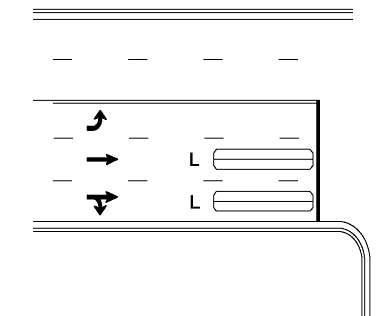
"Stretch" Operation

Low Speed Detection
(≤35 mph)



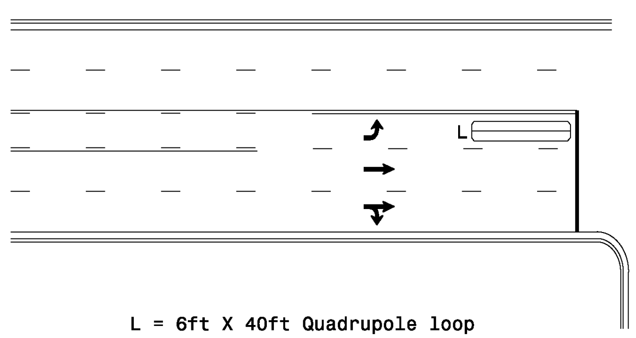
L = 6ft X 6ft
Wired in series

OR



L = 6ft X 40ft
Quadrupole loop, wired separately

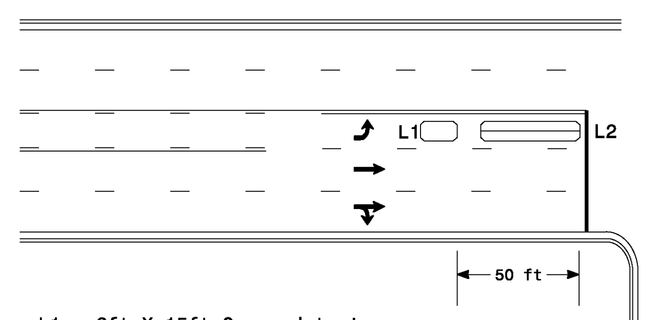
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

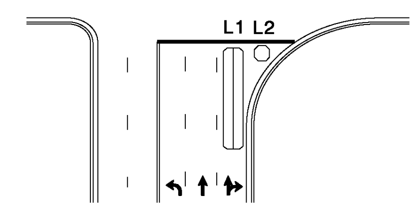
OR



L1 = 6ft X 15ft Queue detector
L2 = 6ft X 40ft Quadrupole loop

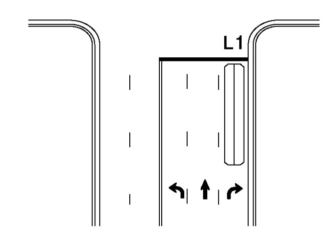
Queue Loop Detection

Right Turn Lane Detection

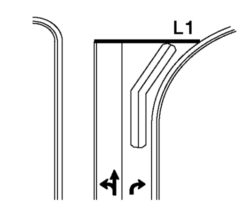


Shared Lane/
Wide Radius Turn

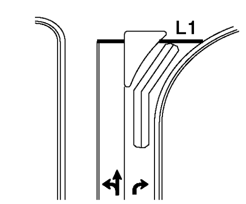
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

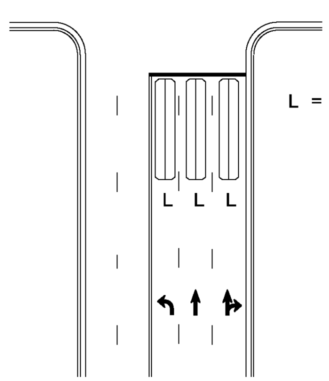


Wide Radius Turn



Channelized Turn

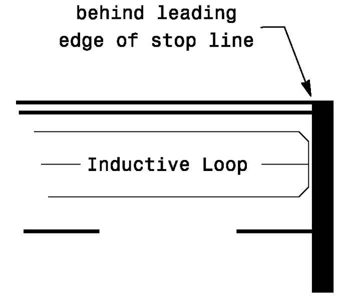
Side Street Detection



L = 6ft X 40ft
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 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: Transportation Mobility and Safety Division, State of North Carolina Department of Transportation, Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:

REVISIONS	INIT.	DATE

SCALE
N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 23489 ENGINEER PAMELA L. ALEXANDER
DocuSigned by: P L Alexander
B4756E00CE4E46D...
1/30/2015
DATE

SIG. INVENTORY NO.

30-JAN-2015 12:39
S:*ITS&SU*ITS Signals*Signal Design Section*Eastern Region*looptypical2015.dgn
palexander