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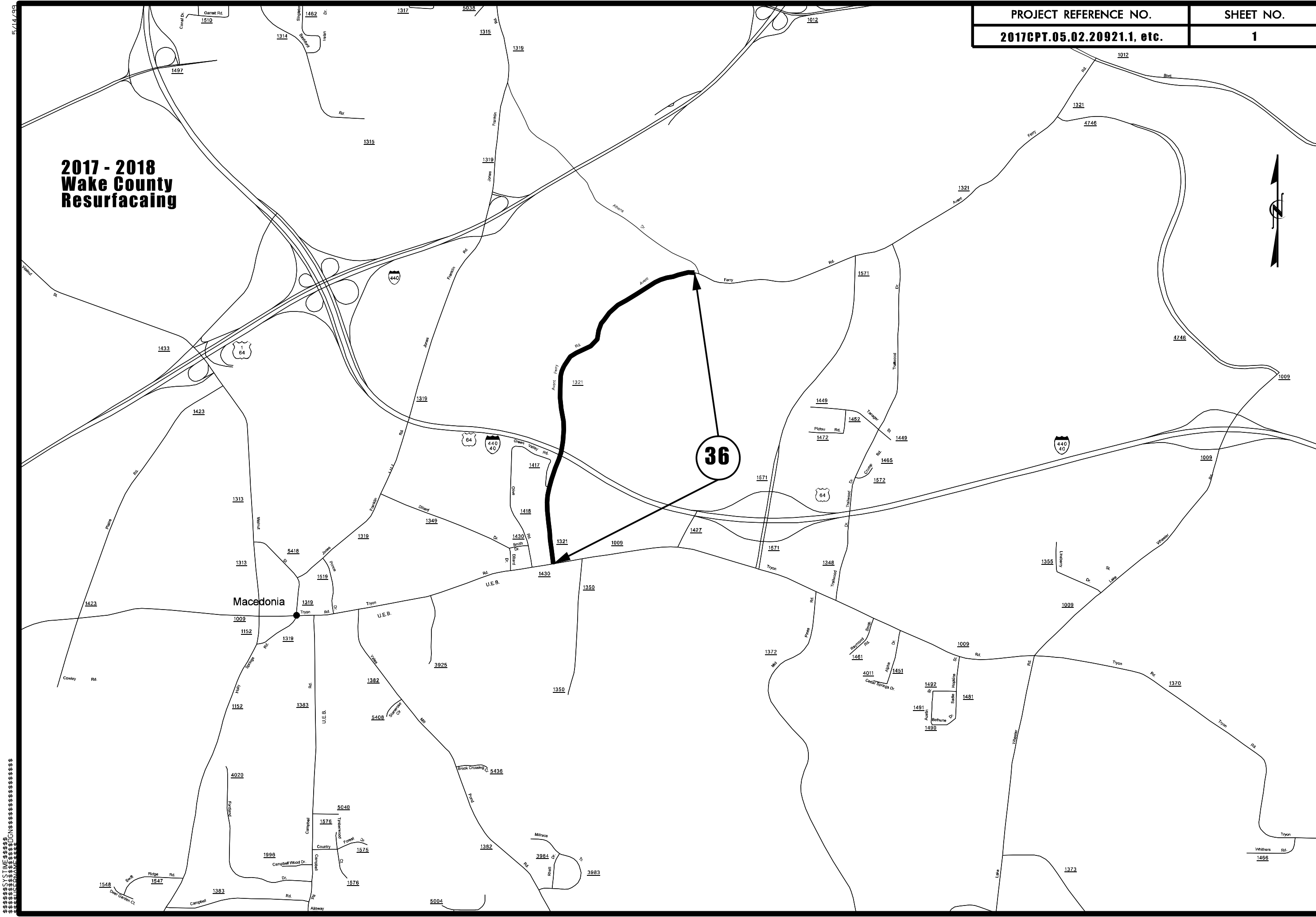
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**2017 - 2018
Wake County
Resurfacing**



36

Macedonia

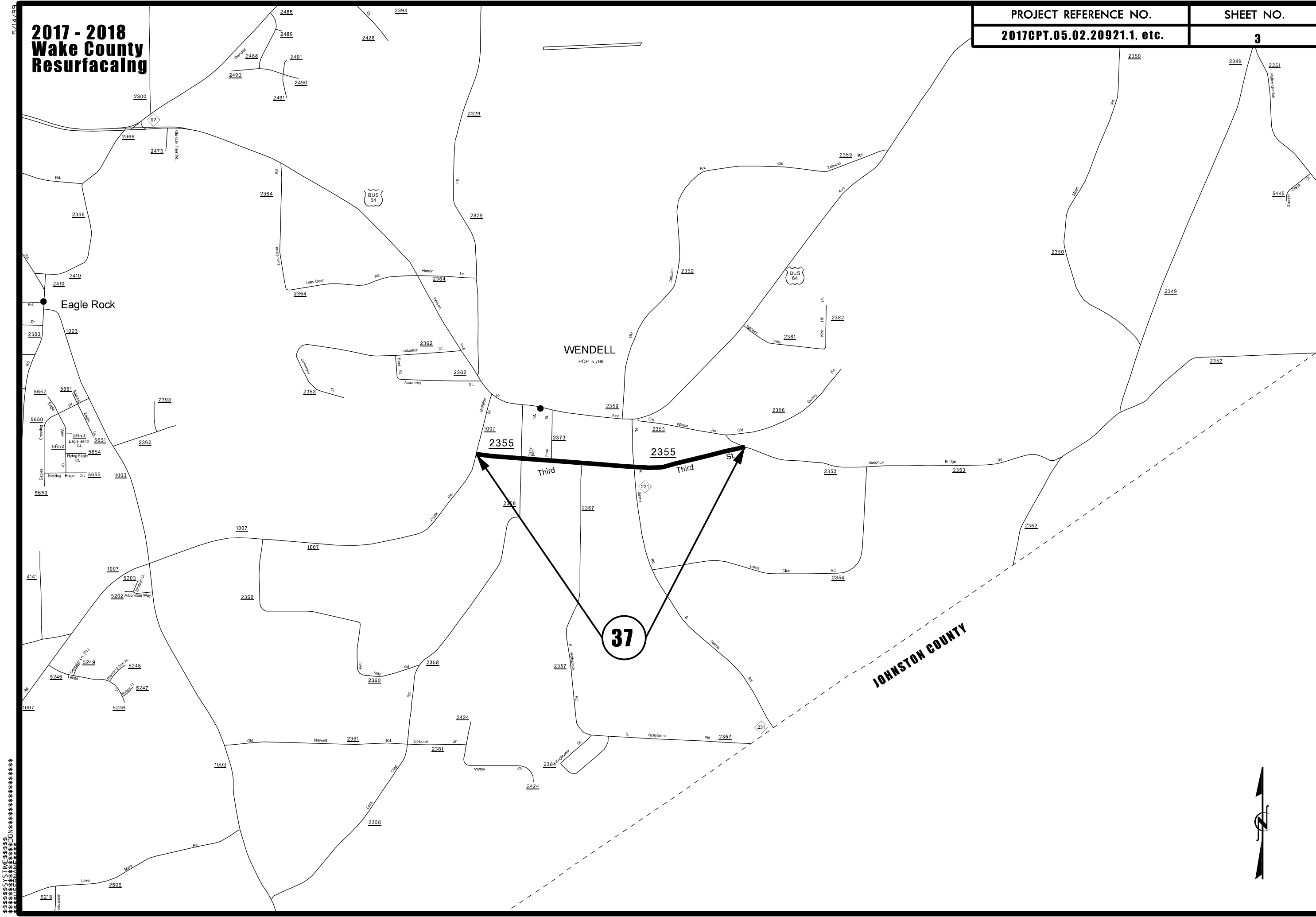


5/14/99
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2017 - 2018 Wake County Resurfacing

PROJECT REFERENCE NO.
2017CPT.05.02.20921.1, etc.

SHEET NO.
3

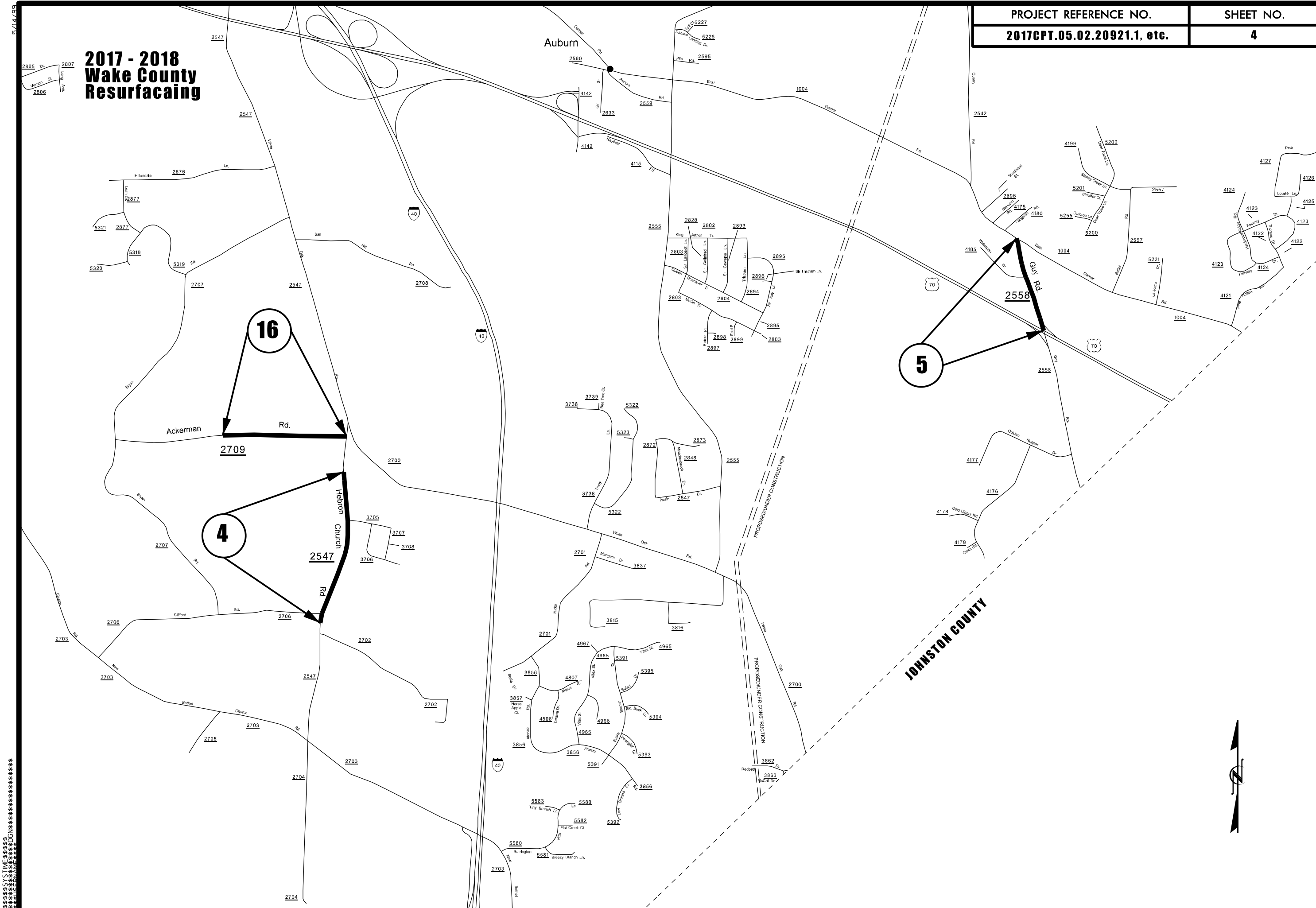


5/14/19

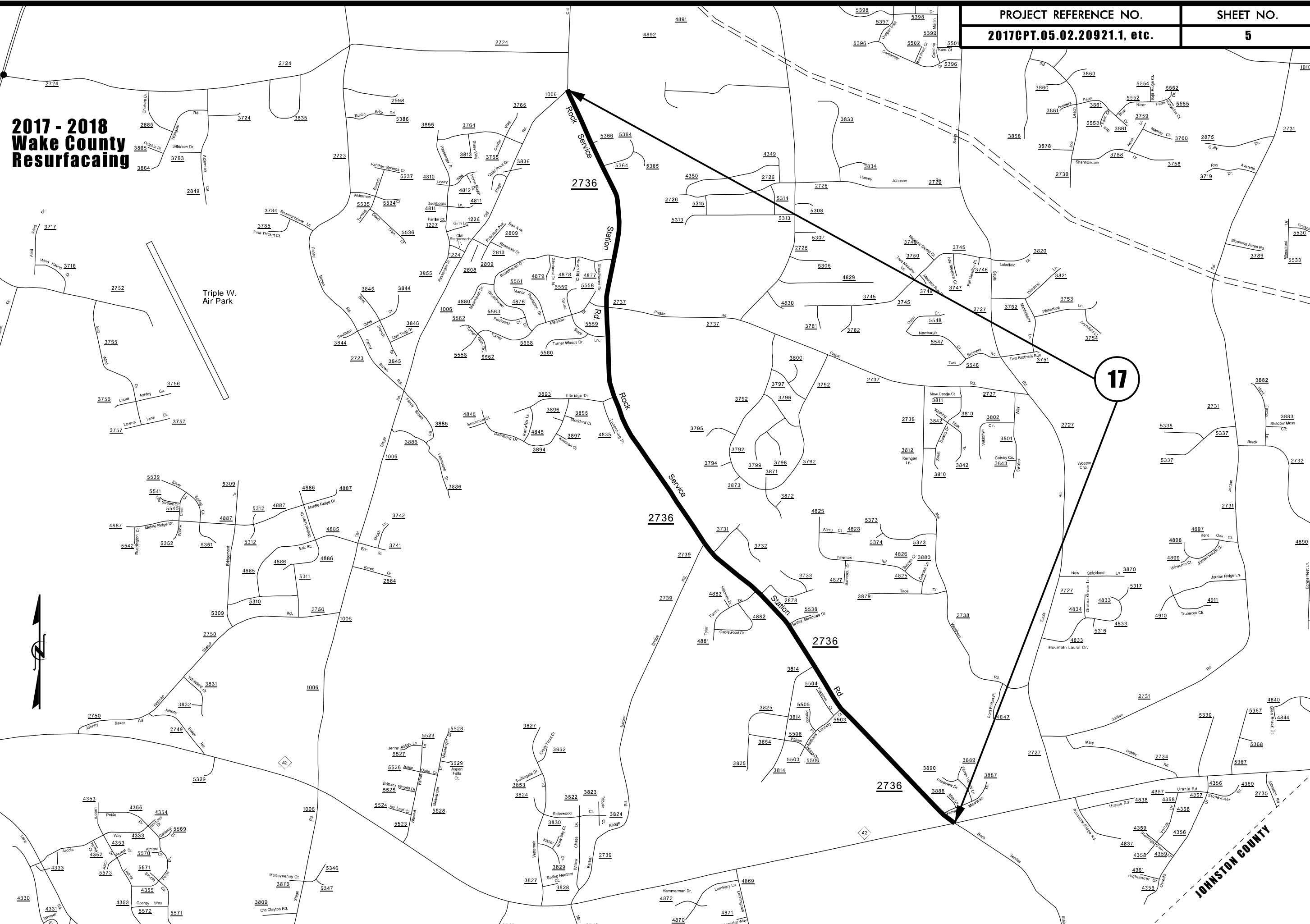
JOHNSTON COUNTY



2017 - 2018
Wake County
Resurfacing



2017 - 2018 Wake County Resurfacing



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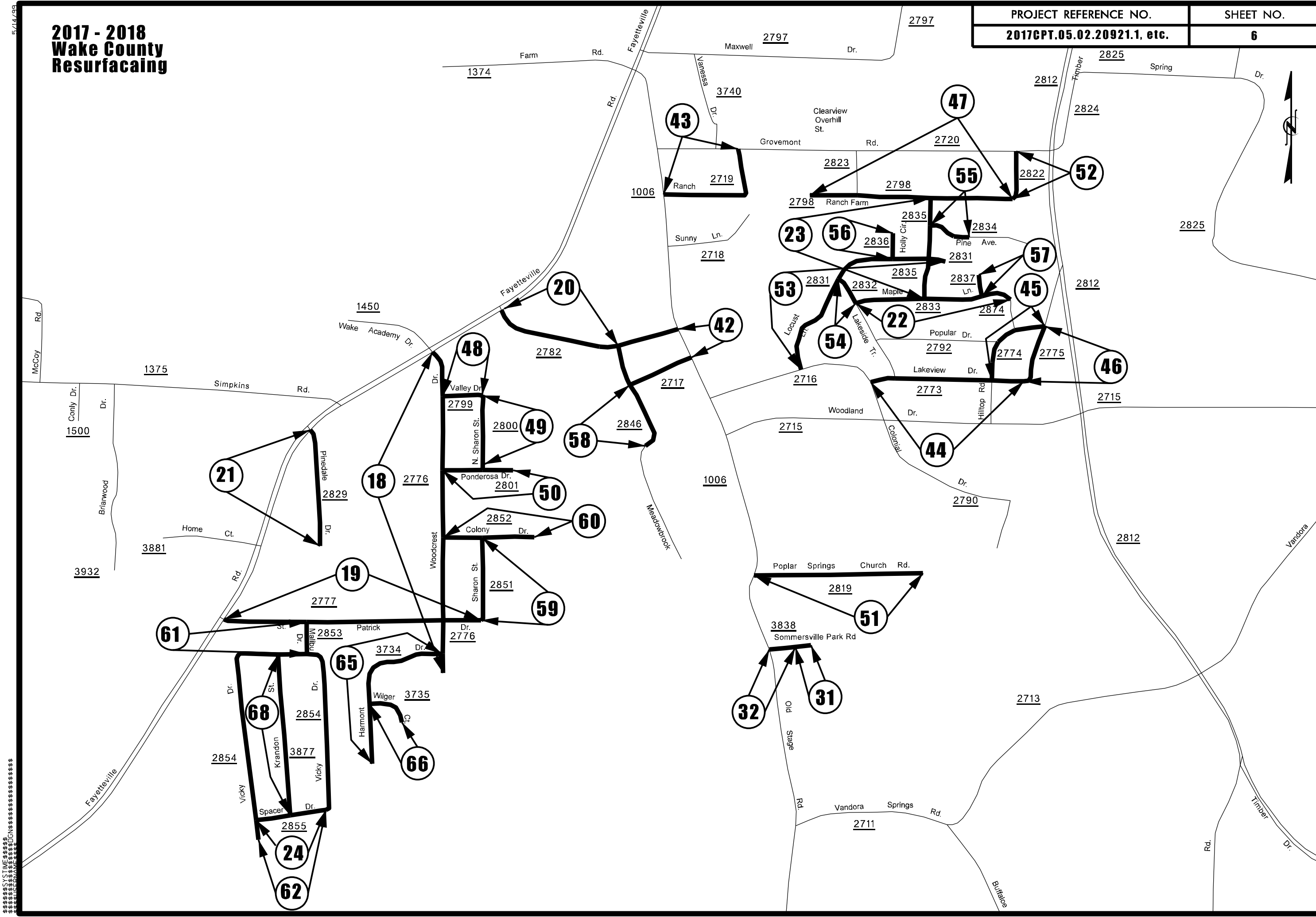
2017 - 2018 Wake County Resurfacing

PROJECT REFERENCE NO.

SHEET NO.

2017CPT.05.02.20921.1, etc.

6



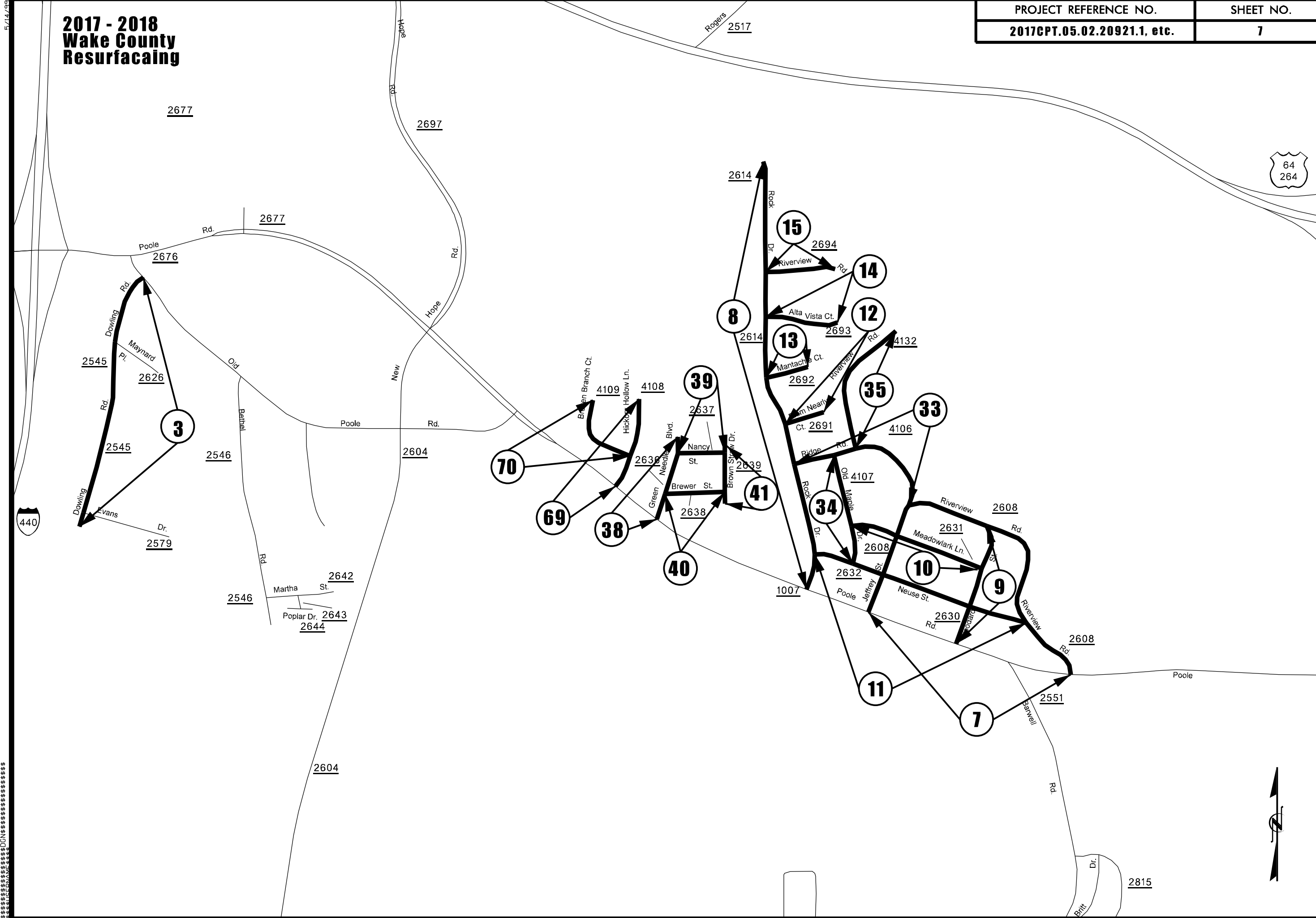
2017 - 2018 Wake County Resurfacing

PROJECT REFERENCE NO.

SHEET NO.

2017CPT.05.02.20921.1, etc.

7



5/14/99

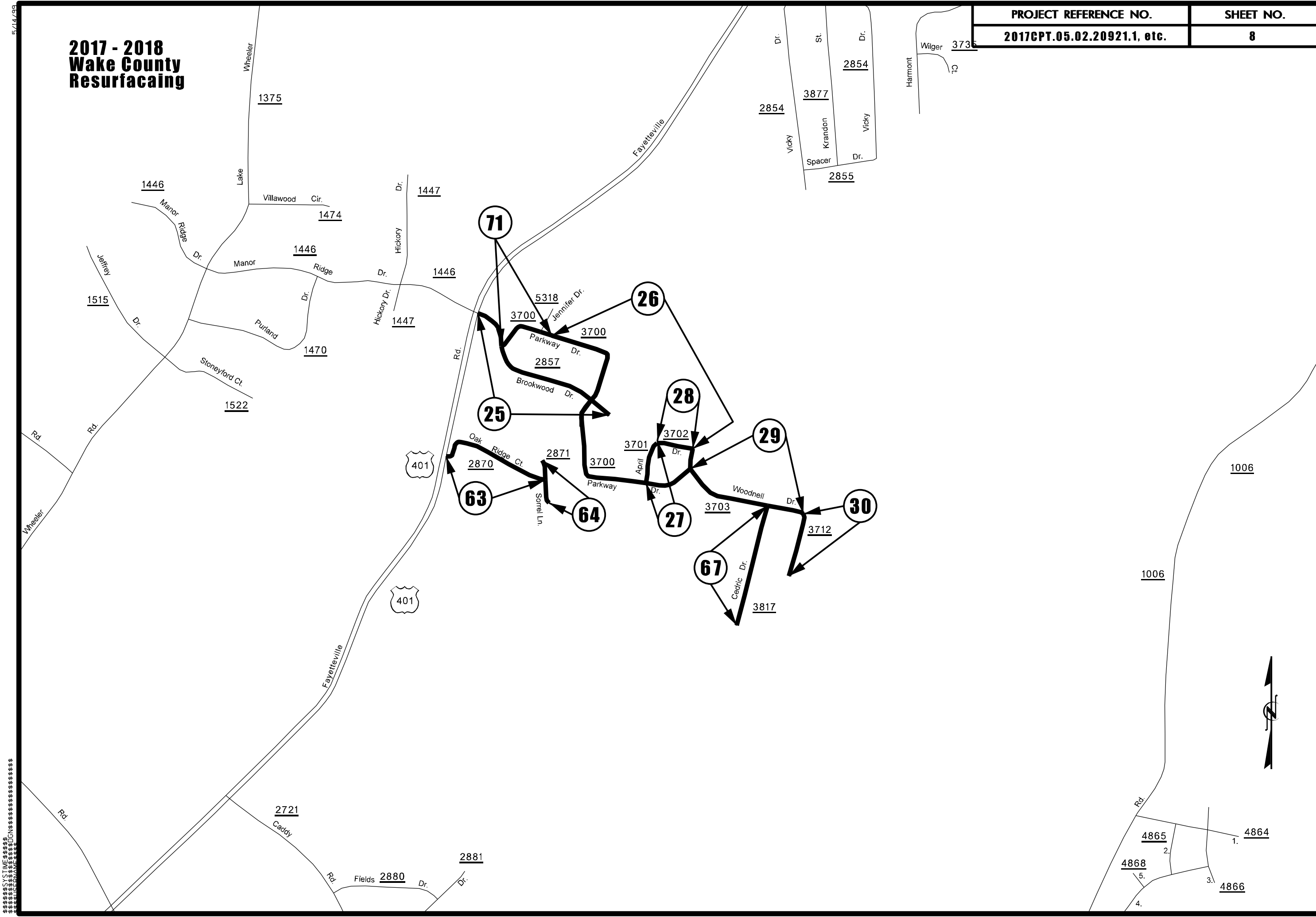
SYDNEY DUNN



2815

**2017 - 2018
Wake County
Resurfacing**

PROJECT REFERENCE NO.	SHEET NO.
2017CPT.05.02.20921.1, etc.	8



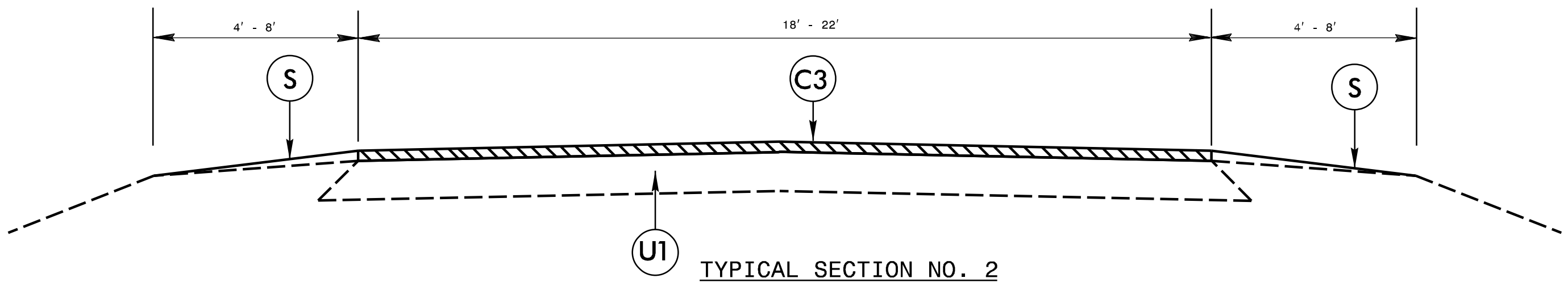
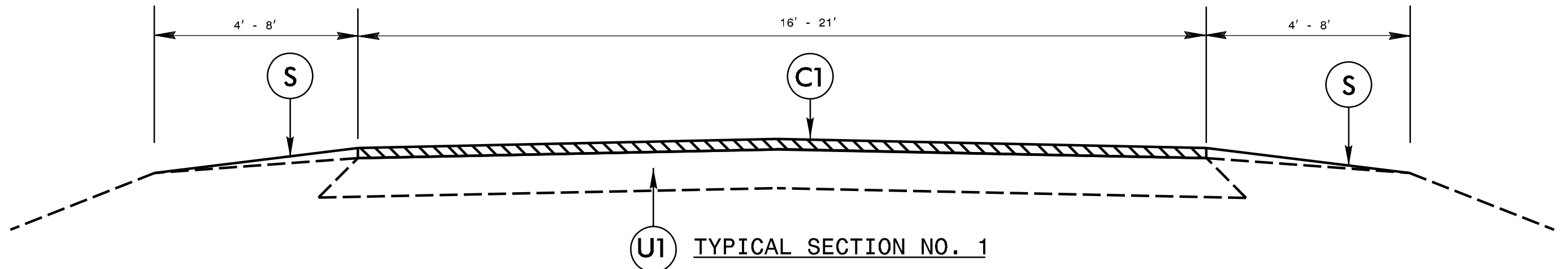
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PAVEMENT SCHEDULE

PROJECT REFERENCE NO.
2017CPT.05.02.20921J, etc.

SHEET NO.
9

	E	3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
C1	J	PROPOSED 1½" AGGREGATE BASE COURSE
C2	S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
C3	U1	EXISTING PAVEMENT
C4	U2	EXISTING CONCRETE
C5	V1	1½" MILLING
D	V2	2½" MILLING

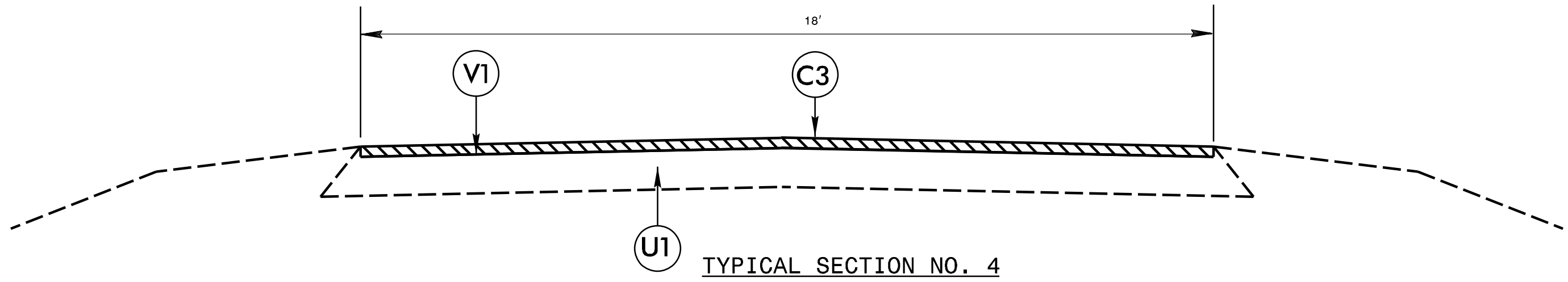
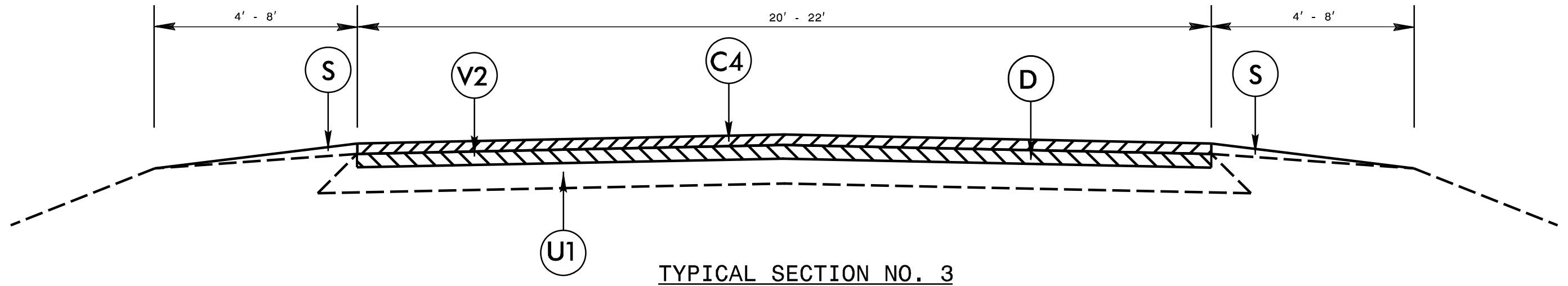


PAVEMENT SCHEDULE

PROJECT REFERENCE NO.
2017CPT.05.02.20921J, etc.

SHEET NO.
10

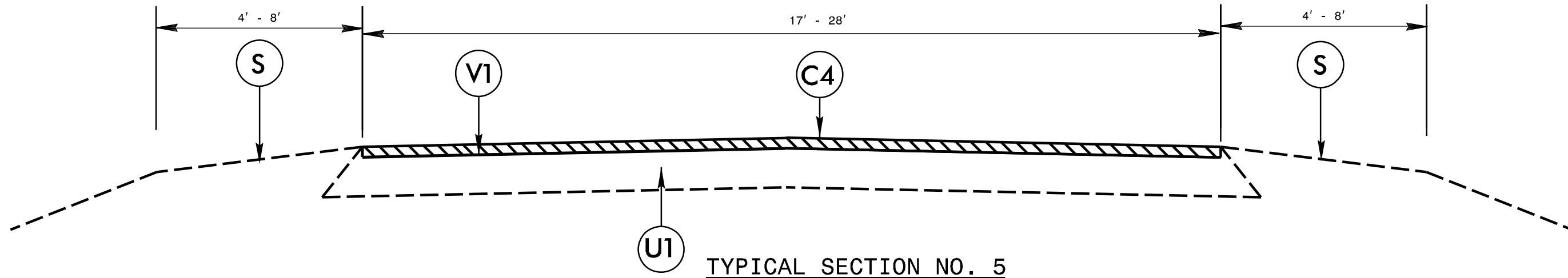
	E	3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
C1	J	PROPOSED 1½" AGGREGATE BASE COURSE
C2	S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
C3	U1	EXISTING PAVEMENT
C4	U2	EXISTING CONCRETE
C5	V1	1½" MILLING
D	V2	2½" MILLING



PAVEMENT SCHEDULE

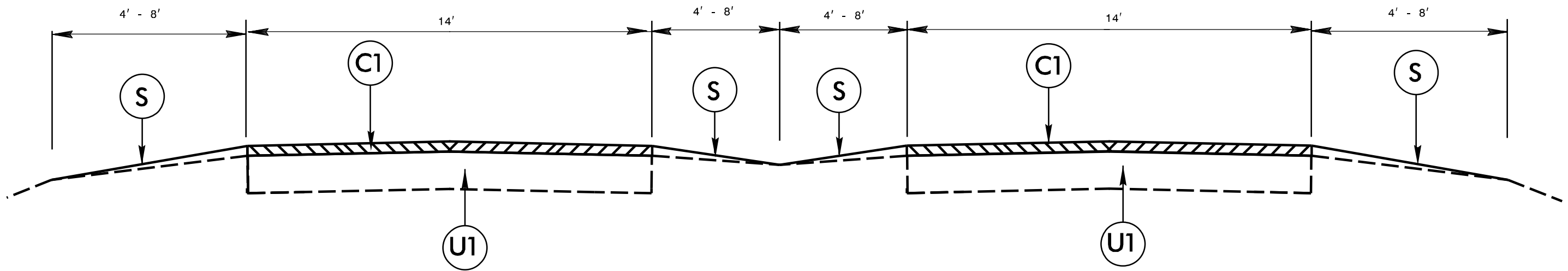
PROJECT REFERENCE NO.	SHEET NO.
2017CPT.05.02.20921J, etc.	//

E	3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
C1	1" ASPHALT CONCRETE SURFACE COURSE, TYPE S4.75A, AT AN AVERAGE RATE OF 100 LBS. PER SQ. YD.
C2	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C3	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C4	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C5	2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
D	2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
J	PROPOSED 1½" AGGREGATE BASE COURSE
S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
U1	EXISTING PAVEMENT
U2	EXISTING CONCRETE
V1	1½" MILLING
V2	2½" MILLING



TYPICAL SECTION NO. 5

* SHOULDER GRADING ON ALL NON-SUBDIVISION ROADS ONLY



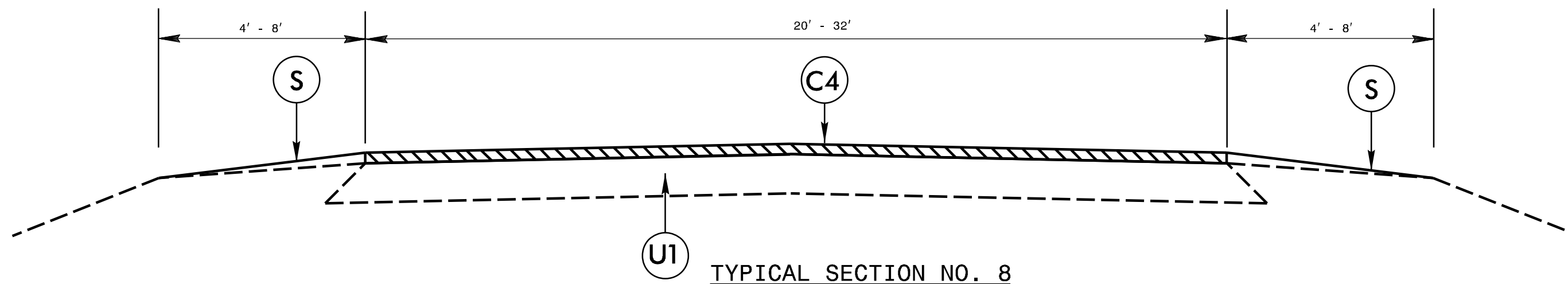
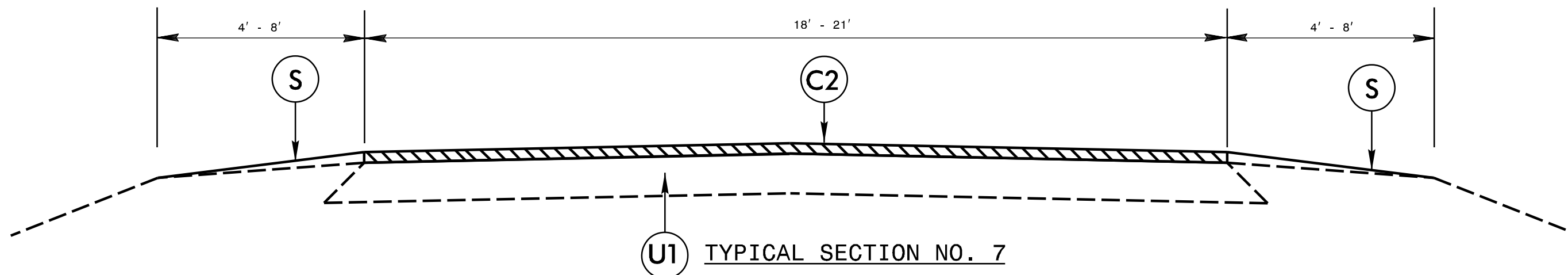
TYPICAL SECTION NO. 6

PAVEMENT SCHEDULE

PROJECT REFERENCE NO.
2017CPT.05.02.20921J, etc.

SHEET NO.
12

	E	3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
C1	J	PROPOSED 1½" AGGREGATE BASE COURSE
C2	S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
C3	U1	EXISTING PAVEMENT
C4	U2	EXISTING CONCRETE
C5	V1	1½" MILLING
D	V2	2½" MILLING

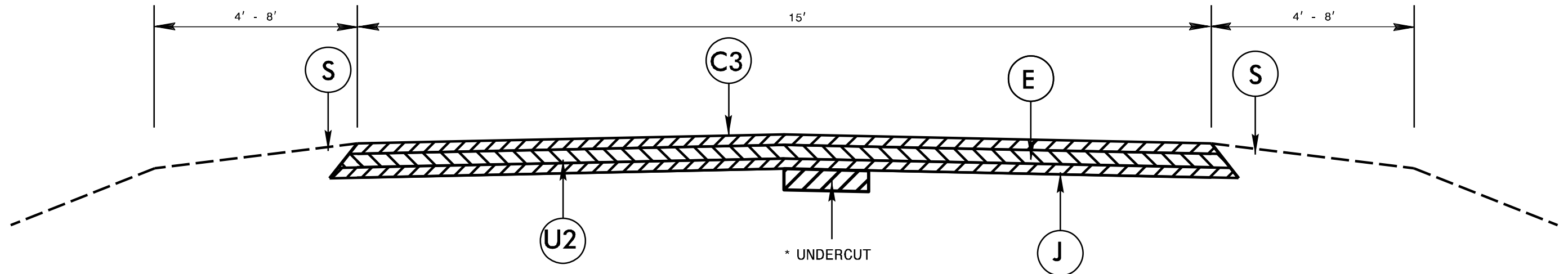


PAVEMENT SCHEDULE

PROJECT REFERENCE NO.
2017CPT.05.02.20921J, etc.

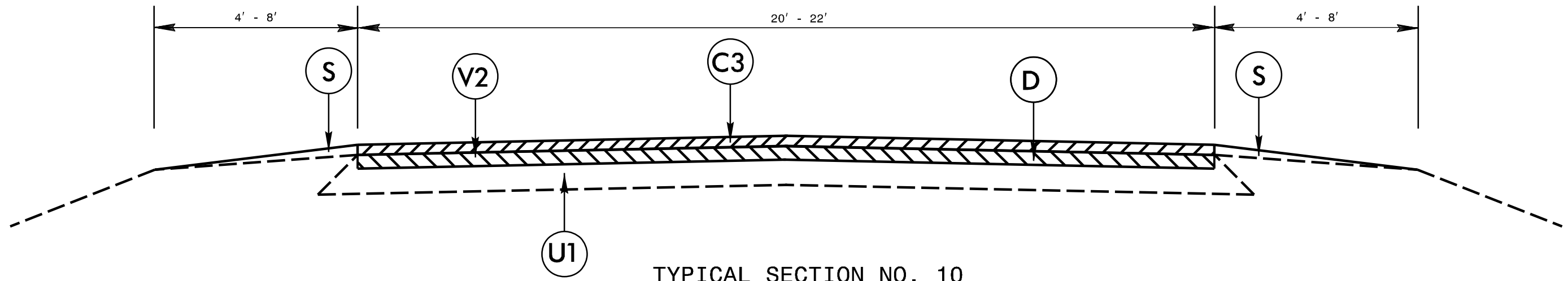
SHEET NO.
13

	E	3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
C1	J	PROPOSED 1½" AGGREGATE BASE COURSE
C2	S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
C3	U1	EXISTING PAVEMENT
C4	U2	EXISTING CONCRETE
C5	V1	1½" MILLING
D	V2	2½" MILLING



REMOVE EXISTING CONCRETE PAVEMENT
* UNDERCUT AND AGGREGATE BASE COURSE AS DIRECTED BY THE ENGINEER

TYPICAL SECTION NO. 9



TYPICAL SECTION NO. 10

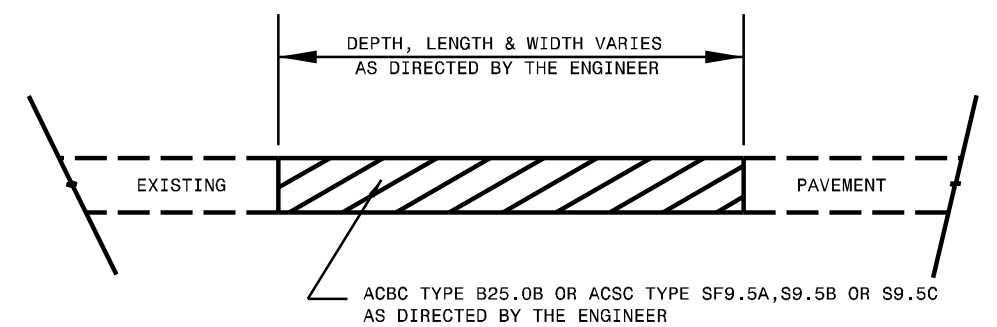
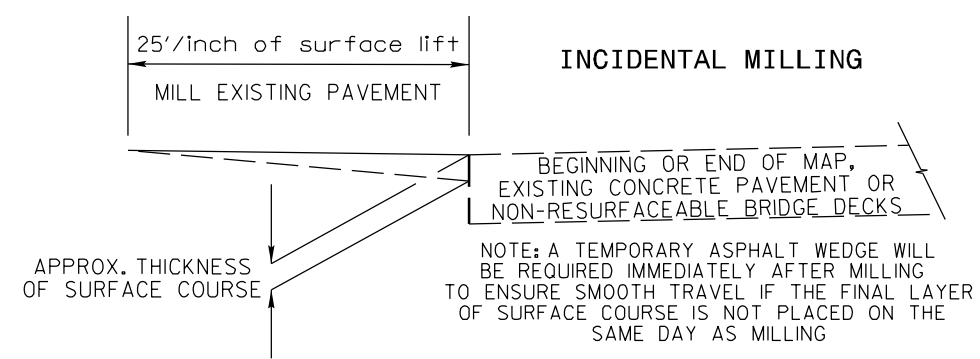
PAVEMENT SCHEDULE

		E	3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
C1	1" ASPHALT CONCRETE SURFACE COURSE, TYPE S4.75A, AT AN AVERAGE RATE OF 100 LBS. PER SQ. YD.	J	PROPOSED 1½" AGGREGATE BASE COURSE
C2	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
C3	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	U1	EXISTING PAVEMENT
C4	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	U2	EXISTING CONCRETE
C5	2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	V1	1½" MILLING
D	2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	V2	2½" MILLING

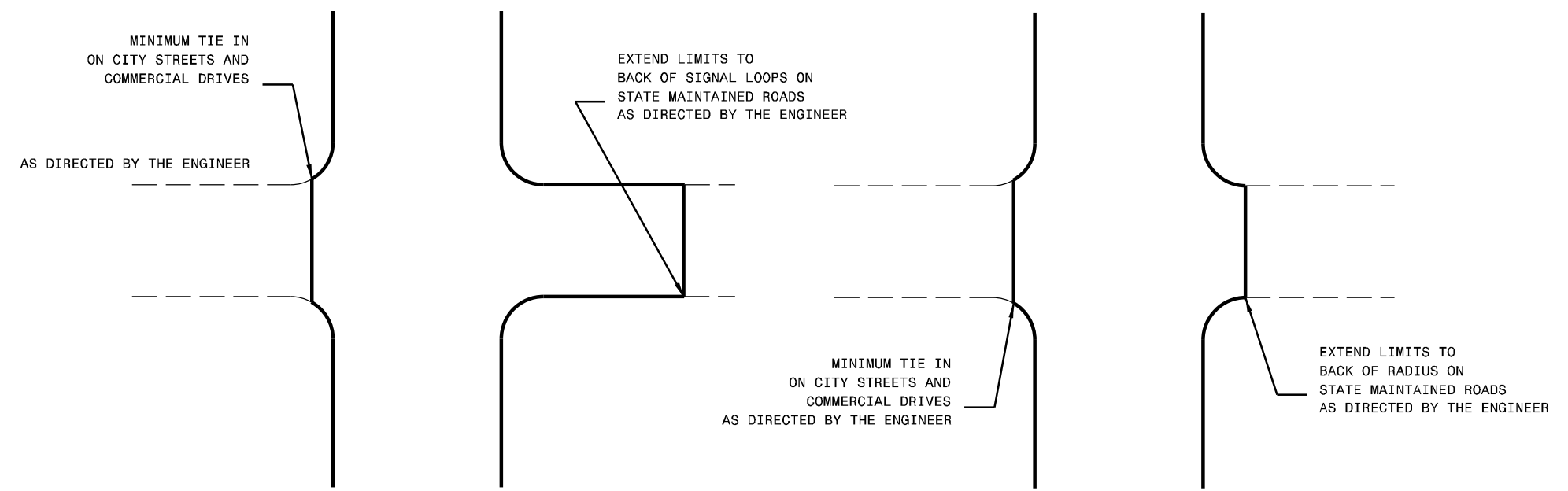
PROJECT REFERENCE NO.	SHEET NO.
2017CPT.05.02.20921J, etc.	14

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 RADI, 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.



PATCHING EXISTING PAVEMENT
MILLING TO BE PERFORMED PRIOR TO PATCHING



DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES

DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES

PROJECT NO. 2017CPT.05.02.20921.1, etc.	SHEET NO.	TOTAL NO.

SUMMARY OF QUANTITIES

PROJECT NO.	COUNTY	MAP NO.	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	UNDERCUT EXCAVATION CY	BORROW CY	REMOVAL OF EXISTING CONCRETE PAVEMENT SY	GEOTEXTILE FOR SOIL STABILIZATION SY	AGGREGATE SHOULDER BORROW (ASB) TON	SHOULDER GRADING SMI	AGGREGATE BASE COURSE TONS	INCIDENTAL STONE BASE TONS	1.5" MILLING SY	2.5" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	INTERMEDIATE COURSE, I19.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TONS	SURFACE COURSE, S4.75A TONS	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	ADJUST MANHOLES EA	TEMPORARY SILT FENCE LF	WATTLE LF	SEED & MULCHING AC	INDUCTIVE LOOP LF
2017CPT.05.02.20921.1	Wake	1	SR 2507 - TURNIPSEED RD	SR 2233 - SMITHFIELD RD TO BRIDGE OVER MARKS CR.		2		NO	NO	1.26	22		88			157	2.52		22	16,262		725			1,506			90	30		64	170	0.64	
TOTAL FOR MAP NO. 1										1.26			88			157	2.52		22	16,262		725		1,506			90	30		64	170	0.64		
2017CPT.05.02.20921.1	Wake	2	SR 2511 - GRASSHOPPER RD	SR 2049 - BETHLEHEM RD TO SR 2049 - BETHLEHEM RD SKIPPING OVER SR 1007 - POOLE RD INTERSECTION		2		NO	NO	2.12	20		148			264	4.23		37	24,875		1,090			2,304			138	90		107	270	1.07	396
TOTAL FOR MAP NO. 2										2.12			148			264	4.23		37	24,875		1,090		2,304			138	90		107	270	1.07	396	
2017CPT.05.02.20921.1	Wake	3	SR 2545 - DOWLING RD	SR 5233 - OLD POOLE RD TO END OF MAINTENANCE		2		NO	NO	0.57	20		112				1.12		28			680			665			45	36		82	210	0.82	
TOTAL FOR MAP NO. 3										0.57			112				1.12		28			680			665			45	36		82	210	0.82	
2017CPT.05.02.20921.1	Wake	4	SR 2547 - HEBRON CHURCH RD	PAVEMENT JOINT 150' SOUTH OF SR 2706 - CLIFFORD RD TO PAVEMENT JOINT .2 MILES SOUTH OF SR 2700 - WHITE OAK		2		NO	NO	0.68	20		102			33	1.36		26			715			793			48		74	190	0.74		
TOTAL FOR MAP NO. 4										0.68			102			33	1.36		26			715			793			48		74	190	0.74		
2017CPT.05.02.20921.1	Wake	5	SR 2558 - GUY RD	US 70 TO SR 1004 - E GARNER RD SKIPPING OVER THE RR		2		NO	NO	0.42	20		41				0.84		10		5,084	488		732	473		63	50		30	80	0.30		
TOTAL FOR MAP NO. 5										0.42			41				0.84		10		5,084	488		732	473		63	50		30	80	0.30		
2017CPT.05.02.20921.1	Wake	6	SR 2601 - CLIFTON RD	SR 2515 - OLD FASION RD TO END OF MAINTENANCE		2		NO	NO	0.43	20		43			41	0.86		11	5,045					448			27	20		31	80	0.31	
TOTAL FOR MAP NO. 6										0.43			43			41	0.86		11	5,045					448			27	20		31	80	0.31	
2017CPT.05.02.20921.1	Wake	7	SR 2608 - JEFFREYS ST/RIVERVIEW RD	SR 1007 - POOLE RD TO SR 1007 - POOLE RD		2		NO	NO	0.85	20		169				1.69		42			138			787			53	80		123	310	1.23	
TOTAL FOR MAP NO. 7										0.85			169				1.69		42			138			787			53	80		123	310	1.23	
2017CPT.05.02.20921.1	Wake	8	SR 2614 - ROCK DR	SR 1007 - POOLE RD TO CUL-DE-SAC -		2		NO	NO	0.95	20		189				1.89		47			83			934			63	35		137	350	1.37	
TOTAL FOR MAP NO. 8										0.95			189				1.89		47			83			934			63	35		137	350	1.37	
2017CPT.05.02.20921.1	Wake	9	SR 2630 - WOODARD ST	SR 2608 - JEFFREY ST TO SR 1007 - POOLE RD		2		NO	NO	0.27	20		54				0.54		14			69			284			19	20		39	100	0.39	
TOTAL FOR MAP NO. 9										0.27			54				0.54		14			69			284			19	20		39	100	0.39	
2017CPT.05.02.20921.1	Wake	10	SR 2631 - MEADOW LARK LN	SR 2630 - WOODARD ST TO SR 4107 - OLD MAPLE DR		2		NO	NO	0.3	20		60				0.60		15						268			18	20		43	110	0.43	
TOTAL FOR MAP NO. 10										0.3			60				0.60		15						268			18	20		43	110	0.43	
2017CPT.05.02.20921.1	Wake	11	SR 2632 - NEUSE ST	SR 2608 - RIVERVIEW RD TO SR 2614 - ROCK DR		2		NO	NO	0.49	20		98				0.98		25						468			31	55		71	180	0.71	
TOTAL FOR MAP NO. 11										0.49			98				0.98		25						468			31	55		71	180	0.71	
2017CPT.05.02.20921.1	Wake	12	SR 2691 - PLUM NEARLY CT	SR 2614 - ROCK DR TO CUL-DE-SAC -		2		NO	NO	0.09	20		18				0.18		5						103			7			13	40	0.13	
TOTAL FOR MAP NO. 12										0.09			18				0.18		5						103			7			13	40	0.13	
2017CPT.05.02.20921.1	Wake	13	SR 2692 - MANTACHIE CT	SR 2614 - ROCK DR TO CUL-DE-SAC -		2		NO	NO	0.09	18		18				0.18		5						99			7	10		13	40	0.13	
TOTAL FOR MAP NO. 13										0.09			18				0.18		5						99			7	10		13	40	0.13	
2017CPT.05.02.20921.1	Wake	14	SR 2693 - ALTA VISTA CT	SR 2614 - ROCK DR TO CUL-DE-SAC -		2		NO	NO	0.16	18		32				0.32		8						156			10	5		23	60	0.23	
TOTAL FOR MAP NO. 14										0.16			32				0.32		8						156			10	5		23	60	0.23	
2017CPT.05.02.20921.1	Wake	15	SR 2694 - RIVERVIEW DR	SR 2614 - ROCK DR TO DEAD END -		2		NO	NO	0.15	21		30				0.30		8						140			9	8		21	60	0.21	
TOTAL FOR MAP NO. 15										0.15			30				0.30		8						140			9	8		21	60	0.21	
2017CPT.05.02.20921.1	Wake	16	SR 2709 - ACKERMAN RD	SR 2547 - HEBRON CHURCH RD TO PAVEMENT JOINT .42 MI. EAST OF SR 2707 - BRYAN RD		2		NO	NO	0.59	20								19	8,887					666			40	2					
TOTAL FOR MAP NO. 16										0.59									19	8,887					666			40	2					
2017CPT.05.02.20921.1	Wake	17	SR 2736 - ROCK SERVICE STATION RD	SR 1006 - OLD STAGE RD TO NC 42		2		NO	NO	3.73	20		745				7.45		186			3,084			4,581			275	4		542	1,360	5.42	198
TOTAL FOR MAP NO. 17										3.73			745				7.45		186			3,084			4,581			275	4		542	1,360	5.42	198
2017CPT.05.02.20921.1	Wake	18	SR 2776 - WOODCREST DR	US 401 - N MAIN ST TO DEAD END -		2		NO	NO	0.7	20		140				1.40		35			84			761			51	28		101	260	1.01	
TOTAL FOR MAP NO. 18										0.7			140				1.40		35			84			761			51	28		101	260	1.01	
2017CPT.05.02.20921.1	Wake	19	SR 2777 - SAINT PATRICK DR	US 401 - N MAIN ST TO SR 2851 - SHARON ST SOUTH		2		NO	NO	0.57	20		114				1.14		29			165			623			42	5		82	210	0.82	
TOTAL FOR MAP NO. 19										0.57			114				1.14		29			165			623			42	5		82	210	0.82	
2017CPT.05.02.20921.1	Wake	20	SR 2782 - LEGEND RD	US 401 - FAYETTEVILLE RD TO SR 2717 - EAST WOODCREST DR		2		NO	NO	0.29	20		58				0.58		15			140			321			21	4		42	110	0.42	
TOTAL FOR MAP NO. 20										0.29			58				0.58		15			140			321			21	4		42	110	0.42	
2017CPT.05.02.20921.1	Wake	21	SR 2829 - PINEDALE DR	US 401 - FAYETTEVILLE RD TO DEAD END -		2		NO	NO	0.27	18		54				0.54		14			137			280			19	40		39	100	0.39	
TOTAL FOR MAP NO. 21										0.27			54				0.54		14			137			280			19	40		39	100	0.39	
2017CPT.05.02.20921.1</																																		

PROJECT NO.	SHEET NO.	TOTAL NO.
2017CPT.05.02.20921.1, etc.		

SUMMARY OF QUANTITIES

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	UNDERCUT EXCAVATION	BORROW	REMOVAL OF EXISTING CONCRETE PAVEMENT	GEOTEXTILE FOR SOIL STABILIZATION	AGGREGATE SHOULDER BORROW (ASB)	SHOULDER GRADING	AGGREGATE BASE COURSE	INCIDENTAL STONE BASE	1.5" MILLING	2.5" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0B	INTERMEDIATE COURSE, I19.0B	SURFACE COURSE, S9.5B	SURFACE COURSE, SF9.5A	SURFACE COURSE, S4.75A	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ADJUST MANHOLES	TEMPORARY SILT FENCE	WATTLE	SEED & MULCHING	INDUCTIVE LOOP		
2017CPT.05.02.20921.1	Wake	24	SR 2855 - SPACER DR	SR 2854 - VICKY DR TO SR 2854 - VICKY DR	2	2		NO	NO	0.15	19		30				0.30		8					158		11	5		21	60	0.21					
TOTAL FOR MAP NO. 24										0.15			30				0.30		8					158		11	5		21	60	0.21					
2017CPT.05.02.20921.1	Wake	25	SR 2857 - BROOKWOOD DR	US 401 - FAYETTEVILLE RD TO EOM	2	2		NO	NO	0.39	18		78				0.78		19			74		386		26			56	150	0.57					
TOTAL FOR MAP NO. 25										0.39			78				0.78		19			74		386		26		56	150	0.57						
2017CPT.05.02.20921.1	Wake	26	SR 3700 - PARKWAY DR	PAVEMENT JOINT 140' EAST OF SR 5318 - JENNIFER DR TO SR 3702 - APRIL DR	2	2		NO	NO	0.69	22		138				1.38		35			183		829		56	30		100	260	1.00					
TOTAL FOR MAP NO. 26										0.69			138				1.38		35			183		829		56	30		100	260	1.00					
2017CPT.05.02.20921.1	Wake	27	SR 3701 - APRIL DR	SR 3702 - APRIL DR TO SR 3700 - PARKWAY DR	2	2		NO	NO	0.09	18		18				0.18		5					87		6	3		13	40	0.13					
TOTAL FOR MAP NO. 27										0.09			18				0.18		5					87		6	3		13	40	0.13					
2017CPT.05.02.20921.1	Wake	28	SR 3702 - APRIL DR	SR 3701 - APRIL DR TO SR 3700 - PARKWAY DR	2	2		NO	NO	0.08	18		16				0.16		4					77		5			12	30	0.12					
TOTAL FOR MAP NO. 28										0.08			16				0.16		4					77		5		12	30	0.12						
2017CPT.05.02.20921.1	Wake	29	SR 3703 - WOODNELL DR	SR 3700 - PARKWAY DR TO SR 3712 - EASTOVER DR	2	2		NO	NO	0.28	20		56				0.56		14			82		308		21			40	110	0.40					
TOTAL FOR MAP NO. 29										0.28			56				0.56		14			82		308		21		40	110	0.40						
2017CPT.05.02.20921.1	Wake	30	SR 3712 - EASTOVER DR	SR 3703 - WOODNELL DR TO END OF MAINTENANCE -	2	2		NO	NO	0.14	18		28				0.28		7			75		135		9	3		20	60	0.20					
TOTAL FOR MAP NO. 30										0.14			28				0.28		7			75		135		9	3		20	60	0.20					
2017CPT.05.02.20921.1	Wake	31	SR 3838 - SOMMERVILLE PARK RD	COMMERCIAL DR - TO END OF MAINTENANCE -	2	2		NO	NO	0.03	18						0.06		2			75		29		2	10		4	20	0.04					
TOTAL FOR MAP NO. 31										0.03							0.06		2			75		29		2	10		4	20	0.04					
2017CPT.05.02.20921.1	Wake	32	SR 3838 - SOMMERVILLE PARK RD	SR 1006 - OLD STAGE RD TO COMMERCIAL DRIVE -	10	2		NO	NO	0.06	22		12				0.12		3			774	150	111	71	10	30		8	30	0.08					
TOTAL FOR MAP NO. 32										0.06			12				0.12		3			774	150	111	71	10	30		8	30	0.08					
2017CPT.05.02.20921.1	Wake	33	SR 4106 - RIDGE RD	SR 2614 - ROCK DR TO SR 2608 - JEFFREY ST	7	2		NO	NO	0.35	20		70				0.70		18					343		23	10		50	130	0.50					
TOTAL FOR MAP NO. 33										0.35			70				0.70		18					343		23	10		50	130	0.50					
2017CPT.05.02.20921.1	Wake	34	SR 4107 - OLD MAPLE DR	SR 2632 - NEUSE ST TO SR 4106 - RIDGE RD	7	2		NO	NO	0.24	20		48				0.48		12					220		15	5		34	90	0.34					
TOTAL FOR MAP NO. 34										0.24			48				0.48		12					220		15	5		34	90	0.34					
2017CPT.05.02.20921.1	Wake	35	SR 4132 - RIVERVIEW RD	SR 4106 - RIDGE RD TO DEAD END -	7	2		NO	NO	0.31	20		62				0.62		16					277		19	20	1	45	120	0.45					
TOTAL FOR MAP NO. 35										0.31			62				0.62		16					277		19	20	1	45	120	0.45					
2017CPT.05.02.20921.1	Wake	36	SR 1321 - AVENT FERRY RD	ATHENS DR TO SR 1009 - TRYON RD	5	2		NO	NO	1.63	20		238				2.38		60	28,922		707		2,624		157			173	440	1.73					
TOTAL FOR MAP NO. 36										1.63			238				2.38		60	28,922		707		2,624		157		173	440	1.73						
2017CPT.05.02.20921.1	Wake	37	SR 2355 - THIRD ST	SR 1007 - WENDELL FALLS PKWY TO SR 2352 MORPHUS BRIDGE RD	5	2		NO	NO	1.19	20		68				0.68		17	20,696		633		1,889		113	80		50	130	0.50				396	
TOTAL FOR MAP NO. 37										1.19			68				0.68		17	20,696		633		1,889		113	80		50	130	0.50				396	
2017CPT.05.02.20921.1	Wake	71	SR 3700 - PARKWAY DR	SR 2857 - BROOKWOOD DR TO PAVEMENT JOINT 140' EAST OF SR 5318	9	2		NO	NO	0.13	18	48	26	1,430	143.00		0.26	220	7				248		125	19			18	50	0.18					
TOTAL FOR MAP NO. 71										0.13		48	26	1,430	143.00		0.26	220	7				248		125	19		18	50	0.18						
TOTAL FOR PROJ NO. 2017CPT.05.02.20921.1										21.31			48	3,271	1,430	143.00	495	38.36	220	857	110,602	5,858	9,864	248	843	15,284	9,491	1,611	747	1	2,371	6,140	23.72	990		
2017CPT.05.02.20922.1	Wake	38	SR 2636 - GREEN NEEDLES BLVD	SR 1007 - POOLE RD TO END OF MAINTENANCE -	1,6	2		NO	NO	0.16	20		49				0.49		12			67		164	11	10		23	60	0.23						
TOTAL FOR MAP NO. 38										0.16			49				0.49		12			67		164	11	10		23	60	0.23						
2017CPT.05.02.20922.1	Wake	39	SR 2637 - NANCY ST	SR 2636 - GREEN NEEDLES BLVD TO SR 2639 - BROWN STRAW DR	1	2		NO	NO	0.1	18		20				0.20		5					61	4	3		14	40	0.14						
TOTAL FOR MAP NO. 39										0.1			20				0.20		5					61	4	3		14	40	0.14						
2017CPT.05.02.20922.1	Wake	40	SR 2638 - E. BREWER ST	SR 2639 - GREEN NEEDLES BLVD TO SR 2639 - BROWN STRAW DR	1	2		NO	NO	0.13	18		26				0.26		7					80	5		18	50	0.18							
TOTAL FOR MAP NO. 40										0.13			26				0.26		7					80	5		18	50	0.18							
2017CPT.05.02.20922.1	Wake	41	SR 2639 - BROWN STRAW DR	SR 2637 - NANCY ST TO END OF MAINTENANCE -	1	2		NO	NO	0.13	18		26				0.26		7					85	6	3		18	50	0.18						
TOTAL FOR MAP NO. 41										0.13			26				0.26		7					85	6	3		18	50	0.18						
2017CPT.05.02.20922.1	Wake	42	SR 2717 - E WOODCREST DR	SR 1006 - OLD STAGE RD TO SR 1006 - OLD STAGE RD	1	2		NO	NO	0.38	20		75				0.75		19			250		259	18		54	140	0.54							
TOTAL FOR MAP NO. 42										0.38			75				0.75		19			250		259	18		54	140	0.54							
2017CPT.05.02.20922.1	Wake	43	SR 2719																																	

PROJECT NO.	SHEET NO.	TOTAL NO.
2017CPT.05.02.20921.1, etc.		

SUMMARY OF QUANTITIES

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	UNDERCUT EXCAVATION	BORROW	REMOVAL OF EXISTING CONCRETE PAVEMENT	GEOTEXTILE FOR SOIL STABILIZATION	AGGREGATE SHOULDER BORROW (ASB)	SHOULDER GRADING	AGGREGATE BASE COURSE	INCIDENTAL STONE BASE	1.5" MILLING	2.5" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0B	INTERMEDIATE COURSE, I19.0B	SURFACE COURSE, S9.5B	SURFACE COURSE, SF9.5A	SURFACE COURSE, S4.75A	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ADJUST MANHOLES	TEMPORARY SILT FENCE	WATTLE	SEED & MULCHING	INDUCTIVE LOOP										
2017CPT.05.02.20922.1	Wake	46	SR 2775 - SPRING RD	SR 2773 - LAKEVIEW DR TO PAVEMENT JOINT 40' NORTH OF SR 2774 - HILLTOP RD	1	2		NO	NO	0.13	16		26				0.26		7			36			77	5	2		18	50	0.18													
TOTAL FOR MAP NO. 46										0.13			26				0.26		7			36			77	5	2		18	50	0.18													
2017CPT.05.02.20922.1	Wake	47	SR 2798 - RANCH FARM RD	SR 2835 - JUNIPER AVE TO SR 2822 - VALLEY ST	1	2		NO	NO	0.49	20		98				0.98		25			100			347	24			71	180	0.71													
TOTAL FOR MAP NO. 47										0.49			98				0.98		25			100			347	24			71	180	0.71													
2017CPT.05.02.20922.1	Wake	48	SR 2799 - VALLEY ST	SR 2776 - WOODCREST DR TO SR 2800 - NORTH SHARON DR	1	2		NO	NO	0.09	20		18				0.18		5						61	4	5		13	40	0.13													
TOTAL FOR MAP NO. 48										0.09			18				0.18		5					61	4	5		13	40	0.13														
2017CPT.05.02.20922.1	Wake	49	SR 2800 - NORTH SHARON DR	SR 2799 - VALLEY ST TO SR 2801 - PONEROSA DR	1	2		NO	NO	0.16	20		32				0.32		8						109	7	5		23	60	0.23													
TOTAL FOR MAP NO. 49										0.16			32				0.32		8					109	7	5		23	60	0.23														
2017CPT.05.02.20922.1	Wake	50	SR 2801 - PONEROSA DR	SR 2776 - WOODCREST DR TO DEAD END -	1	2		NO	NO	0.16	20		32				0.32		8						110	8	15		23	60	0.23													
TOTAL FOR MAP NO. 50										0.16			32				0.32		8					110	8	15		23	60	0.23														
2017CPT.05.02.20922.1	Wake	51	SR 2819 - POPLAR SPRINGS CHURCH RD	SR 1006 - OLD STAGE RD TO DEAD END -	1	2		NO	NO	0.37	18		74				0.74		19			50			227	15	5		53	140	0.53													
TOTAL FOR MAP NO. 51										0.37			74				0.74		19			50			227	15	5		53	140	0.53													
2017CPT.05.02.20922.1	Wake	52	SR 2822 - VALLEY ST	SR 2720 - GROVEMONT RD TO SR 2798 - RANCH FARM RD	1	2		NO	NO	0.11	19		22				0.22		6			85			71	5	15		16	40	0.16													
TOTAL FOR MAP NO. 52										0.11			22				0.22		6			85			71	5	15		16	40	0.16													
2017CPT.05.02.20922.1	Wake	53	SR 2831 - LOCUST LN	CUL-DE-SAC TO SR 2716 - COLONIAL DR	1	2		NO	NO	0.49	20		98				0.98		25			125			356	24	20		71	180	0.71													
TOTAL FOR MAP NO. 53										0.49			98				0.98		25			125			356	24	20		71	180	0.71													
2017CPT.05.02.20922.1	Wake	54	SR 2832 - LAKESIDE TRL	SR 2831 - LOCUST LN TO SR 2833 - MAPLE LN	1	2		NO	NO	0.06	18		12				0.12		3			40			40	3	4		8	30	0.08													
TOTAL FOR MAP NO. 54										0.06			12				0.12		3			40			40	3	4		8	30	0.08													
2017CPT.05.02.20922.1	Wake	55	SR 2834 - PINE AVE	END OF PAVEMENT - TO SR 2835 - JUNIPER AVE	1	2		NO	NO	0.1	18		20				0.20		4			62			61	4	10		14	40	0.15													
TOTAL FOR MAP NO. 55										0.1			20				0.20		4			62			61	4	10		14	40	0.15													
2017CPT.05.02.20922.1	Wake	56	SR 2836 - HOLLY CIR	SR 2831 - LOCUST LN TO END OF MAINTENANCE -	1	2		NO	NO	0.06	18		12				0.12		3						53	4	10		8	30	0.08													
TOTAL FOR MAP NO. 56										0.06			12				0.12		3				53	4	10		8	30	0.08															
2017CPT.05.02.20922.1	Wake	57	SR 2837 - BALSAM PL	END OF MAINTENANCE - TO SR 2833 - MAPLE LN	1	2		NO	NO	0.05	18		10				0.10		3						47	3	25		7	20	0.07													
TOTAL FOR MAP NO. 57										0.05			10				0.10		3				47	3	25		7	20	0.07															
2017CPT.05.02.20922.1	Wake	58	SR 2846 - MEADOWBROOK RD	SR 2717 - E WOODCREST DR TO .15 MI S OF SR 2717 -	1	2		NO	NO	0.15	19		30				0.30								97	7	15		21	60	0.21													
TOTAL FOR MAP NO. 58										0.15			30				0.30							97	7	15		21	60	0.21														
2017CPT.05.02.20922.1	Wake	59	SR 2851 - SHARON ST SOUTH	SR 2852 - COLONY DR TO SR 2777 - SAINT PATRICK DR	1	2		NO	NO	0.18	19		36				0.36		9						116	8	25		26	70	0.26													
TOTAL FOR MAP NO. 59										0.18			36				0.36		9				116	8	25		26	70	0.26															
2017CPT.05.02.20922.1	Wake	60	SR 2852 - COLONY DR	SR 2776 - WOODCREST DR TO DEAD END -	1	2		NO	NO	0.19	19		38				0.38		10						126	9	50		27	70	0.27													
TOTAL FOR MAP NO. 60										0.19			38				0.38		10				126	9	50		27	70	0.27															
2017CPT.05.02.20922.1	Wake	61	SR 2853 - MALIBU DR	SR 2777 - SAINT PATRICK DR TO SR 2854 - VICKY DR	1	2		NO	NO	0.07	20		14				0.14		4						48	3	10		10	30	0.10													
TOTAL FOR MAP NO. 61										0.07			14				0.14		4				48	3	10		10	30	0.10															
2017CPT.05.02.20922.1	Wake	62	SR 2854 - VICKY DR	SR 2855 - SPACER DR TO DEAD END -	1	2		NO	NO	0.92	20		184				1.84		46						641	44	25		133	340	1.33													
TOTAL FOR MAP NO. 62										0.92			184				1.84		46				641	44	25		133	340	1.33															
2017CPT.05.02.20922.1	Wake	63	SR 2870 - OAK RIDGE CT	US 401 - FAYETTEVILLE RD TO SR 2871 - SORRELL LN	1	2		NO	NO	0.26	18		51				0.51		13			50			159	11	15		37	100	0.37													
TOTAL FOR MAP NO. 63										0.26			51				0.51		13		50			159	11	15		37	100	0.37														
2017CPT.05.02.20922.1	Wake	64	SR 2871 - SORRELL LN	CUL-DE-SAC TO CUL-DE-SAC	1	2		NO	NO	0.09	21		18				0.18		5						93	6	10		13	40	0.13													
TOTAL FOR MAP NO. 64										0.09			18				0.18		5				93	6	10		13	40	0.13															
2017CPT.05.02.20922.1	Wake	65	SR 3734 - HARMONT DR	CUL-DE-SAC TO SR 2776 - WOODCREST DR	1	2		NO	NO	0.36	19		72				0.72		18						256	17	5		52	140	0.52													
TOTAL FOR MAP NO. 65										0.36			72				0.72		18				256	17	5		52	140	0.52															
2017CPT.05.02.20922.1	Wake	66	SR 3735 - WILGER CT	SR 3734 - HARMONT DR TO DEAD END -	1	2		NO	NO	0.09																																		

PROJECT NO.	SHEET NO.	TOTAL NO.
2017CPT.05.02.20921.1, etc.		

SUMMARY OF QUANTITIES

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	UNDERCUT EXCAVATION	BORROW	REMOVAL OF EXISTING CONCRETE PAVEMENT	GEOTEXTILE FOR SOIL STABILIZATION	AGGREGATE SHOULDER BORROW (ASB)	SHOULDER GRADING	AGGREGATE BASE COURSE	INCIDENTAL STONE BASE	1.5" MILLING	2.5" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0B	INTERMEDIATE COURSE, I19.0B	SURFACE COURSE, S9.5B	SURFACE COURSE, SF9.5A	SURFACE COURSE, S4.75A	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ADJUST MANHOLES	TEMPORARY SILT FENCE	WATTLE	SEED & MULCHING	INDUCTIVE LOOP
GRAND TOTAL										28.61		48	4,746	1,430	143.00	495	53.11	220	1,226	110,602	5,858	11,597	248	843	15,284	9,491	5,132	1,960	1,067	1	3,417	8,930	34.18	1,188

PROJECT NO.	SHEET NO.	TOTAL NO.
2017CPT.05.02.20921.1, etc.		

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4810000000-E		4815000000-E	4820000000-E	4825000000-E	4830000000-E	4835000000-E	4840000000-N				4845000000-N			4850000000-E	4900000000-N			
										4" YELLOW PAINT	4" WHITE PAINT	6" YELLOW PAINT	8" WHITE PAINT	12" YELLOW PAINT	12" WHITE PAINT	16" WHITE PAINT	24" WHITE PAINT	PAINT MSG STOP	PAINT MSG AHEAD	PAINT MSG RXR	PAINT MSG SCHOOL	PAINT LT ARROW	PAINT STR ARROW	PAINT RT ARROW	4" LINE REMOVAL	YELLOW & YELLOW MARKERS	CRYSTAL & RED MARKERS	
										LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA		
2017CPT.05.02.20922.1	Wake	69	SR 4108 - HICKORY HOLLOW LN	SR 1007 - POOLE RD TO CUL-DE-SAC -	1	2		0.2	20																			
TOTAL FOR MAP NO. 69																												
2017CPT.05.02.20922.1	Wake	70	SR 4109 - BROKEN BRANCH CT	SR 4108 - HICKORY HOLLOW LN TO CUL-DE-SAC -	1	2		0.18	20																			
TOTAL FOR MAP NO. 70																												
TOTAL FOR PROJ NO. 2017CPT.05.02.20922.1																												
GRAND TOTAL										28.61	83,479	71,759	200	236	124	300	100	599	4	5	4	18	23	1	8	1,300	580	100
											155,238				424					31		32			680			

PAVEMENT MARKING PLAN

WAKE COUNTY - CITY OF RALEIGH

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN COVER SHEET
PMP-2 THRU 8	PAVEMENT MARKING DETAILS

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS - TEMPORARY AND PERMANENT
1261.01	GUARDRAIL AND BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. BUCK JONES RD. (-L- ROADWAY) (CONCRETE DECK)	THERMOPLASTIC COLD APPLIED PLASTIC	RAISED REFLECTIVE RAISED REFLECTIVE
2. AVENT FERRY RD. (-L- ROADWAY)	THERMOPLASTIC	RAISED REFLECTIVE
3. ROCK QUARRY RD. (-L- ROADWAY) (CONCRETE DECK)	THERMOPLASTIC COLD APPLIED PLASTIC	RAISED REFLECTIVE RAISED REFLECTIVE

- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
 C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
 D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
 E) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON THE BRIDGE DECK(S) PRIOR TO PLACING (COLD APPLIED PLASTIC) PAVEMENT MARKING.
 F) MARKERS SHALL BE INSTALLED ACCORDING TO THE NCDOT ROADWAY STANDARD DRAWING 1250.01.



CITY OF RALEIGH

All Construction must be in accordance with all
Local, State, and Federal Rules and Regulations

DATE: _____
 CADD TECH: _____
 CHECKED BY: _____
 TRANSPORTATION SERVICES: FR 10/21/14
 PUBLIC UTILITIES: N/A
 STORMWATER: NA
 PLANNING: NA
 FIRE: OFF
 URBAN FORESTRY: NA

REVISIONS	
NO.	DATE

SCALES	
HSCALE	VSCALE
PROJECT 171001355	PROJECT PMP-1
SHEET NO. PMP-1	DRAWING NO.

ALL CONSTRUCTION SHALL BE IN
ACCORDANCE WITH NCDOT 2012
STANDARD DRAWINGS.

PLAN PREPARED BY: WETHERILL ENGINEERING, INC.

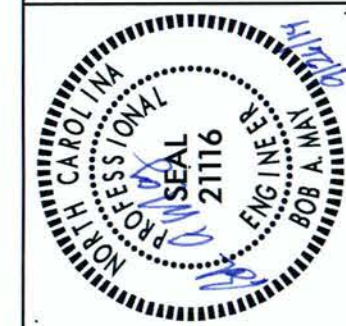
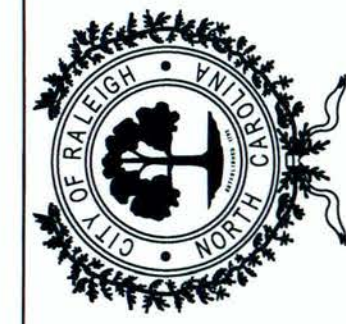
GREG PURVIS, P.E. ROADWAY PROJECT ENGINEER

C. L. MULLEN TRAFFIC CONTROL & PAVEMENT
MARKING SPECIALIST



559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

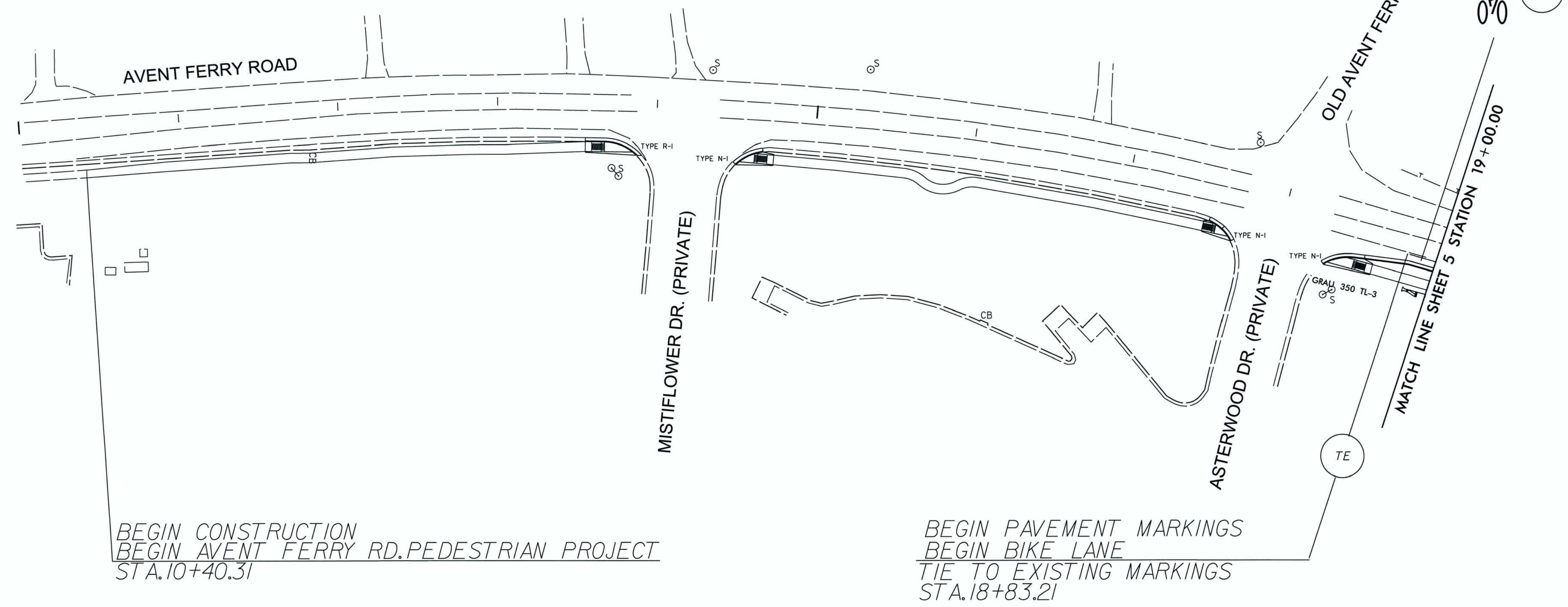


10+00

15+00

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM
		FINAL PAVEMENT MARKINGS THERMOPLASTIC (4.90 MILS)
TE	WHITE SOLID LANE LINE	
		THERMOPLASTIC SYMBOLS (90 MILS)
UJ	BICYCLE SYMBOL	
UK	BICYCLE STRAIGHT ARROW	



NOTES: REFER TO NCDOT ROADWAY STANDARD DRAWING NO. 1205.08, SHEETS 1 THRU 4 OF 8 FOR SYMBOLS AND WORD MESSAGES.
ALL MARKINGS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

CITY OF RALEIGH

All Construction must be in accordance with all
Local, State, and Federal Rules and Regulations

TRANSPORTATION SERVICES: BR

PUBLIC UTILITIES: N/A

STORMWATER: N/A

PLANNING: N/A

FIRE: N/A

URBAN FORESTRY: N/A

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NCDOT 2012 STANDARD DRAWINGS.

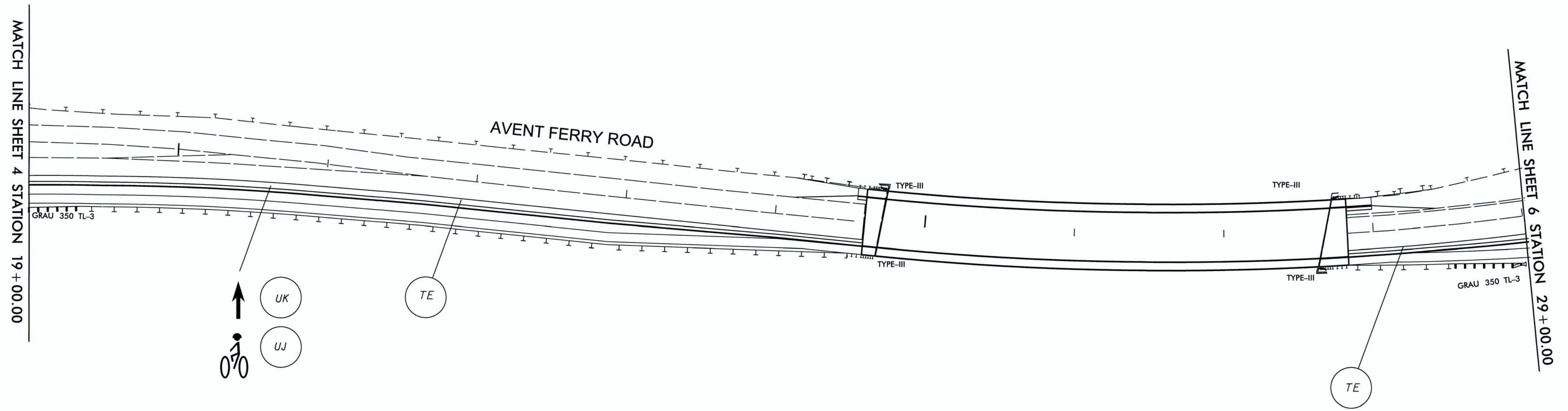
DATE:	
CADD TECH:	
CHECKED BY:	
REVISIONS	
NO.	DATE
SCALES	
HSCALE	
VSCALE	
PROJECT	171001388
SHEET NO.	PMP-4
DRAWING NO.	

20+00

25+00

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM
FINAL PAVEMENT MARKINGS THERMOPLASTIC (4", 90 MILS)		
TE	WHITE SOLID LANE LINE	
THERMOPLASTIC SYMBOLS (90 MILS)		
UJ	BICYCLE SYMBOL	
UK	BICYCLE STRAIGHT ARROW	

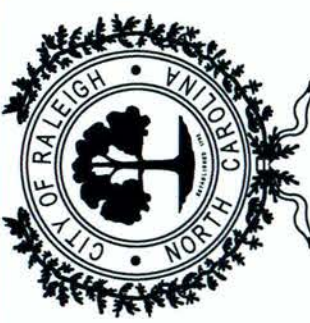



NOTES: REFER TO NCDOT ROADWAY STANDARD DRAWING NO. 1205.08, SHEETS 1 THRU 8 FOR SYMBOLS AND WORD MESSAGES.
ALL MARKINGS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

CITY OF RALEIGH	
All Construction must be in accordance with all Local, State, and Federal Rules and Regulations	
TRANSPORTATION SERVICES:	<u> </u> 10/2/14
PUBLIC UTILITIES:	<u> N/A </u>
STORMWATER:	<u> N/A </u>
PLANNING:	<u> N/A </u>
FIRE:	<u> JA </u>
URBAN FORESTRY:	<u> N/A </u>

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NCDOT 2012 STANDARD DRAWINGS.

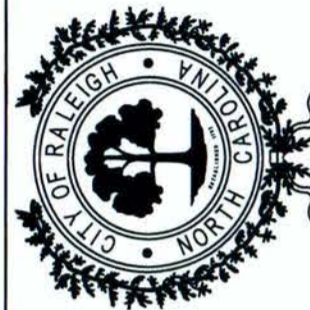
CITY OF RALEIGH
PUBLIC WORKS DEPARTMENT

PAVEMENT MARKING DETAIL
AVENT FERRY ROAD

I-40 BRIDGES
PEDESTRIAN RETROFITS

DATE:	
CADD TECH:	
CHECKED BY:	
REVISIONS	
NO.	DATE
SCALES	
HSCALE	VSCALE
PROJECT	
171001355	
SHEET NO.	
PMP-5	
DRAWING NO.	



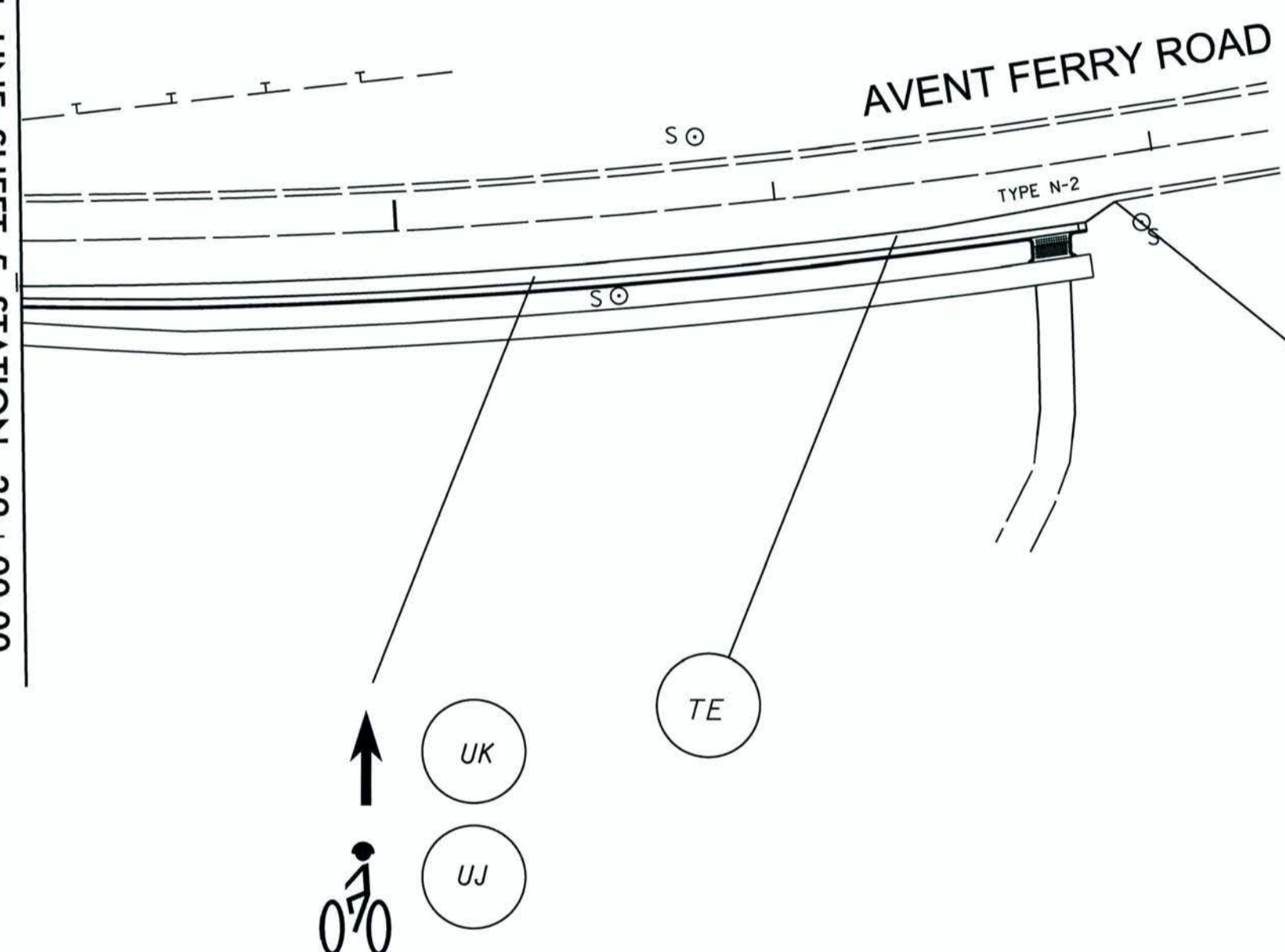
30+00



PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM
FINAL PAVEMENT MARKINGS		
THERMOPLASTIC (4", 90 MILS)		
TE	WHITE SOLID LANE LINE	
THERMOPLASTIC SYMBOLS (90 MILS)		
UJ	BICYCLE SYMBOL	
UK	BICYCLE STRAIGHT ARROW	

MATCH LINE SHEET 5 STATION 29+00.00



END CONSTRUCTION
END AVENT FERRY RD. PEDESTRIAN PROJECT
END PAVEMENT MARKINGS
STA. 31+88.42

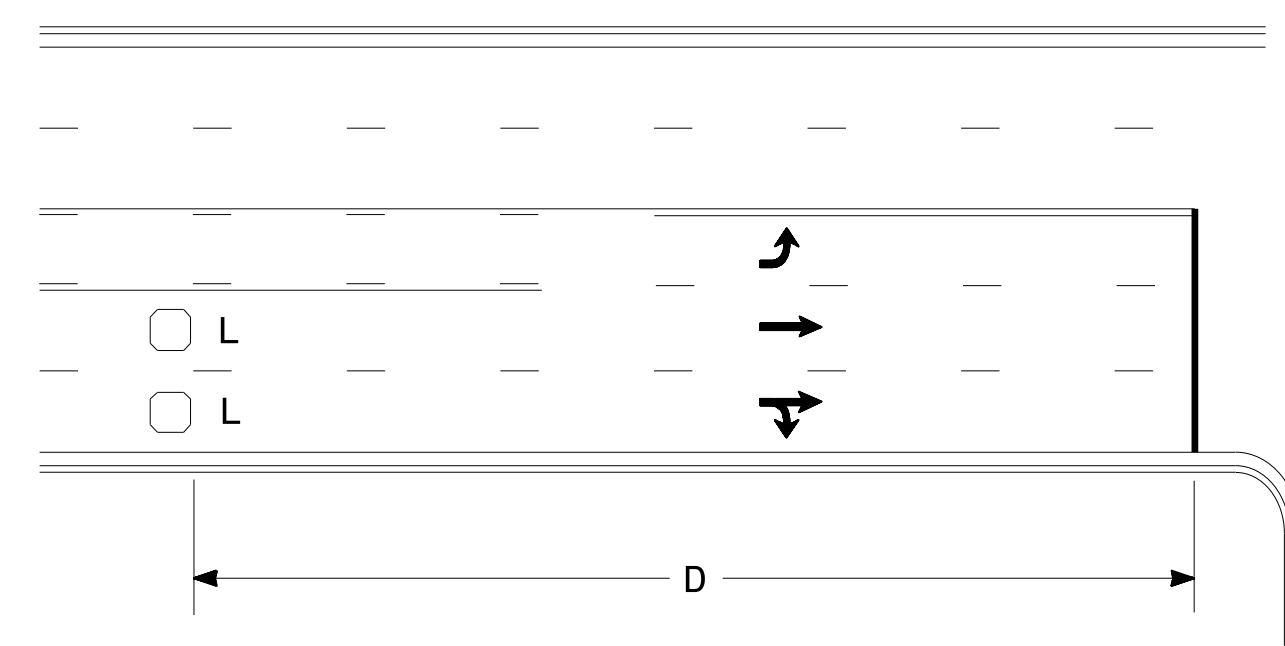
NOTES: REFER TO NCDOT ROADWAY STANDARD DRAWING NO. 1205.08, SHEETS 1 THRU 8 FOR SYMBOLS AND WORD MESSAGES.
ALL MARKING SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

CITY OF RALEIGH	
All Construction must be in accordance with all Local, State, and Federal Rules and Regulations	
TRANSPORTATION SERVICES:	<u>BR</u> 10/21/14
PUBLIC UTILITIES:	<u>N/A</u>
STORMWATER:	<u>N/A</u>
PLANNING:	<u>N/A</u>
FIRE:	<u>N/A</u>
URBAN FORESTRY:	<u>N/A</u>

ALL CONSTRUCTION SHALL BE IN
ACCORDANCE WITH NCDOT 2012
STANDARD DRAWINGS.

DATE:	
CADD TECH:	
CHECKED BY:	
REVISIONS	
NO.	DATE
SCALES	
HSCALE	
VSCALE	
PROJECT	
171001365	
SHEET NO.	
PMP-6	
DRAWING NO.	

High Speed Detection (≥40 mph)

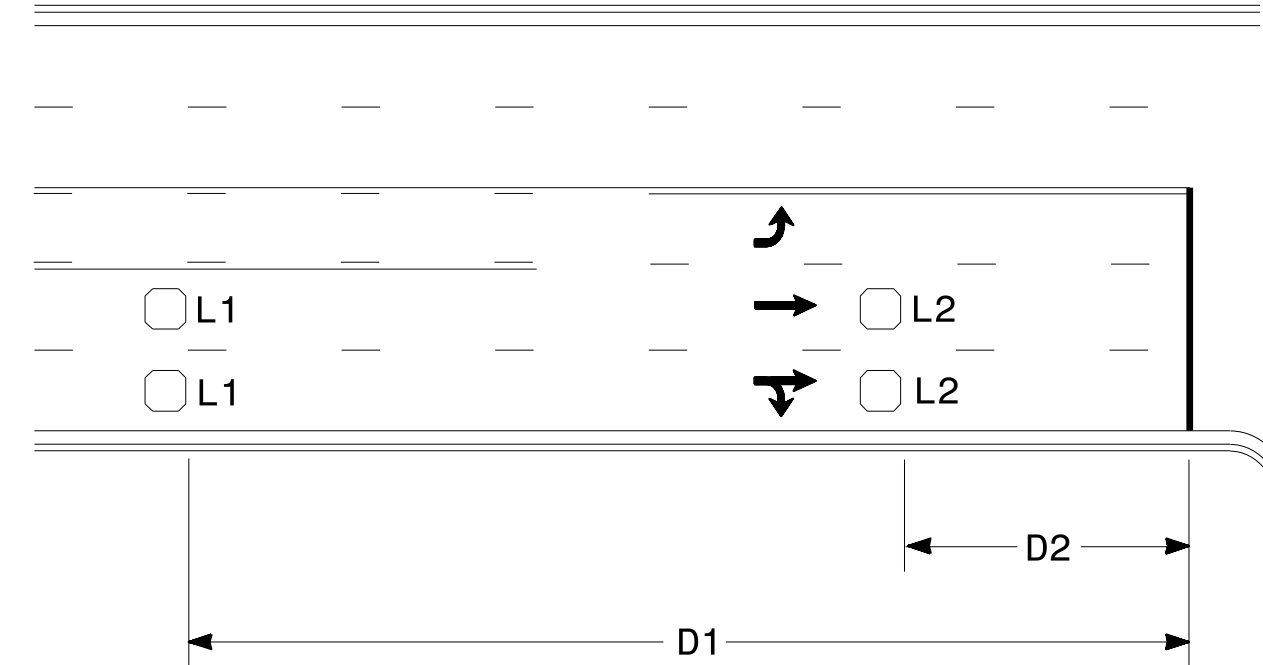


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

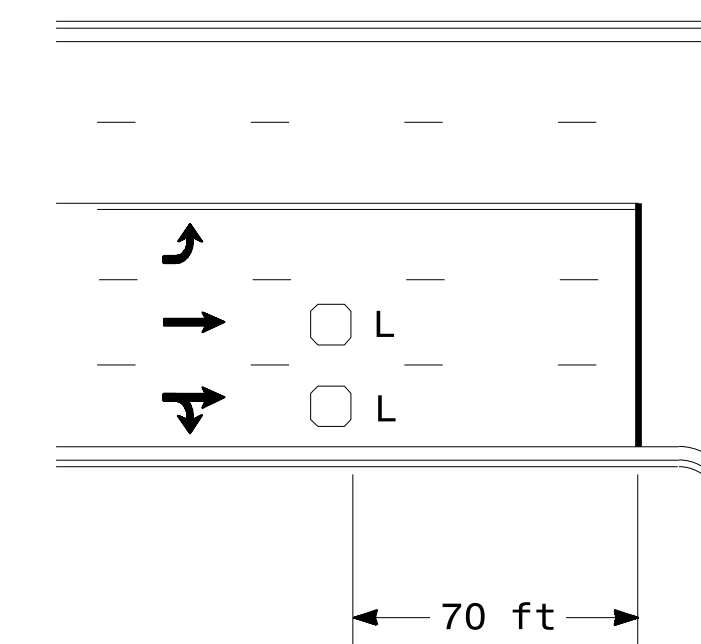


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series
L2 = 6ft X 6ft
Wired in series

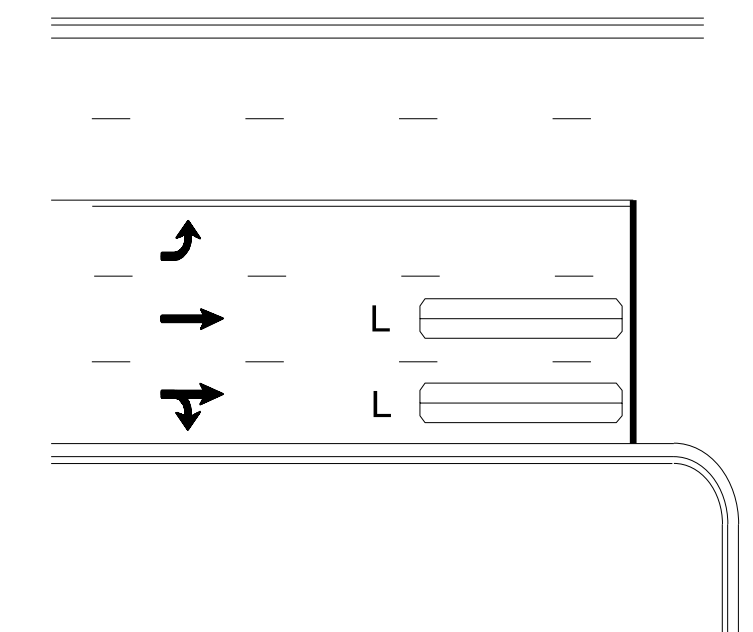
"Stretch" Operation

Low Speed Detection (≤35 mph)



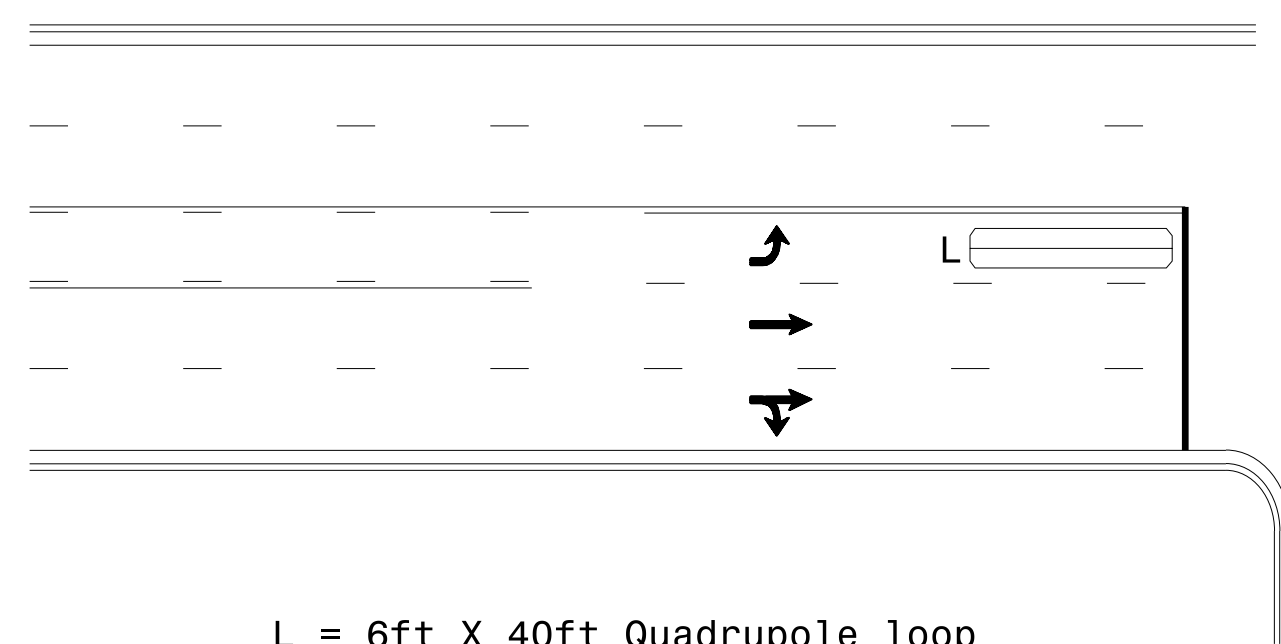
L = 6ft X 6ft
Wired in series

OR



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

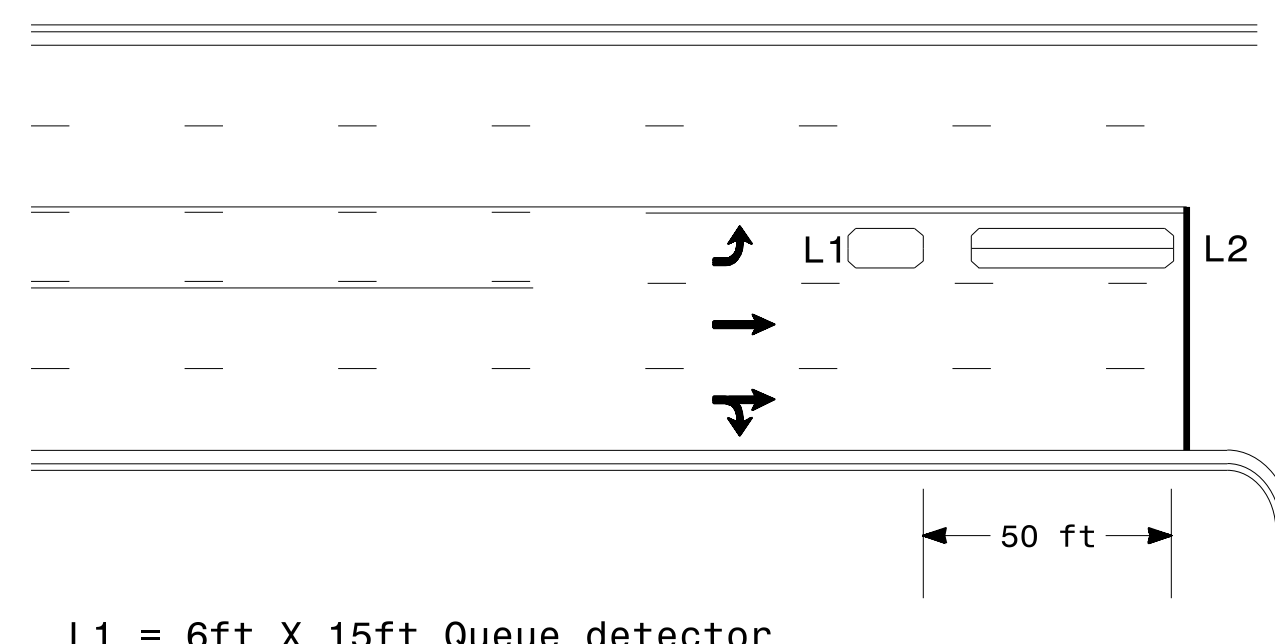
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

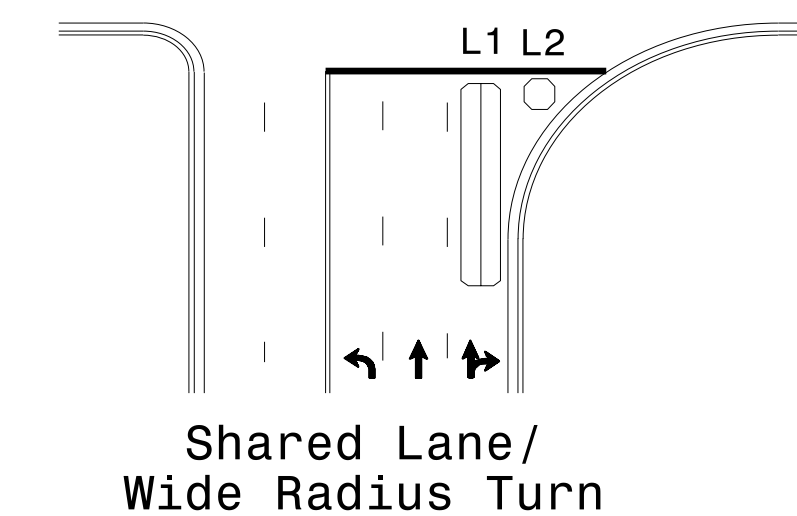
OR



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

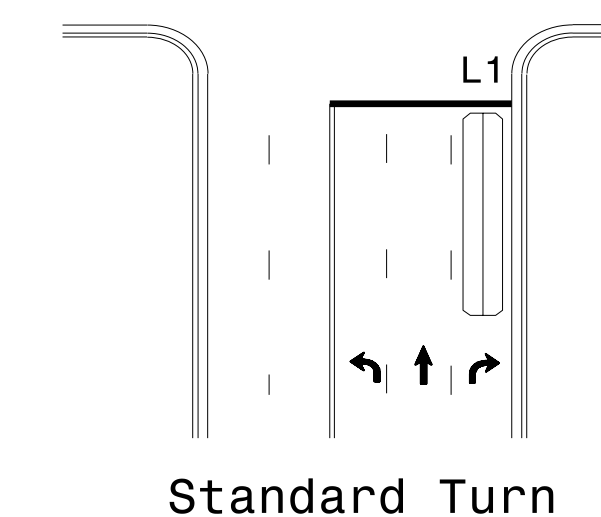
Queue Loop Detection

Right Turn Lane Detection

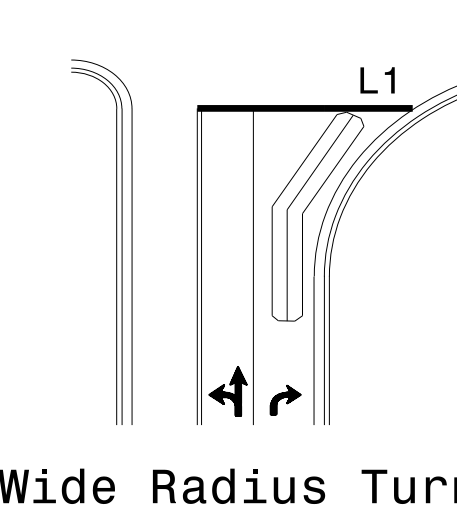


Shared Lane/
Wide Radius Turn

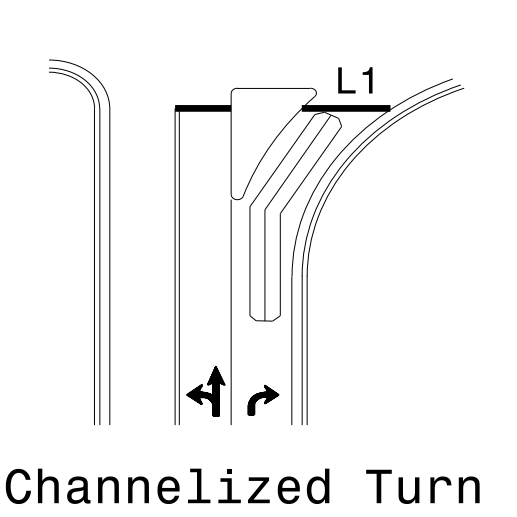
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

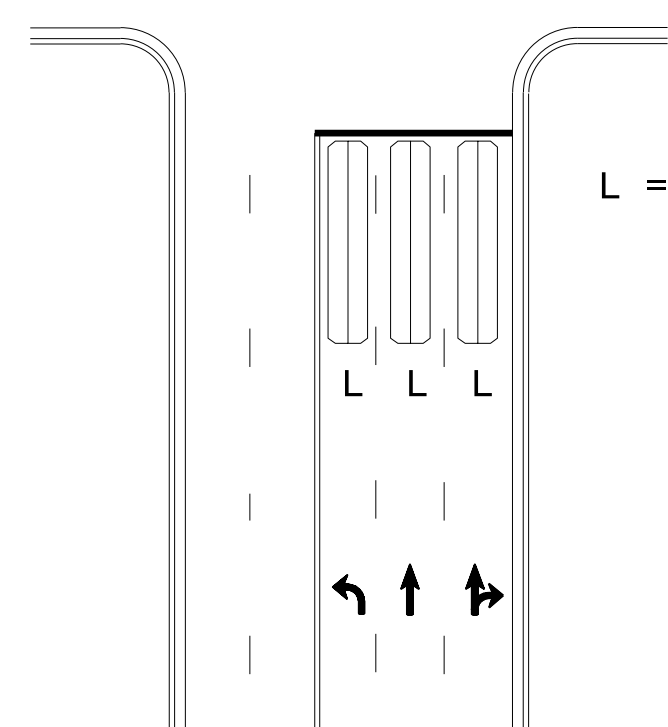


Wide Radius Turn



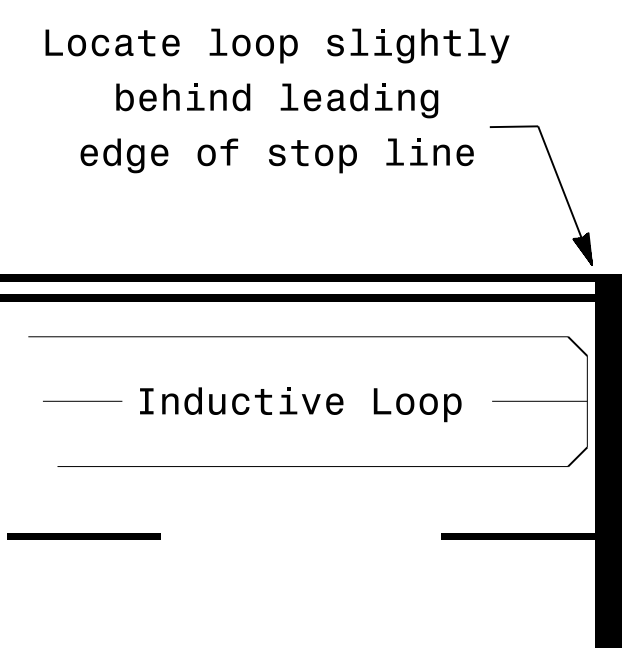
Channelized Turn

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

750 N. Greenfield Pkwy, Garner, NC 27529

Typical Signal Loop Locations

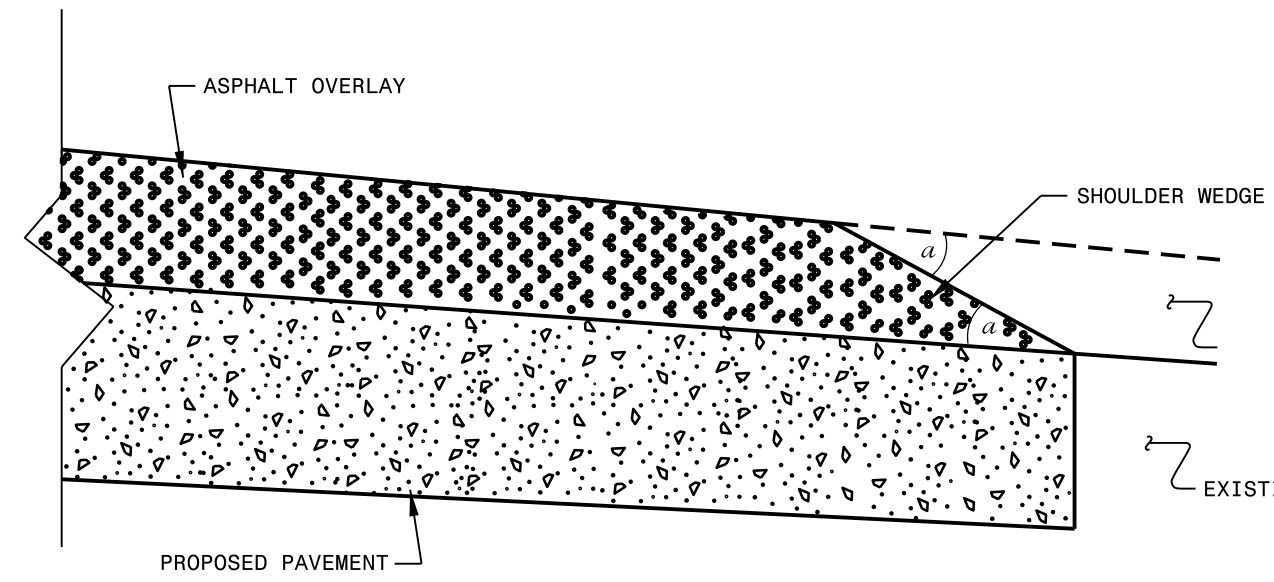
PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
PAMELA L. ALEXANDER
23489

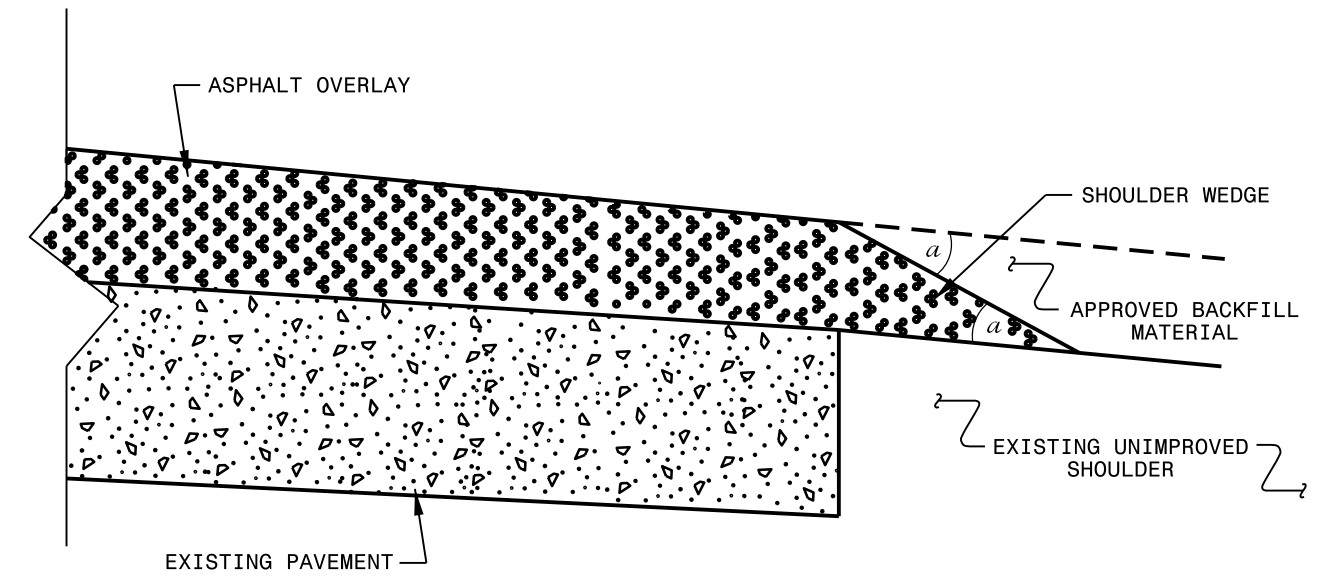
DocuSigned by:
P. Alexander
1/30/2015 10:46:44 AM
DATE

SIG. INVENTORY NO.

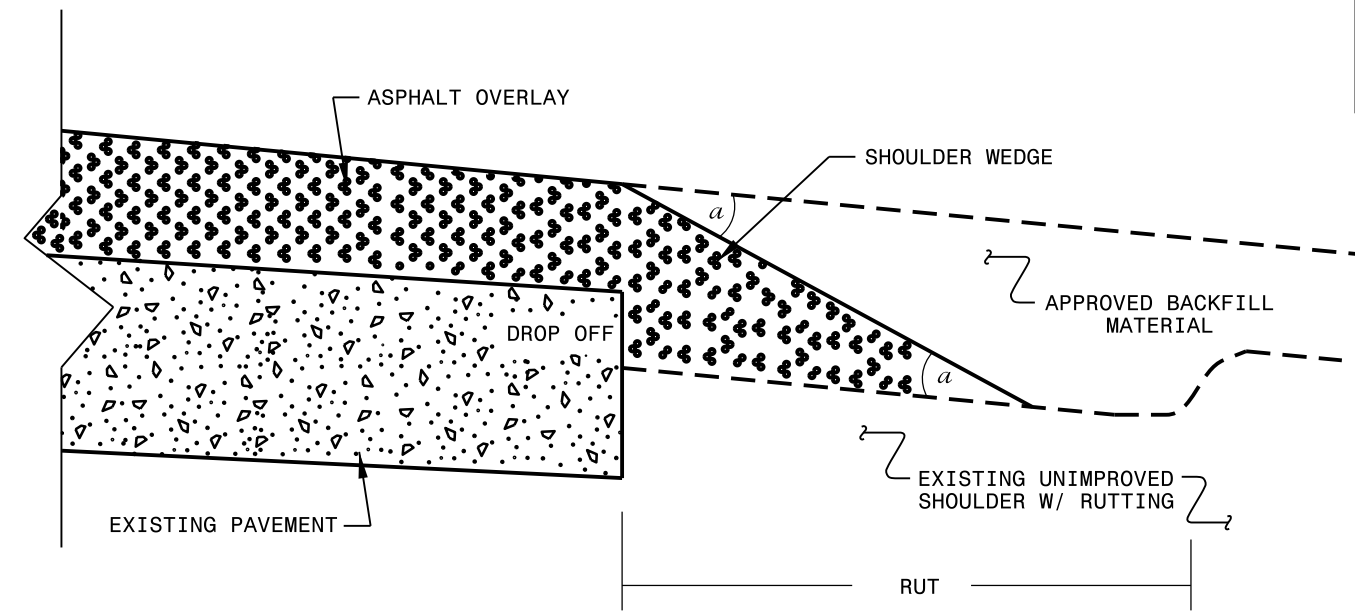
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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.: susr/details/stand/shoulderwedgedetail.dgn			

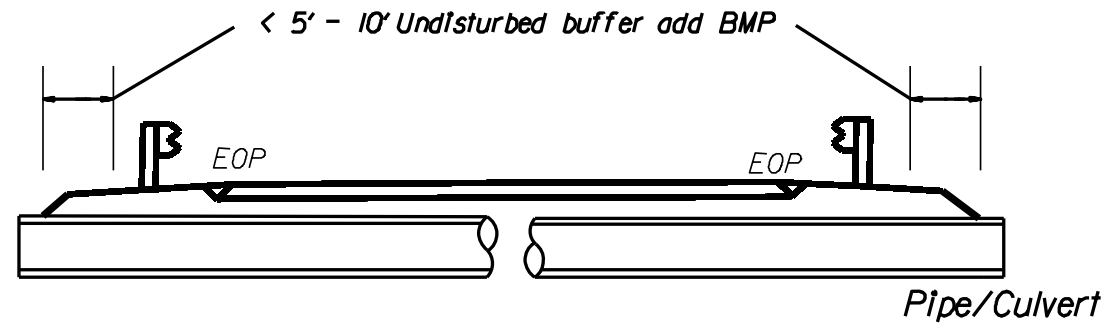
SYSTEMS DESIGN
 USER NAME

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

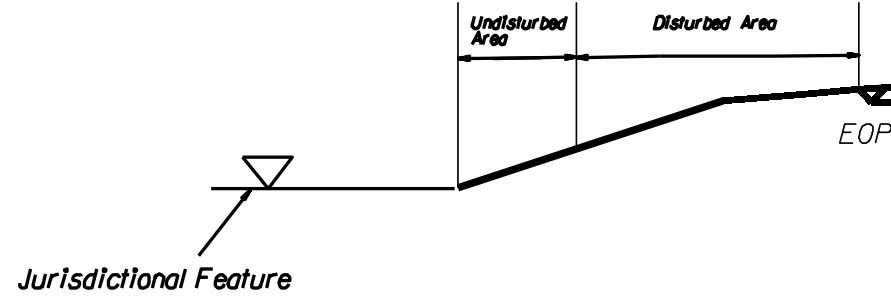
BMP Options: Wattle, Silt Fence, or Hardened Aggregate.

EROSION CONTROL DETAIL

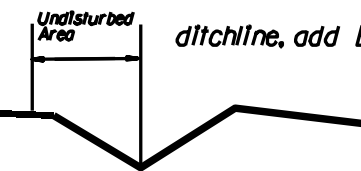
PROJECT REFERENCE NO. 2-1112	SHEET NO. 16-17/2012
RDW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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



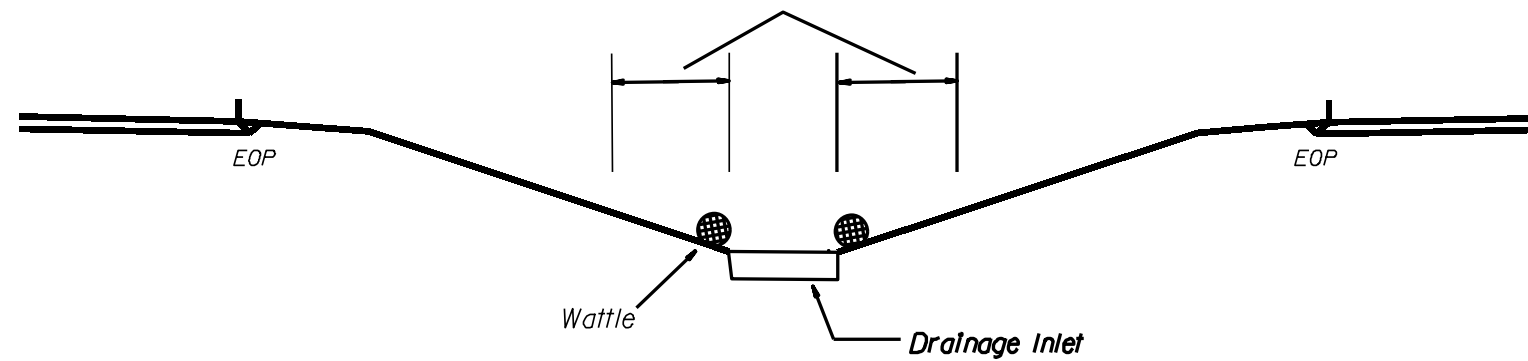
< 5' - 10' Undisturbed buffer from ditchline, add BMP



Use BMP's if shoulders and/or front slopes and/or ditchline and/or back slopes are disturbed



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



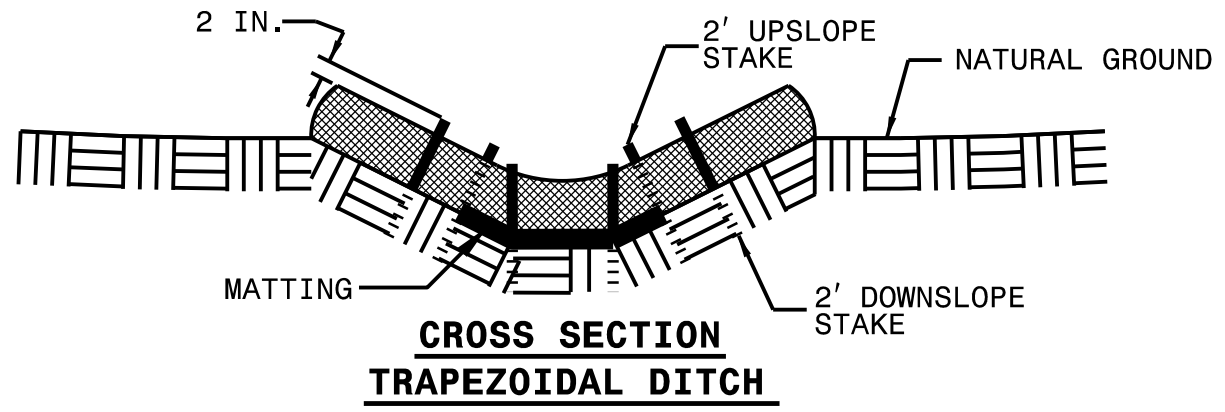
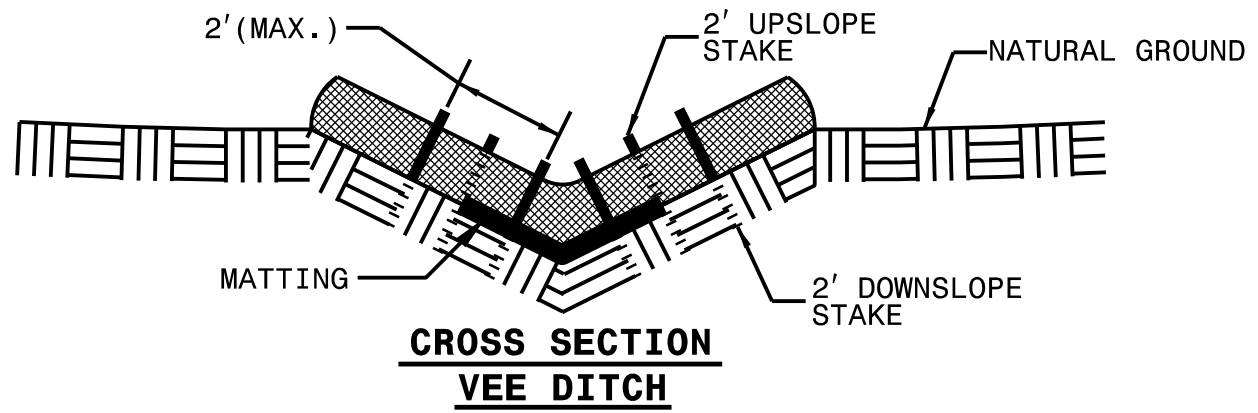
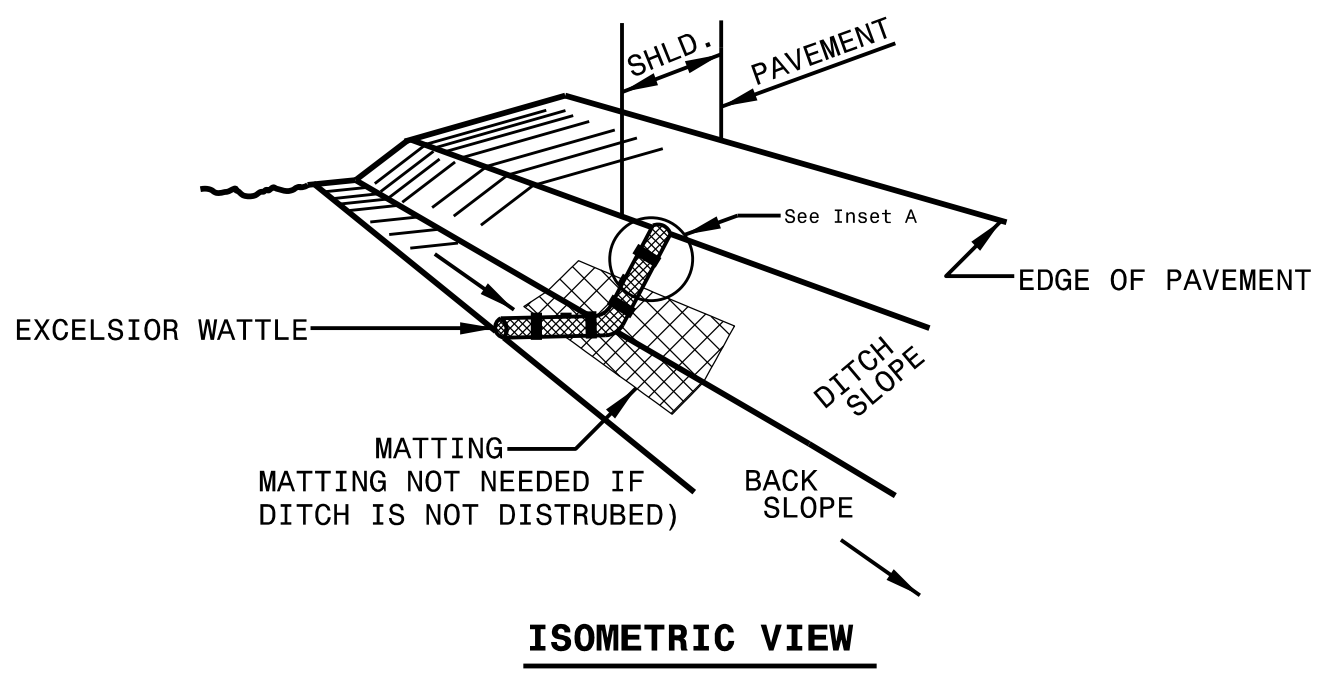
NOT TO SCALE

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) 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 HOW ZONES.

WATTLE DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

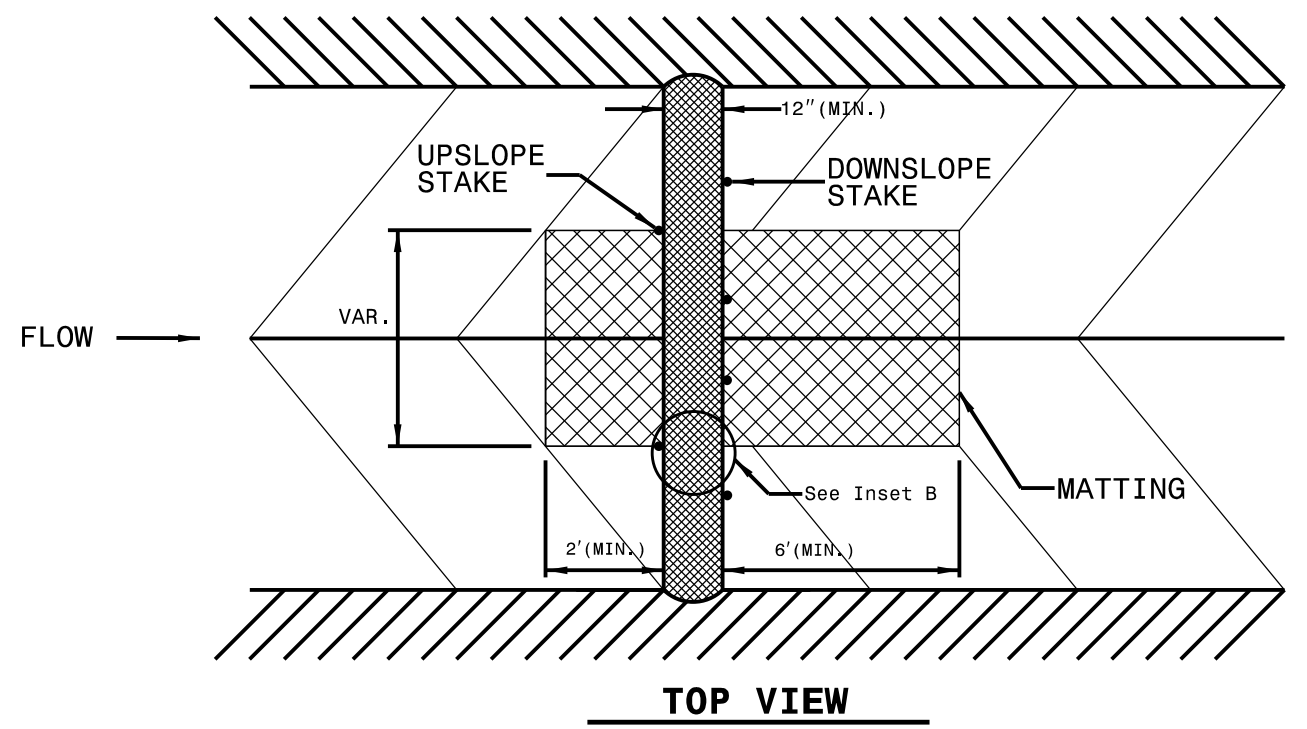
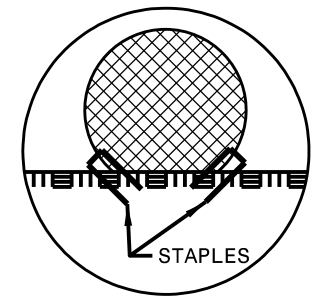
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

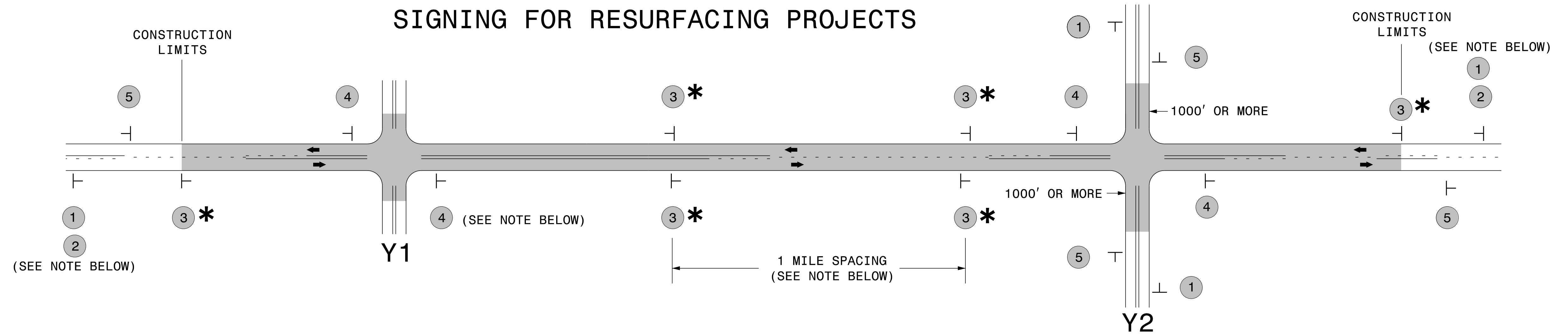
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.



SIGNING FOR RESURFACING PROJECTS



LEGEND	
	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION		
1 2		<p style="text-align: center;">NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS <p style="text-align: center;">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.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <small>W20-1 48" X 48"</small> </div> <div style="text-align: center;"> <small>W20-7 A 48" X 48"</small> </div> </div> <p style="text-align: center;">PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
3 *		
4		
5		

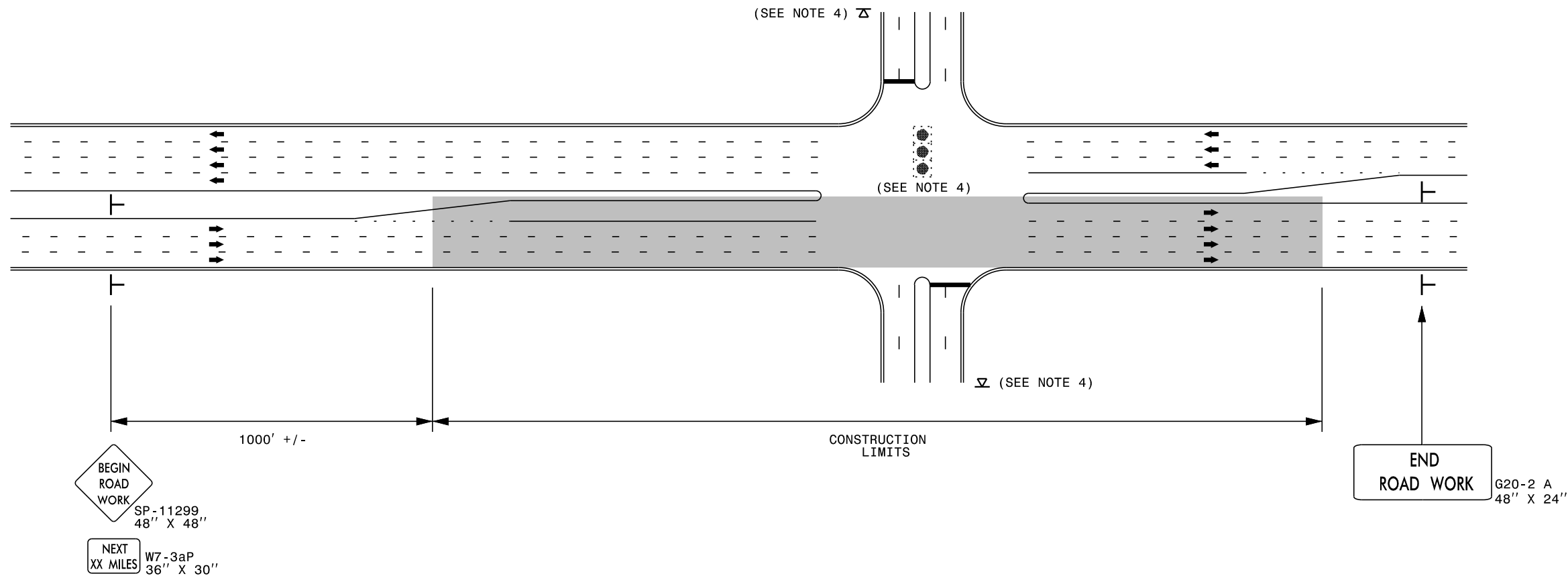
* SIGNING FOR ASPHALT SURFACE TREATMENTS (ONLY)

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



**RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS**

URBAN / SUBURBAN WORKZONES

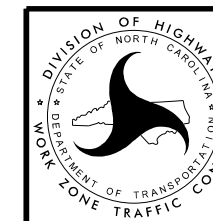


NOTES:

- 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



**RESURFACING ADVANCE
WARNING SIGNS FOR
URBAN / SUBURBAN
FACILITIES**