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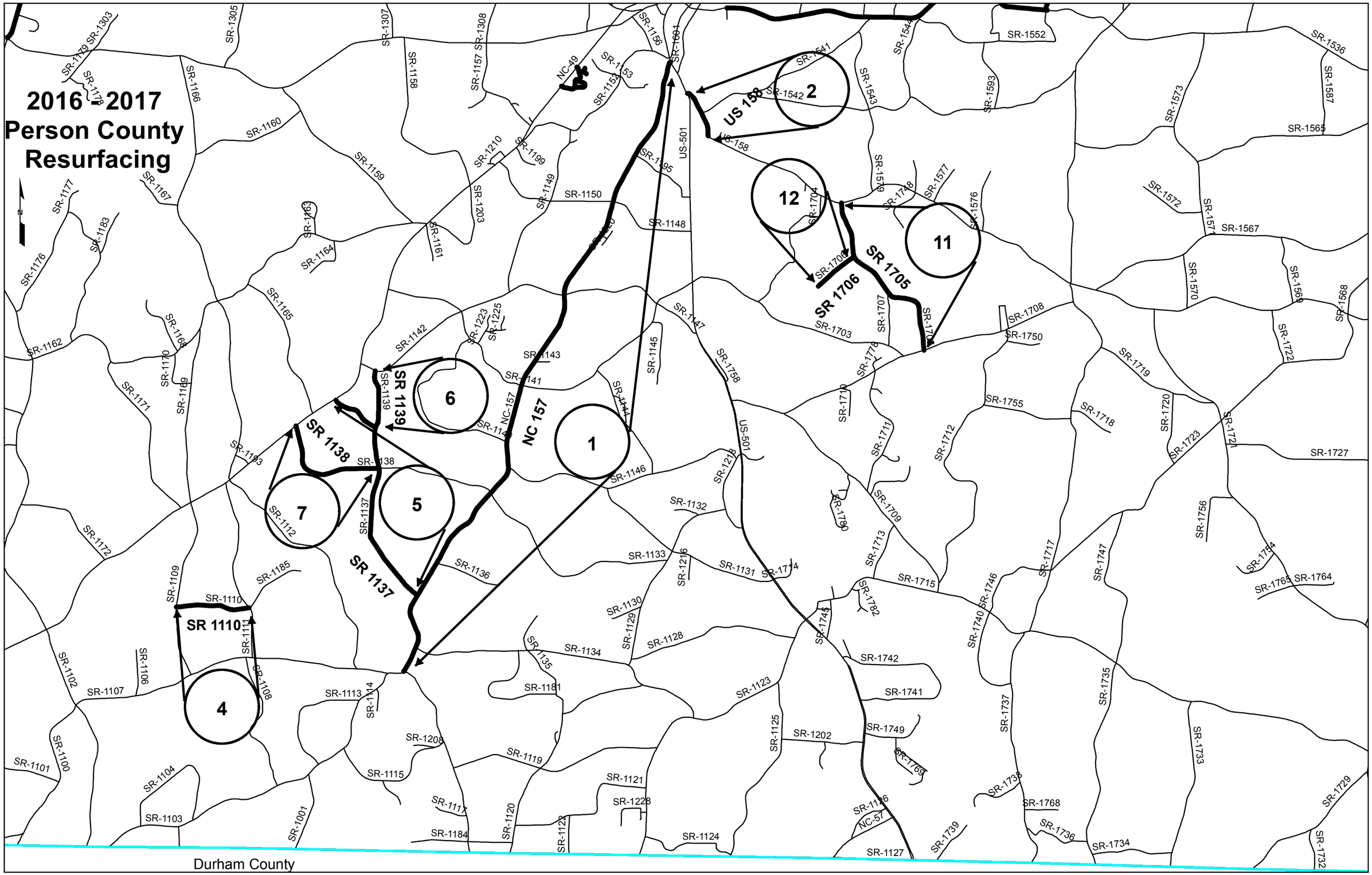
2016 - 2017 Person County Resurfacing

Project Reference No. 2017CPT.05.07.10731.1, etc.

Sheet No. 1



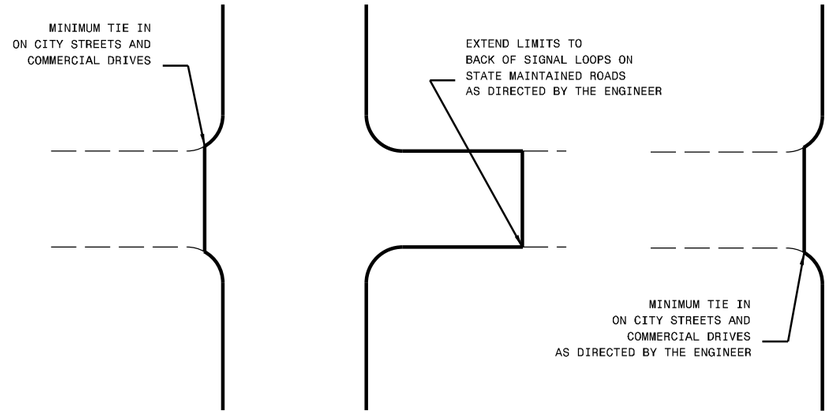
Project Reference No. 2017CPT.05.07.10731.1, etc.

Sheet No. 2

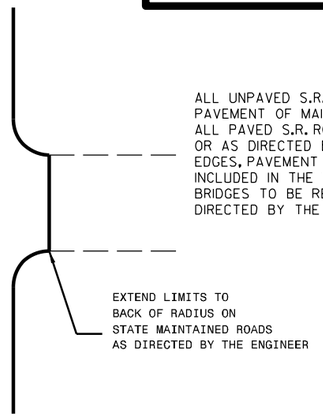
PROJECT REFERENCE NO.	SHEET NO.
2017CPT.05.07.10731.1, etc.	3

PAVEMENT SCHEDULE

C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E	8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, TO BE PLACED IN TWO LIFTS AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
S	SHOULDER GRADING ASB REQUIRED (EXCEPT RESIDENTIAL AREAS)
U	EXISTING PAVEMENT
V1	0" - 1½" MILLING
V2	1½" MILLING



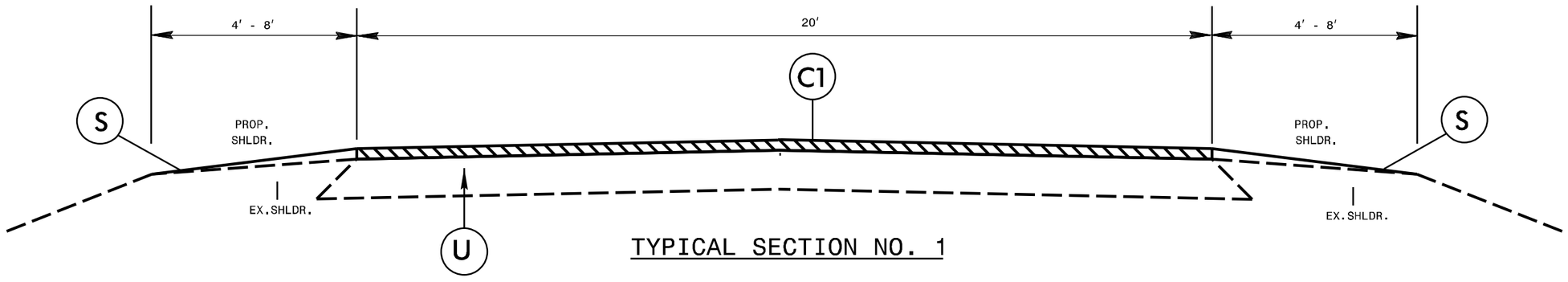
DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES



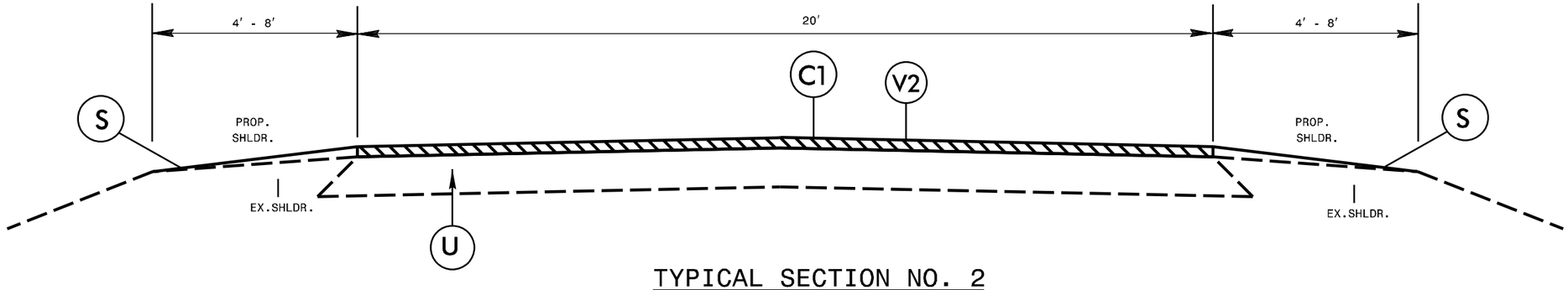
DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES

NOTES

ALL UNPAVED S.R. 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.
BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.



TYPICAL SECTION NO. 1

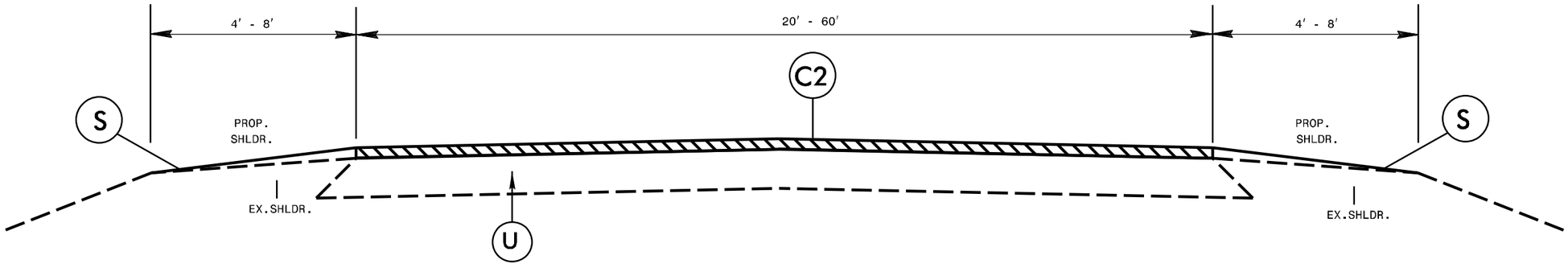


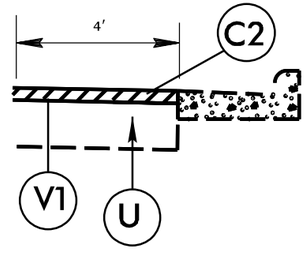
TYPICAL SECTION NO. 2

PROJECT REFERENCE NO.	SHEET NO.
2017CPT.05.07.10731.1, etc.	4

PAVEMENT SCHEDULE

C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E	8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, TO BE PLACED IN TWO LIFTS AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
S	SHOULDER GRADING ASB REQUIRED (EXCEPT RESIDENTIAL AREAS)
U	EXISTING PAVEMENT
V1	0" - 1½" MILLING
V2	1½" MILLING



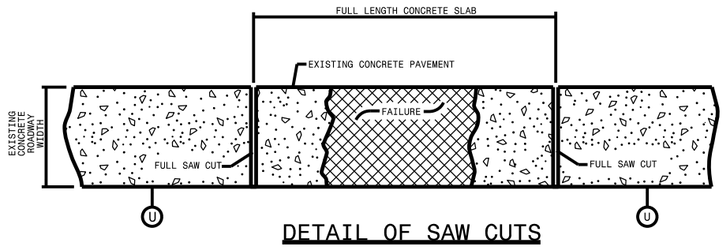


TYPICAL SECTION NO. 3

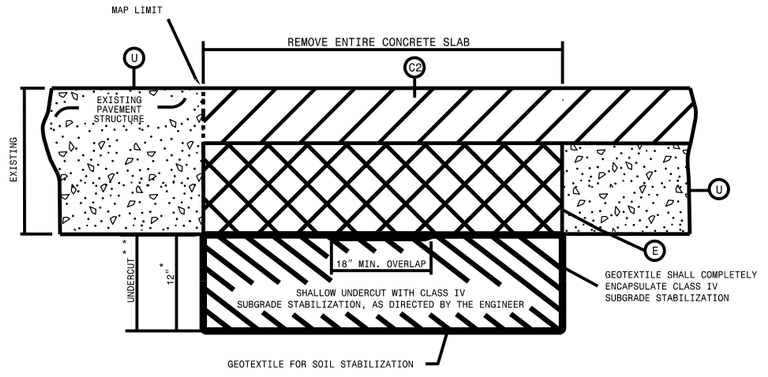
PROJECT REFERENCE NO.	SHEET NO.
2017CPT.05.07.10731.1, etc.	5

PAVEMENT SCHEDULE

C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E	8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, TO BE PLACED IN TWO LIFTS AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
S	SHOULDER GRADING ASB REQUIRED (EXCEPT RESIDENTIAL AREAS)
U	EXISTING PAVEMENT
V1	0" - 1½" MILLING
V2	1½" MILLING



DETAIL OF SAW CUTS



DETAIL OF CONCRETE PAVEMENT REPAIR

* DIMENSIONS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED

** UNDERCUT REQUIRED ONLY IN AREAS AS DIRECTED BY THE ENGINEER

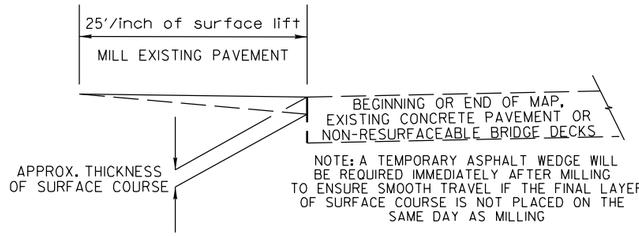
DETAIL FOR REPLACEMENT TO BE USED ON MAP 2 (US 158 - OLD DURHAM ROAD) UNDER RR BYPASS FOR CONCRETE SLABS AS DIRECTED BY THE ENGINEER

DETAIL FOR REPLACEMENT

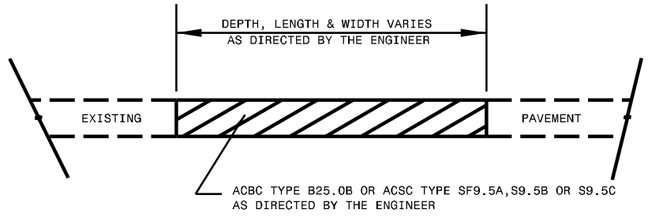
PROJECT REFERENCE NO.	SHEET NO.
2017CPT.05.07.10731.1, etc.	6

PAVEMENT SCHEDULE

C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E	8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, TO BE PLACED IN TWO LIFTS AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
S	SHOULDER GRADING ASB REQUIRED (EXCEPT RESIDENTIAL AREAS)
U	EXISTING PAVEMENT
V1	0" - 1½" MILLING
V2	1½" MILLING

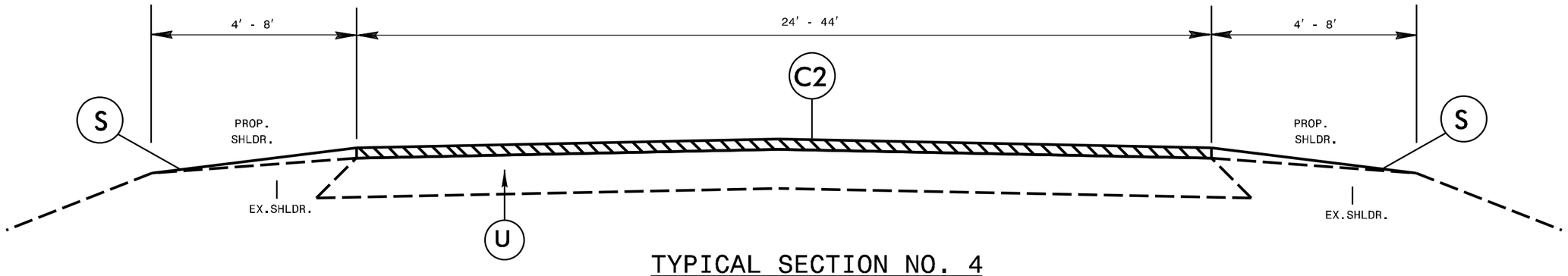


INCIDENTAL MILLING



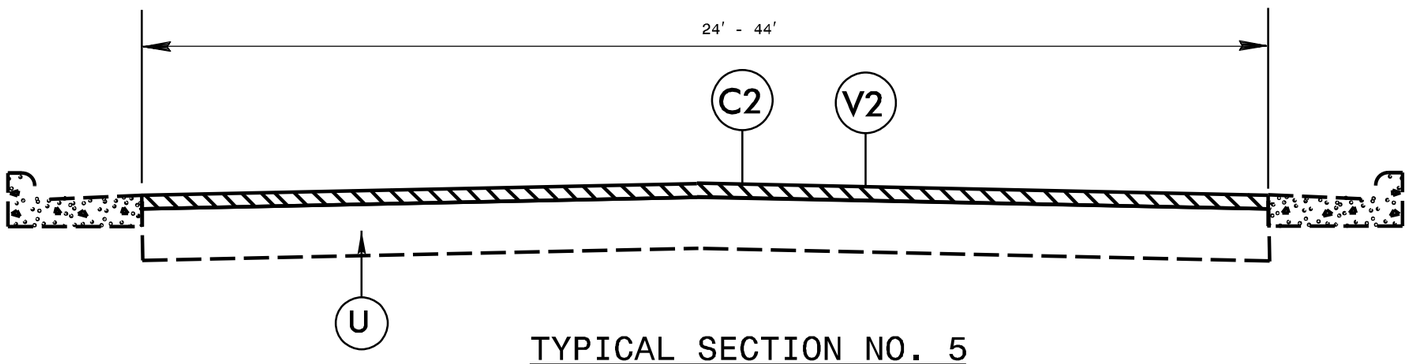
PATCHING EXISTING PAVEMENT

MILLING (IF REQUIRED BY TYPICAL) TO BE PERFORMED PRIOR TO PATCHING



TYPICAL SECTION NO. 4

TYPICAL TO BE USED ON MAP 1 (NC 157 - HURDLE MILLS ROAD)
FROM END OF C&G TO GUESS RD



TYPICAL SECTION NO. 5

TYPICAL TO BE USED ON MAP 1 (NC 157 - HURDLE MILLS ROAD)
FROM US 501 TO END OF C&G

PROJECT NO.	SHEET NO.	TOTAL NO.
2017CPT.05.07.10731.1, etc.	7	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	BORROW CY	REMOVAL OF EXISTING CONCRETE PAVEMENT SLABS SY	GEOTEXTILE FOR SOIL STABILIZATION SY	ASB TONS	SHOULDER GRADING SMI	SHALLOW UNDERCUT CY	CLASS IV SUBGRADE STABILIZATION TON	INCIDENTAL STONE BASE TONS	1½" MILLING SY	0" TO 1.5" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TON	ASPHALT BINDER FOR PLANT MIX TON	PATCHING EXISTING PAVEMENT TONS	ADJUST MANHOLES EA	ADJUST METER OR VALVE BOX EA	TEMPORARY SILT FENCE LF	WATTLE LF	SEED & MULCHING AC	INDUCTIVE LOOP LF
2017CPT.05.07.10731.1	Person	1	NC 157 HURDLE MILLS RD	GUESS RD TO US 501	4&5	2	2WU	NO	NO	9.6	24-44	948			911	18.96			237	2,581		4,376		12,474		748	850	1	1	698	1,730	6.98	1,050
TOTAL FOR MAP NO. 1										**9.6**		**948**			**911**	**18.96**			**237**	**2,581**		**4,376**		**12,474**		**748**	**850**	**1**	**1**	**698**	**1,730**	**6.98**	**1,050**
2017CPT.05.07.10731.1	Person	2	US 158 OLD DURHAM RD.	PVT JT AT US 501 TO OXFORD RD PVT JT (SKIP NEW 540' SECTION BETWEEN SR 1542 AND GREGORY ST)	3	2	2WU	NO	NO	0.55	20-40	32	450	450.00		0.32	300	580	8		808	445	205	696		51	100	2	4	24	60	0.24	
TOTAL FOR MAP NO. 2										**0.55**		**32**	**450**	**450.00**		**0.32**	**300**	**580**	**8**		**808**	**445**	**205**	**696**		**51**	**100**	**2**	**4**	**24**	**60**	**0.24**	
TOTAL FOR PROJ NO. 2017CPT.05.07.10731.1										**10.15**		**980**	**450**	**450.00**	**911**	**19.28**	**300**	**580**	**245**	**2,581**	**808**	**4,821**	**205**	**13,170**		**799**	**950**	**3**	**5**	**722**	**1,790**	**7.22**	**1,050**
2017CPT.05.07.20731.1	Person	3	SR 1102 RALPH WINSTEAD RD.	US 158 TO SR 1343 CONCORD CHURCH RD	2	2	2WU	NO	NO	4.1	20	410			394	8.20			103	30,507		1,359			5,185	347	100			298	750	2.98	
TOTAL FOR MAP NO. 3										**4.1**		**410**			**394**	**8.20**			**103**	**30,507**		**1,359**			**5,185**	**347**	**100**			**298**	**750**	**2.98**	
2017CPT.05.07.20731.1	Person	4	SR 1110 BRIGGS RD	SR 1109 TO SR 1111	1	2	2WU	NO	NO	0.9	20	45			130	0.18			11			165			920	62	250			33	90	0.33	
TOTAL FOR MAP NO. 4										**0.9**		**45**			**130**	**0.18**			**11**			**165**			**920**	**62**	**250**			**33**	**90**	**0.33**	
2017CPT.05.07.20731.1	Person	5	SR 1137 POINDEXTER RD/WHITFIELD ROGERS RD	NC 157 TO NC 49	1	2	2WU	NO	NO	2.9	20	290			279	5.80			73			303			2,994	201	500			211	530	2.11	
TOTAL FOR MAP NO. 5										**2.9**		**290**			**279**	**5.80**			**73**			**303**			**2,994**	**201**	**500**			**211**	**530**	**2.11**	
2017CPT.05.07.20731.1	Person	6	SR 1139 POINDEXTER RD.	SR 1137 TO SR 1142	1	2	2WU	NO	NO	0.7	20	70			67	1.40			18			85			716	48	100			51	130	0.51	
TOTAL FOR MAP NO. 6										**0.7**		**70**			**67**	**1.40**			**18**			**85**			**716**	**48**	**100**			**51**	**130**	**0.51**	
2017CPT.05.07.20731.1	Person	7	SR 1138 HASSEL HORTON RD	NC 49 TO SR 1137	1	2	2WU	NO	NO	1.5	20	150			144	3.00			38			85			1,534	103	200			109	280	1.09	
TOTAL FOR MAP NO. 7										**1.5**		**150**			**144**	**3.00**			**38**			**85**			**1,534**	**103**	**200**			**109**	**280**	**1.09**	
2017CPT.05.07.20731.1	Person	8	SR 1536 MOUNTAIN RD.	SR 1537 TO SR 1520	2	2	2WU	NO	NO	4.3	20	430			413	8.60			108	50,453		2,546			4,599	308	250			313	790	3.13	
TOTAL FOR MAP NO. 8										**4.3**		**430**			**413**	**8.60**			**108**	**50,453**		**2,546**			**4,599**	**308**	**250**			**313**	**790**	**3.13**	
2017CPT.05.07.20731.1	Person	9	SR 1520 MILL CREEK RD/SR 1520 GENTRY RIDGE RD	FROM SR 1519 TO SR 1536	2	2	2WU	NO	NO	4.1	20	410			394	8.20			103	48,107		741			4,258	285	350			298	750	2.98	
TOTAL FOR MAP NO. 9										**4.1**		**410**			**394**	**8.20**			**103**	**48,107**		**741**			**4,258**	**285**	**350**			**298**	**750**	**2.98**	
2017CPT.05.07.20731.1	Person	10	SR 1519 MILL CREEK RD	SR 1520 TO US 501	2	2	2WU	NO	NO	1	20	100			96	2.00			25	11,733					1,023	69	100			73	190	0.73	
TOTAL FOR MAP NO. 10										**1**		**100**			**96**	**2.00**			**25**	**11,733**					**1,023**	**69**	**100**			**73**	**190**	**0.73**	
2017CPT.05.07.20731.1	Person	11	SR 1705 HOUSTON BLALOCK RD	US 158 TO SR 1708	1	2	2WU	NO	NO	2.3	20	230			221	4.60			58			418			2,370	159	250			167	420	1.67	
TOTAL FOR MAP NO. 11										**2.3**		**230**			**221**	**4.60**			**58**			**418**			**2,370**	**159**	**250**			**167**	**420**	**1.67**	
2017CPT.05.07.20731.1	Person	12	SR 1706 OUTLAW RD	SR 1705 TO CUL-DE-SAC	1	2	2WU	NO	NO	0.55	20	55			53	1.10			14						563	38	100			40	100	0.40	
TOTAL FOR MAP NO. 12										**0.55**		**55**			**53**	**1.10**			**14**						**563**	**38**	**100**			**40**	**100**	**0.40**	
2017CPT.05.07.20731.1	Person	13	SR 1194 LAKE SHORE DR	NC 49 TO SR 1154	1	2	2WU	NO	NO	0.25	20	50				0.50			13			85			256	17	40			36	100	0.36	
TOTAL FOR MAP NO. 13										**0.25**		**50**				**0.50**			**13**			**85**			**256**	**17**	**40**			**36**	**100**	**0.36**	
2017CPT.05.07.20731.1	Person	14	SR 1154 ROSEWOOD DR	NC 49 TO SR 1154	1	2	2WU	NO	NO	0.45	20	90				0.90			23			85			460	31	50			65	170	0.66	
TOTAL FOR MAP NO. 14										**0.45**		**90**				**0.90**			**23**			**85**			**460**	**31**	**50**			**65**	**170**	**0.66**	
2017CPT.05.07.20731.1	Person	15	SR 1200 PARKVIEW	SR 1194 TO DEAD END	1	2	2WU	NO	NO	0.1	20	20				0.20			5						102	7	20			15	40	0.15	
TOTAL FOR MAP NO. 15										**0.1**		**20**				**0.20**			**5**						**102**	**7**	**20**			**15**	**40**	**0.15**	
2017CPT.05.07.20731.1	Person	16	SR 1201 WESTWOOD LN	SR 1200 TO DEAD END	1	2	2WU	NO	NO	0.05	20	10				0.10			3						51	3	10			7	20	0.07	
TOTAL FOR MAP NO. 16										**0.05**		**10**				**0.10**			**3**						**51**	**3**	**10**			**7**	**20**	**0.07**	
TOTAL FOR PROJ NO. 2017CPT.05.07.20731.1										**23.2**		**2,360**			**2,191**	**44.78**			**595**	**140,800**		**5,872**			**25,031**	**1,678**	**2,320**			**1,716**	**4,360**	**17.16**	
GRAND TOTAL										**33.35**		**3,340**	**450**	**450.00**	**3,102**	**64.06**	**300**	**580**	**840**	**143,381**	**808**	**10,693**	**205**	**13,170**	**25,031**	**2,477**	**3,270**	**3**	**5**	**2,438**	**6,150**	**24.38**	**1,050**

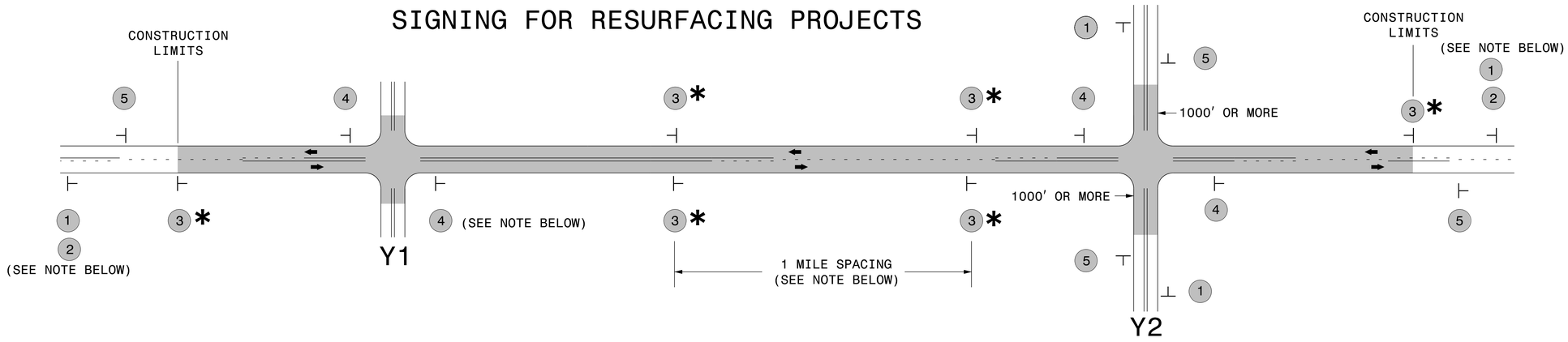
PROJECT NO.	SHEET NO.	TOTAL NO.
2017CPT.05.07.10731.1, etc.	8	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4413000000-E WORK ZONE ADVANCE/GENERAL WARNING SIGNING SF	4457000000-N TEMPORARY TRAFFIC CONTROL LS	4685000000-E 4" X 90 M WHITE THERMO LF	4686000000-E 4" X 120 M YELLOW THERMO LF	4686000000-E 4" X 120 M WHITE THERMO LF	4710000000-E 24" X 120 M WHITE THERMO LF	4721000000-E THERMO MSG SCHOOL 120 M EA	4721000000-E THERMO MSG STOP 120 M EA	4721000000-E THERMO MSG AHEAD 120 M EA	4725000000-E THERMO LT ARROW 90 M EA	4725000000-E THERMO LT & RT ARROW 90 M EA	4725000000-E THERMO STR ARROW 90 M EA	4905000000-N SNOW PLOWABLE MARKERS EA
2017CPT.05.07.10731.1	Person	1	NC 157 HURDLE MILLS RD	GUESS RD TO US 501	4&5	2	2WU	9.6	24-44	968	0.30	91,460	56,760		300	12	16	10	2	2		561
TOTAL FOR MAP NO. 1								**9.6**		**968**	**0.30**	**91,460**	**56,760**		**300**	**12**	**16**	**10**	**2**	**2**		**561**
2017CPT.05.07.10731.1	Person	2	US 158 OLD DURHAM RD.	PVT JT AT US 501 TO OXFORD RD PVT JT (SKIP NEW 540' SECTION BETWEEN SR 1542 AND GREGORY ST)	3	2	2WU	0.55	20-40	62	0.02	58,080	3,630	12			4	5	3		3	36
TOTAL FOR MAP NO. 2								**0.55**		**62**	**0.02**	**58,080**	**3,630**	**12**			**4**	**5**	**3**		**3**	**36**
TOTAL FOR PROJ NO. 2017CPT.05.07.10731.1								**10.15**		**1,030**	**0.32**	**149,540**	**60,390**	**12**	**300**	**12**	**20**	**15**	**5**	**2**	**3**	**597**
													60,402				**47**			**10**		
2017CPT.05.07.20731.1	Person	3	SR 1102 RALPH WINSTEAD RD.	US 158 TO SR 1343 CONCORD CHURCH RD	2	2	2WU	4.1	20	460	0.14	44,116	27,060									
TOTAL FOR MAP NO. 3								**4.1**		**460**	**0.14**	**44,116**	**27,060**									
2017CPT.05.07.20731.1	Person	4	SR 1110 BRIGGS RD	SR 1109 TO SR 1111	1	2	2WU	0.9	20	100	0.03			24								
TOTAL FOR MAP NO. 4								**0.9**		**100**	**0.03**			**24**								
2017CPT.05.07.20731.1	Person	5	SR 1137 POINDEXTER RD/WHITFIELD ROGERS RD	NC 157 TO NC 49	1	2	2WU	2.9	20	328	0.08	31,204	19,140									
TOTAL FOR MAP NO. 5								**2.9**		**328**	**0.08**	**31,204**	**19,140**									
2017CPT.05.07.20731.1	Person	6	SR 1139 POINDEXTER RD.	SR 1137 TO SR 1142	1	2	2WU	0.7	20	80	0.02											
TOTAL FOR MAP NO. 6								**0.7**		**80**	**0.02**											
2017CPT.05.07.20731.1	Person	7	SR 1138 HASSEL HORTON RD	NC 49 TO SR 1137	1	2	2WU	1.5	20	168	0.04	16,140	9,900									
TOTAL FOR MAP NO. 7								**1.5**		**168**	**0.04**	**16,140**	**9,900**									
2017CPT.05.07.20731.1	Person	8	SR 1536 MOUNTAIN RD.	SR 1537 TO SR 1520	2	2	2WU	4.3	20	482	0.12	46,268	28,380	302					1			
TOTAL FOR MAP NO. 8								**4.3**		**482**	**0.12**	**46,268**	**28,380**	**302**					**1**			
2017CPT.05.07.20731.1	Person	9	SR 1520 MILL CREEK RD/SR 1520 GENTRY RIDGE RD	FROM SR 1519 TO SR 1536	2	2	2WU	4.1	20	462	0.12	44,116	27,060		100	12						
TOTAL FOR MAP NO. 9								**4.1**		**462**	**0.12**	**44,116**	**27,060**		**100**	**12**						
2017CPT.05.07.20731.1	Person	10	SR 1519 MILL CREEK RD	SR 1520 TO US 501	2	2	2WU	1	20	112	0.03	10,760	6,600	24								
TOTAL FOR MAP NO. 10								**1**		**112**	**0.03**	**10,760**	**6,600**	**24**								
2017CPT.05.07.20731.1	Person	11	SR 1705 HOUSTON BLALOCK RD	US 158 TO SR 1708	1	2	2WU	2.3	20	260	0.04	24,748	15,180									
TOTAL FOR MAP NO. 11								**2.3**		**260**	**0.04**	**24,748**	**15,180**									
2017CPT.05.07.20731.1	Person	12	SR 1706 OUTLAW RD	SR 1705 TO CUL-DE-SAC	1	2	2WU	0.55	20	56	0.02											
TOTAL FOR MAP NO. 12								**0.55**		**56**	**0.02**											
2017CPT.05.07.20731.1	Person	13	SR 1194 LAKE SHORE DR	NC 49 TO SR 1154	1	2	2WU	0.25	20	30	0.01											
TOTAL FOR MAP NO. 13								**0.25**		**30**	**0.01**											
2017CPT.05.07.20731.1	Person	14	SR 1154 ROSEWOOD DR	NC 49 TO SR 1154	1	2	2WU	0.45	20	50	0.01											
TOTAL FOR MAP NO. 14								**0.45**		**50**	**0.01**											
2017CPT.05.07.20731.1	Person	15	SR 1200 PARKVIEW	SR 1194 TO DEAD END	1	2	2WU	0.1	20	12	0.01											
TOTAL FOR MAP NO. 15								**0.1**		**12**	**0.01**											
2017CPT.05.07.20731.1	Person	16	SR 1201 WESTWOOD LN	SR 1200 TO DEAD END	1	2	2WU	0.05	20	12	0.01											
TOTAL FOR MAP NO. 16								**0.05**		**12**	**0.01**											
TOTAL FOR PROJ NO. 2017CPT.05.07.20731.1								**23.2**		**2,612**	**0.68**	**217,352**	**133,320**	**350**	**100**	**12**			**1**			
													133,670				**12**			**1**		
GRAND TOTAL								**33.35**		**3,642**	**1.00**	**366,892**	**193,710**	**362**	**400**	**24**	**20**	**15**	**6**	**2**	**3**	**597**
													194,072				**59**			**11**		

PROJ. REFERENCE NO.	SHEET NO.

SIGNING FOR RESURFACING PROJECTS



LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

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 RESURFACING 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 SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET ½ MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE 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.
5	END ROAD WORK G20-2 A 48″ X 24″	PLACE 500′ FOLLOWING THE END OF CONSTRUCTION LIMITS.

-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, ADVANCE WARNING PORTABLE 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.

* SIGNING FOR ASPHALT SURFACE TREATMENTS (ONLY)

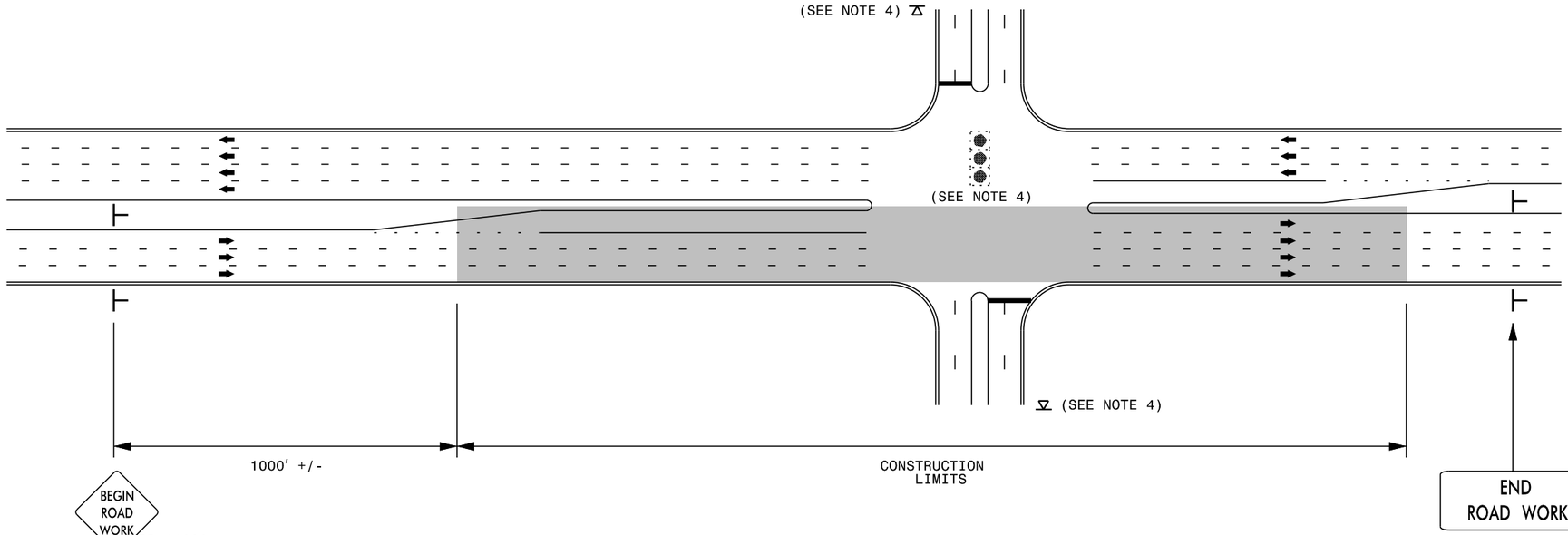
SUBSTITUTE LOW/SOFT SHOULDER SIGNS BY ALTERNATING THE FOLLOWING TWO SIGNS:
STARTING WITH "UNMARKED PAVEMENT AHEAD" (SP 06026) FOLLOWED BY "LOOSE GRAVEL" (W8-7).

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

RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS

PROJ. REFERENCE NO.	SHEET NO.

URBAN / SUBURBAN WORKZONES



NOTES:

1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 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 INTERSECTION.
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.

LEGEND

⊢ STATIONARY SIGN

➡ DIRECTION OF TRAFFIC FLOW

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

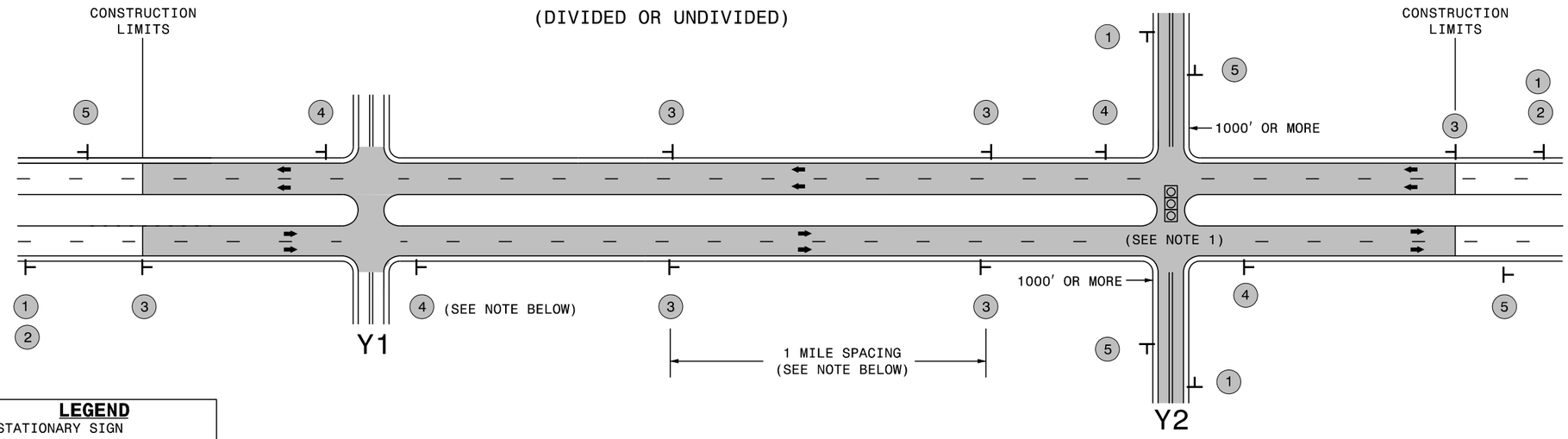
RESURFACING ADVANCE WARNING SIGNS FOR URBAN / SUBURBAN FACILITIES

2/24/2014
S:\TMU\WZTC\Resurfacing\2013Resurfacing\2013Documents\New_Procedures_05_09_2013\Resurfacing_AdvWarn_Ur-Su.dgn

PROJ. REFERENCE NO.	SHEET NO.

SIGNING FOR RURAL AND SUBURBAN MULTI-LANE ROADWAYS WITH SHOULDER SECTIONS

(DIVIDED OR UNDIVIDED)



LEGEND

⊢ STATIONARY SIGN

⬅ DIRECTION OF TRAFFIC FLOW

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 RESURFACING 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 SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET ½ MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE 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.
5	END ROAD WORK G20-2 A 48″ X 24″	PLACE 500′ FOLLOWING THE END OF CONSTRUCTION LIMITS.

-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, ADVANCE WARNING PORTABLE 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.

NOTES:

1) 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 INTERSECTION.

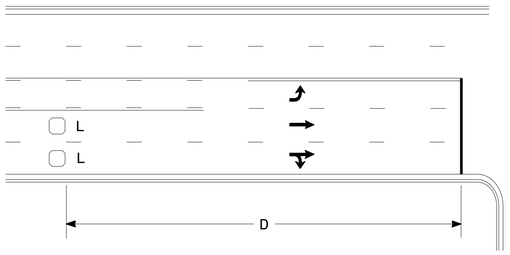
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

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

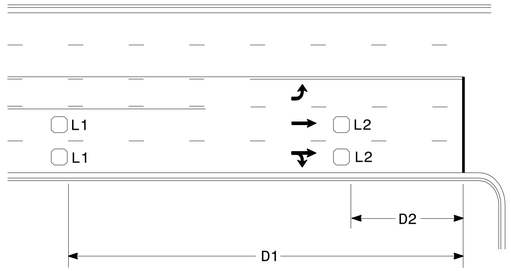
2/24/2014
S:\TMU\WZTC\Resurfacing\2013Resurfacing\2013Documents\New_Procedures_05.09.2013\Resurfacing_AdvWarn_UrSu_Shldr.dgn
User:rmgarrett

PROJECT REFERENCE NO.	SHEET NO.

High Speed Detection
(≥40 mph)



OR



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

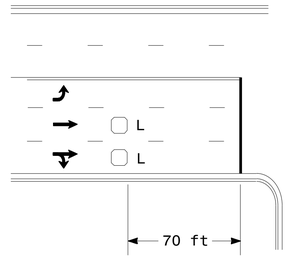
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

"Stretch" Operation

Low Speed Detection
(≤35 mph)



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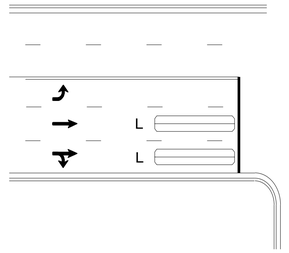
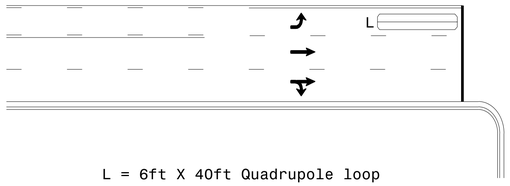


L = 6ft X 6ft
Wired in series

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

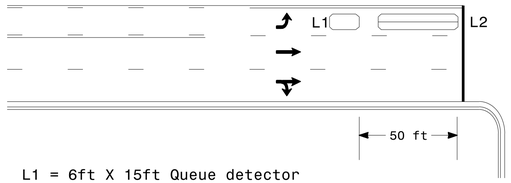
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

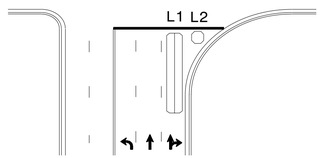
OR



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

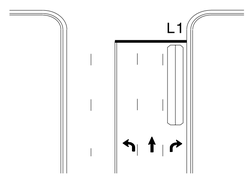
Queue Loop Detection

Right Turn Lane Detection

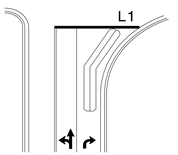


Shared Lane/
Wide Radius Turn

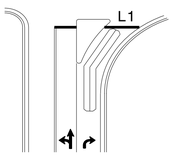
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

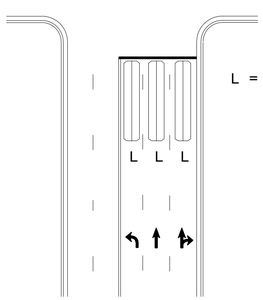


Wide Radius Turn



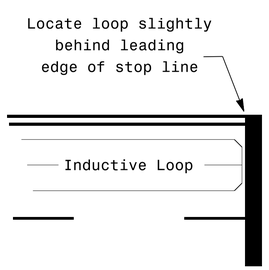
Channelized Turn

Side Street Detection



L = 6ft X 40ft
Quadrupole loop
Wired to separate detectors/channels

Presence Loop Placement at Stop Lines



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
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:

SCALE
N/A

REVISIONS	INIT.	DATE

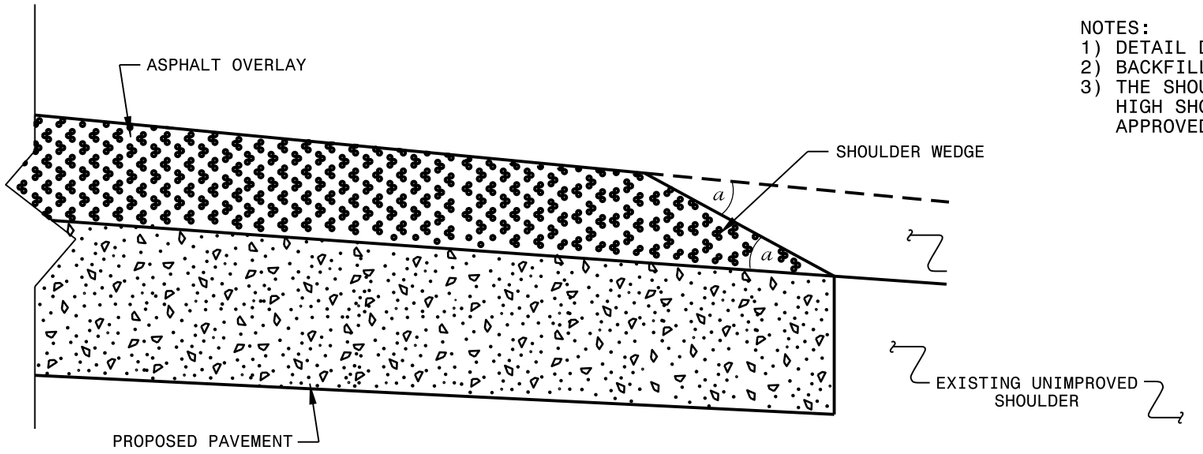
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 23489 ENGINEER PAMELA L. ALEXANDER

DocuSigned by: P L Alexander B4756E00CE4E46D...
1/30/2015
DATE

SIG. INVENTORY NO.

30-JAN-2015 12:39
S:\NCDOT\Traffic Signal\Signal Design Section\Eastern Region\loop typical 2015.dgn
palexander

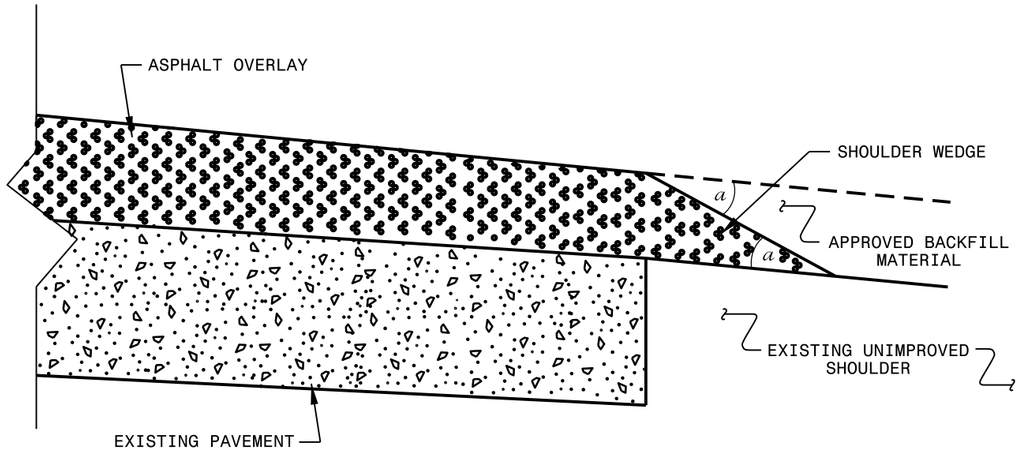
PROJECT REFERENCE NO.	SHEET NO.



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.

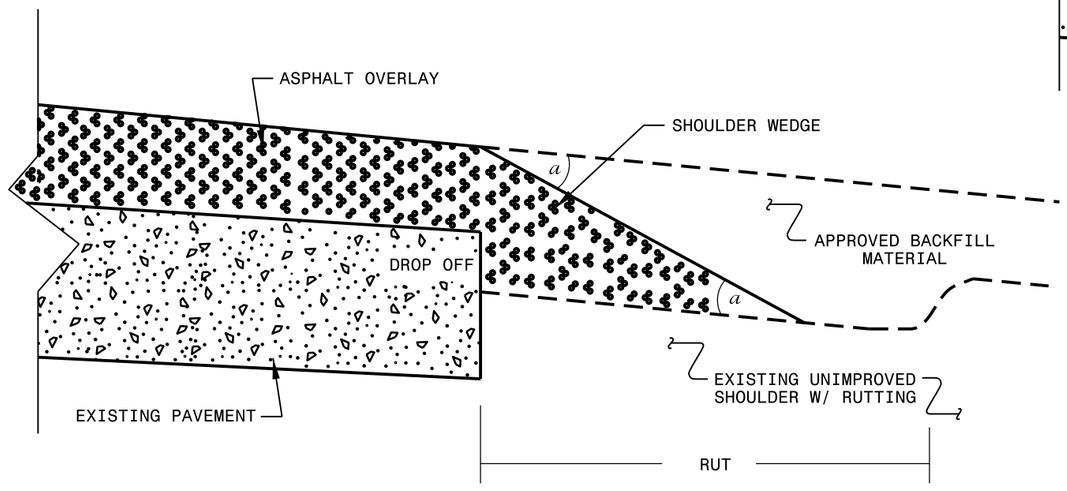
SHOULDER WEDGE DETAIL

(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		

$$$$$$SYSTIME$$$$$
$$$$$$USERNAME$$$$$

PROJECT REFERENCE NO.	SHEET NO.

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.

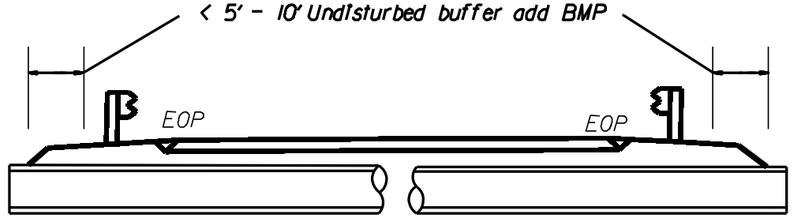
PROJECT REFERENCE NO.	SHEET NO.
R-2111	[illegible]
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

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

EROSION CONTROL DETAIL

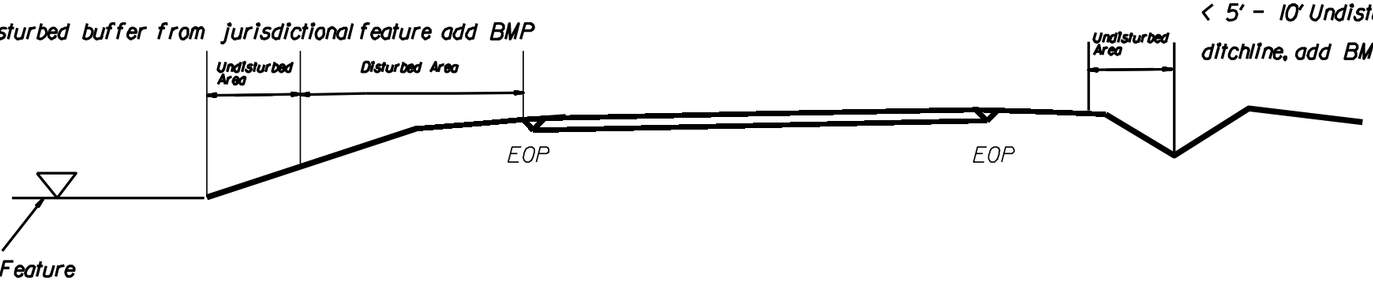
< 5' - 10' Undisturbed buffer add BMP



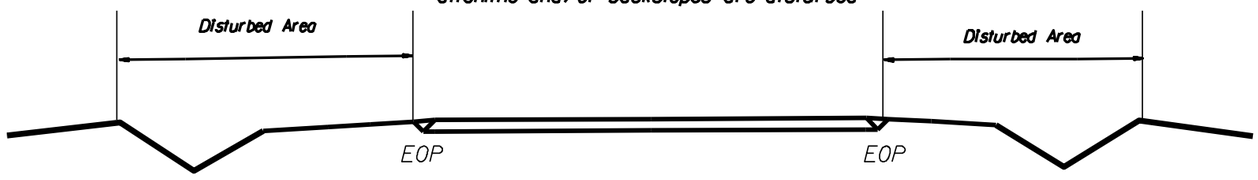
Pipe/Culvert

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

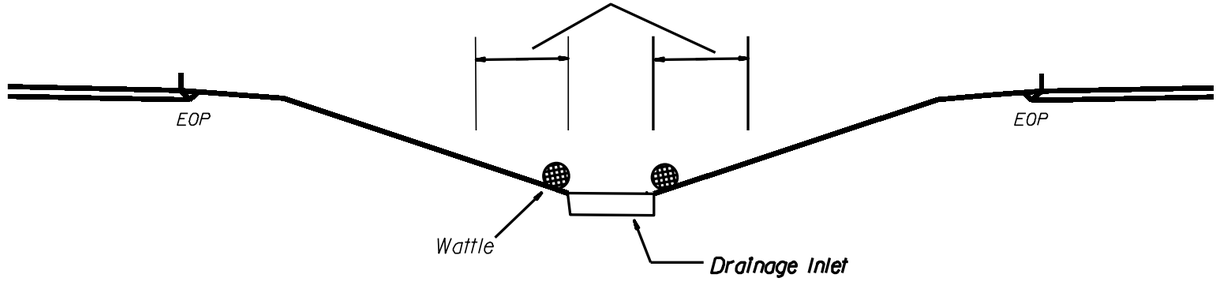
< 5' - 10' Undisturbed buffer from ditchline, add BMP



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



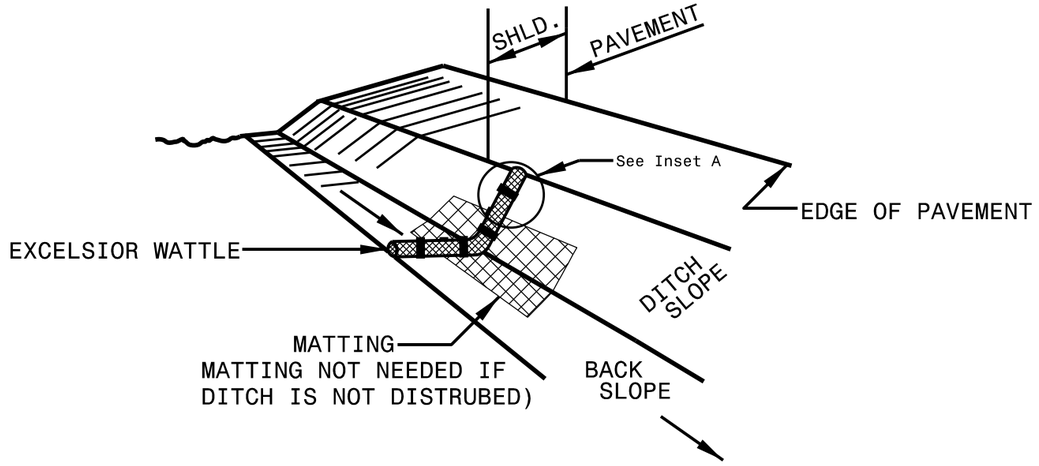
< 5' - 10' Undisturbed buffer from inlet, add wattle



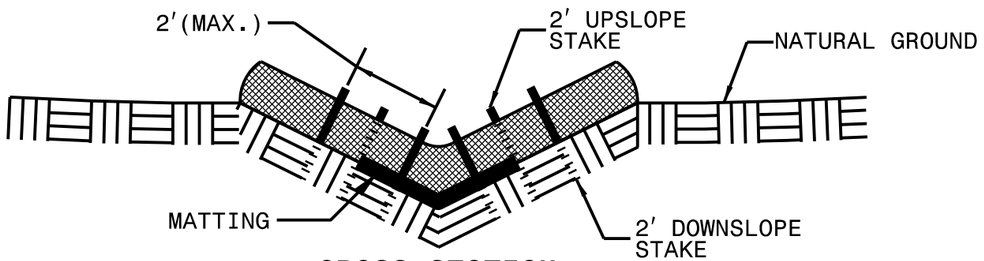
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
X-XXXX	EC-26

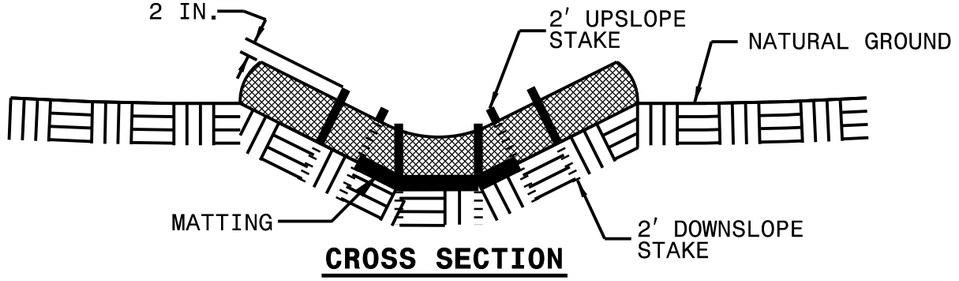
WATTLE DETAIL



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.

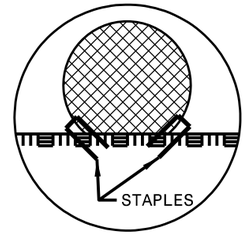
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

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

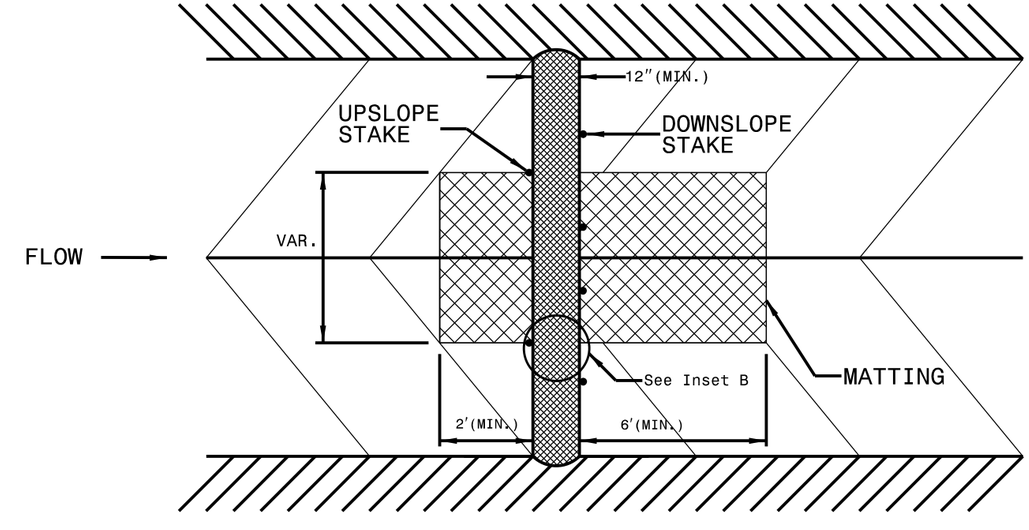
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

IF DITCH WILL BE DISTURBED, INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

INSET A



INSET B



TOP VIEW